

UNDER COOKTOP CABINET PULLOUT PROJECT

1. **Goal:** Increase useful storage under a cooktop in a typical face frame kitchen cabinet by installing readily available drawers as pull-outs.



2. **Introduction:** A word about these instructions: They are written at a very detailed level for those with beginner to moderate level DIY project skills who want to grow their skills and accomplish a significant and dramatic home improvement project. Those with more experience will benefit from the instructions because I have done my best to capture all that I learned while doing this project. In other words, to allow the reader to benefit from my mistakes and insights that only come with actually doing a project at least once.
3. **Summary:**
 - a. A typical face frame cabinet for a cooktop is nominally either 30" or 36" wide and has a vertical stile in the middle that separates two 15" or 18" cabinet openings to the cabinet's storage space. While this allows for a 30" or 36" cooktop to be installed on the kitchen counter, it creates a less than optimal storage situation under the cooktop, as the size and location of the openings make it difficult to access and store pots and pans. A much preferred situation would allow access to, and use of, the full width and height of the space under the cooktop.
 - b. The creation of such a functional under cooktop storage space (or any other base cabinet space) can be accomplished by
 - (1) modifying the existing cabinet,
 - (2) modifying and installing the sides of an IKEA Sektion cabinet to create IKEA functionality inside the existing cabinet, and
 - (3) installing IKEA Maximera drawers as pullout storage for pots and pans in the newly created IKEA-functional space.
 - (4) We used IKEA components because they are readily available, of good quality and easy to work with.
4. **Things to Consider:**
 - a. Decision to go forward. Whether to proceed with this project will depend on the configuration under your cooktop. The key things to check before going forward are:

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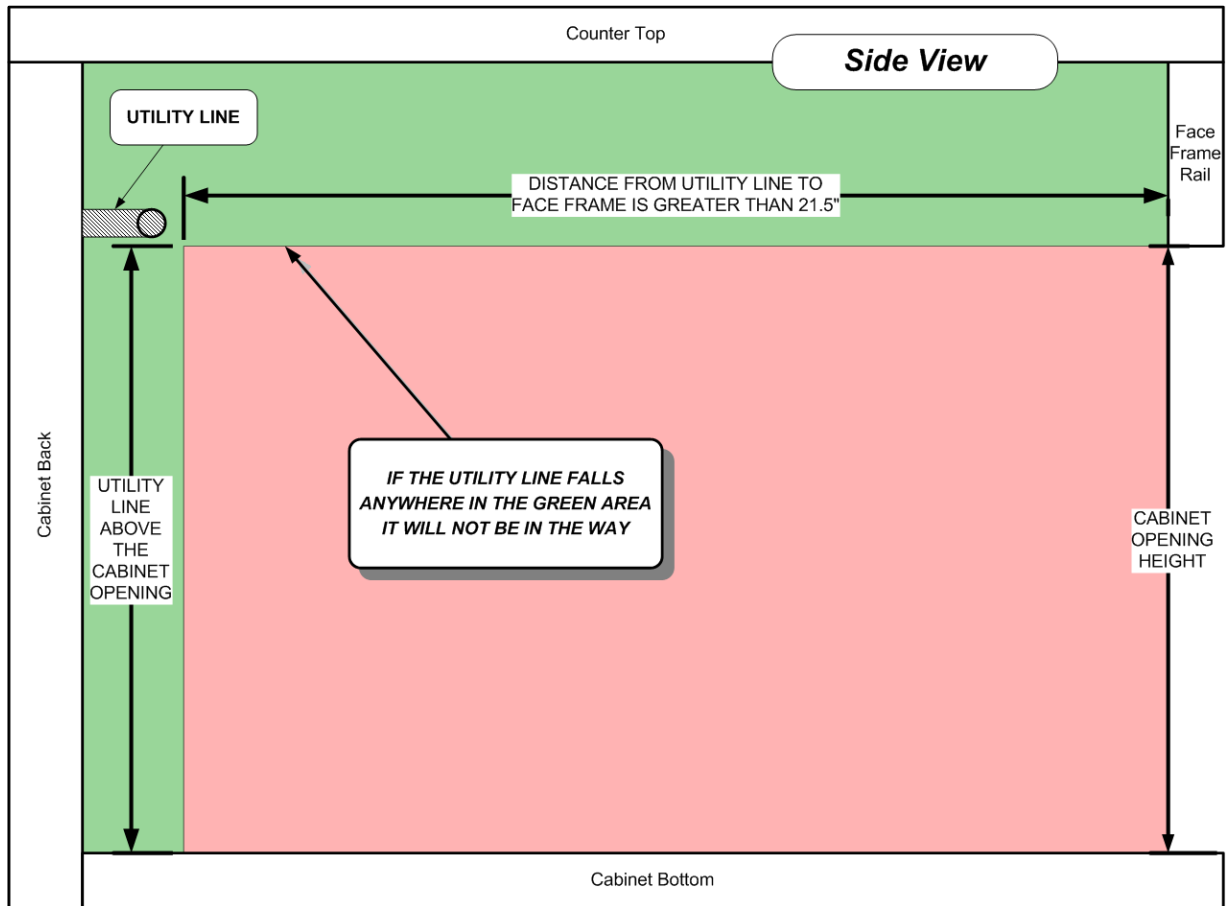
- (1) *The width of the cabinet opening with the center stile removed.* For a 36" cooktop cabinet the opening must be at least 34.5" wide, the actual width of a nominal 36" Maximera drawer. For a 30" cooktop cabinet the opening must be at least 28.5" wide, the actual width of a nominal 30" Maximera drawer.
- (2) *The total width of the inside of the cabinet.* For a 36" unit, the total width must be at least 36" wide, the width of an IKEA Maximera drawer unit installed in a 36" IKEA cabinet. For a 30" unit, the total width must be at least 30" wide, the width of an IKEA Maximera drawer unit installed in a 30" IKEA cabinet.
- (3) *The height of the cabinet opening.* This will determine the Maximera drawer units you can use effectively. IKEA Maximera drawers come in three depths as set forth in Table 1.

