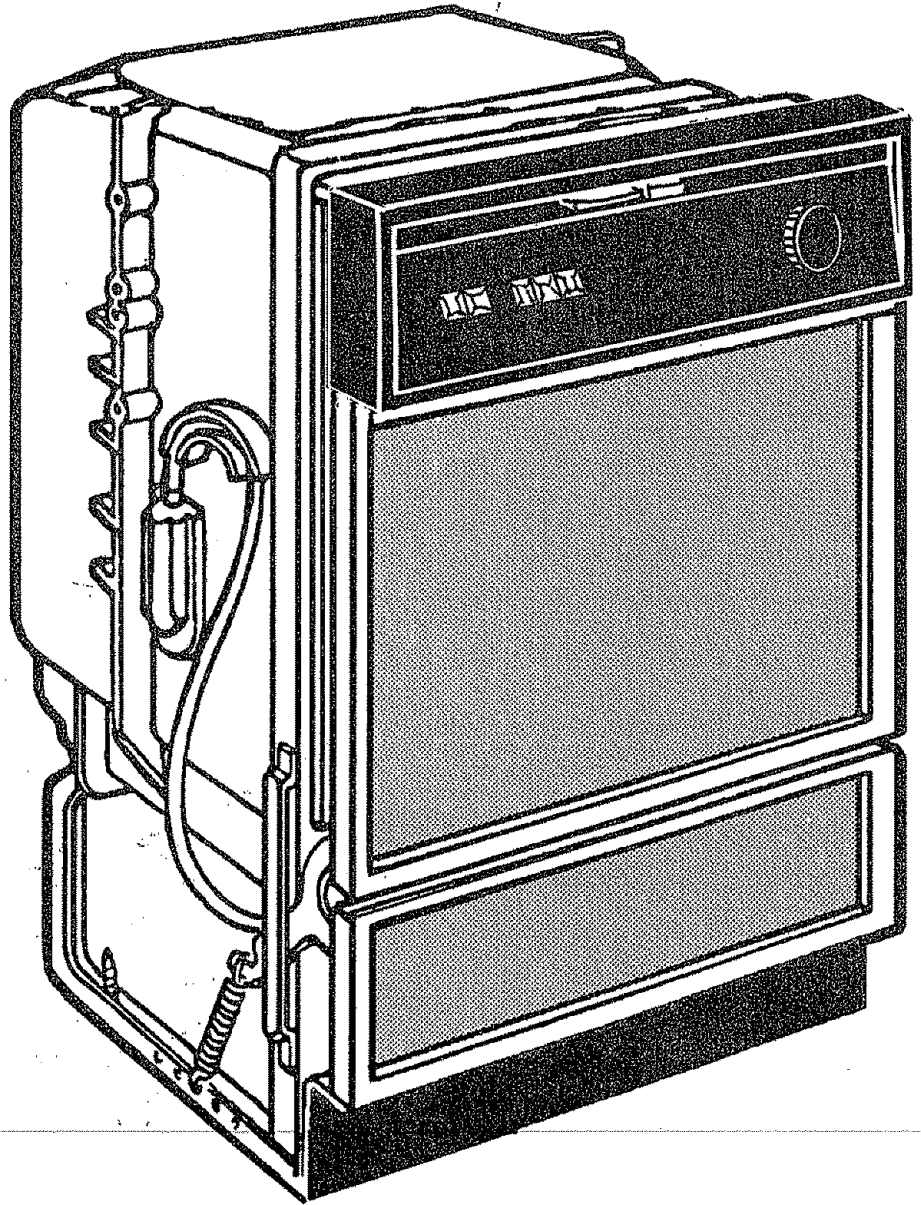


**Built-in  
Dishwasher  
and Front  
Panel Colors**



# **INSTALLATION INSTRUCTIONS**

# Do Not Install Dishwasher Until You Have Read All Instructions. (Installation tips located on the back cover).

## Before You Begin

Please read this book completely **before** you begin. The instructions will help you anticipate drain, water and electrical connections and help you select the best location for your dishwasher.

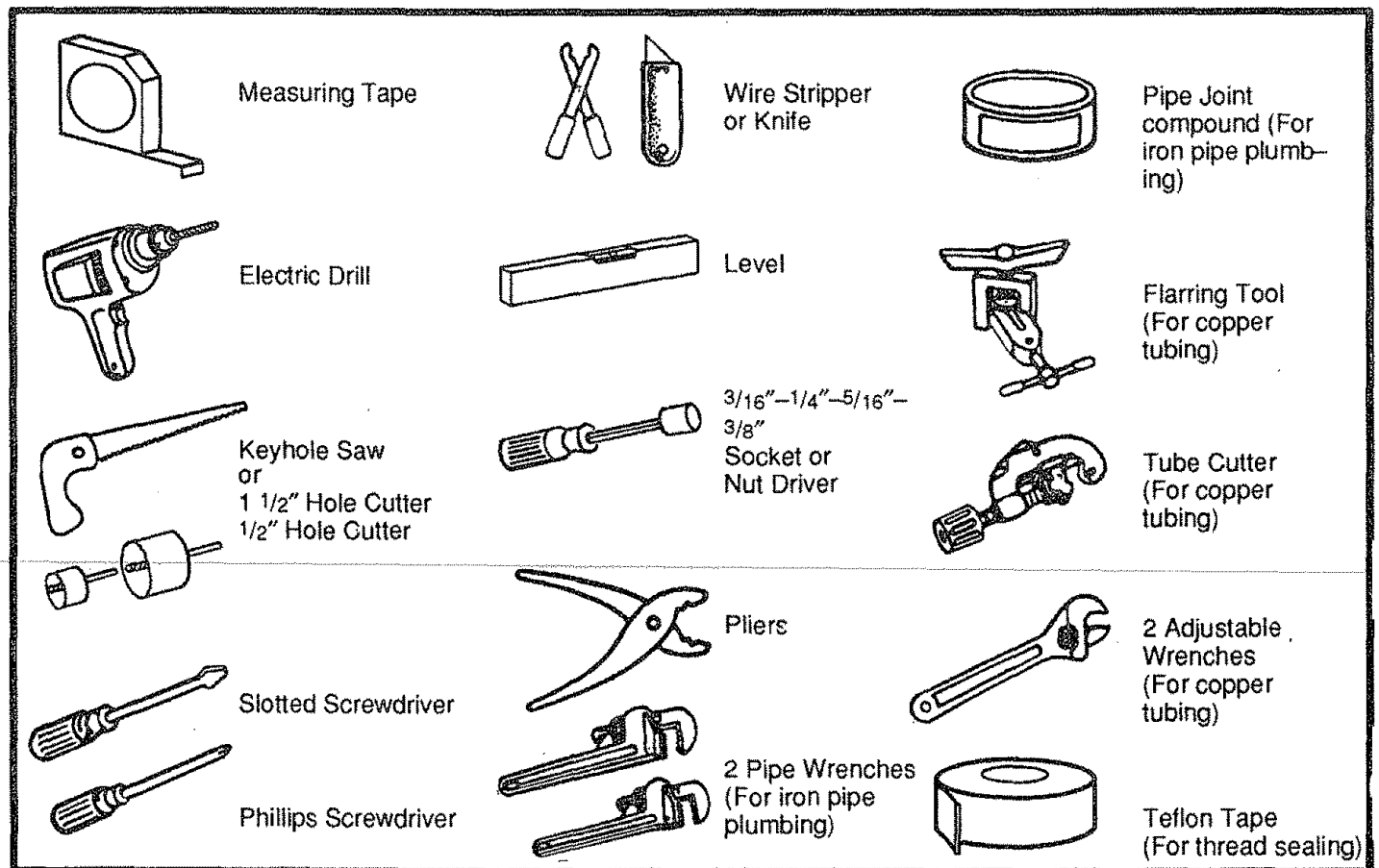
**BE SURE YOU OBSERVE ALL LOCAL CODES AND ORDINANCES FOR ELECTRICAL AND PLUMBING CONNECTIONS. ALL ELECTRICAL AND PLUMBING WORK SHOULD BE DONE BY QUALIFIED PERSONNEL.**

