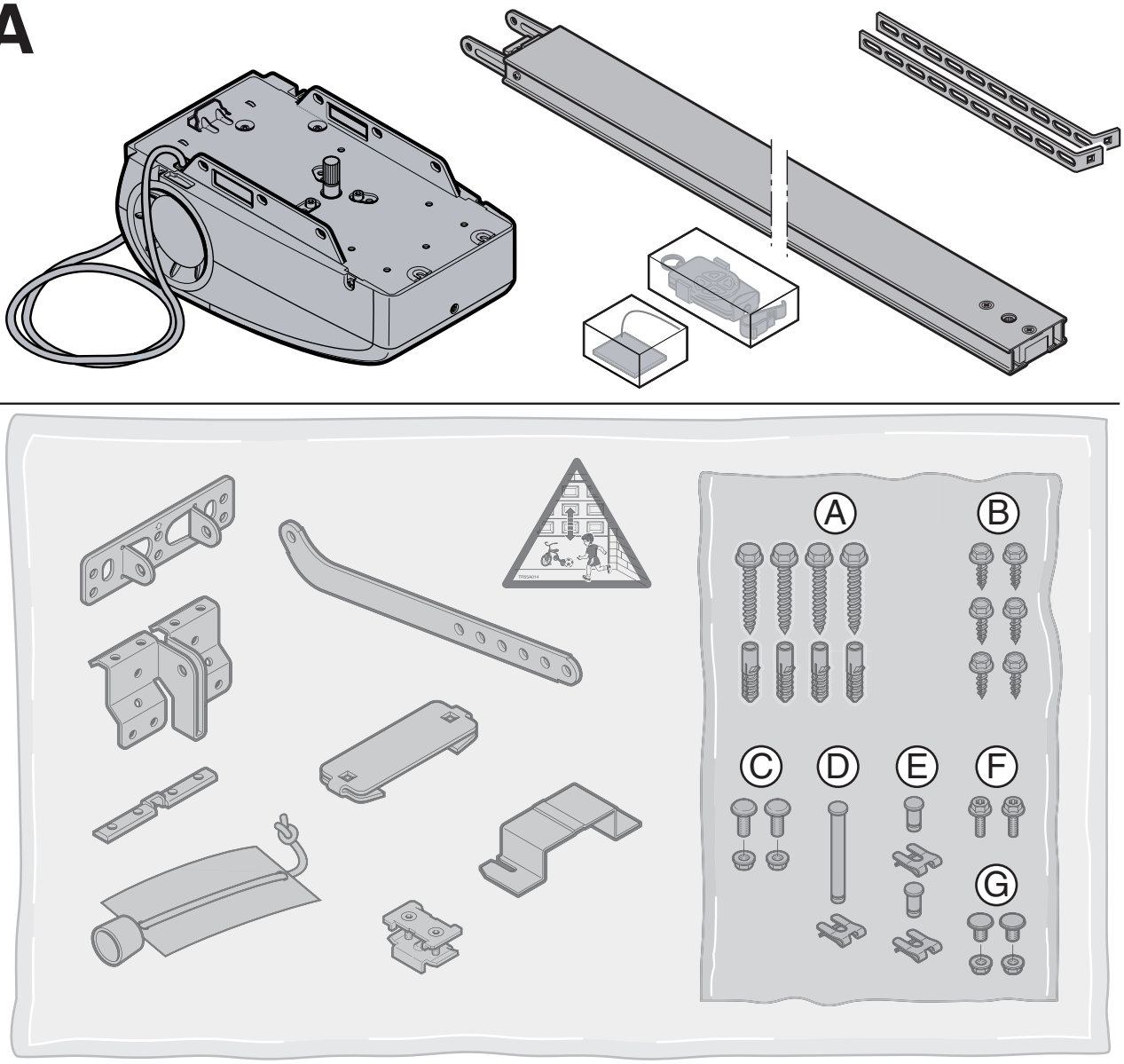
Installation, Operating and Maintenance Instructions

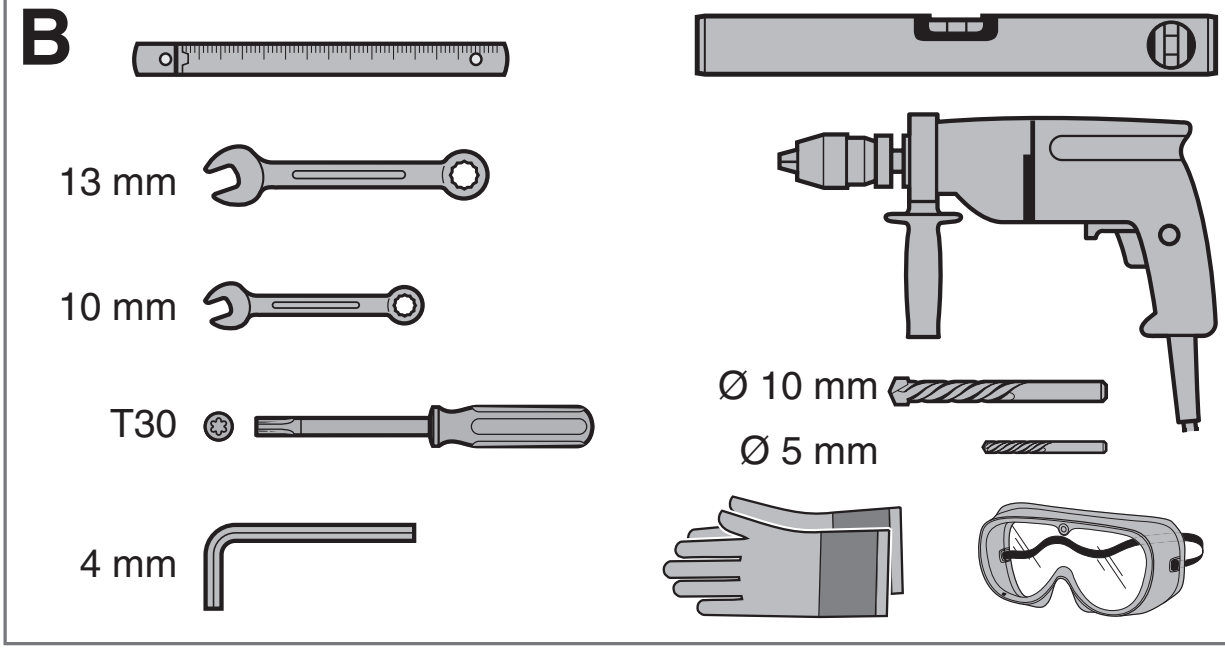
Garage Door Operator
GA203
GA403

4Ddoors
Affordable Ingenuity

A



B



Dear Customer,
Thank you for choosing a quality product from our company.

- ☞ **Please keep these instructions safe for later reference!**
- ☞ **Please observe the following instructions, they provide you with important information on the safe installation and use of your Garage Door Operator, thus ensuring that this product will give you satisfaction for many years to come.**
- ☞ **Please observe all our safety and warning advices which are especially marked with ATTENTION and Note.**

☞ ATTENTION!

Installation, maintenance and repair have to be completed by a technical expert.

Note
To assure safe use and maintenance, inspect and test log book and instructions must be available for the final customer.

1 IMPORTANT NOTES

☞ ATTENTION!

Incorrect installation or handling of the operator could result in serious injury. Please therefore follow these instructions fully and with extreme care!

1.1 Important safety instructions

The garage door operator is intended exclusively for the automatic opening and closing of spring-balanced up-and-over doors and sectional doors for the private / non-commercial use as well as for garage doors with higher load (e.g. underground car parks and collective car parks). Please respect the manufacturer instruction concerning the combination door – operator. Possible danger in terms of the norms EN 12604 and EN 12453 will be avoided by the construction and mounting according to our specifications. Doors which are suited in public area and dispose of only one protective device, e.g. force catch, are only to be operated under supervision.

1.1.1 Warranty

We shall be exempt from our warranty obligations and product liability 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 the installation guidelines we have provided.
Moreover, we shall accept no responsibility for the inadvertent or negligent operation of the operator and accessories nor for the improper maintenance of the door and/or its counterbalance mechanism. Batteries and light bulbs are also not covered by the warranty.

Note
In case of failure of the garage door operator, a technical expert has to be mandated immediately with the inspection / repair.

1.1.2 Checking the door / door system

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.

Before installing the operator, it is therefore necessary to check the door and make sure that it can also be easily moved by hand. To do this, raise the door approx. 1 metre and then let it go. The door should retain 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 defective or incorrectly adjusted. In this case increased wear and malfunctioning of the door system can be expected.

⚠ WARNING!

CAUTION: Danger to life!

- Do not attempt to change, readjust, 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.
- In addition, check the entire door system (pivots, door bearings, cables, springs and fastenings) for wear and possible damage.
- 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 misaligned door can also cause injury.

Note
Before installing the operator and in the interests of personal safety, make sure that any work needed on the door‘s compensating springs is carried out by a special engineer. This also applies to any necessary maintenance or repair work. Only both correct mounting and maintenance through a competent/expert person in accordance with the instructions can assure a safe and intended functionality of mounting.

☞ ATTENTION!

*In countries where the norm **EN 13241-1** are valid, the garage door operator upgraded by a competent person on a **sectional door without spring breakage saving**, the responsible installer has to mount also a upgrade set at the guiding slide. This set consists of both a screw which protects the guiding slide from an uncontrolled release and a new pull unit, on which the figures show how to handle the set and the guiding slide for the two operation types of the guiding slide.*

⚠ CAUTION!

Do not insert fingers into the boom while the door is moving ► **trap risk**!

1.2 Important instructions for safe installation

Any further processing must ensure that the national regulations governing the operational safety and the operation of electrical equipment are complied with. Hereby the national directives have to be respected. Possible danger in terms of the norms EN 12604 and EN 12453 will be avoided by the construction and mounting according to our specifications.

1.2.1 Before installing the garage door operator

check that the door is in a good mechanical condition and is correctly balanced. Further check whether the door opens and closes in the proper manner, see ***„Checking the door / door system“ on page 3***.
In addition, 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, see figure 1.3a on ***page 17***.
The garage door operator is designed for use in dry buildings and therefore may not be installed outdoors.
The garage ceiling must be constructed in such a way as to guarantee safe, secure anchoring of the operator.
In the case of ceilings that are too high or too lightweight, the operator must be attached to additional braces.

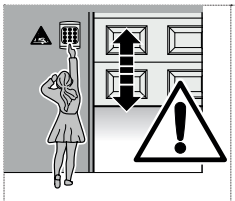
1.2.2 In carrying out the installation work

Note
The use of the delivered mounting materials regarding their suitability for the intended mounting place must be checked by the installation person.
The person who installs the operator must check the use of the delivered mounting materials regarding their suitability for the intended mounting place.

The clearance between the highest point of the door and the ceiling (also when the door is opening) must be at least 30 mm, *see fig. 1.1a **page 16** / 1.2b, **page 20***.
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 arm must be used.
The garage door operator can be positioned off-centre by max. 50 cm. The required shockproof electric socket allowing the operator to be connected to the electricity supply should be installed at a distance of approx. 50 cm from the operator head.

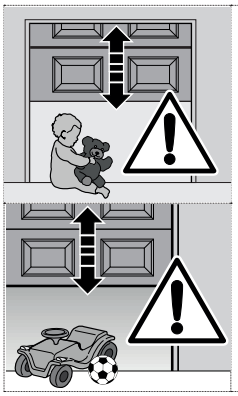
☞ **Please check these dimensions!**

1.3 Warnings



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!

Note
A caution notice warning about the trap risk must be permanently fixed in a conspicuous place close to the permanently installed buttons used to actuate the operator.



☞ **Make sure that**

- neither persons nor objects are located within the door‘s range of travel.
- children do not play around with the door system!
- the cord of the mechanical release on the carriage cannot get caught up in the ceiling‘s support system or in any other protruding parts of vehicles or the door.

ATTENTION!

For garages without a second entrance, an emergency release must be fitted to ensure that is no danger of getting locked in. This must be ordered separately and its function checked once a month.

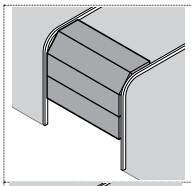
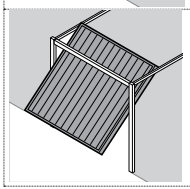
Do not allow anyone to hang bodily from the pull cord with knob!

1.4 Maintenance advice

- The garage door operator is maintenance-free.
- For your own safety, however, we recommend that you have the door system checked according to manufacturer information by service engineers qualified to inspect and service garage doors.
- Inspection and maintenance should only be effected by a competent person, please contact your supplier for this. A visual inspection can be effected by the operator.
- Regarding necessary repairs contact your supplier.
- We shall accept no responsibility for improper and unprofessional repairs.

1.5 Information on the illustrated section

The illustrated section shows installation of the operator on an up-and-over door. Where installation differs for a sectional door, this is shown in addition. In this instance, letters are assigned to the figures as follows:

	Ⓐ *is assigned to the* **sectional door** *and*
	Ⓑ *to the* **up-and-over door**.

Some of the figures also include the symbol shown below together with a text reference. This refers to specific text in the ensuing text section to provide you with important information regarding installation and operation of the garage door operator.

Example:

	***1.3 on page 4***	= see chapter 1.3 on page 4

Furthermore, the following symbol, which marks factory settings, is illustrated in the picture section and text section which explain the menu of the operator.

	= factory settings

1.6 Notes on work involving electrics/electronics

ATTENTION!

The following points apply to all work involving electrics/electronics:

- *Electrical connections may only be made by a qualified electrician!*
- *On-site electrical installation must comply with the relevant safety regulations (230/240 V AC, 50/60 Hz)!*
- *Before working on the operator, always unplug from the mains!*
- *External voltage at any of the controls connecting terminals will completely destroy the electronics!*
- *To avoid malfunctions, ensure that the control cables of the operator (24 V DC) are laid in an installation system separate to other supply lines (230 V AC)!*

2 PUTTING THE OPERATOR INTO SERVICE

The operator features a memory (fail-safe even in the event of a power failure) where the door-specific data (distance of travel, forces necessary for moving the door etc.) acquired during the learning procedure are stored and updated during subsequent travel cycles. This data is only applicable to this particular door.
If another door is to be used or if the running behaviour of the door has greatly changed (e.g. on subsequent adjustment of the limit stop or fitting of new springs etc.), the data must be deleted and the operator reprogrammed.

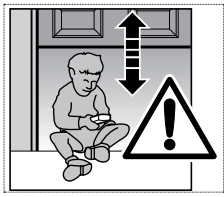
ATTENTION!

Initial operation must be carried out by a specialist.
Putting into service must be recorded in writing.
The operator is just one constituent part of the overall door system. The company responsible for the overall door system issues the Declaration of Conformity and attaches the CE Mark of Conformity.
Attaching the CE Mark of Conformity to the door and issuing the EC Declaration of Conformity documents conformity with the EC Machines Directive.

