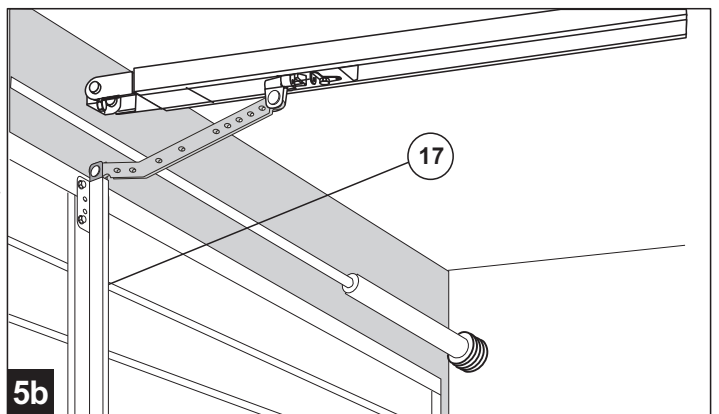
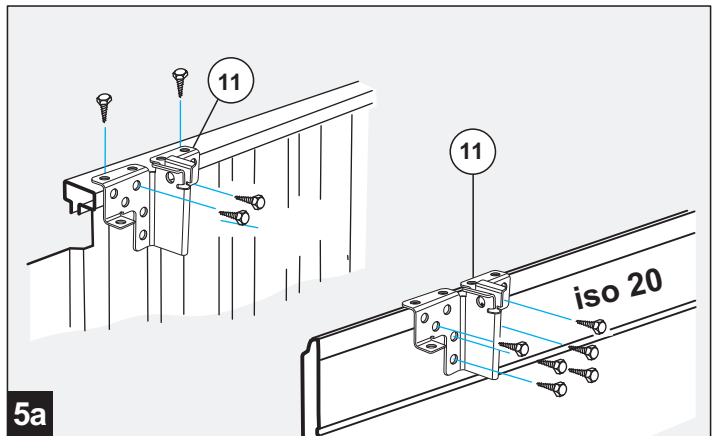
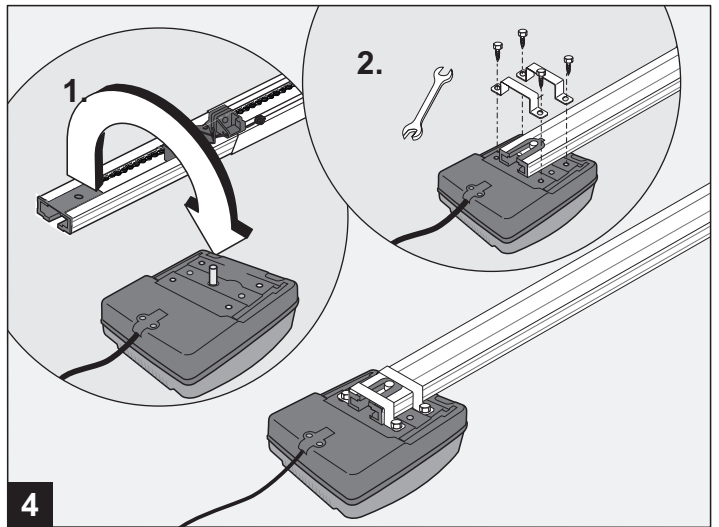
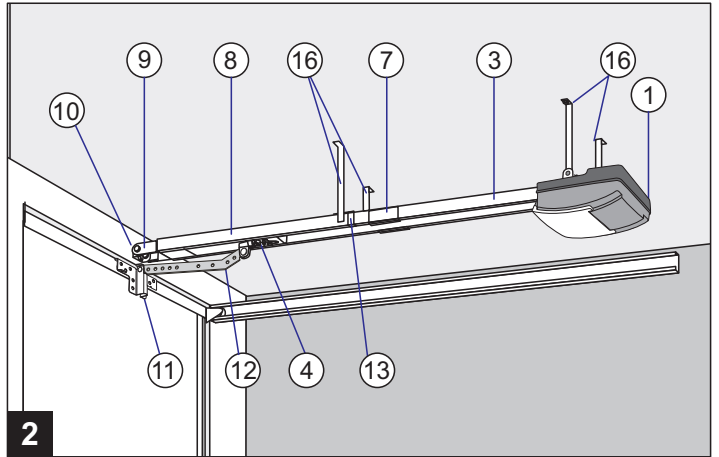
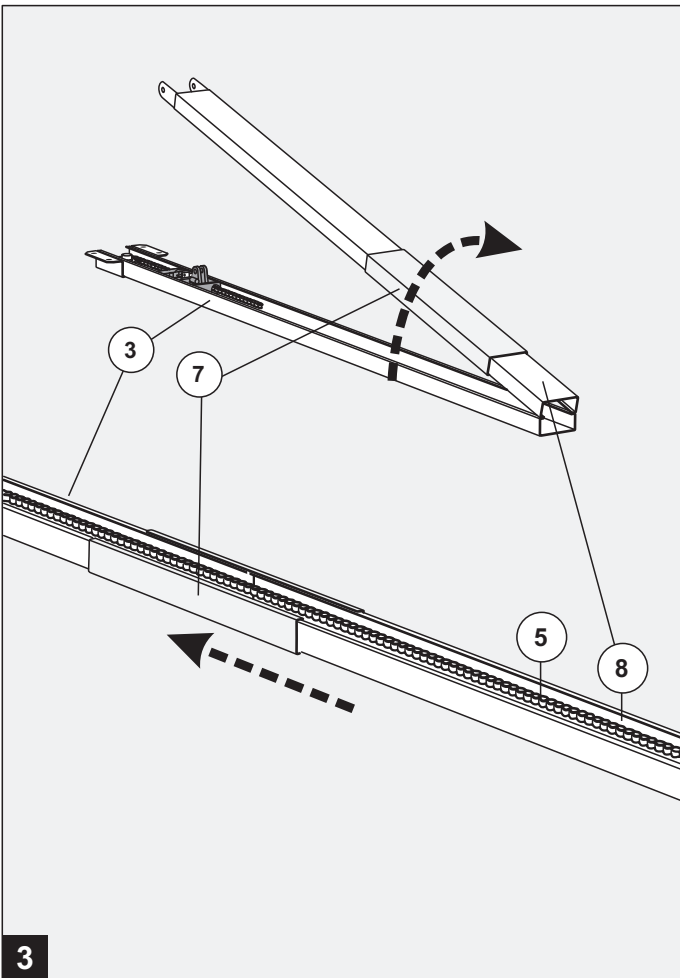
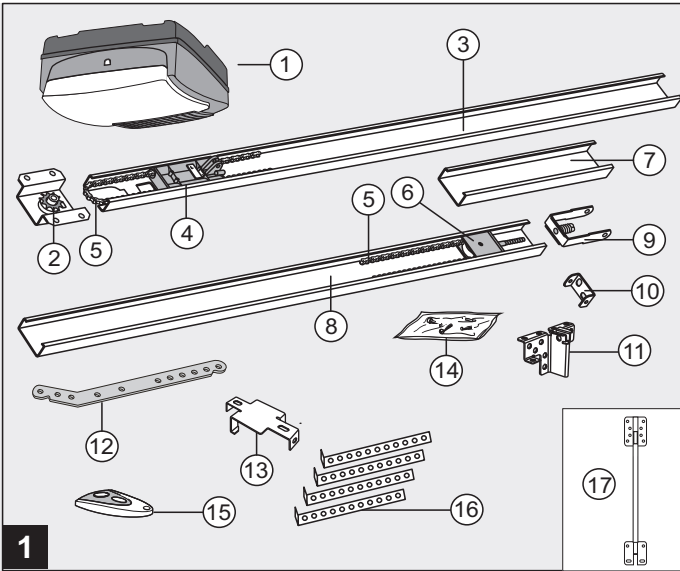
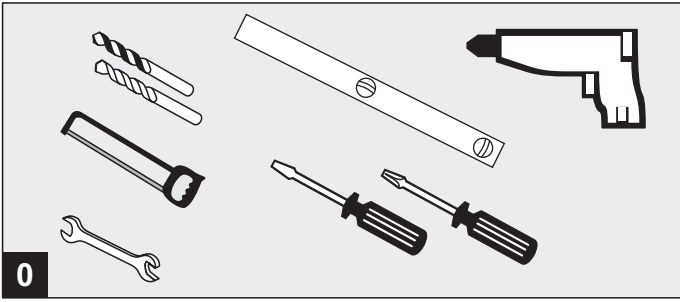


