

CALDWELL

SOLUTIONS THAT SET NEW STANDARDS

SPRING BALANCE FABRICATORS MANUAL

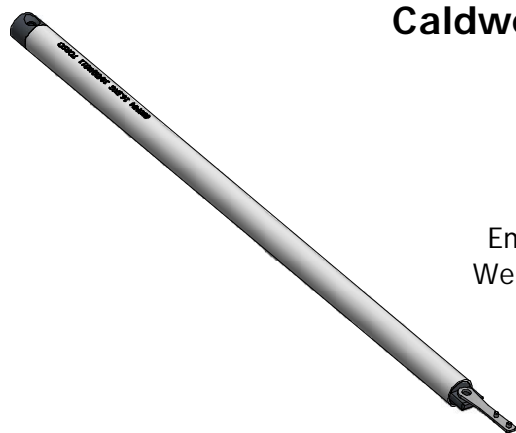
31st Edition

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KEY FEATURES

- CONSTANT FORCE.
- PRE-TENSIONED OR ADJUSTABLE TYPES AVAILABLE.
- PROVIDE ASSISTANCE ON SASH LIFT.
- FOR USE ON TILT IN AND CONVENTIONAL.
- COLOUR OPTIONS ON TUBES.
- CAN BE FITTED TO MOST TIMBER, ALUMINIUM, OR U-PVC VERTICAL SLIDERS.
- TELESCOPIC TYPE AVAILABLE.
- AVAILABLE UPTO 65KG



Caldwell Hardware (UK) Ltd

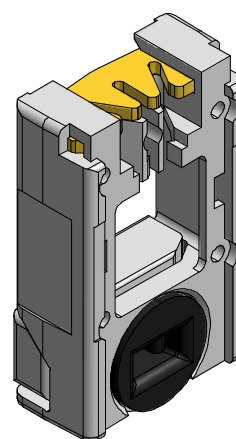
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Introduction To Spring Balances

The Caldwell range of balances for sash windows allows window fabricators to provide exactly what is required for mechanical assistance, longevity & economy.

Applications

All types of balances are suitable for Aluminium, PVC-U & Timber windows.

These can be safely used in schools, hospitals, offices, residential homes, sheltered housing, post office counters, hotels & private housing.

Identification

Ultralift & Torso balances are stamped with the part number, Date of manufacture and the weight they are designed to carry. Spiral balances do not have this information as they are adjustable and tensioned on site, as illustrated in Fig 1.

Specification

Caldwell operate a configure to order (CTO) system. Specifically designed to calculate sash weights and balance sizes from customer criteria. Caldwell simply require the window size, sash drop and glass thickness, in order to calculate the balances required. Caldwell also supply order forms to cover the majority of systems in use today.

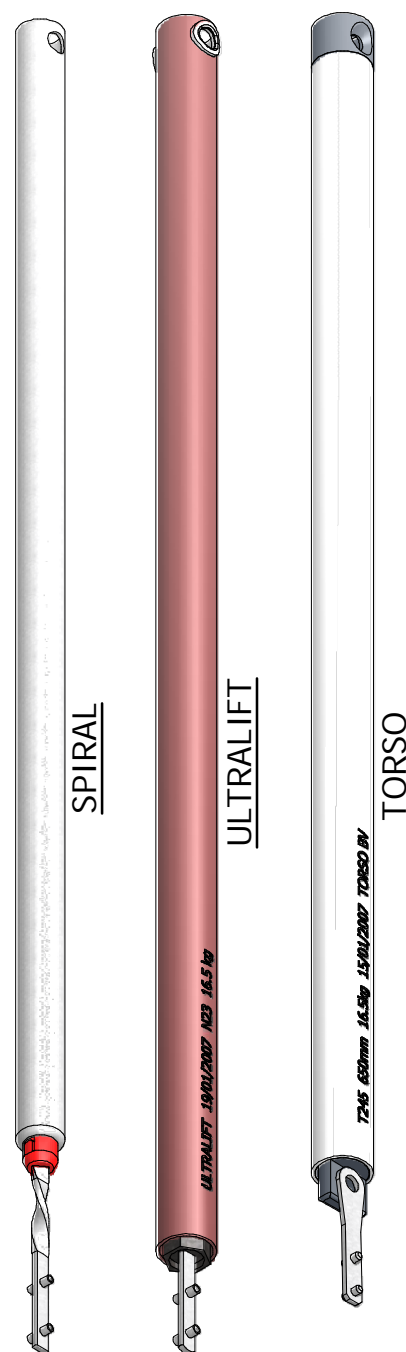


Fig 1.

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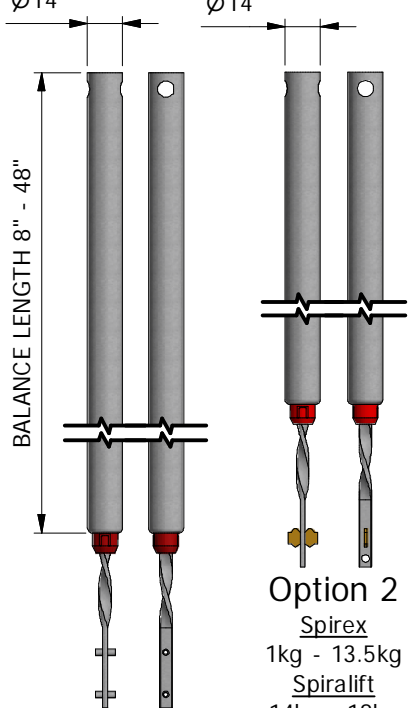
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Spring Balance Model Options

Spiral Balance.
Aluminium Tube Mill Finish,
Or PVC-U Tube Brown Or White.

**Option 1**

Alumatilt
1kg - 13.5kg
Alumatilt Heavyduty
14kg - 18kg
For tilt in sash.

A single sprung balance.

Single sprung balances will allow vertical sash windows to slide easily up & down & hold stationary as required.

Spiral balances are colour coded with White, Blue, Red & Black couplings, depending on weight/length combinations.

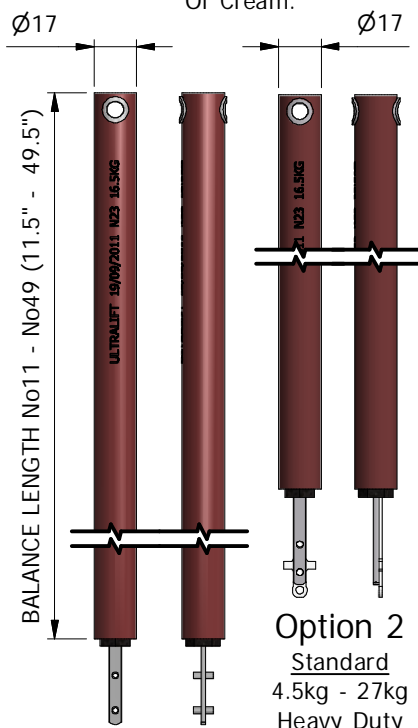
See Data sheet 00086 (page 13) for chart of turns to weight/length.

Balance Extension Calculations
Option 1 & 2 (2 x Balance length)

Balance conversion tube UK691 is available for 17mm & 19mm diameter balances in white, black, cream & brown. The tube is designed to alter the colour of existing balances to better match the window they are fitted to as well as improve the aesthetics by hiding any visible fixing screws. The conversion tube will add approx 2mm to the overall diameter of a balance.

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Ultralift Balance.
PVC-U Tube White, Brown, Grey
Or Cream.