3 USE OF THE GARAGE DOOR OPERATOR

Only ever operate the garage door operator provided you have a full view of the door‘s area of movement. Wait until the door has come to a complete halt before entering the door‘s area of movement. Before driving in or out of the garage, always check that the door has fully opened!

Note
Initial function checks as well as programming or extending the remote control should always take place from inside the garage.

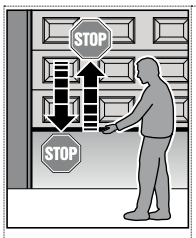


ATTENTION - Keep hand transmitters out of the reach of children!

- ► Check the function of the mechanical release every month.
- ► The pull cord with knob may only be actuated when the door is closed, otherwise with weak, broken or defective springs or due to inadequate counterbalancing, there is a risk that the door could close too quickly.

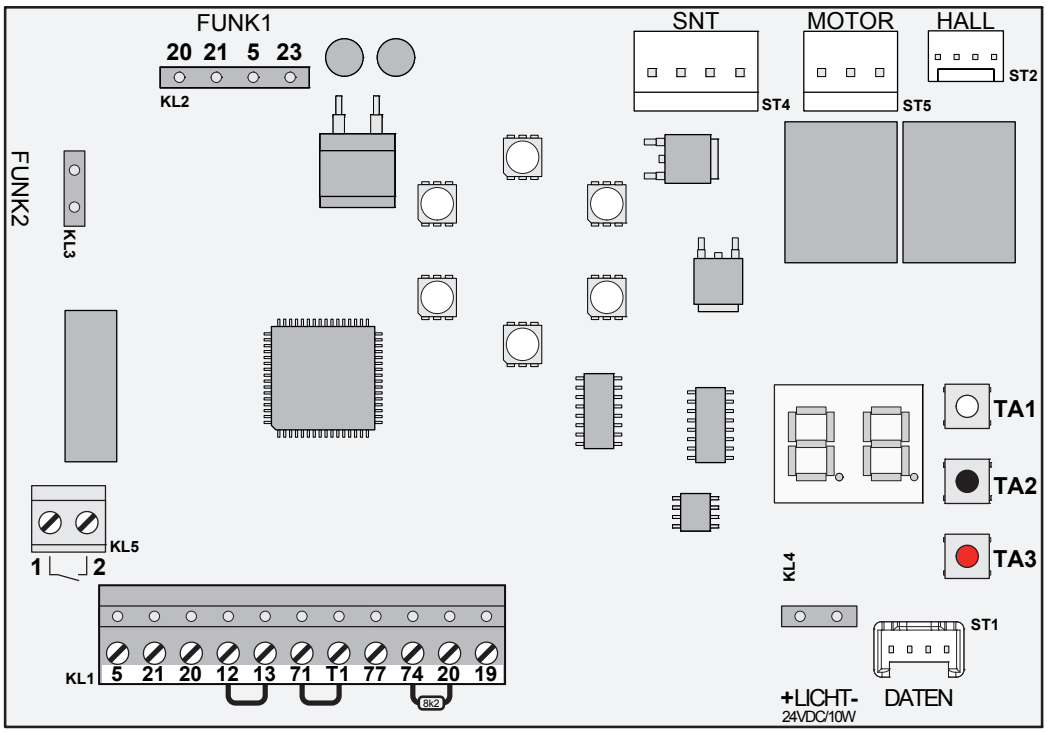
ATTENTION!

Never hang bodily from the pull cord with knob!



All persons using the door system must be shown how to operate the garage door operator properly and safely.
Demonstrate and test the mechanical release as well as the safety return. To do this, halt the movement of the closing door by grasping it with both hands. The door system should gently cutout and initiate the safety return.
The same should happen during the opening cycle, i.e. the door system gently cuts out and the door comes to a halt.

4 CIRCUIT BOARD OVERVIEW



TA1 White button

TA2 Black button

TA3 Red button

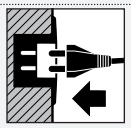
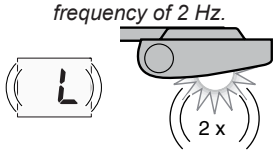
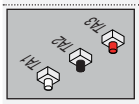
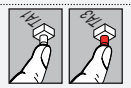
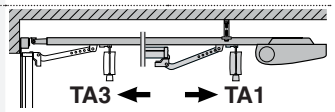
Circuit board MS550

4.1 Connections to terminal KL1

+24 VDC		**5**	
Button		**21**	**20**
Wicket door contact / Stop circuit		**12**	**13**
Break contact / Light barrier		**20**	**71**
Optical closing edge safety device (Fraba)	**+** 12 V BN	**77**	
	GN	**74**	
	0 V WH	**20**	

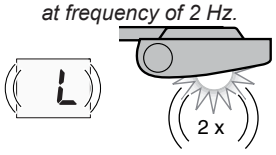
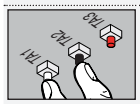
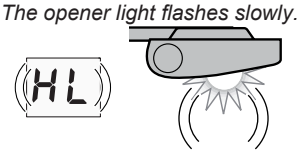
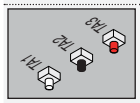
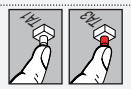
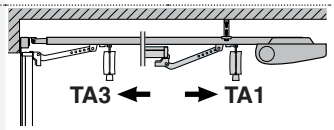
0 VDC		**20**	
Test light barrier transmitter (TX) 0 VDC		**T1**	
Power supply + 24 VDC for light barrier		**19**	
Closing edge safety device 8k2		**74**	**20**
Two-wire light barrier	**+** (EL101, EL301) RX/TX	**71**	
	- (EL101, EL301) 0V	**T1**	

5 PROGRAMMING - LEARNING MODE

Action	Display / Info
 Insert mains plug.	
 Hold down button **TA2** for ~6 sec...	...until L flashes on the display. *The opener light flashes at frequency of 2 Hz.* 
 Release button **TA2**.	
 Hold down button **TA3** or **TA1**, to move the door to the desired "**OPEN DOOR**" position. → ***deadman function**, see Learning mode, **13 on page 12**.*	 **TA3** ← → **TA1** CLOSE door OPEN door
 Briefly press button **TA2** once.	**The learning process begins**; *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.	

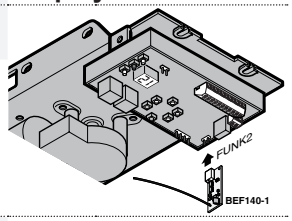
6 PROGRAMMING - PARTIAL OPENING

The opener is taught in and in the Door Closed end position.

Action	Display / Info
 Hold down button **TA2** for ~6 sec...	...until L flashes on the display. *The opener light flashes at frequency of 2 Hz.* 
 Hold down button **TA2 in addition to TA1**...	...until HL flashes on the display. *The opener light flashes slowly.* 
 Release button **TA1** and **TA2**.	
 Hold down button **TA3** or **TA1**, to move the door to the desired "**PART OPEN**" position. → ***deadman function**, see Learning mode, **13 on page 12**.*	 **TA3** ← → **TA1** CLOSE door OPEN door
 Briefly press button **TA2** once. *The PART OPEN position is saved.*	
The Part OPEN position is programmed.	

7 RADIO RECEIVER BEF140-1 (FUNK2)

7.1 Teach in remote control

Action	Display / Info
Plug radio receiver BEF140-1 into the 2-pin base (FUNK 2).	
☞ **The connector must engage properly!**	
 In order to select the desired radio channel r 1, r2, r3, or r4, briefly press button **TA3...**	
...1 x for r 1	r 1 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 ***14 on page 13***.

► Repeat the procedure to teach in additional remote controls.

7.2 Functions of the radio channels

Channel 1 r 1	Menu 8 = 0 Start command	Menu 8 = 1 Defined Open (Open-Stop-Open...)
	"*Outwards*" request with traffic light control MS3EB connected	
Channel 2 r2	Menu 8 = 0 Part Open command	Menu 8 = 1 Defined Close (Close-Stop-Close...)
	"*Inwards*" request with traffic light control MS3EB connected	
Channel 3 r3	Actuate 24 VDC light output or option relay for light function (if menu 6 = 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. 200 codes can be taught into the radio module memory. Once the memory is full, the display flashes r 1, 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.

7.3 Clear memory of the radio module (FUNK 2)

► Hold down button TA3 for ~10 sec. → *Countdown begins after ~2 sec. and counts down from 8.*

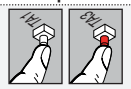
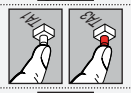
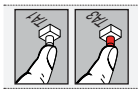
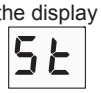
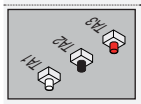
► After the period has elapsed, all channels are cleared, → dE *appears on the display.*

► Release button TA3, → *Status of the door is displayed, see **14 on page 13**.*

☞ **If the button is released before the countdown is complete, the memory will not be cleared!**

☞ **<u>All</u> taught-in remote controls are now cleared from memory; it is not possible to clear individual remote controls!**

8 OPERATE MENU CONTROL SYSTEM MS550

Action	Display / Info
► Open menu selection window	
 Hold down button **TA2** for ~3 sec. until 11 or 12 appears on the display.	*e.g.*  **Menu item** = left digit, *not flashing* **Setting** = right digit, *flashing* You are in the menu selection window.
☞ **Making changes in the Service menu is described under menu item t, see *„Menu overview“ on page 11*.**	
► Open menu item / Change settings	
 Press button **TA3** or **TA1** to switch to the desired menu item.	**Order of the menus, see *„Menu overview“ on page 11*.**
 Press button **TA2**. → *The menu item is selected.*	The set value is displayed.
 Press button **TA1** or **TA3** to change the menu setting.	**Menu settings, see *„Menu overview“ on page 11*.**
 Press button **TA2** again to exit the menu item.	You are back in the menu selection window.
☞ **Repeat this section, if you wish to make further changes in the menus.**	
► Save changes in the menus / Exit the menus	
 Select menu item 0 with button **TA3** or **TA1**.	
 Hold down button **TA2** for ~3 sec.	Successful saving is indicated on the display by: 
 Release button **TA2**.	The status of the door is displayed, see ***14 on page 13***.
☞ **If button TA2 is only pressed briefly or no button is pressed for 60 sec., programming mode exits without saving the changes.**	

9 INSTALL ACCESSORIES

9.1 Warning

DANGER!

Risk to life due to electrical current!

Only qualified electricians (according to VDE1000-10) are authorised to install, modify or maintain electrical systems!

9.2 Electrical connection / Connection terminals

(see ***„Circuit board MS550“ on page 6***)

► The connection terminals can be accessed by opening the inspection window. The terminals to which the accessory components, such as potential-free inwards and outwards buttons, off switches, wicket door contacts, and safety devices such as light barriers or closing edge safety devices, are connected hold a low voltage no higher than roughly 30 VDC.

► All connection terminals can be used simultaneously for multiple accessories, though no more than 1 x 1.5 mm².

► Connection terminal KL1 is removable.

☞ **Unplug from the mains before installation!**

☞ **The load on the opener from all accessories must not exceed 200 mA in total.**

9.3 Radio receiver BHE120

► Plug radio receiver into the 4-pin base (**FUNK 1**), see ***„Circuit board MS550“ on page 6***.

☞ **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 11***.

9.4 Radio receiver BHE221/BHE321

► Plug radio receiver into the 4-pin base (**FUNK 1**), see ***„Circuit board MS550“ on page 6***.
- Green wire (GN) → terminal 20 (0 V)
- White wire (WH) → terminal 21 (Channel 1)
- Yellow wire (YE) → terminal 23 (Channel 2)
- Brown wire (BN) → terminal 5 (+24 V)

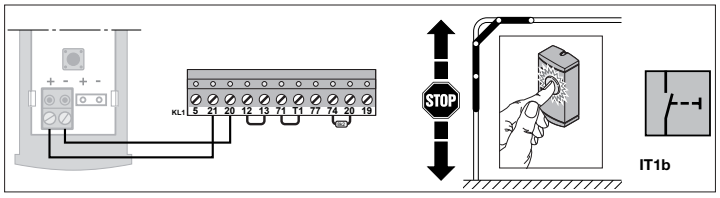
☞ **Connector must engage properly!**

► 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 11***.

9.5 External “pulse” button for triggering / stopping door movements

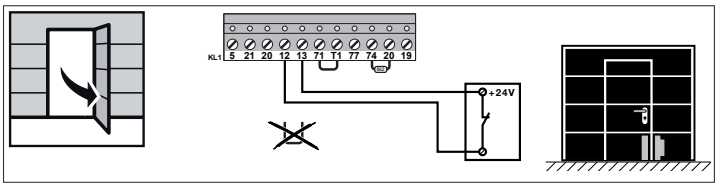


Pulse button

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!

9.6 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:

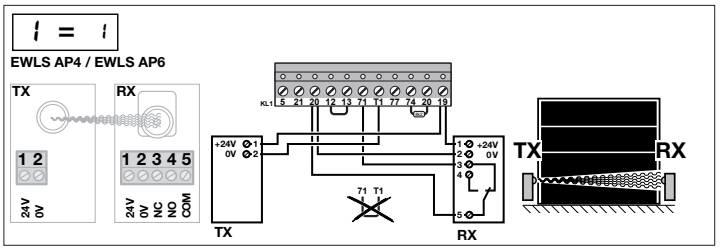
► Remove wire bridge on terminals 12 and 13.

► 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.

9.7 Contact light barrier for safety recoil



Contact light barrier

► Remove wire jumper between terminals T1 / 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 1 must be set to 1.

Note

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

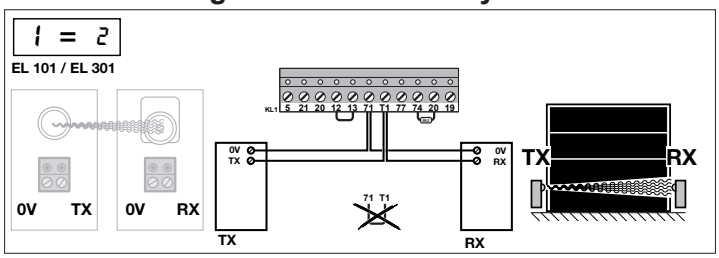
The light barrier is only active during “Close door”.
Opener light flashes 1x, display → error code 08.

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 1 should be set to 1.

9.8 Two-wire light barrier for safety recoil



Two-wire light barrier EL101 or EL301

- ► Remove wire jumper between terminals T1 / 71.
- ► Connect light barrier connection RX or TX to terminal 71 (safety input).
- ► Connect light barrier connection 0V to terminal T1 (0 V).
- ► Menu 1 must be set to 2.

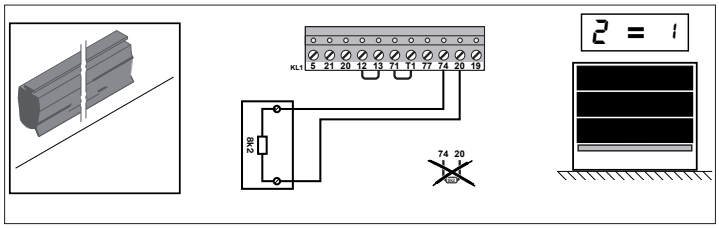
Note
If the light barrier is interrupted during the “Close door” run, a reversal in “open“ direction occurs.

