XL JOINERY LTD

FREEFOLD
ASSEMBLY INSTRUCTIONS

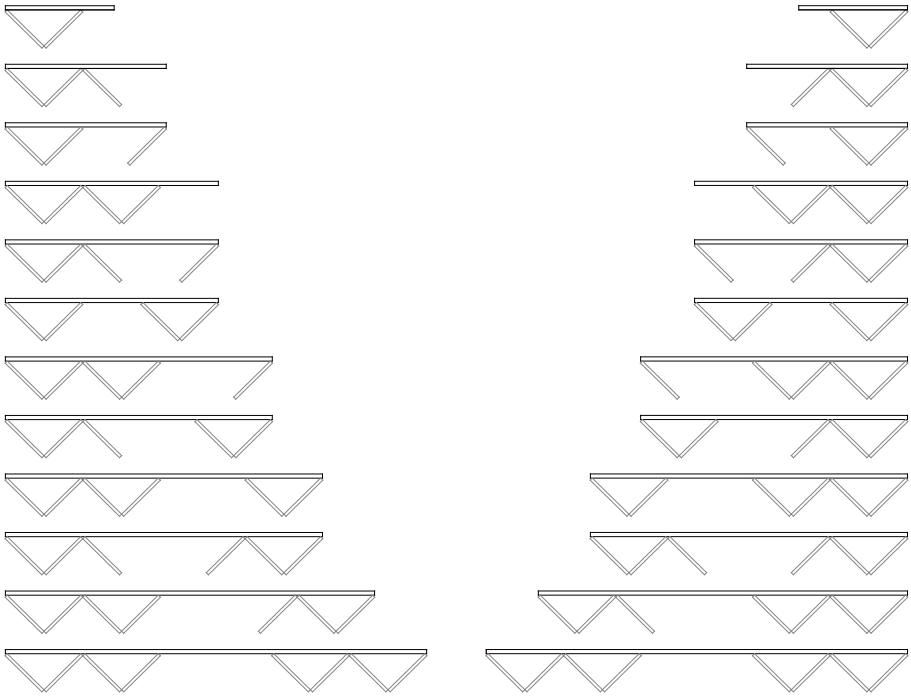
ALL SIZES

PLEASE READ AND UNDERSTAND THESE INSTRUCTIONS FULLY PRIOR TO STARTING INSTALLATION. IT IS STRONGLY RECOMMENDED THAT A COMPETENT TRADES PERSON INSTALLS THIS PRODUCT.

INTRODUCTION

Below are the opening configurations available for the Freefold system based upon how many doors you are using. These instructions relate to the use of doors measuring 1981 x 610 x 35mm, with a recommended maximum weight of 20kg each. Heavier doors may be used at the discretion of the installer, although stronger fixings may also be required, e.g. longer screw lengths for fitting the 4 wheel carrier.

The frame sizes listed refer to the actual external frame dimensions, (H x W x D): The room opening may require adapting to suit the frame. This may entail the construction of a partition above and/ or to the sides of the frame. (Materials not included). This should be completed prior to installing the frame: Ensure the stud partition, (or similar), is sufficiently robust to bear the load of the Freefold system and doors.

FRAME SIZE	OPENING CONFIGURATIONS
2 DOOR: 2090 x 1278 x 135mm	
3 DOOR: 2090 x 1890 x 135mm	
3 DOOR: 2090 x 1890 x 135mm	
4 DOOR: 2090 x 2502 x 135mm	
4 DOOR: 2090 x 2502 x 135mm	
4 DOOR: 2090 x 2502 x 135mm	
5 DOOR: 2090 x 3114 x 135mm	
5 DOOR: 2090 x 3114 x 135mm	
6 DOOR: 2090 x 3726 x 135mm	
6 DOOR: 2090 x 3726 x 135mm	
7 DOOR: 2090 x 4338 x 135mm	
8 DOOR: 2090 x 4950 x 135mm	

CONTENTS

Check that all the components listed below are present, (relevant to size option purchased), and in good condition prior to treating and assembling the product.

NOTE: Depending on the door configuration used, there may be some hardware components remaining after assembly. E.g. 3 Doors opening in one direction only requires 1 Top Pivot and 1 Bottom Pivot: A 3 Door configuration with 2 doors opening to the left and 1 door to the right will require 2 Top Pivots and 2 Bottom Pivots. There are sufficient components included to cover either configuration.

FRAME PACK

All Frame Packs: Jamb Pair & Loose Beads
Size: 2050 x 120 x 22mm (Including Tenon)

2 Door Configuration: Frame Head x1
Size: 1278 x 135 x 100mm

3 Door Configuration: Frame Head x1
Size: 1890 x 135 x 100mm

4 Door Configuration: Frame Head x1
Size: 2502 x 135 x 100mm

5 Door Configuration: Frame Head x1
Size: 3114 x 135 x 100mm

6 Door Configuration: Frame Head x1
Size: 3726 x 135 x 100mm

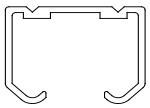
7 Door Configuration: Frame Head x1
Size: 4338 x 135 x 100mm

8 Door Configuration: Frame Head x1
Size: 4950 x 135 x 100mm

HARDWARE COMPONENTS

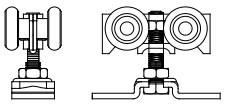
HARDWARE	2 DOOR	3 DOOR	3 DOOR	4 DOOR	4 DOOR	4 DOOR	5 DOOR	5 DOOR	6 DOOR	6 DOOR	7 DOOR	8 DOOR
Head Fix Aluminium Track	1	1	1	1	1	1	1	1	1	1	1	1
Aluminium Surface Channel	1	1	1	1	1	1	1	1	1	1	1	1
Plated 4 Wheel Carrier	1	1	1	2	2	2	2	2	3	3	3	4
Top Pivot	1	2	2	2	2	2	2	2	2	2	2	2
Wall/ Floor Fix Bottom Pivot	1	2	2	2	2	2	2	2	2	2	2	2
Spring Loaded Floor Guide	1	1	1	2	2	2	2	2	3	3	3	4
100mm Chrome Hinge	3	6	6	9	9	9	9	9	15	15	15	18
Bale Roller Catch	1	1	1	1	1	1	1	1	1	1	1	1
Door Bolt & Latch Plate	1	1	1	2	2	2	2	2	3	3	3	4

Head Fix Aluminium Track

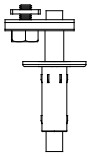


Aluminium Surface Channel

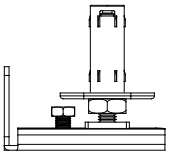
Plated 4 Wheel Carrier



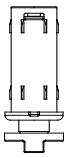
Top Pivot



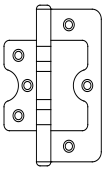
Wall/ Floor Fix Bottom Pivot



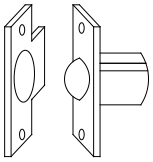
Spring Loaded Floor Guide



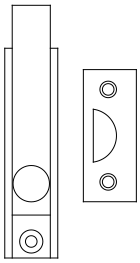
Chrome Hinge



Bale Catch



Door Bolt & Latch Plate



Ancillary Fixing Screws

75mm Frame Assembly Screws x 4
15mm Aluminium Surface Channel Screws*
35mm Round Head Top Track Fixing Screws*

NOTES

* Quantities to suit product.

