

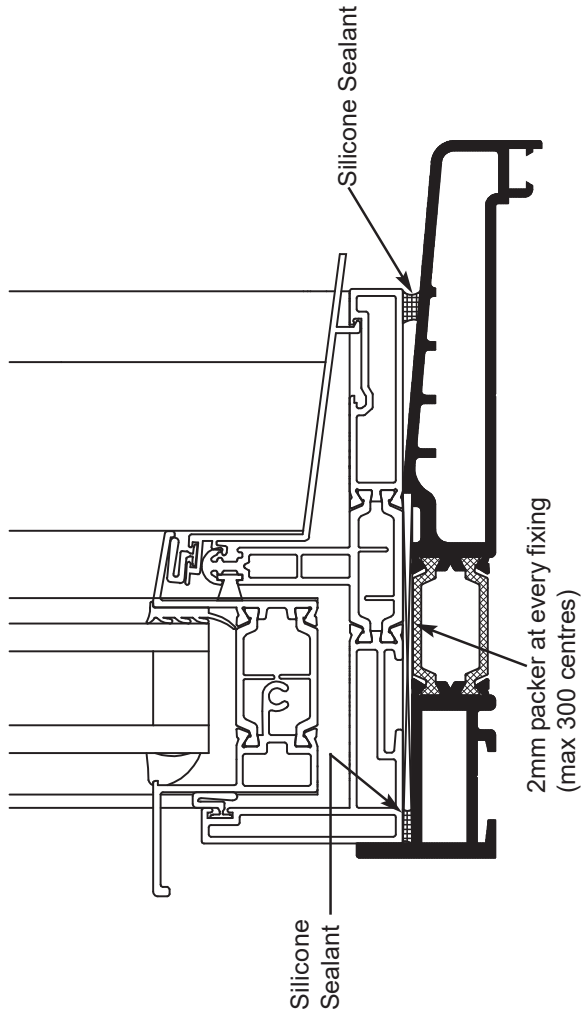
INSTALLATION - SUB CILLS

Fitting of Subcill

When fitting the frame to the subcill silicone sealant must be gunned as shown to ensure that a watertight joint is created on the inside and outside of the frame.

Apply silicone sealant or Henkel Terostsat sealant to each end cap and fix into position, as shown below.

The window is never cill drained - i.e. it is always face drained.



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INSTALLATION - FRAME

Fixing of Frames

Frames can be lug fixed using fixing lug DFP572 or direct fixed through the frame. If direct fixing, balances, head trims and bottom sash stops (at head) should not have been previously fitted (see pages 5-4 & 5-5).

The first fixing must always occur within 150mm of the corner of the unit then at not more than 600mm centres (do not over-tighten fixings), the type and frequency depends on the expected applied loadings.

Packing will be required at the fixing points to prevent distortion of the frame. Drilled holes in the frame should be sealed where there is a possibility of moisture penetration around the screw.

Frames must be fitted plumb and square in accordance with BS8213-4. **The width measurement at the centre of jambs must not vary from the width at the head & cill by more than 2mm.**

Once fixing of the frame is complete, balances head trims and bottom sash stops (at head) can be fitted (if not already fitted) - see pages 5-4 & 5-5.

Fixing of Frames - Foam Fixing

Fixing foam can be used in conjunction with screw fixing, but is not an alternative to screw fixing.

Care must be taken not to allow the foam to come in contact with the painted finish, and as such the use of some form of masking tape would be advisable. Permanent staining will be caused if the foam contacts the frame.

Spiral Balance Tensioning Chart

To tension the balance it is necessary to apply the appropriate number of turns, in a clockwise direction, as shown below. Always tension both balances identically. During tensioning, position the end of the rod approx. 50mm down from the bottom of the aluminium tube.