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 1 should be set to 1.

9.9 Closing edge safety device 8k2



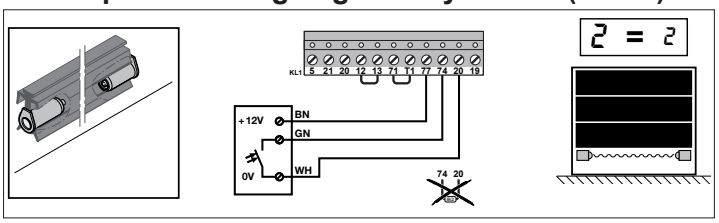
8k2 closing edge safety device

- ► 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.
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.

9.10 Optical closing edge safety device (Fraba)



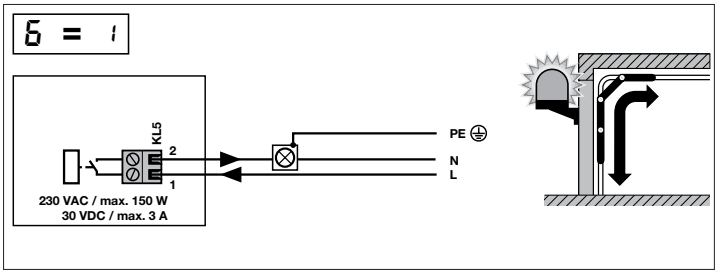
Optical sensors

- ► Remove the 8k2 resistor on terminals 74 and 20.
- ► Connect the closing edge safety device to terminal 74 (DN / 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.

9.11 Warning lamp via option relay



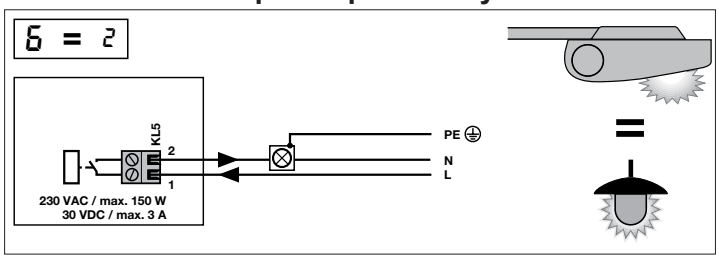
Warning lamp via option relay

A warning 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 warning lamp is actuated each time the door moves, and during the advance warning period.
  The function of the warning lamp (light up-flash-OFF) can be set in menu “d”.
- ► Menu 6 must be set to 1.

9.12 External lamp via option relay



External lamp via option relay

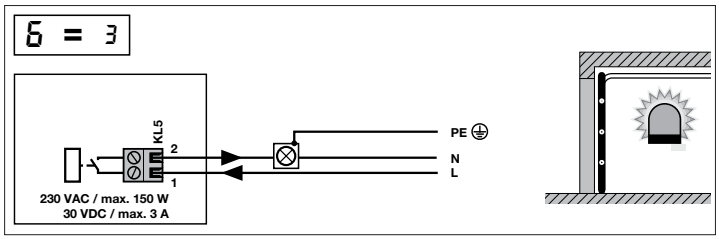
An additional external lamp can be controlled via the potential-free make contact (KL 5) of the option relay.

☞ **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 6 must be set to 2.

9.13 Close Door display via option relay



Close Door display via option relay

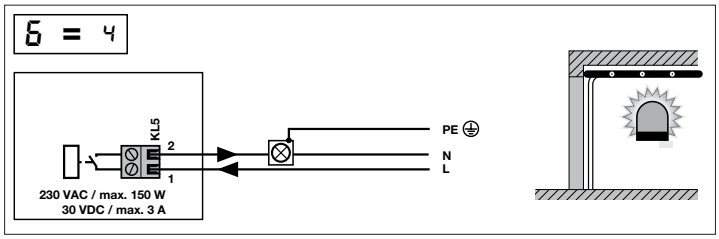
An external Close Door display can be controlled via the potential-free make contact (KL 5) of the option relay.

☞ **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 6 must be set to 3.

9.14 Open Door display via option relay



Open Door display via option relay

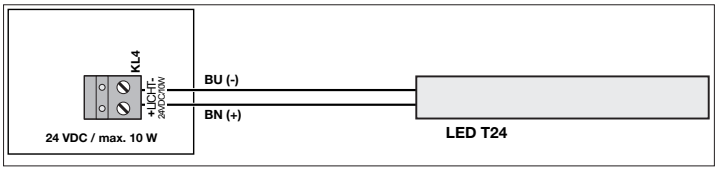
An external Open Door display can be controlled via the potential-free make contact (KL 5) of the option relay.

☞ **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 6 must be set to 4.

9.15 Light output 24 VDC



Light output 24 VDC

The optionally available **LED T24** 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!**

9.16 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.

10 MENU OVERVIEW

	Legend:	🏭 = Factory setting		" = Second	' = Minute	KL = Terminal	
0	► **Always** select menu item 0 to save changes in the menus. See also ***„8 Operate menu control system MS550“ on page 7***.						
1	**Light barrier analysis**	🏭 1: Contact light barrier		2: Two-wire light barrier			
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 (KL5)**	🏭 1: Warning lamp	2: Light function	3: CLOSE Door display	4: OPEN Door display		
7	**Input 23 function 4-pin connection / FUNK1 (KL2)**	🏭 1: Part Open command		2: Light control			
8	**Defined choice of direction ♠**	🏭 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*			
A	**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 A)		
	☞ **With the On/Off function (menu b = 8), the light can only be switched off when the opener is stationary.**						
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 A // A and b // only b)	🏭 **A**	Starts opener + opener light → A* + external light → b*				
		1: **B**	Only switches on external light → b*.				
		2: **A**	Starts opener + opener light → A*.				
		B	Only switches on external light → b*.				
		3: **A**	Starts opener + opener light → A* + external light → b*				
		B	Switches on opener light + external light → b*				
		4: **A**	Starts opener + opener light → A*.				
		B	Switches on opener light and external light → b*				
	☞ **External light relates to light sources connected via KL5 (option relay, if menu 6 = 2) and/or to KL4 (24 VDC, max 10 W).**						
d	**Option relay function with warning light connected**	🏭 2: **ON** during door movement - **FLASHES** during prewarning period - **OFF** during CLOSE Door					
	Door movement - Prewarning period - 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.**						
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"
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 (VL1/VL2)**	🏭 0: **Do not** teach in light barrier					
		1: Teach in light barrier					
t	**Service menu**	For information on all menu items in the Service menu, see ***page 12***.					
	Open Service menu: ► Open menu selection window, see ***„Operate menu control system MS550“ on page 7***. ► Select menu item t and hold down button **TA2** for ~3" → *The last-selected Service menu is displayed.* ***Exit Service menu:*** ► Hold down button **TA2** for ~ 3" → *Back in standard menu, Display t* ► Using button **TA1** or **TA3**, select menu item 0 → *Display 0* ► Hold down button **TA2** for ~ 3" → *Display St* for ~3", then door status display, see ***14 on page 13***. **The changes are saved.**						

11 SERVICE MENU

► For information on opening the Service menu, see menu item E on ***page 11***.

1.	**Power level** ♠ * From 300 mm before Door CLOSED - "Close" run up to 300 mm before Door CLOSED - "Open" run	1:* 0.4 - 1.0 - 1.5 A	2:* 0.8 - 1.0 - 1.5 A	3:* 1.2 - 1.2 - 1.5 A	4: Always 1.5 A
		5: Always 2.0 A	6: Always 2.5 A	7: Always 3.0 A	8: Always 3.5 A
⚠	**Warning!**	**Risk of injury** if power value is set too high - power limitation is less sensitive if the power value is set too high, which can result in injury or damage. **Do not set the power value too high!**			
2.	**Maintenance counter** Number = Maintenance after X movements	0: OFF	1: 1000	2: 2000	3: 3000
		4: 4000	5: 5000	6: 10.000	7: 20.000
		8: 40.000	9: 60.000	d: Reset maintenance counter	
	☞ **After the number of movements is reached, the red traffic light flashes for 5 sec. before the movement starts from the Closed end position.**				
3.	**Error memory**	The last 10 errors are displayed, with the most recent first.			
		d: Clear error memory (set the value "d", hold down button **TA2** for > 6″ → "d.")			
4.	**Running speed in CLOSE direction** ♣	0: 50%	1: 60%	2: 70%	3: 80%	4: 90%	5: 100%
5.	**Running speed in OPEN direction** ♣	0: 50%	1: 60%	2: 70%	3: 80%	4: 90%	5: 100%
		6: 110%	7: 120%	8: 130%	9: 150%		
6.	**Soft-run length in CLOSE direction** ♣	0: Off	1: Short	2: Medium	3: Long
7.	**Soft-run length in OPEN direction** ♣	0: Off	1: Short	2: Medium	3: Long
8.	**Behaviour for defined choice of direction (menu 8 = 1 or 2)** Channel 1 = Input 21 (FUNK1) Channel 3 = Input 23 (FUNK1) See diagram ***„Circuit board MS550" on page 6***.	0:	Channel 1 = Open-Stop-Open	Channel 2 = Close-Stop-Close
		1:	Channel 1 = Open-Stop-Open	Channel 2 = Close
		2:	Channel 1 = Open	Channel 2 = Close-Stop-Close
		3:	Channel 1 = Open	Channel 2 = Close
9.	**Light barrier testing**	0: Deactivated	1: Activated		
A.	**Reversing limit for Door CLOSED** ♠	0: 15 mm before Door CLOSED	1: 20 mm	2: 25 mm	3: 30 mm
b.	**Shutdown speed for path learning run**	0: 55%	1: 60%	2: 65%	
c.	**Movement counter** Max. possible counter value: **999999**	The number of previously initiated movements is shown in blocks of two digits			
		Counter value 2579	00	25	79	Scroll with button TA1 or TA3.
		Counter value 834125	83	41	25	
d.	**Software version**	Software version is displayed			
r.	**Reset data / Return to factory settings**	0 **Do not** perform a reset			
		1 Perform a reset - load factory settings.			
	► **Perform reset**: → under menu item r., set the value " 1". ► Hold down button **TA2** for > 6″. *When " 1" flashes on the display, the control system has been reset to its factory settings.* ► Briefly press button TA2 → r. *appears on the display.* ► **Exit menu**, see menu item E on ***page 11***.				

♣ After **making changes in the menu, it is necessary to teach in the opener again!** Pay attention to the original operating manual!

♠ Pay attention to the detailed descriptions in the original operating manual!

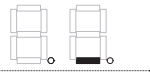
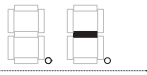
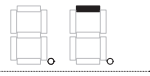
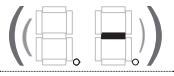
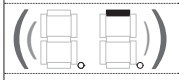
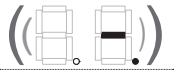
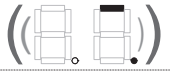
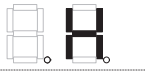
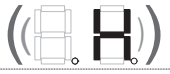
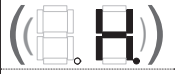
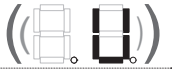
12 COMMAND INPUTS (SHOWN ON THE DISPLAY)

12	Signal from circuit board button TA1	21	Command button, terminal 20/21 activated
21.	Input/Channel 1 (Terminal 21, FUNK1) activated	23.	Input/Channel 2 (Terminal 23, FUNK1) activated
21	"**Outwards**" request, only with traffic light control MS3EB-G connected	24	"**Inwards**" request, only with traffic light control MS3EB-G connected
r1	Channel 1 (FUNK2) activated	r2	Channel 2 (FUNK2) activated
r3	Channel 3 (FUNK2) activated	r4	Channel 4 (FUNK2) activated

13 FUNCTIONS OF CIRCUIT BOARD BUTTONS TA1 AND TA3:

For ↓	Button TA1	Button TA3
Pulse operation	→ *Open / Stop / Close / Stop, etc.*	→ *Radio learning mode, see* ***„7 Radio receiver BEF140-1 (FUNK2)" on page 7***.
Defined choice of direction		
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*	
Changes in menus	→ *Scroll up (0, 1, 2...)*	→ *Scroll down (... 2, 1, 0)*
Learning mode	→ *Deadman Open function*	→ *Deadman Close function*

14 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		

15 ERROR TABLE

Display (flashes)	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.
			Hall sensor defective.	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 ***„9.6 Off switch / Wicket door contact“ on page 8***.	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. Incorrect analysis selected for the connected light barrier. See chapter ***„Contact light barrier for safety recoil“*** and ***„Two-wire light barrier for safety recoil“ on page 9***.	Remove obstacle which triggered the light barrier and/or check or if necessary replace the light barrier.
	☞ **Without light barrier connected (Terminals 20 / 71), menu 1 should be set to 1 and a wire jumper must be connected between terminals T1 / 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 9***.	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 ***16 on page 15***.
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.

Display (flashes)	Light / Warning lamp	Error / Warning	Possible cause	Remedy
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 ***16 on page 15***. 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 U	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 ***„Programming - Learning mode“ on page 6***.
19	Flashes 4x	Error measuring current.	Motor connection cable defective.	Check motor connection cable, replace if necessary.
			Motor defective.	Replace opener.
			Control system defective.	Replace opener or control system.
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 ***„5 Programming - Learning mode“ on page 6.***
22	Flashes 2x	2 x force shutdown in succession during Open Door run. Error display only if auto-closing 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 ***16 on page 15***.
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 ***„9.10 Optical closing edge safety device (Fraba)“ on page 9***. 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 auto-closing 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 ***„Closing edge safety device 8k2“ on page 9.***	Remove obstacle which triggered the closing edge safety device and/or check or if necessary replace the closing edge safety device / supply line.
	☞ **Without 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.**			
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 ***„9.8 Two-wire light barrier for safety recoil“ on page 9***.

16 ERROR MESSAGE FLASHES 4X - PERFORM REFERENCE RUN:

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

PLEASE NOTE!

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!*
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.

► 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*.

► **Check:** 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.

The opener is now ready again for normal operation.

Note
Repeat learning run, see ***„5 Programming - Learning mode" on page 6***, if even after several uninterrupted door runs the door does not open and close as described in the step "**Check**".

17 FORCE SYNCHRONISATION 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.

PLEASE NOTE!

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!*
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.

► 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*.

