

REVISED BY ROBIN RENNER 2022



# All About Grab Bars

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Accessibility Installation and Information

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## All About Grab Bars

### WHERE TO PUT THEM

- It depends on the user. Consider their height. Are they left or right-handed? How do they get in and out of the tub/shower? How do they get off the commode? Ask or watch where they put their hands when they perform these movements. Primarily used in bathrooms but could be used in hallways, kitchen, top of stairs, etc.
- The primary bathroom grab bar should be a 24" grab bar mounted horizontally near the shower controls. It should be about 36" higher than the floor of the tub/shower. Make sure it is lower than the shoulder height of the user, preferably close to elbow height. Don't put it in the way of the controls. If you are only installing one grab bar, this should be the one. If the bather uses a shower chair or bench, install another grab bar horizontally along the back of the tub. It should be 36-48 inches long and mounted 2-3 inches lower than the one by the controls. This bar may not be needed if they stand up and shower.

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Fig. 1

- If the bather enters the tub from the opposite end from where the controls are located (usually because a toilet or vanity is in the way), add a 24" grab bar mounted horizontally on the wall opposite the controls. This bar should be at the same height as the grab bar by the controls, or the grab bar mounted along the back wall. (Mirror image to the first grab bar). If installing the two end grab bars, add a long one along the back wall, so they have something to hang onto while walking in the tub to the controls.



Fig. 2

- Another short grab bar (12-24") could be mounted vertically near the entrance to the tub or shower, right where one would naturally place their hand to enter the shower. This bar will give them something to grab while entering the tub without shifting their center of gravity while leaning over to grab the horizontal bar.



Fig. 3

### **TOOLS AND MATERIALS YOU WILL NEED**

Grab Bar fasteners

Masking or painters' tape

Plug in drill

Phillips head screwdriver

1/16" drill bit (to probe for stud)

Stud finder

Level

Sharpie or pencil

Hammer

Safety glasses (optional)

Paper to make templates

#### **Option but helpful things:**

Rubber mallet

Drop cloth

Battery operated drill

Long Phillips bit or extension for drill

Shop vac or vacuum cleaner

#### **Make an Installation Kit.**

Ours includes:

- ¼" tile bit
- 1¼" or ¾" or both "Apache" bit
- Various types of grab bar fasteners (Winglts, etc.)
- Small bottle of rubbing alcohol, or alcohol pads, to clean soap scum from tile for adhesive
- Rags
- Silicon or Tub and Tile caulk
- Extra screws
- Wire "hole tester"

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- **Types of Grab Bar Fastener**

Grab bars need to be very securely mounted. Failure to mount properly can be catastrophic!

Regular toggle bolts or anchors won't be as secure as specialty fastening hardware. Grab bars must be able to carry the full body weight in the event of a fall.

Amazon (link: [Grab Bar Fasteners](#)) has specs and more info about the fasteners listed below.

In addition, hardware stores, especially big chain stores, often carry a variety of specialty grab bar fasteners.

We recommend:

- **Wingit™ Fasteners**

The first and probably best for various situations, Wingits were originally manufactured for commercial use but now have several options for residential use. Note that these are easily installed using the "**Apache**" drill bit below.

			
<p><b>Wingits RC-RESGBW35-2</b></p>	<p><b>Wingits GBW40</b></p>	<p><b>Bobrick 251-4</b> <b>Wingits</b></p>	<p><b>Wingits RC-MAW35-6 Master Anchor for Drywall</b></p>

[https://www.wingits.com/products/type/grab\\_bar\\_fasteners](https://www.wingits.com/products/type/grab_bar_fasteners)

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- **Apache drill bits for Wingit Fasteners**

Wingits RC-WA200GT54 APACHE200 Drill Bit 1-1/4" for Grab Bar



[https://www.wingits.com/products/type/drill\\_bits](https://www.wingits.com/products/type/drill_bits)

- **Moen Secure Mount Anchors**



These are ideally used with Moen grab bars but will work with many other brands,

Spec sheet: <https://www.moen.com/shared/docs/product-specifications/sma1000sp.pdf>

- **Delta DF549 Hollow wall anchor**



Delta's version of a grab bar fastener. Spec sheet

<https://www.deltafaucet.com/parts/product/RP72402.html#documents-and-specs>

- **Solid Mount Fiberglass Shower Grab Bar Backer and Mounting Kit for Bathtub Safety,**



<https://thesolidmount.com/>

Useful to have but not recommended as the only fastener used to install grab bars.