## Plan The Installation

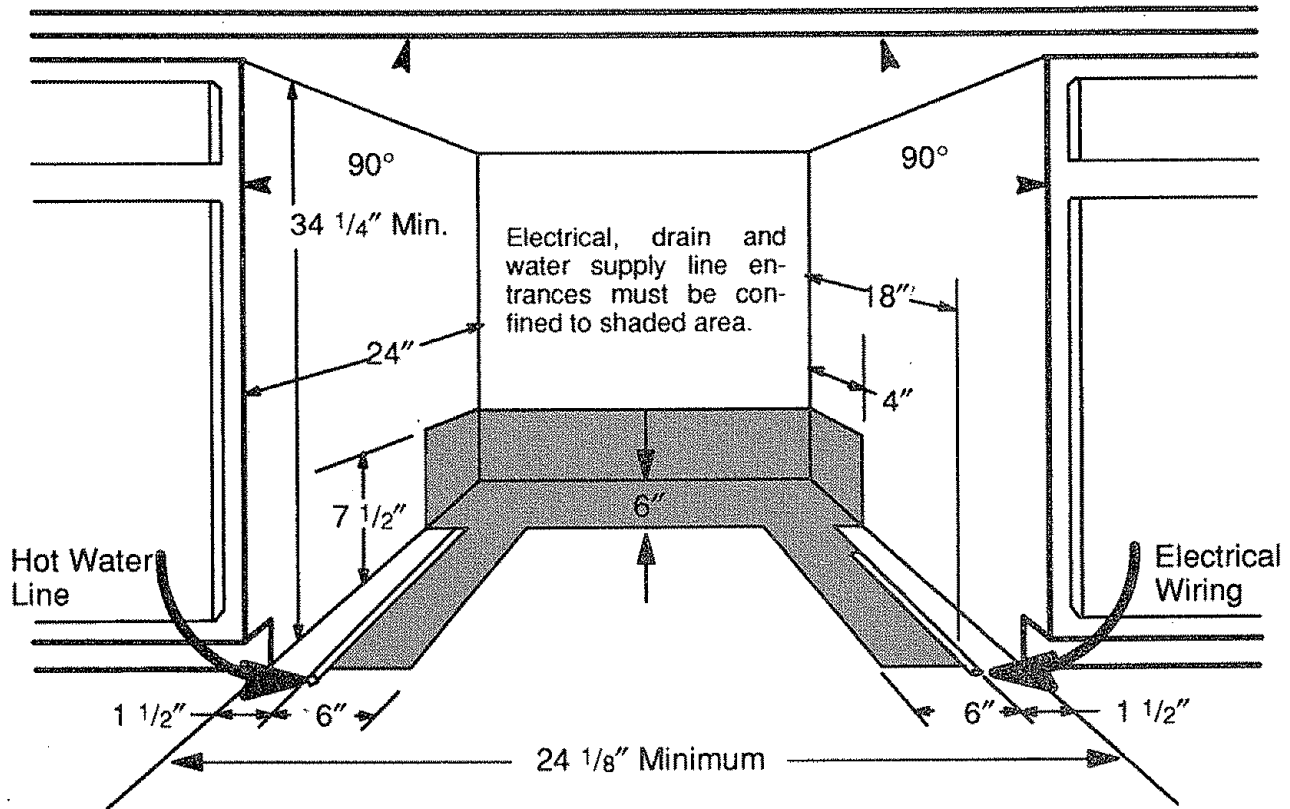
Locate the dishwasher where there is easy access to existing drain, water and electrical lines. Be sure the water inlet valve is protected from freezing. If the valve freezes, flooding may occur.

The best location for the dishwasher is on either side of the kitchen sink. This provides access to plumbing and is convenient for loading.

## Tools Needed



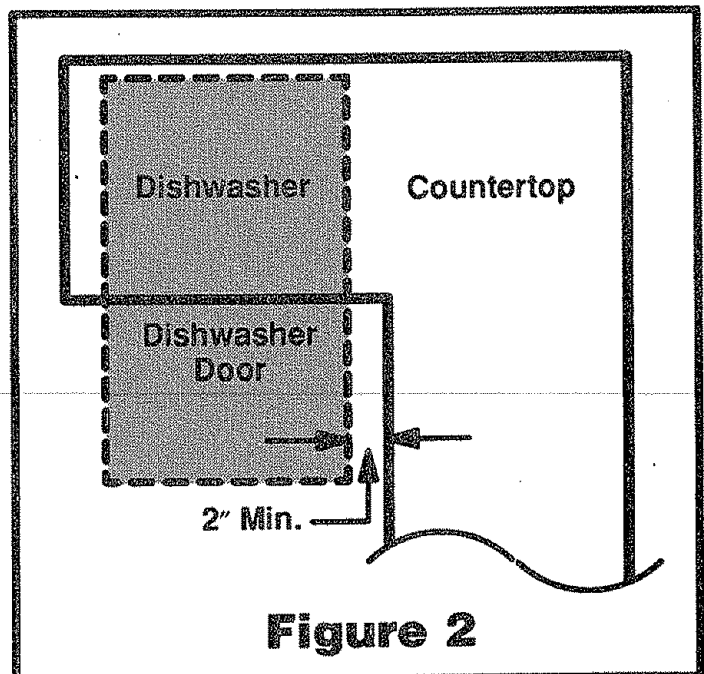
## Location and Rough-In



**Figure 1**

Most of the installation work is done before the dishwasher is moved into place. Select a location as close to the sink as possible for ready access to water and drain lines. For proper operation and appearance of the dishwasher, the cabinet opening should be square and have dimensions as shown in Figure 1. If the dishwasher is to be installed in a corner, there must be sufficient clearance to open the door (2" minimum) as shown in Figure 2.

Rough – in the water, electrical and drain lines before proceeding with the installation. The lines should run straight forward to their connections on the dishwasher. Make sure no lines cross in front of the dishwasher motor or legs.



**Figure 2**

## Preparing For Installation

1. Remove the two bottom attach screws in the access panel/toeplate (see Figure 3).
2. Open the dishwasher door and remove the two top attach screws.
3. Close the door. The access panel/toeplate and the adjustable toeplate can now be removed by pulling forward.
4. If required, install 90° elbow into water valve. Use teflon tape to seal elbow into valve fitting. Valve fitting is  $\frac{3}{8}$ " National Pipe Thread.

## Changing Color Panels

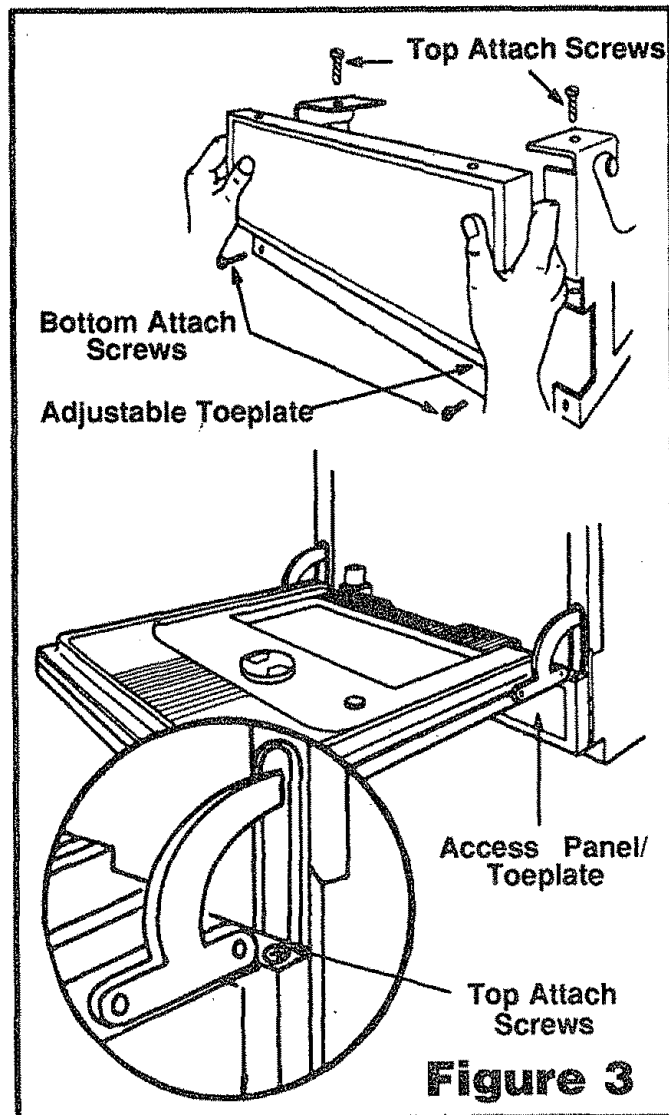
Select models are equipped with reversible door and access panel inserts that offer three decorator colors. To change exposed color, proceed as follows. It is best to change colors **before** installation.

