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- 1 CROSS CUT OR PIVOT SAW WITH MINIMUM TRAVERSE FOR 100mm (4") SECTION.
- 2 TUNGSTEN TIPPED SAW BLADES (REQUIRE LESS SHARPENING AND GIVE LONGER WORKING LIFE)
- 3 HAND DRILL
- 4 DRILL SPEED REDUCTION DEVICE TO FACILITATE RE-SITING COUNTERSUNK HOLES.
- 5 FELT OR RUBBER STRIPPED BENCH TOP OR TRESTLES TO AVOID DAMAGE DURING ASSEMBLY OR GLAZING.
- 6 SASH CRAMP AND EXTENSION BAR TO GIVE MINIMUM HOLD OF 2100mm (7').
- 7 NO.2 POINT POSIDRIVE SCREWDRIVER.
- 8 CUTTING WAX FOR SCREW GROOVES
- 9 STANLEY TYPE KNIFE AND SPARE BLADES

STANDARD KIT PREPARATION

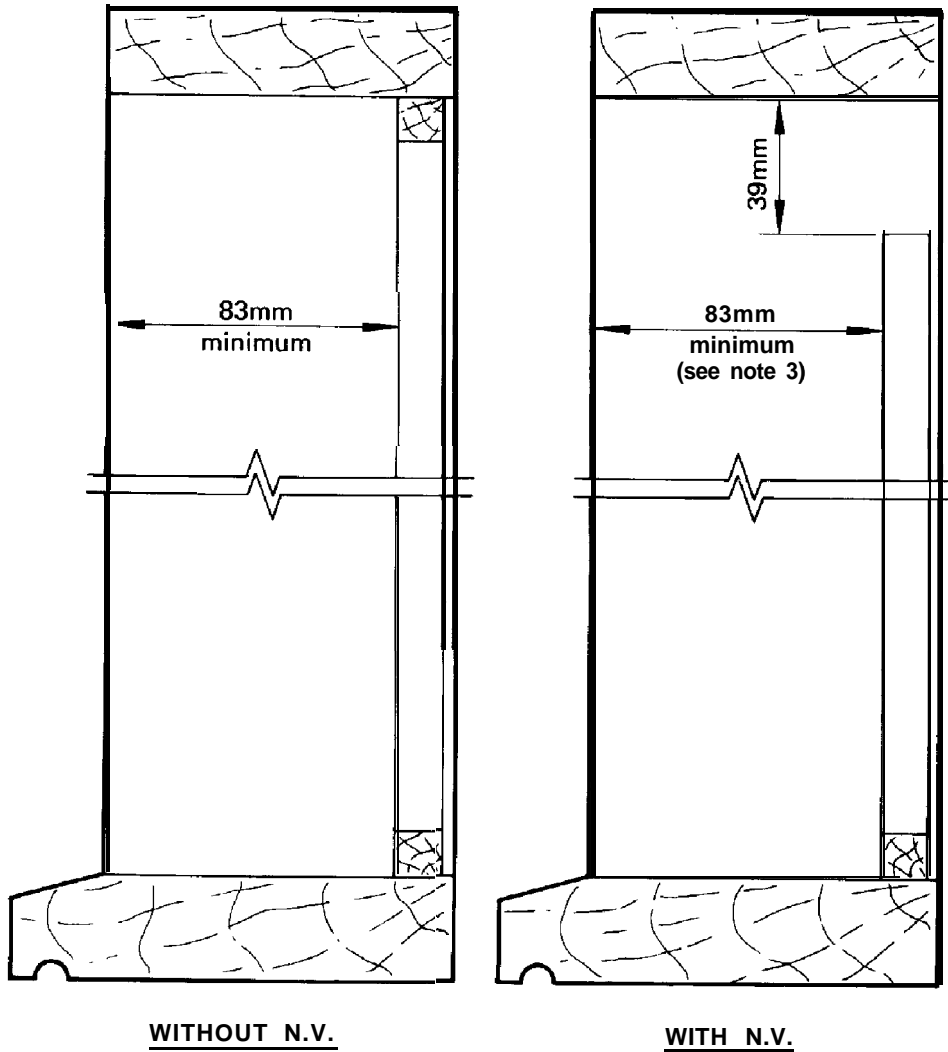
ON STANDARD KITS JAMBS ARE SUPPLIED WITH FACTORY FITTED RIVNUTS INTO THE TOP OF THE OUTER FRAME JAMB. THE CUT DOWN PROCEDURES FOR JAMBS AND STILES HAVE BEEN CHANGED.

**TO PREPARE THESE ENDS FOR USE PLEASE REFER TO
PAGE WP IN THIS MANUAL.**

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REBATING DETAILS FOR TIMBER SUB-FRAMES

All dimensions are in mm



Notes:

- 1 Recommended backstop size 12.7mm square
- 2 Backstop must be omitted for full length of head to incorporate a hood type night ventilator.
- 3 In order to ensure the leading edge of the Hood vent does not protrude beyond the sub-frame front edge this dimension should be increased to 96mm.

**WINDOW KIT SIZES
AND SASH METAL WEIGHTS**

OVERALL KIT SIZES SHOWN BELOW ARE NOMINAL SIZES ONLY; TO DETERMINE ACTUAL WORKING SIZE DEDUCT 6mm FROM WIDTH AND HEIGHT SHOWN.

NOMINAL KIT SIZE		SASH METAL WEIGHT Kg
WIDTH	HEIGHT	
600	900	1.29
600	1200	1.46
600	1500	1.63
600	1800	1.80
600	2100	1.97
600	2400	2.14
900	900	1.72
900	1200	1.90
900	1500	2.10
900	1800	2.22
900	2100	2.40
900	2400	2.56
1200	900	2.17
1200	1200	2.34
1200	1500	2.50
1200	1800	2.70
1200	2100	2.85
1200	2400	3.02
1500	1200	2.80
1500	1500	2.97
1500	1800	3.14
1500	2100	3.31

Notes:

1. All dimensions are in mm.
2. A night ventilator will add 35mm to the actual working height of the standard windows.

GLAZING SUBSTANCES CONTINUED

VERTICAL SLIDING WINDOWS

IMPORTANT**TOTAL SASH WEIGHT MUST NOT EXCEED 40kg (88lbs)****A METHOD TO CALCULATE THE TOTAL SASH WEIGHT**

W = Overall window width H = Overall window height

Step 1

Use the information on pages $\frac{WP}{F}$ and $\frac{WP}{G}$ to calculate the area of glass per sash in m^2 .
i.e. For Single glazed units multiply glass width x height =

For Double glazed units multiply glass width x height x 2 =

Step 2

Multiply the area of glass found in Step 1 by one of the following weights according to the glass thickness chosen.

- i.e. For 4mm glass x 9.7 kg =
For 5mm glass x 12.2 kg =
For 6mm glass x 15.9 kg =

Step 3

Look down the table on page $\frac{WP}{C}$ for a window size corresponding closest to that required add the sash metal weight shown against this standard window to the weight obtained in Step 2.

THIS FINAL FIGURE IS THE TOTAL SASH WEIGHT =

Alternatively the balance manufacturer can calculate any requirement.



ORDERING CALDWELL BALANCES

A. When ordering balances the following details should be stated although item (v) can be calculated by the manufacturer if necessary.

- (i) Monarch Vertical Sliding Window.
- (ii) Your Customer reference number or name.
- (iii) Overall window width.
- (iv) Overall window Height (excluding Night Ventilator where applicable).
- (v) Total sash weight.

Address for Orders:

Caldwell Hardware (UK) Ltcl
Berrington Road
Sydenham Industrial Estate
Leamington Spa
Warwickshire
CV31 1NB
Telephone: **(01926)** 451767



GLASS SIZES AND GASKET LENGTHS FOR STANDARD WINDOWS

OVERALL KIT SIZE		GLASS		GASKET REQ'D PER KIT
WIDTH	HEIGHT	WIDTH	HEIGHT	
600	900	500	383	3.8m
600	1200	500	533	4.4m
600	1500	500	683	5.0m
600	1800	500	833	5.6m
600	2100	500	983	6.2m
600	2400	500	1133	6.8m
900	900	800	383	5.0m
900	1200	800	533	5.6m
900	1500	800	683	6.2m
900	1800	800	833	6.8m
900	2100	800	963	7.4m
900	2400	800	1133	8.0m
1200	900	1100	383	6.2m
1200	1200	1100	533	6.8m
1200	1500	1100	683	7.4m
1200	1600	1100	833	8.0m
1200	2100	1100	983	8.6m
1200	2400	1100	1133	9.2m
1500	1200	1400	533	8.0m
1500	1500	1400	683	8.6m
1500	1800	1400	833	9.2m
1500	2100	1400	983	9.8m

SAMPLE WINDOW KIT 500W x 850H	406	361	GASKET INCLUDED IN KIT
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NON STANDARD GLASS SIZE CALCULATION FORMULAE WITHOUT NIGHT VENTILATOR

WIDTH	GLASS	HEIGHT
w-94		$\frac{H-128}{2}$

All dimensions are in mm unless otherwise stated.

GLASS SIZES CONTINUED

VERTICAL SLIDING WINDOWS

NON STANDARD GLASS SIZE CALCULATION FORMULAE WITH NIGHT VENTILATOR	
GLASS	
WIDTH	HEIGHT
w-94	$\frac{H-163}{2}$

FORMULAE TO CALCULATE COMPONENT LENGTHS

COMPONENT	LENGTH
HEAD	W
SILL	W
TOP RAIL (UPPER SASH)	W-113
INTERLOCKER (UPPER SASH)	W-113
INTERLOCKER (LOWER SASH)	W-113
BOTTOM RAIL (LOWER SASH)	W-113
JAMB (LEFT HAND)	H-15
JAMB (RIGHT HAND)	H-15
STILE (L.H. UPPER SASH)	H-12
STILE (R.H. UPPER SASH)	H-12
STILE (L.H. LOWER SASH)	H+15
STILE (R.H. LOWER SASH)	H+15
NIGHT VENT BODY	W
NIGHT VENT FLAP	NO. OF F LAPS

Notes

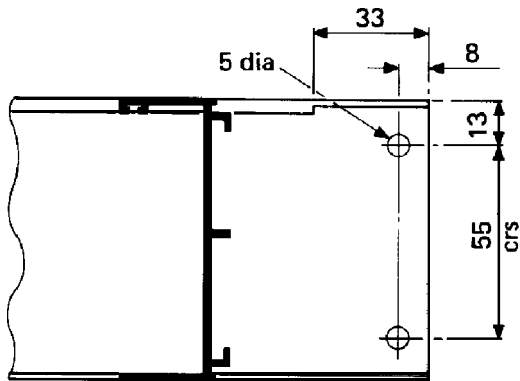
An add-on Cill (M610) is available, overall width is 150mm and it occupies 15mm of the aperture height.

- 1 All dimensions are in mm
- 2 Where components have an angled bar end preparation dimensions are taken over longest edge of the angle.
- 3 W is total metal-to-metal width of window outer frame.
- 4 H is total metal-to-metal height of window outer frame exclusive of night ventilator, if a night ventilator is fitted, 35mm must be added to the working height of the standard window.

