BOX SASH WINDOW FABRICATORS MANUAL
5th Edition

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KEY FEATURES

● TRADITIONAL ROPE AND PULLEY VERTICAL SLIDING SYSTEM

● IDEAL FOR MEETING TRADITIONAL HERITAGE AND LISTED BUILDING REQUIREMENTS

● CHOICE OF BALL BEARING OR AXLE PULLEYS IN A VARIETY OF FINISH OPTIONS

● CHOICE OF LEAD OR CAST IRON WEIGHS

● SASH CORD OR CHAIN OPTIONS

● VARIETY OF SASH WEIGHT CONNECTORS AND ACCESSORIES

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Introduction

What is a Traditional Box Sash Window?

A BOX SASH WINDOW is a type of vertical sliding window based on traditional hardware, and a strong emphasis on heritage and time honoured aesthetics. Hardware consists of two pulleys per sliding sash balanced using either cast iron or lead weights.

Caldwell Hardware (UK) Ltd offer an extensive range of axle and ball bearing type pulleys in a variety of finishes to suit you and your customers application.

This manual is intended to give guidance and recommendations on how to prepare and assemble a traditional box sash window, in timber, using components designed and manufactured by Caldwell Hardware (UK) Ltd.

Why Choose Caldwell Weights and Pulleys?

Caldwell Hardware (UK) Ltd offer an extensive range of traditional box sash hardware which is supported by our reputation for quality and consistency. Traditionally recognised from the CALDWELL RT brand, Caldwell Hardware (UK) Ltd have underpinned the product range with unrivalled customer support, at both a general technical support level and on an individual customer basis.

Where recommended cutting sizes or deductions are given, these should be checked to ensure they are exactly applicable to your specific window design. If you have any special concerns then please contact us for assistance.

In addition to providing this manual and the general guidance within, we are pleased to advise window manufacturers on the use of box sash window components within their own bespoke designs.
BOX SASH WINDOW GENERAL ARRANGEMENT

The details shown on this data sheet are of a typical general arrangement for a traditional BOX SASH window. Dimensions A,B,C and W are the dimensions required on our weights estimator form on page 13 in order to estimate the correct Pulley and Weights.

ISOMETRIC VIEW ( 1:10 )

Please ensure the customers sash dimensions are as precise as possible to enable an accurate estimation.

WEIGHT SIZES

The 'Z' dimensions for the weight should be equal or smaller than the pulley diameter. If a larger weight is required then it is recommended that the 'Z' dimension is kept as small as possible for your application. i.e. If the pulley is 2" diameter then the 'Z' dimensions should also measure 2" or less.

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.
INTRODUCTION TO AXLE PULLEYS

Basic Make up of An Axle Pulley

Face Plate
(Available with round or square ends)

Axle Bush

Pulley Wheel
(Available in nylon and brass)

Frame
Rivet Axle
Brass Rivet

Caldwell's Range of Axle Pulley Wheels

(1.75" Nylon example shown)

(2" Brass example shown)

(2.25" Brass example shown)

**Available In Square Groove Only**
(RTSP994, RTSP995 Range)

Nylon wheels available in 1.75" and 2".

**Available In Square Groove Only**
(RTSP991, 992, 993 and 996 Range)

Nickel plated brass wheels are standard fit on PCP and SCP finishes only.
All other finishes have a plain brass wheel.
Brass wheels available in 1.75", 2" and 2.25".

**Available In Square and Round Groove**
(RTSP995SG, RTSP995RG Range)

Axle Pulley Face Plate Options

SQUARE CORNERS

RADIUS END (RE)

Faceplate Finish Options

Galvanised
Bright Zinc Plated - BZP
Linished Brass - LIN
Polished Brass - PB
Polished Brass Laquered - PBL
Light Bronze - LBZ
Polished Chrome Plated - PCP
Satin Chrome Plated - SCP

Some finishes are specific to different models so please see the quick reference matrix on page 7 for correct applications.

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Approved Manual Ref. MAN-0039-04

ISSUE LEVEL 01
INTRODUCTION TO BALL BEARING PULLEYS

Basic Make up of a Ball Bearing Pulley

- Ball Bearing
- 2" Galvanised Frame example (Also Available In 2.25")
- Spacer
- Axle Rivet

Caldwell’s Range of Ball Bearing Pulley Wheels

**Available In Square and Round Groove**
(2" Brass example with Round Groove shown)

- 2.00" Option
  - (10.1)
  - (9.6)

- **Available In Square and Round Groove**
  (RTSPBBRG-2, 2RC, 2RE & RTSPBBSG-2, 2RC, 2RE Range)

- 2.25" Option
  - (10.1)
  - (9.5)

**Available In Square and Round Groove**
(2.25" Example with Round Groove Shown)

- RTSPBBSG-225, 225RC, 225RE & RTSPBBRG-225, 225RC, 225RE

Nickel plated brass wheels are standard fit on PCP, SCP, BSS and PSS finishes only. All other finishes have a plain brass wheel.

