

# Supertilt

## Slide and Tilt Window System

Information sheet No.7

(31.49) Xt.7

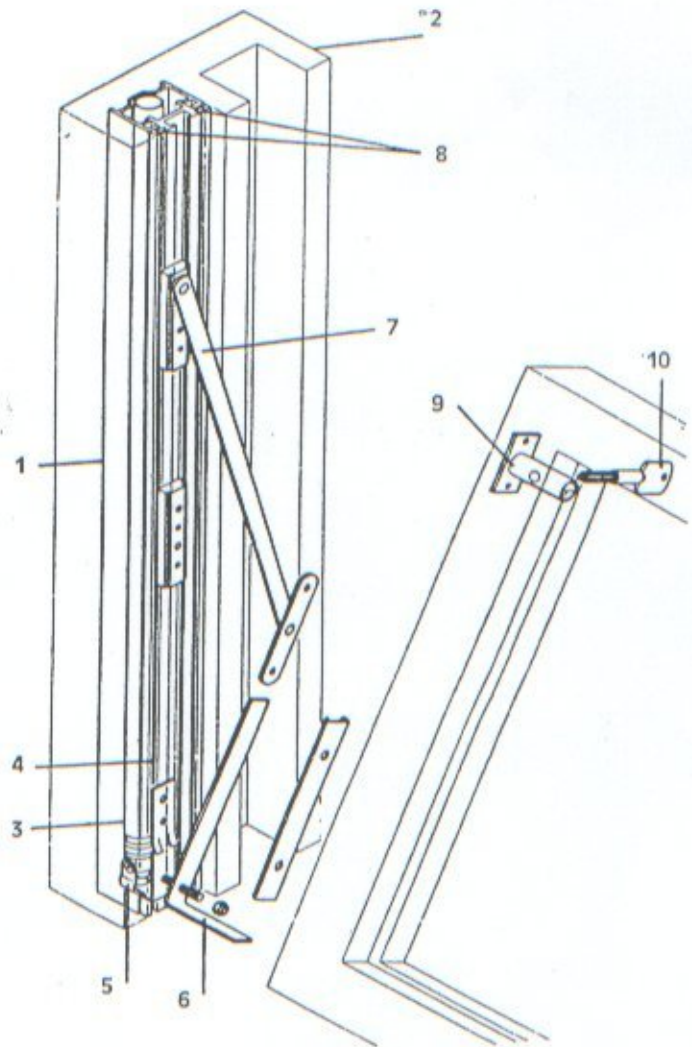
July 99

### General Arrangement


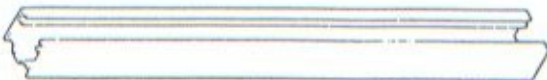
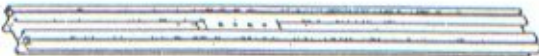










The Supertilt Slide and Tilt Window system consists of a pair of extruded aluminium jamb channels (1) fitted to each window frame jamb (2). The jamb channels house the spiral balances (3) and serve as a guide for a plastic slider and stop assembly (4) attached to the slider by means of a foot (5) and to the sash by means of a foot swivel (6). The restrictor stay (7) is fixed to the sash stile at one end, the other end being free to move vertically in the central groove of the slider. Grooves (8) are provided in the slider to take standard brush or foam weatherstrip. The sash is retained in its vertical position by means of a pair of guide catches (9) fitted to the top of the sash stiles. When the guide catches are released, using the special key (10) the sash can be tilted inwards as illustrated.

### Key Features

- Elimination of traditional plastic friction lock tilt shoes and pivot bars.
- Sashes can be tilted inwards for easy and safe cleaning, from inside the building.
- Sashes are supported when tilted, by means of a rigid stainless steel restrictor stay, at an angle of approximately 45°.
- Sashes can be tilted in any position.
- Provision for high performance, friction free weathersealing of sashes.
- Easy installation of sash (and easier removal if necessary for maintenance-painting, glazing, etc).
- Improved appearance (plastic slider forms a cover for the otherwise exposed spring of the balance).
- Cannot damage sill when sashes are tilted.
- Added security with key operated guide catches.
- Jamb channel available in white or brown.
- Slider and stop assembly available in white or brown.