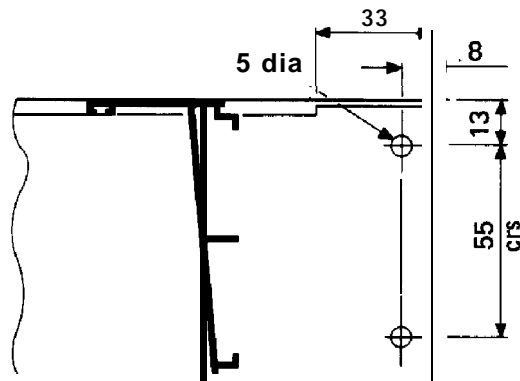
CUTTING DOWN HORIZONTAL SECTIONS

HEAD, SILL TOP AND BOTTOM RAILS

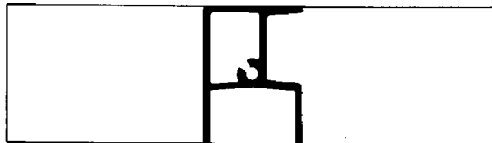
Cut down from one end by the difference between the kit width and the required width and prepare the bar ends as shown.



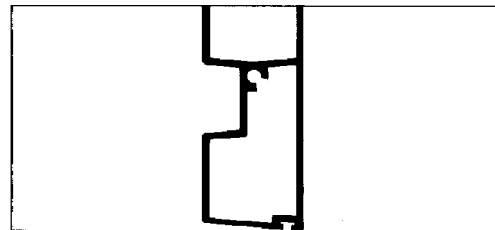
HEAD



SILL



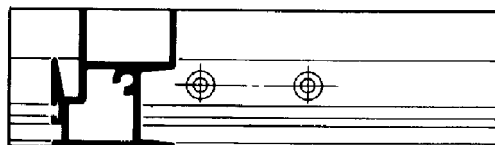
TOP RAIL



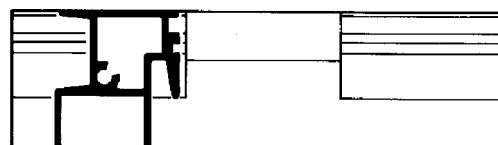
BOTTOM RAIL

INTERLOCKERS: UPPER AND LOWER SASH

Calculate the difference between the kit width and the required width, divide it by 2 and cut down each end by that amount. Prepare the bar ends as shown.



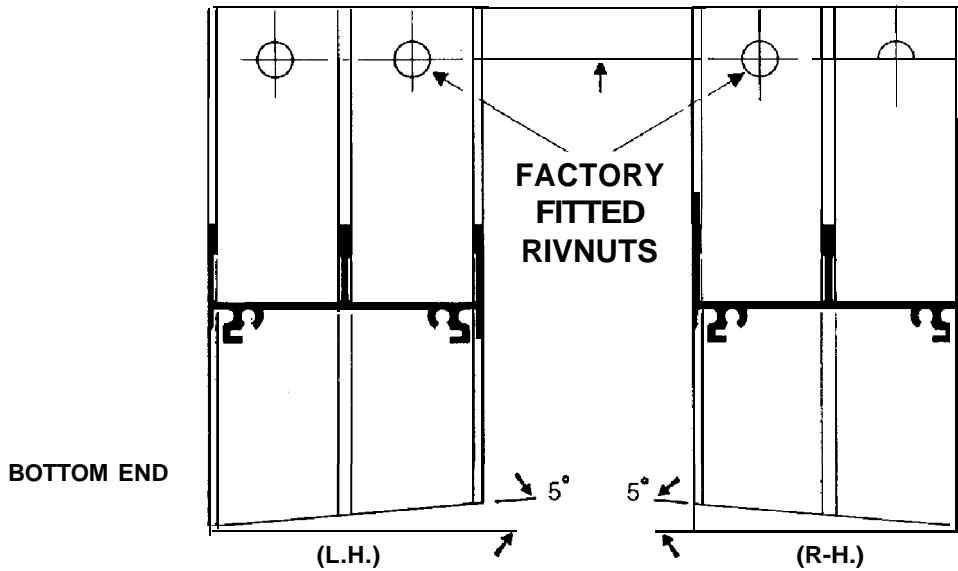
UPPER



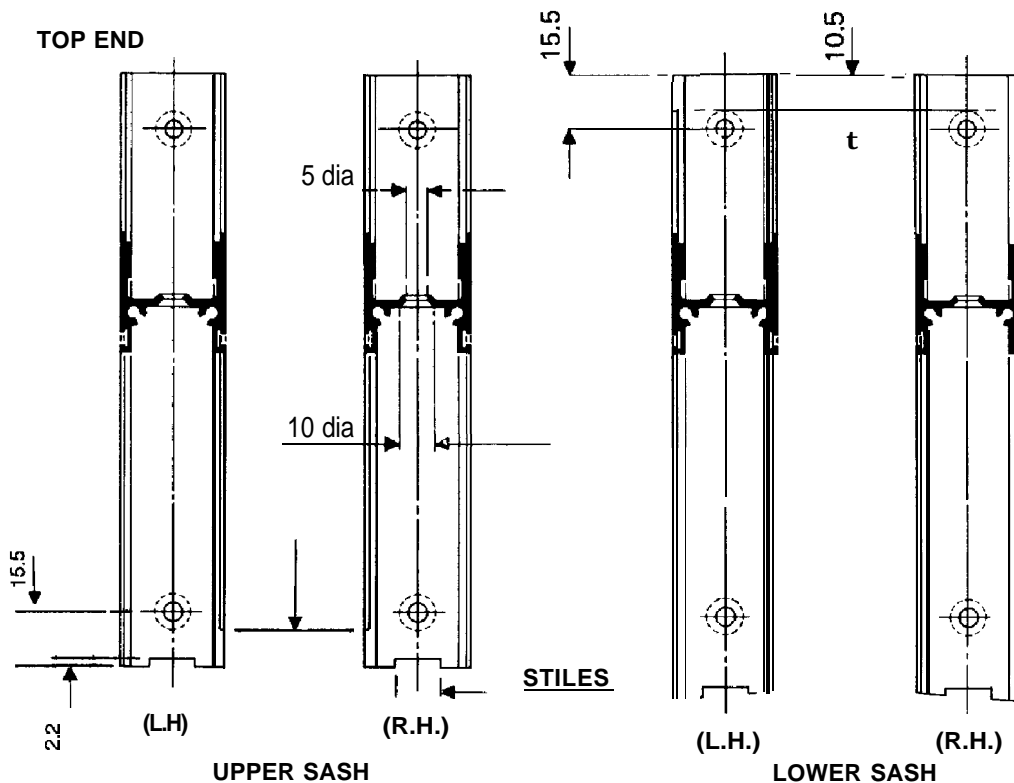
LOWER

CUTTING DOWN VERTICAL SECTIONS

JAMBS: IMPORTANT New jambs incorporate rivnuts factory fitted at top end. Jambs must therefore be cut down at the BOTTOM END according to the formulae shown on page 7.



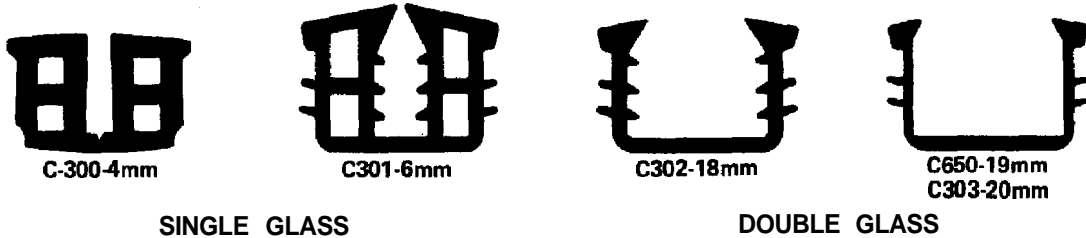
STILES: UPPER SASH - Cut down from the BOTTOM and prepare ends as shown. LOWER SASH - Cut down from the TOP and prepare ends as shown.



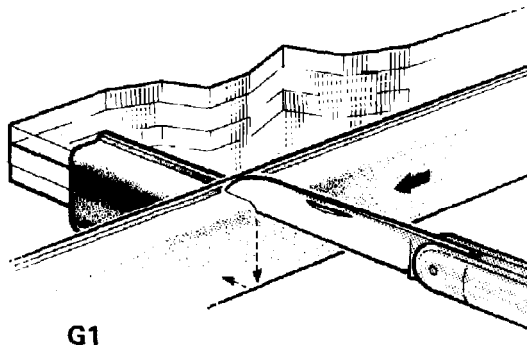
GLAZING INSTRUCTIONS

SPECIAL NOTE
All glazing should be carried out in strict accordance with BS 6262

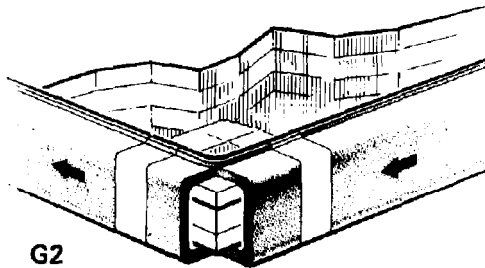
THESE INSTRUCTIONS COVER 16, 18, 19 and 20mm DOUBLE GLASS SEALED UNITS AND 4 and 6mm SINGLE GLAZING; THE CORRECT GLAZING GASKET MUST BE USED IN EACH CASE. THE GLAZING GASKETS MUST NOT BE STRETCHED DURING FITTING OTHERWISE SHRINKAGE WILL OCCUR LATER.



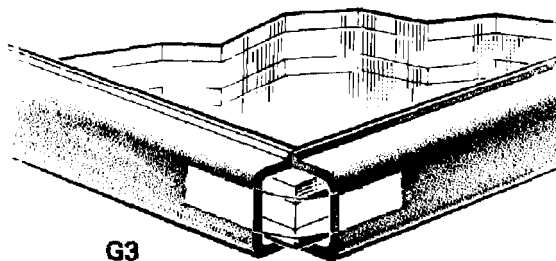
- A. Check the contents of the box and lay the panel sections on trestles in the order of assembly. Leave the outer frame members in the box.
- B. Support the glass panel on two trestles that are narrower than the width of the panel. Select the correct glazing gasket and cut a length sufficient to wrap round all the edges of the panel, plus approximately 100mm (4") for overlap and cutting. Cut one additional section of glazing gasket approximately 50mm (2") long for use as a slicing template.



C. Start approximately 12mm (1/2") from the top right-hand corner of the panel, wrap the channel of the glazing gasket along the edge of the glass and allow it to extend beyond the bottom corner of the panel. Place the slicing template on the bottom edge of the glass, butting up to the gasket. Cut through the body of the gasket in line with the raised edge of the slicing template, but **DO NOT CUT THROUGH THE RAISED EDGE OF THE GASKET THAT IS BEING FITTED.** G1.



D. Bend the gasket 90° round the bottom corner of the panel and hold it in position with adhesive tape. G2.



E. Continue wrapping the gasket along the edge of the panel and repeat the slicing process at each corner. When all the edges have been covered, use the already fitted gasket as the template for the final cut and hold the two ends in position by placing adhesive tape along the exposed back of the gasket ends. G3.

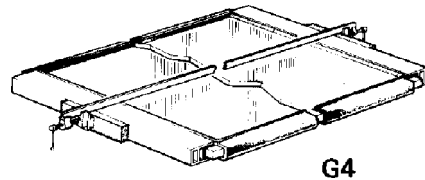
F. When using patterned glass, it is recommended that the patterned glass side is glazed to the inside to ensure maximum sealing of glass to gasket on the outside.

FITTING THE ALUMINIUM FRAME SECTIONS

REFER TO ARRANGEMENT DRAWING AT THE REAR OF THE MANUAL FOR HANDING OF SECTIONS AND PANEL LAYOUTS.

A. Place the top and bottom sections on to the top and bottom edges of the panel, correctly handed, leaving an equal amount of panel showing at either end.

