

Comfort 310

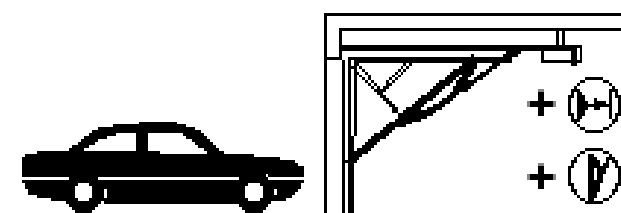
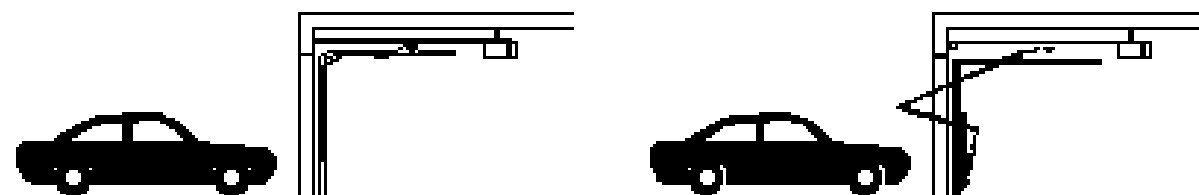
Garage Door Operator

Installation Instructions



 SYSTEM
ROTALINE

Please follow the installation and fitting instructions carefully to avoid wrong installation or damage to the door and door operator. Keep these instructions for later reference.



= Special 601 ; item no. 564 266

= Special 102 ; item no. 564 265

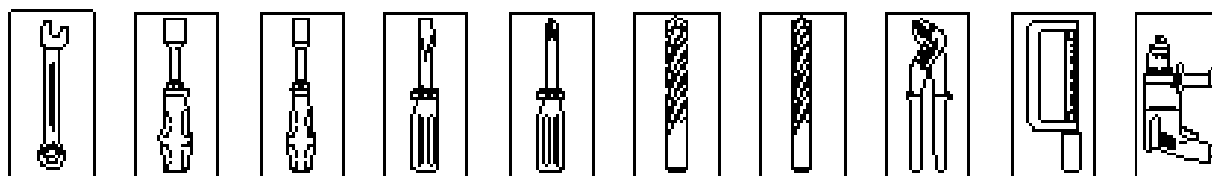
1

Unpack the hoopy motor housing and accessories ready for installation.

2

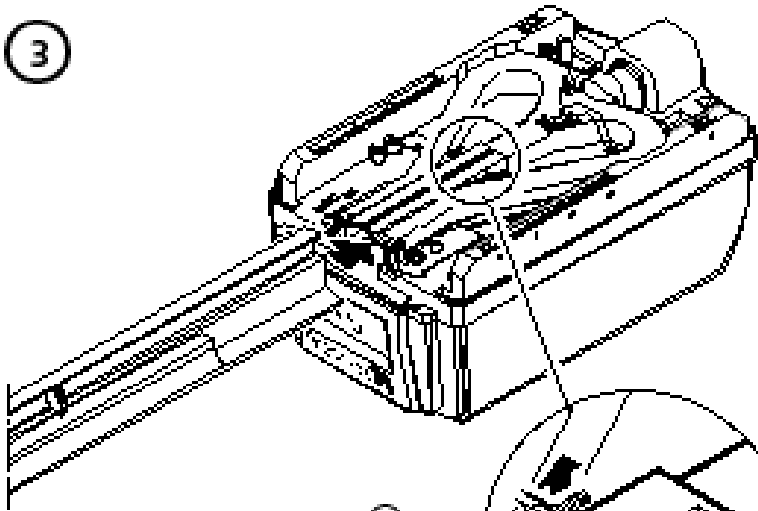
The following tools are required :

- combination wrench SW 10
- combination wrench SW 13
- socket wrench SW 10
- socket wrench SW 13
- screwdriver size 6
- screwdriver size 5
- Phillips screwdriver size 2
- masonry drill 10 mm dia.
- masonry drill 6 mm dia.
- metal drill 5 mm dia.
- pliers
- hack saw
- electric drill

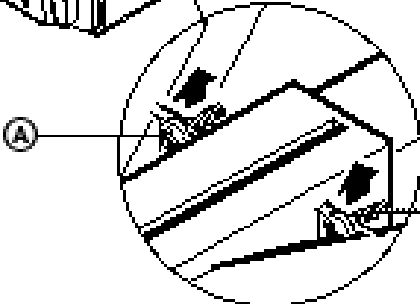


Important!
 Before drilling, cover over the motor with foil, film or cardboard.
 Drilling dust and chippings can lead to malfunctions.

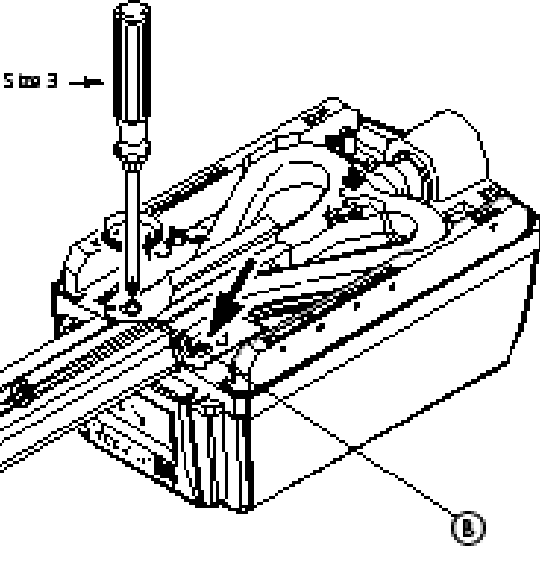
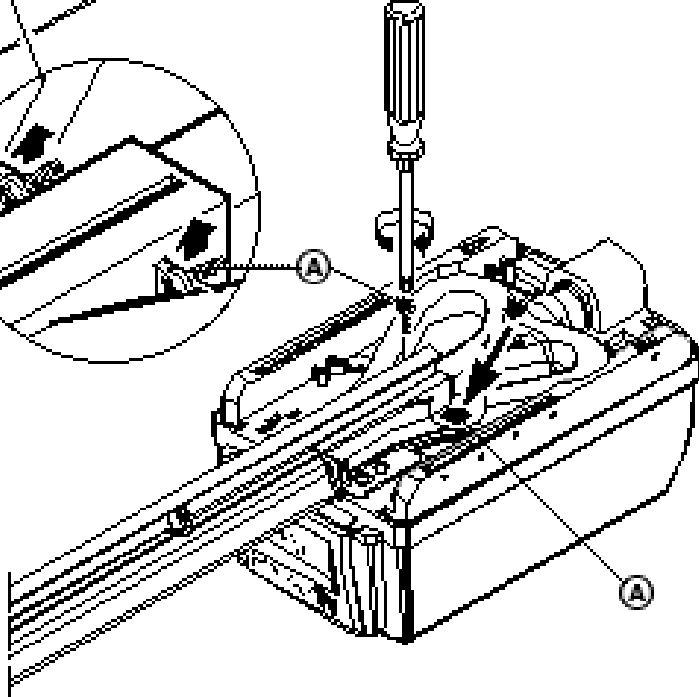
3



Slide the beam into the motor housing.



