ASPIRE

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4 DOOR EXTERNAL BIFOLD
INSTALLATION INSRUCTIONS

BEFORE YOU BEGIN

Please ensure all components are in good condition before you start.

Only fit this set using the supplied framework and hardware. Do not attempt to install in unspecified configurations. Failure to adhere to this will invalidate your warranty..

Unless pre-finished, ensure all timber components are painted or stained before you start installation.

PLEASE BE AWARE

This set must be installed by two competent trades-people.

This set is top hung, so must be fixed upwards into a supporting structure capable of taking the product load of 50kg per linear metre.

BEFORE YOU BEGIN

Upon Delivery

Please check over all components within 72 hours of receiving delivery of your door set. In the rare event of any damaged or missing parts, please notify us immediately so we can send replacements as soon as possible.

Storage

Between delivery and installation, the set must be stored safely. All items must be stored flat in their packaging in a dry, ventilated room. **It is vital that all doors and framework be stored flat, and not stood up on ends or edges. Your product should not be stored in a room where plaster or paint is still drying.**

Finishing

Unless pre-finished, all timber components must be fully finished with a suitable product before installation is carried out.

Unfinished Products:

All timber components must be finished with a paint or stain suitable for use on external doors. Please see the finish manufacturer's guidelines for the required number of coats to be applied. **Oils, waxes and varnishes do not offer suitable protection to the timber, and use of these products will invalidate your product warranty.**

Primed Products:

All components must be finished with a paint suitable for use on external doors. Please see the finish manufacturer's guidelines for the required number of coats to be applied.

Guarantee Requirements

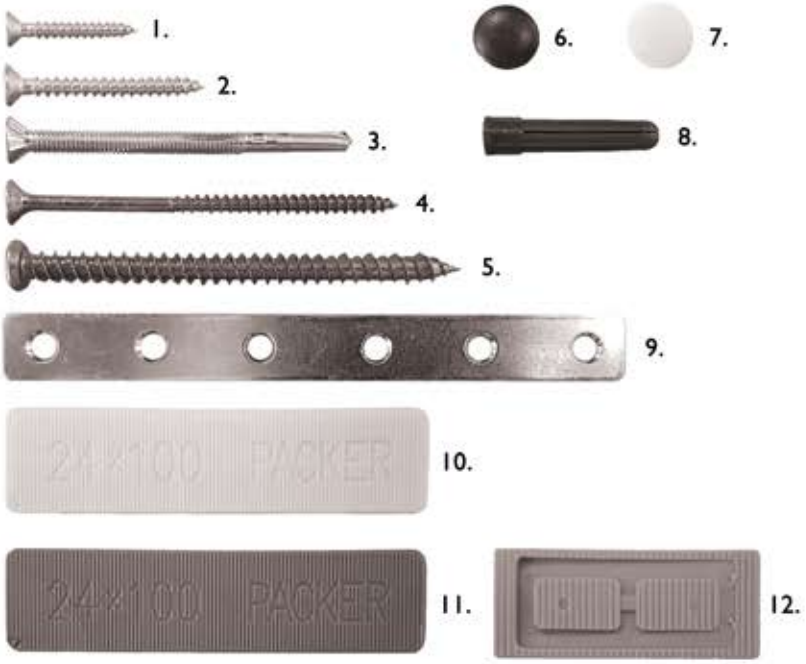
In order to help get the most out of your doors, please ensure you follow the recommendations below to qualify for the guarantee offered with your product.

- **Only install using the hardware and frame provided.**
- **Complete installation using these supplied instructions. If you have queries, contact us on 020 3744 0704.**
- **Do not trim the set down. If size adjustments need to be made, make them to the brickwork aperture.**
- **Ensure your product is properly fully finished before installation as stated in the above section.**
- **Maintain your set using the guidance at the back of this installation booklet.**

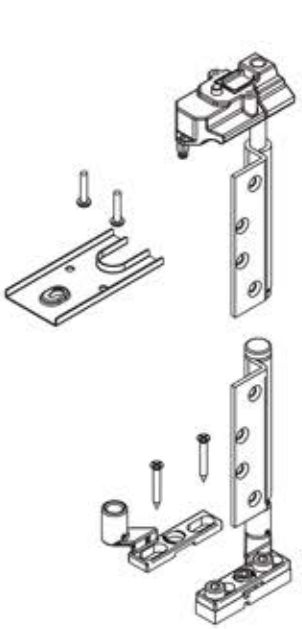
PRODUCT CONTENTS

Fixing Pack

Fig	Qty	Item
1	6	3.5 x 25mm PAN Pozidrive Woodscrew
2	54	3.5 x 37mm CSK Pozidrive Woodscrew
3	18	5 x 80mm Self Drilling CSK Pozidrive
4	8	5 x 90mm CSK Pozidrive Woodscrew
5	10	7.5 x 100mm Concrete Screw
6	10	Brown M6 Cover
7	10	White M6 Cover
8	14	7mm Brown Masonry Plugs
9	14	17 x 147mm Tie Plate
10	46	24 x 100mm Flat Packer (3mm)
11	64	24 x 100mm Flat Packer (1mm)
12	20	24 x 60mm Wedge Packer (1 to 3mm)



Hinges and Carriers

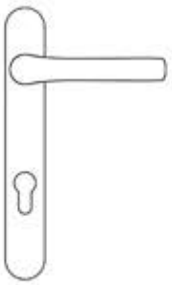


BWS1-100HSS x 2

BW7-100HSS x 1

BWS4-50SHSS x 1

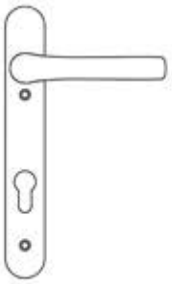
Handles and Shootbolts



Handle (External Face) x 1

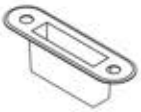
Locking Shootbolt x 2

Shootbolt x 2



Handle (Internal Face) x 1

Shootbolt Keep x 4

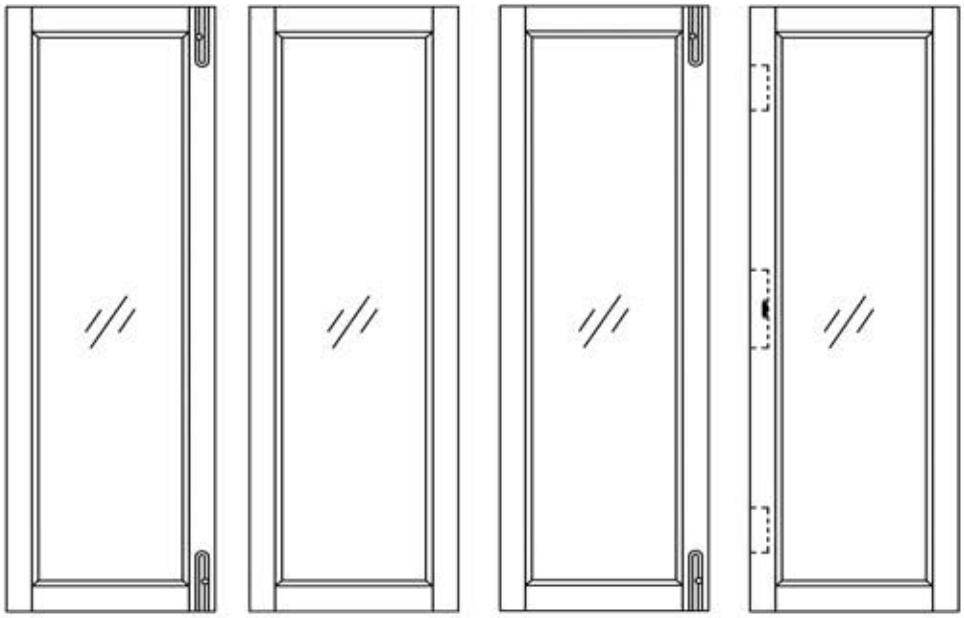


Shootbolt Dust Box x 2

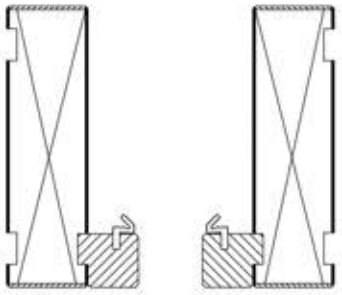
Shootbolt Blanking Plate x 4

PRODUCT CONTENTS

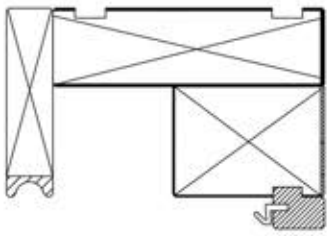
Doors and Framework



Door A x 1 Door B x 1 Door C x 1 Door D x 1

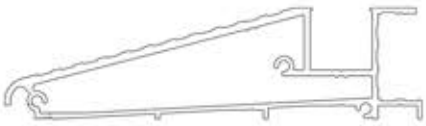


Right Jamb x 1 Left Jamb x 1



Head x 1

Multi-Point Lock x 1



Sill x 1

Threshold x 1

Head Track x 1

U-Channel x 1

Door Keep x 2 Central Door Keep x 1

STRUCTURAL OPENING

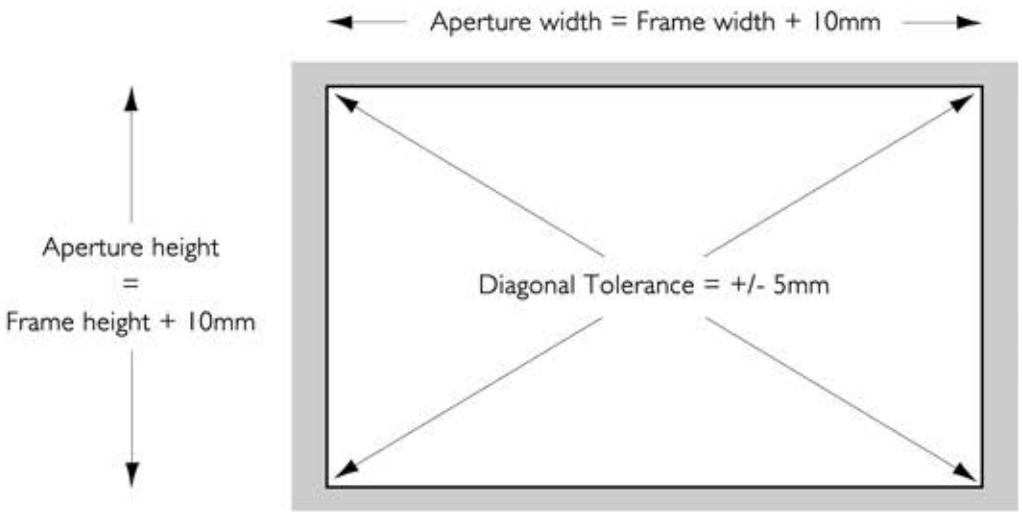
To ensure correct operation of your bifolding doors, it is necessary for the top track to be fixed to a suitable supporting structure that is capable of bearing the full load of the set. Our bifolds apply a maximum load of 50kg/linear metre. If you are unsure of your supporting structure, seek advice from a structural engineer before continuing with the installation.

It is recommended that the aperture the set is being installed into is 10mm larger in both width and height than the overall assembled frame dimensions. This tolerance is to allow for ease of installation, as well as accommodating for the camber detailed later in the instructions. If you are yet to build your opening, please consult the table below for guidance on the advised measurements.

