
SHUTTER INSTALLATION INSTRUCTIONS

OCTOBER 2016



All rights reserved; no part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the written permission of SWS UK.

1 Contents

GENERAL		
2	Key to Symbols/Meanings	4
3	Warranty / Life Cycles	5
4	General Safety Advice	6
	4.1 General information	6
	4.2 Repairing / Dismantling	7
5	Tools/Fixings required	8
6	Preparation for the Installation	9
 INSTALLATION INSTRUCTIONS		
7	Built-On Shutters	10
	7.1 Manual Belt Operation	10–15
	7.2 Rod Crank Operation	16–19
	7.3 Spring Loaded Operation	20–24
	7.4 Electric Operation	25–29
8	Built-In Shutters	30
	8.1 Rod Crank Operation	32–33
	8.2 Spring Loaded Operation	34–36
	8.3 Electric Operation	37–39
9	Insurance/Police Approved Built-On Security Shutter	40–44
10	Traditional Commercial Shutters	45
	10.1 Spring Loaded Operation	46–49
	10.2 Electric Operation	50–54
 APPENDIX		
11	Electric Control Options	55–66
	11.1 Connecting hold to run switches	55–56
	11.2 Connecting the remote control	57–65
	11.3 Alternative control methods	66
12	Setting Motor Limits	67
13	Anti-fall Back Devices	68–71
	13.1 Anti-drop Brakes	68–69
	13.2 Anti-fall Back Springs (Electric Operation)	70
	13.3 Anti-fall Back Springs (Spring Loaded Operation)	70–71
14	Sloping Bottom Slats	72
15	Removable Guide Rails	73
16	Technical Details	75

2 Key to Symbols/ Meanings:



WARNING!
Risk of personal injury!

This is an important piece of safety advice which must be observed to avoid a risk of personal injury!



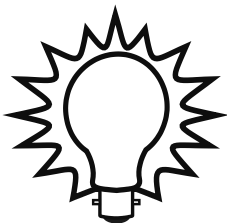
ATTENTION
Risk of material damage!

This is an important piece of safety advice to avoid damaging the product you are installing!

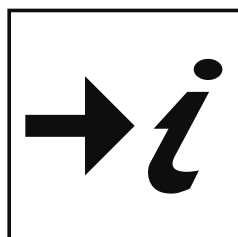


Operational check:

At this stage of the installation a component of the door, the operation of the door or the operator can be tested. This is very important as it can immediately identify an error which could take time to discover at a later stage.



Advice / Tip



Reference to further product information

Here a reference is made to another set of instructions which need to be used for installation of a particular component.

3 Warranty / Life Cycles

The warranty for this product is only granted if:

- **The installation is carried out by a competent installation engineer following these instructions.**
- **Only original parts are used.**
- **No additional objects are attached to the door.**
- **Regular maintenance checks are performed.**

For further details on the products warranties please refer to the products price list and our terms and conditions which are available upon on request.

To comply with the Construction Products Directive all products have been durability tested for a minimum of 11,000 cycles.

4 General Safety Advice

4.1 General Information



This document is intended for a qualified, trained installation engineer and should not be given to the owner of the door but should be kept by the installer.

To comply with the Construction Products Directive and the Machinery Directive the product must be installed in accordance with these instructions.

Please read all safety advice and relevant instructions carefully.

These installation instructions are intended for qualified and trained installation engineers. Installation, initial operation, servicing, repairs and dismantling of this product should only be carried out by a qualified and trained installation engineer.

When installing an electrically operated product ensure the mains power supply to the product is disconnected before any electrical connections are attempted.

Before operating a shutter you must always ensure that there are no persons or objects in the opening before and during the opening.

The shutter should only be operated when in view.

Upon completion of the installation the owner of the shutter must be trained how to operate the product safely paying special attention to the following points:

- **The shutter should only be operated when in view**
- **The operator should ensure there are no objects or persons in the opening before and during operation.**
- **The end user must read and follow the advice given in the operating and maintenance instructions.**
- **In the event of a malfunction the end user should follow the advice given in the operating and maintenance instructions and if applicable contact the installer.**

During the installation of the shutter you should follow safe working practices. Further advice is available from the Health and Safety Executive (HSE).

