A GUIDE TO INSTALLING YOUR ROLLER SHUTTER
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Please note – These instructions were correct at the time of printing. Although any changes to our shutters will not greatly affect how they are installed, please be aware that products and techniques listed in this document may be out of date. Customers should use these instructions as guidelines and, if in doubt, should seek the help of a professional fitter or ask UK Roller Shutters. We do not accept liability for any incorrectly fitted shutters that we did not do ourselves.
Some Important Changes to Note:

- Some of the electrical instructions are geared towards our customers who purchase their shutter with a Somfy motor. We now offer an NRG model, which is a cheaper alternative, but may not be relevant to some of the instructions. However, it will not affect the basic guidelines to installing the shutter.
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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 21/2 inch 10s or 12s twin threaded screws with brown rawl plugs
- To secure the shutter box to the wall use at least 11/2 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 External Fit Shutters

7.1 Manual Belt 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

Operation Specific Parts
- Swivel belt winder / Geared belt winder (1 per shutter)
- Handle for geared belt winder (1 per shutter if geared belt winder required)
- Large belt roller (1 per shutter if shutter fitted externally)
- Belt tube (1 per shutter if shutter fitted externally)

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.
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 fully 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 minimise the movement of the guide rails to prevent the locating lugs from being snapped of the shutter box. 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.

EXTERNAL SHUTTERS ONLY

5. Mark and drill the belt tube hole. Drill a 10mm pilot hole followed by a 22mm hole for the tube.

   **Tip** – hold a block of wood against plaster to reduce damage caused by the drilling process.

6. Cut belt tube to correct length and insert.

EXTERNAL SHUTTERS ONLY
7.1 Manual Belt Operation Installation Instructions (cont.)

7 Remove film from box top

8 Unwind belt and feed through tube whilst offering the shutter to the opening

9 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.

10 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.

11 Remove locking springs and store safely for use in step 15

12 If adjustable T stops have been fitted in the bottom slat they should be set to an angle of approximately 45° to enable the bottom slat to enter the top of the guide rail. Once the bottom slat has entered the guide rail the T stop should be set to the horizontal position to prevent the curtain from being accidentally lifted out of the guide rails.
7.1 Manual Belt Operation Installation Instructions (cont.)

PLEASE NOTE LOCKING SPRINGS WILL NOT BE ATTACHED AT THIS STAGE, THIS IS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY

13 Check the curtain height. When pushed towards the back of the shutter box the curtain should finish just under the box top. If the curtain is too tall then slats should be removed to obtain the correct height. If the curtain finishes more than one slat beneath the shutter box top then the curtain is too short and the height must be increased in order for the shutter to lock correctly when fully down.

14 Load the locking springs onto the curtain

15 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.

16 Before you attach the curtain to the axle you should determine where you will mount the winder then pull the belt wrapped around the drive wheel so that the belt will pass the winder by at least 400mm. Attach the locking springs to the axle using the screws supplied.

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.

18 If stops or buffers have been supplied these can now be fitted to the bottom slat.

38mm EXTRUDED ALUMINIUM SLAT ONLY
7.1 Manual Belt Operation Installation Instructions (cont.)

**EXTERNAL SHUTTERS ONLY**

19 Slide roller on belt and mount on the internal wall.

**INTERNAL SHUTTERS ONLY**

20 Slide roller on belt and mount.

**SWIVEL BELT WINDER ONLY**

21 Load the belt into the winder. The belt will be supplied to the correct length. Pass the belt under the metal flap and between the chrome rollers. 500mm from the end of the belt cut a 10mm lengthways slit along the centre. Hook onto the pretensioned spring casing then release.

**GEARED BELT WINDER ONLY**

22 Load the belt into the winder. The belt will be supplied to the correct length. Take off the front of the winder, pass the belt between the rollers and fasten by knotting securely into the centre of the large cog. Reassemble the winder before fastening to the wall.

23 Mount the winder at a convenient height for operation either to the wall or to the guide rails as appropriate.

**SWIVEL BELT WINDER ONLY**

24 Test the operation of the winder and the shutter to ensure that the belt feeds into and out of the winder correctly and also that the shutter moves freely up and down in the guide rails.
25 Test the operation of the winder and the shutter to ensure that the belt feeds into and out of the winder correctly and also that the shutter moves freely up and down in the guide rails.

26 Test the shutter to ensure that the curtain locks correctly when the curtain closes fully. Please refer to the operating and maintenance instructions supplied for the correct method for operating and locking the shutter.