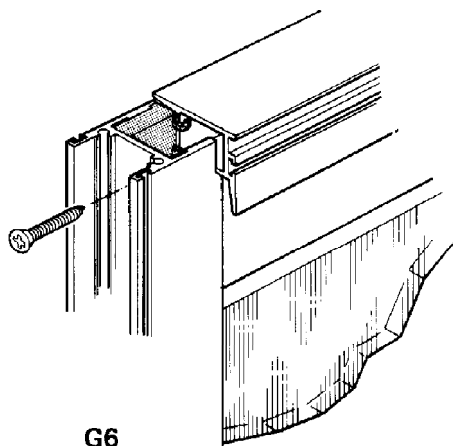
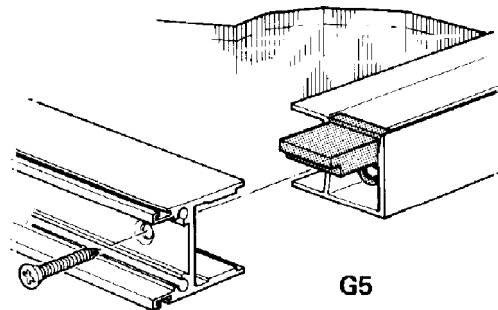
Carefully cramp them into position using 300mm minimum packing blocks to prevent damage. G4.



B. Place the stiles on the correct sides of the panel. On the Top panel the ends of the stiles with the short length of nib removed on one side of the glazing channel should face inwards at the interlocker end of the panel. On the Bottom panel they should face outwards at the interlocker end of the panel.

C. Place the End Plugs in position at the ends of each rail grip channel and use small gap Sealer to seal in position. G5.

On both panels the rail and interlocker should stand proud of the ends of the stiles by 3mm. G6.

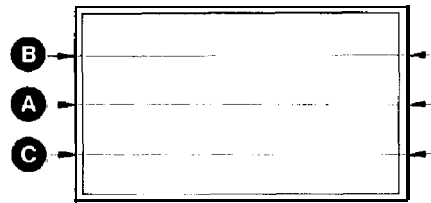
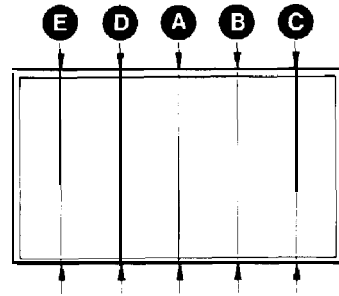


D. Carefully cramp all sections into position using the packing blocks, ensure that the ends of the rails fit snugly into the recesses of the stiles, and that the glazing gasket is seated down on the horizontal sections, and seated neatly in the vertical sections.

Use the cramping procedure shown in G7 to eliminate any bow in the sections.

FITTING THE ALUMINIUM FRAME SECTIONS CONTINUED

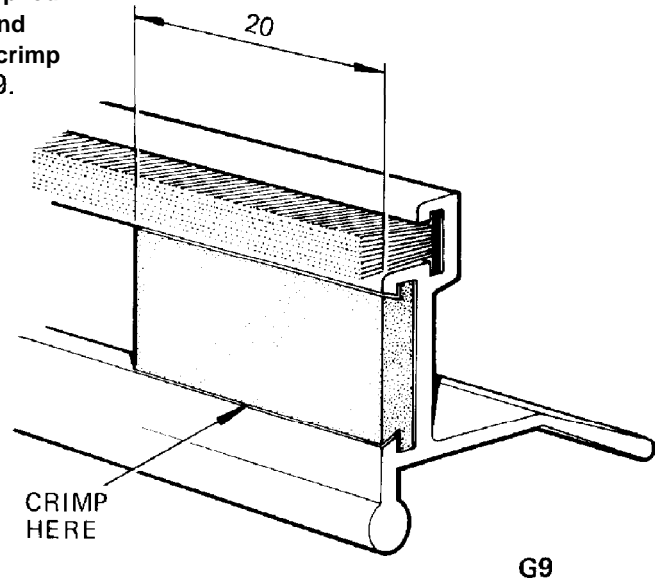
E. Secure the frame joints with No.10 x 1½" csk head self tapping screws through the access holes in the vertical sections. The screws should pass through the access hole in each draught end plug.



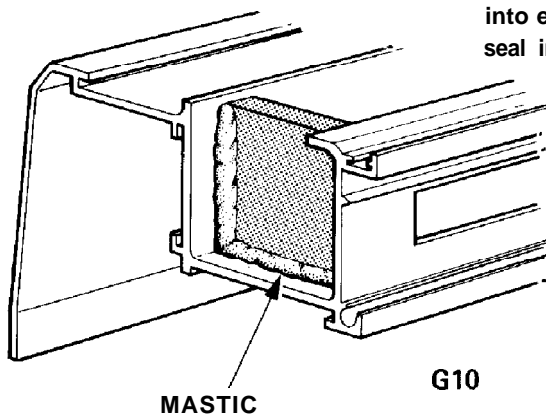
G7

NIGHT VENTILATORS

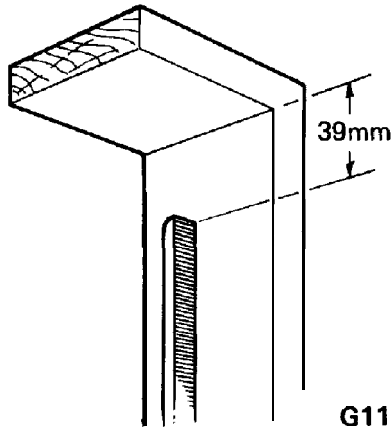
- A. When cutting down, cut down the body by the difference between the kit width and the required width.
- B. Divide the cut down required by the number of flaps in the assembly and cut down each flap by that amount.
- C. Cut the soft GREY PVC strip supplied in each screw kit into 20mm lengths and insert one into each end of each flap, crimp the ends of the flap to retain them. G9.



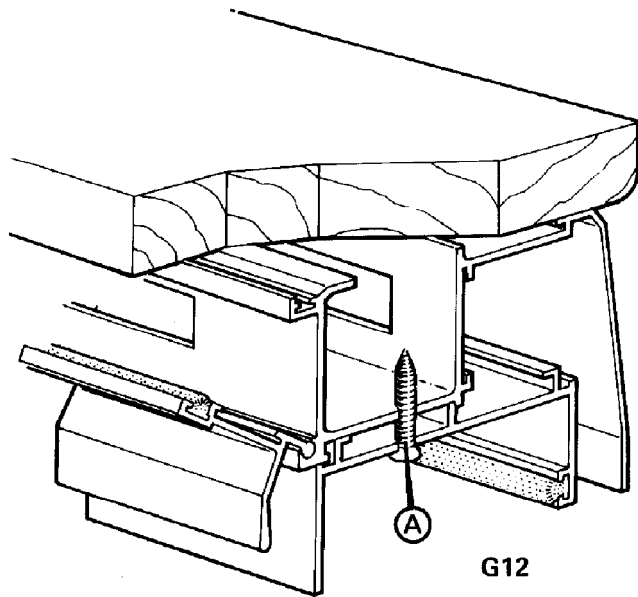
- D. Insert one of the White plastazote Plugs into each end of the N.V. Hood Channel and seal into position using non-setting mastic. G10.



NIGHT VENTILATOR CONTINUED



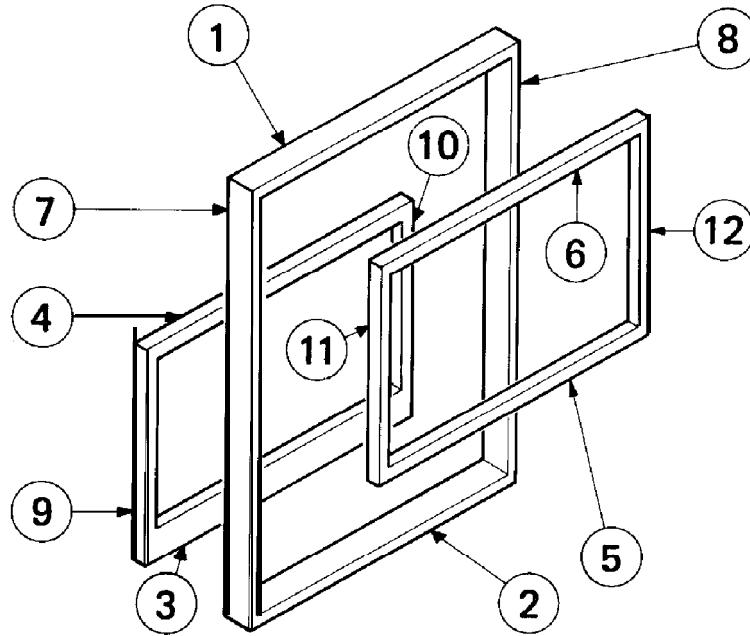
WARNING:
 THE REBATE ON THE SUB-FRAME
 MUST BE COMPLETELY OMITTED
 FROM THE HEAD SECTION AND
 NOTCHED BACK ON THE VERTICALS
 FOR 39mm (minimum) AS SHOWN IN
 G11



A. Place the ventilator hood in position on the head section of the aluminium outer frame. Drill 1/8" holes at 400mm (16") intervals through both units and secure them together with No. 8 x 1" csk-head, self-tapping screws, as indicated at A, G12.



AS VIEWED FROM THE OUTSIDE



		QTY
①	HD- HEAD	1
②	C L - CILL	1
③	BR - BOTTOM RAIL	1
④	BI- BOTTOM INTERLOCK	1
⑤	TI- TOP INTERLOCK	1
⑥	TR - TOP RAIL	1
⑦	JAL - LEFT HAND JAMB	1
⑧	JAR - RIGHT HAND JAMB	1
⑨	BSL - LEFT HAND BOTTOM STILE	1
⑩	BSR - RIGHT HAND BOTTOM STILE	1
⑪	TSL - LEFT HAND TOP STILE	1
⑫	TSR - RIGHT HAND TOP STILE	1

Part no.	Description	Qty/Kit	Used on/for
C316	End plug	8	Ends of Rails & Interlockers
F27	10 x 1 1/2" Pozi Csk S/T Screw	8	Top & Bottom Rails to Stiles
F18	8 x 1/2" Pozi P/H S/T Screw	8	Head & Cill to Jambs
C328	TOP Rail Cap	2	TOP Rail
c315	Interlocker Cap R/H	2	Interlocker/Stiles
c335	Interlocker Cap L/H	2	Interlocker/Stiles
c319	Tension Bracket	4	Stiles
F65	6 x 3/8" Pozi Csk S/T Screw	2	Keep Plate to Interlock
C318	End Tidy L/H	2	Head & Cill
F66	8 x 1 1/2" Pozi Csk Woodscrew	16	Outer Frame to Timber
F62	8 x 5/8" Pozi Csk S/T Screw	2	Catch to Interlocker
C326A	Head Stop	2	Stile/Head
C326B	Cill Stop L/H	1	Stile/Cill
C326C	Cill Stop R/H	1	Stile/Cill
F38	6 x 1/2" Pozi S/T Csk Screw	16	All End Caps
c351	R/H Catch	1	Interlocker
C332	Spacer	1	Catch/Interlocker
C330	Keep Plate	1	Interlocker
F130	M5 x 30 slotted Csk Hd M/C Screw	4	Balance
C325	End Tidy R/H	2	Head & Cill
c331	Woolpile	150mm	End Caps
c329	BOTTOM Rail Cap	2	BOTTOM Rail

Options

c334	Security Bolt		
C336	Lockable Fitch Catch L/H		
c337	Lockable Fitch Catch R/H		

MULLION COMPONENT LENGTH AND PREPARATION DETAILS

H = overall height of aluminium outer frame including a night ventilator and/or transom and fixed panel under where applicable.

