



Anleitung für Montage, Betrieb und Wartung

Garagentorantrieb

Installation, Operating and Maintenance Instructions

Garage Door Operator

Instructions de montage, de manœuvre et d'entretien

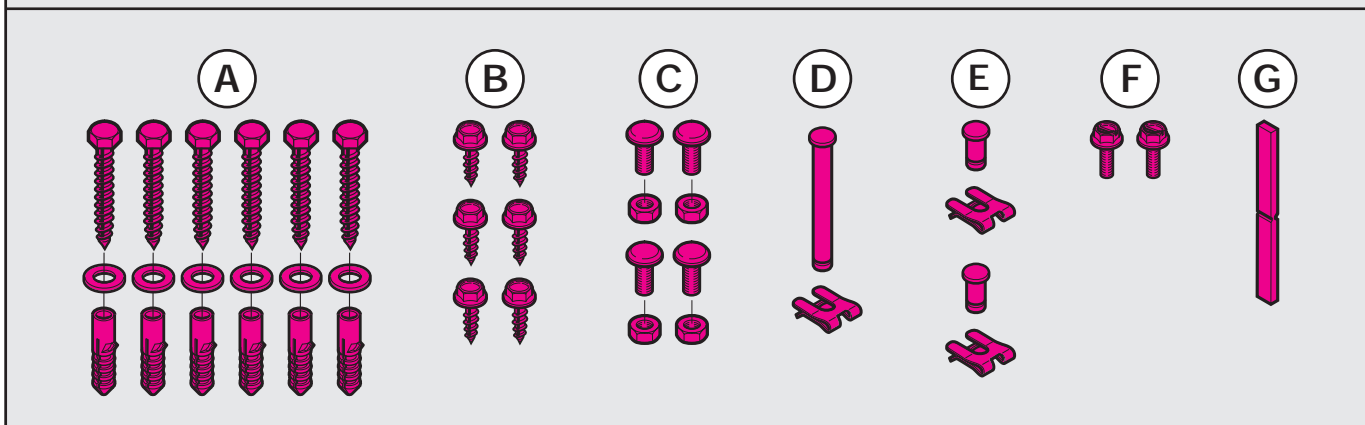
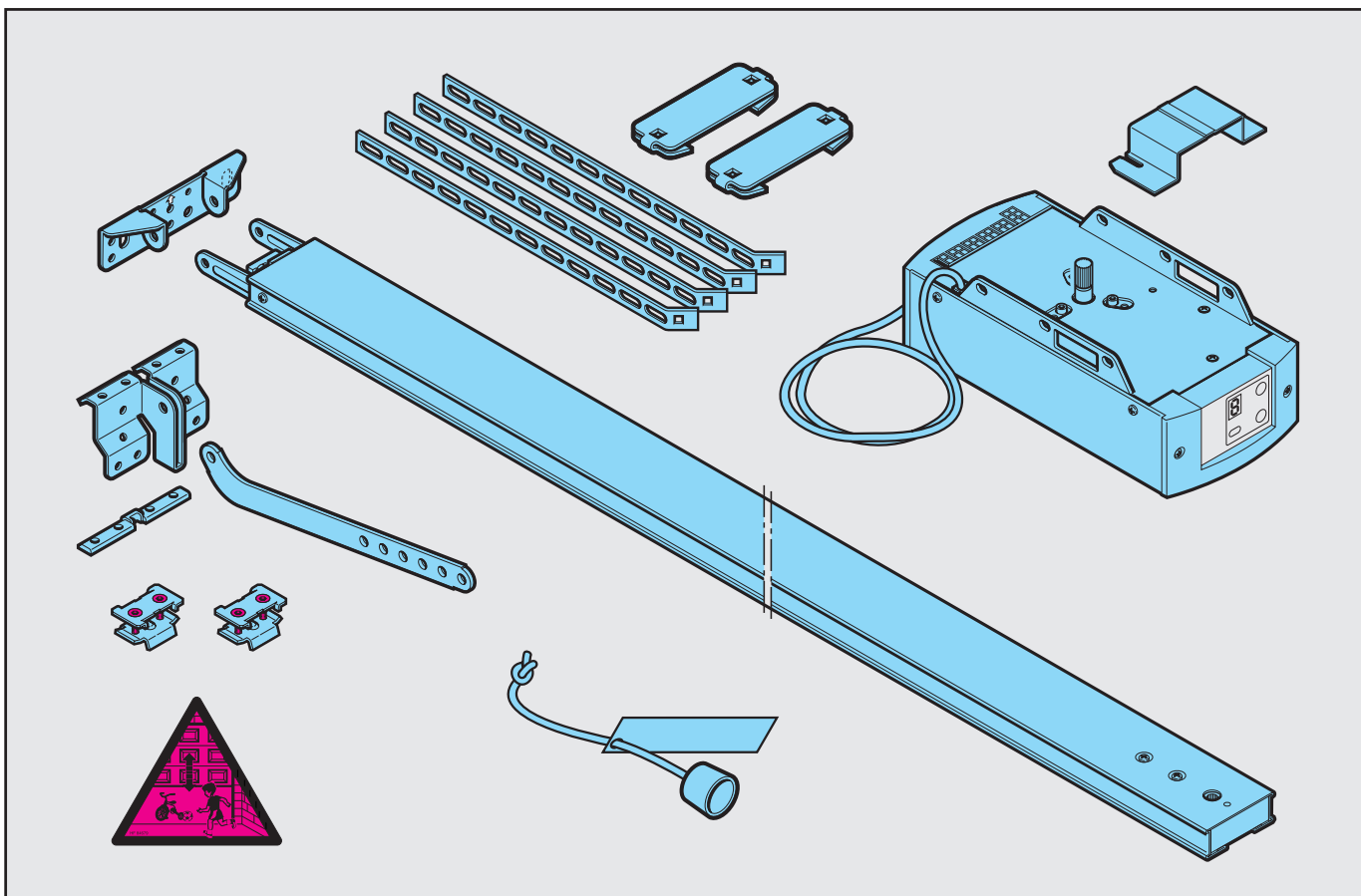
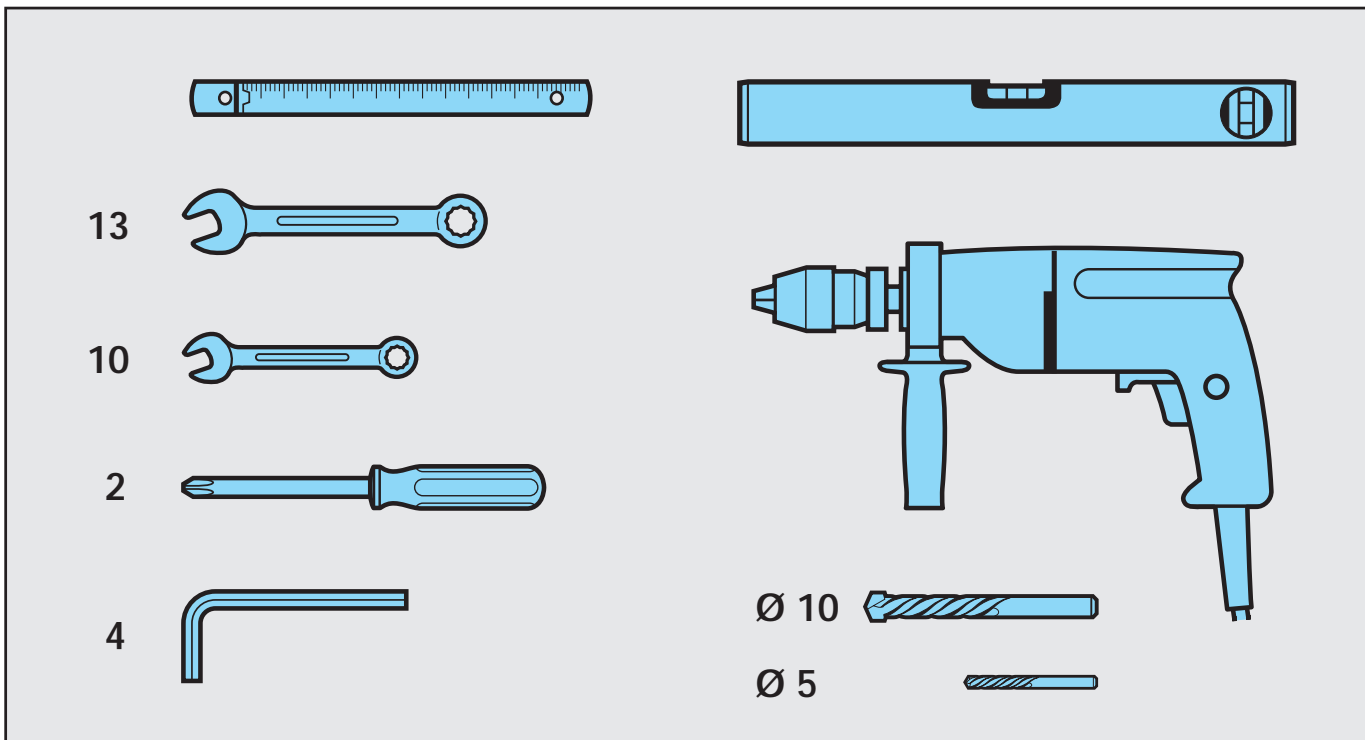
Motorisation pour porte de garage

Handleiding voor montage, bediening en onderhoud

Garagedeuraandrijving

Istruzioni per il montaggio, l'uso e la manutenzione

Motorizzazione per porte da garage



## ENGLISH

### Dear Customer,

We are delighted that you have decided to purchase one of our products. Please keep these instructions safe for later reference.

Please observe the following instructions. They provide you with important information on the safe installation and operation of your garage door operator, ensuring that this product will give you pleasure for many years to come.



**In the interests of human safety it is vital that the instructions contained in this instruction manual be followed in full.**

### Important Safety Instructions

This garage door operator is designed for the automatic operation of spring-balanced up-and-over doors and sectional doors and for frequently used garage doors in the domestic sector. In the event that the customer carries out his own structural changes or undertakes improper installation work or arranges for same to be carried out without our prior approval and contrary to our given guidelines, then we shall be exempt from our guarantee obligations and product liability.

Any further processing must ensure that the national regulations governing the operation of electrical equipment are complied with. Moreover, we shall accept no responsibility for the inadvertent or negligent operation or improper maintenance of the door, the accessories and the weight counterbalance of the door.

Batteries and light bulbs are not covered by the guarantee. The design of the operator is not suitable nor intended for the opening and closing of heavy doors, i.e. doors that can no longer be opened or closed manually or where this is only possible with great difficulty. Before installing the operator it is therefore **necessary** to check the door and make sure that it can still be easily moved by hand.

To carry out this check, raise the door approx. 1 metre and then let it go. The door should keep this position, moving neither up nor down. If the door should move in any of the two directions, there is a risk that the compensating springs are incorrectly adjusted or defective. In this case increased wear and malfunctioning of the door system can be expected.

### Caution: Mortal danger!

Do not attempt to change, re-adjust, repair or move the compensating springs for the door's counterbalance mechanism or their holders. The springs are under great tension and can cause serious injury. For your own safety, only allow work on the door's compensating springs to be carried out by an garage door experienced engineer.

In addition, check the entire door system – joints/hinge points, door bearings, cables, springs and fastenings – for wear, possible damage and a faulty counterbalance mechanism. Check for signs of rust, corrosion or fractures. The door system may not be used if repair or adjustment work needs to be carried out. Always remember that a fault in the door system or a wrongly aligned door can cause injury.

Before installing the operator, have any necessary maintenance and repair work carried out by your garage door's service engineers.

The function of the mechanical release must be checked once a month. The cord knob may only be actuated when the door is closed, otherwise in the case of weak, broken or defective springs or a faulty counterbalance mechanism there is a risk that the door could quickly slam shut of its own accord.



### Important Instructions for Safe Installation

**ATTENTION: Incorrect installation can result in serious injuries. Always cover over the operator before carrying out any drilling. Please follow all the installation instructions.**

**Only boom FS 50 may be used with this operator!**

Before the operator is installed, any of the door's mechanical locks and latches not needed for power operation of the garage door, should be immobilised. This includes in particular any locking mechanisms connected with the door lock.

Before installing the garage door operator, check that the door is in a good mechanical condition, is correctly balanced and opens and closes in the proper manner.



Permanently installed controls (such as buttons or similar devices) should be installed within sight of the door but well away from any moving parts and at a height of at least 1.5 metres. It is vital that they are installed out of the reach of children!

**Caution notices warning about the trap risk must be permanently fixed in a conspicuous place in the proximity of the permanently installed buttons used to actuate the operator.**

The garage ceiling must be constructed in such a way so as to guarantee safe, secure anchoring of the operator. In the case of ceilings which are too high or too light-weight, the operator must be attached to additional braces.

The operator is designed for use in dry buildings and therefore may not be installed outdoors. The door height must not exceed a maximum of 3 metres. The clearance between the highest point of the door and the ceiling (also during the up-and-over action of the door) must be at least 30 mm. Please check the dimensions. If there is inadequate clearance, the operator may also be installed behind the opened door, provided sufficient space is available. In such instances, an extended door link must be used.

The door operator can be positioned off-centre by a maximum of 500 mm, the exception being sectional doors with high-lift tracks (track application "H") where a special track fitting is required. The required shockproof electric socket should be installed next to the operator head at a distance of approx. 50 cm.

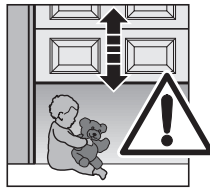
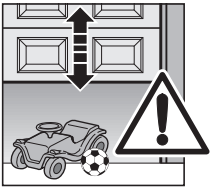
## ENGLISH



**ATTENTION:** Electrical installation on site must comply with the relevant safety regulations (230/240 V AC, 50/60 Hz). Electrical connections may only be carried out by a qualified electrician! External voltage at any of the controls connecting terminals will completely destroy the electronics.

In carrying out the installation work, the applicable regulations regarding working safety must be complied with. Make sure that the cable of the operator's mechanical release cannot get caught up in the ceiling's support system or in any other protruding parts of vehicles or the door.

Make sure that no persons or objects are located within the door's range of travel.



Initial function checks as well as programming or extending the remote control should always be carried out from inside the garage.



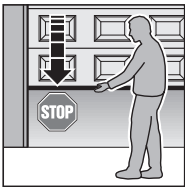
**ATTENTION:** For garages without a second entrance, an emergency release must be fitted to prevent persons from getting locked in. This must be ordered separately and its function checked once a month.

### Instructions for Using the Operator



**ATTENTION:** Do not allow anyone to hang bodily from the pull cord with knob

Before carrying out any work on the operator, disconnect the mains plug. Instruct all persons using the door system how to operate it properly and safely.



Demonstrate and test the safety return and the mechanical release. Only ever operate the door provided the door's range of travel is located within your field of vision.



**ATTENTION:** Keep hand transmitters out of the reach of children.

Wait until the door has come to a complete halt before entering the door's range of travel. Before driving in or out of the garage, make sure that the door has opened fully.

### Tensioning the Drive Belt

The operator's toothed belt has been optimally pretensioned at the factory. During the starting and braking phases of large doors it can happen that the drive belt hangs out of the profiled boom for a brief while. This, however, is of no technical disadvantage nor does it have a negative effect on the operator's function and service life.



**ATTENTION:** Do not reach into the boom with the fingers → trap risk!

### Maintenance Advice

The garage door operator is maintenance-free. For your own safety, however, we recommend that you have the door system checked once a year by a specialist.