4.2 Repairing/ Dismantling / Maintenance

Always isolate the mains power before attempting any maintenance, repairs or dismantling. If you need to use the optional remote control during any maintenance, repairs or dismantling procedure you must engage the commissioning mode.

Before attempting to repair or dismantle a shutter you should check for the presence of any safety devices, for example:

- **Anti-fall back spring**
- **Anti-drop brake**
- **Bottom slat safety edge**
- **Safety photo cell**

Before attempting to remove an axle assembly which contains a spring you must release the tension in the spring.

When repairing or dismantling a shutter you should keep the opening and the surrounding area clear to prevent risk of injury to yourself and others.

When repairing or dismantling a shutter you should follow safe working practices. Further advice is available from the Health and Safety Executive (HSE).

Maintenance check list:

- **Curtain free running and clean**
- **All end locks are correctly and securely located in the curtain**
- **No debris in the guide rails**
- **Guide rails and end plates are securely fastened to the wall (check also the fascia if fitted)**
- **If applicable all axle collars and locking springs are in the correct original position**
- **Check action of applicable locking devices to ensure they are engaging correctly**
- **If applicable motor cable is correctly retained, has not been damaged or in danger of being damaged**
- **If a remote control has been supplied check the functionality of the safety devices**
- **If required view the service counter on the remote control**
- **If an anti-fall back spring is fitted check that the spring is under tension when the curtain is in the fully closed position. You should not be able to turn the spring shaft located in the u-cup.**
- **Check the operation of the manual override.**

Recommended service period

The recommended service period for a shutter which will operate on average two cycles per day is once every 12 months. If the shutter will perform a greater number of cycles per day the service period should be shortened accordingly. One cycle is a full open and close sequence.

5 Tools/ Fixings Required

This list of tools and fixings is a minimum guide, to be adapted for each installation.

- **Drill with pneumatic/hammer action to take the drill bits used below**
- **10mm & 22mm masonry bits up to 400mm long (or wall thickness)**
- **3, 4.2, 5, 10 & 13mm metal drill bits**
- **Countersunk posidrive type fixings or similar, with appropriate masonry drill bits and rawl plugs for guide rails and shutter box**
- **Guide rails and end plates require at least 2 1/2 inch 10s or 12s twin threaded screws with brown rawl plugs**
- **To secure the shutter box to the wall use at least 1 1/2 inch 8s screws with red plugs. A 250mm long masonry drill bit will be required**
- **Screw drivers and wire strippers**
- **4mm & 6mm Allen keys**
- **Pliers**
- **Tin Snips**
- **Metal files - round, half round and flat**
- **Spirit level**
- **Straight edge (square)**
- **Plastic hammer**
- **Tape measure**
- **Marker pen**
- **3 core and 4 core cable**
- **Junction box**
- **3 amp plug**
- **Surface trunking**
- **Motor test lead (YEC38400)**
- **Hacksaw**
- **Pop riveter with 4mm brown or white rivets**
- **Dust sheets**
- **Step ladders**
- **Workmate bench (optional)**
- **Silicone gun with brown, white or clear silicone**
- **If the fitting surface is not flat or there is a projecting door handle, painted timber may be required to form a sub frame. Alternatively 20/50 x 50mm aluminium packers or pieces of guide rail may be used**
- **If the shutter box is to fit up into a soffit, a circular saw or jigsaw will be needed to cut the soffit board.**

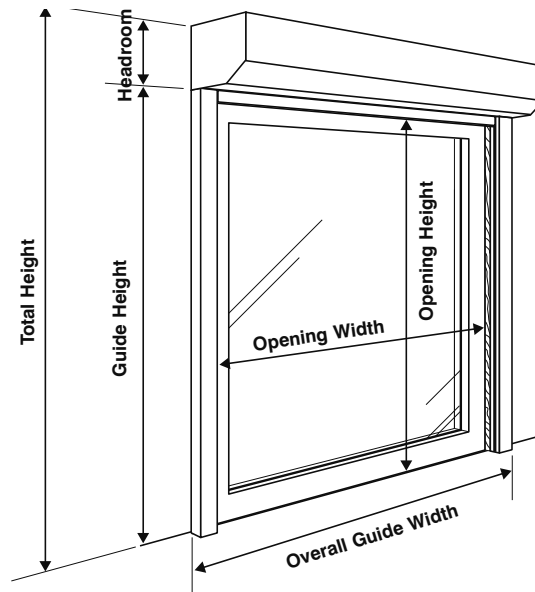
6 Preparation for the Installation

The structure of the opening must be adequate to take the weight of the door and suitable to take the appropriate fixings.