Ap = Aperture

Set Size	Frame Width	Frame Height	Ap. Width	Ap. Height
1.8m	1790mm	2090mm	1800mm	2100mm
2.1m	2090mm	2090mm	2100mm	2100mm
2.4m	2390mm	2090mm	2400mm	2100mm
2.7m	2690mm	2090mm	2700mm	2100mm
3m	2990mm	2090mm	3000mm	2100mm
3.6m	3590mm	2090mm	3600mm	2100mm
4.2m	4190mm	2090mm	4200mm	2100mm
4.8m	4790mm	2090mm	4800mm	2100mm

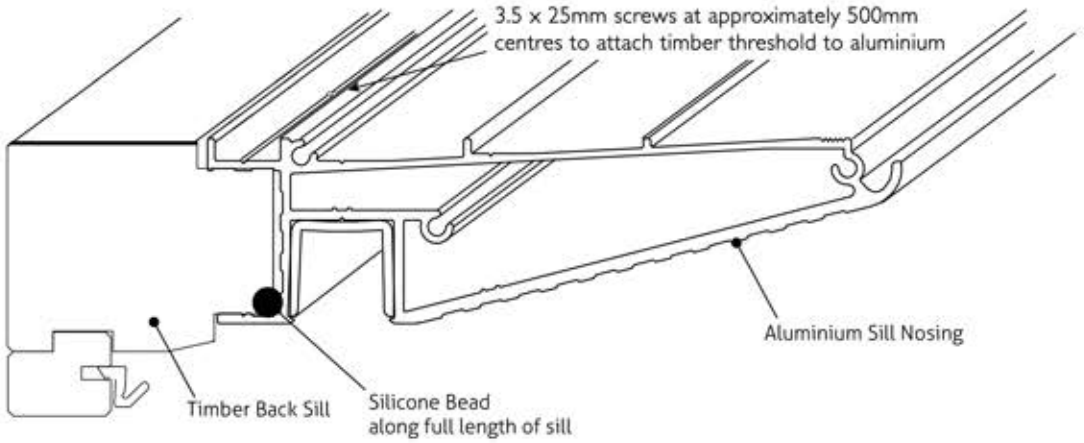
The horizontal and vertical surfaces of the structural opening must be levelled and checked with a spirit level. The diagonals of the opening should be within 5mm of each other. These checks are essential to achieve correct installation.



PREPARING THE SILL

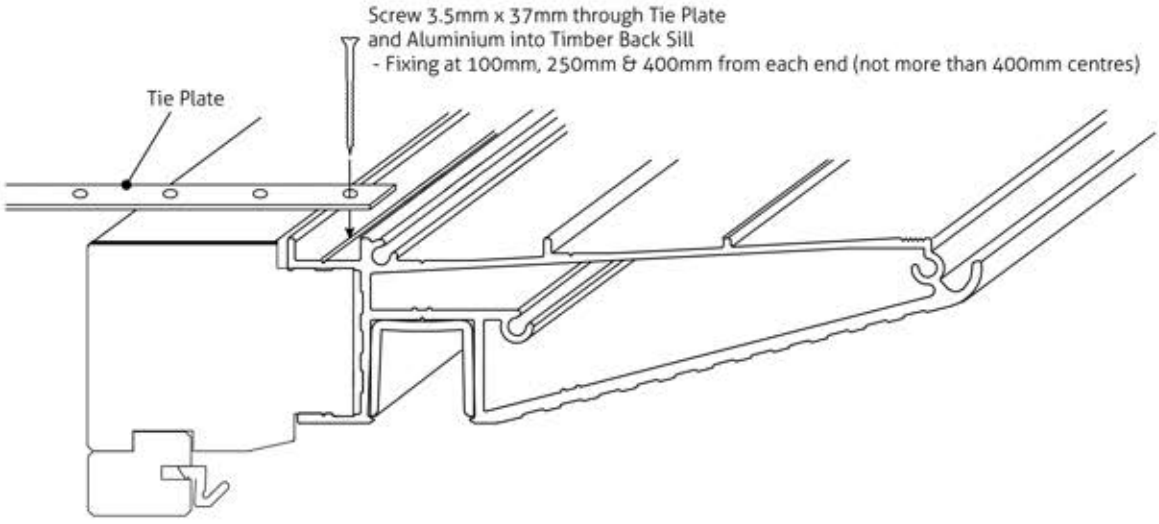
Step 1: Sill Assembly

- Apply a bead of silicon to the rebate in the top of the timber threshold along the full length of the component (see below diagram for reference).
- Push the timber threshold firmly into the corresponding recess in the back of the aluminium sill, ensuring that it goes all the way into the recess.
- Measuring 500mm from each end of the sill and every 500mm along the rest of the full length, use a 2.5mm drill bit to drill just through the aluminium in the groove indicated in the diagram below.
- Using the 3.5 x 25mm PAN head screws provided in the fixing pack, screw through the prepared holes to secure the timber threshold and aluminum sill together.



Step 2: Fixing the Tie Plates

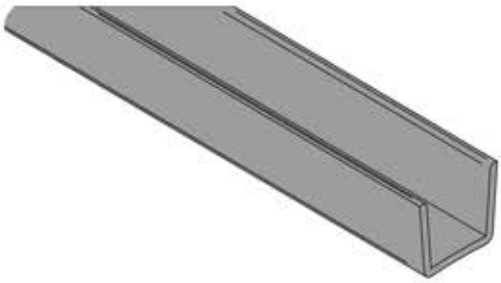
- Measuring 100mm, 250mm and 400mm from each end of the sill and then with no more than 400mm spacings along the rest of the full length, use the same 2.5mm drill bit to drill 25mm deep pilot holes through the aluminium and into the timber.
- Using the 3.5mm x 37mm CSK twinhead screws provided in the fixing pack, fix through the tie plates into the pre-drilled holes.

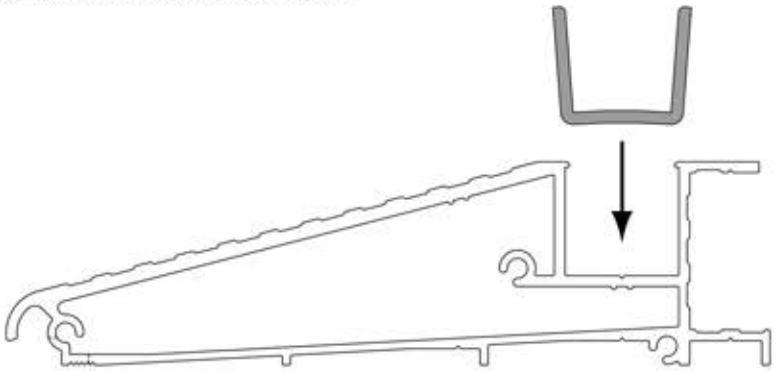


PREPARING THE SILL

Step 3: Inserting the U-Channel

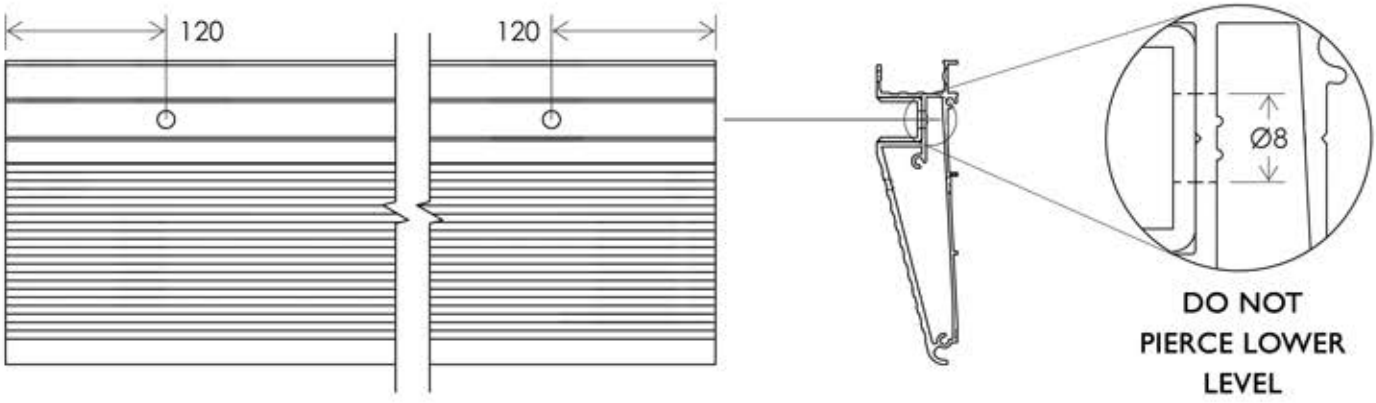
- If you removed the plastic U-channel for ease during the previous steps or it was supplied loose, insert the U-channel into the corresponding recess in the aluminium section of the sill.



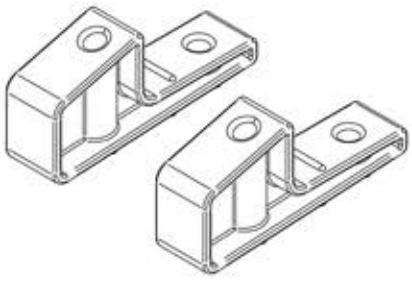


Step 4: Drilling the Drainage Holes

- Measuring 120mm from each end of the assembled sill, use an 8mm drill bit to drill through the plastic u-channel and the top section of the aluminium only. **It is important that you do not pierce the lower section of the aluminium.**



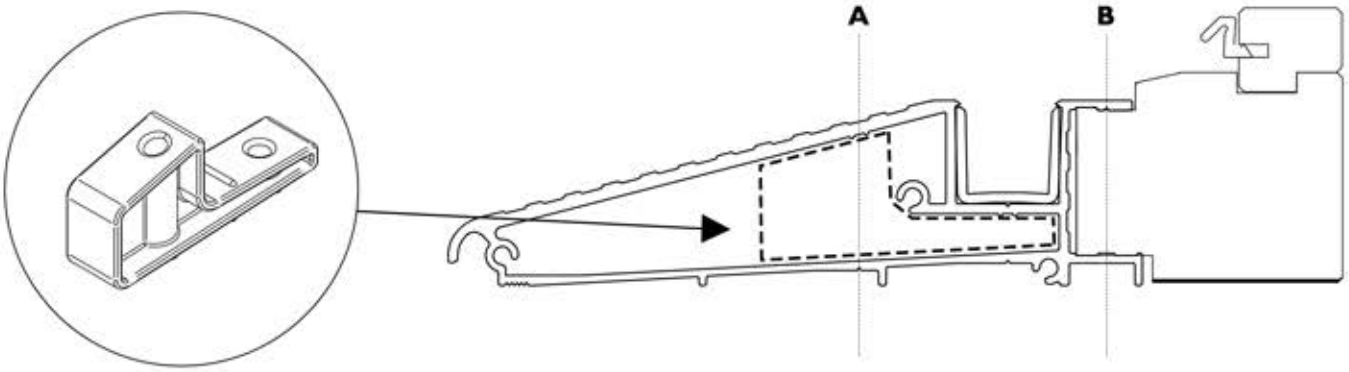
If your set has been supplied with two screw blocks (shown right) then complete step 5a. If not, complete step 5b instead.



PREPARING THE SILL

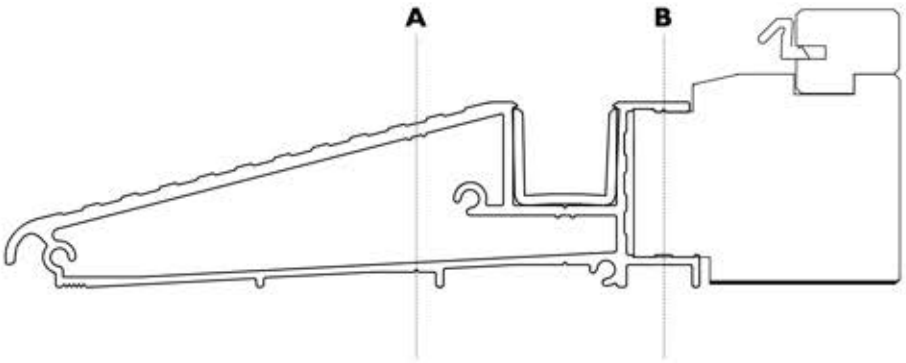
Step 5a: Pre-Drilling with Screw Blocks

- Insert a screw block at one end of the sill. Using the front hole in the block as a guide, mark the aluminium in position A on both the top and bottom of the section.
- Remove the screw block, then drill all the way through the aluminium in position A using a 4mm drill bit.
- Using the same 4mm drill bit, drill all the way through the aluminium and timber in position B in-line with A.
- Repeat at the opposite end of the sill.