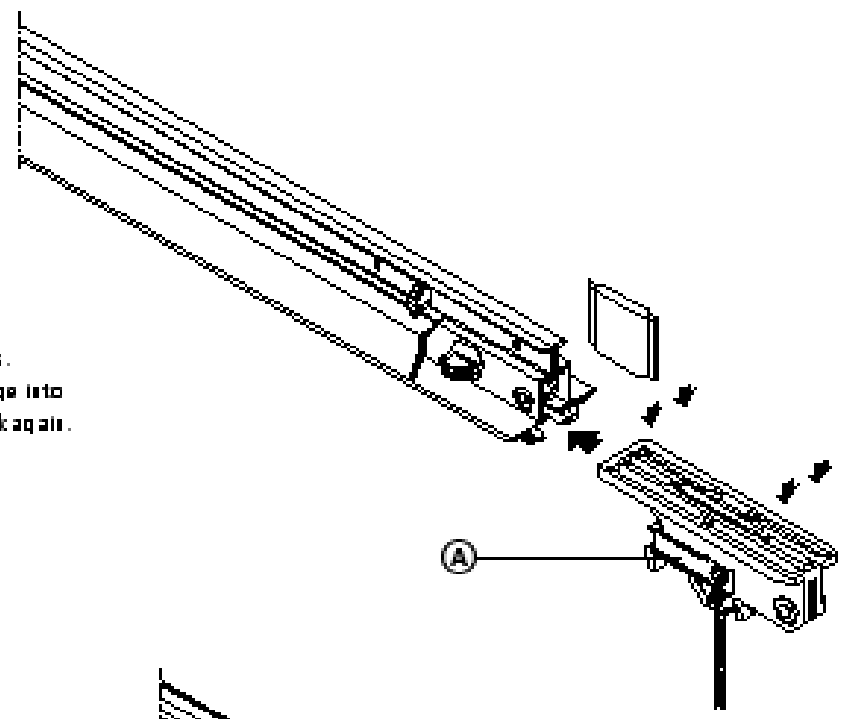
Screw supplied centering screws (A) through the beam into the motor housing.



Screw on the 2 setscrews (B) tightly.

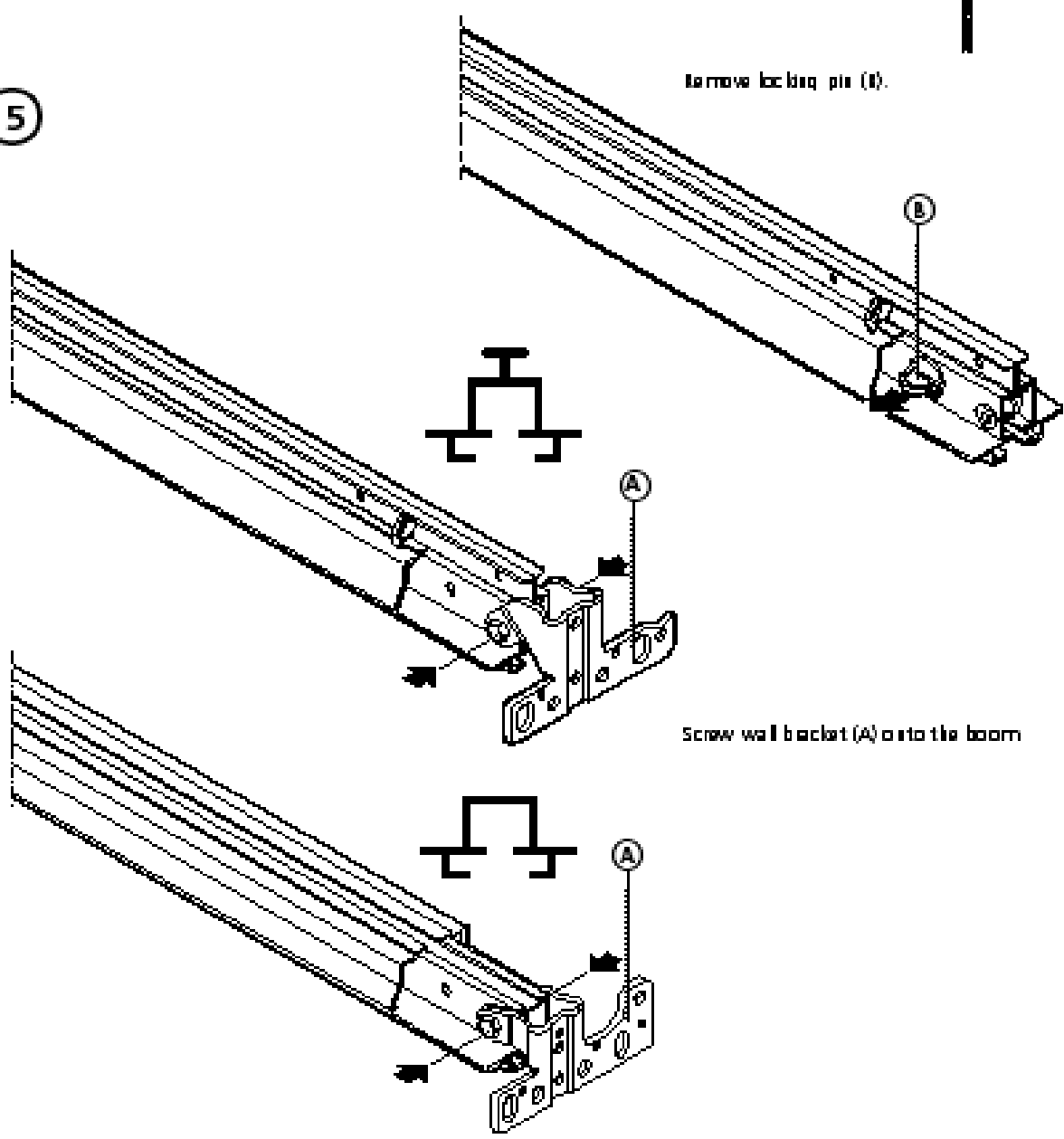
4

Grease the carriage beams on all sides.
Push lever (A) forward, slide the carriage into
the boom and then push lever (A) back again.



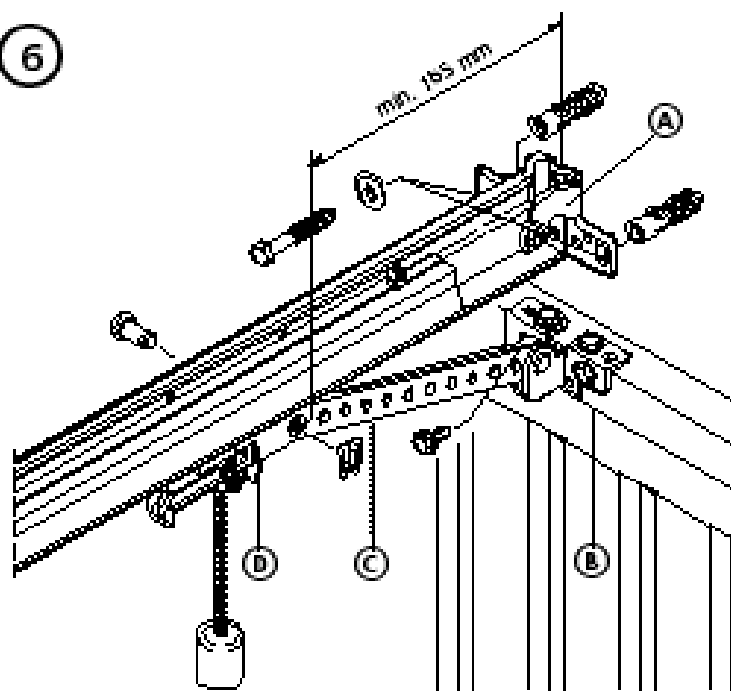
Remove locking pin (B).

5



Screw wall bracket (A) onto the boom

6



Up-and-over doors:

Screw wall bracket (A) with boom to the top section or lintel making sure that the top edge of the door at its highest point of opening clears the bottom edge of the boom by 10 mm (see pt. 10).

Screw door link bracket (B) onto the top edge of the door (drill 5 mm dia.).

Connect door link (C) to carriage (D) and door link bracket.

If the on-site installation situation does not allow a minimum distance of 165 mm to be adhered to, an extended door link must be used.

Remove door locks or put the most of operation.

