

## 1 Door/Entry

A doorway should be at least 32" wide.

## 2 Door Interference

No entry door should interfere with appliances, nor should appliance doors interfere with one another.

## 3 Distance Between Work Centers

In a kitchen with three work centers (cooking, cleanup/prep and refrigeration), the sum of the distances between them should total no more than 26'. No leg of the work triangle should measure less than 4' nor more than 9'.

When the kitchen includes additional work centers, each additional distance should measure no less than 4' nor more than 9'. No work triangle leg should intersect an island or peninsula by more than 12".

## 4 Separating Work Centers

A full-height, full-depth, tall obstacle [i.e., a pantry cabinet or refrigerator] should not separate two primary work centers.

## 5 Work Triangle Traffic

No major traffic patterns should cross through the work triangle.

## 6 Work Aisle

The width of a work aisle should be at least 42" for one cook and at least 48" for multiple cooks.

## 7 Walkway

The width of a walkway should be at least 36".

## 8 Traffic Clearance at Seating

In a seating area where no traffic passes behind a seated diner, allow 32" of clearance from the counter/table edge to any wall or other obstruction behind the seating area. If traffic passes behind the seated diner, allow at least 36" to edge past or at least 44" to walk past.

## 9 Seating Clearance

At 30" high tables/counters, at least allow a 24" wide by 18" deep knee space for each seated diner.

At 36" high counters, at least allow a 24" wide by 15" deep knee space.

At 42" high counters, at least allow a 24" wide by 12" deep knee space.

## 10 Cleanup/Prep Sink Placement

If a kitchen has only one sink, locate it adjacent to or across from the cooking surface and refrigerator.

## 11 Cleanup/Prep Sink Landing Area

Include at least a 24" wide landing area to one side of the sink and at least an 18" wide landing area on the other side.

## 12 Preparation/Work Area

Include a section of continuous countertop at least 36" wide and 24" deep immediately next to a sink.

## 13 Dishwasher Placement

Locate nearest edge of the primary dishwasher within 36" of the nearest edge of a sink. Provide at least 21" of standing space between the edge of the dishwasher and countertop frontage, appliances and/or cabinets placed at a right angle to the dishwasher.

## 14 Waste Receptacles

Include at least two waste receptacles. Locate one near the sink(s) and a second for recycling in the kitchen or nearby.

## 15 Auxiliary Sink

At least 3" of countertop frontage should be provided on one side of the auxiliary sink and 18" on the other side.

**16 Refrigerator Landing Area**

Include at least 15" of landing area on the handle side of the refrigerator / on either side of a side-by-side refrigerator.  
At least 15" of landing area no more than 48" across from the front of the refrigerator.  
At least 15" of landing area above or adjacent to any undercounter refrigeration appliance.

**17 Cooking Surface Landing Area**

Include a minimum of 12" of landing area on one side of a cooking surface and 15" on the other side.  
In an island or peninsula, the countertop should also extended a minimum of 9" behind the cooking surface.

**18 Cooking Surface Clearance**

Allow 24" of clearance between the cooking surface and a protected noncombustible surface [e.g., a range hood] above it.  
At least 30" of clearance is required between the cooking surface and an unprotected/combustible surface above it.  
If a microwave hood is used, then the manufacturer's specifications should be followed.

**19 Cooking Surface Ventilation**

Provide a correctly sized, ducted ventilation system for all cooking surface appliances; the recommended minimum is 150 CFM.

**20 Cooking Surface Safety**

Do not locate the cooking surface under an operable window. Window treatments above the cooking surface should not use flammable materials. A fire extinguisher should be located near the exit of the kitchen away from cooking equipment.

**21 Microwave Oven Placement**

The ideal location for the bottom of the microwave is 3" below the principle user's shoulder but no more than 54" above the floor.  
If the microwave is below the countertop the bottom must be at least 15" off the finished floor.

**22 Microwave Landing Area**

Provide at least a 15" landing area above, below or adjacent to the handle side of a microwave.

**23 Oven Landing Area**

Include at least a 15" landing area next to or above the oven.  
At least a 15" landing area not more than 48" across from the oven is acceptable if the appliance does not open into a walkway.

**24 Combining Landing Areas**

If two landing areas are adjacent, determine a new minimum by taking the longer of the two areas requirements and adding 12".

**25 Countertop Space**

A total of 158" of countertop frontage, 24" deep, with at least 15" of clearance above, is needed to accommodate all uses.

**26 Countertop Edges**

Specify clipped or round corners rather than sharp edges.