(See next page for fitting instructions)

Weight Kg	2	3	4	5	6	7	8	9	10	11	12	13	13.5	14	15	16	17	18
Length	Approximate number of turns for Spirex / Spiralift Balances																	
381	2	3	4.5	5.5	4.5	5	3.5	4.5	5	5.5	6	6.5	7					
406	2	3	4.5	5.5	4.5	5	3.5	4.5	5	5.5	6	6.5	7					
432	2	3.5	5	6	4	5.5	4	5	5.5	6	6.5	7	7.5	2	2	3	4	5
457	2.5	4	5	6	4	5.5	4.5	5.5	5.5	6	6.5	7.5	8	2.5	2.5	3.5	4.5	5.5
483	3	4.5	5.5	6.5	4.5	5.5	5	5.5	6	6.5	7	8	8.5	3	3	4	5	6
508	3	5	6	7	5	6	5	6	6.5	7	7	9.5	10	3.5	3.5	4.5	5.5	6.5
533	3	5	6.5	7.5	5.5	6	5.5	7	8	8.5	9.5	10	10	4	4.5	5	6	7
559	3	5.5	6.5	7.5	5.5	6.5	6	7	8.5	9.5	10.5	11	11.5	4.5	5	5.5	6.5	7.5
584	2.5	3.5	4.5	5.5	6.5	5	6.5	7.5	9	10	6.5	7.5	8	5	5.5	6	7	8
610	2.5	3.5	4.5	5.5	6.5	5	6.5	7.5	9	10	6.5	7.5	8	5.5	6	6	7	8
635	2.5	3.5	4.5	5.5	7	5.5	7	8	9	10.5	7	8	8.5	5.5	6	6.5	7.5	8.5
660	2.5	3.5	5	6	7	5.5	7	8	9	10.5	7	8	8.5	6	7	7	8	9
686	2.5	3.5	5	6	7	6	7.5	8.5	9.5	11	7.5	8	9	6	7.5	8	8.5	9
711	3	4	5	6	7.5	6	7.5	8.5	9.5	11	7.5	8.5	9	6.5	7.5	8.5	9	9.5
737	3	4	5.5	6.5	7.5	6.5	8	8.5	9.5	11	8	9	9.5	7	8	9	9.5	10
762	3	4	6	7	8	6.5	8	9	9.5	11.5	8	9	9.5	7.5	8.5	9.5	10	10.5
787	3	4	6.5	7.5	8.5	7	8.5	9	10	11.5	8.5	9.5	10	8	9	10	11	11
813	3	4	6.5	7.5	8.5	7	8.5	9	10	11.5	8.5	9.5	10	8	9	10.5	11.5	11.5
838	2	3	3.5	4.5	5.5	6	8	9	8	8.5	9	10	10.5	8.5	9.5	11	12	12
864	2	3	4	5	6	7	8.5	9.5	8	8.5	9	10	11	8.5	10	11	12	12.5
889	2	3.5	4.5	6	7	8	9	10.5	8	8.5	9	10.5	11.5	9	10	11	12.5	13
914		3.5	4.5	6	7	8	9	10.5	8	8.5	9	10.5	11.5	9	10.5	11.5	12.5	13.5
940			5	6.5	7.5	8.5	9.5	11	8.5	9	9.5	11	12	9.5	11	12	13	14
965			5	6.5	8	9	9.5	11	8.5	9	10	11.5	12.5	9.5	11.5	12.5	13	14.5
991			5	7	8.5	9	10	11	9	9.5	10.5	12	13	10	11.5	12.5	13.5	15
1016			5	7	8.5	9.5	10	11.5	9	9.5	11.5	12	13	10	12	13	13.5	15

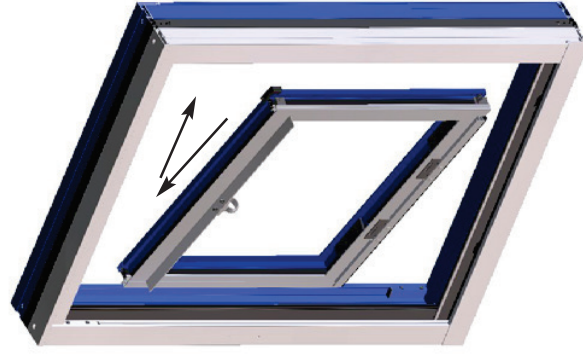
INSTALLATION - VERTICAL SLIDER

Hanging Sashes

The procedure for hanging sashes is identical for both top and bottom sashes. Fit top sash first.