**Option 1**

Standard
4.5kg - 27kg
Heavy Duty
27.5kg - 31kg
2 pins for tilt in sash.
Standard component.

Option 2

Standard
4.5kg - 27kg
Heavy Duty
27.5kg - 31kg
For non tilt sash.
Add cruciform
bracket UK201

A double sprung balance.

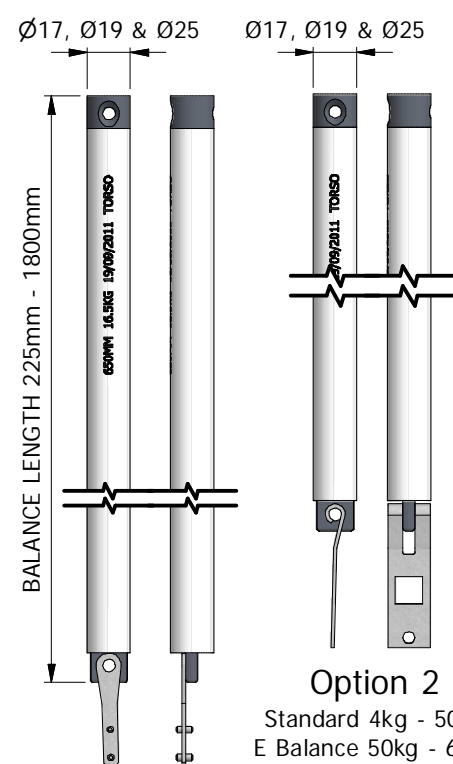
Double sprung balances provide greater mechanical aid, with inner & outer springs providing equal tension perfectly matching the weight of the sash.

Balance Extension Calculations

Option 1 & 2
(2 x Balance Length - 38mm)

These balance extension calculations do not include the rod.

Torso Balance.
PVC-U Tube Grey, White & Brown
(Over 50kg = Grey Or White Ø25 Tube Only)

**Option 1**

Standard 4kg - 50kg
E Balance 50kg - 65kg
2 Pins for tilt in sash.
UK105 Torso link
bracket.

Option 2

Standard 4kg - 50kg
E Balance 50kg - 65kg
For non tilt sash.
UK118 bracket.
Other brackets are
available to suit
timber or specific
system companies
profile.

A double sprung balance.

Torso balances combine smoothness and ease of sash movement with guaranteed longevity for all applications up to 65kg.

Ø17 Tubes - 4.0kg to 25.5kg
Ø19 Tubes - 26kg to 50.0kg
Ø25 Tubes - 50.5kg to 65.0kg
Telescopic Torso - Ø22 Tubes - 4.0kg to 50.0kg

Balance Extension Calculations

Option 1 & 2 (Ø17 & Ø19)
(2 x Balance Length - 100mm)
Option 1 & 2 (Ø25)
(2 x Balance Length - 150mm)

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Fixing Details - Spiral, Ultralift & Torso Balances

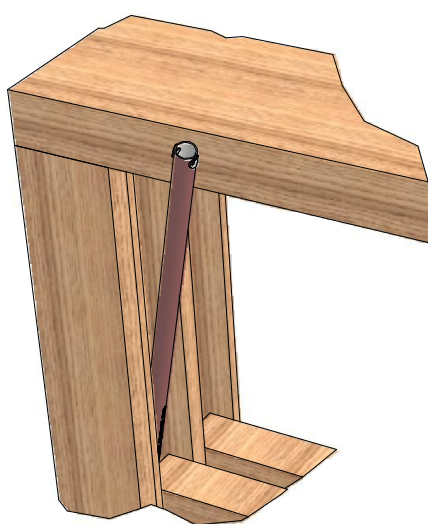


Fig 1

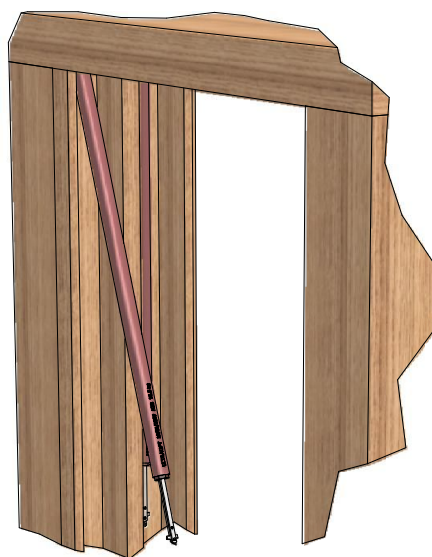
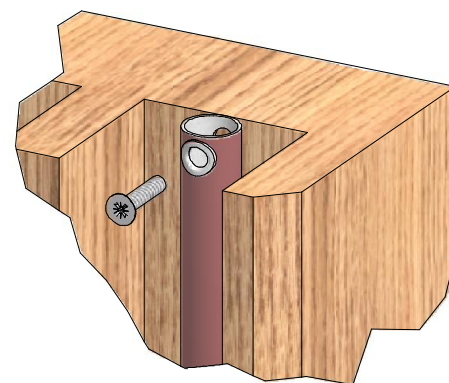


Fig 1A



Suitable fixing screw to be used. (see note 2)

1. If the window is already installed, fully lower the sash before attempting to insert the balance into the recess in the frame (see Fig 1).
If the window is not installed, load the balances into the frame before the sashes are installed (See Fig 1A).
2. Mount the balance into the outer frame using M5 m/c screws, for U-PVC, aluminium or to fabricators recommendation. No.10 wood screws for timber or to fabricators recommendation.
3. The spiral rod or balance tube should not be distorted in any way during this operation.
4. Ensure that the balances are mounted directly underneath the head. (Unless otherwise agreed.)
5. Ultralift & Torso balances are manufactured for specific window size & sash weight, ensure that they are not mixed of fitted into different windows.
6. Do not over tighten the top screw as this will distort the balance tube & reduce it's efficiency.

(N.B. Fit travel stops before you move the sash)

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Non-Tilt Sash Balance fitting & Adjustment Using The B-B Tensioning Tool

1. Mount the balances into the outer frame, do not over-tighten the screws as this will distort the balance.
2. Attach the tensioning tool to the hole in the bottom of the balance rod. A firm grip of the tensioning tool is required at all times when in use. Do not let the balance rod rotate as this will result in a loss of tension.

Note: To avoid damaging the balance, it is essential that it is not distorted whenever fitting, connecting or tensioning balances. No side loading should be applied as this will permanently affect the balance.

3. To engage the balance rod in the sash bracket, the balance should be extended down by means of the tensioning tool until the pins of the balance bracket can be fully engaged in the hook of the sash bracket. The tensioning tool can now be disengaged. If fitting Spirex or Spirallift see below for tensioning details.

4. Tensioning for SPIREX or SPIRALIFT balances.

To tension the balance it is necessary to apply the appropriate number of turns, in a clockwise direction, shown on the job sheet or tensioning chart, DATASHT-00086.

Always tension both balances identically.

During tensioning, position the end of the rod approx. 50mm down from the bottom of the aluminium tube, once tensioned insert the pins into the hook on the sash bracket.

5. Tensioning ULTRALIFT balances.

Ultralift balances are pre-tensioned when manufactured & therefore should not normally require tensioning on the window.

As a feature of their design the tension can be increased or decreased by a maximum which equals 1kg sash weight.

