

# Installation Instructions

**THESE INSTALLATION INSTRUCTIONS ARE GENERAL AND SHOULD BE USED ONLY AS A GUIDE. EVERY STEP MAY NOT WORK IN EVERY APPLICATION. REFER TO YOUR STATE AND LOCAL BUILDING CODES FOR ELECTRICAL, PLUMBING AND VENTILATION REQUIREMENTS BEFORE STARTING INSTALLATION.**

**PLEASE READ THE ENTIRE INSTALLATION INSTRUCTIONS BEFORE PROCEEDING TO INSURE PROPER INSTALLATION. ALL CABINETS SHOULD BE CHECKED BEFORE INSTALLATION. ONCE CABINETS ARE INSTALLED, NO CREDIT MAY BE ISSUED.**

Installing cabinets is not as difficult as one may imagine. With the proper tools, preparation and following the instructions below, a new kitchen can usually be installed in a weekend and bath cabinets in a few hours.

## **What you will need:**

2 1/2" #8 phillips bugle head drywall screws. Average of six screws per cabinet.

A power drill, preferably reversible. Two would be more convenient, so you do not have to switch from drill bit to phillips bit.

1/16" drill bit for pilot holes in mouldings & 1/8" drill bits for pilot holes in face frames.

5/16" counter bore bit if the installation screws will be installed under the hinge location, which is preferable to hide them.

A #2 phillips head bit. Check the bit in the phillips head of the screw as you want maximum "bite".

2 C clamps with 4" opening capacity. If fillers are required in the installation wider opening clamps will be required.

Tape measure.

Chalk line.

Carpenters level.

Hammer.

Pencil.

Liquid soap or paste wax, which lubricates the screws and helps them penetrate the hardwood easier.

You may need a table saw or a circular saw if fillers or finish toe kick need to be trimmed. A fine-toothed hand saw may also work.

If mouldings need to be mitered, a miter box will be required.

The cabinet layout provided by your dealer.

A "stud finder" is optional.

## **Preparation**

**Remove all appliances & old cabinets:** If this is a remodeled kitchen, remove the cabinets, stove, oven, refrigerator, dishwasher, compactor and any other appliances. It is best to move these out of the kitchen, allowing for a clear working area. The old cabinets make great storage for the basement or garage.

**Check for uneven floors:** Using a straight 2x4 and a level, check the floor for high spots. Check all around the room where base cabinets will be installed from the wall out 24". Once the highest point is found, place the 2x4 on the spot and one end against the wall. Using a pencil, mark the wall using the underside of the 2x4 as a straight edge. This will be the reference point. From this point, use a level to snap a level chalk line all around the room.

**Check for uneven walls:** Using your cabinet layout, outline the wall and base cabinets on the wall as indicated on the layout and write the cabinet nomenclature in the outlined area. This will insure proper cabinet location. Measure the width and height of each cabinet face frame and compare it to your layout and what you have marked on the wall. Make sure they all agree. If not, contact your dealer immediately and do not proceed with the installation. Using a straight 2x4 check the wall for high or low spots. Corners, many times have a build up of drywall mud, so pay particular attention to them. Your only concern with the wall area where cabinets and countertops will be installed. Do not be concerned with the other areas, unless they are unsightly to you. High spots may be removed by sanding. If there is a noticeable bulge, it may be a twisted wall stud. This should be removed and a straight stud installed in its place. Repair the wall board or plaster after replacing the wall stud. Low spots may require shimming if the cabinets cannot be aligned properly during installation. Lumber yards have inexpensive packages of shims.

**NOTE:** Insure that no cabinet covers up an electrical outlet, heating vent, or it protrudes into an opening or window.

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**Locate all studs:** A “stud finder” can be obtained from most hardware stores or lumber yards. You may also tap on the wall with a hammer to locate a solid sound, indicating the studs location. Either method used, verify the studs location by driving a small finish nail into the wall, in an area that will be covered by a cabinet. It is advisable to locate the stud in both the wall and base cabinet location. Studs are not always put in straight. Mark all the stud locations on the wall directly below the wall cabinet location and directly above the base or vanity cabinet location, so as not to hide them behind a cabinet. In the case of tall cabinets, mark the wall or soffit directly above the cabinet location.