27 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.
7.2 Rod Crank 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

Operation Specific Parts:
· Rod crank handle (1 per shutter)
· Rod crank handle clip (1 per shutter)

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.

Rod crank and override handles

Fig. 1

Fig. 2

Fig. 3

fig.1 is a 45° joint with 2 hole fixing plate, box exit F
fig.2 is a 90° joint with 4 hole fixing plate, box exit A
fig.3 is a 90° joint with 2 hole fixing plate, box exit H
7.2 Rod Crank 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. Mark and drill the rod crank hole. Refer to step 6 to determine the angle of the crank hole. Please note the shutter box is not shown in this diagram. The location of the hole is determined by the exit hole in the shutter box. Drill a 10mm pilot hole followed by a 22mm hole for the tube. Tip – hold a block of wood against plaster to reduce damage caused by the drilling process.

6. Determine the angle of the crank hole.
7.2 Rod Crank Operation Installation instructions (cont.)

8 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.

9 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.

RISK OF MATERIAL DAMAGE!

10 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.

ATTACHMENT STRIPS
If the shutter has been supplied with attachment strips these must be used to connect the curtain to the axle. If the axle has collars the attachment strips should be located in between the collars.

11 The crank gear contains a stop to prevent the shutter from being overwound when it reaches the bottom. Wind the crank gear to the bottom stop then wind back ½ a turn.

12 Attach the top two slats of the curtain directly to the axle using the screws provided. The screws must be countersunk to prevent them damaging the slats which will coil on top.
7.2 Rod Crank Operation Installation instructions (cont.)

13 Insert the crank handle temporarily and slowly wind the handle to test the operation of the shutter. Test the shutter to ensure that the curtain locks correctly when the curtain closes fully. Please refer to the operating and maintenance instructions supplied for the correct method for operating and locking the shutter. Ensure that the shutter moves freely up and down in the guide rails.

14 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.

15 The crank handle should now be permanently attached to the shutter.

16 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.**
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.

CURTAINS DIRECT TO AXLE
NO. 10 X ½ PAN POZI – TYPE C

ATTACHMENT STRIPS
If the shutter has been supplied with attachment strips these must be used to connect the curtain to the axle. If the axle has collars the attachment strips should be located in between the collars.

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.

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.
RISK OF PERSONAL INJURY!
13 Turn the axle in the down direction and carefully remove the pin. Please note there maybe 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.

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.
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.**
7.4 Electric operation Parts List

General Parts
- Assembled shutter box (1 per shutter)
- Pair of guide rails (1 pair per shutter)
- Assembled curtain (depending on the shutter size may be supplied in sections)
- Installation instructions
- Operating & Maintenance instructions

Operation Specific Parts
- Override handle (1 per shutter if manual override)
- Override handle clip (1 per shutter if manual override)
- Electric control method (depends on method requested):
  - Switch (with back box surface / flush)
  - Key switch
  - Remote control kit
  - Group command
  - Battery back up

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.

Rod crank and override handles

fig.1 is a 45° joint with 2 hole fixing plate, box exit F
fig.2 is a 90° joint with 4 hole fixing plate, box exit A
fig.3 is a 90° joint with 2 hole fixing plate, box exit H

Override Crook

Rigid Eye Joint

Drop Eye Joint
### 7.4 Electric operation Installation Instructions

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

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1. Remove the lid from the shutter box. If attached remove locking springs / attachment straps from the axle and keep safe for step 12.

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 tops. 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. If applicable mark and drill the override hole ensuring the hole is drilled at the correct angle (see step 6). Drill a 10mm pilot hole followed by a 22mm hole.

   **Tip** – hold a block of wood against plaster to reduce damage caused by the drilling process

6. If a manual override has been supplied and if applicable determine the angle of the override hole.
7.4 Electric operation Installation Instructions (cont.)

7 Remove film from box top

8 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.

9 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.

PLEASE NOTE LOCKING SPRINGS WILL NOT BE ATTACHED AT THIS STAGE, THIS IS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY

11 Check the curtain height. When pushed towards the back of the shutter box the curtain should finish just under the box top. If the curtain is too tall then slats should be removed to obtain the correct height. If the curtain finishes more than one slat beneath the shutter box top then the curtain is too short and the height must be increased in order for the shutter to lock correctly when fully down.

12 Load the locking springs / attachment straps onto the curtain.

RISK OF MATERIAL DAMAGE
10 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.
7.4 Electric operation Installation Instructions (cont.)