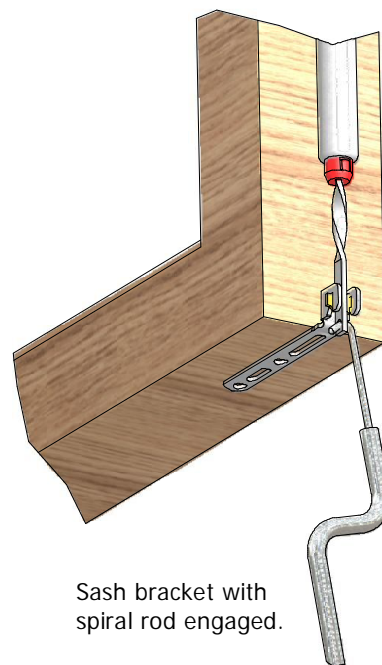
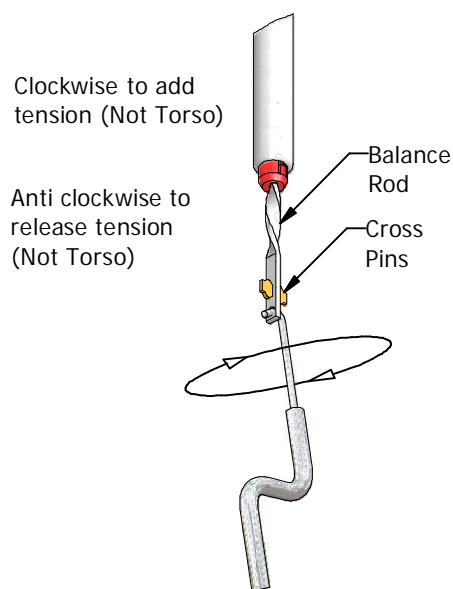
This adjustment is a maximum & any further adjustment may damage the balance.

If adjustment of the Ultralift balance is required, attach the tensioning tool to the hole in the bottom of the balance & remove the rod from the sash bracket. Allow the balance bracket to retract to within approx. 50mm of the end of the tube.

To release tension, rotate the balance one turn anti-clockwise, and no further.

To add tension, rotate the balance one turn clockwise, and no further. Reconnect the balance rod to the sash bracket & check the operation of the sash.

Always tension both balances equally.



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Tilting Sash Balance fitting & Adjustment Using The EZ Tensioning Tool

1. Mount the balances into the outer frame, do not over-tighten the screws as this will distort the balance.
2. Attach the tensioning tool to the bottom pin of the balance rod. Make sure that the end hooks of the tensioning tool are fully engaged on the lower pin of the balance rod. Contact between the tensioning tool & the balance rod lower pin must be maintained at all times. A firm grip of the tensioning tool is required at all times when in use. Do not let the balance rod rotate as this will result in loss of tension. Connect the top pin into the centre slot on the pivot shoe & allow the balance to retract fully before releasing the tensioning tool.

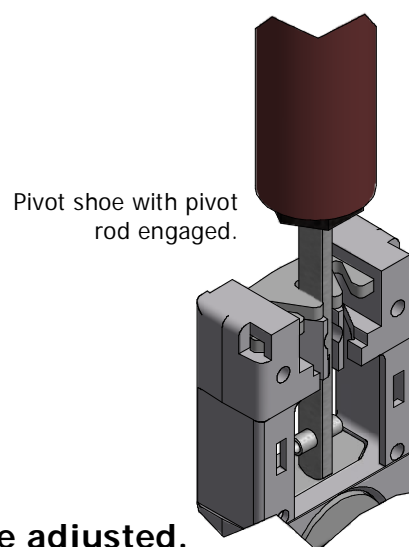
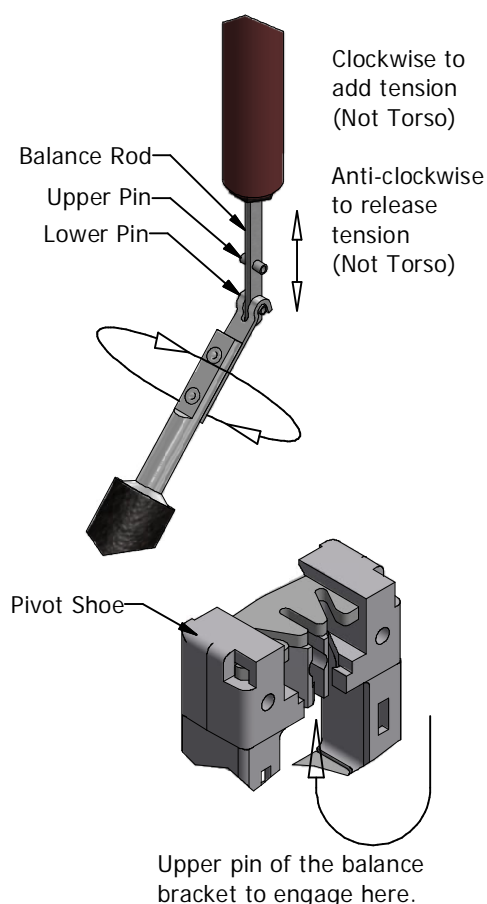
Note: to avoid damaging the balance, it is essential that it is not distorted whenever fitting, connecting or tensioning balances. No side loading should be applied as this will permanently affect the balance.

3. To engage the balance rod in the pivot shoe, the balance should be extended down by means of the tensioning tool until the upper pin of the bracket can be fully engaged in the central slot of the pivot shoe. The tensioning tool can now be disengaged. If fitting regular or heavy duty Alumitilt see below for tensioning details.
4. Tensioning for REGULAR or HEAVY DUTY ALUMATILT balances. To tension the balance it is necessary to apply the appropriate number of turns, in a clockwise direction, shown on the job sheet or tensioning chart, DATASHT-00086. Always tension both balances identically. During tensioning, position the end of the rod approx. 50mm down from the bottom of the aluminium tube, once tensioned insert the upper pin into the central slot in the pivot shoe.
5. Tensioning ULTRALIFT balances. Ultralift balances are pre-tensioned when manufactured & therefore should not normally require tensioning on the window. As a feature of their design the tensioning can be increased or decreased by a maximum which equals 1kg sash weight. This adjustment is a maximum & any further adjustment may damage the balance.

If adjustment of the Ultralift balance is required, attach the tensioning tool to the bottom pin & remove the rod from the pivot shoe. Allow the bracket to retract to within approx. 50mm of the end of the tube. To release tension, rotate one turn anti-clockwise, & no further. To add tension, rotate the balance one turn clockwise, & no further. Reconnect the balance rod to the pivot shoe & check the operation of the sash. Always tension both balances identically.

Torso balances are PRE-TENSIONED & can not be adjusted.

