

# Architectural Door Accessories

**ASSA ABLOY**

## Markar HS203 & HS303 Half Surface Hinge Installation Instructions

The global leader in  
door opening solutions

### PRODUCT MUST BE INSTALLED ACCORDING TO ALL APPLICABLE BUILDING AND LIFE SAFETY CODES

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

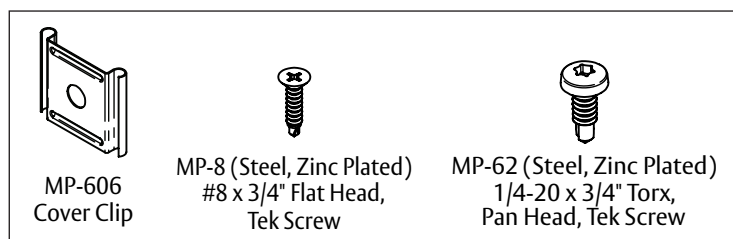
**Note:** Do not install Snap-On cover until installation is 100% complete and all aspects of the assembly are correctly fastened and properly fitted. The cover is impossible to remove without damage and replacement may be necessary.

The Universal Screw Pack contains sheet metal, machine, and self-drilling Tek screws. This allows three different installation options for the frame.

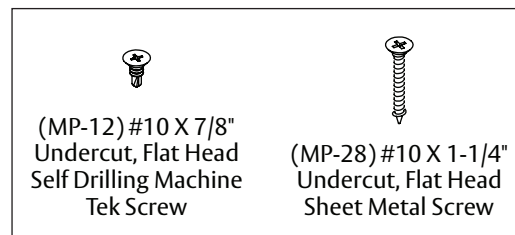
- If mounting a wood or unreinforced hollow metal frame, follow option (\*a\*) in instructions.
- If frame is reinforced or at least  $\frac{1}{8}$ " thick, follow option (\*b\*) .
- If self-drilling Tek screws are used (recommended for grout-filled frames), follow option (\*c\*). If grout is hard, drilling a pilot hole can help.

Zinc plated screws are provided with model HS-203 (plain steel).

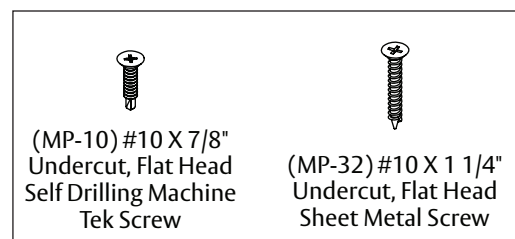
Stainless steel and nickel plated screws are provided with model HS-303 (stainless steel).



STANDARD SCREW PACK  
NO. M91-0003-630



SCREW PACK  
M91-0001-626



SCREW PACK  
M91-0026-630

Preform each step of instructions unless specifically labeled (\*a\*), (\*b\*), or (\*c\*).

### 1. Frame Preparation

- Place hinge on frame. Position top of hinge  $\frac{1}{8}$ " maximum below header. Allow  $\frac{1}{16}$ " between stop and edge of hinge (Fig. 1).
- Mark hole locations on door jamb with hinge held firmly in place.
- Center punch each hole. The use of Markar MT-806 center punch can help center hole so that fasteners will enter straight. The taper on tool sits in countersunk hole on hinge.
- (\*a\*) & (\*b\*) Drill holes using a #25 drill bit.
- (\*a\*) Attach hinge to frame with #10-x $1\frac{1}{4}$ " flat head undercut sheet metal screws. OR
- (\*b\*) Tap holes for a 10-24 thread. Attach hinge to frame with 10-24 x  $\frac{3}{4}$ " flat head undercut machine screws. OR
- (\*c\*) Attach hinge to frame with #10 x  $\frac{1}{2}$ " flat head undercut self-drilling Tek screws.

