GARAVENTA LIFT

Home Elevator

Flush Frame and Door Installation Manual

Read this manual before using this elevator!
Keep it for future reference!

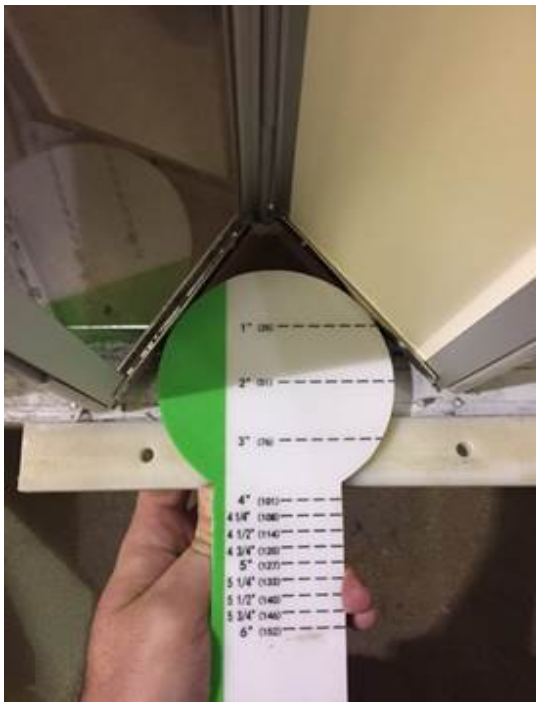
IMPORTANT, READ FIRST:

All vertical platform lifts that fall under code B355 and A18.1 MUST have flush doors.

For A17.1 code

The ASME A17.1-2016/CSA B44-16 Safety Code for Elevators and Escalators (2016 and later editions) mandates the following maximum hoistway door clearances:

- Clearance between the hoistway side of the landing door and the edge of the landing sill shall not exceed 0.75'' (19 mm) for swing doors and 2.25'' (57 mm) for sliding doors.
- Distance between the hoistway side of the landing door or gate and the car door or gate shall not exceed 4'' (102 mm). Refer to the image below.
- Residential elevators are designed with a maximum 1.25'' (32 mm) running clearance.
- Concrete block/masonry shafts create 3/4 & 4 rule violations.



With the measuring tool pressed into the 'V' of the accordion car gate, the hoistway side of the landing door must not be more than 4" (102mm).

Table of Contents

1 Safety

1.1 Symbols In This Manual

We have indicated safety instructions in this manual by symbols and signal words that express the scope of the hazard. Follow the instructions in this guide. Failure to follow these instructions may cause damage, injury, or death!

DANGER:
Indicates a hazardous situation, which, if not avoided, could result in death or severe injury.

ELECTRIC HAZARD:
Indicates danger of electrocution.

FALLING HAZARD:
Indicates a risk of accidental loss of balance or body support resulting in falling.

CRUSHING HAZARD:
Indicates a risk of being caught between two objects, where either one or both parts may be moving.

WARNING:
Indicates a hazardous situation, which, if not avoided, could result in death or severe injury.

CAUTION:
Indicates a hazardous situation, which, if not avoided, could result in minor or moderate injury.

NOTICE:
Indicates a situation, which, if not avoided, could result in property damage. It may also reference environmental hazards.

IMPORTANT:
Indicates additional information and or notes that are of high importance.

TIP:
Offers suggestions for more efficient use of the elevator.

Many of the procedures in this manual require moving components. This means that you may install bypass connections to allow the elevator to move.

- Refer to the schematics to install bypasses.
- Discuss this with others working on or near the elevator.
- Communicate necessary information with everyone on the job site so that they are aware of the work being completed and the potential dangers involved.

1.2 List of Personnel Protection Device (PPE)

Always wear appropriate personal protection equipment.

Safety Glasses:
Wear them when you are drilling or grinding.

Ear Protection:
Wear them when you are drilling or grinding.

Head protection:
Wear when there is a danger to your head against protruding objects or corners.

Foot Protection:
Wear steel-toe boots at all time during the installation process.

Hand protection:
Wear appropriate gloves when working with the grinder or drill driver.

Dust Mask:
Wear when you are drilling or grinding.

Safety Harness:
Wear when standing on a ladder or a surface higher than 2,0m (6.6 ft) from the ground.

Electrical Lockout:
Lock any disconnect off (mains or batteries) when you need to prevent any unexpected starting of the elevator while you are working or servicing.

2 Required Tools

You must have the appropriate tools to complete the installation safely and without delay. This list is for convenience.

NOTICE:
The following lists are not exhaustive. Site conditions or exceptional circumstances may require additional materials.

- Hammer
- Utility knife / box cutters
- Carpenter's level and square
- Plumb bob and line
- Allen wrenches
- Screwdrivers (slotted and Phillips)
- Socket and wrench set
- Needle-nose pliers
- Vise-grip plier (standard and wide jaw welder's type)
- Wood shims and wood screws
- Nail gun
- Variable speed reversible hand drill 3/8"
- Carbide drill bits 3/8", 1/2"
- Pendant control for construction and inspection
- Scratch point awl
- Wire puller (50' of 1/8'' fish tape)
- Wire strippers
- Wire marker tape
- Wire crimper
- Wire tie-wraps
- Volt-ohm (multi) meter
- Assorted butt electrical wire connectors, crimping tool
- Temporary run light for hoistway
- Rags and cleaning solvent
- Metal and wood stud finder
- Ladder
- Safety items: hard hats, safety glasses, steel toe shoes, heavy gloves, safety harnesses, etc.

3 Installation Instructions

Follow the steps given here to install the flush frame and door.

3.1 Understanding Door Components and Measurements

A 36”X80” door requires a rough opening of 42 $^{3}/_{4}$” X 83 $^{3}/_{4}$”. Refer to the figure below for dimensions.

Nominal Door Height:

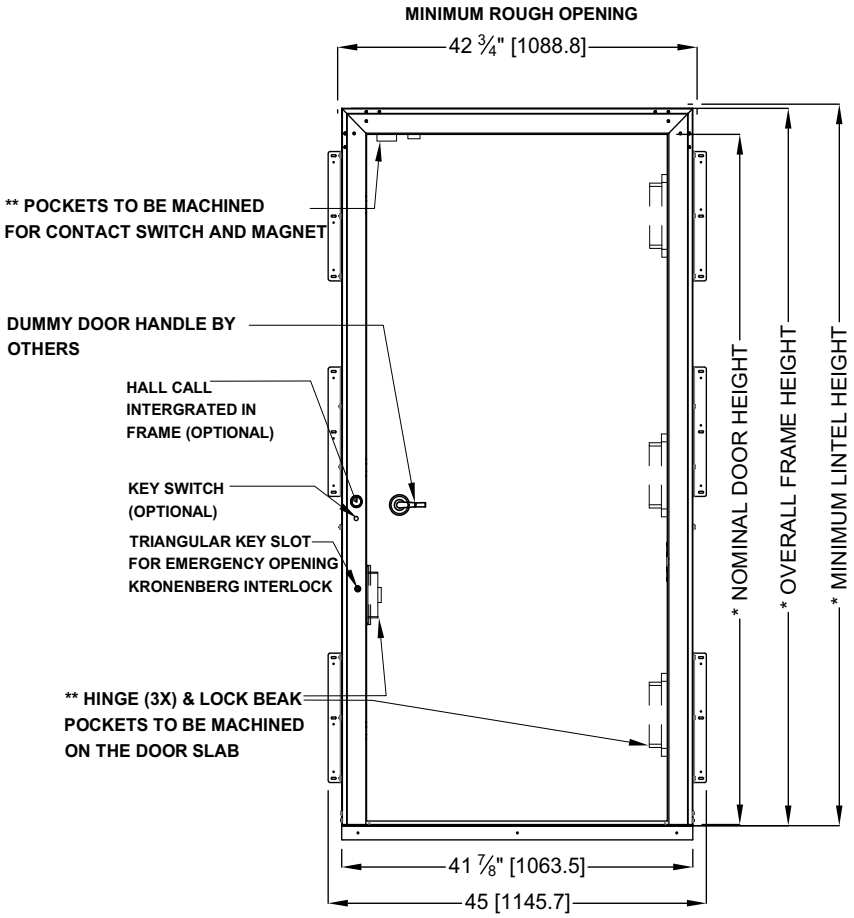
- 36X80: 80" [2032]]
- 36X84: 84" [2134]
- 36X96: 96" [2438]

Overall Frame Height:

- 36X80: 83 $^{1}/_{4}$” [2115]
- 36X84: 87 $^{1}/_{4}$” [2216]
- 36X96: 99 $^{1}/_{4}$” [2521]

Minimum Lintel Height:

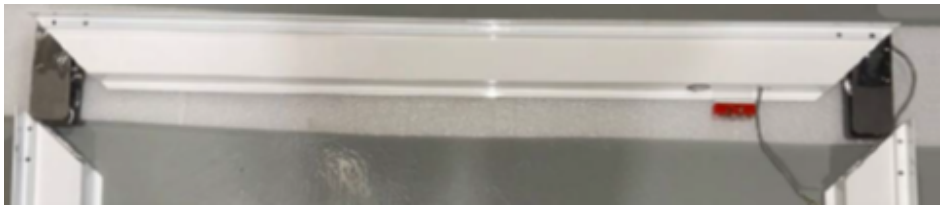
- 36X80: 83 $^{3}/_{4}$” [2127]
- 36X84: 87 $^{3}/_{4}$” [2229]
- 36X96: 99 $^{3}/_{4}$” [2534]



3.2 Assembling and Installing the Flush Frame

NOTICE:
Follow the steps in this section (and subsections) if you bought just the frame (without the door) and it is not assembled.

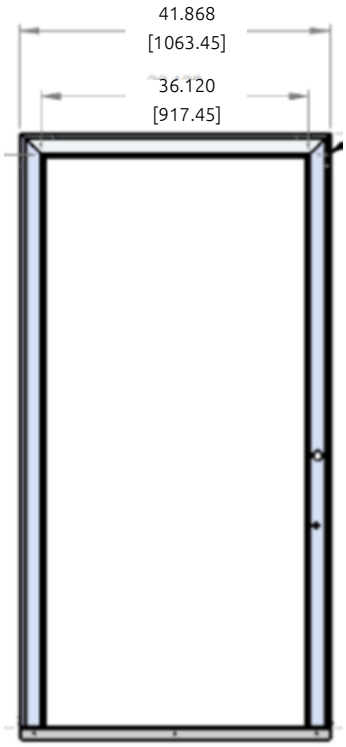
1. Disconnect the contact switch from the lock post and run the cable through the top header frame. Make sure the cable is neatly managed.
2. Assemble the header and uprights by sliding the preinstalled connecting bracket into the two uprights, aligning the holes on the frame. Do not tighten the fasteners yet. Ensure the base is level for proper alignment.



3. Attach the door sill to the bottom of both the lock and hinge extrusions. Leave the screws slightly loose to allow for frame adjustment.

4. Ensure the hole on the frame aligns with the connecting bracket by fully closing the corners. Secure the fasteners on both the front and back sides of the upright. Repeat the process for the opposite upright post.

5. Tighten the screw for the door sill and verify the squareness of the frame. Ensure the inside distance measures 36.12”.



6. Mark the frame using the provided template and fasten it with the low profile self tapping screws.
7. If required, install side angles to secure the frame in the hoistway.

3.2.1 Painting the Flush Frame

1. Throughly clean the surface to remove any dust, grease or contaminants.
2. Detach the contact switch and its spacer. Mask the hole, lock beak, and faceplate to protect them.
3. Apply the first coat of enamel paint evenly using a spray gun for a smooth and even finish.
4. Allow the first coat to dry completely before applying the second coat.
5. Repeat the process for the second coat and ensure even coverage.
6. We recommend using a paint spray gun for a more consistent and professional application.