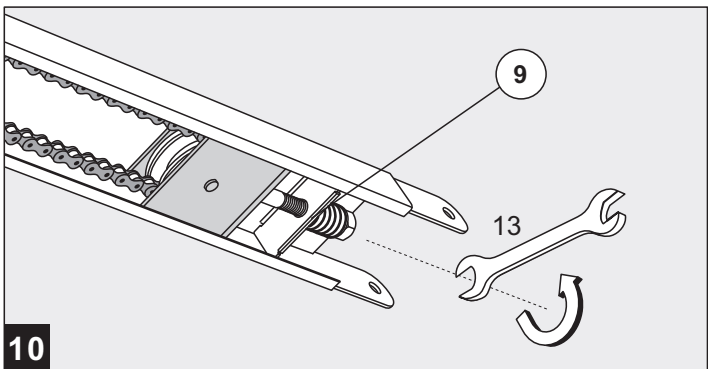
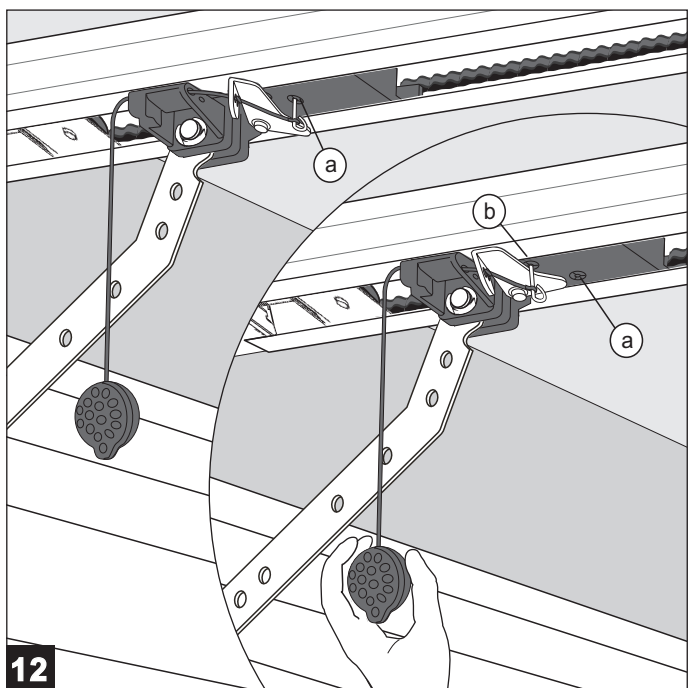
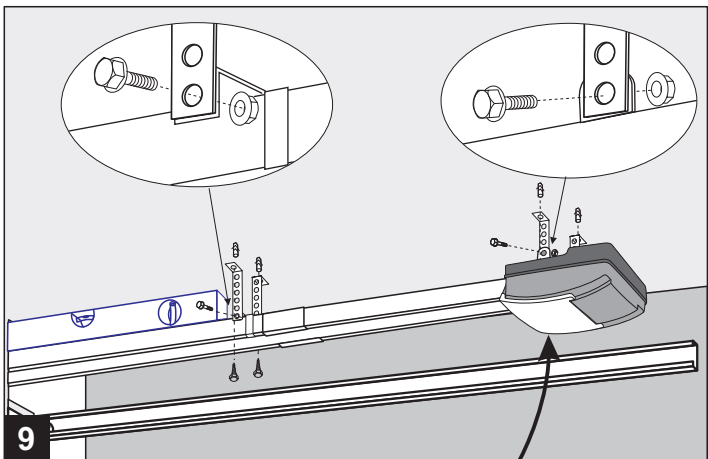
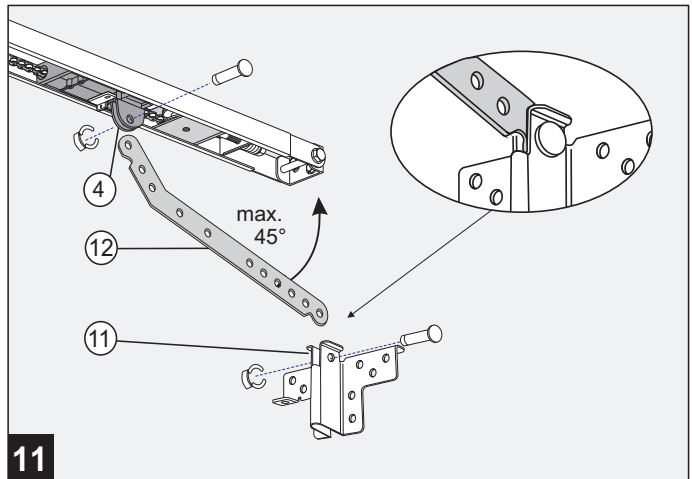
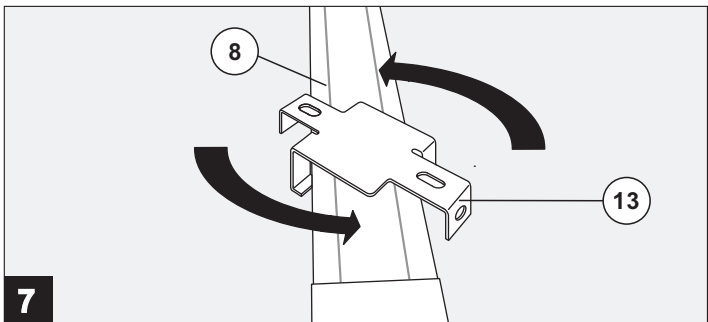
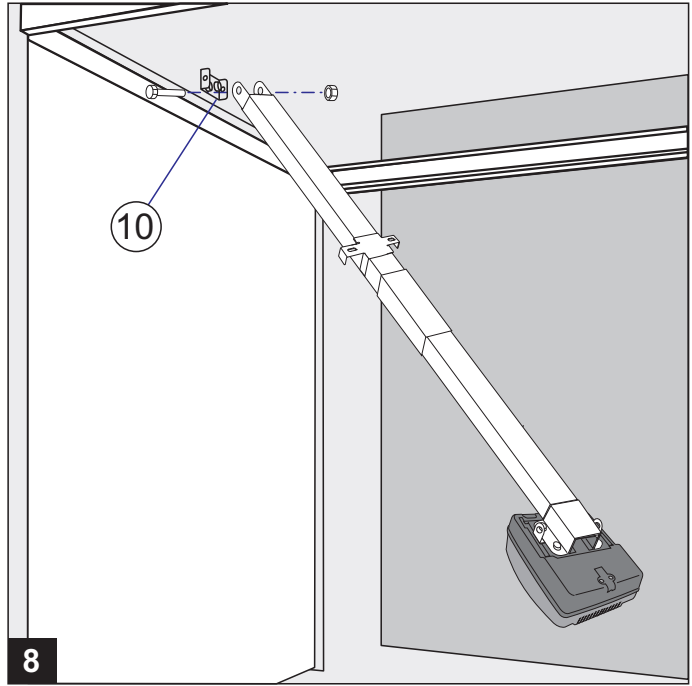
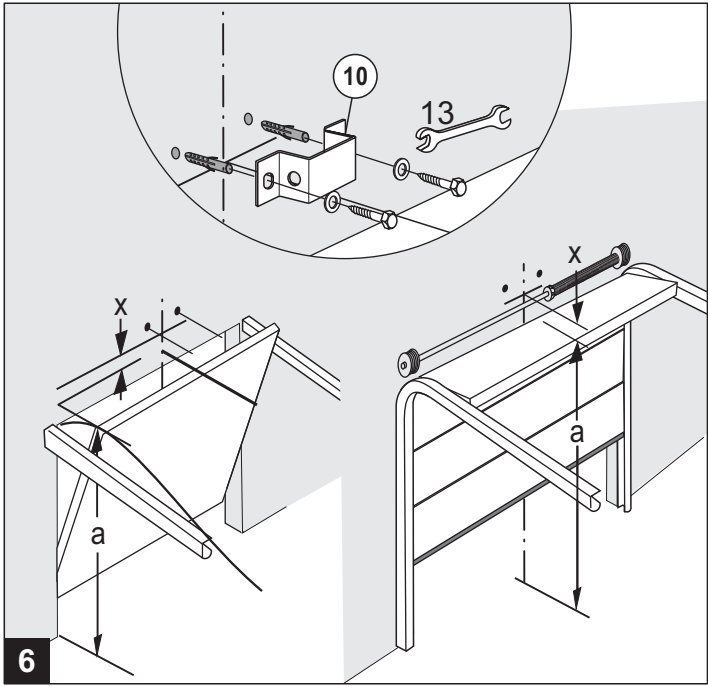


