



FRAMELESS GLASS CURTAINS

P5 Plus - Installation Instructions

Introduction

This Step-by-Step guide sets out to inform third parties what to expect when installing any FGC P5 Plus frameless door systems.

This guide has been produced for both the UK and overseas installers.

Local building regulations/codes must always be adhered to.

If in doubt, you must seek clarification from the local building inspector.

The installation will likely require a minimum of two people.

For a typical four-panel system, it will take approximately four hours to install.

The builder can finish around the system when it is installed.

The top track requires at least 20 to 25mm (6/8th to 1 Inch) gap to allow the doors to pivot open in the gate.

The bottom track can be sunken into the structural floor with a minimum 5mm (3/16th Inch) threshold depth above FFL & can be placed on top of a sill.

Drainage weep holes are pre-cut / formed in the factory; pipes can be fastened and run to an extractor drain line by the builder.

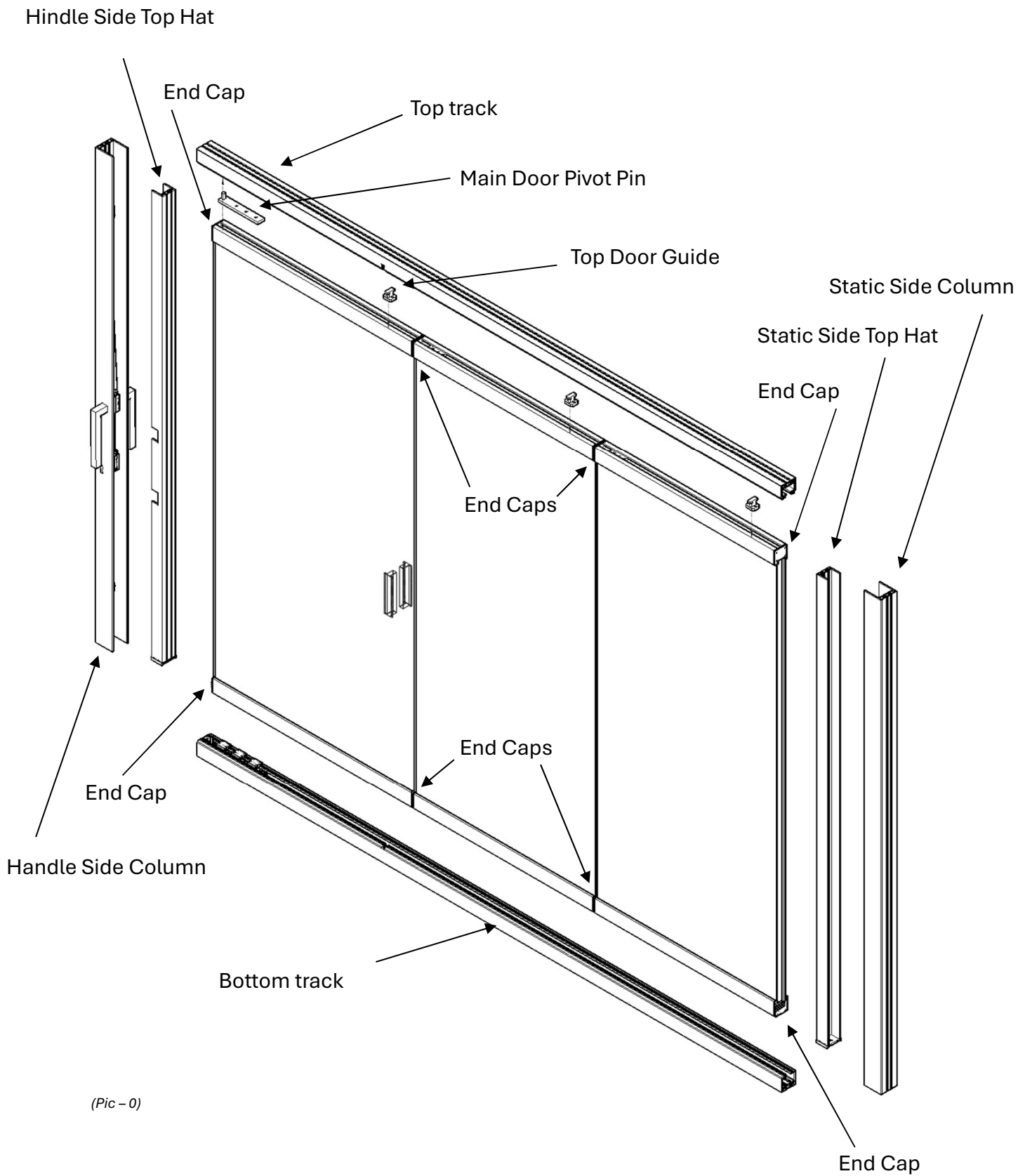
Also, refer to our website www.fgcframeless.com for the troubleshooting page.

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Door Set Elements



Individual Items in the Pack

Bottom Track x 1

Top Track x 1

Static Side Column x 1

Handle Side Column x 1

Static Side Top Hat x 1

Handle Side Top Hat x 1

End Caps (x 4 Per Door Panel)

Top Door Guides x 1 Per Door Panel

Main Door Top Pivot Pin x 1 (*This may already be attached to the Top Track*)

Bolts & Packers (*If ordered*)

Door Pins & Holder (*If ordered*)

Tools required

Laser Level, Drill, Soft-ended Mallet, Spatula or Putty Knife, 4mm Allen Key, 5mm Allen Key, 5mm Allen Key Bit, Countersink, Flexi Drill Bit Driver, Metal Saw or grinder & Glass Suckers x2.

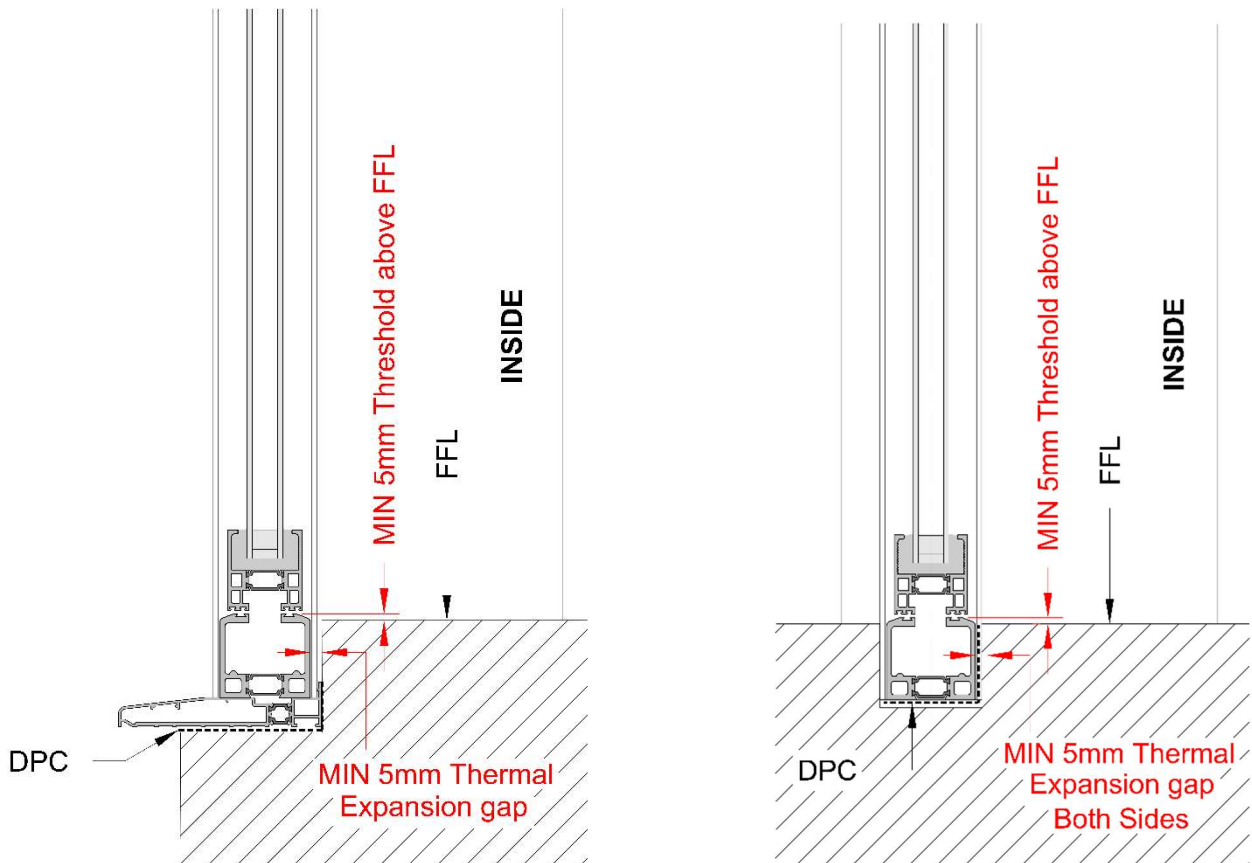
Consumables

Silicone Sealant, Silicone Spray, Grease Spray, & use suitable fixings for the frame.

System with Sill

If the door set has a sill that is NOT face-fixed, i.e., the bottom track sits on top of the sill, this must be installed first.

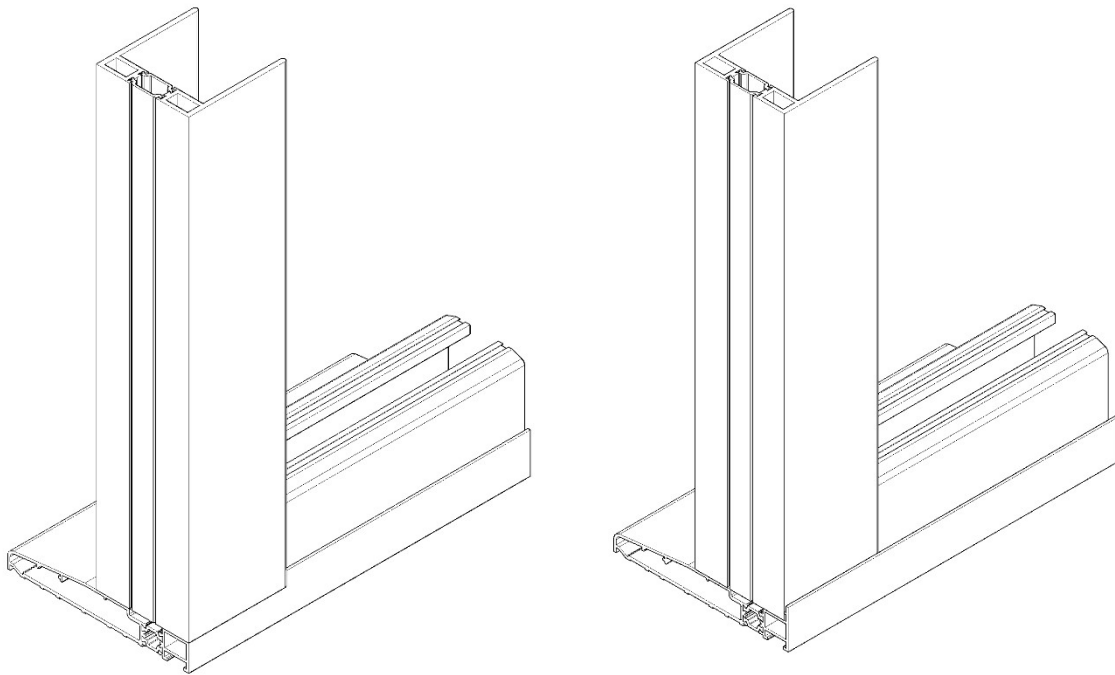
- The sill must be horizontally level in both directions (length & width) & must be secured with appropriate fixings for the structure opening.
- Fixing screws must be sealed to prevent water ingress and fixed in accordance with local building regulations/code requirements.
- The Sill or Track (when sill not used), must have a damp-proof course underneath that also rises vertically behind the sill between the structure & the sill (L-shaped)



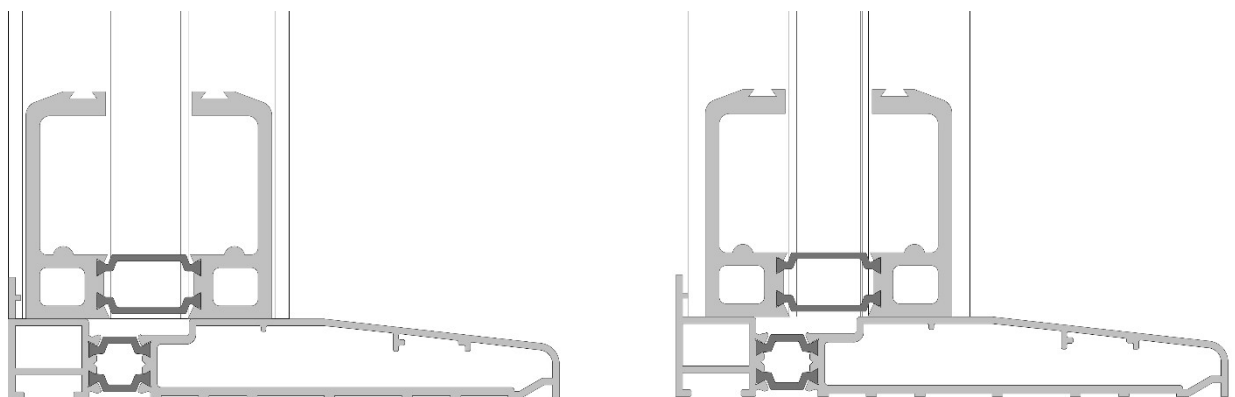
(Pics – 1)

The illustrations shown are for a sunken track, but the method is identical when the bottom track is not sunk.