3.3 Installing the Assembled Flush Frame

NOTICE:
Follow the steps in this section if you bought the preassembled frame.

1. Level the frame against the wall from inside the hoistway.

2. Use shims to align the frame to the wall.
3. Use angle brackets provided with the frame to secure the frame from the hoistway side. Note: If you're not using the angle brackets, you may use the default hole in the front of the aluminum extrusion.
4. Either way (angle brackets or extrusion), use #10 flat head construction screws to secure the frame to the wall.

3.4 Machining the Door Slab

NOTICE:
Follow the steps in this section (and the subsections) if you are supplying your own door (not supplied by Garaventa Lift).

3.4.1 Hinge and Lock Stiles

Both the hinge stile and lock stile must be constructed from hardwood with a minimum thickness of 2 inches to ensure structural rigidity, particularly because the pockets need to be machined.

3.4.2Top Rail Requirements [Not Yet Available]

For doors incorporating a concealed door closer, the top rail must have a minimum thickness of 5 inches to ensure structural stability.

3.4.3 Door Core Construction

The recommended door construction consists of 3mm MDF face sheets on both sides and a solid particleboard core with a medium density of 28–32 lbs/ft³.

Listed below are the available configuration (STEP files for all configurations are available on the Dealer's web-site):

1. Door slab with concealed door closer

- 35.875”X79.625” - LH
- 35.875”X79.625” - RH
- 35.875”X83.625” - LH
- 35.875”X83.625” - RH
- 35.875”X95.625” - LH
- 35.875”X95.625” - RH

2. Door slab without concealed door closer

- 35.875”X79.625” - LH
- 35.875”X79.625” - RH
- 35.875”X83.625” - LH
- 35.875”X83.625” - RH
- 35.875”X95.625” - LH
- 35.875”X95.625” - RH

3.4.4 Pockets to be Machined

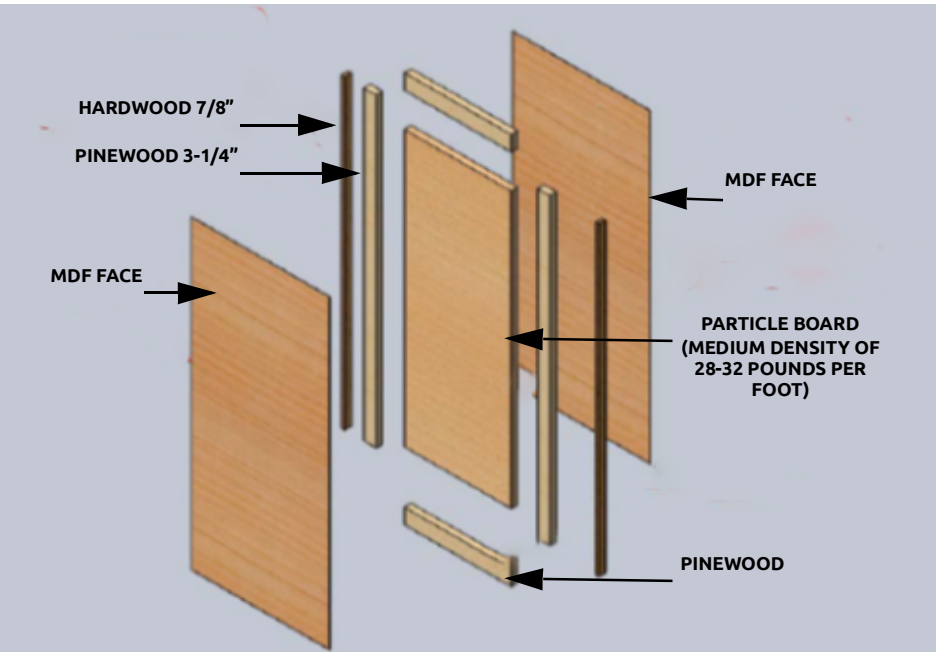
ITEM	QTY	CONFIGURATION
Hinge	3	Configuration 1 & 2
Flush Handle	1	Configuration 1 & 2
Latch	1	Configuration 1 & 2
Contact Switch	1	Configuration 1 & 2
Magnet	1	Only Configuration 2
Concealed Closer	1	Only Configuration 1

3.4.5 Tools Required

Hand Router	
Router Bit: 1/2-Inch x 2 1/2-Inch x 1/2-Inch	
Router Bit: 1/8-Inch x 3/8-Inch x 1/4-Inch	
Router Bushing: OD-3/4”; ID-21/32”	
Router Bushing: OD-3/8”; ID-9/32”	

3.4.6 Door Slab Construction

Shown below is the recommended door slab construction:



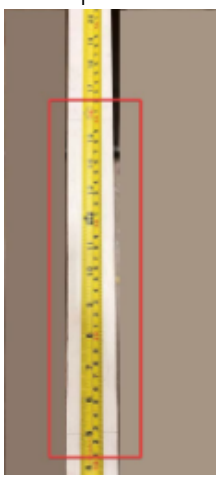
3.4.7 Hinge Machining

Tools used:

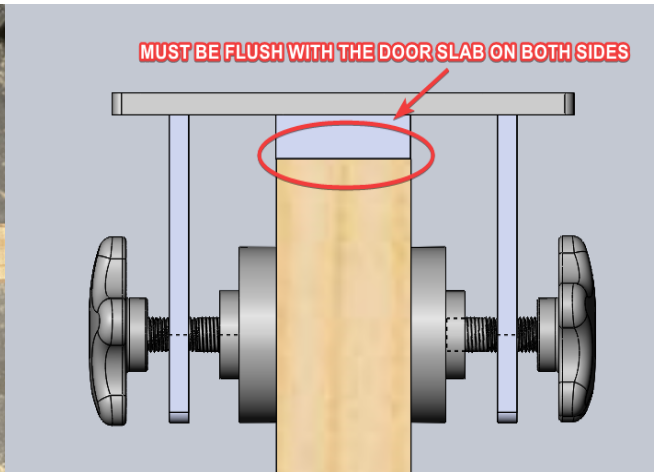
- Router Bit: 1/2-Inch x 2 1/2-Inch x 1/2-Inch
- Router Bushing: OD-3/4”; ID-21/32”

1. Position the wooden door slab vertically with the hinge side facing upwards. (Note: This orientation will vary based on the door's opening direction.) Refer to the supplied drawing for accurate measurements.

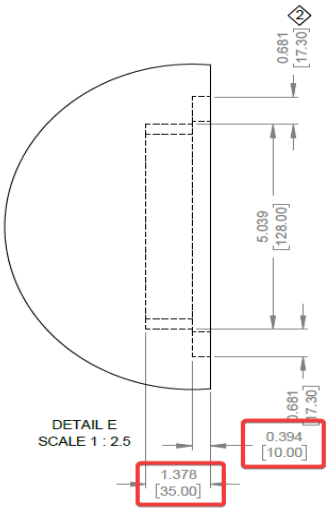
2. Using the supplied drawing as a reference, mark and draw a horizontal guideline. This line will vary depending on the door size and handing (opening direction). For accurate alignment, use the Raiser tab measurements provided in the jig—these will serve as a reliable reference point when positioning the jig.

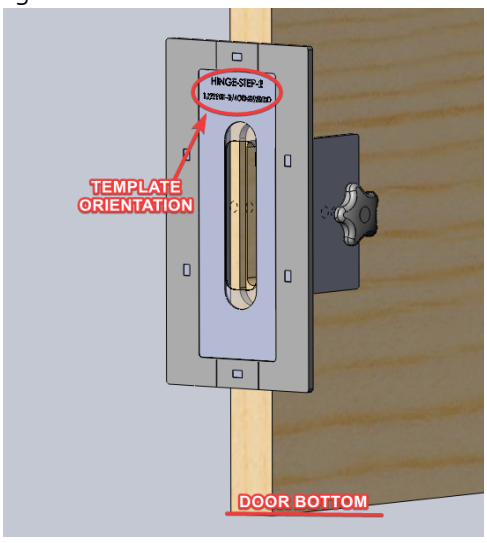


3. Position the jig on the door slab, aligning the jig's raiser with the previously marked guideline. Ensure the jig is flush with both edges of the door. Double-check the orientation of the template as shown in the reference image below.



4. Use the HINGE STEP-1 template to machine down the door by 10 mm (0.394''). Then, proceed with the HINGE STEP-2 template to machine down by an additional 25 mm (0984''). NOTE: Orientation of template changes according to the door swing direction.





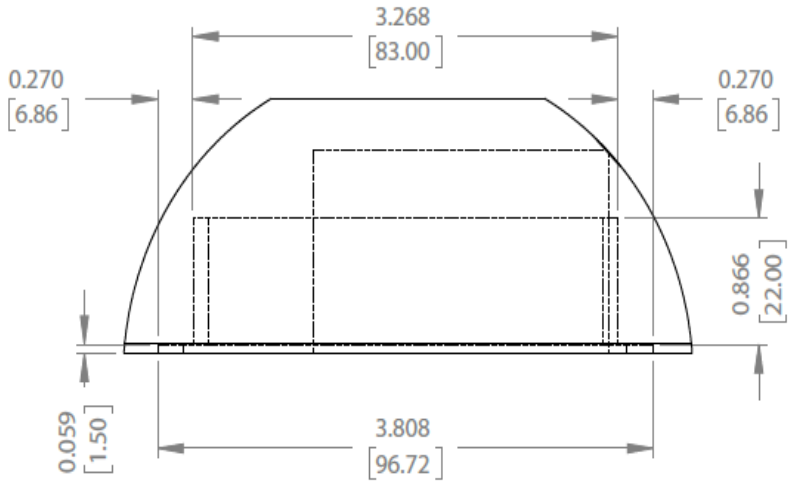
3.4.8 Handle Machining

Tools used:

- Router Bit: 1/2-Inch x 2 1/2-Inch x 1/2-Inch
- Router Bushing: OD-3/4”; ID-21/32”

1. Using measuring instruments, accurately mark the position for the jig (Handle Step 1) and place it precisely on the marked spot. Secure the jig to the door slab using U-clamps. Machine a rectangular cut-out with a depth of 1.6 mm.

2. Using the provided template, within the first cut-out, machine a second rectangular pocket with the machine down to a max depth of 22 mm.

