



instructions for fitting, operating and maintenance
garage door operator

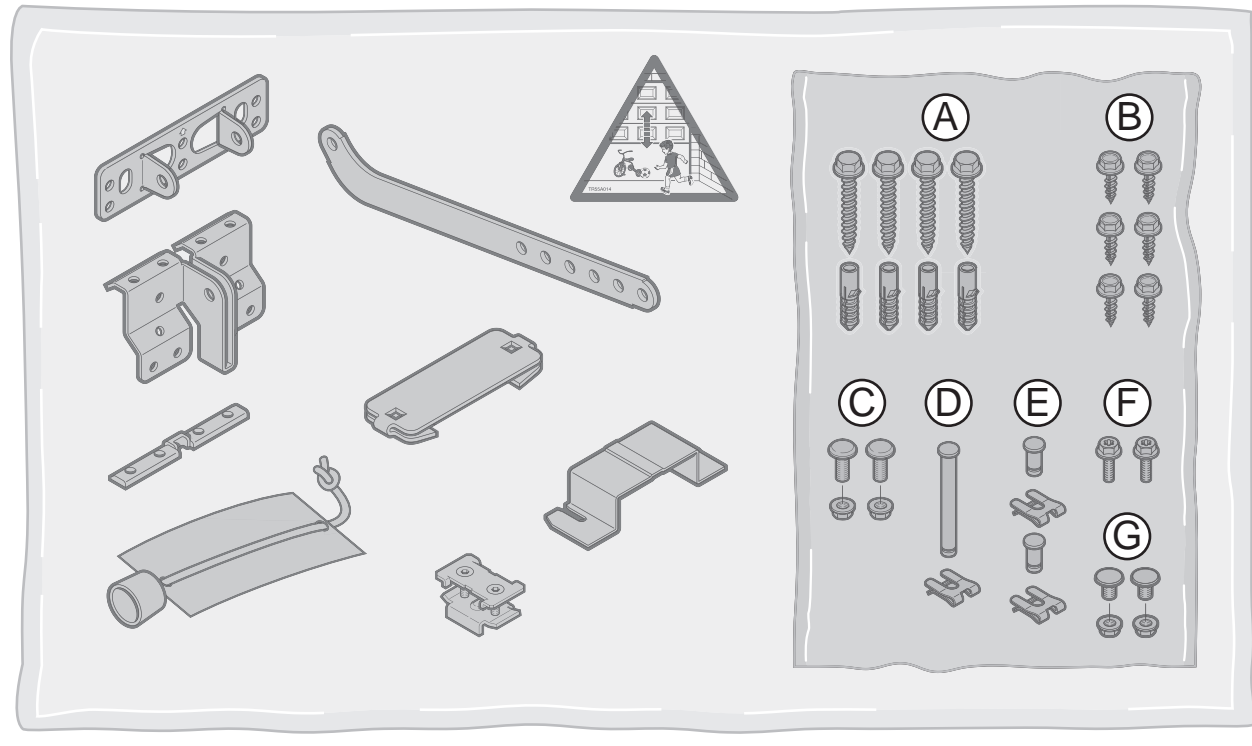
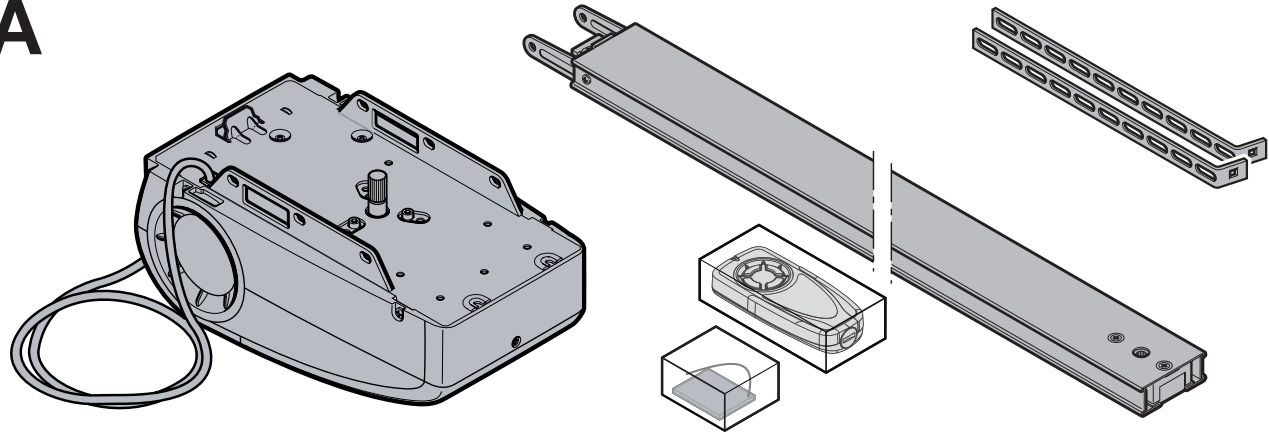
GA203-403

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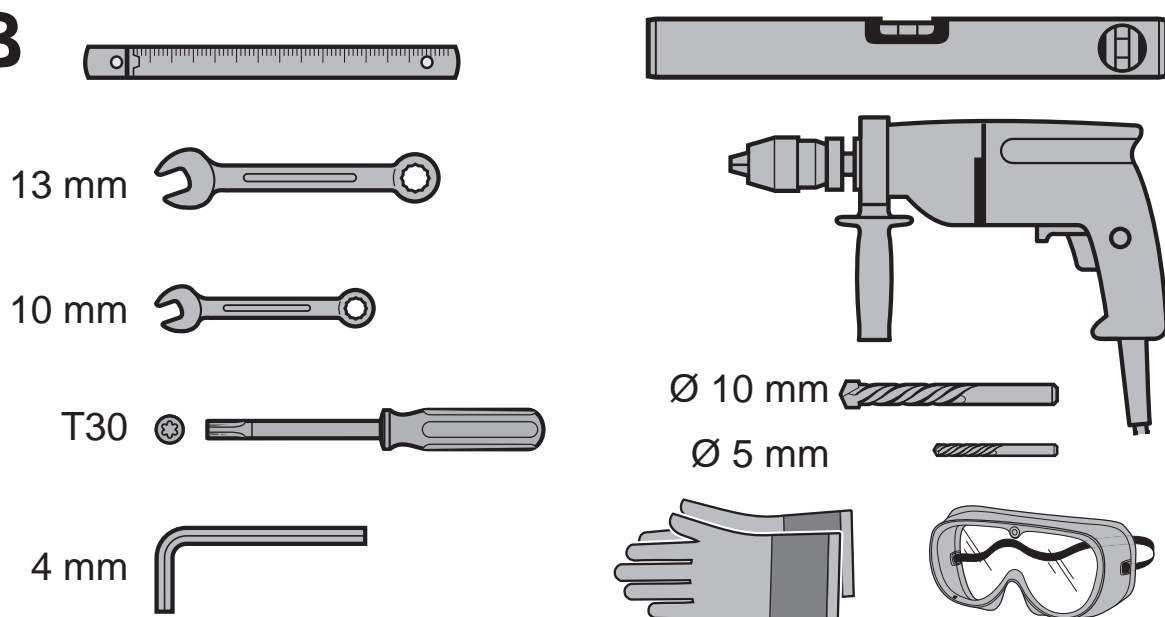
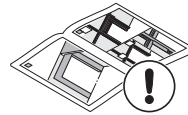


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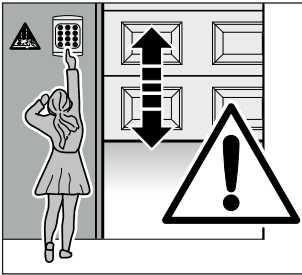
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illustrated section 22

3 sAfeTy instructions

Warning!



danger of injury due to unwanted door travel!
Incorrect assembly or handling of the operator may trigger unwanted door travel that may result in persons or objects being trapped.

- ▶ Follow all the instructions provided in this manual.
- ▶ Install control devices at a height of at least 1.5 m (out of the reach of children).
- ▶ Fit permanently installed control devices (such as buttons, etc.) within sight of the door, but away from moving parts.

□ □ □ □ □ **tted control devices (e.g. buttons) may trigger unwanted door travel. persons or objects may be jammed as a result.**

Warning!



danger of injury during door travel!
If people or objects are in the area around the door while the door is in motion, this can lead to injuries or damage.

- ▶ Children are not allowed to play near the door system.
- ▶ Make sure that no persons or objects are in the door's area of travel.
- ▶ If the door system has only one safety feature, only operate the garage door operator if you are within sight of the door's area of travel.
- ▶ Monitor the door travel until the door has reached the end-of-travel position.
- ▶ Only drive or pass through remote control door systems if the door is in the Open end-of-travel position!
- ▶ Never stay standing under the open door.

3.1 □ □ □ □ □ □ □ □ □ □ tting

- The specialist carrying out the work must ensure that installation is conducted in compliance with the prevailing national job safety rules and regulations and those governing the operation of electrical equipment. In the process, the relevant national guidelines must be observed. Potential hazards as outlined in DIN EN 13241-1 are avoided by construction and fitting according to our guidelines.
- The garage ceiling must guarantee secure fastening of the operator. For ceilings which are too high or too light, the operator must be fastened with additional struts.
- **the mains plug must be disconnected before any work is performed on the operator.**

Warning!

compensating springs are under high tension

Serious injuries may occur while adjusting or loosening the compensating springs!

- ▶ For your own safety, only have a specialist conduct work on the door compensating springs and, if necessary, maintenance and repair work!
- ▶ Never try to replace, adjust, repair or reposition the compensating springs for the counterbalance of the door or the spring mountings yourself.
- ▶ In addition, check the entire door system (joints, door bearings, cables, springs and fastenings) for wear and possible damage.
- ▶ Check for the presence of rust, corrosion, and cracks.

A malfunction in the door system or an incorrectly aligned door can cause serious injuries!

- ▶ Do not use the door system if repair or adjustment work must be conducted!

4 fitting

4.1 inspect door / door system

The door must be in a flawless mechanical condition, as well as correctly balanced, so that it can be easily operated by hand (EN 12604).


- ▶ Lift the door by approx. one metre and let it go. The door should stay in this position and neither move downward nor upward. If the door does move in either direction, there is a danger that the compensating springs / weights are not properly adjusted or are defective. In this case, increased wear and malfunctioning of the door system can be expected.
- ▶ Check whether the door can be opened and closed correctly.
- ▶ The mechanical locking devices of the door that are not needed with a garage door operator must be put out of commission. This especially includes the locking mechanisms of the door lock.
- ▶ The fitter must check that the fitting materials supplied are suitable for the purpose and the intended fitting location.

4.2 clearance required


- The clearance between the highest point of door travel and the ceiling (even when opening the door) must be at least 30 mm. See Figures 1.1a and 1.2b.
- If the clearance is smaller, the operator can also be mounted behind the opened door if enough space is available. In this case, an extended fitting bracket (ordered separately) must be used.
- The garage door operator can be arranged up to max. 500 mm off-centre.
- The electrical outlet should be fitted approx. 500 mm from the operator head.


 **check these dimensions!**

4.3 preparing the door

	<h2>wArning!</h2>
danger to life from the pull rope!	
A running rope may lead to strangulation.	
▶ Remove the rope while fitting the operator (see Figure 1.2a).	
▶ Completely disassemble the mechanical door locking on the sectional door. See figure 1.3a on page 23 .	
▶ With an off-centre reinforcement profile on the sectional door, fit the link bracket on the nearest reinforcement profile to the left or right. See figure 1.5a on page 24 .	
▶ For sectional doors with centre door locking, arrange the lintel joint and link bracket max. 50 cm off-centre. See figure 1.6a on page 25 .	
▶ Render the mechanical door locking on the up-and-over door inoperable. For door models not covered here, block the catches on site. See Figures 1.3b/1.4b/1.5b on page 26 .	
▶ In a deviation from the illustrated section, attach the lintel ceiling console and link bracket max. 50 cm off-centre for up-and-over doors with ornamental iron door handles. See figure 1.6b on page 27 .	
▶ For N 80 doors with timber infill, the bottom holes on the lintel joint must be used for fitting. See figure 1.7b on page 27 .	

4.4 fitting the boom

	<h2>wArning!</h2>
□ □ □ □ □ □ □ □	
Use of unsuitable fixing material may mean that the operator is insecurely attached and could come loose.	
▶ The fitter must check the suitability of the provided fixing material (plugs) for use in the intended fitting location.	
▶ Only use the provided fixing materials (plugs) in concrete \geq B15 (see Figures 1.6a/1.8b/2.4).	

	<h2>Attention!</h2>
<ul style="list-style-type: none"> ▪ <i>Before the boom is fitted on the lintel and under the ceiling, shift the slide carriage approx. 20 cm towards the middle of the boom. This is no longer possible once the end stops and operator have been fitted.</i> ▪ <i>For operators used in underground and collective garages, it is necessary to fix the boom under the ceiling of the garage using a second suspension (see figure 2.4 and figure 2.5 on page 29).</i> ▪ <i>Only use the booms recommended by us for the garage door operators – depending on the respective application!</i> ▪ <i>Drilling dust and chippings can lead to malfunctions. Cover the operator during drilling work..</i> 	

note

A second suspension is recommended with divided rails (available under accessories) (see figure 2.5 on **page 29**).

4.5 boom operating modes

4.5.1 manual operation


The slide carriage is disengaged from the belt lock to enable the door to be moved by hand. For disengaging the slide carriage: Pull on the cord of the mechanical release. See figure 4 on **page 32**.

4.5.2 Automated operation

The belt lock is engaged in the slide carriage to enable the door to be moved with the operator. For preparing the slide carriage for engaging:

- Press the green knob. See figure 6 on **page 32**
- Move the belt in the direction of the slide carriage until the belt lock engages.

4.6 emergency release

	<h2>wArning!</h2>
danger of injury by fast-closing door!	
If the cord knob is actuated while the door is open, there is a danger that the door will close rapidly if the springs are weak, broken or defective, or if the counterbalance is inadequate.	
▶ Only pull the cord knob when the door is closed!	

An emergency release is necessary for garages without a second entrance that prevents the possibility of being locked out; this must be ordered separately.

- ▶ Check the emergency release monthly for proper function.

4.7 fitting the close end stop

- Loosely insert the end stop in the boom between the slide carriage and door. Push the door into the Close end-of-travel position by hand.
- This will push the end stop into the correct position. See figure 5.2 on **page 32**.
- Fix the end stop.

note

If the door cannot easily be pushed manually into the desired OPEN or CLOSE end-of-travel position, this means that the door mechanism is too stiff for operation with the garage door operator and must be inspected.

4.8 tension of the toothed belt

The toothed belt of the operator boom is tensioned optimally ex-factory. During the start-up and slow-down phase, with larger doors it is possible that the belt will briefly hang out of the boom profile. However, this does not constitute a technical malfunction and does not negatively affect the function and service life of the operator.

4.9 fitting the operator head

- Fix the operator head. See figure 7 on **page 33**.

4.10 fixing the warning sign

- Fix the crushing warning sign in a prominent, cleaned and degreased place, for example near to the permanently installed button for moving the operator. See figure 8 on **page 33**.

5 initial start-up/connecting Additional components



dANGER!

Mains voltage

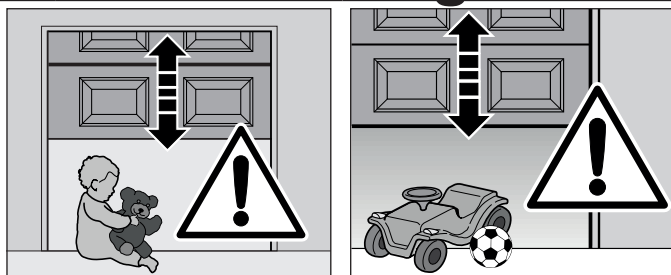
Contact with the mains voltage presents the danger of a deadly electric shock.

For that reason, observe the following warnings under all circumstances:

- Electrical connections may only be made by a qualified electrician.
- The on-site electrical installation must conform to the applicable protective regulations (230 / 240 V AC, 50 / 60 Hz)!
- Disconnect the mains plug and the plug of the emergency battery whenever performing work on the door system.



wARNING!



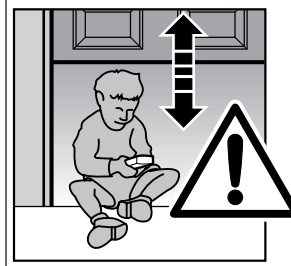
danger of injury during door travel!

If people or objects are in the area around the door while the door is in motion, this can lead to injuries or damage.

- Children are not allowed to play near the door system.
- Make sure that no persons or objects are in the door's area of travel.
- If the door system has only one safety feature, only operate the garage door operator if you are within sight of the door's area of travel.
- Monitor the door travel until the door has reached the end-of-travel position.
- Only drive or pass through remote control door systems if the door is in the Open end-of-travel position!
- Never stay standing under the open door.



wARNING!



danger of injury during door travel!

Persons may be injured by door travel if the hand transmitter is actuated.

- Make sure that the hand transmitters are kept away from children and can only be used by people who have been instructed on how the remotecontrol door functions!
- If the door has only one safety device, only operate the hand transmitter if you are within sight of the door!
- Only drive or pass through remote control door systems if the door is in the Open end-of-travel position!
- Never stay standing under the open door.
- Please note that unwanted door travel may occur if a hand transmitter button is accidentally pressed (e.g. if stored in a pocket / handbag).



cAUTION!

danger of crushing in the boom

Do not reach into the boom with your fingers during door travel, as this can cause crushing.

- Do not reach into the boom during door travel



cAUTION!

danger of injury from the cord knob

If you hang on the cord knob, you may fall and injure yourself. The operator could break away and injure persons or damage objects that are located underneath, or the operator itself could be destroyed.