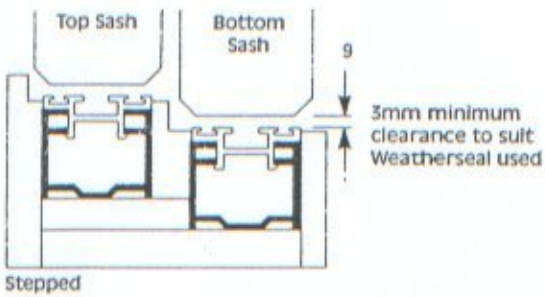
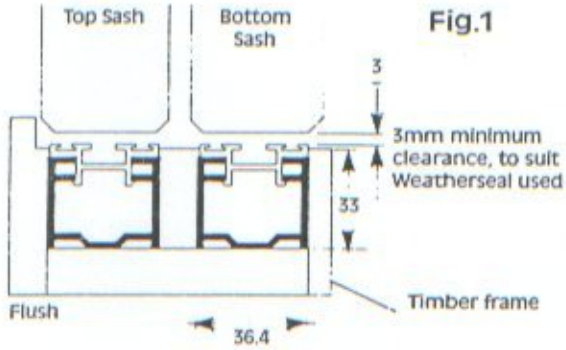
## Supertilt – Checklist of Items Supplied

ITEM	DESCRIPTION	QTY PER WINDOW
1	Spiral Balance 	2 pairs
2	Jamb Channel 	4
3	*Slider and Stop Assembly 	4
4	*Stay assembly 	4
5	*Foot swivel 	4
6	*Sash channel 	4
7	*Sash travel stops 	4
8	Brass guide catch, escutcheon and key (1 key/set of four) 	4
9	Fitch catch 	1 or 2
10	Brass finger pull 	1 or 2
11	*No 8 x 25mm Countersunk woodscrew 	20
12	*No 8 x 40mm Countersunk woodscrew 	4
13	*No 6 x 6mm Self tapping screw 	4

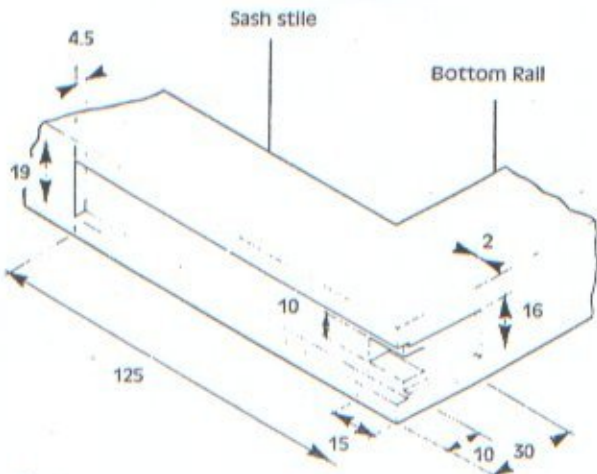
Items marked \* are included in the Supertilt Kit – see price list

# Preparation

**1** Aluminium channels (item 2) are arranged in pairs in each jamb of the window frame. Positions can be tailored to suit differing performance and glazing requirements. Jamb channels can be flush or stepped (Fig. 1)

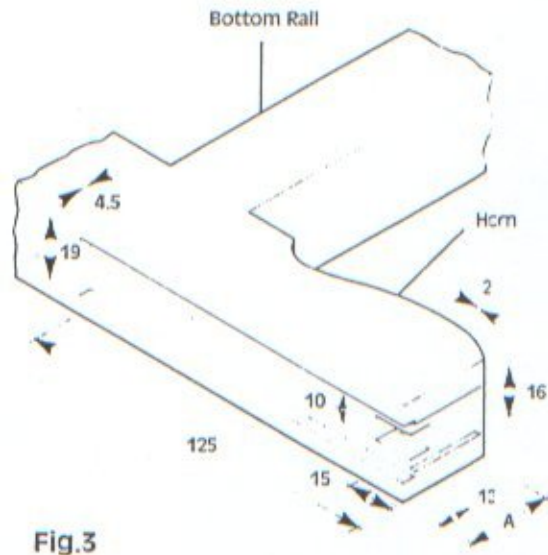


**2** Prepare bottom corners of sashes to receive sash channel (item 6) and the short leg of the foot swivel (item 5) as shown in Fig. 2.