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- **SnapToggle® Heavy Duty Toggle Bolts**

<https://togger.com/products/snaptoggle-heavy-duty-toggle-bolts-304-stainless-steel-channels>

SNAPTOGGLE heavy-duty toggle bolts carry twice the load in a smaller hole than standard wing anchors. In addition, a patented strap design with sturdier straps and smaller ratchet intervals adjusts more precisely and snaps off flush to the surface.

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## HOW TO SECURE GRAB BARS

First rule: They **MUST** be rock solid.

Second rule: The wall where they are attached must not be wet or deteriorating.

### WHAT METHOD TO USE

<u>Situation</u>	<u>Solution</u>
You <b>can</b> find studs	Use Method 1
You <b>cannot</b> find studs	Use Method 2
You can only find <b>one</b> stud	Use Method 3
You can work from <b>behind</b> the grab bar wall	Use Method 4
You are doing a complete tear-out or renovation	Use Method 5

### METHOD 1- STUDS WALL

At least two 2" stainless steel screws on **each end must hit solid wood. Don't use toggle bolts or plastic drywall anchors to attach to drywall.** You may use one such anchor on the third hole of the bracket **AFTER** two other screws have been securely fastened to a stud.

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Grab bars are usually mounted over tile in the bathroom. (Note: consult with Yachad if there is a plastic or fiberglass tub surround. We have some special hardware for such an application.)

1. Find the studs with a stud finder or by tapping on the wall.
2. Confirm you are in the stud by drilling a tiny (1/16") hole in the grout line between the tiles where you think the stud is located. Be sure and fill the unused holes with caulk after you are done. After locating the studs and marking the position of the screw holes, drill a ¼" hole in the tile using a drill bit designed for glass or tile (it looks like a little triangular spade). Don't use a regular twist bit as it will "wander" all over the place and probably crack the tile. HINT: if the drill bit does wander, tape a washer with a hole slightly larger than the bit you are using right over the mark you want to drill and drill through the hole in the washer.
3. Secure the grab bar using stainless steel screws at least 2" long. Don't use screws that will rust. After securing the grab bars, caulk over the screw heads and all around the round mounting bracket with silicone caulk before attaching the cover. Hint: if the cover is stuck on the grab bar mounting bracket before it is installed, tap the edge of the bracket from the back side with a hammer.
4. Use the "gorilla test." Grab the bar with both hands and yank on it with all your might. It shouldn't budge.

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**METHOD 2- WINGIT GRAB BAR FASTENING SYSTEM**

WingIt has two types of WingIts anchors, the "*Residential WingIt*" and the *Commercial WingIt*. The *Residential WingIt* is recommended and usually found at hardware stores or supplied by Yachad. It has two smaller sets of "wings" rather than one big set. It requires two  $\frac{3}{4}$ " holes vs. one  $1\frac{1}{4}$ " hole. The *Commercial WingIt* is rated at 1000 pounds, while the *Residential WingIt* is rated at 600 pounds. The commercial WingIts are packaged one per box. The residential WingIts come in a package of 2. Both work fine. The residential one should be used for most applications.

**The Residential WingIt Grab Bar Fastening System**

(Read the instructions that came with the WingIt in conjunction with my notes here) Hopefully, these directions will make a little more sense.



1. Verify the length of the grab bar by measuring from the outside of one flange to the inside of the other flange. (The measurements will be in whole numbers, i.e., 24" not 24  $\frac{1}{8}$ " or 23  $\frac{13}{16}$ ").

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2. Hold the grab bar to the approximate location where you want the bar to go. Do both ends lie flat and fully on the tile? Does it look like there might be a pipe or wire behind where you want it to go? Avoid drilling a hole on a grout line, but it is usually impossible to miss them.
3. Locate the studs. It is usually easier to run a stud finder on the flat wall above the tiles than on the tiles themselves and then assume the stud goes straight down. Be sure there is not a stud within 1" of either flange. If there is, use the stud method.
4. If you are sure there are no studs, pipes, or wires directly behind both flanges, make two small dots on the wall where you want the grab bar to go. Make the marks the same distance apart as the grab bar length (i.e., 24") and level.