- Do not hang on the cord knob with your body weight.



Attention!

- External voltage on the connecting terminals of the control will destroy the electronics!
- To prevent malfunctions: Duct the operator's connection cables (24 V DC) in an installation system that is separate from other supply lines (230 V AC)!

5.4 deleting door data

If the teaching process is not completed successfully despite several attempts, we recommend resetting the imported data as follows:

1. Remove the mains plug and wait at least 10 seconds.
2. Insert the mains plug again.
3. After the seven segment display has switched on, press the black TA2 button within the next 5 seconds and then the white TA1 button; keep these buttons depressed until the drive lighting begins to flash three times.
4. Release the button; after the software version is displayed, „L“ flashes on the display.
5. All data is now deleted.

note

In the supplied state, the door data is deleted and the drive may be taught immediately.

6 inst All Accessories

Note the warning- and safety instructions „5 Initial start-up/ Connecting additional components“ on page 7

6.1 electrical connection / connection terminals

(see „Circuit board overview MS550“ on page 18)

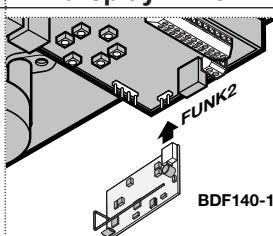



- ▶ The connection terminals can be accessed by opening the inspection window. The terminals that the additional components are connected to, such as volt-free internal push buttons, key switches or photocells, only carry a non-hazardous low-voltage current of approx. 24 V DC.
- ▶ All connecting terminals can be given multiple assignments, but with a maximum of. 1 x 1,5 mm².
- ▶ Connection terminal KL1 is removable.

⚠ **the mains plug must be disconnected before any work is performed on the operator!**



⚠ **Loading of the operator by all accessories: 200 mA**

6.2 radio receiver bdf 140-1 (fun K2)

6.2.1 teach in remote control

Action	display / info
plug radio receiver into the 2-pin base (FUNK 2). ⚠ the connector must engage properly! ⚠ please note: connect the radio receiver in the right way around!! ⚠ the mains plug must be disconnected!	
 In order to select the desired radio channel r1, r2, r3, or r4 briefly press button t A3...	
...1 x for r1	r1 is displayed.
...2 x for r2	r2 is displayed.
...3 x for r3	r3 is displayed.
...4 x for r4	r4 is displayed.
...5 x, to exit the menu without making any changes.	
 hold down the desired button on the remote control for ~ 3 sec..	
 release button on the remote control.	After the teach-in process has been successfully completed, the status display is shown for the door, see 8.4 on page 14.
▶ Repeat the procedure to teach in additional remote controls.	

6.2.2 functions of the radio channels

channel 1 r1	Menu 8 = 0  Start command “Outwards” request with traffic light control MS3EB connected	Menu 8 = 1 Defined Open (Open-Stop-Open...)
channel 2 r2	Menu 8 = 0  Part Open command “Inwards” request with traffic light control MS3EB connected	Menu 8 = 1 Defined Close (Close-Stop-Close...)
channel 3 r3	Actuate 24 VDC light output or option relay for light function (if Menu 5 = 2). The function can be selected in menu b.	
channel 4 r4	Defined Close command, Close-Stop-Close... or interruption of the keep open time with automatic closing selected.	

note

Max. 120 codes can be taught into the radio module memory. Once the memory is full, the display flashes r1, r2, r3 or r4 when you attempt to teach in additional codes.

With traffic light control MS3EB-G connected, the Part Open function is deactivated, from which point Channel 1 is interpreted as an outwards request and Channel 2 as an inwards request.

Menu 7 must be set to 1, Menu 8 must be set to 0.

6.2.3 clear memory of the radio module (fun K 2)

- ▶ Hold down button t A3 for ~10 sec. → *Countdown begins*
- ▶ *after ~2 sec. and counts down from 8 (dB, d7...).*
- ▶ ▶ After the period has elapsed, all channels are cleared, → *dE appears on the display.*
- ▶ Release button t A3, → *Status of the door is displayed, see 8.4 on page 14.*

⚠ **if the button is released before the countdown is complete, the memory will not be cleared!**

⚠ **All taught-in remote controls are now cleared from memory; it is not possible to clear individual remote controls!**

6.3 radio receiver bhe 120

- ▶ Plug radio receiver into the 4-pin base (fun K 1), see „Circuit board overview MS550“ on page 18.

⚠ **the connector must engage properly!**

- ▶ See the manual of the receiver for information on teaching in the remote control buttons to the receiver.

note

The function of Channel 2 (terminal 23) can be set in menu 7, see **page 13.**

6.4 external receiver bhe 221/bhe 321/ bde 221/bde 321

- ▶ Plug radio receiver into the 4-pin base (fun K 1), see „Circuit board overview MS550“ on page 18.

- Green wire (GN) → terminal 20 (0 V)
- White wire (WH) → terminal 21 (Channel1)
- Yellow wire (YE) → terminal 23 (Channel 2)
- Brown wire (BN) → terminal 5 (+24 V)

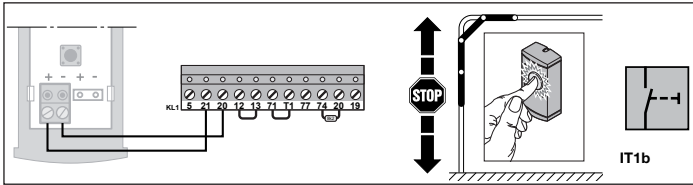
⚠ **the connector must engage properly!**

- ▶ See the manual of the receiver for information on teaching in the remote control buttons to the receiver.

note

The function of Channel 2 (terminal 23) can be set in menu 7, see **page 13.**

6.5 external impulse button

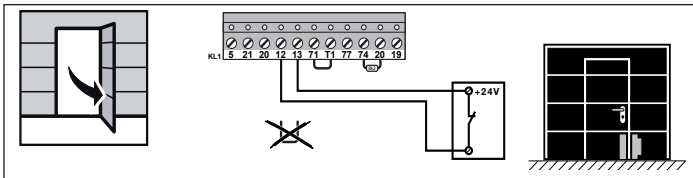


Impulse button

Connect the button (potential-free make contact, e.g. inwards or key switch) as follows:

- ▶ First contact → terminal 21 (pulse input).
- ▶ Second contact → terminal 20 (0 V).
- ▶ Connect multiple buttons in parallel!

6.6 off switch / wicket door contact



Wicket door contact

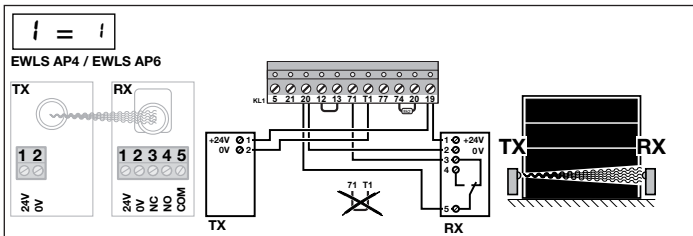
Connect off switches or wicket door contacts (they must be positive break contacts) to stop the opener (stop or emergency stop circuit) as follows:

- ▶ Remove wire jumper between terminals 12 and 13.
- ▶ Connect the potential-free break contact to terminal 12 (stop input) and terminal 13 (+24 V).

note

Breaking the contact stops any door movements which are in progress immediately and permanently prevents further movements.
Opener light flashes 1x, display → error code **05**.

6.7 c ontact photocell for safety recoil



Contact photocell

- ▶ Remove wire jumper between terminals T1 and 71.
- ▶ **connect potential-free break contact of the receiver** to terminal 71 (safety input) and terminal 20 (0 V).
- ▶ **connect power supply of the transmitter** to terminal 19 (approx. +24 V, switched off in standby mode) and terminal T1 (0 V with test).
- ▶ **connect power supply of the receiver** to terminal 19 (approx. +24 V, switched off in standby mode) and terminal 20 (0 V).
- ▶ Menu **f** must be set to **f**.

note

If the light barrier is interrupted during the “Close door” run, a reversal in “open” direction occurs.

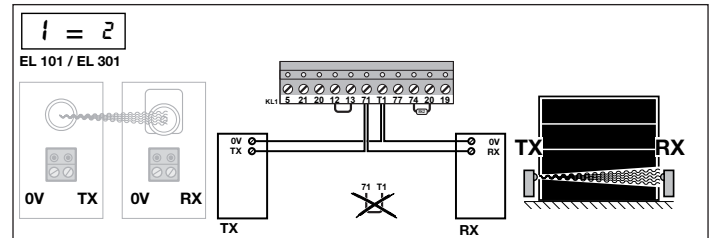
The light barrier is only active during “Close door”.
Opener light flashes 1x, display → error code **08**.

With automatic closing set, the duration of the keep open time after the light barrier area has been vacated is determined by the setting in menus **H** and **J**.

The light barrier is tested in the “Door open” end position, each time before it starts to move in the Close direction. If the light barrier test is unsuccessful, closing is prevented.
Opener light flashes 1x, display → error code **38**.
The error message can be acknowledged by repeating the command, and after the keep open time has elapsed or another command in the Close direction is received, another attempt is made to close the door.

If no light barrier is connected, the wire jumper must be connected between T1 and 71 and menu **f** should be set to **f**.

6.8 t wo-wire photocell for safety recoil



2-wire photocell EL101 oder EL301

- ▶ Remove wire jumper between terminals T1 and 71.
- ▶ Connect light barrier connection RX or TX to terminal 71 (safety input).
- ▶ Connect light barrier connection 0V to terminal T1 (0 V).
- ▶ Menu **f** must be set to **2**.

note

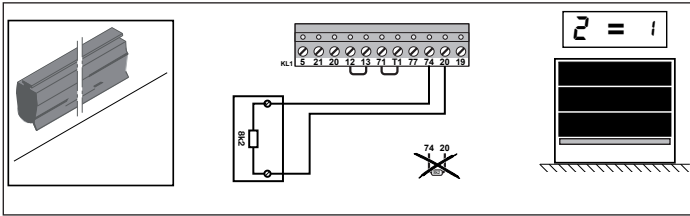
If the light barrier is interrupted during the “Close door” run, a reversal in “open” direction occurs.

The light barrier is only active during “Close door”.
Opener light flashes 1x, display → error code **08**.

With automatic closing set, the duration of the keep open time after the light barrier area has been vacated is determined by the setting in menus **H** and **J**.

If no light barrier is connected, the wire jumper must be connected between T1 and 71 and menu **f** should be set to **f**.

6.9 Closing edge safety device 8k2



8k2 closing edge safety device

- ▶ Remove the 8k2 resistor on terminals 74 and 20.
- ▶ Connect the closing edge safety device to terminal 74 (safety input) and terminal 20 (0 V).
- ▶ Menu 2 must be set to 1.

note

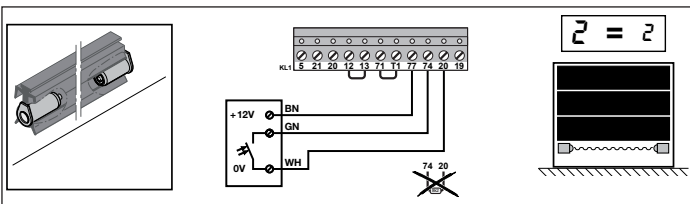
The input is active during the door's "CLOSE" and "OPEN" movements. During closing, a reversal of direction occurs, moving the door back to its "OPEN" end position. The opener light issues the flash 1x pulse code, and the display shows error code 09.

During opening, there is an obstacle clearance of ~ 50 mm. Opener light flashes 1x, display → error code 32.

If the 8k2 safety edge is active while the door is opening from the "CLOSED" end position, it is only polled after approx. 50 mm, resulting in an immediate stop. Opener light flashes 1x, display → error code 32.

If no closing edge safety device is connected, the 8k2 resistor must be connected between terminal 20 and 74 and menu 2 should be set to 1.

6.10 Optical closing edge safety device



Optical sensors

- ▶ Remove the 8k2 resistor on terminals 74 and 20.
- ▶ Connect the closing edge safety device to terminal 74 (GN / safety input), terminal 20 (WH / 0 V) and terminal 77 (BN / + 5V).
- ▶ Menu 2 must be set to 2.

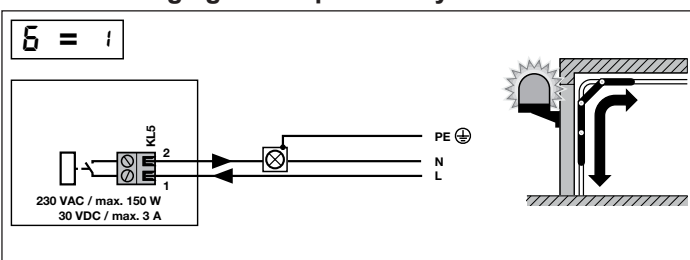
note

The input is active during the door's "CLOSE" movement. During closing, a reversal of direction occurs, moving the door back to its "OPEN" end position, when the closing edge safety device is interrupted.

Opener light flashes 1x, display → error code 24.

If no closing edge safety device is connected, the 8k2 resistor must be connected between terminal 20 and 74 and menu 2 should be set to 1.

6.11 Warning light via option relay



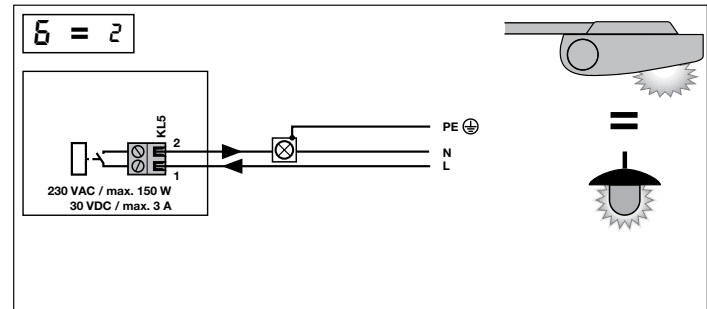
Warning light via option relay

A warning light can be controlled via the potential-free make contact (KL 5) of the option relay.

- ▶ 230 VAc, max. 150 W (ohmic load)
- ▶ 30 Vdc, max. 3 A (ohmic load)

- ▶ The warning light is actuated each time the door moves, and during the advance warning period.
- ▶ The function of the warning light (light up-flash-OFF) can be set in menu „d“.
- ▶ Menu 5 must be set to 1.

6.12 External lamp via option relay



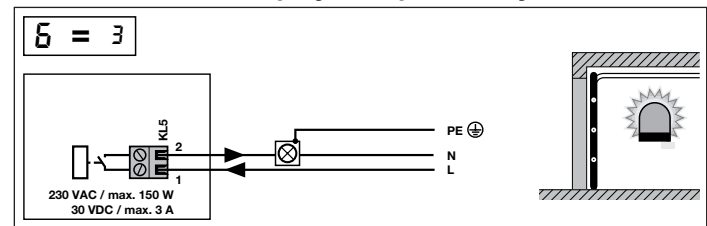
External lamp via option relay

An additional external lamp can be controlled via the potential-free make contact (KL 5) of the option relay.

- ▶ 230 VAc, max. 150 W (ohmic load)
- ▶ 30 Vdc, max. 3 A (ohmic load)

- ▶ The function of the lamp (lighting duration) can be selected in menu „b“.
- ▶ Menu 5 must be set to 2.

6.13 Close door display via option relay



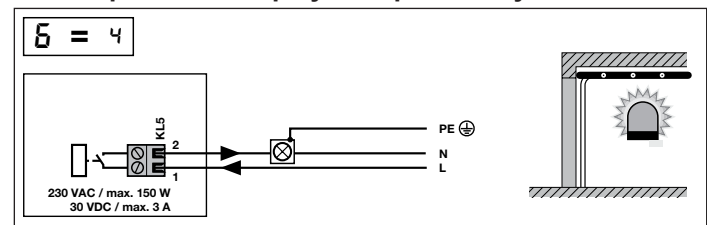
Close Door display via option relay

An external Close Door display can be controlled via the potential-free make contact (KL 5) of the option relay.

- ▶ 230 VAc, max. 150 W (ohmic load)
- ▶ 30 Vdc, max. 3 A (ohmic load)

- ▶ The option relay is actuated in the "Door closed" end position.
- ▶ Menu 5 must be set to 3.

6.14 Open door display via option relay



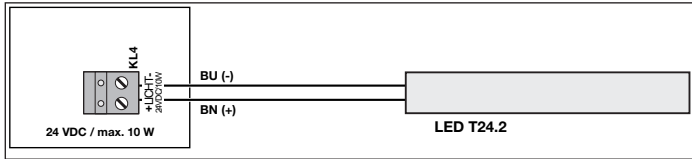
Open Door display via option relay

An external Open Door display can be controlled via the potential-free make contact (KL 5) of the option relay.

- ▶ 230 VAc, max. 150 W (ohmic load)
- ▶ 30 Vdc, max. 3 A (ohmic load)

- ▶ The option relay is actuated in the "Door open" end position.
- ▶ Menu 5 must be set to 4.

6.15 light output 24 vdc



Light output 24 VDC

The optionally available **led t24.2** light is plugged directly into the light output (terminal KL4).

- ▶ The function of the external lamp can be selected in menu **b**.

PLEASE NOTE! do not load 24 vdc light output with more than 10 w! overloading the output will cause the electronics to be destroyed!

6.16 timer contact for permanently open command

Connect a timer output with potential-free make contacts as follows:

- ▶ First contact → terminal 21 (timer input)
- ▶ Second contact → terminal 20 (0 V)

note
The function "Permanent Open" is only available when automatic closing is selected.
Set the keep open time in menu **E**, and prewarning period in menu **F**.