On Tilt-In sliders, ensure that M4 rivnuts have been fitted to tilt bar restrictor fixing holes in stiles (see assembly section of this manual).

On straight sliders, the sashes must be loaded into the frame first. Balances must have been fitted to one jamb only (as described in the assembly section of this manual). Shuffle the sashes into the jamb without balances and then back into the opposite jamb. (As shown below).



Fit sash guide (DFP1430 -Pack 50) using No. 6 x 1/2" pan self tapper (AF35 - Pack 50) and balance shoe (DFP1431 - Pack 50) using M5 x 12 csk machine screw (DFP1184 - Pack 100).

Spiral balances must first be tensioned (see tensioning chart on previous page).

Attach the tensioning tool (320/09) to the bottom pin of the balance rod. Make sure that the end hooks of the tensioning tool are fully engaged on the lower pin of the balance rod. Contact between the tensioning tool and the balance rod lower pin must be maintained at all times. A firm grip of the tensioning tool is required at all times when in use. Do not let the balance

rotate as this will result in loss of tension. Connect the top pin into the centre slot on the pivot shoe and allow the balance to retract fully before releasing the tensioning tool.

Note: To avoid damaging the balance, it is essential that it is not distorted whenever fitting, connecting or tensioning balances. No side loading should be applied as this will permanently affect the balance.

Ultralift balances are pre-tensioned when manufactured and therefore should not normally require tensioning on the window. As a feature of their design the tension can be increased or decreased by a maximum of 1Kg per sash. This adjustment is a maximum and any further adjustment may damage the balance.

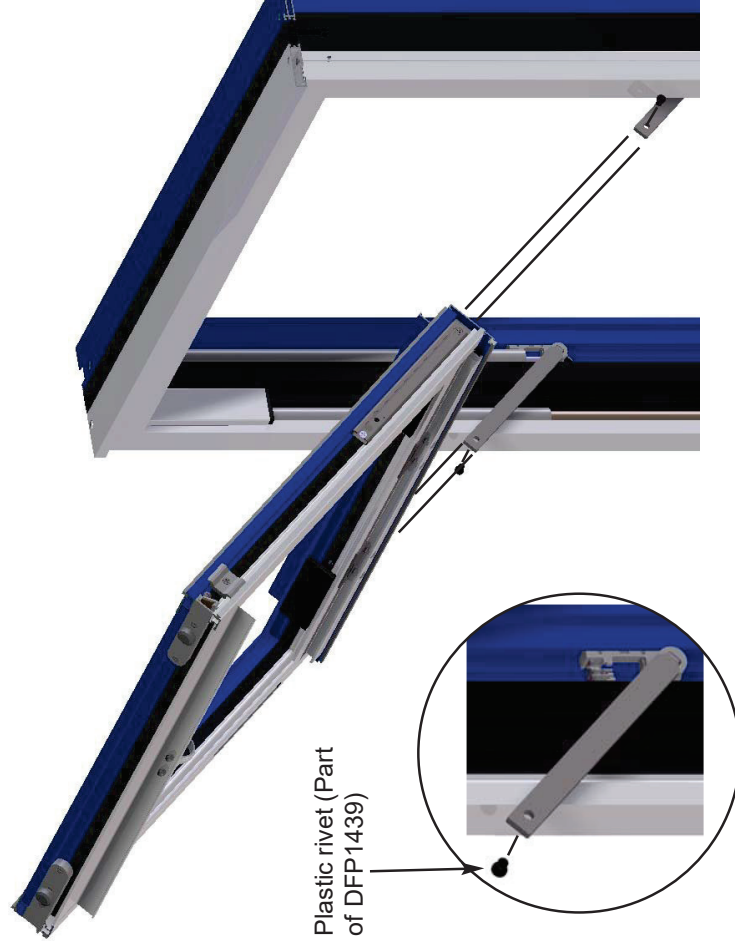
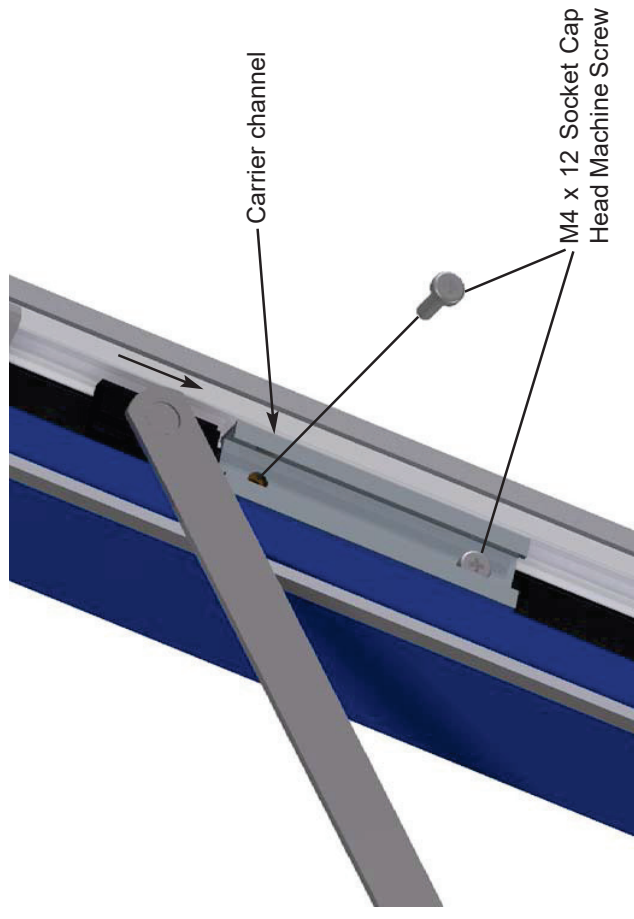
If adjustment of the Ultralift balance is required, attach the tensioning tool to the bottom pin and remove the rod from the pivot shoe. Allow the bracket to retract to within approx. 50mm of the end of the tube. To release tension, rotate the balance rod one turn anti-clockwise, and no further. To add tension, rotate the balance rod one turn clockwise, and no further. Reconnect the balance rod to the pivot shoe (tilt-in slider) or balance hook (straight slider) and check the operation of the sash. Always tension both balances identically.