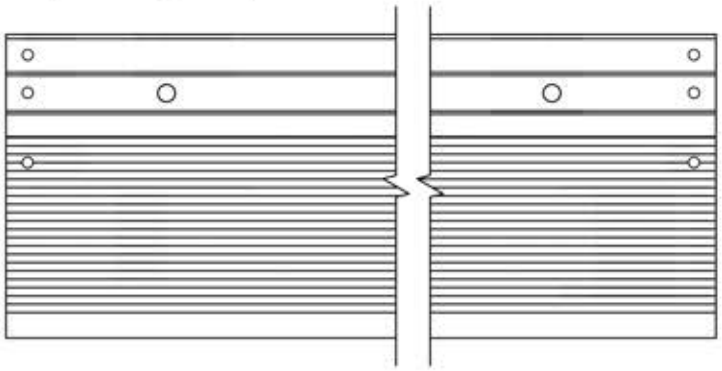


Step 5b: Pre-Drilling without Screw Blocks

- Measuring 16mm in from one end of the sill section, make marks in positions A and B, using the screw channels on the underside of the sill section as a guide.
- Using a 4mm drill bit, drill all the way through the aluminium and timber in positions A and B.
- Repeat at the opposite end of the sill.



After all pre-drilling is complete, the aluminium section will look like this:



ASSEMBLING THE FRAME

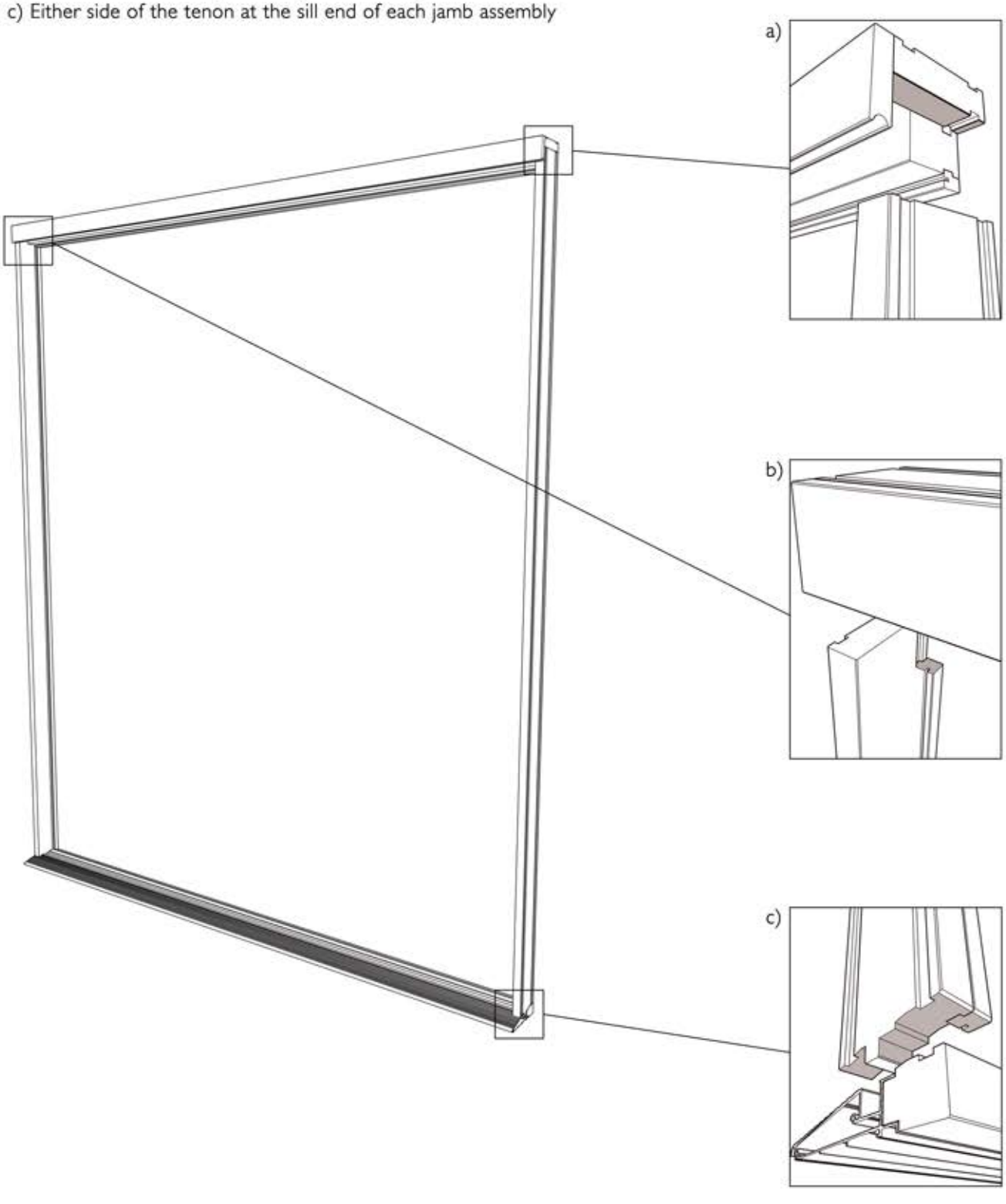
Step 1: Applying Silicon Sealant

- Apply silicon sealant to the shaded areas of the components on both left and right sides of the frame:

a) Each end of the head assembly

b) At the end of the stop of each jamb assembly

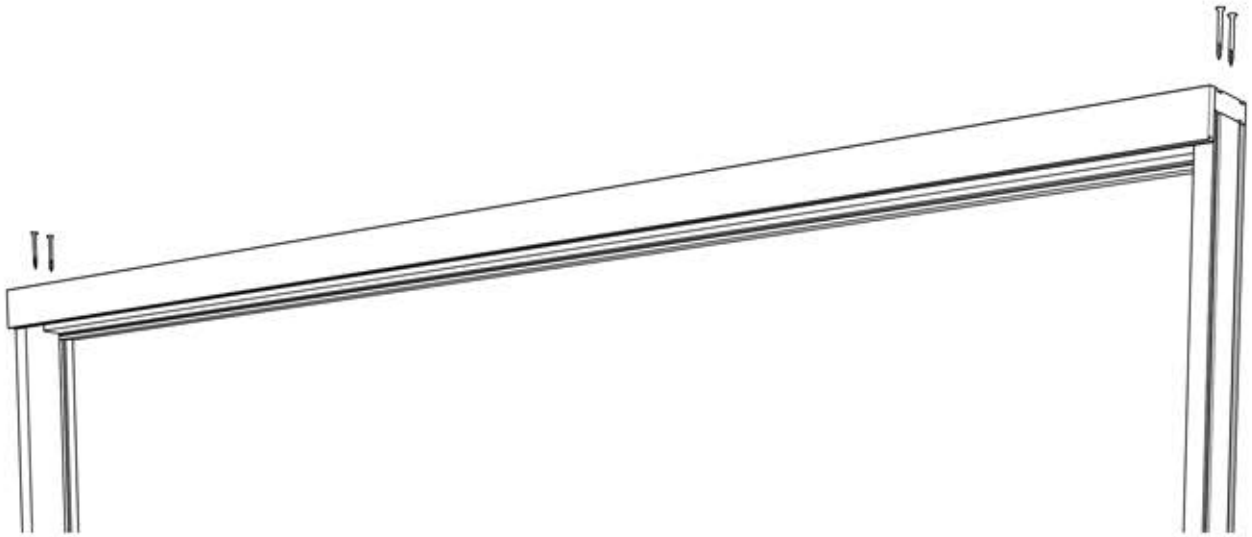
c) Either side of the tenon at the sill end of each jamb assembly



ASSEMBLING THE FRAME

Step 2: Fixing the Jambs to the Head

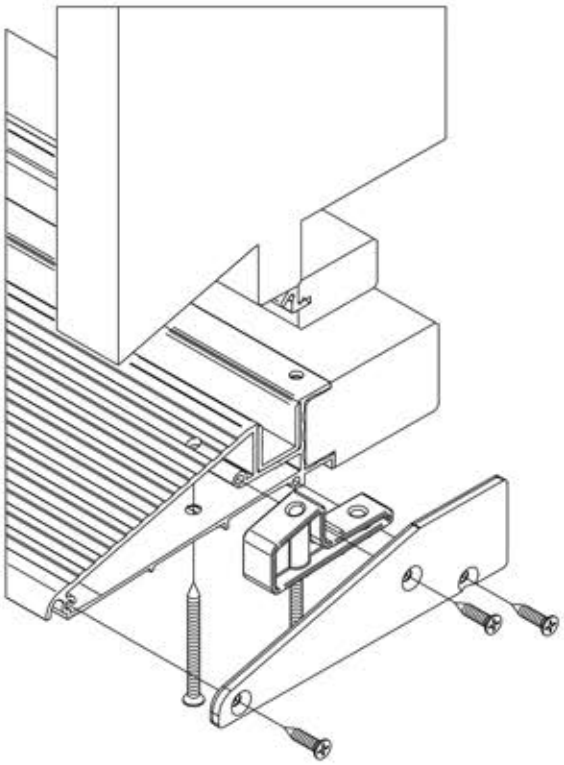
- Using the No. 5 x 90 woodscrews, fix the two jamb assemblies to the head assembly using two screws at each end.



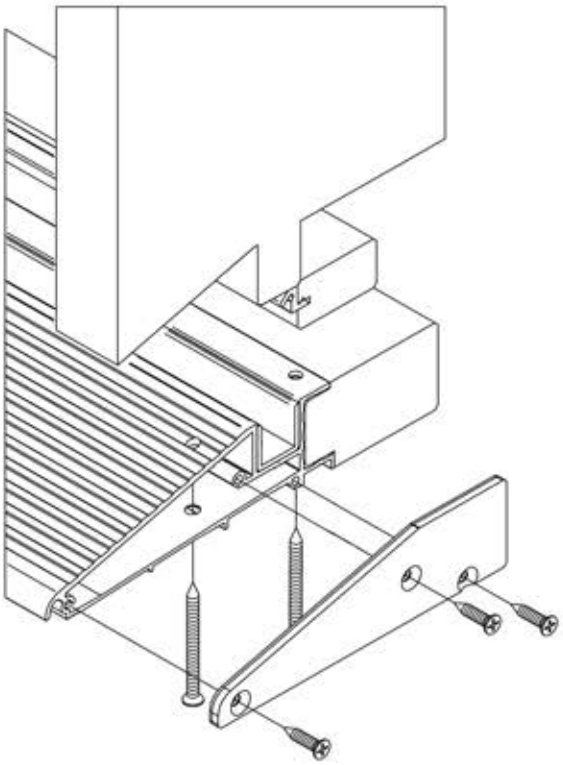
Step 2: Fixing the Jambs to the Sill

- **Follow diagram A if you have been supplied with screw blocks, or diagram B if you have not.**
- Using 2 No. 5 x 90 woodscrews, screw through the 2 pre-drilled holes in the sill section and up into the jamb assembly.
- Fix the end cap to the aluminium sill section using the 3 screws provided.
- Repeat for the other jamb assembly at the other end of the sill.

A)



B)



ASSEMBLING THE FRAME

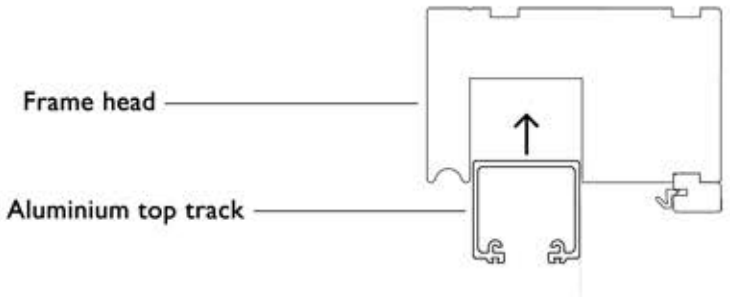
Step 4: Checking the Frame

- Ensure that all joints are tight with no gaps, and that the door stop profiles are correctly aligned.
- Check that the corners of the frame are square and that the diagonals of the frame measure to within 5mm of each other.
- If your frame does not pass these checks, loosen the screws at the joints, adjust the frame and then re-tighten the joints.
- Once your frame assembly has passed these checks, make sure your internal frame rebate matches the dimensions on the table below.