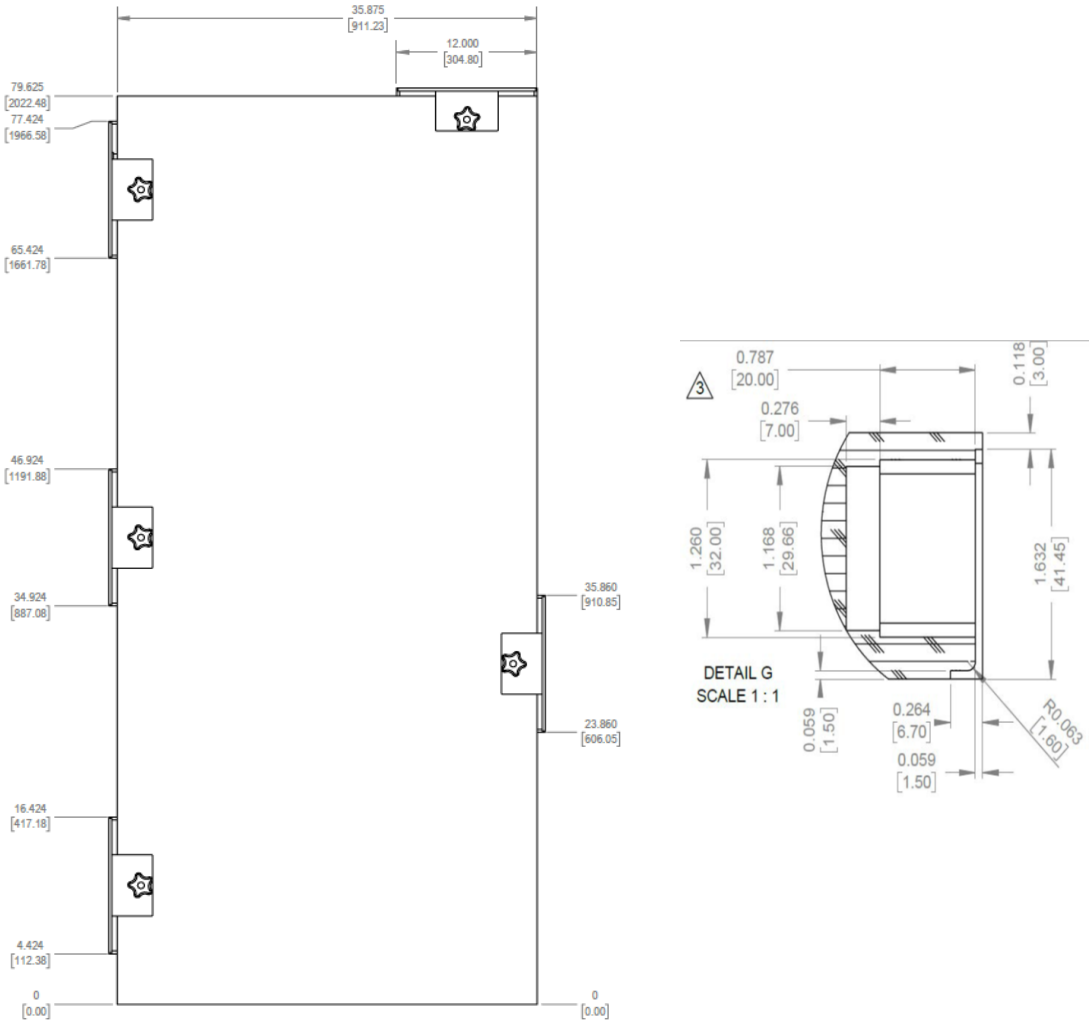


3.4.9 Latch Machining

Tools used:

- Router Bit: 1/8-Inch x 3/8-Inch x 1/4-Inch (FOR STEP 1)
- Router Bushing: OD-3/8”; ID-9/32” (FOR STEP 1)
- Router Bit: 1/2-Inch x 2 1/2-Inch x 1/2-Inch (FOR STEP 2 & 3)
- Router Bushing: OD-3/4”; ID-21/32” (FOR STEP 2 & 3)

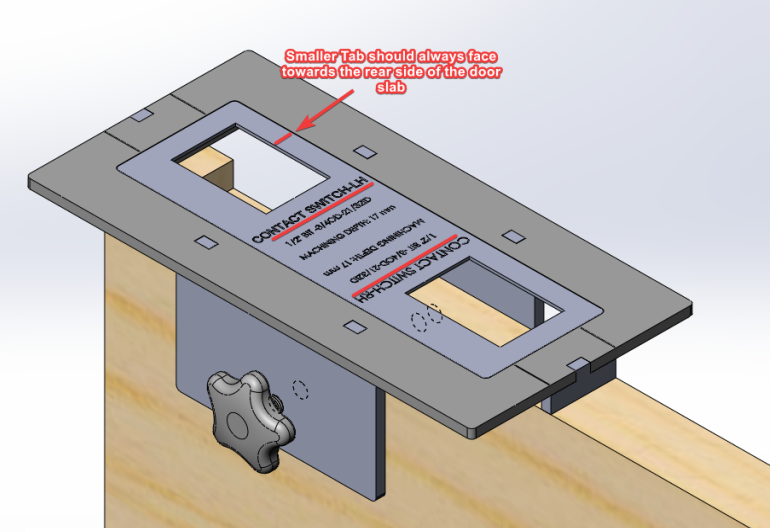
JIG POSITIONS

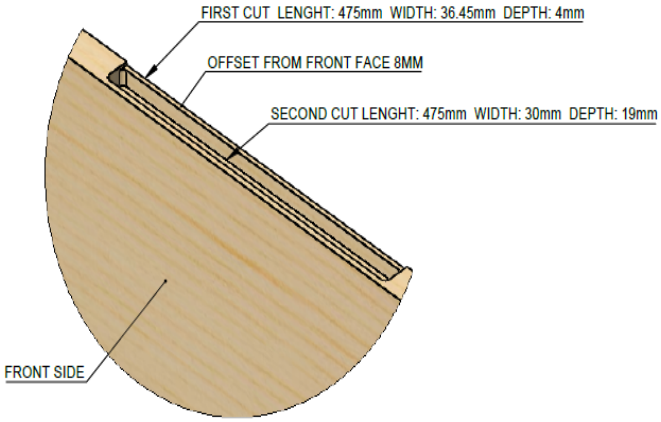


1. Using the drawing as a reference, mark the guidelines for the jig, according to the size and swing of the door.
2. Position the jig, then use the Latch Step-1 template with a 1/8” router bit and a 3/8-OD, 9/32” ID bushing to machine down 1.5mm (0.059'').
3. After completing Handle Step-1, proceed with Step-2 and Step-3 using a ½” router bit and a 3/4” OD, 21/32” ID bushing to machine down. Machine Handle Step-2 to a depth of 20mm (0.787'') and Handle Step-3 to a depth of 7mm.

3.4.10 Contact Switch Machining

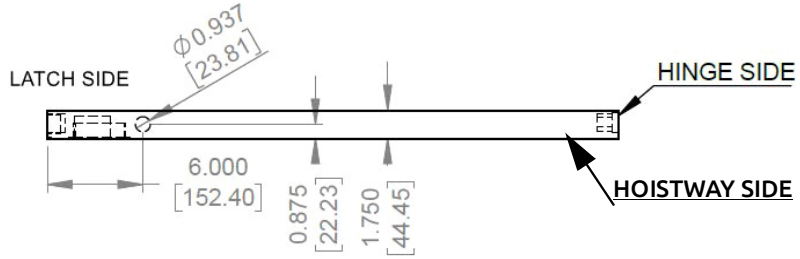
1. Refer to the figure below to position the jig.
2. Using the ½" router bit and 3/4" OD, 21/32" ID bushing, machine down 17mm (0.669'') for the contact switch.
3. Check the template orientation for RH and LH swing doors.





3.4.11 Magnet Pocket Machining

Using a 1" wood drill bit, drill a pocket near the contact switch location to a depth of 0.315" (8 mm), following the dimensions shown below.

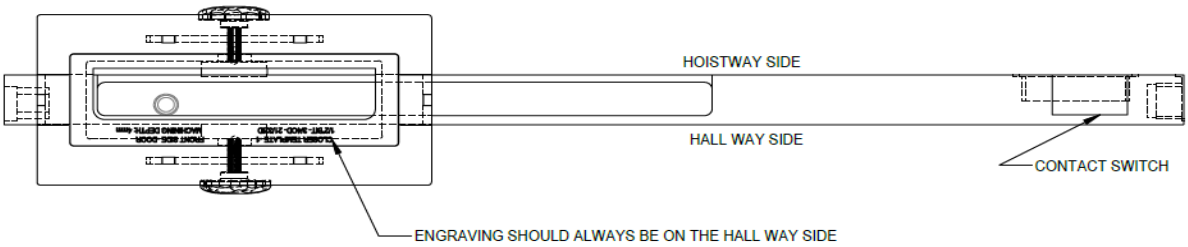


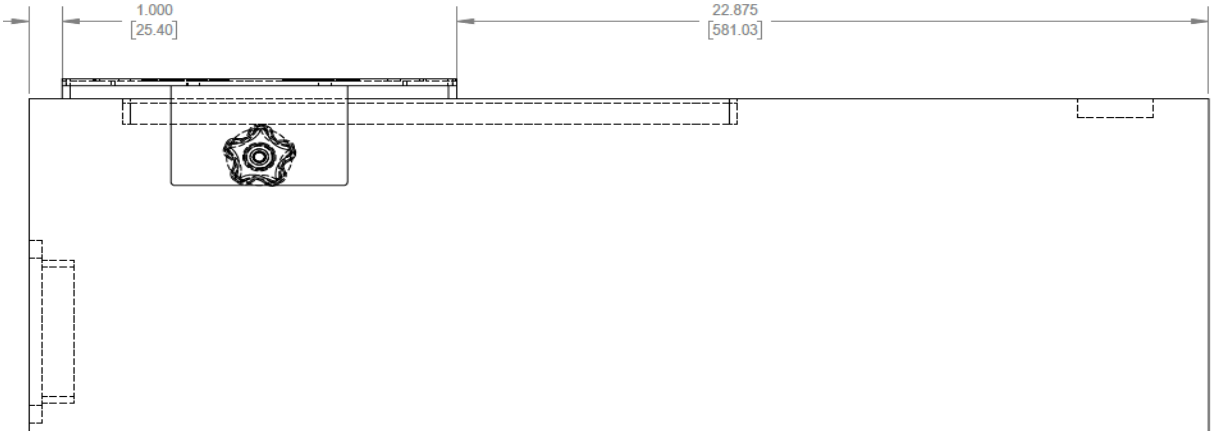
3.4.12 Door Slab Machining for the Door Closer [Not Yet Available]

Tools used:

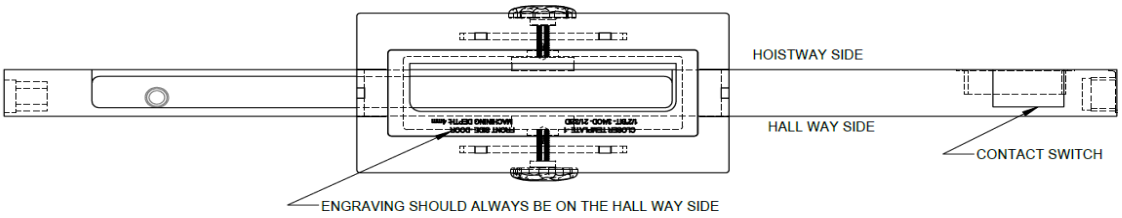
- Router Bit: 1/8-Inch x 3/8-Inch x 1/4-Inch (FOR STEP 1 & 2)
- Router Bushing: OD-3/8”; ID-9/32” (FOR STEP 1 & 2)

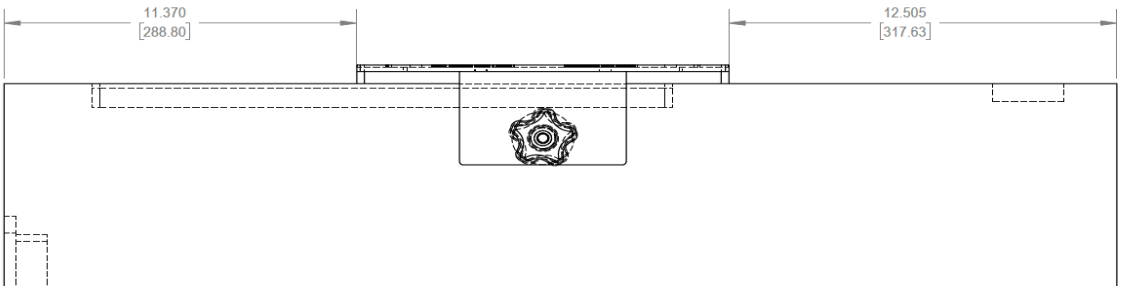
1. Position the jig 1” [25.4 mm] from the leading edge on the hinge side. Ensure the riser tab is adjusted to match the door slab thickness of 1-3/4” [44.45 mm].





2. Use Closer Template-1 to machine the door slab to a depth of 0.158” [4 mm].
3. Without moving the jig, switch to Template-2 and machine the door slab to an additional depth of 0.748” [19 mm].
4. Move the jig to a position 12.5” [317 mm] from the leading latch-side edge.



