

ERA



Vertical Sliding Windows Installation Manual

For Timber VS Windows



Index

Description	Page Number
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Key Features and Benefits	1
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TrueGlide F/K Balances:

Timber Windows Exploded View	2
Typical Standard Window kit	3
Window Preparation	4
Installing Balances	5
Installing Balances (alternative method)	6
Fixing Travel Stops	7
Adjusting Balances	8
Balances - Technical Specification	9
Balances - Applications and Maintenance	10

D Balances:

Timber Windows Exploded View	11
Typical Standard Window Kit	12
Window Preparation	13
Installing Balances	14
Fixing Travel Stops	15
Fixing Foot Attachments	16
Adjusting Balances	17
Balances - Adjustment Chart	18
Balances - Technical Specification	19
Balances - Applications and Maintenance	20
Hardware - Application and Maintenance	21
Measuring Guidelines	22
Troubleshooting Guide	23-24
Part Codes	25
Glossary of terms	26-27
Product Warranty	28

All dimensions throughout this manual are in mm and are nominal.

ERA Home Security reserves the right to change specification without notice

It is the responsibility of the window manufacturer to ensure that the finished product meets any required safety and performance specification.

QMF 89 Issue 1: 30.11.2015

ERA

Key Features and Benefits



Balances

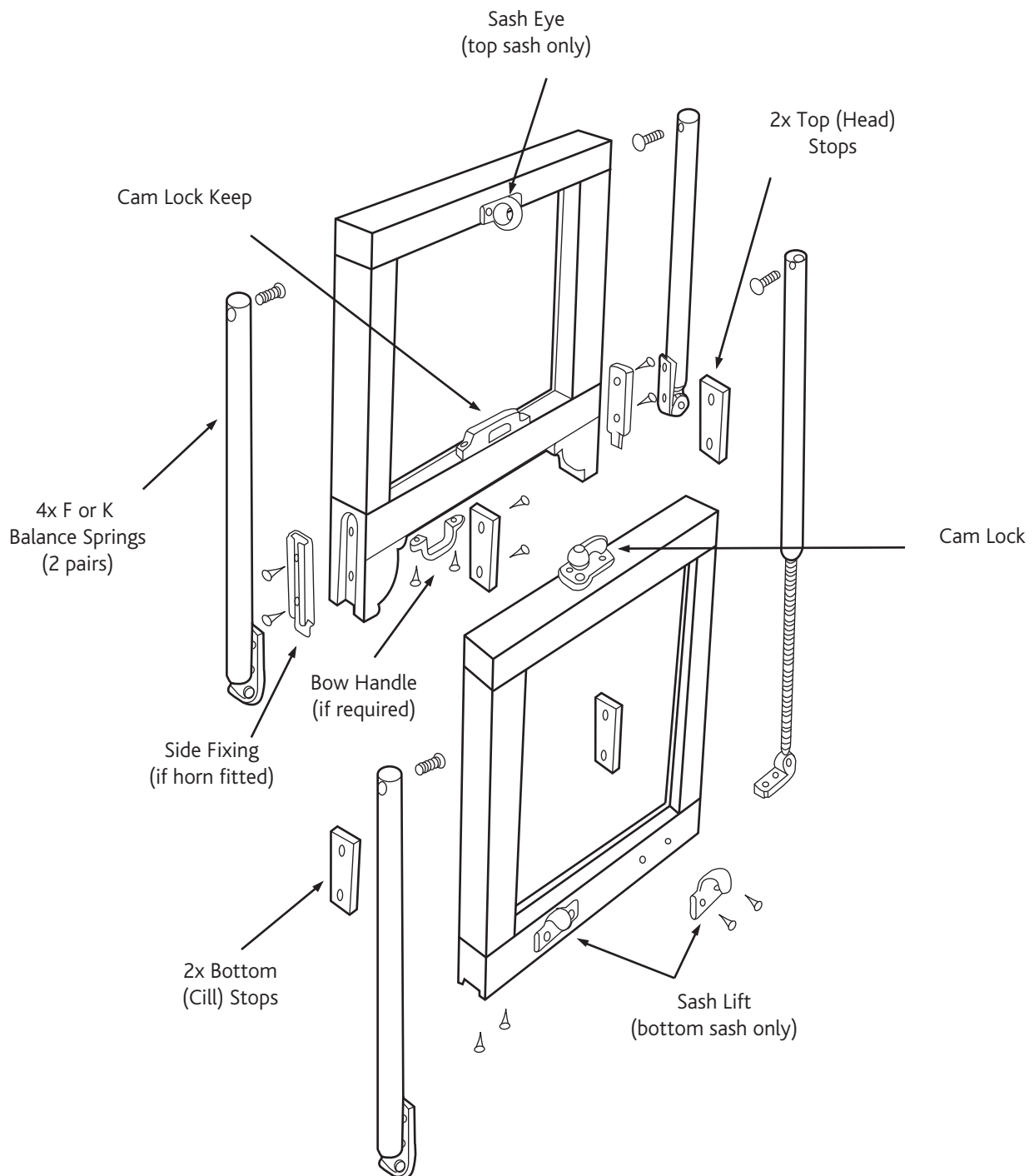
- UK manufactured in the West Midlands
- Simple fixings
- Stainless Steel Spiral Rods
- Dual Tension Springs with a semi-flexible outer tube
- TrueGlide balances are delivered pre-tensioned for ease of fabrication
- All TrueGlide balances can be adjusted with a screwdriver for easy on site adjustment
- Combination of spiral rod torsion and tension springs produced a smooth operating easy to use balance, capable of maintaining the equilibrium of the window at any point

- Balances can be manufactured to cover sash weights from 5lbs - 110lbs

Hardware

- Full range of hardware including standard and high security Cam Locks, Sash Lifts, Sash eyes, Guide Catches and Bow Handles
- Extensive colour range available in Hardex Chrome, Hardex Gold, Hardex Bronze, Hardex Satin, Hardex Graphite, Antique Black, White and Black
- Suited decorative high security Cam Locks

Timber VS Windows Exploded View TrueGlide Balances





Typical Standard Kit for Timber Windows - TrueGlide Balances

A typical full kit for 1 window includes:

Description	Quantity (each unless otherwise stated)
Pre-tensioned TrueGlide Balances (F/K Type)	2 pairs
Head Stop	1 pair
Cill Stop	1 pair
Cam Locks (key locking)	2*
Keep	2*
Sash Lift	2
Sash Eye	1
F/K Side Fixing	1**

* For windows over 800mm wide

** 2 pairs of F/K Side Fixings required if using hidden fixings on top and bottom sashes

Please Note

Finish options for hardware include: Hardex Chrome, Hardex Gold, Hardex Bronze, Hardex Satin, Hardex Graphite, Antique Black, White and Black

Available hardware in finishes specified above include Sash Eye, Bow Handle, Cam Lock Keeps and Sash Lifts. Keeps are available in either 8mm or 11mm.

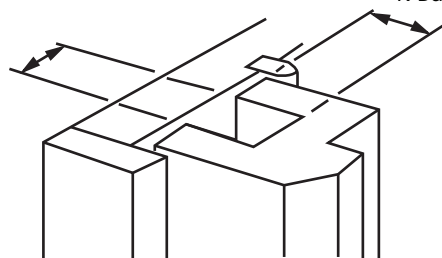
Tube colours for balances include: White Brown, Grey, Cream, Black and Tan.

Window Preparation - TrueGlide Balances

1

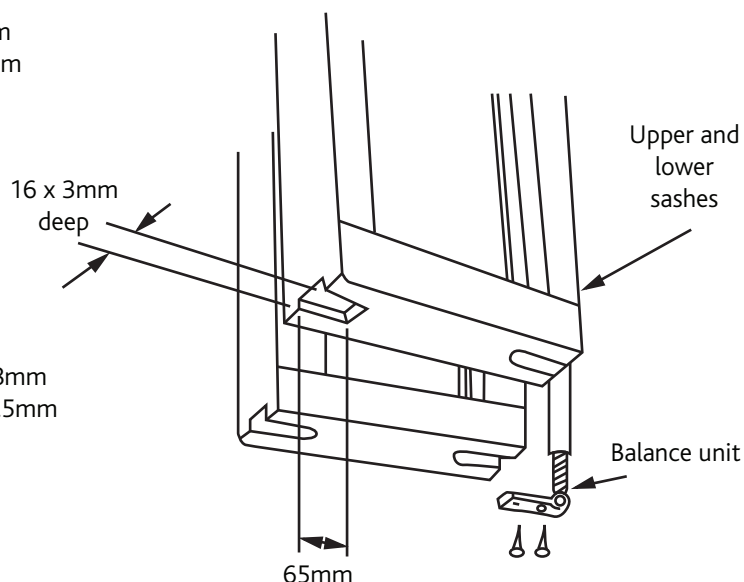
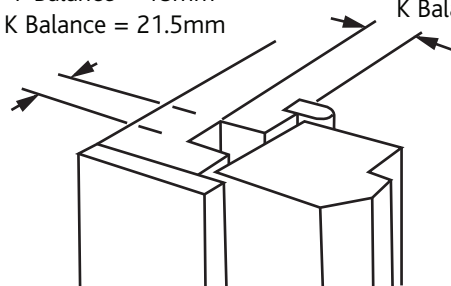
F Balance = 18mm
K Balance = 21.5mm

F Balance = 18mm
K Balance = 21.5mm



F Balance = 18mm
K Balance = 21.5mm

F Balance = 18mm
K Balance = 21.5mm



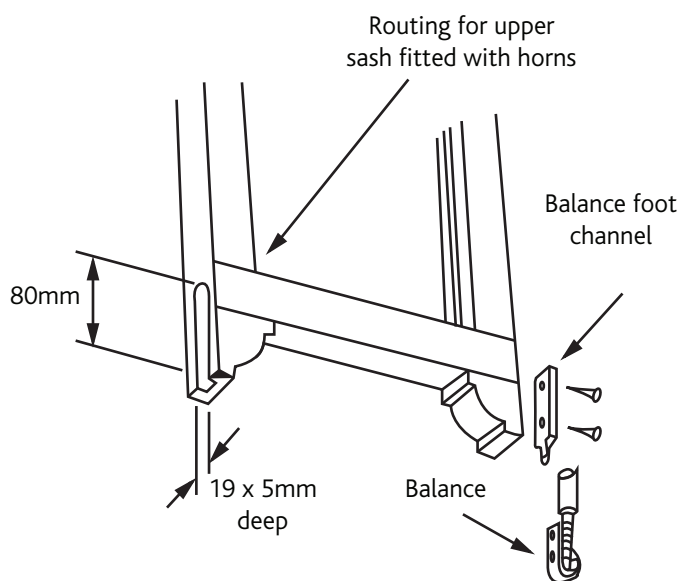
Note:

Read instructions fully before installing balances. It is recommended that before balances are installed the sashes are glazed and in the case of timber windows all painting is completed ensuring that both sashes slide freely in the frame. While sketches show timber windows throughout, fitting instructions apply to all types.