LOCKING SPRINGS – NO. 8 X ¼ PAN FLANGE POZI – TYPE
ATTACHMENT STRIPS – NO. 10 X ¾ PAN POZI – TYPE

ATTACHMENT STRIPS
If the shutter has been supplied with attachment strips these must be used to connect the curtain to the axle. If the axle has collars the attachment strips should be located in between the collars.

13 Please note if this shutter has been supplied with an anti-fall back spring then the spring should be tensioned before you attach the curtain to the axle (see section 13.2) Attach the locking springs / attachment straps to the axle using the screws supplied.

14 It is recommended that you use a test lead to set the motor limits or if a remote control is being supplied set the remote control into commissioning mode (see section 11.2). If a remote control is not being used or if you do not have a motor test lead the motor should now be wired to the switch supplied (see section 11).

Please note this is not the correct orientation please refer to section 13

15 If applicable check anti-fall back device (see section 13.1 page 68)

16 Set the motor limits (see section 12)

17 Wire the control method supplied to the shutter (see section 11 for further details). If an anti-drop brake has been supplied with a micro limit switch (wire attached to the anti-drop brake) this will also require wiring in at this stage (see section 13.1).

18 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.
19 If applicable attach the override handle / rigid eye / drop eye to the shutter and test the manual override facility. Once you have identified which direction will open the shutter attach the label supplied to the override handle showing the end user which direction to wind the manual override to operate the shutter.

20 Test the operation of the shutter to ensure that the shutter moves freely up and down in the guide rails and that the shutter stops at its preset fully open and fully closed limits. If a remote control has been supplied with safety devices these should also be checked at this stage.

21 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.

If applicable complete CE documentation and label the product to comply with the Machinery Directive.
8 Reveal Fit Shutters

Parts List

General Parts

· Shutter box shell (1 per shutter)
· Pair of guide rails (1 pair per shutter)
· Assembled curtain (1 per shutter)
· Axle assembly (1 per shutter)
· Installation instructions
· Operating & Maintenance instructions

Operation Specific Parts

Rod Crank Operation

· Rod crank handle (1 per shutter)
· Rod crank handle clip (1 per shutter)

Electric operation

· Override handle (1 per shutter if manual override)
· Override handle clip (1 per shutter if manual override)

Electric control method (depends on method requested):

· Switch (with back box surface / flush)
· Key switch
· Remote control kit
· Group command
· Battery back up

Keys for bottom slat locks are packed in a bag which is taped to the bottom slat. (Spring Loaded Operation)

Accessories are packed in a separate box.

If applicable angle & packer are usually packed with the guide rails.
Before you begin installing the shutter please ensure you have read pages 4–9.

Important information:
- When installed it is vital that the shutter box is not compressed by the surrounding wall.
- Once installed the box lid must remain accessible at all times and must not be covered up.
- To remove the box lid use a chisel or similar flat bladed tool.
8.1 Rod Crank Operation Installation Instructions

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

1. Slide the axle assembly into the shutter box as shown.

2. Remove the excess material from the axle supports as shown then rivet the black axle supports in place.

3. If a bottom slat handle has been fitted to the curtain it should be removed before you attempt to load the curtain into the shutter.

4. 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.

5. Wind the crank gear to the bottom stop then wind the axle back 1/2 a turn.

6. Attach the top two slats of the curtain directly to the axle using the screws provided. The screws must be countersunk to prevent them damaging the slats which will coil on top.

RISK OF MATERIAL DAMAGE!
7 Insert the crank handle temporarily and slowly wind the handle to test the operation of the shutter. Test the shutter to ensure that the curtain locks correctly when the curtain closes fully. Please refer to the operating and maintenance instructions supplied for the correct method for operating and locking the shutter. Ensure that the shutter moves freely up and down in the guide rails.

8 Fit the box lid to the shutter box.

9 The crank handle should now be permanently attached to the shutter.

10 If a bottom slat handle has been supplied with this shutter it should now be fitted to the bottom slat.

11 To complete the installation you should 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.
8.2 Spring loaded Operation Installation Instructions

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

1. Slide the axle assembly into the shutter box as shown.

2. Remove the excess material from the axle supports as shown then rivet the black axle supports in place.

3. 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.

4. Remove the stops and handles which are attached to the bottom slat then attach the bottom slat to the curtain.

5. If a bottom slat handle has been fitted to the curtain it should be removed before you attempt to load the curtain into the shutter.