The sill has a lip on the back & the ends of the lip can be notched by the installer so that the bottom track sits tight up against the lip & the inner side of the side column sits on top of where the lip is **OR** the side column can be placed against the lip so that the bottom track sits further forward from the lip by the extrusion thickness of the side column.



Looking from Inside



(Pics – 2)

Sections

Note for Installers

It is the installers choice which method you use but FGC cannot be held responsible for any damage to the paint surface when the installer uses the notched method.

STEP 1

Installing the Static Side Column

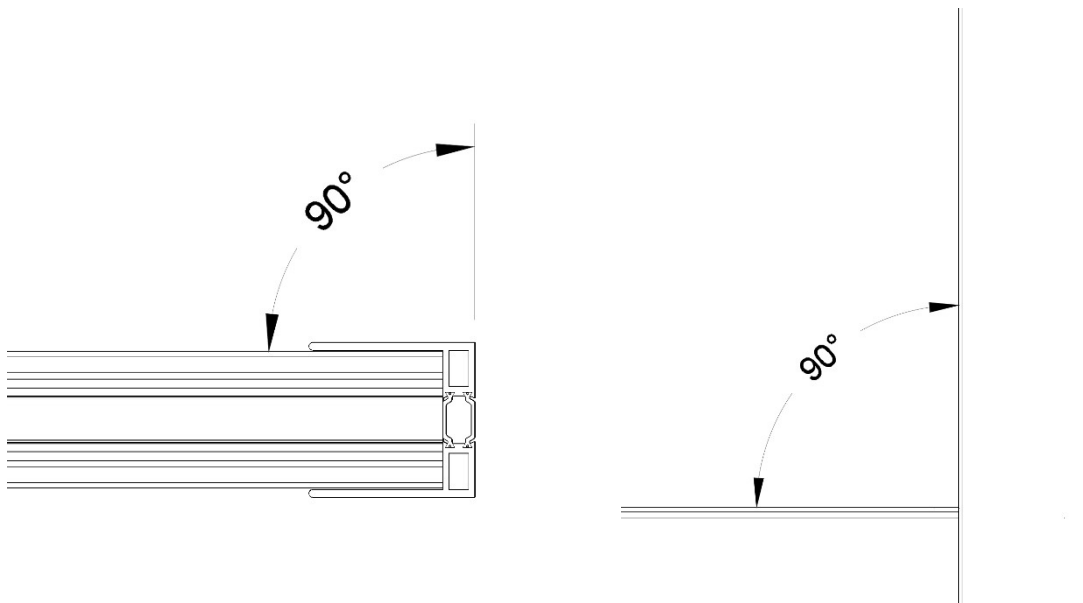
- The column without the compression handle.
- The columns are NOT cut to the required length; any adjustments are to be cut by the installation team, allowing the column to be scribed into the head lintel. Allow 4 millimetres (1/8th of an Inch) for thermal expansion.
- The column comes with pre-drilled holes for fixing to the opening

The column can only be trimmed from the TOP --- DO NOT CUT FROM THE BOTTOM

Be thoughtful of the column's positioning so that the fixings are not too close to any edge. This ensures that when the bottom track is installed, a 5mm (3/16th inch) thermal expansion joint is present between the column and the inside flooring.

The side column is square with the tracks. and the bottom track is placed along the centre line inside the column extrusion. You can use packers on both sides of the track to do this, but they must not protrude above the bottom track.

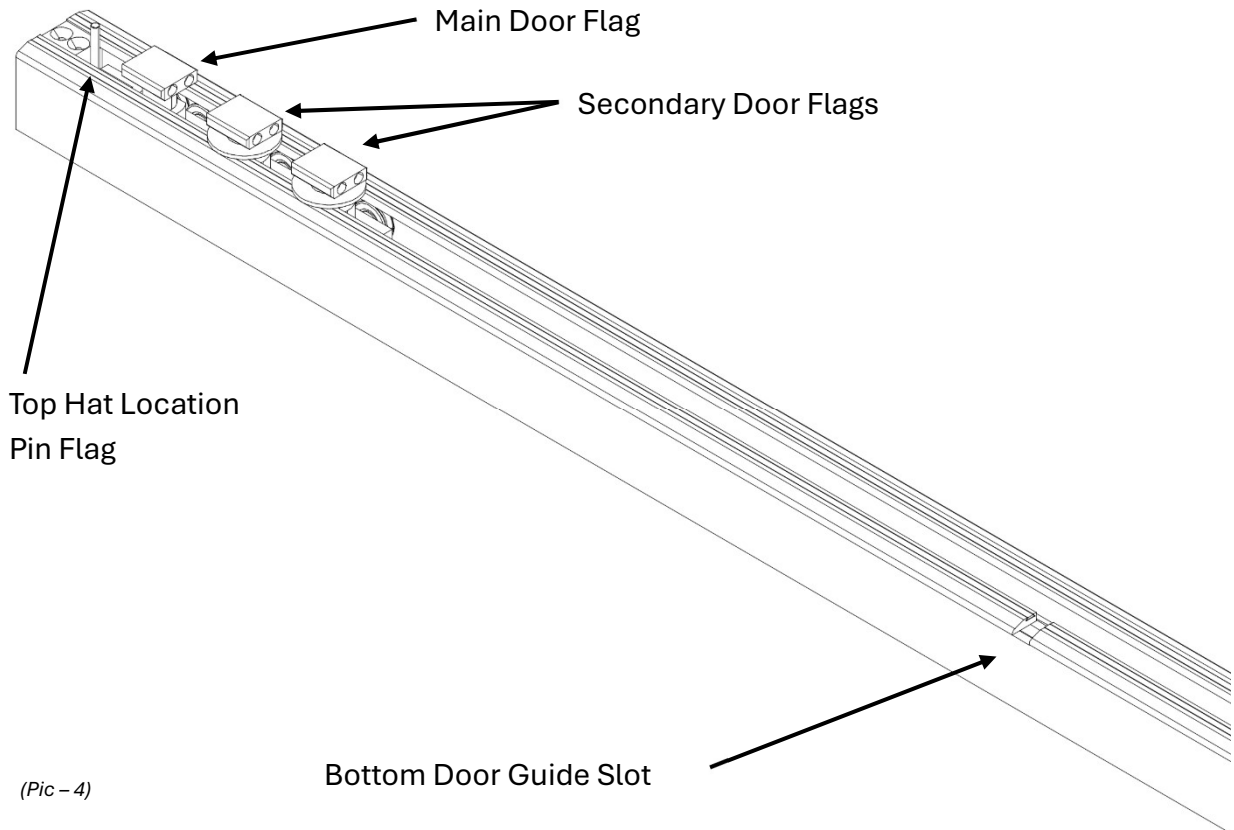
Use a laser level to ensure the column is plumb & level, fixing the top & bottom first, & pack out the extra fixings in between so the extrusion does not bow.



(Pics -31)

STEP 2

Installing the Bottom Track Pt 1

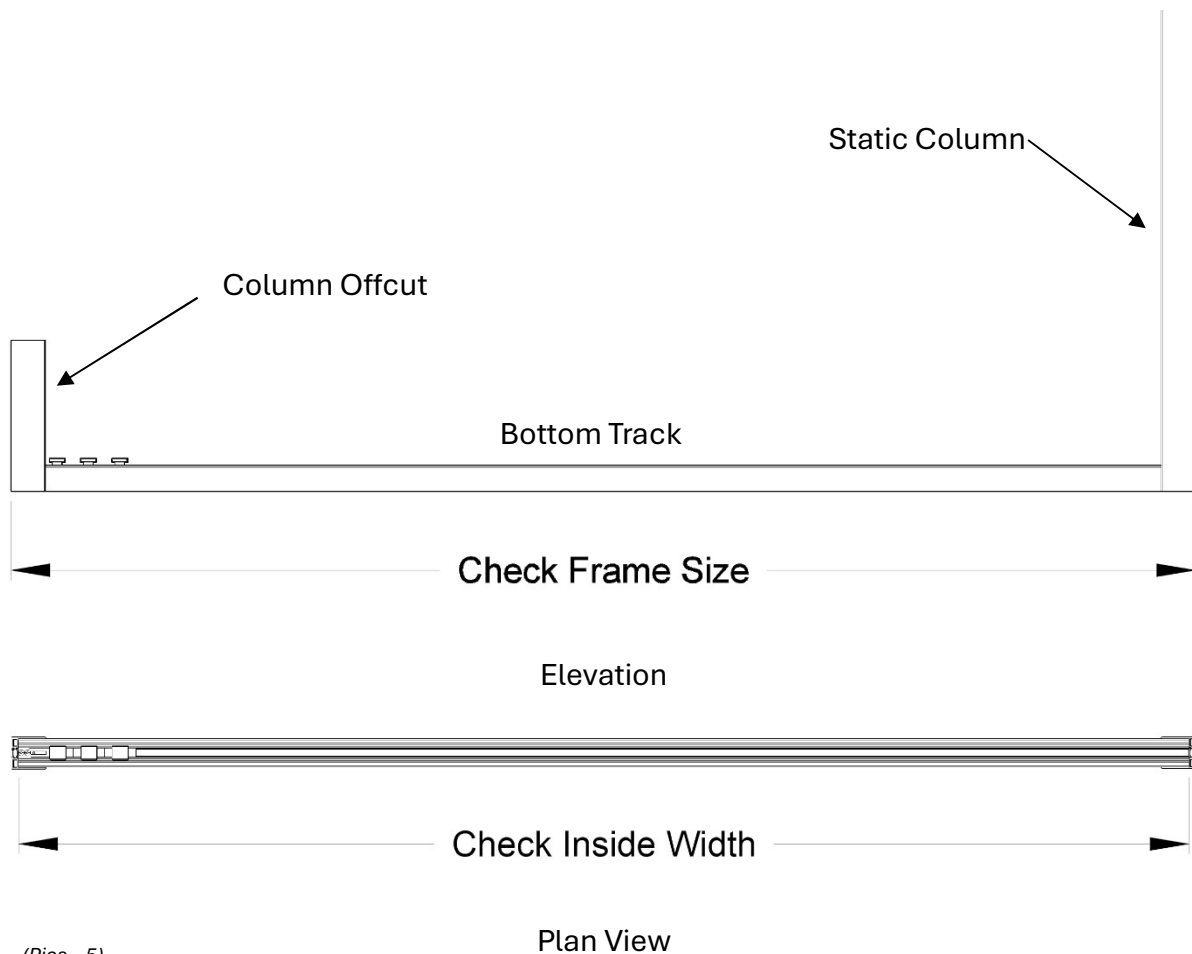


- The track will be factory cut to the specified length shown on the survey.
- If any trimming is required (e.g. the structural width is slightly smaller than the dimension shown), only trim from the Static Side, NOT the side with the track flags.
- The Bottom track will have 2 plastic inserts on the top face (the track with fur inserts is the Top Track).

On the track, you will have all the door runners (flags) & a guide slot at one end. These will be, for example.

- On a Right-to-Left stacking & opening Inward (*Pictured above*), the flags will be on the left & the guide slot will be on the inside.
- On an Opening outward, the guide slot will be on the outside.

Using the offcut from the column just installed, place it on the other side of the opening, and check the structural & inside width.



- Peel off the protective film from the Static end before placing the track into the column & place the bottom track down into the opening.
- It's important to check that there is a 5mm (3/16th ") thermal expansion gap between the back of the track & the inside flooring/base so that the track will not be pinched & impede the door panel runners.
- The bottom track must be a minimum of 5mm (3/16th ") above the highest point of Finished Floor Level (FFL). This minimises floor debris ingress into the track well, which will impede the smooth running of the door panels.
- Laser the bottom track through & place packers underneath, but do not fix it down yet.

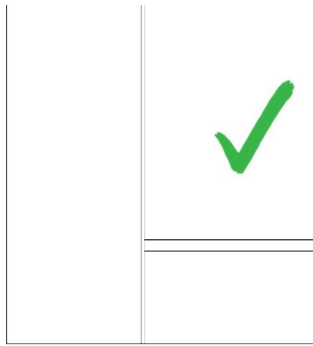
STEP 3

Installing the Handle Side Column

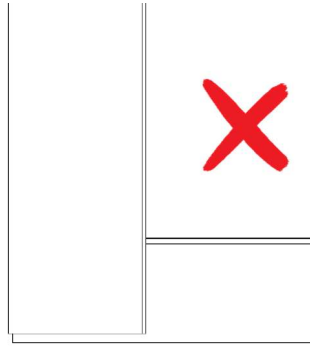
Again, the column needs to be trimmed to suit the structural opening height.

The column can only be trimmed from the TOP --- DO NOT CUT FROM THE BOTTOM

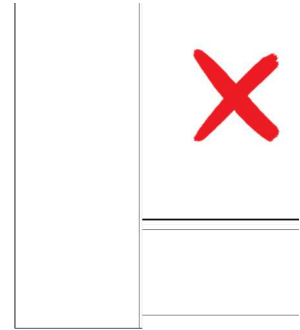
It's extremely important that the bottom of the side column is level with the bottom of the bottom track, so measure from the top of the packers used at this end to get the height required.



