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HARDWARE

MARKAR HG322 HINGE INSTALLATION

All holes in the door and frame must be drilled correctly and fasteners properly installed. Failure to use the fasteners supplied by Markar Architectural Products, Inc. will void the UL or WHI fire rated listing.

The Universal Screw Pack contains sheet metal, machine, and self-drilling Tek screws. This allows three different installation options. If mounting a wood door, or an unreinforced hollow metal door, follow option (A) in the instructions. Follow option (B) if the door is reinforced or at least 1/8" thick. If you use the self-drilling Tek screws (recommended for grout filled frames), follow option (C). If the grout is hard, drilling a pilot hole can help.

- Perform each step of these instructions unless specifically labeled (A), (B), and (C).
- (1) Place hinge on frame as shown in Figure 1 on the opposite side of this instruction page.
 - Allow 1/8" between top of hinge and underside of header.
 - Place the hinge tightly against the stop of the frame. (Clearance is built into the hinge.)
 - (2) Mark all the hole locations on the door jamb with the hinge held firmly in place.
 - (3) Center punch each hole. The use of the Markar MT-806 center punch can help center the hole so that the fasteners will enter straight. The taper on the tool sits in the countersunk hole on the hinge.
 - (4) (A)&(B): Drill all holes using a #25 bit.
 - (5) (B): Tap the holes for a 10-24 thread.

Do not install the hinge to the frame at this time.
 - (6) Place the hinge on the edge of the door. Carefully line up the hinge with the top of the door.
 - (7) Mark all the hole locations on the door with the hinge held firmly in place. Check handing.
 - (8) Repeat steps 3, 4, and 5.
 - A drill may be used to spot these holes while the hinge is in place.

Note that accurate location is important for proper hinge installation using the adjustability option.
 - (9) Remove the hinge and
 - (D) drill each hole with a 5/16" bit to a minimum depth of 1 3/8" in wood doors.
 - (E) drill each hole with a 5/16" bit. The accuracy of hole location by drilling a smaller pilot hole first. This option is only to be used with reinforced doors OR door thickness of 1/8" or more.
 - (10)(E) Tap the holes for a 3/8-16 thread.
 - (11) Insert AdjustaScrews into every hole. Place a 3/16" Allen wrench in the opening of the AdjustaScrew and simply turn the AdjustaScrew into the hole while keeping the screw properly aligned. Drive each AdjustaScrew in until it is approximately flush with the edge of the door.
 - (A) A screw gun or variable speed electric drill with an Allen bit provides a faster means of installing and adjust-screws.

Note that it is not necessary to tap the holes since AdjustaScrews cut their own threads in wood.

 - (B) Do not be concerned with the tight fit. AdjustaScrews are designed for a tight friction fit in the tapped holes so they will not turn when the attachment screw is being tightened. If the AdjustaScrews turn too freely, apply Loctite™ for threaded joints to the screw threads during installation.
 - (12) Place the hinge on the door after all the adjustment screws are set equally in the holes. A screw gun or variable speed electric drill with a Markar MT-AD hex driver bit provides a faster means of installing the AdjustaScrew.



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(13) Install **only** the top and bottom two 10-32 x $\frac{3}{4}$ " machine screws. Fully tighten the screws.

(14) Attach the door and hinge to the frame.

(A) using #10x1 $\frac{1}{4}$ " flathead undercut sheet metal screw. OR

(B) using 10-24 x $\frac{3}{4}$ " flat head undercut machine screws. OR

(C) using self-drilling Tek screws.

(15) Close the door and check for proper alignment.

- If the door requires alignment for proper fit, make this adjustment with the four screws already installed without removing the door:

(1) Remove one of the screws and insert the Allen wrench through the hole into the AdjustaScrew.

(2) Loosen the other machine screw at the same end and turn the AdjustaScrew in the direction of the desired adjustment. Adjust the other AdjustaScrews in the same manner until a perfect fit is achieved, then tighten all four machine screws.

(3) The balance of the AdjustaScrews should be adjusted in the same manner until all are resting firmly against the inside face of the hinge/guard.

(4) Install and tighten the remaining machine screws. Be sure the adjustable angle is pressed firmly against the face of the door as the screws are tightened.