INSTALLATION - VERTICAL SLIDER

Hanging Sashes (continued)

On tilt in sliders, turn both sash pivot bars inwards as shown below. Fit sash onto pivot bars locating into pivot bar carriers. Push plastic rivet (Part of DFP1439) into hole in pivot bar arm ensuring it locates fully. Continue to support sash tilted inwards.

Fix aluminium carrier channel to stile using 1 off M4 x 12 socket head machine screws (supplied with restrictor) into bottom hole only initially. Slide tilt restrictor up jamb and locate nylon arm end into carrier channel in sash stile. Finally fix both arms to each sash through remaining hole using 1 off M4 x 12 socket cap head machine screws (as shown below).



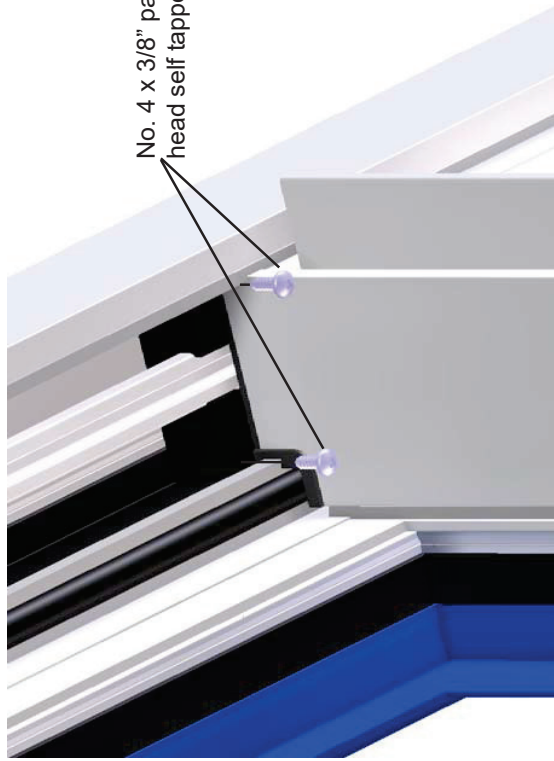
INSTALLATION - HORIZONTAL SLIDER

Installing Sashes

Sashes must be shuffled into the head, then lowered into the cill as is usual practice for a horizontal sliding window or door. However, before fitting sashes, the following points must be checked -