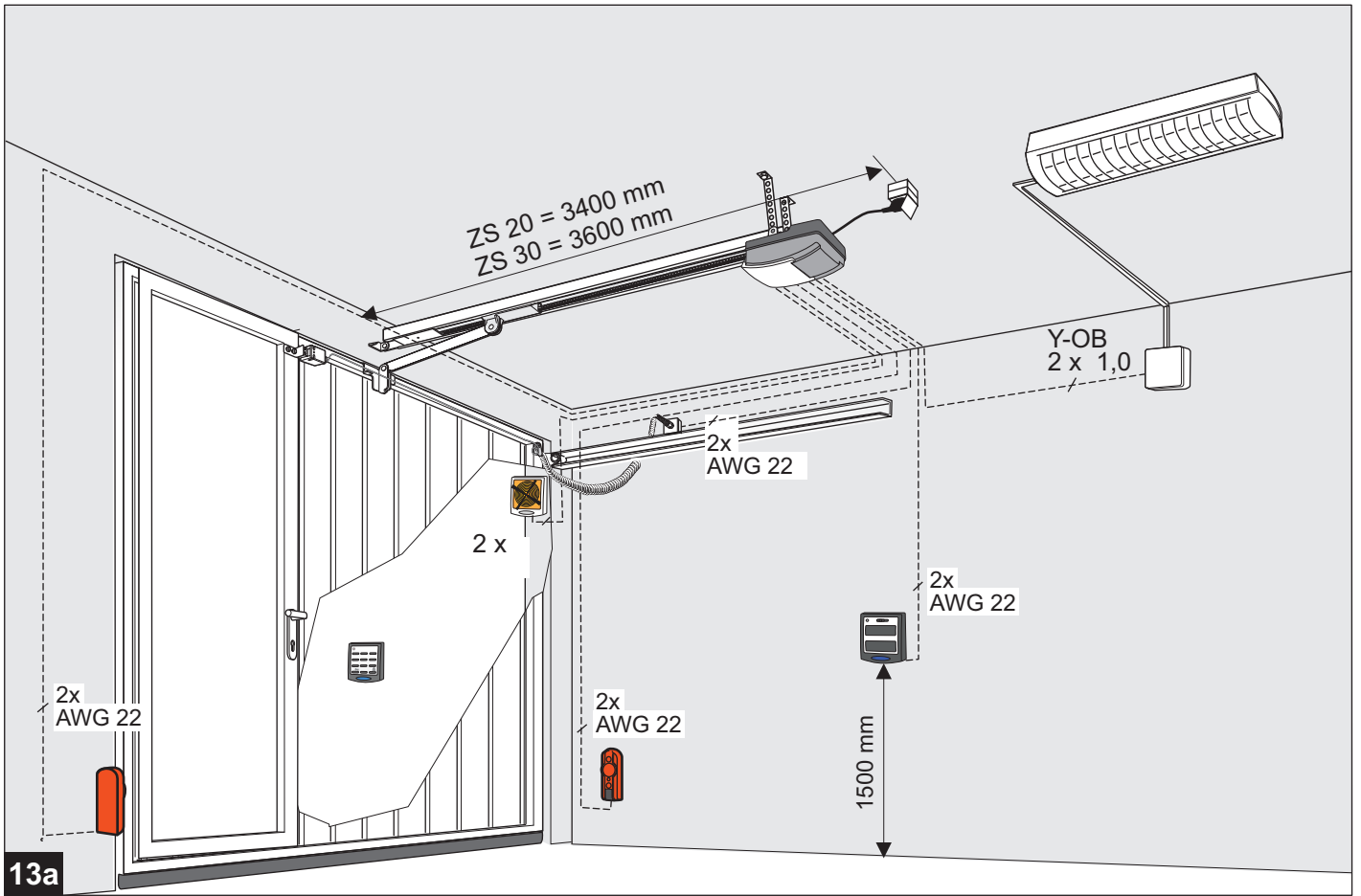
RUN 601
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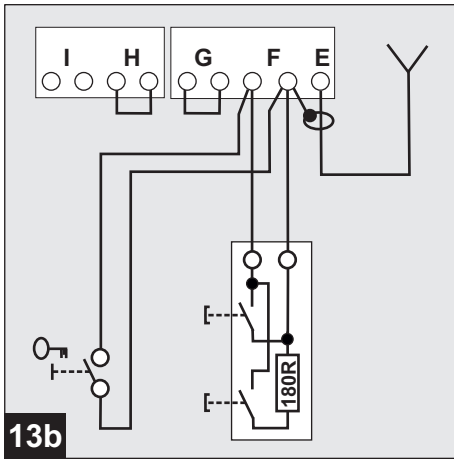