Correct - Flush at Bottom



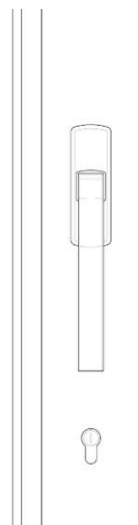
Incorrect



Incorrect

On the Handle Side Column, the key barrel will show which way is up & the Lock is always below the handle.

(Handle shown down in picture, in its locked position).



(Pics – 6)

Once the Handle Side column is the required length, place it in position by sliding it over the bottom track, on top of the packers under the track.

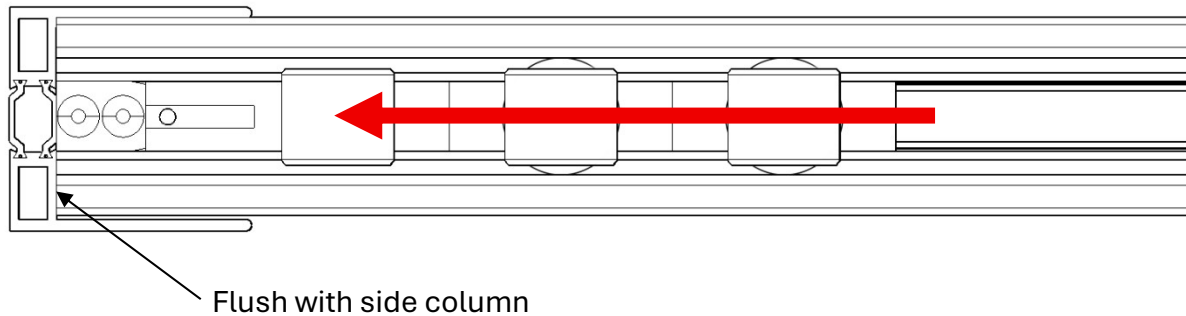
- The side column is placed along the centre line of the bottom track.
- Like the Static column, use packers on both sides of the track; they also must not protrude above the bottom track.
- Make sure you have the thermal expansion gap to the FFL.

Then, fix the side column to the structure using the same method as the Static side column.

STEP 4

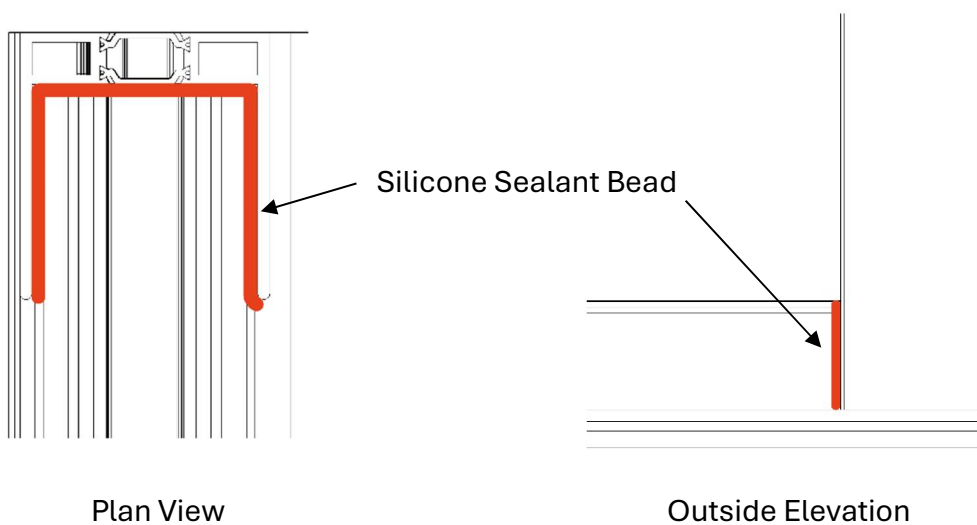
Installing the Bottom Track Pt 2

The bottom track MUST be pushed all the way over & flush against the Handle Side Column



Move the flags out of the way, and ensure that every fixing is packed underneath, drill through the thermal break, countersunk & drill hole

- Every drilled hole must be sealed for water penetration.
- The connection between the bottom track & the side columns must be silicone sealed.
- All the way around & up the face of the bottom track.
- All silicone must be smoothed.



(Pics – 7)

STEP 5

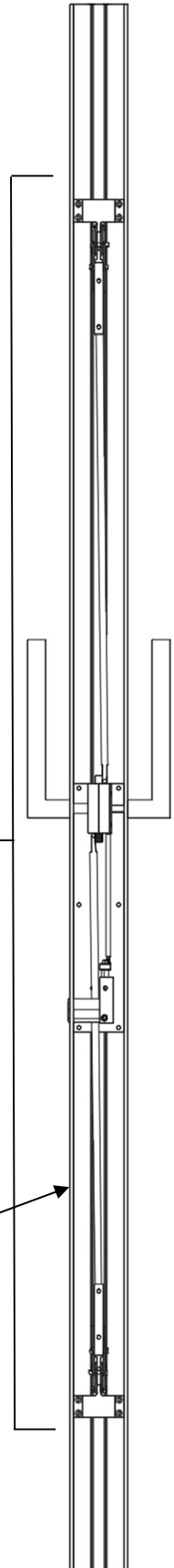
Installing the Handle Side Top Hat

This is the Top Hat with the cutouts for the handle & lock mechanisms.

- This can only be installed in the correct orientation due to the cutouts.
- Before insertion, lubricate the complete column mechanism with Grease Spray & Silicone Spray.
- Pull the handle down & liberally spray all moving parts.

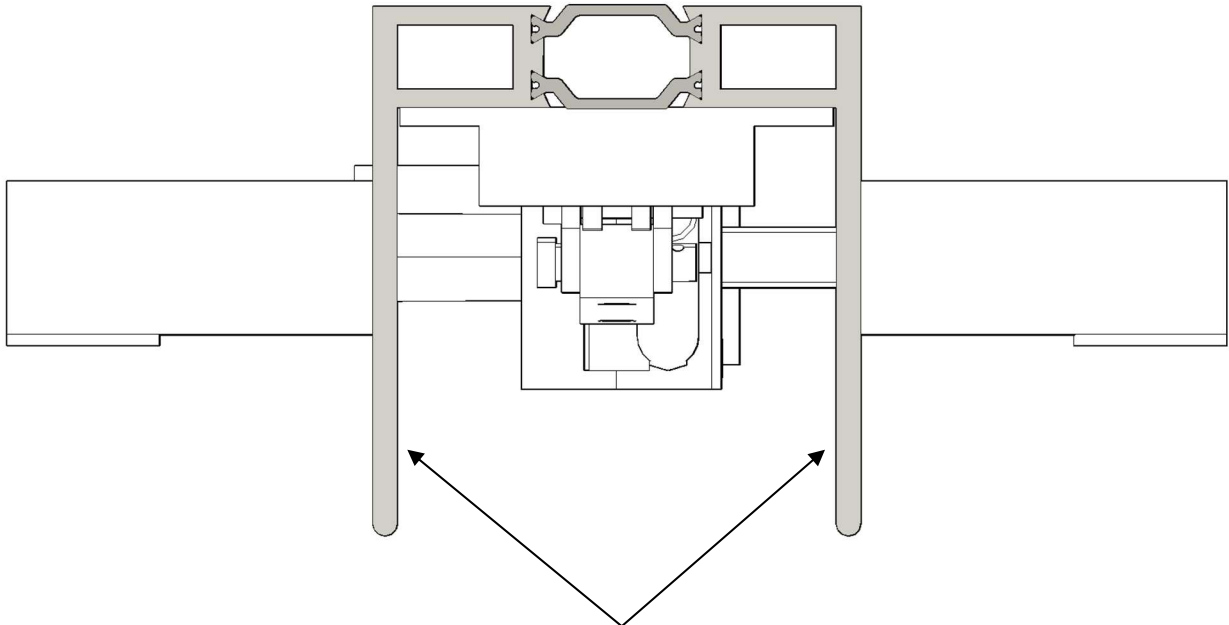
Spray the entire inside compression mechanism with Grease from top to bottom

Handle Side Column



(Pic – 8)

Silicone Spray the Handle Side Column

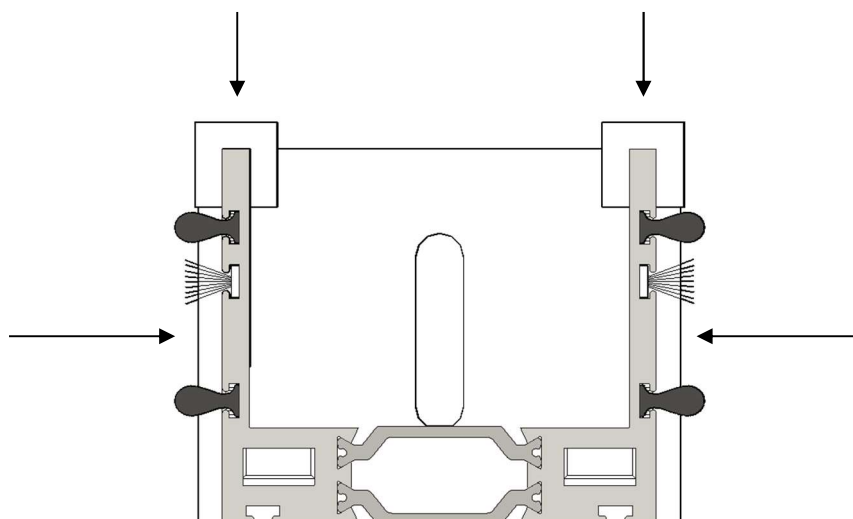


Spray the two inside faces of the Side Column with Silicone for the entire length of the extrusion

Silicone Spray the Top Hat

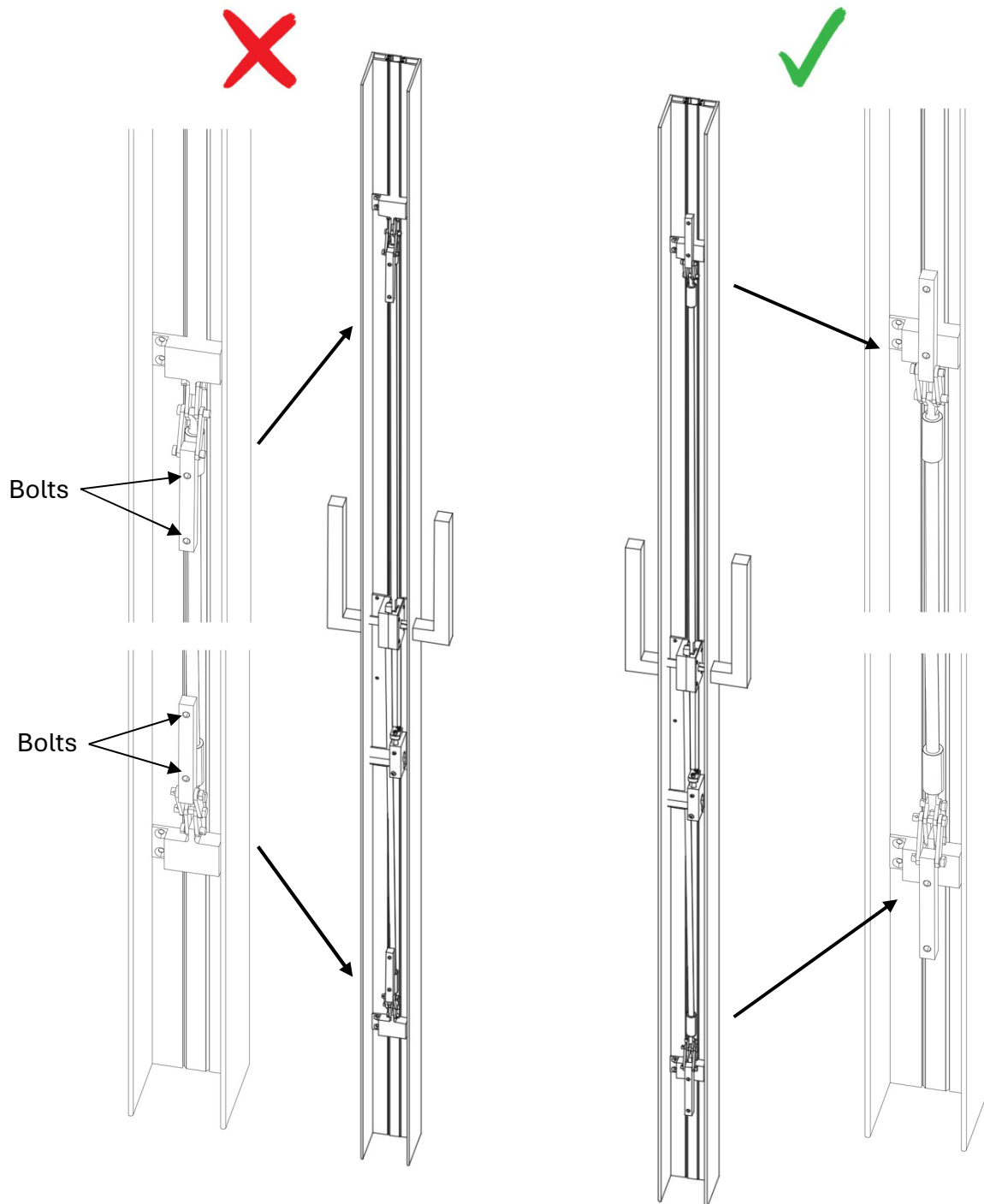
Spray the two outer faces & the back where the Top Hat rubbers & Firs will touch the Side Column with Silicone for the entire length of the extrusion.