### WARNING:

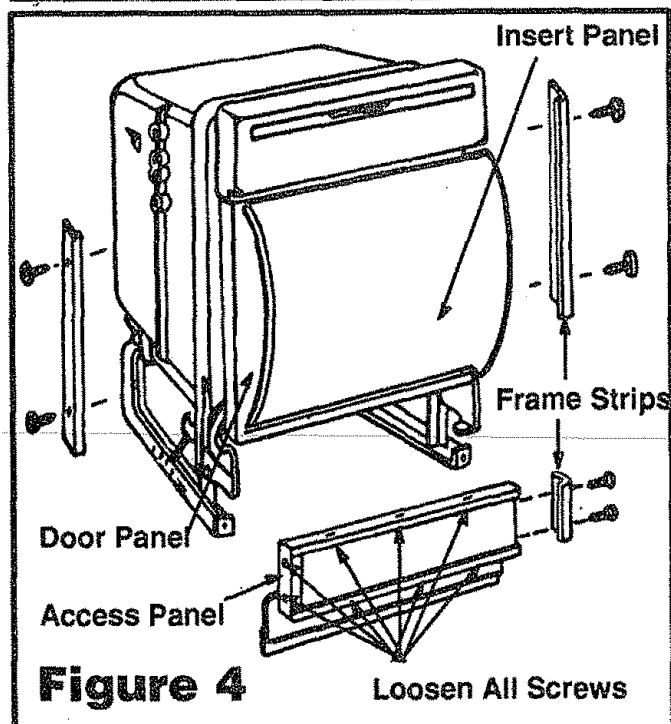
- To prevent electrical shock, disconnect electrical power supply to dishwasher before changing panels.
- Handle panels carefully to avoid injury.

1. Remove frame strips on both sides of door panel (see Figure 4). Flex insert panel out in middle to clear console panel. Lift insert panel out of bottom frame. Select desired color and reverse procedure to install. If white is desired, completely remove color panel and store for future use.
2. Remove frame strip on one side of access panel. Loosen, but do not remove, screws in other frame strips.
3. Slide insert panel out of frame. Put color panel of choice to outside and replace panel in frame. If white is desired, completely remove color panel and store for future use.
4. Be sure edges of insert panels are under frame strips on opposite side. Press strips tightly against panels before securing screws. Replace frame strips.

**NOTE:** Some models have a protective film covering the frame strips. Peel off this film for best appearance.



**Figure 3**



**Figure 4**

Loosen All Screws

## Wood Door Panels

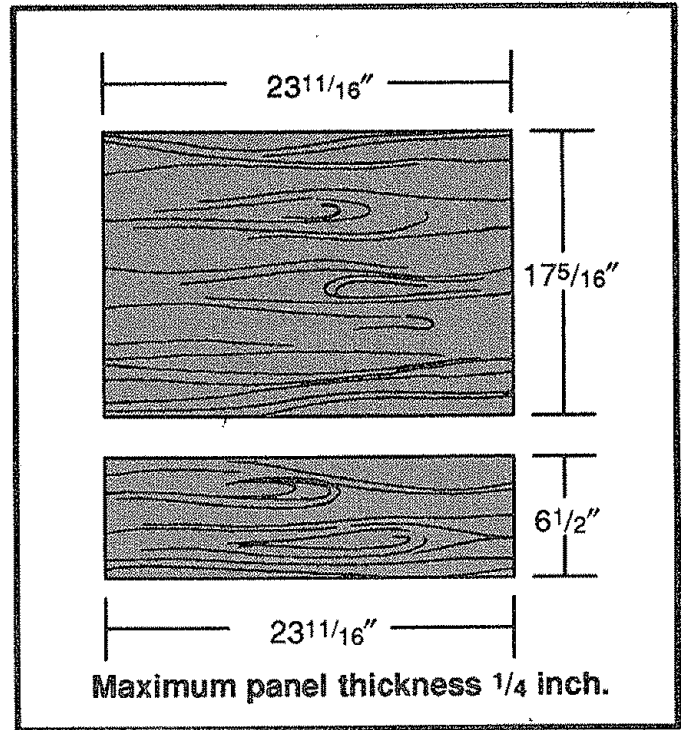
A panel of up to 1/4" thickness may be used in place of the aluminum insert panels furnished with your dishwasher.

You will need a Wood Door Decorator Trim Kit, (not furnished). This kit is available from your dealer or distributor.

Cut panels of your choice to the dimensions shown at right.

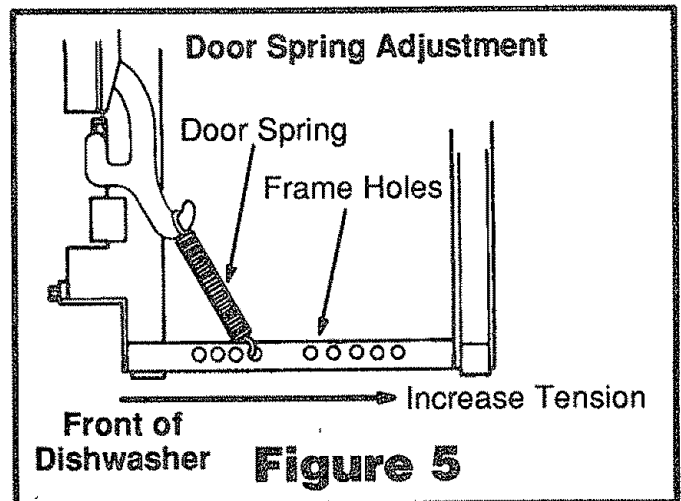
NOTE: If panels thicker than 1/4" are used, damage to trim can result.

The door springs will need to be adjusted to balance the weight of the panel (see Figure 5).



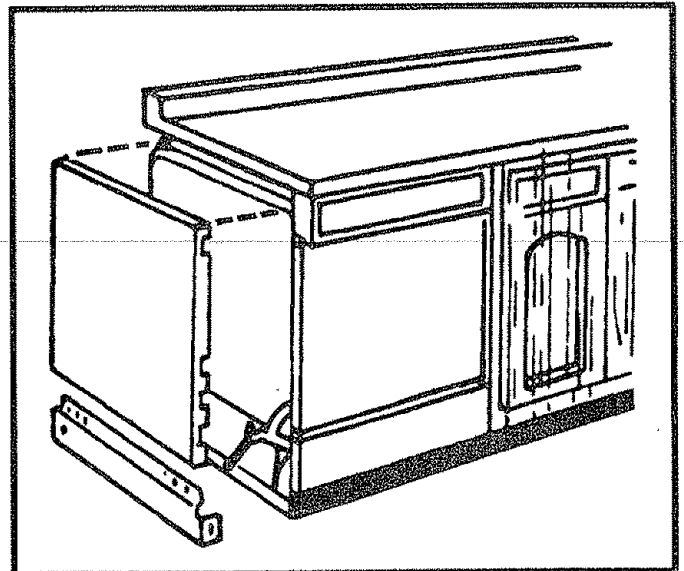
## Adjusting Door Spring Tension

The door springs are factory set at the proper tension with insert panels installed. If wood door panels will be installed, you will have to adjust the door spring tension. Adjust by hooking the springs in a frame hole forward of the original setting (see Figure 5). Door spring tension is correct when the door will remain horizontal in the full opened position, yet will rise to close with a slight lift of the finger.



## Side Panel Kit

This dishwasher is not provided with a complete enclosure. If the dishwasher is to be installed at the end of a cabinet line, be certain the sides and back are fully enclosed. Side panel kits are available from your dealer or distributor.

