Eclipse

Folding Door Systems

Hardware / Integrated Folding Doors / Screens / Shades

A Division of Eclipse Architectural Products Ltd.

E4 SYSTEM FOR EXTERIOR FOLDING DOORS

INSTALLATION MANUAL

E4 Installation Manual

Thank you for choosing the E4™ Eclipse Architectural hardware system for exterior folding doors. The hardware, made with great care, if installed correctly will provide years of trouble-free operation. The following instructions provide guidelines for measuring and fitting the suspended folding doors complete with the E4™ Eclipse Hardware System.

E4 SYSTEM SPECIFICATIONS (IN A SINGLE DIRECTION):
max panel weight: 350 lbs (160 kg)
max panel width: 51" (1300mm)
max panel height: 156" (3962mm)
panel thickness when using E4 sill system: 1-3/4" or 2-1/4" (44.45 or 57.15mm)
max # of panels when using E4 sill system: 8 each way
panel thickness when using floor channel: 1-3/4" to 3" (44.45 or 76.2mm)
max # of panels when using floor channel: 8 each way

While this guide is as comprehensive as possible, it cannot address all eventualities, which may be encountered on site. Regardless of the quality of the hardware or construction of the panels, the most important criteria for a successful job are:

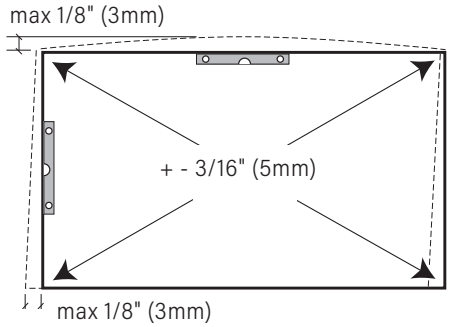
Level, flat rough floor
Square rough opening
Structurally sound and unyielding rough opening header
Clean door assembly tracks

NOTE: Eclipse Architectural is unable, and does not control, the actual site measuring and installation of the doors or hardware, and therefore does not assume any responsibility for the performance of the installed product.

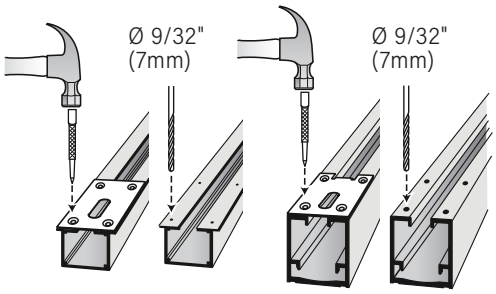
The instructions below should be followed and adhered to. The provided below step-by-step instructions can assist any fabricator or installer. Installation is best done with more than one person.

NOTE TO ECLIPSE DOOR FABRICATOR:
Please attach this E4 Installation Manual to door before shipping to job site.

