

# Sash Balance Installation And Adjustment

## Type AL - Assisted Lift



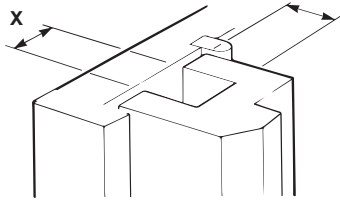
It is recommended that the sashes are glazed and painted to ensure both sashes slide freely in the frame.

### Preparing The Window

- 1) The grooves required to house sash balances can be in the sash stiles (Fig A) or in the frame jambs (Fig B). They can be round or square grooves but must be of a minimum size. Please refer to the drawings below for dimensions.

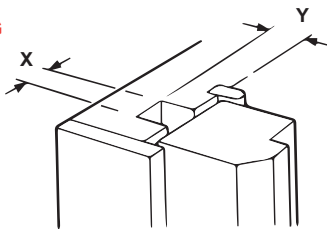
**FIG. A  
SASH STILE HOUSING**

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

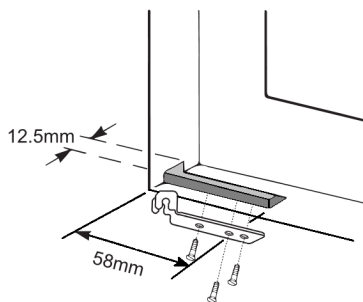


**FIG. B  
FRAME JAMB HOUSING**

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

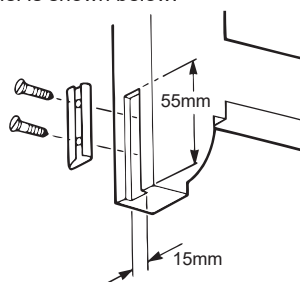


- 2a) For Frame jamb housing, bottom brackets are used on the bottom rail of the bottom sash. Preparation for the bracket is shown below.



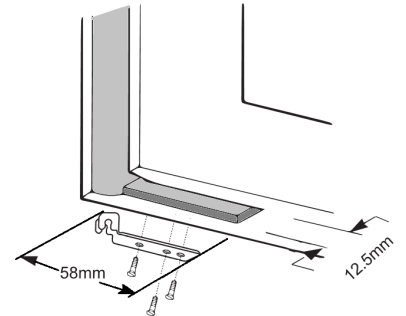
Rebate 3.0mm deep

Side fix brackets AND channels are used on the side rails of the top sash. The channel is fixed to the stile (closed end upward) and the bracket slots up into the channel. Preparation for the channel is shown below.



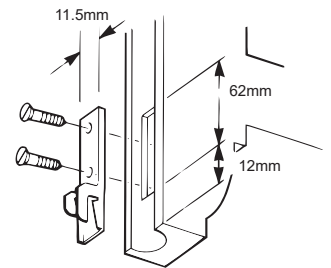
Rebate 7.0mm deep

- 3a) For sash stile housing, bottom fix brackets are used on the bottom rail of the bottom sash. Preparation for the bracket is shown opposite.



Rebate 2.5mm deep

- 3b) For sash stile housing, side fix brackets are used without a channel. Preparation for the bracket is shown opposite.



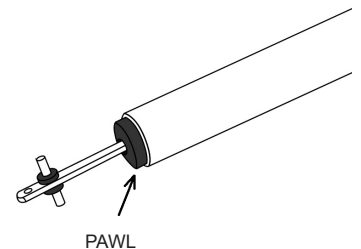
Rebate 3.0mm deep

### Checking You Have The Correct Balances

- 4) It is important that the balances used are suitable for the weight of the sash. They are manufactured in weight bands that are identified by a coloured pawl (Fig. C).

**FIG. C**

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



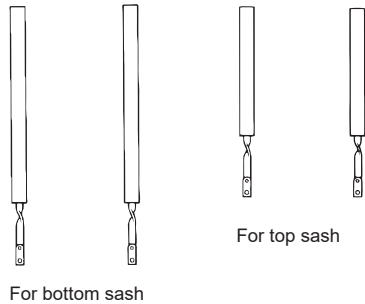
**FIG. D**

**IMPORTANT:** When balances are to be used with our brackets, **ENSURE** the black washers supplied are fitted to the balance by sliding them onto either side of the pin as shown (Fig. D). Failure to fit them may cause the balance to fail.