Door Handles are not supplied. (See last page)

Jamb Pairs come with Loose Beads for optional fitting. (See last page)

STAINING/ PAINTING OF TIMBER COMPONENTS

Bare timber doors and frame products will require a light sanding prior to finishing. Take care when finishing glazed doors to ensure that the finish does not go on the glass. Secondary protection such as masking tape may be necessary, including on Paint and Peel protected doors.

All timber surfaces should be fully finished. When applying the finish pay particular attention to sealing the timber end grain on the tops and bottoms of the doors: Ensure that all lock, latch and hinge cut-outs are also fully treated.

PRE-FINISHING SUMMARY

DO

- Use a good quality paint, stain or varnish.
- Apply to all faces and edges.
- Apply the same number of coats equally to the face, edges, lock, latch and hinge cut-outs.
- Apply at least 1 coat of finish as soon as possible after unpacking the door
- Check that the finish manufacturers' product is suitable for veneered/ engineered doors

DO NOT

- Use thin penetrating seals, oils, wax, dyes or hard, brittle finishes.
- Use thinned/ mixed paints or stains.
- Mix incompatible products, e.g. paint on one door face and stain on the opposite face.

MAINTENANCE

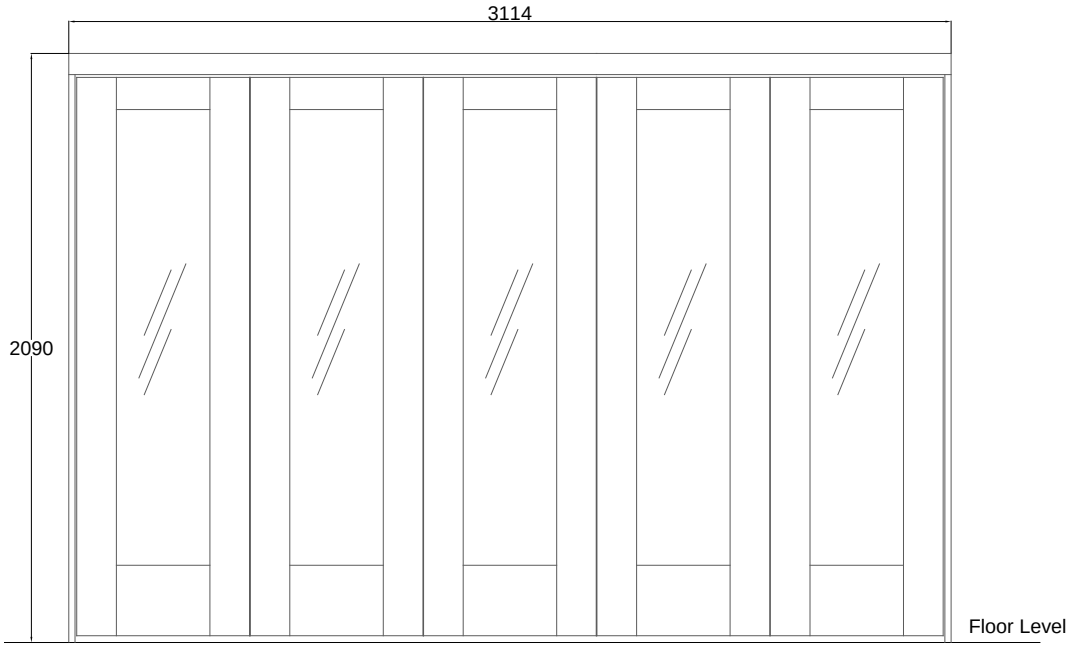
Regular maintenance of the finish must be carried out to ensure the long term protection of the doors.

Note: Storing, installing or finishing the product in a manner not detailed in these instructions may invalidate the warranty.

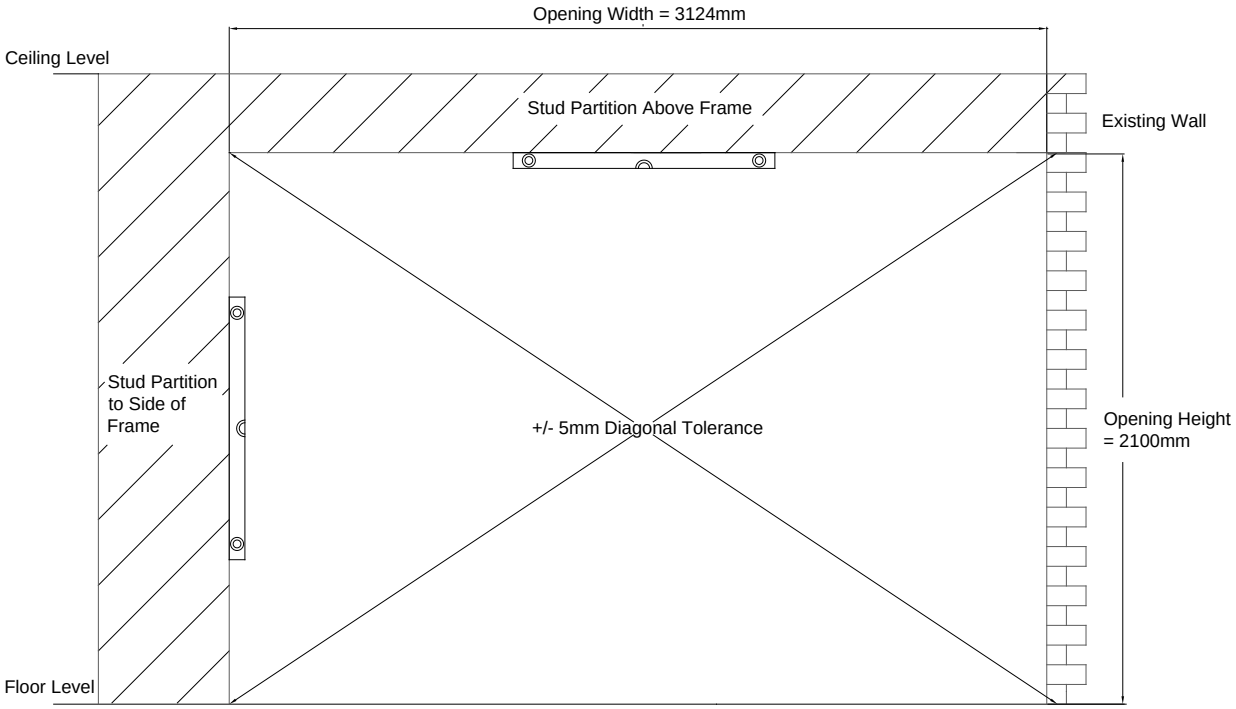
PREPARING THE OPENING

The opening should be approximately 10mm wider than the assembled frame dimensions to facilitate fitting and squaring of the frame. The opening should be level and square prior to installing the frame. Failure to ensure this may impede the proper functioning of the doors. Please refer to the example below for fitting.