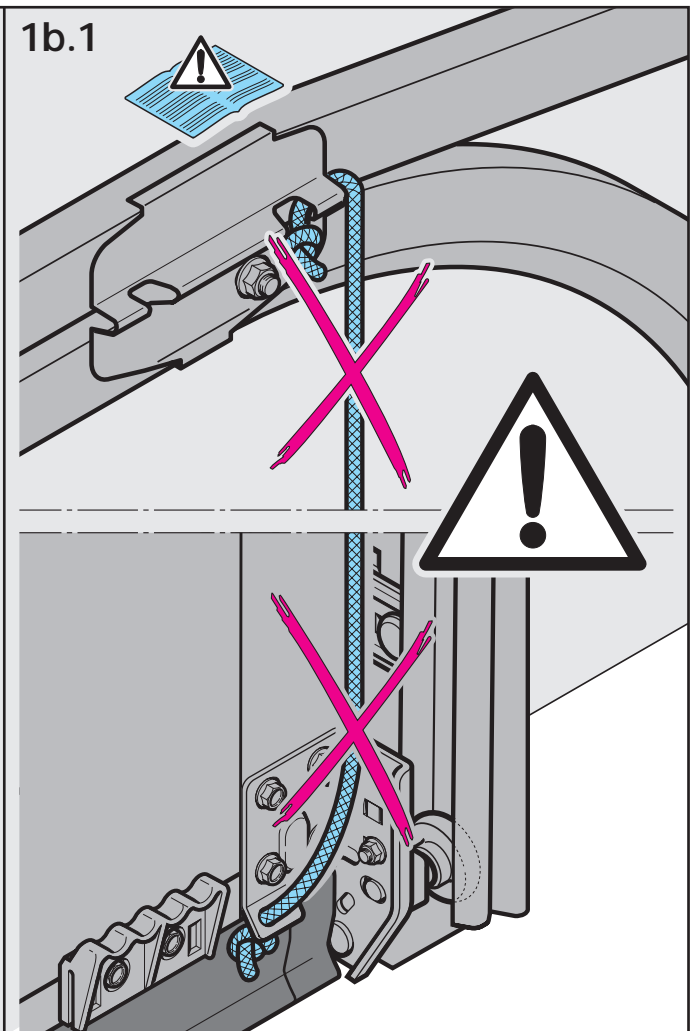
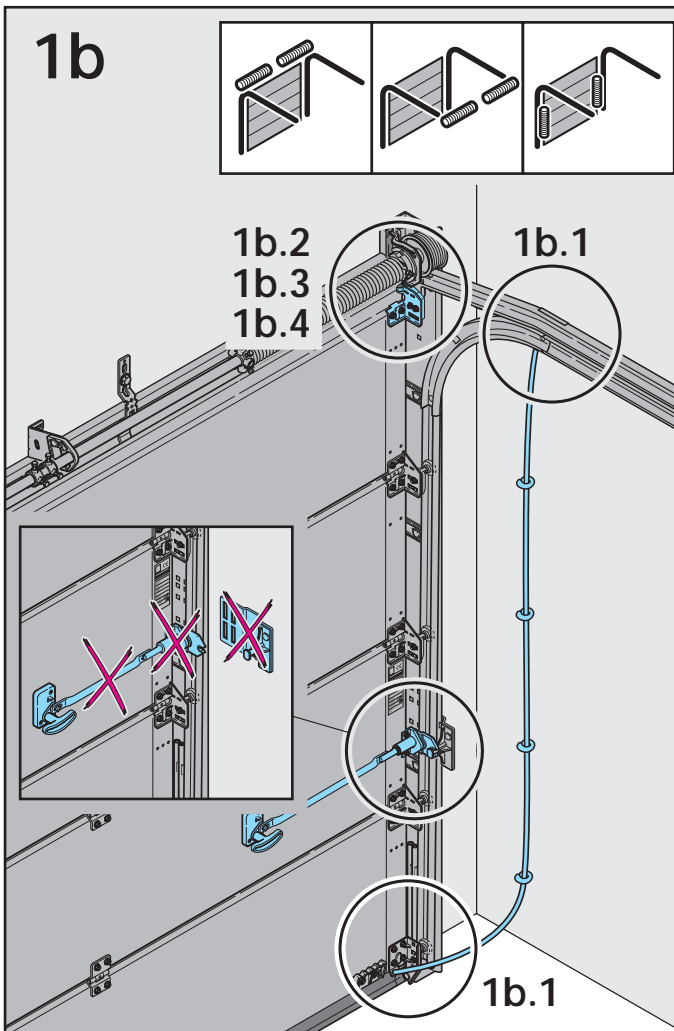
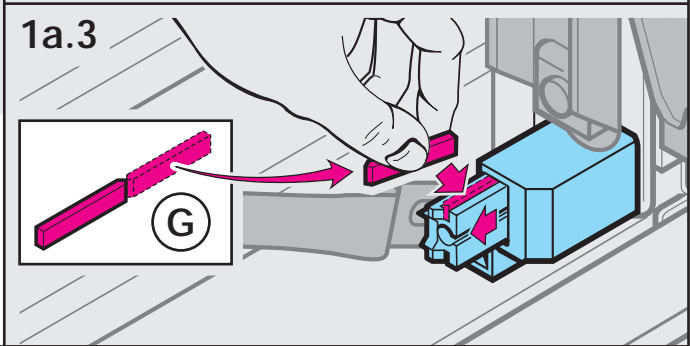
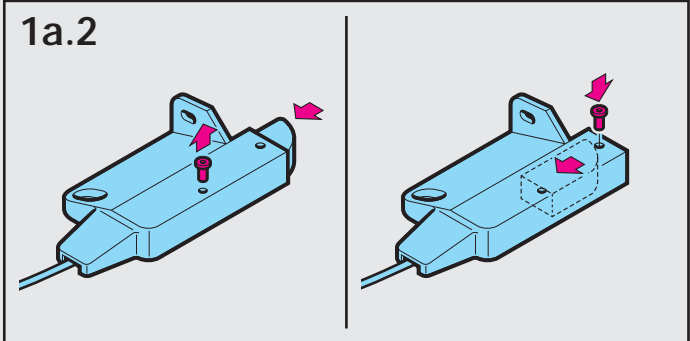
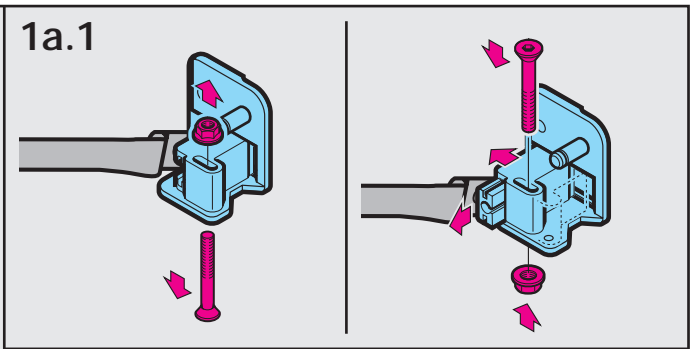
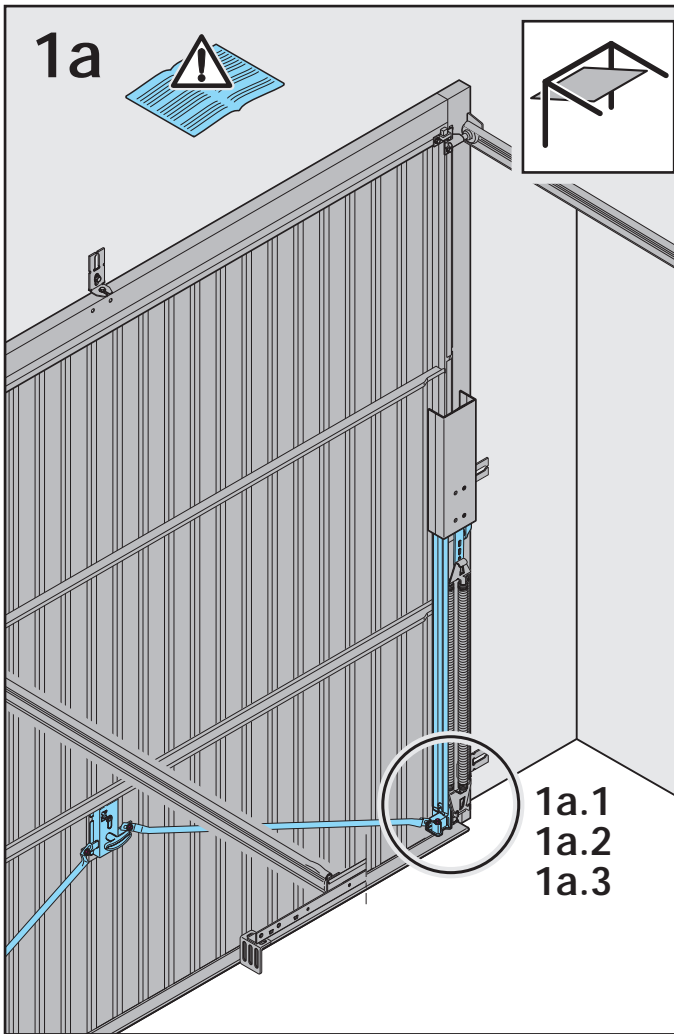
**Airborne noise emission of the garage door operator: at a distance of 3 m the equivalent continuous sound pressure level of 70 dB(A-weighted) is not exceeded.**

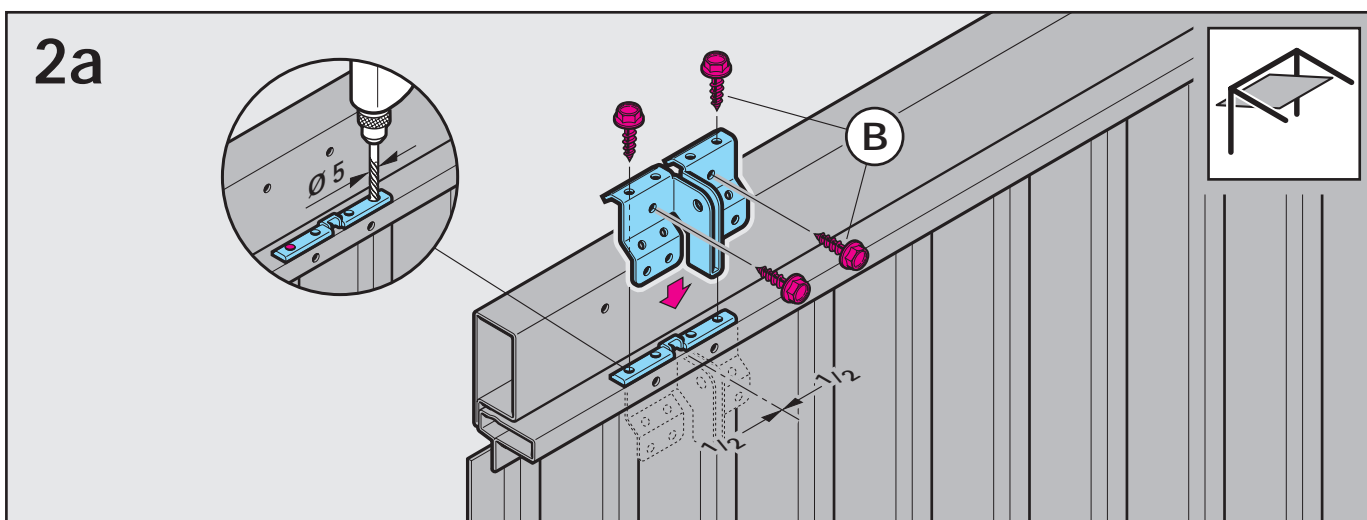
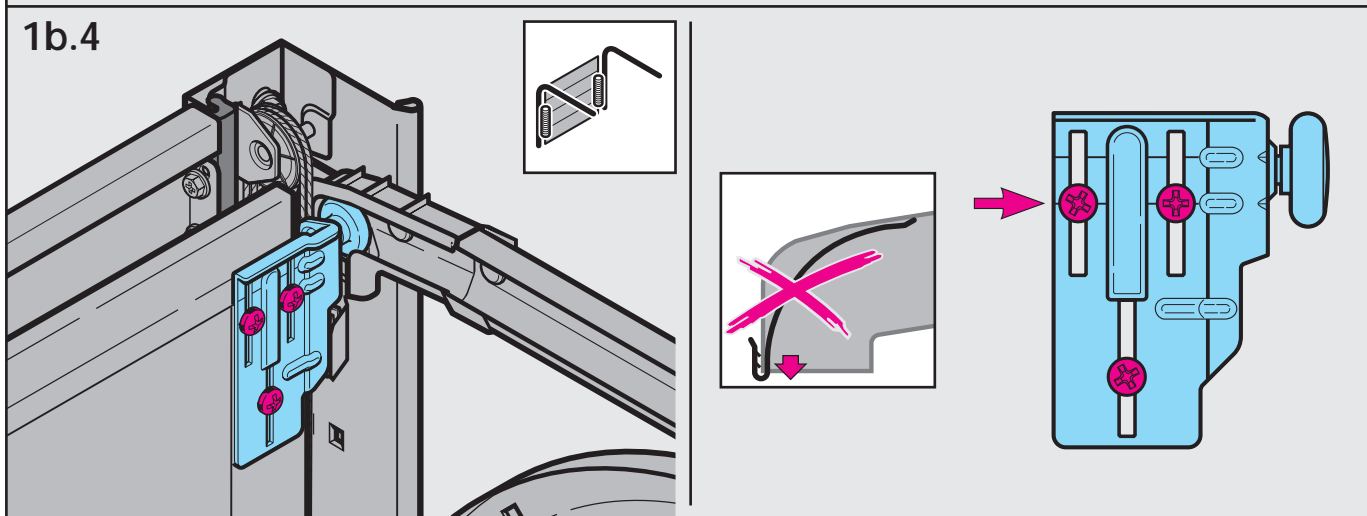
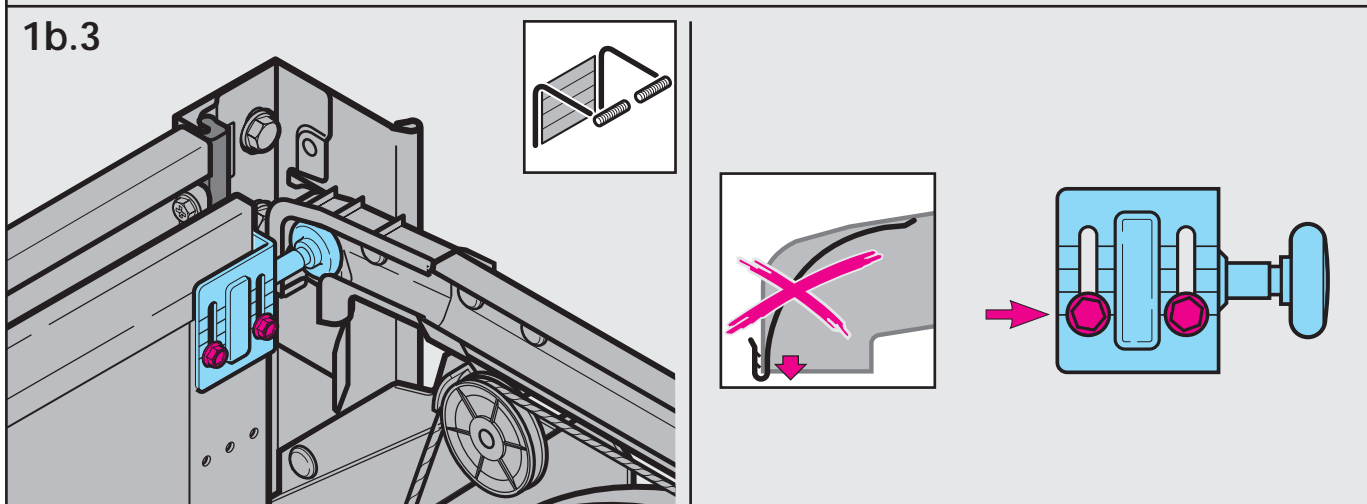
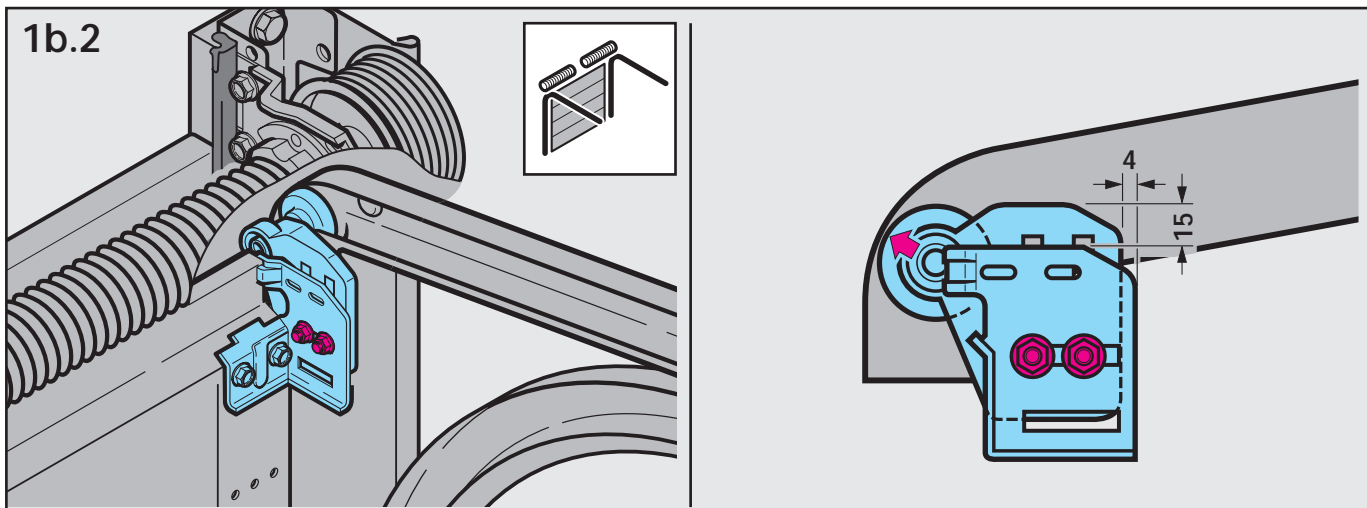


See text section!