ERA must be notified of non-standard window specifications (i.e. high density timber materials and slim horn depth dimensions below 47mm if grooving in sash frame), as this can result in an amendment to these fitting instructions.

1 Cam Locks and Keeps:

Provision must be made to house each balance in a groove or channel which can be either in frame jamb or sash stile and must be minimum dimensions shown above. The groove must run the full length of the sash run. Bottoms of sashes should be prepared to suit balance foot attachment to be used. Cut-outs to be of sufficient depth to receive attachments and screw heads. Typically diagram 2a is prep work for the bottom sash and diagram 2b is for the top sash. However if you wish to hide all visible fittings follow diagram 2b for both sashes.

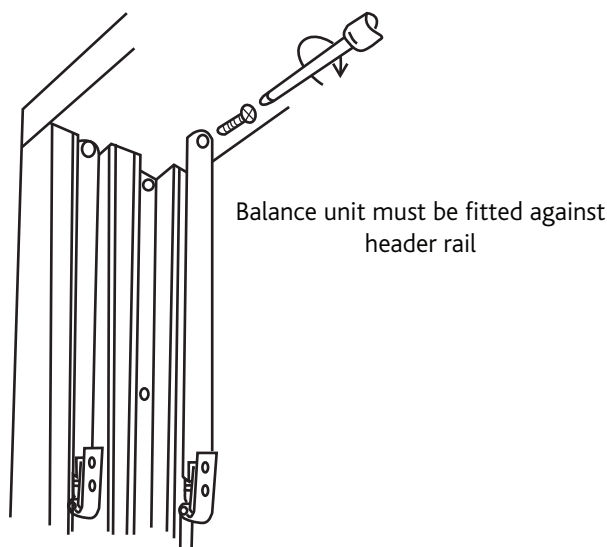


2 Check balances:

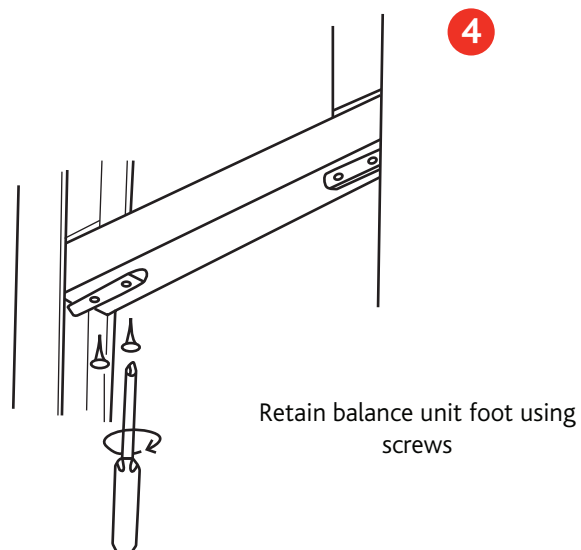
It is important that the balances used are suitable for the weight of the sash. 'F' and 'K' balances are made to suit the weight of the sash for which they are ordered. The relevant weight in lbs is printed on the tube and on the accompanying paperwork. Check that the finished sash weight is within 1lbs (0.5kg) of the figure.

Installing Balances - TrueGlide F/K Balances

3



4



3 Installing balances:

Note that the shorter pair of balances is normally for the top sash, given sashes of equal height. With the sashes lowered, insert the appropriate pair of balances into the grooves. In the case of unequal size 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 to be removed.

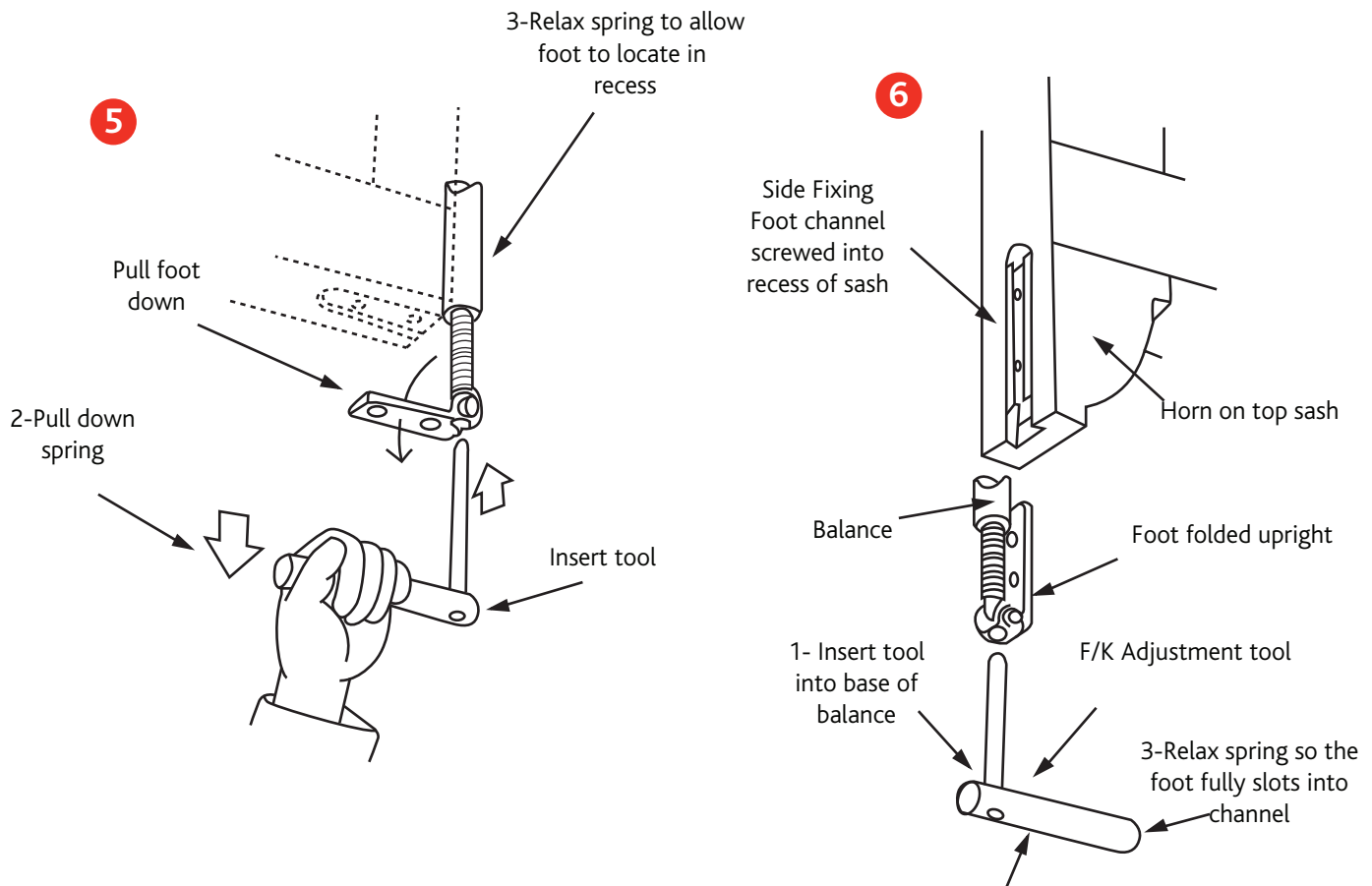
Fit the top of the balances to the frame jamb at the centre of the groove tight up against the frame head, with the flat of the foot attachment against the jamb. Fix using wood screws provided.

To attach balances to sashes, firstly raise the sashes as high as possible and prop in position. The foot attachment at the bottom of each balance should now be visible. An F and K installation tool is available to assist in pulling the balance down when fitting.

Now fold the foot attachment under the bottom rail of the sash.

Using the wood screws provided, fix the foot attachment to the underside of the bottom rail, ensuring that the balance is kept tight to the sash.

Installing Balances (alternative method) - TrueGlide Balances



5 Alternative Method - Straight Sash:

For unequal sashes, very heavy sashes

Before inserting balances into groove you can insert an F and K installation tool (adjustment tool - available from ERA) into the brass thread at the bottom of the balance.