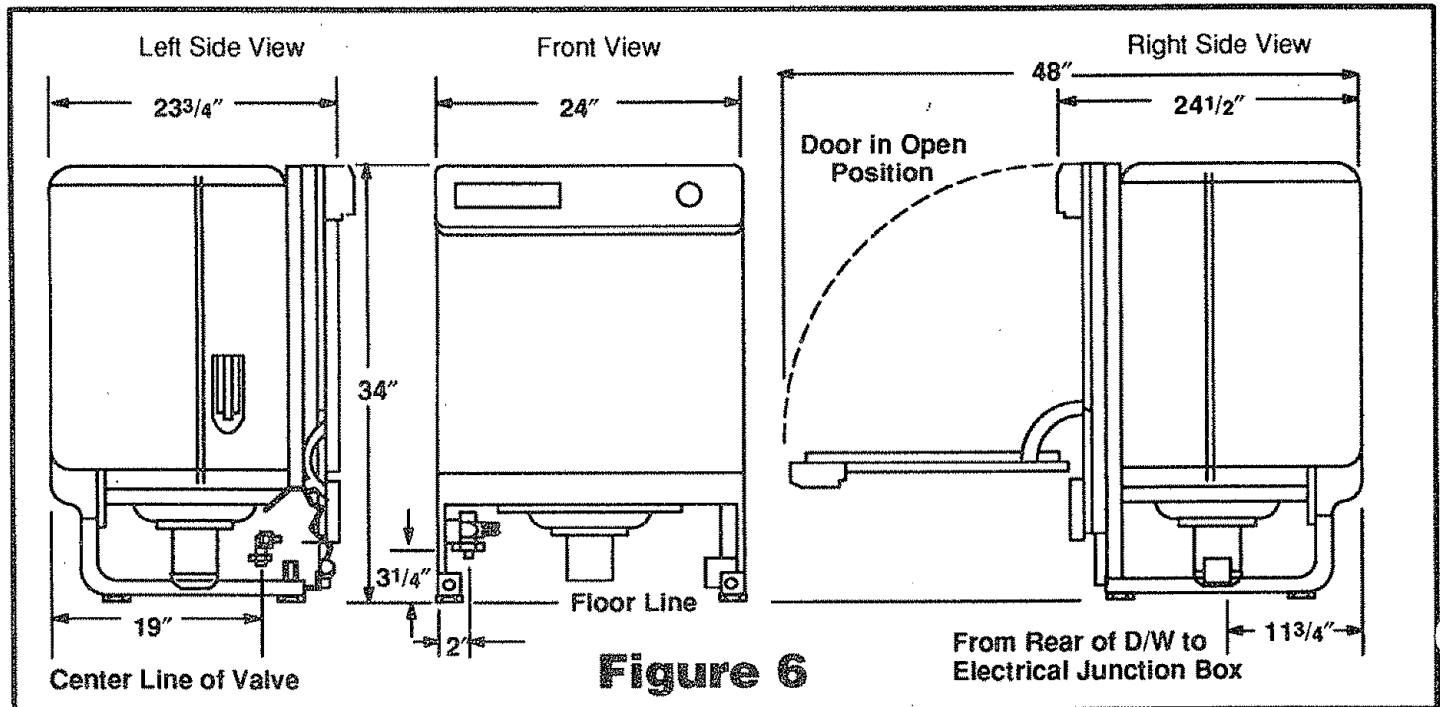


## Locating Drain, Water and Electrical Supply

Before you begin, review this section in detail. Check your location to make sure you have the right drain, water and electrical supplies to make these connections.

Refer to the dimensional details in Figure 6 to help you decide where to run the drain, water and electrical lines. All connections must be made in the shaded area as shown in Figure 1 on page 3.

**CAUTION:** Make sure no lines cross in front of the dishwasher motor or legs.



## Drain

Review Figures 7 and 8 (on page 7) to determine where you will connect the dishwasher to the drain system. Cut a 2" diameter drain hose hole in the shaded area shown in Figure 1 on page 3. Check both sides of the area **BEFORE** cutting to avoid interference. If the cabinet wall is wood, sand the edges of the hole smooth and rounded. If the cabinet wall is metal, all sharp edges **MUST** be covered by a protective material (e.g. electrical tape, duct tape) to avoid cutting the drain hose.

Local codes may require the drain line to be connected to house plumbing with a drain air gap. If the drain hose is to be connected to a separate drain trap, the trap must be vented with a drain air gap to prevent siphoning.

A drain loop must be fixed (with a suitable clamp or support) at a minimum height of 32 inches. When routing the drain hose, be sure there are no sharp bends or kinks that might restrict drain flow. Proceed as follows:

1. Route the hose from the dishwasher cabinet through the 2" drain hose hole you have cut for it.
2. Support or clamp the drain hose so that the loop is at a minimum height of 32 inches.
3. Connect the hose to the sink drain or disposer. **Do not connect the hose to the horizontal pipe between the sink drain and the garbage disposer.**

**NOTE:** Be careful not to over tighten the clamp or you may damage the end of the hose.

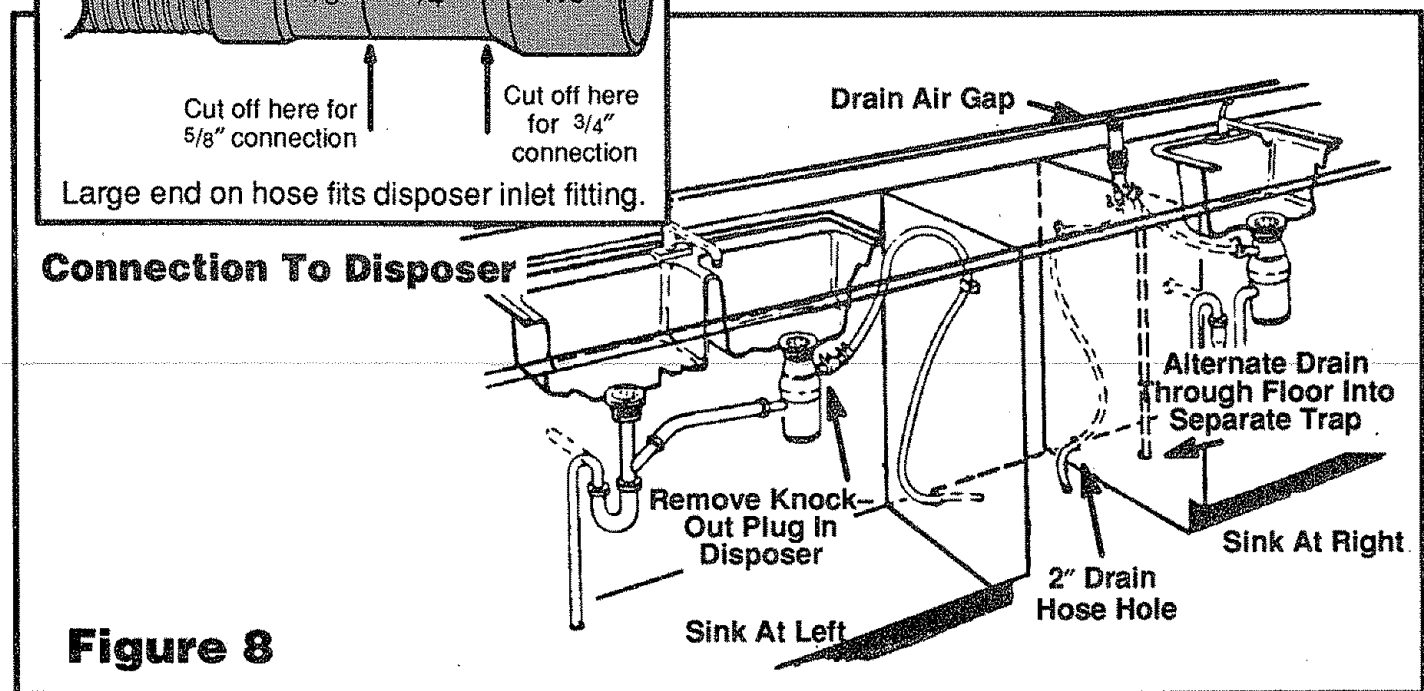
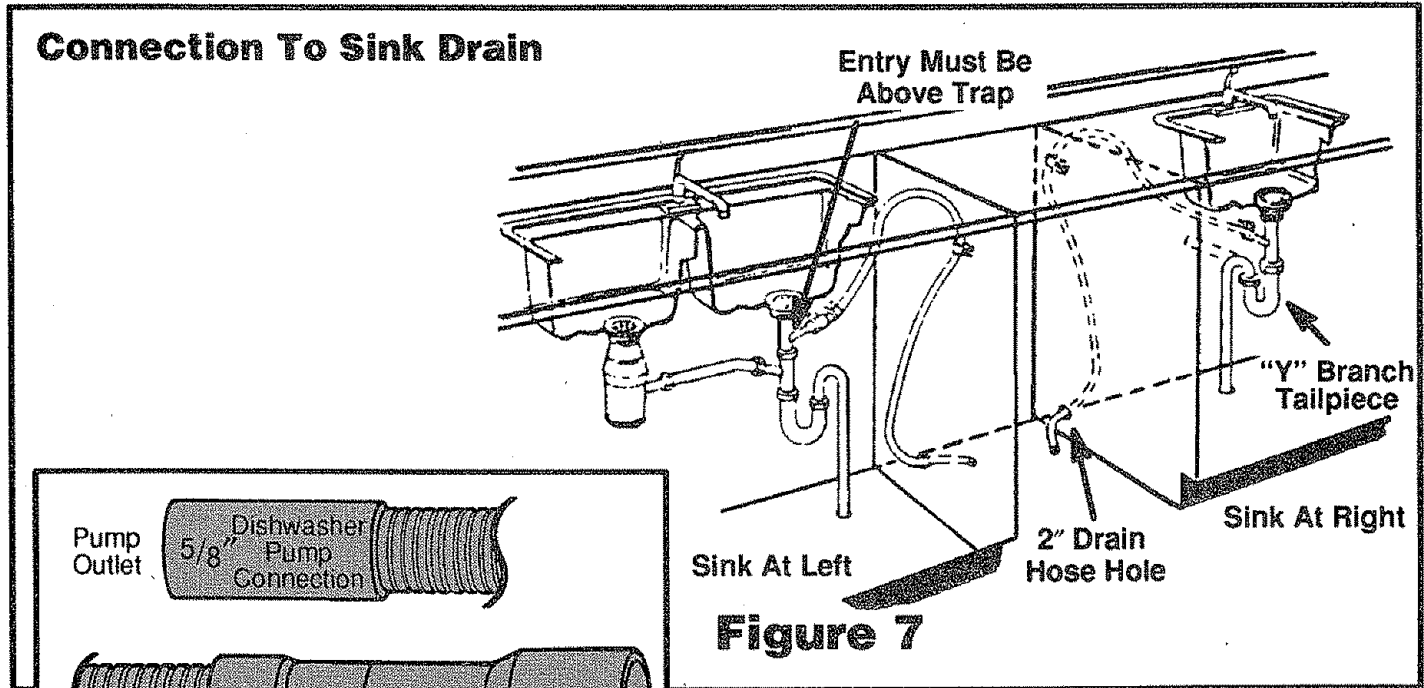
- a. If you connect to a sink drain, a "Y" Branch Tailpiece and Connector Kit makes this connection easy. It includes all necessary fittings and complete instructions. Entry into sink drain must be above trap.