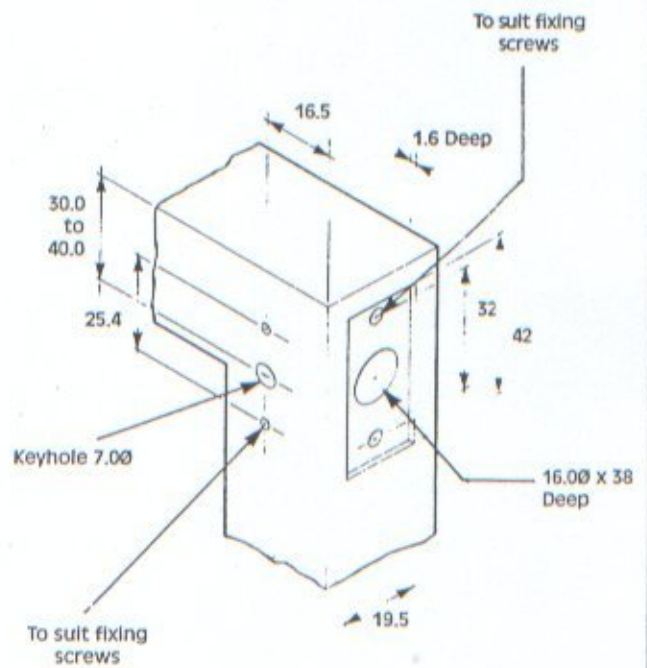
**Fig.2**

For sashes with horns, the short leg of the foot swivel (item 5) will need to be shortened (and re-drilled) to suit dimension A available under the end of the horn (see detail in Fig 3.)



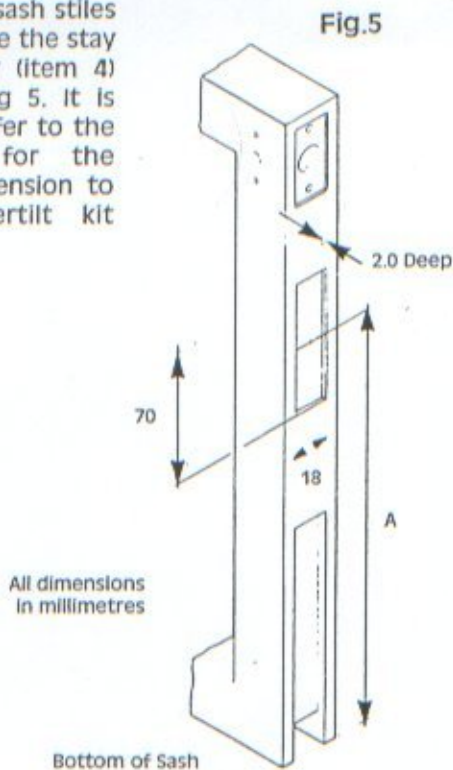
**Fig.3**

**3** Prepare top corners of sashes to take brass guide catches (item 8) as shown in Fig 4.



**Fig.4**

**4** Prepare sash stiles to receive the stay assembly (item 4) as shown in Fig 5. It is important to refer to the table below for the correct 'A' dimension to suit the Supertilt kit supplied.



Supertilt Kit size	Sash Height		Dim 'A'
	(Min)	(Max)	
1S	365	520	160
1	510	610	170
2	570	864	190
3	790	1118	270
4	1040	1372	360