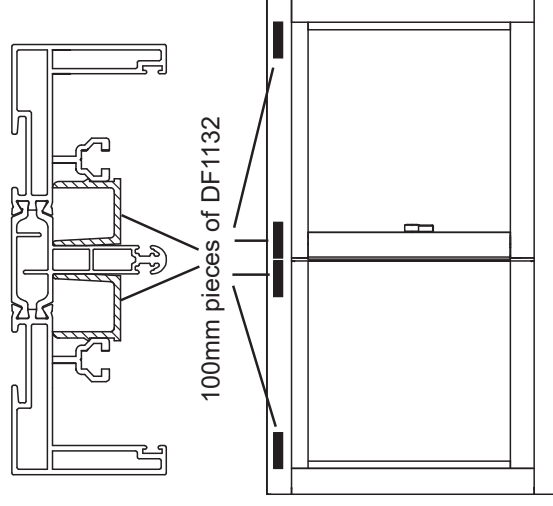
1. Check that top rail end caps have NOT been fitted to top rails (if they have, temporarily remove them).
2. Check that head seal carriers are fitted but NOT fixed in position yet (if they are, remove fixing screws).
3. Check that anti-lift pieces have NOT been fitted to head (if they have, remove them).

Once sashes are fitted, slide head seal carriers to align with fixing holes near interlocks and fix using 1off No 4 x 3/8" pan head self tapper (DFP1462 - Pack 100).



Fitting Anti-Lift Blocks

Fit 100mm pieces of profile DF1132 at each end of every panel in the head as shown below.