Ball Bearing Face Plate Options

- RADIUS CORNERS (RC)
- SQUARE CORNERS (Default Option)
- RADIUS ENDS (RE)

Faceplate Finish Options

- Linished Brass - LIN
- Polished Brass Laquered - PBL
- Polished Stainless Steel - PSS
- Brushed Stainless Steel - BSS

Some finishes are specific to different models so please see the quick reference matrix on page 7 for correct applications. Faceplates are only sold as part of the entire pulley assembly and are not available for sale separately.

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Approved Manual Ref. MAN-0039-05

ISSUE LEVEL 02
Sash & Jamb Routing Details
For Weights & Pulleys

BOX SASH SECTION

TYPICAL SQUARE LEAD SECTION

TYPICAL ROUTING PROFILES

SQUARE PREPARATION

ROUND END PREPARATION

6mm CORNERS PREPARATION.
BALL BEARING PULLEYS ONLY.

<table>
<thead>
<tr>
<th>PULLEY SIZE</th>
<th>DIM 'A'</th>
<th>DIM 'B'</th>
<th>DIM 'C'</th>
<th>DIM 'D'</th>
<th>DIM 'E'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.75&quot; AXLE (RTSP991/92/93/94/95/96)</td>
<td>77</td>
<td>16</td>
<td>2</td>
<td>117.5</td>
<td>25.5</td>
</tr>
<tr>
<td>2&quot; AXLE (RTSP992/93/94/95)</td>
<td>84</td>
<td>16</td>
<td>2.7</td>
<td>127</td>
<td>29</td>
</tr>
<tr>
<td>2.25&quot; AXLE (RTSP995RG/SG)</td>
<td>84</td>
<td>23</td>
<td>2.7</td>
<td>127</td>
<td>29</td>
</tr>
<tr>
<td>2&quot; BALL BEARING (RTSPBBRG-2/SG-2)</td>
<td>84</td>
<td>23</td>
<td>4.5</td>
<td>127</td>
<td>32</td>
</tr>
<tr>
<td>2.25&quot; BALL BEARING (RTSPBBRG-225/SG-225)</td>
<td>84</td>
<td>23</td>
<td>4.5</td>
<td>127</td>
<td>32</td>
</tr>
</tbody>
</table>

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Approved Manual Ref. MAN-0039-06

ISSUE LEVEL 01
## Pulleys Quick Reference Matrix

### Axle Pulleys

<table>
<thead>
<tr>
<th>Pulleys</th>
<th>Face Plates</th>
<th>Face Plate Finish Options</th>
<th>Max Sash Weight (Per Pair)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.75” Nylon</td>
<td>991</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>1.75” Nylon</td>
<td>992</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.75” Nylon</td>
<td>993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.75” Nylon</td>
<td>996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2” Nylon</td>
<td>992</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2” Nylon</td>
<td>993</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Brass Pulleys

<table>
<thead>
<tr>
<th>Pulleys</th>
<th>Face Plates</th>
<th>Face Plate Finish Options</th>
<th>Max Sash Weight (Per Pair)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.75” Brass</td>
<td>994</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>1.75” Brass</td>
<td>995</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2” Brass</td>
<td>994</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2” Brass</td>
<td>995</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.25” Brass</td>
<td>994</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.25” Brass</td>
<td>995SG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.25” Brass</td>
<td>995RG</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Ball Bearing Pulleys

<table>
<thead>
<tr>
<th>Pulleys</th>
<th>Face Plates</th>
<th>Face Plate Finish Options</th>
<th>Max Sash Weight (Per Pair)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2” Brass</td>
<td>BBRG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2” Brass</td>
<td>BBSG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.25” Brass</td>
<td>BBRG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.25” Brass</td>
<td>BBSG</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Finish Codes