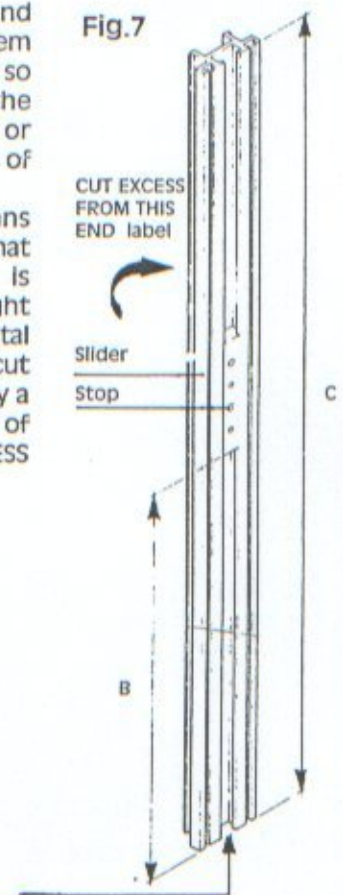
**6** The slider and stop assembly (item 3) needs to be cut so that the top end of the slider is flush with, or slightly short, of the top of the sash when installed.

In practice this means cutting the slider so that the overall length (C) is equal to the sash height minus approx 6mm. It is vital that the excess slider is cut from the end indicated by a label located on the rear of the slider saying 'CUT EXCESS FROM THIS END' (FIG. 7)

All dimensions in millimetres

Supertilt Kit size	B Dim (Ref Only)
1S	125
1	296
2	336
3	498
4	680

NOTE: BALANCE FOOT FITS THIS END (See Instructions)

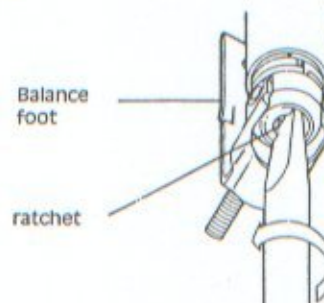


## Important

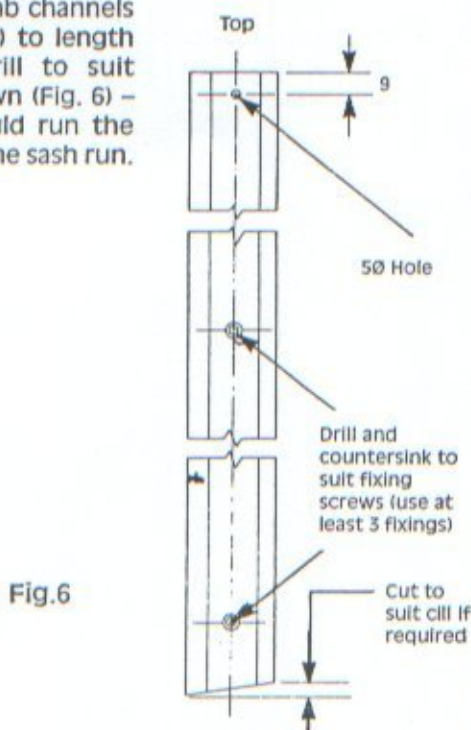
The dimensions given in instructions 4 and 6 give a tilting angle of between 40°-50° from the vertical. On no account should these dimensions be altered to increase this angle.

## Adjusting Balances

**7** Pre-adjust each pair of balances (item 1) by using a screw driver in the slot in the ratchet fitting at the bottom of the balance (Fig 8). Turn the ratchet in an anti-clockwise direction as viewed from the bottom of the balance. Two 'clicks' of the ratchet equal one complete turn. Refer to adjustment charts on page 8 for the number of turns to be added.

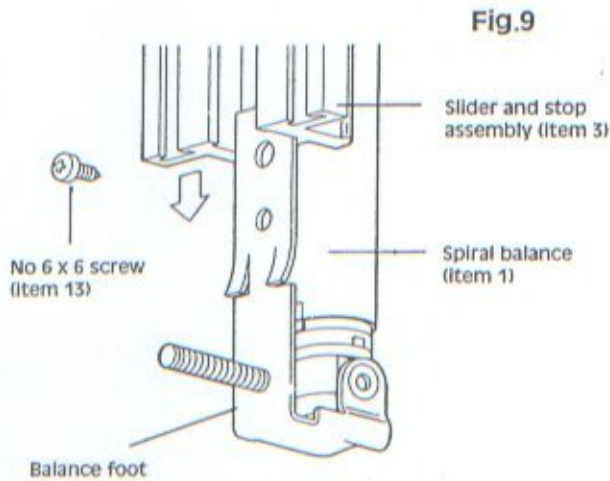


**5** Cut jamb channels (item 2) to length and drill to suit fixings as shown (Fig. 6) - Channels should run the full length of the sash run.