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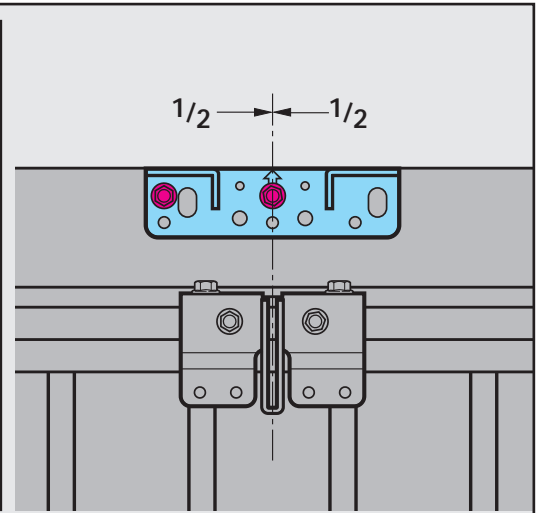
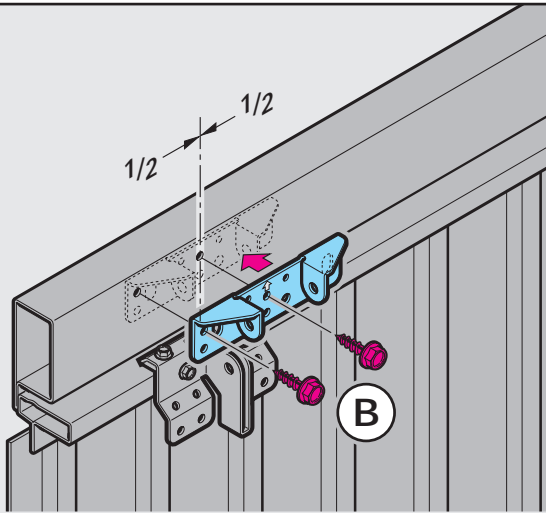
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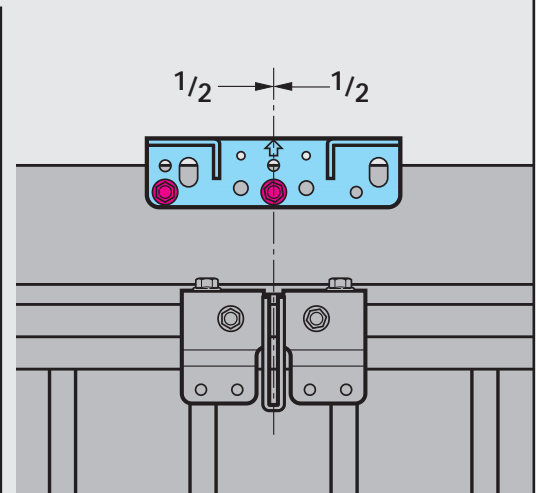
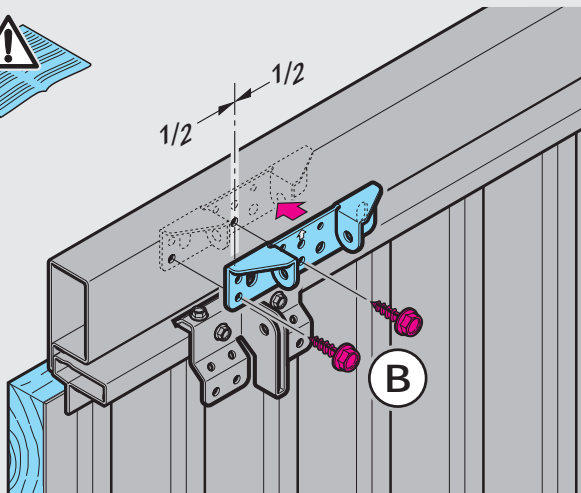
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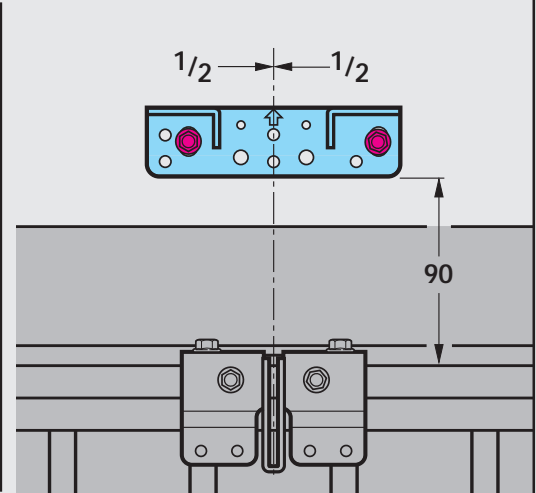
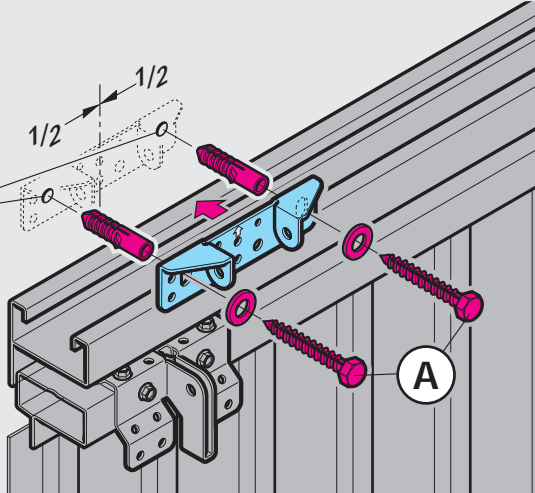
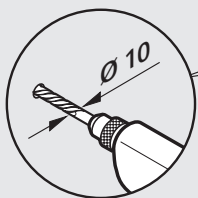
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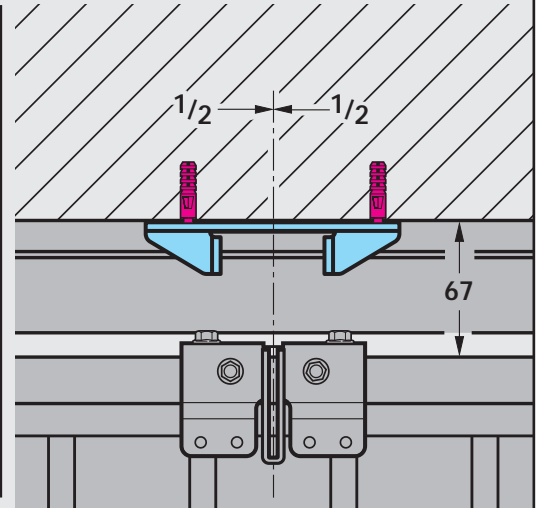
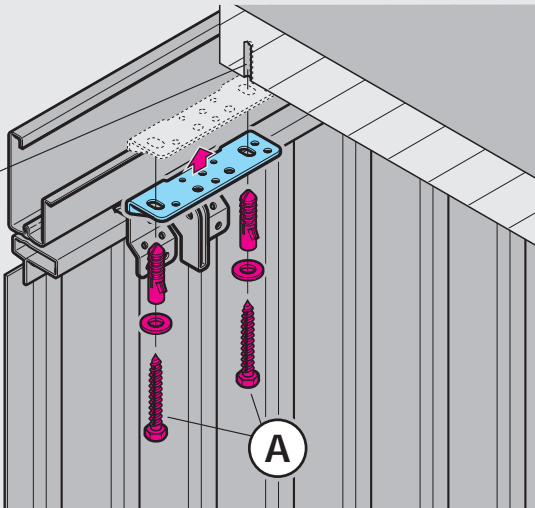
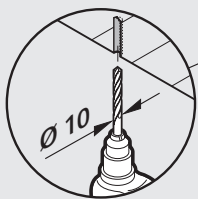
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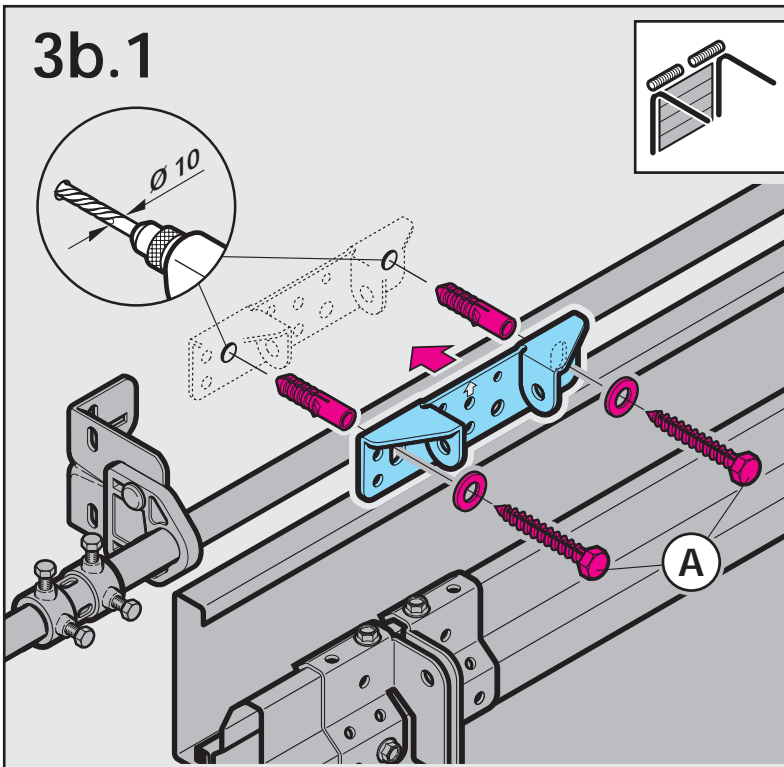
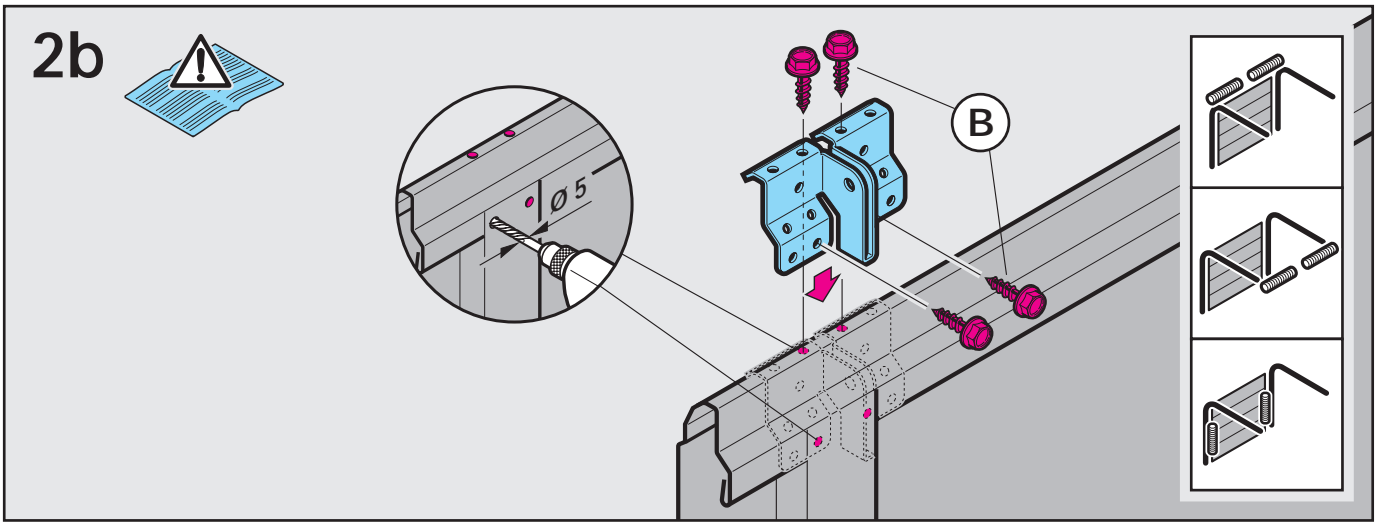
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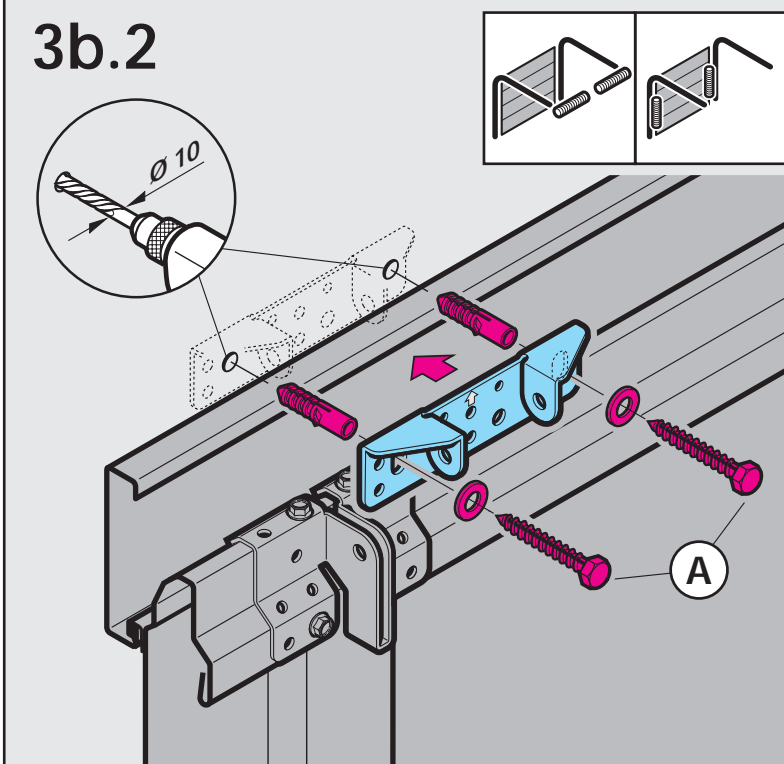
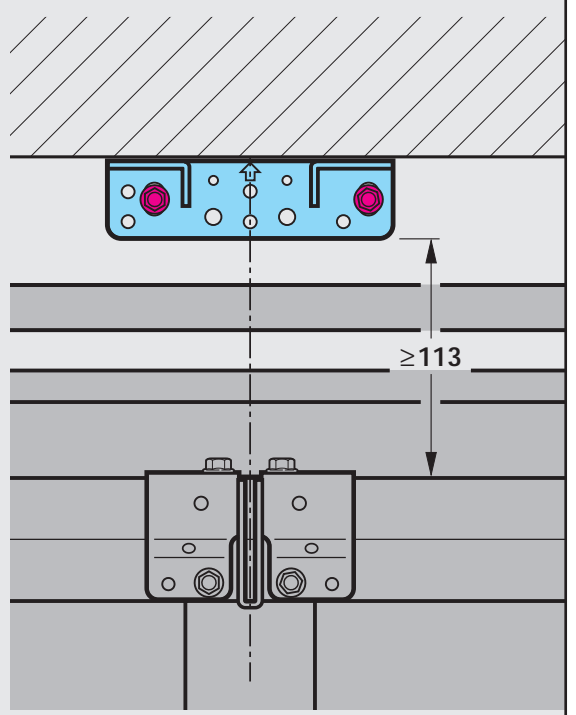
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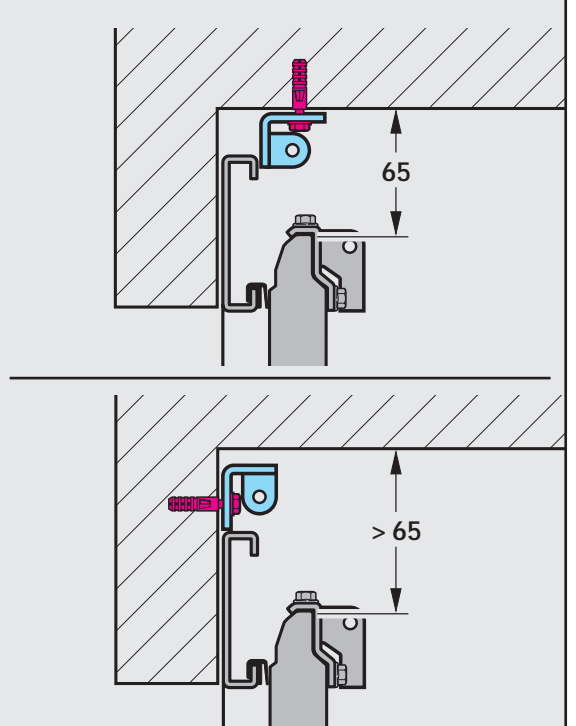