<table>
<thead>
<tr>
<th>Finish Code</th>
<th>Finish Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2P</td>
<td>Bright Zinc Plate</td>
</tr>
<tr>
<td>SCP</td>
<td>Satin Chrome Plate</td>
</tr>
<tr>
<td>PCP</td>
<td>Polished Chrome Plate</td>
</tr>
<tr>
<td>PSS</td>
<td>Polished Stainless Steel</td>
</tr>
<tr>
<td>BSS</td>
<td>Brushed Stainless Steel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Finish Code</th>
<th>Finish Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBL</td>
<td>Polished Brass Lacquered</td>
</tr>
<tr>
<td>LIN</td>
<td>Lined Brass Lacquered</td>
</tr>
<tr>
<td>BB</td>
<td>Light Bronze</td>
</tr>
<tr>
<td>PB</td>
<td>Polished Brass</td>
</tr>
<tr>
<td>PRE GALVANISED</td>
<td>Galvanised finish - Standard finish on RTSP91/2/4 ranges</td>
</tr>
<tr>
<td>ELECTRO BRASS</td>
<td>Electro brass - Standard finish on RTSP96 range</td>
</tr>
</tbody>
</table>

* SHOWS THE FACEPLATE FINISH THAT WILL BE SUPPLIED IF NO FINISH CODE IS ADDED.

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Approved Manual Ref. MAN-0039-07

ISSUE LEVEL 02
Caldwell R&T Pulley Selection

Start

Does the sash weigh under 25Kg?

YES

Use nylon wheel axle pulleys. Pulley ranges; RTSP991-XXX RTSP992-XXX RTSP993-XXX RTSP996-XXX

NO

Does the sash weigh 25-50Kg?

YES

Use brass wheel axle pulleys. Pulley ranges; RTSP994-XXX RTSP995-XXX

NO

Does the sash weigh 50-75Kg

YES

Use ball bearing pulleys. Pulley Ranges; RTSPBBXX-XXX

NO

Axle Pulley Part Number Explanation

Specify RTSP as prefix to part number.

Select pulley type from quick reference matrix on page 7.

Select pulley size. 175 = 1.75" 2 = 2" 225 = 2.25"

Select face plate corner style. RE = Round Ends Leave blank for square.

Select face plate finish. Add finish code letters from quick reference matrix.

RTSP993-175RE-SCP

Ball Bearing Pulley Part Number Explanation

Specify RTSP as prefix to part number.

Select pulley type from quick reference matrix.

Select pulley size. 2 = 2" 225 = 2.25"

Select face plate corner style. RE = Round Ends RC = Radius Corners Leave blank for square.

Select face plate finish. Add finish code letters from quick reference matrix.

RTSPBBRG-2RC-LBZ

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Caldwell R&T Weights and Pulley Accessories

Caldwell's Range Of Pulley Accessories

<table>
<thead>
<tr>
<th>SASH OF WEIGHT CONNECTORS</th>
<th>SASH CHAIN</th>
<th>SASH CORD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TYPE</strong></td>
<td><strong>DESCRIPTION</strong></td>
<td><strong>QTY PER SET</strong></td>
</tr>
<tr>
<td>Bolt Weight Connector - RTS04 Chain</td>
<td>4 per kit</td>
<td>RTSC01</td>
</tr>
<tr>
<td>Bolt Weight Connector - RTS03 Chain</td>
<td></td>
<td>RTSC02</td>
</tr>
<tr>
<td>Bolt Weight Connector - RTS01 Chain</td>
<td></td>
<td>RTSC07</td>
</tr>
<tr>
<td>Loop Weight Connector</td>
<td></td>
<td>RTSC03</td>
</tr>
<tr>
<td>Loop Weight Connector</td>
<td></td>
<td>RTSC04</td>
</tr>
<tr>
<td>Loop Weight Connector</td>
<td></td>
<td>RTSC05</td>
</tr>
<tr>
<td>Loop Weight Connector</td>
<td></td>
<td>RTSC08</td>
</tr>
<tr>
<td>Lead Weight Bolt Connector - RTS01 Chain</td>
<td></td>
<td>RTSC010</td>
</tr>
<tr>
<td>Lead Weight Bolt Connector - RTS04 Chain</td>
<td></td>
<td>RTSC011</td>
</tr>
<tr>
<td>Lead Weight Bolt Connector - RTS03 Chain</td>
<td></td>
<td>RTSC013</td>
</tr>
<tr>
<td>Washer and Split Pin Connector</td>
<td>1 per kit</td>
<td>RTSC06</td>
</tr>
<tr>
<td>Screw in Pulley Short Thread</td>
<td>1 per kit</td>
<td>RTSC012</td>
</tr>
<tr>
<td>Screw in Pulley Long Thread</td>
<td>1 per kit</td>
<td>RTSC014</td>
</tr>
<tr>
<td>SASH CORD</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TYPE</strong></td>
<td><strong>MATERIAL SPEC.</strong></td>
<td><strong>LENGTH</strong></td>
</tr>
<tr>
<td><strong>MATERIAL / FINISH</strong></td>
<td><strong>LENGTH</strong></td>
<td><strong>BREAK STRAIN</strong></td>
</tr>
<tr>
<td>No. 3 Waxed Cotton Sash Cord (Dia. 5mm)</td>
<td>12.5</td>
<td>160</td>
</tr>
<tr>
<td>No. 4 Nylon Sash Cord (Dia. 6mm)</td>
<td>12.5</td>
<td>450</td>
</tr>
<tr>
<td>No. 4 Waxed Cotton Sash Cord (Dia. 6mm)</td>
<td>12.5</td>
<td>300</td>
</tr>
<tr>
<td>No. 5 Waxed Cotton Sash Cord (Dia. 7mm)</td>
<td>12.5</td>
<td>310</td>
</tr>
<tr>
<td>No. 6 Waxed Cotton Sash Cord (Dia. 8mm)</td>
<td>12.5</td>
<td>160</td>
</tr>
</tbody>
</table>