- b. The large end of the corrugated hose was designed to fit the disposer without any special connectors (see inset in Figure 8).

**NOTE:** Be sure to remove the knock-out plug from inside the disposer inlet fitting before attaching the drain hose.

If the drain hose is to be routed through the floor to a separate trap, the trap must be vented to prevent siphoning. To provide proper venting, install an air gap in the countertop. Route the drain hose up to the inlet side of the air gap. Continue drain line from outlet side of air gap down through floor to separate trap (see Figure 8, sink at right).

Do not cut the corrugated drain hose. Excess corrugated hose should be placed flat on the floor in the dishwasher cabinet. Make sure the hose does not come into contact with any sharp edges.



## Water

Determine where you will connect to the hot water supply. Review Figure 6 on page 6 and note the location of the water valve. Incoming water temperature should be approximately 140°F. Water temperature limits are 120°F minimum and 160°F maximum (49°C – 71°C).

The dishwasher water inlet valve has a  $\frac{3}{8}$  inch National Pipe Thread female fitting. Determine how much copper tubing you will require. Copper tubing must have a minimum  $\frac{3}{8}$  inch O. D. (Outside Diameter). High pressure rated plastic tubing of  $\frac{1}{4}$  inch minimum inner diameter may be used where local plumbing codes permit.

It is recommended a shut-off valve be installed outside the dishwasher cabinet. The water pressure should be between 15 and 120 PSI (Pounds per Square Inch).

Cut the water access hole in the shaded area as shown in Figure 1 on page 3. Complete the plumbing rough-in **before** putting the dishwasher in place.

**CAUTION:** The furnished drain hose must not be used as a water supply line. Do not use rubber garden hose for water supply line. Either one of these will burst.

## Electrical Power Supply

The dishwasher operates on a 120 volt, 60 Hz fused electrical supply. Provide a separate circuit with a fuse or circuit breaker rated for at least 15 amps, 20 amps if connected with disposer, but not more than 20 amps. **DO NOT USE AN EXTENSION CORD.**

**Grounding Instructions** – 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 connected to the equipment-grounding terminal or lead on the appliance. Do not connect to the electrical supply until the appliance is permanently grounded. Grounding must be in accordance with the National Electrical Code and local codes and ordinances.

**CAUTION:** The joining of aluminum building wire to stranded copper wire leads involves special problems. It should be done by a qualified electrician using material recognized by U.L./C.S.A. and local codes as suitable.

Determine where you will connect to the electrical supply. Note the location of the electrical junction box in Figure 6 on page 6. Cut the access hole in the shaded area shown in Figure 1. Pull electrical cable through hole into cabinet area.

When the dishwasher has been positioned in the cabinet, the electrical connections can be made.



## Factory-Installed Power Cord

Some models have a factory-installed power cord. Be sure the following requirements are met during installation.

1. The receptacle **must** be located in a cabinet or on a wall adjacent to, **but not in**, the undercounter space in which the dishwasher is to be installed.
2. Use the dimensions in Figure 9 to locate the receptacle within either dotted line area. **DO NOT USE AN EXTENSION CORD.** Check both sides of the area **BEFORE** cutting to avoid interference.
3. Cut a hole in the side of the lower rear corner of the cabinet opening. See Figure 1 on page 3 for installation dimensions. The hole should be large enough for the attachment plug to pass through. The longest dimension of the opening should not be more than 1 1/2 inches.
4. If the cabinet wall is wood, sand the edges of the hole smooth and rounded. If the wall is metal, cover the edges with the plastic grommet included in the parts bag. Cut the length of the grommet so it fits the opening with no sharp edges uncovered.
5. Be careful not to damage the power cord when installing or removing the dishwasher.

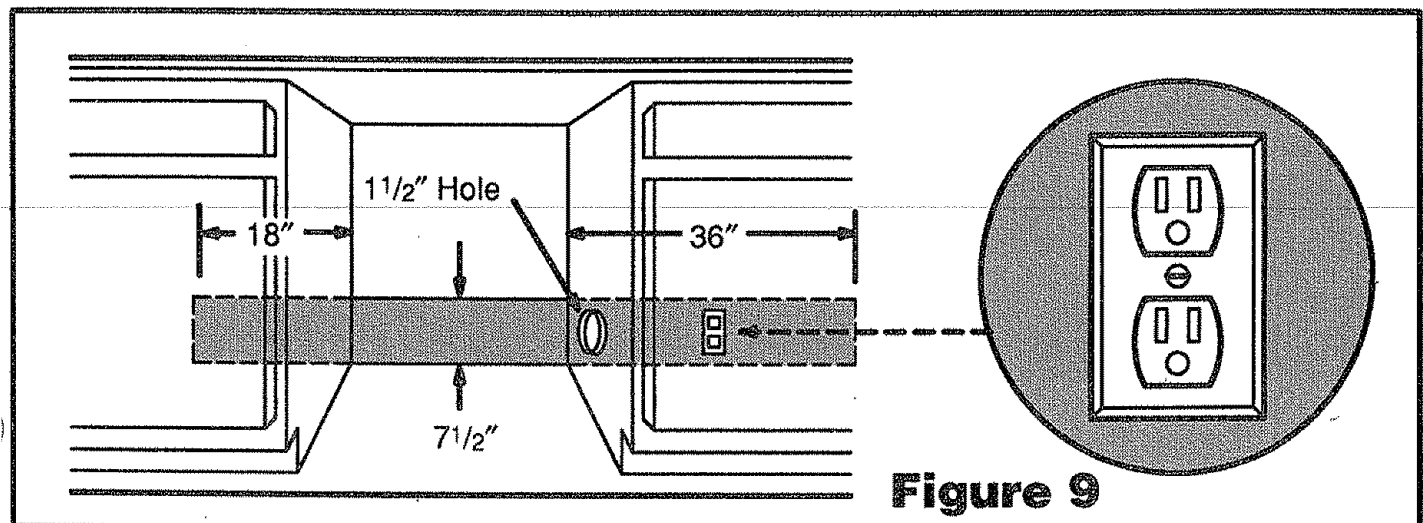
**Grounding Instructions** – This appliance must be grounded. In the event of a malfunction or breakdown, grounding will reduce the risk of electrical shock by providing a path of least resistance for electric current. This appliance is equipped with a cord having an equipment-grounding conductor and 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.