Set Size	Frame Width	Internal Rebate Width
1.8m	1790mm	1726mm
2.1m	2090mm	2026mm
2.4m	2390mm	2326mm
2.7m	2690mm	2626mm
3m	2990mm	2926mm
3.6m	3590mm	3526mm
4.2m	4190mm	4126mm
4.8m	4790mm	4726mm

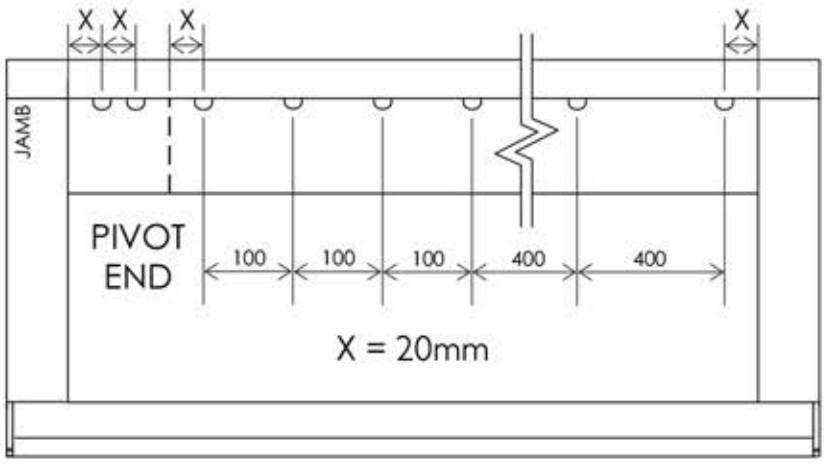
Step 5: Pre-Drilling the Top Track and Frame Head

- Insert the top track into the rebate in the head of the assembled frame. Ensure the ventilation cut-outs in the track align with and are on the same side as the trickle-vent machining in the frame head.



- Using a 4mm drill bit, pre-drill through the top track and frame head in the locations detailed in the diagram below.

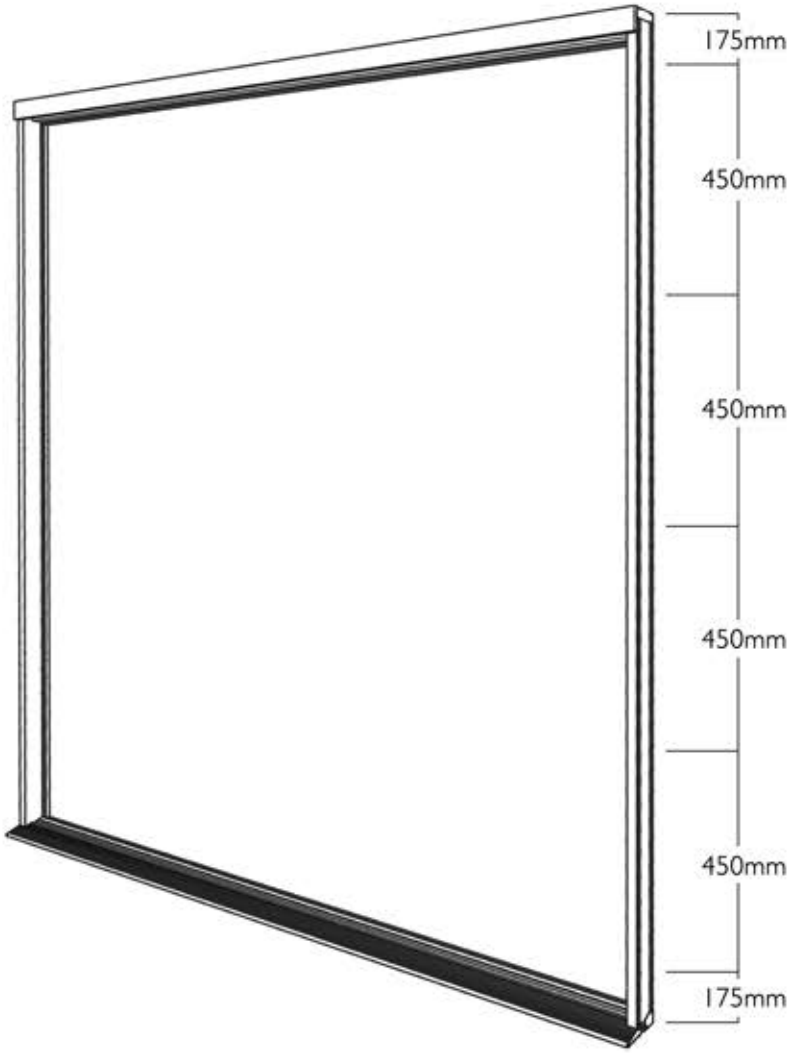
▽ = Drill point



ASSEMBLING THE FRAME

Step 6: Pre-Drilling the Jambs

- Using an 8mm drill bit, pre-drill through the middle of each jamb in the following positions:
  - 175mm from the top of the frame head
  - 175mm from the bottom of the sill
  - Centres of no more than 450mm along the remainder of the jamb



CHOOSING OPENING CONFIGURATION

In preparation for installing the frame, the intermediate carriers and top pivot blocks need to be inserted into the aluminium top track in the correct order for your desired opening configuration.

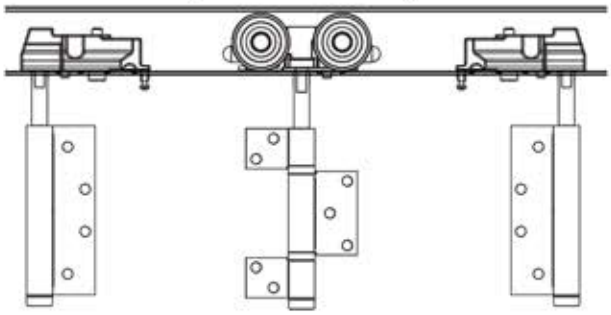
Step 1: Inserting the Hardware

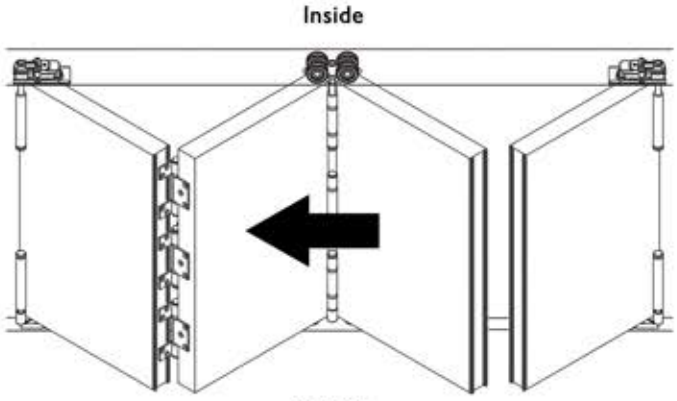
- Remove the pre-drilled top track from the frame head.
- Use the images below to determine your required opening configuration.
- Insert top pivot and carrier into the track in the relevant order.

PLEASE NOTE: The vent slots in the top track must be on the same side as those machined into the frame head.

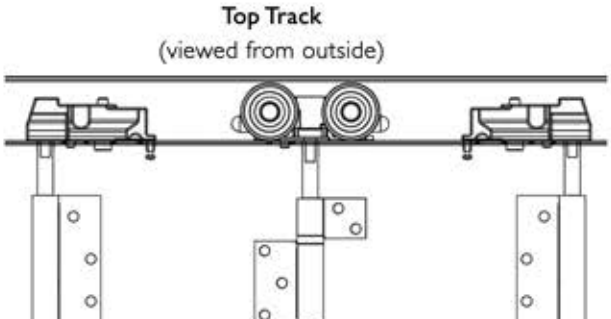
Set aside top pivot cover plates for later use

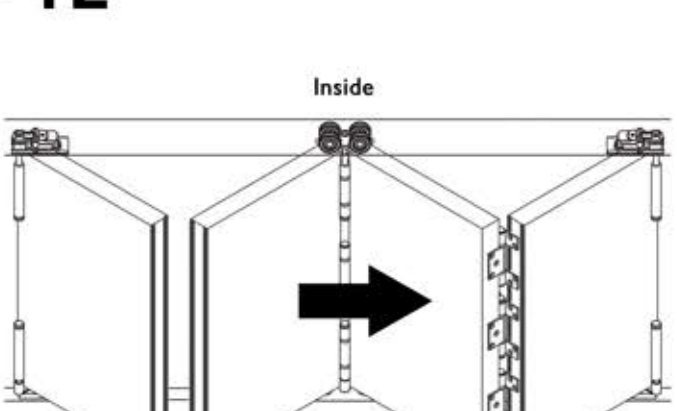
3L + 1R





3R + 1L





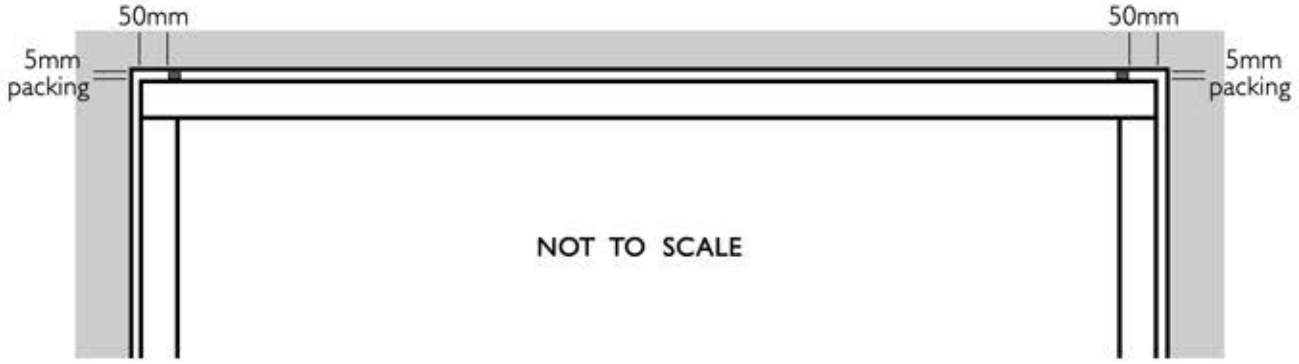
INSTALLING THE FRAME

Step 1: Pre-Drilling the Lintel

- Position your assembled frame in your aperture, ensuring that the pre-drilled holes in the frame head are aligned with a suitable section of your supporting structure (eg. in the centre of the external flange of a lintel).
- Using a 4mm drill bit, pre-drill the lintel through the existing holes in the frame head.
- Remove the frame from the aperture and use the same 4mm drill bit to continue pre-drilling a minimum of 40mm up into any masonry above the lintel.

Step 2: Positioning the Frame

- Position the frame back into your opening, ensuring that the holes in your frame head are re-aligned with the holes in your lintel.
- Once positioned correctly, insert 5mm of packers between the frame head and the top of the structural opening 50mm from each end of the head. **This is essential to create the required camber in the frame head.**



- Use a spirit level to check that the sill and head sections are level. Make adjustments as necessary.
- Use the spirit level to check that the jambs are completely vertical.
- Insert packers at each of the fixing points in the jambs. **Make sure the diagonals of the frame remain equal.**

Step 3: Fixing the Jambs

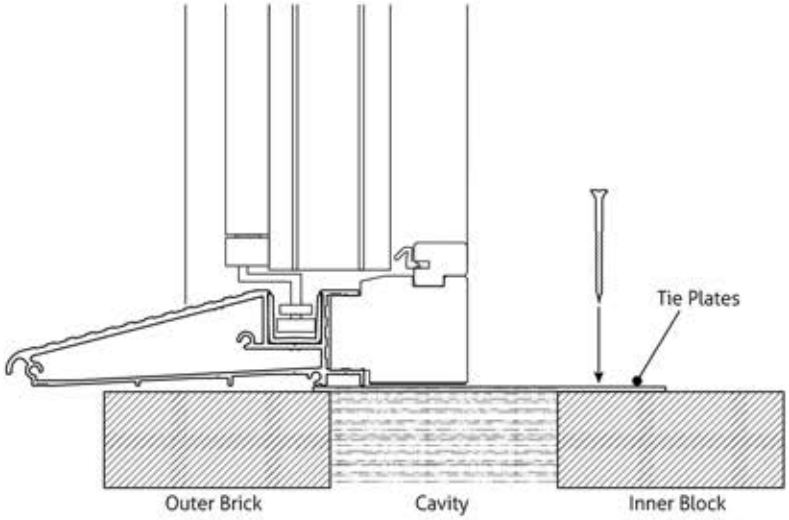
BEFORE CONTINUING, ENSURE THE FRAME IS HELD IN POSITION BY THE PACKERS

- Using an 8mm drill-bit, drill 70mm into the reveal structure through the pre-drilled holes in the jambs.
- Insert the frame fixing bolts into the prepared holes through the jambs and tighten. **Ensure you don't distort the jambs by over-tightening.**

INSTALLING THE FRAME

Step 4: Fixing the Sill

- For each of the tie plates fixed to the sill and threshold earlier during assembly, identify a suitable fixing point (eg. the inner block) and pre-drill to receive the 7mm masonry fixing plug.
- Fix through the tie plates into the masonry plugs using the 3.5 x 37 woodscrews.