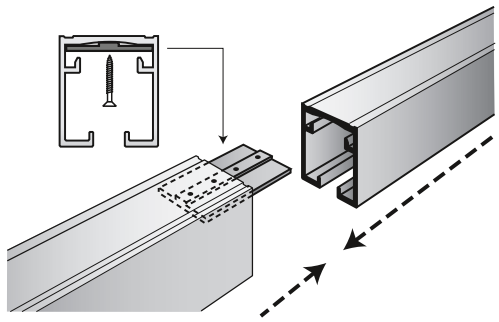
1. INSTALL FRAME



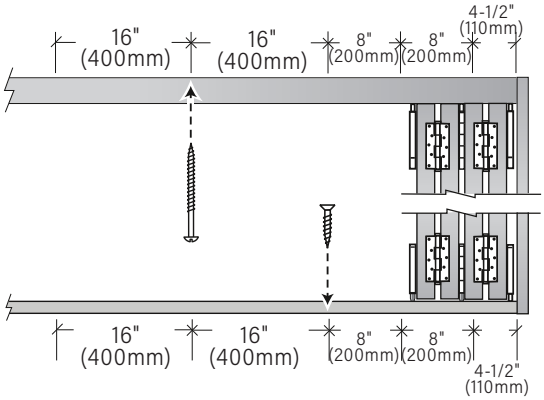
2. BIPARTING SETS ONLY



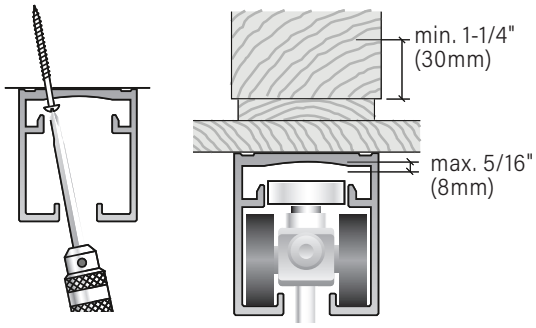
3. TRACK JOINING



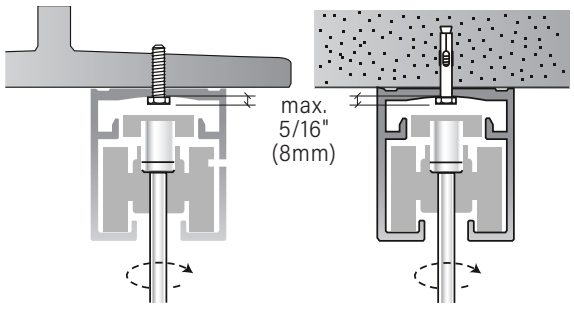
4. MAXIMUM TRACK FIXING CENTRES



5. TRACK FIXING & CARRIER CLEARANCE



6. ALTERNATIVE TRACK FIXING



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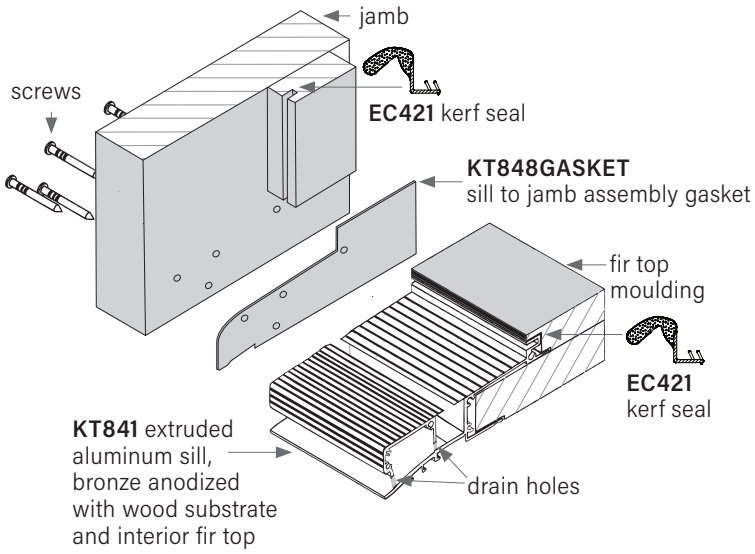
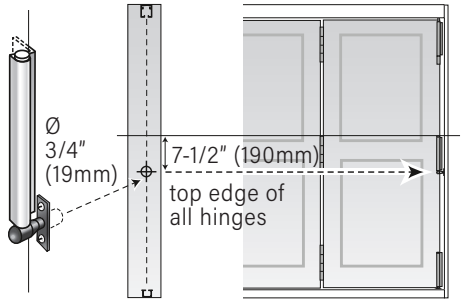
ALL DRAWINGS NO SCALE