RISK OF MATERIAL DAMAGE Check that the opening is ready for installation. Surfaces should be flat and vertical to guarantee a parallel alignment of the guide rails. It is important that you check that the lintel does not bow inwards or have any projections that may catch on the curtain or could push the box back towards the curtain. If in doubt pack the guides and box out by at least 10mm.

Before you begin installing the shutter you should check that the shutter will not foul on any opening doors or windows or projecting door handles.



RISK OF MATERIAL DAMAGE Check the dimensions of the opening to ensure that the product supplied is the correct size to suit the opening. This must be done before removing any existing products and before you begin installation of the shutter.

To avoid damages to the box and the curtain unpack the components very carefully. We recommend using the packaging supplied as a protective mat.

Check the packages you have received to ensure you have received all the parts you require and they are in a satisfactory condition before you begin installation of the shutter.

7.3 Spring Loaded Operation Parts list

General Parts

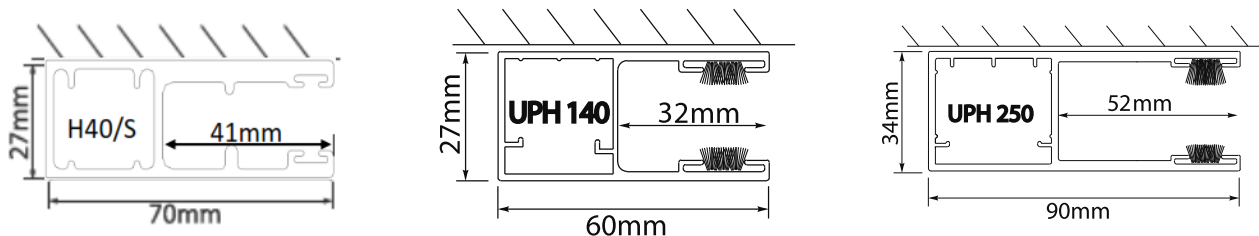
- Assembled shutter box (1 per shutter)
- Pair of guide rails (1 pair per shutter)
- Assembled curtain (1 per shutter)
- Installation instructions
- Operating & Maintenance instructions

Keys for bottom slat locks are packed in a bag which is taped to the bottom slat.

Accessories are packed in a separate box.

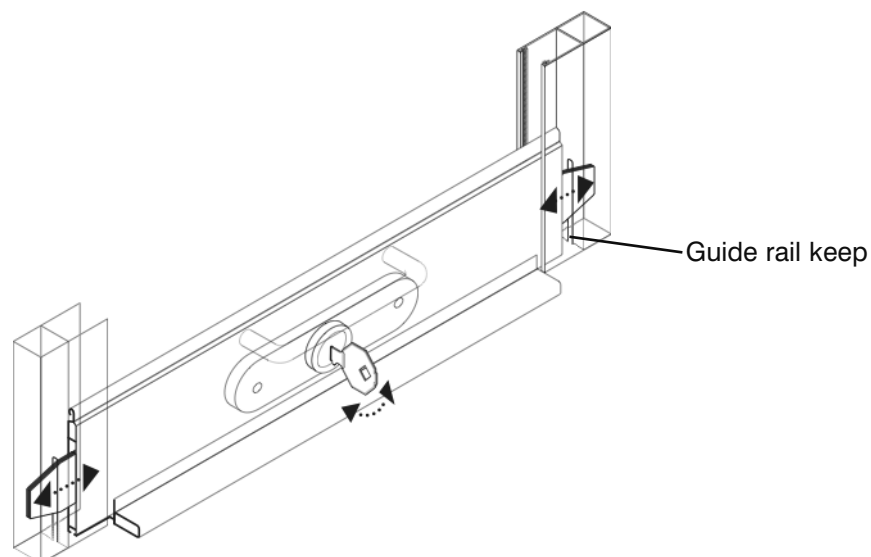
If applicable angle & packer are usually packed with the guide rails.