When traffic light control MS3EB-G is connected, connect the timer to terminals 20/21 (Permanent Open with "preferred direction *outwards*") or 20/24 (Permanent Open with "preferred direction *inwards*") on the traffic light control.

7 special functions

7.1 suppressing the light barrier

After everything is installed and connected, the drive is taught (position of the light barrier, track, power for opening and closing).

Action	display / info
Insert mains plug.	The software version is displayed
Hold down button tA 2 for ~6 sec...	...until L flashes on the display. The opener light flashes at frequency of 2 Hz.
Release button tA 2 .	
Hold down button tA 3 or tA 1 , to move the door to the desired "open door" position. In its „OPEN“ position the door must maintain a minimum distance of approx. 50 mm to its limit stop. → deadman function , see Learning mode, 8.3 on page 14 .	
Briefly press button tA 2 once.	the learning process starts; the door closes until it reaches the light barrier position.

	Press the tA 1 button within the next 7 seconds and hold it for at least 3 seconds.	The drive light brightens for approx. 1 second to indicate that the position has been saved.
	Release the tA 1 button immediately and continue the programming process by pressing the tA 1 button briefly.	the teaching process continues; the door closes, opens and then closes another 2x automatically. After 5 learning movements, the opener light switches on and the opener moves the door to the Door Open end position..
programming is complete.		

Warning!
Because the power shut down does not function during the teaching process, it is essential that the installer remains at the device to prevent anyone from getting close to the door.

note
The -50 mm position is then taught as the reversal limit at which the drive stopped.
The light barrier position is deleted during the next teaching process. The light barrier position always has to be taught again.

Attention!
The light barrier position must be selected in such a way that a reference block as per EN 12445 is forcibly identified!

7.2 programming the reversal limit for the advanced light barrier (v11/v12)

- ▶ The advanced light barrier is installed and connected; menu **2** is at **3**.
- ▶ Bring the door into the door open end position.
- ▶ Place a rule flat on the floor.
- ▶ Initiate the teaching process; to do this, set the **P** menu to **1** and start the teaching process using the **tA 2** button.
- ▶ **3** is shown on the display and the drive moves the door in the closing direction until the advanced light barrier identifies the bar.
- ▶ The drive stops and **4** is shown on the display.
- ▶ The point that has been taught in this way is confirmed by pressing the **tA 2** button; the display shows menu item **P** again.
- ▶ Press **0** to exit the menu.
- ▶ The reversal limit is taught and saved.
- ▶ Remove the rule and open the door by pressing the **tA 1** button.

the system is now in normal mode again.

8 menu overview

Legend:		☒ = Factory setting	" = Second	' = Minute	KL = Terminal
♣ After making changes in the menu, it is necessary to teach in the opener again!					
0	▶ Always select menu item 0 to save changes in the menus. See also „5.3 Operate menu control system MS550“ on page 8.				
1	Light barrier analysis	☒ 1: Contact photocell	2: Two-wire photocell		
2	Closing edge safety device analysis	☒ 1: 8k2 safety edge	2: OSE (opto-sensor safety edge)	3: VL1/VL2 (leading light barrier)	
3	Opening speed in OPEN direction ♣	☒ 1: Normal speed	2: Quick OPEN		
4	Soft-run speed in close direction	1: 30%	☒ 2: 50%		
5	Brief reverse at door closed	0: Off	1 ~3 mm	☒ 2 ~6 mm	3 ~9 mm 4 ~12 mm 5 ~15 mm
6	Option relay function (KI 5)	☒ 1: Warning light	2: Light function	3: CLOSE Door display	4: OPEN Door display
7	Input 23 function 4-pin connection / fun K1(KI 2)	☒ 1: Part Open command	2: Light control		
8	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	☒ 0: No	1 Yes, FUNK1+FUNK2 input	2 Yes, FUNK1 input only	
9	Running direction logic ♣	☒ 1: Default // opens towards the opener	2: Gates // closes towards the opener		
R	Opener light and illumination period	0: OPEN 30" - CLOSE 5"	1: OPEN 90" - CLOSE 5"	☒ 2: OPEN 150" - CLOSE 5"	
		3: OPEN 240" - CLOSE 5"	4: OPEN 300" - CLOSE 5"	5: 30"	6: 90"
		7: 150"	8: 240"	9: 300"	
b	Response time of 24 vdc light output or option relay, if menu 6 = 2 (light function) is set!	0: 1"	1: 1'	2: 2'	3: 3' 4: 4' 5: 5'
		6: 10'	7: 15'	8: On/Off	☒ 9: same as opener light (menu R)
☒ with the on/off function (menu b = 8) the light can only be switched off when the opener is stationary. if the lighting is switched on, it must be switched off again using a command again.					
c	Activate light function / opener light A = Channel 1 (r 1) / Input 21 (KL1 / KL2) b = Channel 3 (r 3) / Input 23 (KL2) → Menu 7 = 2! * The particular light period / function select in the menu is enacted! (only R // R und b // only b)	☒ 1:	A Starts opener + opener light → R* + external light → b*	b Only switches on external light → b*.	
		2:	A Starts opener + opener light → R*.	b Only switches on external light → b*.	
		3:	A Starts opener + opener light → R* + external light → b*	b Switches on opener light + external light → b*	
		4:	A Starts opener + opener light → R*.	b Switches on opener light + external light → b*	
☒ external light relates to light sources connected via KI 5 (option relay, if menu 6 = 2) and/or to KI 4 (24 vdc , max 10 w).					
d	Option relay function with warning light connected Door movement - Prewarning period - CLOSE door	☒ 2: on during door movement - fl Ashes during prewarning period - off during CLOSE Door	1: On - On - Off	3: Flashes - On - Off	4: Flashes - Flashes - Off 5: On - On - On
			6: On - Flashes - On	7: Flashes - On - On	8: Flashes - Flashes - On
E	Keep open time / Automatic closing	☒ 0: No keep open time	1: 10"	2: 20"	3: 30"
		4: 45"	5: 60"	6: 90"	7: 120" 8: 150" 9: 180"
☒ this function is only permitted if a presence detector is installed as per en 12453, table 1.					
F	prewarning period in close direction	☒ 0: No prewarning period	1: 3"	2: 5"	3: 10"
		4: 15"	5: 20"	6: 30"	7: 40" 8: 50" 9: 60"
H	Reset keep open time after close light barrier is broken	☒ 1: Keep open time is reset and starts again.	2: Keep open time is not reset → Remaining time elapses. Reset occurs if the light barrier is interrupted during the prewarning period.		
J	Quick close after close light barrier is broken	☒ 0: Off	1: Quick Close after 1" prewarning period	2: 2"	3: 3"
		4: 4"	5: 5"	6: 6"	7: 7" 8: 8" 9: 9"
☒ this function is only active if the intake is automatic.					
n	Reversing behaviour for force shutdown in close direction	1: Obstacle clearance as far as Door OPEN end position (with AUTO CLOSING selected)	☒ 2: 300 mm obstacle clearance in OPEN Door direction		
P	Teach in a leading light barrier (vl 1/vl 2)	☒ 0: Do not teach in light barrier	1: Teach in light barrier		
☒ the teaching process can only be carried out if the advanced light barrier is activated (menu 2 = 3).					
Exit menu: ▶ Using button t A1 or t A3 , select menu item 0 → Display 0 ▶ Hold down button t A2 for ~ 3" → Display 5t for ~3", then door status display. t he changes are saved.					

8.1 functional examples

r equested function	r equired setting (different from factory setting)
Defined OPEN/CLOSE command via radio	Menu 8 = 1 Teach the transmitter in the BEF140-1 receiver via the TA 3 button: Teach the OPEN transmitter button in r1 and CLOSE in r2..
The external lighting connected to the KL5 option relay should be activated via a separate on/off radio command (outlet KL4 (24VDC/10W) activates in parallel)	Menu 5 = 2 , Menu b = 8 Teach the transmitter in the BEF140-1 receiver via the TA 3 button: Teach the „Light“ transmitter button in r3.
The integrated LED lighting should be activated via a separate on/off radio command (outlet KL4 (24V DC/10W) activates in parallel)	Menu b = 8 , Menu c = 4 Teach the transmitter in the BEF140-1 receiver via the TA 3 button: Teach the „Light“ transmitter button in r3.
The external lighting at KL 4 (24VDC/10W) should be activated via a separate on/off radio command (e.g. Berner LED- T24.2)	Menu b = 8 Teach the transmitter in the BEF140-1 receiver via the TA 3 button: Teach the „Light“ transmitter button in r3.
Wipe pulse (1 second) through KL 5 option relay via separate radio command (e.g. control external drive), note: KL 4 can no longer be controlled separately	Menu 5 = 2 , Menu b = 0 , Menu c = 2 Teach the transmitter in the BEF140-1 receiver via the TA 3 button: Teach the „Wipe pulse“ transmitter button in r3.
Wipe pulse at drive start command via option relay KL 5	Menu 5 = 2 , Menu b = 0
Red light on KL5 (warning function), wipe pulse on KL4 (24V DC/10W) (for potential-free pulse at KL4: Relay PR 1 required)	Menu b = 0

8.2 command inputs (shown on the display)

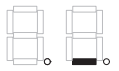
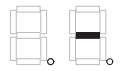
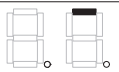
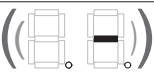
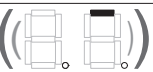
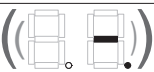
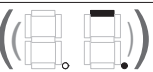
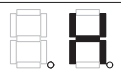

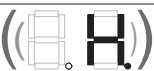
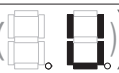
12	Signal from circuit board button TA1
21	Input/Channel 1 (Terminal 21, FUNK1) activated
21	“outwards” request, only with traffic light control MS3EB-G connected
r1	Channel 1 (FUNK2) activated
r3	Channel 3 (FUNK2) activated

21	Command button, terminal 20/21 activated
23	Input/Channel 2 (Terminal 23, FUNK1) activated
24	“inwards” request, only with traffic light control MS3EB-G connected
r2	Channel 2 (FUNK2) activated
r4	Channel 4 (FUNK2) activated

8.3 functions of circuit board buttons t A1 and t A3:

For ↓	button t A1	button t A3
pulse operation □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	→ Open / Stop / Close / Stop, etc.	
Auto-closing selected	→ Open (not with door in “Door open” end position !) → The keep open time is interrupted in the “Door open” end position; after the prewarning period has elapsed (menu F) the door closes	→ Radio learning mode, see „6.2 Radio receiver BDF140-1 (FUNK2)“ on page 9.
c hanges in menus	→ Scroll up (↑, 1, 2...)	→ Scroll down (... 2, 1, 0)
l earning mode	→ Deadman Open function	→ Deadman Close function

8.4 status display

 Door in Closed end position	 Door in intermediate position
 Door in Open end position	 Opener in motion
 Open end position, keep open time running	 Intermediate position, prewarning period running
 Open end position, prewarning period running	 Part Open end position < 50 cm (with/without auto-closing selected) Part Open end position > 50 cm (auto-closing not selected)
 Part Open end position > 50 cm (auto-closing is selected)	 Part Open end position (prewarning time running)
 No door parameters, teach in the opener	

9 error table

display □ □ □ □ □	light / warning lamp	error / warning	possible cause	remedy
01	Flashes 4x	Interruption of learning / reference run via operating button or timeout.	A command device was actuated during the learning/reference run.	Restart the learning/reference run, however no not actuate any command devices.
			No button has been pressed in learning mode for longer than 60 sec.	Restart the learning/reference run.
02	Flashes 4x	Timeout Hall pulse, control system not receiving Hall pulse.	Hall cable defective.	Check Hall cable, replace if necessary.
			Hall sensor defective.	Replace opener.
			Control system defective.	Replace opener or control system.
03	Flashes 4x	Too many Hall pulses with motor stopped. Motor being pulled or pushed.	Door open too wide.	Correct Door Open end position.
			Spring compensation not OK	Check spring compensation, and correct or replace if necessary.
04	Flashes 4x	Error on the Hall sensor.	Hall cable defective, short-circuit Channel 1 and Channel 2.	Check Hall cable, replace if necessary.
			Hallsensor defekt.	Replace motor or opener.
05	Flashes 1x	Wicket door contact was activated.	Stop or Emergency Stop circuit at terminals 12 and 13 was interrupted or broken during a door movement, see „6.6 Off switch / Wicket door contact“ on page 10.	Make Stop or Emergency Stop circuit.
			⚠ when there is no wicket door or emergency stop circuit connected, a wire jumper must be connected between terminals 12 / 13 .	
06	Flashes 4x	Motor runtime too long.	Max. runtime of 140 sec. was insufficient for the movement.	Reduce movement length.
			Toothed belt cracked.	Replace toothed belt.
			Opener defective.	Replace opener.
07	Flashes 4x	Door movement too short for path learning.	The movement path being taught in is < 600 mm.	Correct movement path; teach in opener again.
08	Flashes 1x	CLOSE light barrier was activated.	Light barrier at terminals 20 and 71 was interrupted or activated.	Remove obstacle which triggered the light barrier and/or check or if necessary replace the light barrier.
			Incorrect analysis selected for the connected light barrier. See chapter „Contact photocell for safety recoil“ on page 10 and „Two-wire photocell for safety recoil“ on page 10.	
⚠ without light barrier connected (terminals 20 / 71), menu 1 should be set to 1 and a wire jumper must be connected between terminals 1 / 71 .				
09	Flashes 1x	CLOSE safety contact edge was activated.	Closing edge safety device (8k2) at terminals 20 and 74 was interrupted or activated, see „Closing edge safety device 8k2“ on page 11.	Remove obstacle which triggered the closing edge safety device and/or check or if necessary replace the closing edge safety device / supply line.
			⚠ with the closing edge safety device connected (terminals 20 / 74), menu 2 should be set to 1 and an 8k2 resistor must be connected between terminals 20 / 74.	
10	Flashes 4x	Motor current exceeded.	The taught-in current was exceeded due to a defective door mechanism or broken spring.	Check door mechanism and/or springs and repair.
11	Flashes 4x	Too many Hall pulses.	You are attempting to teach in a movement path which has more than 8500 pulses (approx. 8500 mm).	Correct movement path; teach in opener again.
12	Flashes 4x	Relay sticking.	Motor relay of the opener control system sticking.	Replace control system.
13	Flashes 4x	Door position absent after restart.	The current position of the door is no longer recognised after a power cut.	Perform reference run, see 10 on page 17.
14	Flashes 4x	Invalid door position at restart.	The current position of the door during a learning or reference run is no longer recognised after a power cut.	Teach in opener again or perform reference run again. If the error occurs multiple times, replace the control system.
15	Flashes 4x	Error during testing of the 8k2 safety edge.	Test of closing edge analysis (8k2) was unsuccessful. Closing edge safety device 8k2 was activated during testing.	Inspect closing edge safety device / supply line, and replace if necessary.
16	Flashes 4x	Incorrect program operating status.	External interference (current peaks, overvoltage, or similar).	Perform reference run, see 10 on page 17. If the error occurs multiple times, replace the control system.
17	Flashes 4x	Error when indexing the force shutdown.	Internal error.	If the error occurs multiple times, replace the control system.
18	Flashes 3x	Door parameters were deleted manually by the operator.	Door parameters (force and path data) were deleted or the opener has not been taught in yet (this is only information and not an error).	Teach in the opener again, see „Teaching in the operator“ on page 8.
U				
19	Flashes 4x	Error measuring current.	Motor connection cable defective.	Check motor connection cable, replace if necessary.
			Motor defective.	Replace opener.
			Power supply defective,	Replace opener or power supply
			Control system defective.	Replace opener or control system.


display □ □ □ □ □	light / warning lamp	error / warning	possible cause	remedy
20		Force shutdown during Open door run.	The door is running sluggishly / unevenly.	Correct the door travel.
			There is an obstacle in the door area.	Remove obstacle, teach in opener again if necessary.
21		Operation and learning buttons selected at the same time.	Permanent pulse from an externally connected button during the teach-in process.	Replace the defective button, teach in the opener again, see „ Teaching in the operator “ on page 8 .
22	Flashes 2x	2 x force shutdown in succession during Open Door run. Error display only if autoclosing is selected.	The door is running sluggishly or unevenly.	Correct the door travel.
			There is an obstacle in the door area.	Remove obstacle, teach in opener again if necessary. The opener must be restarted with a command.
23	Flashes 4x	Manual reference run started via remote.	The taught-in remote control button was held down for at least 7 sec.	Perform reference run, see 10 on page 17 .
24	Flashes 1x	“CLOSE” optical safety contact edge was activated.	An optical closing edge safety device (Fraba), connected to terminals 20, 74 and 77, was interrupted or activated, see „ 6.10 Optical closing edge safety device “ on page 11 . Incorrect analysis selected for the connected closing edge safety device.	Remove the obstacle which triggered the closing edge safety device and/or check or if necessary replace the closing edge safety device / supply line.
			with the closing edge safety device connected (terminals 20 / 74 / 77), menu 2 should be set to 1 and an 8k2 resistor must be connected between terminals 20 / 74.	
25	Flashes 4x	Error during speed measurement.	Wicket door contact on the motor connection cable or internal error.	Inspect motor connection cable and replace if necessary. If the error occurs multiple times, replace the control system.
26		Force shutdown during Close door run.	Door is running sluggishly or unevenly.	Correct the door travel.
			There is an obstacle in the door area.	Remove obstacle, teach in opener again if necessary.
27	Flashes 2x	2x force shutdown or 8k2/OSE in succession during Close Door run. Error display only if autoclosing is selected.	Door is running sluggishly or unevenly.	Correct the door travel.
			There is an obstacle in the door area.	Remove obstacle, teach in opener again if necessary. The opener must be restarted with a command.
			The closing edge safety device is defective.	Inspect closing edge safety device, replace if necessary. The opener must be restarted with a command.
28	Flashes 4x	Current calibration inaccurate.	Internal error.	Replace control system.
29	Flashes 4x	Error with Hall counter value.	External interference, e.g. current peaks, overvoltage, or similar.	If the error occurs multiple times, replace the control system.
30		Reset by watchdog.	Internal error.	If the error occurs multiple times, replace the control system.
32	Flashes 1x	Safety contact edge 8k2 was activated during OPEN.	An closing edge safety device (8k2), connected to terminals 20 and 74, was interrupted or activated, see „ 6.9 Closing edge safety device 8k2 “ on page 11 .	Remove obstacle which triggered the closing edge safety device and/or check or if necessary replace the closing edge safety device / supply line.
			with the closing edge safety device connected (terminals 20 / 74 / 77), menu 2 should be set to 1 and an 8k2 resistor must be connected between terminals 20 / 74.	
34	Flashes 1x	Safety contact rail was activated during OPEN.	An optical closing edge safety device (Fraba) is connected to terminals 20, 74, and 77, but the incorrect analysis was selected. See „ 6.10 Optical closing edge safety device “ on page 11 .	Select the correct analysis for the connected closing edge safety device. In menu 2 set the value 2.
35	Flashes 2x	Safety device (8k2) was activated 2x in succession during Open Door run.	The closing edge safety device is defective, error display only if auto-closing is selected.	Inspect closing edge safety device, replace if necessary. The opener must be restarted with a command.
			There is an obstacle in the door area; error display only if auto-closing is selected.	Remove obstacle. The opener must be restarted with a command.
38	Flashes 1x	Error while testing the contact light barrier in CLOSE direction.	The test of the contact light barrier for the “Close” direction was unsuccessful.	Inspect light barrier and supply line of the light barrier, replace if necessary.
			Two-wire light barrier is connected.	In menu 1 set the value 2, see „ 6.8 Two-wire photocell for safety recoil “ on page 10 .

note

If there are several parallel errors, the first error is displayed. If an error is eliminated, a command (manual transmitter button, a connected operating button or the white circuit board button) may have to be entered in order to display the next error.