7

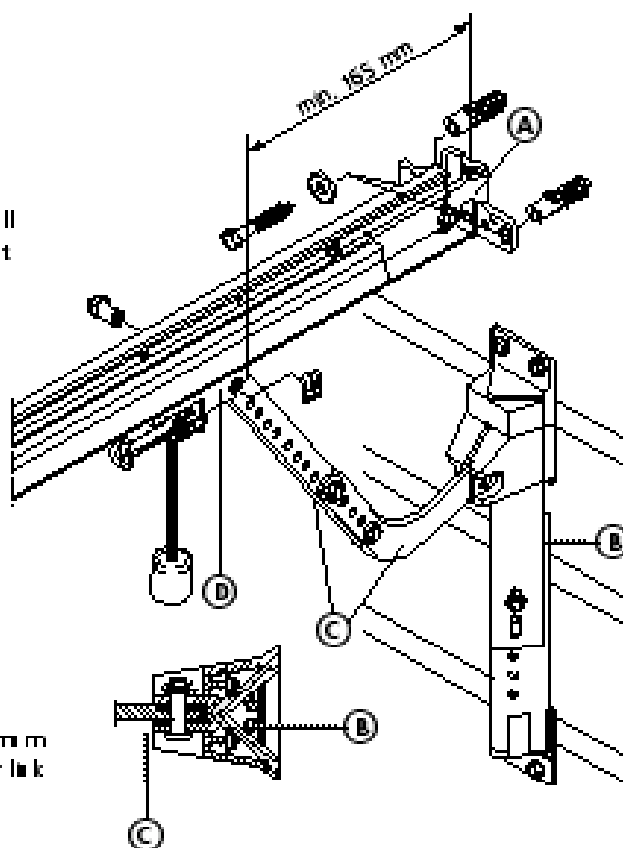
Sectional doors:

Sectional door fittings are required: item no. 564 611 (not part of the Combit 310 supply package).

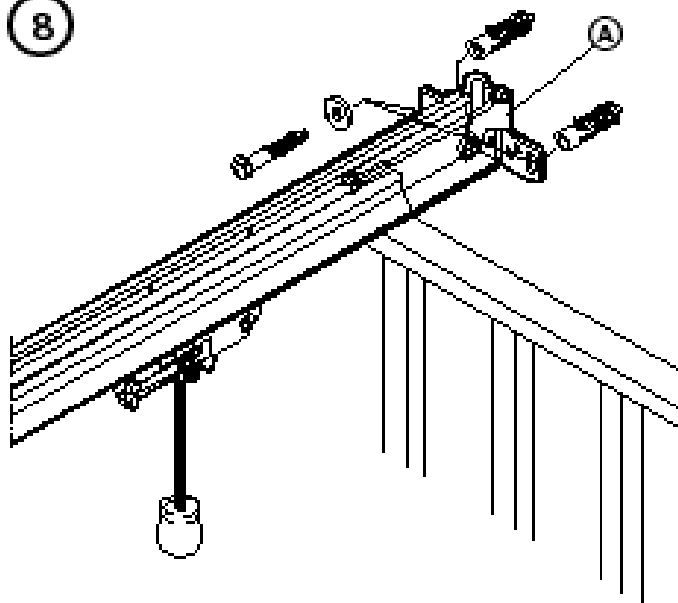
- I Fit wall bracket (A) with boom to the lintel with wall plugs, positioning the top door section at its highest point of opening to clear the bottom edge of the boom by 10 mm (see pt. 10).
- II Fix adjustable door connector attachment (B) to the top door section. For steel sections, use a 5 mm dia. drill.
 - If necessary, the drill hole can be installed 200 mm off-centre.
 - For wooden sections, use the supplied wood screws.
- III Connect 2-piece door link (C) to carriage (D) and door connector attachment (B).

If the on-site installation situation does not allow a minimum distance of 165 mm to be adhered to, an extended door link must be used.

Remove door locks or put the most of operation.



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Canopy and non-protuding up-and-over doors

Special 102 adapter arm (item no. 564 865 and Special 601 photo cell, item no. 564 266 are required (not included).

Before installing the drive unit, remove the door locks or put the motor of operation.

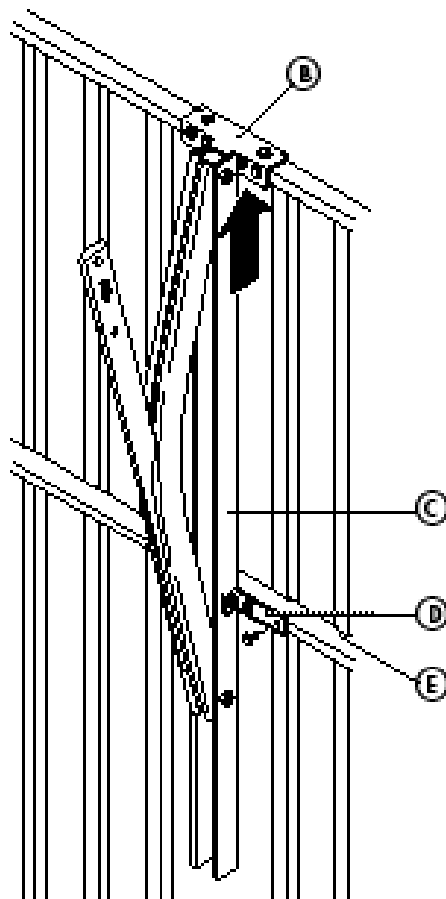
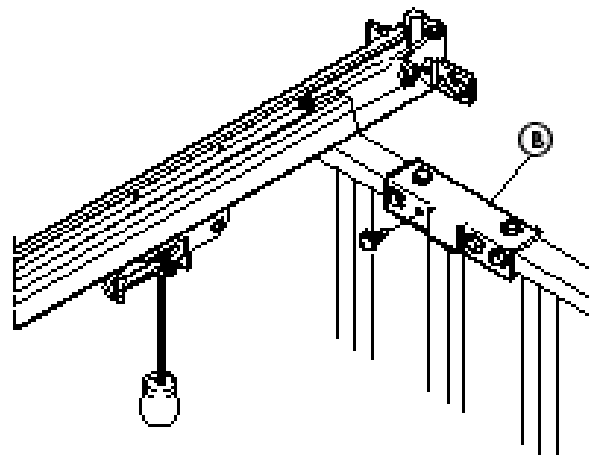
Screw the wall bracket (A) with boom to the lintel or top of the door so that in such a way that the top edge of the door at its highest point of opening clears the bottom edge of the boom by at least 10 mm (see pt. 10).

Until the ceiling mounts are subsequently fitted, support the drive unit housing using a trestle or other suitable object.

Fitting the adapter arm:

Screw support bracket (B) with 6 self-tapping screws to the top edge of the door (drill 5 mm dia.)

The support bracket and boom must come to centre.

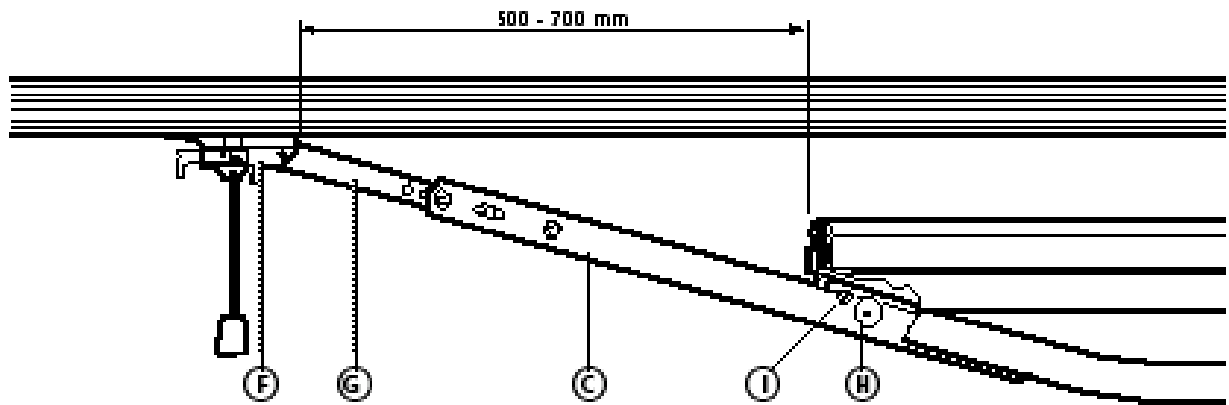


Slot adapter arm (C) into support bracket (B) and using two angle plates (D) screw to the cross-stret of the door (E).