7. ALIGNMENT

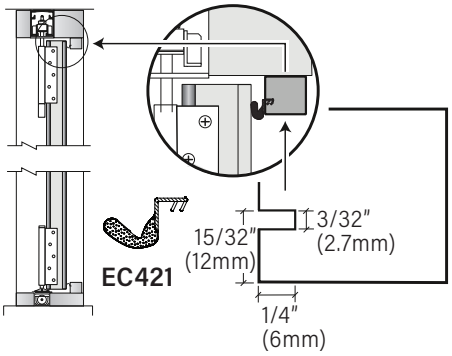
8. CHANNEL FIXING - DRAINAGE



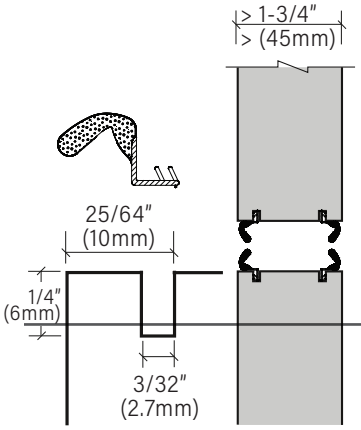
9. WALL PIVOTS



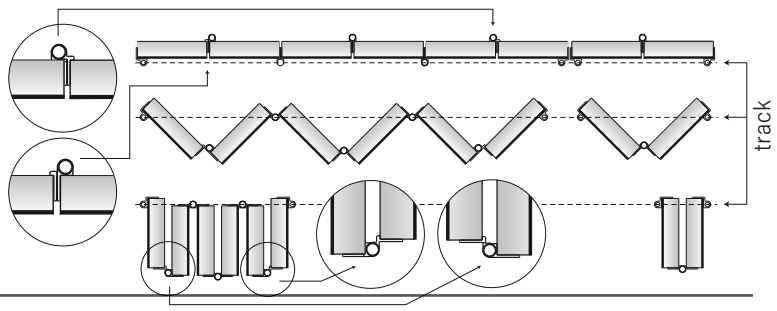
10. PERIMITER SEAL



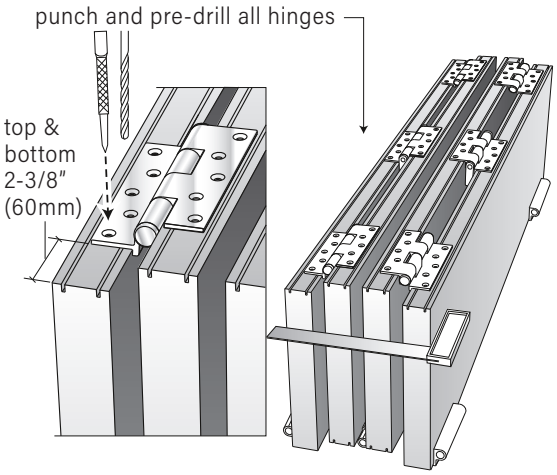
11. PANEL SEALS



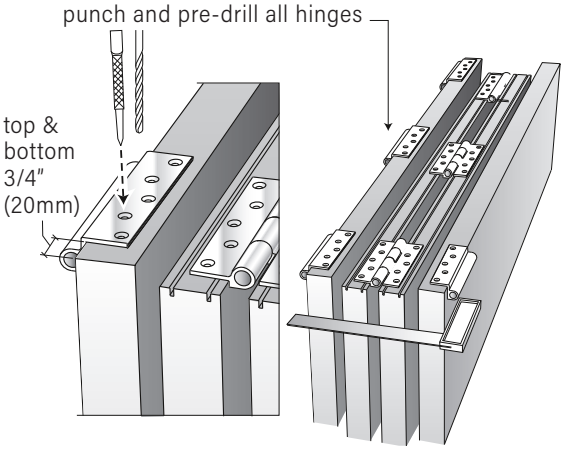
12. PANEL ORIENTATION



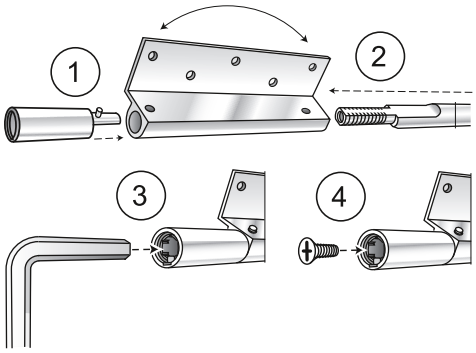
13. HINGES



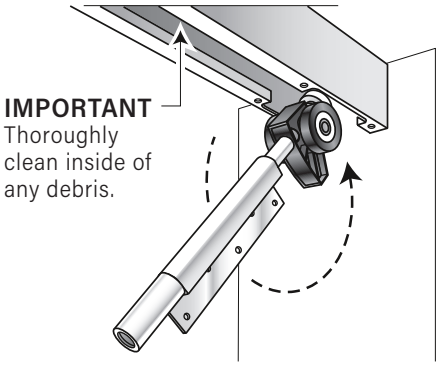
14. CARRIERS AND GUIDES



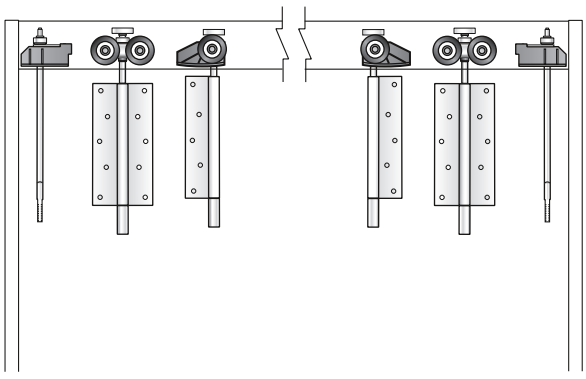
