BUILDING PROFILES
More than just Suppliers of Hardware & Accessories for Windows & Doors

SPRING BALANCE FABRICATORS MANUAL

19th Edition

INDEX

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.

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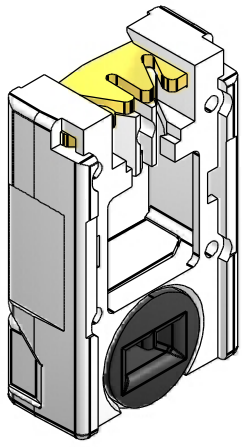

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Introduction To Spring Balances

The 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

A configure to order (CTO) system.
Specifically designed to calculate sash weights and balance sizes from customer criteria. We simply require the window size, sash drop and glass thickness, in order to calculate the balances required.

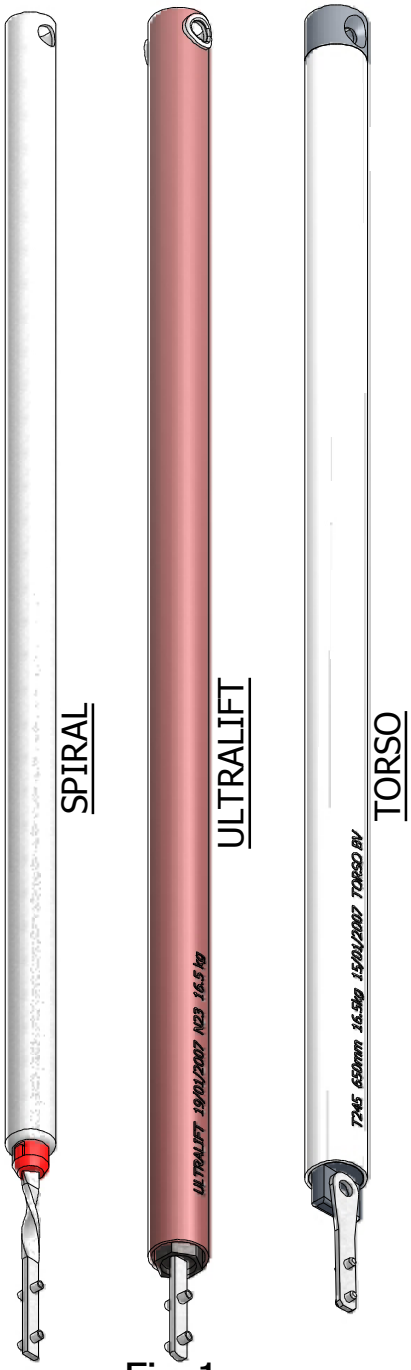

Fig 1.

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 Building Profiles to ensure that you have the latest issue level.

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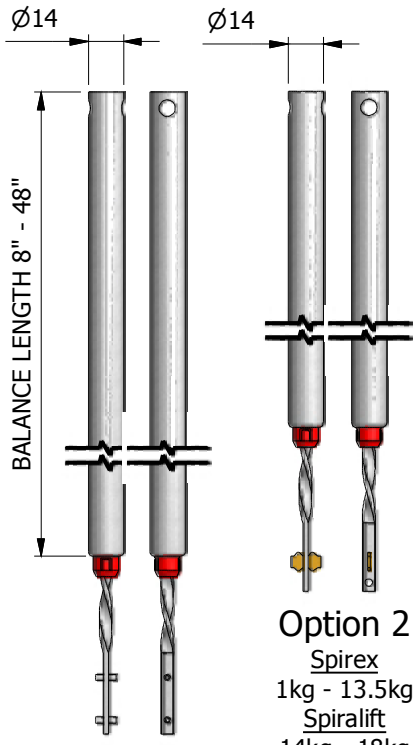
Spring Balance Model Options

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.

Option 2

Spirex
1kg - 13.5kg
Spiralift
14kg - 18kg
For non tilting.

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

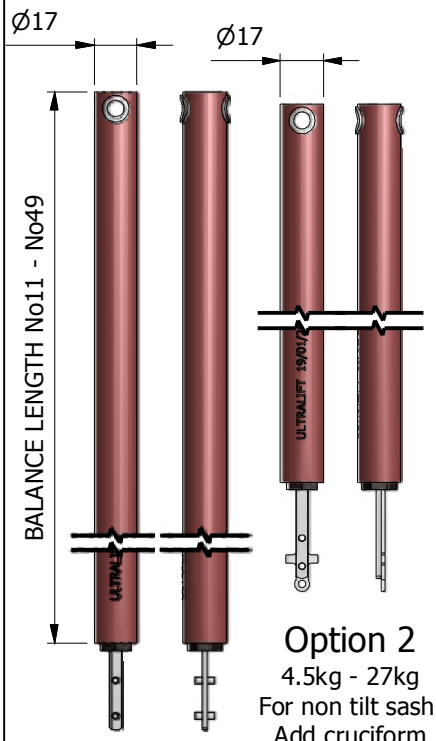
Spiral balances are colour coded with White, Blue, Red & Black couplings, depending on weight/length combinations.