## Assembly Procedure

- 8** Fit the slider and stop assembly (item 3) onto the balance foot. Ensure that the slider is pushed fully onto the foot and then secure in place with No. 6 x 6 self-tapping screw (item 13) as shown in Fig 9.



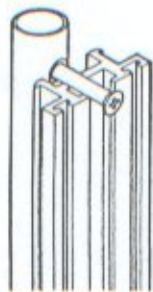
Note: The balance pair for the top sash will be shorter than the slider and stop assembly to which it is fitted. The balance pair for the bottom sash will be longer than the slider and stop assembly to which it is fitted.

- 9** The balance, slider and stop assembly, for the lower sash can now be inserted into the relevant jamb channel (item 2). See Fig 10.

Fig.10



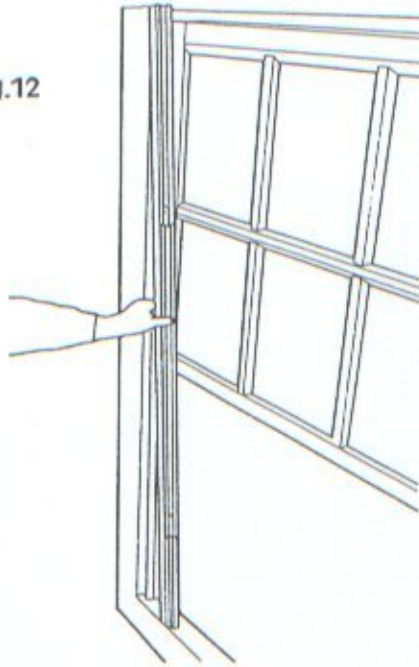
Fig.11



For the balance, slider and stop assembly for the top sash, firstly extend the balance upwards past the top end of the slider and retain temporarily with the balance fixing screw, a No. 8x40 woodscrew (item 12). See Fig 11. The balance, slider and stop assembly for the top sash can now be inserted into its relevant jamb channel (item 2) in a similar manner to the lower sash. Fig 10.

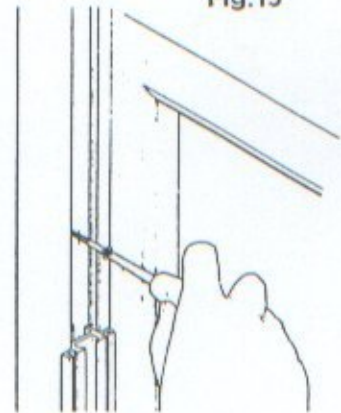
- 10** This whole assembly, consisting of jamb channel, balance, slider and stop assembly can now be fitted into the window frame (fig 12).

Fig.12



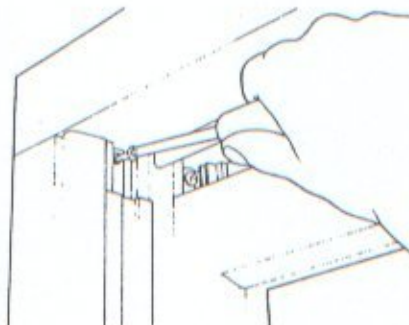
- 11** Fix the jamb channel using suitable countersunk screws (not supplied). Note that the balance, slider and stop assembly can be moved up and down the jamb channel, which enables fixings behind the balance to be achieved (Fig 13).

Fig.13



Now fix the balances tight under the head of the window frame using No. 8 x 40mm woodscrew (item 12). See Fig 14.