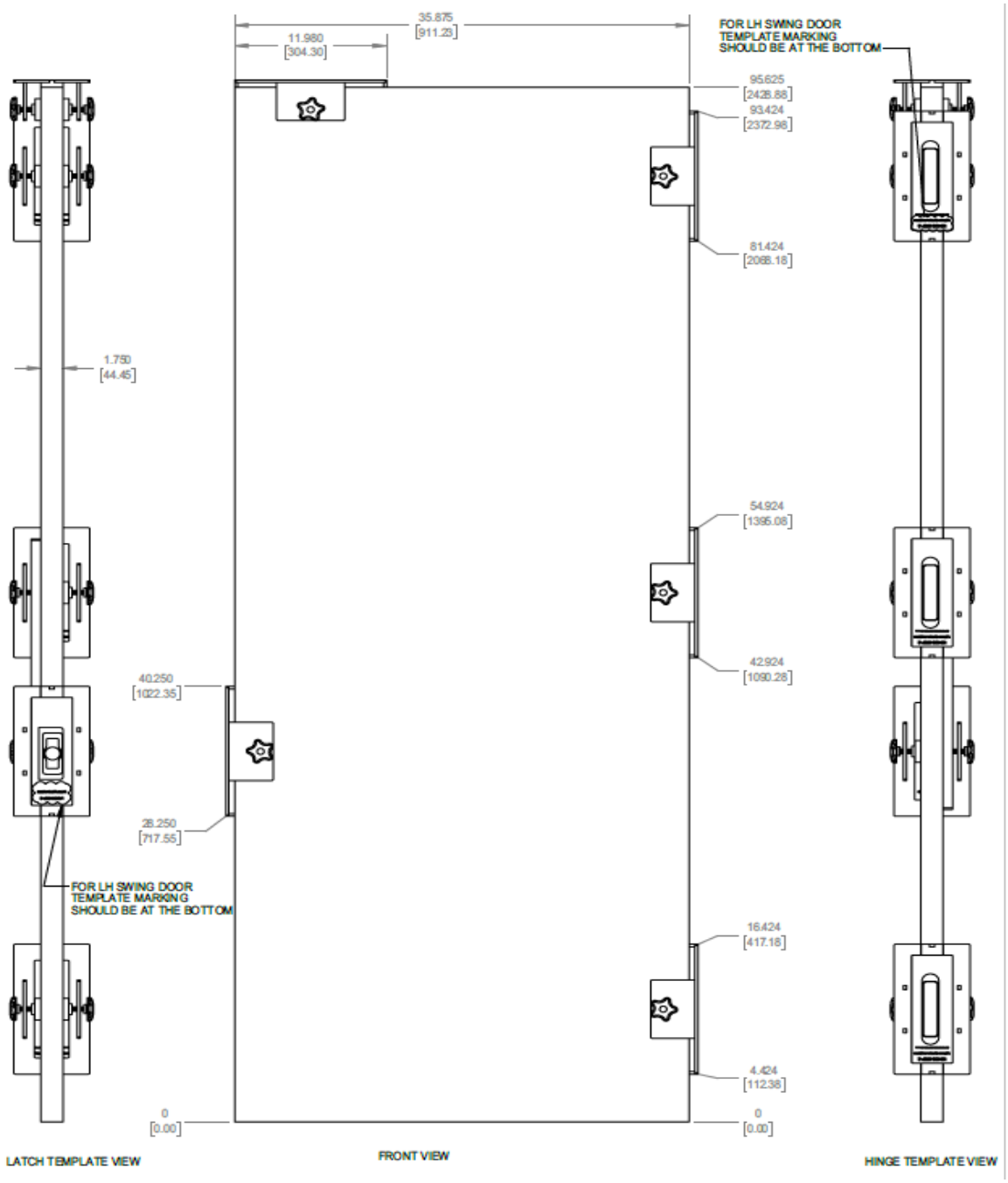


5. Machine the door slab using Closer Template-1 to a depth of 0.158” [4 mm], followed by Closer Template-2 for an additional depth of 0.748” [19 mm].
6. Reposition the jig at the center of the remaining unmachined portion and machine it to the same depths using Closer Template-1 and Closer Template-2.15” [8mm].

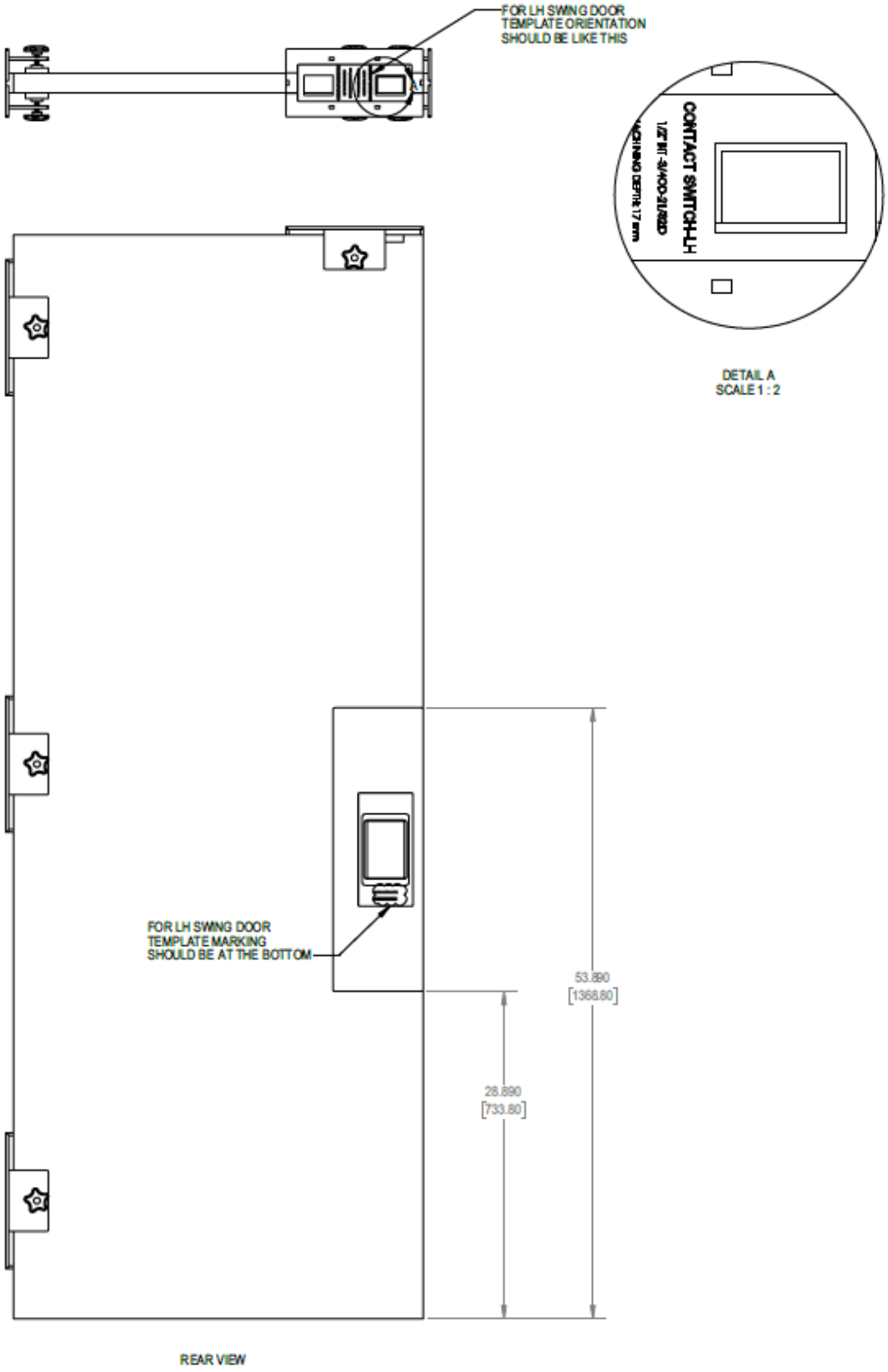
3.4.13 Listing Door Machine Assembly Drawings

Below are the drawings and schematics essential for the accurate assembly and installation of door components.

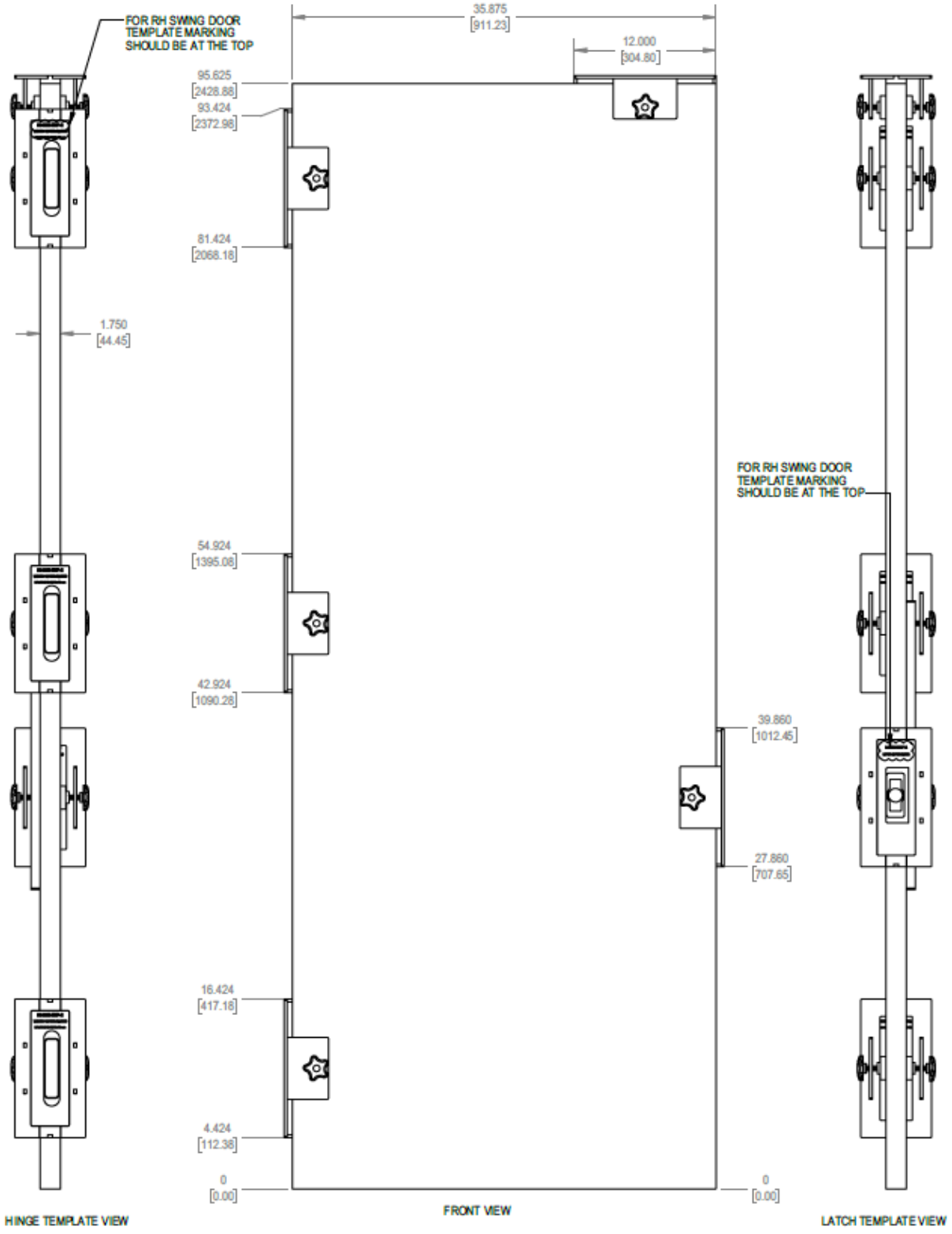
36” X 96” LH Door - Machining Reference Diagram