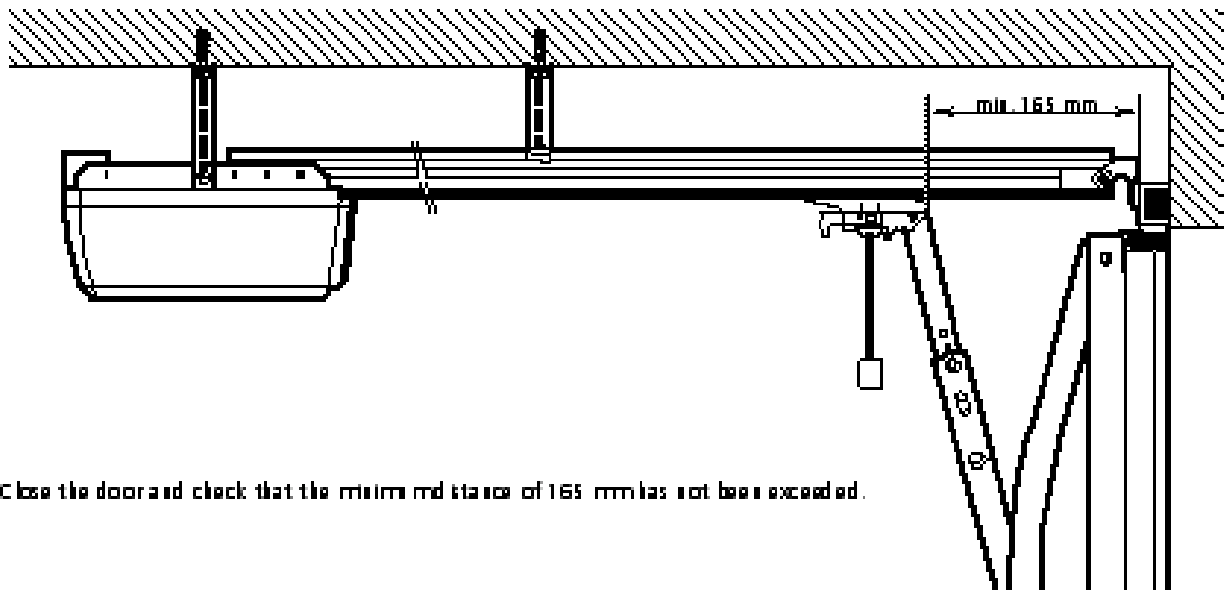
(5 mm dia. drill hole) in the cross-stret (4x)

(7 mm dia. drill hole) in the adapter arm (2x).

The angle plates are screwed to the adapter arms using two M6 x 10 screws and hex nuts.



Open the door fully, connect carriage (B) and linking bar (G) to adapter arm (C) observing the given dimensions. By lowering the carriage and extending the linking bar the door opening is enlarged. The linking bar may only be pulled out to the extent that the internally located pressure rollers (H) do not abut against the check screws (I).

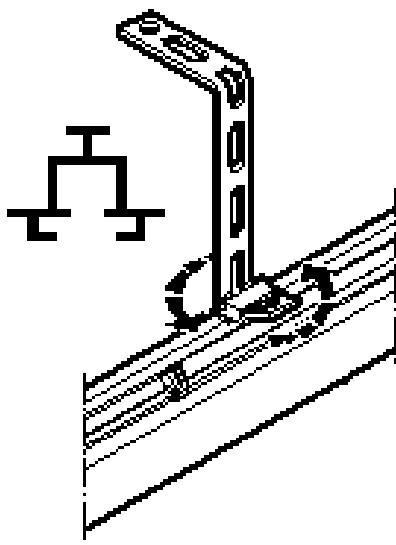
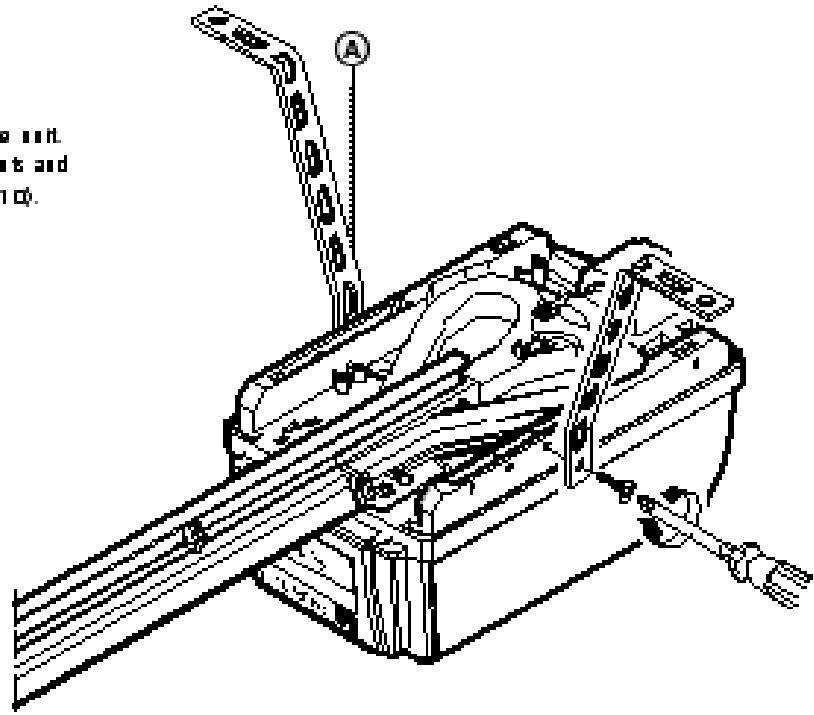


Close the door and check that the minimum distance of 165 mm has not been exceeded.

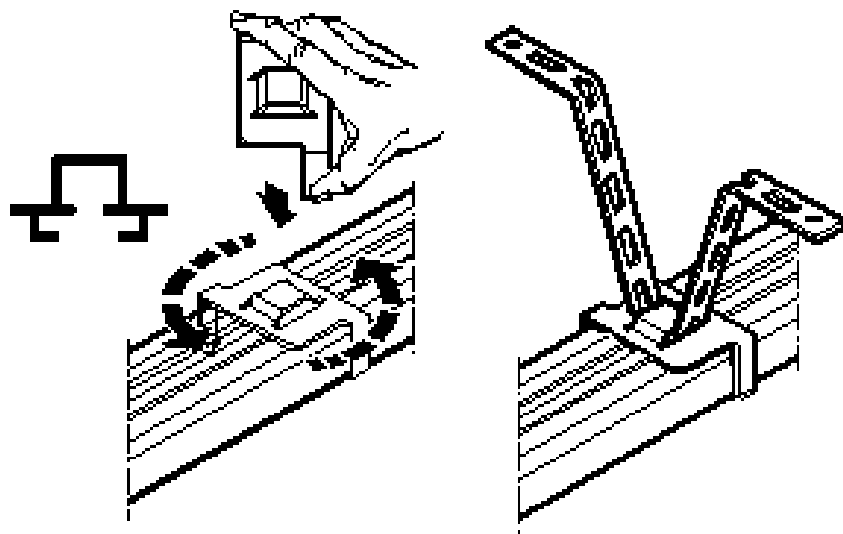
To ensure optimum operation of the drive unit and door, the door travel speed should be altered to 8 cm/s. Refer to point 11 of the Installation Instructions.