EXAMPLE: 5 DOOR CONFIGURATION FRAME DIMENSIONS

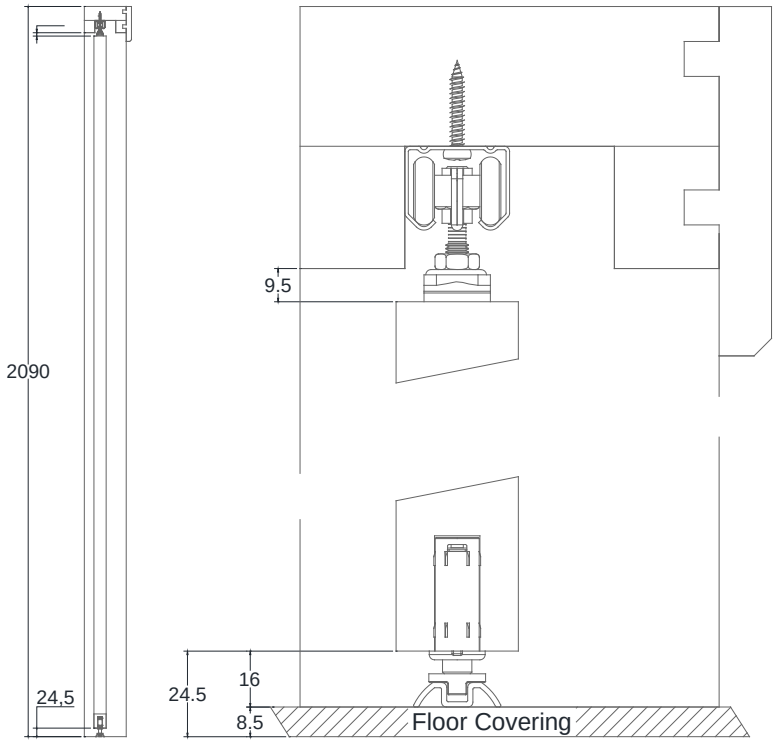


EXAMPLE: 5 DOOR CONFIGURATION OPENING DIMENSIONS



The Jambs are over-sized in the length to allow for a floor covering to be fitted **after** frame installation. If the frame is fitted on top of the floor covering then the jamb length will need reducing from the bottom edge by the same thickness as the floor covering. The distance between the top edge of the doors and the back of the frame head (opposite side to pelmet) should be 9.5mm. The distance between the bottom edge of the doors and the floor surface, (not the Aluminium Surface Channel), should be 16mm. The floor covering allowance is 8.5mm.

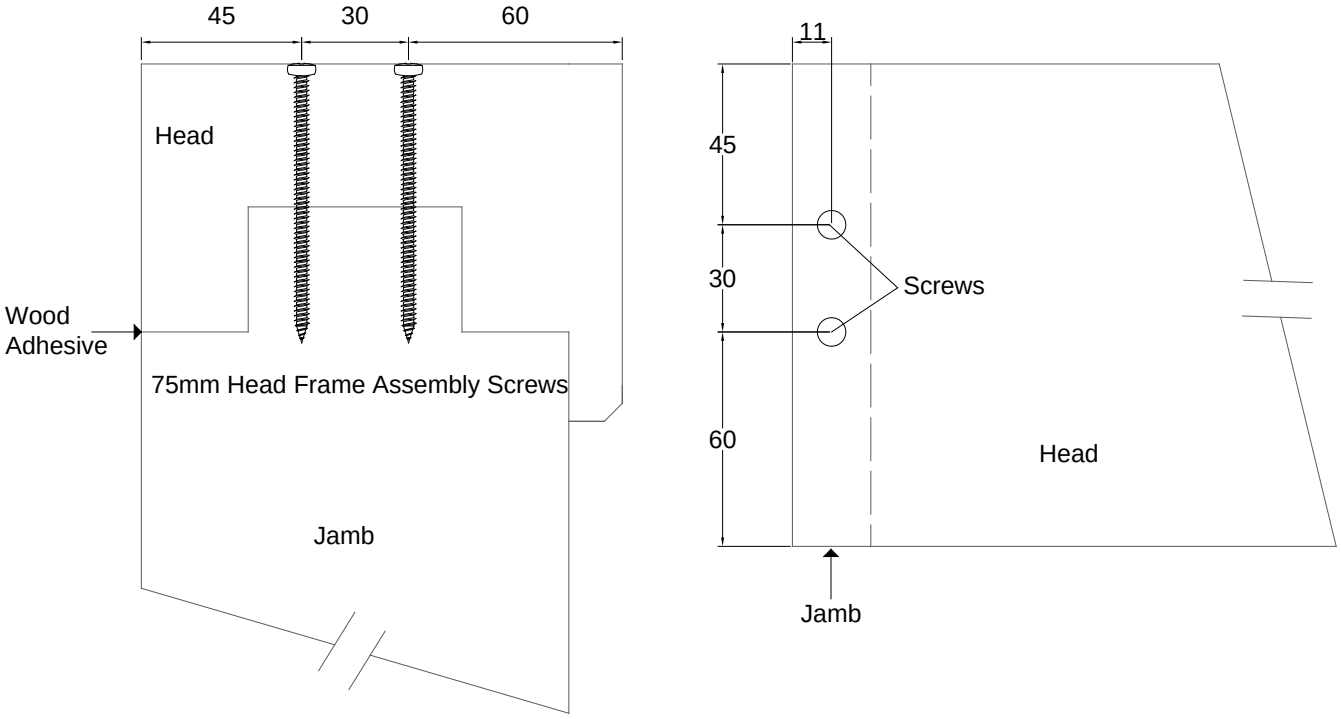
It is important that the floor is level and even: If the Aluminium Surface Channel is fitted to a sloped or uneven floor, the Spring Loaded Floor Guides may disengage during operation.



