



# THOR III DOOR INSTALLATION

## Important Information

- These instructions assume knowledge of and experience in standard rigging procedures. Before installing this door, read these instructions thoroughly.
- The Thor III vault door is a clamp-in-place door that does not require grouting. It is designed for use with concrete or modular vaults. A pit is not required because the door sill plate sits on the masonry floor. The finished bank floor and the vault floor will be at the same elevation. The shipping pallet for this door is 58" wide. It must be kept in a flat position. If the pallet is too wide to move through openings directly to the vault, the door must first be raised from the pallet and then moved. The door frame is 81 1/4" tall (if the top header mounting bracket is removed) and 56" wide.
- Only thoroughly experienced installers or riggers should handle the installation of this vault door. The door weighs approximately 3,500 lbs. and is **front heavy**. When it has been raised to a vertical position, it must be supported from both sides with "stiff legs." **THIS IS MANDATORY.**
- Install this vault door according to the latest installation drawings and existing job site conditions. Deviating from these instructions is not encouraged.

## **Safety & Good Housekeeping Practices**

*CAUTION: Any successful installation depends on common sense.  
Exercise care in moving and installing this product.*

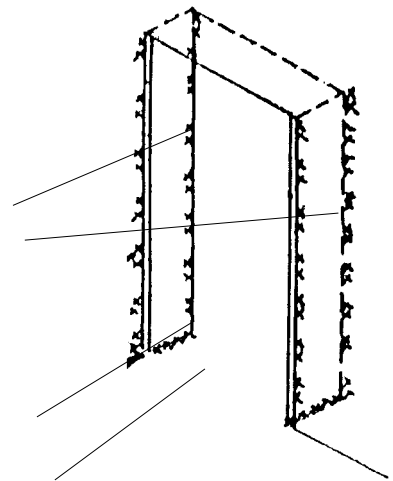
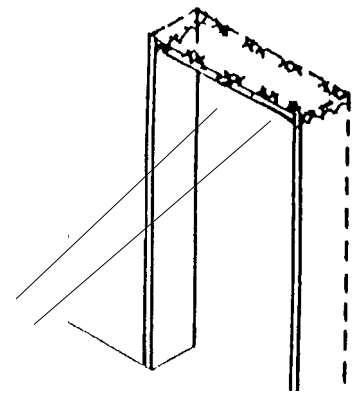
- Keep the work area clear of all trash and clutter.
- Keep all tools and rigging equipment in good working condition and use the properly.
- NEVER leave a vault door standing unattended, unless it is securely fastened or welded in place and the proper signs warning of potential danger are posted.
- Make sure both the combinations are locked and scrambled. THIS DOOR IS SHIPPED WITH THE COMBINATION LOCKS SET ON SINGLE CONTROL. (either lock will permit opening).
- Use safety goggles, hard hats and appropriate protective clothing.
- When welding is required, use a fire watch and always have a working fire extinguisher on hand. Vent fumes or smoke from the installation area.
- **DO NOT TAKE CHANCES**

## Installation Instructions for Thor III Door

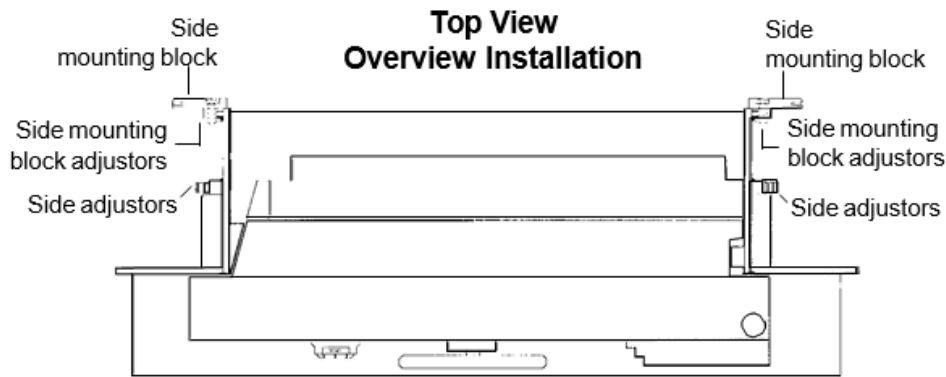
Due to the great weight and the unwieldy nature of vault doors, installation should only be done by qualified and experienced personnel.