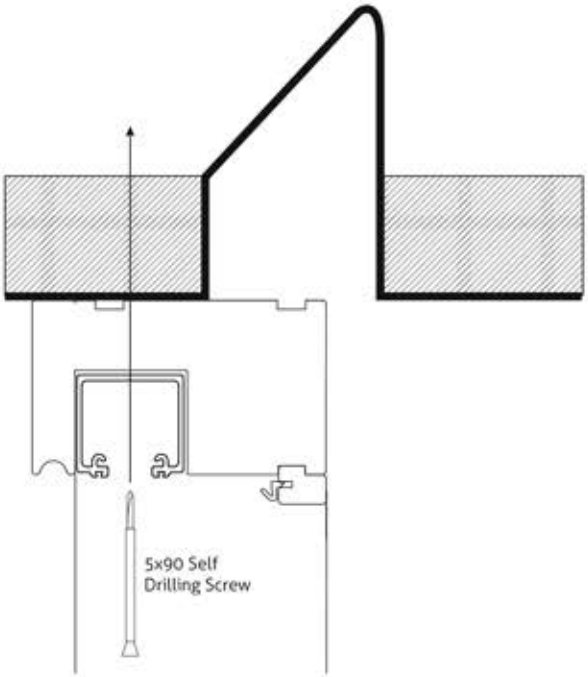


Step 5: Fixing the Head

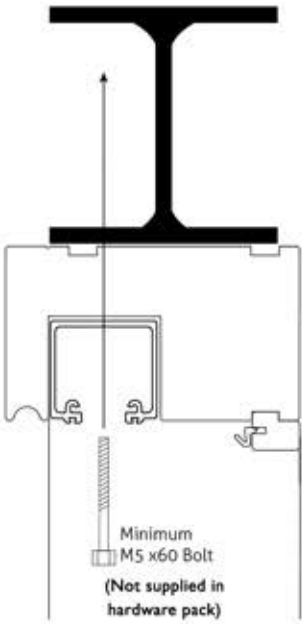
It is vital to install the frame with a slight camber in the head. To achieve this, it's necessary to install the fixings in steps, allowing you to reduce the gap between the head and supporting structure at each stage.

Please check below to see which type of fixing to use with your lintel, then continue to the next page for instruction.

PRESSED STEEL LINTEL



RSJ LINTEL



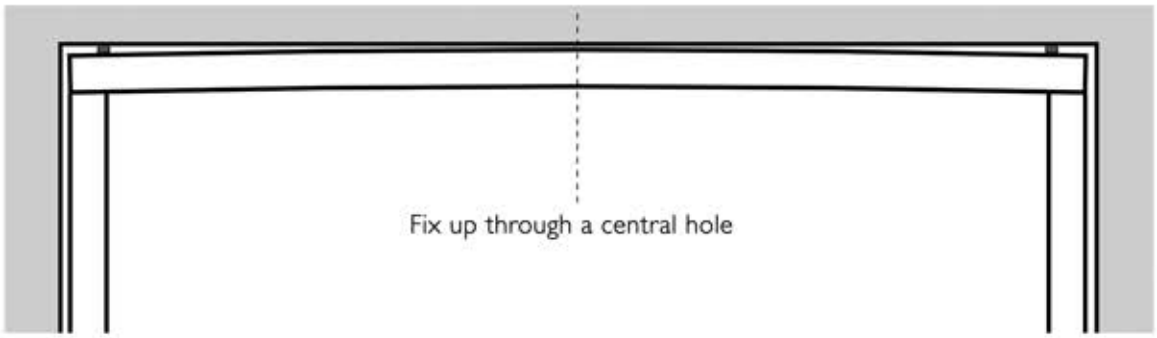
INSTALLING THE FRAME

Step 5 continued

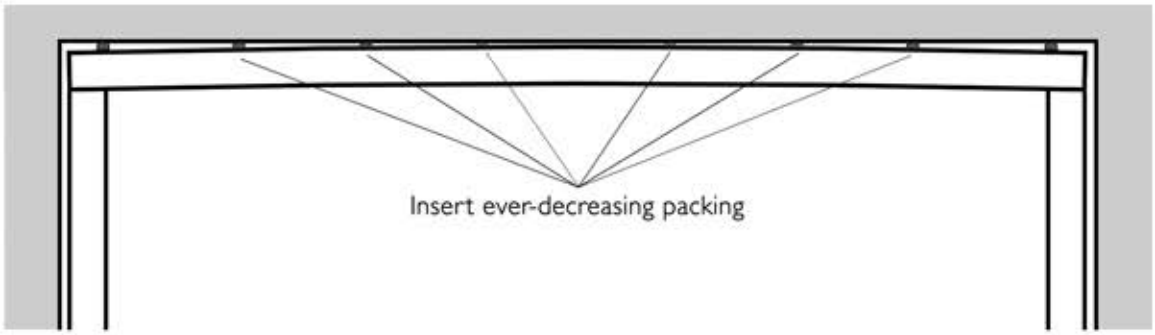
- If it's not currently in the frame head recess, push the top track containing the inserted carriers into the rebate, making sure it's facing the correct way.
- At the two outer pre-drilled holes (one left, one right), fix up through the track, head and lintel, tightening until it's just pulling at the head.

DO NOT FULLY TIGHTEN AT THIS STAGE

- Make sure the 5mm packing beween the frame head and supporting structure is still in the correct position as per Step 2: Positioning the Frame.
- Select a central pre-drilled hole, fix up through the track, head and lintel, and carefully tighten until the frame head is pulled close to the supporting structure.



- Working inwards from the outer-most pre-drilled holes, fix up loosely through the 3 sections and insert ever-decreasing packing between the head and supporting structure to create the camber with 5mm spacing at each jamb and 0mm in the centre.



- Once you have established the correct camber in the head, carefully tighten all the head fixings. **Do not over-tighten.**

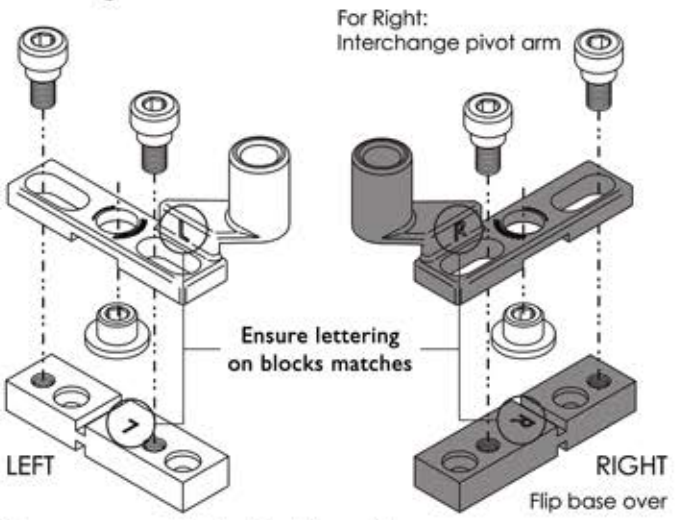
PRE-DRILLING FOR HINGES

Step 1: Pre-Drilling for Hinges

- Use the diagrams on the following pages to pre-drill hinge positions for your chosen opening configuration.
  Please ensure you use the correct diagrams for your chosen configuation.
- The "BW..." codes under each diagram relate to the relevant hinge pack included with your hardware.
- Where a hinge covers part of a weather seal, trim the seal so there is nothing behind the hinge.
  There can be no portion of weather seal trapped behind a hinge. Failure to adhere to this will put undue pressure on the doors and hardware.
- If your doors have glazing beading, this needs to be on the inside face of the set.
  All shootbolt recesses pre-machined into the doors must be on the inside face of the set.

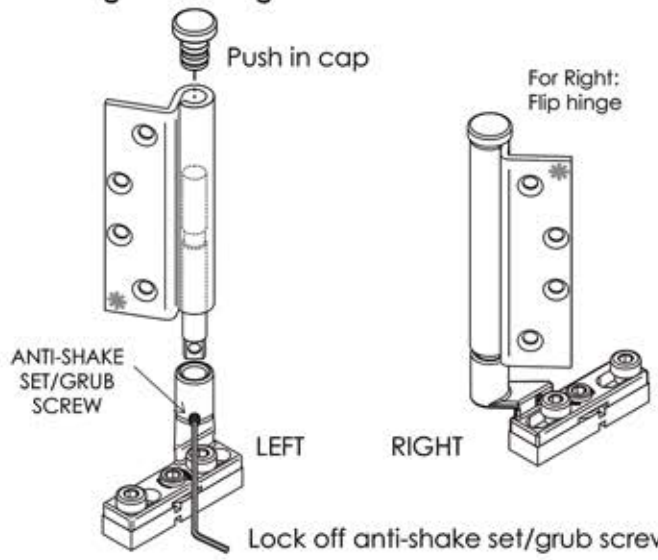
PLEASE NOTE: Depending on which opening configuration you've choosen, you may need to reverse the handing of the carriers and pivots. Use the provided allen key to release the security grub screw, flip the hinge components and then re-tighten the grub screw. Please use the diagrams below to guide any required handing changes.

Handing Bottom Pivot



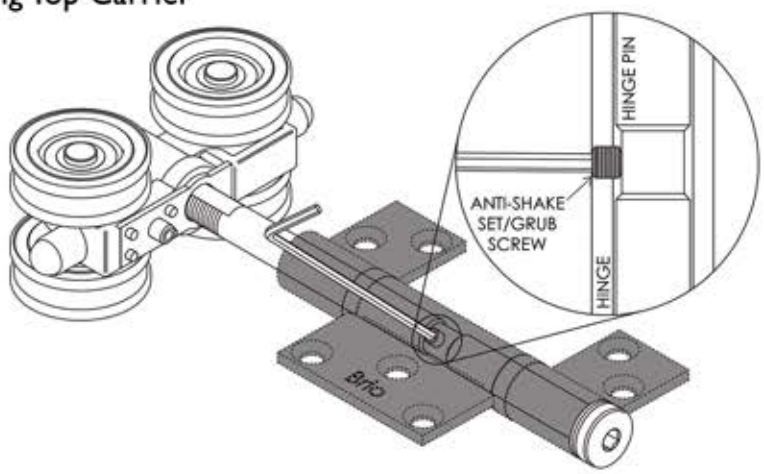
Secure assembly by locking off cap screws