**DANGER** – Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or servicer if you are in doubt as to whether 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 electrician.

If you choose to have the dishwasher permanently connected to the house wiring, the power cord assembly must be removed as follows:

1. Remove the junction box cover.
2. Disconnect the green wire ground terminal from the grounding screw.
3. Remove the electrical tape and wire nuts from the white and black wires.
4. Use pliers to squeeze the two halves of the power cord strain relief grommet together so it and the cord can be removed from the junction box bracket.

Now follow the instructions on page 8 to connect the dishwasher to the house wiring.



**Figure 9**

## Position, Align and Level the Dishwasher

REMEMBER, if you wish to change the exposed color in the door and access panel, it should be done before installing the dishwasher in the cabinet. Refer to page 4.

Before you move the dishwasher into the opening, do the following:

1. Adjust the front levelers so the top of the machine is  $\frac{1}{4}$  inch below the underside of the countertop (see Figure 10).
2. Adjust rear levelers to level the dishwasher from front to back.
3. Clearance is needed for proper air flow under motor. If floor is carpeted, carpeting will have to be cut away to provide adequate clearance for ventilation.

You can now move the dishwasher into the opening and align it with the cabinets. Use caution when moving this appliance to prevent damage to floor coverings and adjacent cabinets.

1. As nearly as possible, align the door front of the dishwasher with cabinet front – top to bottom.
2. Make the space between the dishwasher and the cabinets the same on each side and the same from top to bottom.

NOTE: Double check the levelers to make sure they set firmly against the floor. Leveling is necessary for proper function of the dishwasher.

You are now ready to proceed with the final drain, water and electrical connections.

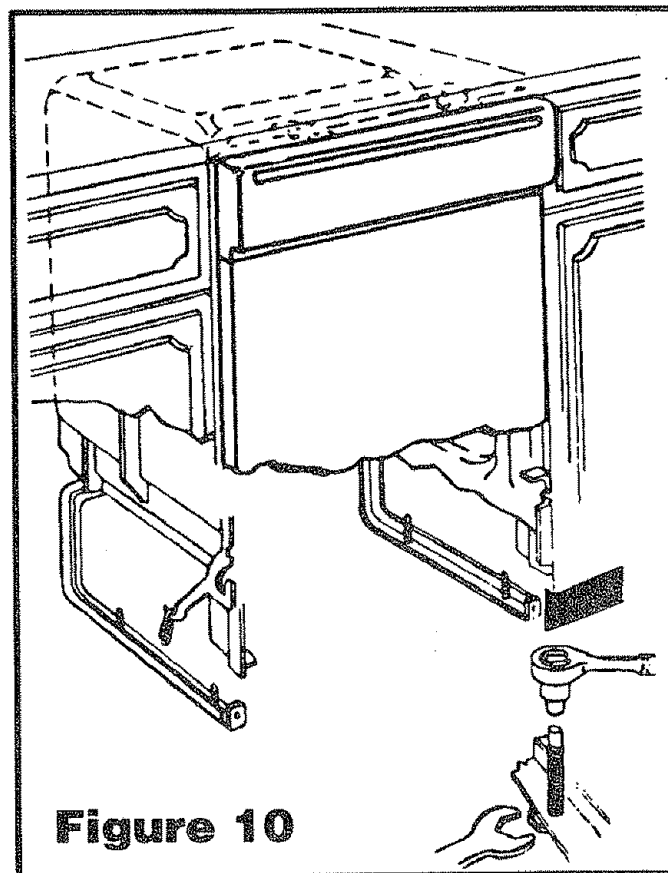
## Drain Hose Routing

Be sure the hose is routed behind the dishwasher motor and legs (see Figure 11).

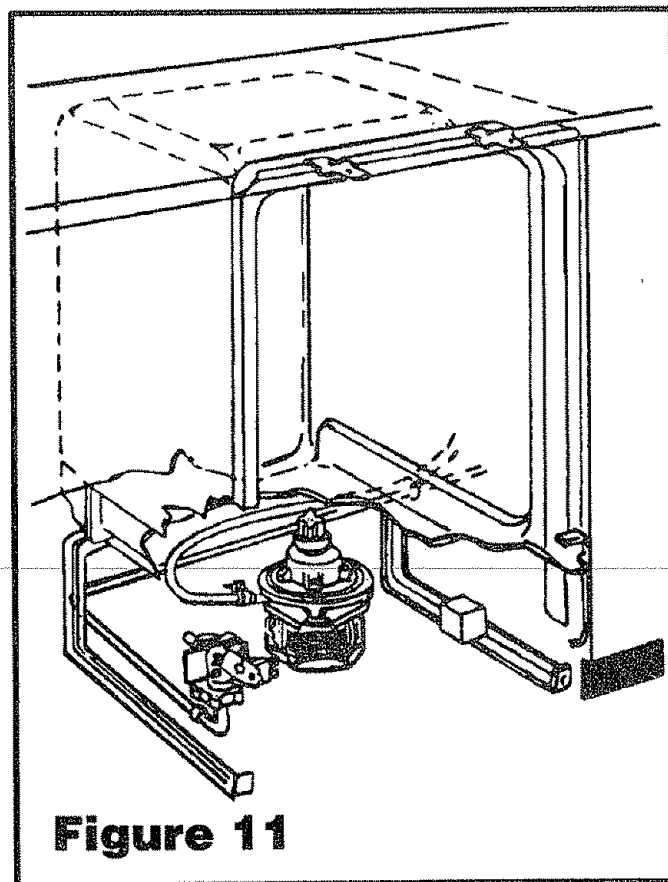
Place the excess hose flat on the floor in the dishwasher opening.

**BE SURE THERE ARE NO SHARP BENDS, KINKS OR TWISTS IN THE DRAIN HOSE.**

**Warning:** Regardless of the type of plumbing material, plumbing and drain hose must not contact wiring or electrical components.