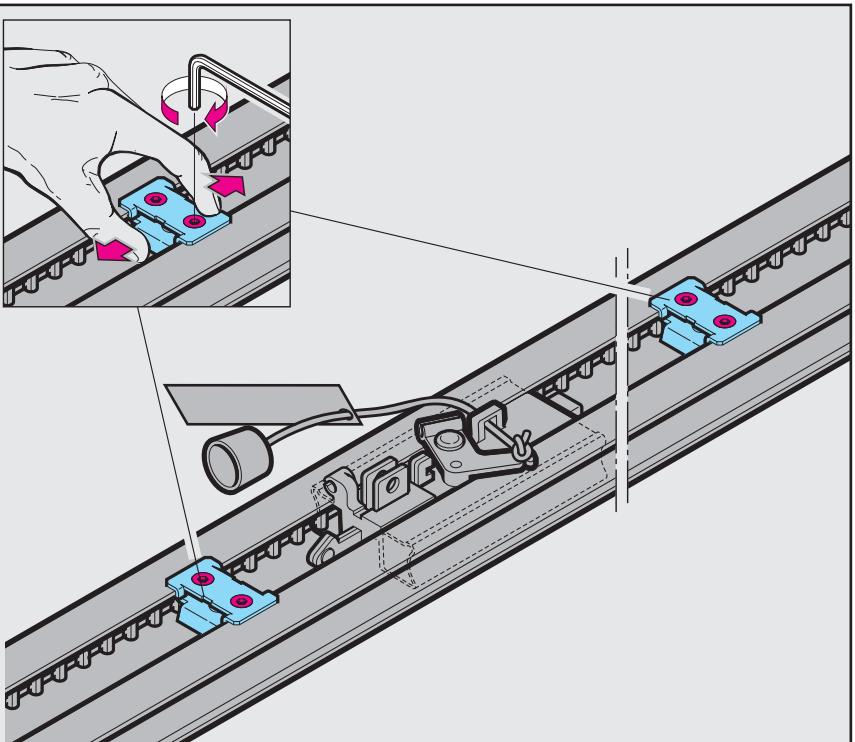
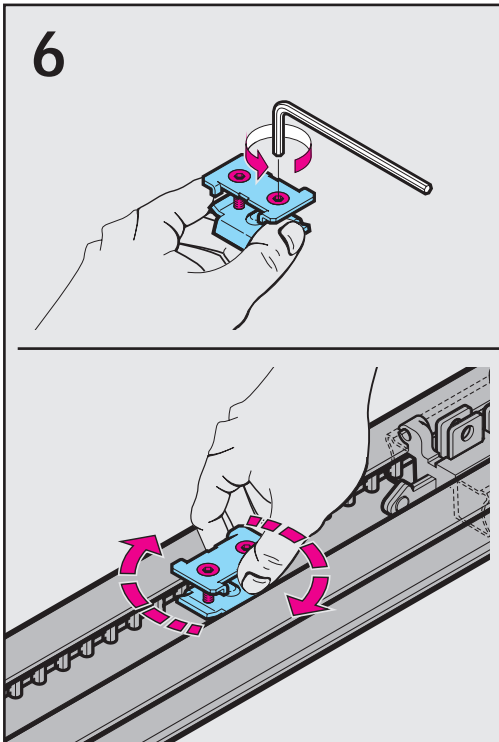
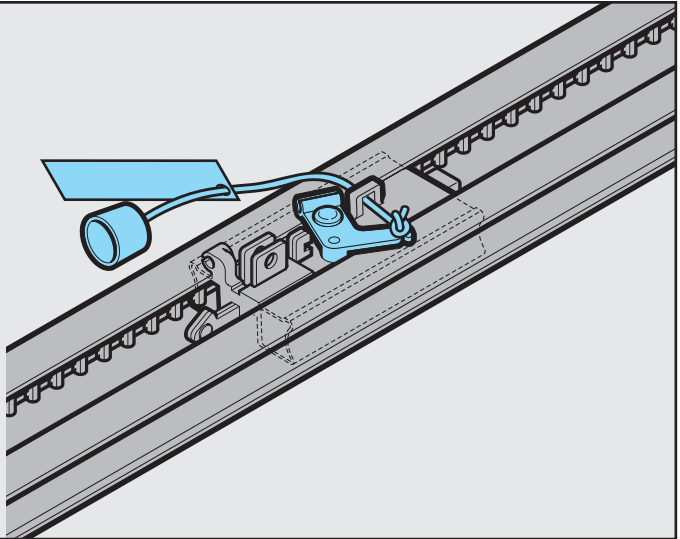
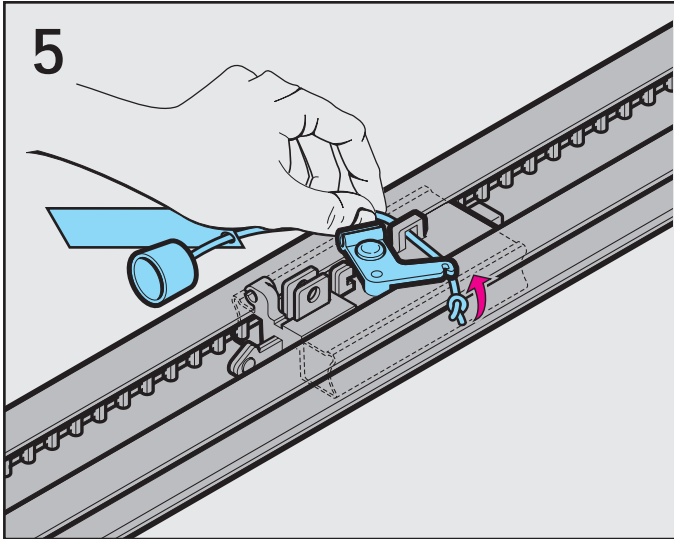
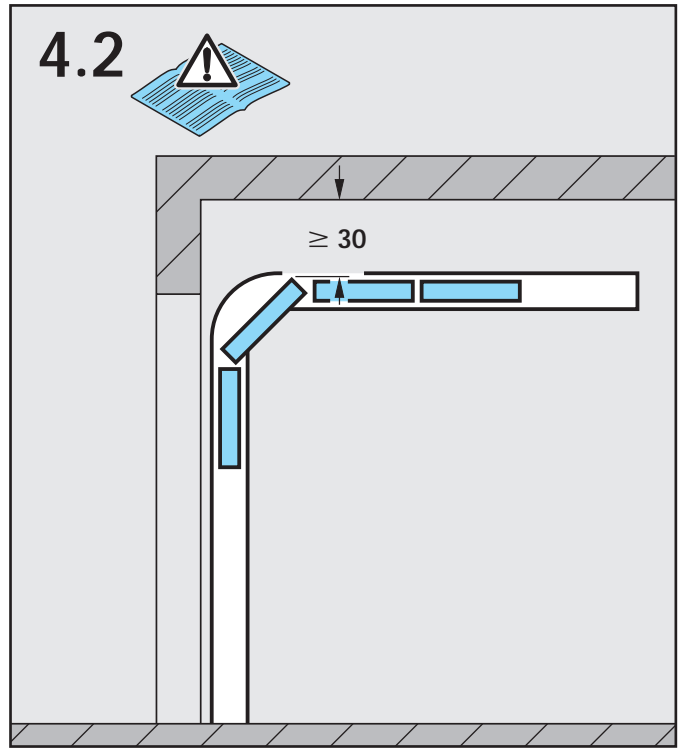
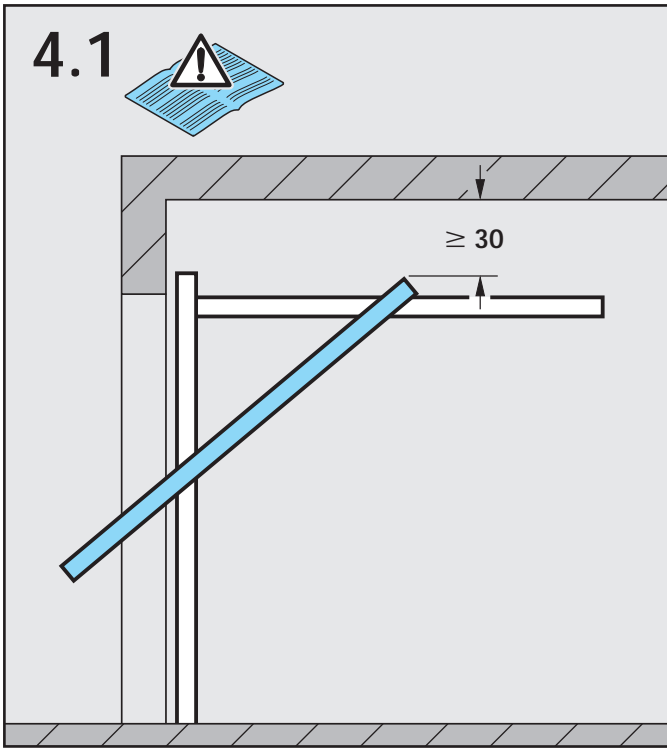
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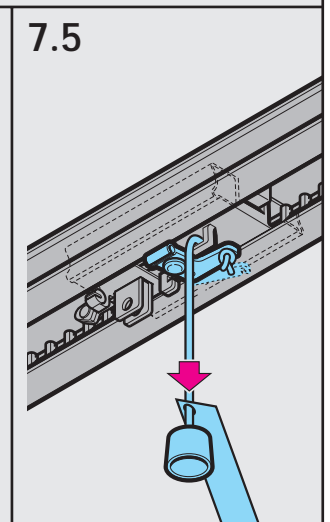
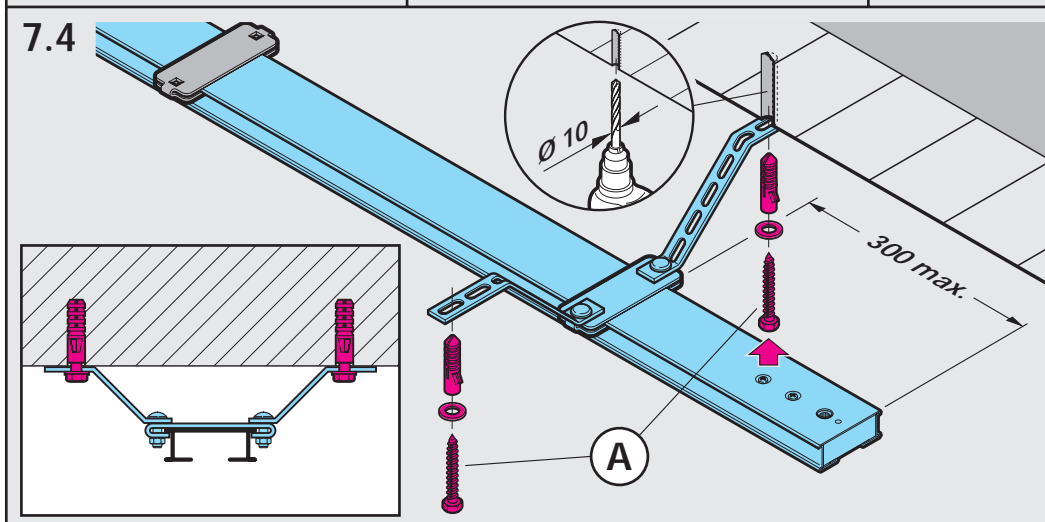
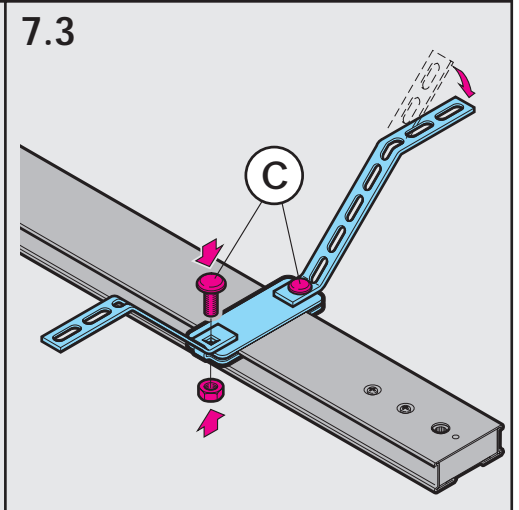
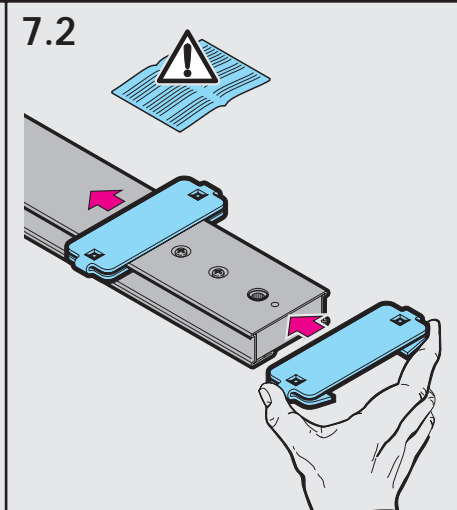
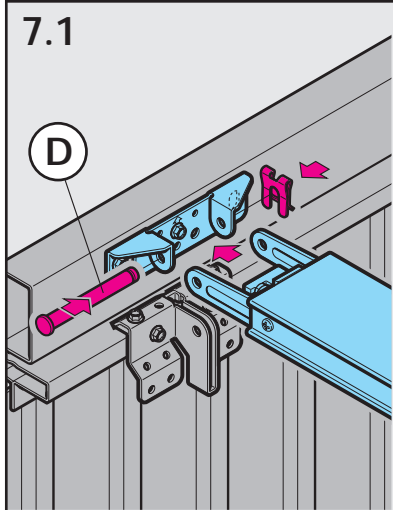
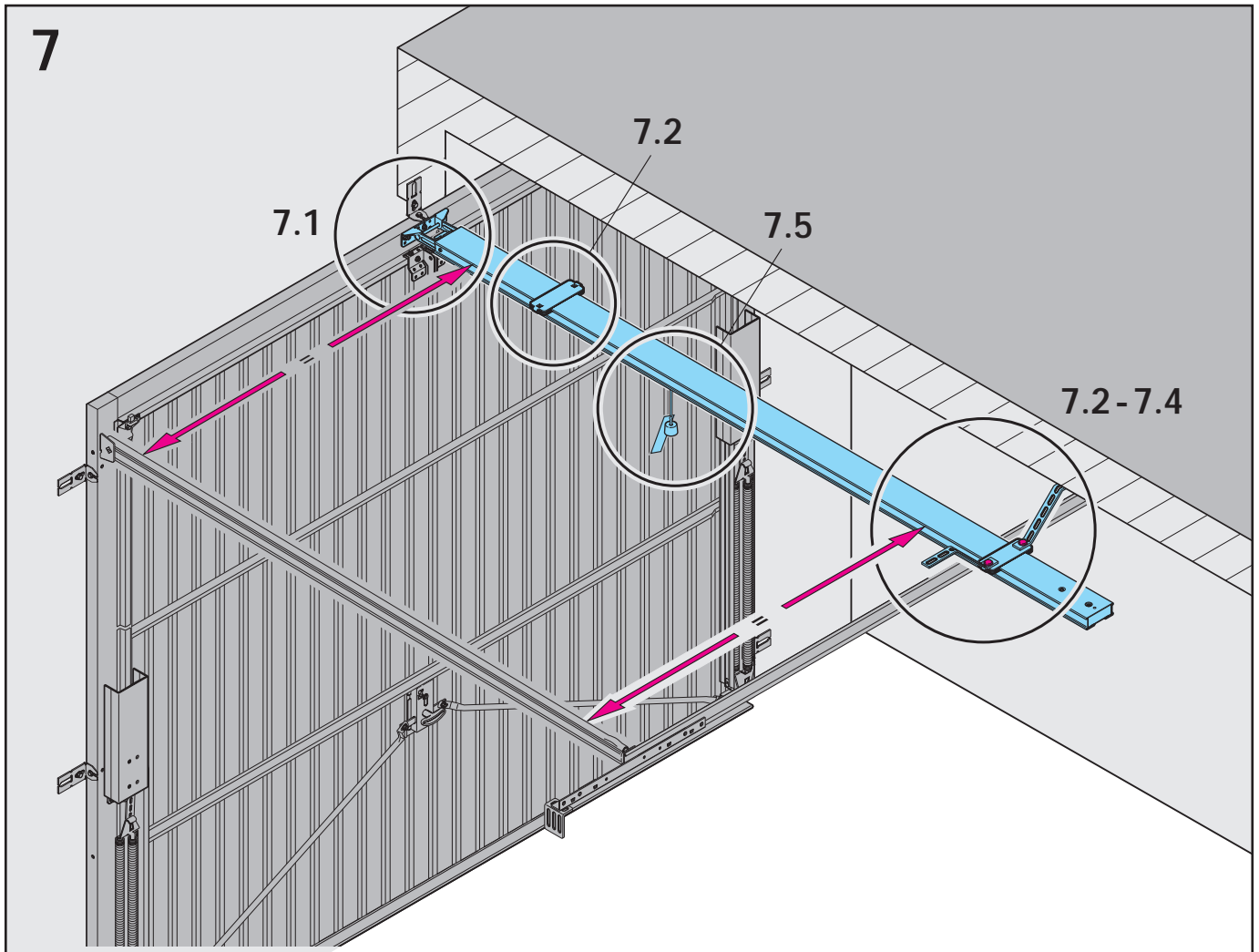