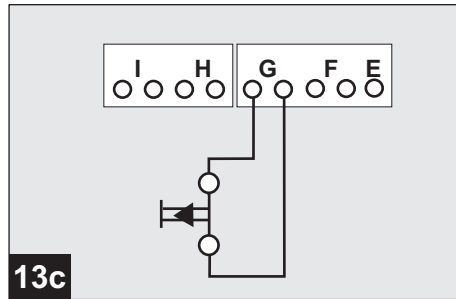




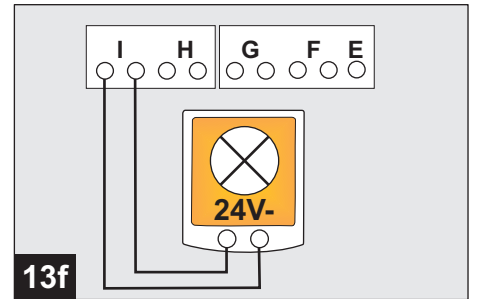
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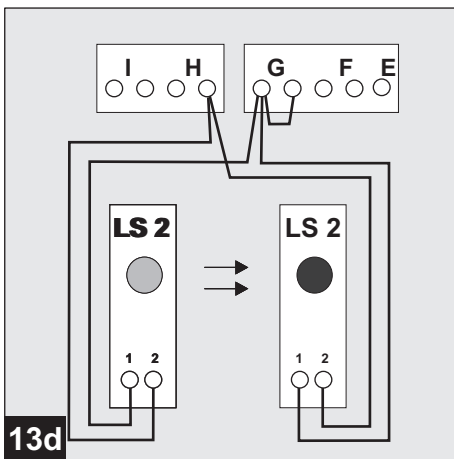
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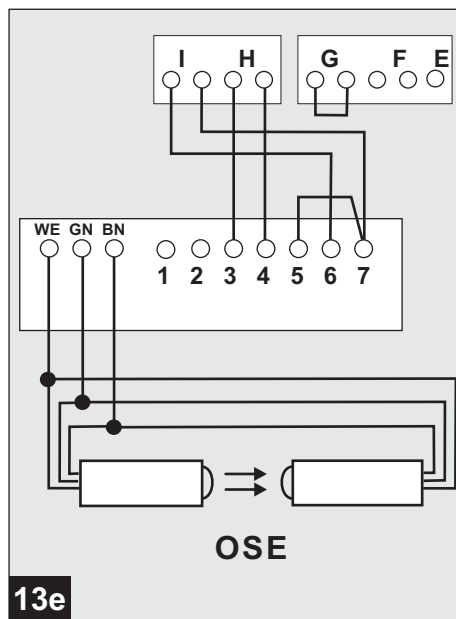
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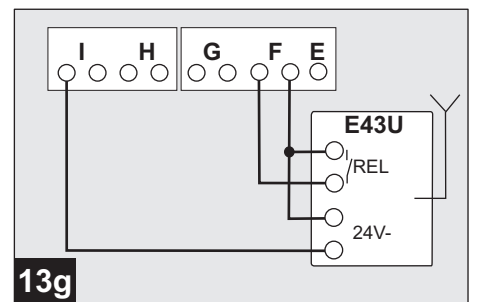
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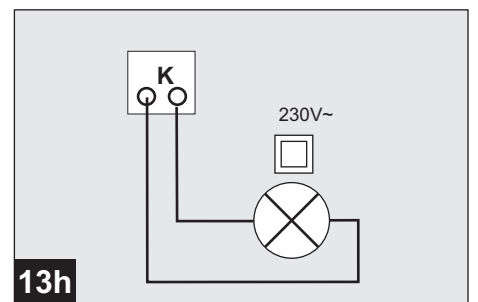
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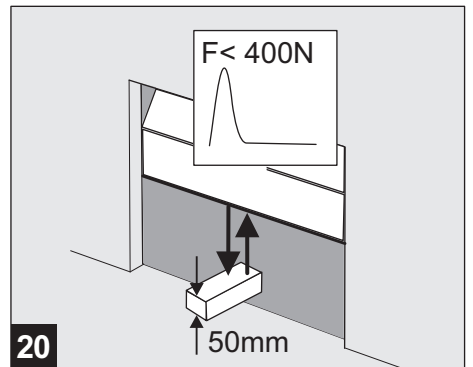
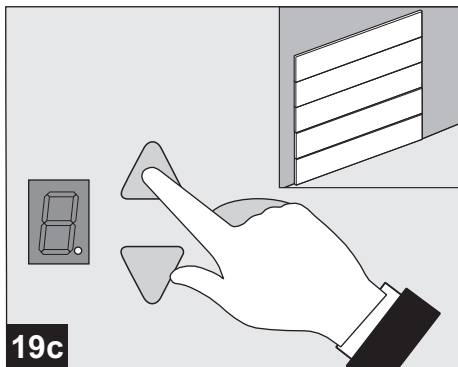
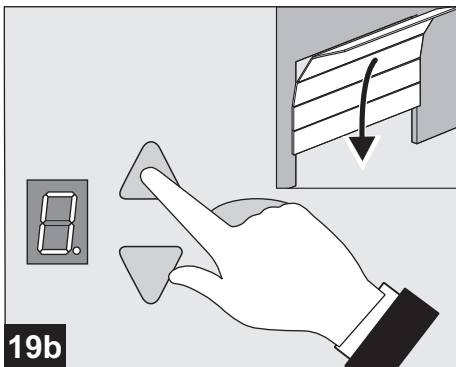
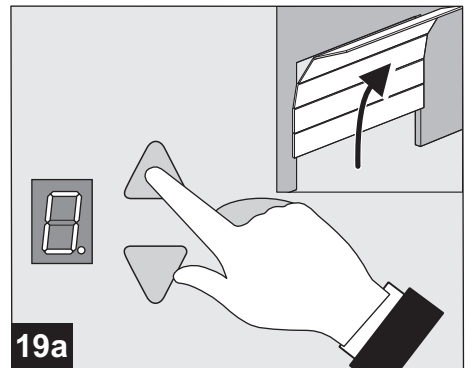
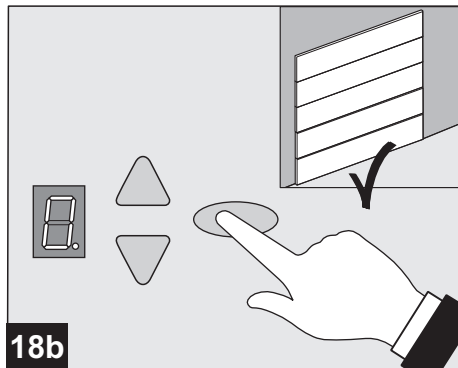
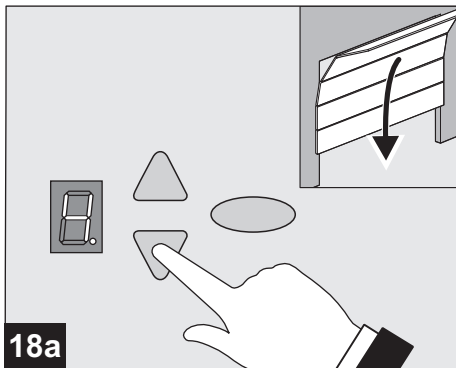
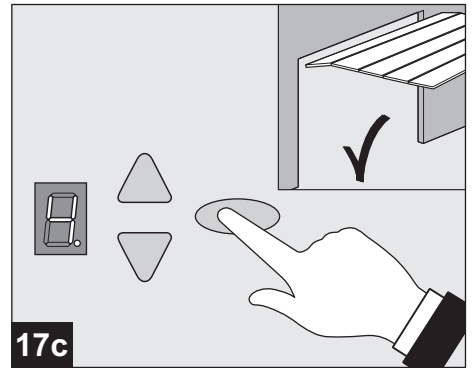
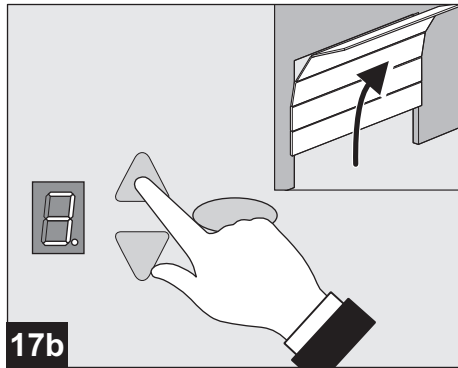
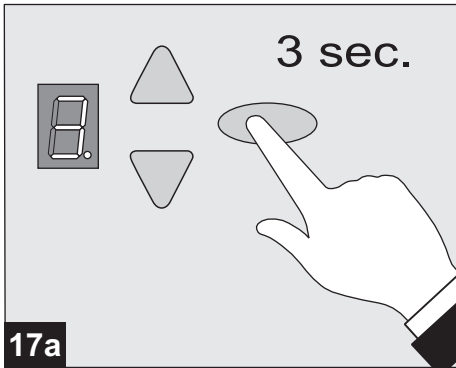
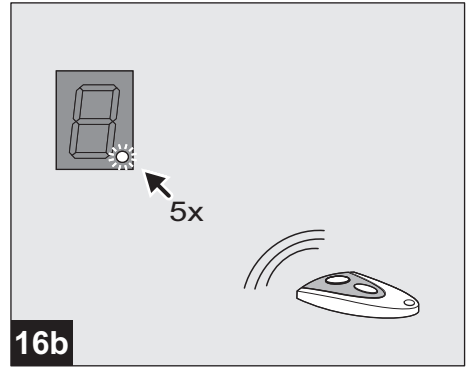
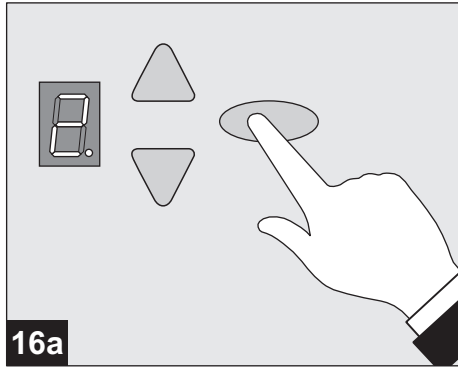
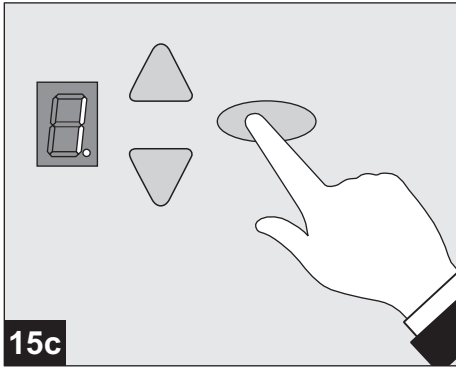
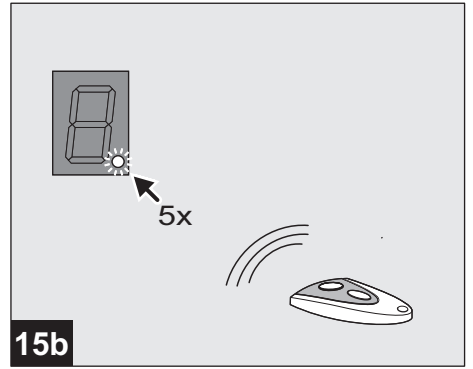
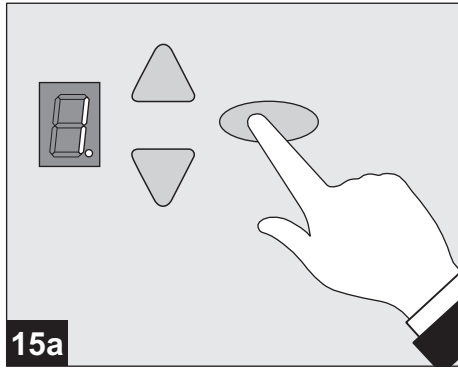
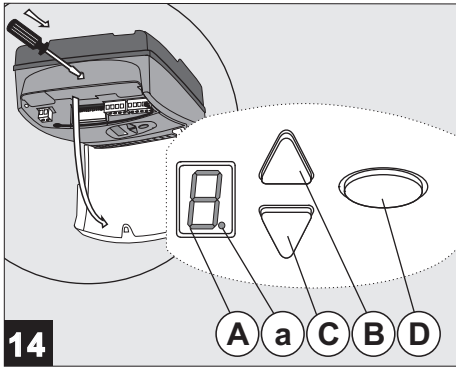
13e