Place the templates that came in the WingIt kit on the wall with the center hole directly over your mark, and be sure the two large holes near the edges of the template are straight up and down (sideways and level if installing the bar vertically). Then, stick the templates to the wall. (Note: If you hold the grab bars up to the template at this point, the holes in the flange WILL NOT line up with the two large holes in the template, that's ok. This is because the shafts that hold the screws are offset). If you want to be absolutely sure this will work, drill a ¼" hole (using a glass and tile bit) in the center of each template, where you put the original marks. Put one of the 3½" screws in the hole, and make sure it will go all the way in without hitting anything. It's a good idea to stick a piece of stiff wire with a 90-degree bend in it with the bent leg being 1" long into the hole and turn it 360 degrees without hitting a stud or anything. (A paper clip works well for this, but it is hard to insert it in the hole without bending it.) There should be a "test

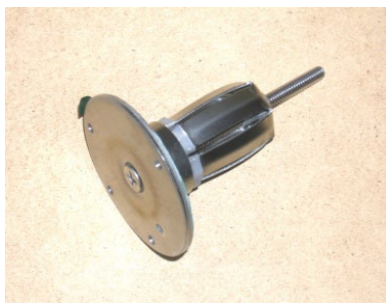
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wire" in your mini grab bar installation kit. If the hole is not clear, stop and go to the "oops" section.

5. Drill two  $\frac{3}{4}$ " holes in the wall directed by the large holes in the template.
6. Place the faceplates (the black plastic part with two tubes separated by thin black pieces of plastic) from the WingIt kits flat on a firm horizontal surface. (Don't break them apart). Next, insert the blue part of the wing assemble into the tube and press down hard. (Be careful, I hurt myself the first time I tried this.)
7. Compress the wings and insert them into the two  $\frac{3}{4}$ " holes. Note: It might be hard to get them all the way in. The easiest way is to screw the  $3\frac{1}{2}$ " screws in little ways and tap the end of the screws with a hammer being careful not to damage the screws. Push or tap them all the way in until the wings pop out inside the wall. Next, remove the other covering on the template and push the faceplate in until it is flush.
8. Install the grab bar using the four  $3\frac{1}{2}$ " screws.

### **The Commercial WingIt Grab Bar Fastening System**

(Read the instructions that came with the WingIt in conjunction with my notes here)



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A commercial WingIt is a special giant molly bolt with a face to screw the grab bar after it is securely fastened to the wall. It can be used on 5/8 inch drywall, lath, and plaster or ½ inch drywall with any other surface such as tile or paneling.

1. Make sure the holes on the flange on the grab bars line up exactly with the threaded holes on the face of the WingIt and that you have screws to match.
2. Determine where to place the grab bar. Verify the length of the grab bar by measuring from the outside of one flange to the inside of the other flange. (The measurements will be in whole numbers, i.e., 24" not 24 1/8 or 23 13/16). Make two dots on the wall exactly the distance apart from the grab bar's length. Verify there are no studs, pipes, or wires in the wall behind or near the dots.
3. Attach the WingIts to the grab bar with the screws provided.
4. Hold the grab bar up to the dots. The exposed screws must match the dots exactly.
5. Drill a ¼-inch starter (pilot) hole, using the ¼" tile bit at each dot. Be sure there are no studs, wires, pipes, or other obstructions in the way. Next, insert a piece of wire with a 1¼-inch bend in the hole and turn the wire 360 degrees, making sure you don't hit a stud or other obstruction.
6. Hold the grab bar up to the holes, and be sure the screws coming out to the back of the grab bar will fit in the ¼" holes.
7. Enlarge the two ¼" holes using an industrial grade carbide tipped hole saw or "Apache" bit, 1¼" in diameter.
8. Remove the green tape from the WingIts

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9. Clean the surface around the hole you just drilled with rubbing alcohol and insert the WingIt into the holes. Hold down firmly, allowing the tape to adhere to the tile wall.
10. Remove the grab bar from the WingIt.
11. With the screw flush to the back of the WingIt (about 1¼" of the screw will be exposed from the front of the wall), hit the screw firmly yet gently with a rubber mallet. This will cause the wing assembly to "pop" out behind the wall.
12. Pull out the screw and tighten it by hand using a screwdriver. Do not over-tighten.
13. Attach the grab bar to the WingIt using the small machine screw provided.

**METHOD 3- USING STUDS AND WINGIT**

If you can find a stud, mark the location, and use that for one end. I can almost guarantee if you can find one, there will not be one on the other end (unless you are using a 16", 32", or 48" grab bar, then maybe). Not to worry, that's what WingIts are for. Slanting the grab bars to hit two studs is no longer recommended. You must be at least an inch away from a stud to use a WingIt. So you must either hit a stud directly or miss it entirely. Confirm you are in the stud by drilling a tiny (1/16") hole in the grout line between the tiles (or in the wall just above the tiles) where you think the stud is located. Be sure and fill the unused holes with caulk after you are done.