CALDWELL HARDWARE (UK) LTD RECOMMENDS THE USE OF CAST IRON WEIGHTS WHERE POSSIBLE. LEAD WEIGHTS SHOULD ONLY BE USED WHERE THE WINDOW DIMENSIONS DO NOT ALLOW THE EXTRA LENGTH OF CAST IRON WEIGHTS. PLEASE REFER TO OUR 'SAFETY INFORMATION WHEN HANDLING LEAD PAGE' ON PAGE 18 BEFORE HANDLING LEAD WEIGHTS.

Lead Weight Part Number Explanation

- Specify RTSW as prefix to part number.
- Weight Fixing Connector: C = Cross Drilled 0.75" E = M6 Eye bolt H = M6 Hook I = M6 Insert
- Determine sash weight. Divide by 2 (two weights per sash) and enter result rounded to the nearest lb. (1 kg = 2.2lb)

Cast Iron Weights

Cast iron weights are available in the standard sizes shown in the table on the right. To get the correct weight, determine the weight of the sash and divide by 2 (two weights per sash). This will calculate the required weight. Order the nearest available standard weights and then use additional make weights to achieve the required weight.

E.g. A 50lb sash would require two 25lb weights. This would be achieved by ordering two 24lb weights and two 1lb make weights.

Part No. | Sash Weight | Weight Dimensions |
---------|-------------|-------------------|
RTSW05   | 1/2lb       | 0.23kg            |
RTSW01   | 1.0lb       | 0.45kg            |
RTSW04   | 4lb         | 1.81kg            |
RTSW06   | 6lb         | 2.72kg            |
RTSW08   | 8lb         | 3.63kg            |
RTSW10   | 10lb        | 5.45kg            |
RTSW12   | 12lb        | 5.45kg            |
RTSW14   | 14lb        | 6.35kg            |
RTSW16   | 16lb        | 7.26kg            |
RTSW18   | 18lb        | 8.17kg            |
RTSW20   | 20lb        | 9.07kg            |
RTSW22   | 22lb        | 9.98kg            |
RTSW24   | 24lb        | 10.89kg           |
RTSW26   | 26lb        | 11.80kg           |
RTSW28   | 28lb        | 12.70kg           |
RTSW30   | 30lb        | 13.61kg           |

Approved Manual Ref. MAN-0039-09  ISSUE LEVEL 01

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# Lead Weight Information (CORD USE)

**NOTE:** For operational reasons lead weights may be mechanically jointed. This jointing has no affect on weight performance.

<table>
<thead>
<tr>
<th>PART No.</th>
<th>Lead Weight Information (CORD USE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M6 Hook 1-30lbs</td>
<td>RTSMW-H-100-WEIGHT</td>
</tr>
<tr>
<td>M6 Insert 1-30lbs</td>
<td>RTSMW-J-100-WEIGHT</td>
</tr>
<tr>
<td>M6 Eye-Bolt 1-30lbs</td>
<td>RTSMW-E-100-WEIGHT</td>
</tr>
<tr>
<td>Make Weight 1-30lbs</td>
<td>RTSMW-M-100-WEIGHT</td>
</tr>
</tbody>
</table>

**NOTE:** If ordered separately, the part numbers for the attachments are:

- Hook: RT060-525
- Insert: RT060-509
- Eye-Bolt: RT060-508

**WEIGHT SIZES**

- 100 = 1”
- 125 = 1.25”
- 150 = 1.5”
- 175 = 1.75”
- 200 = 2”
- 225 = 2.25”
- 250 = 2.5”

**NOTE:** The above weights and fittings are only for lead. For cast iron weight fittings see MAN-0039-09. This sheet also includes chain information.