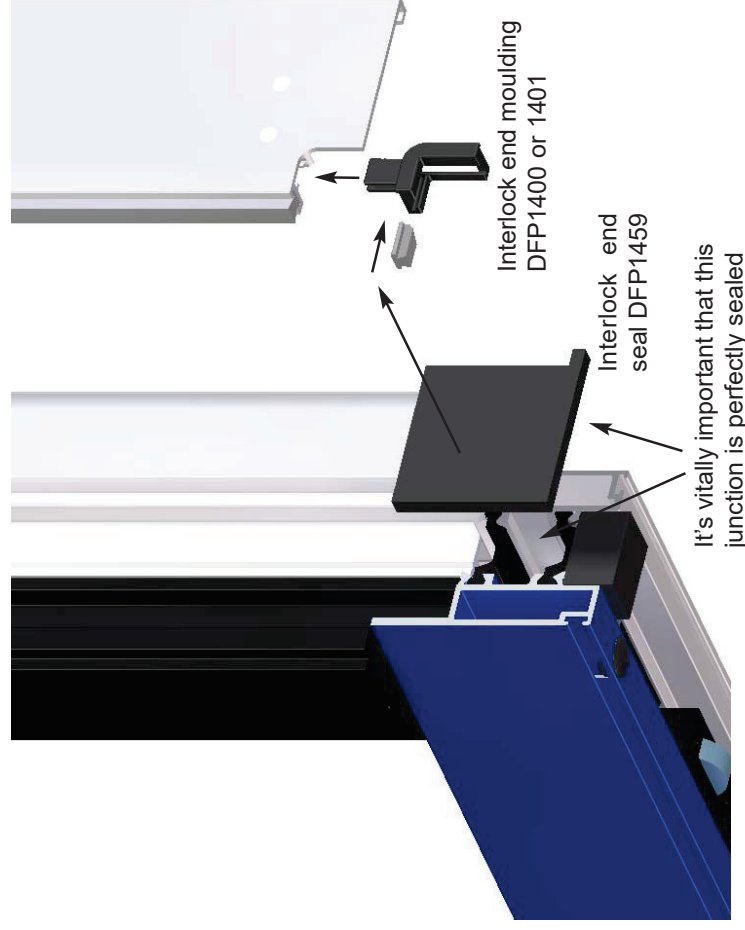


INSTALLATION - HORIZONTAL SLIDER

TECHNICAL

Inner Interlock Cover Fitting

Fit seal (DFC1450) to interlock capping and short groove in interlock end mouldings only (Use cynoacrylate adhesive to hold in place). Fit interlock end mouldings (DFP1400 & 1401 - Packs of 50) as shown below using cynoacrylate adhesive to hold in place. Seal interlock end seal (DFP1459 - pack of 50) to inner face of interlock cover, then apply sealant to the bottom rail end. It is important to ensure that the rail end to interlock end seal is totally sealed with sealant. Clip capping to interlock, ensuring it is located centrally. Clean off excess sealant.

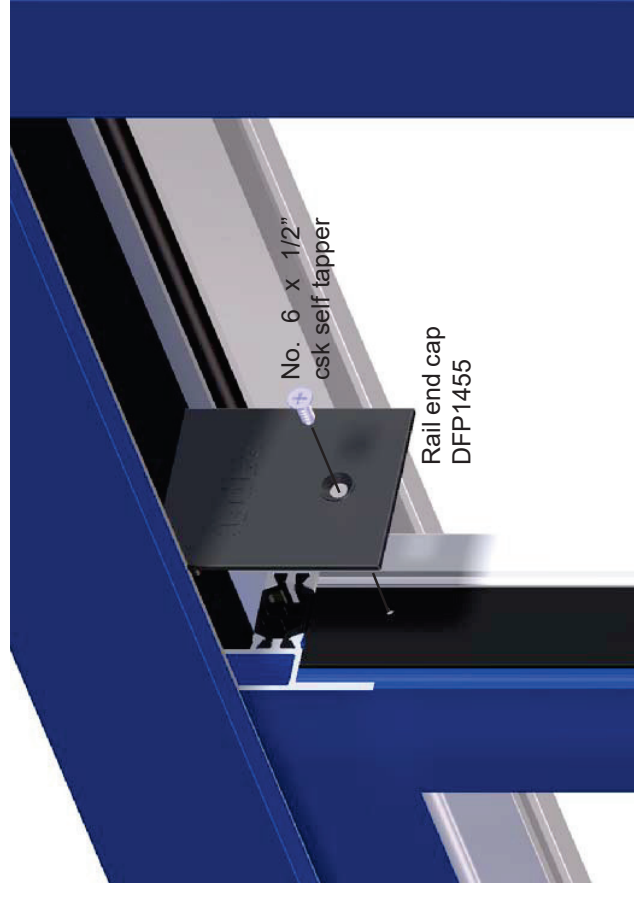


Outer Interlock Cover Fitting

Fitting of outer interlock cover is similar to the inner cover, but interlock end seals (DFP1459) are NOT required, and bottom rail end sealing is not important. In addition, the outer interlock cover is fixed to the interlock. Drill 2.0 dia holes through holes in capping and fix using 2 off No. 8 x 1/2" csk self tapper (DFP699 - Pack 100) (do not overtighten).