6. 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.
8.2 Spring Loaded Operation Installation Instructions (cont.)

**ATTACHMENT STRIPS**
If the shutter has been supplied with attachment strips these must be used to connect the curtain to the axle. If the axle has collars the attachment strips should be located in between the collars.

7 Attach the top two slats of the curtain directly to the axle using the screws provided. The screws must be countersunk to prevent them damaging the slats which will coil on top.

**RISK OF PERSONAL INJURY!**
8 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!**
9 Test the operation keeping hold of the bottom slat at all times.

10 If required adjust the tension in the spring.

**RISK OF MATERIAL DAMAGE!**
For safety reasons it is advisable for the tension to be adjusted by two people.

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.
8.2 Spring loaded Operation Installation Instructions (cont.)

12 Fit the box lid to the shutter box.

13 If applicable attach the bottom slat handle to the bottom slat.

14 To complete the installation you should 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.**
8.3 Electric Operation Installation Instructions

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

1 Slide the axle assembly into the shutter box as shown.

2 Remove the excess material from the axle supports as shown then rivet the black axle supports in place.

3 If a bottom slat handle has been fitted to the curtain it should be removed before you attempt to load the curtain into the shutter.

RISK OF MATERIAL DAMAGE!
4 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.

Please note locking springs will not be attached at this stage, this is drawing is for illustrative purposes only.

5 Check the curtain height. When pushed towards the back of the shutter box the curtain should finish just under the box top. If the curtain is too tall then slats should be removed to obtain the correct height. If the curtain finishes more than one slat beneath the shutter box top then the curtain is too short and the height must be increased in order for the shutter to lock correctly when fully down.

6 Load the locking springs onto the curtain.
8.3 Electric Operation Installation Instructions (cont.)

**LOCKING SPRINGS**
**NO. 8 X ¼ PAN FLANGE POZI – TYPE C**

**ATTACHMENT STRIPS**
If the shutter has been supplied with attachment strips these must be used to connect the curtain to the axle. If the axle has collars the attachment strips should be located in between the collars.

7 Please note if this shutter has been supplied with an anti-fall back spring then the spring should be tensioned before you attach the curtain to the axle (see section 13.2). Attach the locking springs / attachment straps to the axle using the screws supplied.

8 It is recommended that you use a test lead to set the motor limits or if a remote control is being supplied set the remote control into commissioning mode (see section 11.2). If a remote control is not being used or if you do not have a motor test lead the motor should now be wired to the switch supplied (see section 11).

9 Set the motor limits (see section 12)

10 Wire the control method supplied to the shutter (see section 11 for further details). If an anti-drop brake has been supplied with a limit switch (wire attached to the anti-drop brake) this will also require wiring in at this stage (see section 13.1).

11 Fit the box lid to the shutter box.

12 If applicable attach the bottom slat handle to the bottom slat.
13 If applicable attach the override handle / rigid eye / drop eye to the shutter and test the manual override facility. Once you have identified which direction will open the shutter attach the label supplied to the override handle showing the end user which direction to wind the manual override to operate the shutter.

14 Test the operation of the shutter to ensure that the shutter moves freely up and down in the guide rails and that the shutter stops at its preset fully open and fully closed limits. If a remote control has been supplied with safety devices these should also be checked at this stage.

15 To complete the installation you should 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.

If applicable complete CE documentation and label the product to comply with the Machinery Directive.
9 External Fit Security Shutter

9 Insurance / Police Approved Security Shutter Parts List

General Parts
- Assembled shutter box (1 per shutter)
- Pair of guide rails (1 pair per shutter)
- Assembled curtain (depending on the shutter size may be supplied in sections)
- Installation instructions
- Operating & Maintenance instructions

Operation Specific Parts
- Override handle (1 per shutter if manual override)
- Override handle clip (1 per shutter if manual override)
- Electric control method (depends on method requested):
  - Switch (with back box surface / flush)
  - Key switch
  - Remote control kit
  - Group command
  - Battery back up

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.

On the base of the guide rails there will be steel reinforcement plates which are part of the insurance approved specification. The type supplied will be dependant on whether the guide rails are face or reveal fitted.
9 External Fit Security Shutter Installation Instructions

Before you begin installing the shutter please ensure you have read pages 4–9. The LPCB certification awarded to this product is subject to it being installed in accordance with the requirements set out in the following instructions. Only then can the LPCB badge supplied be applied.