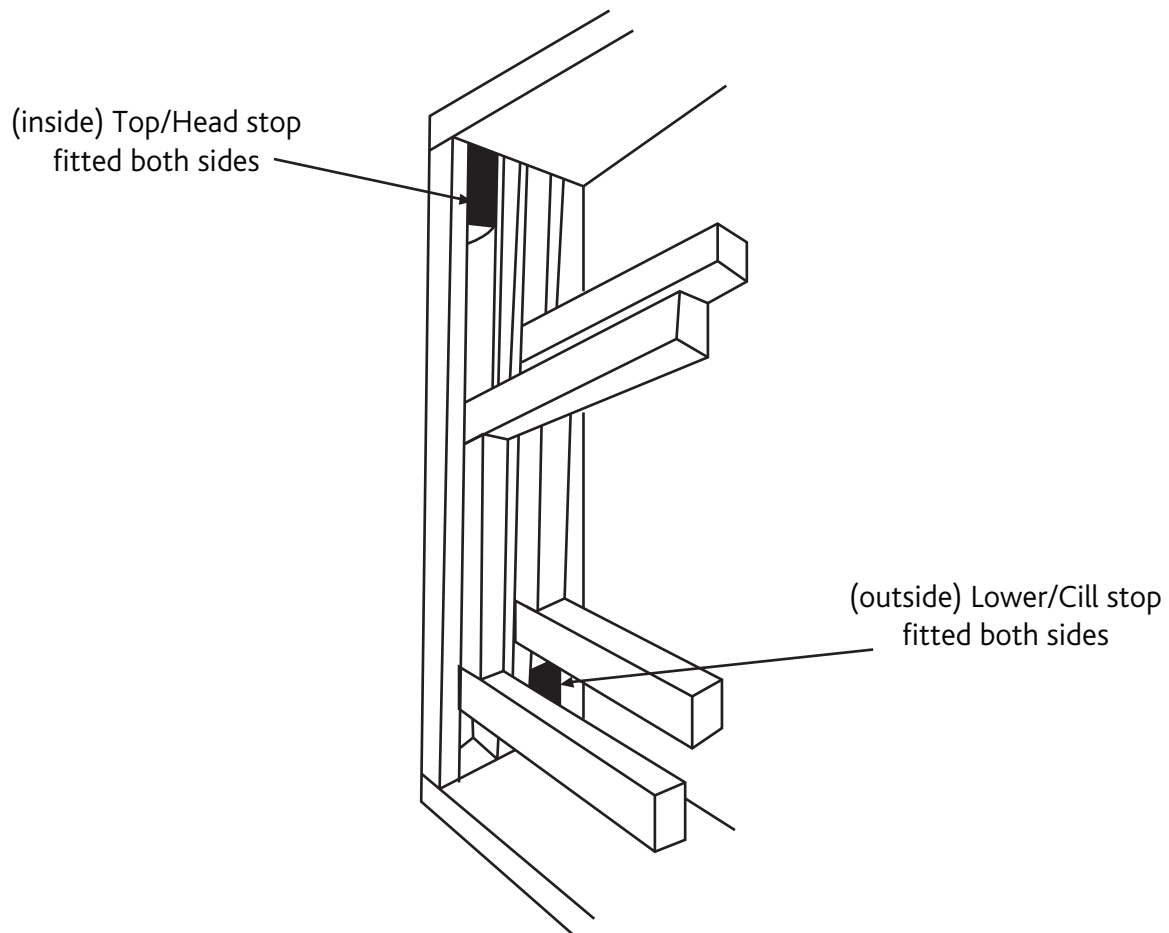
Proceed as previously described, using the tool, pull the foot attachment downwards and across under the bottom rail of the sash. Fix using wood screws provided before fully tightening screws, carefully remove the adjustment tool. Note: when using adjustment tool pull spring down from tube, do not twist or turn spring.

6 Alternative Method - Horned Sash:

For sashes with horns, using the standard horn channel attachments and use the tool to pull the balance foot down so that it can be located into the bottom of the channel and then carefully released. Carefully remove the adjustment tool.

Fixing Travel Stops - TrueGlide Balances

7



7 Fix Travel Stops:

Fix travel stops provided, the shorter one at the top of the window at the head, the longer one at cill.

In the case of non-standard applications special stop may be required. In such cases suitable longer timber stops should be substituted for the standard metal type supplied.

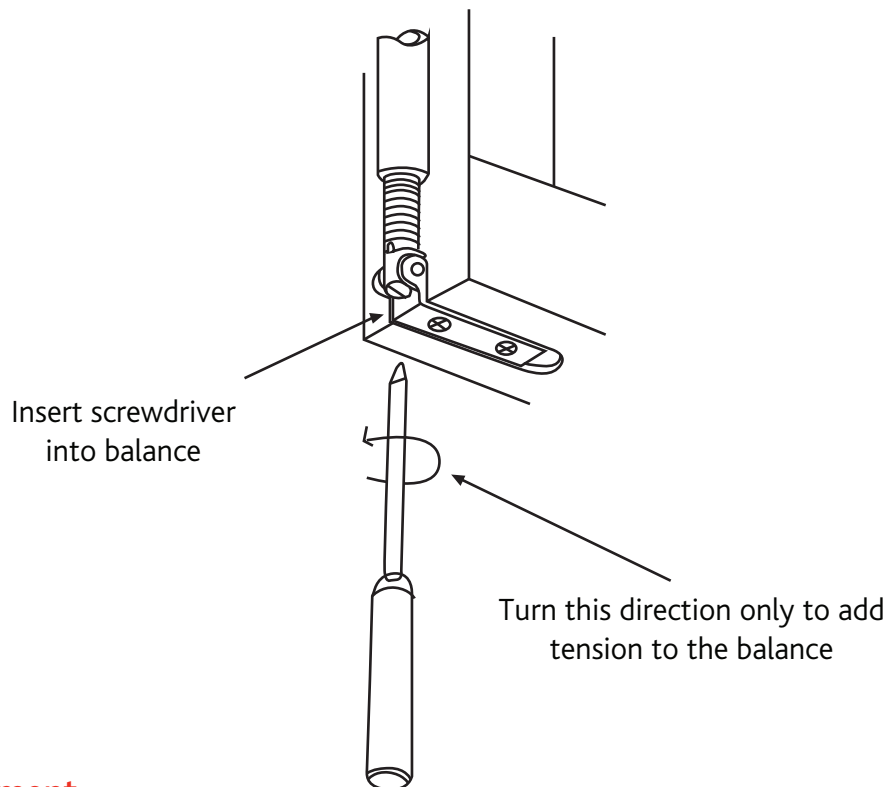
These should be long enough to prevent the balance from being extended by more than twice its tube length minus 2 inches.

IMPORTANT - FAILURE TO FIT TRAVEL STOPS MAY RESULT IN BALANCE FAILURE

Note: Travel stops are supplied galvanised as standard, however are also available in white on request.

Adjusting Balances - TrueGlide Balances

8



8 Adjustment:

Try the sashes up and down TO THE LIMIT OF THEIR TRAVEL. If there is a tendency for either sash to drop when in the up position, adjust the balances as follows:

A screwdriver can now be inserted in the slot in the ratchet fitting at the bottom of the balance. Adjust by turning the ratchet in an anti-clockwise direction as viewed from underside.

Two 'clicks' of the ratchet equal one complete turn. Ensure that the same number of turns that are applied to each balance pair.

NB: Do not over tension.

9 IMPORTANT:

Don't use balances on sashes beyond their respective weight.

Don't tension balances more than necessary.

Don't tension balances before glazing.

Do keep the foot attachment tight into the sash and make sure that the covers of the fitting do not rub the jamb when the sash is moved.

Do fit correct travel stops.

Balances Technical Specification - TrueGlide Balances

F Balances

Technical Specification

Tube Diameter	17mm
Groove Dimension	18mm

K Balances

Technical Specification

Tube Diameter	19mm
Groove Dimension	21.5mm

Part Numbers

F0 16 - 14 W

Denotes type of balance (e.g. F0, F1, K)	Weight of sash in lbs (e.g. 16lbs)	Tube length in inches (e.g. 14 inches)	Tube Colour (e.g. White)
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'F' and 'K' balances are pre-tensioned and therefore should be correct weight for the sash provided the information supplied was correct. The 'F' and 'K' balances should not need adjusting but if they do adjust according to the 'installation instructions'. For Tube Colour - W=White, B=Black, R=Brown, G=Grey, C=Cream and T=Tan

Sash Weight Range

Type	Sash Weight Range
F Balance	3.6kgs (8lbs) 27.2kgs (60lbs)
K Balance	6.8kgs (15lbs) 49.9kgs (110lbs)

F - Balance

Plug Colour	Sash Weight Range
Grey	8lbs - 15lbs
Claret	16lbs - 23lbs
Yellow	24lbs - 31lbs
Black	32lbs - 38lbs
Natural	39lbs - 45lbs
Orange	46lbs - 50lbs
Green	51lbs - 55lbs
Blue	56lbs - 60lbs

K - Balance

Sash Weight Range

1 15lbs - 19lbs	11 65lbs - 69lbs
2 20lbs - 24lbs	12 70lbs - 74lbs
3 25lbs - 29lbs	13 75lbs - 79lbs
4 30lbs - 34lbs	14 80lbs - 84lbs
5 35lbs - 39lbs	15 85lbs - 89lbs
6 40lbs - 44lbs	16 90lbs - 94lbs
7 45lbs - 49lbs	17 95lbs - 99lbs
8 50lbs - 54lbs	18 100lbs - 104lbs
9 55lbs - 59lbs	19 105lbs - 109lbs
10 60lbs - 64lbs	20 110lbs - 114lbs

Tube Colours

Tube Colour	Pantone Ref
White	RAL 9910
Brown	RAL 8014
Black	RAL 9005
Grey	RAL 7042
Cream	RAL 1015
Tan	RAL 8003

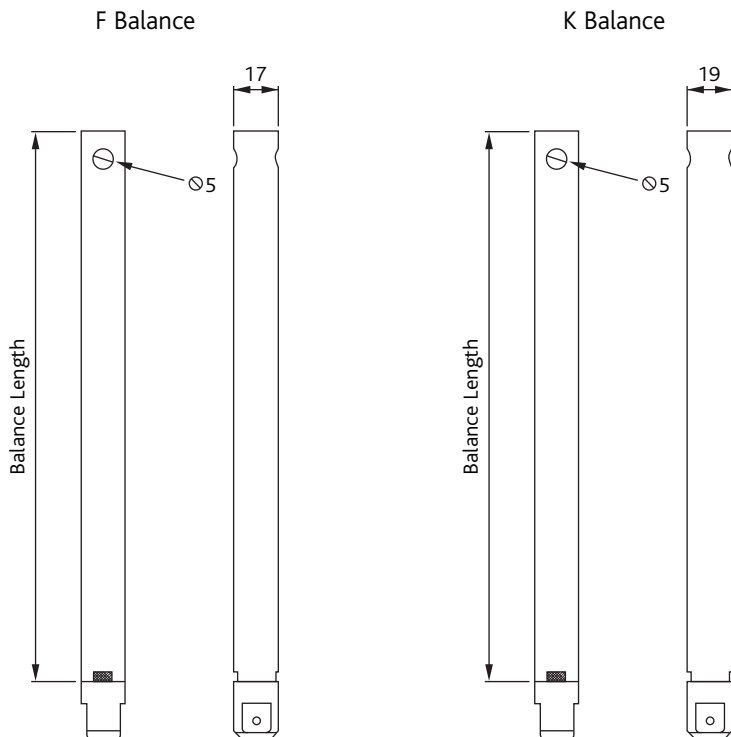


Diagram not to scale. F Balance shown.
All dimensions are in mm and are nominal.