Ensure all Black & White Rubbers & Firs are well coated



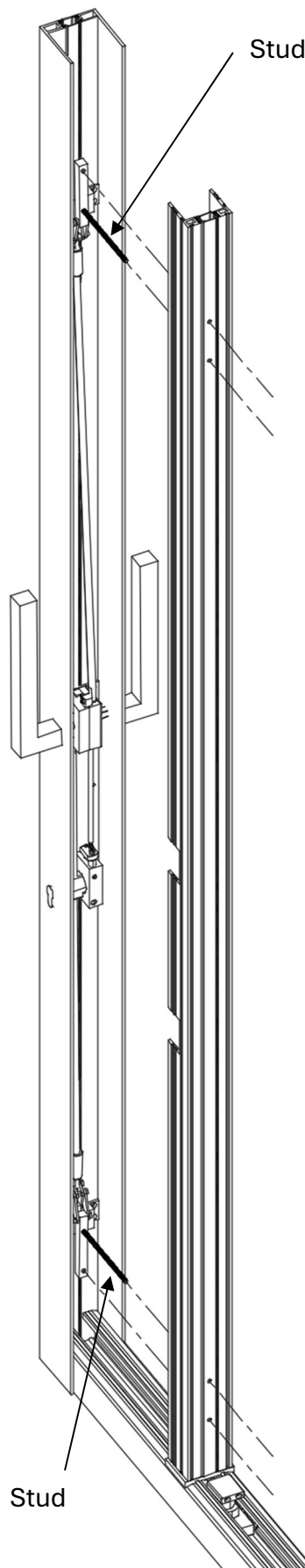
(Pics – 9)

- Remove the 4 bolts from the Top Hat fixing brackets located on the handle side locking mechanism.
- Move the Top Hat fixing brackets into their correct positions
- The Top bracket should be UP
- The bottom bracket is DOWN

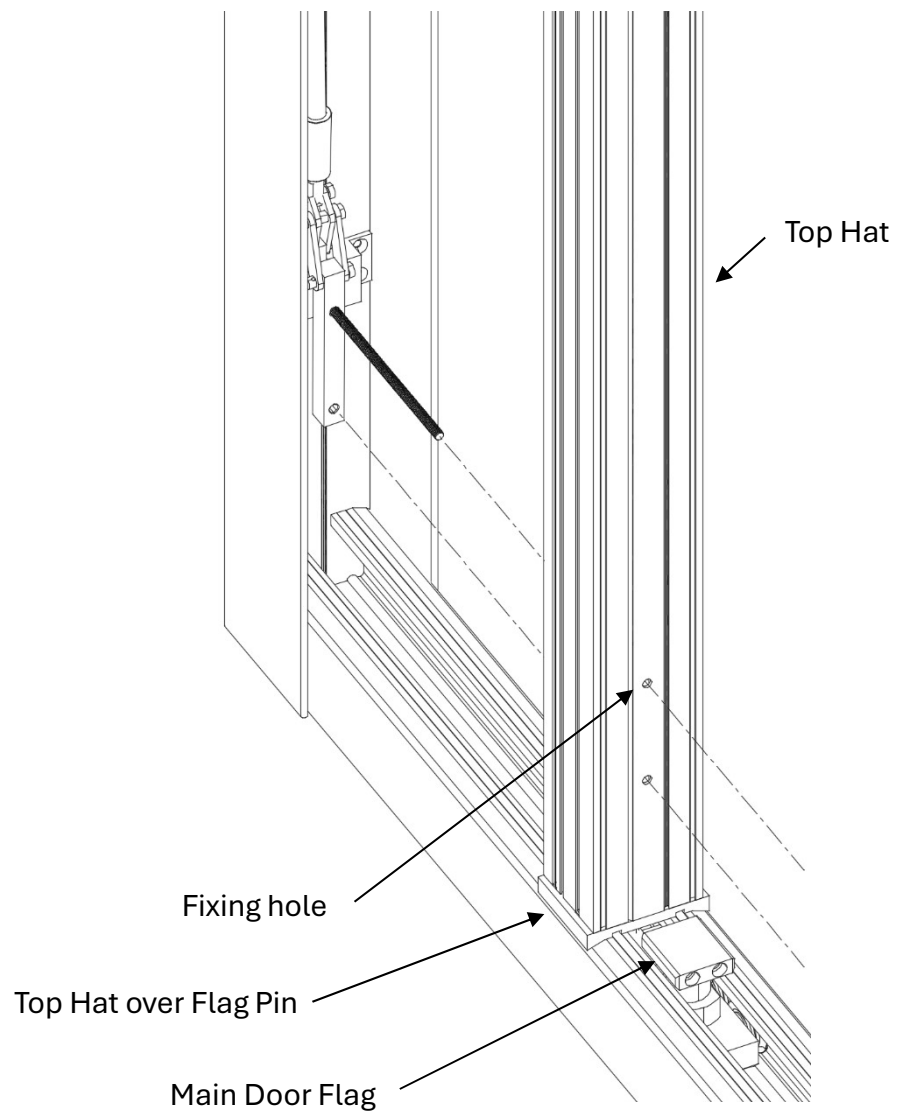


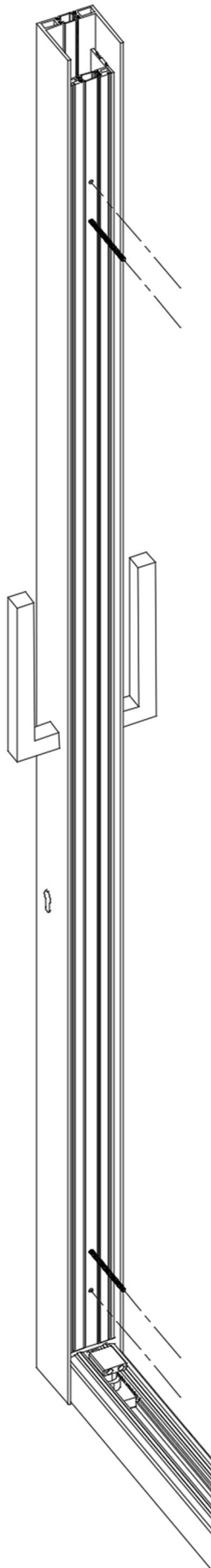
(Pics – 10)

Top Hat Guide Studs



- Use 2 lengths of 5 mm studding, insert as shown into the fixing brackets. The studs are only used as guides for installing the top hat.
- Place the Top Hat over the Top Hat Flag Pin. There is a location slot on the end moulding & guide the studs through the fixing holes.





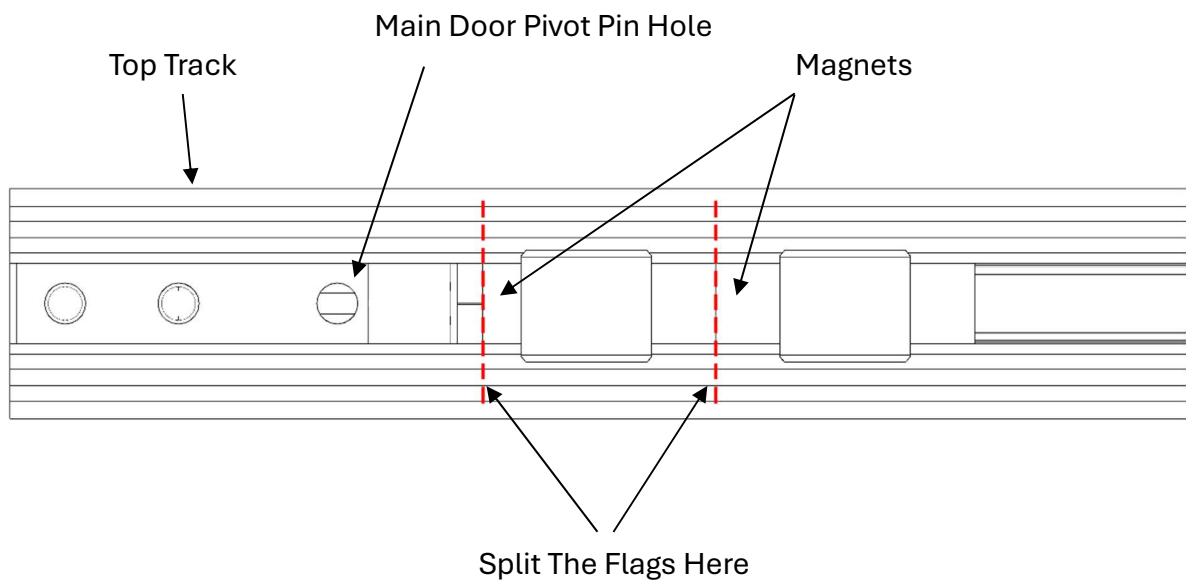
- Fully push the Top Hat into position.
- Add the supplied bolts to the other 2 holes & tighten with a 4mm Allen key.
- Remove the studs & add the other 2 bolts.
- Test the mechanism, move the handle up & down and ensure the top hat is moving freely.

STEP 6

Installing the Top Track & Static Side Top Hat

Before installing the top track, you need to move the flags away from the end, which are stuck in with powerful magnets.

- Place the Top Track on the floor and, using a flat-head screwdriver between the blocks, starting with the Flag closest to the middle of the track, using a mallet, hit the screwdriver & prise the blocks apart. Sometimes it's useful to apply some lateral force along the track length to the flag to help in separation.
- Slide the flags away along the track, keeping them separated (caution magnets).



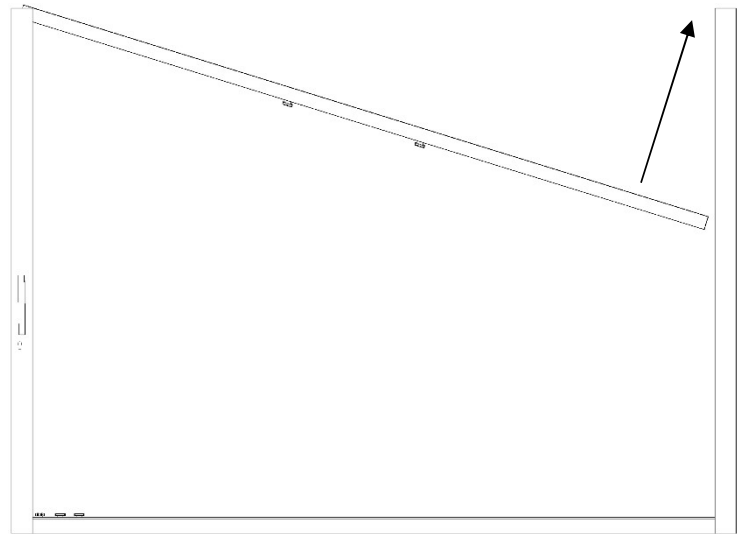
(Pics – 13)

- Spray the Static Side Top Hat with silicone sealant as before (page 15) on all the rubbers.
- Peel both ends of the protective film off the Top Track.

Raise the Top Track

Place the handle end of the Top Track into the Handle end of the Side Column and rest it on the Top Hat.

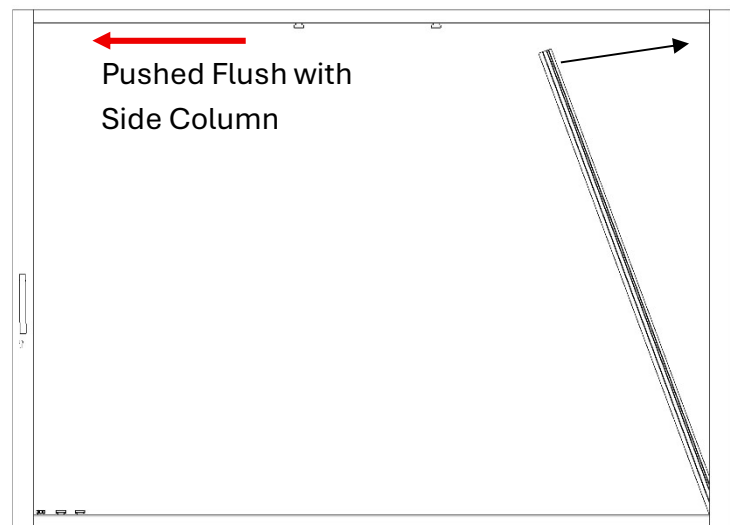
Raise the other end into the Static Side Column



Insert Static Side Top Hat

Place the Top Hat, bottom first, into the side column & push it in.

This will allow the Top Track to rest on both Top Hats & be in a safe position.



- As before, use packers on both sides between the Side Columns & the track to ensure the top track is on the centre line.
- Same as the Bottom Track, the Top Track must be pushed flush against the inside of the Handle Side Column.
- Drill & Countersink & add a fixing at either end of the Top Track to stop it moving laterally, but don't screw them up tight.