15. ASSEMBLY - REVERSIBLE



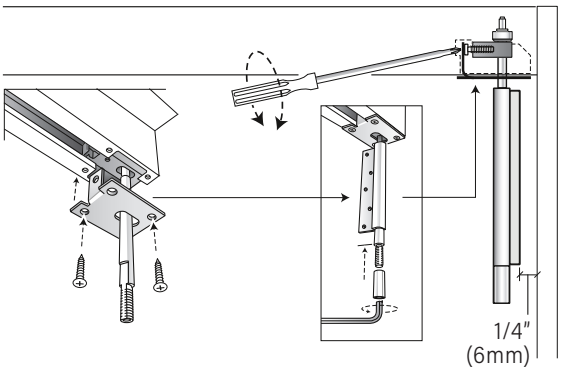
16. HARDWARE INSTALLATION



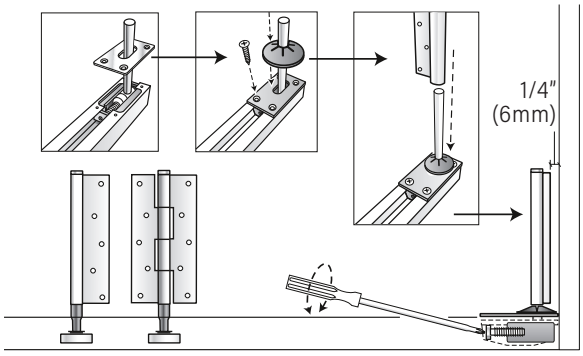
17. HARDWARE ORIENTATION



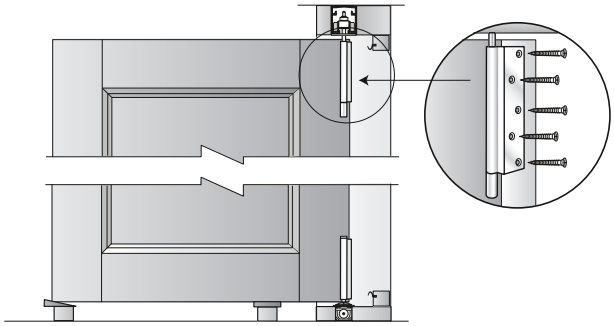
18. TOP PIVOT BLOCK



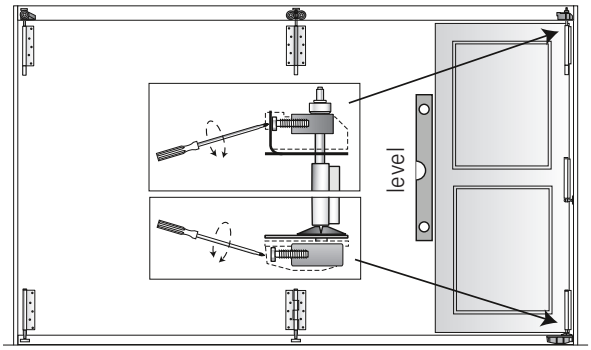
19. BOTTOM PIVOT BLOCK



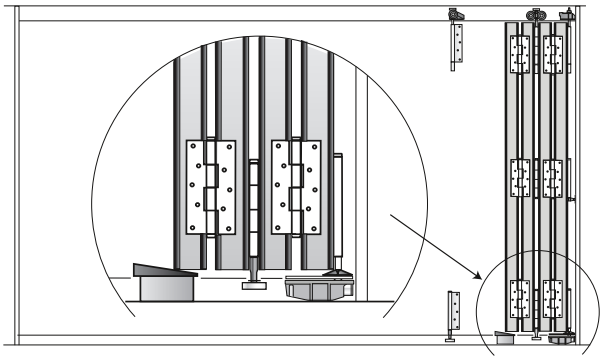
20. FITTING PIVOT PANEL



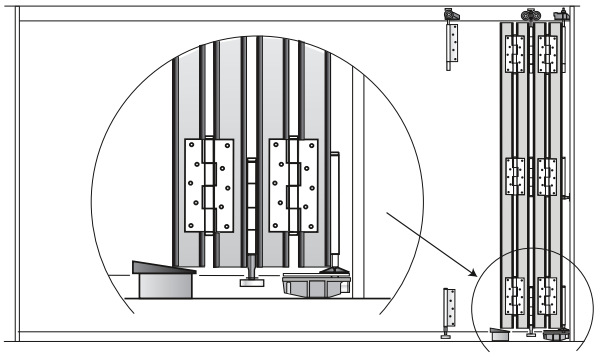
21. HORIZONTAL ADJUSTMENT



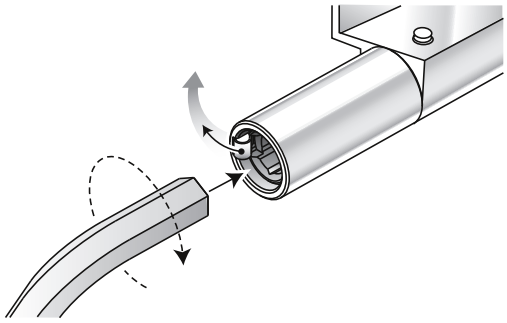