Guide to correct guide rail orientation



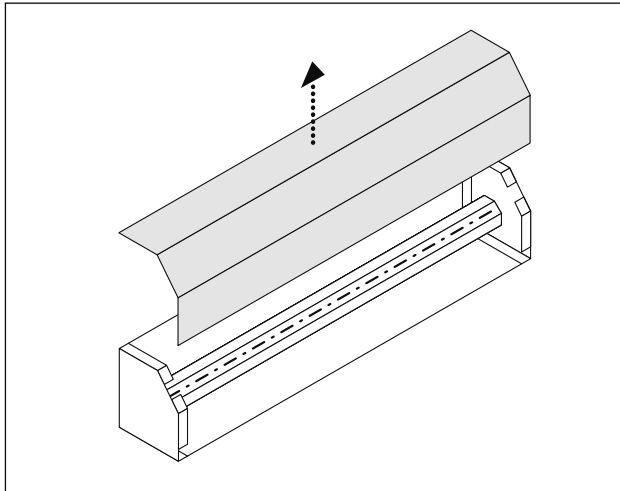
Certain guide rails have an internal and external face, due to their extrusion profile. These guide rails must be installed the correct way round. Please check the guide rails you have been supplied before you begin installing the shutter.

If keeps have been prepared in the guide rails for the bottom slat lock bar you must ensure that the guide rails are orientated so that the keeps are at the base of the guide rails as shown below.

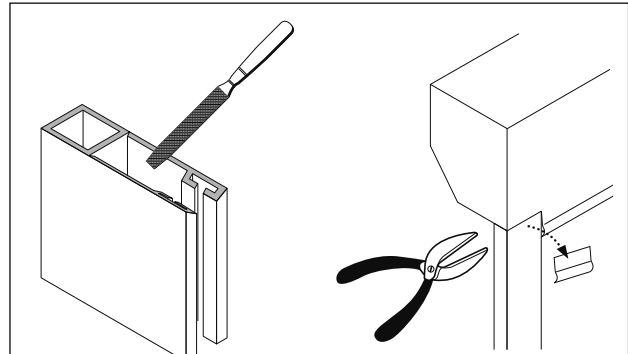


7.3 Spring Loaded Operation Installation Instructions

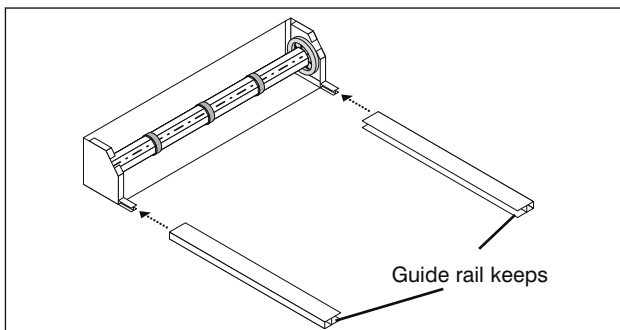
Before you begin installing the shutter please ensure you have read pages 4–9.