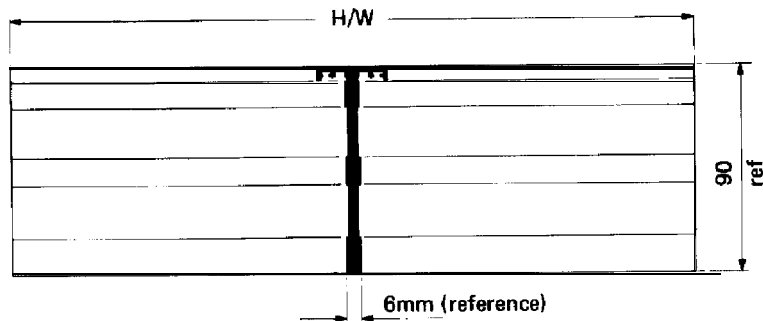
W = overall width of window aluminium outer frame.

All dimensions are in mm.

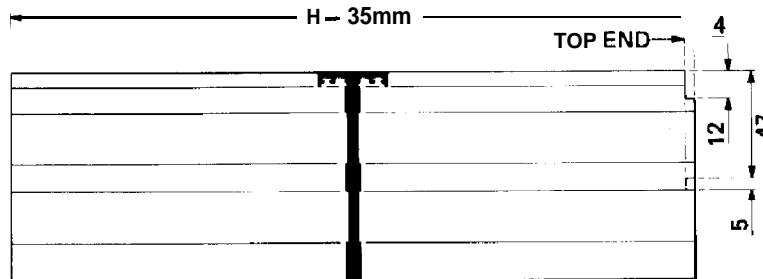
VERTICAL MULLION (WITHOUT NIGHT VENTILATOR)

or

HORIZONTALTRANSOM (BETWEEN A SINGLE WINDOW AND FIXED PANEL)

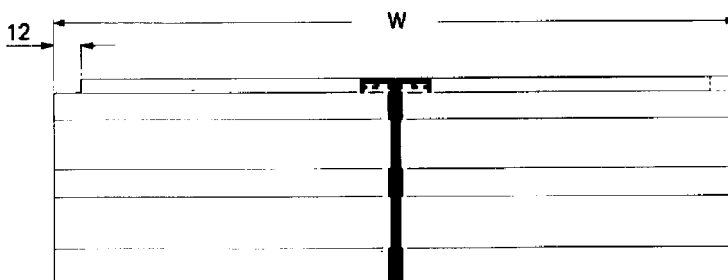


VERTICAL MULLION (WITH VENTILATOR)



HORIZONTALTRANSOM (MULTIPLE WINDOWS WITH FIXED PANELS).

Where more than two windows are involved and two vertical mullions are being used, the horizontal transom between the vertical ones will require notching at both ends.



FIXED LIGHTS

ALLOW 6mm FOR A MULLION OR TRANSOM BETWEEN WINDOWS AND FIXED LIGHTS.

THE FOLLOWING ITEMS ARE REQUIRED TO MANUFACTURE A FIXED LIGHT.

ITEM	CODE	DESCRIPTION	QUANTITY
1	M301	Outer frame section	Consult formulae
2	M302	Bead section	Consult formulae
3	M303	Mullion section	Consult formulae
4	C400	Glazing wedge	As bead
5	C401	Setting block	As required
6	C402	Glazing clip	As required
7	C403	Glazing tape	As bead
8	F27	Screws No. 10 x 1" csk S/T	As required
9	F35	Screws No.6 x 1/2" P.H. S/T	As clip
10	F37	Screws No.8 x 1" P.H. S/T	8 per Panel
11	F51	Screws No. 10 x 1" csk S/T	As required
12	F64	Screws No.10 x 2" csk W/S	As required

GLASS SCHEDULE

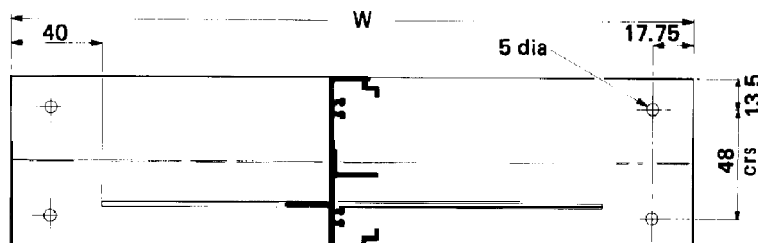
H = overall height of fixed panel aluminium outer frame.

W = overall width of fixed panel aluminium outer frame
(which is also equal to the window outer frame width).

GLASS	
WIDTH	HEIGHT
W - 48	H - 48

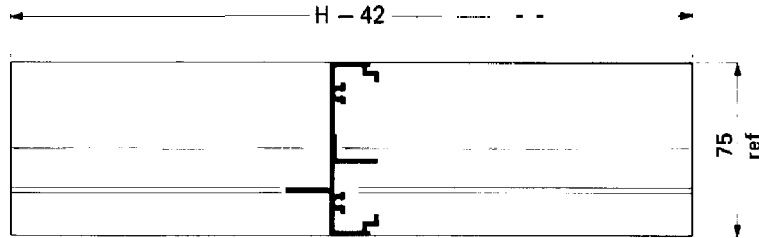
COMPONENT LENGTH AND PREPARATION DETAILS

OUTER FRAME HEAD AND SILL



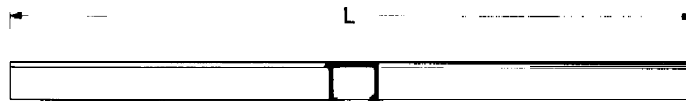
Continued on the next page

OUTER FRAME JAMBS

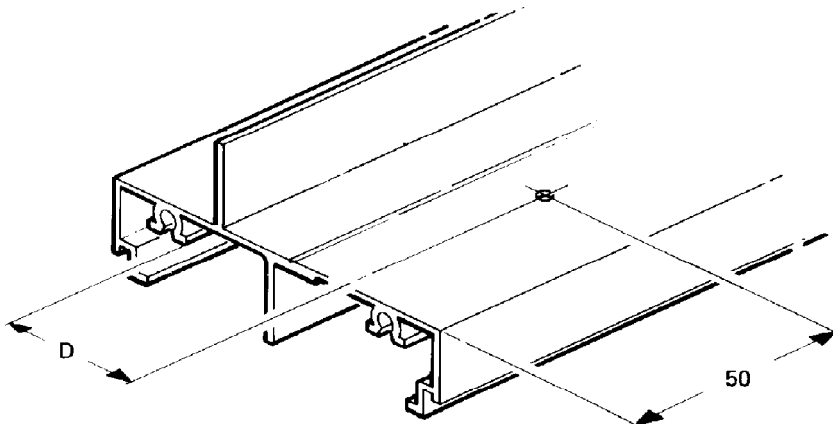


VERTICAL BEADS $L = H - 74$

HORIZONTAL BEADS $L = W - 42$

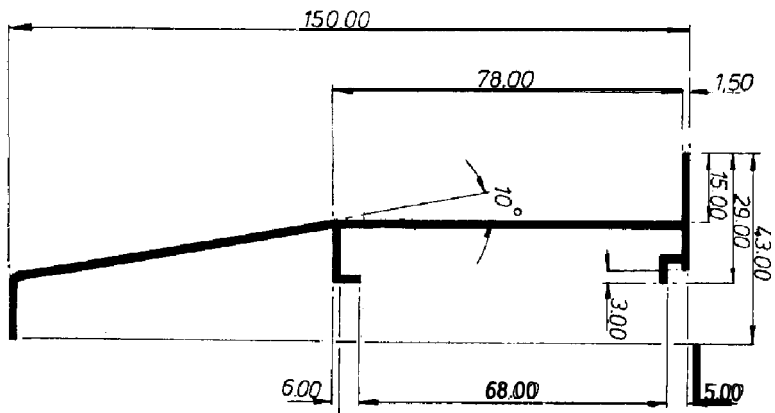
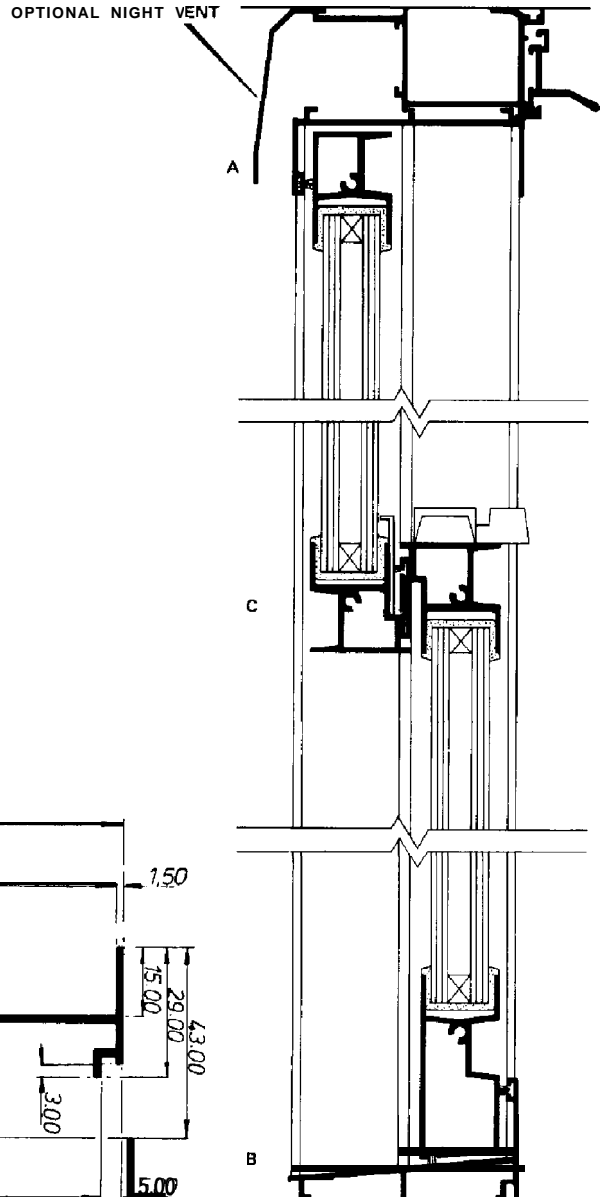
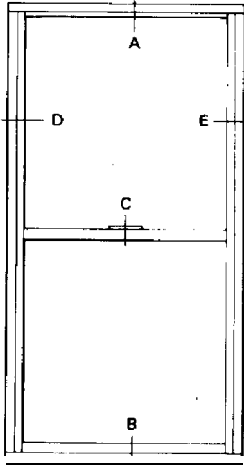


Drill 2.7mm dia glazing clip fixing holes, 50mm in from both ends of each outer frame section and also at 300mm centres along their remaining length.

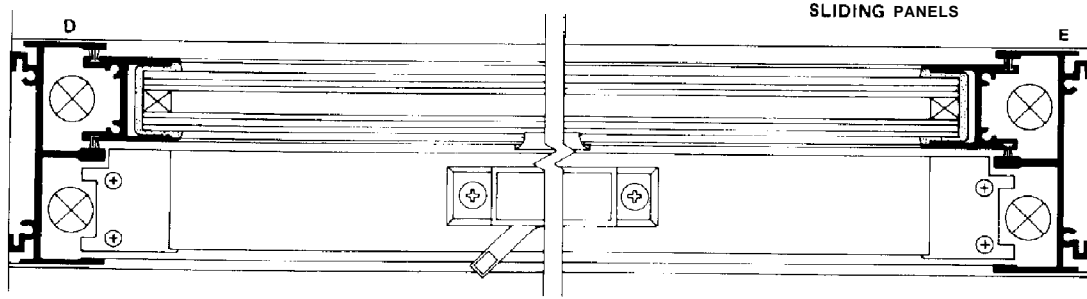


Position the fixing holes from the inside face (D) of the upstand accurately in accordance with the following table.