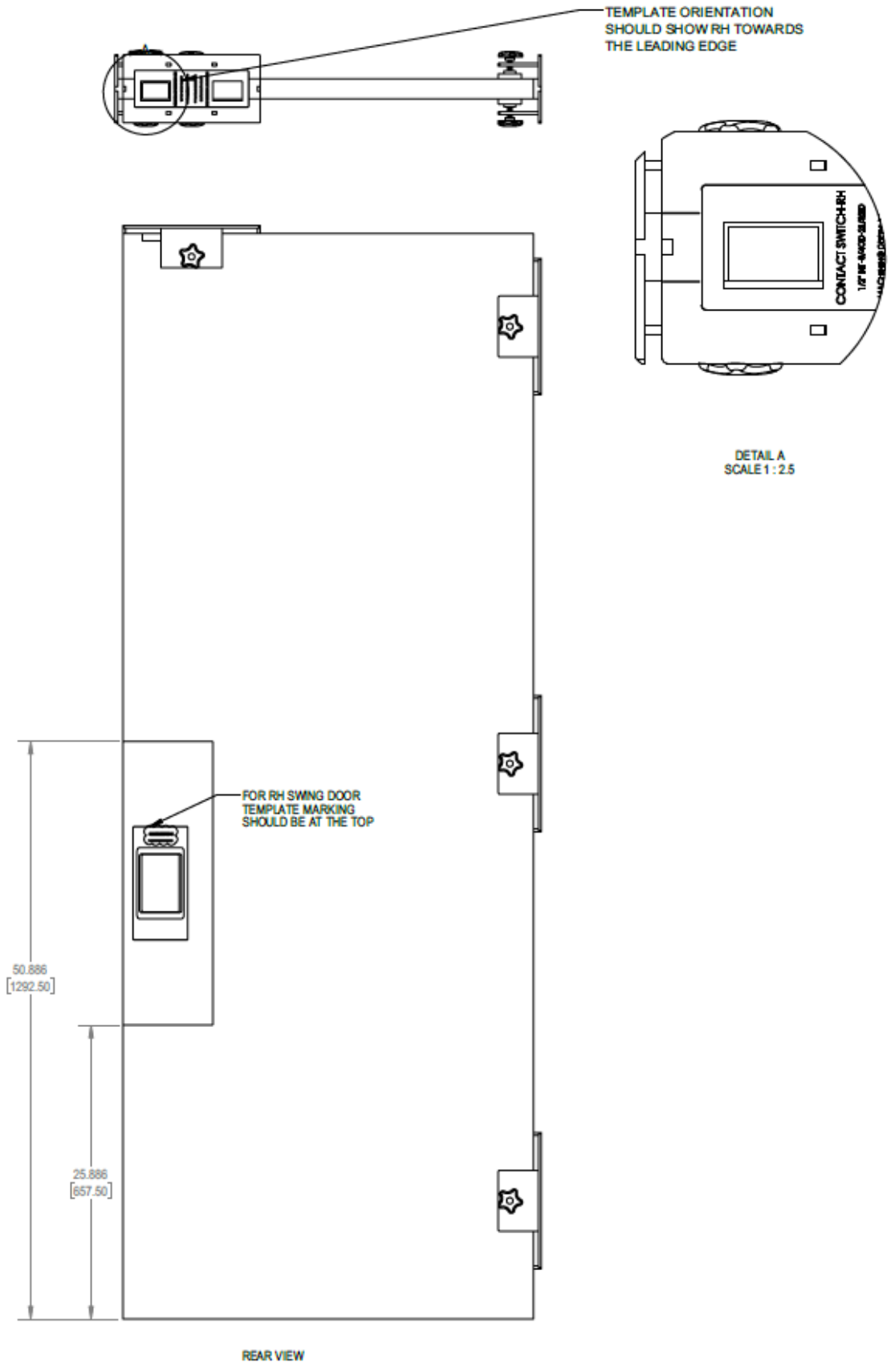
36” X 96” LH Door - Machining Template Overlay



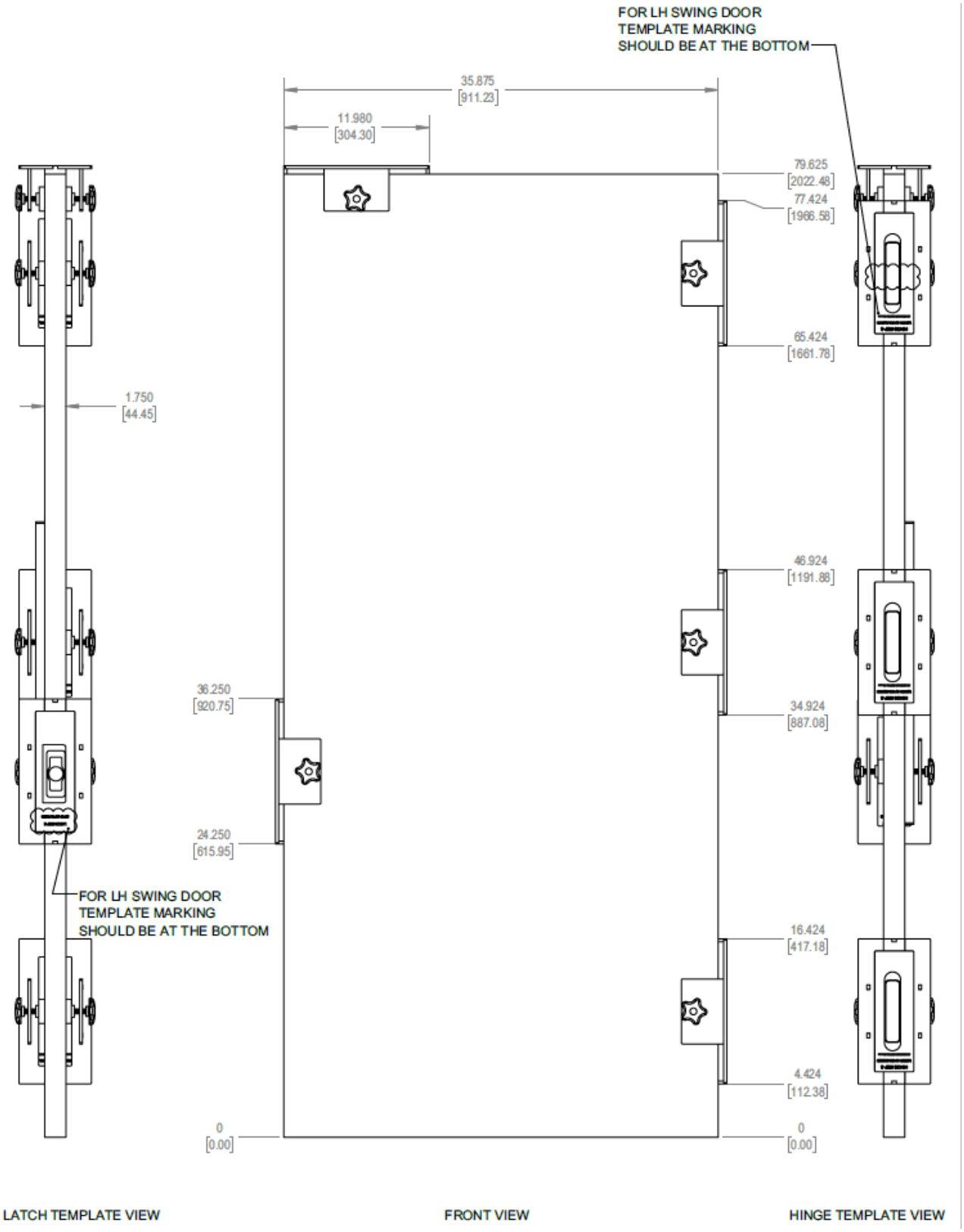
36” X 96” RH Door - Machining Reference Diagram



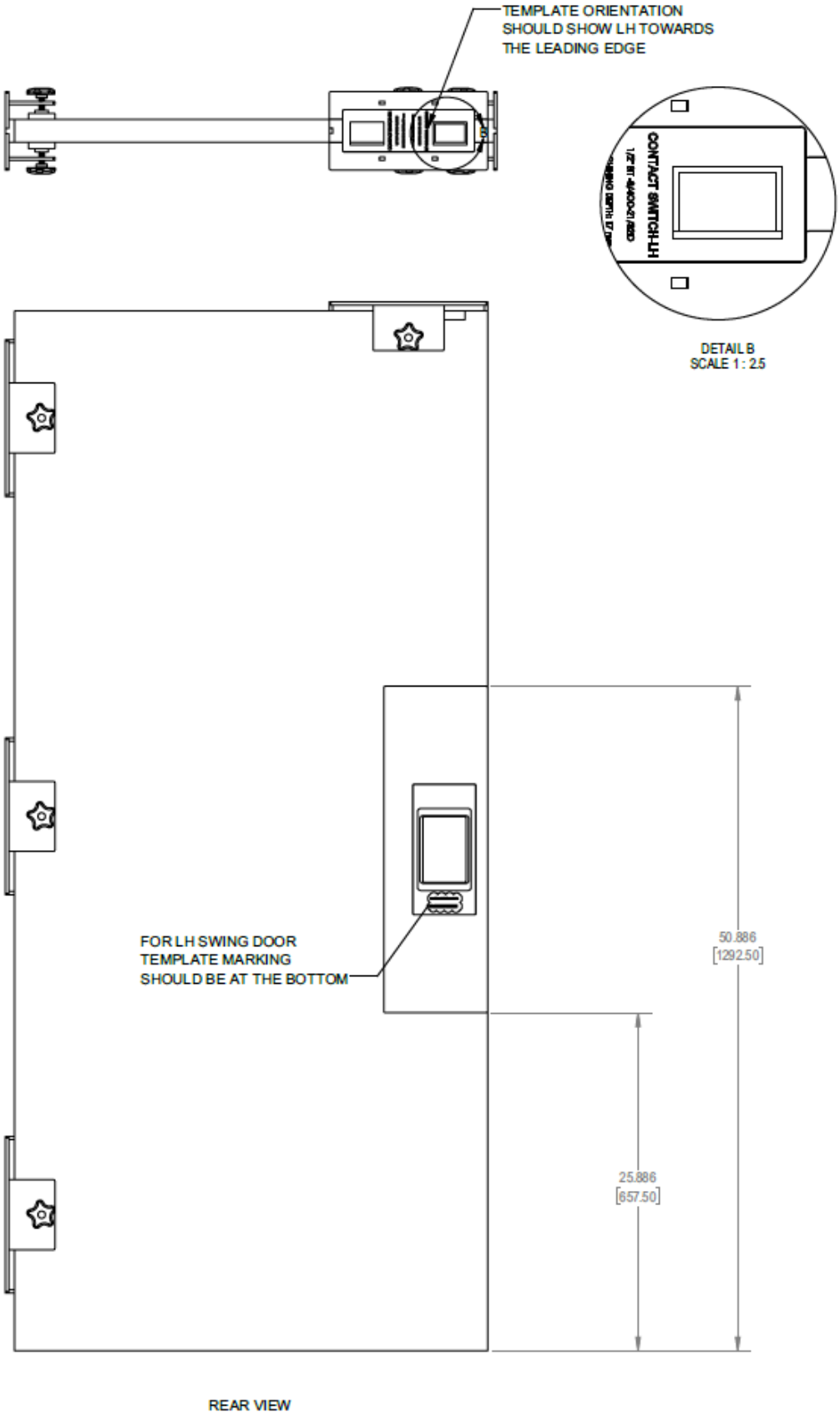
36” X 96” RH Door - Machining Template Overlay