TABLE 1			
DRAWER DEPTH	ACTUAL HEIGHT	INSTALLED HEIGHT	COMMENTS
Low	3&1/8"	X	Not used, not determined
Medium	5&5/8"	6.5"	Measured on mounted drawer from bottom of drawer front to top of drawer front
Deep	8&3/8"	9&3/8"	Installed in bottom location; mounted on second row of mounting holes, measured from <i>cabinet</i> bottom to top of drawer front
In Between Spacing	1.25" per mounting hole		Take into account in designing the fit between drawers

- (I) The installed height of a drawer is a function of the mounting holes spacing on the IKEA cabinet sides, which are 1.25" apart.
 - (II) Installation of drawers must start at the second mounting hole up from the bottom of the IKEA cabinet sides to allow for drawer front positioning relative to the cabinet bottom.
 - (III) For example, one deep drawer and one medium drawer worked well for us in our 20.25" high cabinet opening (9&3/8" deep drawer + 2.5" spacing between drawers + 6.5" medium drawer = 18&3/8" total height).
- (4) *The location of utility lines supplying the cooktop.* The gas and/or electrical lines to the cooktop must not be located where they will block the placement of the IKEA cabinet walls and drawer units.
 - (a) If the the utility lines are above the opening of the cabinet and/or more than 21.5" (the drawer unit depth dimension) from the inside of the face frame of the cabinet the utility lines *will not be in the way*. See Drawing One.

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Drawing One



- (b) If the utility line is below the height of the cabinet opening it will not block the installation *if* the height of the installed drawers is less than the height of the utility line. Put another way:

If height of utility line > height of drawer assembly, then PROCEED

If height of utility line < height of drawer assembly, then STOP

Use the information in Table 1 to make this determination.

- (c) As stated above, we found we needed about 18.5" of height for our desired installation of one deep and one medium drawer with two hole spacing between them ($9\frac{3}{8}" + 2.5" + 6.5" = 18\frac{3}{8}"$). Thus, because our utility line was 19.5" up from the bottom of the cabinet, we knew the assembly would fit.
- (5) *Whether the existing cabinet is square, level and plumb.* The essence of this project is that you will be installing an IKEA cabinet *inside* your existing cabinet. For the installation to work properly the IKEA sides *must* be installed so they are square, plumb and parallel. If they are not, the drawers will not fit and work properly. The actual state of your cabinet may make you consider whether you want to proceed depending on your comfort level in making the IKEA components fit properly in the

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cabinet space. (In three separate projects cabinets that were not straight across the front, had bottoms that were not level, and sides that were not straight up and down were dealt with. With up front awareness, each instance was handled easily and the installation completed successfully.) See Section 7. Assembly, below.

- b. Timing. If you are comfortable with woodworking and renovation work, allow a half day for the project. If new to this type of work, allow at least one full day.