GLAZING THICKNESS	DIMENSION D
4	20
6	22
14	30
16	32
18	34
20	36
24	40



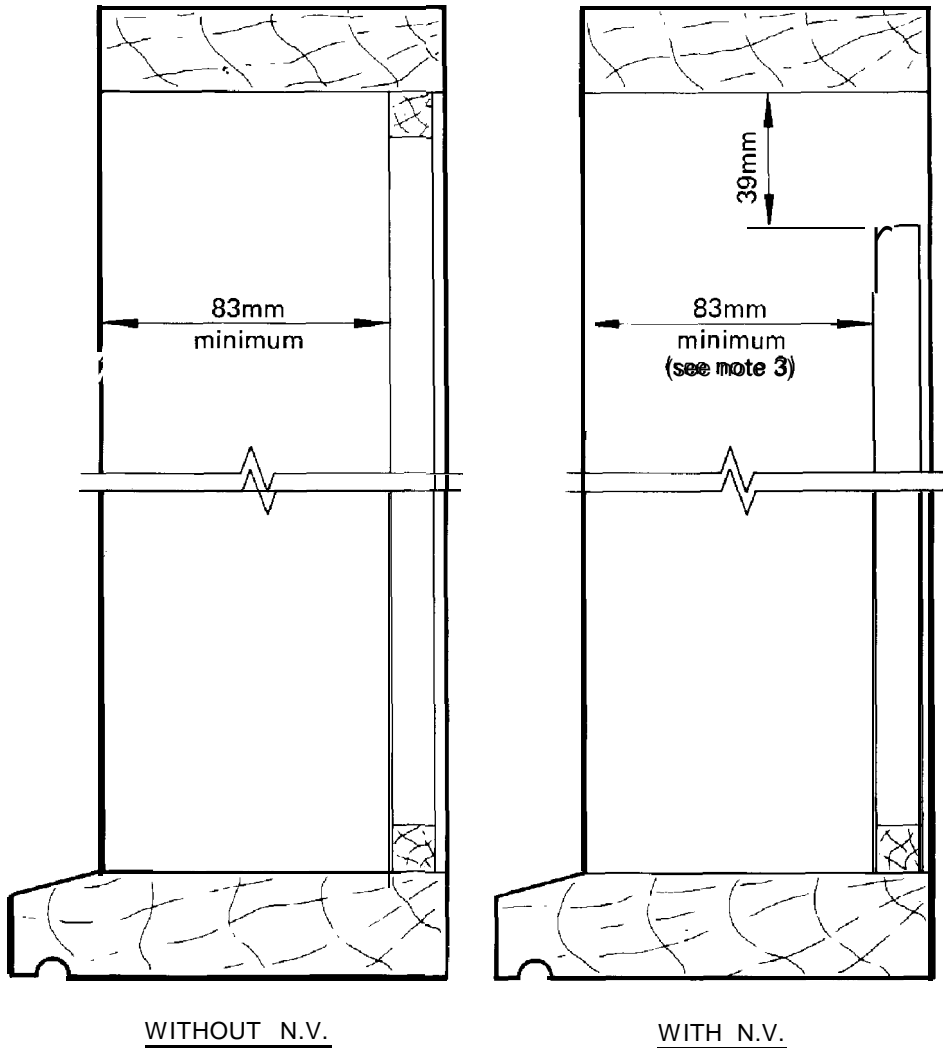
VERTICAL SECTION THROUGH SLIDING PANELS



- ① STILE AND INTERLOCKER DRILL & ROUTING JIG **C357**
- ② HEAD AND SILL DRILL JIG AND DRILL C324
- ③ FIXED LIGHT OUTER FRAME DRILL JIG **C404**
- ④ SIMPLE HAND ROUTER
- ⑤ POP RIVET GUN FOR 5mm DIA RIVETS
- ⑥ SIMPLE BENCH DRILL TO ALLOW QUICKER AND MORE EFFECTIVE USE OF THE DRILLING JIGS.
- ⑦ CROSS CUT OR PIVOT SAW WITH MINIMUM TRAVERSE FOR 100mm (4") SECTION.
- ⑧ TUNGSTEN TIPPED SAW BLADES (REQUIRE LESS SHARPENING AND GIVE LONGER WORKING LIFE)
- ⑨ HAND DRILL
- ⑩ FELT OR RUBBER STRIPPED BENCH TOP OR TRESTLES TO AVOID DAMAGE DURING ASSEMBLY OR GLAZING.
- ⑪ SASH CRAMP AND EXTENSION BAR TO GIVE MINIMUM HOLD OF 150Cmm (5')
- ⑫ NO.2 POINT POSIDRIVE SCREWDRIVER.
- ⑬ CUTTING WAX FOR SCREW GROOVES
- ⑭ STANLEY TYPE KNIFE AND SPARE BLADES

REBATING DETAILS FOR TIMBER SUB-FRAMES

All dimensions are in mm



Notes:

- 1 Recommended backstop size 12.7mm square
- 2 Backstop must be omitted for full length of head to incorporate a night ventilator.
- 3 In order to ensure the leading edge of the Hood vent does not protrude beyond the sub-frame front edge this dimension should be increased to 96mm.



GLASS SIZES AND GASKET LENGTHS FOR STANDARD WINDOWS

HORIZONTAL SLIDING WINDOWS

OVERALL KIT SIZES SHOWN BELOW ARE NOMINAL SIZES ONLY; TO DETERMINE ACTUAL WORKINGSIZE DEDUCT 6mm FROM WIDTH AND HEIGHT SHOWN.

NOMINAL KIT SIZE		GLASS		GASKET REQ'G PER KIT
WIDTH	HEIGHT	WIDTH	HEIGHT	
1200	900	537	748	5.4m
1200	1100	537	948	6.2m
1200	1300	537	1148	7.0m
1500	900	687	748	6.0m
1500	1100	687	948	6.8m
1500	1300	687	1148	7.6m
1500	1500	687	1348	8.4m
1800	900	837	748	6.6m
1800	1100	837	948	7.4m
1800	1300	837	1148	8.2m
1800	1500	837	1348	9.0m
2100	900	987	748	7.2m
2100	1100	987	948	8.0m
2100	1300	987	1148	8.8m
2100	1500	987	1348	9.6m
2400	900	1137	748	7.8m
2400	1100	1137	948	8.6m
2400	1300	1137	1148	9.4m
2400	1500	1137	1348	10.2m
3000	900	953	748	9.4m
3000	1100	953	948	10.6m
3000	1300	953	1148	11.8m
3000	1500	953	1348	13.0m
← 3 PANE ←				
SAMPLE WINDOW KIT 850W x 500H	365	354	GASKET INCLUDED IN KIT	

NON STANDARD GLASS SIZE FORMULA WITHOUT NIGHT VENTILATOR		
TYPE	GLASS	
	WIDTH	HEIGHT
2 PANEL	$\frac{w-120}{2}$	H-146
3 PANEL	$\frac{w-135}{3}$	H-146

All dimensions are in mm unless otherwise stated.

GLASS SIZES CONTINUED

HORIZONTAL SLIDING WINDOWS

NON STANDARD GLASS SIZE FORMULAE WITH NIGHT VENTILATOR		
TYPE	GLASS WIDTH	GLASS HEIGHT
2 PANEL	$\frac{w-120}{2}$	H-181
3 PANEL	$\frac{w-135}{3}$	H-I 81

FORMULAE TO CALCULATE COMPONENT LENGTHS

COMPONENT	LENGTH	
	2 PANEL	3 PANEL
HEAD	W	W
SILL	W	W
TOP RAIL	$\frac{W}{2} - 80$	$\frac{W}{3} - 65$
BOTTOM RAIL	$\frac{W}{2} - 80$	$\frac{W}{3} - 65$
JAMB (LEFT HAND)	H-27	H-27
JAMB (RIGHT HAND)	H-27	H-27
STILE	H-64	H-64
INTERLOCKER (INNER PANEL)	H-64	H-64
INTERLOCKER (OUTER PANEL)	H-64	H-64
NIGHT VENT BODY	W	W
NIGHT VENT FLAP	W	W
	NO OF FLAPS	NO OF FLAPS
BAFFLE	H-33	H-33

An add on Cill (MG10) is available, overall width is 150mm and it occupies 15mm of the aperture height.

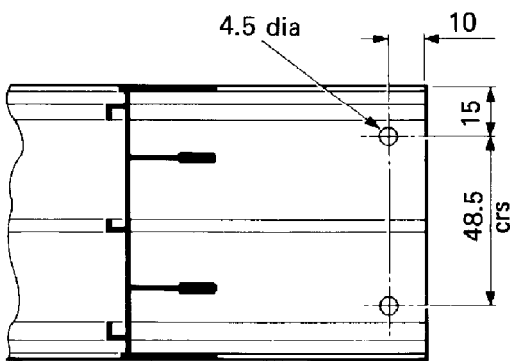
- NOTES: 1. All dimensions are in mm.
2. Where components have an angled bar end preparation dimensions are taken over longest edge of the angle.
3. W is total metal-to-metal width of window outer frame.
4. H is total metal-to-metal height of window outer frame exclusive of night ventilator, if a night ventilator is fitted 35mm must be added to the working height of the standard window.

CUTTING DOWN HORIZONTAL SECTIONS

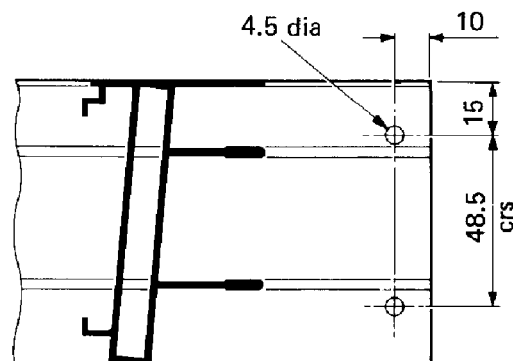
HEAD AND SILL

Cut down from one end by the difference between the kit width and the required width and prepare the bar ends as shown.

On the sill section cut down the end furthest from the drainage slots.



HEAD

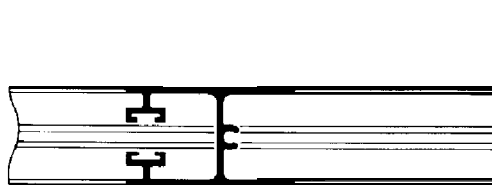


SILL

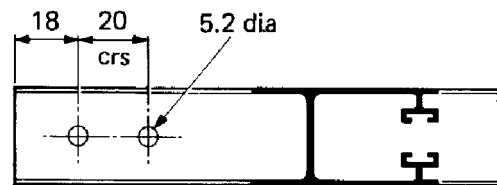
TOP AND BOTTOM RAILS

Calculate the difference between the kit width and the required width, divide it by 2 and cut down each rail by that amount.

On the bottom rail sections cut down the plain end. Prepare the bar ends as shown.



TOP RAIL



BOTTOM RAIL

After drilling the holes in the bottom rails fix the rollers in position using the 5mm dia rivets supplied.