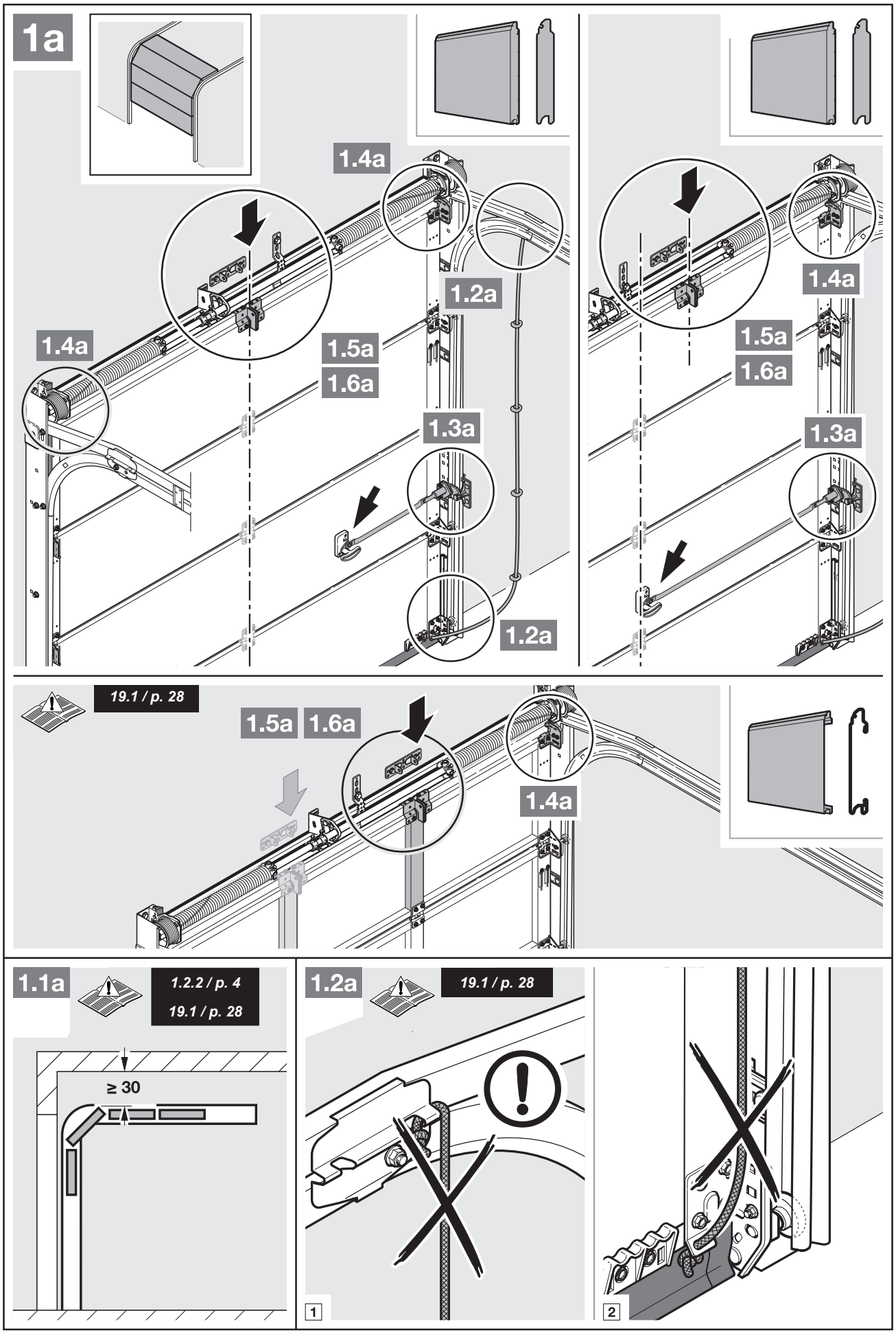
► **Check:** Check, by means of several uninterrupted door runs, that the door is fully reaching its closed position and that it is opening all the way.

The 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 Programming - Learning mode" on page 6***, if even after several uninterrupted door runs the door does not open and close as described in the step "**Check**".

18 FIGURES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1.6a
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1.6a
1.3a
19.1 / p. 28
1.5a
1.6a
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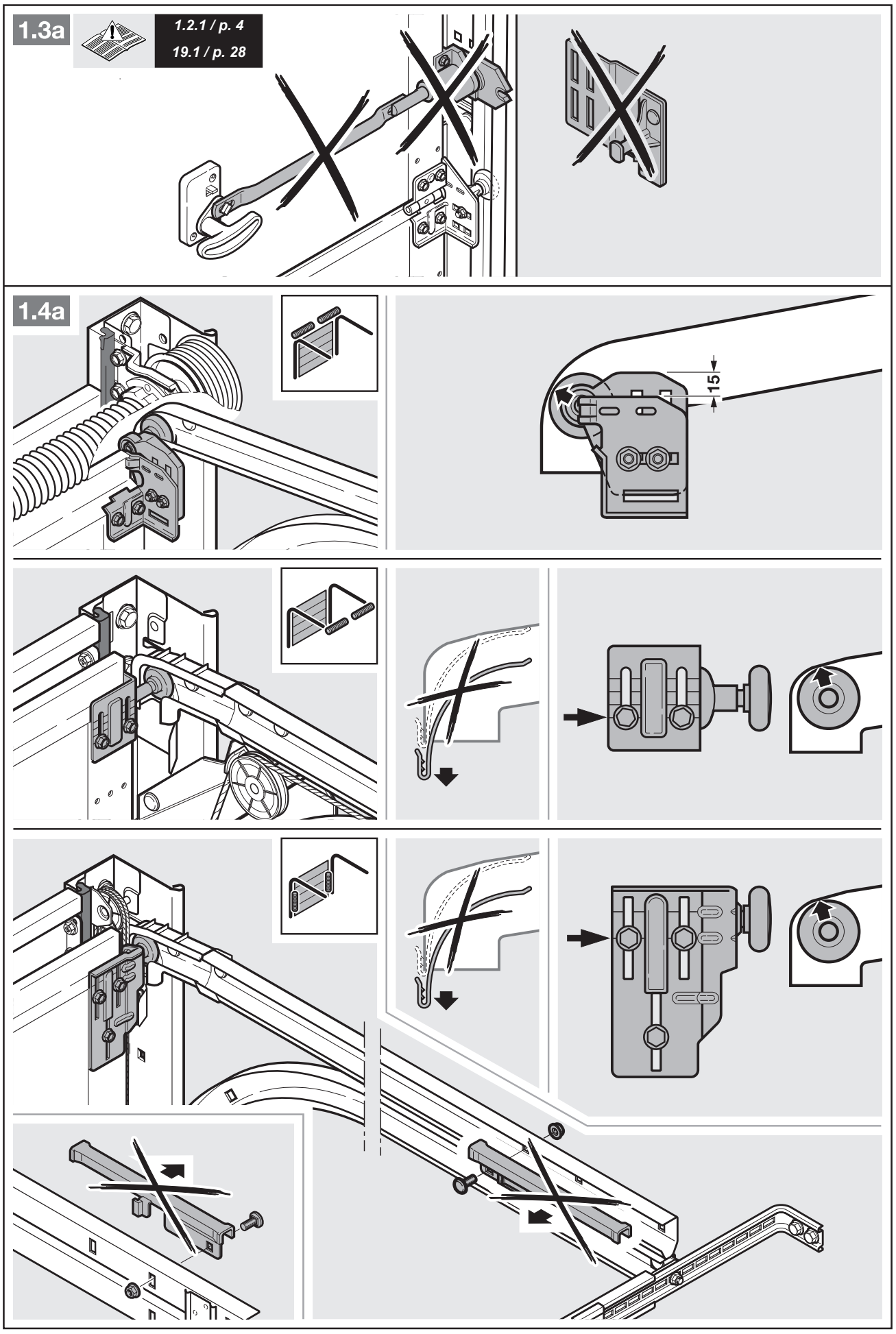
19.1 / p. 28
≥ 30
1.2a
19.1 / p. 28
1
2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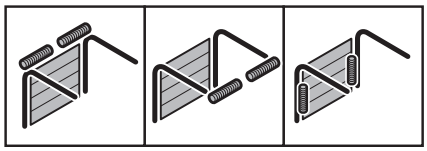
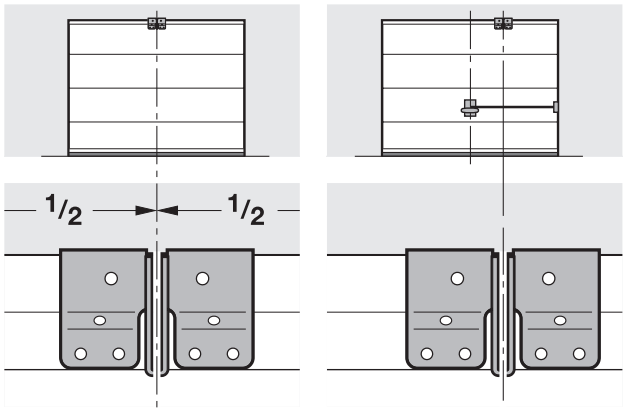
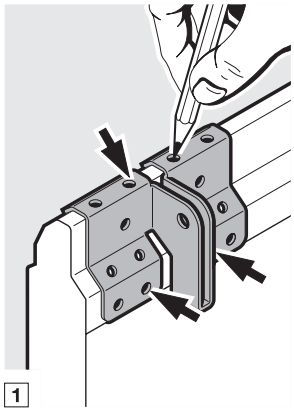
19.1 / p. 28
1.4a
15