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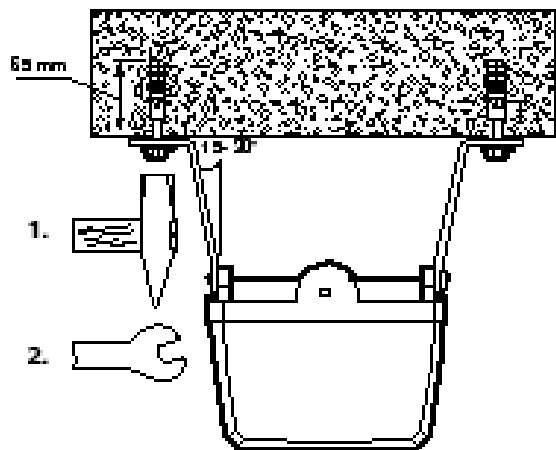
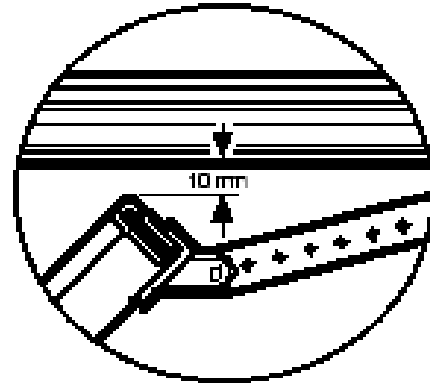
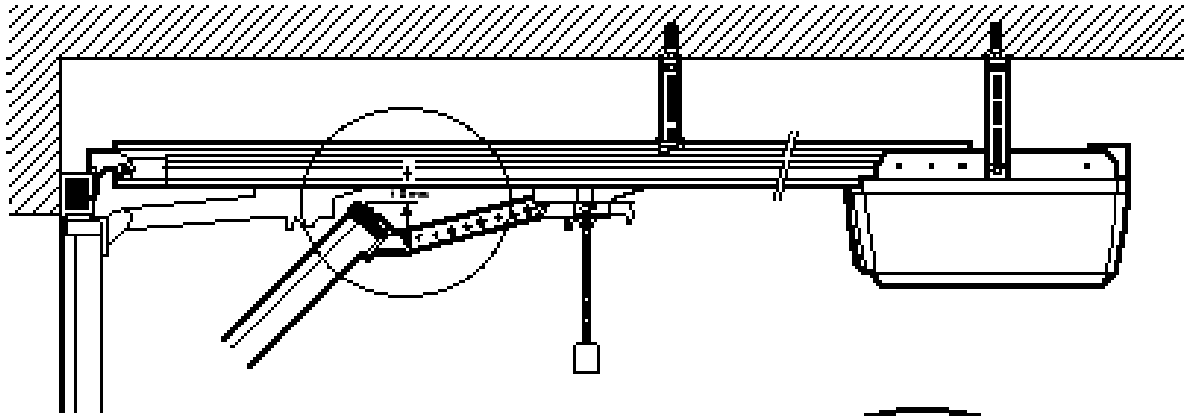
Attach the 2 support straps to the drive unit.
Lead them according to site requirements and
saw off any projecting lengths (see pt. 1 C).



Attach one support strap to the middle of the boom

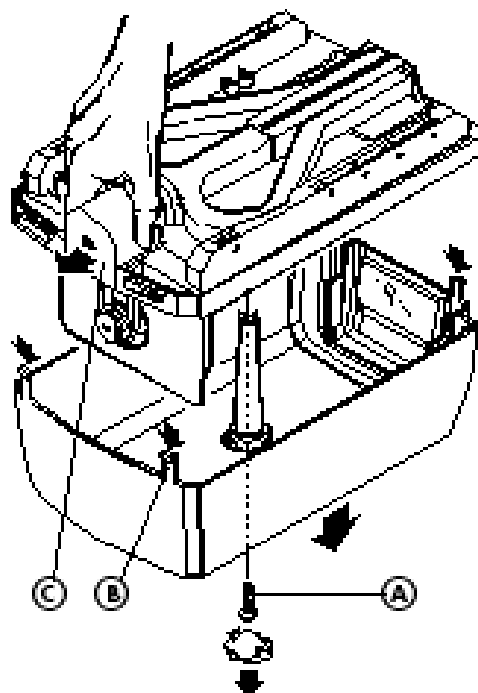


10



Suspend the motor housing with boom from the ceiling ensuring that the top edge of the door at its highest point of opening clears the bottom edge of the boom by 10 mm (see pts. 6 and 7).
Hook to the ceiling as the structural features of the garage allow (note drill depth for wall plug).

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Altering the door travel speed for large doors and retractable up-and-over doors. Only to be carried out by a specialist!

The operator leaves the factory set for the faster door travel speed of approx. 14 cm/s. By relocating the drive belt, the door travel speed can be reduced to approx. 8 cm/s.

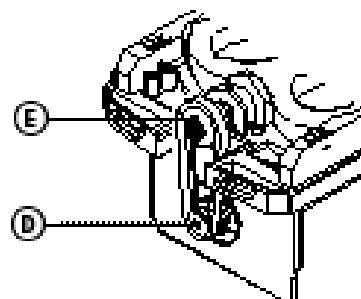
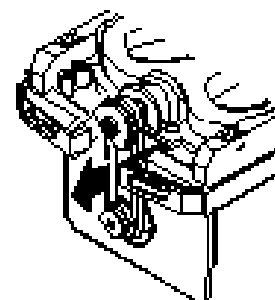
Attention: Before opening the housing, always disconnect the operator from the mains!

Remove central fixing screw (A) of the motor cover. Press all four locking locks (B) inwards and pull the motor cover down and off.

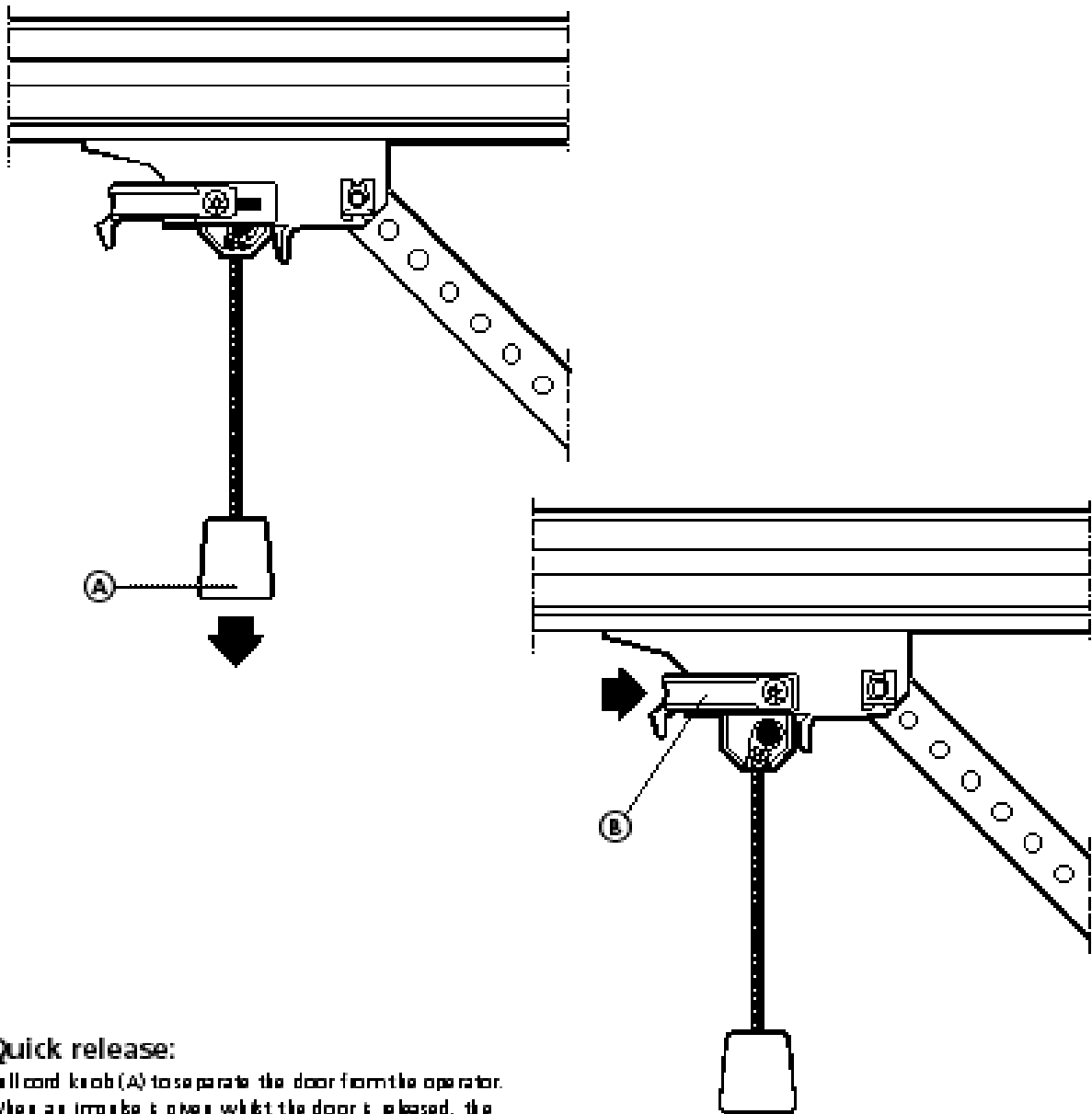
Slide belt cover (C) approx. 5 mm in the direction of the arrow; pass together at the bottom and pull away upwards.