1 Remove the lid from the shutter 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 tops. 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. The guide rails should have a protective steel guide foot located at the base of each guide rail. 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.

EXTERNAL SHUTTERS ONLY

5 If applicable mark and drill the override hole ensuring the hole is drilled at the correct angle (see step 6). Drill a 10mm pilot hole followed by a 22mm hole.

Tip – hold a block of wood against plaster to reduce damage caused by the drilling process

EXTERNAL SHUTTERS ONLY

6 If a manual override has been supplied and if applicable determine the angle of the override hole.
9 External Fit Security Shutter Installation Instructions (cont.)

1. Remove film from box top

2. Fit the shutter box using the recommended spacings. The minimum required fasteners are No.12 x 2½” screws and plugs for masonry and M8 fasteners with 10mm engagement for steel. A minimum of 2 fixings per end plate are required. 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. Starting with the top holes, fix the guide rails ensuring that the guide rails are vertical and that the shutter box is horizontal. Each guide rail must have a minimum of 5 fixings (irrespective of size). The minimum required fasteners are No.12 x 2½” screws and plugs for masonry and M8 fasteners with 10mm engagement for steel. Note that for fixing into masonry the fasteners must be at least 50mm clear of the reveal (to prevent breakaway from the corner) and for steel 20mm. Once fastened the heads of all fixings must be spoilt.

Alternative method for face fix installation:
To offer improved security the fasteners can be located inside the main channel of the guide rail instead of the box section so that when the curtain is lowered it covers the fasteners. To achieve this you should drill a minimum of 5 x 13mm holes on the exposed face of the guide rail and corresponding 7mm holes on the face, which will be fastened to the wall. Use a sharp knife to reduce the depth of the 13mm cover caps (to prevent them from catching the curtain).

10. If a lock has 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.

11. Attach bottom slat to curtain
12 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. If the shutter has been supplied with bullet locks attached to the guide rails you will now need to prepare the curtain for the bullet lock pins. When the curtain is in the fully closed position drill a 13mm hole through each housing through the curtain. Check that the bullet lock pins will lock and release.

13 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.

· Failure to fix the shutter vertically or square can result in safety brake activation.
· The safety brake can also be activated if the shutter box is not fitted with sufficient fixings at sufficient intervals.

Please note this is not the correct orientation please refer to section 13

15 If applicable check anti-fall back device (see section 13.1)

16 Set the motor limits (see section 12). Please note that that the lower motor limit should be set at a point where it is impossible to raise the curtain when the bottom lock is not engaged.

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.
18 If applicable attach the override handle / rigid eye / drop eye to the shutter and test the manual override facility. Once you have identified which direction will open the shutter attach the label supplied to the override handle showing the end user which direction to wind the manual override to operate the shutter.

19 Wire the control method supplied to the shutter (see section 11 for further details). If an anti-drop brake has been supplied with a limit switch (wire attached to the anti-drop brake) this will also require wiring in at this stage (see section 13.1).

20 Test the operation of the shutter to ensure that the shutter moves freely up and down in the guide rails and that the shutter stops at its preset fully open and fully closed limits. If a remote control has been supplied with safety devices these should also be checked at this stage. Also ensure that the locks engage and disengage satisfactorily.

21 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.

If applicable complete CE documentation and label the product to comply with the Machinery Directive.
Parts List

General Parts
· Assembled axle assembly (1 per shutter)
· Pair of flag assemblies (angle, guides, and endplates)
· Assembled curtain (depending on the shutter size may be supplied in sections)
· Steel hood
· Installation Instructions
· Operating and maintenance instructions

Operation specific parts
· Steel stops and bolts (4 per shutter, attached to guide)

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.
10.1 Spring Loaded Operation Installation Instructions

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

1. The channels are supplied with the angles attached; these must be removed.

2. Measure the opening to determine the location of the first length of angle. If the floor is sloping, you must fit the higher side first. Fix the angle to the wall.

3. Offer angle up and fix to wall ensuring vertical (use all fixing holes provided).

4. Measure from the first angle to determine the position of the second angle ensuring that the angles are vertical and also that the tops of the end plates are level. Fix the angle to the wall.

5. Remove the attachment strips from the axle.

6. Attach the axle to the end plates using the fixings provided. You must ensure that the bolts located along the length of the axle for curtain attachment will be available for step 11.
8. If a lock has 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.

9. Attach the bottom slat and the attachment strips to the curtain.

10. 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.