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Approved Manual Ref. MAN-0039-11  
ISSUE LEVEL 02
Caldwell R&T Weights and Pulleys Quick Order Form

<table>
<thead>
<tr>
<th>Company Name:</th>
<th>Order No:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Delivery Address:</th>
<th>Order Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contact:</th>
<th>Tel No:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fax No.</th>
<th>E-mail Address:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Required Delivery Date: | |
|-------------------------| |
|                         | |

This form is for use by customers who have a good understanding of their required products. If you are unsure of which product you require then please use the full order forms on the following pages.

### Pulleys

Refer to the pulley selection page (8) and the quick reference matrix on page 7 to identify the required pulley and to determine the part number. Complete the part number and enter the quantity required.

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTSP</td>
<td></td>
</tr>
<tr>
<td>RTSP</td>
<td></td>
</tr>
<tr>
<td>RTSP</td>
<td></td>
</tr>
<tr>
<td>RTSP</td>
<td></td>
</tr>
<tr>
<td>RTSP</td>
<td></td>
</tr>
</tbody>
</table>

### Sash Cord and Chain

Select the required cord or chain from the accessories section of page 9 and enter the part number and quantity. Ensure that the selection is compatible with the chosen pulley. i.e. Chain for square groove, cord for round. The part numbers should be entered after the RT prefix.

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT</td>
<td></td>
</tr>
<tr>
<td>RT</td>
<td></td>
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<tr>
<td>RT</td>
<td></td>
</tr>
<tr>
<td>RT</td>
<td></td>
</tr>
</tbody>
</table>

### Lead and Cast Iron Weights

Use the weights section of page 9 to determine the correct part numbers for the required weights. Complete the part numbers after the RT prefix and enter the quantity.

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT</td>
<td></td>
</tr>
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<td>RT</td>
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</tbody>
</table>

### Pulley Accessories

Refer to the accessories range on page 9. Enter the part number of any required parts after the RT prefix and the quantity required.

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>QTY</th>
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</thead>
<tbody>
<tr>
<td>RT</td>
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<tr>
<td>RT</td>
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</tr>
</tbody>
</table>

**FAX TO CALDWELL HARDWARE (UK) LTD ON 024 7643 7969**

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

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.
# Axle Pulleys Order Form

**Company Name:**

**Delivery Address:**

**Contact:**

**Order No:**

**Order Date:**

**Tel No:**

**Fax No:**

**E-mail Address:**

**Required Delivery Date:**

(Allow 3 working days for standard finishes)

---

For Ordering Guidance Please Refer to **Manual MAN-0039 Pages 4, 6, 7 & 8**

If you would prefer to order using part numbers please use the quick order form MAN-0039-10

### FOR ‘AXLE PULLEYS’ CONTINUE

**AXLE TYPE**

- 'Axle Type' [ ]

**PULLEY TYPE**

- Nylon [ ]
- Brass [ ]

**PULLEY TYPE**

- Nylon [ ]
- Brass [ ]

**FACE PLATE PROFILE**

- Radius Ends [ ]
- Square Corners [ ]

**FINISH OPTIONS**

- Polished Stainless Steel [ ]
- Galvanised [ ]
- Satin Chrome Plate [ ]
- Polished Chrome Plate [ ]
- Polished Stainless Steel [ ]

---

**FOR BALL BEARING TYPE ORDER FORM OF354**

**PULLEY BEARING TYPE**

- 2.25 Brass Only [ ]

**PULLEY DIAMETER**

- 2.25 [ ]
- 2.00° [ ]

**PULLEY GROOVE**

- 2.25 Pulley Only [ ]

**FINISH OPTIONS**

- Polished Brass [ ]
- Polished Brass Lacquered [ ]
- Linished Brass [ ]
- Light Bronze [ ]
- Bright Zinc Plate [ ]
- Electro Brass [ ]

---

**PART NUMBER GENERATED**

---

**COMPLETE**

---

**FAX TO CALDWELL HARDWARE (U.K.) LIMITED ON 024 7643 7969**

---

**Order Forms\CALDWELLRT\OF0353**

---

**ISSUE LEVEL 02**

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**This order is accepted only under current ‘Terms & Conditions of Sale’ copies available upon request**

---

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Caldwell Hardware (UK) Limited