13g



13h



Garage door operator

RUN 601 RUN 602

Contents

• General Information

- Safety
- Explanation of the symbols
- Working safety
- Dangers that may emanate from the product
- Spare parts
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- Packaging
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• Installing Instructions

• Operating Instructions

• Maintenance and Inspection

• Trouble-shooting Guide

• Diagnostic Display

• Warranty terms

Inspection Log Book

- Inspection Log Book for the Door System
- Checklist for the Door System
- Proof of Inspection and Maintenance of the Door System
- Declaration of Conformity and Incorporation

• General Information

Safety

Before commencing any work on the product, carefully read through the operating instructions from start to finish, in particular the section entitled "Safety" and the related safety advice. It is important for you to have understood what you have read. This product could prove hazardous if not used properly as directed or in accordance with the regulations. Any damage occurring as a result of non-compliance with these instructions shall render the manufacturer's liability null and void.

• Explanation of the symbols



WARNING: imminent danger

This symbol indicates that instructions are being given which, if not observed, could lead to malfunctions and/or failure of the operator.



WARNING! Danger by electric current
The works may only be executed by an electrician.



This symbol indicates that instructions are being given which, if not observed, could lead to serious injury.



Reference to text and figure

• Working safety

By complying with the safety advice and information provided in these Operating Instructions, injury to persons and damage to property whilst working on and with the product can be avoided.

Failure to observe the safety advice and information provided in these Operating Instructions as well as the accident prevention and general safety requirements relevant to the field of application shall exempt the manufacturer or its authorized representatives from all liability and shall render any damage claims null and void.

• Hazards that may emanate from the product

The product has been subjected to a risk assessment. The design and execution of the product based on this corresponds to state-of-the-art technology.

When used properly as intended, the product is safe and reliable to operate.

Nevertheless, a residual risk will always remain!

The product runs on a high electrical voltage. Before commencing any work on electrical systems, please observe the following:

1. Disconnect from the power supply
2. Safeguard to prevent a power restart
3. Check that the electricity supply is cut off.

• Spare parts

Only use genuine spare parts of the manufacturer.



Wrong or faulty spare parts can cause damage, malfunctions or even a total failure of the product.

• Changes and modifications to the product

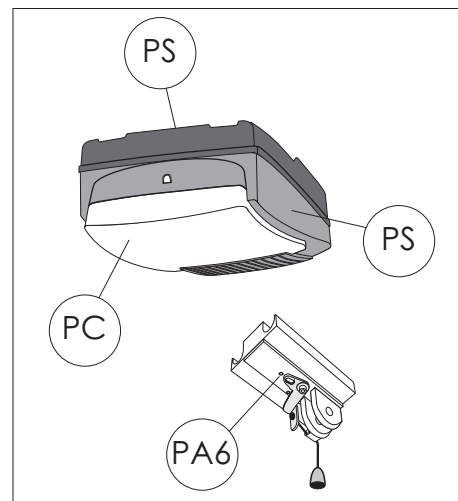
In order to prevent hazards and ensure optimum performance, no changes, modifications or conversions may be made to the product that have not been expressly approved by the manufacturer.

• Dismantling

Dismantling takes place in reverse sequence to the Installation Instructions 13 - 1.

• Disposal

Observe the corresponding country-specific regulations.



• Data plate

The data plate is located under the control panel cover. Observe the specified power rating.

• Packaging

Always dispose of the packaging in an environmentally-friendly manner and in accordance with the local regulations on disposal.

• Technical Data

Operator type:	RUN 601 / RUN 602
Control:	FUTURE III CL
Power rating normal:	180N / 240N
Power rating max:	600N / 800N
Connection values:	230V / 50Hz
Power input:	
stand-by modus:	4W
max. operation:	160W / 200W
short-term operation:	2 Min.
Lighting LED:	0.4W + 1.6W

Safety category according to EN 13849-1:

Input STOPA:	cat 2 / PLC
Input STOPB:	cat 2 / PLC
internal force limit:	cat 2 / PLC

Temperature range: -20°C - +60°C
IP22

Manufacturer: Novoferm tormatic GmbH
Oberste-Wilms-Str. 15a
D-44309 Dortmund
www.tormatic.de

• Installation Instructions

Please read these instructions carefully prior to installation!

Installation should only be carried out by persons qualified to do so!