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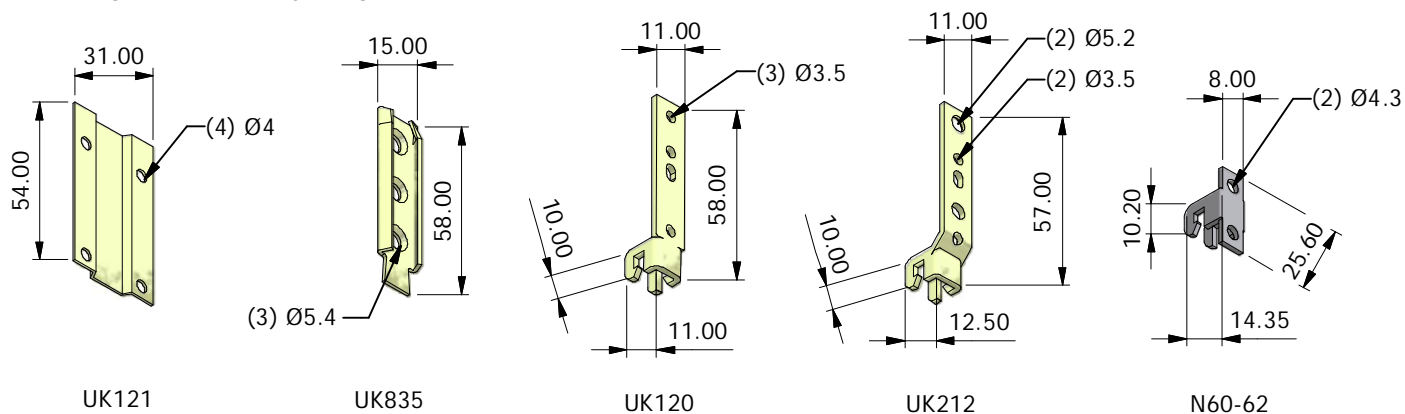
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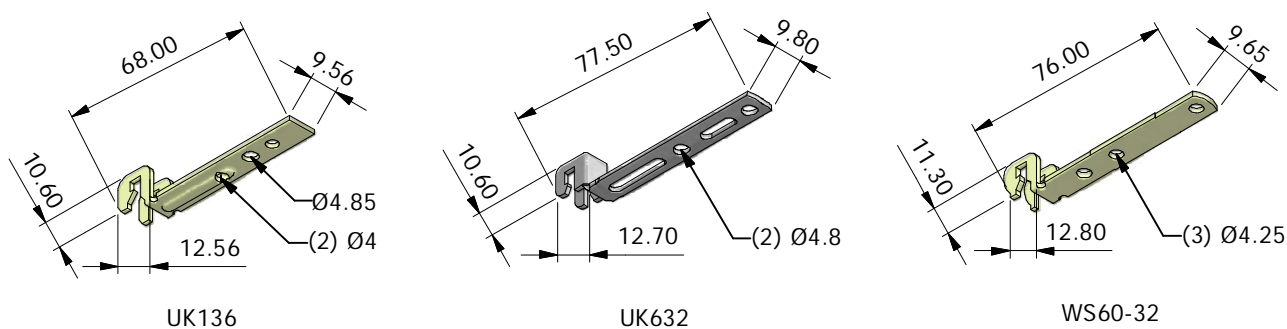
Balance Brackets

CONVENTIONAL WINDOW ACCESSORIES

SIDE FIX BRACKETS

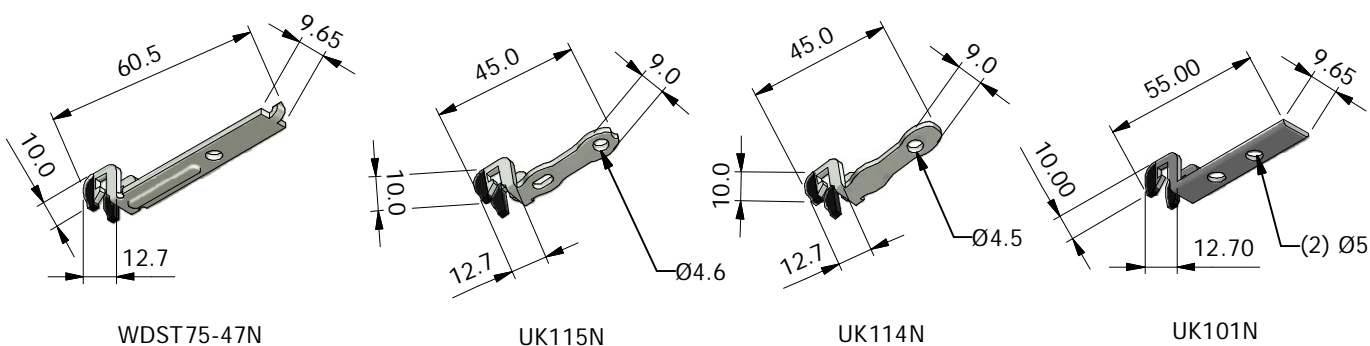


BOTTOM FIX BRACKETS



NYCLAD BRACKETS

(THESE HAVE A BLACK NYLON COATING ON THE TIP OF THE HOOK END
- TO RUB ON INSIDE FACE OF JAMB TO GUIDE THE SASH)



DIMENSIONS SHOWN ARE FOR GUIDANCE PURPOSES ONLY.
PLEASE CONTACT CALDWELL IF FULL DETAIL DRAWINGS ARE REQUIRED.

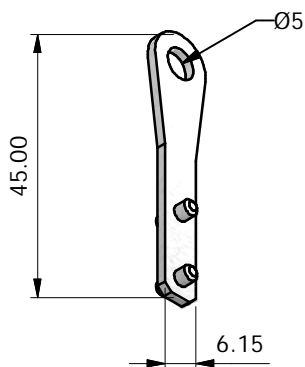
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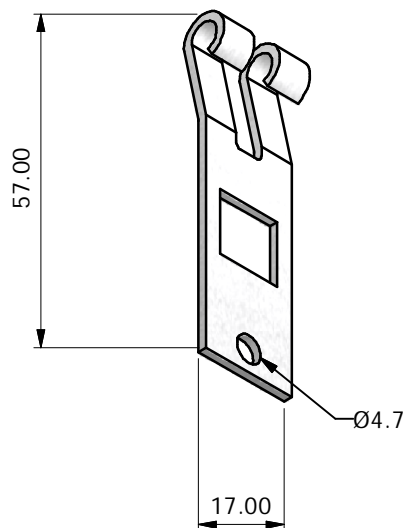
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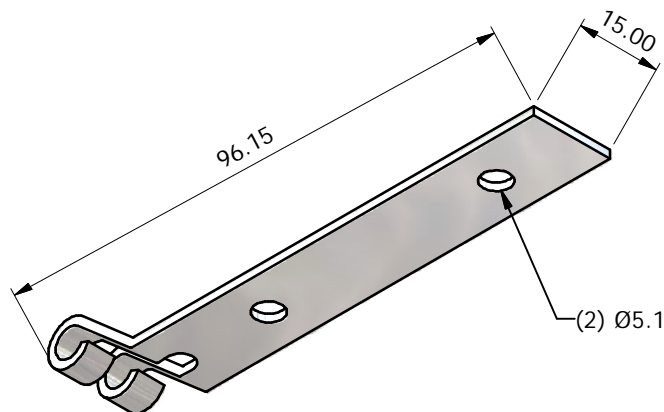
Torso Brackets



UK105 - TORSO BRACKET
FOR TILTING SASHES

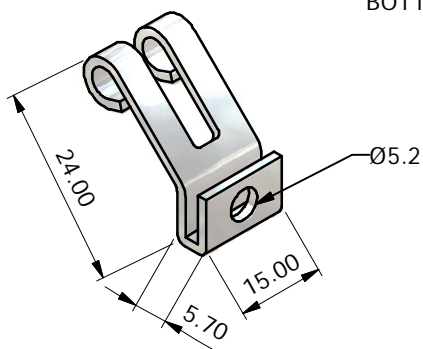


UK118 - TORSO BRACKET
SIDE FIXED

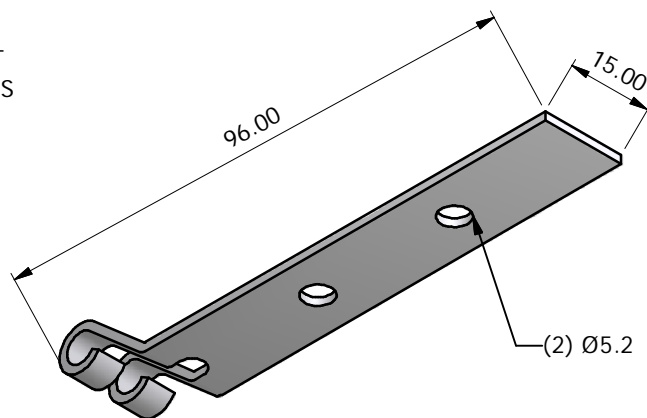


UK202 - STA BRACKET
45.0mm HOLE CENTRES
BOTTOM FIXED

DIMENSIONS SHOWN ARE APPROXIMATE.
PLEASE CONTACT CALDWELL
IF FULL DETAIL DRAWINGS ARE REQUIRED.