### Preparing the Masonry Opening

1. Steel plates must be installed on both sides, and the top of the rough masonry opening, to provide a secure surface to mount the door frame. These plates are to be provided by the vault manufacturer or the contractor and are not supplied with this door assembly.
2. Locate the header steel plate at the top of the opening, to be flush with the outside edges of the vertical steel plates, and secure with expansion jacks or wedges. Stitch weld to the vault wall - inside and outside - and weld securely to the vertical plates.
3. Stand the vertical steel plates in place in the vault rough opening. Secure the plates against the sides of the opening with expansion jacks or wedges.
4. **PLUMB THE EDGES OF THE STEELPLATES AS BEST POSSIBLE.** The most important is the edge that projects out of the vault (the edge that the door frame face will mount against). Be sure that the full edge is plumb, and lines up with -or projects out from - the front of the vault. The edge of the steel should never be inset inside the face of the vault wall.
5. Stitch weld steel plates to the vault walls - inside and outside.
6. Stitch weld to the trench plate, or the base plate, if so equipped.



## Install the Door Assembly

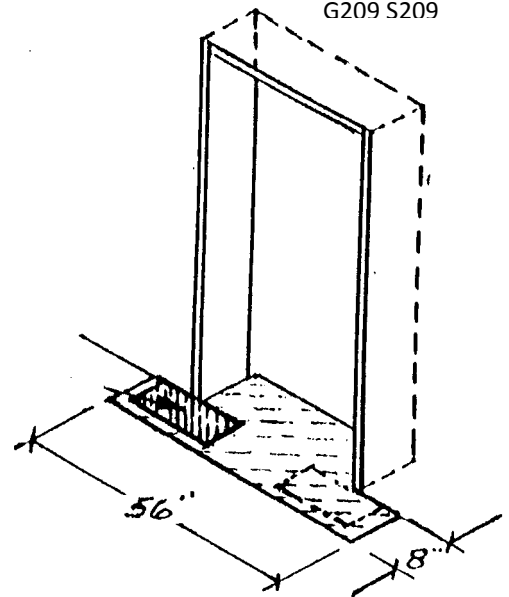


7. Uncrate the door, removing all items except the door on the basic pallet.
8. **ASSURE THAT THE DOOR IS IN THE "LOCKED" POSITION** in the door frame! (To prevent any premature opening of the door which may unbalance the assembly and cause it to fall). Do not remove the shipping block (that prevents the door from opening) from the sill plate until the door is secure in the masonry opening.
9. Stand the door and pallet up as close to the final position as possible. Use an adequate chain or cable and two 1/2" screw pins through both the 3/4" holes in the removable header. Use a fork lift, crane, or adequate equipment to lift and tilt the door up, using the pallet as a base.



Screw Pin  
G209 S209

10. Un-bolt the pallet from the door.
11. Check the floor, in the area of the bed-plate, for level. The area should be level within 1/16th of an inch. Shim all low areas with steel plates as large as possible (6" X 6" at a minimum). Be sure that the 12" X 6" area under the door hinge pin is fully supported, and securely and evenly shimmed. Weld the shims to the steel plates, if possible.
12. Lay 2 @ 1/4" steel flat bars on the floor as tracks to skid the door into the opening, or place on rollers 1" max. diameter.



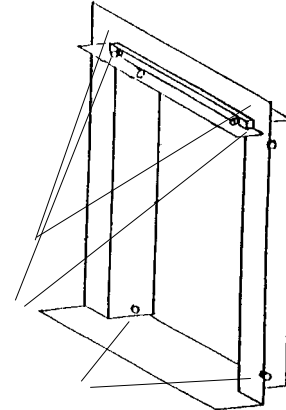
13. Position a person outside the vault who is thoroughly familiar with the procedure for operating the combo locks and opening the door. Provision should be made for the personnel who will work inside the vault. This should include lights, fans, pry bar, clamp blocks, hex wrenches (1/4", 3/8", and 5/8"), and other necessary tools,
14. Move the door into the masonry opening using pry bars at the outer edges of the frame side faces. Use care not to disturb the floor shims, nor bend the stainless steel cladding.

15. The THOR III frame has six (6) adjuster screws to help locate the assembly into the vault, and to be used to align the door in the vault.