Incorrect installation can put the safety of persons at risk!

In case of improper installation, the manufacturer's guarantee becomes void.

Preparing for installation

1. In order to allow mains connection, a socket must be available on site - the supplied mains connecting cable has a length of 80 cm.
2. Check the stability of the door. Retighten the screws and nuts on the door.
3. Check if the door is running smoothly. Lubricate shafts and bearings. Check the tension of the springs and if necessary re-adjust.
4. Establish the door's highest point of travel (see figure 6).
5. Close the door and disable any existing locks out of operation, if necessary dismantle.



Parts of latching devices, which could form pinch or shear points, have to be dismantled.

6. For garages without a second entrance, an emergency release is required (accessory).
7. If a wicket pass door is included, fit the wicket door contact.

0 The following tools are required

- Drilling machine with
10 mm masonry drill
4 mm metal drill
- Metal saw
- Spanner, sizes 10, 13 mm
- Slotted screwdriver, width 3 mm
- Phillips screwdriver, size 2 x 100
- Spirit level

Attention: Check the supplied screws and wall plugs prior to use to ensure that these are suitable for the structural conditions on site.

1 Supply package = complete set

Items 2 - 9 are pre-assembled

1. Operator head including LED-module
2. Chain sprocket
3. Track, operator side
4. Carriage
5. Toothed belt or chain
6. Deflection roller
7. Connector
8. Track, door side
9. Tensioner
10. Wall bracket
11. Door connector attachment
12. Linking bar
13. Central support
14. Bag of screws
15. Hand transmitter
16. Support straps
17. Telescopic fitting for sectional doors (accessory)

2 Overview

3 Track

Remove the packaging and fold out the track to its full length.

Push connector (7) centrally over the joint.

4 Fastening the track to operator head

Slot track (as illustrated) with chain sprocket (2) onto the operator shaft (1a) and screw down with the 4 self-tapping screws.

5 Fitting the connector attachment

5a The enclosed door connector attachment is suitable for all Novoferm up-and-over doors and Novoferm ISO20 sectional doors. Position door connector attachment (11) centrally on the top edge of the door leaf. Mark fixing holes and drill using 4 mm metal drill (max. Drilling depth 10 mm) or use the existing drill holes. Screw on attachment using enclosed self-tapping screws 6.3 x 16 (4 - 6 screws up-and-over door, 6 screws - ISO20).

5b For other sectional doors, use telescopic fitting (17) (accessory).

6 Attaching the wall bracket

In order to ensure that the door can run freely underneath the track, distance "x" must be greater than 20 mm. Choose distance "x" so that the angle of the linking bar does not exceed 45° (see figure 11). Mark the door's highest point of travel "a" plus distance "x" on the lintel.

Hold wall fastening (10) at the total height ("a" + "x") vertically over the door connector attachment drill, drill holes for wall plugs and screw the wall bracket onto the wall.

7 Suspending the boom from the ceiling

Attach central support (13) to track (8) in front of the connector (7).

8 Support straps

Positioning the prefitted operator at an angle to the door, screw to wall bracket (10). Lift up operator, making sure that it cannot fall down, and align in such a way that the track runs horizontal and parallel between the door tracks.

9 Establish the length of the support straps for the operator head and the central support. If necessary, shorten using a saw, and then screw in place.

Note: Before starting any drilling, cover over track and operator head to protect them from drilling dust. Mark fixing points on the ceiling, drill 10 mm holes for plugs and screw on support straps.

10 If the toothed belt or chain appear to be too slack, slight retensioning may be required. It may be necessary to take up the slack by adjusting the support straps.

11 Connecting the door connector attachment to the carriage

Place linking bar (12) between carriage (4) and the door connector attachment (11) and connect at both ends with the bolts. Provide bolts with security clips. Attach security clips to bolts.

12 Disengaging the carriage

In order to carry out further work, it may be necessary to disconnect the operator from the door by pulling the pull cord on carriage (4) and move the door manually.

Note: If the door is to be operated manually for a longer period of time, then the locking pin must be removed from parking position (a) on the left and with the pull cord in locking position (b).

In order to relock, return the locking pin into the parking position (a) on the left and restore the connection between the operator and the door. On the next movement, the carriage automatically re-engages.

13 Aligning the aerial / Connecting plan

Note:



It is essential to pull out the mains plug before opening the cover!
Do not connect any live leads, only connect potential-free buttons and potential-free relay outputs. Finally, replace the cover and screw down.



Before using the operator for the first time, it must be tested to make sure that it is working properly and safely (see section on Maintenance/Checks).

E. Connecting the aerial

Route the aerial on the housing exit upwards.

When using an external aerial, the shielding must be assigned to the adjacent terminal (F, on right) 13b.

F. Connection for external impulse generator (accessory, e. g. key switch or digital coder) 13b

G. Input STOPA

A break at this input end causes the operator to stop or prevents it from starting up.

Connection for wicket door contact 13c (accessory)

H. Input STOPB

A break at this input end causes the operator to automatically change direction during the closing cycle.

Connection for 2-wire photocell EXTRA626 13d (accessory).

Connection for optical closing edge safety device OSE 13e (accessory).

O. LED-module

• Impulse generators and external safety devices

In case of increased need for personal safety, in addition to the operator's internal force limit, we recommend installing a one-way photocell. Further information on our range of accessories can be found in our sales literature. Consult your specialist dealer.

• Warning sticker



Place the sticker clearly visible on the inner surface of the door.

• Dismantling the operator

1. Pull out the mains plug and disconnect all existing terminals.
2. Disconnect door and operator. Fix door.
3. Proceed according to points 3 to 14 of the installation Instructions but in reverse sequence.

• Programming the operator

14 Control elements

The controls for programming the door operator are protected by a transparent cover. The transparent cover can be opened with a screwdriver. After the operator has been programmed, the transparent cover must be closed again.

- A. Numerical display shows the menu stage as well as the selected value.
- a. Point display, lights up to indicate "ready for operation" and flashes on the hand transmitter code learning completion.
- B. Button Δ during the setting / adjustment phase serves as an "up" button and outside the menu as a start button.
- C. Button ∇ during the setting / adjustment phase serves as a "down" button.
- D. Button \circ is used to call up the setting/adjustment menu, to change the menu stages and to store the settings.

The programming of the control unit is menu-driven. By pressing button \circ , the menu guide is called up. The numbers displayed indicate the menu stage. After approx. 2 seconds, the display flashes and the setting can be altered via buttons Δ and ∇ . The selected setting is stored with button \circ . And the programme jumps automatically to the next menu stage. By repeatedly pressing button \circ , menu stages can be skipped. To quit the menu, press button \circ until "0" is shown again. Outside the menu, button Δ can be used to generate a start impulse.

Before programming

- Allow door to engage into the carriage.
- Pull out the mains plug. Point display (a) lights up.
- Make sure that the aerial is correctly positioned (see figure 13).
- Observe the hand transmitter instructions.

15 Menu stage 1: Programming the start function for the hand transmitter

Briefly press button \circ . "1" is displayed. As soon as the display flashes, press and keep pressed for approx. 1 second the button of the hand transmitter, with which you later wish to start the operator. As soon as the code has been read, the red point display (a) flashes five times before quitting. Figure 0 will be displayed. Menu finished.

Further hand transmitters (up to a maximum of 30) can be programmed.

16 Menu stage 2: Programming the light function for the hand transmitter

Press key \circ briefly and figure 1 will be displayed. Press key \circ once again and figure 2 will be displayed.

Press the second button at the transmitter with which the 4-min light is to be switched on. As soon as the code has been read in, the red point display (a) will flash 5 times to acknowledge the entry. Figure 0 will be displayed. Menu finished.

Deleting all the hand transmitters programmed for the operator:

Plug in the operator's main plug while pressing button \circ .