See Data sheet 00086 for chart of turns to weight/length.

Also see data sheet 10011 for balance extension length calculations.

Ultralift Balance.

PVC-U Tube Brown, Grey
Or White.



Option 1

4.5kg - 27kg
2 pins for tilt in sash.
Standard component.

Option 2

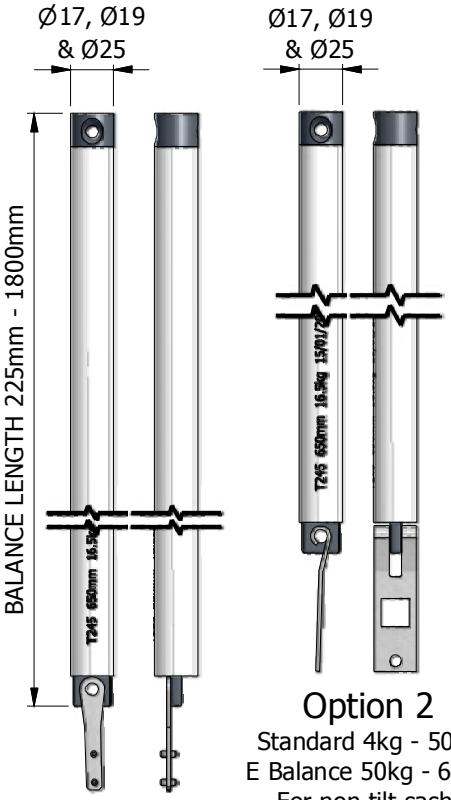
4.5kg - 27kg
For non tilt sash.
Add cruciform bracket UK201

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.

See data sheet 10012 for balance extension length calculations.

Torso Balance.

PVC-U Tube Grey, White & Brown
(Over 50kg = Ø25 Grey 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

For further information please consult our technical department.

See data sheet 10013 for balance extension length calculations

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Fixing Details - Spiral, Ultralift & Torso Balances

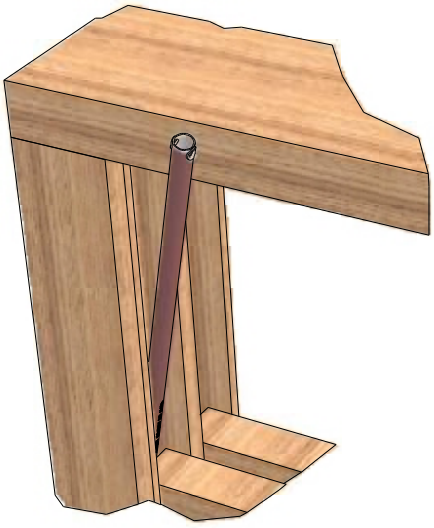


Fig 1

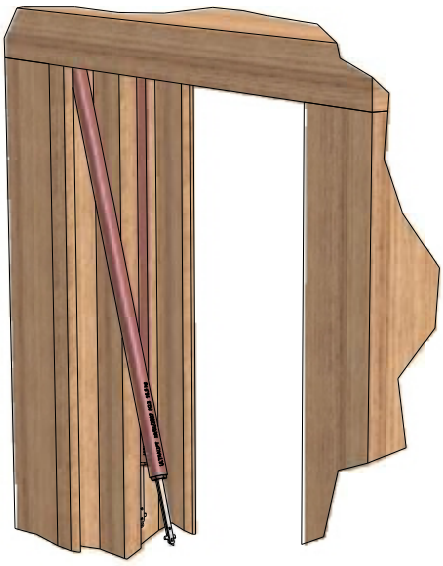
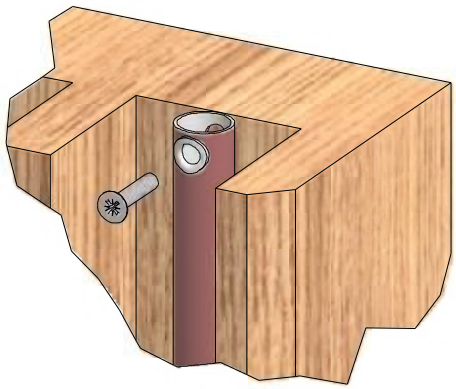


Fig 1A



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.

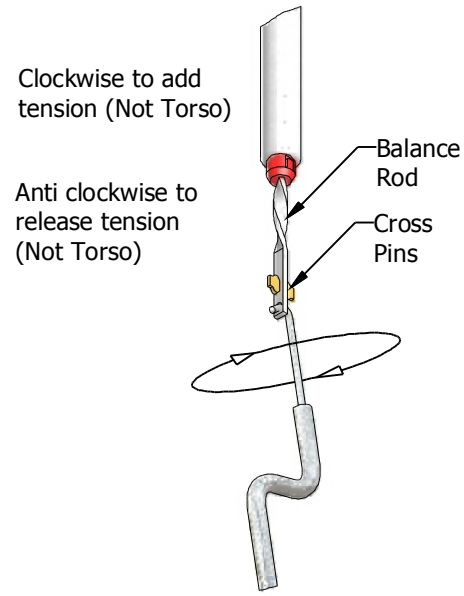
   Note: To avoid damaging the balance, it is essential that it is not distorted whenever fitting, connecting or tensioning balances. No side loading should be applied as this will permanently affect the balance.