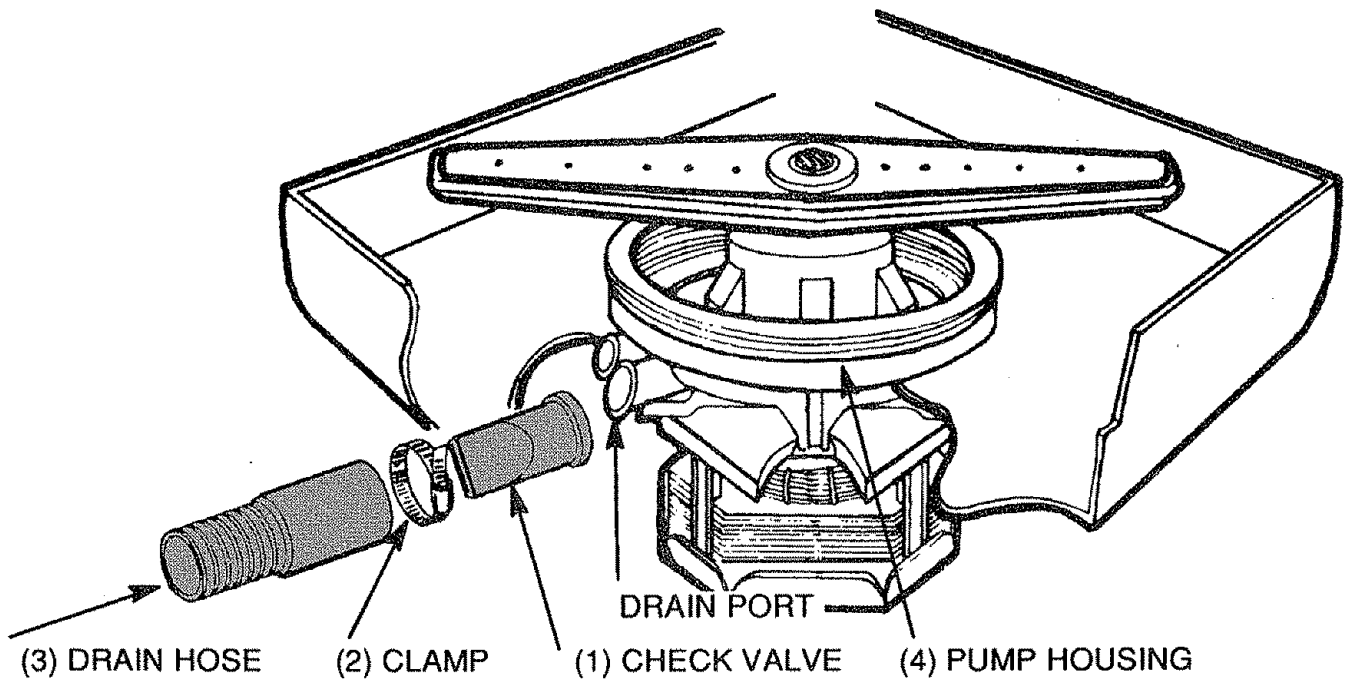
**Figure 10**



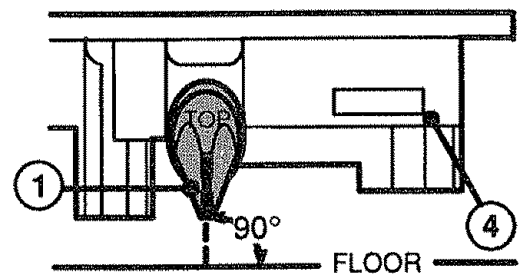
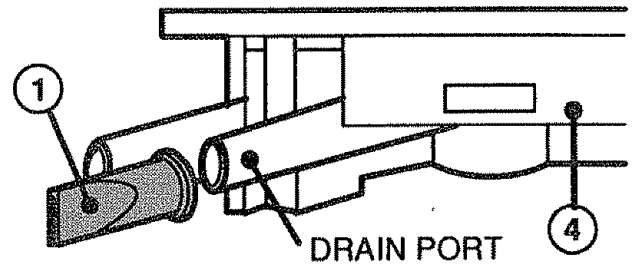
**Figure 11**

## Drain Hose and Check Valve

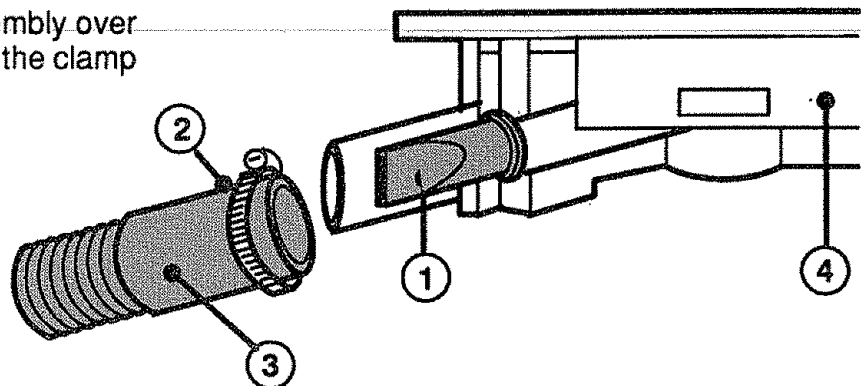
Dishwashers are equipped with a factory installed check valve in the drain hose. If removal is necessary, please follow these instructions for reassembly.



1. Push the valve (1) onto the pump housing (4) drain port making sure the letters reading "TOP" are located respectively. This position locates the valve so that the slit end is perpendicular to the floor.



2. Push the hose (3) and clamp (2) assembly over the drain outlet and valve (1). Fasten the clamp securely.



## Water Line Connection

Route the water pipe or tubing as shown (see Figure 12), straight forward from the back to the inlet valve.

Pipe or tubing must not be kinked. It must be free of scale, chips, lubricants, etc. before it is connected to the inlet valve. Flush the water line before connecting it to the valve.

If the water valve clogs with foreign material, turn off the water supply, then remove the four (4) screws at inlet end of valve for access to filter screen.

### CAUTION:

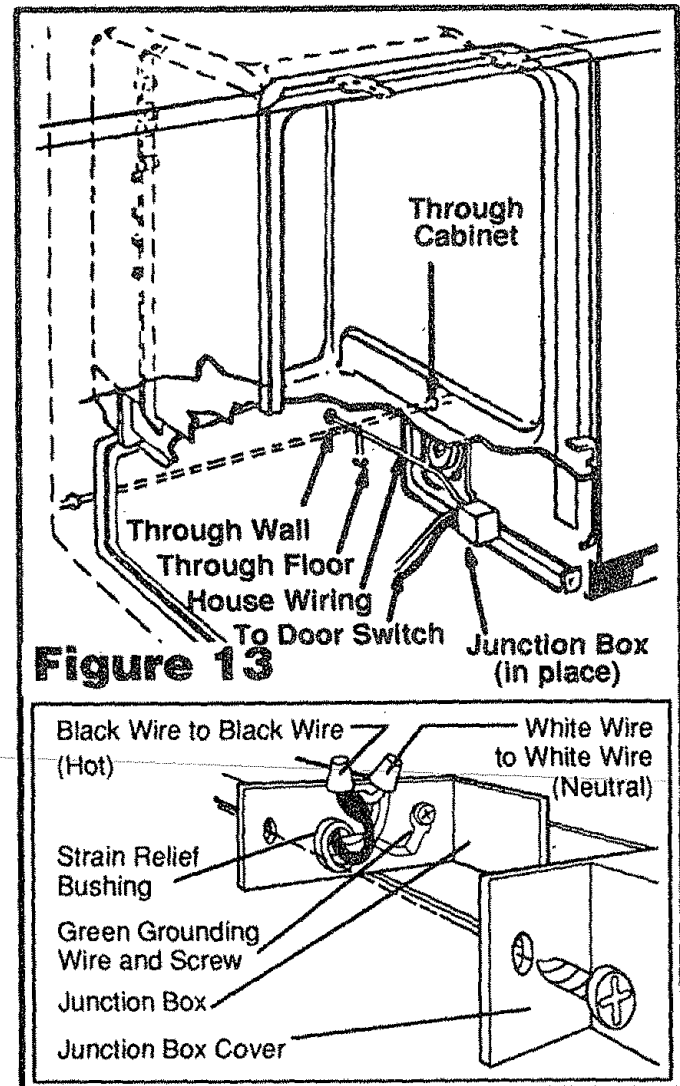
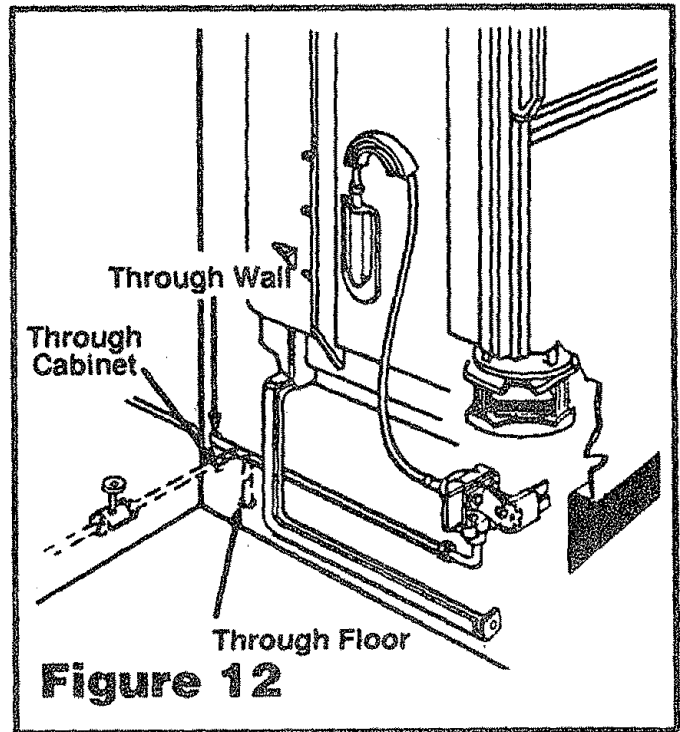
1. Do not solder close to the water valve. Overheating of the valve will damage plastic parts in the valve.
2. Use care that no sealer, dirt or foreign material can enter valve.
3. The furnished drain hose must not be used as a water supply line.
4. Be sure the dishwasher is placed where the water valve is protected from freezing. If the valve freezes, flooding may occur.