17 Menu stage 3: Setting/adjusting the top end-of-travel position

Keep button \circ pressed for 3 seconds. Number 3 appears in the display 8 a.

Wait a short while until the 3 starts flashing.

Press button Δ and make sure that the door travels in the OPEN direction.

If the door closes in the wrong direction, after having pressed Δ , keep button \circ pressed for another 3 seconds. "3" flashes briefly. The

travelling direction is altered.

Now travel by pressing button Δ into the desired door end position OPEN 17b.

By pressing button ∇ , the position can be corrected into direction CLOSE.

Once the desired OPEN end-of-travel position has been reached, press button \circ . The operator stores the OPEN end-of-travel position and "4" appears in the display.

18 Menu stage 4: Setting/adjusting the bottom end-of-travel position

Wait a short while until "4" starts flashing.

Press button ∇ . The operator causes the door to travel in the CLOSE direction as long as the button is pressed. The position can be altered to the OPEN direction via button Δ .

Once the desired CLOSE end-of-travel position has been reached, press button \circ . The operator stores the CLOSE end-of-travel position and "5" appears in the display.

Press button \circ twice until "0" appears.

19 Force-learning cycle

During this opening and closing cycle, the operator learns the force required to open and close the door. **A force limit does not apply!** The cycles must not be interrupted. During these cycles must not be interrupted. During these cycles "0" appears in the display.

- Press button Δ The operator causes the door to open until the top end-of-travel position has been reached.
- Now press button Δ again. The operator causes the door to close until the bottom end-of-travel position has been reached.
- After approx. 2 seconds, "0" disappears.

Caution! If the force setting is too high, persons may be placed at risk of injury. The factory setting is 4!

20 Checking the force limit facility

- Place an obstruction (e. g. operator's cardboard box) underneath the doors's closing edge.
- Starting from the OPEN end-of-travel position, actuate the door to close.
- The door travels towards the obstruction, **stops and travels back to the top end-of-travel position.**

If the door springs have been changed or altered, then the force learning cycle must be repeated: proceed to menu stage 5 and keep button \circ pressed for 3 seconds. "0" appears in the display. Then complete the force learning cycle as explained under point 19.

• Special settings

In order to access the menus for the special settings, keep key \circ pressed for 3 sec until figure 3 is displayed. Press key \circ to by-pass menu step 3. Now keep key \circ pressed for 3 sec until figure 5 is displayed. Press key \circ to by-pass menu steps.

Menu stage 5: The opening force limit

If you have previously quit the setting menu, press button \circ for 3 seconds until "3" appears. Then press button \circ twice until "5" appears.

After approx. 2 seconds, the display flashes showing the set value of the opening force limit. The force limit setting can be increased for decreased via buttons Δ and ∇ . After setting the value, press button \circ . The display shows "6".

Menu stage 6: The closing force limit

After approx. 2 seconds, the display starts flashing, and the set value for the closing force limit is displayed.

The force limit setting can be increased or decreased via buttons Δ and ∇ .

After setting the value, press button \circ . "0" appears in the display.

Finally, check the force settings, and, if necessary, repeat the setting procedure.

The maximum force at the main closing edge must not exceed 150 N!

Menu stage 7: Light phases

Keep button \circ pressed again for 3 seconds until "7" appears in the display.

Menu value	Light phase	Warning phase
0	60 s	-
1	120 s	-
2	240 s	-
3	0 s	-
4	0 s	3 s
5	0 s	0 s
6	0 s	3 s
7	90 s	3 s
8	90 s	3 s
9	0 s	10 s

When the advance warning time is set, the light and 24 V will be switched on before the drive starts running. The factory setting is 1.

Menu stage 8: Door fitting

Press button \circ . "8" appears in the display.

Menu value	Start open	Stop open	Start closed	Stop closed
0	0	0	0	0
1	15	0	15	0
2	0	15	0	40
3	15	15	15	35
4	25	30	25	40
5	15	15	15	55
6	15	15	15	15
7	35	35	65	45
8	55	15	15	100
9			only soft run	

These values correspond to the "soft" runs measured in cm at the carriage.

Important note:

The factory setting of 4 must be adhered. The softruns may only be alerted on the express permission of the door manufacturer.

Press button \circ . "0" appears in the display.


Menu stage 9: Operating modes

Push button  "9" is displayed.

Menu Operating mode
value

- 0 Normal operation**
(factory setting)
- 1 Normal operation with ventilation position**
The ventilation position can be initiated by pressing the second push button on the hand transmitter or via the signal 112 internal push button (accessory).
- 2 Partial opening of side sectional doors**
Partial opening of approx. 1m can be initiated by pressing the second push button on the hand transmitter or via the signal 112 internal push button (accessory).


Menu stage "A": Open phases of the door

Press button  "A" is displayed. These phases can only be set using the operation mode Automatic Closing (6, 7, 8 and 9).

Menu value	Open phase (without warning time 10 seconds)
0	0 s
1	10 s
2	30 s
3	60 s
4	90 s
5	120 s
6	150 s
7	180 s
8	210 s
9	240 s

! **Advice:** The 2nd push button of the transmitter has to be teached-in again after changing the operation mode 0, 1 and 2.

- 5 Opening-Closing operation**
- 6 Automatic Closing**
Set open phase in menu stage A.
- 7 Automatic Closing**
Break of open phase via light barrier.
- 8 Automatic Closing**
Break of open phase via impulse generator.
- 9 Automatic Closing**
Same function as **8**, but without early warning phase.

 Operation mode Automatic Closing (6, 7, 8 and 9):
A light barrier has to be installed 13d.

Terms of the Guarantee

Dear customer,

During production the garage door operator you have purchased has undergone various checks by the manufacturer to ensure that it is of impeccable quality. Should this operator or parts of it prove to be of no use or limited use as a result of proven material or manufacturing defects, we shall rectify this, at our discretion, through free-of-charge repair or replacement. We shall not accept any liability for damage as a result of unsatisfactory fitting and installation, improper putting into service, incorrect operation and maintenance, excessive use and overloading as well as any

alterations or modifications carried out to the operator and accessory parts by the customer. The same shall also apply for damage incurred during transit or as a result of force majeure, external influences or natural wear as well as special atmospherical stresses. We cannot accept any liability following alterations or modifications of functional parts carried out by the customer. We must be notified of any defects immediately in writing; on request the parts in question are to be made available to us.

We shall not bear the costs for dismantling and installation, freight and carriage. If a complaint is proven to be unjustified, the customer must bear our costs.

This guarantee is only valid in conjunction with the signed invoice and commences on the day of delivery. The manufacturer guarantees that the product is free of defects. The warranty is granted for a period of 24 months, in as far as the verification overleaf has been properly filled out. Otherwise the warranty shall expire 27 months after the date of manufacture.

• Operating Instructions

These Operating Instructions describe how to use the product properly and safely. The safety advice and information as well as the accident prevention and general safety regulations for the field of application must be complied with.



All persons using the gate system must be shown how to operate it properly and safely.



Keep hand transmitters out of the reach of children.



When the operator is being used, the opening and closing phases must be monitored. It must be ensured that neither persons nor objects are located within the gate's range of travel.

• Normal operation (0)

(factory-set operating mode)

The garage door operator can be actuated by an impulse generator such as hand transmitter, key switch etc. It is only necessary to generate a short, sharp impulse.

Functional sequence

First impulse:

Operator starts up and causes the door to travel to set open or closed travel limits.

Impulse generated while door is moving:

The door stops.

Repeated impulse:

Door continues to move but in opposite direction .

• Quick release

During adjustments, in the event of a power failure or malfunctions, the door can be disengaged from the operator by actuating the pull cord on the carriage and then be operated manually.