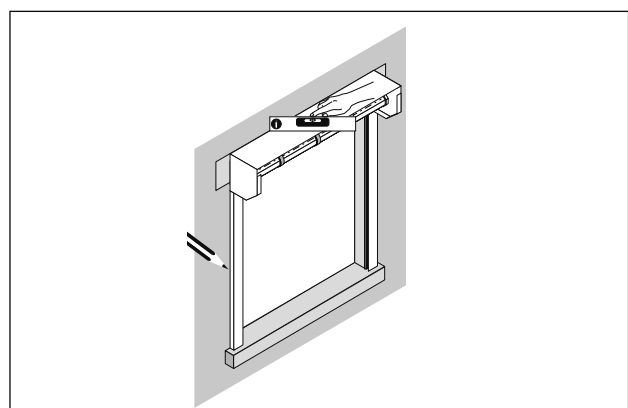
1 Remove lid from box



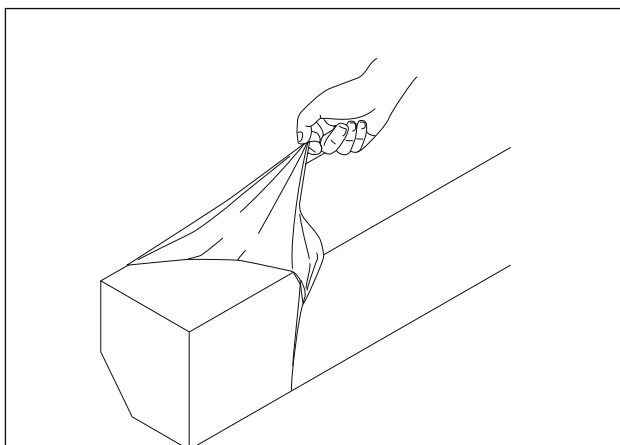
2 File the top of the guides at an angle to create the optimum lead in for the curtain. Guide insert should also be trimmed to suit the filed guide top and securely crimped in place. If the shutter is being face fitted remove the lip from the box back which overlaps the guide rails.



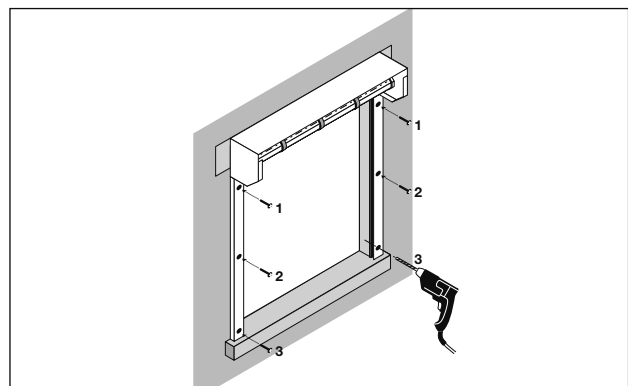
3 Carefully locate the guide rails onto the box lugs ensuring that on face fit guides the 13mm holes are on the outside. When moving the shutter as a complete unit you should take care to prevent the lugs being snapped off the box ends by the leverage available from the guide rails. If the shutter is too large to be lifted up as a complete unit you should offer up, locate and fix the individual guide rails then the shutter box.



4 Offer the shutter to the opening and centralise, ensuring the top of the shutter box is horizontal and that both guide rails are vertical. Mark the guide location.

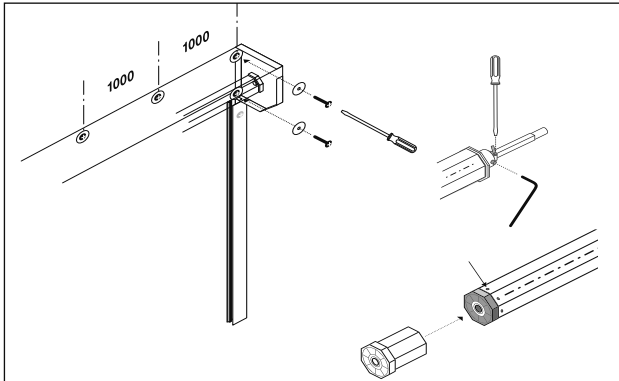


5 remove film from box top

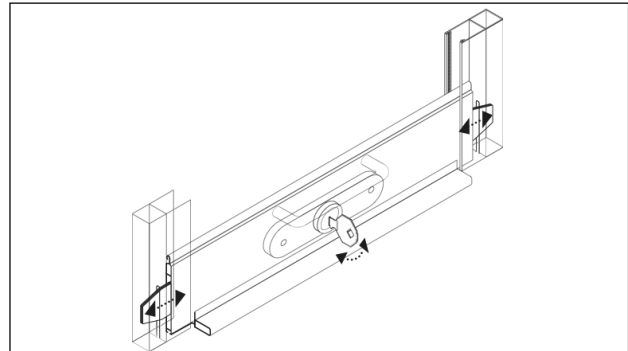


6 Starting with the top holes, fix the guide rails ensuring that the guide rails are vertical and that the shutter box is horizontal. Use the fixings recommended on page 8. 7mm hole right through then front hole enlarged to 13mm.