Balances Technical Specification - TrueGlide Balances

Applications

A pair of balances is required for each sash. The balance is housed in the outer frame jamb where a screw is secured through the brass eyelet at the top of the frame. The balances foot is then screwed to sash, or with side fixing alternatively located in horn channel.

Balances are calculated and supplied for the appropriate weight bracket of the sash. On site adjustment can be made easily using a Flathead screwdriver and turning in an anti-clockwise direction. Apply tension until the window is holding the weight correctly.

All balances have semi flexible tubes which enable the balances to be slightly bowed during installation. This can be vital in a replacement situation.

Recommended Screws

Balances: F Balance - 8 x 1 1/2 CSK POZI W/SCREW
 K Balance - 10 x 2" CSK POZI W/SCREW

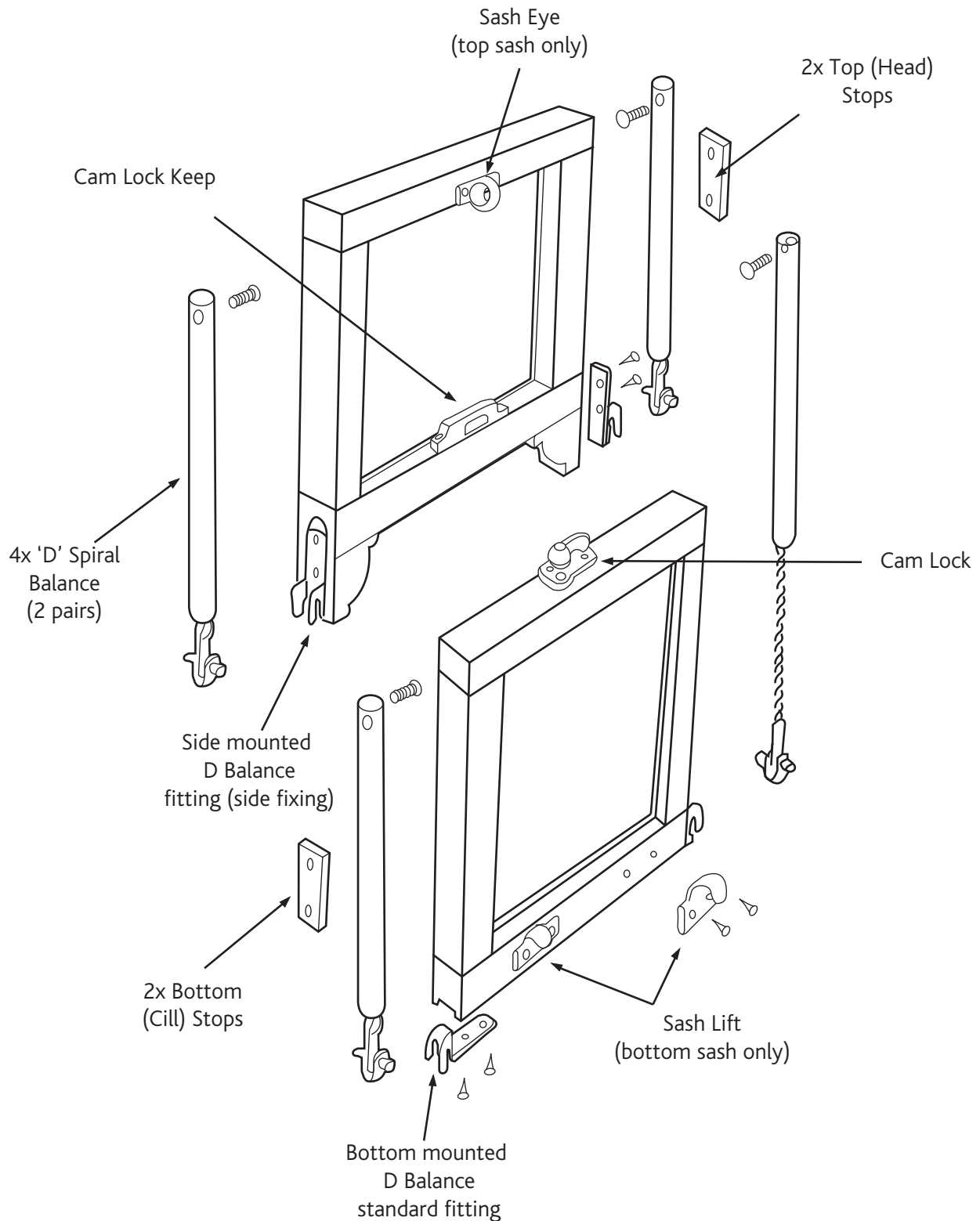
Maintenance

Depending upon location, cleaning and lubrication of the spiral rod may be desirable after a length of time, the period of which will vary according to site circumstances. A few drops of light oil applied to the spiral rod will always improve the operating action of a balance after long service. As guidance annual maintenance is good practice.

Testing

TrueGlide F and K Type balances have been tested to over 25,000 cycles.

Timber VS Windows Exploded View - D Balances





Typical Standard Kit for Timber Windows - D Balances

A typical full kit for 1 window includes:

Description	Quantity (each unless otherwise stated)
D Balances	2 pairs
Head Stop	1 pair
Cill Stop	1 pair
Cam Locks (key locking)	2*
Keep	2*
Sash Lift	2
Sash Eye	1
D Side Fixing	1 pair**
D Balance Standard Fitting	1 pair

* For windows over 800mm wide

** 2 pairs of D Side Fixings required if using hidden fixings on top and bottom sashes

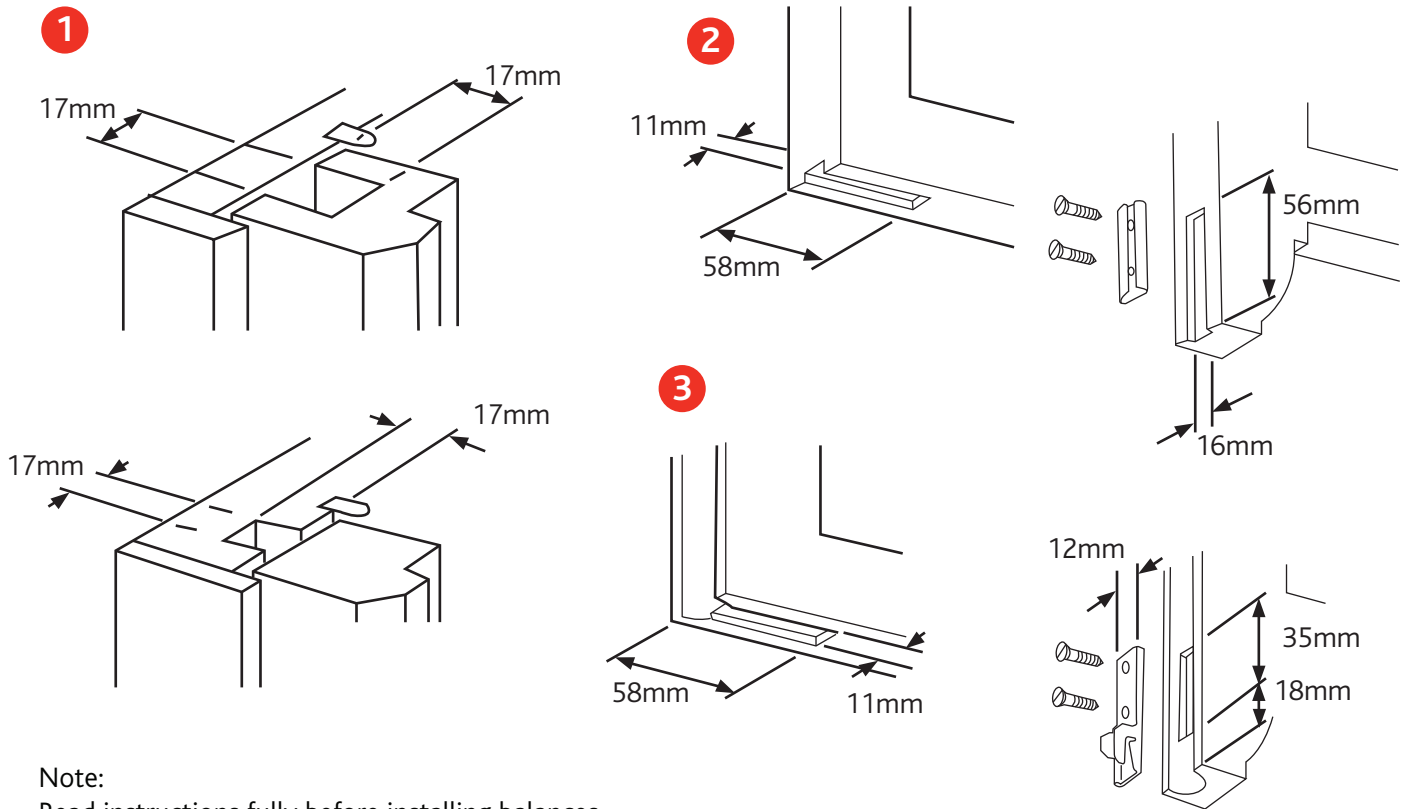
Please Note

Finish options for hardware include: Hardex Chrome, Hardex Gold, Hardex Bronze, Hardex Satin, Hardex Graphite, Antique Black, White and Black

Available hardware in finishes specified above include Sash Eye, Bow Handle, Cam Lock Keeps and Sash Lifts. Keeps are available in either 8mm or 11mm.

Tube colours for balances include: White Brown, Grey, Cream, Black and Tan.

Window Preparation - D Balances



Note:

Read instructions fully before installing balances.