22. ADDING PANELS



23. ADDING PANELS

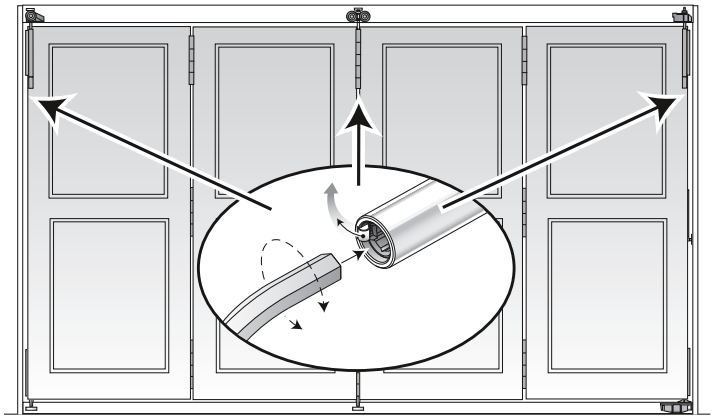


24. CARRIER PIN NUT

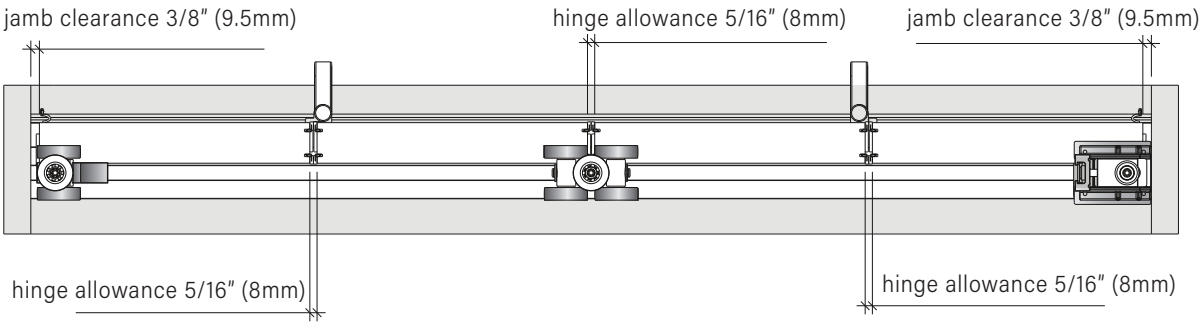


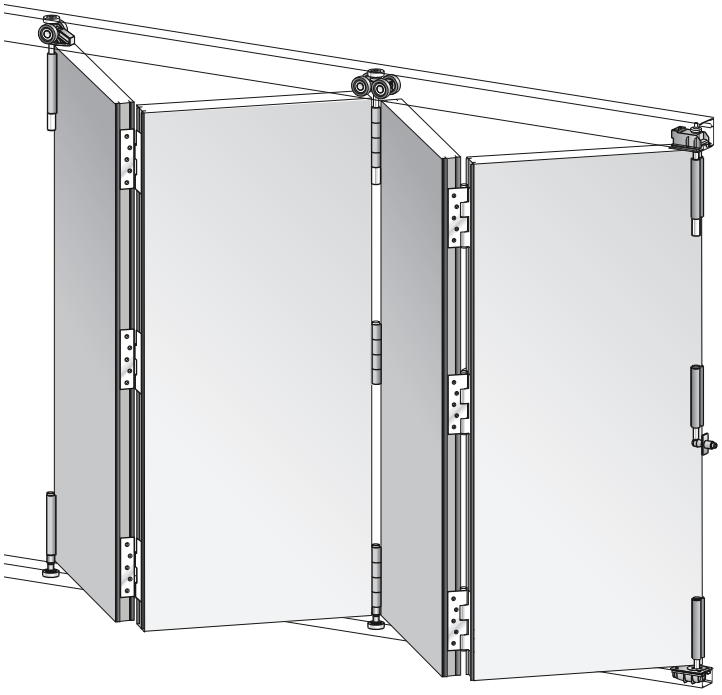
ALL DRAWINGS NO SCALE

25. FINAL ADJUSTMENT



ELEVATION AND OVERVIEW





centor®

CENTOR BI-FOLDING DOORS

SOME PRACTICAL CONSIDERATIONS

Document Version: 2.0
Original File Location: G:\Products\7 Product Marketing Information\Practical Considerations for Bifolds V2.0.doc