## **Soffits:**

**Building soffits:** If your kitchen does not have soffits and you desire them, they need to be constructed prior to the cabinet installation. 2x2s may be used as they are decorative only and are not used in attaching the wall cabinets. **EXCEPT, soffits over a peninsula!** Soffits over a peninsula require 2x4s at a minimum, as they will be required to “carry” the weight of the cabinet and it’s contents. Peninsula wall cabinets are typically 12” deep from outside to outside of the face frame. Determine the depth of the peninsula soffit desired and insure that a 2x4 set on edge, will be directly above both face frames, the entire length of the peninsula. You will need to lag bolt through the front face frame into the soffit. DO NOT rely on drywall screws for this installation. This will be further explained in the installation section. Soffits in a room with eight foot ceilings are typically 12” in height and 13” and up in depth. 13” is a minimum depth, for proper reveal or if corner mouldings are to be used. If recessed lighting is to be installed, determine the overall depth required, taking into consideration the light rim, so there is proper clearance to the cabinet and outside edge of the soffit. Cabinets that are deeper than the typical wall cabinet of 12” deep, i.e. oven cabinets or tall storage cabinets that range from 12” deep to 24” deep and sometimes more, will require deeper soffits including 24” deep refrigerator wall cabinets. The bottom of the soffit should be a minimum of 84”, 90” or 96” from the floor, to allow installation of tall cabinets. Make sure there is the minimum clearance from the highest point of the floor. It is preferable that the soffit be a fraction over the minimum to allow for the tall cabinet to be slid under the soffit.

**Installation with existing soffits:** Examine the existing soffit for proper depth and height as explained in the building soffit section above. You will also need to determine the lowest point of the soffit. This is the point that has the least distance between the soffit and the floor. If a tall cabinet is to be installed, the minimum distance is 84”, 90” or 96”; preferably a fraction more to enable a tall cabinet to slide under the soffit. This can be determined just as the high point of the floor, using a straight 2x4 and a level. The lowest point of the soffit will determine the top reference point for the wall cabinets. If there is a slight gap, do not be concerned as corner moulding will hide this. If your dealer did not order moulding for this purpose, they may be purchased and installed after installation of the cabinets. Whether installing cabinets to a new soffit or an existing soffit, you need to determine the lowest point of the soffit and using a level, snap a chalk line around the area where cabinets are to be installed. This will be the line that the top of the wall cabinets will align to.

**Note: If any type of decorative moulding is to be installed around the top of the wall and tall cabinets, discuss the proper clearance requirements with your dealer before installation. They should have taken this into consideration during the design phase of your kitchen planning.**

**Installing wall cabinets without a soffit:** From the base reference point where you snapped the level chalk line, measure up 54” and snap a chalk line parallel to the base reference line all around the room where cabinets will be located. This will be the bottom line that the bottom of a wall cabinet will line up with. This holds true for 30”, 36” or 42” high wall cabinets. We suggest nailing a 1x2 on the line to set the cabinets on to insure proper alignment during installation. The strip can be removed after installation and the nail holes patched. Unless the design calls for something different, shorter or taller wall cabinets are to be aligned with the top of the taller wall cabinets. Some designs call for staggering the heights of wall cabinets, or the location of some cabinets i.e. corner wall cabinets with appliance garages attached or some specialty wall cabinets. Ask your dealer for details on the exceptions to the 54” height and if it applies to you.

**Installing wall cabinets:** It is advisable to install wall cabinets first, so you do not have to work around the base cabinets. There are exceptions to this rule, i.e. a corner wall cabinet with an appliance garage attached, which cannot be installed until the countertop is installed. Another example is a wall cabinet that will sit on top of a roll top desk. These will need to be installed after the base cabinets. Ask your dealer if this applies to you in any way. To make the installation process easier, it is recommended to remove all doors from the cabinet, by removing the screw that attaches the hinge to the face frame. This way you will not have to contend with the door getting in the way, the additional weight, or the chance of damaging the door.



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**Helpful Hint:** If you are installing wall cabinets up to a soffit, make a "T" brace so it will fit between the floor and the underside floor of the wall cabinet, to help hold the cabinet in place during installation. Be careful not to force it to tightly against the cabinet, as you could break the floor of the cabinet. Shorter cabinets will need to be held in place. Some rental companies may have cabinet installation jacks, or a jack used for lifting wall board up to the ceiling can be used. Place a piece of plywood across the top of the brace on the jack to place the cabinet on. Check with the rental company to determine how low off the floor the jack can be lowered to, to determine if there is clearance between the top of the wall cabinet and the bottom of the soffit.