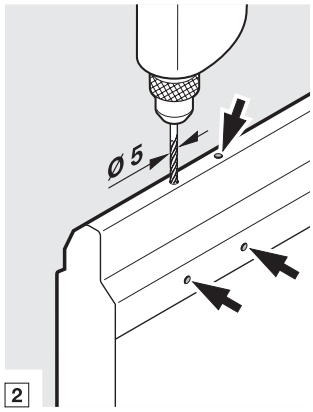
1.5a

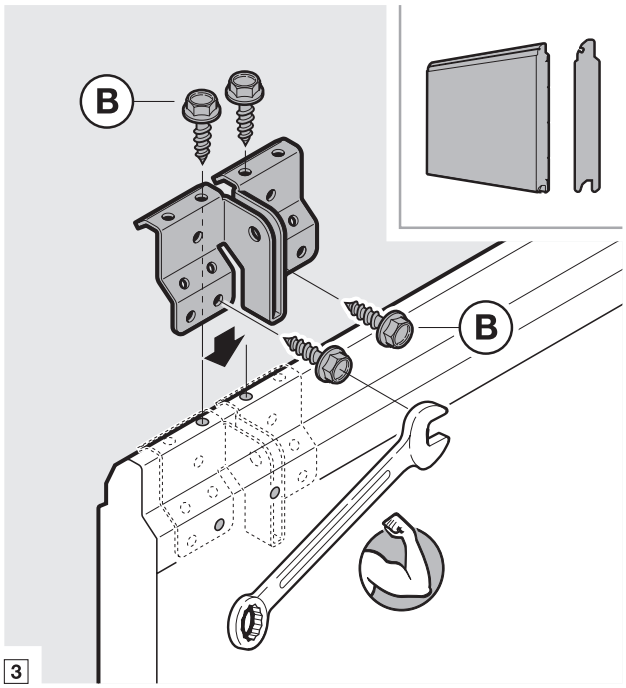
19.1 / p. 28

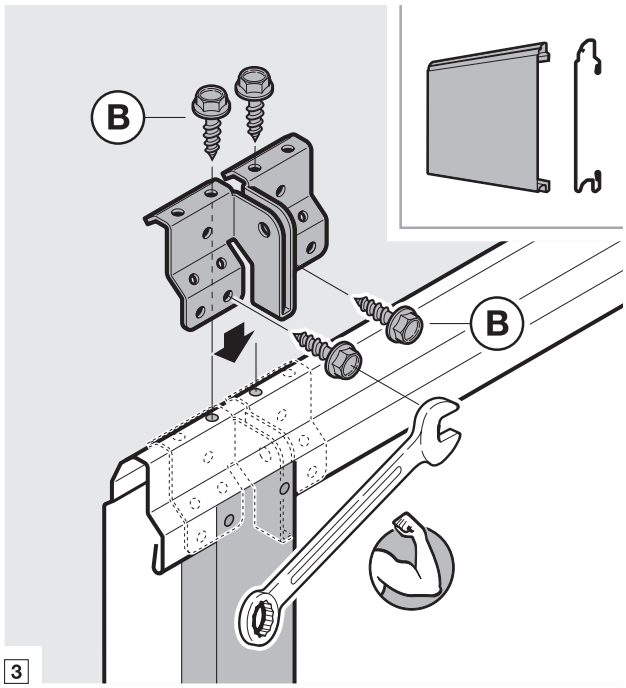


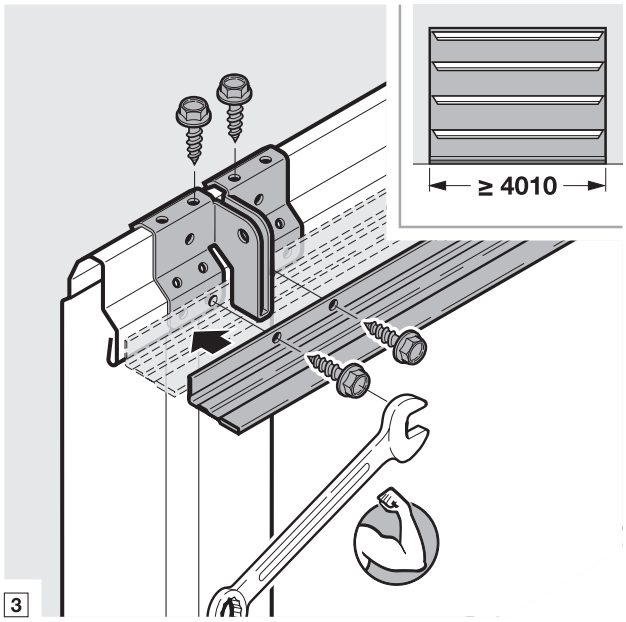


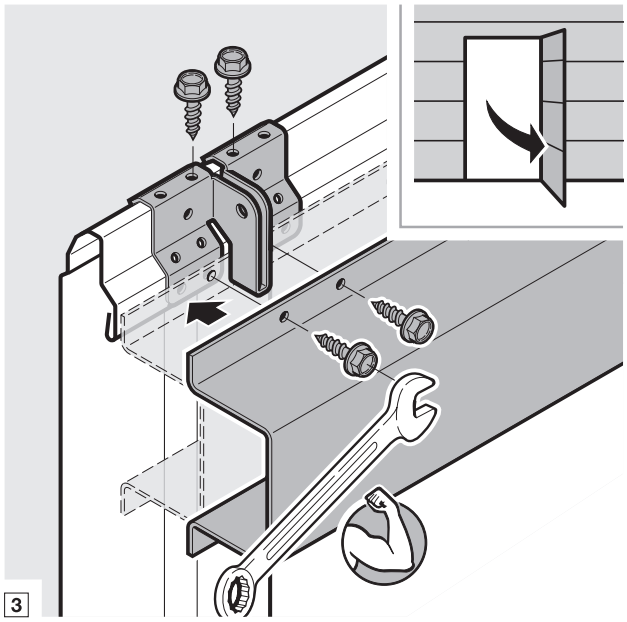


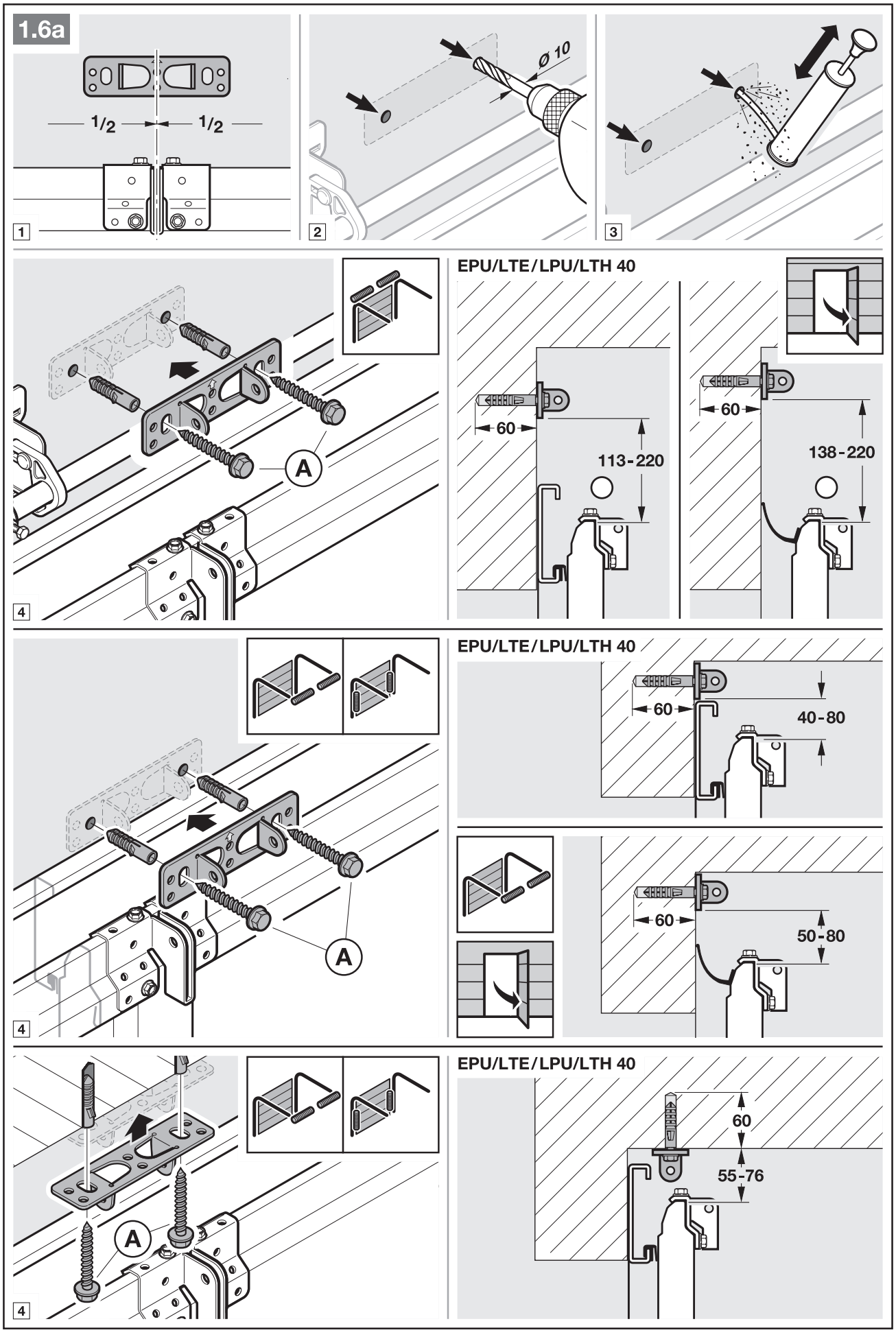








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1/2
1/2
1
Ø 10
2
3
4
A
EPU/LTE/LPU/LTH 40
60
113-220
60
138-220
EPU/LTE/LPU/LTH 40
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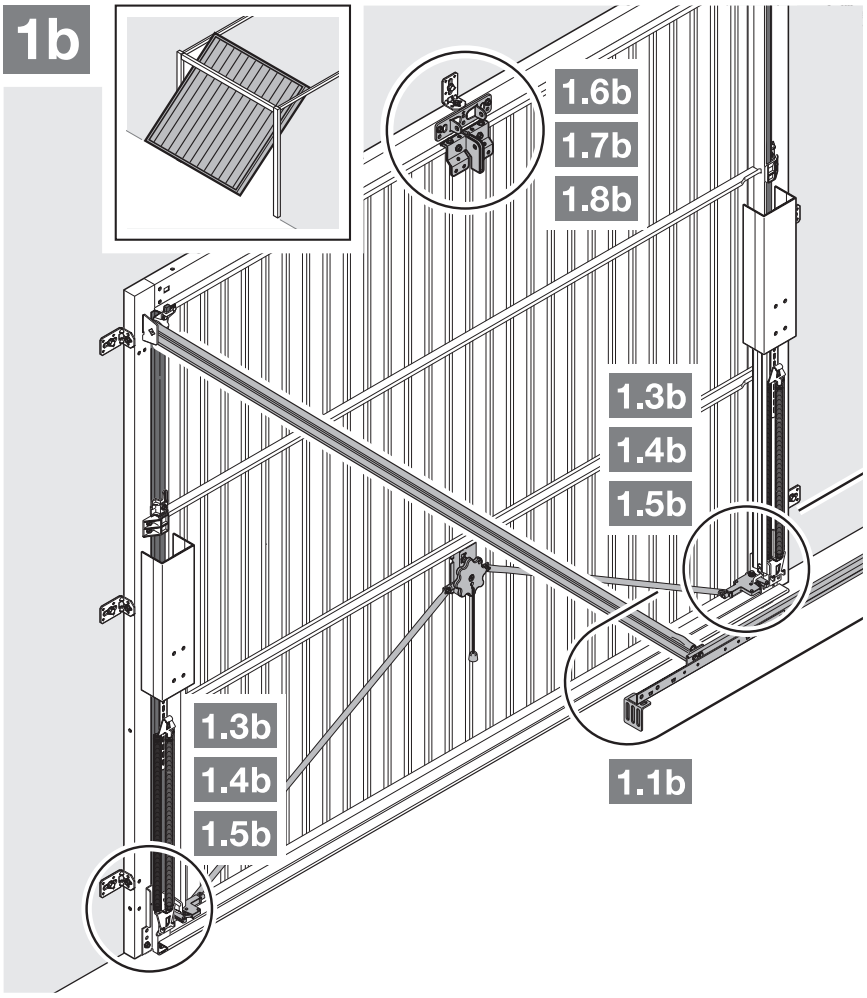
50-80
EPU/LTE/LPU/LTH 40
60
55-76

1b



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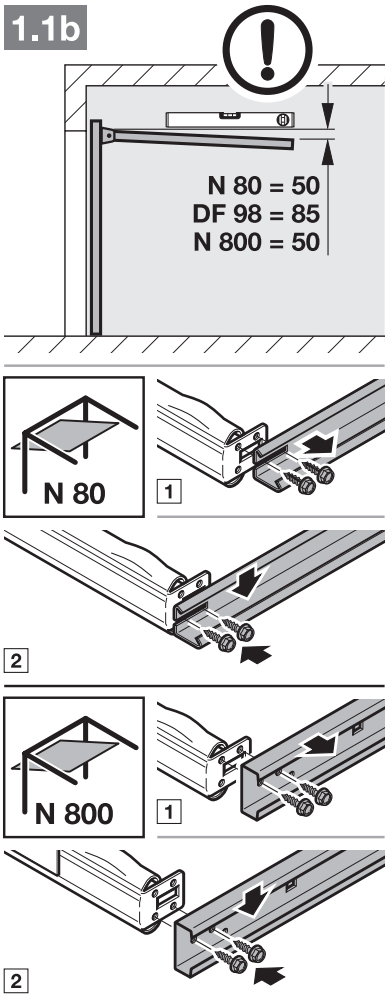

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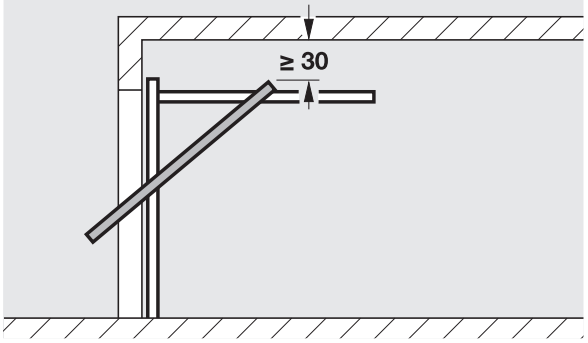
1.2.2 / p. 4
19.1 / p. 28



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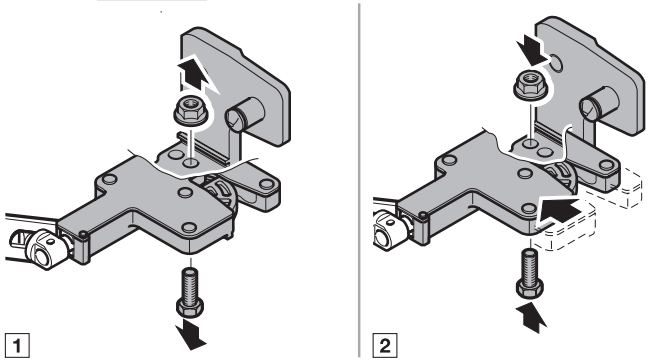
19.1 / p. 28



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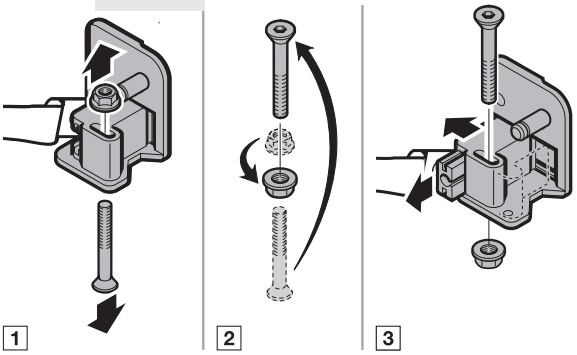
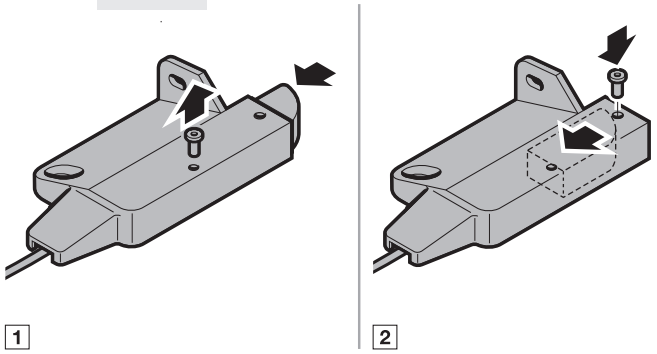
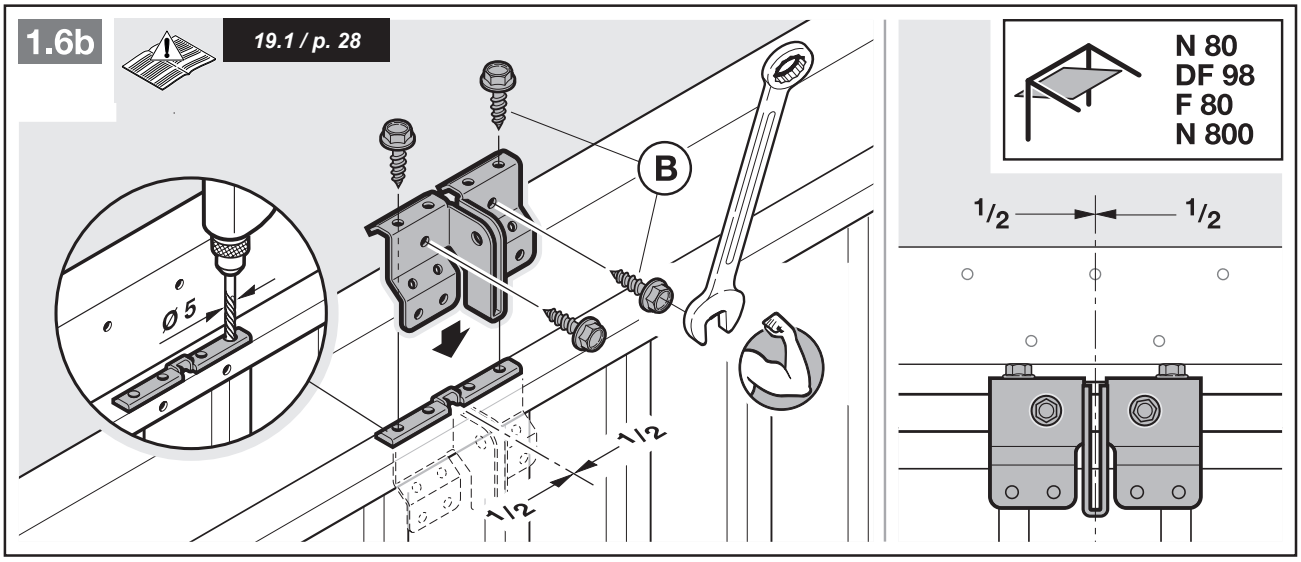
19.1 / p. 28