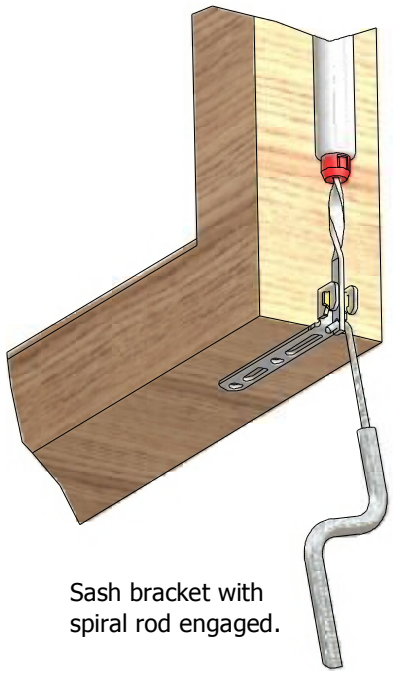
3. To engage the balance rod in the sash bracket, the balance should be extended down by means of the tensioning tool until the pins of the balance bracket can be fully engaged in the hook of the sash bracket. The tensioning tool can now be disengaged. If fitting Spirex or Spiralift see below for tensioning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

4. Tensioning for SPIREX or SPIRALIFT balances.
   To tension the balance it is necessary to appy 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 <u>maximum</u> & 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.





Sash bracket with spiral rod engaged.

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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.

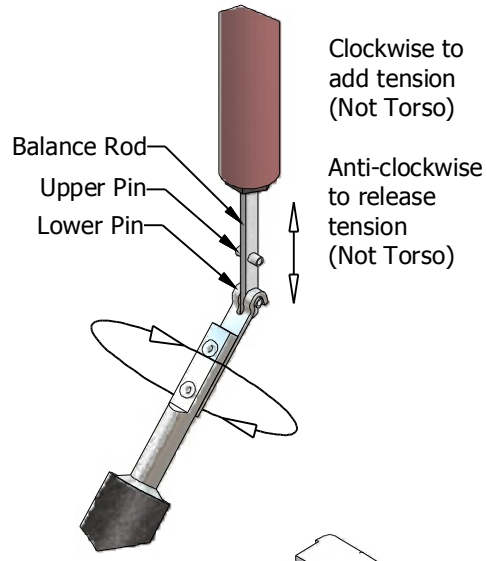
   Note: to avoid damaging the balance, it is essential that it is not distorted whenever fitting, connecting or tensioning balances. No side loading should be applied as this will permanently affect the balance.

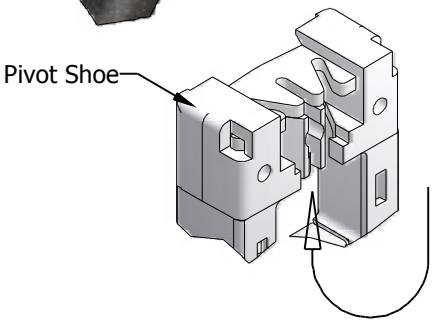
3. To engage the balance rod in the pivot shoe, the balance should be extended down by means of the tensioning tool until the upper pin of the bracket can be fully engaged in the central slot of the pivot shoe.
   The tensioning tool can now be disengaged.
   If fitting regular or heavy duty Alumitilt see below for tensioning details.

4. Tensioning for REGULAR or HEAVY DUTY ALUMITILT 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.

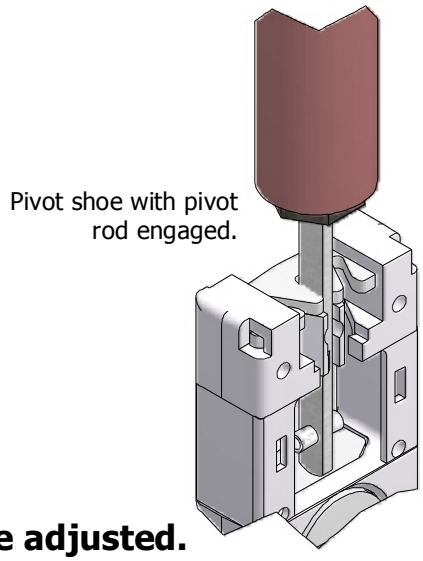
5. Tensioning ULTRALIFT balances.
   Ultralift balances are pre-tensioned when manufactured & therefore should not normally require tensioning on the window.
   As a feature of their design the tension can be increased or decreased by a maximum which equals 1kg sash weight.
   This adjustment is a maximum & any further adjustment may damage the balance.