TABLE OF CONTENTS

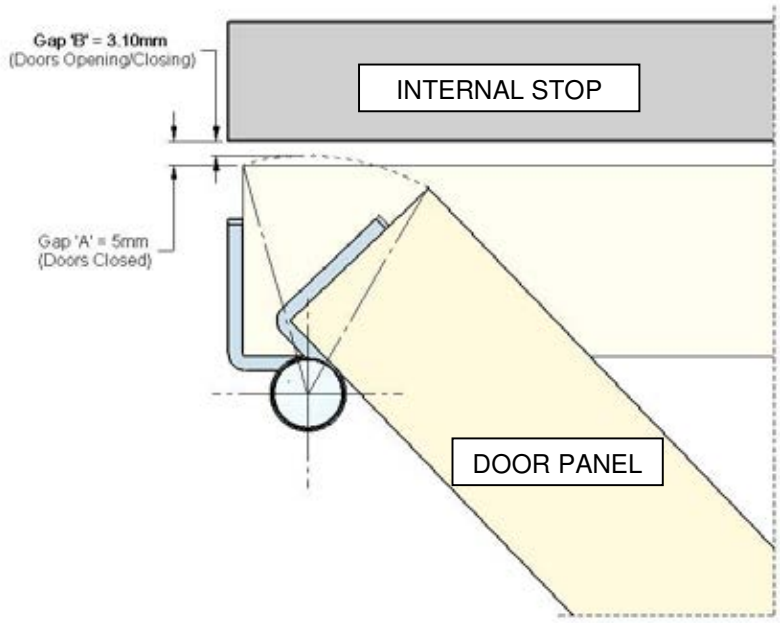
I. WEATHER STRIP GAP PINCHED

1. Description of issue:

When opening or closing a set of bi-fold doors there has to be a sufficient weather strip gap to prevent the panel hitting the internal stop face and tearing the internal stop seal.

2. Why this happens:

This occurs because the hinges on all pivot sets and end carriers make the door panel arc slightly towards the internal stop as it is being opened.



Pictured Above:
When opening a 40mm thick door panel a 5mm gap (Gap 'A') will be reduced by 1.9mm to 3.1mm (Gap 'B'). If the weather strip gap was smaller than 5mm it would leave insufficient room for the internal stop seal to compress.

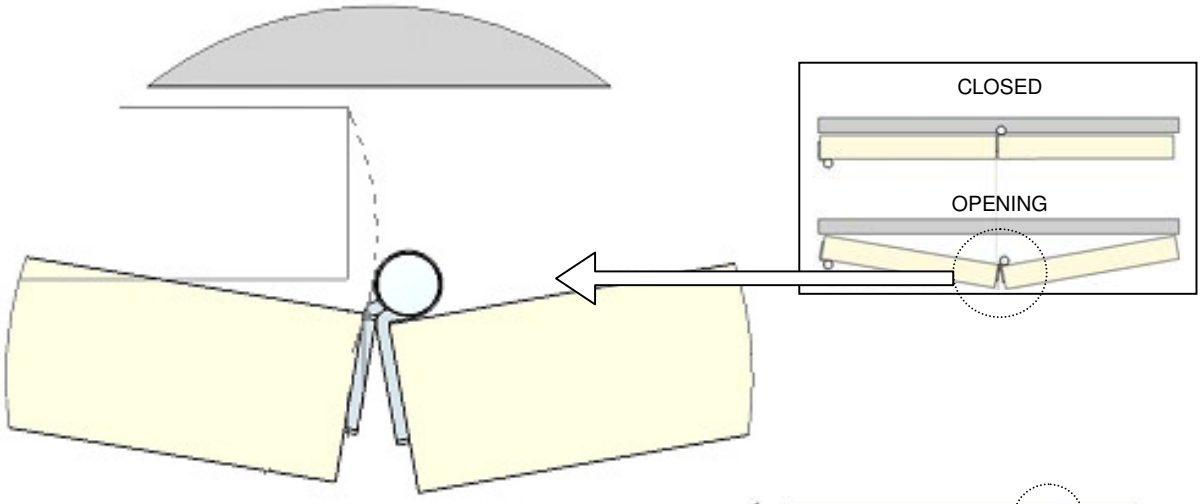
3. How to avoid it:

Centor recommends that a minimum gap of 5mm is used for the weather strip gap on bi-folding doors.

II. OVER CAMMING

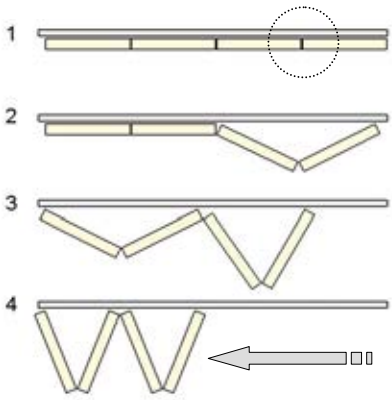
1. Description of issue:
When opening or closing a set of bi-fold doors, it is normal for a camming action to occur with the panels that, at a critical point, can cause resistance between them (Example below).