IMPORTANT

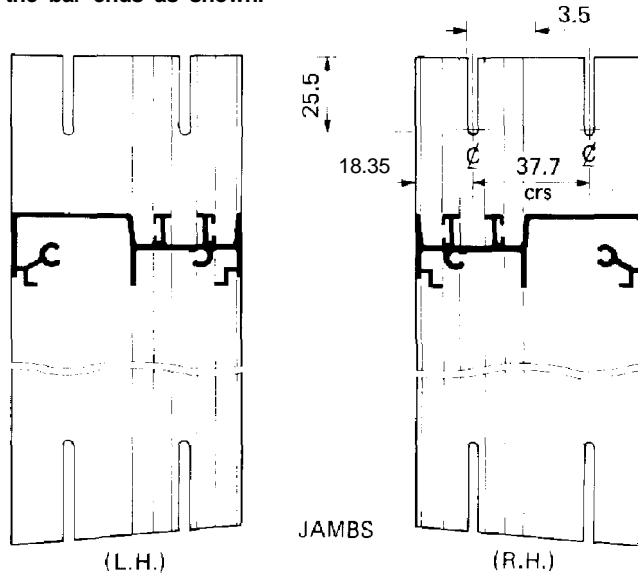
THE WOOLPILE ON STANDARD AND CUT DOWN RAILS SHOULD BE TRIMMED SO THAT IT PROTRUDES BY 30mm FROM ONE END AND BY 15mm FROM THE OTHER END.
SET THE WOOLPILE CORRECTLY AND CRIMP SECURELY IN POSITION.

CUTTING DOWN VERTICAL SECTIONS

JAMBS, STILES, INTERLOCKERS AND BAFFLES

Cut down from the top end only by the difference between the kit height and the required height and prepare the bar ends as shown.

TOP END

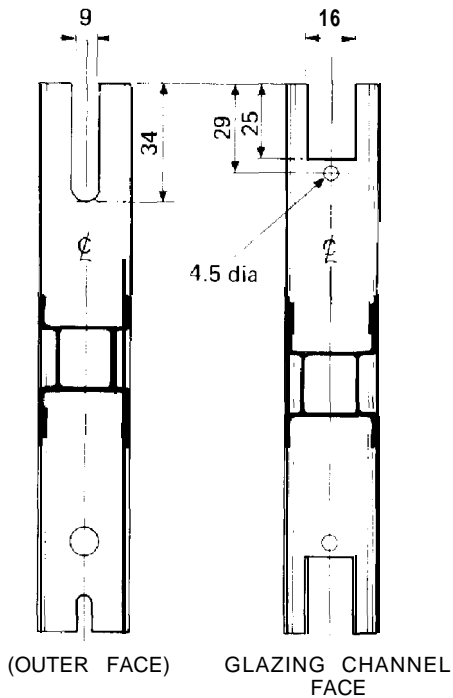


Use Jig No. C357 with interchangeable top plates to carry out the (top) end preparations shown below.

STILES

USE TOP PLATE

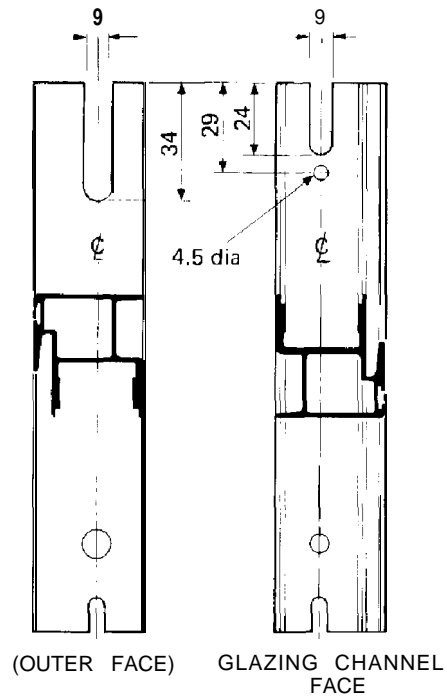
No. 1, No. 3, turn section over then No. 4



INTERLOCKERS

USE TOP PLATE

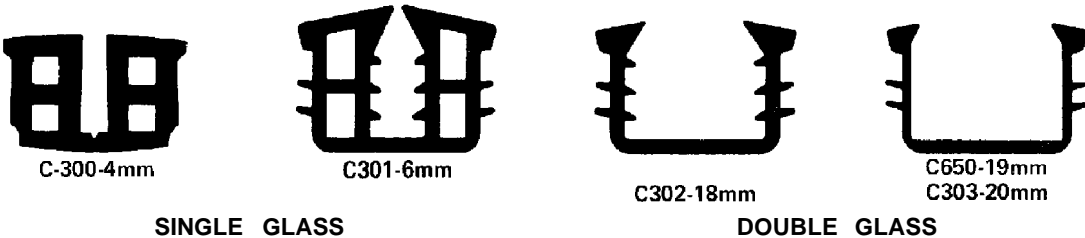
No. 1 No. 2 then No. 3



GLAZING INSTRUCTIONS

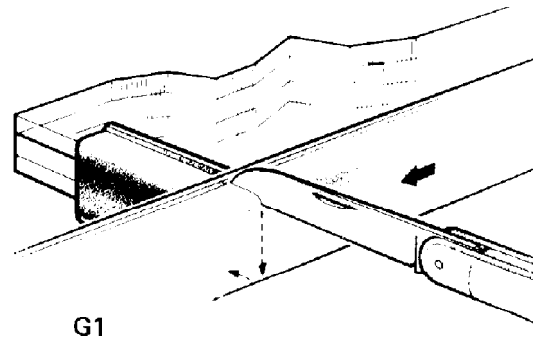
SPECIAL NOTE
All glazing should be carried out in strict accordance with BS 6262

THESE INSTRUCTIONS COVER 18, 19 AND 20mm DOUBLE GLASSEASED UNITS AND 4 and 6mm SINGLE GLAZING; THE CORRECT GLAZING GASKET MUST BE USED IN EACH CASE. THE GLAZING GASKETS MUST NOT BE STRETCHED DURING FITTING OTHERWISE SHRINKAGE WILL OCCUR LATER.

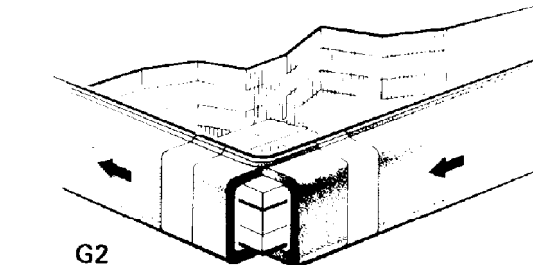


A. Check the contents of the box and lay the panel sections on trestles in the order of assembly. Leave the outer frame members in the box.

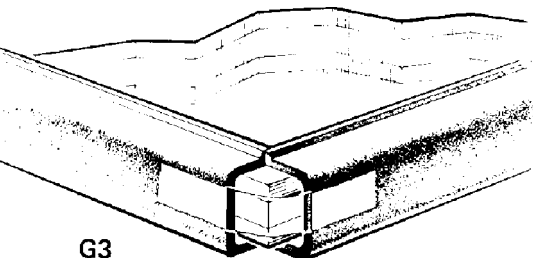
B. Support the glass panel on two trestles that are narrower than the width of the panel. Select the correct glazing gasket and cut a length sufficient to wrap round all the edges of the panel, plus approximately 100mm (4'') for overlap and cutting. Cut one additional section of glazing gasket approximately 50mm (2'') long for use as a slicing template.



C. Start approximately 12mm (½'') from the top right-hand corner of the panel, wrap the channel of the glazing gasket along the edge of the glass and allow it to extend beyond the bottom corner of the panel. Place the slicing template on the bottom edge of the glass, butting up to the gasket. Cut through the body of the gasket in line with the raised edge of the slicing template, but DO NOT CUT THROUGH THE RAISED EDGE OF THE GASKET THAT IS BEING FITTED. G1.



D. Bend the gasket 90° round the bottom corner of the panel and hold it in position with adhesive tape. G2.



E. Continue wrapping the gasket along the edge of the panel and repeat the slicing process at each corner. When all the edges have been covered, use the already fitted gasket as the template for the final cut and hold the two ends in position by placing adhesive tape along the exposed back of the gasket ends. G3.

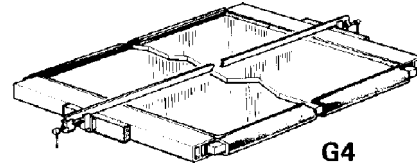
F. When using patterned glass, it is recommended that the patterned glass side is glazed to the inside to ensure maximum sealing of glass to gasket on the outside.

FITTING THE ALUMINIUM FRAME SECTIONS

REFER TO ARRANGEMENT DRAWING AT THE REAR OF THE MANUAL FOR LAYOUT OF PANELS FOR 2 AND 3 PANEL WINDOWS.

A. Place the top and bottom sections on to the top and bottom edges of the panel, leaving an equal amount of panel showing at either-end.

Carefully cramp them into position using 300mm minimum packing blocks to prevent damage. G4.



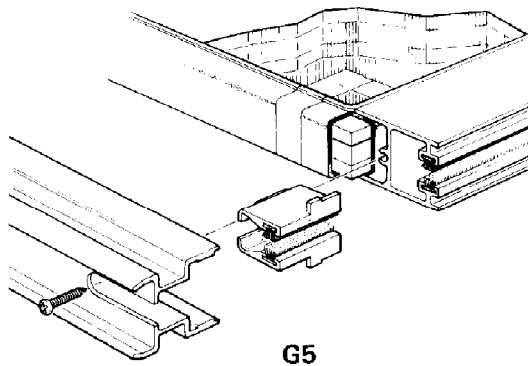
NOTE

THE **WOOLPILE** ON BOTH TOP AND BOTTOM RAILS SHOULD PROTRUDE FROM THE LEADING STILE ENDS OF THE RAILS BY 30mm AND FROM THE INTERLOCKER ENDS BY 15mm.

B. Feed the long draught plugs onto the woolpiles protruding from the leading stile ends of the top and bottom rails.

Carefully place the stile onto the side of the panel ensuring that the draught plugs nestle snugly into the prepared ends of the stile without twisting G5.

C. Feed the short draught plugs onto the woolpiles protruding from the interlocker ends of the top and bottom rails and place the interlocker onto the side of the panel with the same care as for the stile.



D. Carefully cramp all sections into position using the packing blocks, ensure that the ends of the rails fit snugly into the recesses of the vertical sections, and that the glazing gasket is seated down on the horizontal sections, and seated neatly in the vertical sections.

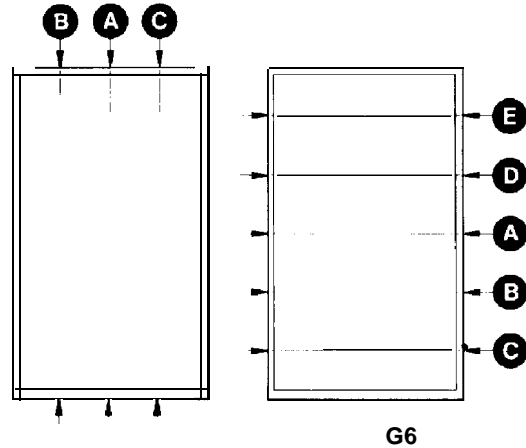
Use the cramping procedure shown in G6 to eliminate any bow in the sections.

FITTING THE ALUMINIUM FRAME SECTIONS CONTINUED

E. Secure the frame joints with No.8 x 1 1/2" pan-head self tapping screws through the access holes in the vertical sections.

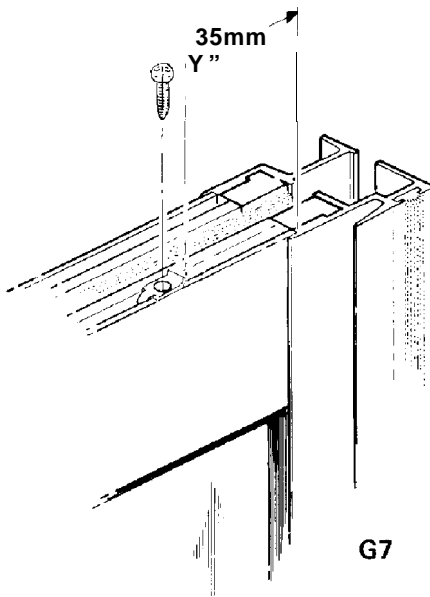
Use M5 x 30mm pan-head M/C screws at both bottom joints. The screws should pass through the access holes provided in the draught plugs.

