

VARI-HEIGHT™

by R2

VARI-HEIGHT™ is a high-quality, easy-to-install continuous hinge primarily used in the door repair industry. Please read these instructions all the way through before you begin to assure that all of the features built into the product are understood for a fast, trouble-free installation.

1. Check the door frame for weld cracks and make sure that it is well anchored to the wall. Do this *before* removing hardware so that the weight of the door together with the operating stresses from the closer, etc., reveals frame defects, looseness or twist that could reduce the lockside clearance. Move the door during inspection and make repairs as needed.

Note: If the top of the frame is not perfectly level, it is not as important as with sexbolt-mounted hinges. VARI-HEIGHT™ will allow vertical adjustment after the installation is complete so the door clears the lower of the two top corners of the frame.

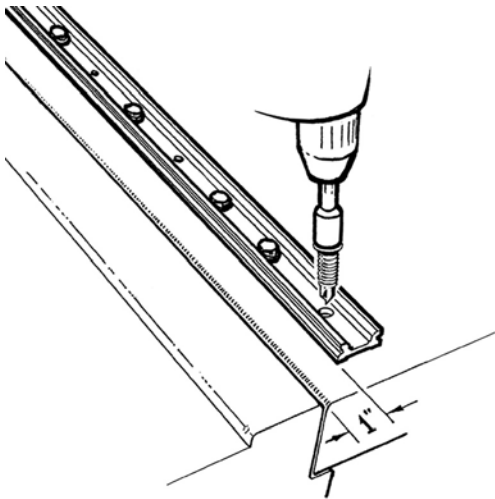
2. Open the door to remove the old hinge hardware and detach closer arms. Make door repairs as needed.

Note: There is no need to take the door down, unless the old door cutouts are to be planed off a wood door. Metal door butt hinge cutouts can be filled with commercially available filler plates or auto body filler without door removal.

3. With the *door resting on the threshold*, (or on a scrap of carpet so that it can easily be pulled open later) shim for the desired clearance (1/16" to 1/8") on the lock side of the jamb. If the door has been sagging because of frame looseness or a twisted rabbet on the hinge side, add an extra 1/32" at the top corner of the lock side. Wedge at the four corners with the wood shims.

Note: Paint clearance is all that's needed on the hinge side, so a full 1/8" lockside clearance is a safe choice.

4. Using the VARI-HEIGHT™ rail as a straightedge, hold it against the inside of the hinge-side wedges and scribe a pencil line for the full height of the door. The line should be 1" from the edge of the door regardless of the condition of the door edge. It is not necessary to plumb the line, although it is best that it be vertical to avoid a door that "walks" in or out following installation.

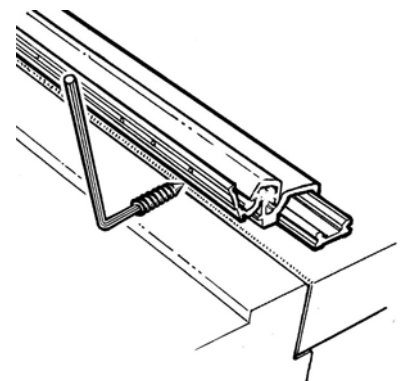


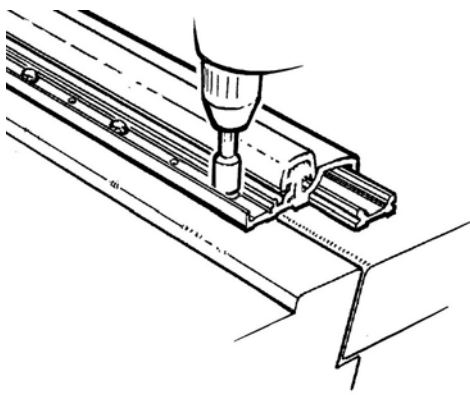
5. Position the rail on the *inside* of the line, 1" away from the door edge, flat side down. Attach the rail using the #12 x 3/4" self-drilling hex-head screws provided.

Start with the top hole. With the rail about 1/2" below the top edge of the door, mark the door with the transfer punch to make sure that the screw is centered in the hole. Using a 5/16" hex socket driver and a cordless drill with its clutch at a low setting, drive the first screw. Set another screw near the bottom of the rail. Reset the clutch to tighten both. Use every *other* hole at the top and bottom of the door, with a few more screws at the top. Divide the remainder until 15-20 are placed, depending on the condition of the door, its weight and construction.

For wood doors, use #12 x 1-1/2" Type AB 5/16" hex head sheet metal screws. These are readily available at local building supply stores, or from R2 Hinge.

6. Open the hinge to about 90° and pre-insert a pair of cone-pointed 1/4 -20 setscrews at the top and bottom of the hinge part way into the threaded hinge leaf holes. Hook the outer edge of the hinge leaf over the rail, and *lightly* seat the setscrews. **Do not clamp them at this time.** Instead, turn each of them until they are snug, then back off 1/2 turn so that the hinge is aligned with the rail, but free to slide. The remaining screws will be used after the door is hung.





7. Break off the wedges on the hinge side so that they are flush to the face of the door and frame, allowing the frame leaf of the hinge to lie flat against the frame face. **Raise the hinge to the top edge of the door.** Place three or four screws into every other hole near the top and bottom of the frame leaf. These will be enough to hold the door weight for a trial swing to check clearance.