Full length jambs allow for a maximum 8.5mm floor covering: Reduce Jamb length if they are to be installed on top of an existing floor covering

ASSEMBLING THE FRAME

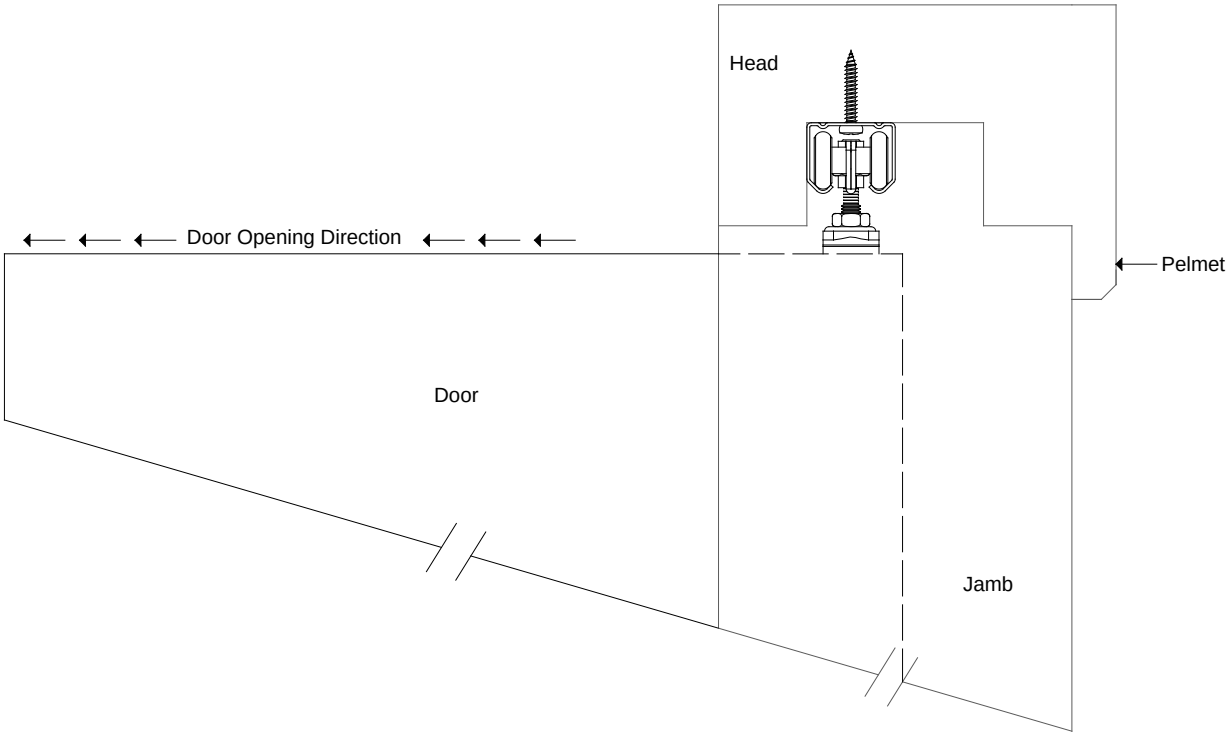
1. Unpack and loosely assemble the Jambs and Frame Head on a flat clean surface. Use the Head Fix Aluminium Track to act as a spacer between the bottoms of the Jambs. Ensure the loosely assembled frame is square.
2. Mark-out the screw positions as per the diagram below.
3. Pre-drill the Frame Head and Jamb tenons using a 4mm wood drill bit. Countersink the holes so that the screw heads will sit flush with the surface of the Frame Head.
4. Apply wood adhesive, (not supplied), to the adjoining surfaces between the Jambs and the Head components just prior to screwing the jointed components together.
5. Use the 75mm Frame Assembly Screws to connect the Head to the left and right hand Jambs.
6. Ensure the frame joints are tight and that the frame is kept square prior to installation.
7. Wipe off any excess wood adhesive with a clean cloth.