**RISK OF MATERIAL DAMAGE!**

**TIP** – Place blocks on the floor under the bottom slat to raise the curtain off the ground. This will make it easier to attach the curtain to the axle in the next step.

11. Attach the curtain to the axle using the attachment strips provided.

**RISK OF PERSONAL INJURY!**

**TIP** – Lock the bottom slat to prevent the curtain from lifting and the axle from turning.
10.1 Spring Loaded Operation Installation Instructions (cont.)

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

14 If required adjust the tension in the spring.

15 Attach the stops to the guide channels (as shown above) and if applicable attach handles to the bottom slat.

16 If required fit the hood / fascia. If the shutter is externally fitted the hood / fascia should be fastened using appropriately coloured 4mm rivets.

17 To complete the installation you should 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.
10.2 Electric Operation Parts List

General Parts
- Assembled axle assembly (1 per shutter)
- Pair of flag assemblies (angle, guides, and endplates)
- Assembled curtain (depending on the shutter size may be supplied in sections)
- Steel hood
- Installation Instructions
- Operating and maintenance instructions

Operation specific parts
- Override handle (1 per shutter if manual override)
- Override handle clip (1 per shutter if manual override)

Electric control method (depends on method requested):
- Switch (with back box surface/flush)
- Key switch
- Remote control kit
- Group command
- Battery back up

Accessories are packed in a separate box.
If applicable angle & packer are usually packed with the guide rails.

Override handles

![Override Crook](image1.png)

![Rigid Eye Joint](image2.png)

![Drop Eye Joint](image3.png)
10.2 Electric Operation Installation Instructions

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

1 The channels are supplied with the angles attached these must be removed. If 30mm x 30mm packer box has also been attached this should also be removed. Please make a note of which sides the 30x30 box section was attached to as you will need to reattach it to the correct side in step 7.

2 Measure the opening to determine the location of the first length of angle. If the floor is sloping you must fit the higher side first. Fix the angle to the wall.

3 Offer angle up and fix to wall ensuring vertical (use all fixing holes provided)

4 Measure from the first angle to determine the position of the second angle ensuring that the angles are vertical and also that the tops of the end plates are level. Fix the angle to the wall.

5 Remove the attachment strips from the axle.

6 Attach the axle to the end plates using the fixings provided. You must ensure that the bolts located along the length of the axle for curtain attachment will be available for step 11.
10.2 Electric Operation Installation Instructions (cont.)

7 Attach the channels and the 30x30 box section to the angles if applicable.

8 Slide the attachment strips on to the curtain.

9 Large curtains will be supplied in two or more sections to enable them to be transported. There are two alternative methods for assembling the curtain:

Method 1
(If limited room, may require mechanical lifting assistance)
Slide the sections of curtain together before loading in the guide channels.

Method 2
Attach the top section of the curtain to the axle then rotate the axle in the up direction to roll the curtain around the axle. Then attach the next section of the curtain to the bottom of the first section. Repeat this process if applicable. Once all the curtain is coiled around the axle it can be lowered down into the guide channels.

10 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.

TIP – Place blocks on the floor under the bottom slat to raise the curtain of the ground. This will aid you to attach the curtain to the axle in the next step.

11 Attach the curtain to the axle using the attachment strips provided.
10.2 Electric Operation Installation Instructions (cont.)

12 It is recommended that you use a test lead to set the motor limits or if a remote control is being supplied set the remote control into commissioning mode (see section 11.2). If a remote control is not being used or if you do not have a motor test lead the motor should now be wired to the switch supplied (see section 11).

13 If applicable check anti-fall back device (see section 13.1)

14 Set the motor limits (see section 12).

15 If required fit the hood / fascia. If the shutter is externally fitted the hood / fascia should be fastened using appropriately coloured 4mm rivets.

16 If applicable attach the override handle / rigid eye / drop eye to the shutter and test the manual override facility. Once you have identified which direction will open the shutter attach the label supplied to the override handle showing the end user which direction to wind the manual override to operate the shutter.

17 Wire the control method supplied to the shutter (see section 11 for further details). If an anti-drop brake has been supplied with a limit switch (wire attached to the anti-drop brake) this will also require wiring in at this stage (see section 13.1).
18 Test the operation of the shutter to ensure that the shutter moves freely up and down in the guide rails and that the shutter stops at its preset fully open and fully closed limits. If a remote control has been supplied with safety devices these should also be checked at this stage. To complete the installation you should 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.**

If applicable complete CE documentation and label the product to comply with the Machinery Directive.
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