7.3 Spring Loaded Operation Installation Instructions (cont.)

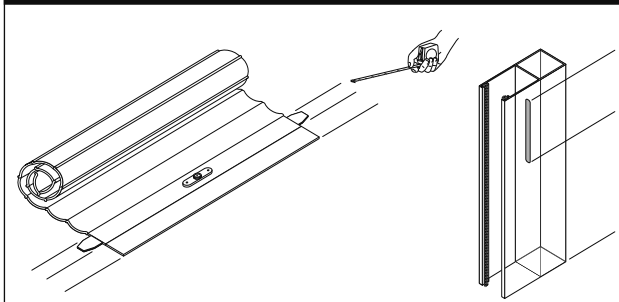


7 Fit the shutter box using the recommended fixings and spacings. Once the shutter box has been installed check the dummy end making sure that it is securely located within the axle. If the dummy end is a shaft bolt design make sure that the centre shaft is fixed in place so that it can not slide back into the axle.

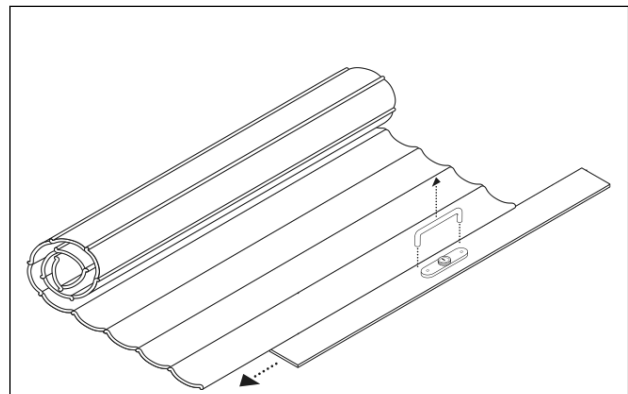


8 If shoot bolts or a lock have been supplied in the bottom slat you should remove the bottom slat from the curtain. Slide the bottom slat down into the guide rails and check that the lock bars in the bottom slat will locate into the prepared guide rail keeps. Enlarge the keeps if necessary.

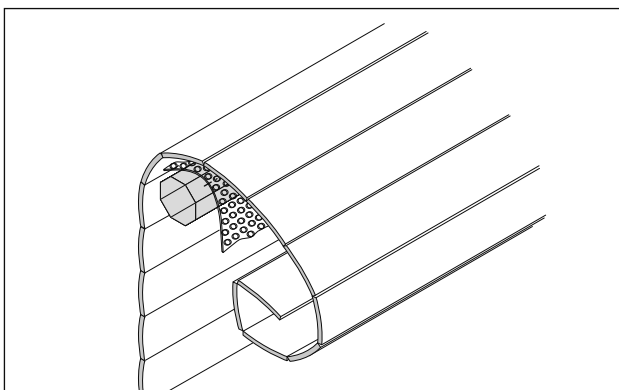
ONLY APPLICABLE IF LOCK POSITIONED ABOVE THE BOTTOM SLAT



9 If the curtain contains a lock installed in a slat above the bottom slat you will need to prepare the guide rails for the lock bar, which will protrude from the slat when the lock is operated. Measure the distance from the bottom of the curtain to the lock bar then create a hole in each guide rail to suit the lock bar.



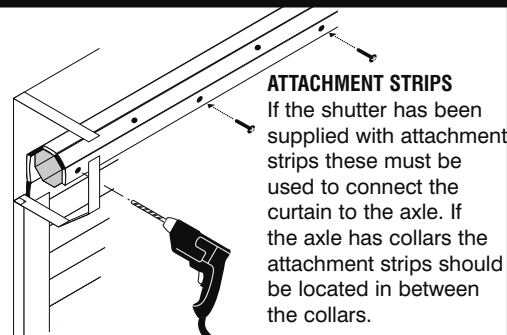
10 To prevent damage to the shutter and the surroundings and also to make the following step easier, remove the handles and stops from the bottom slat. Reattach the bottom slat to the curtain. If necessary remove the bottom slat handle from the bottom slat.