STEP 7

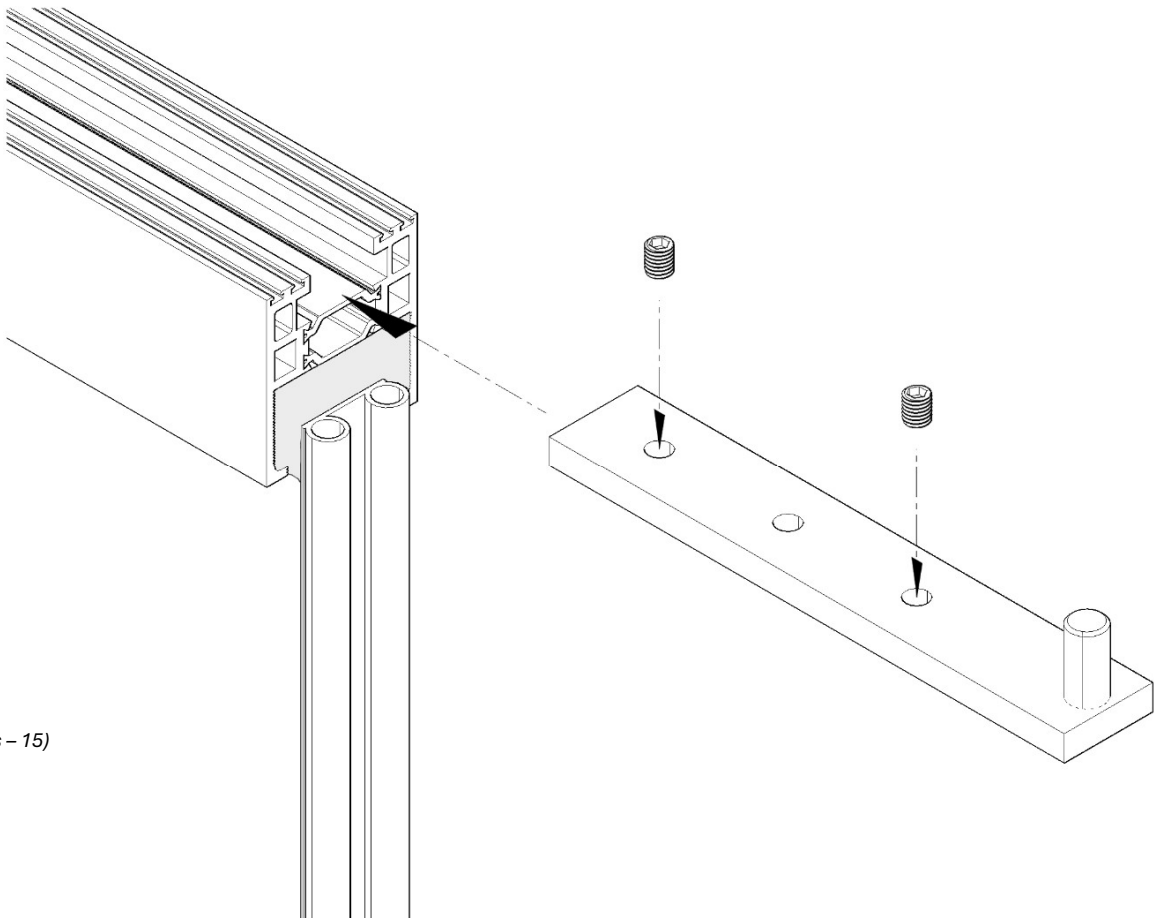
Installing the Door Panels

The door panels can be installed in any order, but it's a suggestion that you should install the main door panel first, then start at the opposite end, and work your way back. This gives the installer the largest aperture to work in and can mitigate any accidental damage to the panels & if you place a panel on the wrong flag, you won't have to remove panels to put it on the correct one.

The Main Door

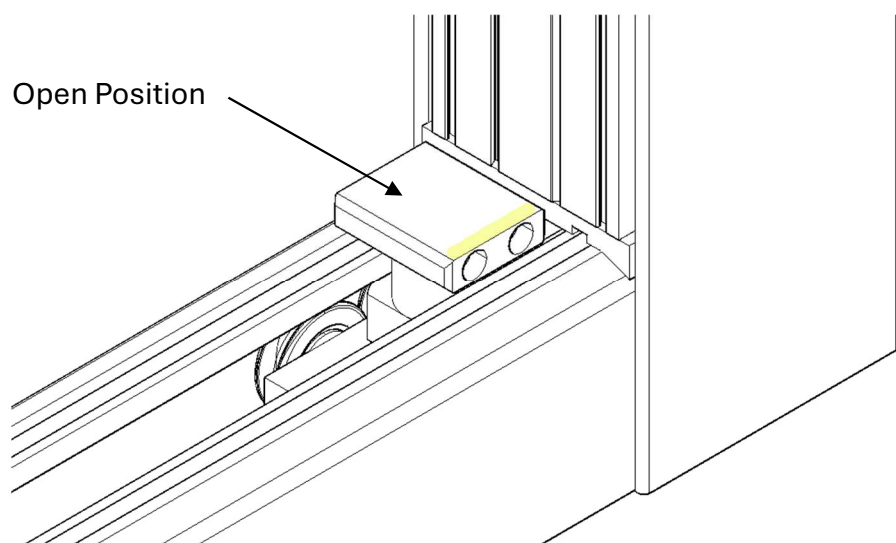
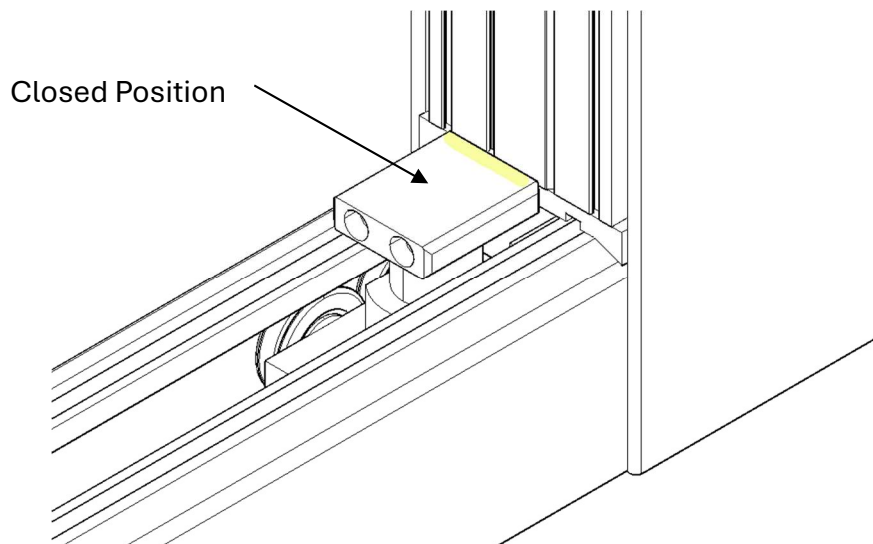
The Main Door has the glass handle attached.

- Take the top pivot for the main door. This is attached to the top track, remove it & using a mallet, tap it into position on the top main door extrusion, but leave it protruding about 30mm ($1\frac{3}{16}$ inches).



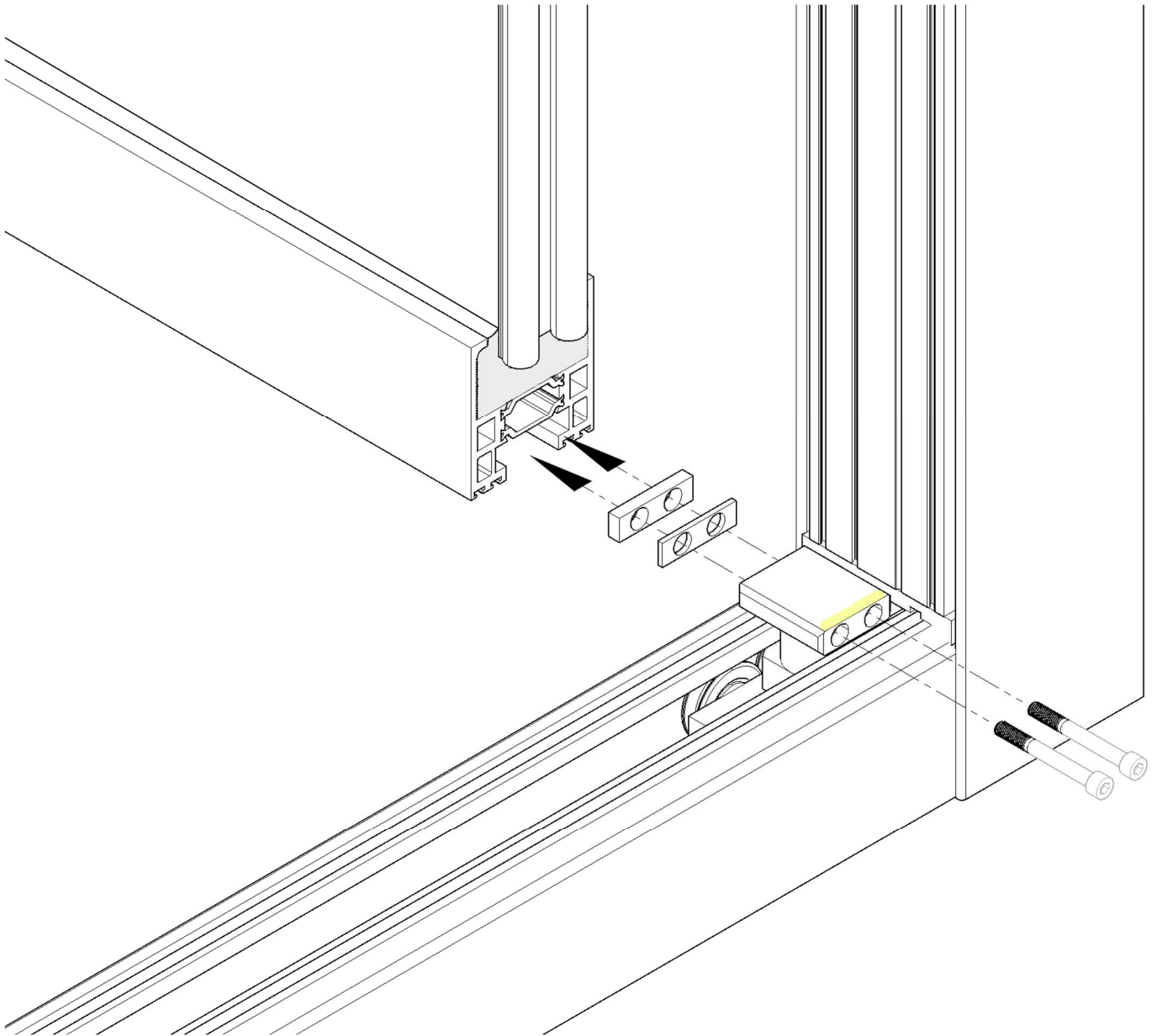
(Pics – 15)

- There are 2 grub screws located on the top that hold the Top Pin in position.
- Using a 5mm Allen key, tighten the furthest away from the pin up for now. This will need adjusting again later, it's just to secure the pin in place to hold the top of the door when inserting.
- Before you install the main door, move all the other Bottom Door Flags out the way along the track
- Rotate the Main Door Flag on the Bottom track to the open position.
- The flags are marked with a yellow pen mark & that is the side you insert the bolts from.
- The Flags will only rotate one way



(Pics – 16)

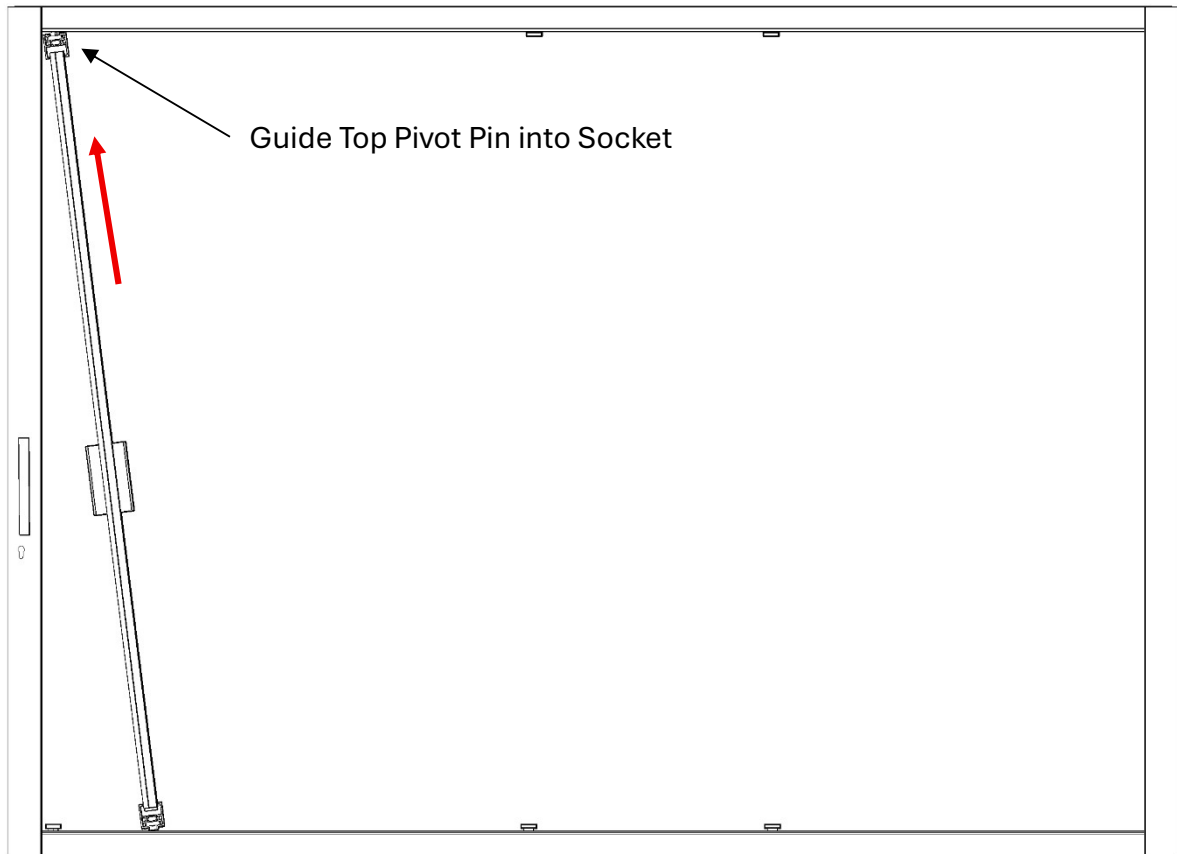
- Add the bolts to the flag. On the Main Door, you use 7mm ($\frac{9}{32}$ inch) of packing, with the largest packer (5mm ($\frac{9}{32}$ inch) going on last.