Handing Pivot Hinge

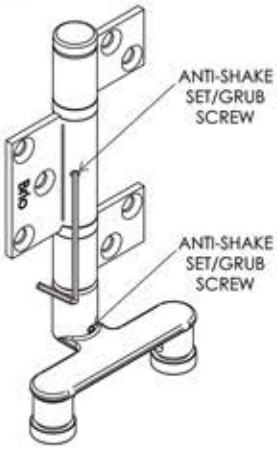


Lock off anti-shake set/grub screw

Handing Top Carrier

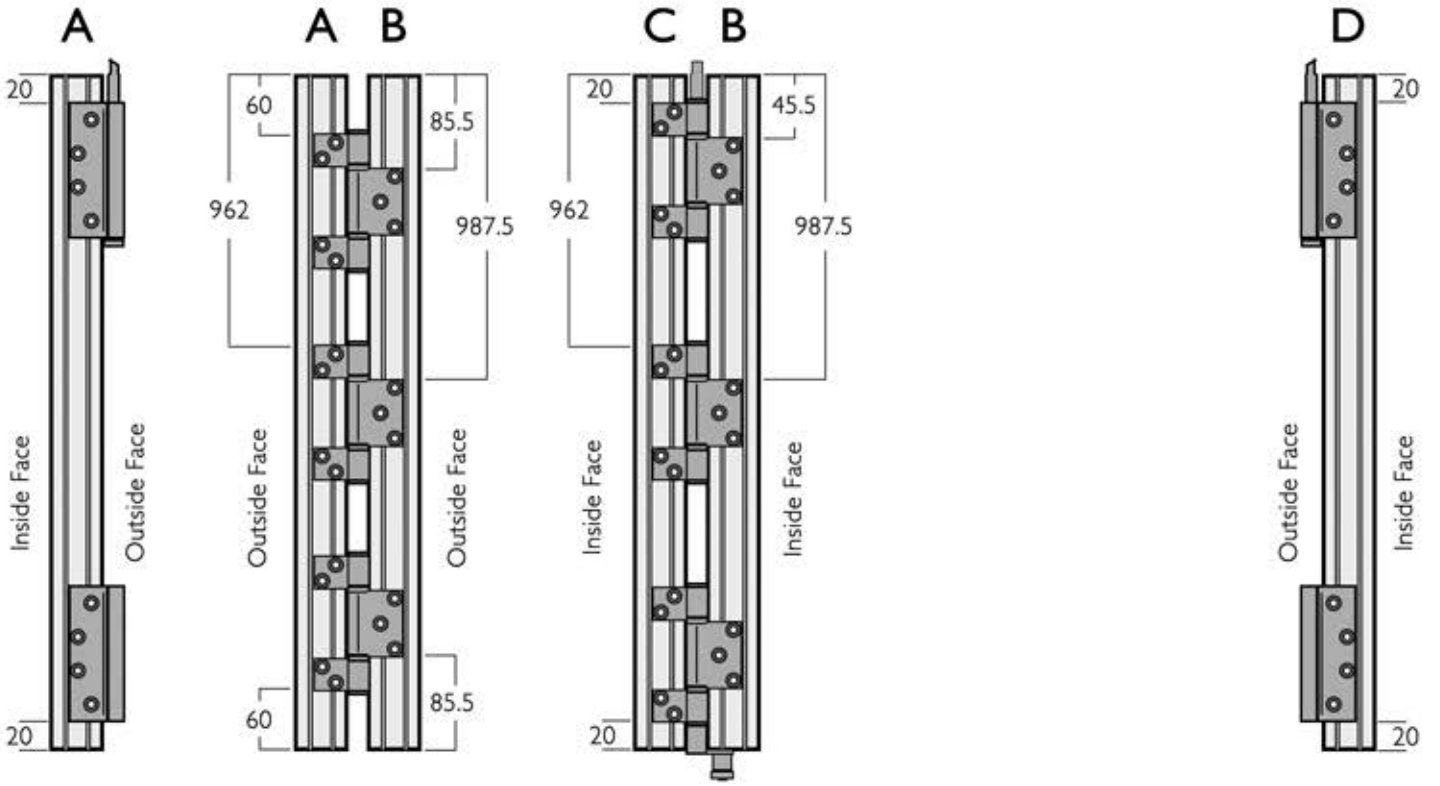


Handing Bottom Carrier

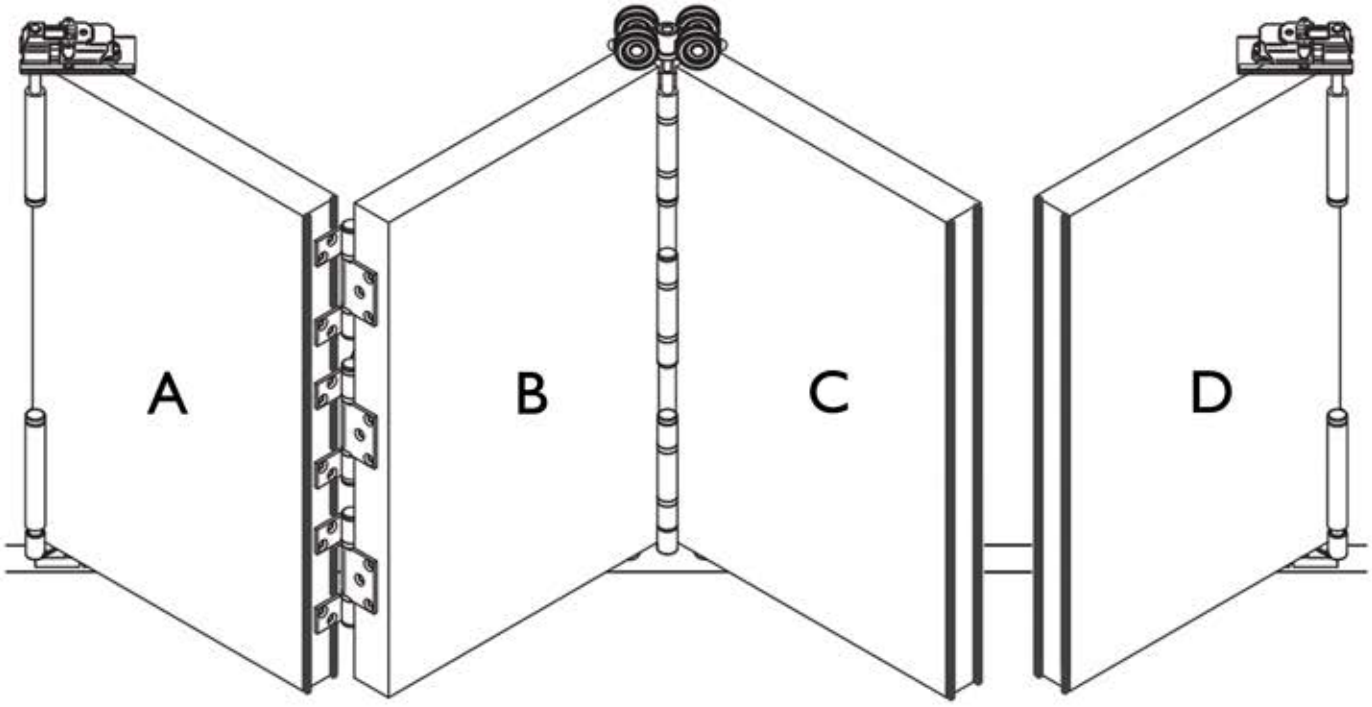


PRE-DRILLING FOR HINGES

3L + 1R

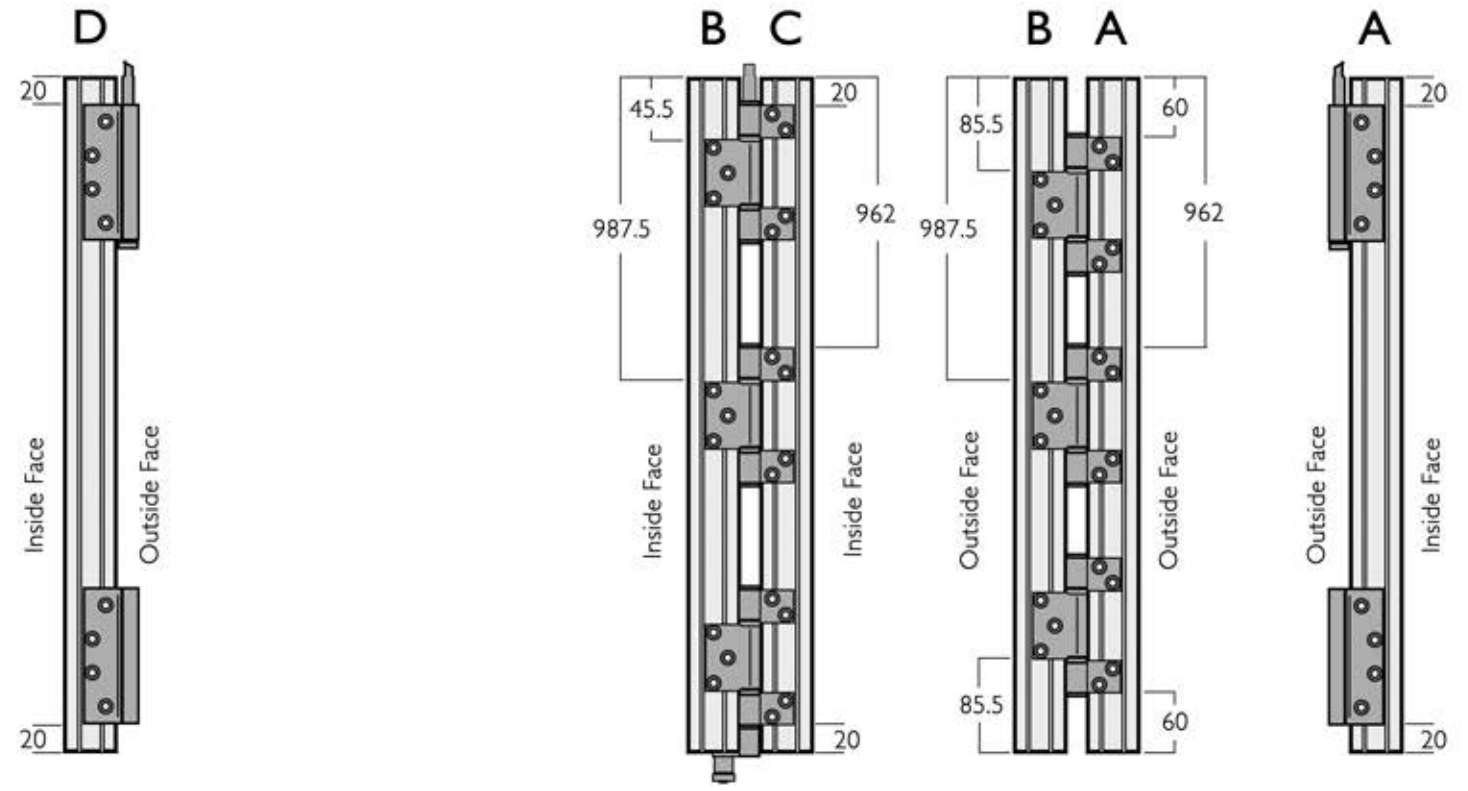


BWS1-100HSS BW7-100HSS BWS4-50SHSS BWS1-100HSS

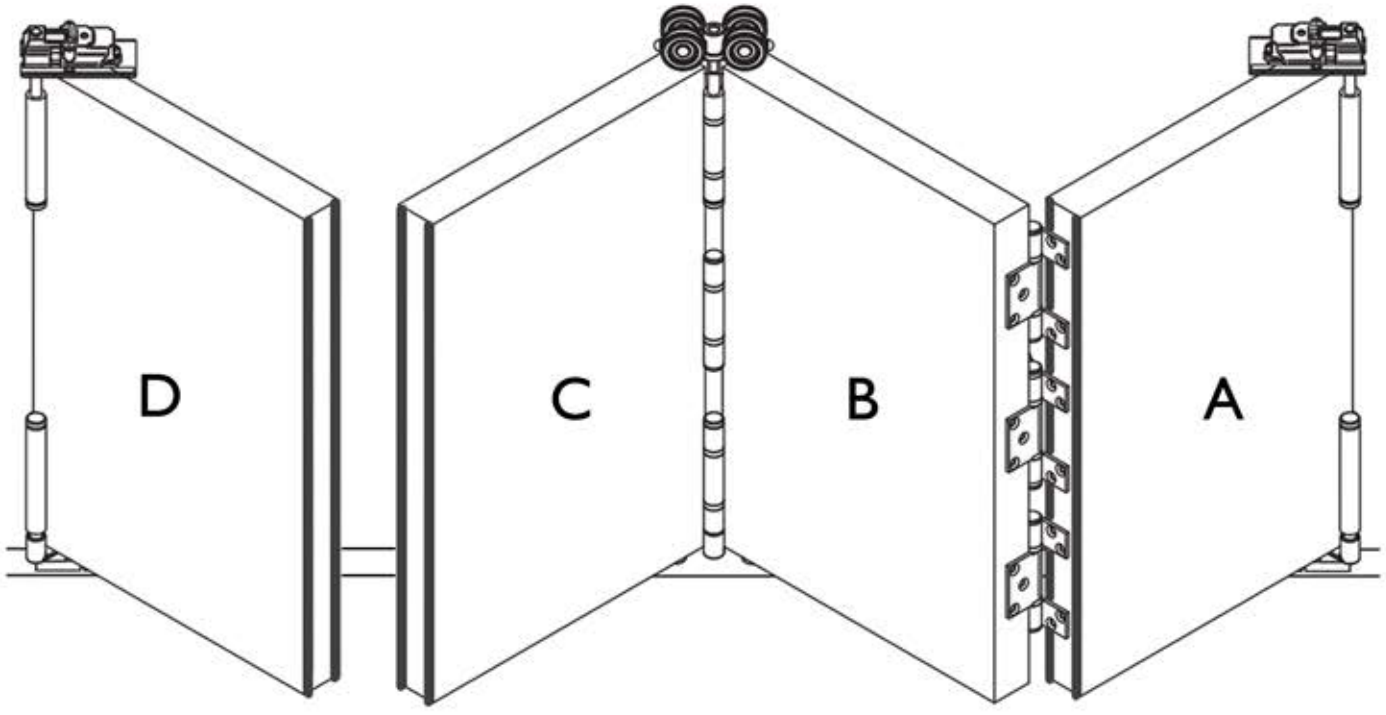


PRE-DRILLING FOR HINGES

3R + 1L



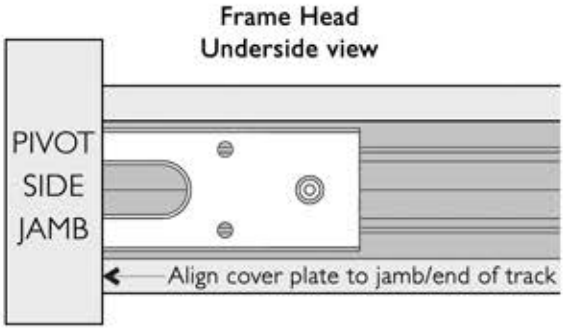
BWS1-100HSS | BWS4-50SHSS | BW7-100HSS | BWS1-100HSS

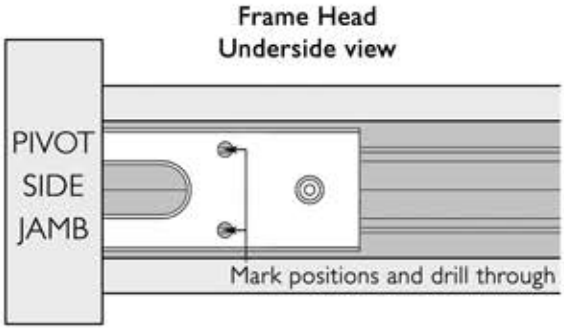


FITTING THE PIVOT HINGES

Step 1: Pre-Drilling for the Top Pivot

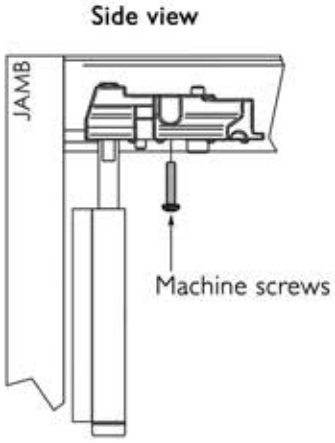
- Retrieve the cover plate and screws set aside during the "Choosing Opening Configuration" section.
- Hold the cover plate to the underside of the top track, and butt it up against the pivot-side jamb.
- Ensuring the hardware in the top track is moved safely out of the way, use the cover plate as a jig to mark the two holes as shown below.
- Remove the cover plate and drill through the bottom surface of the track in the marked positions using a 5mm drill bit.



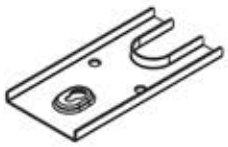


Step 2: Fitting the Top Pivot

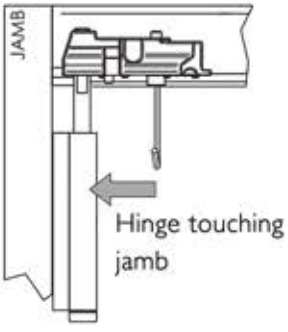
- Bring the top pivot back along the track to the pre-drilled holes, and fix up through the holes into the pivot using the 2 machine screws provided.

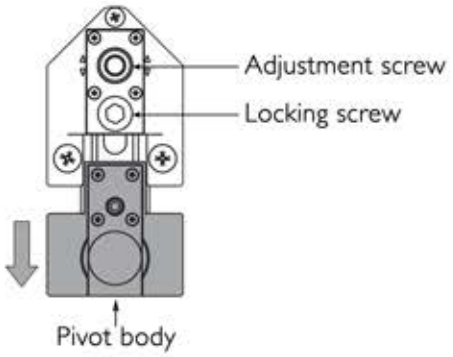


PLEASE NOTE:
The cover plate is fitted to the pivot at the end of the installation process using the single grub screw after adjustments have been made.



- Use the allen key provided to loosen the locking screw and move the pivot body back until the hinge touches the jamb.
- Tighten off the locking screw once the pivot body is in position.

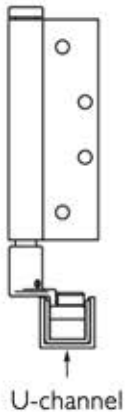


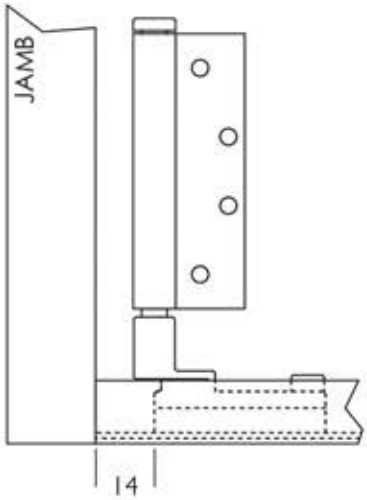


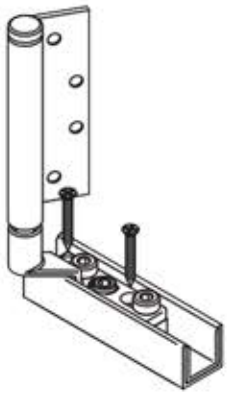
FITTING THE PIVOT HINGES

Step 3: Fitting the Bottom Pivot

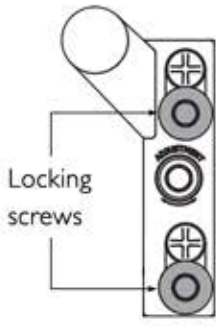