10 error mess Age f l Ashes 4x - perform reference run

- The door is engaged, and the plug connected to the mains.
- The opener light flashes 4x.

	Attention !
<p><i>During the reference run, force shutdown is inoperable! It is vital for the operator to stay with the opener and attentively monitor the garage area!</i></p> <p><i>The door movement can be stopped in an emergency immediately by pressing the remote control, the operating button or the white button on the control electronics.</i></p>	

- ▶ Briefly press remote control button, a connected operating button or the white button on the circuit board → *the opener light comes on permanently.*
- ▶ Briefly press the button again → *Reference run starts in "Close door" direction* → The opener runs up to the CLOSED end position at its minimum speed.
- *Should the travel distance until shutdown in the "Closed" end position be less than 50 mm, the opener travels another 200 mm in the "Open" direction, and then back to the "Closed" end position.*
- ▶ **c heck:** Check, by means of several uninterrupted door runs, that the door is fully reaching its closed position and that it is opening all the way.

t he opener is now ready again for normal operation.


note

Repeat learning run, see „5.1 Teaching in the operator“ on **page 8**, if even after several uninterrupted door runs the door does not open and close as described in the step “c heck”.

11 force synchronis Ation run

perform reference run if, for example, the travel path has moved.

- The door is engaged, and the plug connected to the mains.
- Hold down remote control button Channel 1 for at least 7 sec., until the opener light issues the pulse code flash 4x and the display shows 23 flashing.

	Attention !
<p><i>During the reference run, force shutdown is inoperable! It is vital for the operator to stay with the opener and attentively monitor the garage area!</i></p> <p><i>The door movement can be stopped in an emergency immediately by pressing the remote control, the operating button or the white button on the control electronics.</i></p>	

- ▶ Briefly press remote control button, a connected operating button or the white button on the circuit board → *the opener light comes on permanently.*
- ▶ Briefly press the button again → *Reference run starts in "Close door" direction* → The opener runs up to the CLOSED end position at its minimum speed.
- *Should the travel distance until shutdown in the "Closed" end position be less than 50 mm, the opener travels another 200 mm in the "Open" direction, and then back to the "Closed" end position.*
- ▶ **c heck:** Check, by means of several uninterrupted door runs, that the door is fully reaching its closed position and that it is opening all the way.

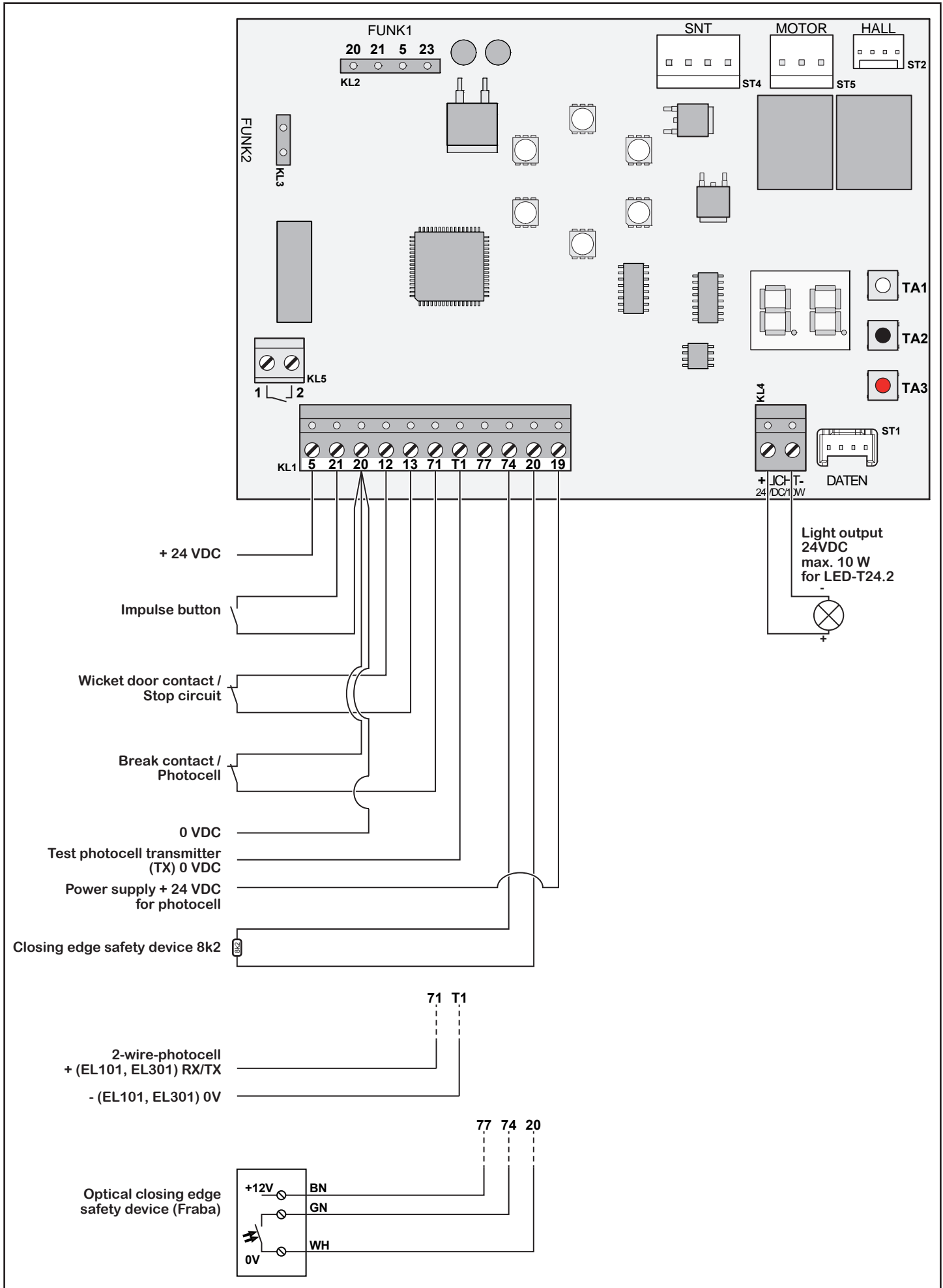
t he opener is now ready again for normal operation.

note

If the door starts to move after the remote control button is pressed, you should still continue to hold the button until (approx. 7 sec.) the opener light signals with 4x flashes and the display shows 23 flashing.

Repeat learning run, see „5.1 Teaching in the operator“ on **page 8**, if even after several uninterrupted door runs the door does not open and close as described in the step “c heck”.

12 circuit board overview ms550



14 inspection And mAintenAnce

- ▶ The garage door operator is maintenance-free.
- ▶ In the interest of your own safety, we recommend having the door system inspected and maintained by a qualified person in accordance with the manufacturer's specifications.



wArning!

danger of injury due to unexpected door travel!

Unexpected door travel may occur during inspection and maintenance work if the door system is inadvertently actuated by other persons.

- ▶ Disconnect the mains plug whenever performing work on the door system.
- ▶ Safeguard the door system against being switched on again without authorisation.

Inspection and repairs may only be carried out by a qualified person. Contact your supplier for this purpose.

A visual inspection may be carried out by the operator.

- ▶ Check all safety and protective functions **monthly**.
- ▶ Check safety devices without self-testing every **six months**.
- ▶ Any malfunctions and / or defects must be remedied **immediately**.

15 dismAntling And disposAl

- ▶ When dismantling the door, observe the applicable regulations governing work safety.
- ▶ Have a specialist dismantle the garage door operator in the reverse order of these instructions and dispose of it properly.

16 wArrAnty conditions

16.1 warranty

We shall be exempt from our warranty obligations and product liability in the event that the customer carries out his own structural alterations or undertakes improper installation work or arranges for same to be carried out by others without our prior approval and contrary to the fitting guidelines we have provided. Moreover, we shall accept no responsibility for the inadvertent or negligent use of the operator and the accessories nor for improper maintenance of the door and its counterbalance. Batteries and light bulbs are also not covered by the warranty.

16.2 warranty period

In addition to the statutory warranty provided by the dealer in the sales contract, we grant the following warranty for parts from the date of purchase:

- **60 months or 200.000 cycles** for the operator mechanics, motor and motor control
- **24 months** on radio equipment, accessories and special systems

There is no warranty on consumables (e.g. fuses, batteries, lamps). Claims made under the warranty do not extend the warranty period. For replacement parts and repairs the warranty period is six months or at least the remainder of the warranty period.

16.3 prerequisites

A claim under this warranty is only valid for the country in which the equipment was bought. The product must have been purchased through our authorised distribution channels.

A claim under this warranty exists only for damage to the object of the contract itself. Reimbursement of expenditure for dismantling and fitting, testing of corresponding parts, as well as demands for lost profits and compensation for damages, are excluded from the warranty.

The receipt of purchase substantiates your right to claim under the warranty.

Replaced parts become our property

16.4 performance

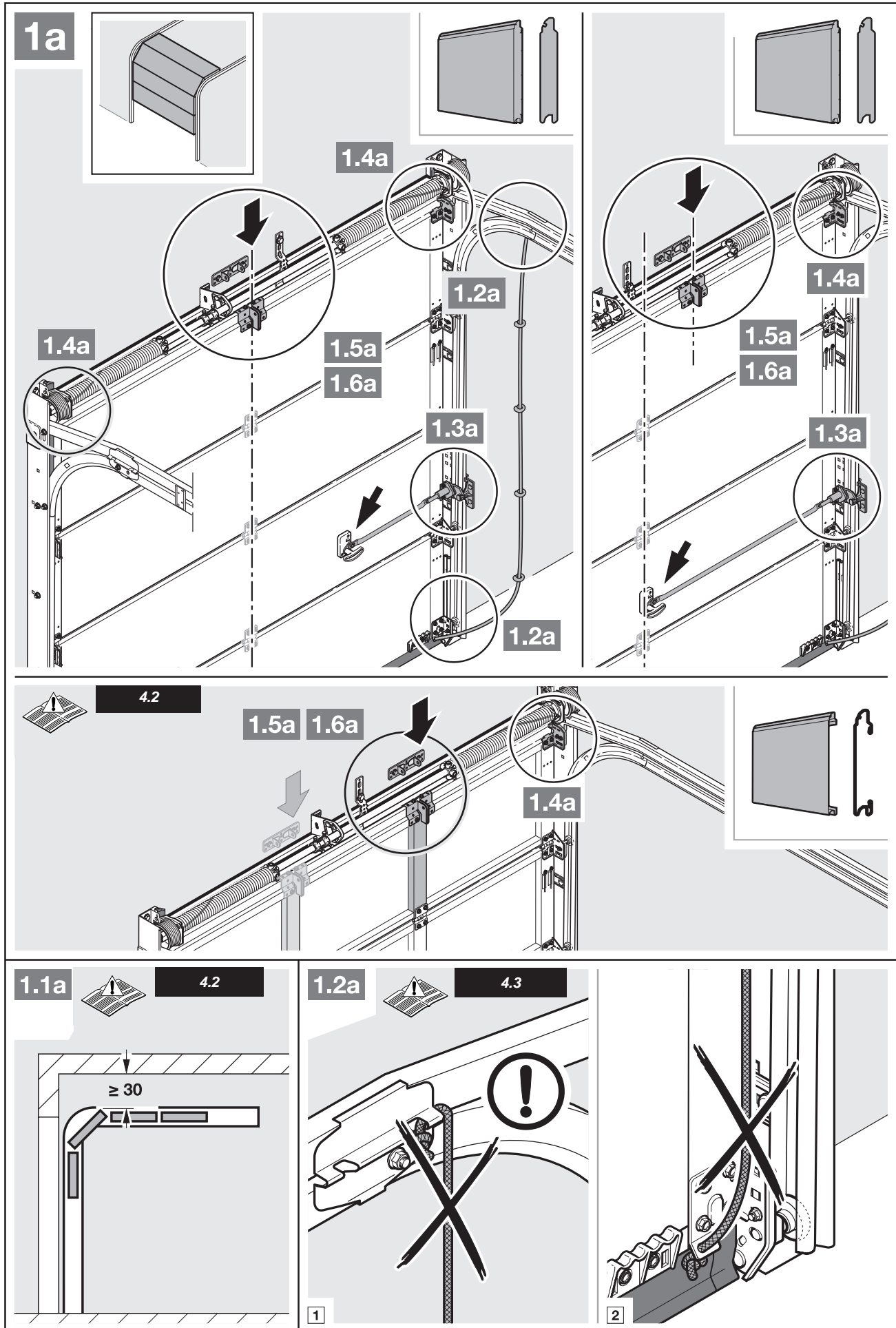
For the duration of the warranty we shall eliminate any product defects that are proven to be attributable to a material or manufacturing fault. We pledge to replace free of charge and at our discretion the defective goods with nondefective goods, to carry out repairs, or to grant a price reduction.

Damages caused by the following are excluded:

- Improper fitting and connection
- Improper initial start-up and operation
- External factors such as fire, water, abnormal environmental conditions
- Mechanical damage caused by accidents, falls, impacts
- Negligent or intentional destruction
- Normal wear or deficient maintenance
- Repairs conducted by unqualified persons
- Use of non-original parts
- Removal or defacing of the data label

17 t echnic AI dAtA

mains voltage:	230/240V, 50 Hz, Standby < 0,5 W
protection category	Only for dry rooms
temperature range	-20 °C to +60 °C
Automatic safety cut-out	Is automatically taught in for both directions separately.
end-of-travel position cut-out force limit	Self-learning, wear-free, as it has no mechanical switches. Additionally integrated run time limitation to approx. 60 s. Automatic safety cut-out, readjusting at every door run.
rated load	250 n
pull and push force	g A203: 750 N g A204: 750 N g A403: 1000 N g A404: 850 N
power	g A203: 0,3 kW g A204: 0,3 kW g A403: 0,4 kW g A404: 0,4 kW
duty cycle	KB 2 min.
motor	Direct current motor with hall sensor
connection	Removable connection technology for external equipment with 24 V DC low safety voltage, such as internal and external buttons with impulse operation.
special functions	<ul style="list-style-type: none"> • Stop/off switch • Photocell (Contact or 2-wire) • closing edge safety device (8k2 or OSE) • Option relay; optional for warning lights, additional external lighting, door CLOSED or door OPEN display. • External LED-Light 24 VDC / max. 10W
emergency release	Actuated from inside with pull cord in the event of a power failure
□ □ □ □ □ □ □ □	For up-and-over doors and Sectional doors
door travel speed*	<ul style="list-style-type: none"> • In CLOSE direction max. 14 cm/s • In OPEN direction max. 22 cm/s
* Dependent on door size and weight	
Airborne sound emission of the garage door operator	≤ 70 dB (A)
operator boom	Extremely flat (no more than 30 mm high) with integral door security kit. Boom in toothed belt or synthetic belt version.