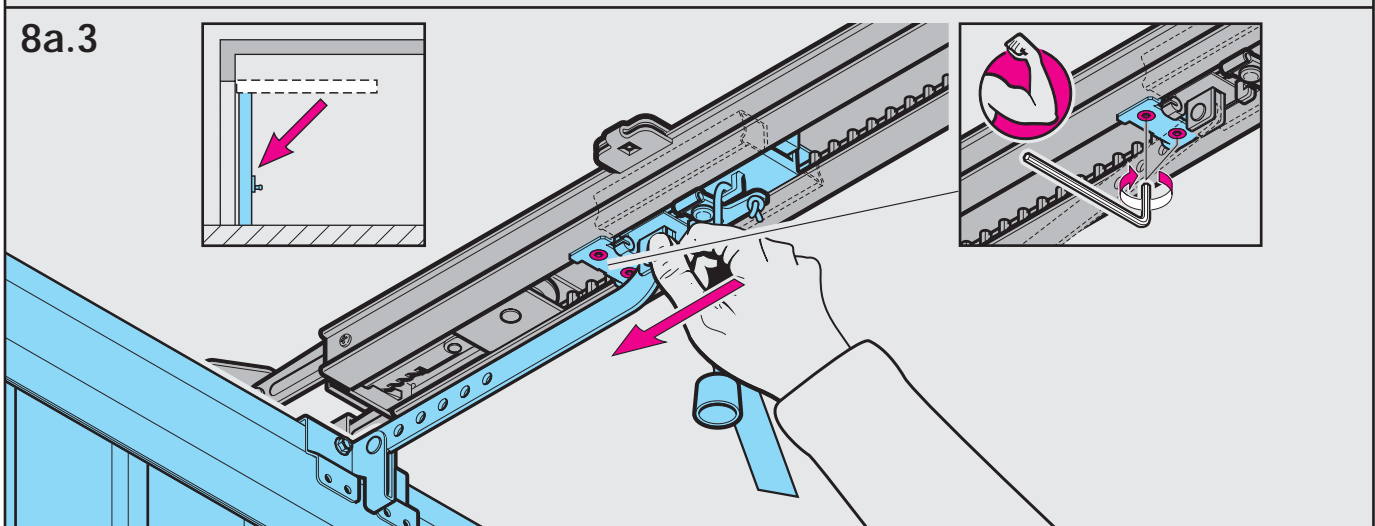
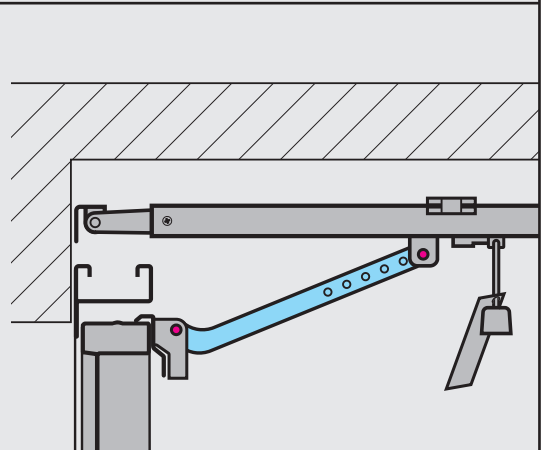
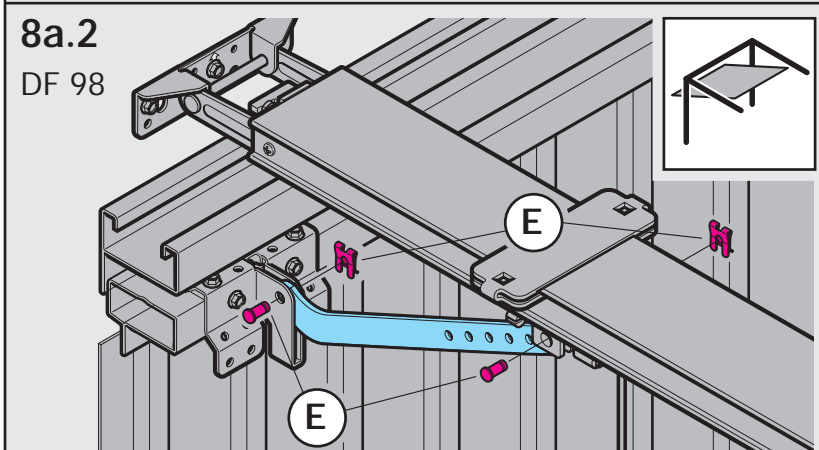
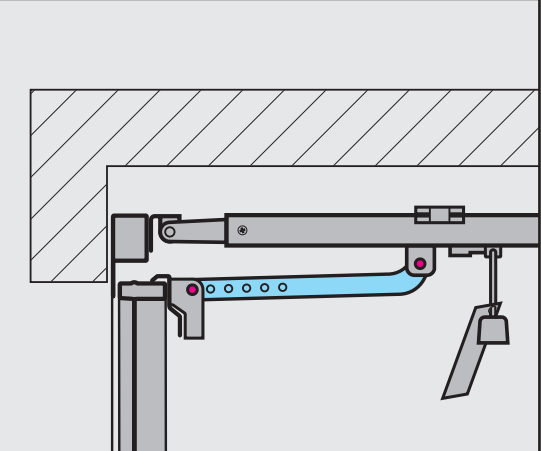
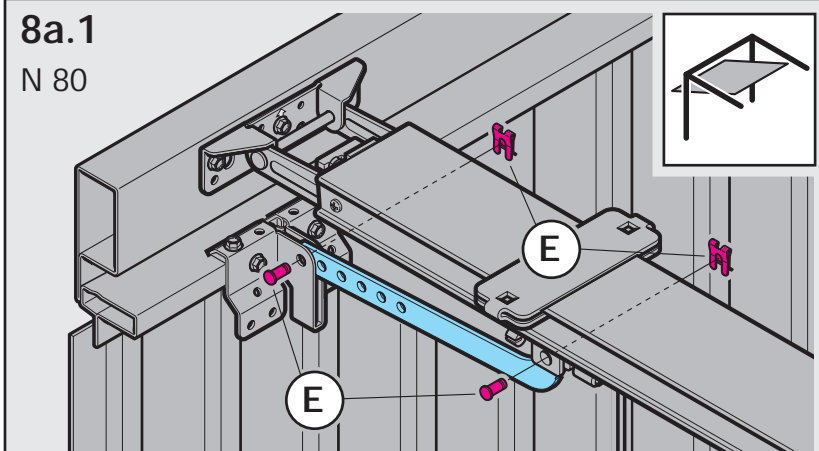
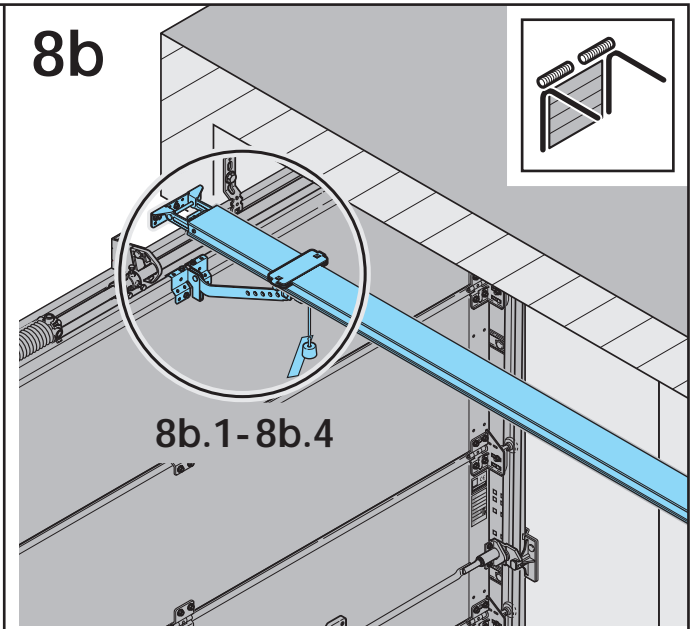
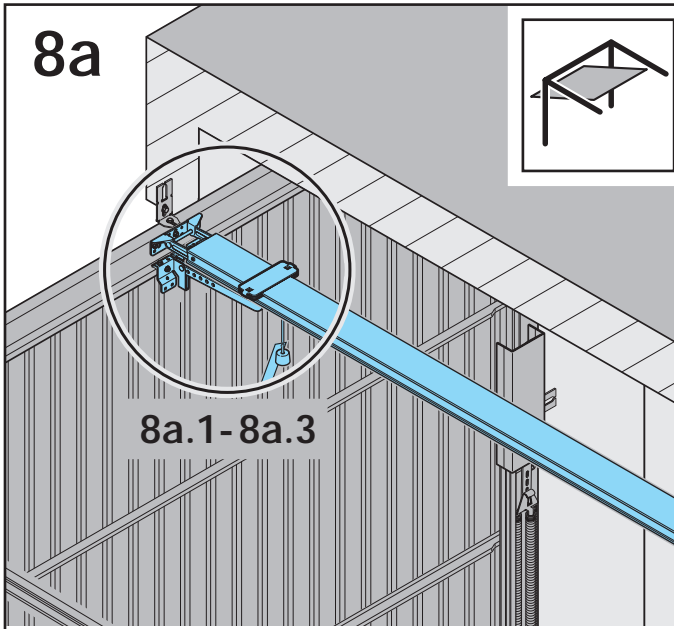
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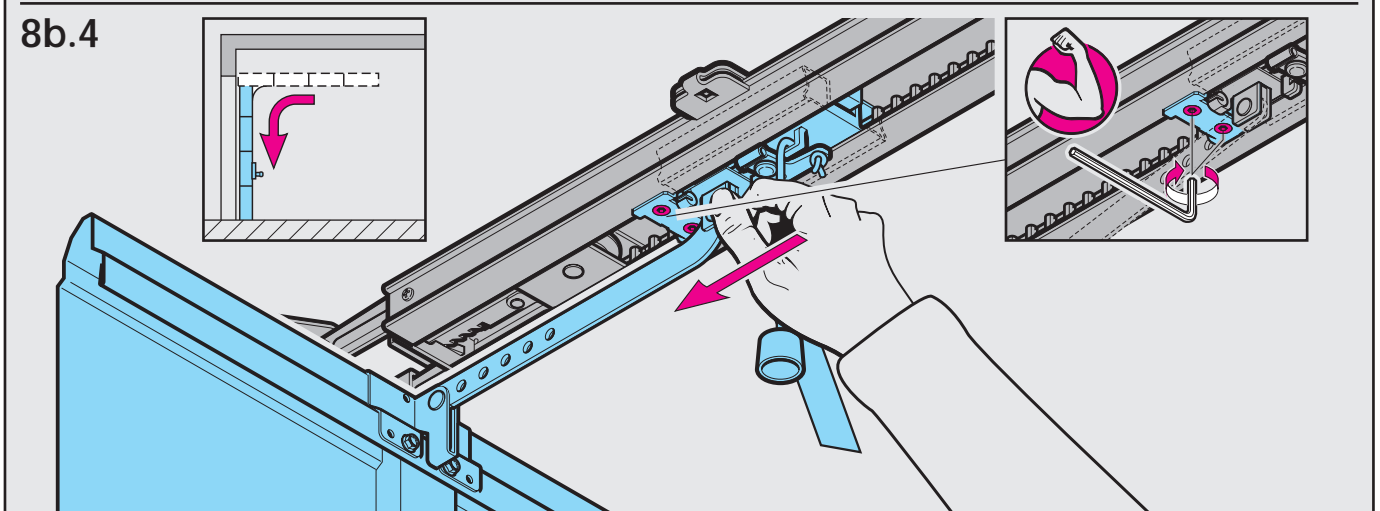
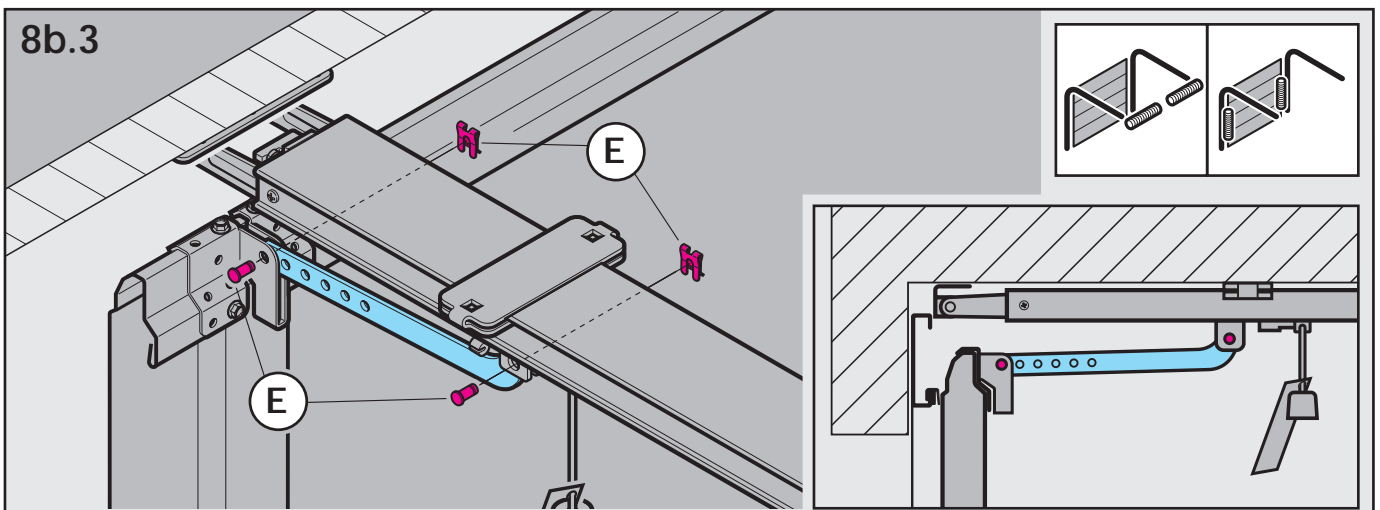
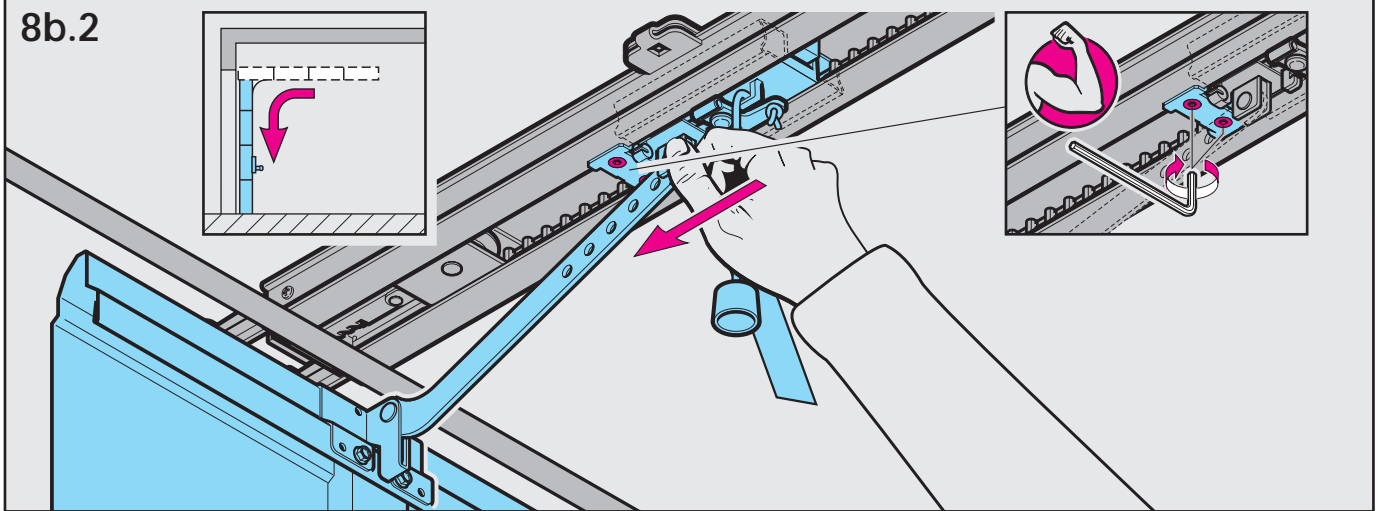
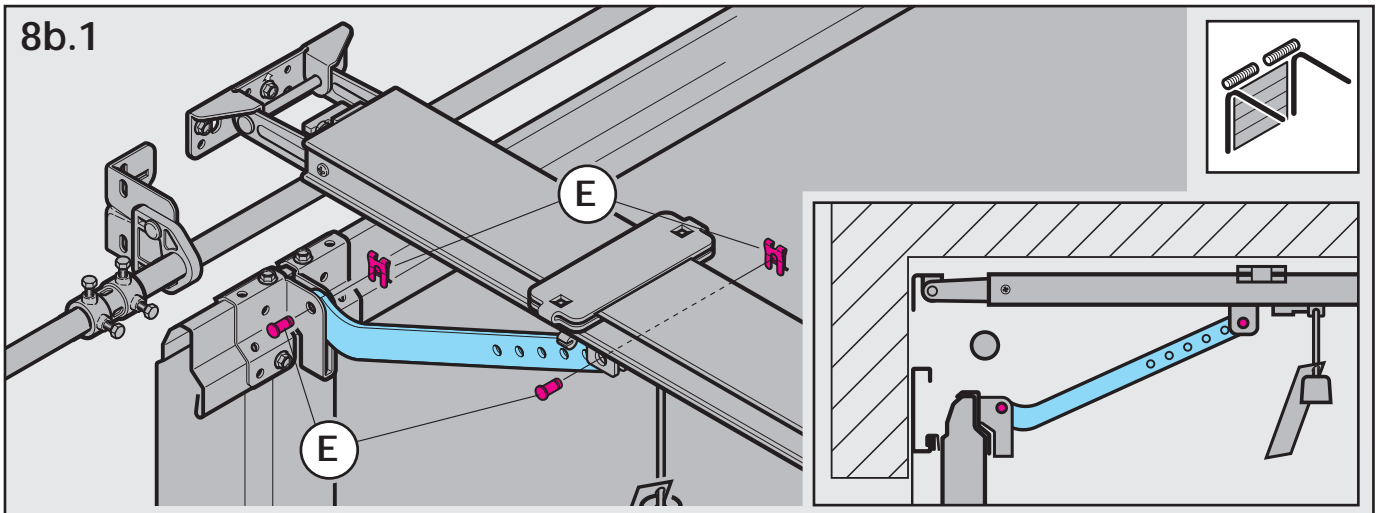


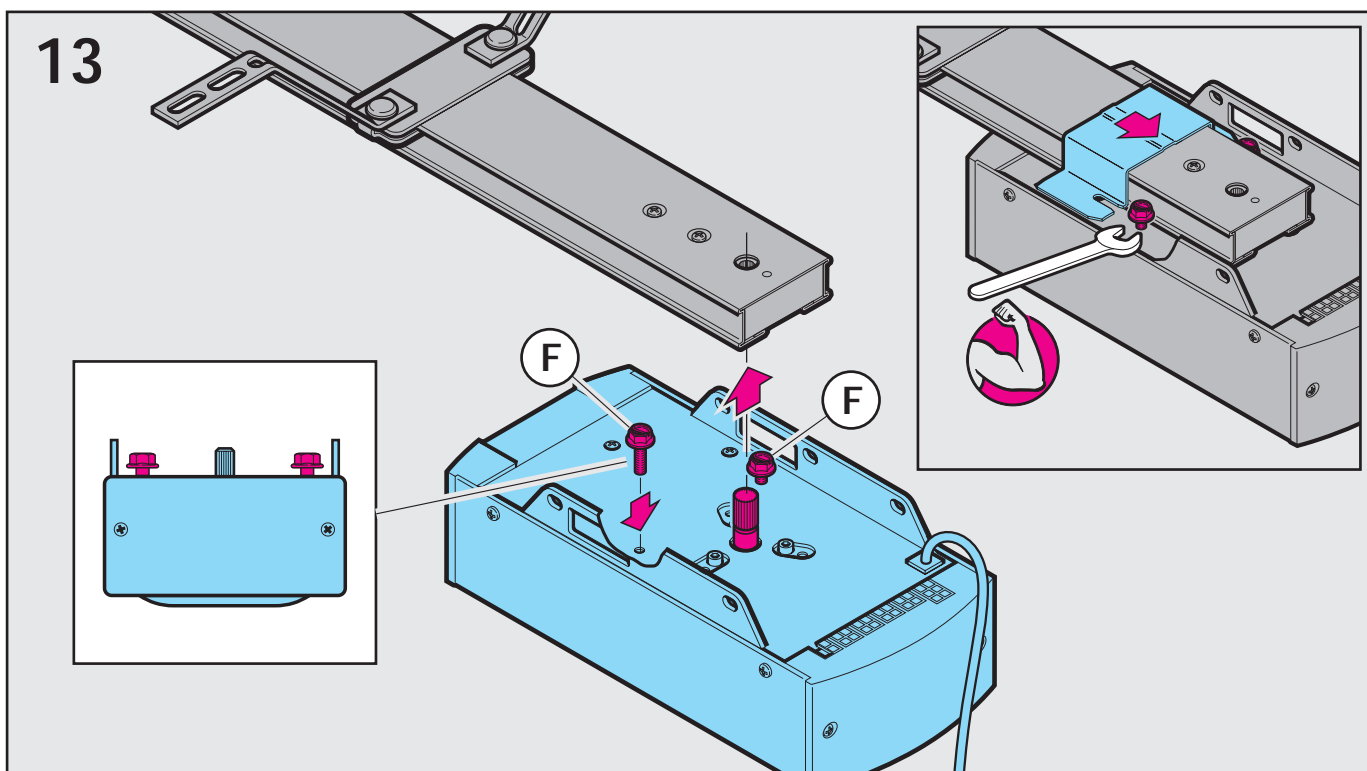
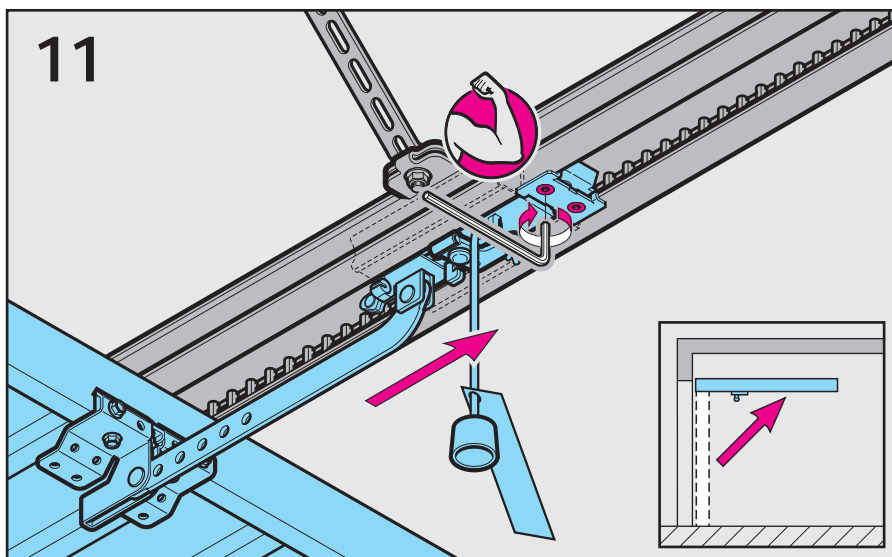
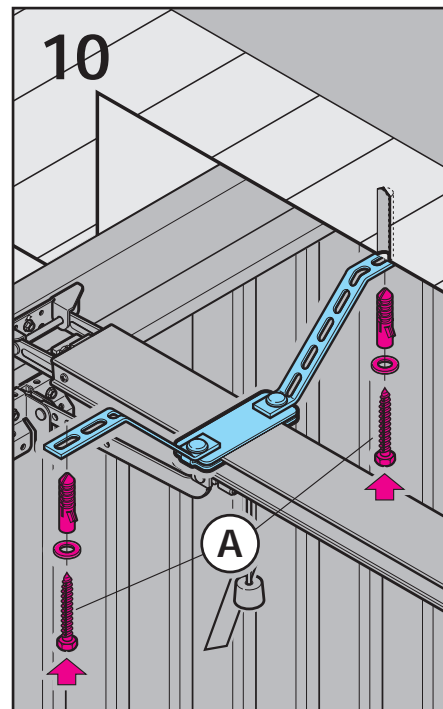
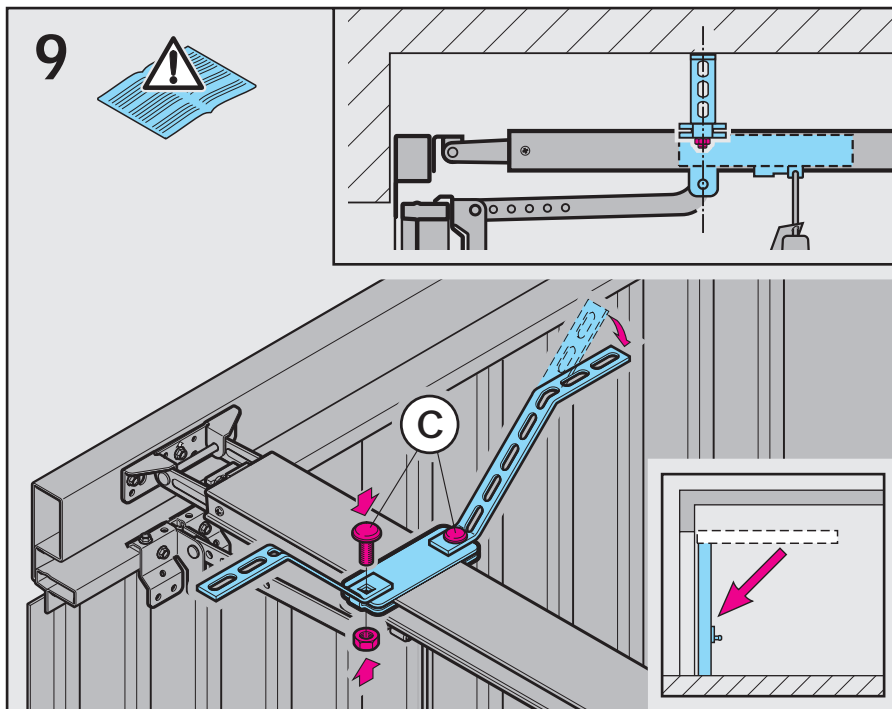