   If adjustment of the Ultralift balance is required, attach the tensioning tool to the 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.





Upper pin of the balance bracket to engage here.



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

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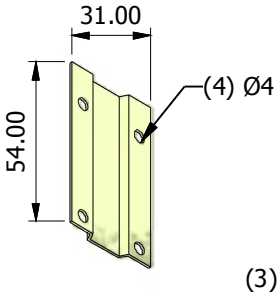
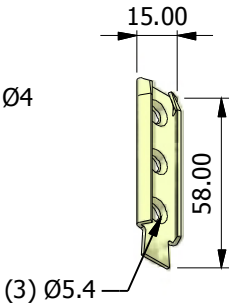
Balance Brackets

CONVENTIONAL WINDOW ACCESSORIES

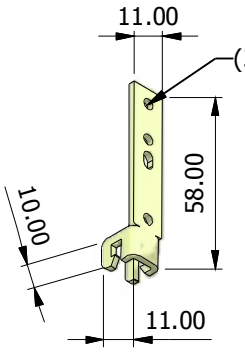
SIDE FIX BRACKETS



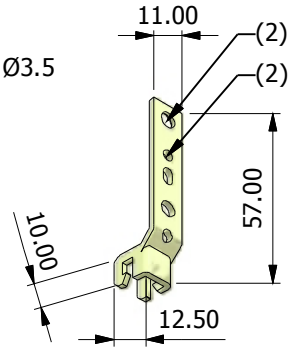
UK121



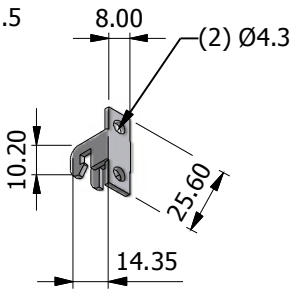
UK835



UK120

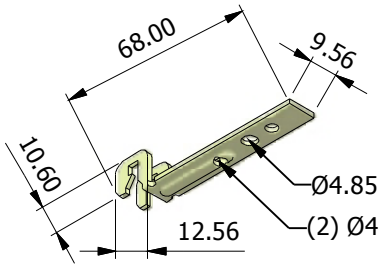


UK212

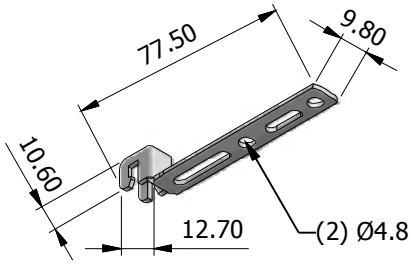


N60-62

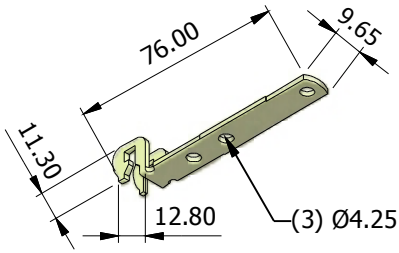
BOTTOM FIX BRACKETS



UK136



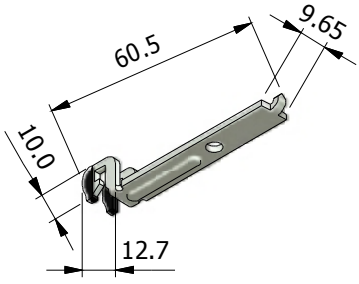
UK632



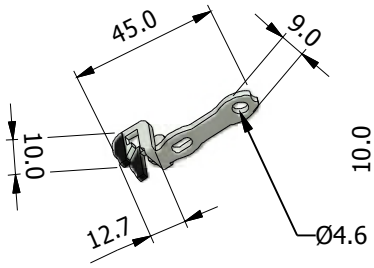
WS60-32

NYCLAD BRACKETS

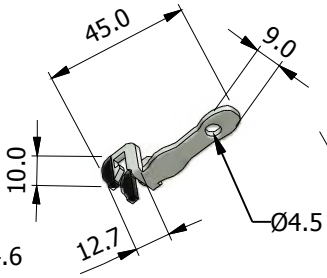
(THESE HAVE A BLACK NYLON COATING ON THE TIP OF THE HOOK END - TO RUB ON INSIDE FACE OF JAMB TO GUIDE THE SASH)



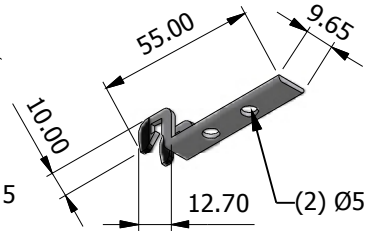
WDST75-47N



UK115N



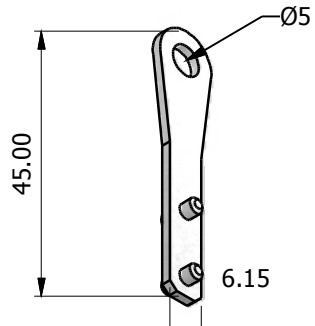
UK114N



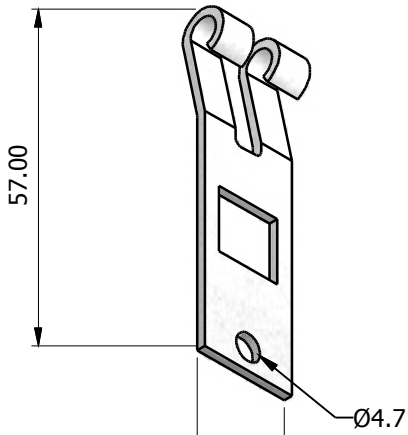
UK101N

DIMENSIONS SHOWN ARE FOR GUIDANCE PURPOSES ONLY.