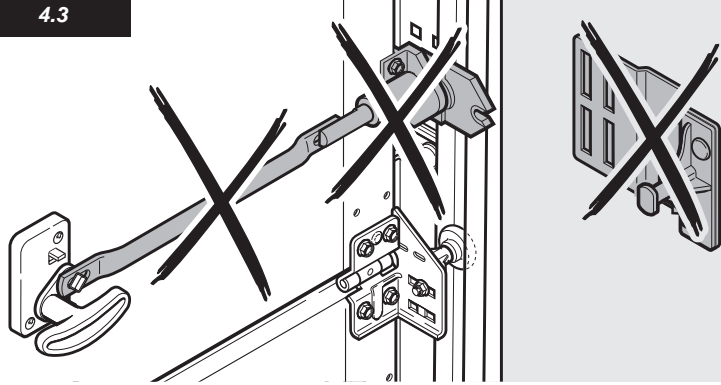




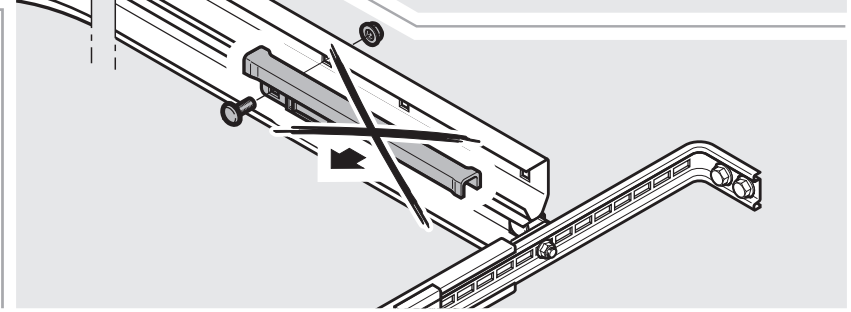
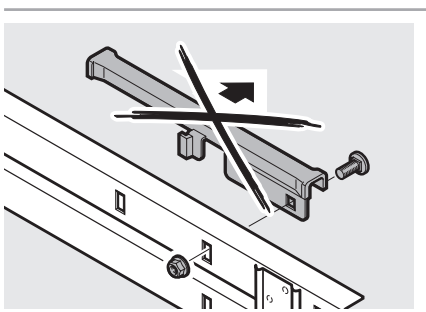
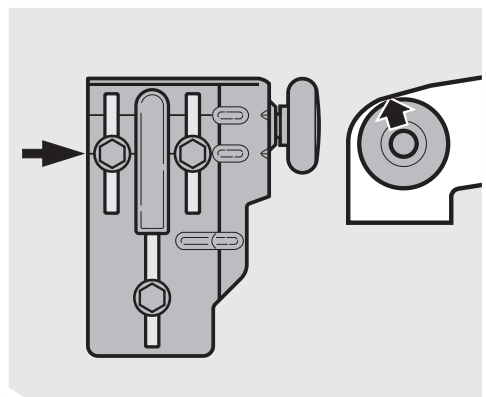
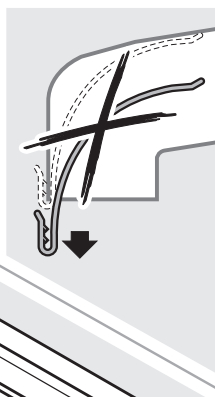
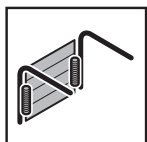
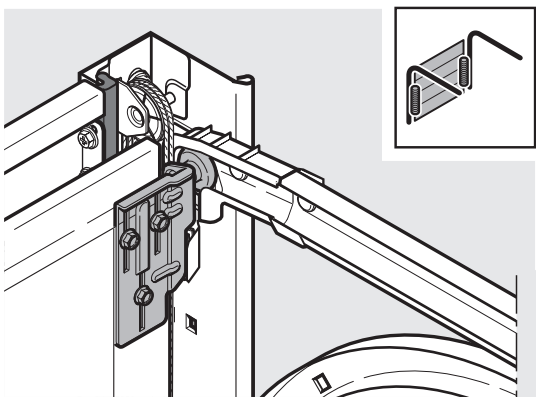
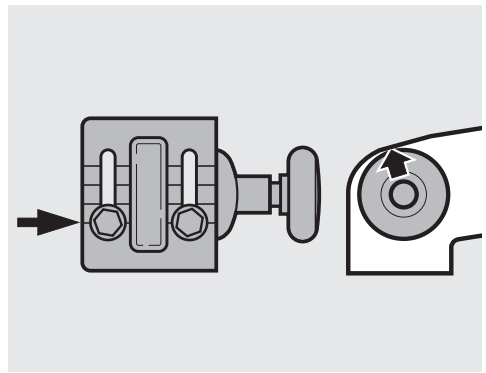
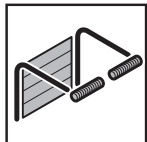
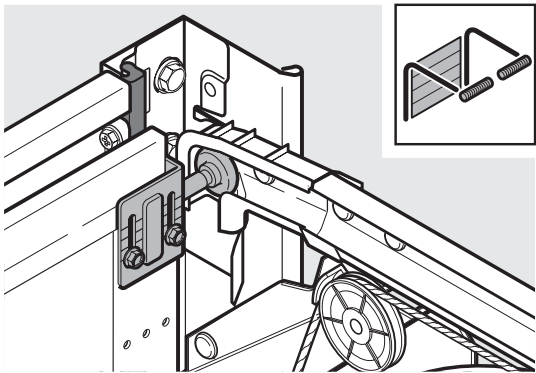
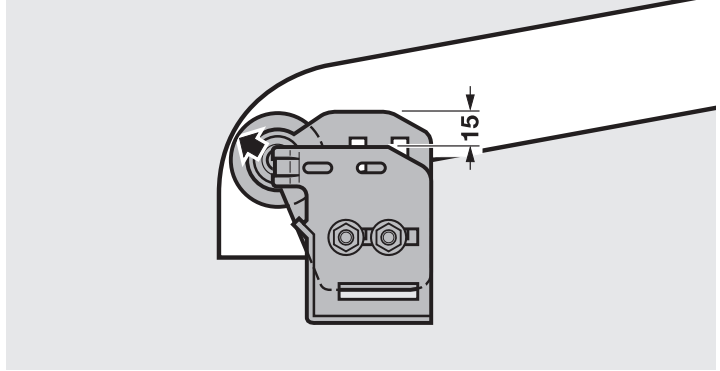
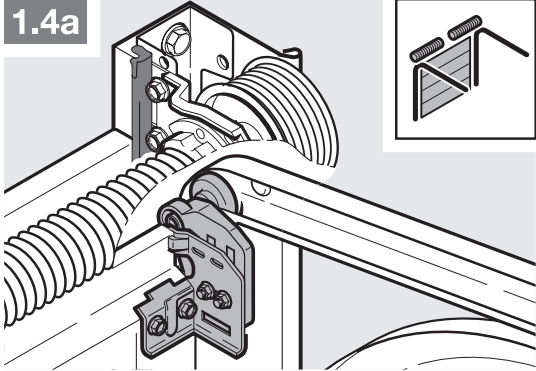
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4.3



1.4a

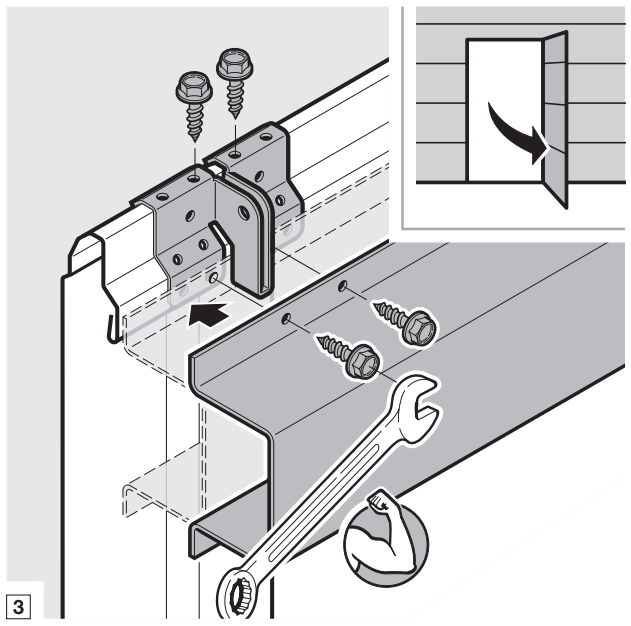
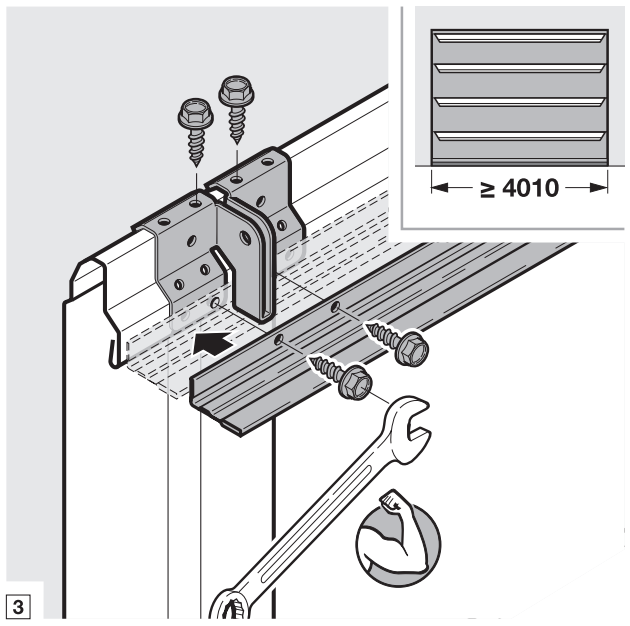
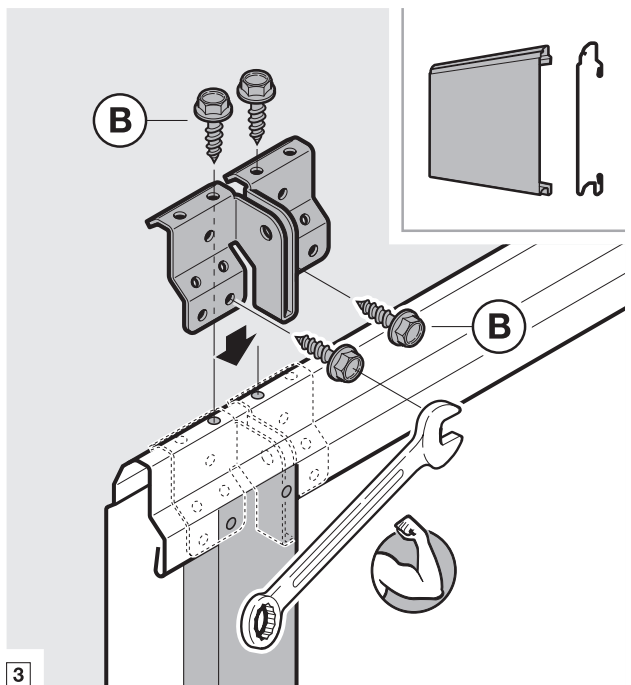
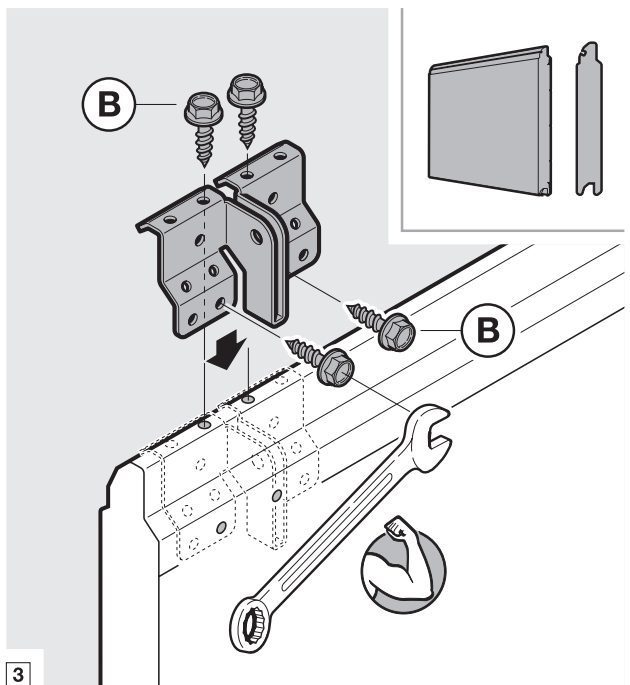
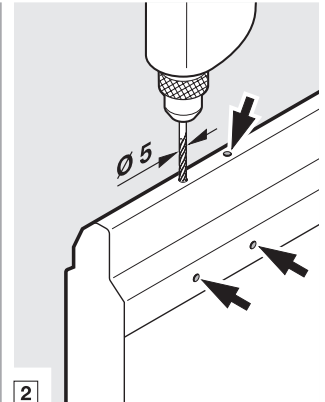
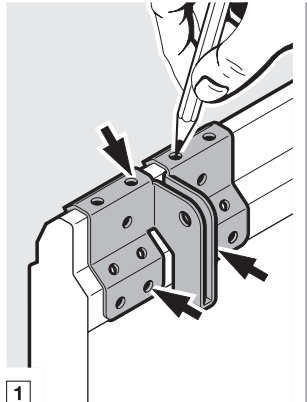
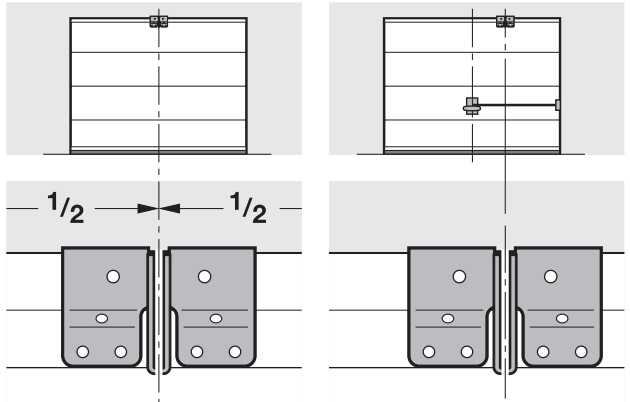
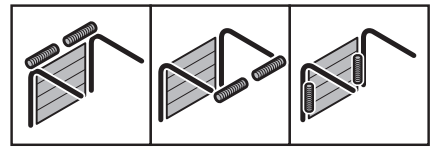


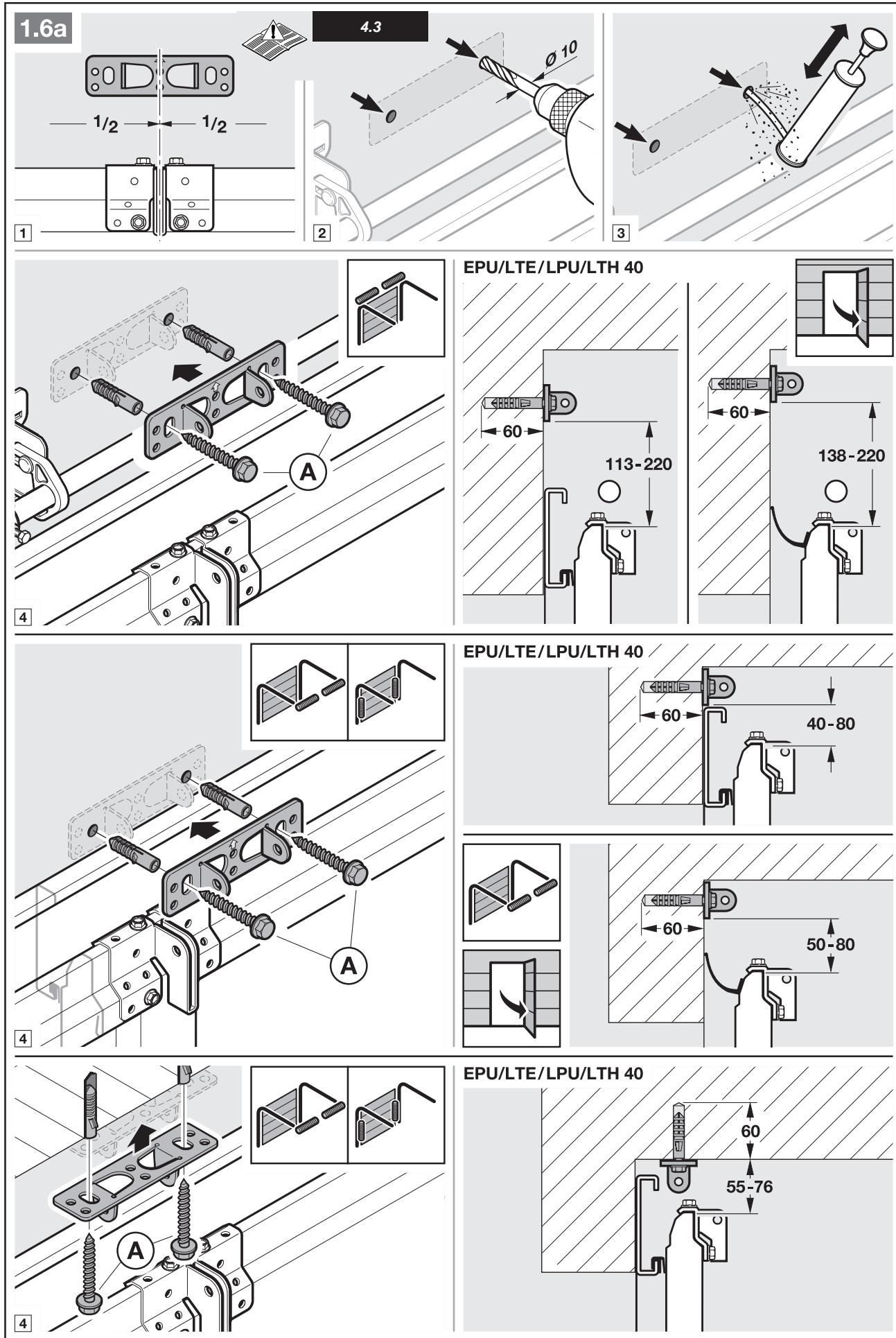


1.5a



4.3







1b

1.6b
1.7b
1.8b

1.3b
1.4b
1.5b

1.1b

1.1b

! (Warning symbol)