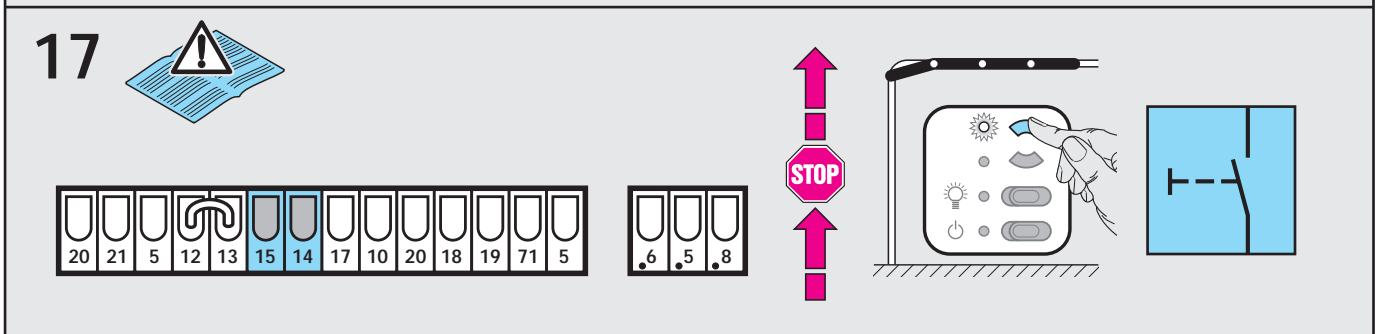
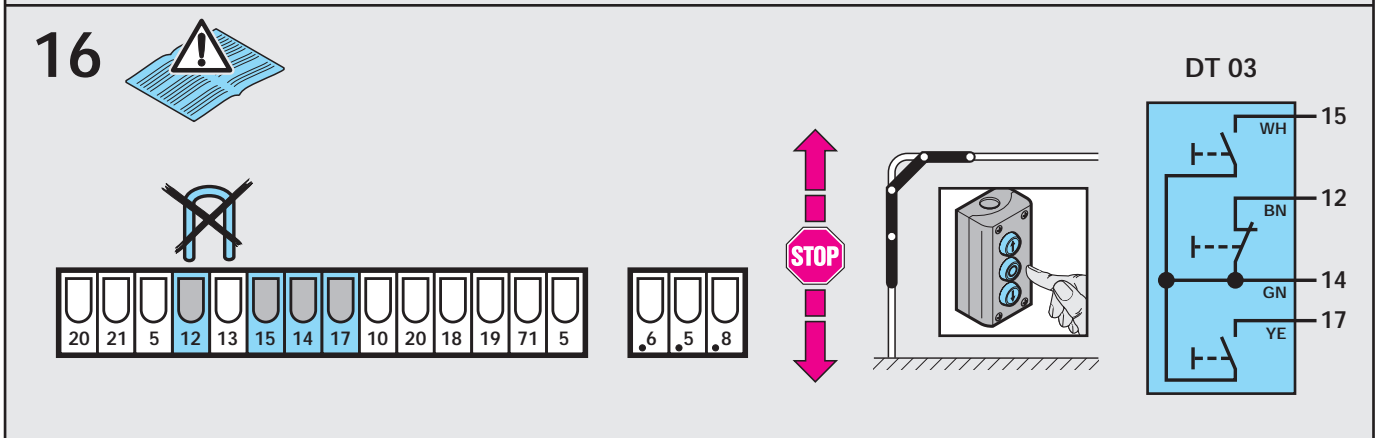
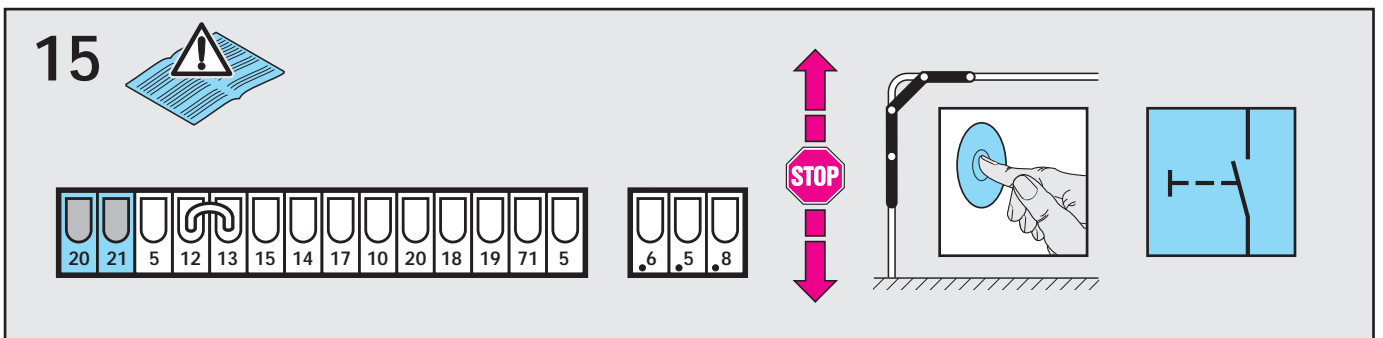
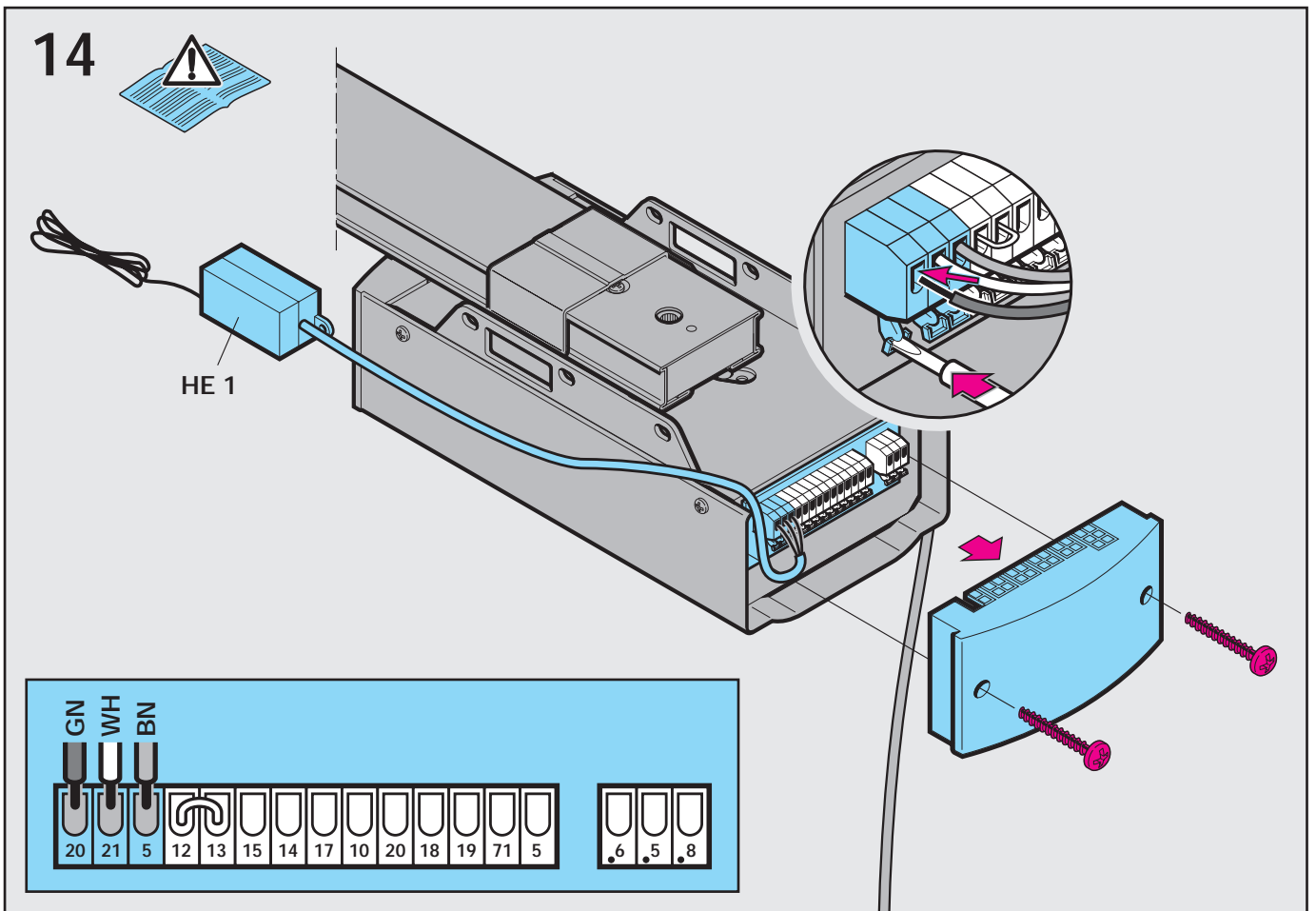




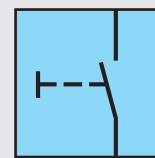
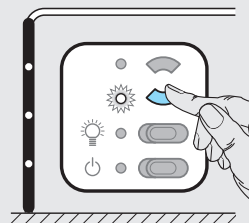




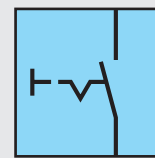
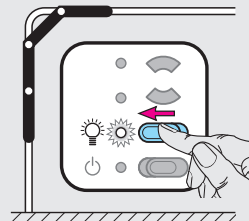




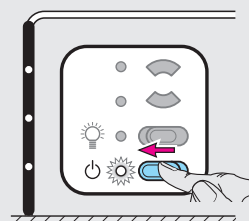
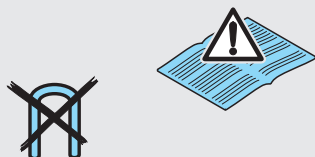
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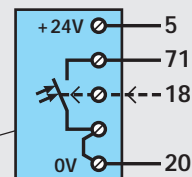
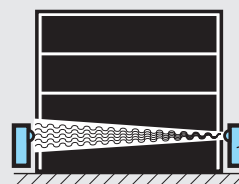
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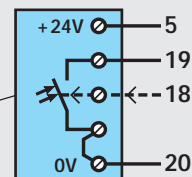
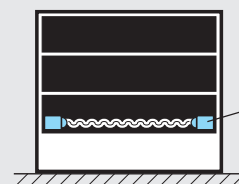
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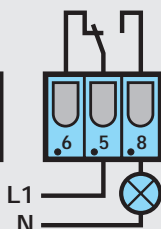
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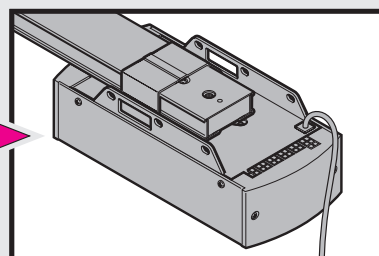
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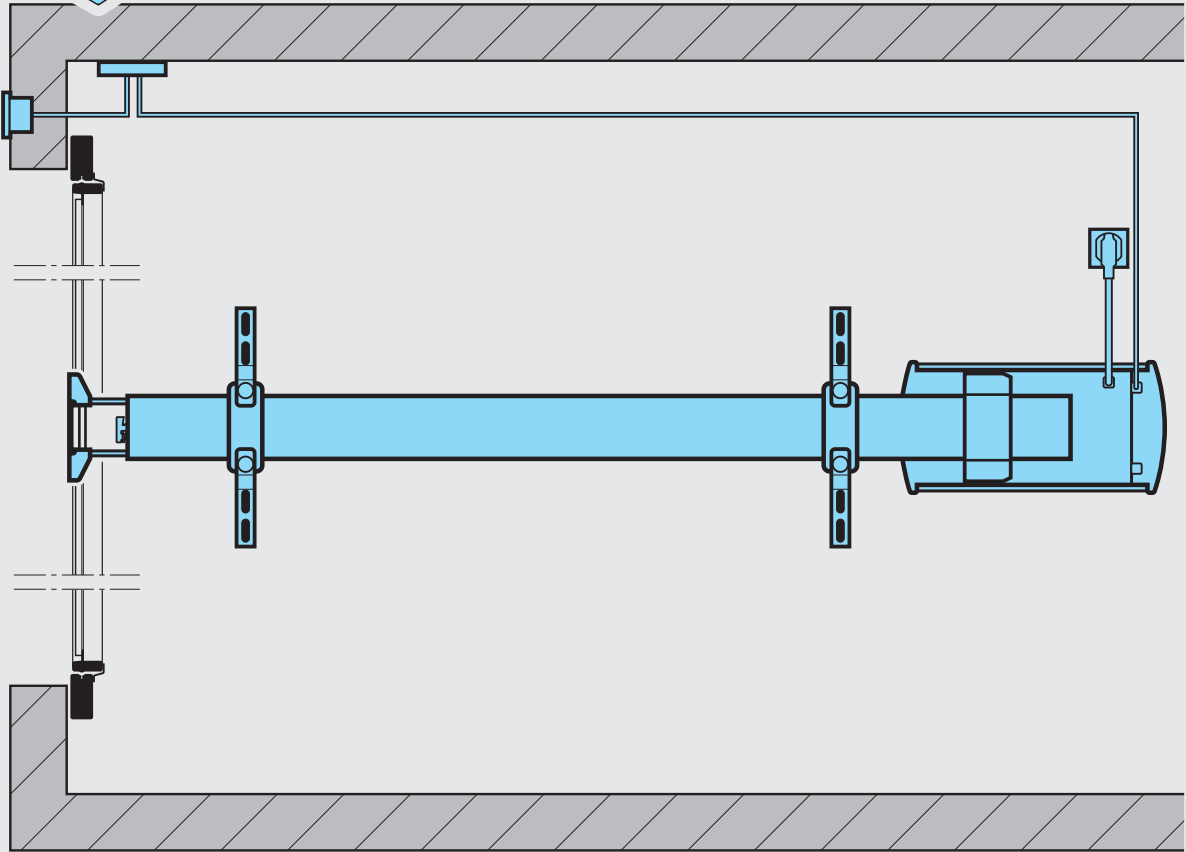
24



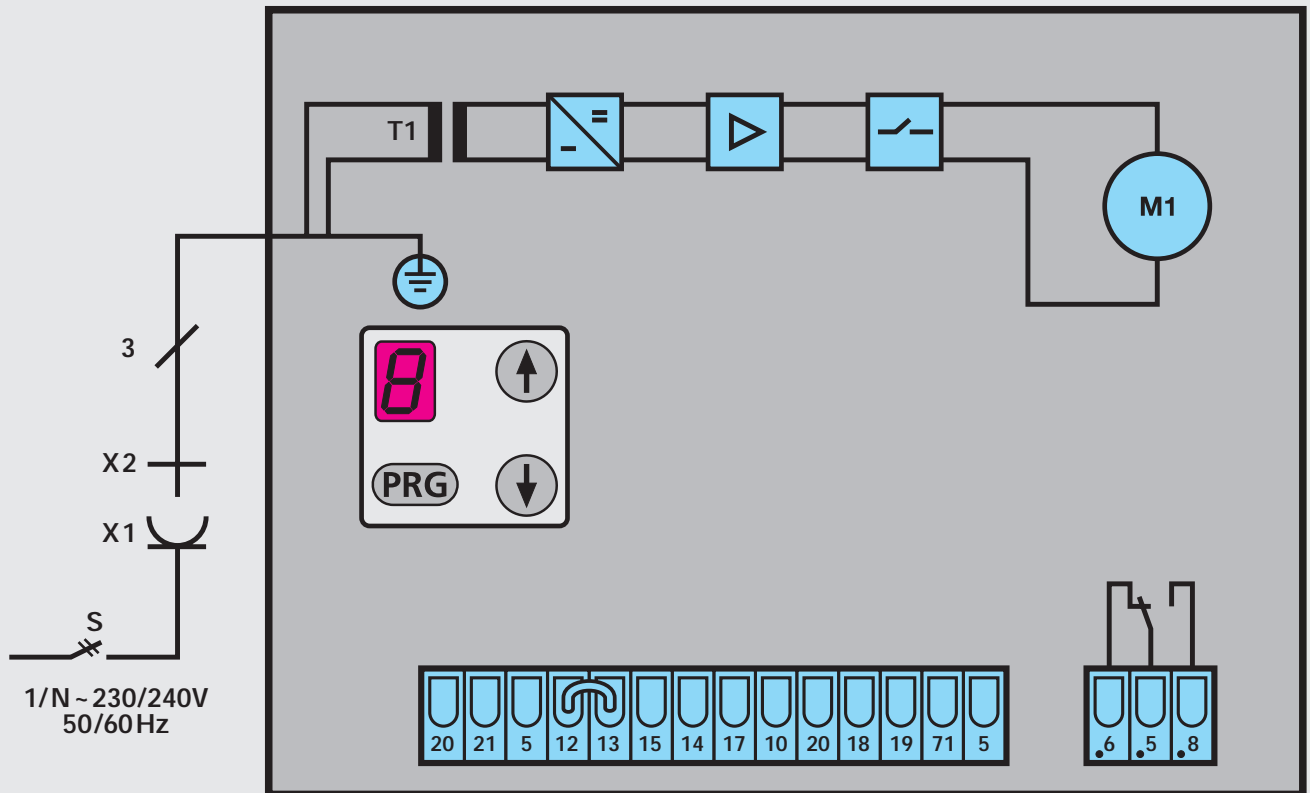
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MP 200



25

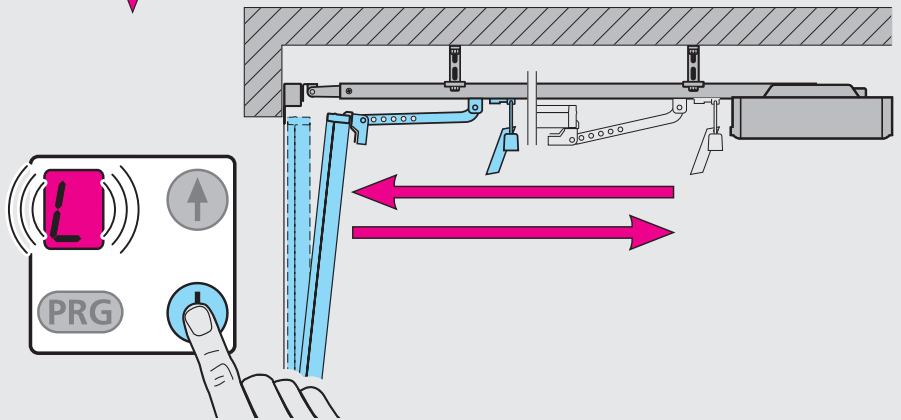
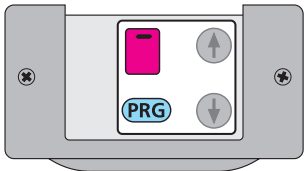
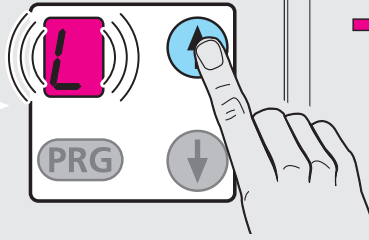
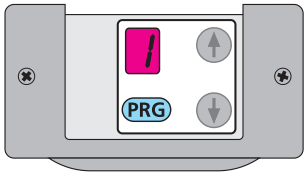
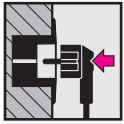


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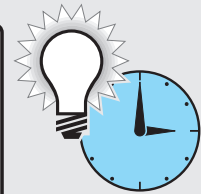
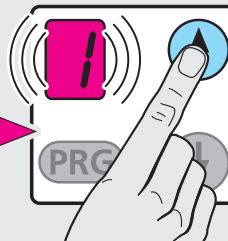
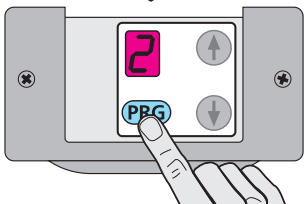




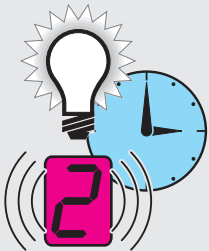
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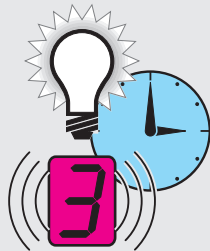
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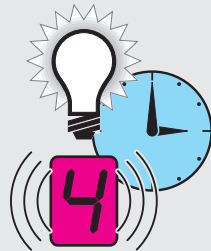
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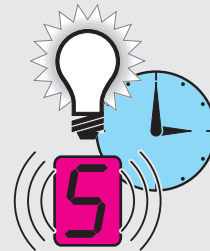
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120 sec.