If the door is to be operated manually over a longer period of time, then the existing locking pin must be inserted (see figure 12). The door latches put out of service for power operation must be refitted, otherwise the door is not latched in the the closed position.

In order to restore power operation, return the locking pin to the parking position (a) and put the latches out of service.

After an impulse has been generated, the door automatically latches with the door operator.

• Internal safety device

If the closing door encounters an obstruction, the operator stops and causes the door to open to its top end-of-travel position in order to clear the obstruction. During the last 2 seconds of the closing cycle, the door only opens slightly, this being sufficient to clear the obstruction but otherwise preventing anyone from taking a look into the garage.

If the opening door encounters an obstruction, the operator stops immediately and reverses the travelling direction for approx. one second.

• External safety device

Connection plan (figure 13)

Wicket door contact STOPA

An open wicket door stops the operator immediately or prevents it from starting up.

Light barrier (STOP B)

An interruption of the light barrier causes a stopping and a reversal during the closing cycle. An

interruption of the light barrier during the opening cycle makes no difference.

• Lighting

The lighting switches on automatically whenever a start impulse is generated and switches off again after the set time phase (factory setting approx. 60 seconds).

• Signal light

If a signal light for signalling the opening and closing phases is installed, this flashes along with the lamp in the operator as soon as a start impulse is generated. The operator starts with a time delay in accordance with the set warning phase (see menu stage 7).

• Hand transmitter

Programming further hand transmitters: See menu stages 1 and 2 (figure 15 and 16).

• Further operating modes

In menu 9, another operating mode can be chosen. For the setting applying to menu 9, see parantheses.

Normal operation for ventilation position (1)

The ventilation position is designed to allow ventilation of the garage. For this, the door is opened approx. 10 cm.

Actuation as for normal operation. By pressing the 2nd button on the hand transmitter or generating an impulse via another device, the door can be brought into the ventilation position from the open or closed state.

The gate will close automatically after 60 min or can be closed earlier by any impulse transmitter.

Operation on a side-opening sectional door (2)

Instead of opening the door fully, the door can be partially opened by approx. 1 m in order to provide access to the garage.

By pressing the 2nd button on the hand transmitter or generating an impulse via another device, the door can be brought into the partially open state from any given position.

Opening-Closing-Operation (5)

Same operation mode as one-way control. However, the receiver remains plugged in the operator.

Functional sequence

Impulse is generated while door is closed:

Operator starts up and causes the door to travel to open travel limit.

Impulse is generated while door is opening:

No impact; door continues opening.

Impulse is generated while door is open:

Door closes.

Impulse is generated while door is closing:

Door stops and opens again.

Automatic Closing (6)

Generated impulses always cause the door to open. After the open and warning phases of the door, it closes automatically.

An interruption of the photocell, causes the door to stop while it is closing and causes it to move in opposite direction. While the door is opening, an interruption does not have any impact on the movement.

Automatic Closing (7)

Same function as operation mode (6). However, an interruption of the photocell during the open phase of

the door causes the door to stop its open phase and to start up the warning phase.

Automatic Closing (8)

Same function as operation mode (6). However, a generated impulse during the open phase of the door causes the door to stop its open phase and to start up the warning phase.

• Maintenance / Checks



The door system must be inspected and tested by a specialist company prior to initial operation and at least once a year thereafter.

Monitoring the force limit

The operator control unit features a dual-processor safety system to monitor the force limit.

The integral force cut-out is automatically tested at each travel limit.

The door system must be checked prior to initial operation and at least once a year thereafter. In the process, the force limiting device (20) must be tested!



Caution! If the closing force is set too high, persons can be placed at risk of injury or property could sustain damage.

The force limit for the opening cycle can be adjusted in menu stage 5, the force limit for the closing cycle can be adjusted in menu stage 6.

• Cycle counter

The cycle counters stores the number of opening or closing cycles performed by the operator.

In order to read out the meter, keep the button ▽ pressed for 3 seconds until a number is displayed. The display throws out the values beginning from the highest decimal place down to the lowest one after another. In the end, a horizontal line is displayed. Example: 3456 cycles, 3 4 5 6 -

• Trouble-shooting

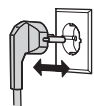
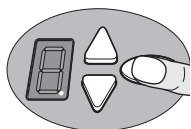
Important note: When working on the operator, always pull out the mains plug beforehand!!!

Fault/Malfunction	Possible cause	Remedy
Door does not fully close/open	Door mechanics have changed Set closing/opening force too weak. End-of-travel positions incorrectly set	Have door checked. Change force setting (menu stages 5 and 6) Reset end-of-travel positions (menu stages 3 and 4)
Door presses into the end-of-travel positions	Optimum setting of end-of-travel positions has not been achieved	Reset end-of-travel positions (menu stages 3 and 4)
After closing, door opens again to produce a slight gap	Door blocks just before CLOSE position	Remove obstruction or reset CLOSE end-of-travel position (menu stage 4)
Door does not respond to impulse from hand transmitter but does respond to push-button or other impulse generators	Flat battery in hand transmitter Aerial not plugged in/aligned No hand transmitter programmed	Replace battery in hand transmitter Plug in/align aerial Programme hand transmitter (menu stage 1)
Door does not respond to impulse from hand transmitter or of other impulse generators	See diagnostic display	See diagnostic display
Insufficient range of hand transmitter	Flat battery in the hand transmitter Aerial not plugged in/aligned On-site screening of receiving signal	Replace battery in hand transmitter Plug in/align aerial Connect external aerial (accessory)

• Diagnostic display

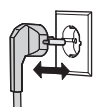
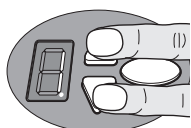
During operation, the display provides diagnostic information on any possible faults / malfunctions

Number	State	Diagnosis / Remedy
0	Operator starts up and "0" goes out.	Operator receives a start impulse at the START input or via a receiver, normal operation.
1	Top end-of-travel position Open has been reached.	
2	Bottom end-of-travel position Closed has been reached.	
3	Gate end position has not been reached.	
4	0 displayed during the next opening and closing cycle and then goes out.	Operator is carrying out a learning cycle for the force limit. Caution: During these travel cycles the force is not monitored!
5	0 continues to be displayed.	Force-learning cycle not completed. Must be repeated. Too much pressure in the gate's end-of-travel positions. Gate setting required.
6	Door neither opens nor closes.	STOP A connection is interrupted. External safety device has been activated (e.g. wicket door).
7	Door no longer closes.	STOP B connection is interrupted. External safety device has been activated (e.g. photocell).
8	Gate setting und learning cycle not correctly finalized.	Repeat gate setting in menus 3 & 4 and complete force-learning cycle subsequently.
9	Permanent impulse signal at the start input.	Door no longer accepts a start impulse. External impulse generator emits a permanent impulse signal (e.g. button is jammed)
10	An error occurred in setting the operator.	Travel path too long. Repeat setting procedure (menu stages 3 and 4).
11	Fault during learning cycle.	Repeat position learning cycle. (menu stages 3 and 4) Reduce force when approaching the end-of-travel positions.
12	Door neither opens nor closes.	Fault during self-test. Disconnect power supply.
13	Motor has come to a standstil.	Motor does not rotate. Call in a specialist company.
14	Electronic brake activated. Garage light remains on.	Pull drive from top end-of-travel position. Check gate and springs. Set top end-of-travel position lower.
15	Vacation lock activated, gate does not open.	Slide switch at SafeControl / Signal 112 confirmed. Reset required.



Deleting radio codes

Press oval key. Keep key pressed while inserting power plug.
All radio codes stored in the hand-held transmitter are now deleted.



Restoring factory setting

Press Open and Close keys at the same time. Keep keys pressed for approx. 3 sec while inserting power plug.
The factory setting has been restored.