5. Materials List:

- a. One IKEA Sektion 12" W x 24" D x 30" H base cabinet. (You will only use the sides of the cabinet, and this is the cheapest unit with 24" x 30" sides.)
- b. IKEA Maximera 36" x 24", or 30" x 24" drawer units. We used two: one medium and one deep.
- c. Corresponding size IKEA Utresta drawer fronts. (Sold separately from the drawers.)
- d. Consider whether you want the glass drawer side height extensions. (They are a good addition, as they keep items inside the drawer space.)
- e. Drywall/cabinet type self-drilling wood screws of an appropriate size for the configuration and dimensions of your cabinet components.
- f. Wood (can be scrap) to use as filler pieces between the existing cabinet sides and the IKEA cabinet sides. (You will need six approximately 24" pieces.)
- g. One board 1/4" thick by 2.5" wide by 24" long of the same wood as the cabinets. This will be used to make an extension for one of the doors to cover the gap created after the center stile is removed.
- h. Finish nails.
- i. Wood putty or spackling.
- j. Shims.

6. Tools List:

- a. Power saw (preferred) to cut the IKEA base cabinet sides and filler pieces.
- b. Flush cut saw with a blade that cuts both wood and metal for removing the face frame stile. (There will be staples or nails in the joint.)
- c. Drill, and driver bits to drive screws.
- d. Tape measure.
- e. Carpenter square and/or tri-square and a 36" long ruler or yardstick.
- f. Level.
- g. Clamps.
- h. Hammer.
- i. Pocket hole jig. (Optional, but nice to have if your cabinet is out of plumb.)
- j. Pencils.
- k. A 1" x 1", or 1" x 2" board, cut to an exact length of 36" for a 36" installation, or to 30" for a 30" installation. This board will serve as a "story stick" to use to check the positioning of the sides during installation.

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7. Assembly:

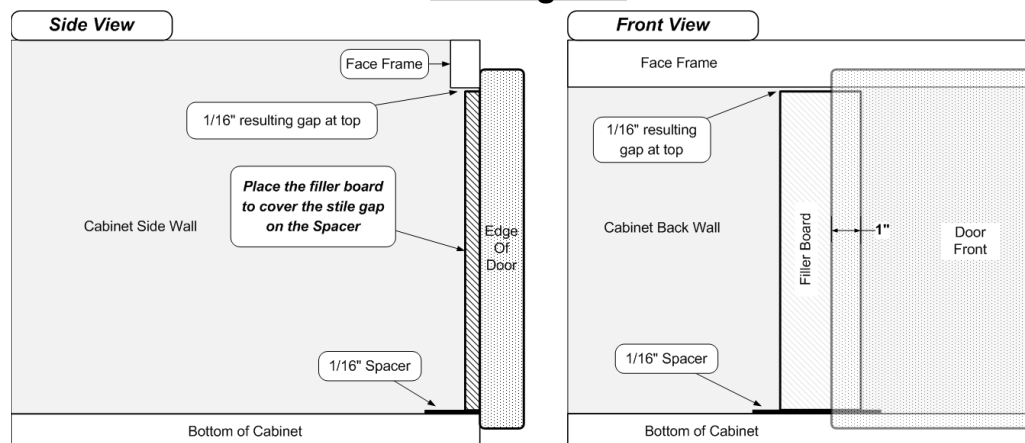
a. Modifying the existing cabinet.

- (1) Empty and clean out the cabinet to be modified.
- (2) If your cabinet has a shelf in it you will have to remove it. (If it is nailed in place, try cutting the shelf in the middle and then tilting and prying the two sides up and down until the shelf comes out. If this doesn't work, cut out the middle portion of the shelf and repeat the tilting and prying effort and/or use a flush cut saw to cut the nails holding the shelf in place. DO NOT attempt to beat the shelf out with a hammer, as this may damage the walls of the cabinet.)
- (3) Open the cabinet doors so they are out of the way. *Do not remove them yet.*
- (4) Remove the center stile of the cabinet by flush cutting the stile at the top and bottom. (The stile is basically cosmetic, but if you are concerned about the integrity of the top stile/rail joint, you can place a bracing board behind the top cabinet rail to add strength.)
- (5) Sand the cuts so they are smooth.

b. Modifying the existing doors.

- (1) The gap between the doors created by removing the stile needs to be filled so the cabinet looks the way it should when the doors are closed. This is accomplished by adding an extension board to one of the doors to fill the gap created by removing the stile.
- (2) Cut the 1/4" thick piece of cabinet-type wood to a length 1/8th inch less than the height of the cabinet opening. Be accurate! The final look of the cabinet depends on it.
- (3) Choose which door you want to attach the filler board to. (It will always be opened last and closed first once the project is completed.)
- (4) With the cabinet door that you select closed, lay anything that is 1/16th inch thick on the bottom of the cabinet behind the door so it extends out from the door, covering where the stile was removed. See Drawing Two.