N 80 = 50
DF 98 = 85
N 800 = 50

N 80

1

2

N 800

1

2

1.2b

4.2

≥ 30

1.3b

4.3

1

2

1.4b

4.3

1

2

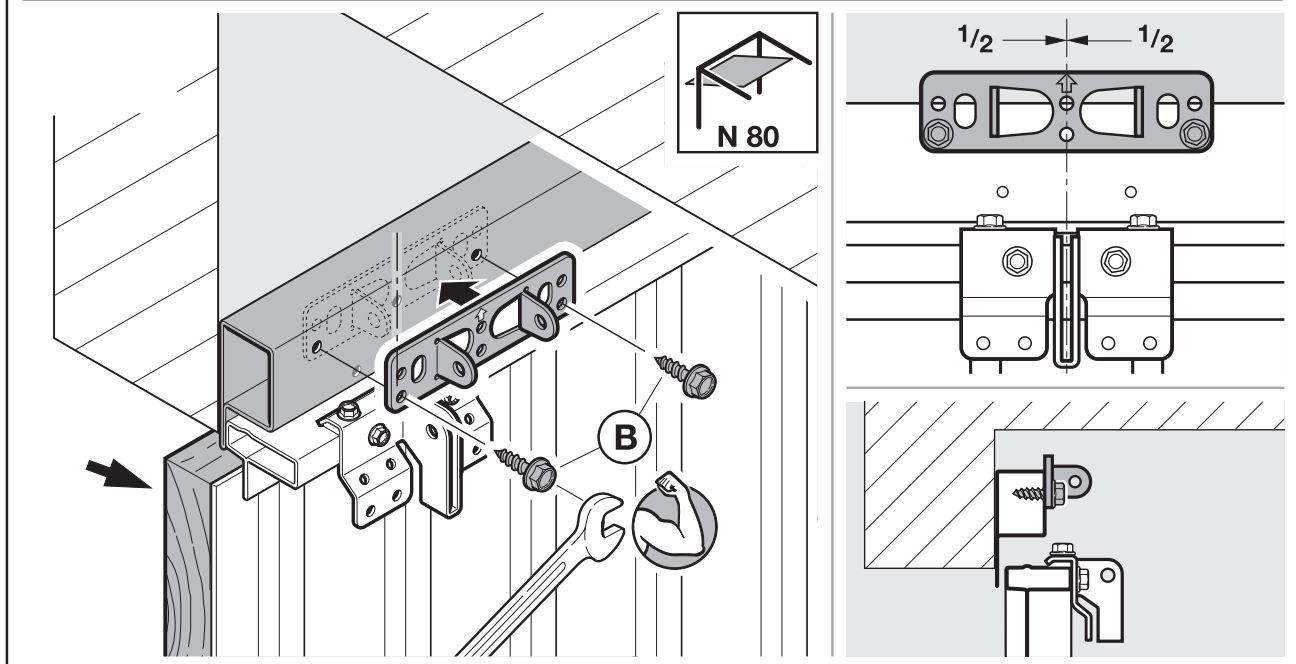
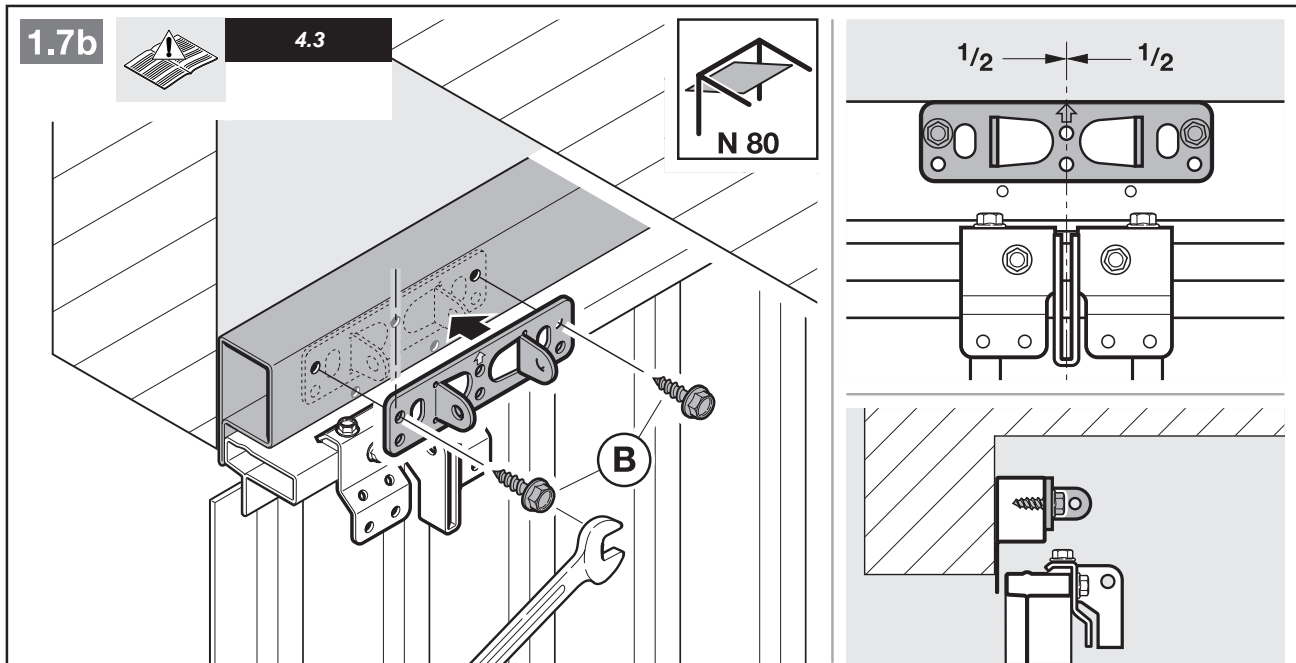
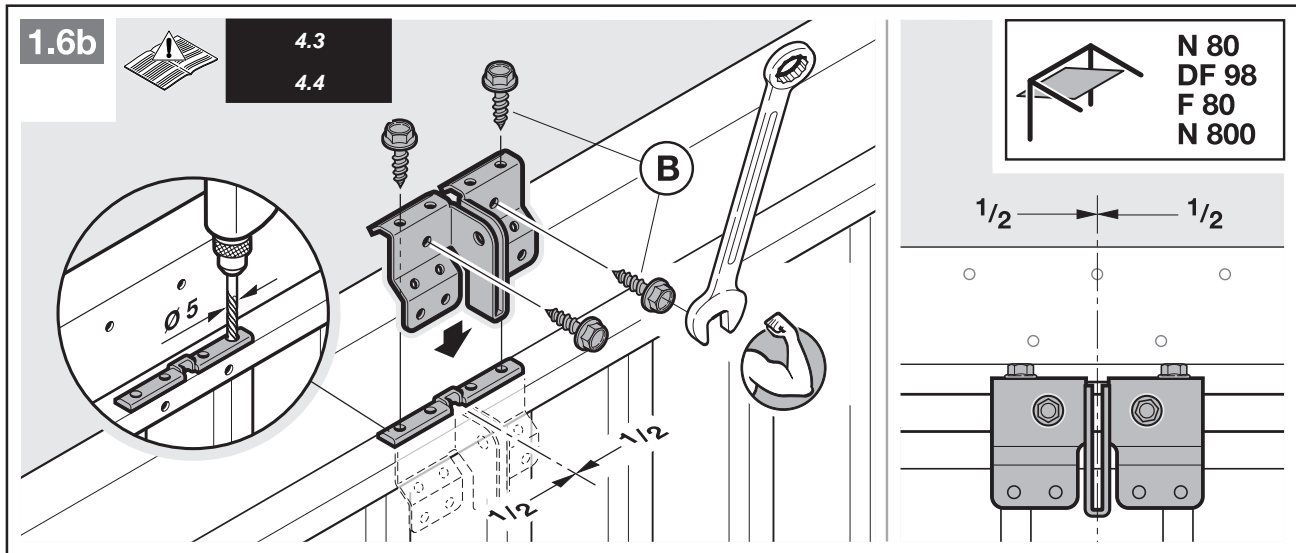
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1.5b

4.3

1

2



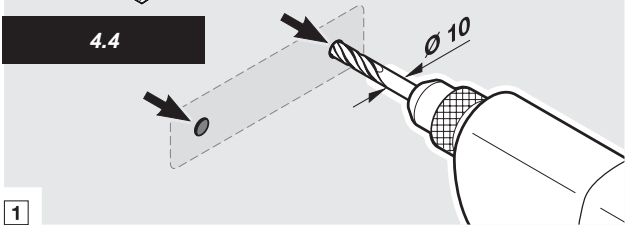


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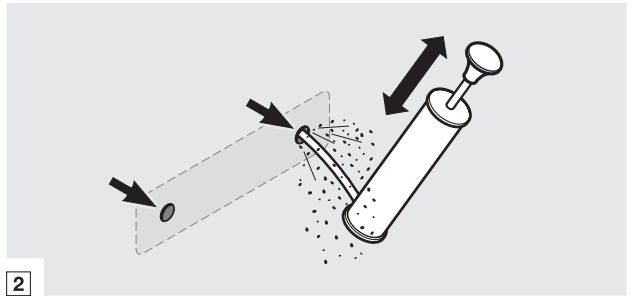


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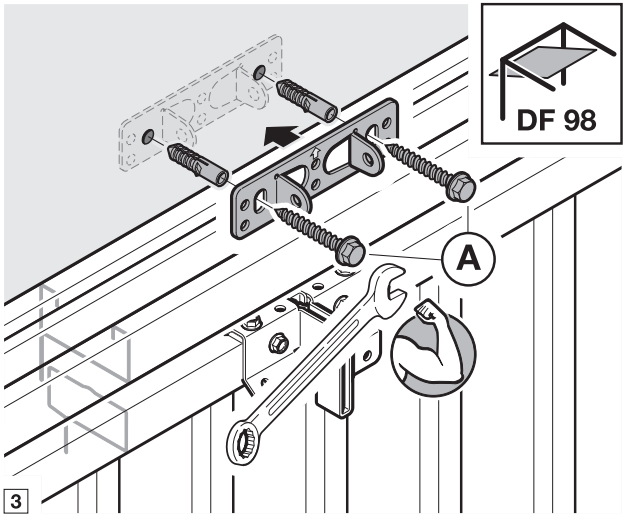
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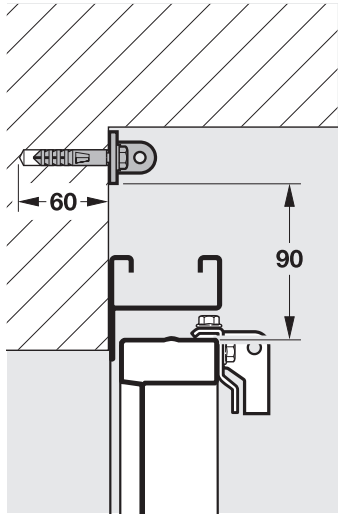
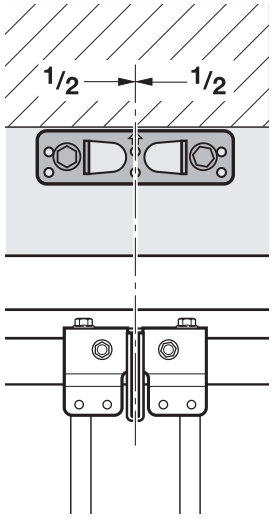
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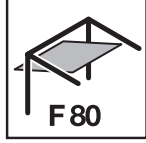
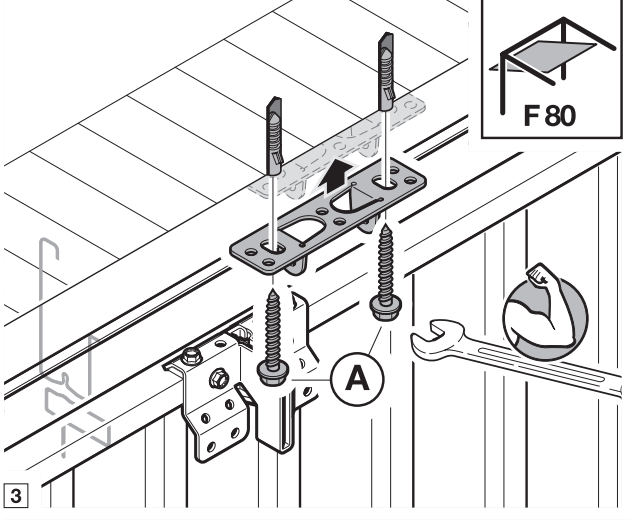
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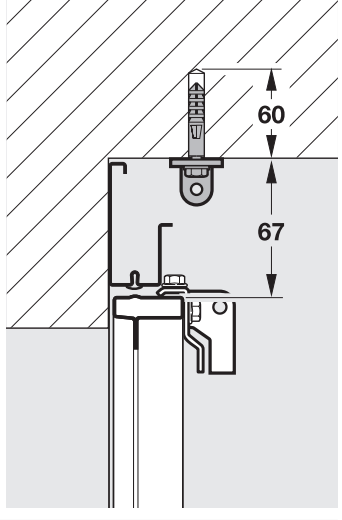
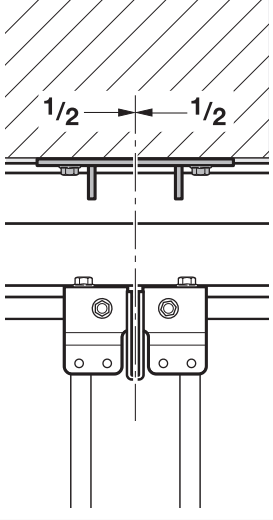
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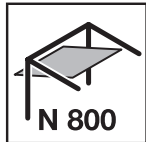
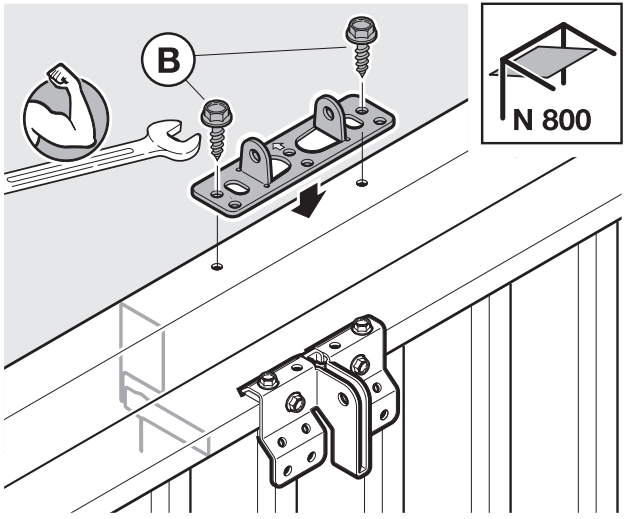
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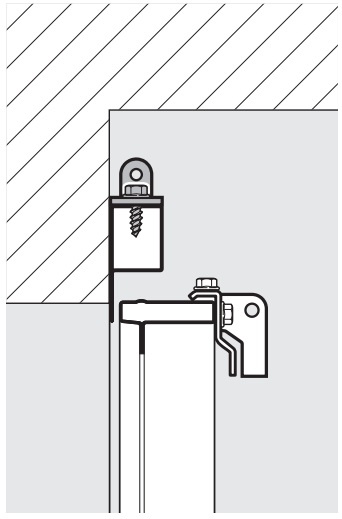
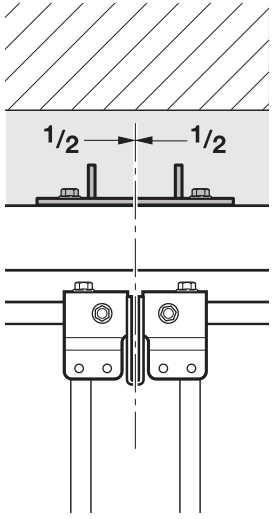
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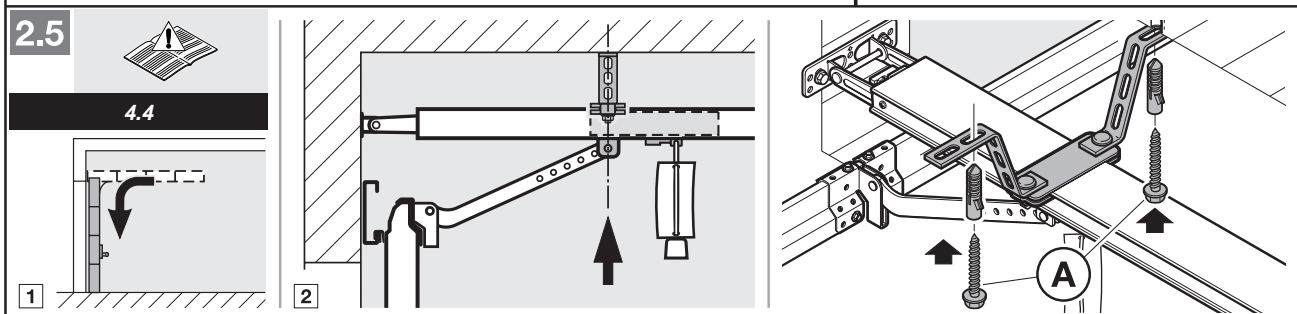
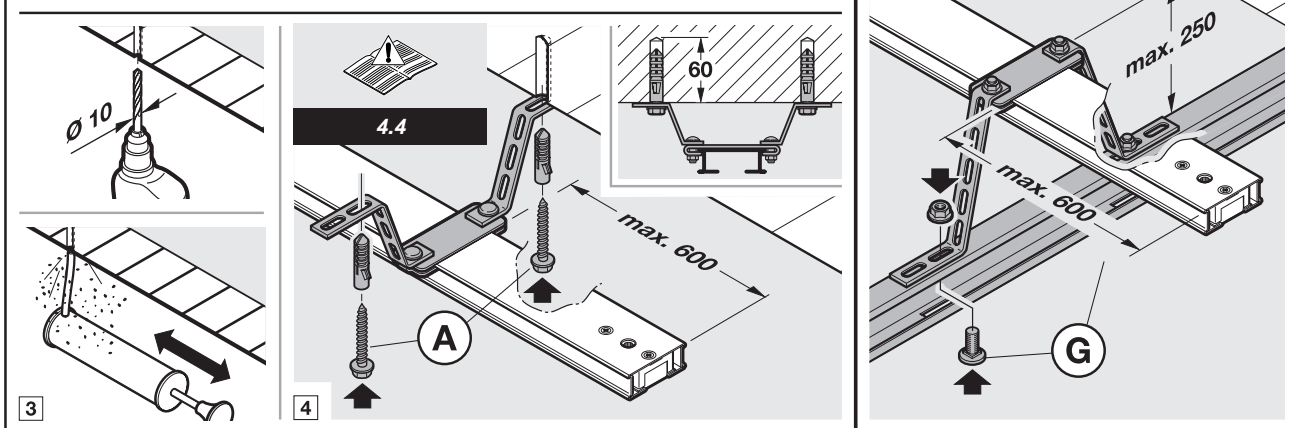
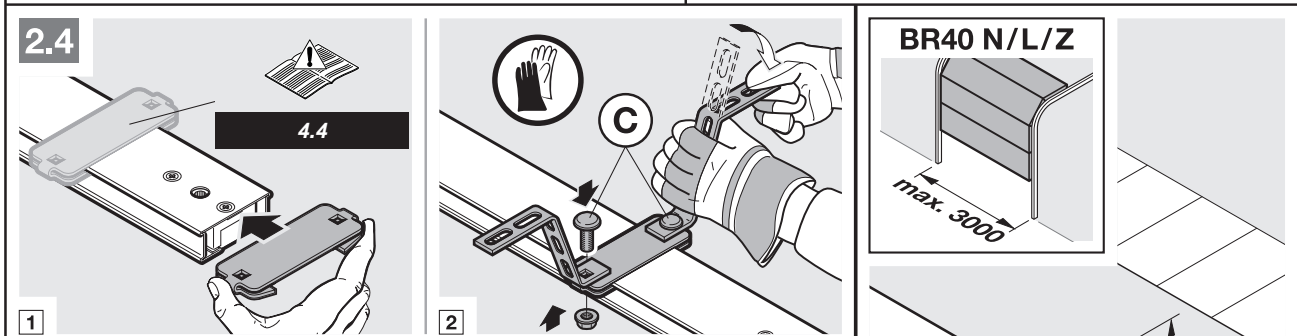
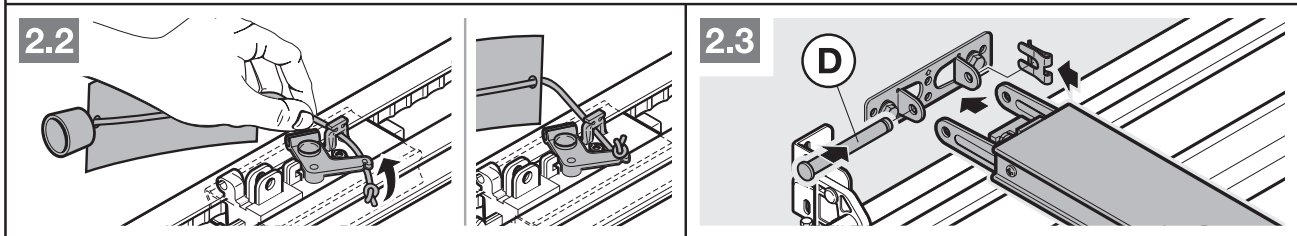
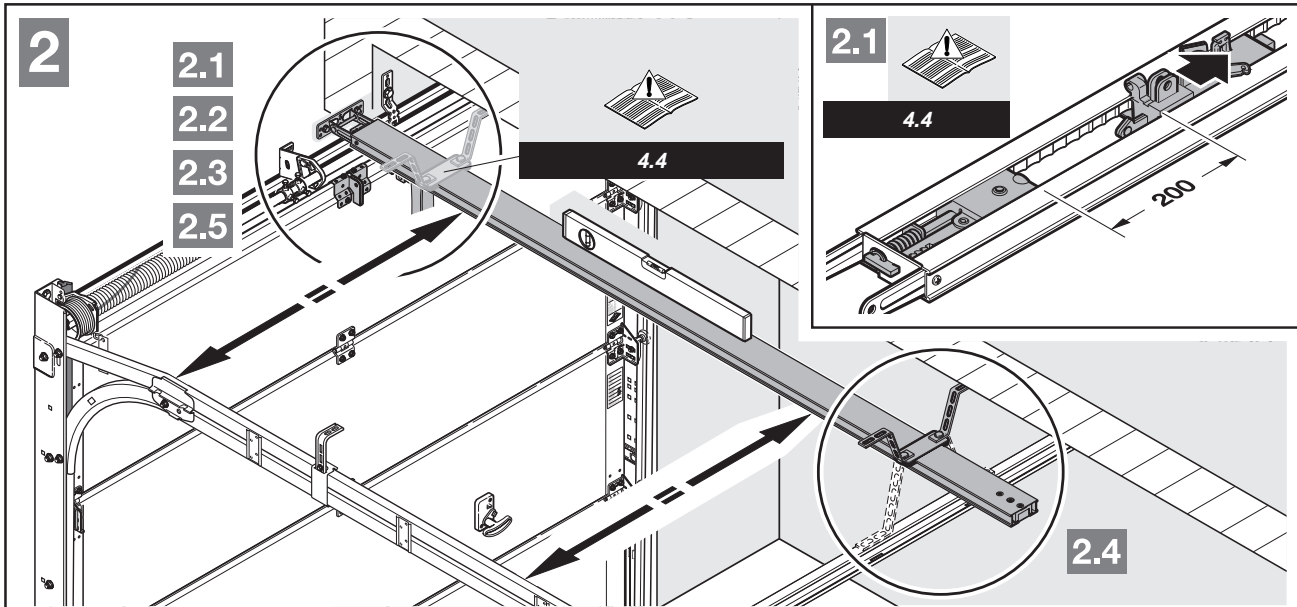