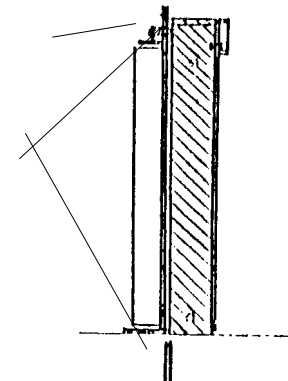
\*\*\* (2) Header adjuster screws, to move the top of the door to "in & out"

\*\*\* (2) Upper jamb adjuster screws, to move the top of the door "side to side"

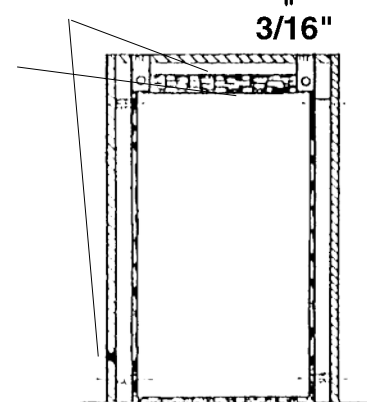
\*\*\* (2) Lower jamb adjuster screws, to move the base of the door "side to side"



16. Install the demountable header plate to the top of the frame, and tighten the bolts to 60 to 75 lbs.
17. Position the door assembly so the frame is approximately 3/16" out from the steel plates at the bottom.
18. Turn the header adjuster screws in, until they touch the steel plates.
19. Have the "inside" person center the door in the opening, using the lower two jamb adjuster screws. Torque these to about 20 ft. lbs.



20. Install the "Clamps Blocks" between the frame and the header steel plate. Turn the blocks up vertical, and tighten the 3/4" align bolts securely to frame (80 to 120 ft. lbs). Tighten the pairs of 1/2" hex socket set screws against the steel plate header. Use these to pull the top of the frame back against the door steel. Tighten the upper adjuster screws evenly to about 10 ft. lbs.

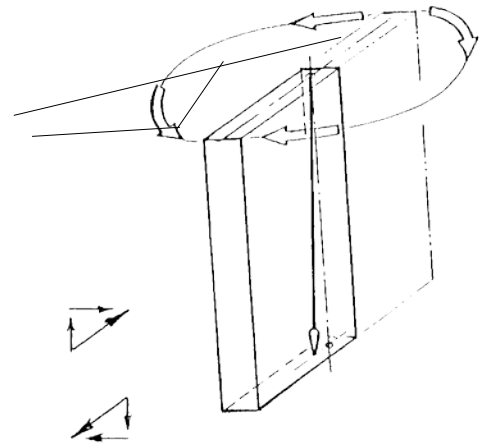


**Note: The back upper clamps hold the door in the frame! If the door were to swing open when the clamps are not in place, the door will imbalance and fall out of the opening! Therefore, always be sure the door is closed before you loosen the clamps, and re-tighten them before re-opening the door.**

21. Remove the shipping block from the sill plate, and open the door per the lock instruction sheet.
22. Check to see if the door **"runs"** (swings from its own gravity alone). If no run occurs, go to 25).
23. If the door **"runs"**, it indicates that the **hinge pin centerline is "out- of plumb"**. To plumb the door, **use the door itself as a "plumb bob"**. Let the door run to its natural stopping position and it will indicate what adjustments are needed to take the run out.

**Note: the door will have two natural stopping positions -**

- A **"high point"**, where a little shove will cause the door to run away, and
- A **"low point"**, where if you move the door in either direction, it will run back to the natural stopping position. You can look at the illustration and see: Either the top pin must go back and to the right - Or, the bottom pin must come out and to the left

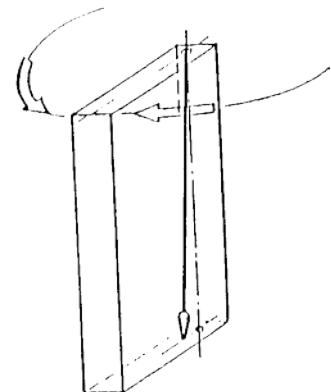


**Note: To get a true reading of the stop position, push the door toward closing and let it run toward opening -- mark the position on the floor, then push the door toward opening and let it run toward closing -- mark the position. Half way between these marks should be the true stop position.**

24. Sill Plate must be solid against the floor in the area of the hinge pin - If you can insert a steel shim, do it now, and weld in place! To adjust for a "run" in a door.