**27 Storage**

The total shelf/drawer frontage is:  
1,400" for a small kitchen (150 square feet or less);  
1,700" for a medium kitchen (151 to 350 square feet);  
2,000" for a large kitchen (351 square feet or more). \*See Chart.

	Small	Medium	Large
Wall	300"	360"	360"
Base	520"	615"	660"
Drawer	360"	400"	525"
Pantry	180"	230"	310"
Misc.	40"	95"	145"

**28 Storage at Clean-up/Prep Sink**

Of the total recommended shelf/drawer frontage, the following should be located within 72" of the centerline of the main sink:  
At least 400" for a small kitchen; at least 480" for a medium kitchen; at least 560" for a large kitchen.

**29 Corner Cabinet Storage**

At least one corner cabinet should include a functional storage device. This does not apply if there are no corner cabinets.

**30 Electrical Receptacles**

GFCI (ground fault circuit interrupter) protection is required on all receptacles servicing countertop surfaces.

**31 Lighting**

Every work surface should be well-illuminated by appropriate task lighting.

# CABINET INSTALLATION GUIDE FOR INSTALLERS

This step-by-step guide is designed to make cabinet installation simple and effective. Follow these instructions carefully, and you'll achieve a professional result every time.

**Preparation**--Before starting, ensure the workspace is ready and you have all the necessary tools and materials. Preparation is key to a smooth installation.

## WORKSPACE PREPARATION

- 1 Clear the Area:** Remove old cabinets and clean the space.
- 2 Flooring:** If new flooring is needed, install it first. Ensure it can handle the weight of the cabinets.
- 3 Electrical and Plumbing:** Complete any updates before starting.
- 4 Walls:** Repair drywall and paint for a clean, finished look.

## TOOLS AND MATERIALS

Tools		Materials	
- Level (4' or 6')	- Clamps (8" or more)	- Cabinet layout diagram	- 1x2 ledger board
- Tape measure	- Circular saw (if needed)	- Wood shims	- Toe-kick trim boards
- Pencil	- Hammer	- 2 ½-inch screws	
- Stud finder	- Cordless drill with drill bits		

## STEP-BY-STEP INSTALLATION

### STEP 1 Mark Your Measurements

- 1 Find the High Spot on the Floor**
  - Use a level and a long straightedge to find the floor's highest point where the cabinets will sit.
  - Mark this spot. This will be your reference for all measurements.
- 2 Mark Cabinet Lines on the Wall**
  - From the high spot, draw a level line at **34 ½ inches** for the top of the base cabinets.
  - Draw another line at **54 inches** for the bottom of the wall cabinets. If you prefer a taller backsplash, draw this line at **56 inches**.
- 3 Locate and Mark Studs**
  - Use a stud finder to find wall studs. Mark their centers along the cabinet lines.
- 4 Mark Obstacles**
  - Note the locations of electrical outlets, plumbing, and other obstructions.

### STEP 2 Install the Ledger Board

Attach a straight **1x2 board** along the wall cabinet line (54" or 56"). This temporary support will hold wall cabinets in place during installation. Ensure the board is level and securely fastened to studs.

### STEP 3 Inspect and Arrange Cabinets

- 1 Unpack and Inspect Cabinets**
  - Check for damage and ensure all parts are present.
  - If any assembly is needed, complete it now but do not attach hardware, doors, or drawers.
- 2 Dry Fit Cabinets**
  - Place cabinets in position to confirm they match the layout diagram.

## STEP 4 Install Wall Cabinets

### 1 Prepare Cabinets

- Remove doors and drawers to reduce weight. Label them to make reassembly easier.

### 2 Start with the Corner Cabinet

- Pre-drill **\*\*pilot holes\*\*** in the cabinet's hanging strips at the stud locations.
- Lift the cabinet onto the ledger board and align it with the wall marks.
- Secure the cabinet to the studs using screws. Start with the top screws and check for level and plumb before tightening fully.

### 3 Install Adjacent Cabinets

- Clamp the next cabinet to the installed one, ensuring the faces are flush.
- Pre-drill pilot holes through the face frames and secure the cabinets together with screws.
- Attach the cabinet to the wall, checking level and alignment.

### 4 Finish Wall Cabinets

- Continue this process until all wall cabinets are installed.
- Remove the ledger board once the wall cabinets are secure.

## STEP 5 Install Base Cabinets

### 1 Start with the Corner Cabinet

- Place the corner cabinet in position and shim it as needed to make it level.
- Pre-drill **\*\*pilot holes\*\*** in the back framing strip at the stud locations.
- Secure the cabinet to the wall with screws, checking for level and plumb.