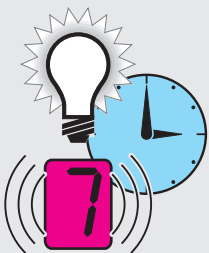
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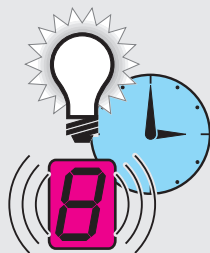
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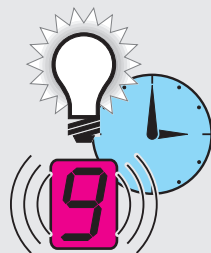
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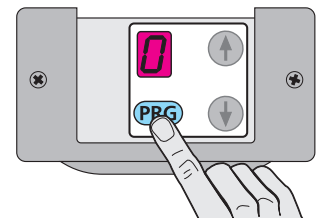
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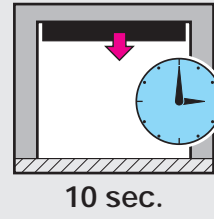
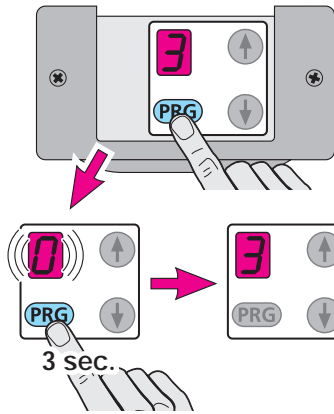
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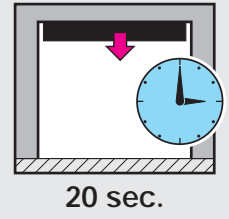
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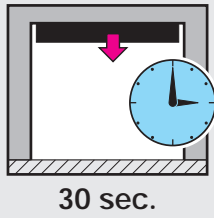
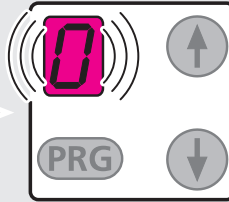
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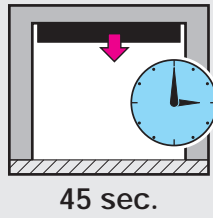
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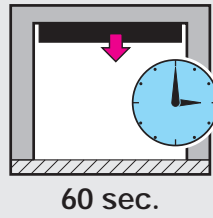
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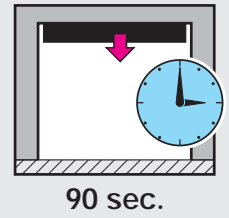
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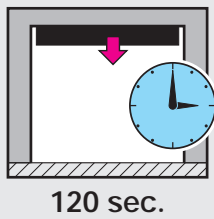
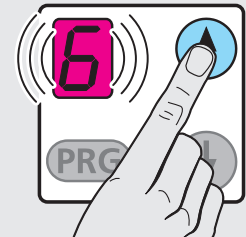
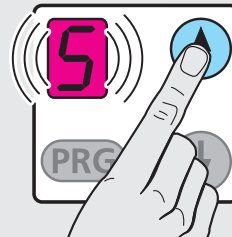
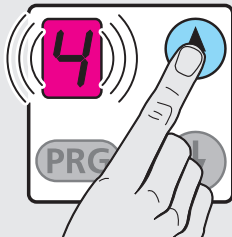
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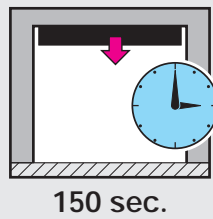
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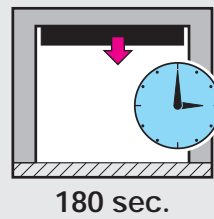
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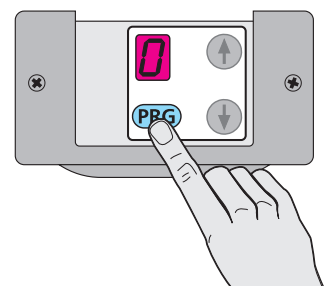
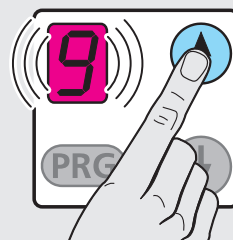
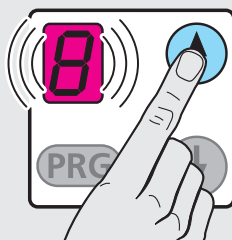
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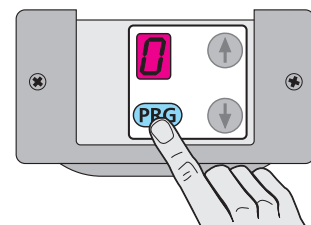
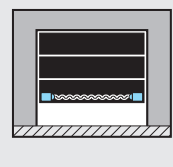
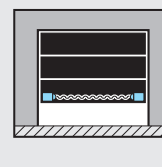
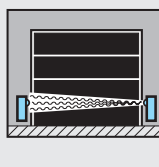
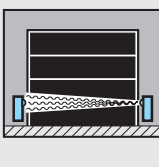
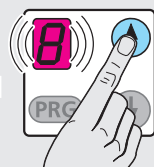
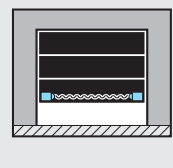
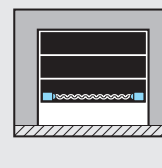
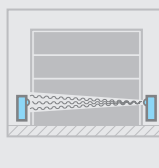
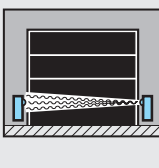
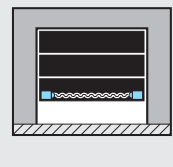
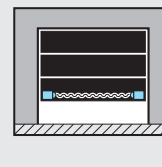
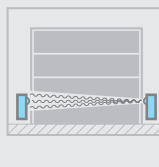
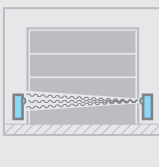
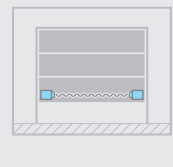
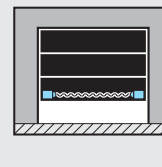
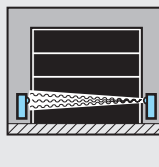
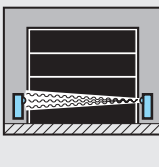
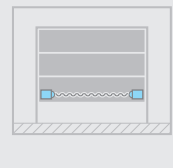
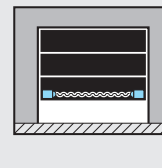
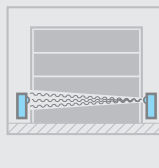
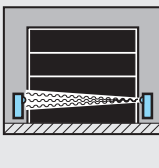
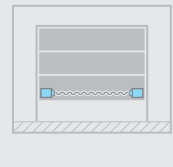
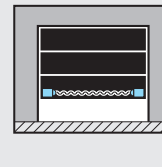
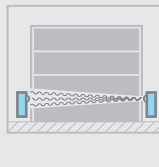
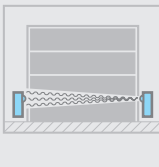
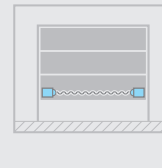
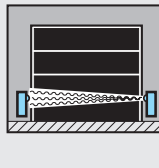
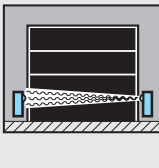
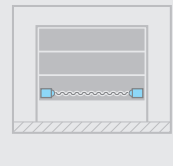
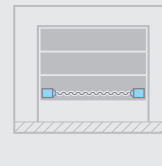
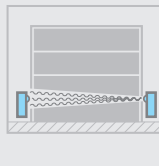
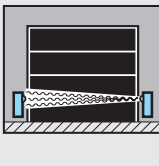
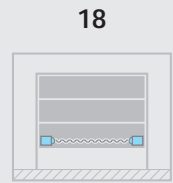
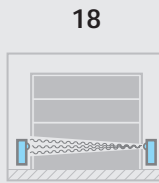
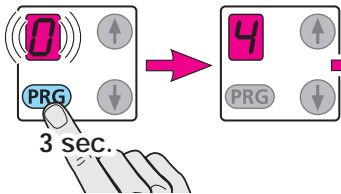
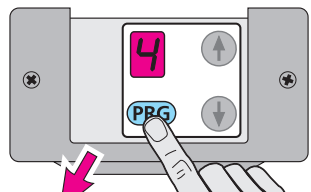
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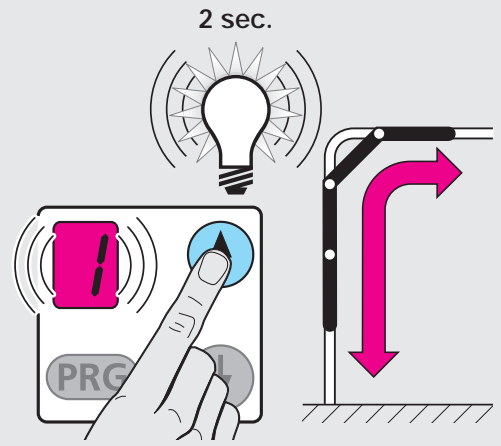
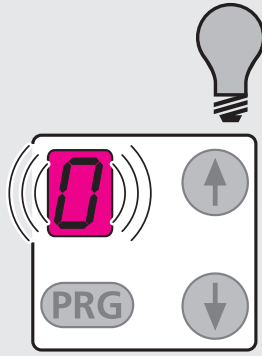
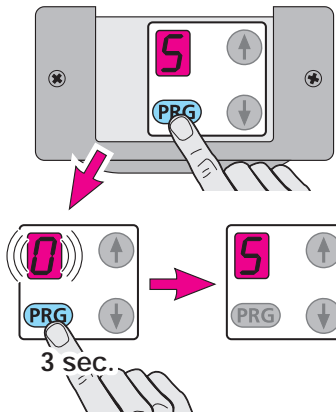
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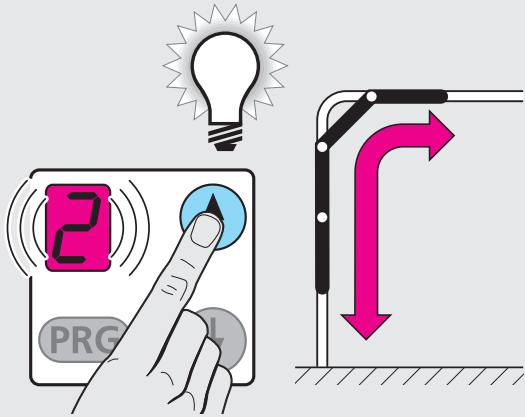
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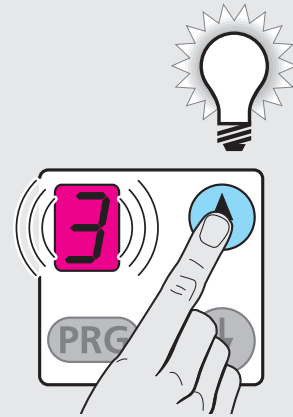
31



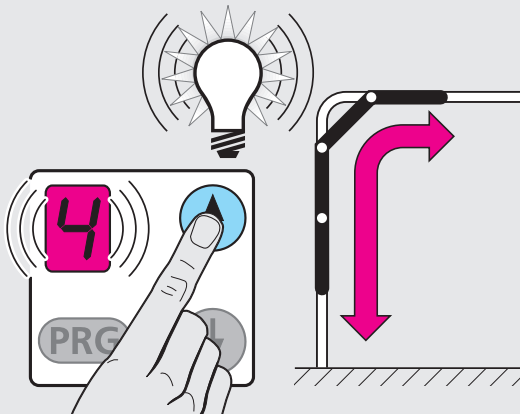
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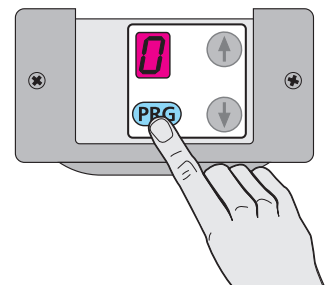
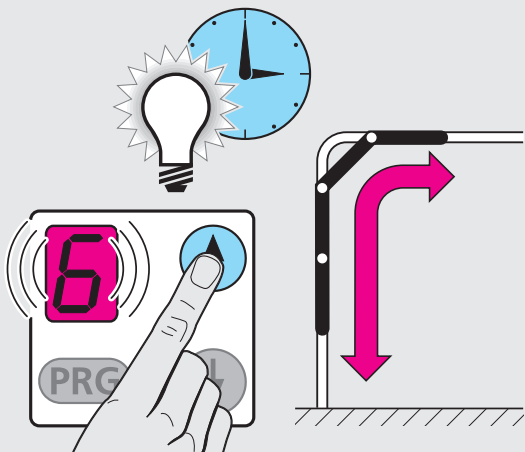
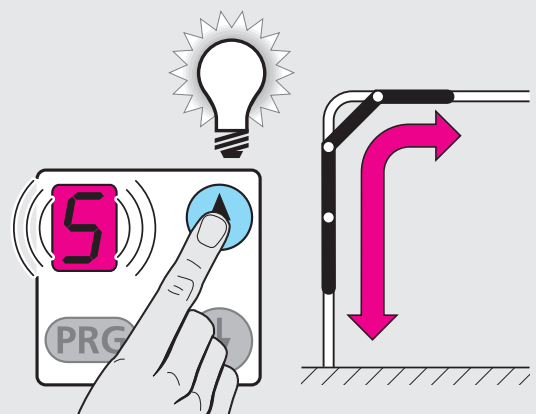
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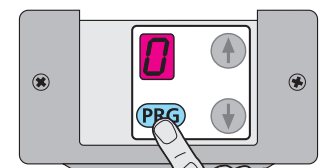
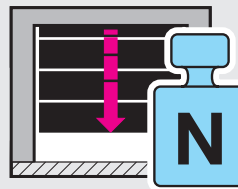
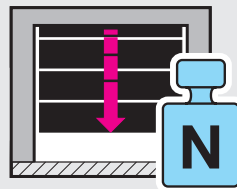
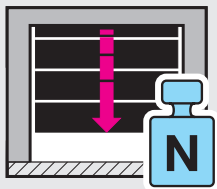
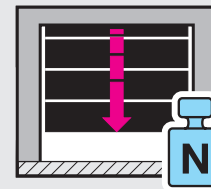
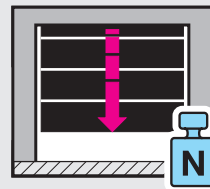
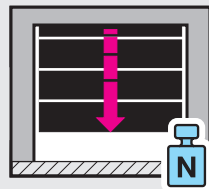
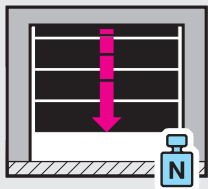
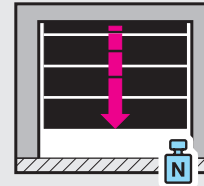
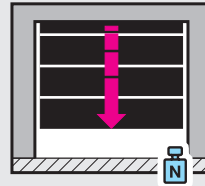
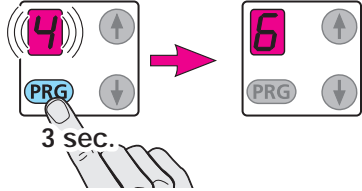
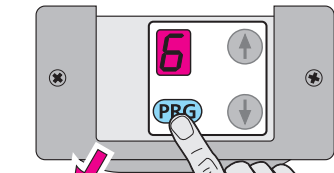
5 sec.