It is recommended that before balances are installed the sashes are glazed and in the case of timber windows all painting is completed ensuring that both sashes slide freely in the frame. While sketches show timber windows throughout, fitting instructions apply to all types

1 Preparation of Windows:

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

Bottom of sashes should be prepared to suit balance foot attachment to be used. Cut-outs to be sufficient depth to receive attachments and screw heads. For bottom rail preparation for standard foot and channel fitting (see Fig 2). For bottom rail preparation for standard foot Grooved stile fitting (see Fig 3). Please fix foot attachment prior to fitting sash into frame.

4 Checking Balances:

It is important that the balances used are suitable for the weight of the sash. They are manufactured in three weight groups and identified by a number 2, 4 or 6 stamped on the spiral rod.

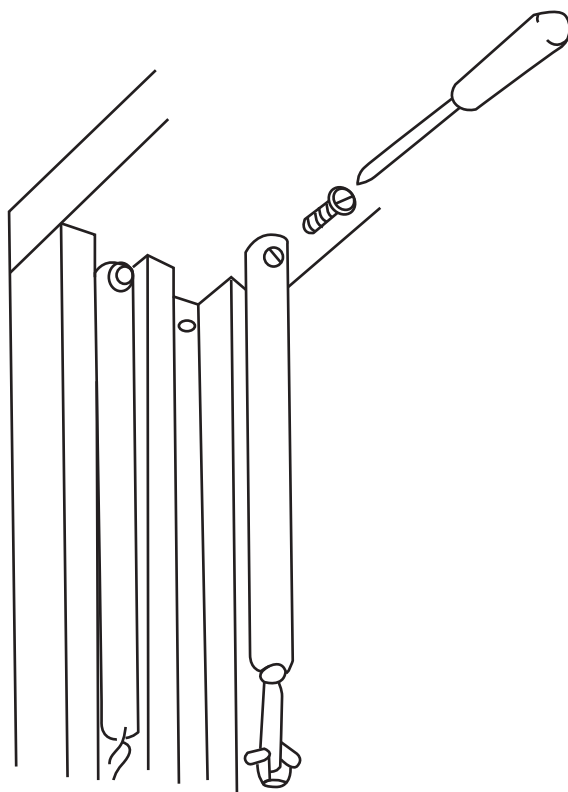
D2 is for sash weights between 2.26kg (5lb) to 6.79kg (15lbs)

D4 for over 6.8kg (15lb) up to 13.6kg (30lb)

D6 for over 13.6 (30lb) up to 18.1kg (40lb)

Installing Balances - D Balances

5



5 Installing balances:

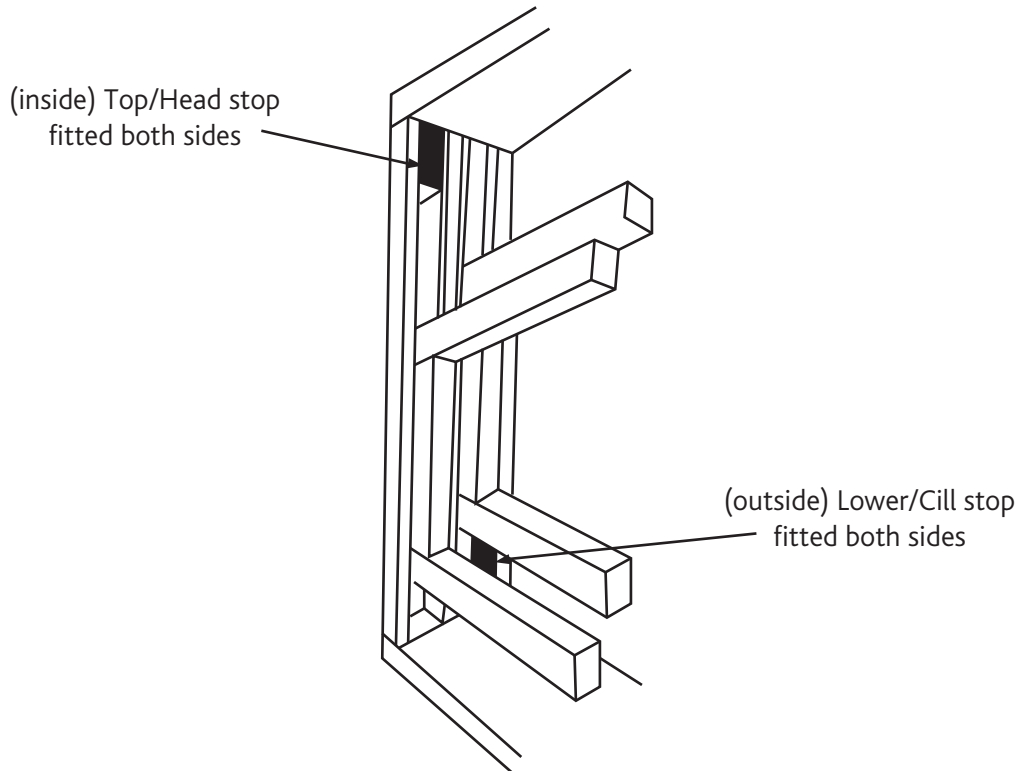
It is important to note that short balances are used for top sash and long balances for bottom sash, assuming sashes are of equal height.

When sashes are of equal size and in lowered position, the balances can be inserted easily into the grooves. In the case of unequal size 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 to be removed.

Fix top balances to the frame jamb at the centre of the groove and tight up against the frame head, using drive screws supplied.

Fixing Travel Stops - D Balances

6



6 Fix Travel Stops:

Fix travel stops provided, the shorter one at the top of the window at the head, the longer one at the cill.

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.

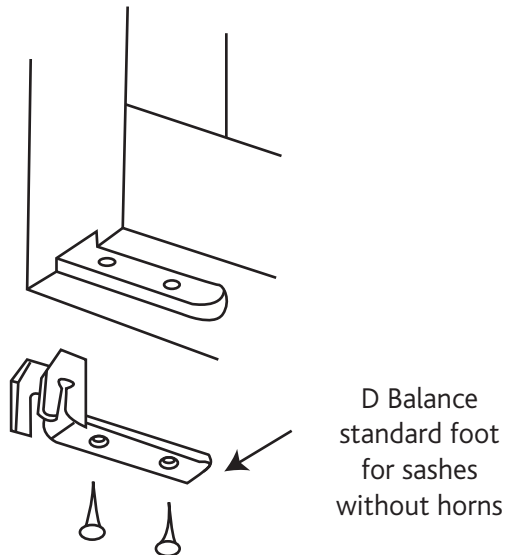
These should be long enough to prevent the balance from being extended by more than twice its tube length minus 2 inches.

IMPORTANT- FAILURE TO FIT TRAVEL STOPS MAY RESULT IN BALANCE FAILURE

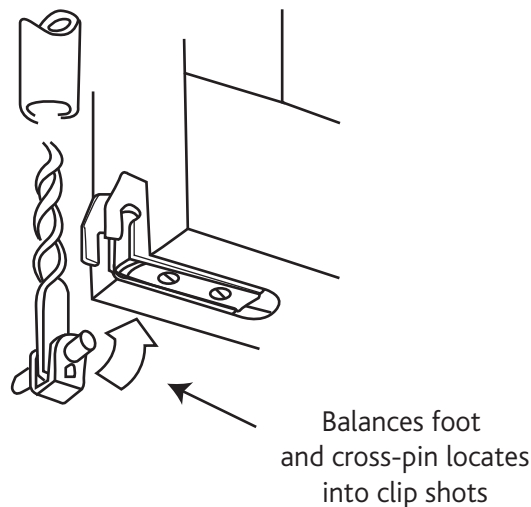
Note: Travel stops are supplied galvanised as standard, however are also available in white on request.

Fixing Foot Attachments - D Balances

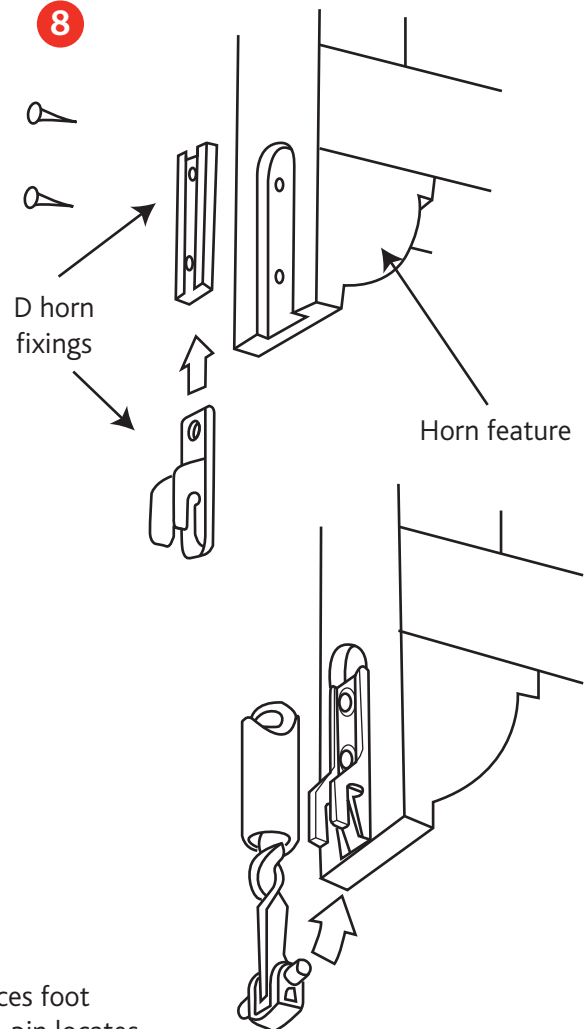
7



Note:
ERA must be notified of non-standard window specifications (i.e. high density timber materials and slim horn depth dimensions below 47mm if grooving in sash frame), as this can result in an amendment to these fitting instructions.