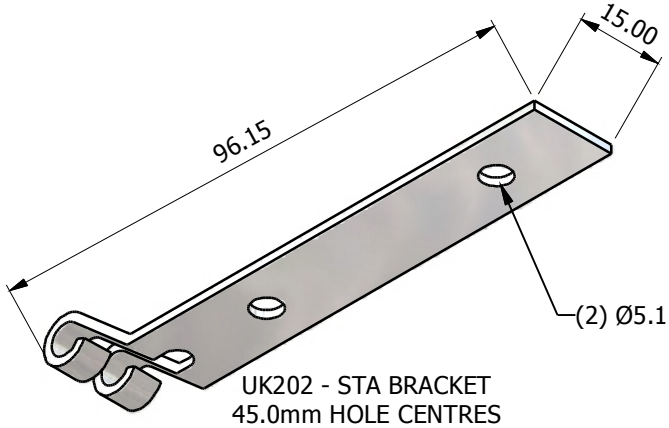
Torso Brackets



UK105 - TORSO BRACKET
FOR TILTING SASHES

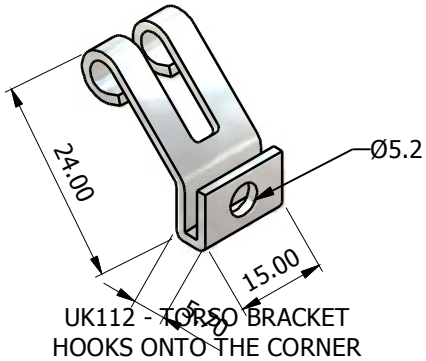


UK118 - TORSO BRACKET
SIDE FIXED

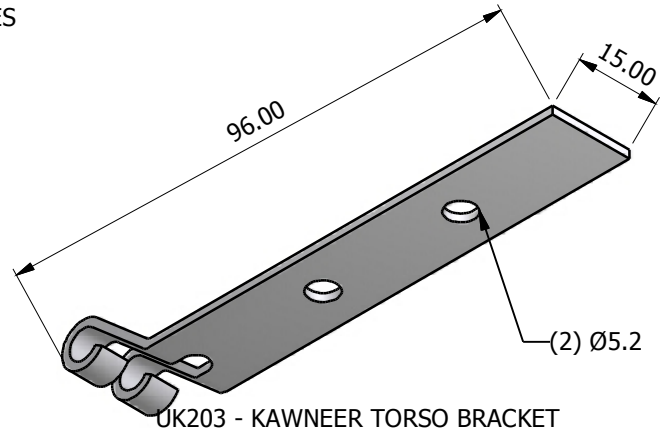


UK202 - STA BRACKET
45.0mm HOLE CENTRES
BOTTOM FIXED

DIMENSIONS SHOWN ARE APPROXIMATE.



UK112 - TORSO BRACKET
HOOKS ONTO THE CORNER
OF THE SASH



UK203 - KAWNEER TORSO BRACKET
27.0mm HOLE CENTRES
BOTTOM FIXED

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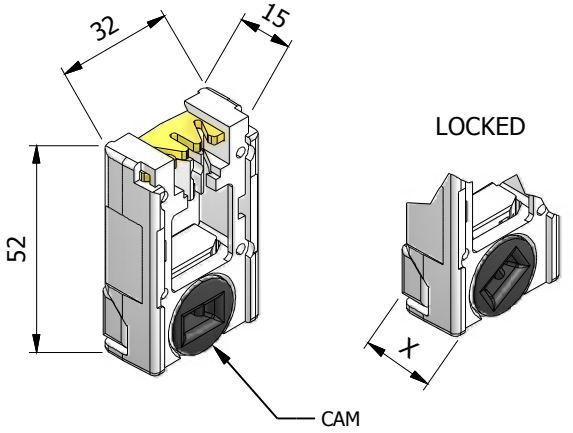
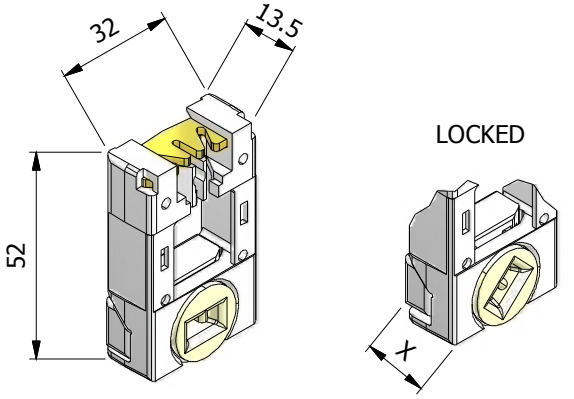
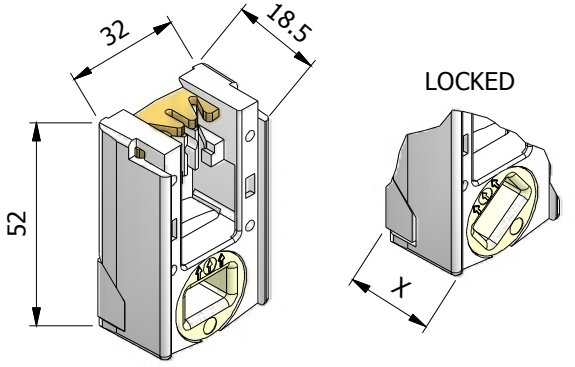
Accessories - Pivot Shoes