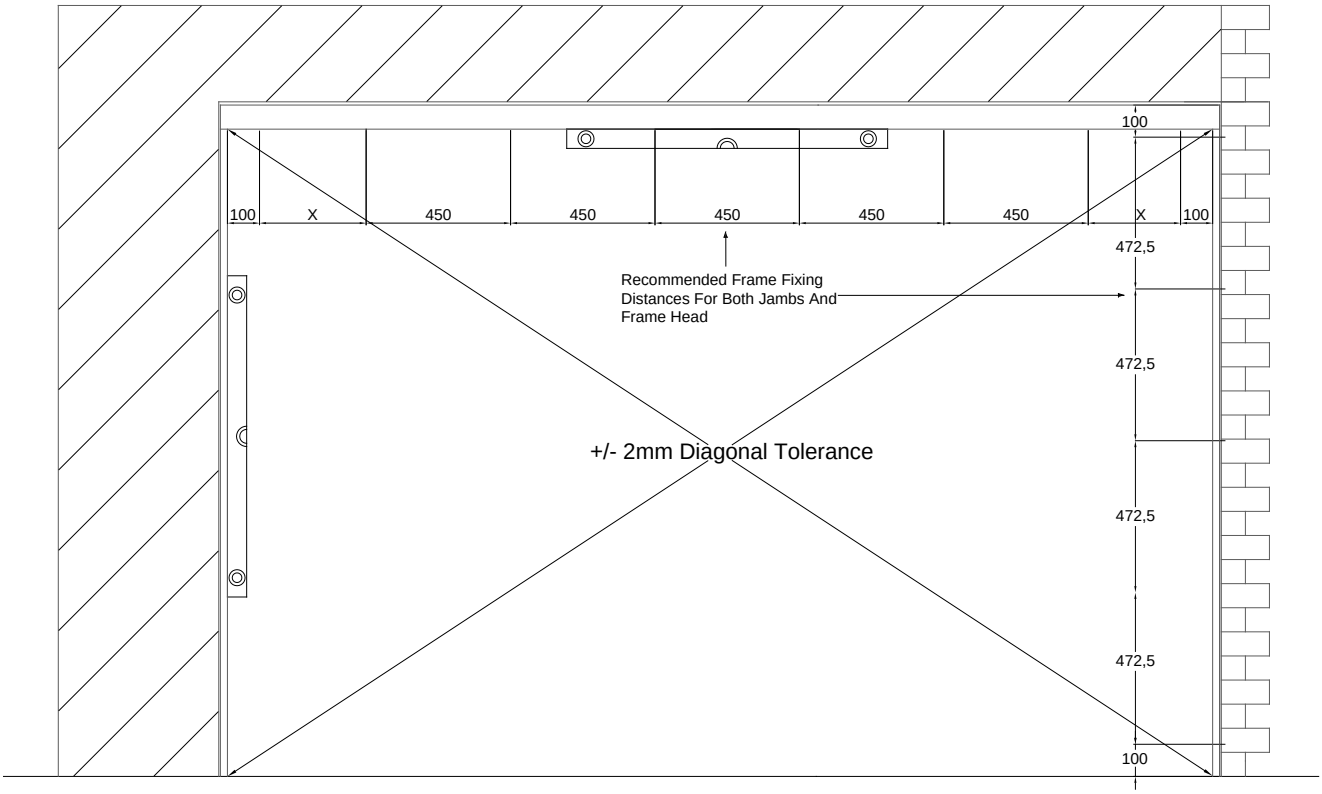


INSTALL THE ASSEMBLED FRAME

1. Decide upon the opening configuration you require. The doors will fold and open **AWAY** from the Frame pelmet, (See diagram overleaf).
2. Fit the frame into the opening.
3. Ensure the frame is fitted square and level in both the horizontal and vertical plane. If necessary, use packers between the frame and opening.
4. Check that the frame diagonal tolerance is 2mm or less.
5. Fit the frame through the Jambs and into the adjacent walls and countersink the screws so that they are below the surface of the frame, (75mm screws recommended, not supplied).
6. Fit the frame through the Frame Head and into stud partition/ ceiling above at approximately 450mm centres and 100mm from each Jamb, (100mm screws recommended, not supplied). Ensure that there are no service pipes or wires near to the screws.
7. Countersink the screws so that they are below the surface of the Frame Head: Failure to do so will prevent proper fitting of the Head Fix Aluminium Track.
8. If fitting into the ceiling, try to screw into the ceiling joists for a secure fitting, (otherwise use heavy duty expansion bolts or similar, not supplied).

INSTALL THE ASSEMBLED FRAME



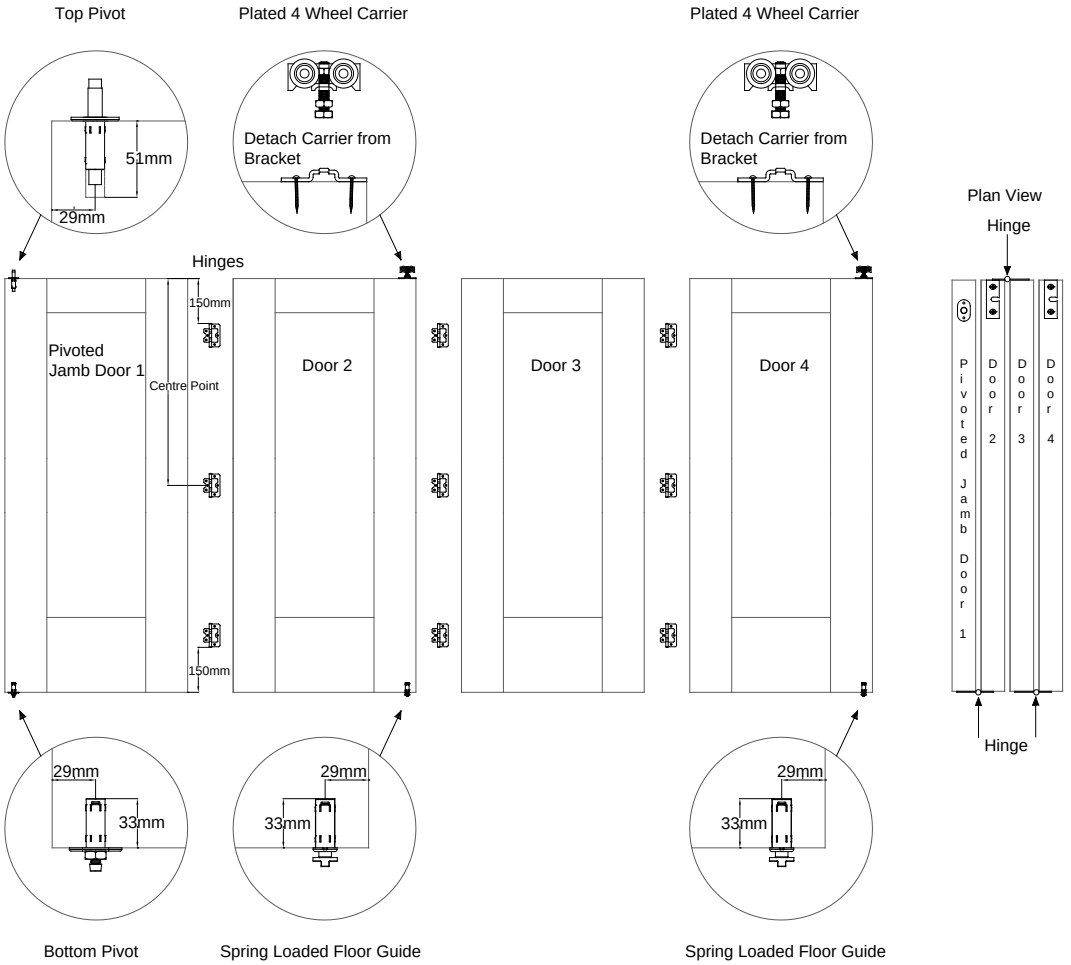


NOTE: This hardware system is designed to be "Top Hung": Therefore the weight of the doors will be carried by the Head Fix Aluminium Track. As such it is necessary to ensure that there are secure fixings through the Frame Head into the partition/ ceiling above. Failure to do so may result in the Frame Head bowing which will adversely affect the functioning of the hardware system.

FIT DOOR FOLDING HARDWARE

Refer to Diagram below when following steps 1 to 11

1. Drill Top Pivot and Bottom Pivot holes to Pivoted Jamb Door 1 using a 12.7mm (½") wood bit. Ensure that the holes are drilled straight at 90 degrees to door edge central to the thickness of the door.
2. Fit the Top Pivot and Bottom Pivot into the holes and secure using the 4x12mm screws provided. Pre-drill the holes using a 2mm drill bit.
3. Hinge Pivoted Jamb Door 1 and Door 2 together to match the opening configuration desired. The self-locating hinges should be fitted 150mm from the top and bottom of the door edges and the third hinge should be located centrally. Pre-drill the holes with a 2mm drill bit and fit the hinges with the screws provided.
4. Drill the Spring Loaded Floor Guide hole to Door 2 using a 12.7mm (½") wood bit. Ensure that the holes are drilled straight at 90 degrees to door edge. The hole should be located at the bottom edge of the door farthest from the hinges between Door 2 and Pivoted Jamb Door 1.
5. Fit the Spring Loaded Floor Guide into the hole and secure using the 4x12mm screws provided. Pre-drill the holes using a 2mm drill bit.
6. Detach the carrier from the bracket of the Plated 4 Wheel Carrier and fit the bracket flush to the top edge of Door 2. The bracket should be located centrally at the top edge of the door farthest from the hinges between Door 2 and Pivoted Jamb Door 1. Pre-drill the screw holes using a 3mm drill bit.
7. If the opening configuration requires a third door, Door 3 should be hinged to Door 2 in the same manner as detailed in point 3 above.
8. If the opening configuration requires a fourth door, Door 4 should be hinged to Door 3 in the same manner as detailed in point 3.
9. Door 4 will require the fitting of a Spring Loaded Floor Guide and Plated 4 Wheel Carrier as described in points 4 to 6 above.
10. When all doors have been fitted with the relevant hardware, unscrew one blade of the hinges to separate the doors as they will require hanging individually.
11. Repeat the required steps above if opening configuration calls for doors opening to the other side of the frame.