2. Why this happens:
Panels will cam across due to the arc that they pivot around and travel through.



3. How to avoid it:
For even panel sets (e.g. 2L, 4R, 2L2R) you will always get some 'over-camming', however, you can reduce it by following these steps.

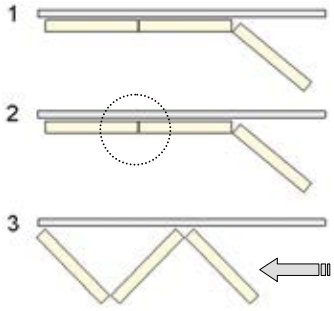
1. Unbolt the dropbolts on the first panel pair
2. Open the first pair of panels partly
3. Unbolt and partly open the remaining pairs
4. Now open them all together



For odd panel sets (3L1R, 5R) you will avoid this completely by:

1. Always unlock and open the access panel first
2. Unlock the remaining dropbolts
3. Open all panels fully

The more panels a system has, the worse the over camming action will be, particularly if all dropbolts are unlocked before opening any panels.



III. NUMBER OF PANELS

1. Description of Issue:

Centor hardware can work satisfactorily with an unlimited amount of door panels, provided the track and head is appropriately fastened and can support the weight of all panels whilst in the open position. However, the more panels there are in a system, the more cumbersome the doors can be to operate.

2. Why this happens:

There are a number of dimensional variations to consider with using an increasing numbers of panels. The most significant of these are:

1. The variation that can occur in door stile widths caused by:
    - Thermal expansion and contraction (Particularly PVC and aluminium)
    - Moisture content expansion and contraction changes in wood
    - Manufacturing tolerances of profiles
2. The variations that can occur in the length of top and bottom rails caused by:
    - Cutting tolerances in door panel fabrication
    - Thermal expansion and contraction (Particularly PVC and aluminium)

For a single door panel variation of 1mm (1/32”) in the stiles and rails may seem insignificant, but over 8 panels this variation could have a considerable impact.

3. How to avoid it:

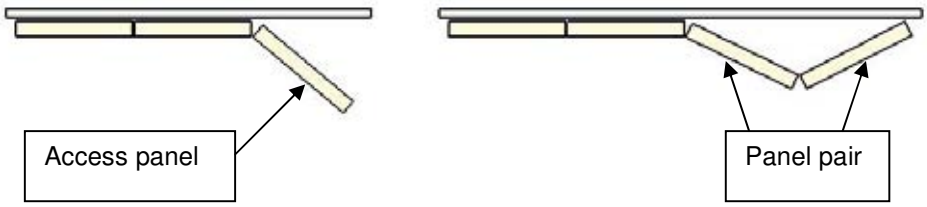
As a practical limit Centor recommends a maximum of 8 panels each way.

IV. DOOR CONFIGURATIONS AND LOCKING SETS

1. Description of Issue:

Passage locks are unsuitable for use in even panel configurations (e.g. 2L, 2L2R, 4R).

2. Why this happens:



With bi-fold doors internal dropbolts lock off panels in pairs. However, in odd configurations there will always be a single panel that has to be locked off by itself. Only on a single panel can a passage lock be fitted, making it usable as an access panel. This will allow someone to open the access panel from both the inside and outside, unlike the panel pairs which can only be opened from the inside.

3. How to avoid it:

If external access is important then you will have to use odd panel configurations (e.g. 5L, 4L1R, 3R).