RISK OF MATERIAL DAMAGE!

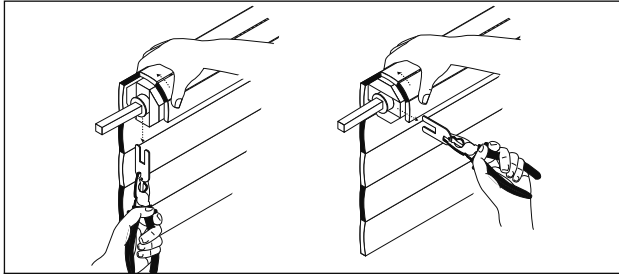
11 Cover the axle with bubble wrap or a similar material to prevent the curtain from being damaged during the curtain loading process. Carefully load the curtain over the axle.

CURTAINS DIRECT TO AXLE NO. 10 X 1/2 PAN POZI – TYPE C



12 Attach the curtain directly to the axle through the top two slats using the screws provided. Do not use locking springs. Screw heads must be countersunk to prevent damage to the curtain.

7.3 Spring Loaded Operation Installation Instructions (cont.)

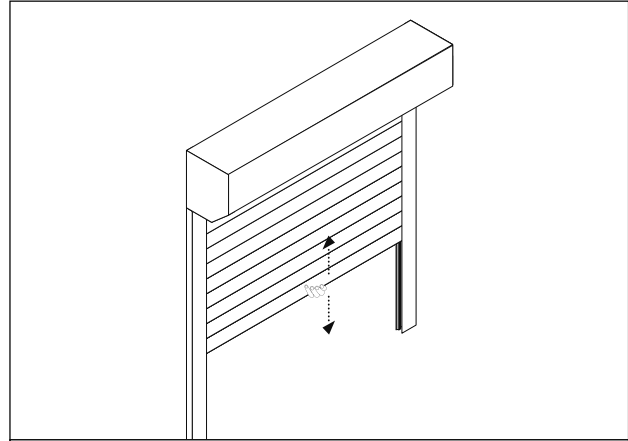


RISK OF PERSONAL INJURY!

13 Turn the axle in the down direction and carefully remove the pin. Please note there may be tension on the spring, which will cause the axle to turn. If the shutter contains a second anti-fall back spring (double spring) only one of the springs should be supplied with a pin. The shutter should be installed in the same way as a standard spring loaded shutter.

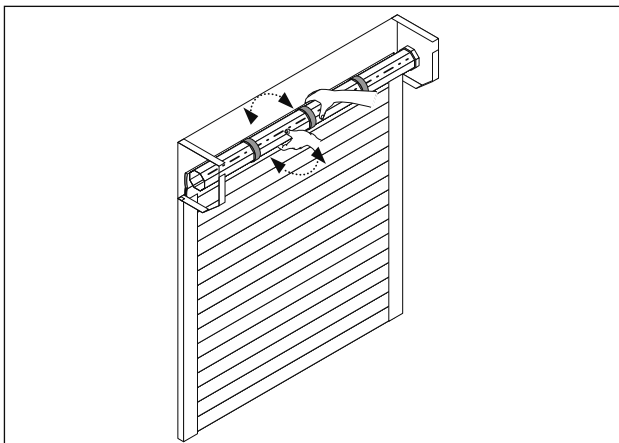


TIP - Lock the bottom slat to prevent the curtain from lifting and the axle from turning



RISK OF MATERIAL DAMAGE!

14 Test the operation keeping hold of the bottom slat at all times.



15 If required adjust the tension in the spring.

Method 1:

Lift the curtain to the top so that it coils around the axle. Place cardboard between the lock and the curtain to prevent the lock from damaging the curtain. Now allow the bottom slat to come out of the top of the guides so that you can rotate the coil to add to or release the tension in the spring. To add tension to the spring turn the axle in the down direction.