- Insert the bottom pivot into the u-channel of the sill section and position so the edge of the block is 14mm from the face of the jamb.
- Fix the bottom pivot in place using two screws.

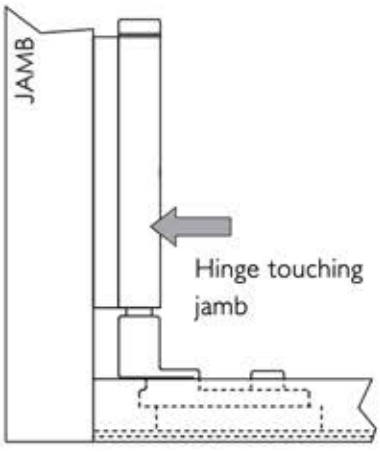






- Loosen off both locking screws and use the allen key provided to adjust the pivot until the hinge is touching the jamb.
- Tighten off both locking screws once the pivot is in position.

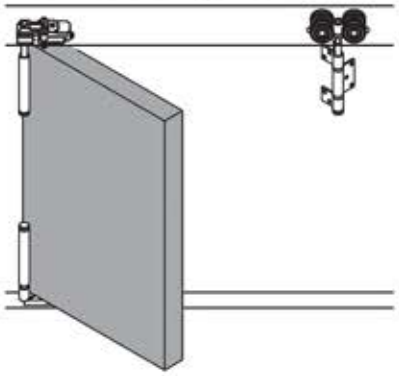


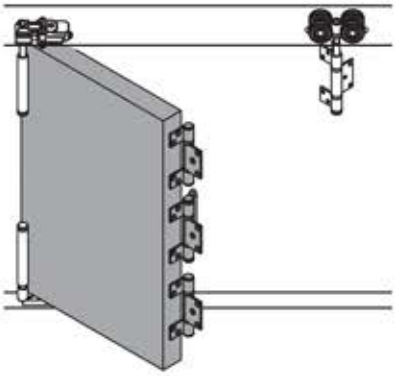


HANGING THE DOORS

Step 1: Fitting the Pivot Door

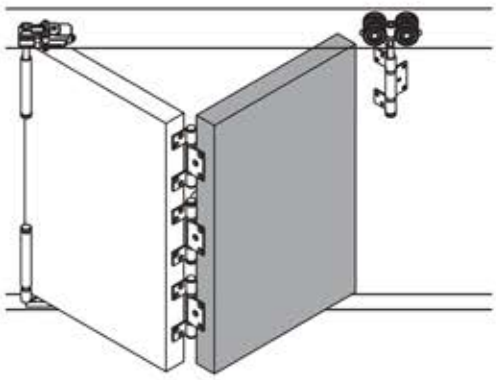
- Offer up door A to the secured end pivots and fix through the hinges into the pre-drilled holes using the screws provided.
  PLEASE NOTE: Start with a low torque setting on your driver and work upwards to avoid damaging the screws.
- Adjust the top and bottom pivots if necessary to ensure the door is vertically levelled.
- Fix the next set of hinges to the pre-drilled holes on the opposite edge of door A, making sure the handle hinge is in the middle with the handle facing inwards.

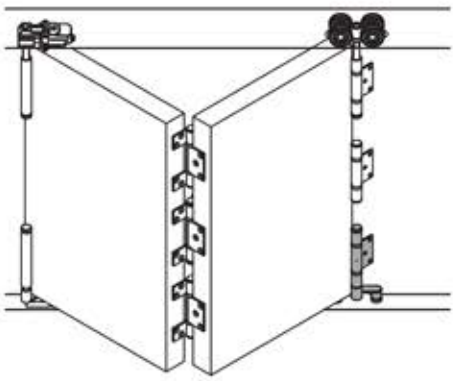




Step 2: Fitting the Second Door

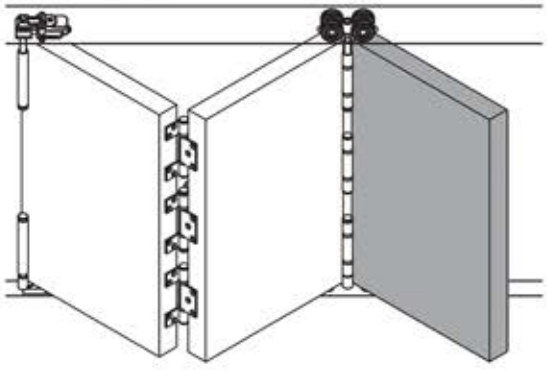
- Offer up door B to the other side of the 3 hinges just fixed to door A and fix through into the pre-drilled holes.
- Fix the top carrier, middle hinge and bottom carrier into the pre-drilled holes in door B, making sure the bottom guide slots into the u-channel.





Step 3: Fitting the Third Door

- Offer up door C to the other side of the hinges just fixed to door B, and fix through into the pre-drilled holes.



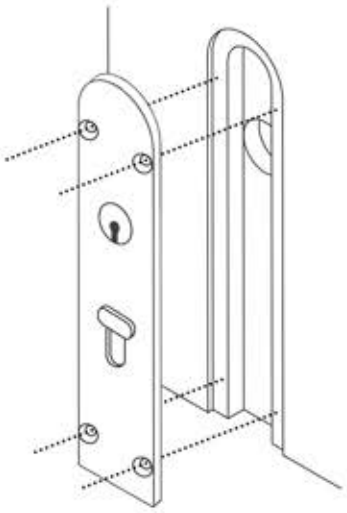
Repeat the above steps for any remaining doors

FITTING SHOOTBOLTS AND KEEPS

Step 1: Fitting the Shootbolts

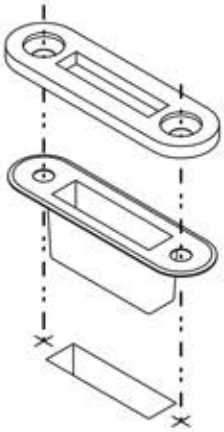
- Using the screws provided, fix the lockable shootbolt into the pre-machined recess at the bottom of door A.
- Repeat for the non-locking shootbolt, this time into the recess at the top of door A.