8



7 Fix Foot Attachments - Standard Sashes:

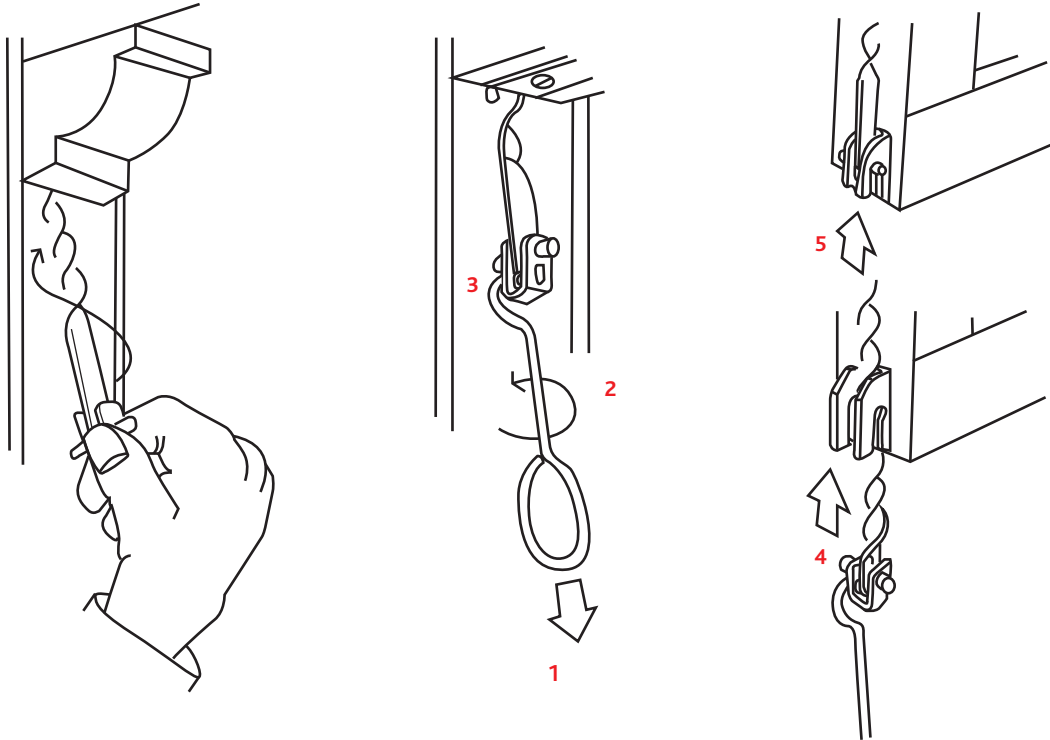
Raise the sashes as high as possible and prop up. Fix foot attachments ensuring that spiral is located between sides of fitting. Secure standard foot with screws provided.

8 Fix Foot Attachments - Sashes with Horns

Raise the sashes as high as possible and prop up. Fix foot attachments ensuring that spiral rod is located between sides of fitting. Firstly fix the channel with screws provided, then bend end of fitting to create interference fit, insert into channel and tap home.

Adjusting Balances - D Balances

9



9 Adjustment:

Thread the spiral rod upwards into the tube by revolving anti-clockwise, left hand turn as viewed from underside. Using the hook tool provided, pull the spiral rod downwards about 200mm (8") without rotating. Now apply adjustment turns in an anti clockwise direction. The number of turns will depend on the sash weight.

Refer to adjustment charts for number of turns to be applied. Return the spiral rod upwards without rotating and engage pin in foot attachment. Repeat adjustment for other balance, remove prop and the try sash action. Correct balancing is achieved when sash is just held in its highest position. If necessary make adjustment turns in either direction on both balances obtain this condition.

NB: Do not over tension. Please refer to page 18 for details of tensions and turns required.

10 Important

Don't use balances on sashes beyond their respective weight.

Don't tension balances more than necessary.

Don't tension balances before glazing.

Do keep the foot attachment tight into the sash and make sure that the covers of the fitting do not rub the jamb when the sash is moved.

Do fit correct travel stops.



Adjusting Chart - D Balances

To determine the suggested number of adjustment turns:

1. Establish balance number.
2. Establish sash weight.
3. Read across from the relevant balance reference number and down from the required sash weight to find the suggested number of adjustment turns.

D2 - Sash Weight							
Tube Length ins	kgs	2.3	2.7	3.2	3.6	4.1	4.5
	lbs	5	6	7	8	9	10
11		1	1	1	1	2	2
12		1	1	1	2	2	2
13		1	1	1	2	2	2
14		2	2	2	2	3	3
15		2	2	2	3	3	3
16		2	2	2	3	3	3
17		2	2	2	3	3	3
18		2	2	3	3	3	4
19		2	2	3	3	3	4
20		2	2	3	3	3	4
21		3	3	3	4	4	4
22		3	3	3	4	4	4
23		3	3	4	4	4	5
24		3	3	4	4	4	5
25		3	3	3	4	4	5
26		3	3	3	4	4	5
27		3	3	4	4	5	5
28		3	3	4	4	5	5
29		4	4	4	5	5	6
30		4	4	4	5	5	6
31		4	4	5	5	6	6
32		4	4	5	5	6	6
33		5	5	5	6	6	7
34		5	5	5	6	6	7
35		5	5	6	6	7	7
36		6	6	6	7	7	8
37		6	6	6	7	7	8
38		6	6	7	7	8	8
39		7	7	7	8	8	9
40		7	7	7	8	8	9
41		7	7	8	8	9	9
42		8	8	8	9	9	10
43		8	8	8	9	9	10
44		8	8	9	9	10	10
45		9	9	9	10	10	11
46		9	9	10	10	11	11
47		9	9	10	10	11	11
48		10	10	11	11	12	12
49		10	10	11	11	12	12

D4 - Sash Weight													
Tube Length ins	kgs	4.5	5.4	6.4	7.3	8.2	9.1	9.9	10.9	11.8	12.7	13.6	
	lbs	10	12	14	16	18	20	22	24	26	28	30	
11		1	1	1	1	2	2	2	3	3	3	3	
12		1	1	1	1	2	2	2	3	3	4	4	
13		1	1	2	2	3	3	3	4	4	4	5	
14		1	1	2	2	3	3	4	4	4	5	5	
15		1	1	2	3	3	4	4	5	5	5	6	
16		1	1	2	3	3	4	4	5	5	5	6	
17		1	1	2	3	3	4	4	5	5	5	6	
18		1	1	2	3	3	4	4	5	5	5	6	
19		1	1	2	3	3	4	4	5	5	6	6	
20		1	2	2	3	3	4	4	5	5	6	7	
21		1	2	2	3	4	4	4	5	5	6	7	
22		1	2	2	3	4	4	4	5	5	6	7	
23		1	2	2	3	4	4	4	5	5	6	7	8
24		1	2	3	3	4	4	4	5	6	7	7	8
25		1	2	3	3	4	4	4	5	6	7	8	8
26		2	2	3	3	4	5	5	6	7	8	9	
27		2	2	3	4	4	5	6	7	8	8	9	
28		2	2	3	4	4	5	6	7	8	9	9	
29		2	2	3	4	4	5	6	7	9	9	10	
30		2	2	3	4	4	5	6	7	8	9	10	

D6 - Sash Weight						
Tube Length ins	kgs	14.5	15.4	16.3	17.2	18.1
	lbs	10	12	14	16	18
10		-	-	-	-	-
12		-	-	-	-	-
14		2	2	2	3	3
16		2	2	2	3	4
18		2	3	3	4	4
20		2	3	3	4	4
22		2	3	3	4	4
24		3	3	3	4	5
26		3	3	4	4	5
28		3	3	4	4	5
30		3	4	4	5	5
32		3	4	4	5	5
34		4	4	5	5	6
36		4	4	5	5	6
38		4	5	5	6	6
40		4	5	5	6	6
42		5	5	6	6	7
44		5	5	6	6	7
45		5	6	6	7	7
46		5	6	6	7	8
47		6	6	7	7	8
48		6	6	7	8	8

Balances Technical Specification

D Balances

Technical Specification

Tube Diameter	16mm
Groove Dimensions	17mm

Part Numbers

D4 - 07 W

Denotes type of balance (e.g. D4)	Tube length in inches (e.g. 15 inches)	Tube Colour (e.g. White)
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D balances are supplied un-tensioned, please refer to the fitting instructions for details on adjustment turns. Please ensure all balances are fitted in accordance with the manufacturers installations instructions. For Tube Colour - W=White, R=Brown, G=Grey, C=Cream and T=Tan

Sash Weight Range

Type	Sash Weight Range	
D2	2.26kgs (5lbs)	6.8kgs (15lbs)
D4	6.8kgs (15lbs)	13.6kgs (30lbs)
D6	14.5kgs (15lbs)	18.1kgs (40lbs)

Tube Colours

Tube Colour	Pantone Ref
White	RAL 9910
Brown	RAL 8014
Black	RAL 9005
Grey	RAL 7042
Cream	RAL 1015
Tan	RAL 8003

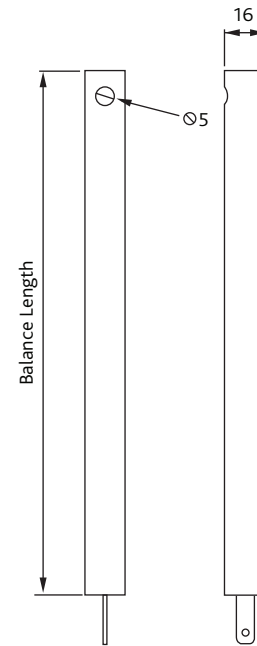
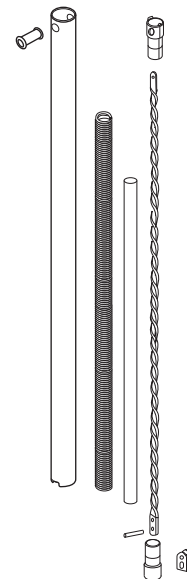


Diagram not to scale. D Balance shown. All dimensions are in mm and are nominal.





Balances Application and Maintenance - D Balances

Applications / Warranty

A pair of balances is required for each sash. The balance is housed in the outer frame jamb where a screw is secured through the eyelet at the top of the frame.

Balances are calculated and supplied for the appropriate weight bracket of the sash. On site adjustment can be made easily using a wire tool and turning in an anti-clockwise direction. Apply tension until the window is holding the weight correctly.

All balances have semi flexible tubes which enable the balance to be slightly bowed during installation. This can be vital in a replacement situation.