FIT THE HEAD FIX ALUMINIUM TRACK

Refer to Diagram below.

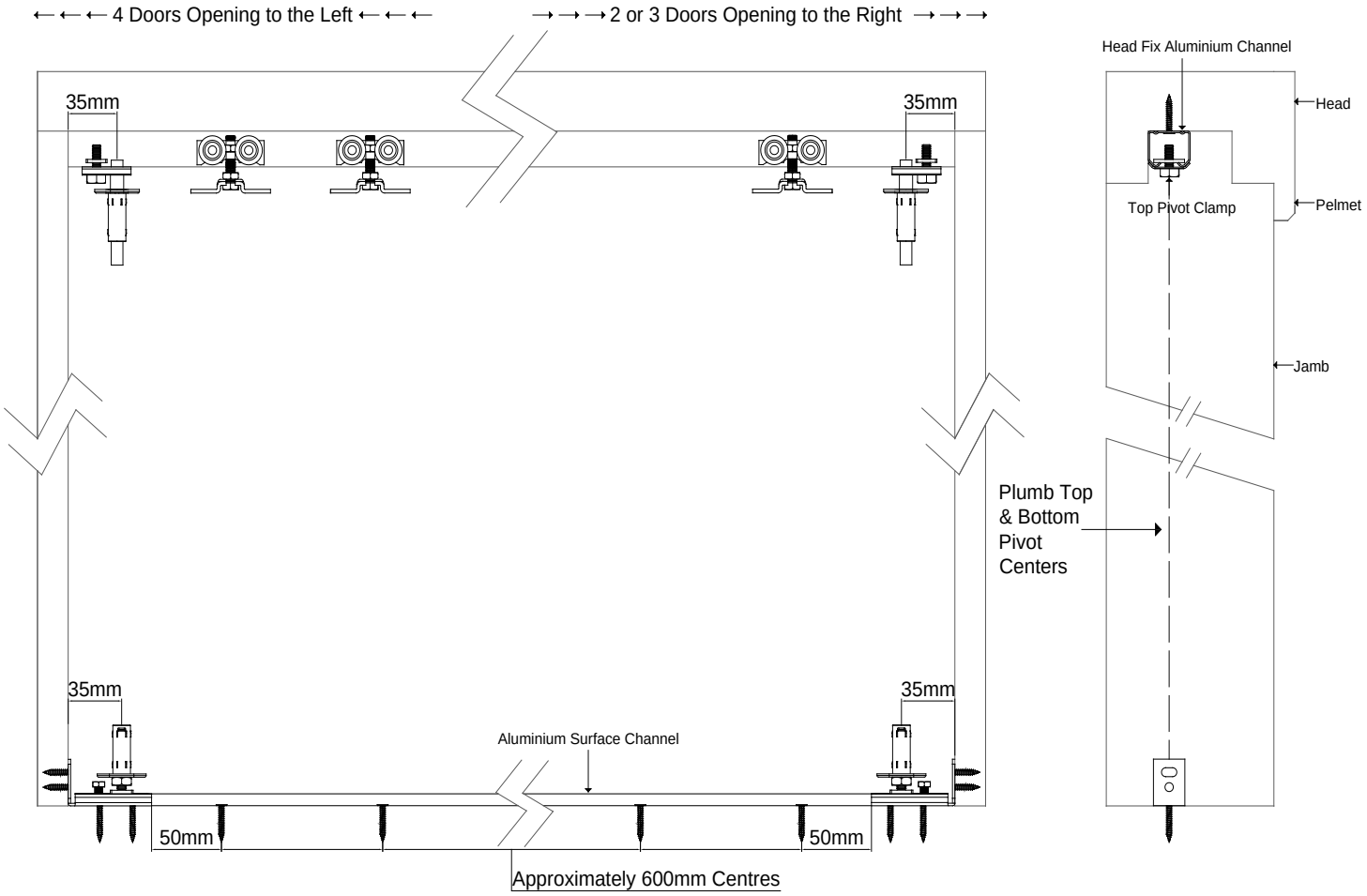
1. Insert the Plated 4 Wheel Carriers and Top Pivot clamp(s) into the Head Fix Aluminium Track prior to fitting the track. **Note:** Ensure that the correct numbers of components are inserted into the track in the correct order.
2. Screw the Head Fix Aluminium Track into the Frame Head through the pre-drilled holes utilizing the 6 x 35mm screws provided. Ensure that the track is fitted to the back of the Frame Head groove opposite the pelmet. (The Frame Head groove is wider than the track to allow for adjustment of the hardware).
3. Adjust and secure Top Pivot Clamp. Ensure the clamp inner plate and under-mounted plate bridge the track opening evenly. The distance of the Top Pivot hole in the clamp should be approximately 35mm from its center to the inside face of the jamb: The Top Pivot clamp can be adjusted later during the hanging of the doors.

FIT THE ALUMINIUM SURFACE CHANNEL

The Aluminium Surface Channel will require reducing in length to account for 1 or 2 Bottom Pivots depending on the opening configuration.

1. To determine the length required first fit the 1 or 2 Bottom Pivot Brackets required for your opening configuration to the Frame Jamb and floor. Ensure brackets align with the Head Fix Aluminium Track.
2. Measure the distance between the Bottom Pivots Bracket and opposite Frame Jamb, (or bracket), and trim the Aluminium Surface Channel accordingly.
3. Ensure that the Aluminium Surface Channel is straight and in line with the Head Fix Aluminium Track.
4. Pre-drill the Aluminium Surface Channel and countersink the 4 x15mm screw fixings. The distances can be adjusted to suit your floor covering, e.g. if fitted to floor tiles, the screws can be fixed through the grout lines. (If necessary, longer screws and/ or plugs can be used to suit the floor covering).

Typical Hardware Orientation of Plated 4 Wheel Carriers and Top Pivot Clamps



HANG THE DOORS

Pivoted Jamb Door 1

1. Starting with Pivoted Jamb Door 1, insert the Bottom Pivot into the Bottom Pivot Bracket and the Top Pivot into the Top Pivot Clamp.
2. Adjust the retaining bolts in both components leaving a 6mm gap between the door edge and Frame Jamb with the door in the closed position. The door can be removed to facilitate adjustment of the retaining bolts.
3. Adjust the Bottom Pivot Nut to raise and lower Pivoted Jamb Door 1 until there is an approximately 6mm gap between the top of the door and the underside of the Frame Head. Turning the nut clockwise will raise the door.
4. Ensure that the door is level both horizontally and vertically.