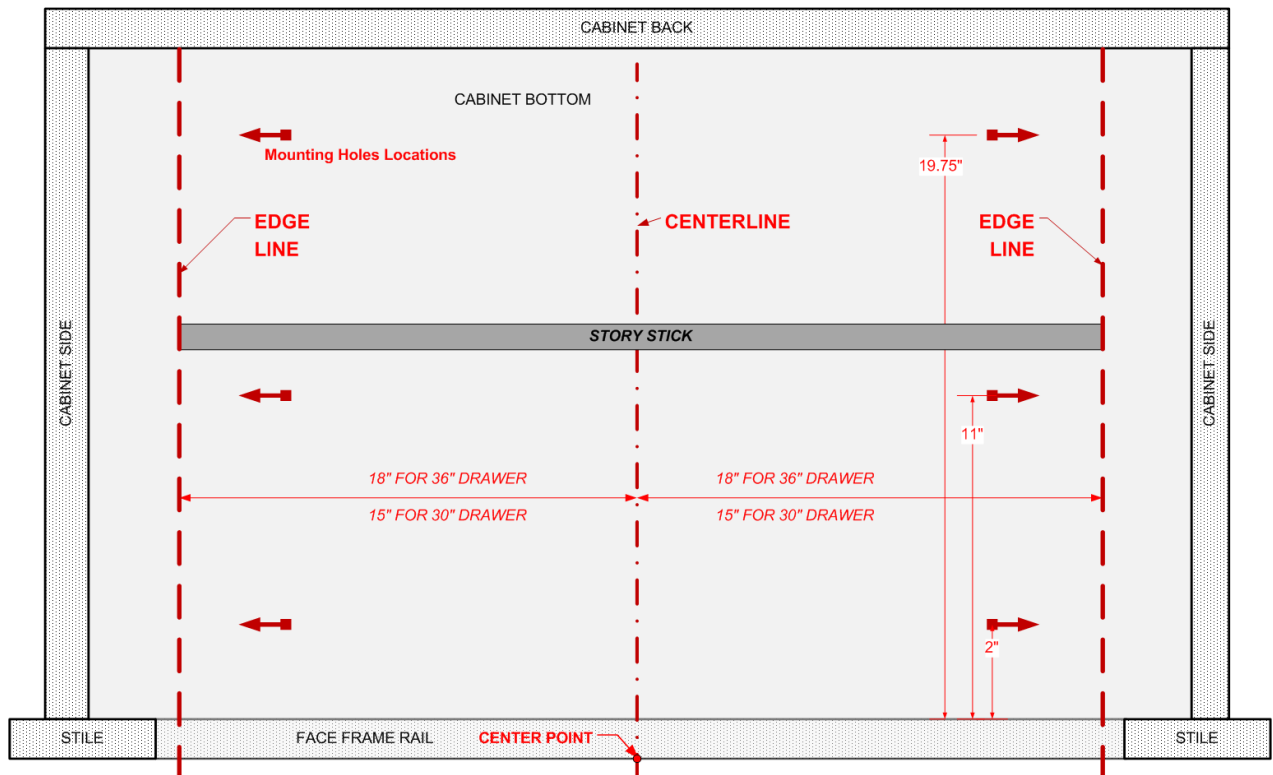
Drawing Two



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- (5) Stand the 1/4" thick piece of wood on its end on the 1/16" spacer and clamp it against the back of the door, with 1" overlapping the door and the remainder extending out from the door filling the space where the stile used to be.
 - (6) Make sure the board is square and fits evenly (top and bottom) in the space.
 - (7) Unscrew the door hinges from the cabinet and remove the door from the cabinet with the board still clamped to it.
 - (8) Drill pilot holes (to avoid wood splitting) and then screw the board to the door.
 - (9) Remount the door and check fit. The other door should overlap the extension when the doors are both closed so it looks like the center stile was never removed.
 - (10) Remove the door.
 - (11) Refinish the cut areas and door extension to match the cabinets. (This can be done at the end of the rest of the work to avoid stalling the project waiting for the new finish to dry.)
- c. Measuring and marking the existing cabinet for the installation of the IKEA cabinet sides.
- (1) Measure to find and mark the center point between the sides of the cabinet opening with the stile removed. See Drawing Three A.