Slip the drive belt first over the small lower motor pulley (D) and then over the large upper spindle pulley (E).

Do not use any sharp-edged tool.



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Quick release:

Pull cord knob (A) to separate the door from the operator. When an impulse is given whilst the door is released, the carriage will automatically re-engage.

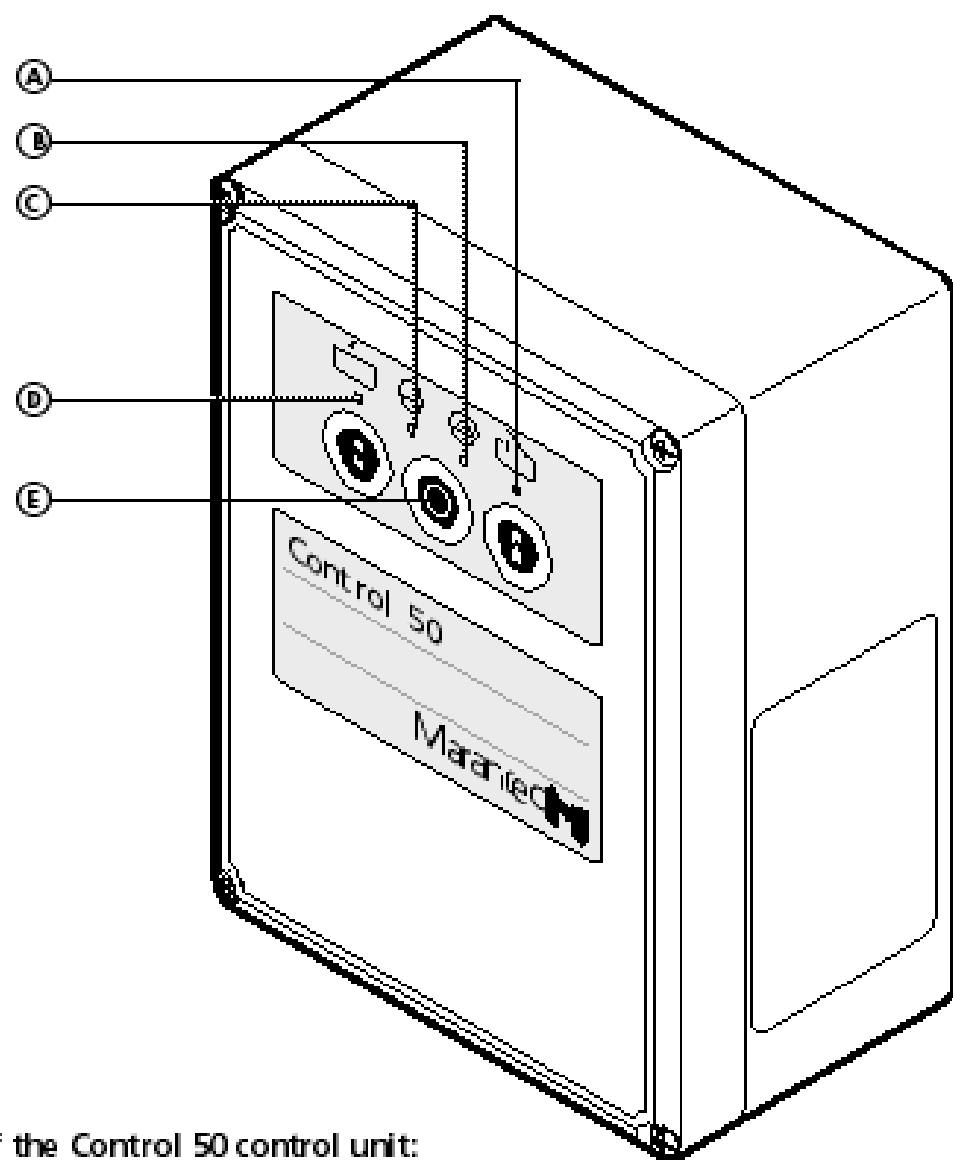
For a permanent separation of the door and operator, push lever (B) fully forward.

Important:

Whilst disengaged from the drive unit, the door may only be moved at moderate speed.

In order to prevent the carriage colliding with the motor housing when the door is opened by hand, the travelling distance of the door in the OPEN direction must be limited on site.

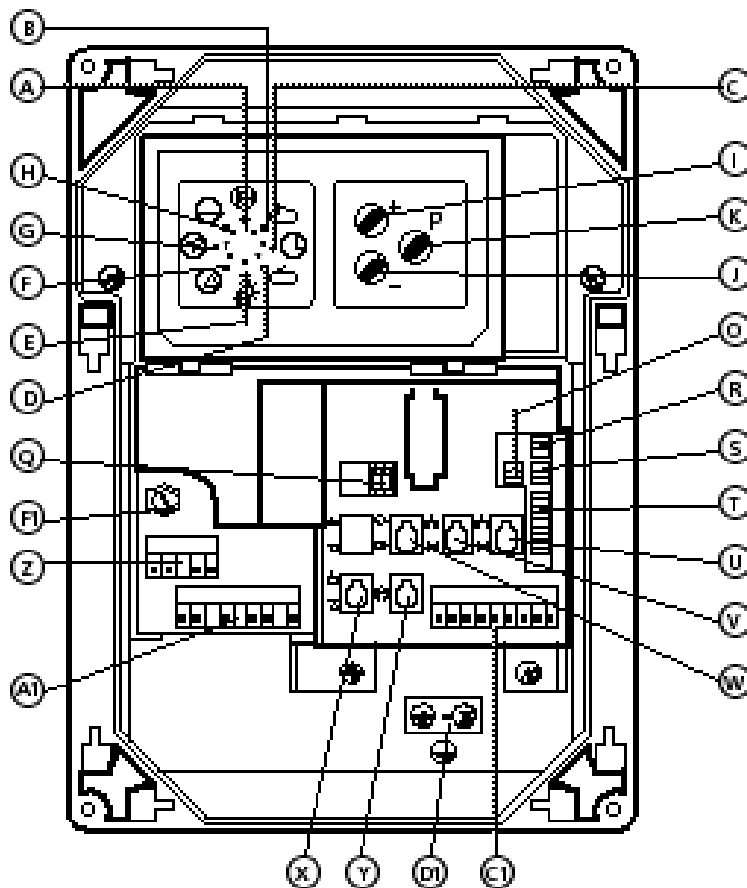
13



Overview of the Control 50 control unit:

- A „OPEN“ button and end of travel „OPEN“ LED
- B Safety edge self-monitoring exit LED
- C Control voltage LED
- D „CLOSE“ button and end of travel „CLOSE“ LED
- E „STOP“ button

Symbol	Explanation
	DC, mains voltage
	Impulse
	Malfunction
	External photoeye II
	Automatic timer
	Operator lighting
	Door OPEN
	Door CLOSE
	External connecting terminals
	Programming button + "OPEN" test button
	Programming button - "CLOSE" test button
	Hole for programming button
	STOP button
	External control elements
	Electronic aerial
	External photoeye II, laser emitter



Electronic control unit:

A	External photocell indicator
B	OPEN indicator: Glows when opening limit is reached
C	Automatic timer indicator
D	CLOSE indicator: Glows when closing limit is reached
E	Lighting indicator
F	Fault indicator -> flashes on fault message
G	IMPULSE indicator -> glows when button pressed -> flashes on valid signal from hand transmitter
H	Voltage indicator -> glows when voltage present
I	OPEN test button
J	CLOSE test button
K	Flg programming button P
O	Flg connection for lighting
Q	Flg programming switch for external photocell connection
R	Flg connection for potential-free limit switch contacts
S	Flg connection for flashing light connection
T	Flg connection for membrane keypad
U	Flg socket X20a for selection to aerial
V	Flg socket X20 for external photocell
W	Flg socket X10 for external control elements with short-circuit plug
X	Flg socket X30 for optocoupler
Y	Flg socket X40 for I/FM sensor
Z	Connecting terminal block X2 for mains voltage
A1	Flg connection X3 for transformer
C1	Connecting terminal block X2c for "OPEN", "CLOSE", "STOP", "IMPULSE" buttons
D1	Connecting terminal for protective conductor
E1	Mains fuse F: 2.5A, NT max.

15

Hand transmitter:

(Not part of the Comfort 310 supply package).