Notes:

Balance attachments are supplied separately in packaging

Recommended Screws

Balances : D Balance - 8 x 1 1/2" CSK POZI W/SCREW

Maintenance

Depending upon location, cleaning and lubrication of the spiral rod may be desirable after a length of time, the period of which will vary according to site circumstances. A few drops of light oil (e.g 3 in 1 oil) applied to the spiral rod will always improve the operating action of a balance after long service.



Hardware - Applications and Maintenance

Applications / Warranty

All products have been designed to meet the requirements of current and proposed Standards and are manufactured in accordance with BS EN ISO 9001 Quality Management Systems, and meet the requirements of BS EN 1670 for Corrosion Resistance.

In the unlikely event of a product failing as a result of defective manufacture or design, ERA will replace free of charge or credit and component returned and deemed as not meeting its high exacting standards. The credit shall not exceed the original value of the part. This guarantee is valid for 10 years from the date of manufacture, with the exception of balances (please see separate information) from date of manufacture.

This guarantee does not apply to surface finishes or to faults caused by wilful or neglectful damage or by excessive wear and tear. The guarantee as set out above is the full extent of ERA's liability. Please note corrosion levels may be effected in coastal areas or highly polluted locations.

Recommended Screws

Cam Lock :	3.9 x 45mm	Cam Lock Keeps:	3.9 x 45mm
Sash Travel Restrictors:	3.9 x 19mm drill point	Sash Lifts:	3.9 x 19mm
Sash Eyes:	3.9 x 19mm	Bow Handles:	3.9 x 19mm

Maintenance

All hardware should be lightly lubricated twice a year (if applicable) and the surface cleaned with a soft damp cloth to remove any dust or grime, taking care not to scratch the surface finish.

Testing

Cam Lock and Keeps

Corrosion Resistance: Meets the requirements of BS EN 1670:2004 Grade 3

Sash Travel Restrictor

Corrosion Resistance: Meets the requirements of BS EN 1670:2004 Grade 3

Performance: Meets the requirements of BS EN 14351-1 clause 4.8

Other Hardware (excluding Gearing, Guide Catches, Top Sash Knob)

Corrosion Resistance: Meets the requirements of BS EN 1670:2004 Grade 3

Timber VS Windows - Measuring Guidelines

1 Standard Window:

When using ERA sash balances, key dimensions are required to ensure the correct balances for the size and weight of the window:

If accurate glazed weights aren't provided ERA cannot accept responsibility for incorrect supply of balances. T&C apply.

Dimensions

Height of Sash Run (A) - is the overall height of both sashes in mm (must not be greater than the combined top and bottom sash heights).

Height of Top Sash (B) - is the overall height of the top sash and is measured from the underside of the head to the bottom of the top sash in mm (excluding horn).

Height of Bottom Sash (C) - is the overall height of the bottom sash and is measured from the top of the bottom sash to top of the cill in mm (excluding horn).

Width of Sash - is the overall width of the sash in mm.

Glazing spec or glazed sash weight is required.

2 Arched Window:

When using ERA spiral balances, key dimensions are required to ensure the correct balances for the size and weight of the window:

Dimensions

Height of Sash Run (A) - is the overall height of both sashes in mm (must not be greater than the combined top and bottom sash heights).

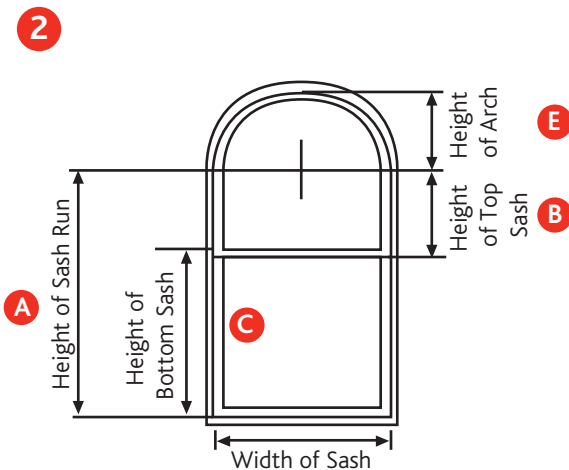
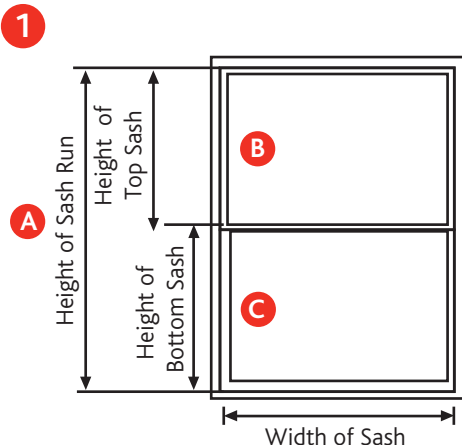
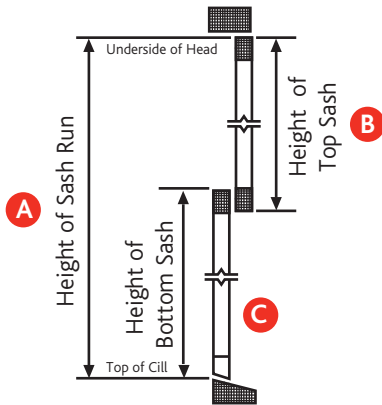
Height of Top Sash (B) - is the overall height of the top sash and is measured from the underside of the head to the bottom of the top sash in mm (excluding horn).

Height of Arch (E) - is the dimension from the centre line on the top sash to the bottom of the top of the head in mm.

Height of Bottom Sash (C) - is the overall height of the bottom sash and is measured from the top of the bottom sash to top of the cill in mm (excluding horn).

Width of Sash - is the overall width of the sash in mm.

Glazing spec or glazed sash weight is required.





Troubleshooting Guide - Balances

Problem	Cause	Solution
Rods disconnecting from the bottom of the balance on the lower sash	Balance is too short	Replace with correct length balance
Rods disconnecting from the bottom of the balance on the top sash	Balance is too short; or Cill stops are too short or not correctly fixed in place	Replace with correct length balance; or ensure cill stops are fitted correctly and of the right dimensions
Damaged or bent outer tube or damage to the bottom of the balance or bracket	Balance is too long; or no head stop on the bottom sash	Replace with correct length balance; or ensure the head stop is fitted correctly and of the right dimensions
Noisy operation of balances when the window is operated	Bent rod; or dry spring	Replace balance
Top / bottom sash not holding position when opened	Insufficient tension	Apply more tension, using a screwdriver to turn the screw on the balance. Please ensure you apply (no more than 2 turns) equally to each balance
Top / bottom sash jumping up when opened	Too much tension	Reduce the tension, using a screwdriver to turn the screw on the balance. Please ensure you apply (no more than 2 turns) equally to each balance
Top / bottom sash not holding position when opened even after application of more tension	Balance may be broken; or balance may not be strong enough for the weight of the sash	Reduce the tension, using a screwdriver to turn the screw on the balance. Please ensure you apply (no more than 2 turns) equally to each balance
Balance will not adjust. Rod will not move	Balance has been over tensioned and spring collapsed	Replace balance; or check sash weight against and ensure correct balance has been used
Sash drops at top position but jumps from cills	Balance too strong for the window	Balance broken. Check sash weight against and ensure correct balance has been used
Damaged or distorted brackets	Protruding fixing screws	Change screws and brackets



Troubleshooting Guide - Hardware











Problem	Cause	Solution
Cam Lock does not work or locate into Keep	Keep or Cam Lock not positioned correctly	Reposition lock or keep to suit
Finishes corroding or fading	Incorrect use of cleaning products, or hardware subject to extreme atmospheres	See maintenance guidelines

Troubleshooting Guide - Sash Travel Restrictor

Problem	Cause	Solution
Sash is not restricted but restriction is required	Restrictor is not in the operating position	Release latch using key provided
Sash is restricted but not required	Restrictor is not in the closed position	Push latch back into restrictor body and lock using key provided
Key is broken	Too much pressure has been applied to the key	New key required

ERA

Part Codes

Hardware				
Product	Colour Options	Box Qty	UOM	Part Codes
 Sash Pull	Hardex Chrome	100	EA	VHSLHC01
	Hardex Bronze	100	EA	VHSLHB01
	Hardex Gold	100	EA	VHSLHG01
	Hardex Graphite	100	EA	VHSLGR01
	Hardex Satin	100	EA	VHSLSA01
	Antique Black	100	EA	VHSLAB01
	White	100	EA	VHSLWH01
 Inline Sash Eye	Hardex Chrome	100	EA	VHSEHC01
	Hardex Bronze	100	EA	VHSEHB01
	Hardex Gold	100	EA	VHSEHG01
	Hardex Graphite	100	EA	VHSEGR01
	Hardex Satin	100	EA	VHSESA01
	Antique Black	100	EA	VHSEAB01
	White	100	EA	VHSEWH01
 Offset Sash Eye	Hardex Chrome	100	EA	VHOSH01
	Hardex Bronze	100	EA	VHOSH01
	Hardex Gold	100	EA	VHOSH01
	Hardex Graphite	100	EA	VHOSH01
	Hardex Satin	100	EA	VHOSH01
	Antique Black	100	EA	VHOSH01
	White	100	EA	VHOSH01
 Sash Pull Handles	Hardex Chrome	100	EA	VHSHHC01
	Hardex Bronze	100	EA	VHSHHB01
	Hardex Gold	100	EA	VHSHHG01
	Hardex Graphite	100	EA	VHSHGR01
	Hardex Satin	100	EA	VHSHSA01
	Antique Black	100	EA	VHSHAB01
	White	100	EA	VHSHWH01
 Classic Cam Lock	Hardex Chrome	50	EA	VHCLHC01
	Hardex Bronze	50	EA	VHCLHB01
	Hardex Gold	50	EA	VHCLHG01
	Hardex Graphite	50	EA	VHCLGR01
	Hardex Satin	50	EA	VHCLSA01
	Antique Black	100	EA	VHCLAB0108
	Lock and 8mm Keep	100	EA	VHCLAB0111
 Classic Cam Lock Keeps	Hardex Chrome	100	EA	VHCLHC01
	Hardex Bronze	100	EA	VHCLHB01
	Hardex Gold	100	EA	VHCLHG01
	Hardex Graphite	100	EA	VHCLGR01
	Hardex Satin	100	EA	VHCLSA01
	Antique Black	100	EA	VHCLAB0108
	Lock and 8mm Keep	100	EA	VHCLAB0111
 Flat Fitch Catch and Keep	Hardex Chrome	100	EA	VHCLFHC01
	Hardex Bronze	100	EA	VHCLFHB01
	Hardex Gold	100	EA	VHCLFHG01
	Hardex Graphite	100	EA	VHCLFGR01
	Hardex Satin	100	EA	VHCLFSA01
	Antique Black	100	EA	VHCLFAB01
 Double stage Keeper (Night Vent)	Gold	100	EA	BF-KPR-06005
	White	100	EA	BF-KPR-06001
	Chrome	100	EA	BF-KPR-06006
	Satin	100	EA	BF-KPR-06008
 Travel Restrictors (Side Fix)	Gold	200	EA	BF-STP-GOL02
	White	200	EA	BF-STP-WHI03
	Chrome	200	EA	BF-STP-CHR01
	Satin	200	EA	BF-STP-CHS04
 Travel Restrictors (Front Fix)	Gold	200	EA	BF-STP-GOL10
	White	200	EA	BF-STP-WHI07
	Chrome	200	EA	BF-STP-CHR08
	Satin	200	EA	BF-STP-CHS09