Ball Bearing Pulleys Order Form

<table>
<thead>
<tr>
<th>Company Name:</th>
<th>Order No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery Address:</td>
<td>Order Date:</td>
</tr>
<tr>
<td>Contact:</td>
<td>Tel No:</td>
</tr>
<tr>
<td></td>
<td>Fax No:</td>
</tr>
<tr>
<td></td>
<td>E-mail Address:</td>
</tr>
<tr>
<td></td>
<td>Required Delivery Date:</td>
</tr>
</tbody>
</table>

(Allow 3 working days for standard finishes)

For Ordering Guidance Please Refer to Manual MAN-0039 Pages 5, 6, 7 & 8

If you wish to order using part numbers please refer to MAN-0039-10 for the quick order form.

FOR 'BALL BEARING PULLEYS' CONTINUE

Step 1 (Please tick Req’d Box)

FOR AXLE TYPE ORDER FORM OF353

Step 2 (Please tick Req’d Box)

Step 3 (Please tick Req’d Boxes)

Step 4 (Please tick Req’d Boxes)

PART NUMBER GENERATED

COMPLETE

FAX TO CALDWELL HARDWARE (U.K.) LIMITED ON 024 7643 7969

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

Order Forms\CALDWELLRT\OF0354

ISSUE LEVEL 01
Caldwell Cast Iron & Lead Weight Estimator

**CUSTOMER DETAILS**

<table>
<thead>
<tr>
<th>ORDER No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTACT:</td>
</tr>
<tr>
<td>DELIVERY DATE:</td>
</tr>
<tr>
<td>TEL No:</td>
</tr>
<tr>
<td>FAX No:</td>
</tr>
</tbody>
</table>

**MATERIAL (TICK)**

- CAST IRON WEIGHT REQUIRED
- LEAD WEIGHT REQUIRED

**WOOD TYPE (TICK)**

- SOFTWOOD
- HARDWOOD

---

**NOTE:** If Cast Iron weights are selected, but are not possible to be used due to the window size, Lead Weights will be calculated instead. It is presumed that reduced travel is not acceptable.

---

**WINDOW HEAD**

![Standard Window Diagram]

- **Standard Window**
- **Arch Head Window**

---

**GEORGIAN BARS (PLANT ON TYPE ONLY)**

<table>
<thead>
<tr>
<th>REF.</th>
<th>QTY OF WINDOWS</th>
<th>DIM “W” (mm)</th>
<th>DIM “A” (mm)</th>
<th>DIM “B” (mm)</th>
<th>DIM “C” (mm)</th>
<th>DIM “D” (mm)</th>
<th>SIZE OF HORN</th>
<th>GEO BARS (TICK)</th>
<th>GLAZING CONFIG E.G. 4-16-4</th>
<th>GLAZED SASH WEIGHT (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORIZONTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VERTICAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**LEAD WEIGHT CONNECTORS (TICK)**

- CROSS DRILLED (ON WEIGHTS 1½” SQUARE AND ABOVE)
- HOOK BOLT (ON WEIGHTS UP TO 30LBS)
- EYE BOLT (ON WEIGHTS UP TO 30LBS)
- INSERT (ON WEIGHTS UP TO 30LBS)

---

**CAST IRON WEIGHT CONNECTORS**

- FILL IN PART NUMBER REQUIRED (SEE R&T MANUAL-0039)

---

**NOTE:** Sash weights are based on 50mm square profile unless otherwise stated. For accuracy, it is preferable that you provide a fully glazed sash weight.

**THIS IS AN ESTIMATE:** We cannot accept responsibility for goods supplied incorrectly if accurate sash weights have not been provided.

---

**GEOMETRY**

- **Z** - Underside of the head to the bottom of the pulley chassis. Standard & Arch Head Windows
- **X** - Box section size (smallest cross section size of a weight that will fit).
- **W** - Sash width
- **X** - Box section size
- **Z** - Underside of the head onto sill (sash run).
- **B** - Top sash height (excluding horns if fitted).
- **C** - Bottom sash height.
- **D** - Arch height (if applicable).
- **W** - Sash width
- **X** - Box section size

---

**REMARKS**

- THIS ORDER IS ACCEPTED UNDER OUR CURRENT ‘TERMS & CONDITIONS OF SALE’ COPIES AVAILABLE UPON REQUEST.