To release tension from the spring turn the axle in the up direction.

Once adjusted feed the curtain back into the guide rails and test the operation. Repeat this process until the spring contains the correct amount of tension.

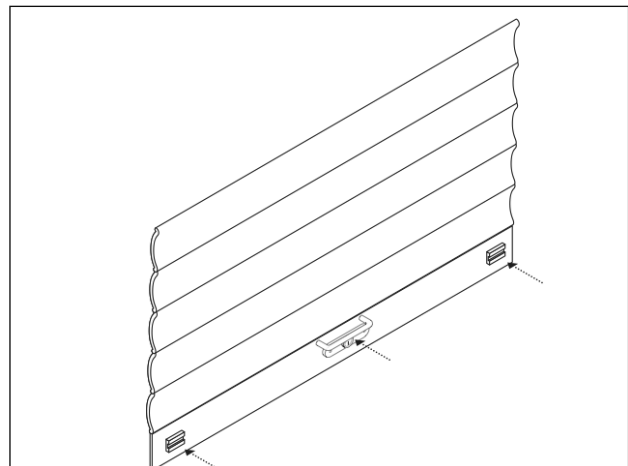
Method 2:

Lower the curtain to the floor. Turn the axle forward and insert the pin in the end of the spring to lock the axle (reverse of step 14). Detach the curtain from the axle. Carefully remove the pin then add or remove tension from the spring as appropriate.

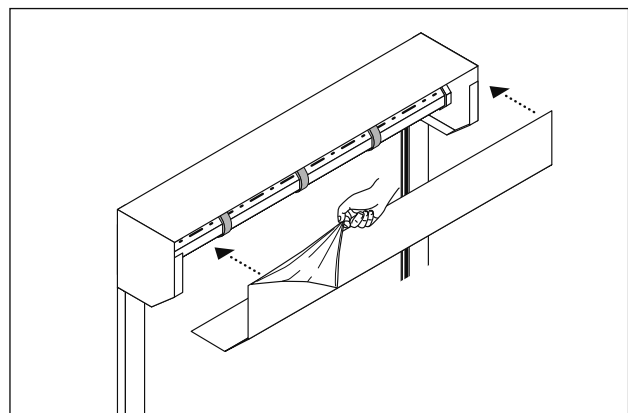
To add tension to the spring turn the axle in the down direction.

To release tension from the spring turn the axle in the up direction.

Once adjusted replace the pin then continue as step 13.

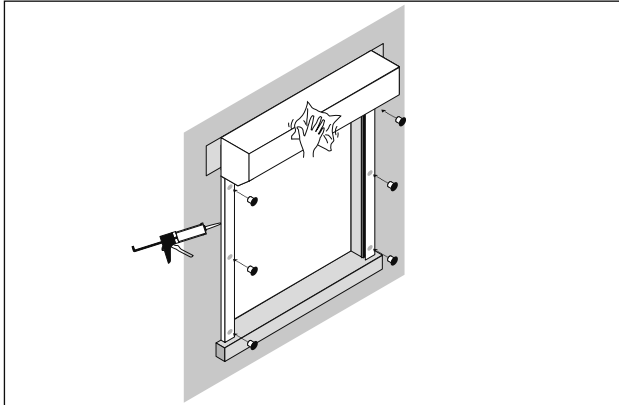


16 Attach the stops, handles and bottom slat handle removed earlier.



17 Remove the protective film from the box lid then fit the box lid to the shutter box. If the shutter is externally fitted the box lid should be fastened using appropriately coloured 4mm rivets.

7.3 Spring Loaded Operation Installation Instructions (cont.)



18 To complete the installation you should fit cover caps to the guide rails (if applicable), mastic around the edges of the shutter then give the shutter a final clean and tidy.

Upon completion of the installation the owner of the shutter must be trained how to operate the product safely paying special attention to the following points:

- **The shutter should only be operated when in view**
- **The operator should ensure there are no objects or persons in the opening before and during operation.**
- **The end user must read and follow the advice given in the operating and maintenance instructions.**
- **In the event of a malfunction the end user should follow the advice given in the operating and maintenance instructions and if applicable contact the installer.**