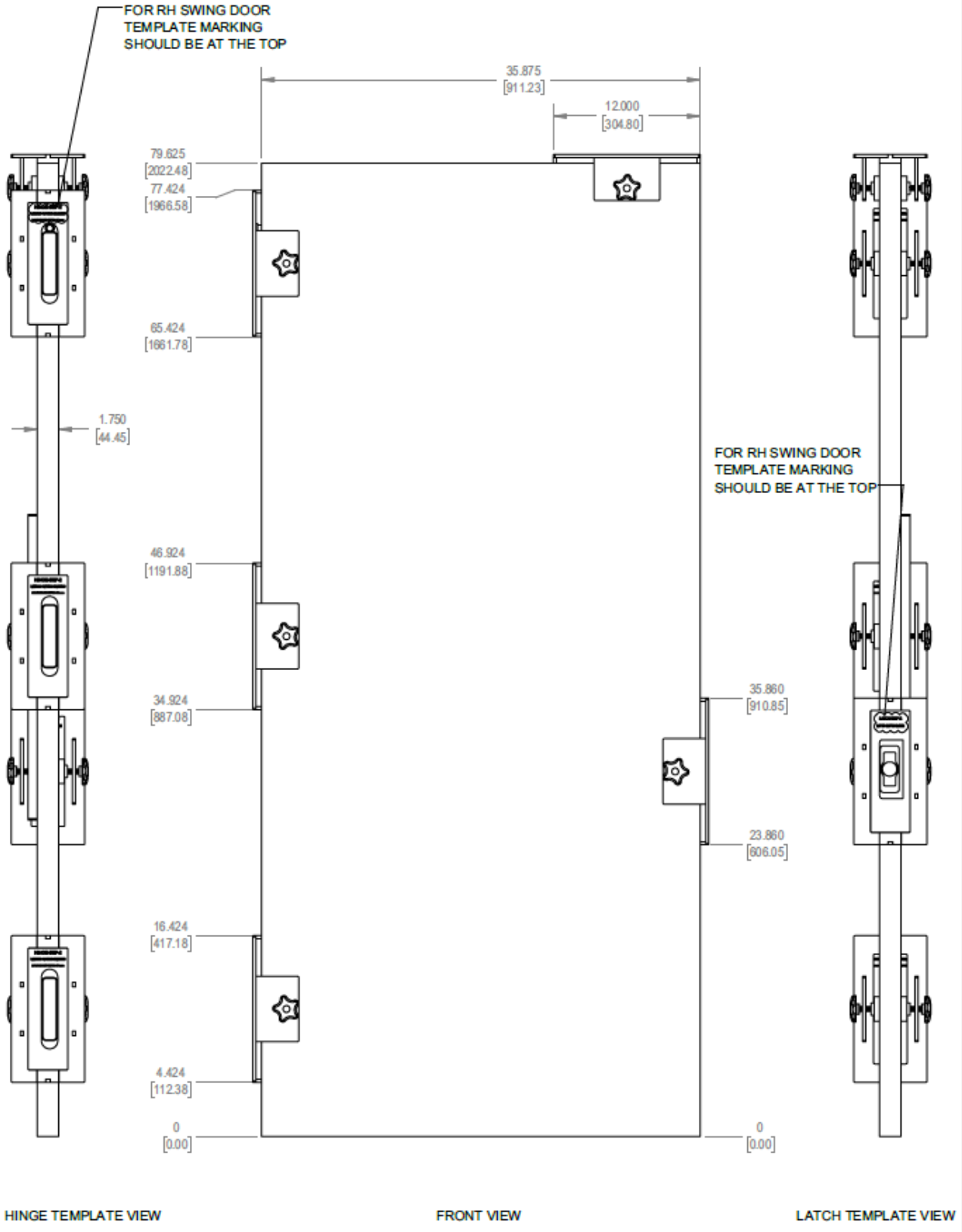
36” X 80” LH - Machining Reference Diagram



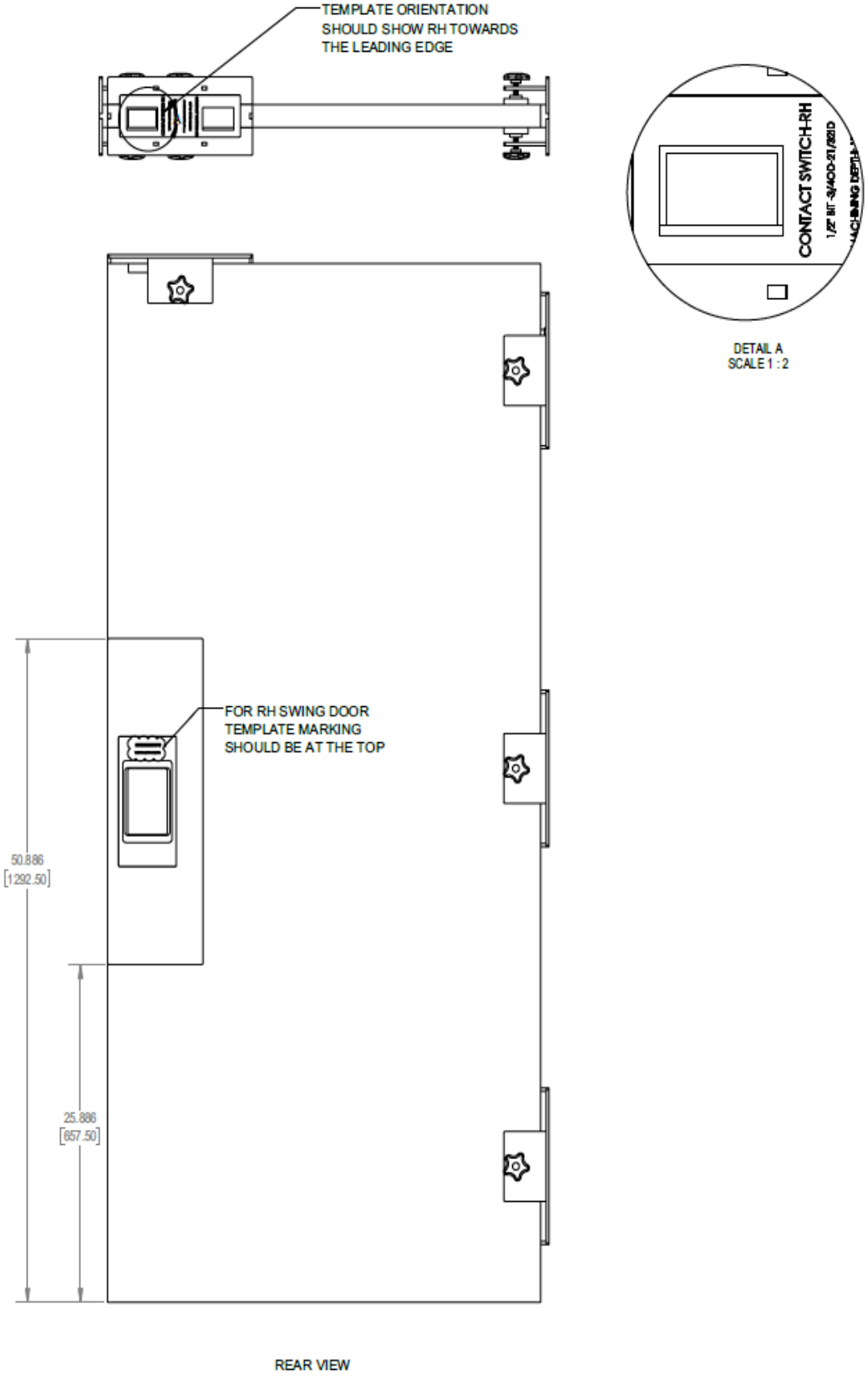
36” X 80” LH Door - Machining Template Overlay



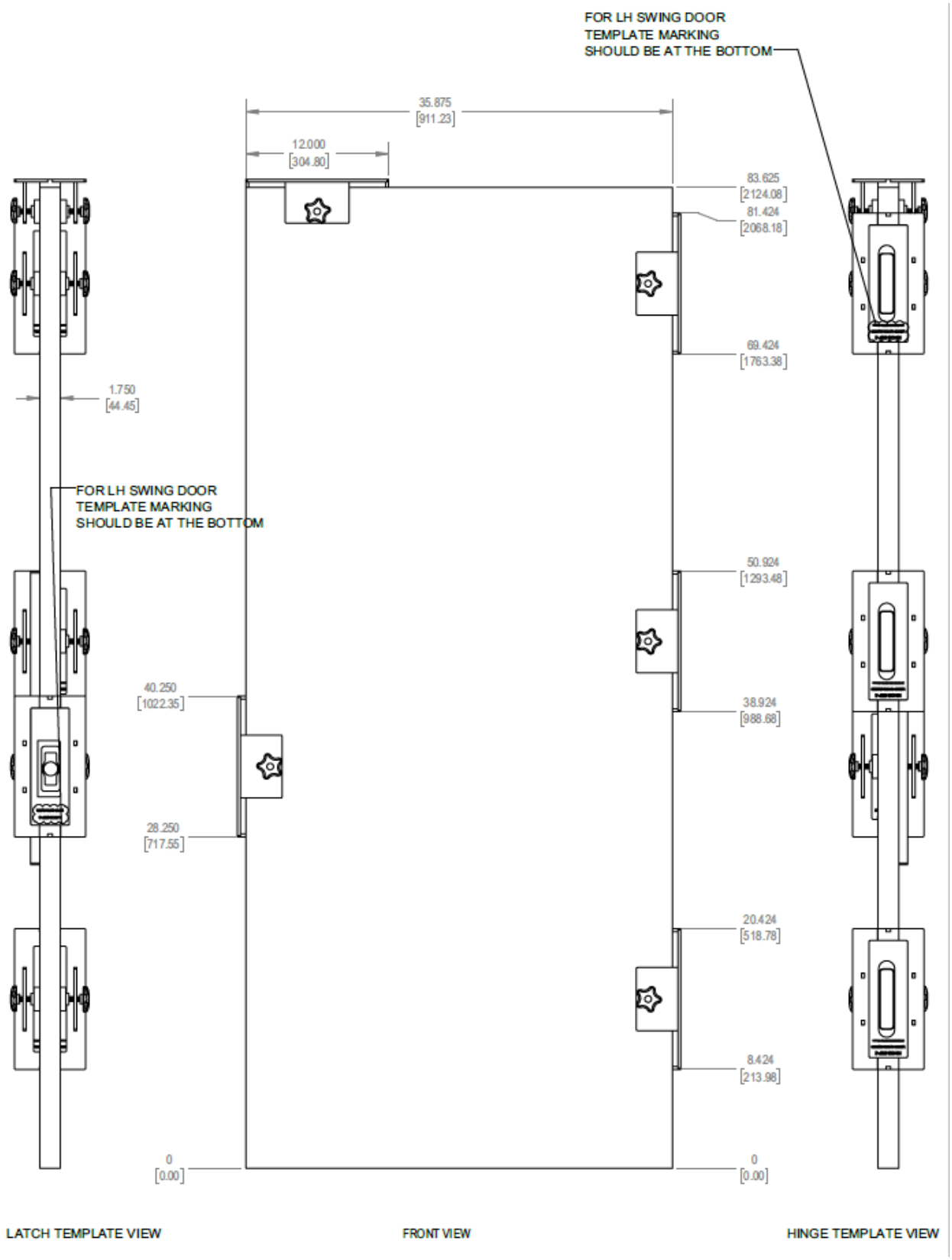
36” X 80” RH Door - Machining Reference Diagram