1.5b

19.1 / p. 28

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19.1 / p. 28
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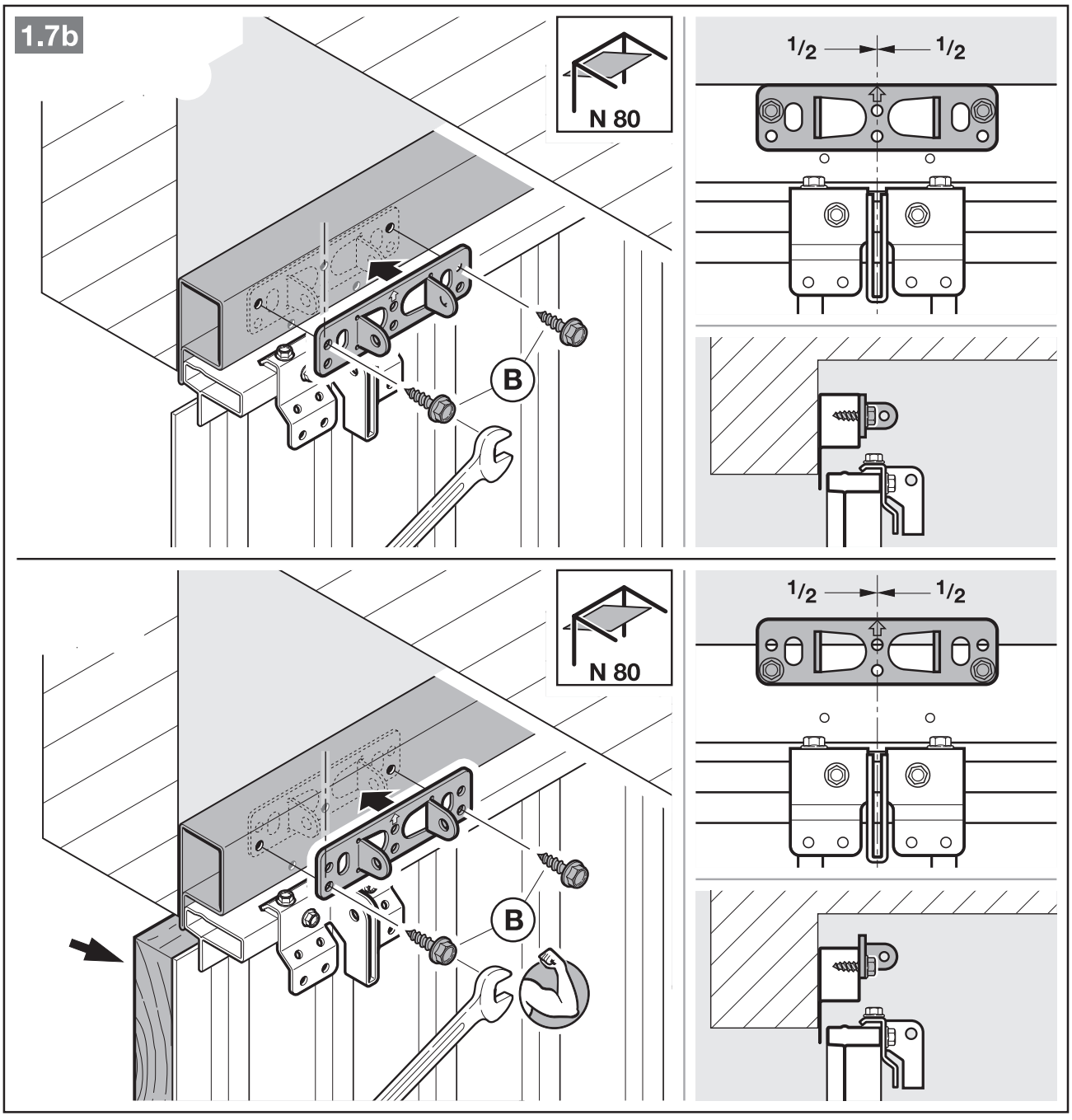
1/2
1/2
N 80
DF 98
F 80
N 800
1/2
1/2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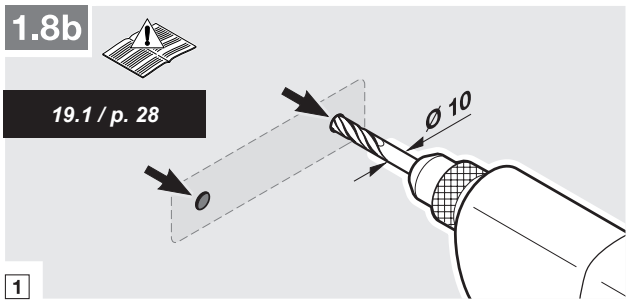
1/2
1/2
N 80
B
1/2
1/2

1.8b

19.1 / p. 28



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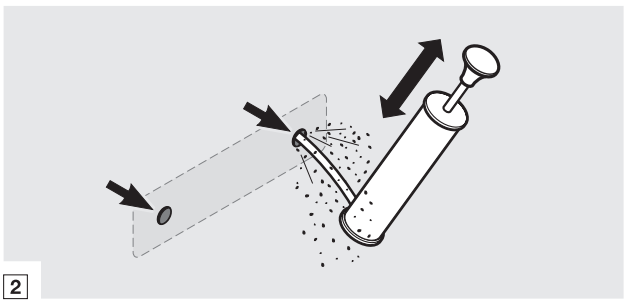

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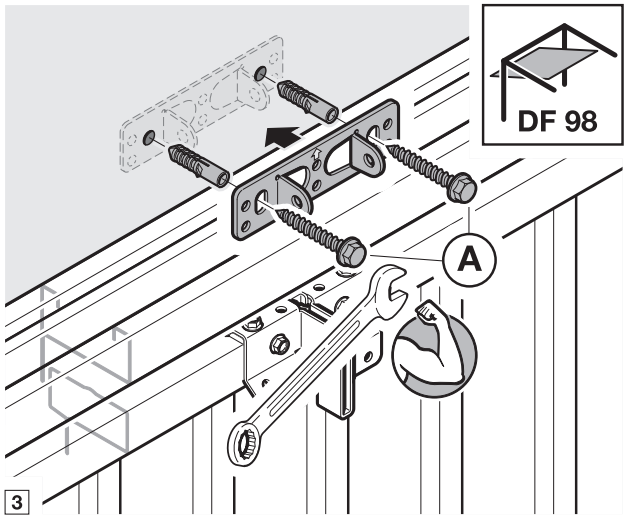

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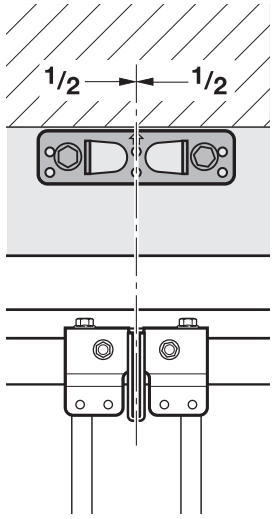

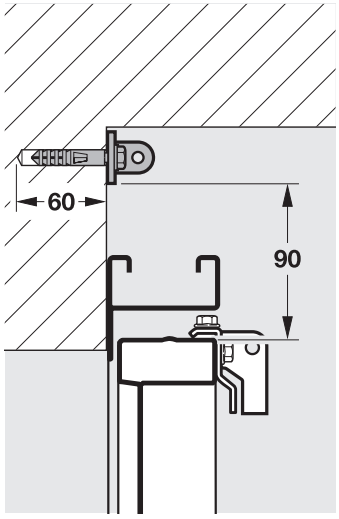

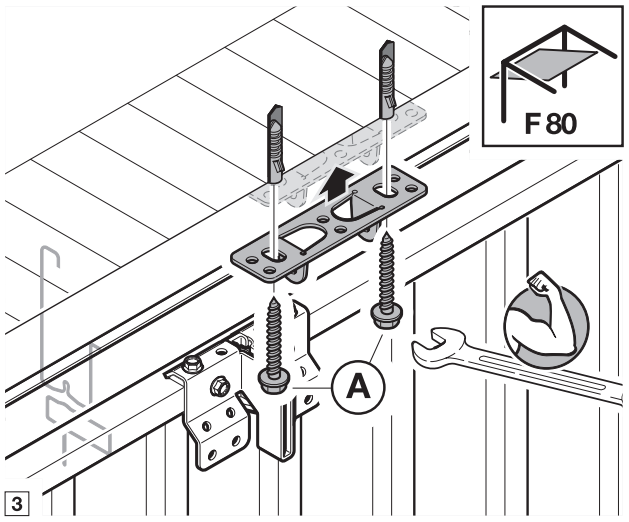

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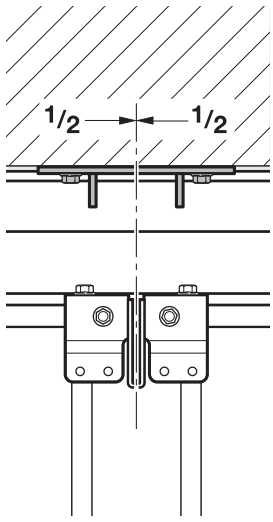