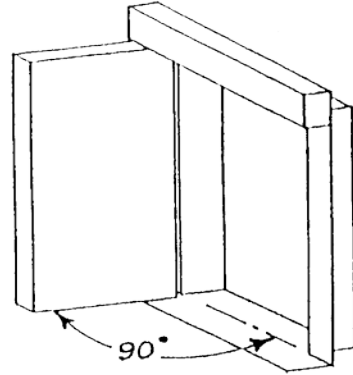
**First:** The door must run to a "low point"

- If the door stops on a "high point", pry the base of the frame back into the opening. If the frame is back the full 3/16" and touching the door steel, and the door still runs to a high point, use the header adjusting screws to pull the top out to achieve a low point run.
- If the door is stopped on a "low point", loosen the header adjusting screws and pull the top of the frame back with the clamping screws. If the run changes to a "high point", pry the base of the frame back into the opening.



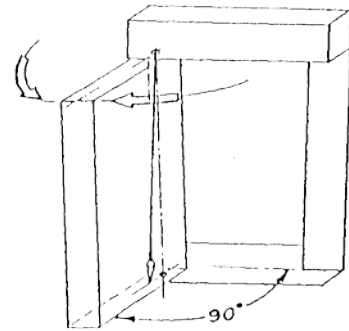
**Second: Adjust the "Side to Side" Until the door runs to a true 90°**

- Be sure the lower jamb adjuster screws tightened to 20 ft. lbs, Then use the upper adjusting screws to move the top of the frame "side to side" until the door runs to a true 90°
- When the stop is a true 90°, turn the opposite upper jamb adjusting out until it touches the frame with about 10 ft. lbs. Both upper screws should be equal torque.

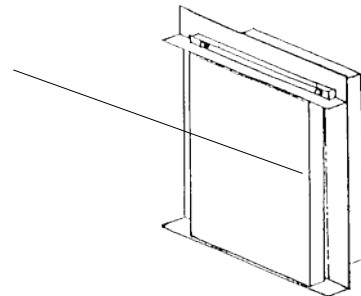


**Third: Adjust the "In and Out"**

- With a "low point" run, at 90° either the top of the frame must be moved back or, the bottom pulled out, (or both). If either the top or bottom is tight against the steel, the adjustment must be made at the other end. Ideally, the bottom will be tight against the steel, and the top tight against the steel, (or held out with the adjuster screws.)
- Adjust the header adjuster screws until there is "no run" throughout the full range of the door swing. If a slight run still persists, repeat the procedure



25. Check the margin (gap) between the door and the frame on the side away from the hinges only. If this gap varies too much, carefully induce a twist in the frame until the margin is even. Loosen the appropriate clamp and adjuster screws. Carefully adjust the gap by pushing that side of the frame into the vault, or prying it out. Install steel shims to hold the adjustment, and weld in place if possible. As a run is controlled by the alignment of the **hinge side** only, do not disturb that side.