**Start in a corner:** From the corner, measure out to the first stud location. Transfer that measurement to the cabinet and drill a 1/8" pilot hole 3/4" down from the inside top of the cabinet and 3/4" up from the inside bottom of the cabinet 3/4". If more than one stud falls within the cabinet, repeat the process. **Note: The face frame of the cabinet extends 1/4" past the box of the cabinet on both ends. Therefore any measurements of stud locations must coincide with the frame dimension.**

If you are installing a wall corner blind (WCB) refer to your floor plan to see how far the cabinet is to be pulled from the corner. In most cases the dealer has planned for a 3" filler to be applied to the wide stile between the door and the void opening. This is to provide space between the WCB cabinet and the adjoining cabinet going at ninety degrees from it. Apply the filler before installing the WCB cabinet. To locate the fillers location, measure 12" from the edge of the WCB frame that will be in the corner, out along the front of the WCB and **subtract** the amount the cabinet is to be pulled. This is the front edge of the fillers location. By doing this, the cabinet adjoining at ninety degrees will line up with the filler.

If a corner wall cabinet (CWC) with an attached wall garage is to be installed in the corner, the installation cannot be done until after the counter top is installed. A CWC cabinet requires 24" of space. Measure 24 1/4" out from the corner on both walls and mark that spot. The back corner of the cabinet adjoining the CWC will start at this point. Proceed with installing the wall cabinets, leaving the opening for the CWC. Remember that the face frame extends 1/4" beyond the box of the cabinet. That is why the mark has to be 24 1/4". The face frame of the adjoining cabinets will make up for the difference. CWC cabinets must be notched to fit around the countertop backsplash. The CWC with a drawer garage attached cannot be notched. The countertop must be prepared so that the cabinet can fit flush to both walls.

Place the WCB cabinet in place, using one of the methods described earlier. The top of the cabinet must align with the chalk line you snapped earlier. Drill 1/8" pilot holes into the wall, through the holes you previously drilled through the back of the cabinet. Dip the 2 1/2" installation screw into the liquid soap or wax and proceed to attach the cabinet to the wall. **Do not thoroughly tighten the cabinet to the wall, until the adjoining cabinets in the "run" have been fastened to each other and any required shimming has been done.**

Take the next cabinet called for on your cabinet layout and repeat the steps described above. Be sure that the bottom of the face frame of both cabinets are aligned evenly. Take the two C clamps and carefully tighten the two frames together, making sure that they are flush to each other on the bottom. It's advisable to pad the C clamps to avoid denting the wood. In the area that the hinges are located, measure up about 3/8" from the hole left by the hinge screw and drill a 1/8" pilot hole through the first face frame and into the adjoining cabinet face frame. The first frame that you drill all the way through is 1 3/4" plus 3/4" into the adjoining frame. **Be careful not to drill all the way through the adjoining frame.** Take the 5/16" counterbore bit and drill out just enough for the head of the installation screw to sit flush or slightly recessed into the face frame, so the head of the screw does not sit above the frame. The hinge of the door must sit flat to the frame. Dip the installation screw into the liquid soap or wax and run it slowly into the pilot hole until it "seats" correctly. Repeat the same step in the other pilot hole. Remove the C clamps and repeat these steps for the balance of the wall cabinets. When all wall cabinets have been secured to each other and all required shimming is complete, go back and tighten all the screws that secure the cabinets to the wall. **BE CAREFUL NOT TO OVER TIGHTEN, AS YOU COULD DAMAGE THE BACK OF THE CABINET! GO SLOWLY!** Tighten just enough so the head of the screw is flush with the back of the cabinet. No more. **IMPORTANT:** It is not advisable to install cabinets that are 36" and wider on a wall independently. If the cabinet needs to be, you must secure the cabinet to a soffit by running four lag bolts through the top face frame into the 2x4 in the soffit. Also, no cabinet deeper than 12" deep should be hung independently. They must attach to an adjoining cabinet, or have a tall end panel (TEP) attach to its frame, supporting it to the floor. Usually this only applies to 24" deep cabinets over a refrigerator. Failure to follow these instructions will void all warranties and the result could be the cabinet falling off the wall.