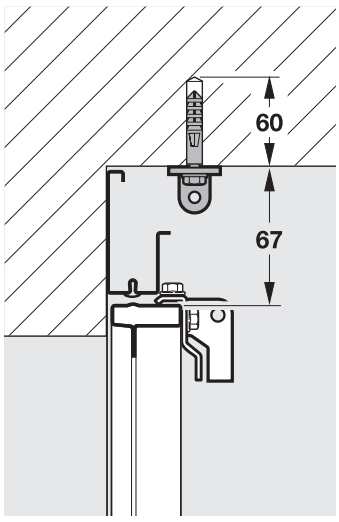

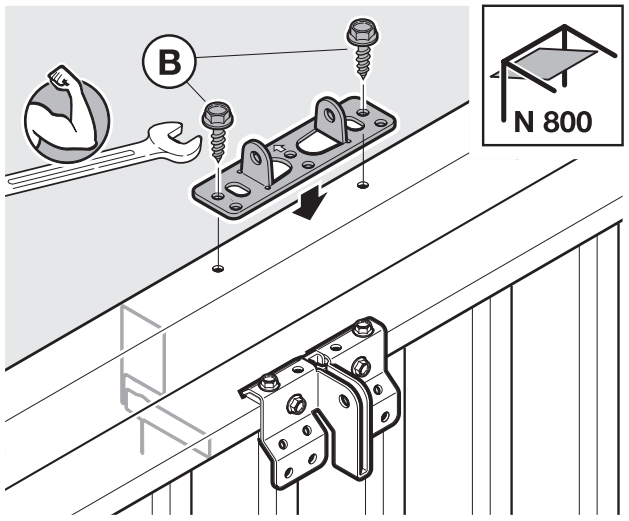

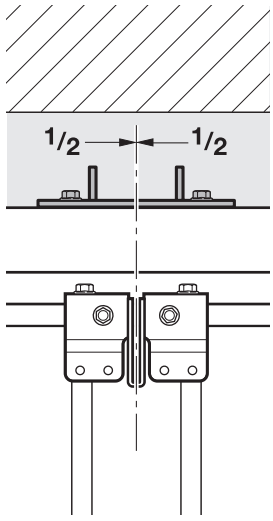

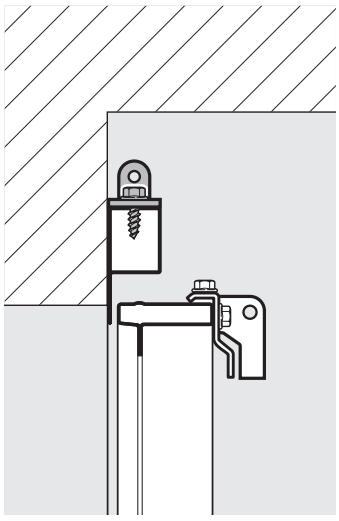

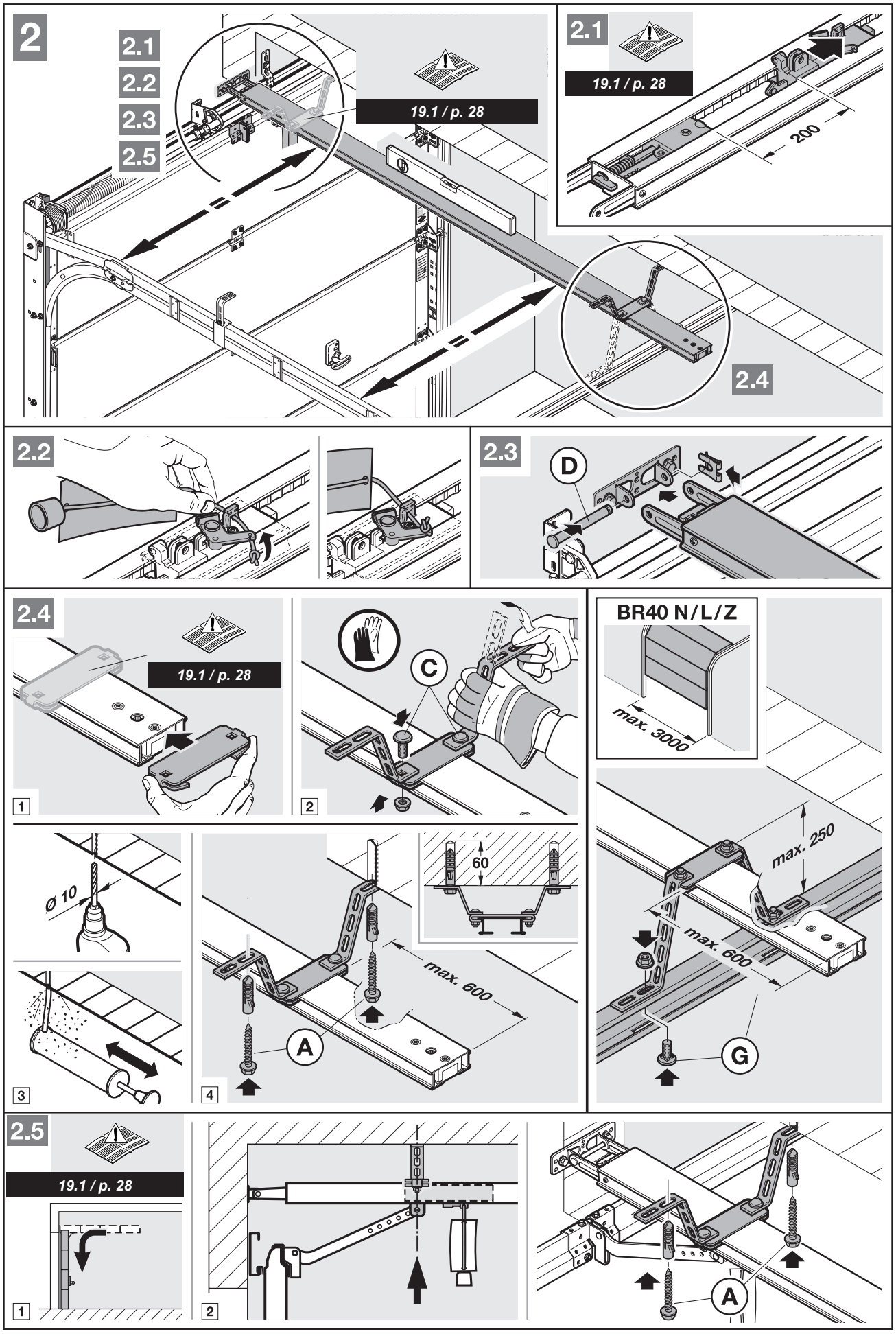
2
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19.1 / p. 28
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19.1 / p. 28
200
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2.3
D
2.4
19.1 / p. 28
1
C
2
BR40 N/L/Z
max. 3000
Ø 10
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60
max. 600
A
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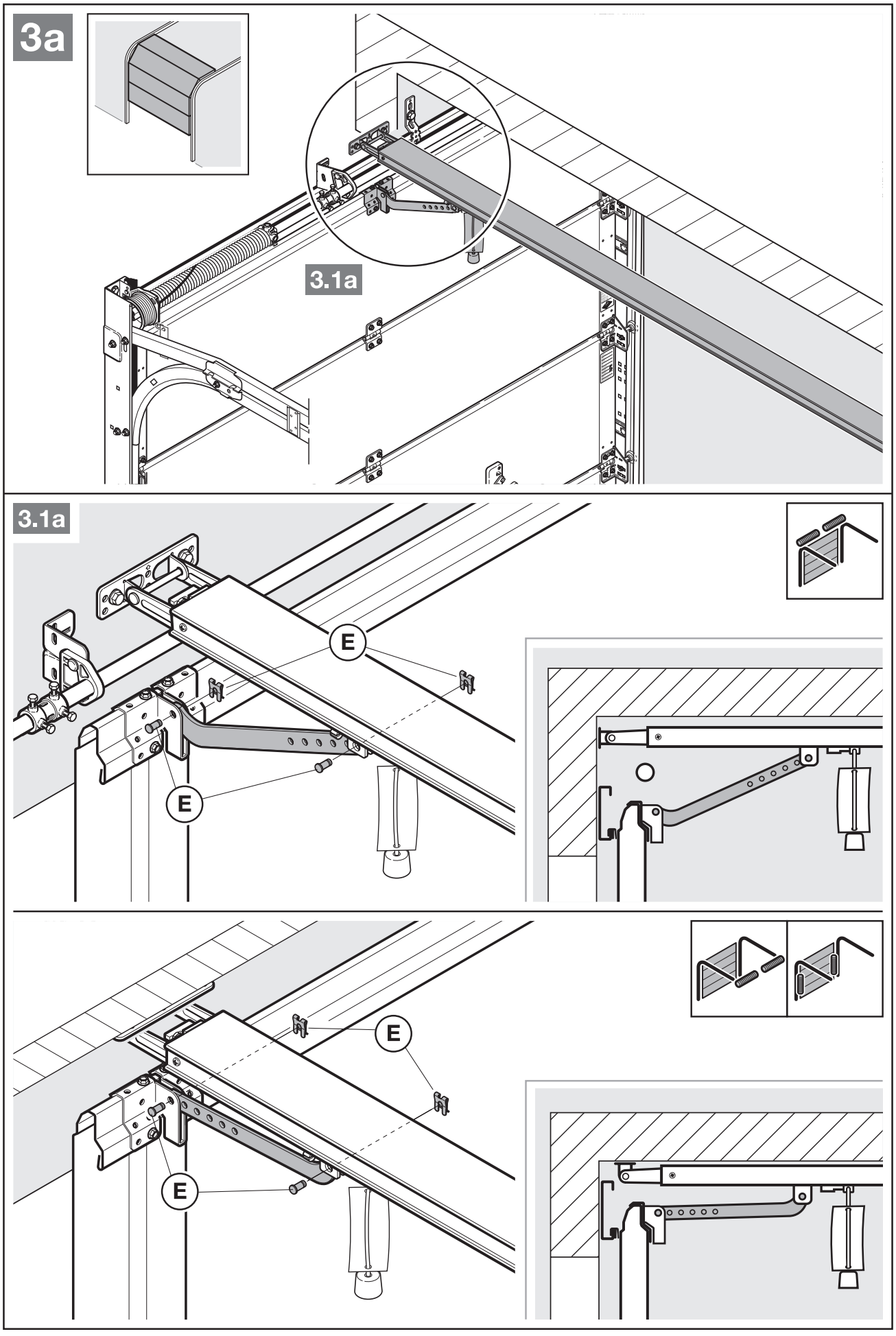
G
2.5
19.1 / p. 28
1
2
A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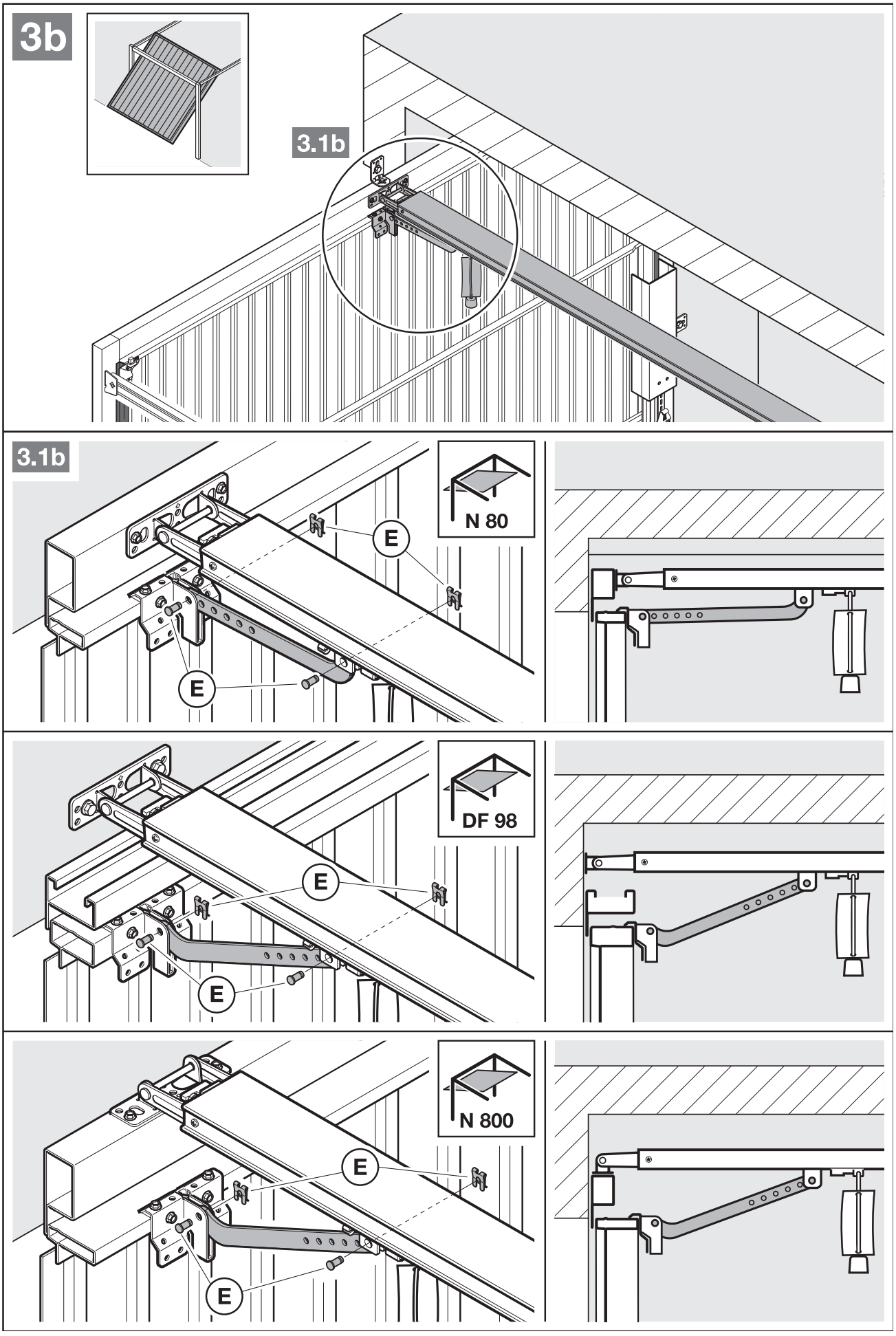
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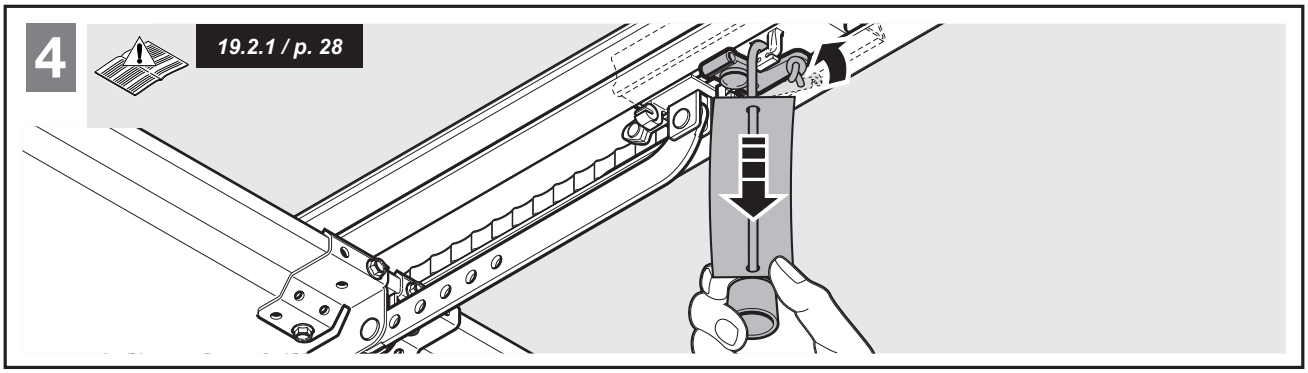
DF 98
N 800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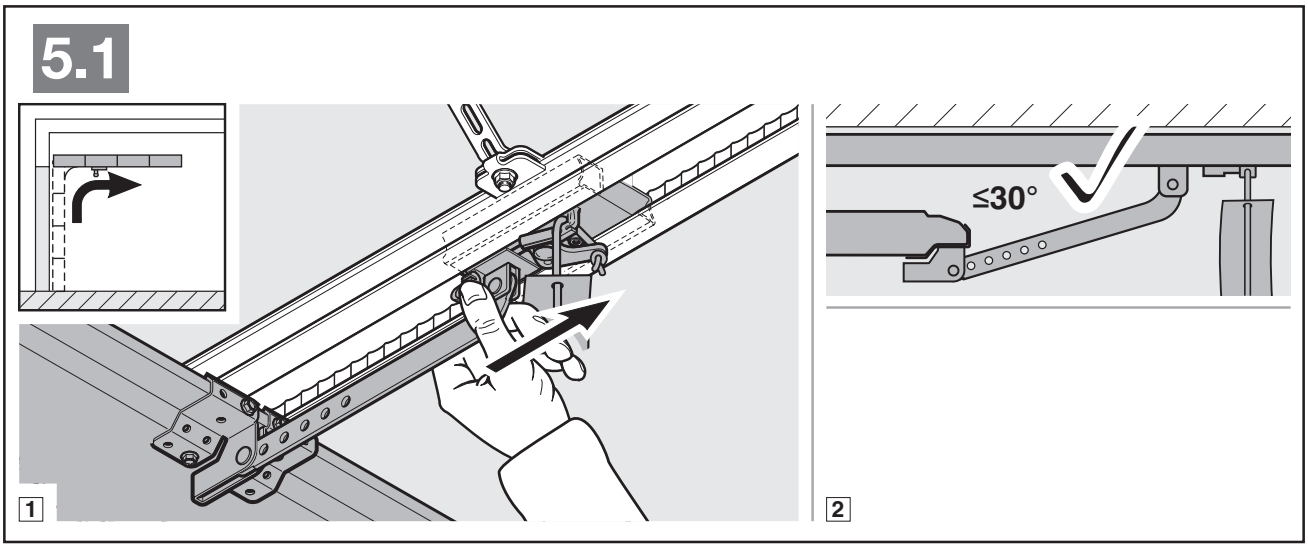
19.2.1 / p. 28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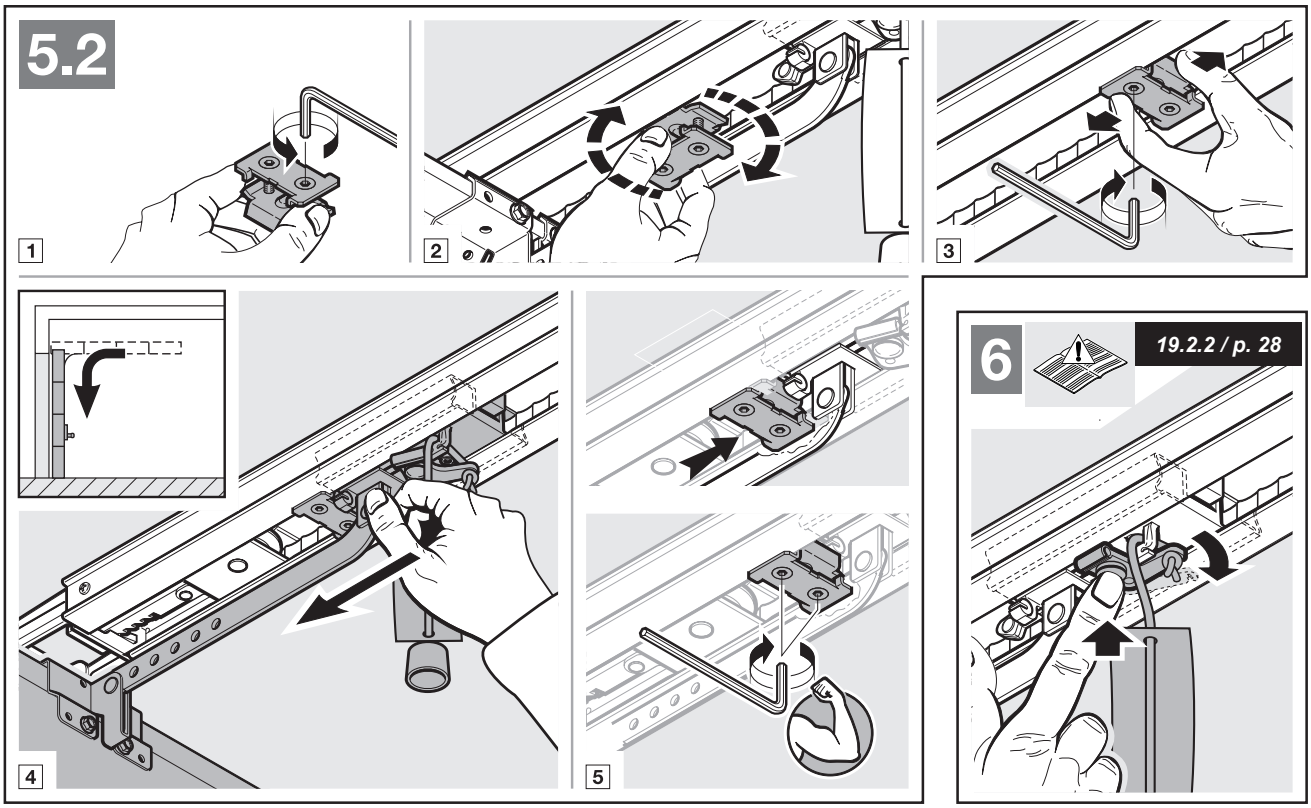
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2
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4
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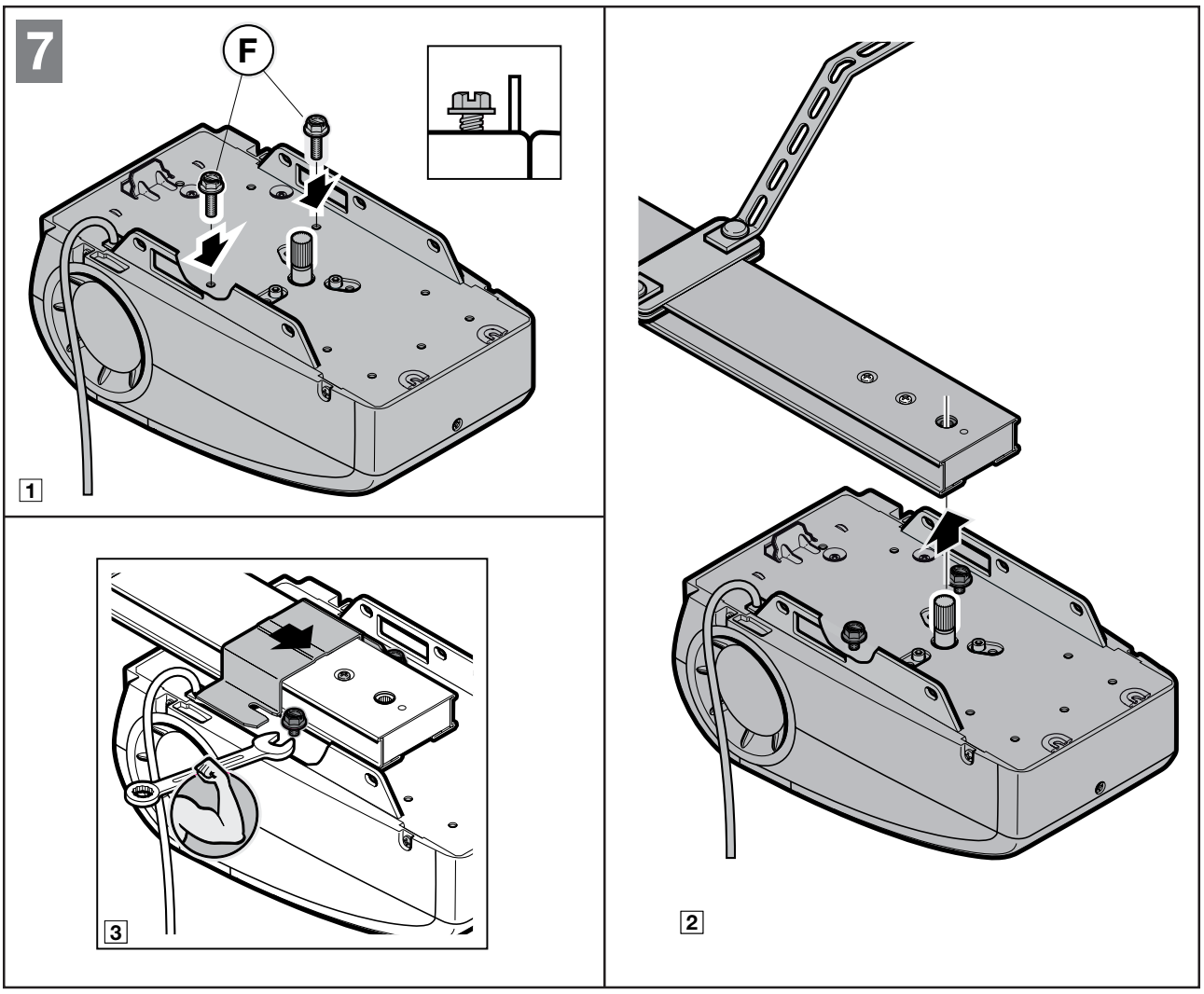
6
19.2.2 / p. 28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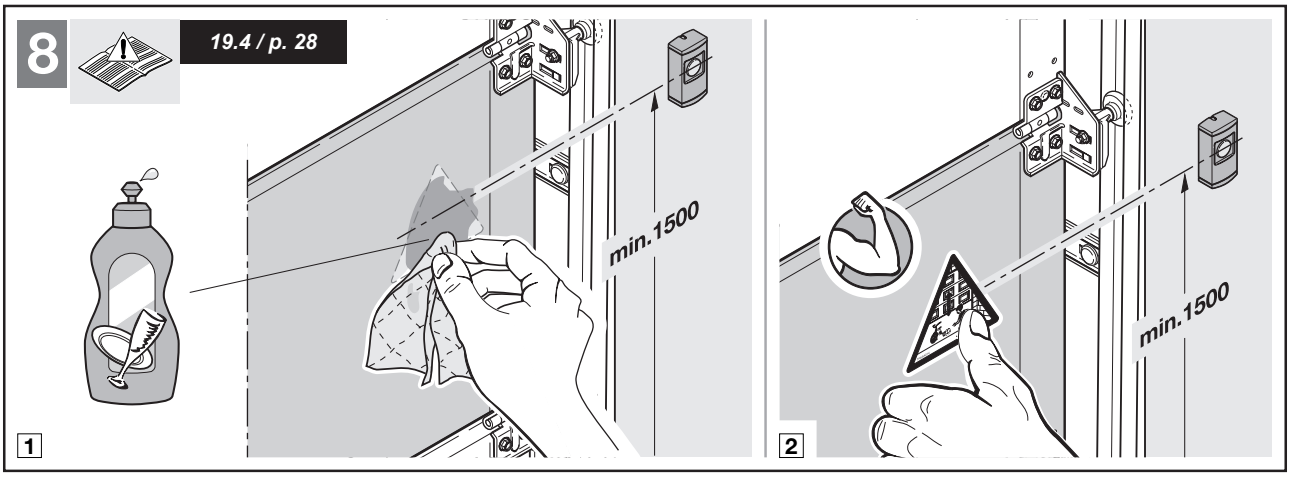
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min. 1500
min. 1500
1
2