F. Blank off the access holes with the grommets provided with the exception of the top end of the interlocker on the inner panel.

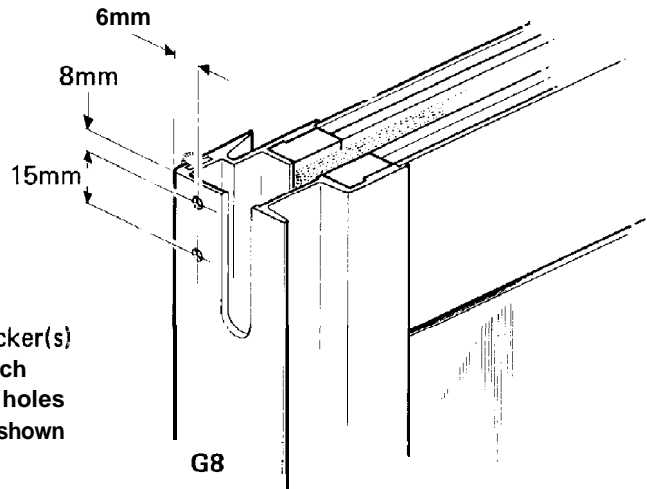


PREPARATION FOR THE SAFETY CATCH

A. The safety catch stop should be fitted to the OUTSIDE PANEL TOP RAIL 35mm in from the interlocker end.



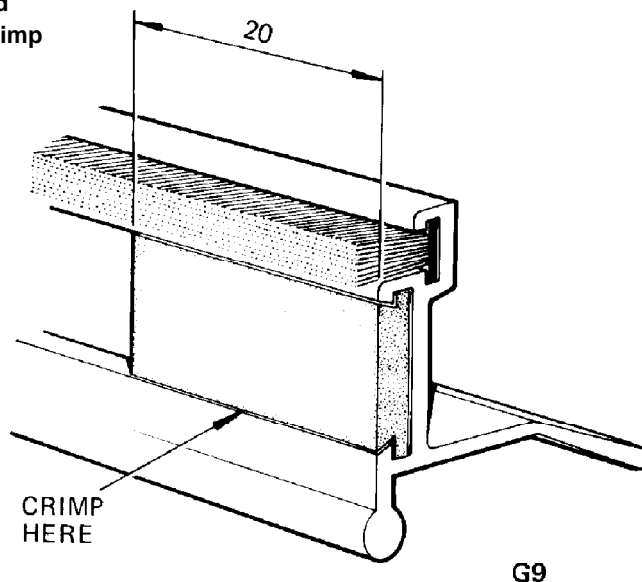
Use the stop as a guide to drill a 3.1 mm dia hole through the top web, nearest the inside face of the rail and secure the stop in position with a 3mm dia csk-head rivet. G7.



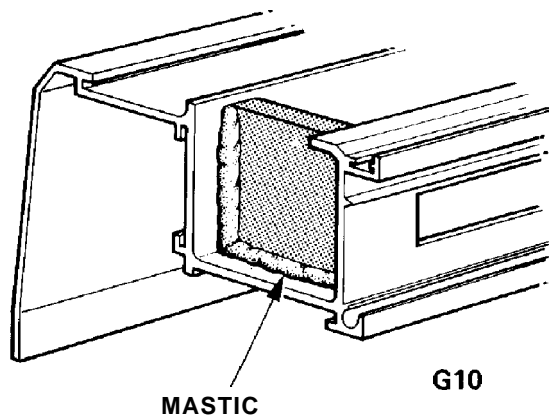
B. Prepare the TOP END of the interlocker(s) on the inner panel to accept the safety catch on installation, by drilling two 2.7mm dia holes through the outside face in the positions shown in G8.

NIGHT VENTILATORS

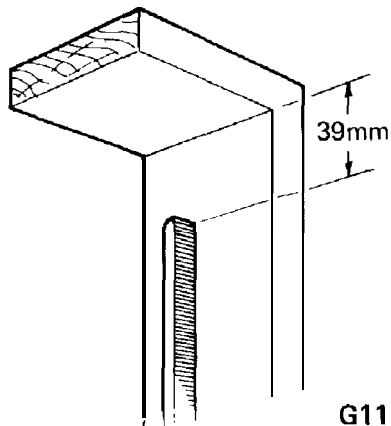
- A. When cutting down, cut down the body by the difference between the kit width and the required width.
- B. Divide the cut down required by the number of flaps in the assembly and cut down each flap by that amount.
- C. Cut the soft GREY PVC strip supplied in each screw kit into 20mm lengths and insert one into each end of each flap, crimp the ends of the flap to retain them. G9.



- D. Insert one of the White plastazote Plugs into each end of the N.V. Hood Channel and seal into position using non-setting mastic G10.

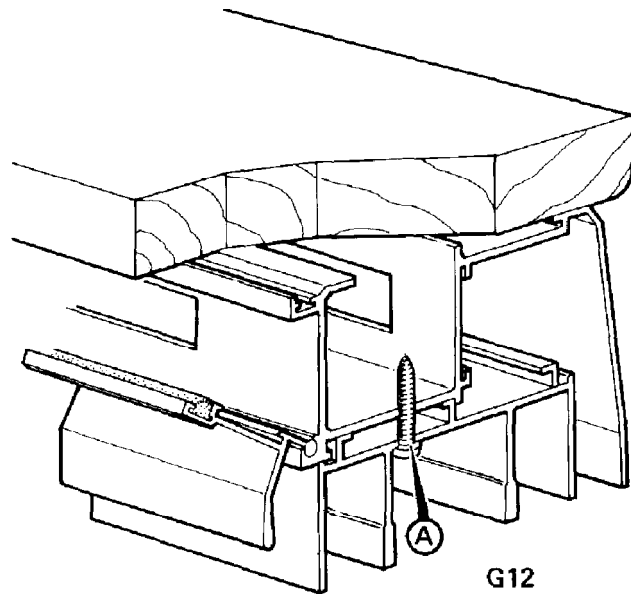


NIGHT VENTILATOR CONTINUED



G11

WARNING:
THE REBATE ON THE SUB-FRAME MUST BE COMPLETELY OMITTED FROM THE HEAD SECTION AND NOTCHED BACK ON THE VERTICALS FOR 39mm (minimum) AS SHOWN IN G11.

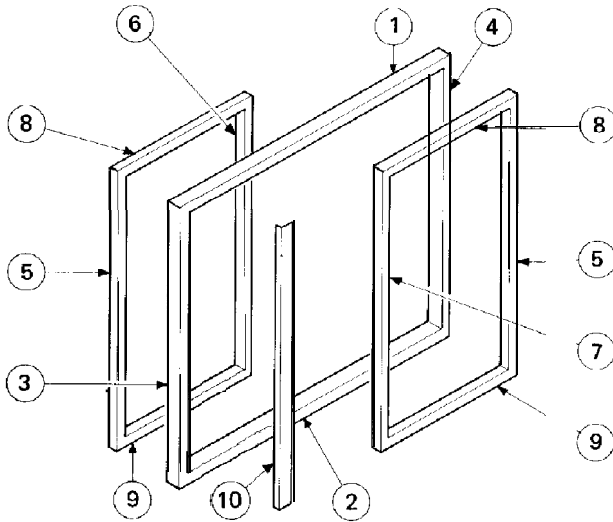


G12

A. Place the **ventilator** hood in position on the head section of the aluminium outer frame. Drill 1/8" holes at 400mm (16") intervals through both units and secure them together with No. 8 x 1" pan-head, self-tapping screws, as indicated at A, G12.

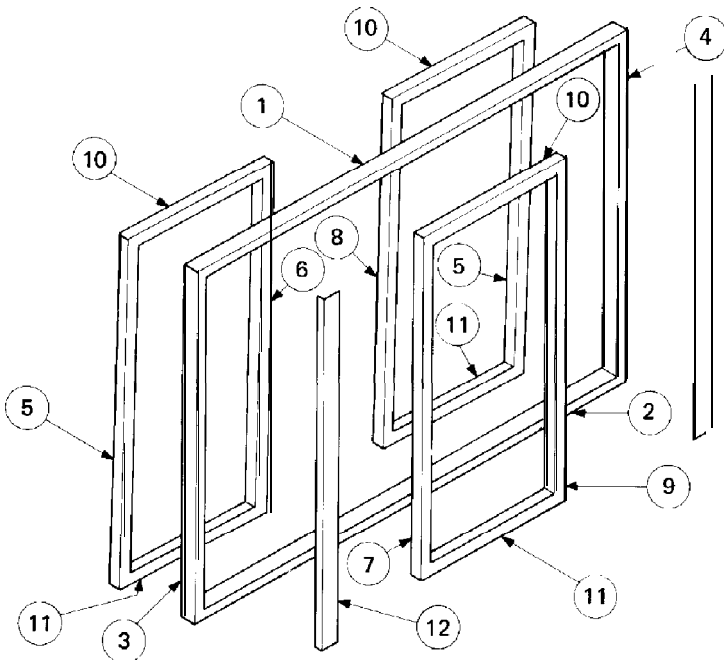


2 PANEL AS VIEWED FROM THE OUTSIDE



		QTY
①	HD- HEAD	1
②	CL - CILL	1
③	JAL - LEFT HAND JAMB	1
④	JAR - RIGHT HAND JAMB	1
⑤	ST- STILE	2
⑥	CI - CATCH INTERLOCK	1
⑦	KI - KEEP INTERLOCK	1
⑧	TR - TOP RAIL	2
⑨	BR - BOTTOM RAIL	2
⑩	BP - BAFFLE PLATE	1

3 PANEL AS VIEWED FROM THE OUTSIDE



		QTY
①	HD- HEAD	1
②	CL - CILL	1
③	JAL - LEFT HAND JAMB	1
④	JAR - RIGHT HAND JAMB	1
⑤	ST - STILE	2
⑥	CI- CATCHINTERLOCK	1
⑦	KI -- KEEP INTERLOCK	1
⑧	CI3- CATCH INTERLOCK 3 PANE WINDOW	1
⑨	KI3 - KEEP INTERLOCK 3 PANE WINDOW	1
⑩	TR - TOP RAIL	3
⑪	BR - BOTTOM RAIL	3
⑫	BP - BAFFLE PLATE	2



Part no.	Description	Qty/Kit		Used on/for
		2 Pane	3 Pane	
F18	8 x 1/2" Pozi P/H S/T Screw	4	4	Jambs to Head/Wind Baffle
F37	8x 1" Pozi P/H S/T Screw	4	4	Jamb to Cill
F65	6 x 3/8" Pozi Csk S/T Screw	2	4	Lock Keep to Interlock
F35	6 x 1/2" Pozi P/H S/T Screw	4	8	Carriers to Head & Cill
F57	M5 x 30 Cheese Hd Slotted M/C Screw	4	6	Stile and Interlockers to Bottom Rail
F61	8 x 1 1/2" Pozi P/H S/T Screw	4	6	Stile and Interlockers to Top Rail
F62	8 x 5/8" Pozi Csk S/T Screw	2	4	Catch to Interlocker
F54	5mm x 6 pop rivet	4	6	Roller Housing to Bottom Rail
C310	Draught Plug	4	4	Top and Bottom Stiles
c311	Carrier	2	4	Cill and Head
c312	Carrier Base	1	2	Cill
C320	Roller Housing	2	3	Bottom Rails
C351	Catch R/H	1	1	Interlocker
C352	Catch L/H		1	Interlocker
C330	Keep Plate	1	2	Interlockers
c354	Woolpile PB-69550.4P	.75m	1.2m	Draught Plugs & Carriers
C355	Hole Plug	10	13	Cill/Interlocker/Stile
c344	Draught Plug	4	8	Top & Bottom Interlocker
c395	Drain Hole Cover	1	1	Cill Drain Hole
F66	8 x 11/2" Pozi Csk Woodscrew	4	4	Head to Timber
F67	8 x 1 1/2" Pozi Rnd Hd Woodscrew	6	6	Jambs to Timber
F35	6 x 1/2" Pozi P/H S/T Screw	2	4	Catch to Interlocker
F38	6 x 1/2" Pozi Csk S/T Screw	1	2	Stop to Top Rail
F68	8 x 2" Pozi Csk Woodscrew	4	4	Cill to Timber
c313	Rail End Tidy	4	4	Jambs to Cill
c317	Cill End Plugs	2	2	Cill (Ends)
C338	Safety Catch R/H	1	1	Interlocker
c339	Safety Catch L/H		1	Interlocker
C340	Spacer	2	4	Catch to Interlocker
c341	Catch Stop	1	2	Top Rail

MULLION COMPONENT LENGTH AND PREPARATION DETAILS

H = overall height of aluminium outer frame including a night ventilator and/or transom and fixed panel under where applicable.