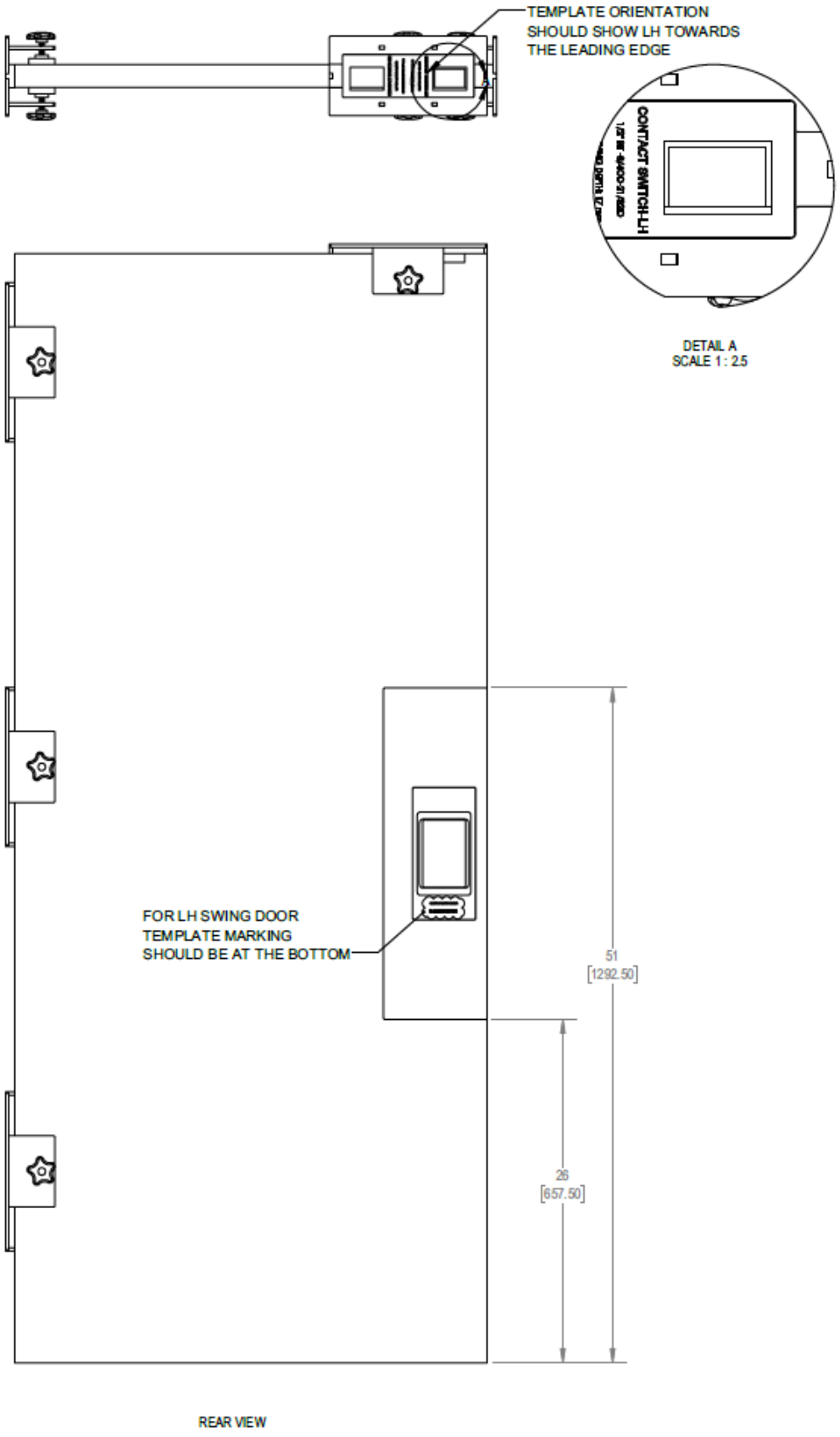
36” X 80” RH Door - Machining Template Overlay



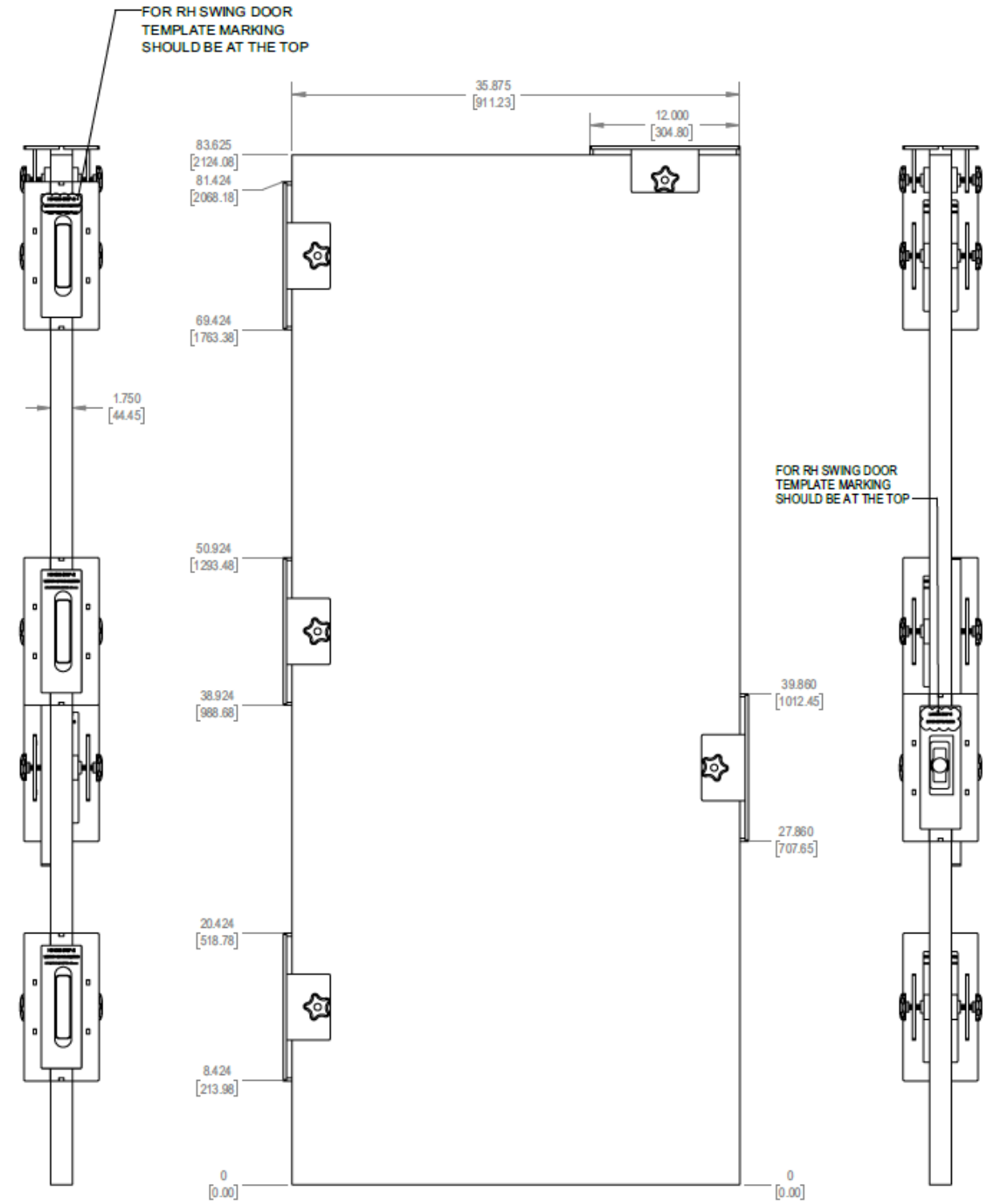
36” X 84” LH Door - Machining Reference Diagram



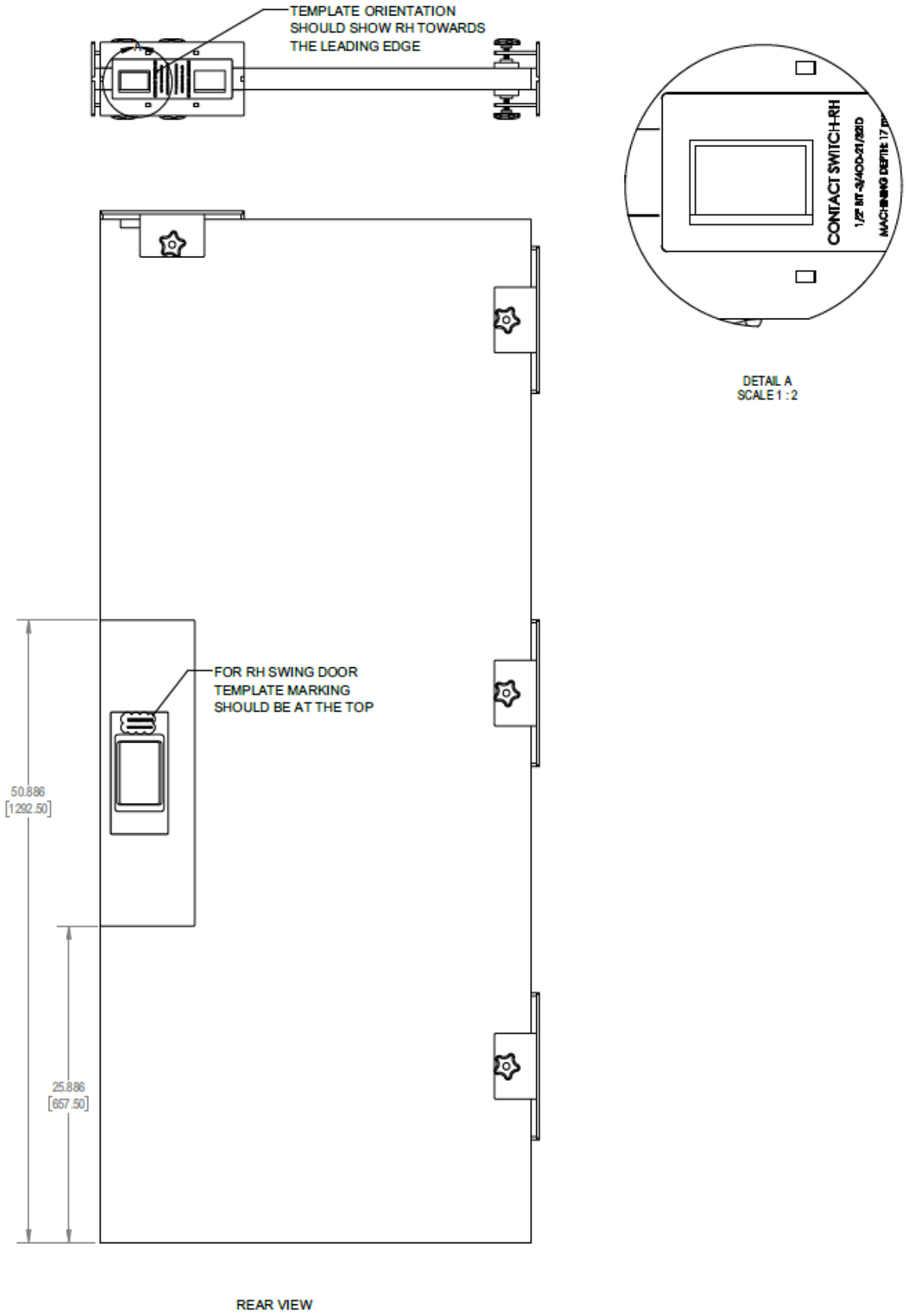
36” X 84 “LH Door - Machining Template Overlay