Fitting Top Rail End Caps

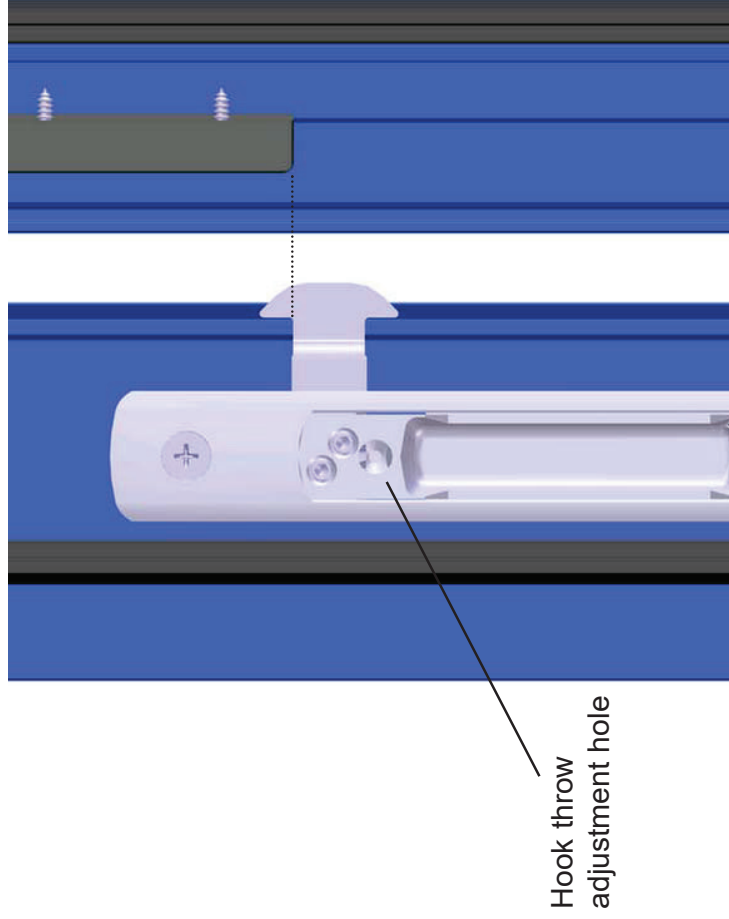
Offer end cap (DFP1455 - Pack 50) up to end of top rail. Drill 2.0 dia through fixing hole. Fix in place using No. 6 x 1/2" csk self tapper (DFP1026 - Pack 100) (do not overtighten)



INSTALLATION - HORIZONTAL SLIDER

Latch Lock Keep Adjustment

Draw sash close to jamb, then adjust keep height to align with the top of the hook as shown below. Close sash. Slacken two hook retaining grub screws slightly. Insert a PZ2 screwdriver into hook adjustment hole. Turning the screw driver will adjust throw of the hook so that any free play in the sash can be reduced to a minimum. Re-tighten grub screws and check operation of window. Fit plastic screw cover (see page 5-33).



GLAZING

Glazing

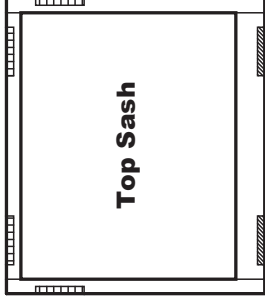
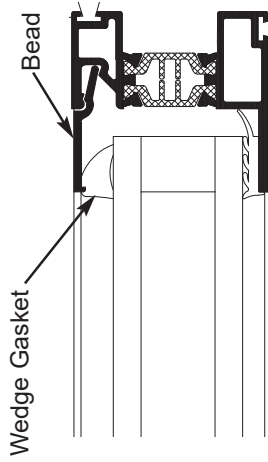
On tilt sliders, push both sashes into vertical position and engage tilt latches. Glaze bottom sash first. Fit 6mm glazing packers (DFP1415 - Pack 50) one in each top and bottom corner of the sash. Take care not to block drainage holes.

Lift glazing unit into place, allowing an equal clearance on both sides. On enhanced security windows, fit additional 6mm glazing packers at the top corners of the sash down the sides (Use silicone to hold packers in place). Fit top then side beads. (a small piece of wedge gasket fitted between bead and glass is useful to temporarily hold beads in place).

Glazing of top sash is similar, but use 8mm glazing packer (DFP1425 - Pack 50) at the cill and 6mm packers everywhere else. Fit bead to bottom then sides.

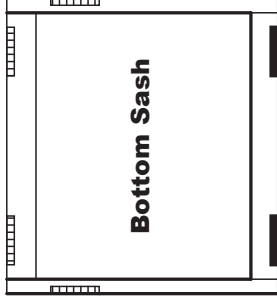
Fit wedge gasket (W260, W261, W264, W265 or DFC879) using warm soapy water as a lubricant if necessary. Use the tightest wedge gasket which can be applied using firm thumb pressure. The wedge gasket can either be fitted in one piece, notching at the corners, or by jointing at every corner.