- Spray Grease on the pivot & the pivot socket in the Top Track, & a little bit on the bottom Flag.

(Pic – 17)

- Angle the Main door out at the bottom.
- One person lifts the door, the other person guides the top pin into the pivot socket, while tapping the pin up into position with a mallet, straightening the door panel as you go.



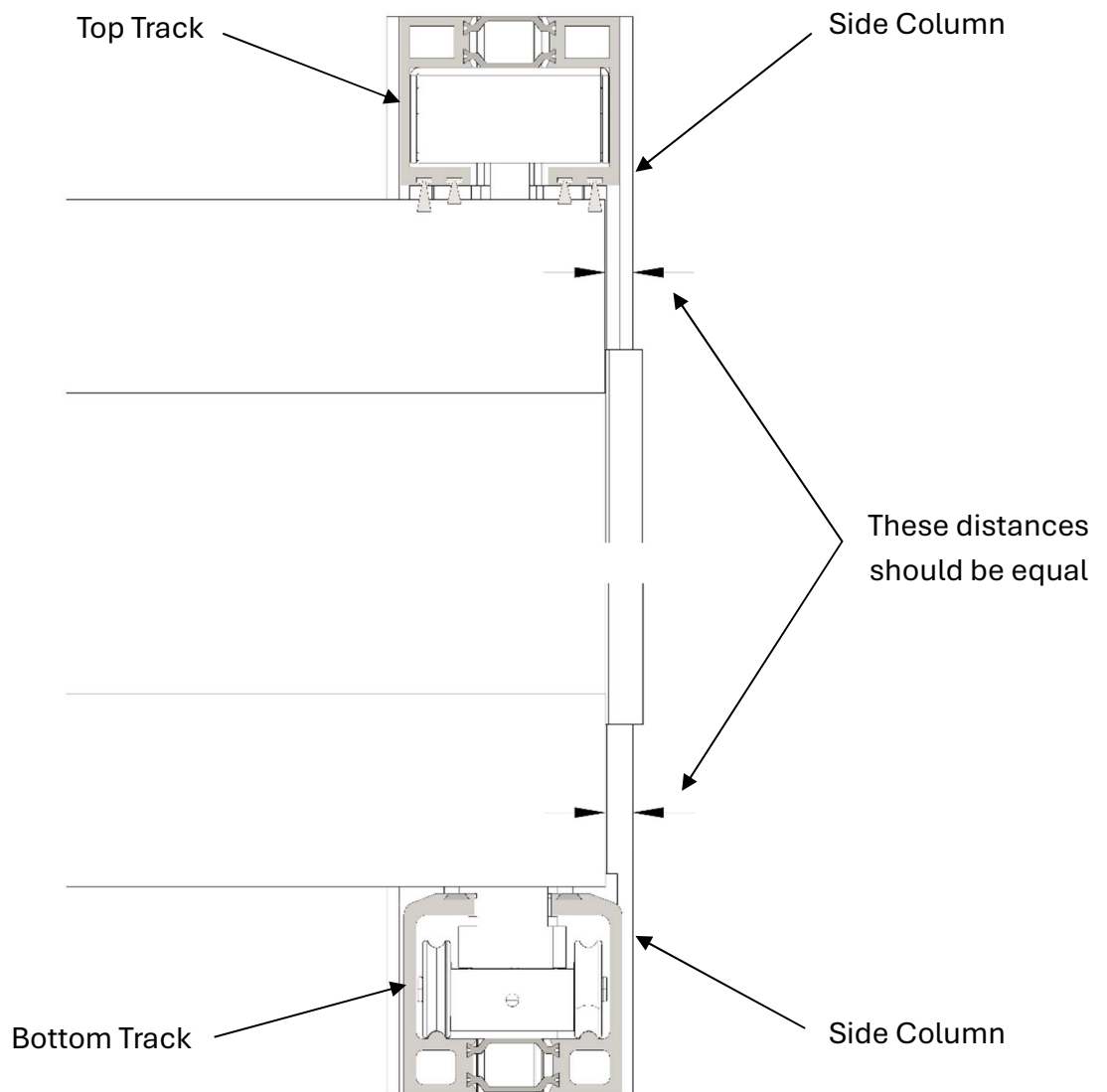
- Tap the Bottom Flag into the door flush with the extrusion
- Use a 4mm Allen key on a flexible drill shaft & tighten the 2 bolts up on the bottom Flag, this will pull the flag further into the extrusion.
- Return to the Top Pivot & loosen the grub screw.
- While one person pushes the rear of the top of the door, the second person taps the pivot pin all the way in flush with the extrusion.
- Tighten the top pivot grub screws up.

(Pics – 18)

Main Door Plum

The back of the Main Door needs to be parallel with the Side Column.

- Measure the distance between the Face of the Side Column with the Door Profile Extrusion, Top & Bottom
- Adjust the Top distance so that it is equal to the Bottom by loosening the grub screws on the top pivot & tapping the Top Main Door Extrusion in the direction required.
- Tighten the Grub Screws up again.



Leave the main door in the open position for now.

STEP 8

Installing the Other Door Panels

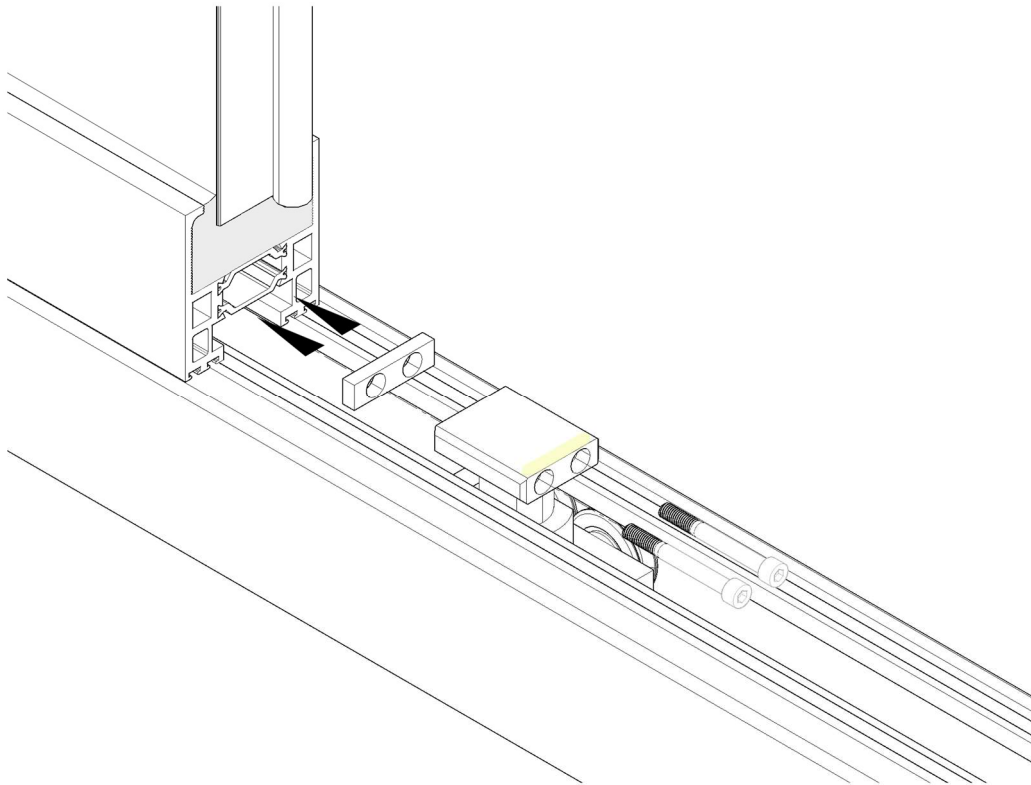
The panels will be labelled & the label is always on the inside.

You can check the orientation is correct by feeling inside the top extrusion, for the bracket where the Flag will be inserted.

Starting with the last panel (recommended but not essential), e.g., if it's a 3-panel door (3 of 3 on the label)

- Move the flags (Top & Bottom) away so you have enough room to lift the panel into position onto the track unimpeded.
- You do this with the panel in its closed position, so the panel is parallel to the tracks.
- Place on the bottom track first, then push in the top, ensuring that it's straight & in line.

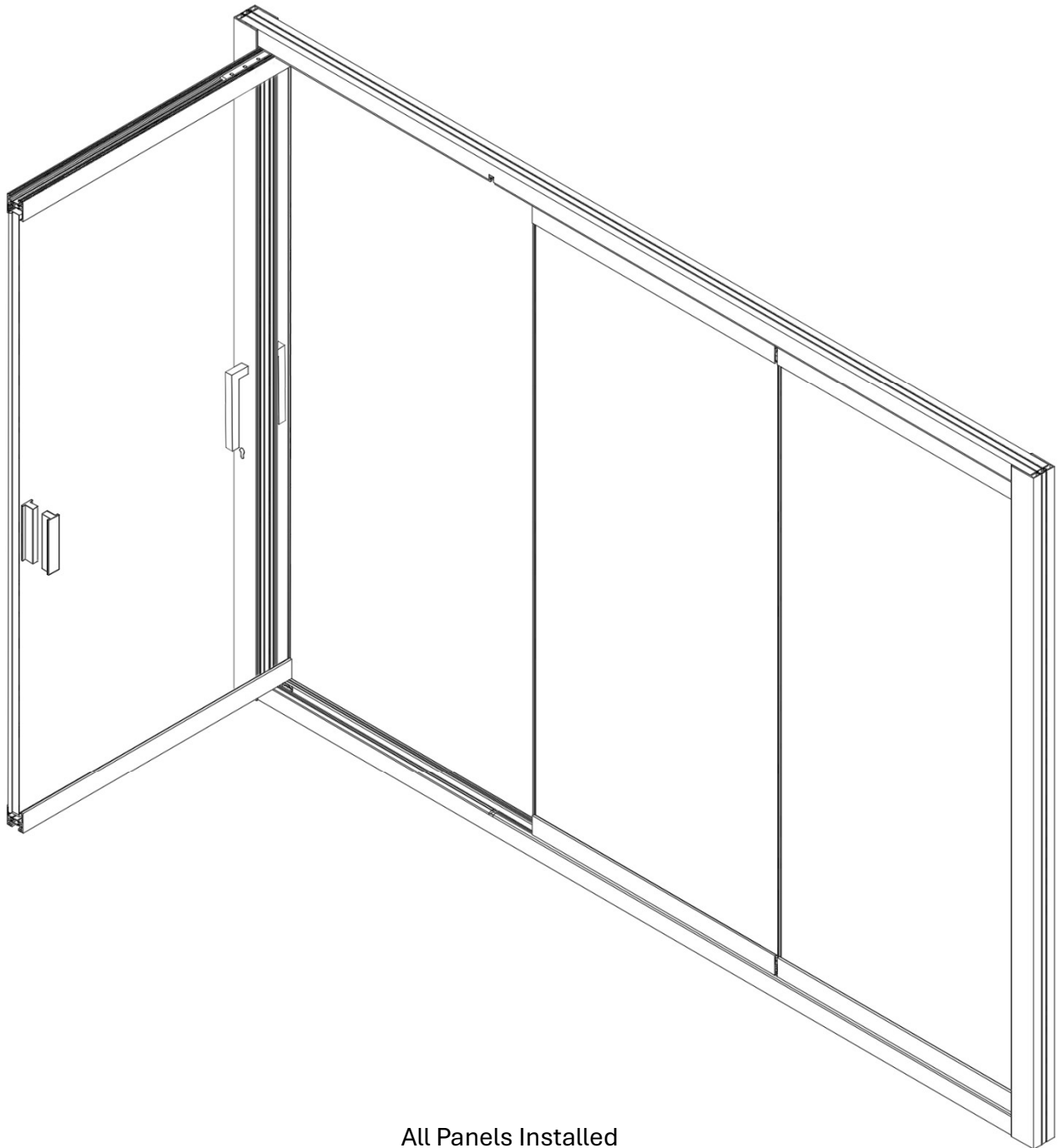
Unlike the main door, you use a 5mm ($\frac{13}{64}$ inch) packer for the flags and insert the bolts on the bottom track Flag. This will also be pen-marked for the correct bolt insertion.



- Just like the bottom Flag on the Main Door & using a mallet, tap it to place, flush with the end of the extrusion.
- Do the same with the top Flag.
- Use a 4mm Allen key on a flexible drill shaft & tighten the bolts up on both Flags.

Once it's fixed, slide the panel right over to the Static side so it's out of the way.

Repeat the process for all the other panels.