PLEASE NOTE: The lockable shootbolt must be fitted at the bottom in order to comply with building regulations.



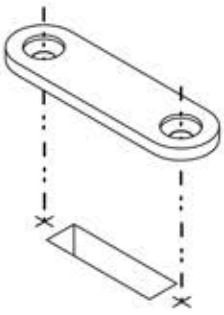
Step 2: Fitting the Shootbolt Keeps

- For the bottom shootbolt, insert the dust-box into the corresponding pre-machined recess.
- Overlay the keep, and fix through with the screws provided.
- For the top shootbolt, fix the keep up into the corresponding recess. No dustbox is required.



Step 3: Fitting the Blanking Plates

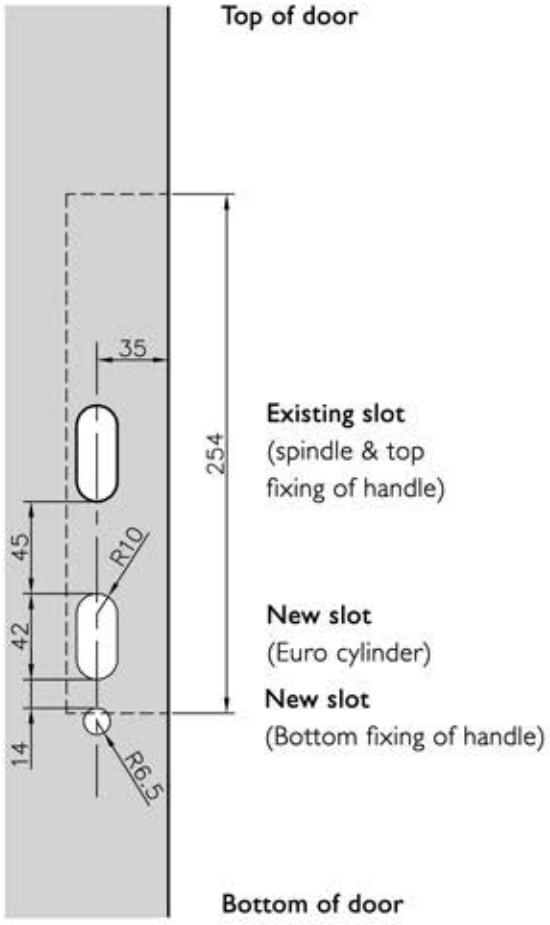
- For the shootbolt recesses not in use, insert a blanking plate and fix through.

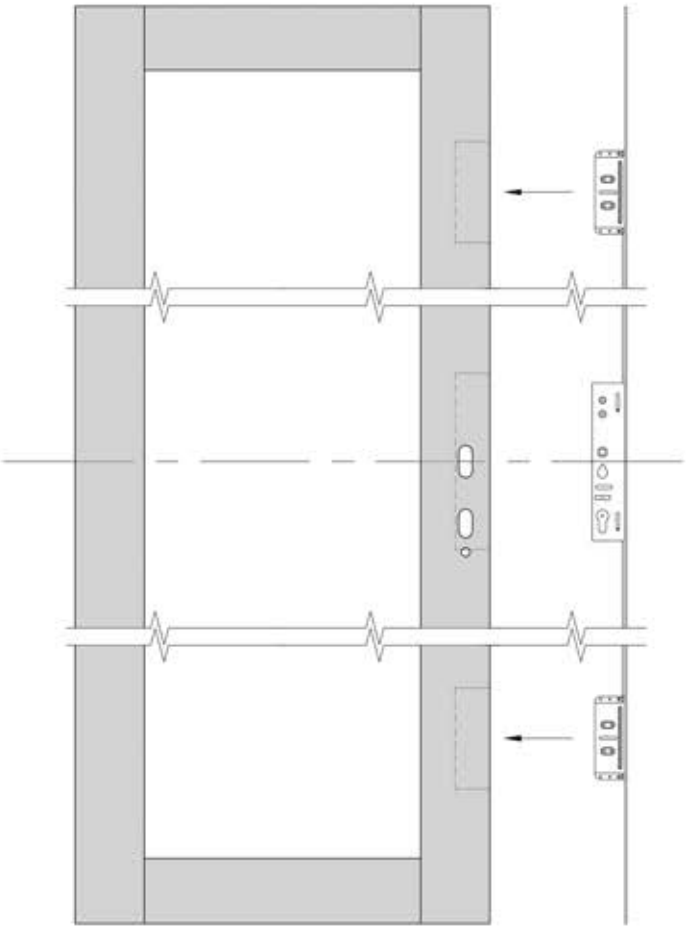


FITTING THE MULTI-POINT LOCK

Step 1: Preparing the Access Door

- The locking door comes with the slot for spindle and top fixing of the handle already pre-machined, but the other slots cannot be cut until the handing of the set has been determined.
- Now the doors have been hung, use the below diagram to cut the 2 slots for the cylinder and bottom handle fixing.
- Insert the multi-point lock into the edge of the door to check the holes align correctly.





Step 2: Fitting the Handles and Lock Cylinder

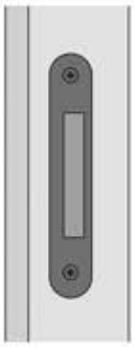
- Fit the handles and lock cylinder included in the handle pack to door C through the 3 holes using the fixings provided.
- Depending on whether you have fitted your set to open to the right or left, you may need to reverse the latch of the multi-point lock. If so, take the following steps:
  - Release the screw holding the latch.
  - Remove the latch, reverse and put back.
  - Re-fix the holding screw.
- Secure lock cylinder through the hole in multi-point lock using the fixing screw provided.
- Check multi-point lock operation and latch alignment with the keeps, then fix the multi-point lock to the door using the 3.5 x 37mm woodscrews.

FITTING FINAL PIECES

Step 1: Fitting the Multi-Point Lock Keeps

- For the door that the handled door closes onto, fix the tongued keep into the recess in the centre of the door, and fix the tongueless keeps into the recesses at the top and bottom of the door.
  If the tongue recess needs to be cut, use the keep as a template.

Top and bottom of door



Centre of door

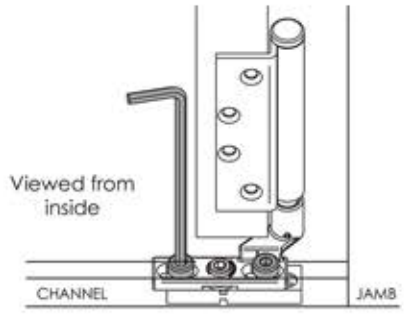
Step 2: Fitting the Trickle Vent Covers

- Place the supplied plastic trickle vent covers over the vent holes machined into the frame head and screw through the holes at each end to fix the covers in place.
- Clip a supplied end cap onto the end of each cover to hide the screw heads.

FINAL ADJUSTMENTS

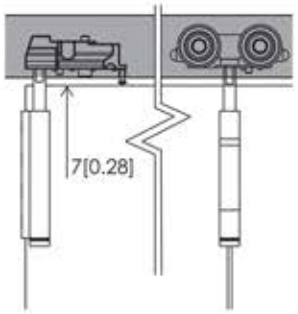
Step 1: Loosen Locking Screws

- Now that the set is fully installed, fully open the doors and loosen the locking screws on the bottom pivot.



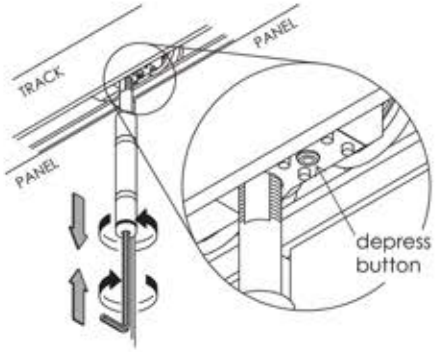
Step 2: Adjust Panel Heights part 1

- All panels must be brought parallel, with 7mm gap between the track



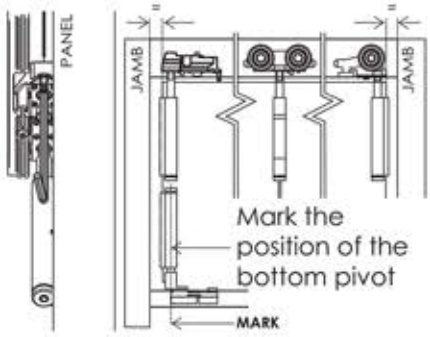
Step 3: Adjust Panel Heights part 2

- Adjust panel height by despressing the button and winding the bolt on the top pivot and carrier.



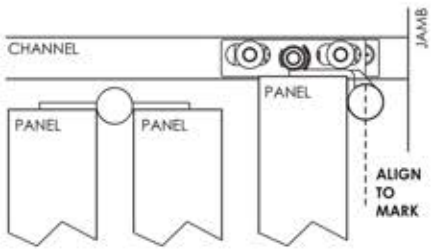
Step 4: Centralise Panels

- Close the doors, loosen the top pivot locking screw and adjust until door panels are centralised.
- Re-lock the top pivot and mark position of bottom pivot



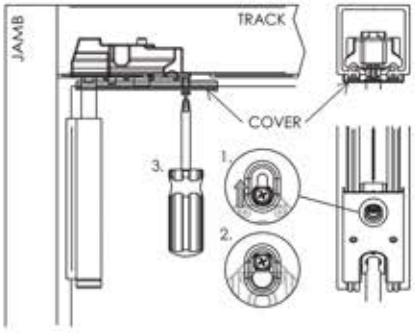
Step 5: Set Bottom Pivot

- Fully open the doors and adjust bottom pivot to the mark.
- Lock off the bottom pivot locking screws.



Step 6: Fit Cover Plate

- Close the doors and fit the cover plate to the top pivot using the single grub screw.



MAINTENANCE

We recommend the below maintenance steps be carried out at the following intervals:
- **General environments: every 6 months**
- **Marine/industrial environments: every 3 months**
  - **For marine/industrial environments, regular maintenance is required to all hardware, including stainless steel. Failure to adhere to this may void your warranty.**

General

Inspect all fixings for tightness every 6 months, including those securing brackets. Tighten if necessary. Routinely check for signs of wear and, if excessively worn, the part should be replaced.

To help prevent surface corrosion, we recommend washing regularly.; even stainless steel in coastal environments may show signs of surface corrosion if not washed regularly. Wash with soap or mild detergent and warm water followed by rinsing with clean cold water and wipe dry.

In coastal or marine environments we recommend applying a light application of corrosion preventative such as CRC Marine 66 or Inox for Marine, to all surfaces and using a dry cloth to remove excess. When using lubricant or corrosion protection compounds, be careful to avoid the adjacent surfaces and always follow the manufacturer's instructions.

Track

Keep track free from obstruction and excessive dirt or water. Visible surfaces should be cleaned using a damp cloth and mild detergent, then wiped dry.

Hangers and Pivots

All hangers are fitted with lubricated ball-bearings or plain bearings, requiring no greasing. If doors 'settle' and door clearance is reduced causing friction, raise the door by the hanger adjustment nuts.

Wash as per the above recommendation and apply a light application of corrosion preventative to all surfaces, using a dry cloth to remove excess.

Bottom Channel and Rollers

The channel should be free from obstruction and excessive dirt or water. Visible surfaces should be cleaned using a damp cloth and mild detergent, then wiped dry. All rollers are fitted with sealed precision bearings requiring no maintenance.

Hinges

Visible surfaces should be cleaned using a damp cloth and mild detergent, then wiped dry. Apply a light application of corrosion preventative to all surfaces, using a dry cloth to remove excess.

Shootbolts

Visible surfaces should be cleaned using a damp cloth and mild detergent, then wiped dry. Apply a light application of lubricant to internal mechanisms and bolt using a suitable nozzle-spray.