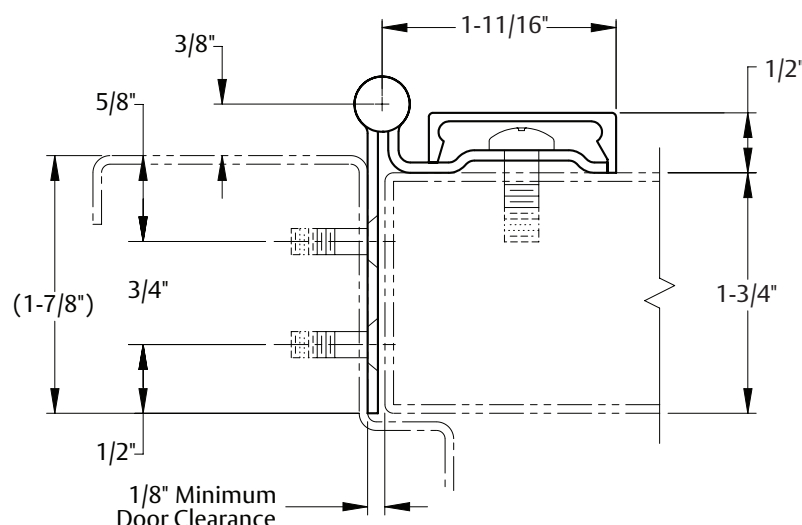


FIG 1: HINGE PLACEMENT & CLEARANCE TEMPLATE

## 2. Door Preparation

- A. Fold door leaf back over frame leaf and place door in door frame.
  - Place shims under door to provide  $\frac{1}{8}$ " clearance between header and top of door.
  - Add shims at both hinge and latch side of door so that  $\frac{1}{8}$ " clearance will be maintained on lock side of door.
- B. With door held firmly in place, return door leaf to face of door.
  - Molly Jacknuts, Markar P/N MP-20, and aluminum sleeve bolts, Markar P/N MP-22 (Alum) and MP-56 (Bronze), are available from your hardware supplier as an optional means of attaching door leaf.
  - Note:** Steel sleeve bolts, Markar P/N MP-23, must be used on mineral core wood fire doors.
- C. Mark position of top and bottom holes with a center punch, then drill and fasten with self-drilling Tek screws.
- D. Attach hinge to door using 14-20 x  $\frac{3}{4}$ " pan head self-drilling Tek screws.
- E. After top and bottom screws are installed, permanently install door leaf with self-drilling Tek screws.
- F. Install at least five cover clips by passing a screw through clip, hinge leaf and door (Fig 2).  
**Note:** Markar recommends that clips be positioned in top, center, and bottom holes, with remaining clips spaced equally along length of hinge.

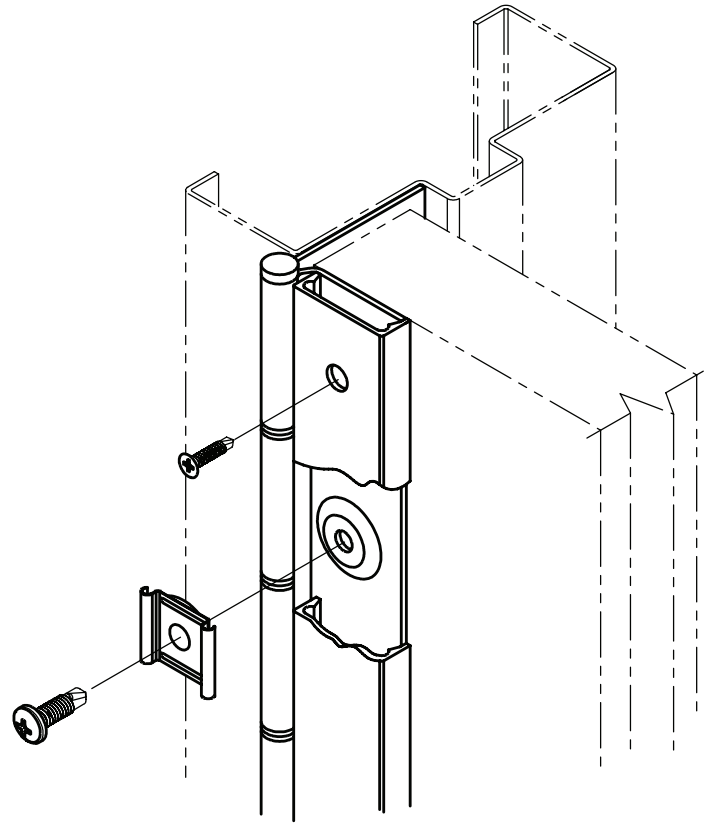


FIG 2: INSTALLATION (EXPLODED VIEW)

## 3. Snap-On Cover Installation

- A. When installation is complete, install snap-on covers by engaging side of cover next to hinge pin first. See Note at start of instructions.
- B. Insert large screwdriver between hinge knuckle and cover. Using screwdriver as a lever, twist it and snap opposite side of cover onto clip.
- C. Start at top and working downward until entire length of cover is firmly engaged.
- D. With covers firmly in place, secure them at both ends through hinge and into door with #8 x  $\frac{3}{4}$ " self-drilling flat head Tek screws.