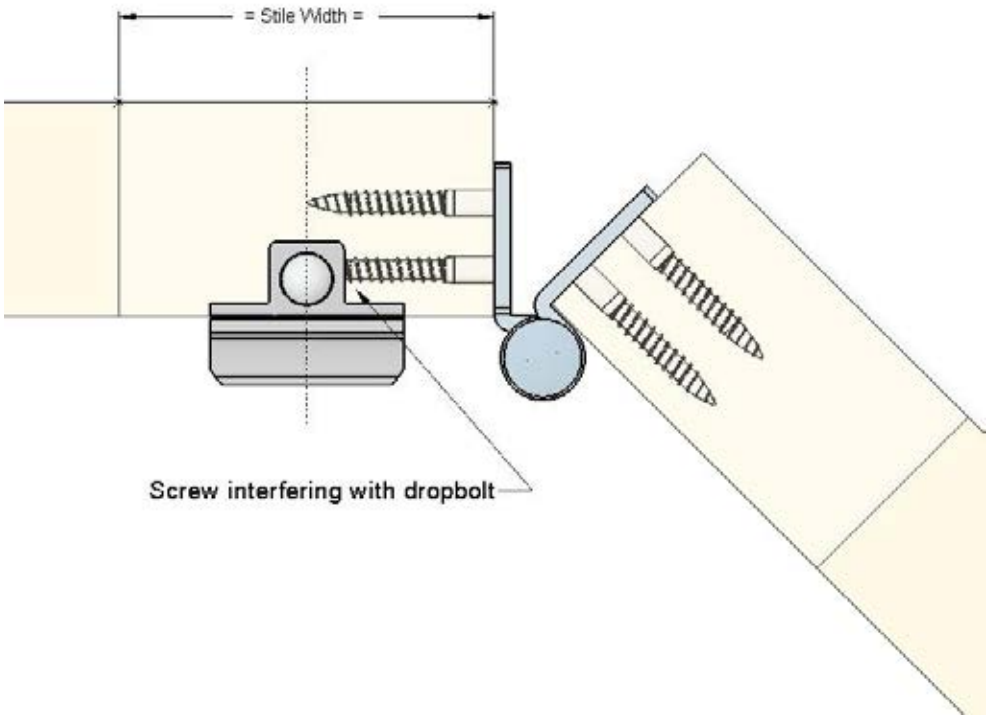
V. NARROW STILES

1. Description of Issue:

With all stiles it is important to know that the dropbolt positioning can interfere with hinge screws.

2. Why this happens:

The example below shows where the interference can occur between a dropbolt and hinge screws. This often happens with dropbolts centered on narrow stiles, particularly the ones used for windows.



3. How to avoid it:

You can avoid this by changing the position of the dropbolts to be off centre of the stile (if it allows for this) or you can increase the stile widths. We do not recommend shortening the screws.

VI. Access Panel Drags on the Floor or Doorsill

1. Description of Issue:

Any door set with an odd number of panels greater than one coming from either side (3, 5, 7) is susceptible to the end of the lead or access panel (usually the one with the door handle attached) dropping and dragging on the ground as the door set is operated. This is most often experienced when

- either opening the doors by pushing the paired doors open without first folding the active leaf back onto the next panel, or
- closing the doors by swinging the active panel away from the stack and dragging the doors along the track

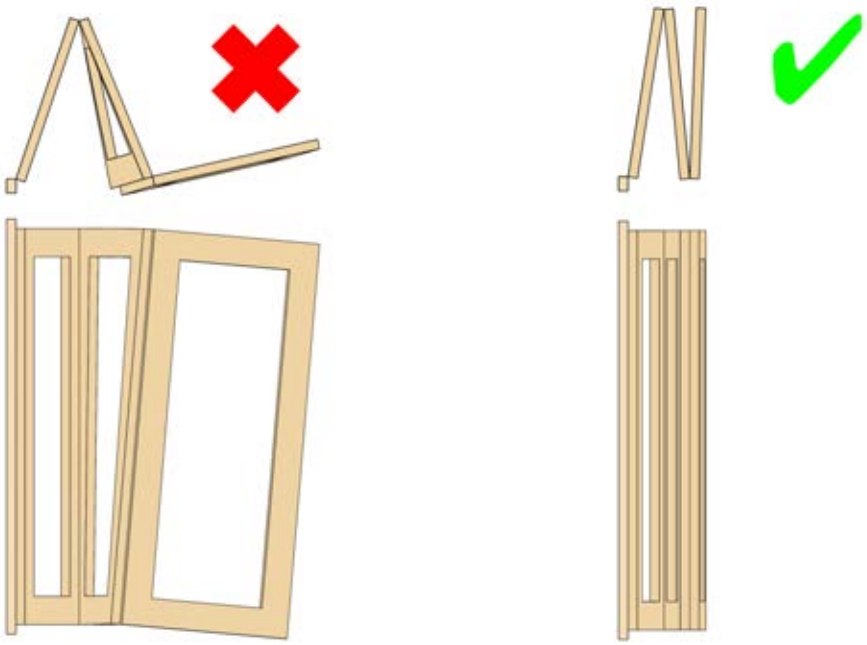
2. Why this happens:

Door panels are not very stiff in torsion – regardless of their construction type – wood, aluminium, PVC, even steel doors. They are basically a flat sheet.

When the bifold door pairs are opened and the lead door panel is not parallel to the next one (attached to the intermediate carrier), the cantilevered end panel pulls at the next panel, tending to twist it – just like a piano accordion opening up.

3. How to avoid it:

If the active leaf is secured parallel (or almost parallel) to the adjacent panel, then there is no twisting force applied to the door stack and the end panel will not drop. So, if the doors are opened in the correct sequence, then no door dropping will be experienced. Centor supplies a range of magnetic door holdbacks which will help with securing of the end panel.



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Hardware / Integrated Folding Doors / Screens / Shades

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