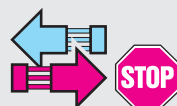
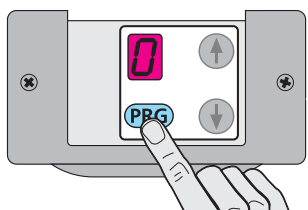
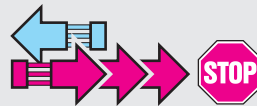
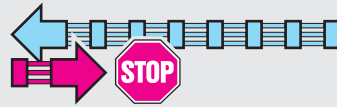
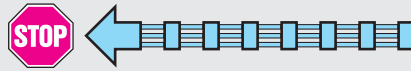
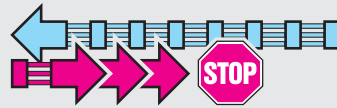
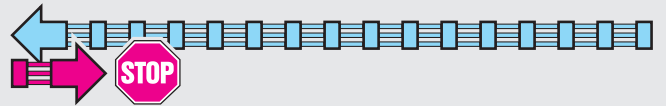
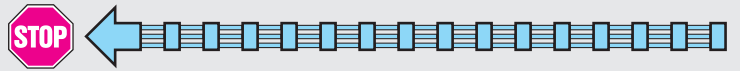
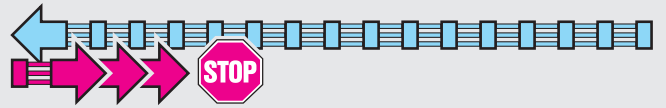
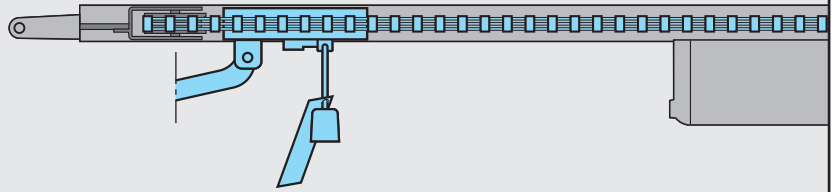
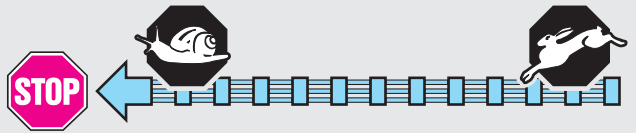
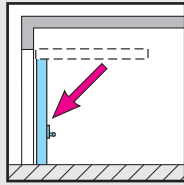
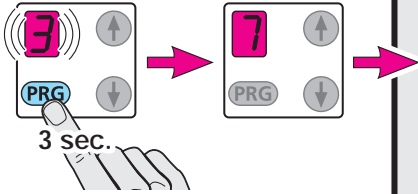
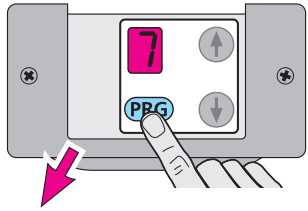
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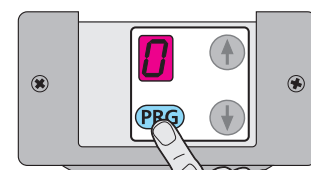
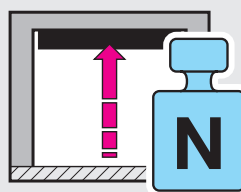
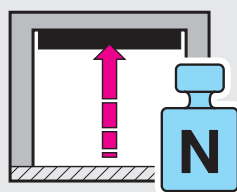
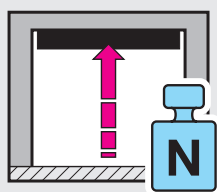
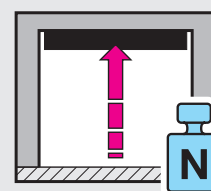
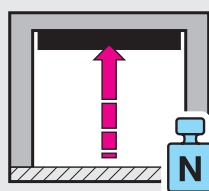
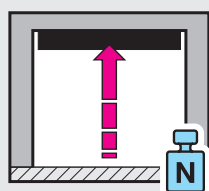
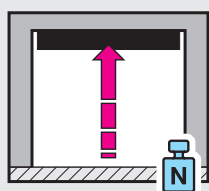
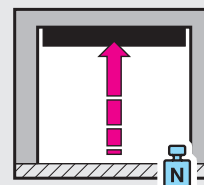
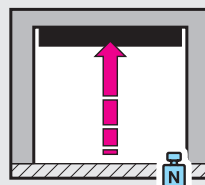
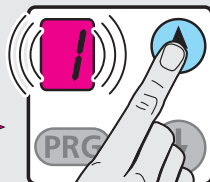
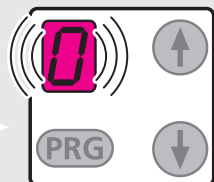
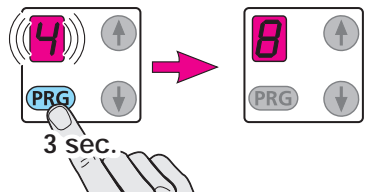
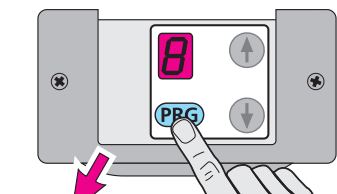
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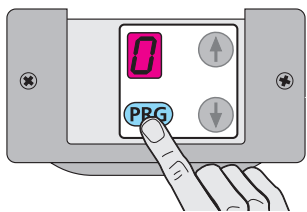
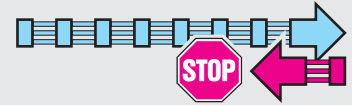
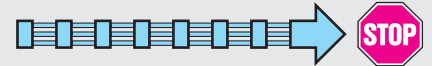
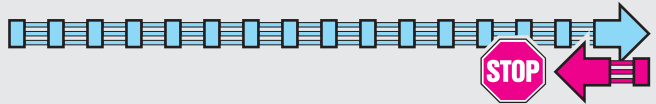
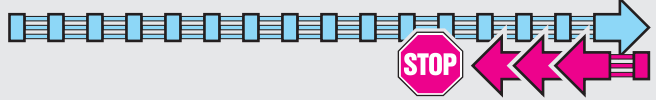
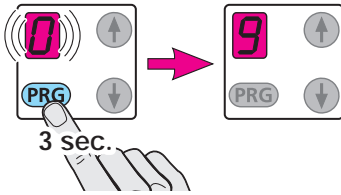
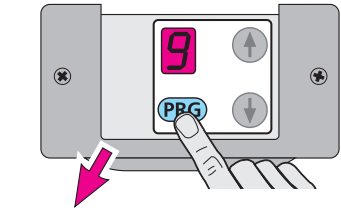
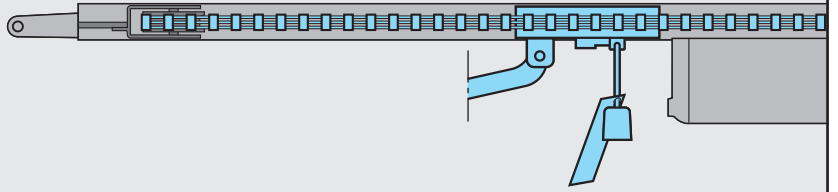
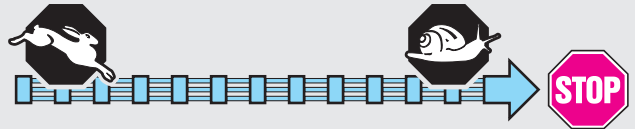
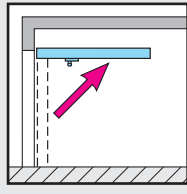
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### Description of Function

The illustrated section shows installation of the operator to an up-and-over door.

Where installation differs, a sectional door may also be shown. In this instance, the letter (a) is assigned to the **up-and-over door** and the letter (b) to the **sectional door**.

#### Figure 1a

For door models **not** listed here, immobilise the catches/snap lock on site.



**Figure 1b.1**  
**ATTENTION: When installing the operator, the pull cord must be removed.**

#### Figure 3a.2

For doors with a decorative forged iron handle, fit the boom off-centre.

#### Figure 2b

For doors with a centrally positioned lock, fit the boom off-centre. For timber doors use the Spax screws 5 x 35 from the screw pack supplied with the door (drill hole 3 mm ø). In the case of the off-centred reinforcement profile on the sectional door, fit the door link bracket to the nearest reinforcement profile on the left or right.

#### Figures 4.1 and 4.2

For other makes the clearance between the door at its highest point of travel and the ceiling must be at least 30 mm.

#### Figures 7.2 and 9

With this operator it is necessary to secure the boom with a second support anchored to the garage ceiling – this is installed according to figure 9.

#### Figure 12

##### Procedure:

Engage the carriage.

**Note: All the connecting terminals can be multiple-assigned, however, 1 x 2,5 mm<sup>2</sup> is the maximum!**

#### Figure 14

##### Connecting the remote control

The wiring of the radio receiver is to be connected as follows:

- green wire (GN) to terminal 20 (0V)
- white wire (WH) to terminal 21 (signal)
- brown wire (BN) to terminal 5 (+24V)

#### Figure 15

##### Connecting an external "IMPULSE" button (sequential controls: OPEN-STOP-CLOSE)

One or more buttons can be connected parallel to the remote control at terminals 20 and 21.

**When the automatic timer is activated (menu 3 not set at zero), the function of the impulse button changes (see text section of figure 29).**

#### Figure 16

##### Connection of push button "up-stop-down" DT 03

(Included)

#### Figure 17

##### Connecting an external "OPEN" button

An external "OPEN" button can be connected to terminals 15 and 14.

#### Figure 18

##### Connecting an external "CLOSE" button

An external "CLOSE" button can be connected to terminals 17 and 14.

#### Figure 19

##### Connecting a light switch (potential-free)

An external potential-free switch allowing lighting to be switched on/off can be connected to terminals 10 and 20.

#### Figure 20

##### Connecting an OFF-switch

In the ex-factory state, terminals 12 and 13 are bridged. Here an OFF-switch with opener contact can be connected. For connection, remove the jumper.

#### Figure 21

##### Connecting a photocell

Photocells switching to ground (0V) must be connected as follows:

Connection	Terminal
Ground (0V)	20
Switching output signal	71
Test input (optional)	18
Supply (+24V)	5

When the light path is clear, the switching output (signal) = 0 volts. With photocells without a test input, do not connect terminal 18.

#### Figure 22

##### Connecting a closing edge safety device

Closing edge safety devices switching to ground (0V) must be connected as follows:

Connection	Terminal
Ground (0V)	20
Switching output signal	19
Test input (optional)	18
Supply (+24V)	5

When the light path is clear, the switching output (signal) = 0 volts. With closing edge safety devices without test input, do not connect terminal 18.

#### Figure 23

##### Connecting terminals for external lighting with flashing light or revolving beacon

Terminal 5-6 openers	contact load
2,5A/30V DC	500W/250V AC
Terminal 5-8 closers	contact load
2,5A/30V DC	500W/250V AC

## ENGLISH

For setting the lighting, see text section of **figure 28** (setting the lighting) and if necessary text section of **figure 31** (setting the function of the option relay).

### Figure 24

**The following text only applies if additional controls ZS 200 (extended automatic timer) or MP 200 (traffic lane control) are used, in which case it must be observed!**

**On using additional controls (ZS 200 or MP 200), the command units to activate movement of the door must be connected exclusively according to the documentation supplied with the additional controls. In such an event, connection according to figures 16, 17 and 18 is not permissible!**

Wicket door contacts or emergency-OFF elements are connected according to **figure 20**.

Safety elements (SKS = closing edge safety device, LS = photocell) are connected according to **figures 21 and 22**.

On using additional controls ZS 200 or MP 200, the automatic timer according to figure 29 must remain set at "0" (factory setting) in menu 3.

**In menu 5, the function of the option relay according to figure 31 must be adjusted to value 6.**

### Figure 25

Installation layout

### Figure 26

Operator wiring diagram

### General Information

The operator contains nine menus, from which the user can select numerous functions. All this requires is allowing the operator to learn and memorise the door's travel path. Menu 1 (learning travel cycle) and menu 2 (lighting) are customer menus. Menus 3-9 are service menus and should only be altered if absolutely necessary. On first-time operation, the control system automatically switches to the learning menu. After completing the learning travel cycle or after 60 sec., the system automatically switches to menu 0 (normal operation).

### Menu selection

Menu selection is carried out using the PRG button. In doing so, pressing the button results in changing to the next menu. After arriving at menu 9, the system then changes back to menu 0.

### Customer menu: menu 1 (learning travel cycle)

On first-time operation, the control system automatically switches to menu 1 (learning travel cycle). Here the operator can be tuned to the door.

### Customer menu: menu 2 (lighting)

After the selection has been made, the menu number is displayed for one second, after which the corresponding menu parameter flashes up. This parameter can then be **immediately** activated or changed via the OPEN and CLOSE buttons.

### Service menus: menu 3 - menu 9

After the selection has been made, the menu number is displayed for one second, after which the corresponding menu parameter flashes up. To be able to alter this parameter, the PRG button must be pressed for 3 seconds. As a result, the menu number is displayed once again. After the 3 seconds have elapsed, the parameter flashes up again. A new value can now be entered via the OPEN and CLOSE buttons.

If the PRG button is released prematurely, the system switches to the next menu. If within 60 seconds in the tuned state no button is pressed, the system automatically returns to normal operation (menu 0).

### Tuning the operator

In order to tune the operator to the door, a so called learning travel cycle must first be completed. **During this learning travel cycle, the length of the travel path as well as the required force for opening and closing the door are learned and automatically stored.**

If the floor is uneven, it is possible to complete the learning travel cycle without the mechanical limit stop. On completing the learning travel cycle, it is imperative that the mechanical limit stop be re-activated in order to guarantee the function of the mechanical door security kit.

### Figure 27

**Tuning the travel limits (attention: the carriage must be engaged! → See figure 12)**

Switch the control system, if necessary, to the learning mode by pressing the PRG button to change to menu 1. After the "1", a flashing "L" is now displayed.

First press the OPEN button (↗) to allow the door to open right up to its mechanical limit stop. Then press the CLOSE button (↘). On reaching the CLOSE travel limit, the door automatically carries out a complete opening cycle. **Complete at least three uninterrupted door cycles. The system is then ready for operation.**

### Operation following a power failure

In the event of a power failure, the stored door data is retained. However, the door must then be allowed to complete one full opening cycle (reference travel cycle) to ensure the correct function. During this reference travel cycle it is important that the belt carrier is engaged in the carriage. If this is not the case, the belt carrier will travel into the drive wheel, and the operator will then register this as its reference point. If this should happen, allow the operator to travel in the CLOSE direction until you can engage the belt carrier in the carriage. After isolating the operator from the mains, repeat the reference travel cycle.

For safety reasons it is only possible to close the door following a power failure in the press-and-hold mode (dead man's control).

### Resetting the control system

(restoring the factory settings)

In order to reset the control system, proceed as follows:

1. Withdraw mains plug
2. Press the PRG button and keep it pressed
3. Insert the mains plug
4. Release the PRG button, as soon as "C" is displayed

**In general: W** = factory setting

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**Figure 28**

**Setting the lighting** (for connection see **figure 23**)

Select menu 2 by pressing the PRG button. The flashing figure displayed indicates the setting of the lighting.

If the option relay is already occupied by other lamp functions, it is still possible to connect the lighting by using relay board PR1 (item no. 437 130) at terminals 10 and 5.

Display	Operator
0	Lighting OFF
1	60 sec.
2	90 sec.
3	120 sec.
4	150 sec.
5 (W)	180 sec.
6	210 sec.
7	240 sec.
8	270 sec.
9	300 sec.

Afterwards, switch to menu 0 by pressing the PRG button.

**Figure 29**

**Setting the automatic timer (prerequisite is the fitting of a photocell and/or closing edge safety device), in addition in menu 4 a value unequal to zero must be selected)**

Select menu 3 by pressing the PRG button. The flashing figure displayed indicates the door's set open phase in the OPEN position, which can be altered using the OPEN or CLOSE buttons:

**On using additional controls ZS 200 or MP 200, the setting selected in menu 3 must remain at "0" (factory setting)!**

Display	Waiting phase
0 (W)	No automatic timer
1	10 sec.
2	20 sec.
3	30 sec.
4	45 sec.
5	60 sec.
6	90 sec.
7	120 sec.
8	150 sec.
9	180 sec.

When the automatic timer is activated (menu 3 not set at zero), an impulse to terminals 20 and 21 only allows the door to open. In this instance, it is not possible to stop the door whilst it is opening.

If an impulse is given to terminals 20 and 21 whilst the door is closing, the door stops and starts to open. If an impulse is given during the door's set waiting phase in the OPEN position, then the door's set waiting phase at the travel limit starts afresh.

If during two successive travel cycles the door encounters an obstruction and reverses back to the OPEN travel limit, then the

door stays in this OPEN end-of-travel position with an error message being issued.

Switch to menu 0 by pressing the PRG button.

**Figure 30**

**Setting the photocell/closing edge safety device**

Select menu 4 by pressing the PRG button.

The flashing figure displayed indicates the following settings which can be altered using the OPEN or CLOSE button:

**LS** = photocell

**SKS** = closing edge safety device

Our photocells and closing edge safety devices incorporate a self-testing unit.

Terminals	71	18	19	18
Display	query	self-testing	query	self-testing
	LS	LS	SKS	SKS
0 (W)	no	no	no	no
1	yes	no	no	no
2	yes	yes	no	no
3	no	no	yes	no
4	yes	no	yes	no
5	yes	yes	yes	no
6	no	no	yes	yes
7	yes	no	yes	yes
8	yes	yes	yes	yes

Switch to menu 0 by pressing the PRG button.

**Figure 31**

**Setting the function of the option relay**

Select menu 5 by pressing the PRG button. The flashing figure displayed indicates the set function of the option relay, which can be altered using the OPEN or CLOSE buttons:

**For use with additional controles ZS 200 or MP 200 choose menu 5 and adjust the value to 6.**

Display	Function
0 (W)	Relay OFF (factory setting)
1	2s warning phase before and during every door movement: flashing light
2	2s warning phase before and during every door movement: continuous light
3	The relay picks up for the duration of the set parameter in menu 2 (lighting). 4 5s warning phase before and during every door movement: flashing light
5	5s warning phase before and during every door movement: continuous lighting
6	Relay picks up during the door's travel cycle (e.g. automatic stairwell 100 % duty cycle)

For connection, see **fig. 23**.

Switch to menu 0 by pressing the PRG button.

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**Figure 32**

**Force limit in the CLOSE direction**

In menu 6 the automatic force limit for closing the door can be altered to a less sensitive setting. This is only necessary for doors which run extremely unevenly. An unnecessarily high setting should not be selected.

**If the closing force is set too high, this can result in damage to property or injury to persons.** In the case of extremely smooth-running doors, a lower setting can be selected if the sensitivity to obstructions is to be increased.

Switch to menu 0 by pressing the PRG button.

Switch to menu 0 by pressing the PRG button.

**Note:** for up-and-over doors we recommend setting the "soft" stop at long.

**Figure 33**

**Door behaviour before/at the CLOSE travel limit**

In menu 7 the automatic belt relief and the braking behaviour at the CLOSE travel limit can be influenced:

Display	"Soft" stop	Relief
0	long	automatic
1	long	without
2	long	short
3 (W)	short	automatic
4	short	without
5	short	short
6	without	automatic
7	without	without
8	without	short

Switch to menu 0 by pressing the PRG button.

**Note:** for up-and-over doors we recommend setting the "soft" stop at long.

**Figure 34**

**Force limit in the OPEN travel direction**

In menu 8 the automatic power limit for opening the door can be altered to a less sensitive setting. This is only necessary for doors which run extremely unevenly. An unnecessarily high setting should not be selected. **If the opening force is set too high, this can result in damage to property or injury to persons.**

In the case of extremely smooth-running doors, a lower setting can be selected if the sensitivity to obstructions is to be increased.

Switch to menu 0 by pressing the PRG button.











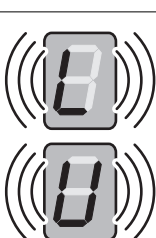
**Figure 35**

**Door behaviour before/at the OPEN travel limit**

In menu 9 the automatic belt relief and the braking behaviour at the "OPEN" travel limit can be influenced.

Display	"Soft" stop	Relief
0 (W)	long	automatic
1	long	without
2	long	short
3	short	automatic
4	short	without
5	short	short
6	without	automatic
7	without	without
8	without	short

## ENGLISH

Trouble-shooting and Test instructions			
Display	Fault/Error	Possible cause	Remedy
	Learned force limit too high	Required force for tuning process was $\geq 350$ N	Check door action
		Door movement extremely sluggish to easily operate the door by hand	Disengage operator. It must be possible
	Entry not possible	In menu 4 value equals zero	In menu 3 it is only possible to set the automatic timer if the closing edge safety device (SKS) and photocell (LS) are activated in menu 4 beforehand.
	Excess travel stop	Belt torn	Replace the belt
		Operator defective	Replace the operator
	Overload current	Internal error	Retune the operator, if necessary replace
	Force limit	Door too sluggish	Correct door movement
		Obstruction in door area	Remove obstruction; If necessary, retune the operator
	Static current circuit	Terminal 12, 13 open	Bridge terminal 12, 13
		OFF-switch open	Close OFF-switch
	RPM	Springs incorrectly tensioned	Correct spring tension <b>(caution!)</b>
		Springs broken	Have springs replaced by an garage door experienced engineer
	Photocell	Light path interrupted	Set the photocell
		Photocell defective	Replace the photocell
	Closing edge safety device	Photocell interrupted	Check transmitter and receiver, if necessary replace or completely replace the closing edge safety device
	No reference point	Power failure	Move door to OPEN travel limit
	Operator not yet set	Operator not yet set	Set the operator limits