UK112 - TORSO BRACKET
HOOKS ONTO THE CORNER
OF THE SASH



UK203 - KAWNEER TORSO BRACKET
27.0mm HOLE CENTRES
BOTTOM FIXED

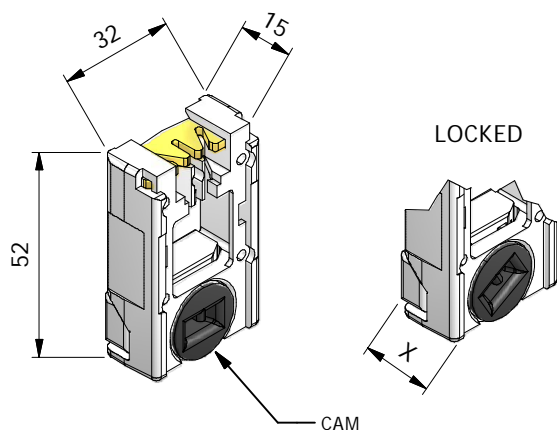
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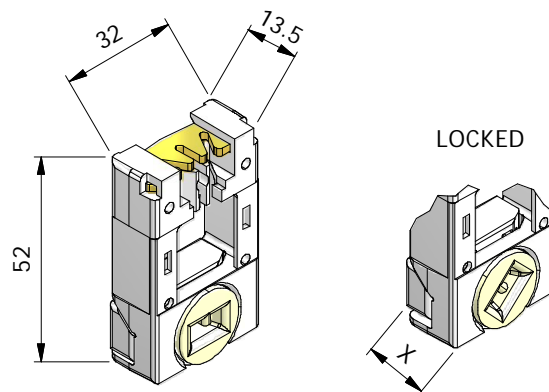
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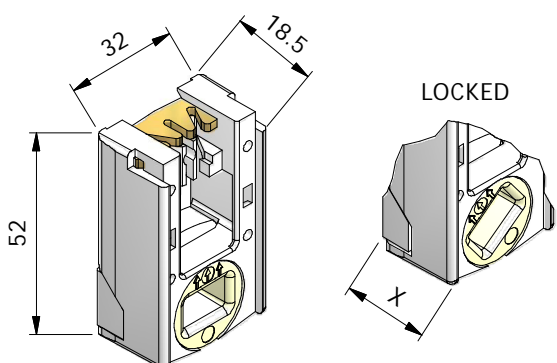
Accessories - Pivot Shoes



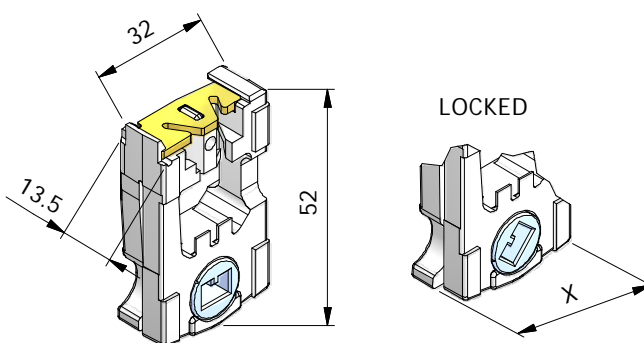
Part No.	Applications	Cam Colour	Un-Locked 'X'	Locked 'X'
16H70	Alumatilt Balances	Black	15.0mm	17.0mm
UK132	Ultralift & Torso Balances	Black	15.8mm	17.8mm



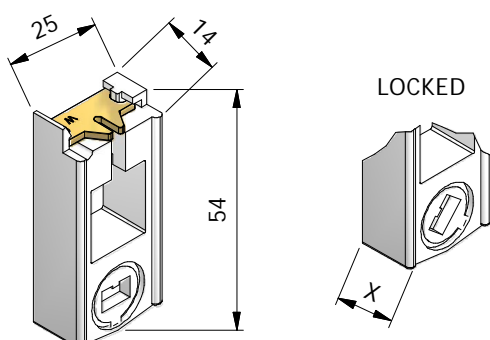
Part No.	Applications	Cam Colour	Un-Locked 'X'	Locked 'X'
16T85	Alumatilt Balances	Natural	13.5mm	15.5mm
UK133	Ultralift & Torso Balances	Natural	14.3mm	16.3mm



Part No.	Applications	Cam Colour	Un-Locked 'X'	Locked 'X'
16H96	Alumatilt Balances	Natural	18.5mm	20.5mm



Part No.	Applications	Cam Colour	Un-Locked 'X'	Locked 'X'
16T45	Torso Balances	Blue	32.0mm	34.0mm



Part No.	Applications	Cam Colour	Un-Locked 'X'	Locked 'X'
16T225	All Balances	White	14.0mm	15.5mm

NOTE:
UK133 & UK133 HAVE TUFNOL
INSERTS ADDED TO ENHANCE THE
CAPABILITY OF MAINTAINING A
STABLE POSITION OF THE SASH
WHEN IN THE TILT POSITION

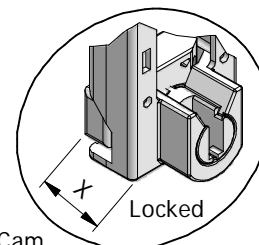
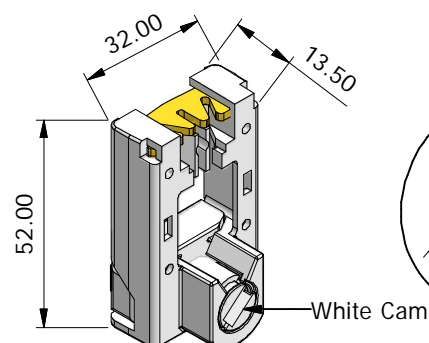
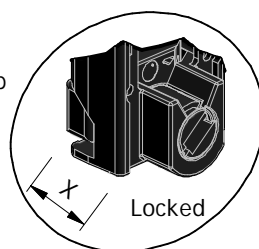
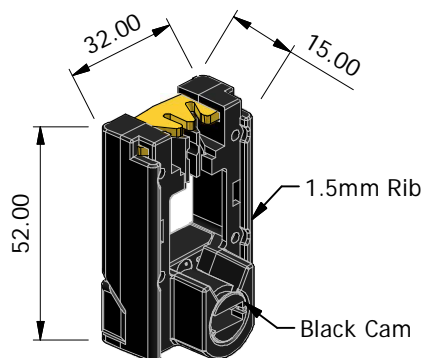
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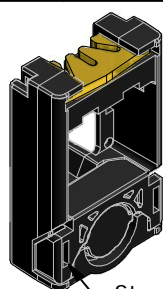
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Lift Out Pivot Shoes PE695 & PE700 Datasheet

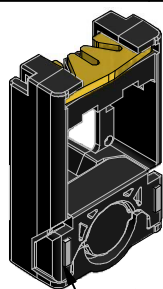


Part No.	Applications	Cam	Un-locked 'X'	Locked 'X'
PE695	Alumatilt Balances	Black	15.00mm	17.00mm
PE699	Ultralift & Torso Balances	Black	15.80mm	17.80mm