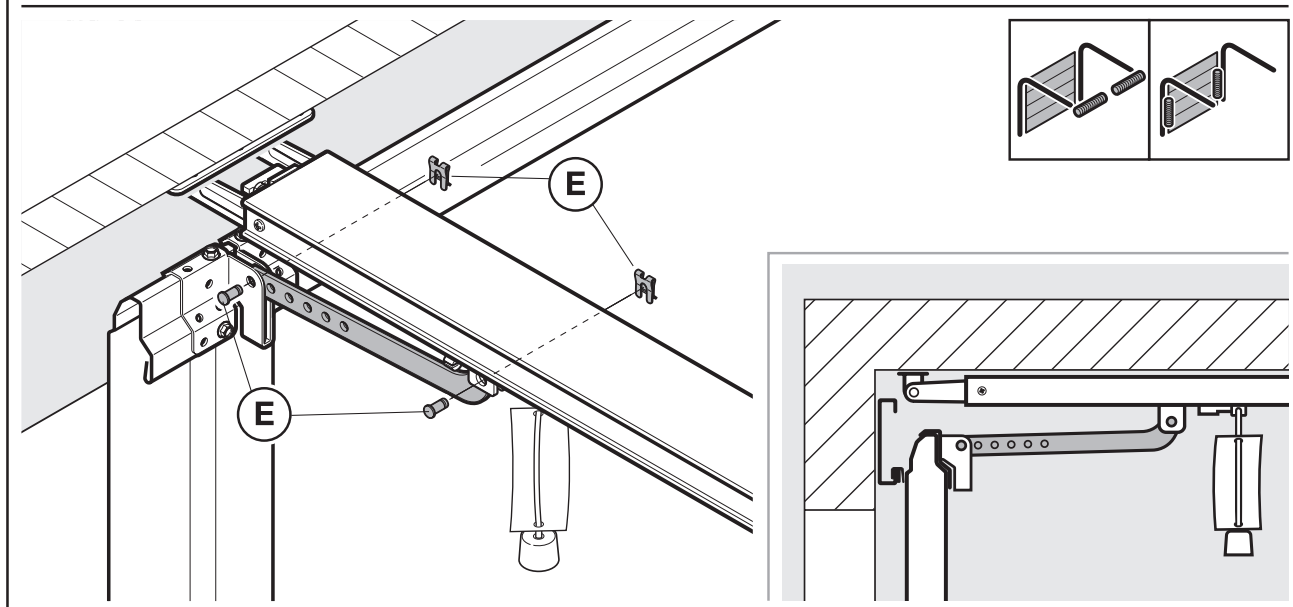
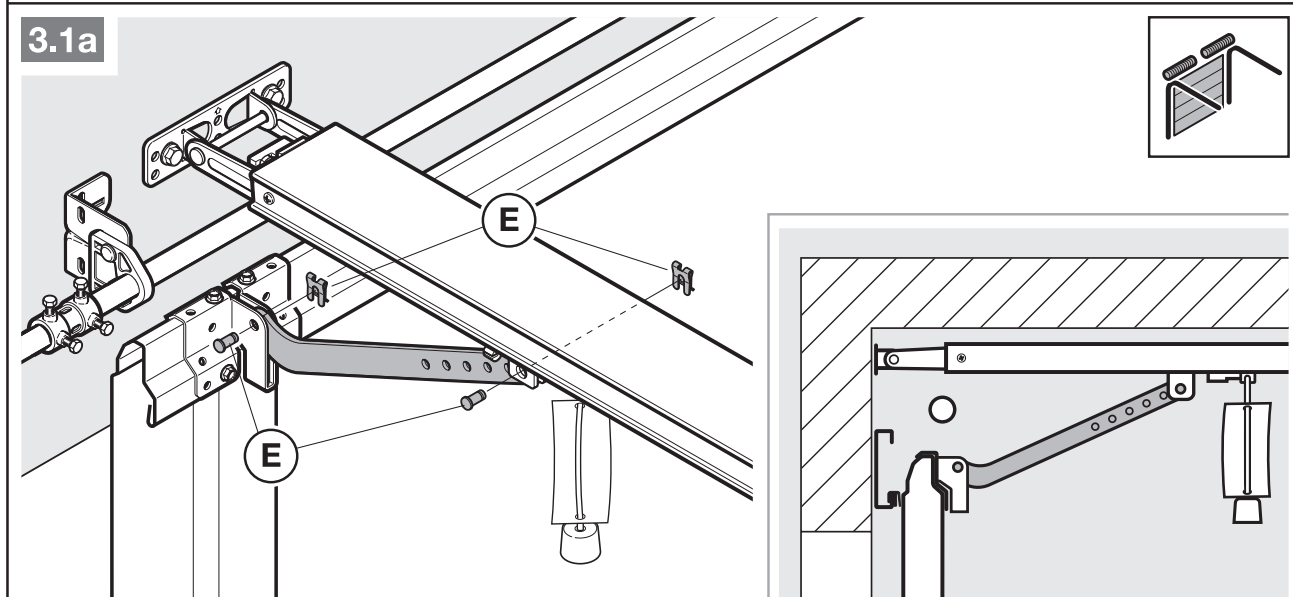
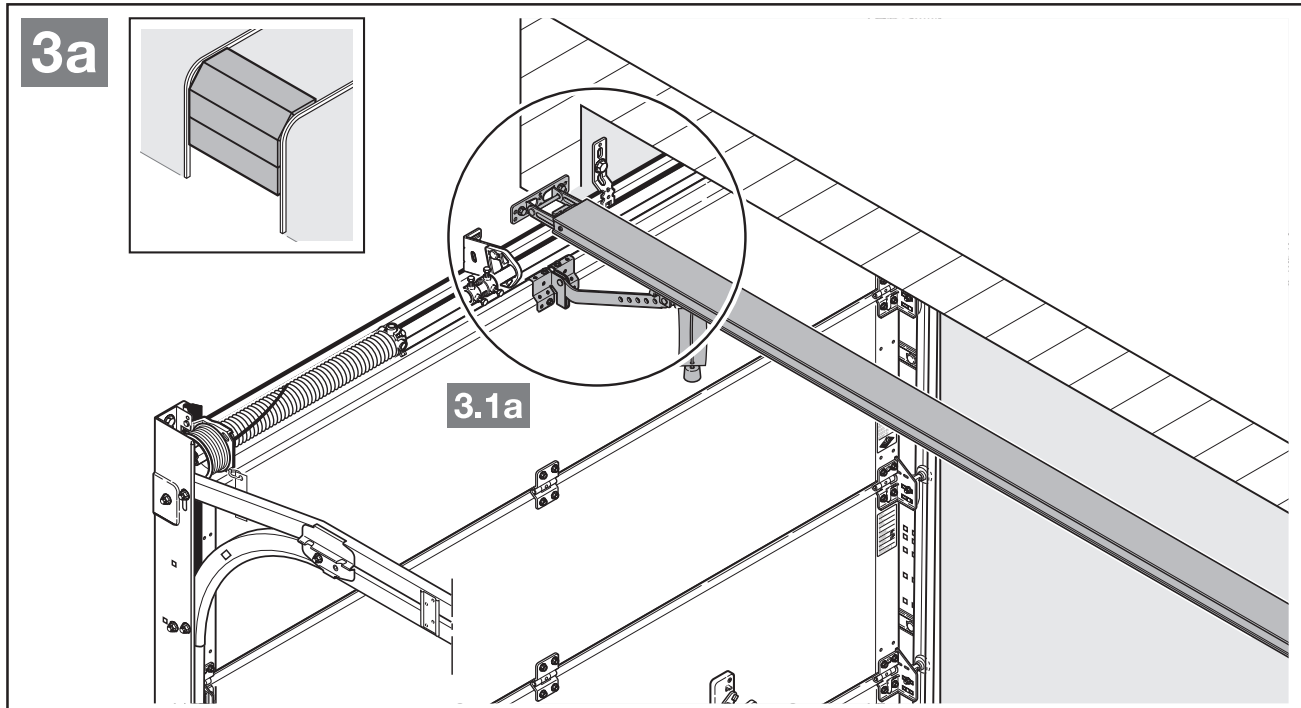
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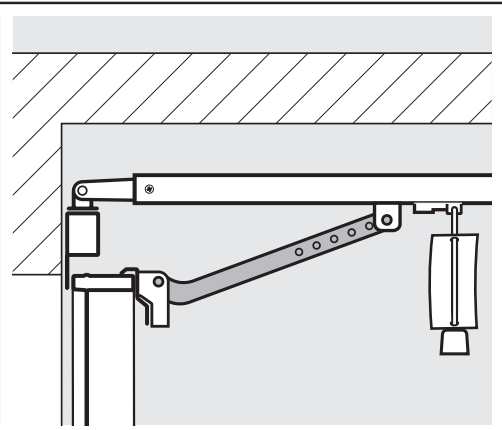
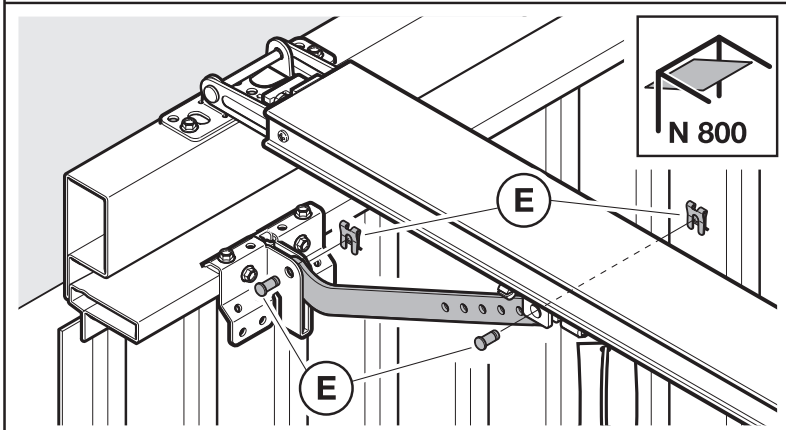
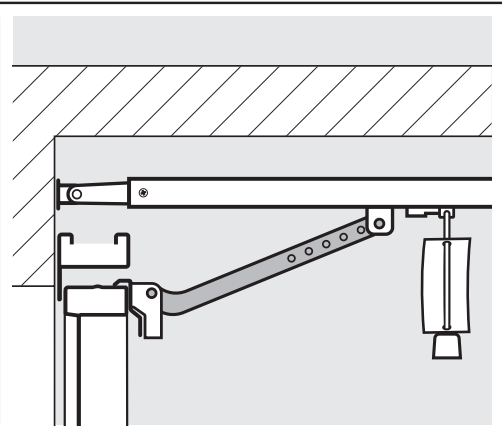
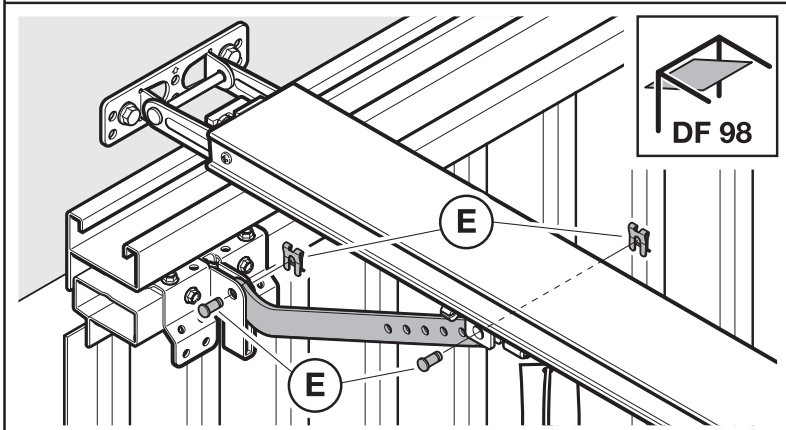
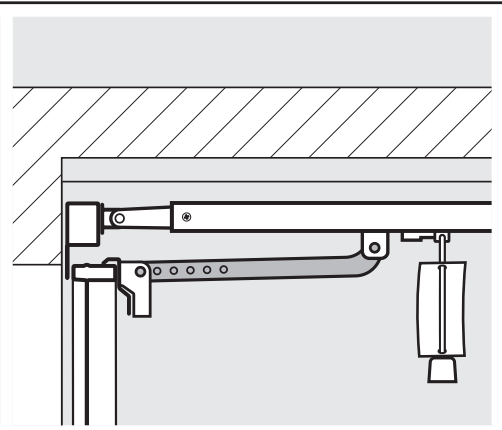
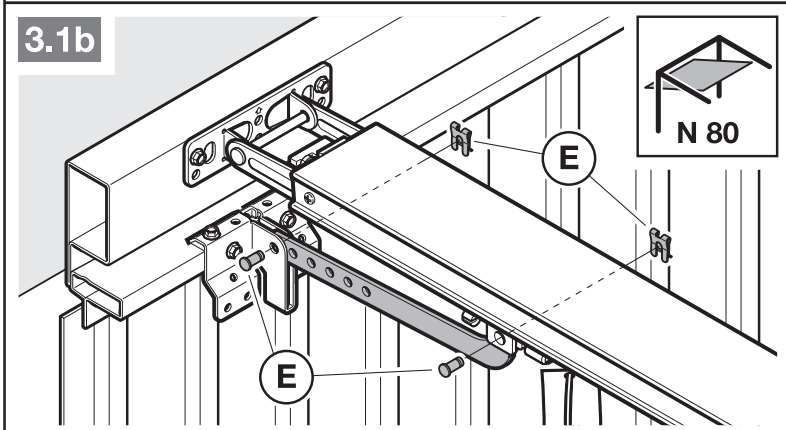
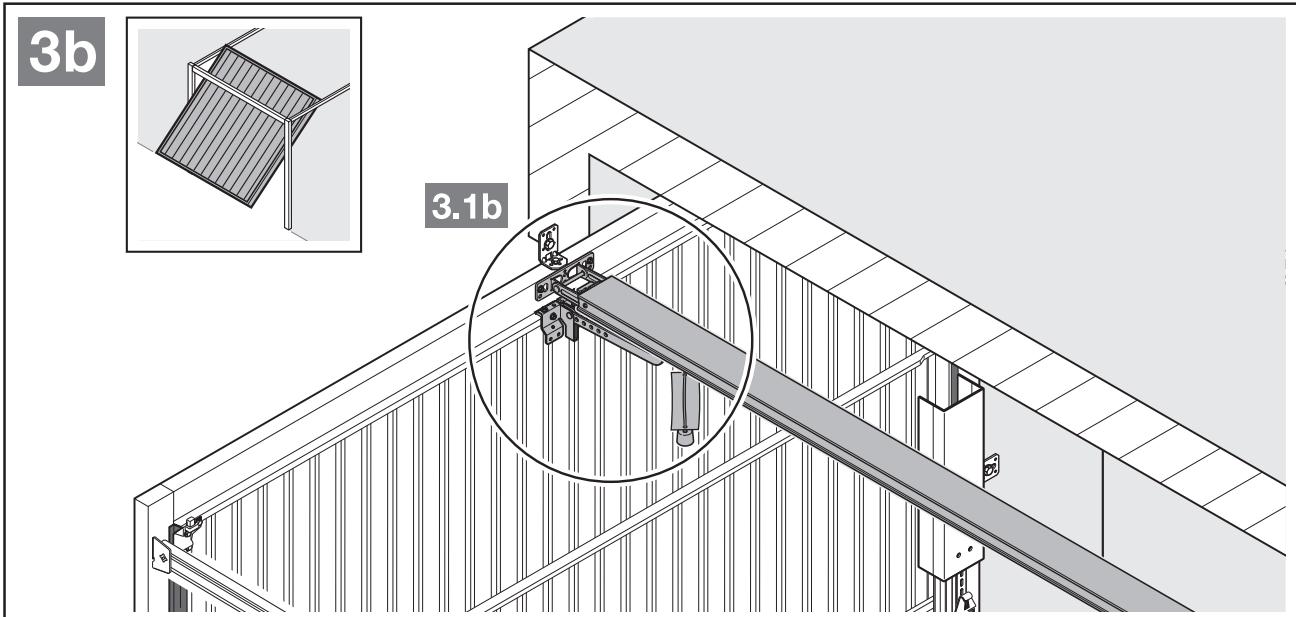