Take care not to stretch the gasket whilst fitting. Cut slightly oversize to prevent shrinkage. All joints in gaskets must be sealed with Henkel Terostat 934 (clear) or 939 (grey, black or white).

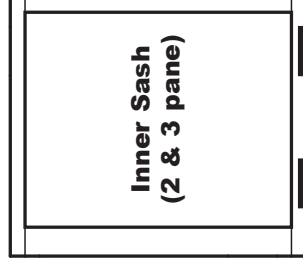
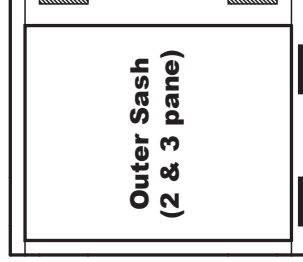
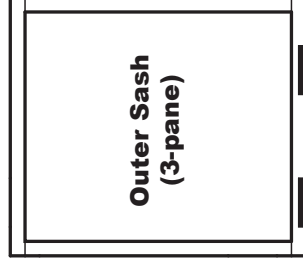


Vertical Slider

-  DFP1425 - 8mm Packer
-  DFP1415 - 6mm Packer
-  DFP1415 - 6mm Packer.
(Only used for enhanced security windows)



Horizontal Slider



FINISHING OFF

Final Checks

Check operation of both sashes in sliding and tilting modes. Check operation of catches and sliding restrictors (where fitted). Check security of all fittings etc. Check that plastic rivets have been fitted to pivot bar carriers.

Sealing

The recommended sealant for the exterior is Low Modulus Neutral Cure Silicone Sealant. Backing foam should be used where the perimeter gap is over 5mm. Where the gap is within the 5mm range; a neat application of silicone is all that is required on the outside.

A final check of the internal and external perimeter seals should be undertaken. Any weak spots that are identified should be rectified and tooled to a high visual finish. Any excess sealant must be cleaned off of the finished surfaces using appropriate cleaner.

Cleaning After Installation

If excess sealant is to be cleaned off. Ensure that any solvent used will not damage any of the metal finishes, synthetic rubbers or plastics which may be present.

Take particular care if there is any cement or plaster on the aluminium. It is harmful to the metal finish and should be washed off while still wet. DO NOT RUB or particles of grit will permanently damage the metal or paint finish.

Routine Cleaning & Maintenance

No aluminium finish is "Maintenance Free" and hence should be cleaned at regular intervals. See surface treatment suppliers literature/website for cleaning and maintenance requirements.

The cleaning process should include the frames and any drainage channels that are provided.

For maintenance, please see Caldwell Hardware Technical Information leaflets.

De-Glazing / Re-Glazing

Sashes can be re-glazed in-situ (except for top sashes of straight vertical sliders, where the bottom sash must be removed in order to gain access to the outer interlock bead), or alternatively, sashes can be removed for re-glazing on a bench.

IMPORTANT SAFETY NOTE -

On vertical sliders, if re-glazing with sashes in-situ, always remember to ensure that catches are locked otherwise the sashes will rapidly move upwards under the tension of the balances when the glazing is removed possibly causing damage to the window or injury.

Make sure keys are removed from catches and a safety notice attached to the window until glazing is replaced.

Removing Sashes - Tilt-In Vertical Slider

To remove sashes for re-glazing, disengage tilt latches, tilt sash, then remove pivot bar plastic rivet with a flat bladed screwdriver. Remove top M4 socket cap screw from each tilt restrictor fixing into stiles. Support sash, then slide restrictor arm out. Lift sash away from pivot bar.

Removing Sashes - Straight Vertical Slider

To remove sashes for re-glazing, raise sash and support it. Remove sash guides (DFP1430). Use balance tool (320/09), to disengage balances from balance hooks. Remove balance hooks (DFP1431). Carefully lower sash. Remove sash balance from jamb one side. Shuffle sash sideways to remove it.

To de-glaze, remove wedge gasket, remove beads, then lift out glazing unit.

Re-glazing is the same as initial glazing shown on previous page.