Sash Balance Installation

Type AL - Assisted Lift

It is recommended that the sashes are glazed and painted to ensure both sashes slide freely in the frame.

Preparation of the window

1) Grooves to house balances can be in either frame jambs or in sash stiles, **rounded or square** and must be of minimum dimensions shown in **(Figs 1 & 2).**

Bottom of sashes should be prepared to suit balance foot attachment. Cut-outs should be sufficient depth to receive attachments and screw heads.

FIG 1

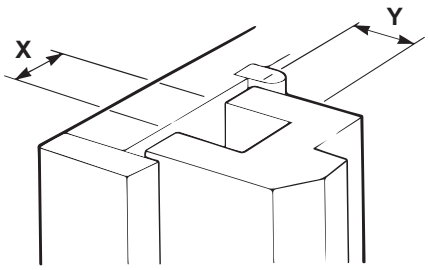
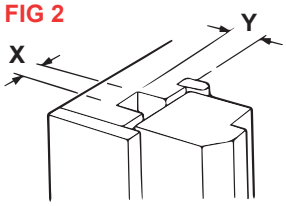
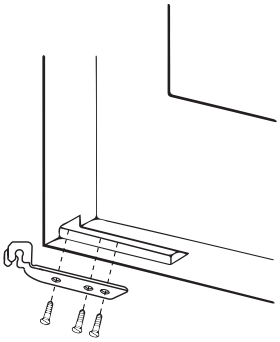


FIG 2



Dimensions	X	Y
AL20-30	18mm	18mm
AL40-60	20mm	20mm
AL70-90	22mm	22mm

FIG 3 Bottom rail preparation for standard foot



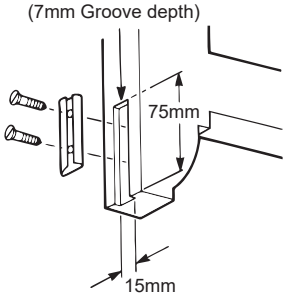
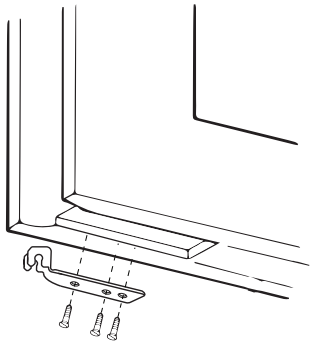


FIG 4 Stile preparation for channel fitting

BALANCES REQUIRE TENSIONING

FIG 5 Bottom rail preparation for standard foot - Grooved stile



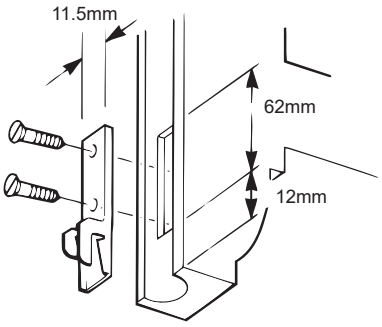


FIG 6 Grooved stile preparation (fix foot attachment prior to fitting sash into frame)

Checking Balances

2) It is important that the balances used are suitable for the weight of the sash. They are manufactured in weight groups that are identified by a colour **(Fig. 7).**

Colour Identification	
AL10	WHITE
AL20	RED
AL30	BLUE
AL40	BLACK
AL50	WHITE
AL60	YELLOW

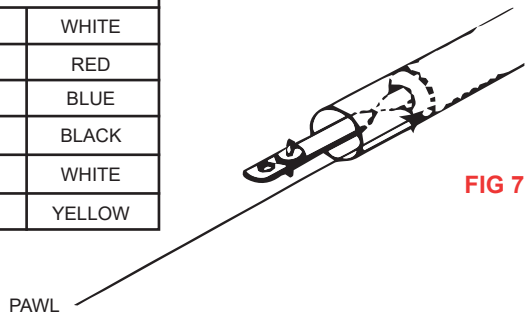


FIG 7

When balances are to be used with timber side and bottom fix brackets ensure black washers supplied are fitted either side as shown **(A).**

Installing Balances

3) It is important to note that short balances are used for top sash and long balances for bottom sash, assuming sashes are of equal height.

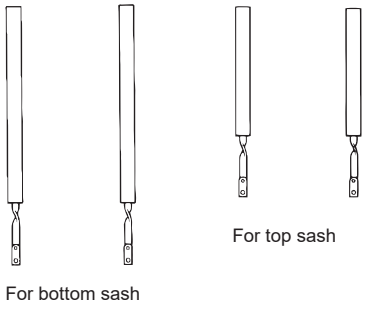


FIG 8

When sashes are of equal size and in lowered position, the balances can easily be inserted into the grooves **(Fig 9).** In the case of unequal sized sashes, it is possible to slightly bow the balance for insertion into the groove of the larger sash. In some cases larger sashes may have been removed.