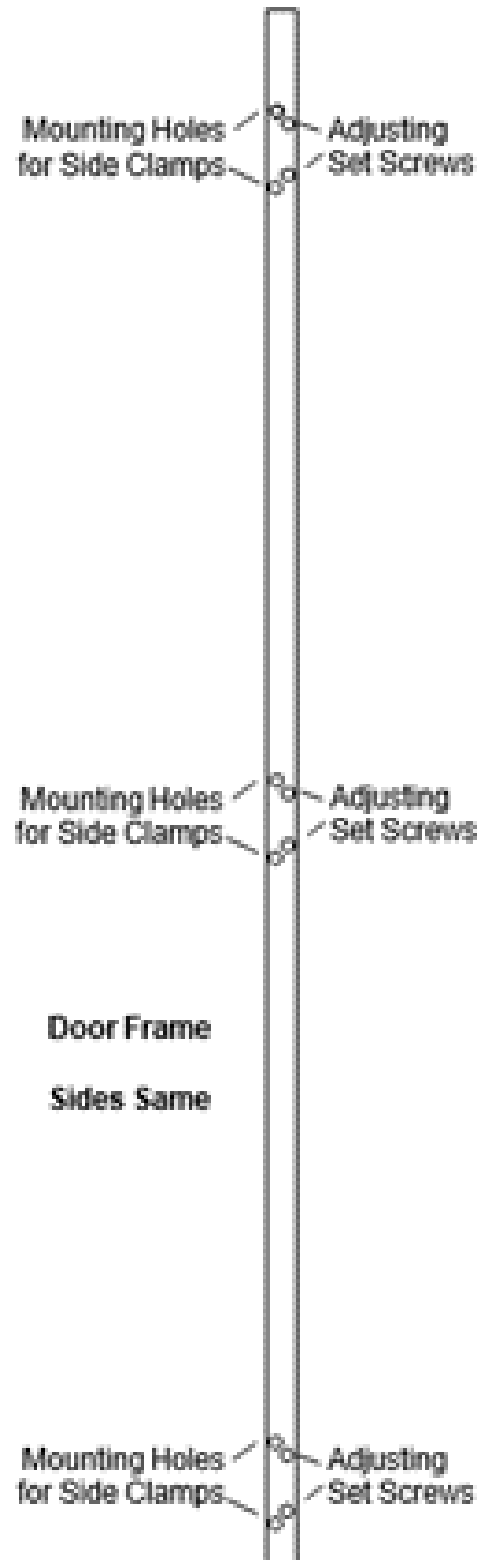
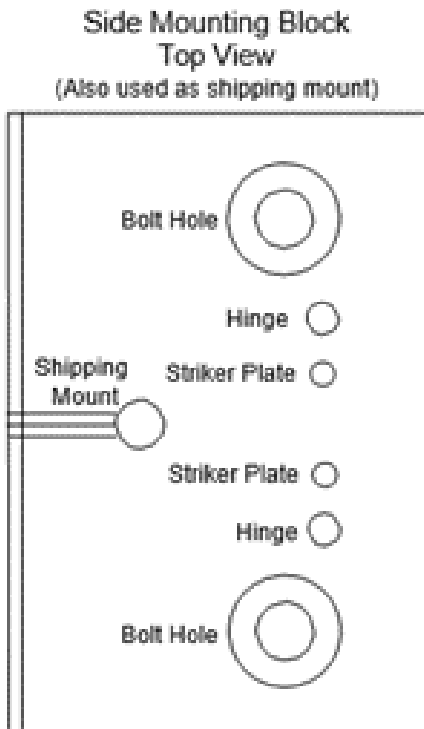
26. Check the clamp bolts for tightness - 100 ft. lbs. Torque the side adjuster screws out to 100 ft. lbs, taking care to do this evenly so as not to change the alignment.

27. Install the six side-clamp blocks on the inside of the door.

- a. Each location for the side clamp mounting block is fitted with two set- screws that should be used to adjust the block to fit flush with the steel plates that frames the masonry opening. A 12" framing square should be used to verify that the block is square.
- b. Once the block is set square, the two mounting bolts should be tightened securely.