## Installing The Balances

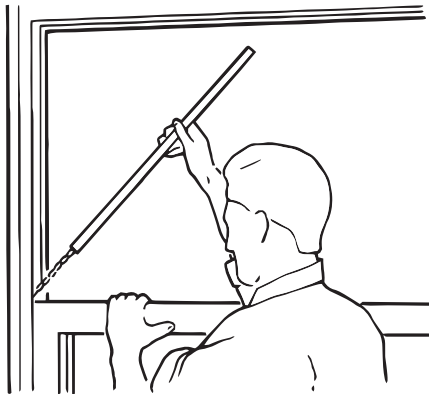
- 5) Assuming the sashes are of equal height, shorter balances are used for the top sash and longer balances for the bottom sash. See Fig. E

FIG. E



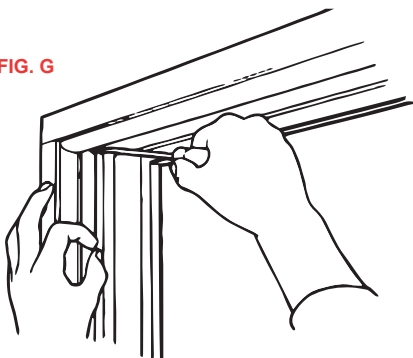
When sashes are of equal size and in a lowered position, the balances can easily be inserted into the grooves (Fig. F). In the case of unequal sized sashes, it is possible to slightly bow the balance for insertion into the groove of the larger sash. In some cases larger sashes may have been removed to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

FIG. F



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

FIG. G



## Fixing The Travel Stops

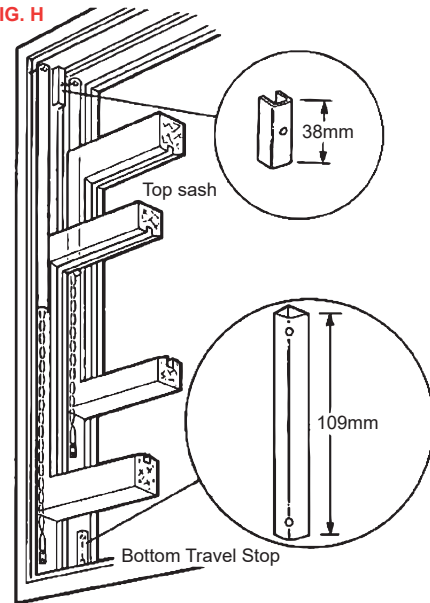
- 6) Travel stops prevent over-travel and under-travel, both of which will damage the balance. Fit the travel stops provided as follows. The shorter one goes at the top of the bottom sash run.

The longer stop goes at the bottom of the top sash run.

See (Fig. H). In the case of non-standard applications special stops may be required. In such cases suitable longer timber stops should be made and substituted for the standard metal stops supplied. These should be long enough to prevent the balance from being extended by more than twice its tube length.

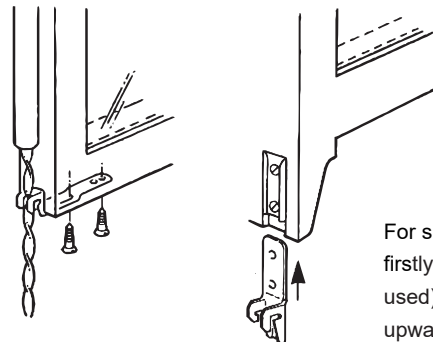
**IMPORTANT:** Failure to fit travel stops may result in the balance failing.

FIG. H



## Fixing The Brackets

- 7) Raise the sashes as high as possible and prop them up. Ensure that the spiral rod is located between the sides of the brackets (both bottom and side brackets) before screw-fixing brackets in place.



Secure bottom bracket with screws provided

For side brackets, firstly fix channel (if used) sealed end upward. Place spiral in between bracket then slide the bracket up into the channel.

## Connecting The Balances And Balancing The Sashes (Tensioning the Balances)

### 8) Fully raise & prop or support the bottom sash.

Starting with one side, insert the balance key into the hole in the bottom of the balance's spiral rod and pull the spiral rod downward and hook the cross-pin into the claws of the balance bracket.

Repeat with the balance on the other side of the sash.

Remove the support and raise and lower the sash a few times. If it is not perfectly balanced, support the sash again and use the balance key to pull the spiral rod down out of the balance foot again (a slight twist anti-clockwise may be required to free it).

If there is a tendency for the spiral rod to try and rotate, rotate the rod until a neutral position is found where there is no tendency for the spiral to want to rotate. You are now ready apply adjustment turns.