Fig.14



## Weatherseal!

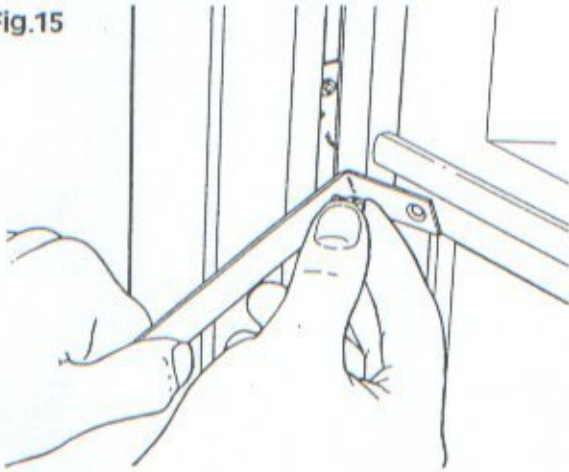
12

Now is a convenient time to fit a suitable weatherseal (not supplied) into the two grooves provided in the slider. The seal should have a base width of 4.8mm and a minimum height of 7.5mm. The seal should be fixed using a small amount of silicone sealant or cyanoacrylate adhesive (superglue).

13

Fit the foot swivels (Item 5) to the balance feet by passing over the captive stud and retaining with nyloc nuts supplied. The nuts should be tightened just sufficiently to engage the nylon locking portion of the nut onto the stud. **DO NOT OVERTIGHTEN THE NYLON NUTS.** (See Fig 15.)

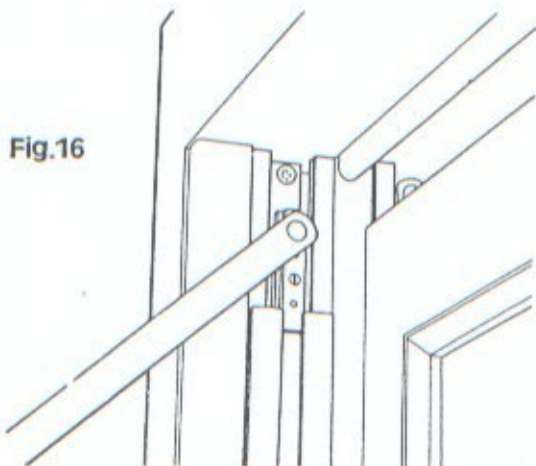
Fig.15



14

Insert the stay assemblies (Item 4) into the central groove of the slider and stop (Item 3) as shown in Fig 16. If necessary pull the slider and stop downwards by means of the foot swivel attached in the previous instruction.

Fig.16



15

Fit brass guide catches (item 8) to top corners of sashes (Fig 17) using screws supplied.

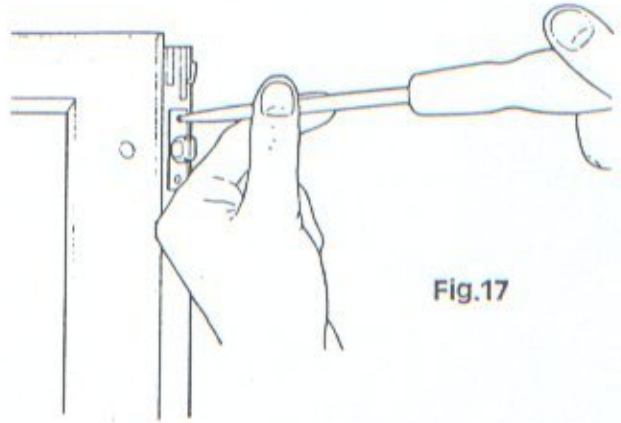
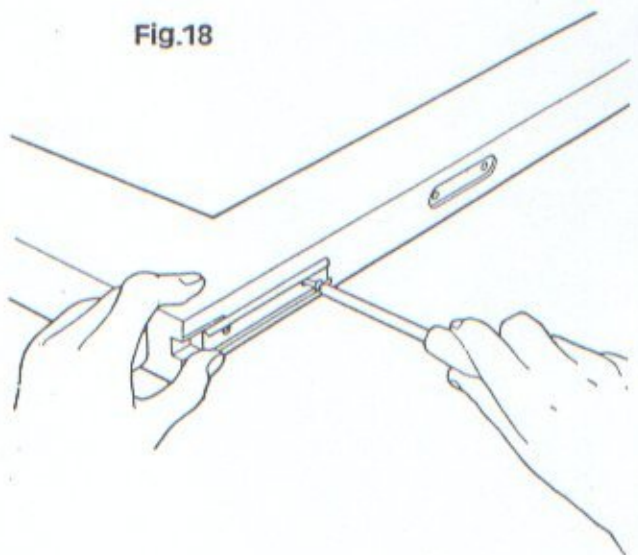


Fig.17

16

Fit sash channels (item 6) to bottom corners of sashes with No. 8 x 25 woodscrews (Item 11). See Fig 18.