19 INSTALLATION INSTRUCTIONS

Note
Always cover the operator before drilling, since dust and chippings can lead to malfunctions.

19.1 Garage door operator

Required clearance for installing the operator
When installing the operator, the clearance between the highest point of the door on opening and the ceiling must be at least 30 mm.
→ *See figure 1.1a* ***page 16*** */ 1.2b on* ***page 20****.*

☞ **Please check these dimensions!**

On a sectional door the internal mechanical latch must be completely dismantled.
→ *See figure 1.3a on* ***page 17****.*

ATTENTION!

When installing the operator, the pull cord must be removed.
→ *See figure 1.2a on* ***page 16****.*

Centrally positioned lock on a sectional door
For sectional doors with a centrally positioned lock, affix the lintel bracket attachment and the door link bracket off-centre.
→ *See figure 1.5a on* ***page 18****.*

Off-centred reinforcement profile on a sectional door
In the case of an off-centred reinforcement profile on a sectional door, fix the door link bracket to the nearest reinforcement profile on the left or right.
→ *See fig. 1.5a on* ***page 18****.*

Note
Wooden doors - Divergent from the illustrated section, these doors require wood screws 5 x 35 from the accessory bag of the door (drilling Ø 3 mm).

The mechanical door latches on an up-and-over door must be immobilized (*see figure 1.3b/1.4b/1.5b on* ***page 20***). In the case of door models not listed here, the catches must be locked on site.

Note
Up-and-over doors with a forged iron door handle
Divergent from the illustrated section (*see fig. 1.6b* ***page 21*** and *1.8b on* ***page 22***), these doors require the lintel bracket attachment and the door link bracket to be affixed off-centre.

Guiding rail

ATTENTION!

Dependent from the respective application object, the garage door operators have to be utilised exclusively using the guiding rails recommended by us (see product information).

Before installing the guiding rail

Note
Before the guiding rail is mounted, the boom has to be pushed approx. 20 cm from the end-of-travel position CLOSE to the end-of-travel position OPEN in the clutched in position.
This is no more possible in the clutched in position as soon as the limit stop and the operator are mounted.
→ *See fig. 2.1 on* ***page 23****.*

Mounting the guiding rail

Note
For operators in underground car parks and collective car parks it is necessary to fix the guiding rail with a second hitch under the garage ceiling; it is mounted according to *figure 2.4 and 2.6, on* ***page 23***.

19.2 Operation types: guiding rail

The guiding rail has two different operation types:

19.2.1 Manual operation

→ *See figure 4 on* ***page 26***
The guiding hitch is declutched from the flange lock / belt lock; i.e. there is no direct connection between the door and the operator, so that the door can be handled manually.
To declutch the guiding rail, the cord of the mechanical release must be pulled.

19.2.2 Automatic operation

The flange lock / belt lock is clutched in the guiding slide, i.e. the door and the operator are connected with each other, so that the door and the operator can be handled together. To prepare the guiding slide to the clutching, the green button must be pushed. Afterwards the flange / belt have to be moved to the direction of the guiding slide until the flange lock / belt lock clutches into it.
→ *see figure 6 on* ***page 26.***

CAUTION!

Do not insert fingers into the boom while the door is moving ► **trap risk**!

19.2.3 Establishing the „CLOSE“ end-of-travel position by installing the limit stop

- The limit stop for the end-of-travel position “CLOSE” has to be put loosely in the guiding rail between guiding slide and door and the door has to be handled manually to the end-of-travel position “CLOSED”. Thus the limit stop is pushed close to the right position.
- After reaching the end-of-travel position “CLOSED”, the limit stop has to be pushed close to the guiding slide and fastened afterwards.

→ *see figure 5 on* ***page 26.***

Note
If you are unable to push the door manually into the desired OPEN or CLOSE end-of-travel positions, this indicates that the door mechanics are too sluggish to be used with the garage door operator and must therefore be checked
→ *See* ***Checking the door / door system / page 3****.*

19.3 Tensioning the drive medium

The synthetic belt / toothed belt of the operator boom has been pretensioned at the factory for optimum performance. During the starting and braking phases of larger doors it can happen that the belt hangs out of the boom profile temporarily. However, this does not pose a technical disadvantage nor does it have any negative effect on the operator‘s function and service life.

19.4 Fixing the warning sign

Fix the sign warning about getting trapped in a noticeable, cleaned and degreased place, for example, near to the permanently installed button for moving the operator.
→ *See figure 8 on* ***page 27.***

20 TERMS AND CONDITIONS OF WARRANTY

20.1 Warranty period

Over and above the statutory guarantee provided by the dealer‘s Contract of Purchase, we grant the following warranty from the date of purchase:

- 60 months for driving mechanics, motor and motor control
- 24 months for radio system, radio system accessories and special accessories and devices
- No warranty for use-up components (batteries, light bulbs etc.)

Claims made under the warranty do not extend the warranty period. The warranty period for replacement parts and repair work is six months, at least, however, the initial warranty period.

20.2 Prerequisites

Warranty claims are only applicable in the country where the product was purchased. The product must have been purchased through our authorised distribution channels. The warranty only covers damage to the contract object itself. Reimbursement of expenses for dismantling and installing, inspecting corresponding components as well as claims for lost profits and damages are not covered by the warranty. The receipt of purchase substantiates your right to claim under the warranty.

20.3 Performance

During the warranty period we undertake to rectify any and all faults on the product which can be proved to be attributed to a material or manufacturing defect. We pledge to provide free of charge and at our discretion, parts and service labour to repair or replace any part of the product that fails due to a manufacturing defect, to exchange the defective merchandise for faultless merchandise or to grant a price reduction.

The warranty does not cover damage caused as a result of:

- improper installation and connection
- improper use, putting into service and operation
- external influences, such as fire, water, abnormal environmental conditions
- mechanical damage as a result of an accident, a fall or impact
- negligent or wanton destruction
- normal wear and tear
- repairs carried out by non-qualified persons
- using parts of another manufacturer
- removing the product number or making it unidentifiable

Replaced parts become our property.

21 TECHNICAL DATA

Power supply:	230/240 V, 50/60 Hz. Standby approx. 0,5 W.
Protection category:	For dry rooms only.
Automatic cutout:	Is automatically programmed separately for both operational directions.
End-of-travel cutoff / Force limit:	Self-learning, non-wearing, since no mechanical switches are used, additionally integrated excess travel stop of approx. 140 s. Automatic cutout readjusts itself during each door cycle.
Push and pull force:	**GA203:** 750 N **GA403:** 1000 N
Motor:	DC motor with Hall sensor.
Transformer:	with thermal overload protection.
Connection:	Connection technique without screws for external equipment with safe low voltage of 24 V DC, e.g. internal and external buttons for impulse control.
Special functions:	- Operator lighting - STOP/cutout switch can be connected - Photocell, lockable - border protection 8,2kΩ can be connected - border protection (Fraba) can be connected - warning light 230 V AC can be connected - Options relay for connecting an external light
Quick release:	In the event of a power failure, actuated from the inside via a pull cord.
Universal fitting:	for up-and-over and sectional doors.
Door speed:	close ~13 cm/s open ~22 cm/s depending on size and weight of door
Airborne noise emission Garage door operator:	≤ 70 dB (A)
Boom:	Extremely flat (no more than 30 mm high) with integral door security kit. Boom in toothed belt or synthetic belt version.

22 DISMANTLING AND DISPOSAL

Please note that should dismantling become necessary, the safety regulations apply here also and must be observed accordingly. Disposal must be carried out in accordance with the respectively applicable regulations concerning the disposal of scrap.

Subject to technical changes!

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www.berner-torantriebe.eu

Handover report for garage door opener

► The door system and accessories listed below have been properly installed and the settings desired by the customer configured.
► The undersigned customer has been briefed on how to operate and maintain the door system and its accessories, with a particular focus on safety instructions.

Operator:	Company/Name:	
	Street:	Town/Post code:
	Telephone no.:	Contact:
Installation site:	Company/Name:	
☐ Same as operator	Street:	Town/Post code:
	Telephone no.:	Contact:
Garage door type:	Manufacturer:	Serial no.:
☐ Up-and-over door ☐ Sectional door ☐ Side-opening sectional door	Model:	Year of construction:
	Dimensions: Width x Height in mm	Weight:
Opener/Model:	Serial no.:	Manufacturer:

Control system: ☐ Pulse operation ☐ Automatic operation ☐ Radio controlled

Settings / Menu	1 1	2 1	3 1	4 2	5 2	6 1	7 1
	8 0	9 1	A 2	b 9	c 1	d 2	E 0
	F 0	H 1	J 0	n 2	P 0		
Settings / Service menu	1. 3	2. 0	4. 5	5. 5	6. 2	7. 1	8. 0
	9 1	A. 0	b. 1				

Legend: 1 *Menu number* 1 *Factory setting* *Your setting*

Settings in the Menu / Service menu with no entry → factory setting

Accessories:	☐ Remote control ____ units	☐ Keypad	☐ Emergency Stop button
	☐ Pushbutton	☐ Light barrier	☐ Key switch
	☐ Safety edge	☐ Wireless keypad	☐ Warning light
	☐ Miscellaneous:		
Operator: For address, see above	The door system and accessories listed above have been properly installed and handed over in fully functional condition. I was briefed on how to operate and maintain the system, and the complete installation and operating manual was handed over.		
	Date of handover:	Operator's signature:	
Installation firm:	Company/Name:		
	Street:	Town/Post code:	
	Telephone no.:	Fitter:	
	The opener and its accessories listed above were properly installed by me and handed over in fully functional condition. The customer was briefed on how to operate and maintain the system, and the complete installation and operating manual was handed over.		
	Date of handover:	Fitter's signature:	