### 2 Install Adjacent Cabinets

- Place the next cabinet, shim it as needed, and clamp it to the installed one.
- Pre-drill pilot holes through the face frames to attach the cabinets together.
- Secure the cabinet to the wall, checking for level and alignment.

### 3 Continue Installing Cabinets

- Repeat the process for all base cabinets, always checking for level, plumb, and flush alignment.

## STEP 6 Add Finishing Touches

### 1 Install Toe-Kicks and Trim

- Measure, cut, and install toe-kick boards. Use trim to cover gaps between the toe-kick and the floor if necessary.

### 2 Reattach Doors and Drawers

- Reassemble doors and drawers, adjusting hinges and hardware to ensure they are straight and function properly.

### 3 Final Inspection

- Check all cabinets to ensure they are securely fastened, level, and aligned.

## PRO TIPS

- 1 **Pre-Drill Everything:** Always pre-drill pilot holes to prevent splitting wood and ensure precise screw placement.
- 2 **Work with a Partner:** Cabinets can be heavy. Having someone to help lift and hold them makes the job easier and safer.
- 3 **Check Level Frequently:** After securing each cabinet, verify it is level before moving on to the next one.

By following this guide, you'll complete cabinet installations with precision and confidence, ensuring satisfied customers and long-lasting results.

# DETAILED GUIDE FOR DRILLING CABINET HARDWARE

Adding hardware to cabinets can elevate their look and functionality, but it requires precision for a professional finish. Follow this step-by-step guide for a successful installation:

## TOOLS AND MATERIALS

- Drill
- Drill bits (usually 3/16" or as specified by hardware)
- Cabinet hardware jig or template (optional for consistency)
- Measuring tape
- Pencil or marker
- Masking tape
- Scrap wood or thin plywood (as backing material)
- Clamps (optional)
- Screwdriver
- Level (optional)

### Preparation

#### 1 Select Your Hardware and Placement

- Decide on the style and size of the pulls or knobs.
- **Knob:** Typically installed on the center of the stile for cabinet doors and centered horizontally and vertically on drawers.
- **Pulls:** For cabinet doors, place them opposite the hinges, about 2-3 inches from the edge. For drawers, they are usually centered horizontally and slightly higher than the center line on tall drawers for aesthetics and ergonomics.

#### 2 Plan Consistency Across All Cabinets

- Use a hardware jig or create a cardboard/paper template to mark the holes for consistent placement on all doors and drawers.

### Marking the Holes

#### 3 Measure and Mark

- Use a measuring tape to determine the exact placement of each hole.
- Mark the location of the holes lightly with a pencil on the cabinet front. Double-check alignment with other cabinets.

#### 4 Use Masking Tape

- Apply masking tape to the drilling area on both the front and back of the cabinet. This helps reduce splintering and makes the markings easier to see.

### Drilling the Holes

#### 5 Secure Backing Material

- Place a piece of scrap wood or thin plywood behind the cabinet door or drawer to support the material during drilling.
- Clamp the backing material securely to prevent movement.

## 6 Drill Pilot Holes

- Use a sharp drill bit that matches the size of your hardware screws.
- Drill straight through the cabinet face into the backing material to create a clean hole. Go slow and steady to avoid mistakes or splintering.
- For two-hole pulls, drill one hole first, confirm the alignment, and then drill the second.

## Installing the Hardware

### 7 Attach the Hardware

- Insert the hardware screws through the back of the cabinet door or drawer into the pull or knob.
- Use a screwdriver to tighten the screws. Avoid over-tightening, as this can strip the screw hole or damage the hardware.

### 8 Check the Fit

- Open and close the doors and drawers to ensure the hardware is properly aligned and functional.

## Final Adjustments

### 9 Adjust and Level

- Confirm all hardware is level and aligned across cabinets.
- Make minor adjustments if needed by loosening and re-tightening the screws.

### 10 Remove Tape and Clean

- Remove the masking tape and any pencil marks.  
Wipe down the cabinets to remove dust from drilling.

## PRO TIPS

- 1 **Test First:** Practice drilling on a scrap piece of wood to ensure you're comfortable with the process and to confirm the drill bit size matches the screws.
- 2 **Work Systematically:** Start with one cabinet or drawer, then move to the next to maintain consistency.
- 3 **Jig for Multiple Pieces:** If installing hardware on many cabinets, a jig can save time and ensure precise, repeatable results.

By following these steps, you'll achieve a clean, professional finish that enhances the appearance and functionality of your cabinets.