---

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Published on 16/03/2015 at 16:45:16 Page 14 of 22
# Weight & Pulleys Accessories Order Form

<table>
<thead>
<tr>
<th>Company Name:</th>
<th>Order No:</th>
</tr>
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<tbody>
<tr>
<td>Delivery Address:</td>
<td>Order Date:</td>
</tr>
<tr>
<td>Contact:</td>
<td>Tel No:</td>
</tr>
</tbody>
</table>

## SASH CHAIN

<table>
<thead>
<tr>
<th>Type</th>
<th>Specification</th>
<th>Length</th>
<th>Max. Sash Weight</th>
<th>Break Strain</th>
<th>Compatible Pulley</th>
<th>Specify Type Req'd</th>
<th>Real Qty Req'd</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC1-50</td>
<td>Steel links (BZP) &amp; bronze rivets</td>
<td>50</td>
<td>75 / 165</td>
<td>680 / 1500</td>
<td>2&quot; &amp; 2.25&quot; BBRG ONLY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC3-50</td>
<td>Steel links (BZP) &amp; bronze rivets</td>
<td>50</td>
<td>51 / 112</td>
<td>454 / 1000</td>
<td>2.25&quot; PULEYs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC8-50</td>
<td>Steel links (BZP) &amp; bronze rivets</td>
<td>50</td>
<td>55 / 180</td>
<td>907 / 2000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## SASH CORD

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Length</th>
<th>Break Strength</th>
<th>Compatible Pulley</th>
<th>Specify Type Req'd</th>
<th>Hank Qty Req'd</th>
</tr>
</thead>
<tbody>
<tr>
<td>CORDW</td>
<td>No 3 Waxed Cotton Sash Cord (Dia. 5mm)</td>
<td>12.5</td>
<td>160</td>
<td>1.75&quot;, 2&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CORDN</td>
<td>No 4 Nylon Sash Cord (Dia. 6mm)</td>
<td>12.5</td>
<td>450</td>
<td>2.25&quot;</td>
<td></td>
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</tr>
<tr>
<td>CORDW</td>
<td>No 4 Waxed Cotton Sash Cord (Dia. 6mm)</td>
<td>12.5</td>
<td>300</td>
<td>1.75&quot;, 2&quot;, 2.25&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CORDW</td>
<td>No 5 Waxed Cotton Sash Cord (Dia. 7mm)</td>
<td>12.5</td>
<td>310</td>
<td>1.75&quot;, 2&quot;, 2.25&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CORDW</td>
<td>No 6 Waxed Cotton Sash Cord (Dia. 8mm)</td>
<td>12.5</td>
<td>340</td>
<td>1.75&quot;, 2&quot;, 2.25&quot;</td>
<td></td>
<td></td>
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</table>

## SASH AND WEIGHT CONNECTORS

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>QTY Per Set</th>
<th>Max. Weight</th>
<th>Specify Type Req'd</th>
<th>Qty of Sets Req'd</th>
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<tbody>
<tr>
<td>SCC01, SCC02, SCC07</td>
<td>Bolt Weight Connectors - SC1 CHAIN</td>
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<tr>
<td>SCC03</td>
<td>Loop Weight Connectors</td>
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<tr>
<td>SCC04, SCC05, SCC08</td>
<td>Sash Plate and Bar - SC4 CHAIN</td>
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<td></td>
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<tr>
<td>SCC09, SCC08</td>
<td>Sash Plate and Bar - SC5 CHAIN</td>
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<tr>
<td>SCC101, SCC103, SCC109</td>
<td>Lead Weight Bolt Connector - SC4 CHAIN</td>
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<td></td>
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<tr>
<td>SCC08</td>
<td>washer and split pin connector</td>
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<td></td>
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</tr>
<tr>
<td>000-508</td>
<td>M8 Eye bolt (supplied fitted to lead weight)</td>
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<td></td>
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</tr>
<tr>
<td>SCC012</td>
<td>Screw in pulley short thread</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCC014</td>
<td>Screw in pulley long thread</td>
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</table>

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Published on 16/03/2015 at 16:45:16
UK646 ROLA VS TRAVEL RESTRICTOR FITTING DETAILS

STEP 1: DRILL THE COUNTERBORE TO THE DIMENSIONS ABOVE

STEP 2: SCREW IN THE UK777 INTO THE COUNTERBORE CLOCKWISE USING AN ALLEN KEY

STEP 3: SCREW IN THE UK646 BY HAND

UK647 KEY - TURN CLOCKWISE TO PROPEL THE RESTRICTOR INTO THE SASH. TURN ANTI-CLOCKWISE TO PROPEL OUT OF THE SASH.