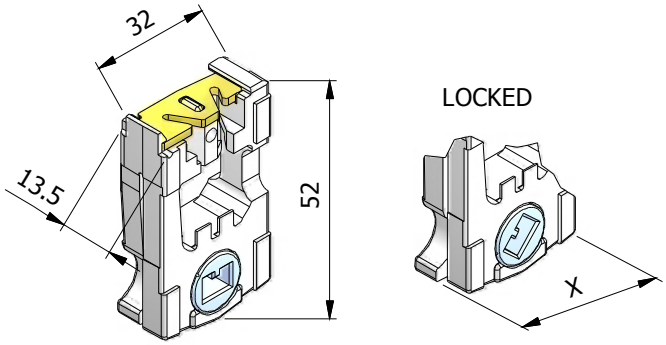
Part No.	Applications	Cam Colour	Un-Locked 'X'	Locked 'X'
16H70	Alumatilt Balances	Black	15.0mm	17.0mm
UK132	Ultralift & Torso Balances	Black	15.8mm	17.8mm



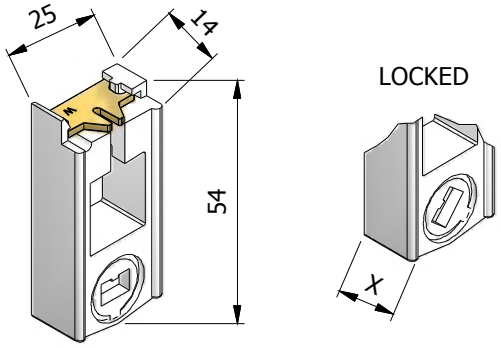
Part No.	Applications	Cam Colour	Un-Locked 'X'	Locked 'X'
16T85	Alumatilt Balances	Natural	13.5mm	15.5mm
UK133	Ultralift & Torso Balances	Natural	14.3mm	16.3mm



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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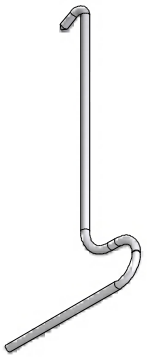
024 7643 7900

Accessories - Tensioning Tools

Product
WIRE-TEN



NON-TILT SASH
TENSIONING TOOL.

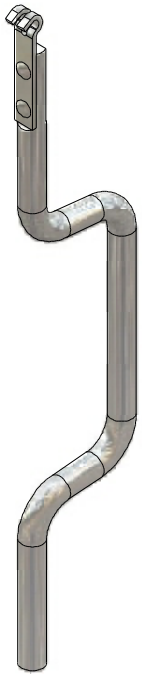
Product
BB-TEN

NON-TILT SASH
TENSIONING TOOL.

Product
UK111

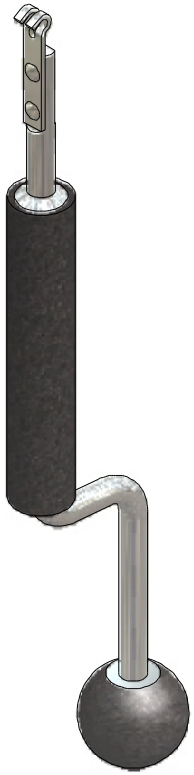
TILTING SASH
BASIC TENSIONING
TOOL.

Product
ATW-TEN



TILTING SASH
ATW STANDARD
TENSIONING TOOL.

Product
EZ-TEN



TILTING SASH
DELUX TENSIONING
TOOL.

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 Building Profiles to ensure that you have the latest issue level.