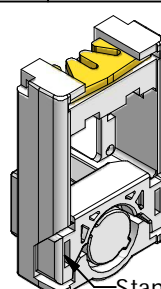
Part No.	Applications	Cam C	Un-locked 'X'	Locked 'X'
PE700	Alumatilt Balances	White	13.50mm	15.50mm
PE704	Ultralift & Torso Balances	White	14.30mm	16.30mm



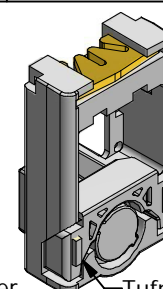
PE695



PE699



PE700



PE704

Standard Follower

Tufnol Brake Inserts

Standard Follower

Tufnol Brake Inserts

Window System	Pivot Shoe Type	Window Tolerance Required	Take Out Pivot Bar
		(Between Sash And Frame)	
Alcoa	PE695	3.5mm +0.00 -0.50mm	UK765
Comar 5Pi	PE700	3.5mm +0.00 -0.50mm	UK765
Deceunicek	PE695	3.5mm +0.00 -0.50mm	UK765
WHS System 10	PE695	3.5mm +0.00 -0.50mm	UK765
Plastmo	PE700	3.5mm +0.00 -0.50mm	UK765
Plusplan	PE700	3.5mm +0.00 -0.50mm	UK765
Rehau MK2	PE700	3.5mm +0.50 -0.00mm	UK765
Sapa *	PE695	3.5mm +0.50 -0.00mm	UK765
Spectus	PE700	3.5mm +0.50 -0.50mm	UK765
Timb-a-tilt	PE695	3.5mm +0.00 -0.50mm	UK765
Veka	PE695	3.5mm +0.50 -0.50mm	UK765

*** IMPORTANT * PLEASE NOTE THAT THESE ARE NOT SUITABLE FOR USE WITH THE REHAU SPRING LOADED HORN FOR PIVOT BAR DETAILS REFER TO PIVOT BAR/TILT LATCH FABRICATORS MANUAL (MAN-0011)**

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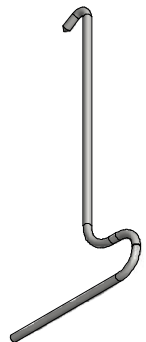
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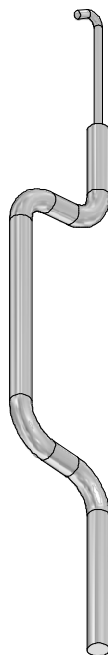
Accessories - Tensioning Tools

Product
WIRE-TEN



NON-TILT SASH
TENSIONING TOOL.

Product
BB-TEN



NON-TILT SASH
TENSIONING TOOL.

Product
UK111



TILTING SASH
BASIC TENSIONING
TOOL.

Product
ATW-TEN



TILTING SASH
ATW STANDARD
TENSIONING TOOL.

Product
EZ-TEN



TILTING SASH
DELUX TENSIONING
TOOL.

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DATASHT REF. 00111

ISSUE LEVEL 02

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Guide To Travel Stops

Travel stops are essential whenever spring balances are in use. Travel stops ensure that the spring balances do not become damaged or prematurely worn. Travel stops are required at both the top of the window & at the bottom.

Travel stops are available from most of the major window system companies and these are usually profile specific. Caldwell also offer a range of travel stops.

The principal failure mode on spring balances where travel stops are not fitted are over extension & under extension. Both of these failure modes result in the balances being damaged beyond repair and will almost certainly mean that the balances will have to be replaced.

Over extension occurs when the upper sash is pulled downwards beyond the working range of the balance, this can result in internal damage within the spring balance. Travel stops prevent this from happening by limiting the travel of the sash.

Under extension occurs if the lower sash is lifted up until it hits the bottom of the balances, again this can result in internal damage within the spring balance. Travel stops prevent this by limiting the travel of the sash.

DO NOT OPERATE THE WINDOW UNTIL THE UPPER AND LOWER TRAVEL STOPS ARE FITTED.

Travel stop lengths

Caldwell recommend the minimum size of travel stops to be fitted to an equally split vertical slider are:

Upper sash travel stop = 220mm
Lower sash travel stop = 130mm

The above sizes should always be used with Caldwell spring balances, however longer stops can be used if required.

For every 25mm that the upper sash is smaller than equally split, 50mm must be added to the upper sash travel stop length.

If horns are used, reduce the calculated length of the travel stop by the length of the horn.

For further information, please contact Caldwell Technical Department.

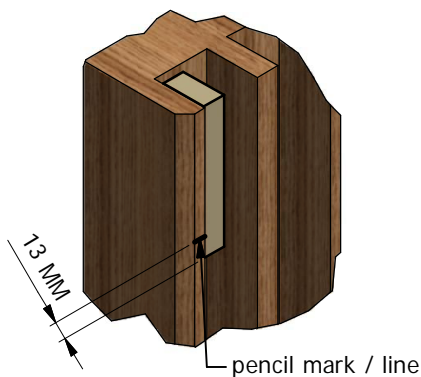


CONVENTIONAL TIMBER SYSTEM TRAVEL STOPS

On a conventional timber system, a UK190N-Upper Sash Travel Stop and a UK191N-lower Sash Travel Stop can be used (see datasheet 00333). NOTE: If the UK190N & UK191N are used, they need to be positioned correctly to limit travel adequately (method shown below). Alternatively, a block of timber cut to length can be used. All stops should be fitted as described below.

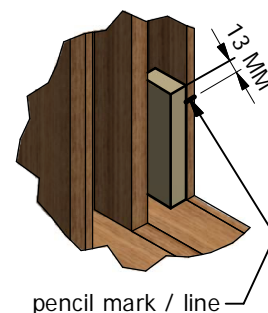
Carefully lift the lower sash until resistance is felt i.e. the balance is fully retracted. Pencil mark one jamb in line with the top of the sash.

Fix a limit stop with its bottom edge 13mm below the mark. Raise the sash to the limit block and fix a second block to the opposite jamb.



Carefully lower the upper sash until resistance is felt i.e. the balance is fully extended. Pencil mark one jamb in line with the bottom of the meeting rail.

Fix a limit stop with its bottom edge 13mm above the mark. Lower the sash to the limit block and fix a second block to the opposite jamb.



All of the information shown on this data sheet was correct at the time of issue. All information however is subject to change and therefore it is advisable to check with Caldwell Hardware to ensure that you have the latest issue level.

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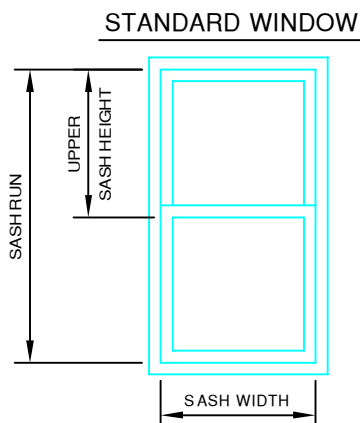
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Telephone 024 7643 7900

VS Window Dimension Terminology

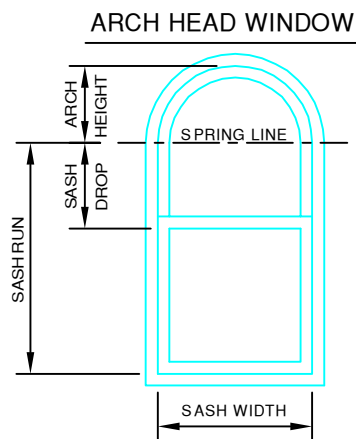
When using Caldwell Spring balances on vertical sliding windows some key dimensions are required to calculate the balances.