High Security Hardware				
Product	Colour Options	Box Qty	UOM	Part Codes
High Security Guide Catches	White LH White RH	500 500	EA EA	BF-CAT-SBD71 BF-CAT-SBD72
High Security Chimneys	N/A	500	EA	BF-CHM-SBD
High Security Cam lock Classic Lever	Hardex Chrome Hardex Bronze Hardex Gold Hardex Graphite Hardex Satin Antique Black Lock and 8mm Keep Lock and 11mm Keep Lock and SBD Slimline Keep Lock and SBD Keep White Black	100 100 100 100 100 100 100 100 100 100 100 100	EA EA EA EA EA EA EA EA EA EA EA EA	VHCLCHC01 VHCLCHB01 VHCLCHG01 VHCLCHGR01 VHCLCSA01 VHCLAB0108 VHCLAB0111 VHCLAB01SM VHCLAB01LG VHCLCW01 VHCLCBK01
High Security Cam lock Heritage Lever	Hardex Chrome Hardex Bronze Hardex Gold Hardex Graphite Hardex Satin Antique Black Lock and 8mm Keep Lock and 11mm Keep Lock and SBD Slimline Keep Lock and SBD Keep White Black	100 100 100 100 100 100 100 100 100 100 100 100	EA EA EA EA EA EA EA EA EA EA EA EA	VHCLHHC01 VHCLHHB01 VHCLHHG01 VHCLHGR01 VHCLHSA01 VHCLAB0108 VHCLAB0111 VHCLAB01SM VHCLAB01LG VHCLAW01 VHCLABK01
High Security Cam lock Architectural Lever	Hardex Chrome Hardex Bronze Hardex Gold Hardex Graphite Hardex Satin Antique Black Lock and 8mm Keep Lock and 11mm Keep Lock and SBD Slimline Keep Lock and SBD Keep White Black	100 100 100 100 100 100 100 100 100 100 100 100	EA EA EA EA EA EA EA EA EA EA EA EA	VHCLACHC01 VHCLACHB01 VHCLACHG01 VHCLACHGR01 VHCLASA01 VHCLAB0108 VHCLAB0111 VHCLAB01SM VHCLAB01LG VHCLAW01 VHCLABK01
High Security Camlock Keeps				
High Security Cam lock Keeps	Hardex Chrome	100	EA	VHKPSHC08
	Hardex Bronze	100	EA	VHKPSHB08
	Hardex Gold	100	EA	VHKPSHG08
	Hardex Graphite	100	EA	VHKPSGR08
	Hardex Satin	100	EA	VHKPSA08
	Antique Black	100	EA	VHKPSAB08
	White	100	EA	VHKPSWH08
High Security Cam lock Keeps	Hardex Chrome	100	EA	VHKPSHC08
	Hardex Bronze	100	EA	VHKPSHB08
	Hardex Gold	100	EA	VHKPSHG08
	Hardex Graphite	100	EA	VHKPSGR08
	Hardex Satin	100	EA	VHKPSA08
	Antique Black	100	EA	VHKPSAB08
	White	100	EA	VHKPSWH08

Tools & Fixings				
Product	Colour Options	Box Qty	UOM	Part Codes
D Standard Feet	N/A	200	PRS	4000238/1
D Horn Side Fixings	N/A	200	PRS	HORN-ASSY
F Horn Side Fixings	N/A	200	PRS	4000144
K Horn Side Fixings	N/A	200	PRS	4000066
Top Stops	Galvanised	200	PRS	4000201
Bottom Stops	Galvanised	200	PRS	4000200
Top Stops	White	200	PRS	4000201W
Bottom Stops	White	200	PRS	4000200W
D Type Adj. Tool	N/A	N/A	EA	BE-WIR-24498
F & K Fitting Tool	N/A	N/A	EA	FKINSTOOL
Flexi Adj. Tool	N/A	N/A	EA	FLEX-ADJ-TOOL
Cam Lock Spare Key	N/A	100	EA	BH-LOC-KEY
Travel Restrictor Spare Key	N/A	100	EA	BF-STP-KEY



VS Glossary of Terms

Sash Balance	Mechanism for vertical sliding windows to keep a sash in position
Bow Handle	A component fitted to a sash to enable movement by a user
Cam Lock/ Fitch Catch	A locking mechanism for a VS window
Travel Restrictor/ Sash Restrictor	Mechanism for preventing children falling out of a fully opened window, it restricts the opening of the sash
Guide Catch/ Tilt Latch	A mechanism that is fitted to the top of a sliding sash and permits the sash to tilt inwards for cleaning purposes on VS windows
QR Horn Kit/ Horn Pivot Assembly	Combination of pivot bar, pivot shoe and channel to house pivot bar in one kit
Lift Off	A method of removing sashes from vertical sliding windows
Lift Off Pivot Bars	A mechanism that permits sash lift off from a VS window
Outer Tube	Cylinder shape covering used to house the spiral rods and springs which make up the sash balance, usually made from PVCu
Pivot Bar	A product that enables sashes on VS window to be tilted inwards
Pivot Shoe	A mechanism to enable sashes on a VS windows to tilt whilst balances are fitted
Pre-tensioned	A balance with the correct tension for a specific sash weight supplied ready to install
Restrictor	A device that reduces movement of a window from the maximum possible
Sash Balance	A device to support the weight of a sash on a VS window
Sash Eye/ Finger Pull	A component fitted to a sash to enable movement by a user using their finger or fingers
Sash Keep/ Cam Lock Keep	A device used with a sash lock (cam lock) to prevent sash movement



VS Glossary of Terms (continued)

Sash Knob/ Tilt Knob	A device that is used to operate the guide catch/ tilt latch
Sash Lift/ Finger Pull	A component fitted to a sash to enable movement by a user
Sash Lock/ Cam Lock/ Window Catch	A mechanism that locks a sliding sash on a VS window
Sash Window	A VS window with either one or two sliding sashes
Sliding Window	A window with one or more sashes sliding either vertically or horizontally
Sliding Window Hardware	Hardware products for a sliding window
Spiral Balance	A balance with a helical rod generating vertical thrust in conjunction with a spring to use on VS window sashes
Springs	Wound steel from flat or round wired; hardened and tempered high carbon, greased for extra protection
Take Out Systems	A mechanism that enable sliding sash balance mechanisms to remain in place whilst a sash is removed
Tension Tool	A hand held tool used to apply turns to a spiral balance to create the required tension to support the sash mass
Travel Restrictor	A mechanism that limits the travel of a sliding sash to a predetermined amount
Vertical Slider	A window type with one or two sashes sliding vertically
VS	A vertical sliding window
Window	A purpose made frame glazed and for fitment to a building or structure
Window Balance	A device to counter weight the mass of a sliding sash on a VS window



Product Warranty

ERA Home Security has an unrivalled reputation for high quality design and technical innovation establishing it as one of the UK's leading VS window component manufacturers. All products have been designed to meet the requirements of current and proposed standards and are manufactured in accordance with BS EN ISO 9001 Quality Management Systems.

ERA offers guaranteed performance and reliability provided the product is fitted and maintained in accordance with the manufacturer's guidelines and shall not be subject to stresses and operating forces beyond recommended levels.

In the unlikely event of a product failing as a result of defective manufacture or design, ERA will repair, replace or credit any component returned and deemed as not meeting its high exacting standards.

The credit shall not exceed the original value of the part. This guarantee applies to all products supplied by ERA including sash balances, gearing and hardware.

Sash Balances

This product guarantee is valid as shown below from the date of purchase:

- TrueGlide F and K balances - 10 years
- D - 10 years

Balances must be stored adequately to protect against dust, contaminant, damage, corrosion or deterioration.

Hardware and Gearing

This product guarantee is valid for 10 years from the date of purchase. This guarantee does not apply to surface finishes or to faults caused by wilful or neglectful damage or by excessive wear and tear

Notes:

The guarantee as set out above is the full extent of ERA's liability in relation to our products.

ERA will not be liable for any other losses incurred by its customer whether direct, indirect or consequential which might arise from any failure in the performance of its products. ERA reserves the right to recover costs incurred from handling false claims. This guarantee does not exclude any statutory rights of the purchaser.

Parts required or replaced under this warranty shall be warranted under these terms and the period of such subsequent warranty shall be subject to that part in whole calendar months which remains out of the original warranty period at the date the defect was notified to ERA.

ERA reserves the right in the case of defects in materials or equipment not manufactured by ERA in place of its right set out above, that the buyer shall be entitled only to receive the same benefit from ERA as received by the company under any guarantee or warranty given to it by the supplier of such materials or equipment. The benefit of this warranty shall not be capable of assignment without the consent of ERA. All other terms as set out in ERA's general terms and conditions of sale.