36” X 84” RH Door - Machining Reference Diagram

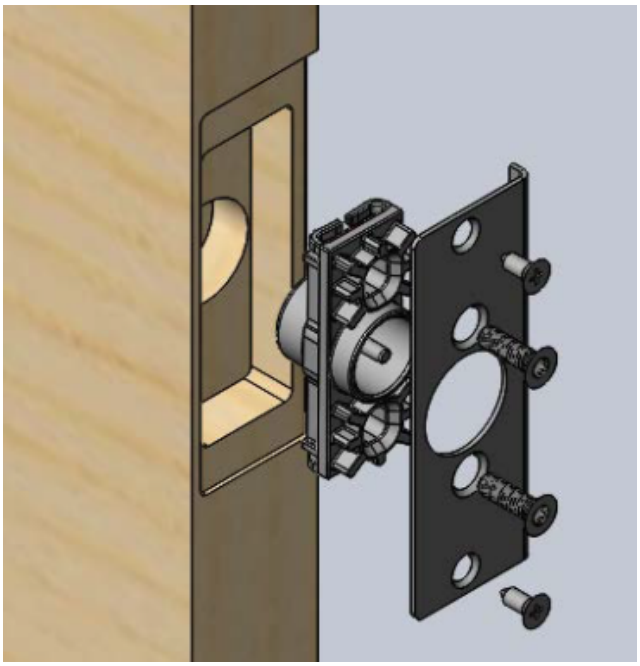


36” X 84” RH Door - Machining Template Overlay

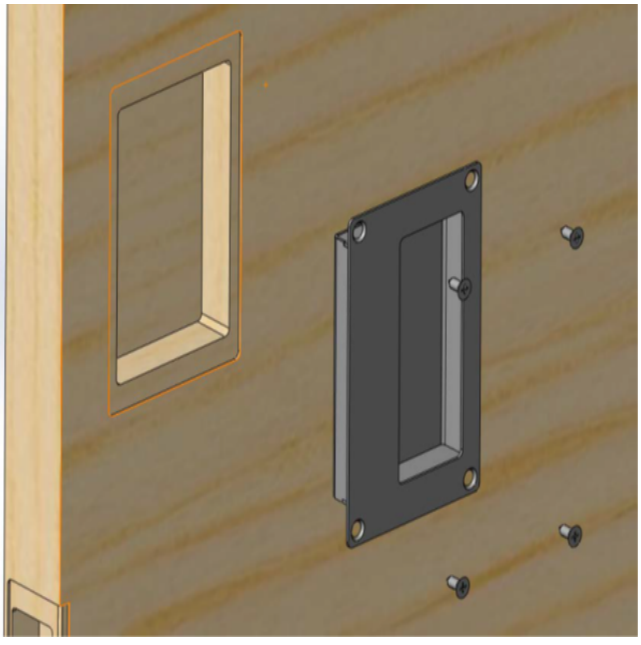


3.4.14 Assembling the Door Slab

1. Install the strike plate with the Kronenberg latch as shown below.



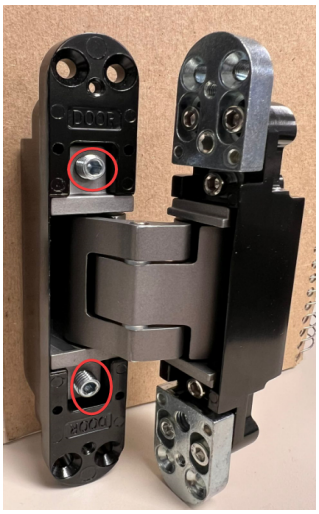
2. Install the interior flush pull handle using the provided hardware.



3. Install the magnet on the top of the door slab near the door contact switch.
4. Install and adjust the hinges by following the steps below:

3.5 Adjusting the Hinges and Installing the Door

1. Before assembling, loosen and perform adjustments in the hinges in all directions.
2. Adjust the hinges and the door slab on the frame so that the gap between the door and frame is even. The recommended gap is 3.5 to 4mm all around.



HORIZONTAL ADJUSTMENT

VERTICAL ADJUSTMENT

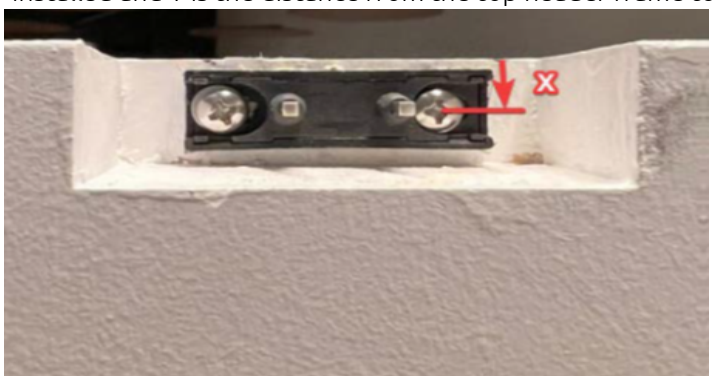
FLUSH ADJUSTMENT

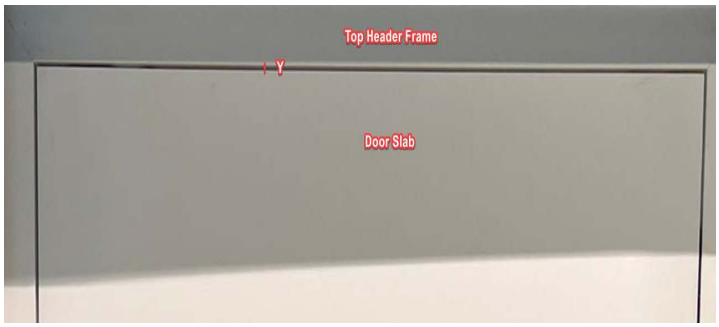
3. After ensuring that the gap is even, check for the lock latching property in the bolt. If it does not work, adjust the latch bolt on the door slab to correct it.

LATCH BOLT ADJUSTMENT

3.6 Installing the Two Pin Contact Switch on the Door

1. Note the distances X and Y where X is the distance from the top of the door slab to where the beak is to be installed and Y is the distance from the top header frame to the top of the door slab. -





2. Calculate X as 10-Y and attach the contact switch temporarily by using double-sided tape and aligning it to the center.
3. Close the door and check for any interference.

4. Once you are sure everything is OK, secure the contact switch to the door slab using the screw and split washer provided.

3.7 Wiring the Flush Door

This section provides an overview of the pre-wired connections inside the door frame and lists the steps to wire the following:

- Elevator controller and door zone switch to the flush door.
- Door Closed switch to the header frame.
- Call station to the flush door cable.

3.7.1 Pre-wired Connections inside the Door Frame

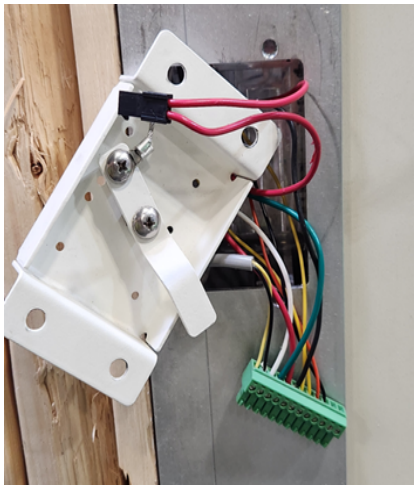
The following connections are pre-wired to the terminals inside the door frame.

- Door lock (Kronenberg) solenoid.
- Door lock (Kronenberg) contacts.
- Door Closed switch cable.
- In-frame call station (if provided).
- External call station cable (if required).

3.7.2 Connections from Controller and DZS to the Flush Door

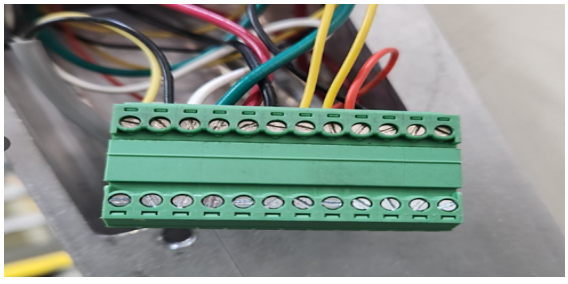
1. Locate the flush handle on the door frame.

2. Remove the four flathead screws and take off the cover. Inside the frame, you'll find a pre-wired terminal block and connector.

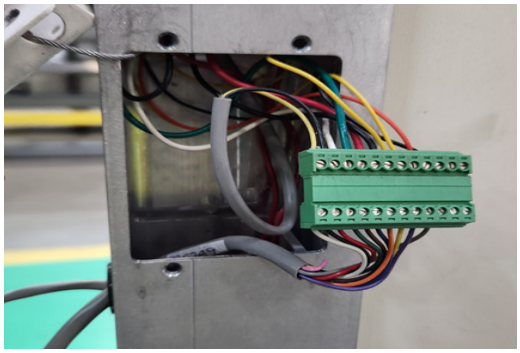


3. Locate the 12-pole terminal block supplied in the parts box.

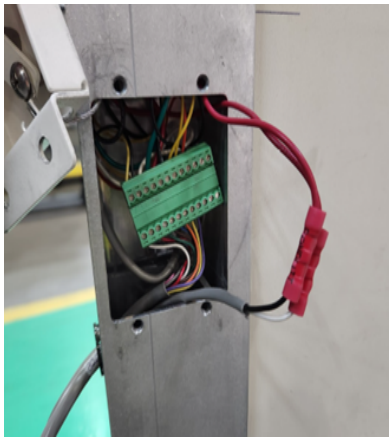
4. Plug the terminal block into the mating terminal block in the door.



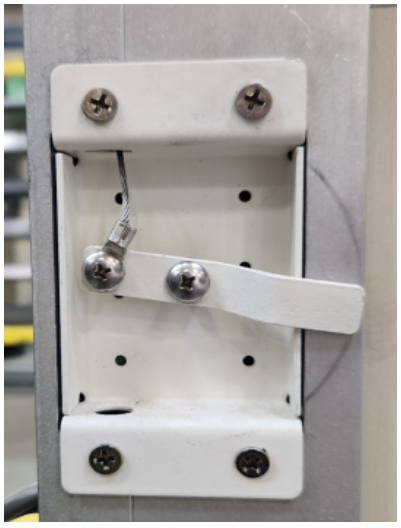
5. Make connections to the terminal block. Refer to the wiring diagram supplied with the elevator controller.



6. Remove the black connector and add wire splice connectors. Make connections to the splice connectors from the door zone switch (DZS). Refer to the wiring diagram supplied with the elevator controller.



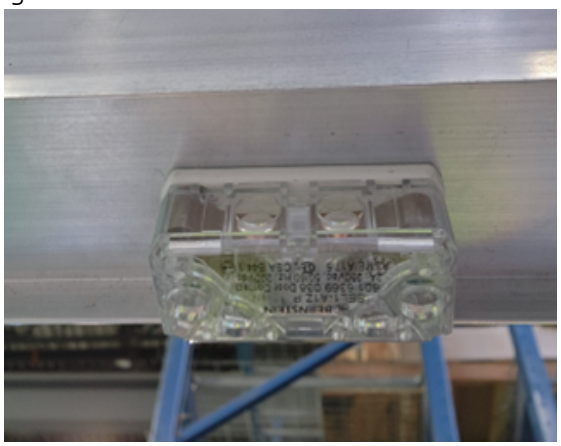
7. Secure the cover once wiring is complete.



3.7.3 Connecting Door Closed Switch to the Header Frame

1. Wire the Door Closed switch to the wires in the frame header by referring to the wiring diagram.

2. Secure the switch in place once the wiring is done.



3.7.4 Connecting the Call Station to the Flush Door Cable

In-Frame Hall Call

In-frame hall call buttons are pre-wired to the terminals inside the door frame.

External Hall Call

Note that flush doors without in-frame hall calls are supplied with a pre-wired 4-conductor cable. Connect this cable to the call station by following the wiring diagram provided.

3.8 Installing the Drywall

1. Check the overall alignment of the door and frame.
2. For a no-trim case, install the drywall on the frame pockets.
3. Install the corner beads.
4. Finish up the drywall by mudding and sanding.

4 Help Information

Please have the following information ready when contacting Garaventa Lift for assistance:

- Lift Serial Number: _____
- Site Name: _____
- Lift Model: _____

For questions or parts return requests contact Garaventa Lift Technical Support at:

- Phone: 1-800-667-7790
- Email: technicalsupport@garaventalift.com

For parts order requests:

- Shop for parts online with our Online Parts Guide at the Garaventa Lift Support site OR
- Email: parts@garaventalift.com

If you are asked to leave a message, be prepared to provide:

- Brief description of the fault: _____
- Steps taken to identify the cause: _____

Thank you for your continued support!

Garaventa Lift

GARAVENTA LIFT

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Authorized Garaventa Lift Representative

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