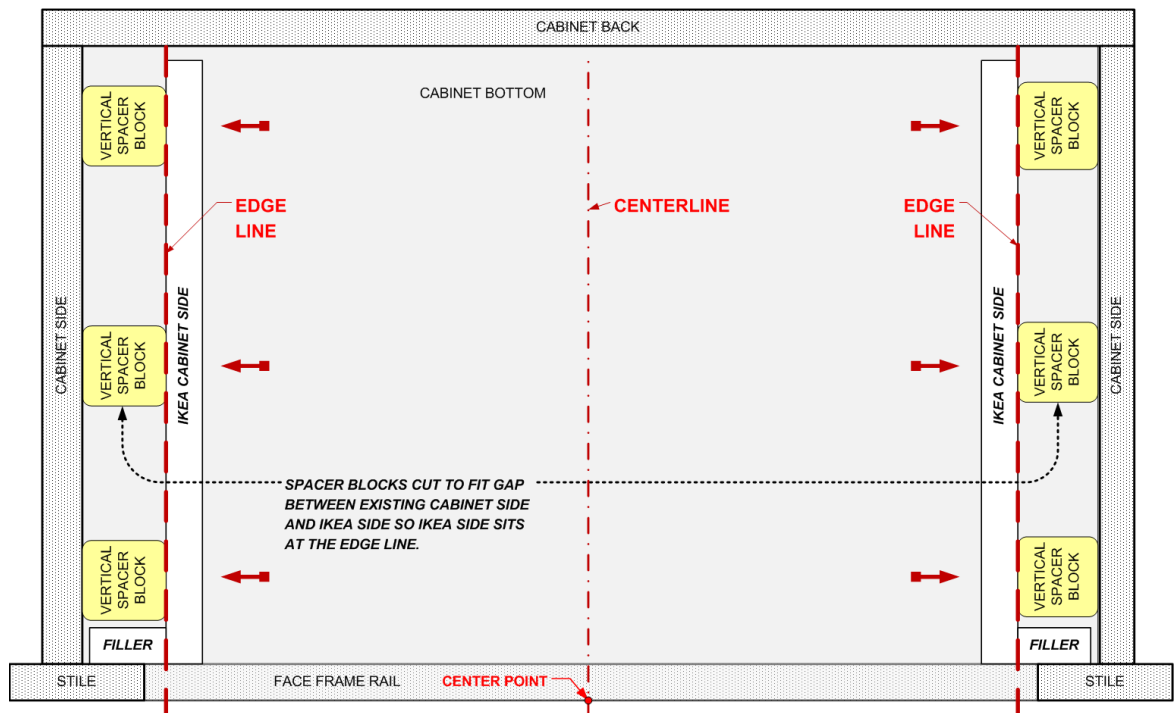
Drawing Three A



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- (2) Draw a line perpendicular to the front of the cabinet through the center point back at least 20" into the cabinet.
 - (3) For a 36" cabinet, measure and mark two lines 18" on either side of the centerline all the way to the back of the cabinet. The two lines must be 36" apart and parallel to each other. These lines are the outer edges of where the IKEA cabinet sides should be when installed in the cabinet (the "Edge Lines"). For a 30" cabinet, the two lines should be 15" on either side of the centerline. Verify the distance between the lines with the story stick.
 - (4) The distances of the lines of mounting holes in the IKEA cabinet sides from the front of the sides are 2", 11" and 19.75". Make marks on the bottom of the cabinet on both sides at these distances, measuring from the inside surface of the face frame. These marks will serve as guides for where vertical boards will be installed as fillers between the cabinet sides and the Edge Lines.
- d. Preparing the existing cabinet for the installation of the IKEA cabinet sides.
- (1) Determine whether the sides of the cabinet are plumb and square to the bottom of the cabinet, using a square.
 - (a) If the cabinet sides are plumb and square:
 - (I) Measure the gap at the bottom of the cabinet between the sides of the existing cabinet and the Edge Lines at the mounting hole reference marks on both sides of the cabinet.
 - (II) Cut pieces of wood of the needed thicknesses and 22" long to fill the gaps between the cabinet sides and the Edge Lines. See Drawing Three B.