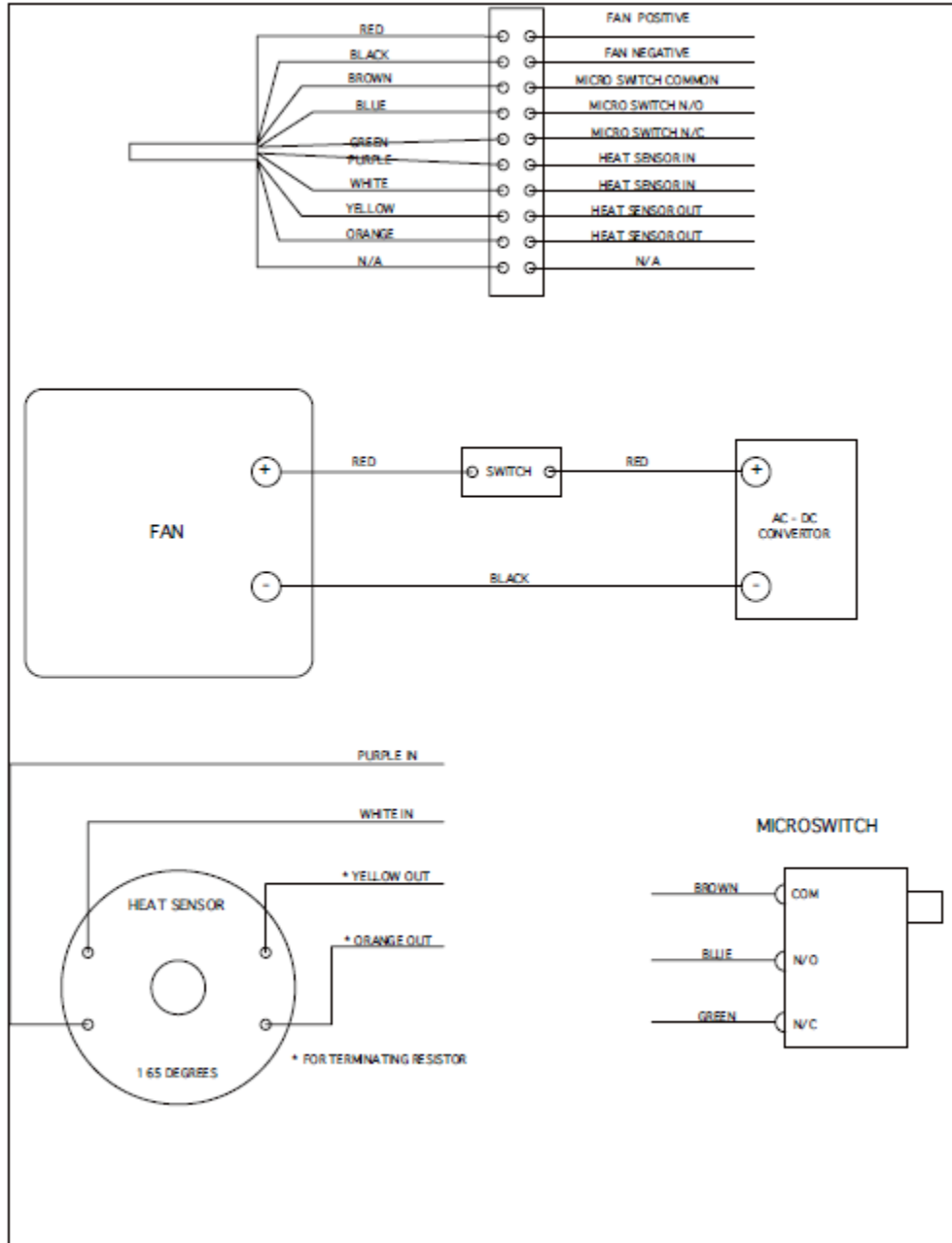
28. Weld frame securely in position at the base.

- a. Weld securely to base plate
- b. Weld securely to trench plate
- c. Shim between frame and door steel, and weld securely in place.

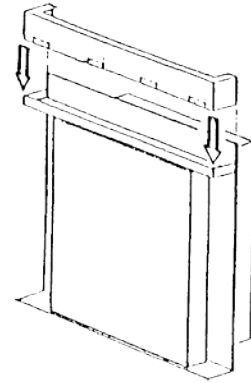




29. Take the wire from the door and attach the red and black to the red and black of the transformer that plugs into a 110V outlet. The rest of the wires are to be attached to the various alarm systems as shown on the wiring diagram.

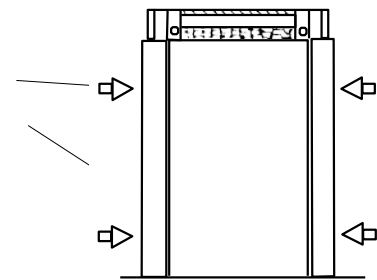


30. The time clocks and combinations should be set by a competent locksmith.
31. Install the stainless steel "valance" on the demountable header. There are several stainless clips secured inside of the box at the bottom edge. Lower the box down over the header plate cladding so that the clips engage and hold it in position. Secure the box to the angle on the top of the demountable header with the screws provided.

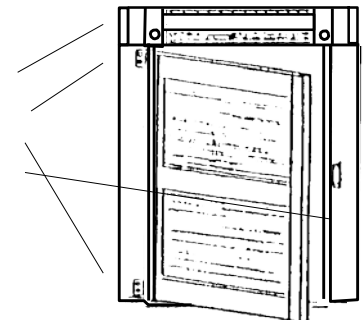


### Finishing the Installation

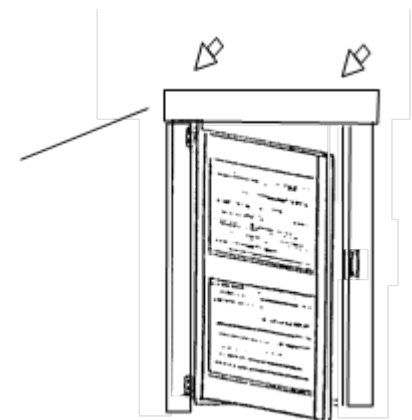
32. Install the stainless steel side panels (bat-wings) to the back of the door by sliding them over the side clamp blocks. These will be held in place by the hardware holding the day-gate strike plate. These side panels are ambidextrous however, they are predrilled for the day-gate mounting.