Timber Windows



Key Dimensions:

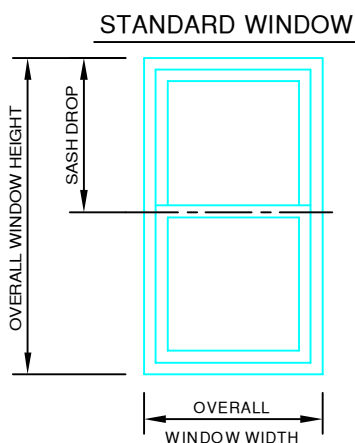
- Sash Width - The overall width of lower sash.
 Sash Run - This is dimensioned from the underside of the head to the top of the cill.
 Upper Sash Height - The height of the upper sash.



Key Dimensions:

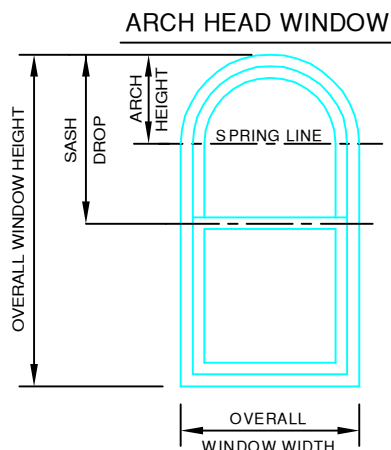
- Sash Width - The overall width of the lower sash.
 Sash Run - The dimension from the spring line to the bottom of the lower sash.
 Sash Drop - Dimension is from the spring line to the bottom of the upper sash.
 Arch Height - Dimension is from the spring line to the top of the upper sash.

UPVC & Aluminium Windows



Key Dimensions:

- O/A Window Width - The overall width of the outer frame.
 O/A Window Height - This is dimensioned from the top of the head to the bottom of the cill.
 Sash Drop - From the top of the head to the centre of the meeting rail.



Key Dimensions:

- O/A Window Width - The overall width of the outer frame.
 Sash Run - The dimension from the spring line to the bottom of the cill.
 Sash Drop - Dimension is from the top of the arch to the centre of the meeting rail.
 Arch Height - Dimension is from the spring line to the top of the head.

All of the information shown on this data sheet was correct at the time of issue. All information however is subject to change and therefore it is advisable to check with Caldwell Hardware to ensure that you have the latest issue level.



CALDWELL BALANCE WARRANTY

1. Subject to the conditions set out below **CALDWELL HARDWARE (UK) LIMITED** ("the Seller") warrants that Spirex, Spiralift, Regular ATW and Heavy Duty ATW balances (which together with Torso and Ultralift balances shall hereinafter be referred to as "the Goods") will correspond with their specification at the time of delivery and will be free from defects in material and workmanship for a period of 5 years from the date of their initial use or 5 years from delivery whichever is the first to expire and that Torso and Ultralift balances will correspond with their specification at the time of delivery and will be free from defects in material and workmanship for a period of 10 years from the date of their initial use or 10 years from delivery whichever is the first to expire.
2. The above Warranty is given by the Seller subject to the following conditions:-
 - 2.1 the Seller shall be under no liability in respect of any defect in the Goods arising from any drawing design or specification supplied by the Buyer;
 - 2.2 the Seller shall be under no liability in respect of any defect arising from fair wear and tear wilful damage negligence failure to follow the Seller's installation and/or adjustment instructions (whether oral or in writing) misuse or alteration or failure to maintain the Goods in accordance with the Seller's Maintenance Schedule;
 - 2.3 the Seller shall be under no liability in respect of any defect arising from failure to install and maintain the windows to which the Goods become attached after Sale in accordance with the window manufacturer's instructions (whether oral or in writing);
 - 2.4 the Seller shall be under no liability under the above Warranty (or any other warranty condition or guarantee) if the total price for the Goods has not been paid by the due date for payment.
 - 2.5 the seller shall be under no liability to replace any goods which have deteriorated due to being used in extreme climates such as coastal areas or marine environments. Under these circumstances an upgraded maintenance schedule is required as deemed appropriate by the buyer or end user.
3. Subject as expressly provided in these Conditions and except where the Goods are sold to a person dealing as a consumer (within the meaning of the Unfair Contract Terms Act P177) all warranties conditions or other terms implied by statute or common law are excluded to the fullest extent permitted by law.
4. Where the Goods are sold under a consumer transaction (as defined by the Consumer Transactions (Restrictions on Statements Order 1976) the statutory rights of the Buyer are not affected by these Conditions.
5. Any claim by the Buyer which is based on any defect in the quality or condition of the Goods or their failure to correspond with specification shall (whether or not delivery is refused by the Buyer) be notified to the Seller within 7 days from the date of delivery or (where the defect or failure was not apparent on reasonable inspection) within a reasonable time after discovery of the defect or failure. If delivery is not refused and the Buyer does not notify the Seller accordingly the Buyer shall not be entitled to reject the Goods and the Seller shall have no liability for such defect or failure and the Buyer shall be bound to pay the price as if the Goods had been delivered in accordance with the Contract.
6. Where any valid claim in respect of any of the Goods which is based on any defect in the Quality of condition of the Goods or their failure to meet specification is notified to the Seller in accordance with these Conditions the Seller shall be entitled to replace or repair the Goods (or the part in question) free of charge or at the Seller's sole discretion refund to the Buyer the price of the Goods (or a proportionate part of the price) but the Seller shall have no further liability to the Buyer.
7. Except in respect of death or personal injury caused by the Seller's negligence the Seller shall not be liable to the Buyer by reason of any representation or any implied warranty condition or other term or any duty at common law or under the express terms of the Contract for any consequential loss or damage (whether for loss of profit or otherwise) costs expensed or other claims for consequential compensation whatsoever (and whether caused by the negligence of the Seller its employees or agents or otherwise) which arise out of or in connection with the supply of the Goods or their use or result by the Buyer except as expressly provided in these Conditions.

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CALDWELL BALANCE WARRANTY MAINTENANCE SCHEDULE

Spirex, Spiralift, Alumatilt Heavy Duty and Regular Ultralift and Torso Balances

The sash balance units are lubricated during the production process, and are designed to be self lubricating during the operation of the window sashes. Therefore, the balances only require a minimum of maintenance but we would recommend the following:-

The windows must be cleaned at regular intervals. The cleaning process should include the frames and any drainage channels that are provided. (Please refer to window manufacturers instructions). The balances should be checked during this cleaning process and the following items observed:-

1. Check that the balance fixing screw is secure (do not over tighten).
2. Check that the bottom fixing bracket is secured to the sash and not damaged or distorted in any way.
3. Check that the cross pin in the spiral is correctly seated in the fixing bracket, (Spirex/Spiralift balances only).
4. Check that the top roll pin in the spiral is engaged in the pivot shoe, the bottom roll pin is for adjustment only, (Heavy duty and Alumatilt regular balances only).
5. Is the balance tube damaged in any way.
6. If dirt and debris has built up at the bottom end of the balance, it can be cleaned with a cloth and re-greased with the following:

Torso balances: use Castrol spray Spheerol AP2.

Spirex/Spiralift and Ultralift balances: multi purpose grease can be used and we suggest that the brackets are coated at the same time.

Alumatilt regular, heavy duty and Ultralift balances: multi-purpose grease can be used and care should be taken not to contaminate the pivot shoe or the slide channel.