8. Place a spacer on the top edge of the door for head clearance. A 30" x 2" strip of 1/16" counter-top laminate is ideal for this purpose...this will set clearance for out-of-square frames. Jack the door up until the spacer is tight and **put a pencil mark on both the hinge door leaf and the door to mark its vertical position before opening the door.**

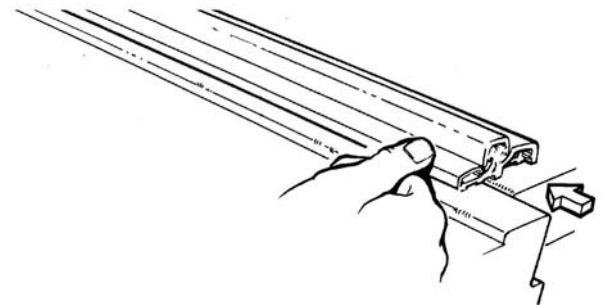
9. Open the door to 90°. Wedge the door back to the height marked in Step 8. Tighten the two setscrews to hold the door weight and swing the door closed. If the door height is correct, install and tighten all the remaining setscrews. If the lockside clearance is satisfactory, insert the remaining frame leaf screws and make sure their heads are seated.

Note: The sharp-pointed setscrews provided with the VARI-HEIGHT™ hinge are intended to dig into the aluminum rail when they are tightened. If a very small vertical adjustment is required, the setscrews may try to re-enter the old depressions if they have been over-tightened. For this reason, it is best to install and tighten only enough to hold the door weight. After the door height has been thoroughly checked for operating clearance and alignment of any existing locking devices, install and tighten the setscrews (see Step 9).

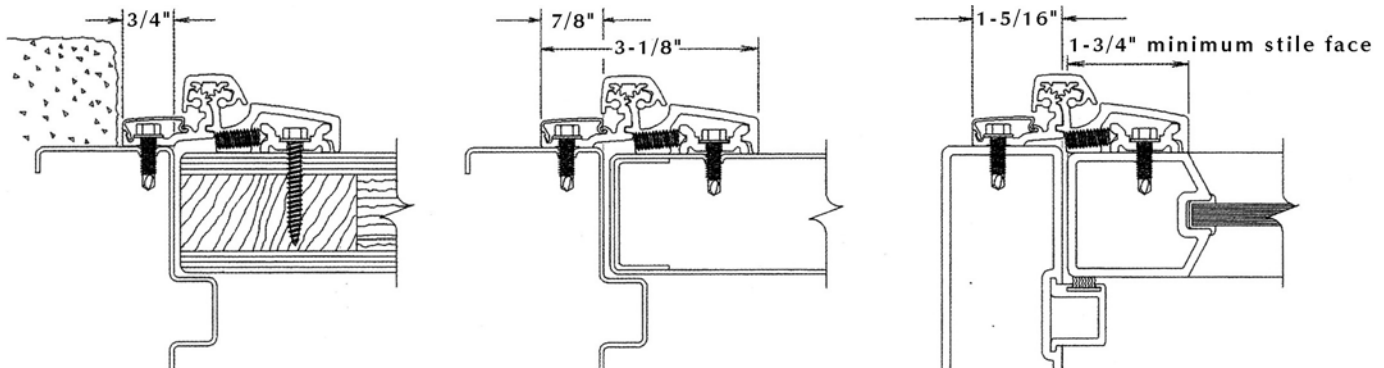
LATERAL ADJUSTMENT: If side-to-side adjustment is needed, close the door and remove the frame leaf screws installed in Step 7. Using the existing screw holes as a guide, scribe a straight line along the centers of the existing holes. This will help to gauge for the repositioning of the door (as viewed through the frame leaf holes) to the left or right of the line. Using the transfer punch, mark the frame through the *unused* hole locations. Re-shim the vertical door edges for its new location and repeat steps 7 through 9.

If the clearances are still in need of adjustment, VARI-HEIGHT™ can be shifted up or down after loosening the setscrews so that fresh frame leaf hole locations can be found. Should the hinge be too long to do this, simply remove it from the rail and cut about 1/2" from the bottom end. This will not affect the performance of the hinge.

10. Check again for adequate clearance on all sides. After a few trial swings, replace the closer and other hardware before installation of the security molding. Make sure that the small hook shape of the molding is closest to the hinge joint. Thumb pressure should be enough to snap it into place if it is started from one end, or a soft wood block can be used to press it on from end to end. The molding is non-removable for vandal resistance. If possible, use the door without it for a day or two. **The molding should not be installed until the door is operating properly. The door height can be re-adjusted at any time.**



Additional Installation Tips: For extremely heavy doors, or doors that are subject to extreme abuse, one or two of the setscrews can be replaced with 1" long (1/4-20 thread) setscrews after lightly drilling (about 1/4") into the rail with a #7 drill through the threaded setscrew hole. This will effectively pin the hinge to the rail. If the hinge is pinned in more than one or two places, later vertical adjustments may require that the hinge be reinstalled. Fresh surfaces for new setscrew locations can be obtained by relocating the rail up or down, or turning it end-for-end.



For minimum reveal, narrow-faced frames • For standard hollow metal • For narrow stile aluminum doors

VARI-HEIGHT™ POSITIONING FOR VARIOUS FRAME CONDITIONS