- A Flashing battery control
- B Operation button
- C Battery compartment cover
- D Battery 1.2V AA 23

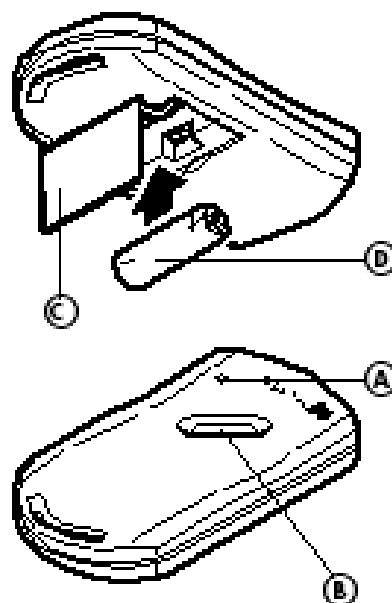
To charge and insert the battery, open the cover.
When charging the battery, be sure to pole correctly.

Batteries are not covered by the warranty.

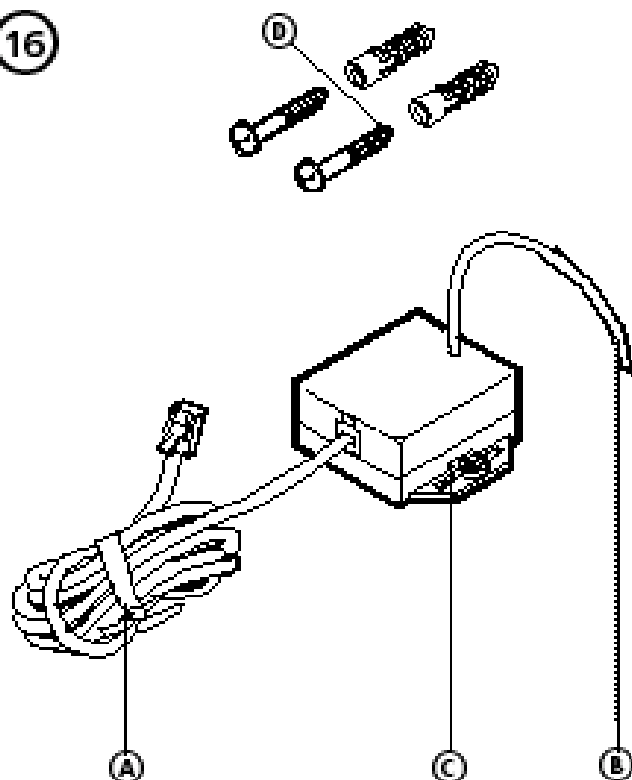
Important:

Only operate the hand transmitter when certain that neither persons nor objects are located within the door's area of travel.

Keep hand transmitters well out of the reach of children!



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Electronic aerial:

(Not part of the Comfort 310's supply package).

Protection category: for dry buildings only.

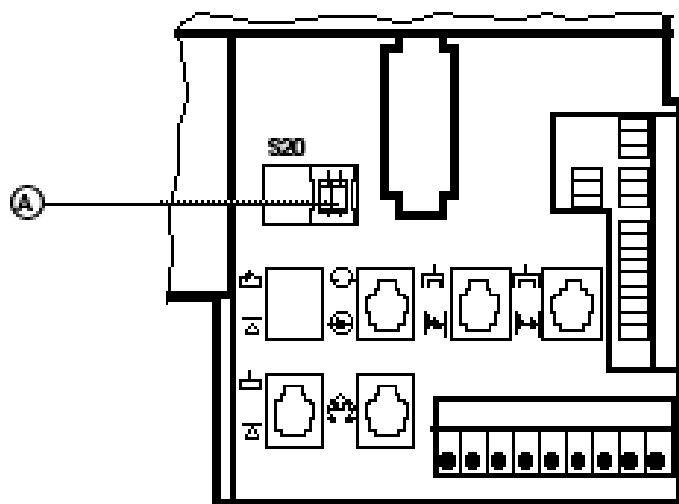
- A Connecting cable to control unit with plug
- B Aerial cord
- C Aerial box with adhesive surface
- D Aerial set

Plug the connecting plug into the electronic control unit. Roll out aerial cord (B) and align it.

The range may vary with different digital security codings.

If required in order to achieve a wider range, the electronic aerial may also be attached outside the building. This is only possible using a connecting cable extension and an electronic aerial of the IP 65 protection category (not part of the supply package).

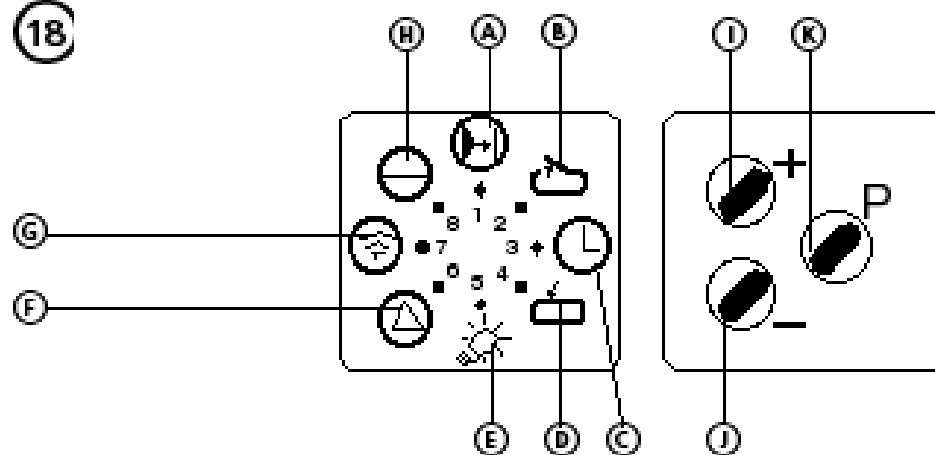
17



Function of coding switches S20 and S20A

- A Programming switch S20 for connection of external photocell X20
- Programming switch S20a for connection of external photocell X20a

18



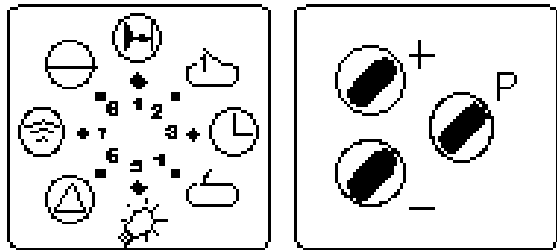
Programming the electronic control unit:

- | | | |
|---|--------------------|----------------------|
| A | indicator | external photocell |
| B | indicator | "OPEN" travel limit |
| C | indicator | Automatic timer |
| D | indicator | "CLOSE" travel limit |
| E | indicator | Light phase |
| F | indicator | Malfunction/fault |
| G | indicator | Remote control |
| H | indicator | Operating voltage |
| I | Programming button | + |
| J | Programming button | - |
| K | Programming button | F |

To display the electronic control unit fault message:

In the event of a fault message, the cause of the fault can be displayed (see pt. 21).

- K Programming button F to display fault message (press briefly)
- 1 - 8 Display of fault numbers (flashes optically)
- for example: Numbers 8 and 2 flash together:
8 + 2 = fault number 10 (see pt. 21)



Programming the control unit

The control unit is in the operating state as soon as it is switched on (indicator 8 glows). If button P is pressed for longer than 2 seconds, the control unit changes to the programming mode. By repressing button P the programming menu as necessary for programming the basic operator settings are selected in turn. If a programming menu is skipped, the settings remain unchanged. Using the + or - buttons, changes can be made in the corresponding programming menu which can then be stored by pressing button P. If the control unit is in the programming mode and 30 seconds elapse without any of the 3 programming buttons having been pressed, the programming process is aborted and the control unit returns to its operating state (for l message 7, see pt. 21). On first programming there is no need to reset because all the stored settings can be reprogrammed.

Programming an external photocell
 (The door operator is preprogrammed for connecting to an external photocell to monitor the through-traffic area. If this photocell is not connected, the operator must be reprogrammed in accordance with pt. 1. Otherwise the door can only be closed by press and hold.)