Consult the adjustment charts at the end of this guide for the correct number of turns. Then, whilst maintaining a firm downward pressure with the winding tool, rotate the rod **ANTI-CLOCKWISE**, applying the correct number of turns.

Repeat for the other balance. **BOTH** sides must be tensioned equally.

Re-engage the spiral into the brackets and remove the support. Raise and lower the sash again. If the sash falls, add an anti-clockwise turn and check once more, if it rises, take a turn off by turning the balance rod clockwise and try again. Repeat until the sash is perfectly balanced and stays in any position. Repeat for the top sash.

### Adjustment charts

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

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

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

More Adjustment Charts On Back Page

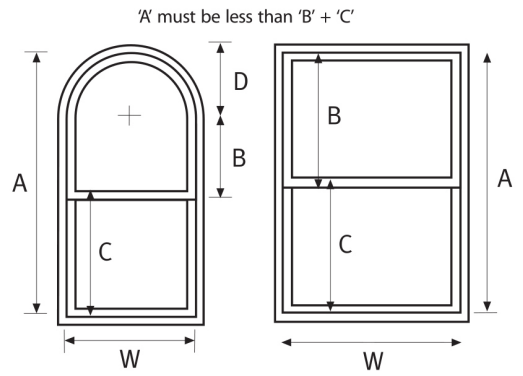
<b>AL50</b>					
<b>Sash weight</b>					
<b>Balance length Inches</b>	<b>50 - 51.9</b>	<b>52 - 53.9</b>	<b>54 - 55.9</b>	<b>56 - 57.9</b>	<b>58 - 59.9</b>
6 - 10	7	8	9	10	10
11 - 15	7	9	10	11	11
16 - 20	8	10	11	12	12
21 - 25	8	11	12	12	13
26 - 30	10	11	13	13	14
31 - 35	11	12	13	14	15
36 - 40	11	12	14	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

<b>AL70</b>					
<b>Sash weight</b>					
<b>Balance length Inches</b>	<b>70 - 71.9</b>	<b>72 - 73.9</b>	<b>74 - 75.9</b>	<b>76 - 77.9</b>	<b>78 - 79.9</b>
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

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

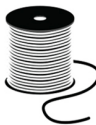


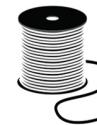
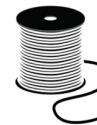
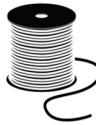
<b>AL80</b>					
<b>Sash weight</b>					
<b>Balance length Inches</b>	<b>80 - 81.9</b>	<b>82 - 83.9</b>	<b>84 - 85.9</b>	<b>86 - 87.9</b>	<b>88 - 89.9</b>
6 - 10	4	5	6	7	8
11 - 15	5	6	7	8	9
16 - 20	6	7	8	9	10
21 - 25	7	8	8	9	10
26 - 30	7	8	9	10	11
31 - 35	8	9	10	10	11
36 - 40	9	10	11	12	13
41 - 45	9	10	11	12	13
46 - 50	10	11	12	13	14

Contact Name: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Tel No: \_\_\_\_\_ Postcode: \_\_\_\_\_  
 Email: \_\_\_\_\_  
 Delivery Address (if different from above): \_\_\_\_\_  
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 \_\_\_\_\_ Postcode: \_\_\_\_\_



DETAILS											
WINDOW QTY	A	W	B	C	D	SIZE OF HORN	GLASS TYPE	GLAZED WEIGHT TOP	GLAZED WEIGHT BOTTOM	CUSTOMER REFERENCE	
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
PLEASE TICK AS APPROPRIATE			SASH BALANCE ORDER <input type="checkbox"/>			SASH BALANCE QUOTATION <input type="checkbox"/>			WEIGHT ORDER <input type="checkbox"/>		WEIGHT QUOTATION <input type="checkbox"/>

PRODUCT CODE	DESCRIPTION	QUANTITY

6 MM RED SPOTTED CORD	8MM RED SPOTTED CORD	6MM WAXED CORD	8MM WAXED CORD	6MM NYLON CORD	8MM NYLON CORD
					
QUANTITY REQUIRED	QUANTITY REQUIRED	QUANTITY REQUIRED	QUANTITY REQUIRED	QUANTITY REQUIRED	QUANTITY REQUIRED
50m	50m	15m 50m 100m	15m 50m 100m	20m 50m 100m	20m 50m 100m