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**Peninsula Cabinets:** The first peninsula cabinet that abuts the wall must be attached to the adjoining cabinet that is attached to the wall. This peninsula cabinet and all others in the run, must be attached to each other as described above, as well as four lag bolts (two on each side) run through the top of the face frame into the 2x4 in the soffit. If there is no cabinet to abut the first wall cabinet to, both face frames must be lag bolted to a 2x4 in the wall. If the cabinet falls inside a stud bay, install a 2x4 bridge between the two stud bays toward the top and bottom of the cabinet. In the case of a peninsula with no wall to abut to, lag bolt to the soffit as mentioned and if it is advisable not to put heavy objects, or "load" the cabinets with a lot of weight. They could fall down, resulting in the warranties being voided. Peninsula cabinet installations with no soffits, require support to an adjoining cabinet or wall at the start of the run and support at the end of the run to a wall, or if open ended, decorative posts secured to the underside of the cabinet and the countertop be installed. This installation also should not have heavy objects or "loads" placed in the cabinets. The same result could occur, causing the cabinets to fall and voiding all warranties.

**Installing tall cabinets:** Tall cabinets should be installed along with the wall cabinets, as in many cases a wall cabinet needs to be attached to a tall cabinet. Treat a tall cabinet as a wall cabinet and attach it to the wall in the same manner. If the wall and tall cabinet are the same depth, then attach the face frames in the same manner. If the wall cabinet adjoining the tall cabinet is not as deep, determine where the face frame of the wall cabinet will meet the end panel of the tall cabinet. Draw a light pencil mark on the end panel of the tall cabinet along the front of the wall cabinets face frame. Note where the wall cabinets top and bottom will fall on the tall cabinets end panel. From this line, measure toward the back of the tall cabinet 3/8". Drill a 1/8" pilot hole through the tall cabinets end panel. Place the tall cabinet against the wall cabinet, making sure the face frame is flush to the wall cabinet. Shim the tall cabinet if required, making sure it is level. From the inside of the tall cabinet, drill a pilot hole into the face frame of the adjoining wall cabinet, through the pilot holes in the tall cabinet end panel.

**You will need to shorten the distance you drill to 1" and use a 1" long drywall screw.** Dip the installation screw in the liquid soap or wax and run the screw in from inside the tall cabinet into the face frame of the wall cabinet. Go slow and tighten until the screw head is flush with the inside of the end panel. If you over tighten, the end panel will bow.

**Installing oven cabinets:** Oven cabinets are to be installed the same way as a tall cabinet, but preparation of the opening(s) to fit your oven is required. If your dealer ordered the oven cabinet from Great Northern Cabinetry Inc. with the opening(s) customized for your oven, then you may proceed with installation. Locate the electrical outlet, or gas line that will supply the oven and make the appropriate cutouts in the cabinet to facilitate them, prior to installation. If you need to alter the opening(s) to fit your oven, lay the oven cabinet on it's back. Refer to the appliance manufactures specification manual that came with the oven and determine the dimensions the opening(s) need to be. Measure the opening(s) of the cabinet noting both the width and depth. Compare them to the appliance manufactures requirements and determine how much of the stiles (the vertical part of the face frame) and rails ( the horizontal part of the face frame) need to be trimmed. For an example, the vertical opening of the oven cabinet opening is 26" and the horizontal opening is 22 1/4". The appliance manufacture requires the vertical opening to be 28" and the horizontal opening to be 23", you will need to trim the rails 3" and the stiles 3/4". For the horizontal opening, the entire 3" is to be removed from the wide rail above the opening. For the vertical opening, the 3/4" must be divided by two, so you trim 3/8" off both stiles. If you took the entire 3/4" off one stile, the oven would be off center in the cabinet. If you have any question what the maximum any opening can be trimmed, it is available from your dealer. With the cabinet laying on it's back, draw a line around the opening on the stiles and rails for the opening size you need. Take masking tape and place the right edge of the masking tape directly on the line you have drawn, all around the opening. This will help reduce chipping while you cut out the opening. If small chips occur, they will be covered by the oven trim. Using a skill saw, jig saw, or hand saw, proceed with making the cuts. Always use a fine toothed blade, designed for making finished cuts in hardwood. When completed, locate the electrical or gas supply for the oven and make the cutout in the cabinet as required. Proceed with the installation of the cabinet and oven.

**CAUTION:** Never cut right to the cabinet end panels or the floor of the opening above, that would ruin the structural integrity of the cabinet and void all warranties. Leave a minimum of 1/2" between the oven opening and the end panel or floor.