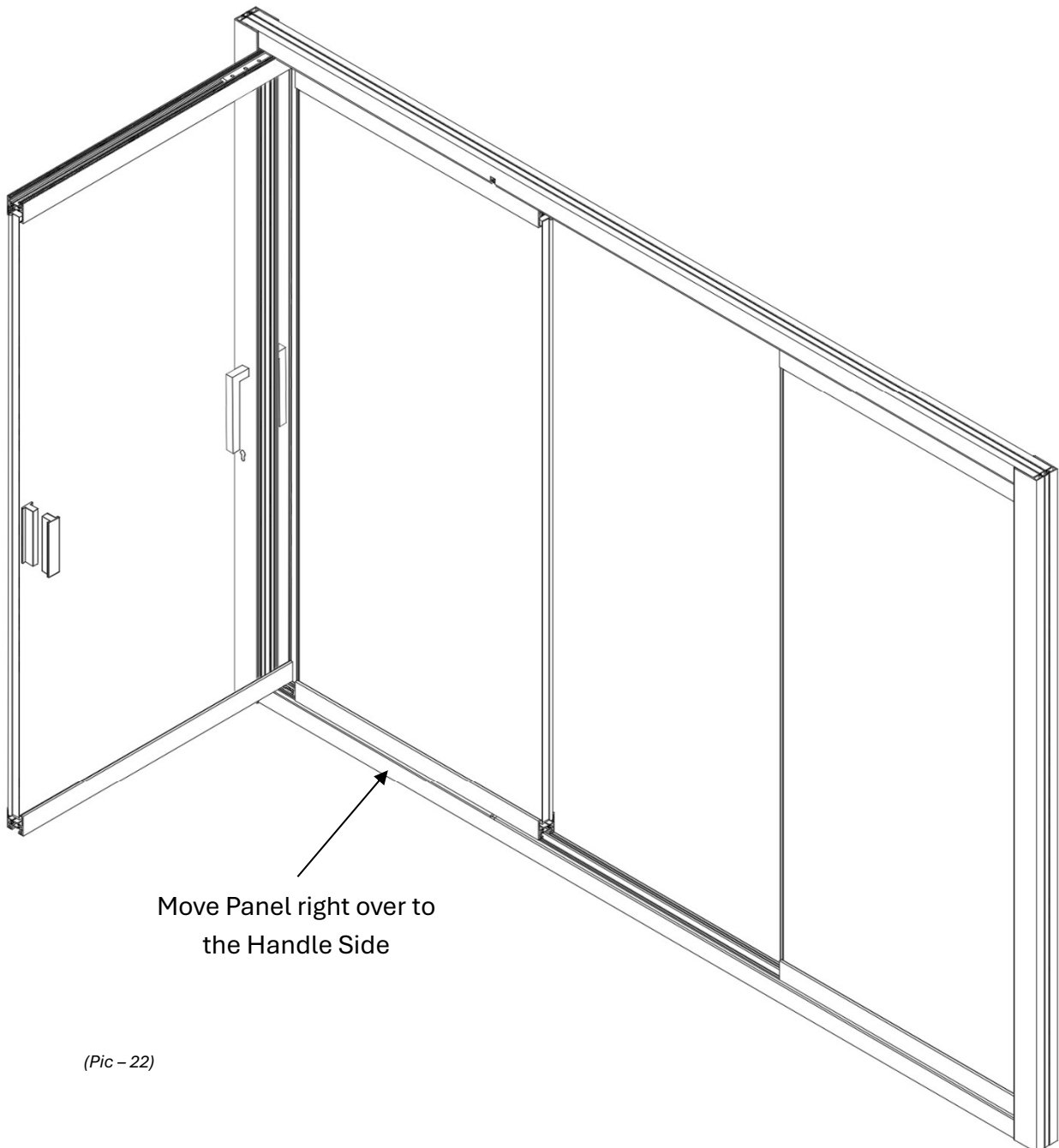


All Panels Installed

STEP 9

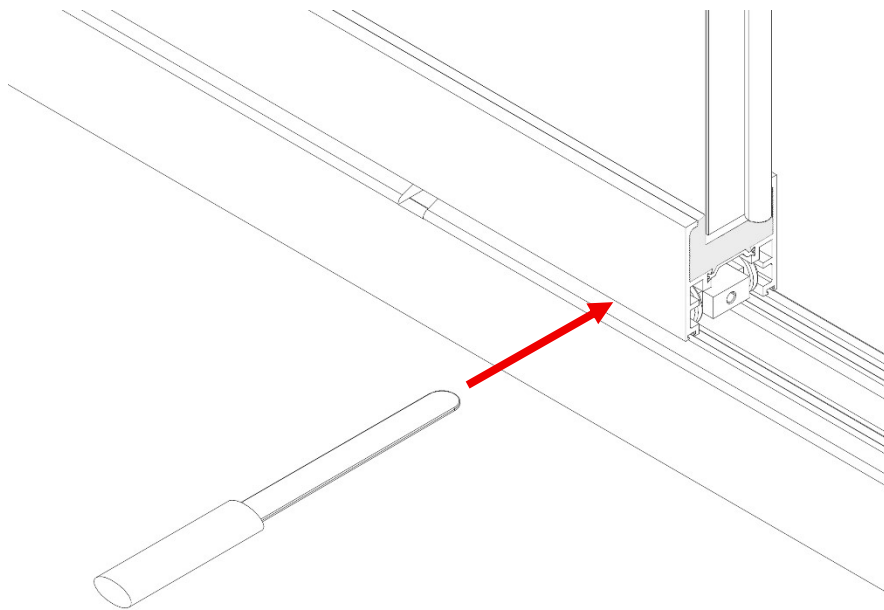
Adjusting the Panels for Opening

Slide panel 2 right over to the Handle side. Your main door is still in the open position.

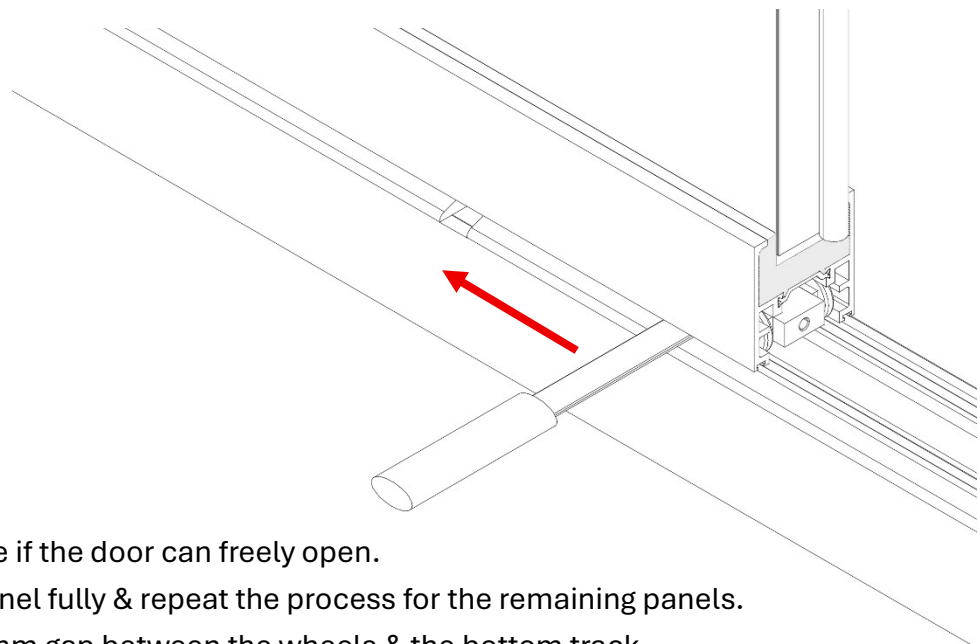


(Pic – 22)

- Make sure that the door panel runner blocks inside the track are touching each other. You will hear when the magnets engage at the top & check that the blocks are touching at the bottom.
- At the bottom of the panel, there will be a plastic guide installed
- Using a spatula or putty knife with no sharp edges so you don't scratch the track, slide it between the door panel & the track from the end until you feel the plastic guide.
- Tap the guide along until you get to the notch in the bottom track and use the spatula to check that the guide is centred with the bottom track notch.



(Pics – 23)



- Check to see if the door can freely open.
- Open the panel fully & repeat the process for the remaining panels.
- There is a 1mm gap between the wheels & the bottom track

Adjusting the Secondary Panels If They Catch on the Tracks

If the door panels are catching on either the Top or Bottom track, you will need to add packers to the flags. We call this “Heel & Toe” adjustment.

- If it's catching on the Top Track, add packers to the top.
- if it's catching on the Bottom Track, add packers to the bottom.

You do this by

- Closing the panel.
- Slide the panel right over to the Static Side Column
- Removing the 2 bolts from the flags.
- Pull out the flag; the 5mm packer previously inserted will stay inserted in the extrusion.
- Add packers to suit. This is a trial & error process depending on the width & height of the panels & how much it's catching.
- Tighten the 2 bolts back up & test, until the panel opens smoothly.

If you have added packers to the Bottom Flag, you will also have to reset the plastic guide at the bottom of the panel to re-centre with the bottom track notch.

Adjusting the Main Door if it Catches on the Tracks

If the main door catches when opening 7 some fine-tuning is required; all the adjustments are done at the head via the Main Door Pivot.

- Open the main door & release the grub screws for the top pin.
- If it's catching at the bottom, apply some pressure to the top of the door & use a mallet, tap the Top Track on the opposite side to the door swing to move the pin in.
- If it's catching at the top, tap the Top Track on the same side as the door swing to move the pin out. Tighten the grub screw back up & test the closure of the door, repeat until the door opens smoothly.
- Then fully tighten both grub screws.
- Now, recheck the bottom guide

Lubricate the Main Door Seals (Rear)

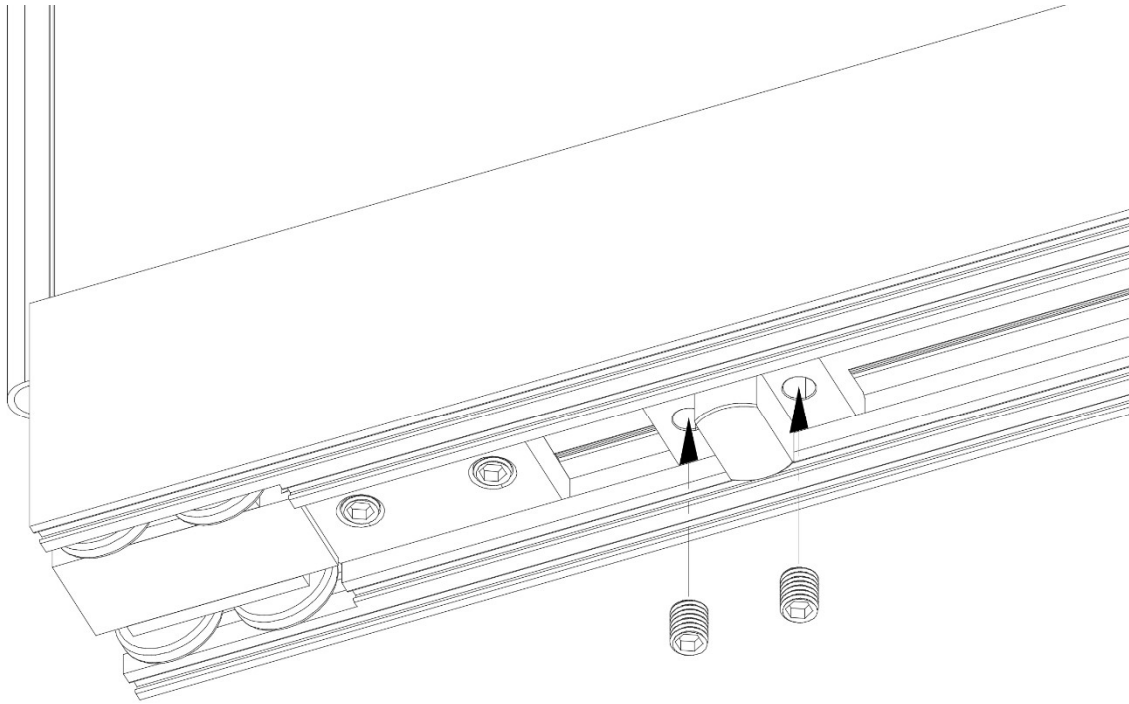
When you open & close the main door, you will notice that the rubber seals slightly catch on the side column.

Open the door up & spray silicone on the rubbers to prevent wear.

STEP 10

Lock down the Bottom Guides

On the bottom guide, the 2 grub screws need tightening.