Fig.18



## Installation of Sash

- 17** With a person on each side of the top sash, hold the sash horizontally and position it so that the foot swivels (item 5) can be located into the sash channels (item 6) as shown in Fig 19. Ensure sash is pushed fully home onto the foot swivel.



Fig.19

- 18** Tilt the sash upwards to approximately 45° so that the free end of the stay assemblies (item 4) can be fixed using No. 8 x 25 woodscrews (item 11) in the pre-prepared positions on each side of the sash. Fig 20.

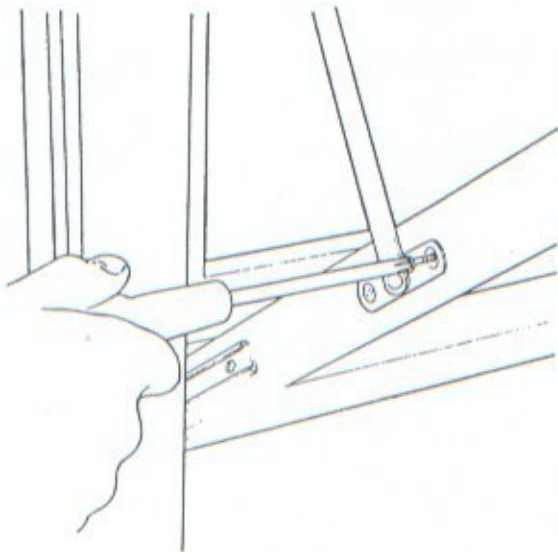


Fig.20

- 19** Carefully push sash to the shut (sliding) position and engage guide catches (item 8) by using the special key provided. Raise the sash and secure the bottom of the foot swivel to the underside of the sash using No. 8 x 25 woodscrews (item 11). See Fig 21.

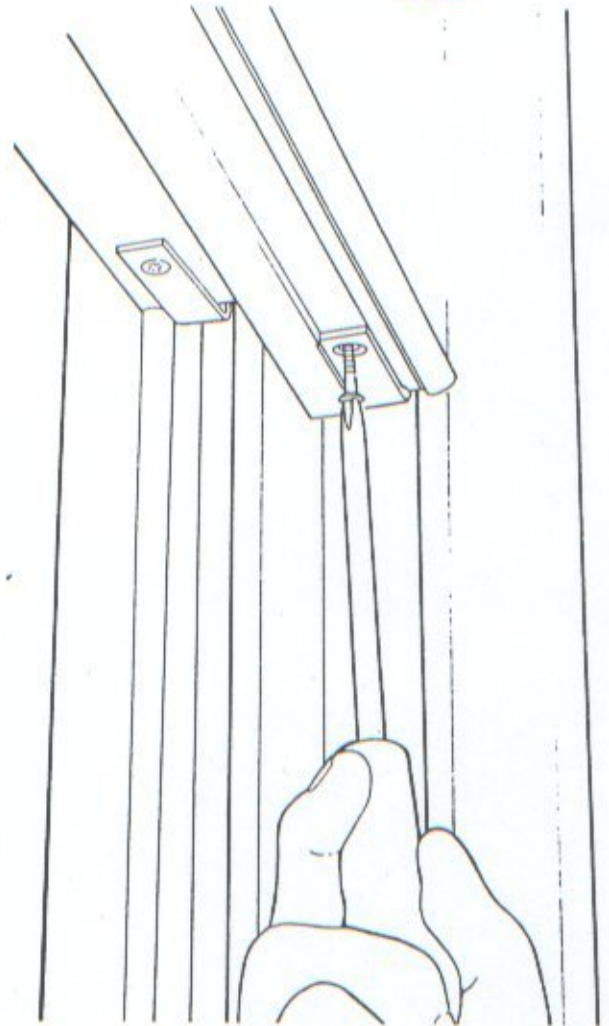


Fig.21

- 20** Fit fitch catch(es) (item 9) to meeting rails of sashes. Fit brass finger pull(s) to bottom rail of lower sash as required. Use screws provided for both items. Fit sash travel stops, Item 7, by clipping into relevant jamb channel. Fit stops at the top of the channel underneath the head, for the lower sash. Fit stops at the bottom of the channel resting on the cill, for the top sash.