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**Installing base & vanity cabinets:** Also start in a corner, by setting the corner cabinet in its place. The corner cabinets bottom must be level with the chalk line you snapped earlier for the high point of the floor. If a base corner blind (BCB) is to be installed, follow the instructions as outlined for the wall corner blind. Base cabinets are provided with a "hangrail" across the top back of the cabinet. This is the area that you need to drill a pilot hole through, into the wall and securing to the wall with screws. If a ninety degree style corner base cabinet is provided, place the two adjoining base cabinets to the corner base cabinet and C clamp the face frames as you did on the wall cabinets and join them before shimming and attaching to the wall. Just like the wall cabinets, do not tighten all the way until all the base cabinets have been installed. If the corner base cabinet is a barrel corner cabinet (BCC), a barrel lazy susan (BLS) or if the BCB cabinet has been pulled away from the wall, you will need to install a 1x2 or larger countertop brace in the corner at the same level as the top of the base cabinets. For the BCC or BLS the brace needs to be installed on both walls. This will provide support for the countertop when it is installed. Some installations will require the toekick be cut out for a heating vent. Do this before installing the cabinet by carefully measuring the size and location and cutting out the toekick. Support the back of the toekick you cut out, by nailing a 2x4 to the floor on either side of the cutout, just behind the toekick. Nail into the 2x4 through the face of the toekick. This cutout will not weaken the cabinet.

**Important:** Before installing a base corner cabinet with a lazy susan, make sure it is operating correctly. If a BLS is not, follow the instructions provided to adjust it. Further adjustment may be required after installation. If a giant lazy susan (GLS) or a diagonal corner cabinet with a lazy susan (DCC-LS) are not, contact your dealer and do not install the cabinet. If you install the cabinet and the shelf needs to be replaced, it is impossible to remove the shelf without taking the cabinet out. This could be very costly to you, especially if the countertops have been installed.

**Peninsula cabinets:** Peninsula base cabinets need to be installed like the peninsula wall cabinets, except lag bolts are not required. For the last peninsula base cabinet in the run, measure the distance between the front of the cabinet behind the toe kick to the back of the cabinet inside the back. Cut a 2x4 to this length and screw it to the floor, within the confine of the space the cabinet will take. Run two 2 1/2" installation screws through the front of the toekick into the 2x4 and through the back of the cabinet into the 2x4. This will secure the peninsula from moving. If the peninsula is longer six feet, it is advisable to put a 2x4 under the cabinet in the center of the run and the end cabinet.

**Island cabinets:** Follow the same procedures as peninsula wall and base cabinets.

**Base sink, vanity and cabinets with down draft ranges:** Before installing these cabinets, you will need to determine where the plumbing or vent needs to be located and cut out the cabinet part to facilitate the pipes or vent for the range. If a considerable amount of cutting is required, you may affect the structural integrity of the cabinet and you will need to repair the cabinet to structurally sound condition, or all warranties will be voided. If you are concerned, call your dealer before proceeding.

**Fillers or cabinets with extended styles:** If required, these must be trimmed before installation. Refer to your cabinet layout for location and dimension they require to be cut down to.

**Valances:** In most cases valances need to be cut to size before installing. Except for plain valances, determine the total amount that needs to be cut off and divide it by two. Cut an equal amount off both sides. They are installed through the face frames of the cabinets on either side. Be careful when drilling and screwing as not to go through the valance. Use two 2" screws on each end.

Install the mouldings, finish toekick and any required accessories.

Replace the doors and align them so the tops and bottoms are at the same level.

Check the drawers for proper sliding and that they close flush to the cabinet. If they are not flush, the socket the drawer glides are attached to the back of the cabinet are adjustable. On the side of the drawer not touching, move the socket left or right as required until the drawer is flush to the face frame.

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## Trouble Shooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
Doors on a double door cabinet do not line up.	Cabinet is not installed level or square.	Loosen screws in back and use shims to make the cabinet plumb. Re-tighten screws.  Loosen hinge screw and adjust door up or down. Re-tighten screws.
Door is not flush to the face frame.	Same as above  Warped door   Twisted hinge	Same as above  Humidity levels can cause warpage. Allow door to hang through one heating season. If it remains warped more than 1/4", call your dealer.  Call your dealer for assistance.
Drawer is not flush to the face frame.	Cabinet is not level or square.  Drawer glide is misaligned	Same as above.  Refer to above on adjusting.
Lazy susan does not turn correctly.	Out of alignment.	Refer to directions and adjust.
Scratches, nicks or dents	Damage occurred during installation	Call your dealer for a touch up kit.
All other problems, call your dealer before proceeding.		