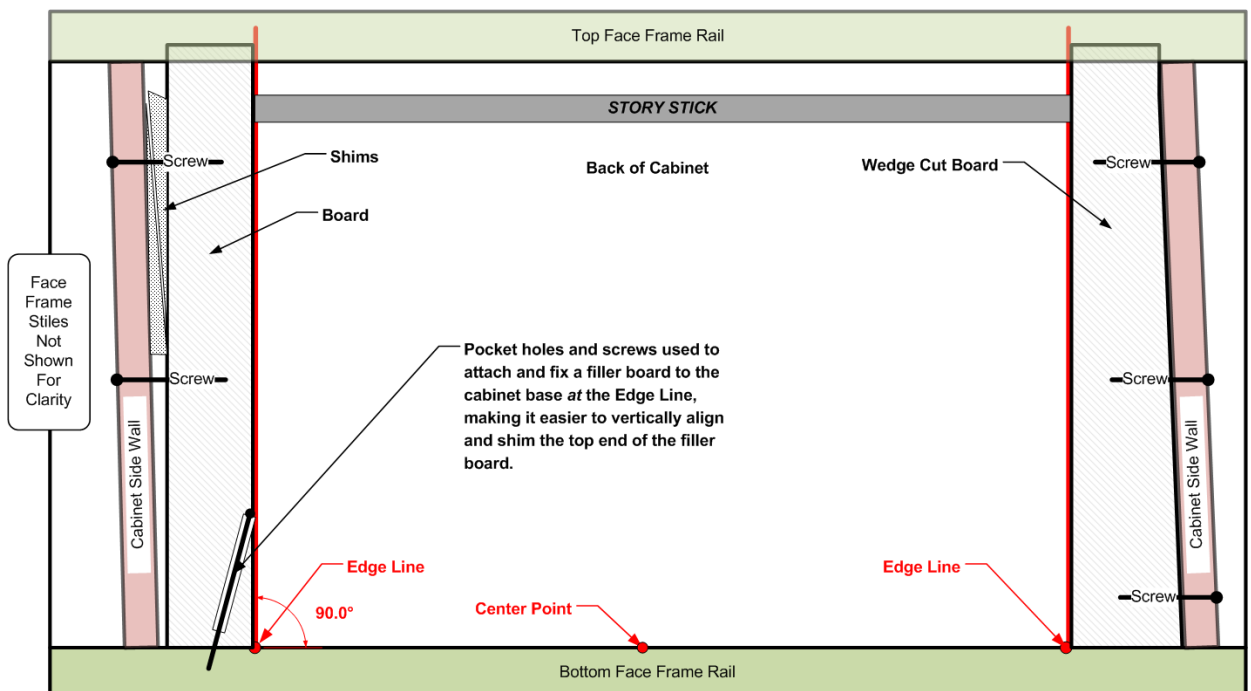
Drawing Three B



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- (III) Center the filler pieces vertically at the mounting hole reference points so the edges of the fillers are at the Edge Lines and perpendicular to the bottom of the cabinet. For the filler pieces at the front of the cabinet, make sure there is a gap at least 1" wide between the face frame and the filler piece.
 - (IV) Screw the filler pieces to the cabinet sides. Be careful not to drive screws through and out into the adjoining cabinets, or to leave the screw heads sticking out where they will obstruct placing the IKEA cabinet sides. You can also drive the screws from the adjoining cabinets.
 - (V) Using the story stick, verify that the distances between the corresponding filler pieces on opposite sides of the cabinet are the right distance apart at both the tops and bottoms of the pieces.
- (b) If the cabinet is not plumb and square you will have to cut and/or shim the filler pieces so they result in the IKEA sides being in line and vertical at the Edge Lines. To do this,
- (I) Measure the gap between the sides of the existing cabinet and the Edge Lines at the three reference marks on both sides of the cabinet at the bottom *and* top.
 - (II) Cut boards 22" long for use in filling the gaps between the cabinet sides and the Edge Lines.
 - (III) Either cut the boards in a wedge shape to fit the dimensions of the gap, or use shims to set the boards perpendicular to the cabinet bottom. Screw the boards in place at the Edge Line. See Drawing Four.