Door 2

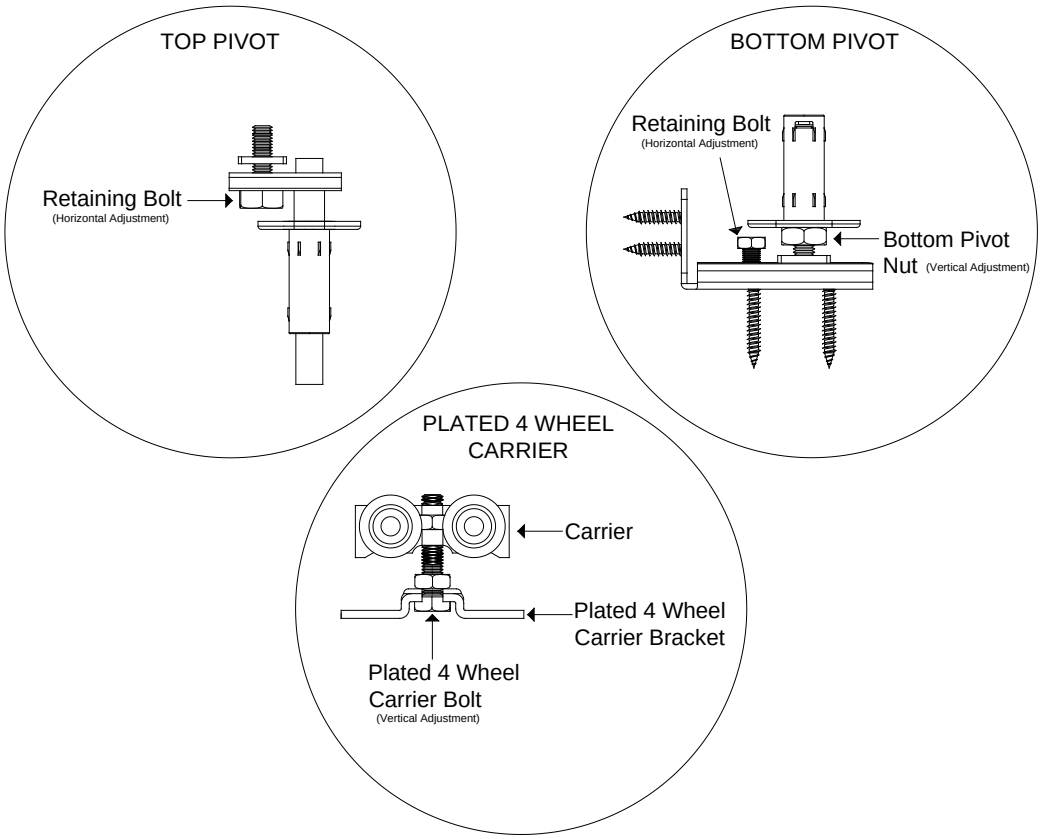
1. Insert the Spring Loaded Floor Guide fitted to Door 2 into the Aluminium Surface Channel and hook the Plated 4 Wheel Carrier Bracket onto the Carrier. Tighten the nut on the Carrier to secure the bracket.
2. Secure the hinges between Pivoted Jamb Door 1 and Door 2 through the pre-drilled holes ensuring the tops of the doors line up.
3. Adjust the Plated 4 Wheel Carrier Bolt to raise or lower Door 2 until it is level with Pivoted Jamb Door 1.
4. If required, adjust the Bottom Pivot Nut and Plated 4 Wheel Carrier Bolt until the doors are level and have a 6mm gap between the top of the doors and the underside of the Frame Head. This distance can be adjusted to best fit the levelness of the floor.
5. Ensure the weight of Door 2 rests on the Plated 4 Wheel Carrier and NOT on the Spring Loaded Floor Guide.

Extra Doors

1. If the opening configuration requires a third door, Door 3 should be hinged to Door 2 in the same manner as detailed in **Door 2** above, (Point 2.)
2. If the opening configuration requires a fourth door, Door 4 should be hinged to Door 3 in the same manner as detailed in **Door 2** above. (Points 1 to 5).
3. Repeat the required steps above if opening configuration calls for doors opening to the other side of the frame.

Final Adjustment of the Doors

Further adjustment of the Top Pivot, Bottom Pivot and the Plated 4 Wheel Carrier can be made to space the door panels correctly across their width and height. Ensure doors are level and supported by the Carriers.



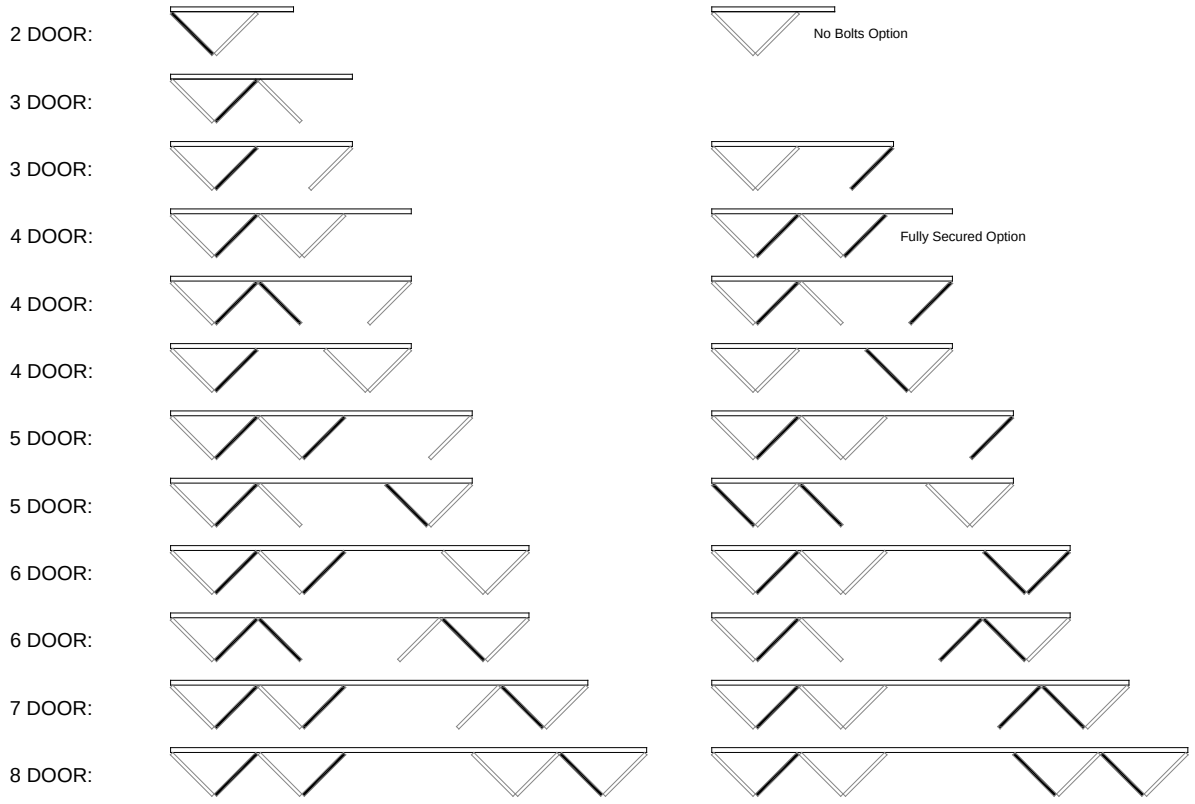
FIT THE DOOR BOLTS & BALE CATCH

NOTE: Ensure that the final adjustment of the doors is completed prior to cutting out for these items.