NOTE: IF FITTING TO PVC PROFILES, USE RIVET-NUTS (NOT SUPPLIED BY CALDWELL) INTO THE REINFORCEMENT, INSTEAD OF THE UK777. IF IN ANY DOUBT, PLEASE CONTACT CALDWELL TECHNICAL DEPARTMENT.

Also available for timber windows are strike plates to stop damage to the strike point on the meeting rails.

ORDER CODES
- POLISHED CHROME UK737CH
- WHITE POWDER COAT UK737HIPCAWHITE
- POLISHED GOLD UK737DG

UK646NICKEL - (ALSO AVAILABLE IN BRASS: UK646BRASS)

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’s range of brass hardware is supplied in a lacquered finish. If this is to be used externally then it should be waxed weekly to protect the lacquered finish. Over time, and subject to the environment it operates within plus the type of use it undergoes, the lacquer coating will be eroded. When the lacquer coating is no longer present then the brass surface will need to be maintained with a propriety brass cleaner on a regular basis to maintain appearance and prevent visible corrosion.

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.

DATASHT REF. DATASHT-00117

ISSUE LEVEL 15
Brush Pile
A high quality brush pile with a central weather fin manufactured from polypropylene giving low friction properties and offering additional weather performance and sealing characteristics. The pile can either used in three ways:-

1) Fitted directly to grooves in pvc or aluminum profiles,
2) fitted to the timb-a-tilt jamb liner (timb-a-tilt only) or
3) fitted to the brush pile holder as detailed below (for both conventional or timb-a-tilt windows).

Pile base width: 4.8mm
Pile height: 7mm
Caldwell Part No: UK687

Brush Pile Holder
A brush pile holder suitable for brush piles with a 4.8mm base width. The holder is manufactured from rigid pvc and is available in both white or brown and simply pushes into a 'T' slot when machined in timber profiles (see fig 2).

Caldwell Part No. UK688

Bubble Seal
A 7mm diameter rubber bubble seal for horizontal sealing of top & bottom sashes on vertical sliding windows. Seal simply pushes into a 3mm x 5mm groove when machined in timber profiles (see fig 3).

Caldwell Part No. UK689

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.
Safety information when handling & working with lead products.

Lead can be a harmful to your health if used incorrectly or if you are exposed to airborne particles of lead for long periods of time. However short term exposure to solid lead carries only a limited risk & is unlikely to be harmful.

When working with lead ensure that:
Gloves are worn, do not eat or drink, do not smoke, apply barrier cream to hands before working with lead, keep your hands away from your face, use disposable tissues instead of handkerchiefs, remove overalls before leaving work, & wash work wear separately.

After working with lead ensure that:
Hands are washed thoroughly with hot soapy water. Always wash your hands before eating or drinking.

If you have an emergency with lead i.e.
Lead in the eye, Immediately flush the eye with water. If irritation persists get medical assistance. Skin contact, wash off with hot soapy water. If swallowed, get medical assistance.

When lifting lead:
Lead is very heavy for its size. It is 11.3 times heavier than water at the same volume. Great care should be taken when moving lead products, always ensure that correct lifting techniques are used & assistance obtained when ever required. Seek professional guidance if unsure.

If in doubt please contact Caldwell Hardware Technical Services department on 02476 437960.
Brass fittings are generally supplied with lacquer coating which helps prevent tarnishing caused by oxidization. Our lacquer coating is applied using an electrophoretic process and whilst this gives an extremely good looking and durable finish, it should not be viewed as totally permanent.

In common with other methods of lacquering, it is subject to wear and tear caused by general usage i.e. scuffing and attack by applied or airborne pollutants, although the correct cleaning will undoubtedly help preserve the appearance.

Lacquered items should be cleaned with soft soap and water and thoroughly dried. They will also benefit from an occasional coating of wax polish. Do not use any other types of cleaners or polishes.

Avoid contamination by solvent-based cleaners commonly used in the construction industry.

We do not recommend lacquered items to be used on the exterior of buildings, places of extremely heavy usage. Marine environments etc. In these cases we would strongly suggest using un-lacquered brass products that can be polished regularly using proprietary brass cleaners.

Lacquer can be removed using paint stripper if required.

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Lacquer can be removed using paint stripper if required.
Cleaning Instructions for Decorative & Plated finishes

The decorative finishes on Caldwell Hardware products are of a high quality. Please take care when installing, using tools and sealants etc. To keep finishes in good condition clean with a soft damp cloth only.

ON NO ACCOUNT should any household bleaches, detergents or abrasive polish etc. be used on Caldwell Hardware products.

If in doubt please contact Caldwell Hardware Technical Services department on 02476 437900.
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.