- 21** This completes the assembly of the Supertilt system. Now try both sashes up and down to check for correct balance. If there is a tendency for either sash to drop when in the up position further adjustment turns can be added to the relevant pair of balances. This operation is greatly eased by using a screwdriver of the type with a flexible shaft.

## Instructions for Use

- 1 Move both sashes to a point at which their top rails can be held firmly with both hands.
- 2 Operate both guide catches on the lower sash.
- 3 Hold the top rail of the lower sash firmly with both hands, as close to the sash stiles as possible. Maintaining a slight downward pressure, tilt the sash inwards to the limit of the restrictor arm.
- 4 Clean the sash glass either from the side, or by reaching over the top rail.
- 5 Repeat the above with the top sash.
- 6 Retaining slight downward pressure return first the top sash to the vertical and relocate the guide catches. Then return the bottom sash and relocate its guide catches  
During these operations ensure that the bottom rail of each sash is parallel to the sill. Also try the top corner of each sash to ensure that the guide catch is located properly.

## Adjustment Charts

Read these charts with reference to section 7 of these instructions. To determine the suggested number of adjustment turns:

1. Establish balance number (Balance number equals balance tube length in inches).
2. Establish sash weight (printed on tube).
3. Read across from the relevant balance reference number, and down from the required sash weight to find the suggested number of adjustment turns.

Denotes type of balance (e.g. F0, F1, K0)

← FO 16 045 →  
 ↓  
 Tube length in inches (e.g. 16 inches)

Weight of sash in lbs.

## Type 'F' Balances

Tube Length (Ins)	Kgs lbs	Sash Weight							
		6.8 15	9.1 20	11.3 25	13.6 30	15.9 35	18.1 40	20.4 46	22.7-25.0 50-55
16		1-2	1-2	1-2	1-2	2	2	4-5	4-5
21		1-2	1-2	2-3	2-3	2-3	2-3	4-5	4-5
25		1-2	1-2	2-3	2-3	3-4	3-4	4-6	5-6
29		1-2	1-2	2-3	2-3	3-4	3-4	4-6	6-8
33		1-2	1-2	2-3	2-3	4-5	4-5	5-7	7-9
37		2-3	2-3	3-4	3-4	4-5	4-5	6-8	8-10
41		2-3	2-3	3-4	3-4	4-5	4-5	7-9	9-12
45		2-3	2-4	4-5	4-5	4-5	4-5	7-9	9-12
49		2-3	2-4	4-5	4-5	4-5	4-5	7-9	10-12

## Type 'K' Balances

Tube Length (Ins)	Kgs lbs	Sash Weight												
		9 20	11 25	14 30	16 35	18 40	20 45	23 50	25 55	27 60	30 65	32 70	34 75	36 80
16		1	1	1	1	1	1	2	2	2	2	2	2	2
21		1	1	1	1	1	2	2	2	2	2	2	2	3
24		1	1	1	1	1	2	2	2	2	2	2	3	4
27		1	1	1	1	1	2	2	3	3	3	4	4	5
32		1	1	1	1	2	2	3	3	3	4	4	5	6
36		1	1	1	2	2	2	3	3	4	4	5	5	6
40		1	1	1	2	2	2	3	4	4	4	5	6	7
44		1	1	1	2	2	2	3	4	4	4	6	7	8
48		1	1	1	2	2	2	3	4	4	4	6	8	9

## Maintenance

Depending upon location and frequency of use, lubrication of the internal mechanism of the balance may be desirable after a length of time, the period of which will vary according to site circumstances. A few drops of light oil or spray such as WD40 applied via the top end of the balance tube will always improve the operation action of a balance after long service.

## Important

- Don't tension balances more than necessary.
- Don't tension balances before glazing.
- Don't use balances on sashes beyond their respective weight.
- Do fit correct travel stops.