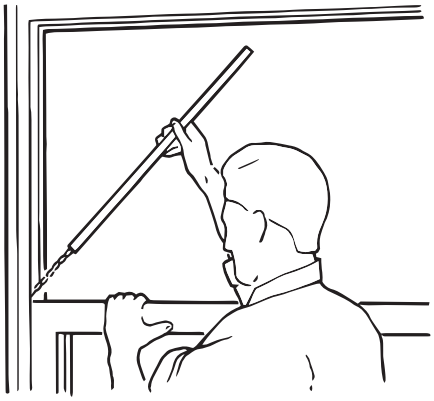


FIG 9

Fix top balances to the frame jamb at the centre of the groove and tighten up against the frame head, using drive screws supplied. **(Fig 10).**

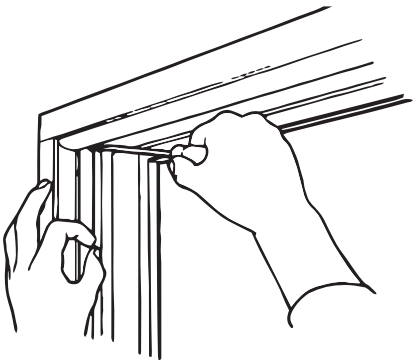


FIG 10

Fixing Travel Stops

4) Fix travel stops provided, the shorter one at the top of the bottom sash run. **(Fig 11)**
In the case of non-standard applications special stops may be required. In such cases suitable longer timber stops should be substituted for the standard metal type supplied. These should be long enough to prevent the balances from being extended by more than twice its tube length.
IMPORTANT: Failure to fit travel stops may result in balance failure.

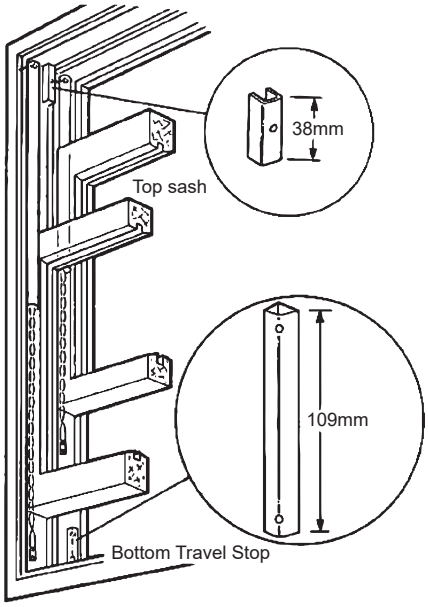
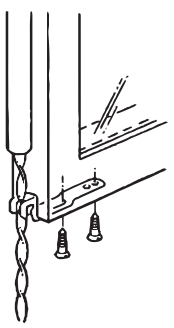


FIG 11

Fixing Foot Attachments

5) Raise the sashes as high as possible and prop up. Fix attachement ensuring that spiral rod is located bewteen sides of fitting

FIG 12 Secure standard foot with screws provided



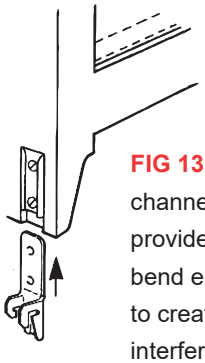
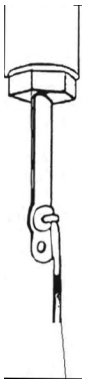


FIG 13 Firstly fix channel with screws provided, then bend end of fitting to create interference fit, insert into channel and tap home

Balancing Sashes - Adjusting Balance

6) Support the bottom sash in its highest position. Pull spiral road rod down past balance foot using either the winding tool inserted into the hole at the end of the rod, or a loop of wire attached to the cross pin. Engage cross pin into the claws of the balance foot. Repeat on the other side of the sash. Remove support and operate sash up and down a few times. Support sash again. Using the winding tool, pull the spiral rod down out of the balance foot (a slight twist anti-clockwise may be required).

If any tendency for the spiral rod to rotate is felt, rotate the spiral rod until a neutral position is found. Now apply adjustment turns anti-clockwise as per adjustement chart. Maintaining a firm downward pressure with the winding tool whilst tensioning. Repeat for the other side of bottom sash. Raise and lower sash. Sash should operate evenly. If sash falls from highest position or operates downwards harder than upwards and or take off a turn or two as necessary.