There are multiple bolt fitting configurations that can be applied to the Freefold system depending on which door is required to act as the lead, (or main), door.
Below are some typical bolt configurations: For example, extra bolts can be fitted to create a fully secured system, or no bolts can be fitted if the doors are in continuous use.
Enough bolts are supplied with the kit to cover the majority of configurations.

TYPICAL BOLT CONFIGURATIONS

(Doors Shaded Black Require Door Bolt)

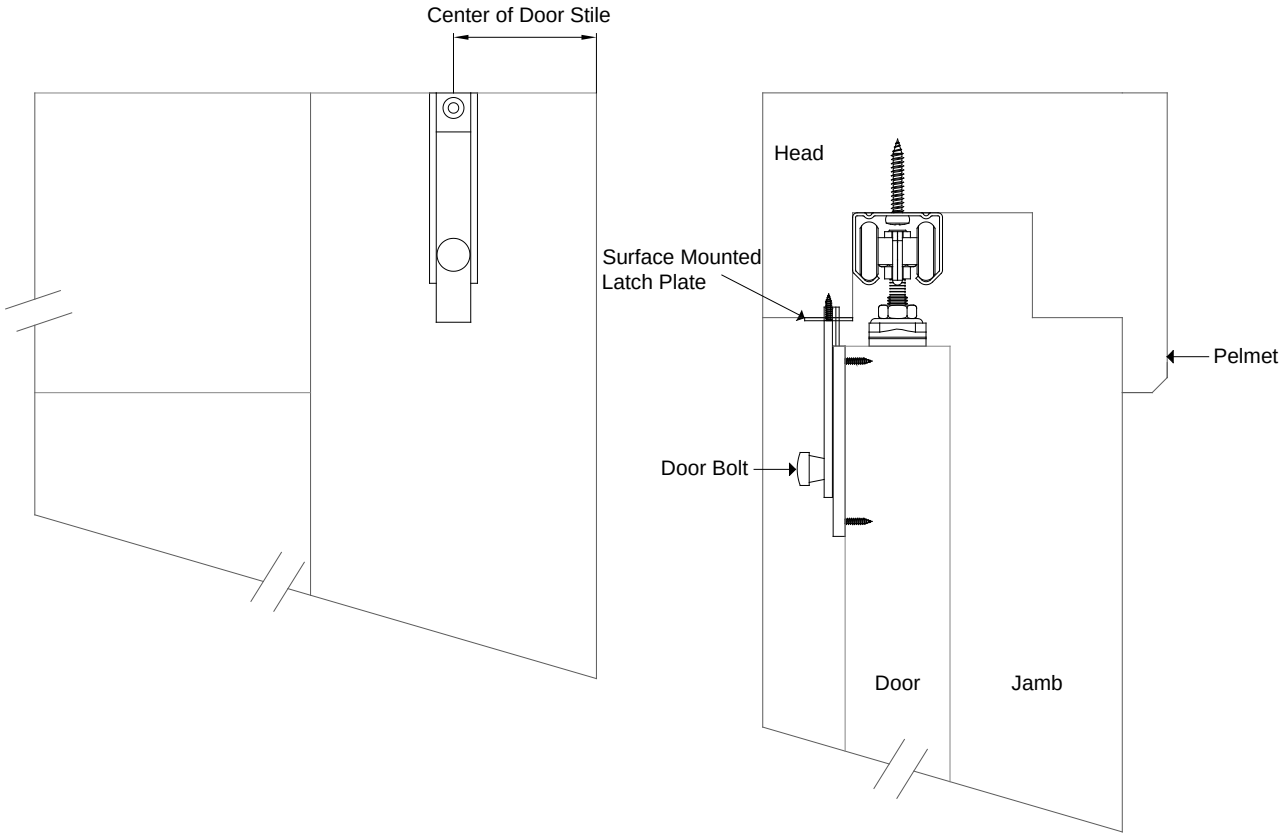


FITTING THE DOOR BOLT

The Door Bolt requires fitting to the top edge of the door opposite the Frame Head pelmet as displayed in the diagram overleaf.

1. Measure to the centre of the door stile to position the Door Bolt.
2. Mark the screw holes through the bolt and pre-drill with a 2mm drill bit.
3. Secure the Door Bolt with the screws provided.
4. With the doors in the closed position, extend the shoot-bolt to the underside of the Frame Head and mark around the shoot-bolt with a pencil: The back edge of the bolt latch plate should be flush with the Frame Head track channel as per the diagram overleaf.
5. Surface mount the latch plate by pre-drilling with a 2mm drill bit and securing with the screws provided.
6. Ensure the shoot-bolt engages in the latch plate.
7. Drill out the latch plate aperture and finish with a sharp chisel: The latch plate can be temporarily removed to facilitate this. The latch plate can also be recessed into the Frame Head and flush mounted if desired.
8. Ensure the shoot-bolt engages fully and freely into the latch plate aperture.

FITTING THE DOOR BOLT



FITTING THE BALE CATCH

The Bale Catch requires fitting to the lead door:

1. Determine the height at which the door handle/s will be fitted. Fit the Bale Catch in line with the door handle.
2. Locate the centre of the door edge at the handle height and drill the Bale Catch hole using a suitable wood bit.
3. Countersink the Bale Catch fascia plate so that it is flush with the surface of the door.
4. Pre-drill the screw holes with a 2mm drill bit and fit the Bale Catch with the screws provided.
5. Repeat steps 3. and 4. to fit the Bale Catch latch plate in the opposing door or Frame Jamb.

NOTES

Latches and Locks
In the event that the doors require a locking or latching mechanism, then suitable hardware can be purchased from most door hardware suppliers.

Handles
Flush mounted, recessed or low profile door handles are recommended to allow the doors to fold back fully: Protruding door handles/ knobs will prevent the doors from folding flush with each other if they are located on both sides of the door. If locking or latching hardware is fitted, ensure that a compatible handle mechanism is used that does not restrict the doors from fully opening.

Jamb Pair Loose Beads
The Jamb Pairs are supplied with optional loose beads. These can be fitted flush with the Jamb face opposite the opening direction of the doors. If fitted it is recommended to pre-drill the beads with a 2mm drill bit prior to pinning the beads to the frame with 30mm panel pins.