7. Check that the travel stops are in place, and that the sash moves to contact the travel stop without any undue force. This will ensure the balances are not being either over extended or crushed. Finally check for smooth running of the sashes and adjust balances if required, (please note Torso balances are non adjustable).

Please note that the above maintenance schedule covers use in normal environments only. If hardware is to be used in extreme environments such as coastal areas or marine environments then an upgraded maintenance schedule will probably be required as deemed appropriate by the buyer or end user. Please be aware that failure to follow this maintenance schedule could void the Caldwell Hardware product warranties.

For further information, please see Caldwell Hardware Technical Information leaflets.

CBALWARR May 2011

AUTHORITIES



All Caldwell products are manufactured according to BS EN ISO 9001:2008 certified Quality Management Systems.

Where product standards do not exist Caldwell have set in house procedures.

Further information on specific testing is often available from our technical department.



Caldwell are also members of The Council for Aluminium in Building (CAB) which brings together three existing trade associations, the Architectural Aluminium Association, The Patent Glazing Contractors Association and the Aluminium Window Association, into a unified voice.





Spring Balance Accessories Order Form

Company Name	Order No.
Delivery Address	
	Date
	Required Delivery Date
	Contact
Tel No.	
Fax No.	

ACCESSORIES

Please enter **QUANTITY** required in boxes provided:

Side Fix Brackets	UK121		UK120		UK212		N60-62	
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Bottom Fix Brackets	UK136		UK145		WS60-32		UK632	
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Nyclad Bracket	WDST-75-47		UK115N		UK114		UK101	
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Pivot Shoes	16H70		UK132		16T85		UK133		16H96		16T45
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Tensioning Tools	BB-TEN		UK111		ATW-TEN		EZ-TEN		WIRE-TEN	
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Balance conversion tube is sold in 25mm increments in lengths ranging from 200mm – 2000mm

Conversion Tube UK691	Brown	qty	Black	qty	White	qty	Cream	qty
		mm		mm		mm		mm

All Torso brackets are supplied when the balances are supplied. These cannot be ordered separately.

THIS ORDER IS ACCEPTED ONLY UNDER OUR CURRENT 'TERMS & CONDITIONS OF SALE' COPIES AVAILABLE UPON REQUEST.

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SOLUTIONS THAT SET NEW STANDARDS

TROUBLESHOOTING SPIRAL BALANCES

PROBLEM	CAUSE	SOLUTION
Rods pulling out of bottom of balance on bottom sash.	Balance too short	Replace with correct balance.
Rods pulling out of bottom of balance on top sash.	<ol style="list-style-type: none"> 1. Balance too short. 2. Cill stops too short or not fixed. 	Replace with correct balance. Ensure cill stops fixed and of correct dimensions.
Bracket bent downwards and evidence of damage to bottom of balance tube and in the extreme a bent tube.	<ol style="list-style-type: none"> 1. Balance too long on top and bottom sashes. 2. In the case of the bottom sash no head stop. 	Replace with correct balance. Check if head stop is fitted and of correct dimensions.
Noisy operation of the balances.	Bent rod.	Replace balance.
Sash not holding up.	Insufficient tension.	Apply more turns equally to each balance.
Sash jumping up.	Too much tension.	Reduce number of turns equally to each balance.
Sash will not hold even after application of more turns.	<ol style="list-style-type: none"> 1. Balance probably broken. 2. Balance not strong enough for sash weight. 	Replace balance. Check sash weight against limitations of balance.
Balance totally jams on application of too many turns. Rod will not move at all.	Balance has been over-tensioned and spring has collapsed "gripping the rod"	Balance broken. Check weight of sash and ensure correct balance has been used.
Sash drops at top position but jumps from cills.	Too strong a balance for this application.	Use a balance of lower capacity.
Distortion of brackets.	Protruding fixing screws.	Change screws and brackets as required.
Balance takes tension then suddenly loses tension. Rotation often accompanied by clicking noise.	Reverse turns have been applied somewhere down the line.	Replace balance but if this fault becomes common supplier should be contacted since a basic error is occurring in fixing.
Pivot bars bending.	<ol style="list-style-type: none"> 1. Window is "bowed" as a result of installation. 2. Jamb section too small. 3. Pivot bars inserted too far. 	Adjust window fixing. Consult extruder. Adjust pivot bars.

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SOLUTIONS THAT SET NEW STANDARDS

TROUBLESHOOTING ULTRALIFT BALANCES

PROBLEM	CAUSE	SOLUTION
Rods pulling out of bottom of balance on bottom sash.	Balance too short	Replace with correct balance.
Rods pulling out of bottom of balance on top sash.	<ol style="list-style-type: none"> 1. Balance too short. 2. Cill stops too short or not fixed. 	Replace with correct balance. Ensure cill stops fixed and of correct dimensions.
Bracket bent downwards and evidence of damage to bottom of balance tube and in the extreme a bent tube.	<ol style="list-style-type: none"> 1. Balance too long on top and bottom sashes. 2. In the case of the bottom sash no head stop. 	Replace with correct balance. Check if head stop is fitted and of correct dimensions.
Noisy operation of the balances.	Bent rod.	Replace balance.
Sash not holding up.	Insufficient tension.	Apply more turns equally to each balance. (Not above 1 turn)
Sash jumping up.	Too much tension.	Reduce number of turns equally to each balance. (Not above 1 turn)
Sash will not hold even after application of more turns.	<ol style="list-style-type: none"> 1. Balance probably broken. 2. Balance not strong enough for sash weight. 	Replace balance. Check sash weight against limitations of balance.
Balance totally jams on application of too many turns. Rod will not move at all.	Balance has been over-tensioned and spring has collapsed " gripping the rod "	Balance broken. Check weight of sash and ensure correct balance has been used.
Sash drops at top position but jumps from cills.	Too strong a balance for this application.	Use a balance of lower capacity.
Distortion of brackets.	Protruding fixing screws.	Change screws and brackets as required.
Pivot bars bending.	<ol style="list-style-type: none"> 1. Window is "bowed" as a result of installation. 2. Jamb section too small. 3. Pivot bars inserted too far. 	Adjust window fixing. Consult extruder. Adjust pivot bars.

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SOLUTIONS THAT SET NEW STANDARDS

TROUBLESHOOTING TORSO BALANCES

PROBLEM	CAUSE	SOLUTION
Rods pulling out of bottom of balance on bottom sash.	Balance too short	Replace with correct balance.
Rods pulling out of bottom of balance on top sash.	<ol style="list-style-type: none"> 1. Balance too short. 2. Cill stops too short or not fixed. 	Replace with correct balance. Ensure cill stops fixed and of correct dimensions.
Bracket bent downwards and evidence of damage to bottom of balance tube and in the extreme a bent tube.	<ol style="list-style-type: none"> 1. Balance too long on top and bottom sashes. 2. In the case of the bottom sash no head stop. 	Replace with correct balance. Check if head stop is fitted and of correct dimensions.
Noisy operation of the balances.	Bent rod.	Replace balance.
Sash not holding up.	Balance not strong enough for sash weight.	Replace balance.
Sash jumping up.	Balance too strong for sash weight.	Replace balance.
Sash drops at top position but jumps from cills.	Too strong a balance for this application.	Use a balance of lower capacity.
Distortion of brackets.	Protruding fixing screws.	Change screws and brackets as required.
Pivot bars bending.	<ol style="list-style-type: none"> 1. Window is "bowed" as a result of installation. 2. Jamb section too small. 3. Pivot bars inserted too far. 	Adjust window fixing. Consult extruder. Adjust pivot bars.