1. Hold the grab bar to the wall where you want it being sure one end of the flange and



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two screw holes are over a stud. Mark the wall through the holes in the flange.

2. Make another mark on the wall under the center of the other flange. To mark the center, make a template by cutting a piece of paper about  $\frac{1}{2}$ -1" bigger than the flange. Trace around the flange with a dark pen. Fold the paper in half so the lines match up, forming a perfect half circle. Then fold in half again. Hold the paper up to the wall under where you want the grab bar to go, with one end over the marks for the screws that will go into the stud. Move the bar but not the paper. Without moving the paper (tape it in place if you have to), make a mark on the wall by poking a hole where the folds on the paper intersect. Make sure there are no studs within  $1\frac{1}{4}$ " of this mark.
3. Install this end first, using a commercial or residential WingIt (see instructions above). If you screw into the studded end first, you have to place this end exactly where it goes. It is not easy to mark exactly where the center of the grab bar should be located as there are no holes exactly in the center.
4. After installing this end, check the location of the marks you made previously, on the end of the flange over the stud. Adjust the marks if necessary but be sure they will still hit a stud.
5. Drill  $\frac{1}{4}$ " holes through the tiles using a glass and tile bit. Stop drilling as soon as you are through the tiles. (You will probably have to remove the mounting screws, but not the WingIts, from the other end).
6. Secure the grab bar using 2" stainless steel screws.
7. Seal the heads of the screws with silicone caulk. If using a commercial WingIt, caulk around the steel plate. Install the cover plate.

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**METHOD 4- USING WOOD BLOCKING**

1. Determine where the grab bars will be located.
2. Drill 2 small holes where the centers of the ends of the grab bars will be. (Be sure there are no wires or pipes behind the wall).
3. Put a nail or piece of wire or something in the hole that you can find from the back of the wall.
4. Open up the back of the wall. You will have to remove the drywall or other wall covering from the back of the wall where you want to place the grab bars. It may be in a closet or bedroom next to the bathroom (assuming you are placing the grab bar in the bathroom, which is the most common location). It may even be an outside wall.  
  
CAUTION: If the outside of the house is covered by CAB (cement asbestos board) siding, don't remove it and find another method to secure the grab bars. Also true if the bathroom is above the first floor and too high to get to it safely. When cutting the drywall, make your vertical cut in the middle of a stud so it will be easier to replace.
5. Using 2x8s or larger, cut the boards to the length equal to the distance between the studs and then screw the pieces in place. The wood must extend at least two inches past the location of the grab bars in each direction. You may need to put several pieces in for the end of each grab bar. (Don't close the wall yet).
6. Secure the grab bar using stainless steel screws at least 2" long. Don't use screws that will rust. After securing the grab bars, caulk over the screw heads and all around the

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round mounting bracket with silicone caulk before attaching the cover. (Hint: if the cover is stuck on the grab bar mounting bracket before it is installed, tap the edge of the bracket from the backside with a hammer).

7. Go to the back of the wall and verify the screws bit into the blocking.
8. Close and repair the wall you opened up.

**METHOD 5 -PLYWOOD BACKING**

If doing a total bathroom remodel, attach  $\frac{3}{4}$ " plywood to the wall studs before wallboard or other wall covering is installed. Now all possible locations will have backing suitable to support a grab bar.

## **NEED HELP?**

### **See hints below**

#### **I don't have enough room behind the wall**

If using Residential Winglts, try cutting off part of the 3½" screws but thread it through the nut on the end of the Winglt first. Leave enough screw length to allow the Winglt to pop out. In other words, you must have a length of bare screw showing to be a little longer than the thickness of the wall you drilled through.

If the wall is made from 2x3s instead of 2x4s, you can use a reverse Winglt. Yachad might have some, but they are the big commercial ones. If you already have drilled the two ¾" holes, they won't work.

What are you hitting? Is it another sheetrock wall? What's on the other side of that wall? Are you close (less than ½")? From the side you are working on using the same bit, drill a little deeper, being careful not to come out the other side. You might be able to make a "pocket" in the other wall deep enough to accept the long screw. Then, if you go through, can you repair the hole from the other side? Be especially careful if this is an outside wall.

Are you hitting masonry? Instead of the Winglts, try big fat long Tapcon™ screws. You will need a pilot hole of the correct size for the screws.

If that doesn't work, use the biggest toggle bolts you can. Togglers™ probably works the best. Be sure and caulk all around and over the heads, so they don't rust.