DATASHT REF. 00111

ISSUE LEVEL 02

Telephone 01789 414 044

Guide To Travel Stops

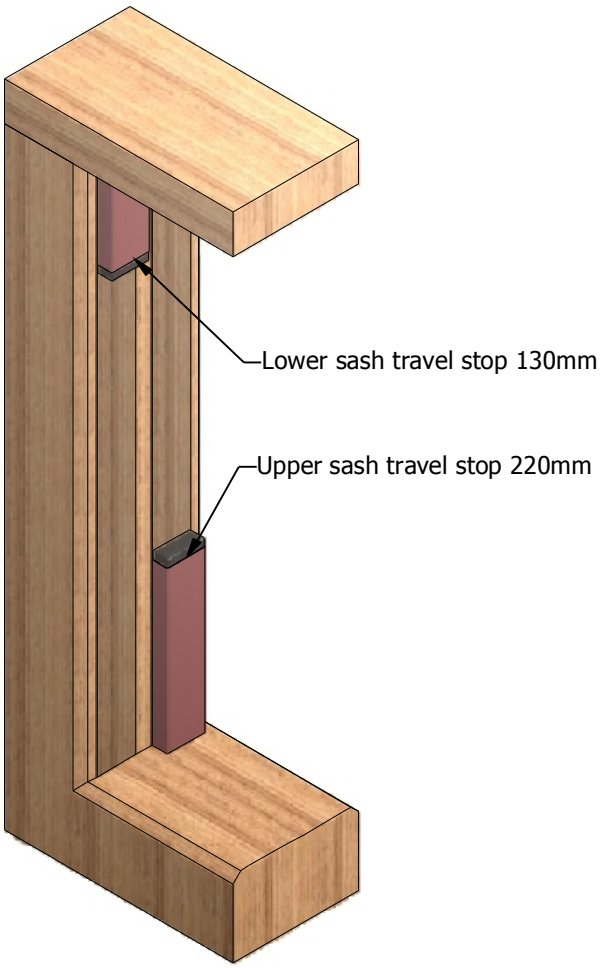
Travel stops are essential when ever spring balances are in use. Travel stops ensure that the spring balances do not become damaged or prematurely worn. Travel stops are required at both the top of the window & at the bottom.

Travel stops are available from most of the major window system companies & these are usually profile speifiic. Building Profiles 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 & 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 rangeof 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, 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

We 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 our 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 ot the travel stop by the length of the horn.

For further information, please contact Building Profiles.

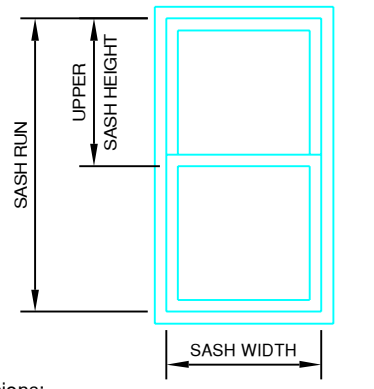
Telephone 01789 414 044

VS Window Dimension Terminology

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

Timber Windows

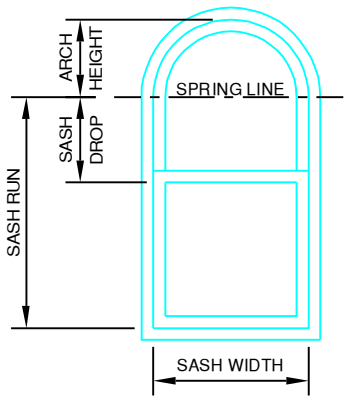
STANDARD WINDOW



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.

ARCH HEAD WINDOW

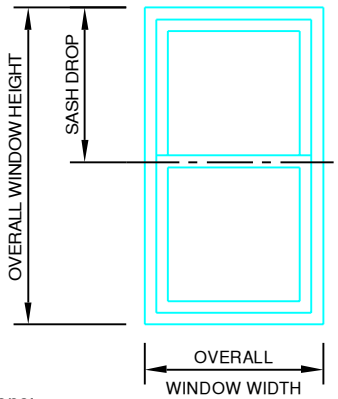


Key Dimensions:

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

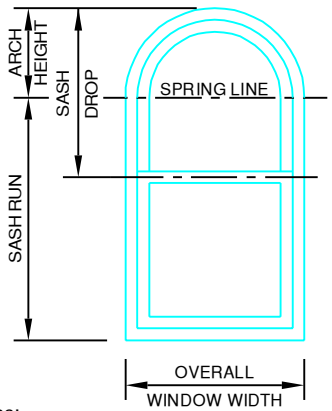
STANDARD WINDOW



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.

ARCH HEAD WINDOW



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.