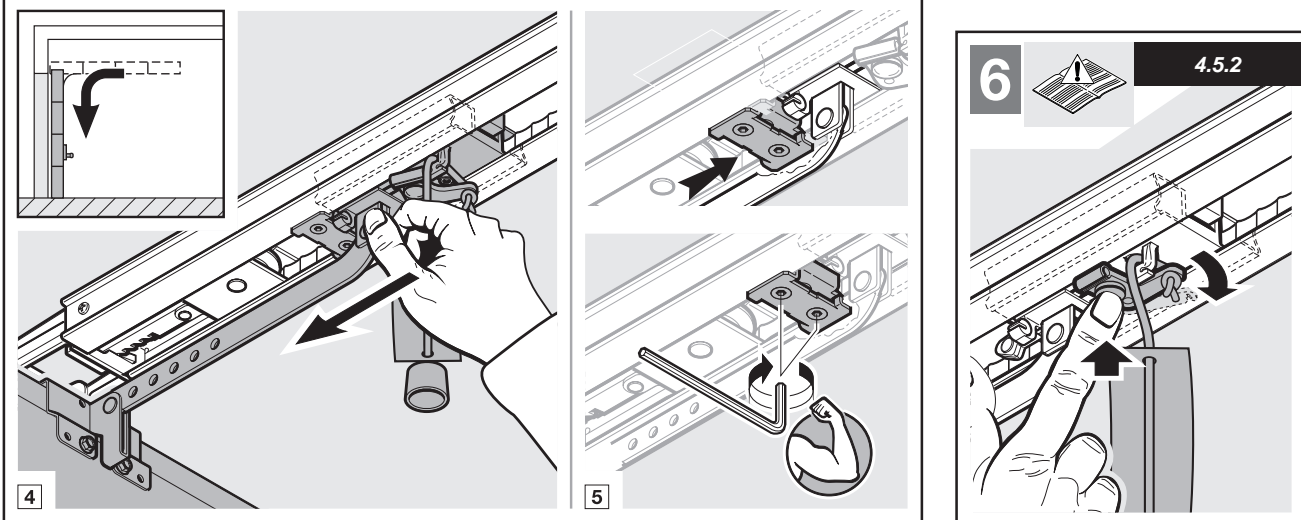
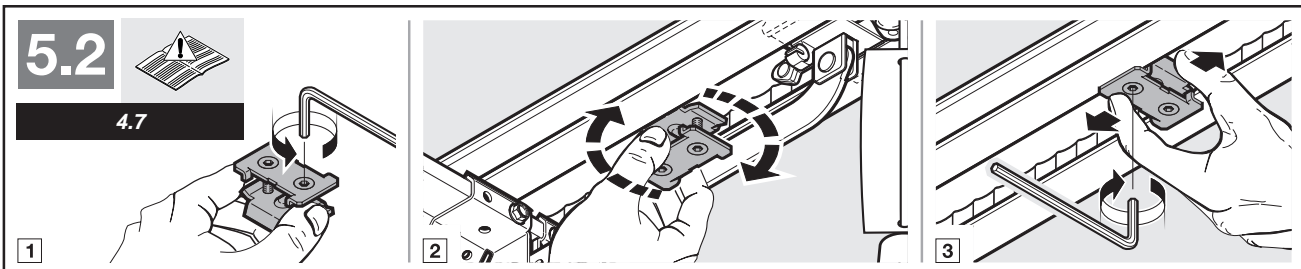
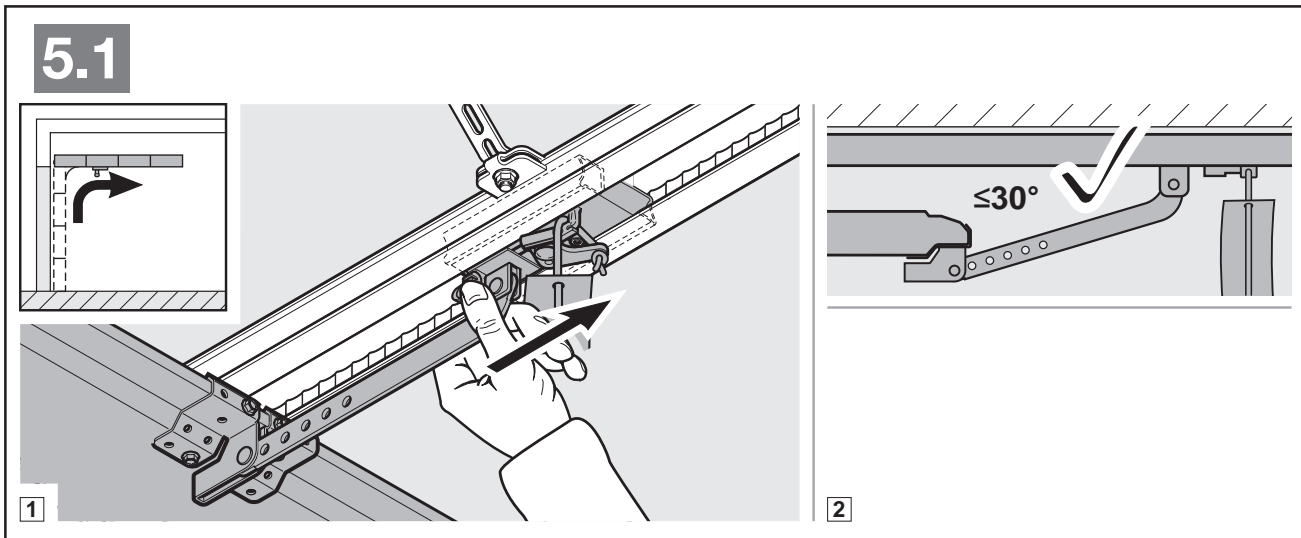
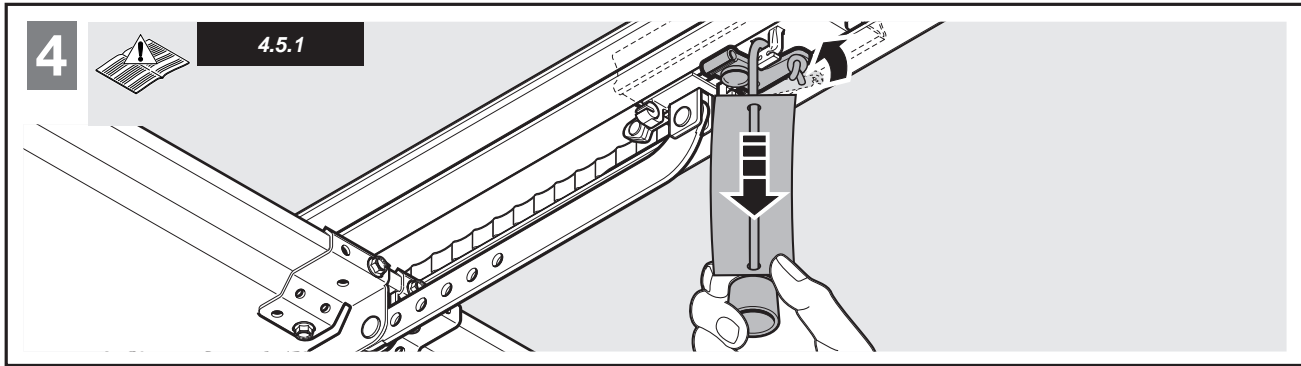
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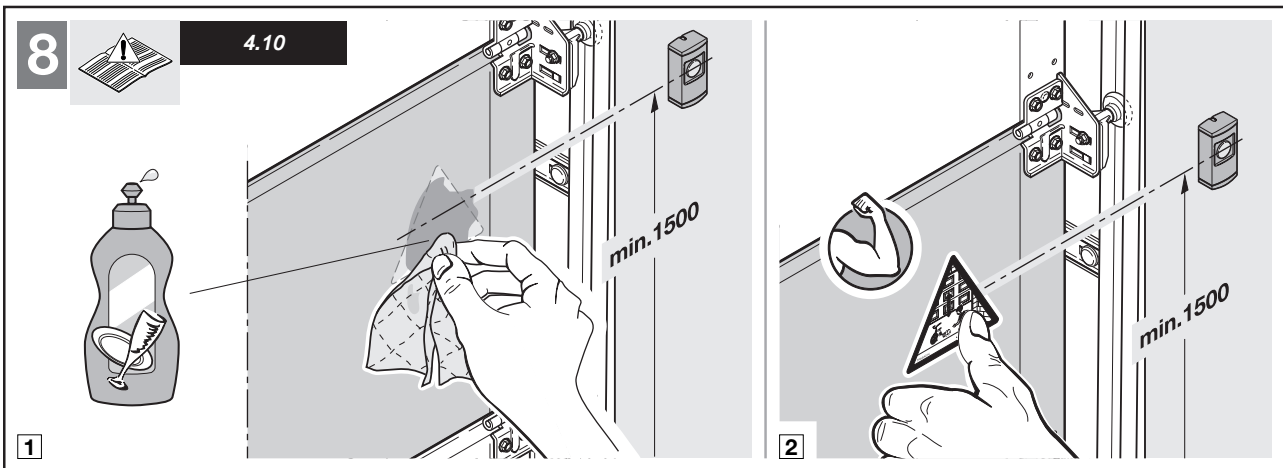
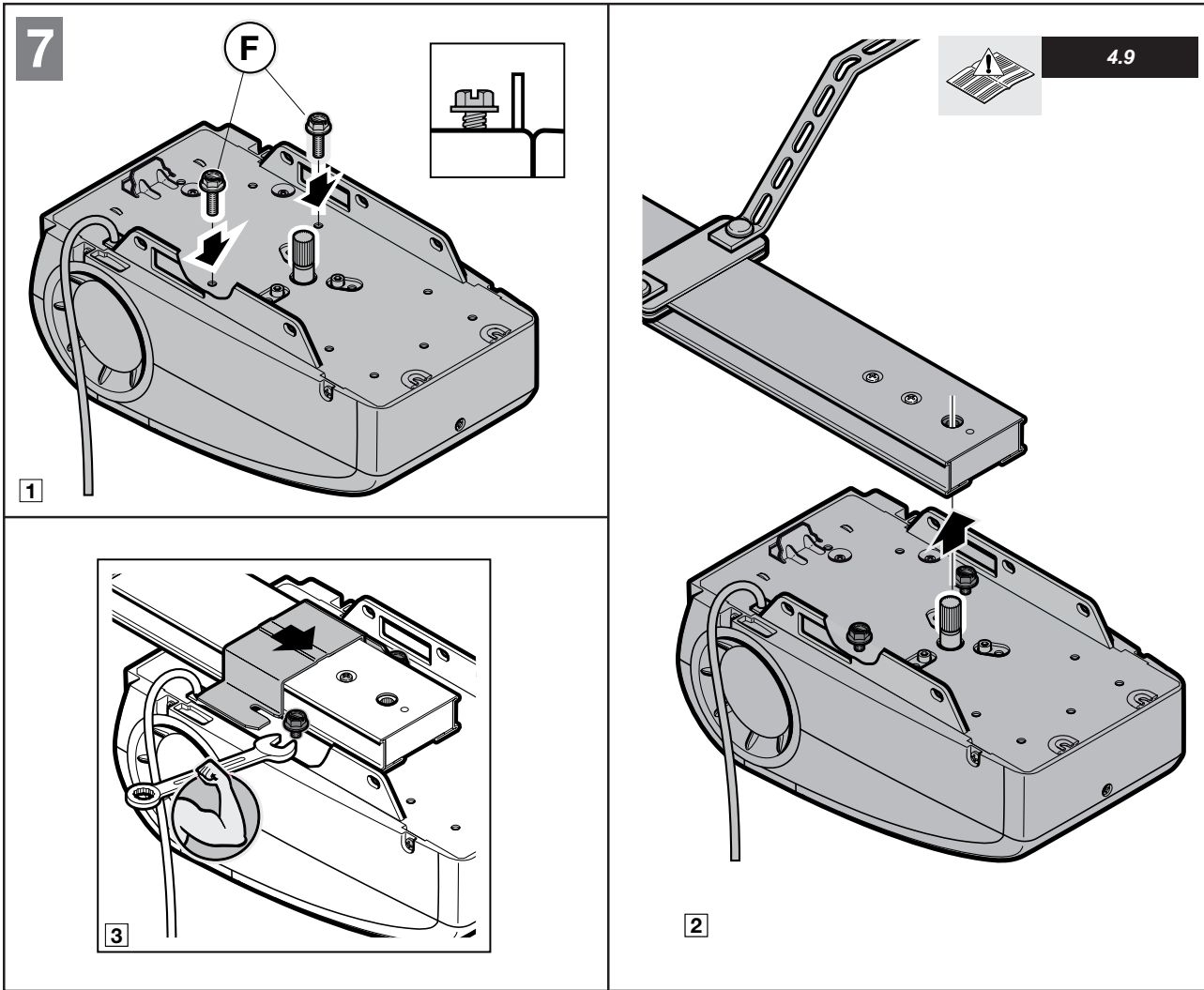












Instructions for Fitting, Operating and Maintenance
Garage door operator

GA203-403

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FOR HOME AND INDUSTRY

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