#### **I can't get the cover off the flange**

Usually, there are three "dimples" on the edge of the flange and three "bumps" on the flange itself. Make sure they line up. Lay the grab bar on the floor with the flange sticking

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up. Strike the edge of the cover but not the flange with a hammer or something hard. It should pop off in a few blows. Be careful. The edges of the covers are sharp.

**I can't get the cover back on the flange.**

Usually, there are three "dimples" on the edge of the flange and three "bumps" on the flange itself. Make sure they line up. Hit the cover with a rubber mallet or something soft. Don't use a hard hammer. If that doesn't work, ensure there is nothing around or over the flange getting in the way. Be sure the cover is not bent.

**The cover won't stay on the flange.**

Try rotating the cover. Glue it on by liberally applying adhesive caulk under the cover. Clean up what oozes out.

**I drilled one of the holes in the wrong place**

If it is small, fill with caulk or use grout repair up to ½". Remove the grout around the damaged tiles with a grout saw if it's a big hole. Then, break out the tiles and replace them with new ones as close to the original color as possible.

**One hole is too close to a stud**

If using Residential Winglts, you might be able to cut off one of the tongs and place the flat side near the stud (if you haven't already got the Winglts stuck in the hole). It would be best if you got the wings to pop out inside the wall. Or if that doesn't work, use the biggest molly bolts you can. Togglers™ probably works the best. Be sure and caulk all around and over the heads, so they don't rust.

**I can only get one screw to hit a stud.**

It probably isn't going anywhere but for security, use the biggest toggle bolts you can. Togglers™ probably works the best. Be sure and caulk all around and over the heads, so they don't rust.

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**I got one side on OK, but the other end doesn't quite match up.**

There is a little bit of play with the Residential Winglts. You can try removing the little thin spacers that keep the two pairs spaced and rotating them. This will move the location of the screw as they are off-centered, but you will have to play with it to get both screws to line up. If using a commercial Winglt, you can make the hole a little bigger using a round rasp or file.

**I drilled into the wall, and it was all crumbling and not stable.**

You cannot install a grab bar in this situation. Do your best to repair any damage caused by this process.

**Behind the tile, I ran into concrete and wire mesh.**

If using a small tile bit, once you are through the tile, stop and switch to a masonry bit. If the tip of the tile bit broke off, try to retrieve it before you drill any more. If using the big Apache bits, press on - it may be hard on the bit, but you should be able to punch through and have enough room for the Winglts. Use a heavy-duty plug-in drill vs. the battery-operated ones unless you have a stack of batteries.

**I can't drill through the tile.**

I had this happen once with some very hard tile. Usually, you can drill through like a hot knife through butter. If using the big Apache bits, press on. It may be hard on the bit, but you should be able to punch through. Use a heavy-duty plug-in drill vs. the battery-operated ones unless you have a stack of batteries. If using tile bits, buy a stack of them (I used 6). Keep the bits cool by dipping the hot bit in water (they glow red quickly). I found the Vermont American worked better than Black and Decker or Kobalt.

**The commercial Winglt sprung before I put it on the wall.**

You can squeeze all the prongs together and stuff them back in the collar if you have very

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strong hands. I would try using a hose clamp to compress the prongs and release it after they are pressed back into the collar.

**After the grab bar is installed, you can see part of the drilled hole.**

Fill it with caulk.

**I found a pipe right behind one of the holes I drilled.**

If you have enough room for the WingIt, it will be ok. If that doesn't work, use the biggest toggle bolts you can. Togglers™ probably works the best. Be sure and caulk all around and over the heads so they don't rust, but more than likely, you will have to relocate the holes for the grab bar and repair the holes you made. Remove the grout around the damaged tiles with a grout saw. Break out the tiles and replace them with new ones as close to the original color as possible. Find another place to put the grab bar.

**I found a wire right behind one of the holes I drilled.**

If there is some slack in the wire, it will probably just be gently pushed out of the way by the WingIt. Be sure you haven't nicked or cut the wire with the drill. If you did, you would probably have to open up the wall and repair the wire and the hole.

**There is a vinyl or plastic surround instead of tile.**

If the surround is tight to the wall, WingIts will work just fine. However, if there is a gap between the surround and the wall, use Sure Grips (Yachad stocks them, you probably won't find them in any store).

**I need another WingIt.**

Most hardware stores stock a similar product to the residential or commercial WingIts. For example, one brand is called Homecare Secure mounts.