## Connect Dishwasher to Electrical Supply

The appliance **MUST** be permanently grounded in accordance with the National Electrical Code and local codes and ordinances.

**WARNING:** Before making electrical connection, disconnect power to fuse box or circuit breaker.

1. Remove the junction box cover (see Figure 13).
2. Pull the house wiring in the cabinet area forward to the junction box. Be sure the electrical cable is behind the dishwasher motor and rear legs. Use a strain relief (not included) at the box.
3. In the junction box, connect incoming black lead to dishwasher black lead and incoming white lead to dishwasher white lead with wire nuts or suitable connectors (not included).
4. Attach grounding wire under head of green grounding screw and tighten screw.
5. Replace the junction box cover.



## Secure Dishwasher In Opening

The dishwasher must be secured to keep it from tilting when the door is opened. Choose one of the two methods described below for securing the dishwasher.

### Countertop Anchoring

1. If necessary, adjust leveling screws so mounting brackets touch the underside of the countertop (see Figure 14).
2. Screw the mounting brackets firmly to the countertop using flat head screws (#8 x 5/8").
3. Open and close the dishwasher door slowly. If the door hits the mounting bracket screw heads, adjust front leveling legs.

### Floor Anchoring

This is a difficult procedure. Use only where the countertop mounting brackets cannot be used.

1. Screw 1/4 inch lag screws (not included) through the holes provided in the frame rail (see Figure 14).
2. Use expansion fasteners if the floor is concrete.

## Operate the Dishwasher

Before you start the dishwasher, check the following items:

- Dishwasher level and securely fastened in place.
- Water supply turned on.
- Joints checked for leaks.
- All wire connections tight.
- Electricity turned on.
- No kinks in water or drain lines.
- All packing material and customer literature taken out of the dishwasher.

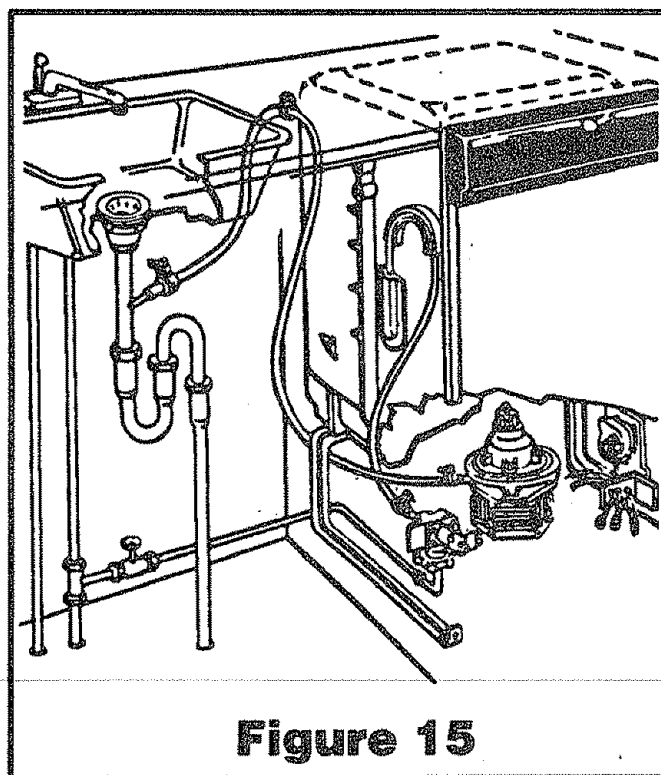
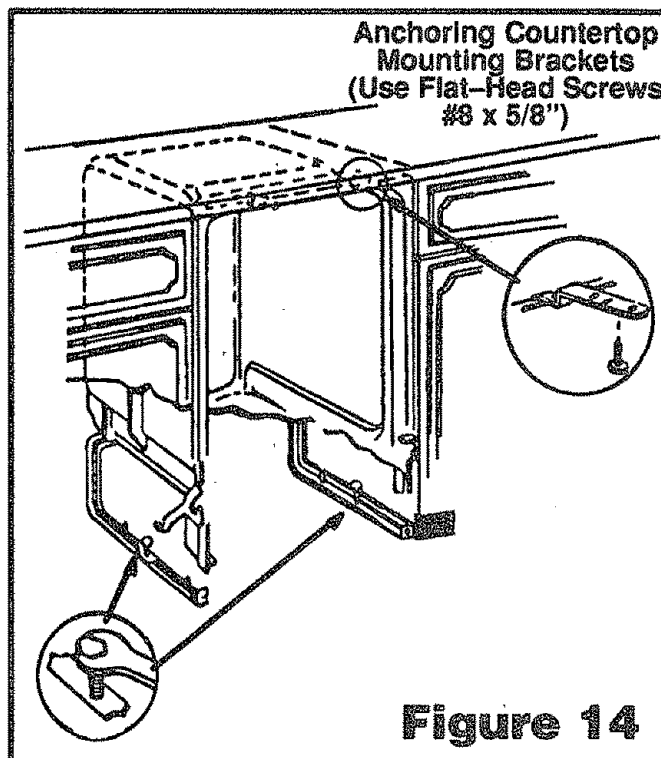
Operate the machine through at least one fill and pump-out.

- Check water level. Water should fill to the heating element.
- Check for satisfactory pump-out. A small amount of water in the bottom of the tub is normal.
- Check for leaks.

If operation is satisfactory, replace the access panel/toeplate and the adjustable toeplate. Notice that the vertical height of the toeplate will adjust to fit neatly against the floor.

**NOTE TO INSTALLER:** Put installation instructions back in the literature packet and leave with dishwasher so all information will be readily available to user.

**NOTE TO OWNER:** Please read the Dishwasher Owner's Guide. It contains important safety information for those operating the appliance. It also contains many suggestions for obtaining the best results from your dishwasher.



# Installation Tips

## (Read all instructions prior to installation)

- Water, electric, and drain connections are not the same for all **age, brand, or models** of dishwashers. Check and compare the location and length of your current utilities so you can plan your new installation. (Refer to pages 3 & 6.)
- Each home installation is different and some parts may be needed to meet your individual installation needs. You will need a  $\frac{3}{8}$  inch N.P.T. (National Pipe Thread) "Street L" or other compatible right angle fittings to make final water connections to the dishwasher valve. (Refer to page 8.)
- Clean dishes require an adequate supply of hot water. **140°F (60°C)** is desirable, 120°F (49°C) is minimum, 160°F (71°C) is maximum. **A minimum water supply line of  $\frac{3}{8}$  inch (O.D.) copper tubing is recommended.** Reasonable water pressure is needed (15 – 120 PSI (pounds per square inch), flow rate minimum 2 gal./minute). (Refer to page 8.)
- A separate 15 – 20 amp grounded 120VAC electrical supply is required for your new dishwasher. You may need a strain relief bushing and wire nuts or suitable connectors for connecting house wiring to the dishwasher. (Refer to page 8.)
- If the dishwasher drain hose is connected to a garbage disposer for the first time, remember to knock out the plug in the disposer inlet. This plug is inside the inlet. You may not see the plug from the outside. (Refer to page 7.)
- The dishwasher drain hose to the house drain must have a 32 inch loop above the floor or a suitable air gap must be used to prevent water from siphoning out of the dishwasher and causing washing problems. (Refer to page 6.)
- Kinked water or drain lines cause problems. Run lines with generous curves. Make sure lines are long enough to do this.
- Flush the water line prior to making final connections. A bunched towel over the end of the line can help prevent splashing. Open the valve for a few seconds and let water drain into a bucket or pan. This will prevent premature clogging of the filter screen in the inlet valve.
- There must be an air space between the bottom of the motor and the floor. If the floor is carpeted, it will be necessary to cut away the carpeting underneath the motor to allow ventilation for the motor. (Refer to page 10.)
- The dishwasher will look better, sound better, and work better if it is properly leveled. Take time to adjust the leveling legs so that all of them touch the floor and the dishwasher is level. Use #8 x  $\frac{5}{8}$ " flat head screws to anchor dishwasher to countertop. (Refer to pages 10 & 13.)