33. Install the **Day Gate upper hinge** to the trim above. Hang the day-gate on the upper hinge, and install the lower hinge. Install the striker plate on the other side

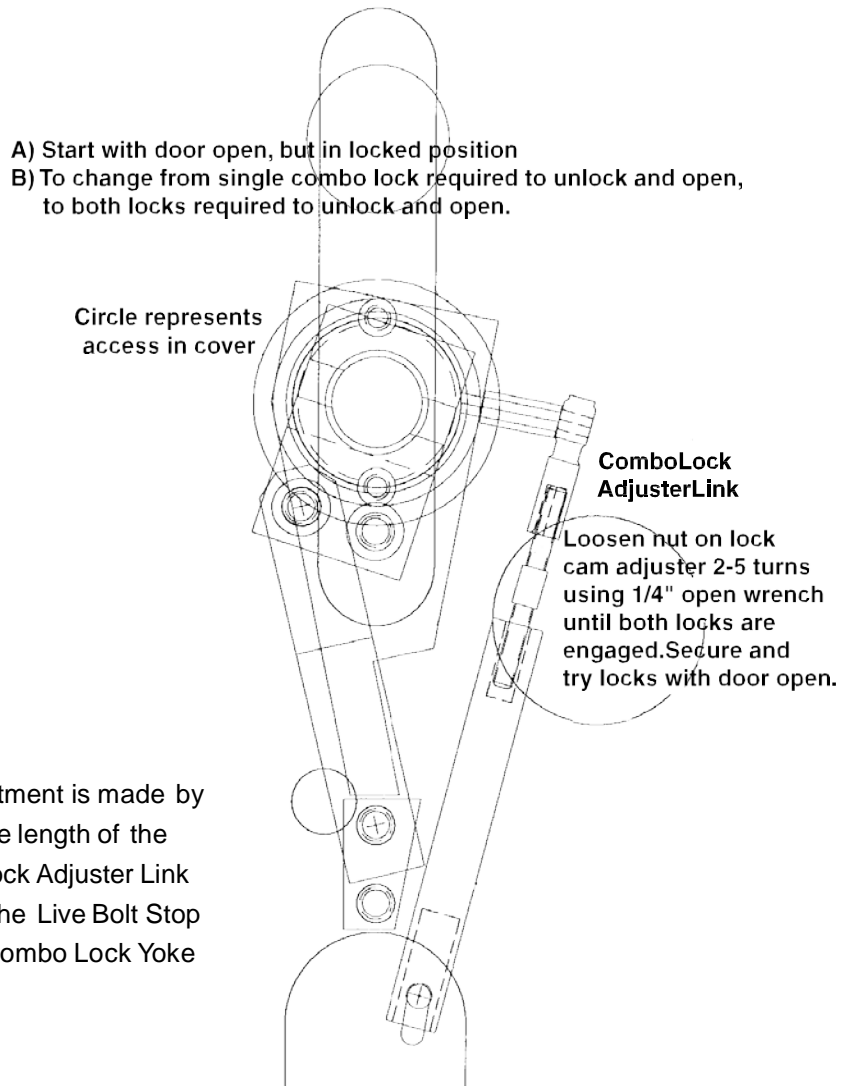


34. Snap the stainless steel "C" Section channel" over the "clamp" blocks.
35. Lay the floor covering on the sill, using the "peel and stick" provided.
36. Install Door Stop to suit. Suggest on centerline of door.



**NOTE: Thor III combination lock system is adjustable, so the door can be unlocked under these conditions:**

- A) **Both locks** must be unlocked to open the door
- B) **Either one** being unlocked will allow the door to be opened, independent of the other.



- **A shorter link favors single lock action**
- **A longer link adjusts for dual action** (both locks must be unlocked to open the door)

Adjustment should be made by a competent locksmith. Be sure to set the adjustment in the middle of the range. Open and close the door and operate the lock-several times-to be sure that the lock mechanism does not bind up and prevent the door from being opened.