View from underneath the Door Panel

(Pic – 24)

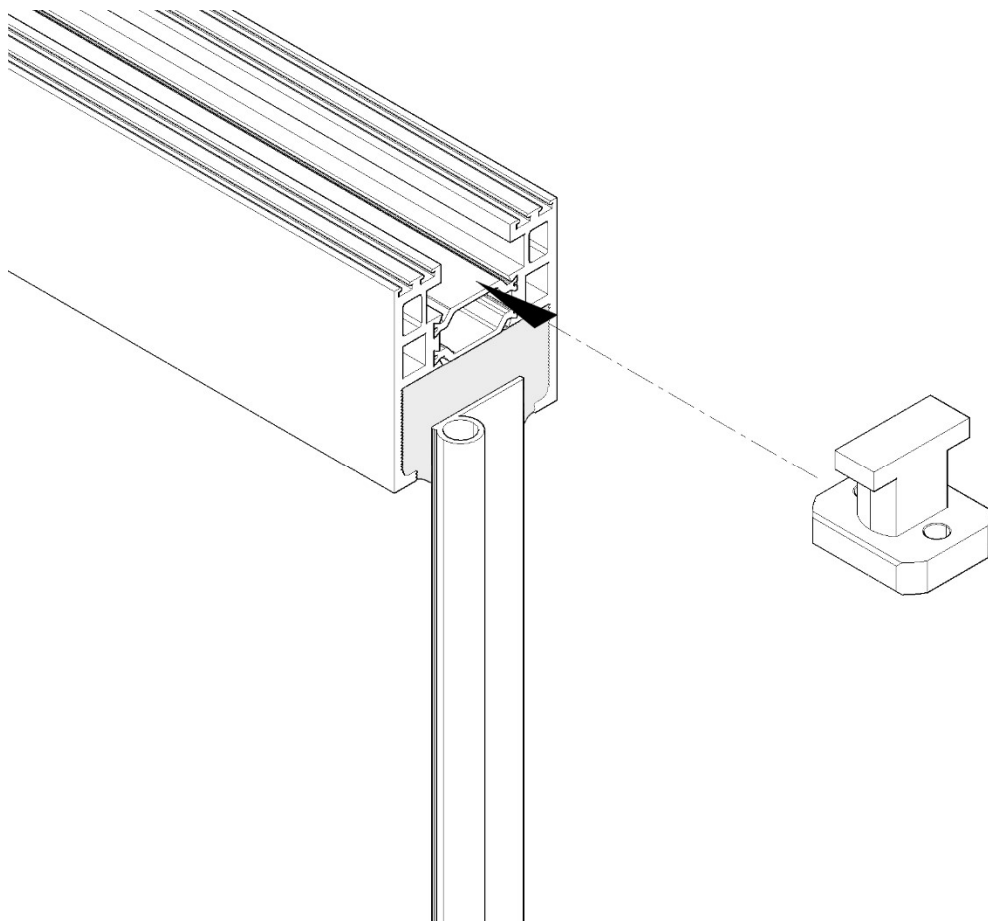
- With the panel in the open position, feel underneath & use a 4mm Allen key to lock the guide into position.
- Repeat the process for all remaining non-handle panels.
- Push all the panels over to the non-handle side & repeat the bottom guide process for the main door.
- Check that the panels open and close freely

STEP 11

Top Door Guides

Now you need to add the guides to the head of each panel.

- Open all the doors up.
- Tap the guides into the top of the door extrusions.
- Using the same method as the bottom guides, align the top guides with the notch in the top track & tighten the grub screws up.



(Pic – 25)

STEP 12

Top Track Intermediate Fixings

Once all door panels are in place & have guides.

Tighten the Top Track fixings & install the Intermediate fixings as per the Bottom Track using packers to maintain support for the fixings & keep the top track level.

STEP 13

Installing the End Caps

There are 6 different types of Extrusion End Caps

Top Thick (A)

These go on the panels where they touch the Top Hats

Top Thin (B)

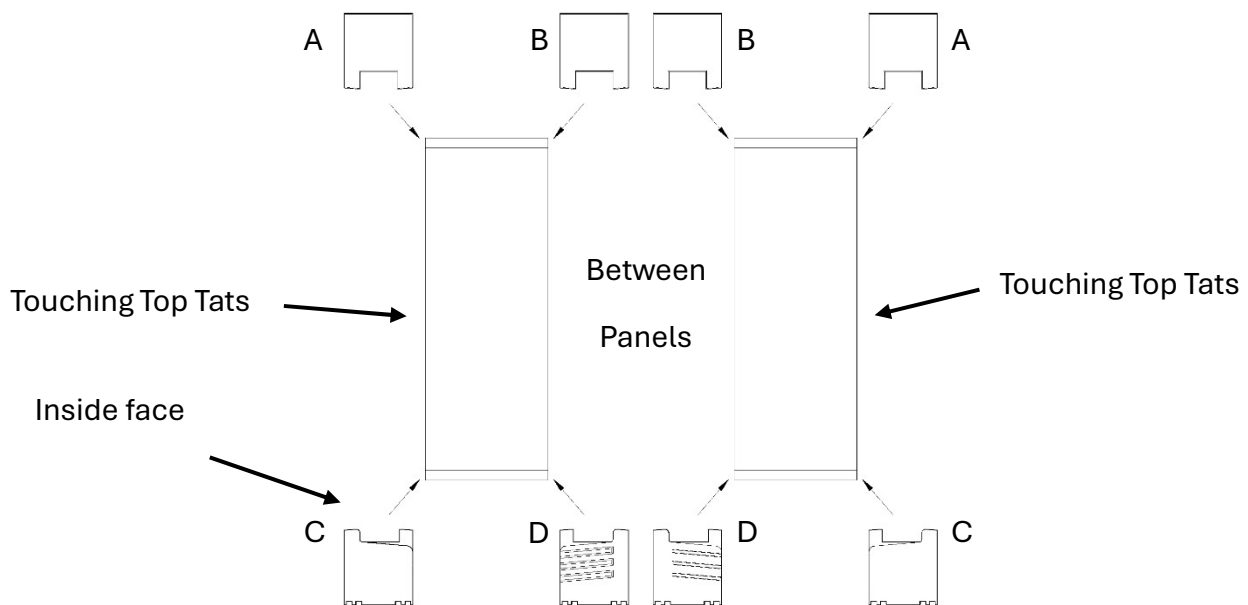
These go between the panels at the top

Bottom Thick x 2 (C) Not Slotted

These are handed, so they are in pairs, they have rain grooves on them & are placed at the bottom where the door panels touch the Top Hats

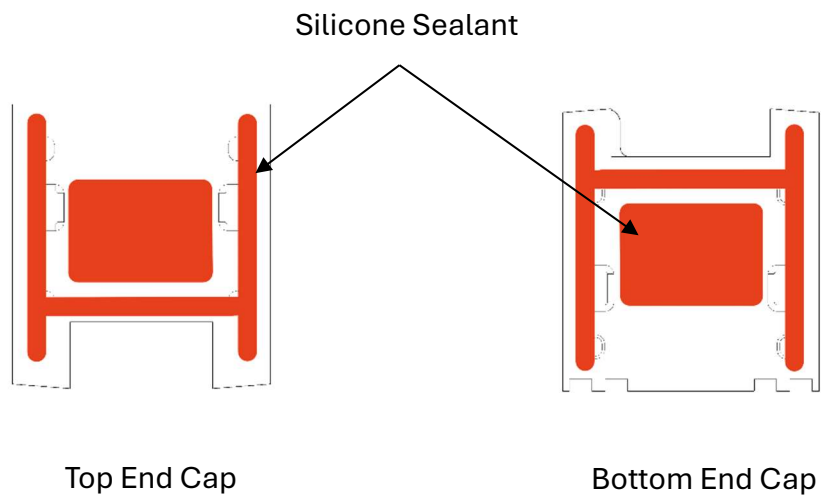
Bottom Thin x 2 (D) Slotted

These are handed, so they are in pairs, they have rain grooves on them & are placed at the bottom.



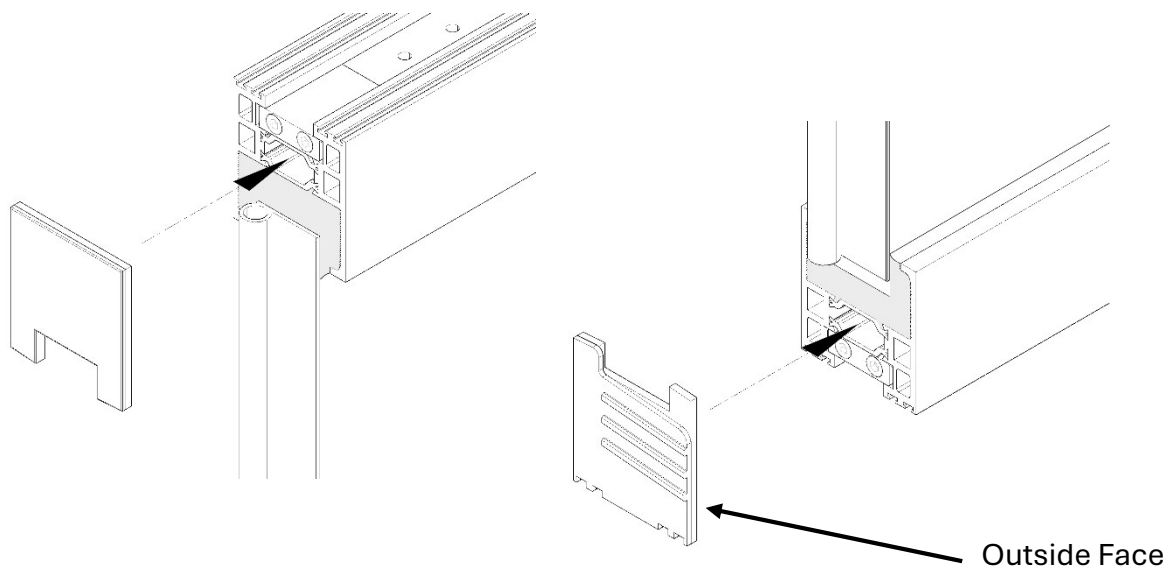
(Pic - 26)

Spread all the end caps out & add silicone sealant all the way round the edge & a liberal splurge in the middle



(Pics – 27)

Place the end caps on the appropriate end of the panel extrusion, using a mallet, tap them into place & wipe off any excess sealant.



(Pics – 28)

When inserting the bottom end caps, make sure the furs are through the slots & then trim off the excess fur length flush with the end cap & wipe off any excess sealant.

STEP 14

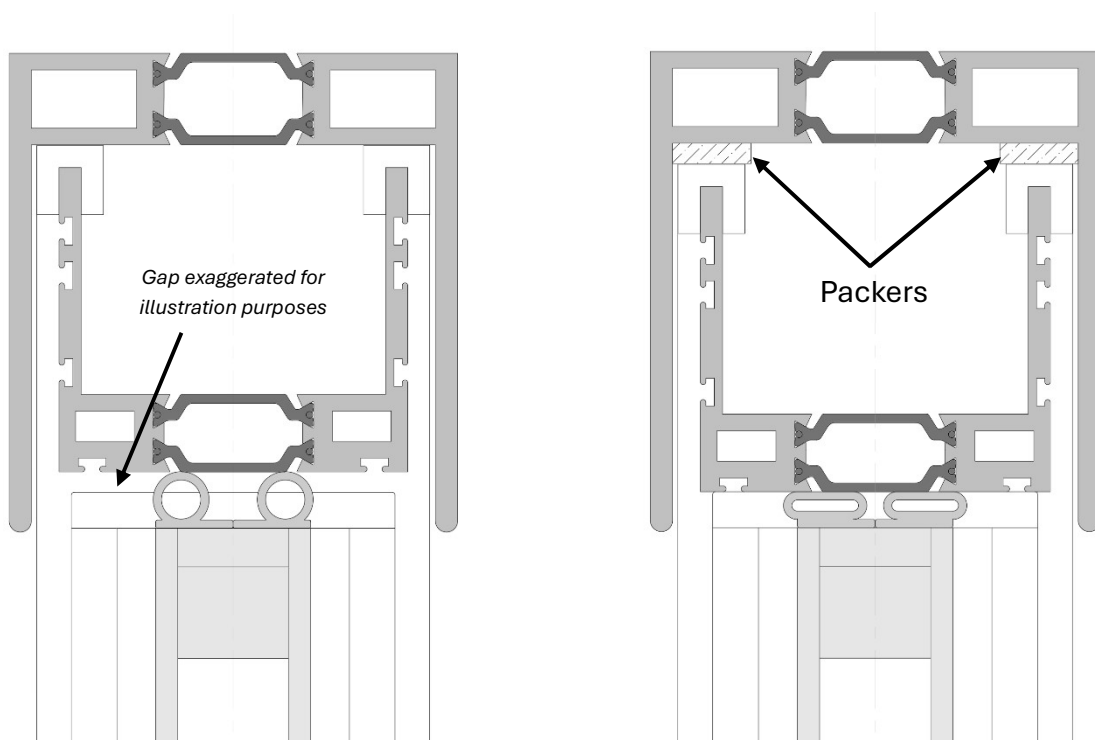
Adjusting the Compression of all the Panels

Close all the Door Panels & check the Compression

You will notice there are gaps between the end caps & the extrusions. & the gaps between the panels are not tight.

- Open all the doors up & remove the Static Side Top Hat.
- Add packers to suit on both sides at the back, behind where the white rubber seals on the Top Hat are placed.

Use silicone to hold them in place & replace the Top Hat & test the compression & ensure the panels are now nice and tight.



(Pic – 29)

Loose Compression

Tight Compression

STEP 15

Finishing Touches

Make sure that the bottom track is “really clean”; any debris will impede the smooth running of the panels.

Open all the doors up, spray silicone over the bottom track & on the door seals attached to the glass on both sides. This will help the panels from sticking together & ensure smooth movement when sliding the panels along.

Add Facia Trim and Seal as needed around the frame.

Customer Maintenance

Vacuum the bottom track at regular intervals; any debris will impede the smooth running of the panels, & a wipe down & light spray of the bottom track & the door seals, depending on environmental conditions, dust, etc, will ensure the doors function well.