Telephone 01789 414 044

Tensioning Chart for Spiral Balances

REGULAR ALUMATILT & SPIREX

BALANCE LENGTH mm	203	228	254	279	305	330	356	381	406	432	457	483	508	533	559	584	610	635	660	686	711	737	762	787	813	838	864	889	914	940	965	991	1016	1041	1067	1092	1118	1143	1169	1194	1220
INCHES	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
3	1	1	1	1																																					
6	2	1	1	1	1	1½	1½	2	2	2	2½	3	3	3	3	2½	2½	2½	2½	2½	3	3	3	3	3	2	2	2													
9	3	2	2	2	2	2½	2½	2½	3	3	3½	4	4½	5	5	5½	3½	3½	3½	3½	3½	4	4	4	4	4	3	3	3½	3½											
12	4	2	2½	3	3	3½	4	4	4½	4½	5	5	5½	6	6½	6½	4½	4½	4½	5	5	5	5½	6	6½	6½	3½	4	4½	4½	5	5	5	5	5½	5½	5½	6	6	6	6½	7
15	5	3	3½	4	4	4½	5	5	5½	5½	6	6	6½	7	7½	7½	5½	5½	5½	6	6	6	6½	7	7½	7½	4½	5	6	6	6½	6½	7	7	7	7	7½	7½	8	8	8½	9
	6	2	2½	3	3	3½	4	4	4½	4½	4	4	4½	5	5½	5½	6½	6½	7	7	7	7½	7½	8	8½	8½	5½	6	7	7	7½	8	8½	8½	8½	9	9	9	9½	9½	9½	10
	7	3	3½	4	4	4½	5	5	5	5	5½	5½	5½	6	6	6½	5	5	5½	5½	6	6	6½	6½	7	7	6	7	8	8	8½	9	8	9½	9½	9½	9½	10	10	10	10½	11
18	8	2	2½	3	3	3	3½	3½	3½	3½	4	4½	5	5	5½	6	6½	6½	7	7	7½	7½	8	8	8½	8½	8	8½	9	9	9½	9½	10	10	10½	10½	10½	11	11	11	11½	12
21	9	2½	3	3½	3½	4	4½	4½	4½	4½	5	5½	5½	6	7	7	7½	7½	8	8	8½	8½	8½	9	9	9	9	9½	10½	10½	11	11	11	11½	11½	11½	12	12	12	12½	12½	13
24	10	3½	4	4½	4½	4½	5	5	5	5	5½	5½	6	6½	8	8½	9	9	9	9	9½	9½	9½	9½	10	10	8	8	8	8	8½	8½	9	9	9	9½	9½	9½	10	10	10½	11
27	11	4	4½	5	5	5	5½	5½	5½	5½	6	6	6½	7	8½	9½	10	10	10½	10½	11	11	11	11½	11½	11½	8½	8½	8½	8½	9	9	9½	9½	10	10½	10½	11	11	11	11½	12
30	12	4½	5	5½	6	6	6	6	6	6	6½	6½	7	7	9½	10½	6½	6½	7	7	7½	7½	8	8	8½	8½	9	9	9	9	9½	10	10½	11½	11½	12	12	12	12	12½	13	13
	13	5½	6	6	6½	6½	6½	6½	6½	7	7½	8	9½	10	11	7½	7½	8	8	8	8½	9	9	9½	9½	10	10	10½	10½	11	11½	12	12	12	12½	12½	13	13	13	13½	13½
	13.5	6	6	6½	7	7	7	7	7	7½	8	8½	10	10	11½	8	8	8½	8½	9	9	9½	9½	10	10	10½	11	11½	11½	12	12½	13	13	13½	13½	14	14	14	14½	14½	14½
SASH WEIGHT lbs	BLUE COUPLING																									RED COUPLING																
WEIGHT kg																																										

WHITE COUPLING

HEAVY DUTY ALUMATILT & SPIRALIFT

BALANCE LENGTH mm	432	457	483	508	533	559	584	610	635	660	686	711	737	762	787	813	838	864	889	914	940	965	991	1016	1041	1067	1092	1118	1143	1169	1194	1220
INCHES	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
30	14	2	2½	3	3½	4	4½	5	5½	5½	6	6	6½	7	7½	8	8	8½	8½	9	9	9½	9½	10	10	10½	11	11	12	12½	13	13½	14
33	15	2	2½	3	3½	4½	5	5½	6	6	7	7½	7½	8	8½	9	9	9½	10	10	10½	11	11½	11½	12	12	12½	13	13½	14	14½	14½	15
36	16	3	3½	4	4½	5	5½	6	6	6½	7	8	8½	9	9½	10	10½	11	11	11	11½	12	12½	12½	13	13	13	13½	13½	14	14½	15	15½
40	17	4	4½	5	5½	6	6½	7	7	7½	8	8½	9	9½	10	11	11½	12	12	12½	12½	13	13	13½	13½	14	14	14½	15	15	15½	16	16
	18	5	5½	6	6½	7	7½	8	8	8½	9	9	9½	10	10½	11	11½	12	12½	13	13½	14	14½	15	15	15	15½	15½	16	16	16½	17	17
SASH WEIGHT lbs	BLACK COUPLING																															
WEIGHT kg																																

To establish spring colour and tension turns required :
Find appropriate balance length and read down until it coincides with required sash weight. That figure is the number of tension turns and the colour is that of the coupling required.

For sashes over 40lbs (18kg) refer to Ultralift or Torso information sheets.

Note: Tensioning chart is for guidance purposes only.

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.	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.	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.	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.	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.

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.	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.	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.	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.	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.

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.	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.	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.	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.