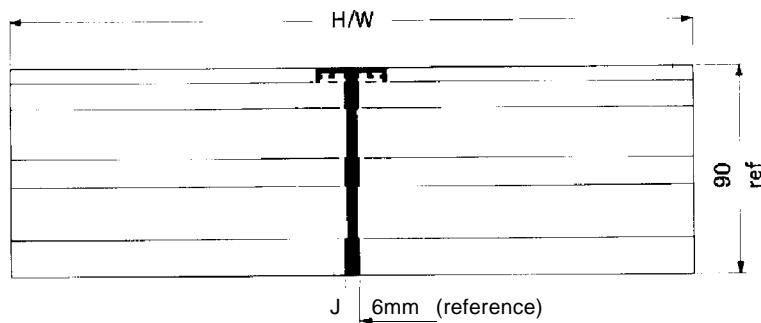
W = overall width of window aluminium outer frame.

All dimensions are in mm.

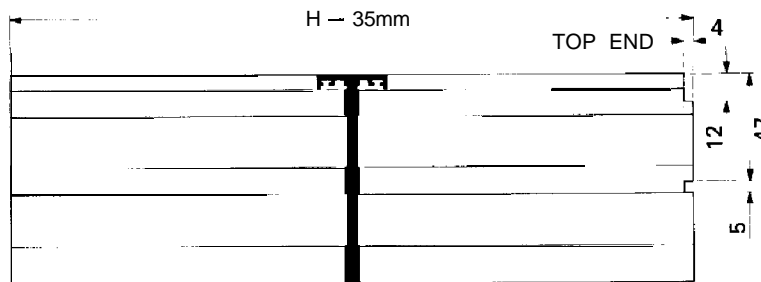
VERTICAL MULLION (WITHOUT NIGHT VENTILATOR)

or

HORIZONTALTRANSOM (BETWEEN A SINGLE WINDOW AND FIXED PANEL)

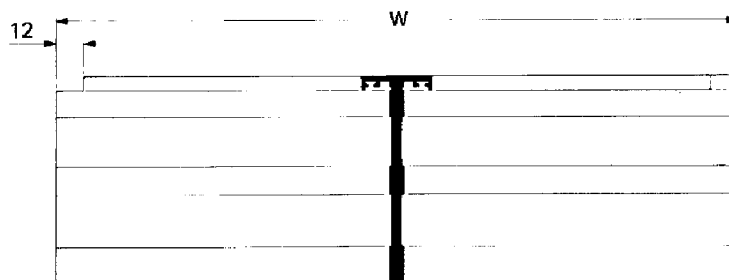


VERTICAL MULLION (WITH VENTILATOR)



HORIZONTAL TRANSOM (MULTIPLE WINDOWS WITH FIXED PANELS).

Where more than two windows are involved and two vertical mullions are being used, the horizontal transom between the vertical ones will require notching at both ends.



FIXED LIGHTS

ALLOW 6mm FOR A MULLION OR TRANSOM BETWEEN WINDOWS AND FIXED LIGHTS.
THE FOLLOWING ITEMS ARE REQUIRED TO MANUFACTURE A FIXED LIGHT.

ITEM	CODE	DESCRIPTION	QUANTITY
1	M301	Outer frame section	Consult formulae
2	M302	Bead section	Consult formulae
3	M303	Mullion section	Consult formulae
4	C400	Glazing wedge	As bead
5	C401	Setting block	As required
6	C402	Glazing clip	As required
7	C403	Glazing tape	As bead
8	F27	Screws No. 10 x 1½" csk SIT	As required
9	F35	Screws No.6 x ½" P. H. S/T	As clip
10	F37	Screws No.8 x 1" P. H. S/T	8 per Panel
11	F51	Screws No. 10 x 1" csk S/T	As required
12	F64	Screws No.10 x 2" csk W/S	As required

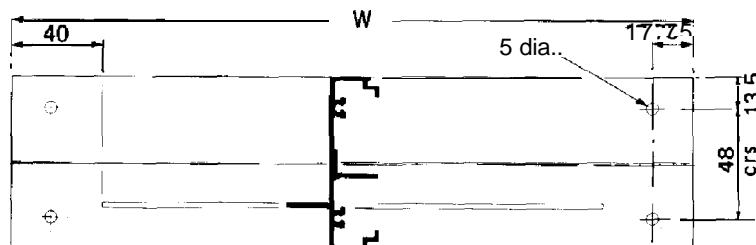
GLASS SCHEDULE

H = overall height of fixed panel aluminium outer frame.
W = overall width of fixed panel aluminium outer frame
(which is also equal to the window outer frame width).

GLASS	
WIDTH	HEIGHT
W - 48	H - 48

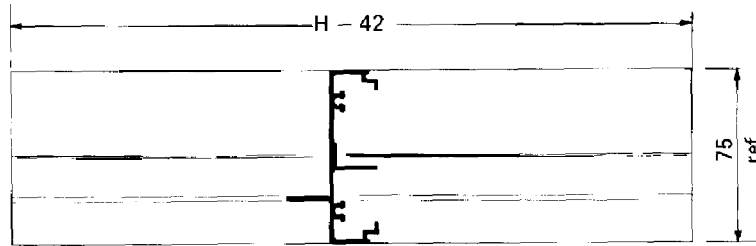
COMPONENT LENGTH AND PREPARATION DETAILS

OUTER FRAME HEAD AND SILL

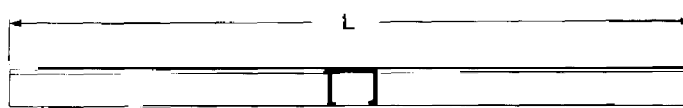


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OUTER FRAME JAMBS

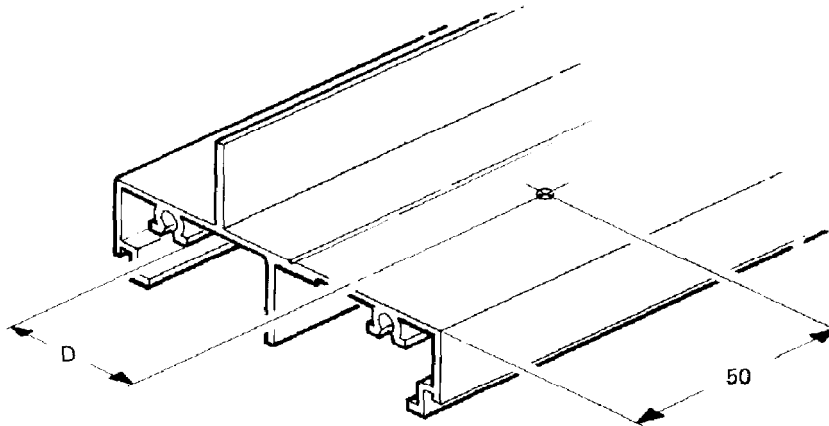


VERTICAL BEADS $L = H - 74$
 HORIZONTAL BEADS $L = W - 42$



Drill 2.7mm dia glazing clip fixing holes, 50mm in from both ends of each outer frame section and also at 300mm centres along their remaining length.

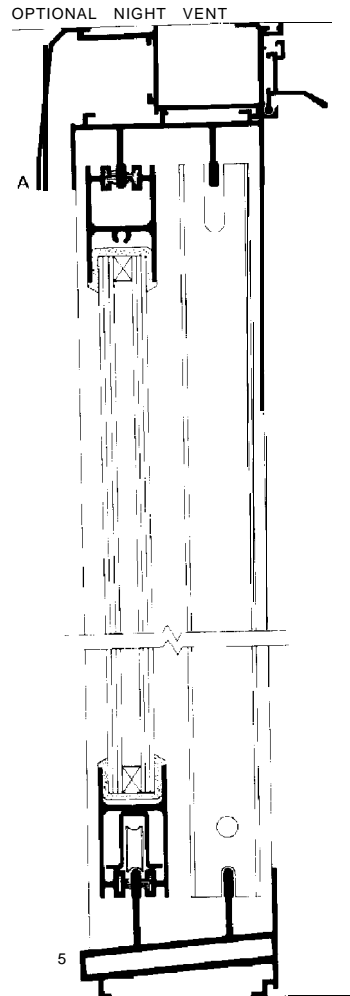
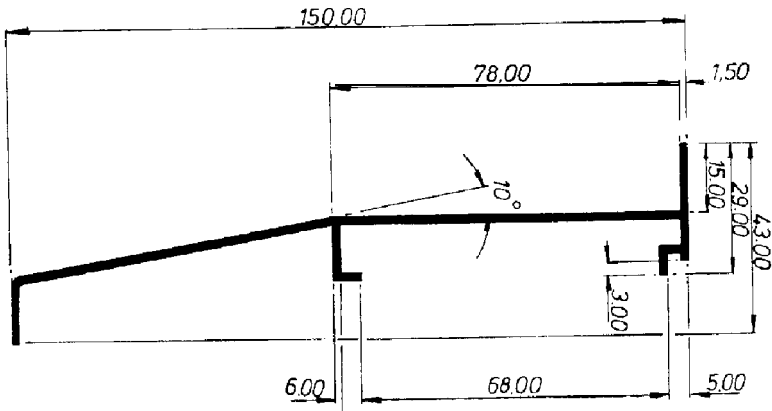
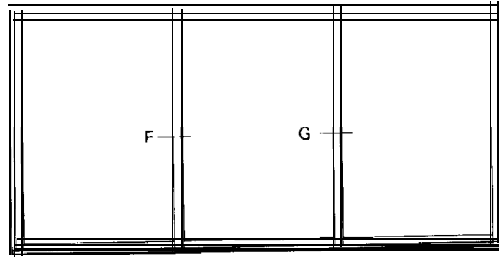
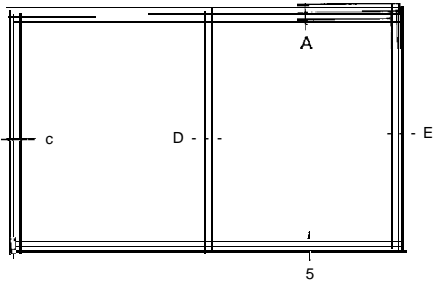
Use drill jig No. C404 for the above holes (glazing clips to outer frame).



Position the fixing holes from the inside face (D) of the upstand accurately in accordance with the following table.

GLAZING THICKNESS	DIMENSION D
4	20
6	22
14	30
16	32
18	34
20	36
24	40

horizontal sliding window



VERTICAL SECTION THROUGH SLIDING PANEL