Adjustment charts

AL10

Sash weight					
Balance length Inches	**20 - 21.9**	**22 - 23.9**	**24 - 25.9**	**26 - 27.9**	**28 - 29.9**
11 - 15	2	3	4	5	6
16 - 20	3	4	5	6	7
21- 25	3	5	7	8	9
26 - 30	4	6	7	9	11
31 - 35	5	6	8	11	12

AL30

Sash weight					
Balance length Inches	**30 - 31.9**	**32 - 33.9**	**34 - 35.9**	**36 - 37.9**	**38 - 39.9**
6 - 10	2	3	3	4	4
11 - 15	3	3	4	4	5
16 - 20	3	4	4	5	7
21- 25	4	4	5	6	8
26 - 30	4	5	6	7	9
31 - 35	5	5	6	8	10
36 - 40	6	6	7	9	11
41 - 45	7	7	8	10	12
46 - 50	7	8	8	10	12

AL20

Sash weight					
Balance length Inches	**20 - 21.9**	**22 - 23.9**	**24 - 25.9**	**26 - 27.9**	**28 - 29.9**
6 - 10	2	2	2	3	4
11 - 15	2	2	2	4	5
16 - 20	3	3	4	5	6
21- 25	3	4	4	6	7
26 - 30	4	5	5	6	7
31 - 35	4	5	5	7	9
36 - 40	5	6	6	8	10
41 - 45	5	6	6	8	10
46 - 50	6	7	7	9	11

AL40

Sash weight					
Balance length Inches	**40 - 41.9**	**42 - 43.9**	**44 - 45.9**	**46 - 47.9**	**48 - 49.9**
6 - 10	4	5	6	7	8
11 - 15	5	6	7	8	9
16 - 20	5	6	7	8	9
21- 25	7	7	9	9	10
26 - 30	8	8	9	10	12
31 - 35	8	9	10	11	13
36 - 40	9	9	10	12	13
41 - 45	9	10	12	12	13
46 - 50	10	10	12	13	14
51 - 55	10	10	13	14	15
56 - 60	11	11	13	14	15
61 - 65	11	11	15	16	17
66 - 70	11	12	15	16	17

Final Adjustment Charts On Back Page

AL50					
Sash weight					
Balance length Inches	**50 - 51.9**	**52 - 53.9**	**54 - 55.9**	**56 - 57.9**	**58 - 59.9**
6 - 10	7	8	9	10	10
11 - 15	7	9	10	11	11
16 - 20	8	10	11	12	12
21- 25	8	11	12	12	13
26 - 30	10	11	13	13	14
31 - 35	11	12	13	14	15
36 - 40	11	12	14	15	16
41 - 45	12	13	14	15	16
46 - 50	13	13	14	16	17
51 - 55	14	14	15	16	17
56 - 60	14	15	15	17	18

AL60					
Sash weight					
Balance length Inches	**60 - 61.9**	**62 - 63.9**	**64 - 65.9**	**66 - 67.9**	**68 - 69.9**
6 - 10	4	5	6	7	8
11 - 15	4	5	6	7	9
16 - 20	5	6	9	9	10
21- 25	6	8	9	10	12
26 - 30	8	9	10	12	14
31 - 35	10	10	11	13	15
36 - 40	10	11	12	14	15
41 - 45	11	11	12	14	16
46 - 50	11	12	12	15	16
51 - 55	12	12	13	15	17
56 - 60	12	12	13	16	17
61 - 65	13	14	15	16	18
66 - 70	16	17	17	17	18
71 - 75	16	17	17	18	19

AL70					
Sash weight					
Balance length Inches	**70 - 71.9**	**72 - 73.9**	**74 - 75.9**	**76 - 77.9**	**78 - 79.9**
6 - 10	3	4	5	6	7
11 - 15	4	5	6	7	8
16 - 20	5	6	7	8	9
21- 25	6	7	8	9	9
26 - 30	6	7	8	10	10
31 - 35	8	9	10	11	11
36 - 40	9	10	11	11	12
41 - 45	10	11	12	12	13
46 - 50	10	11	12	13	14
51 - 55	11	12	12	13	14
56 - 60	11	12	12	13	14
61 - 65	12	12	13	14	15
66 - 70	12	13	13	14	15
71 - 75	12	13	14	15	16

AL80					
Sash weight					
Balance length Inches	**80 - 81.9**	**82 - 83.9**	**84 - 85.9**	**86 - 87.9**	**88 - 89.9**
6 - 10	4	5	6	7	8
11 - 15	5	6	7	8	9
16 - 20	6	7	8	9	10
21- 25	7	8	8	9	10
26 - 30	7	8	9	10	11
31 - 35	8	9	9	10	11
36 - 40	9	10	12	14	15
41 - 45	9	10	12	14	15
46 - 50	11	11	12	15	16

AL90					
Sash weight					
Balance length Inches	**80 - 81.9**	**82 - 83.9**	**84 - 85.9**	**86 - 87.9**	**88 - 89.9**
6 - 10	4	5	6	7	8
11 - 15	5	6	7	8	9
16 - 20	6	7	8	9	10
21- 25	7	8	8	9	10
26 - 30	7	8	9	10	11
31 - 35	8	9	9	10	11
36 - 40	9	10	12	14	15
41 - 45	9	10	12	14	15
46 - 50	11	11	12	15	16