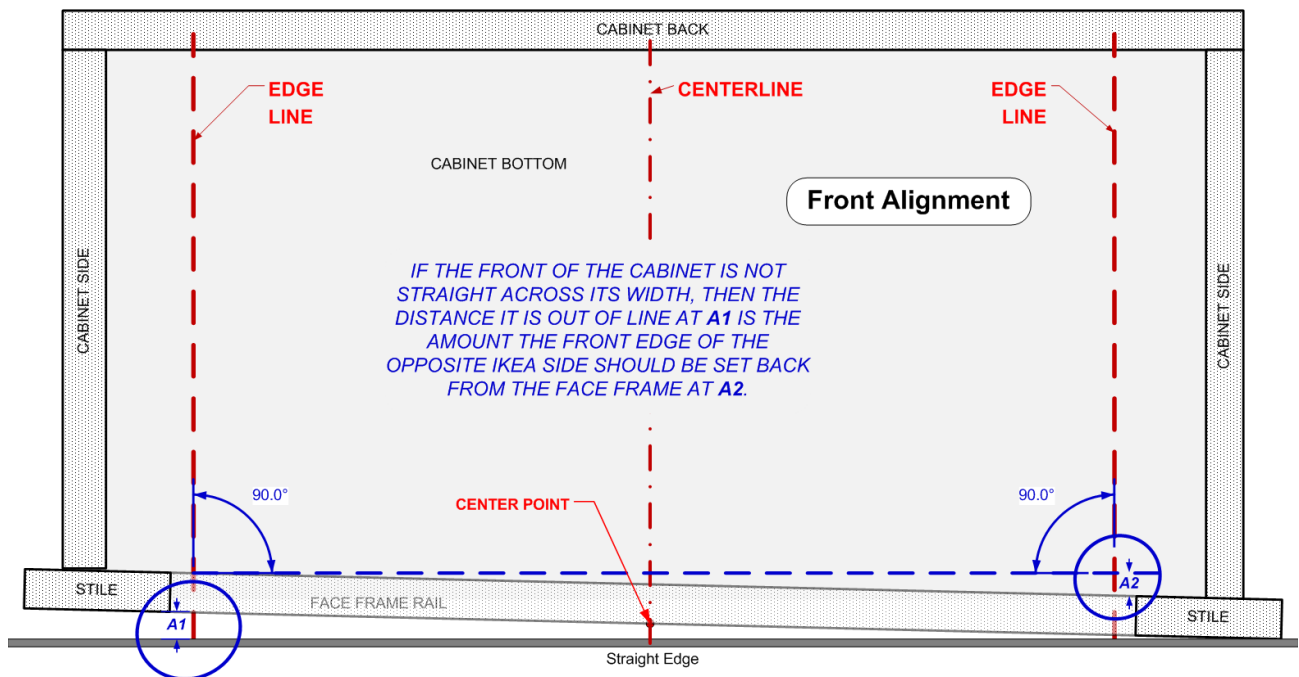
Drawing Four



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- (IV) This is where a pocket hole jig comes in handy if you have one. (It is also a good excuse to get one if you don't, as it will save a lot of hassle and speed up the work.) Drill pocket holes in the bottom ends of the filler boards and, positioning the boards at the Edge Line, screw the boards through the pocket holes into the cabinet bottom.
 - (V) Making sure the filler boards are perpendicular to the cabinet bottom with a square, *use the story stick* and shims as appropriate at the top of the boards to finish setting the filler pieces properly in place and screw them to the sides of the cabinet.
- (c) Note: In either situation, I found that by moving the centerline slightly (and redrawing the Edge Lines) I was able to use pieces of wood of the same thickness on both sides of the cabinet as fillers, as opposed to having to plane and make other adjustments to get the fillers to fit relative to the original Edge Lines on each side. (Remember, the assembly is going to be behind cabinet doors, so perfect centering is not absolutely necessary.)
- (2) Determine whether the front of the cabinet is straight. You can use anything long that you know is straight. See Drawing Five.

Drawing Five

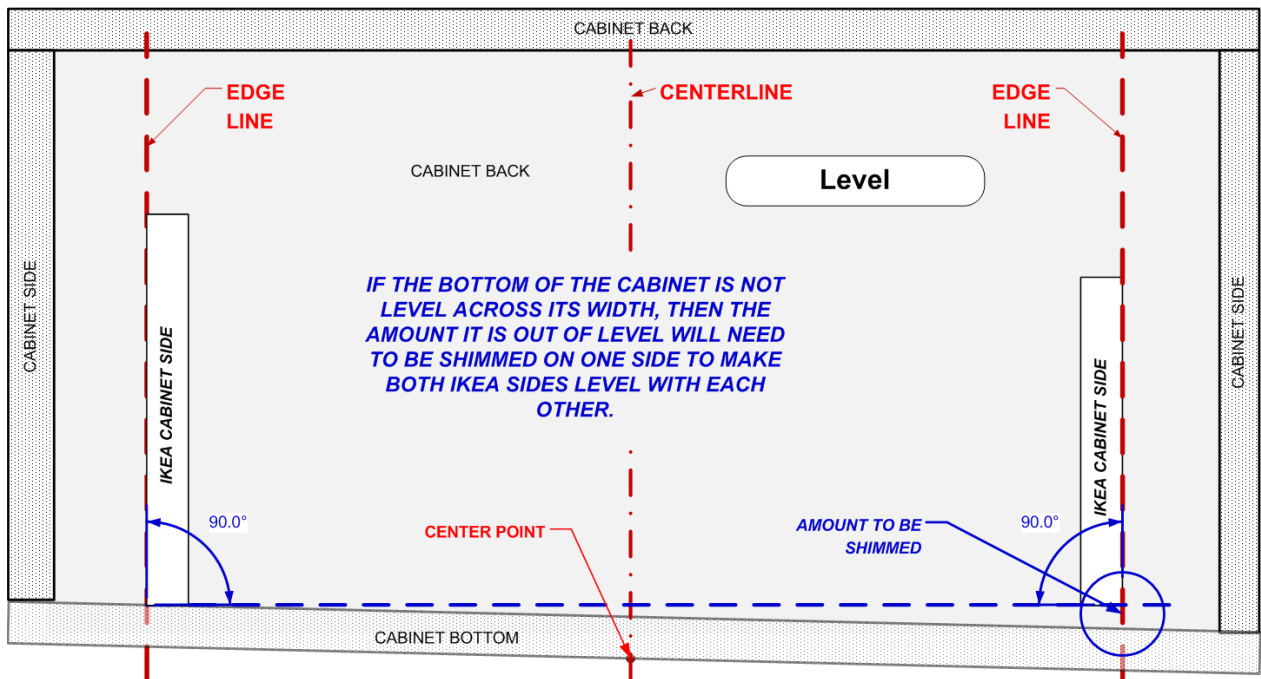


- (a) If the cabinet front is straight, proceed.
- (b) If the cabinet front is not straight, note that you will have to adjust the position of one of the IKEA sides during installation so the front edges of the IKEA cabinet sides are square and in line with each other behind the face frame.

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- (3) Determine whether the bottom of the cabinet is level. See Drawing Six.

Drawing Six



- If the cabinet bottom is level, proceed.
 - If the bottom is not level, you will have to adjust the position of one of the IKEA sides with shims during installation so the bottoms of the sides are level.
- e. Preparing the IKEA cabinet sides for installation.
- The IKEA cabinets come 30" high and 24" deep, which will be too large to fit inside the existing cabinet. First, cut the back of the sides off so they will fit inside your existing cabinets. Second, *measuring from the bottom* (to preserve the mounting holes), cut the IKEA sides down to a height higher than the opening of the cabinet that fits easily in the cabinet space. (We cut ours down to 23".) Save the off-cuts! Parts of the off-cuts can be used to fill gaps in case they occur (likely) between the face frame of the cabinet and the front edges of the IKEA sides.
 - Cut the story stick down to 34.5" for a 36" installation and 28.5" for a 30" installation.
 - Test fit each of the IKEA sides against the filler pieces with the front edge of the side pieces butting against the back of the face frame at the Edge Lines. Using the story stick, confirm the fit. The measurement between the sides *must* be 34.5" for 36" installations and 28.5" for 30" installations *at both top and bottom*. If the measurements are not correct, adjust the filler pieces so the correct measurements are obtained.

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(4) There will likely be a gap between the face frame and the outside edge of the IKEA side pieces. Measure and cut from a side piece off-cut a piece the height of the side and slightly (~1/8") narrower than the width from the side wall of the cabinet (not the edge of the face frame) to the Edge Line. See Drawing Seven.

(5) Using clamps to hold it firmly in place, nail the newly cut filler piece to the outside of the IKEA side so it is flush with the front edge of the IKEA side.

f. Installing the IKEA cabinet sides inside the existing cabinet.

(1) Place the IKEA sides against the vertical filler pieces with the front end butting against the back of the face frame.

(2) If you previously found (§7.d.(3) that the bottom of your cabinet is not level, now is the time to correct for it by placing shims under the lower of the two IKEA sides so the bottoms of the sides are level. See Drawing Six.

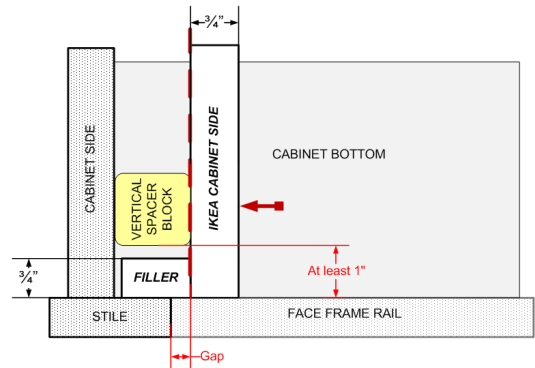
(3) If you previously found (§7.d.(2) that the front of your cabinet is not straight, now is the time to correct for it by setting the IKEA side that is opposite from the gap at the front back from the face frame the same distance as the front is out of alignment. See Drawing Five.

(4) With all positioning adjustments made, attach the sides to the vertical filler pieces by driving screws through glide mount holes in the IKEA sides into the three vertical filler pieces on each side. Do this where the screws will not interfere with the installation and operation of the drawer glides. Again, using the story stick, make sure the installed sides are plumb, parallel, square, and exactly 34½" apart from each other for a 36" installation. For a 30" installation, the installed sides should be exactly 28.5" apart.

g. Build and install the drawer units.

(1) Follow the IKEA directions for assembling and installing Maximera drawers in Sektion cabinets.

Drawing Seven



CONGRATULATIONS, YOU ARE DONE!!!