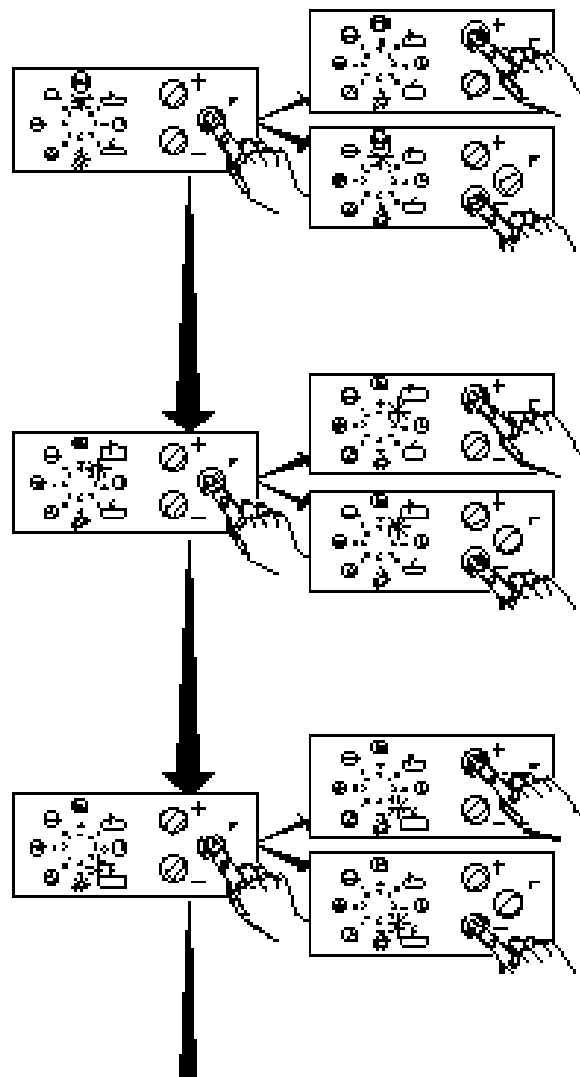
1. Press programming button P for approx. 2 seconds until indicator 1 flashes.
 The external photocell can be connected via the + button.
 Indicator 1 glows.
 By pressing the - button, the operator can be operated without an external photocell.
 Indicator 1 flashes.
 Store by pressing programming button P.

Programming the "OPEN" travel limit

2. Indicator 2 flashes.
 Allow the door to reach its end-of-travel "OPEN" position by operating the + or - buttons (operator runs only by press and hold). Store by pressing programming button P.

Programming the "CLOSE" travel limit

3. Indicator 4 flashes.
 Allow the door to reach its end-of-travel "CLOSE" position by operating the + or - buttons (operator runs only by press and hold). Store by pressing programming button P.



Programming the "OPEN" automatic cut-out

4. Indicator 2 and 6 flash.

By operating the ⊕ or ⊖ buttons, the automatic cut-out can be set in stages: from 1 (most sensitive setting) to 16.

Indicator 1 flashes = stage 1

Indicator 1 q bws = stage 2

Indicator 1 q bws, indicator 2 flashes = stage 3

...

Indicator 1 to 8 glow = stage 16

Store by pressing programming button P.

Set the automatic cut-out to be as sensitive as possible (150 N max. at the closing edge).

Programming the "CLOSE" automatic cut-out

5. Indicator 4 and 6 flash.

By operating the ⊕ or ⊖ buttons, the automatic cut-out can be set in stages: from 1 (most sensitive setting) to 16.

Indicator 1 flashes = stage 1

Indicator 1 q bws = stage 2

Indicator 1 q bws, indicator 2 flashes = stage 3

...

Indicator 1 to 8 glow = stage 16

Store by pressing programming button P.

Set the automatic cut-out to be as sensitive as possible (150 N max. at the closing edge).

Programming the remote control

6. Indicator 7 flashes

The multi-bit hand transmitter is pre-coded at the factory. Operate the corresponding button of the hand transmitter until LED 7 flashes rapidly. The code is stored by pressing programming button P and the programming process is completed; recognizable by all indicators going out in the sequence 8-1. The control unit is now in the operating state (in the event of a power failure all settings are retained).

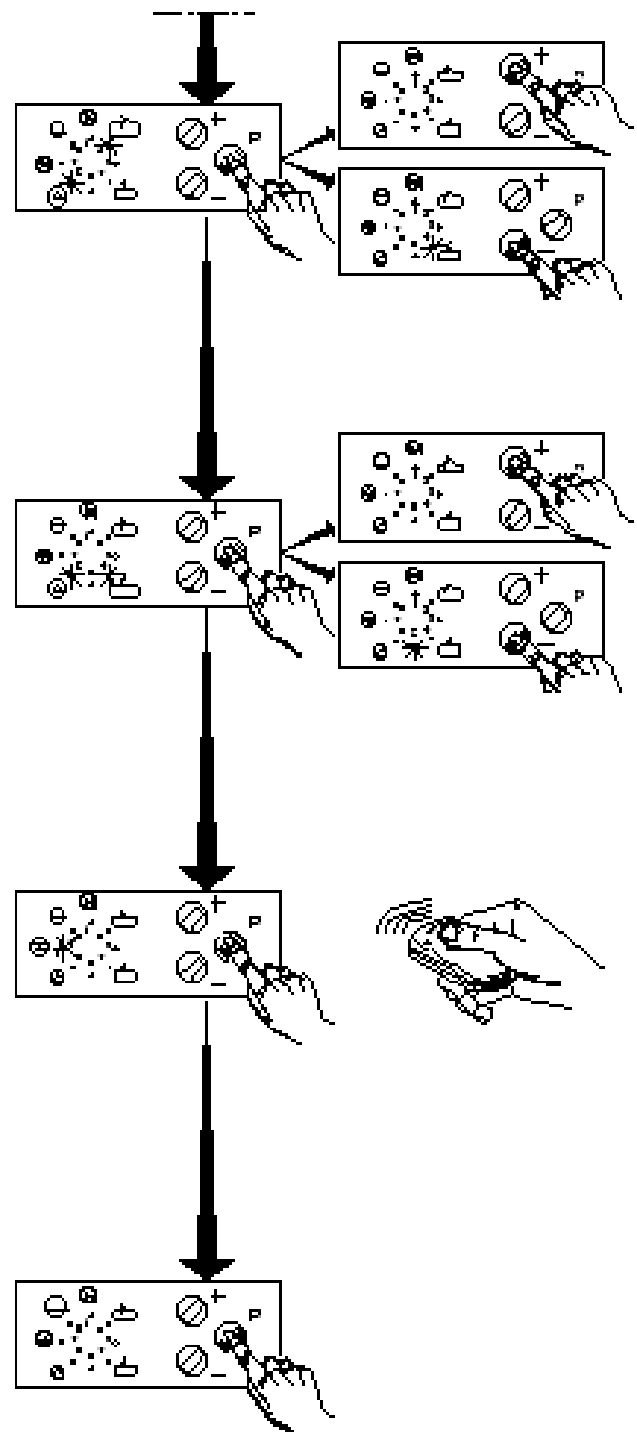
Programming individual functions e.g. the "CLOSE" automatic cut-out

Press programming button P for approx. 2 seconds until indicator 1 flashes.

Repeatedly press programming button P until indicators 4 and 6 flash.

Carry out programming (see pt. 5).

Press programming button P again to complete the programming process; recognizable by all indicators going out in the sequence 8-1.



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Programming the control unit

Extended operator functions

Programming the automatic timer

(If an automatic timer is put into operation, an external photocell to monitor the through-traffic area must be connected and activated in accordance with pt. 1, page 17. Otherwise no automatic timer function is possible.)

The control unit is in the operating state as described on page 17. If button P is pressed for longer than 10 seconds, the control unit changes to the programming level for extended operator functions (indicator 3 flashes, all other indicators glow). Release button P. Now indicator 1 flashes. The open phase can now be set using the (+) or (-) buttons (see table of phase settings on the next page).

At the end of this section you will find an overview (Table of lighting phases) that will help you to set the desired lighting phase. Here you can also enter your own stored settings for later reference.

Once button P is no longer pressed, indicator 1 (open phase) flashes.

Using the (+) or (-) buttons, the open phase can be set (see table).

Minimum value: 5 seconds (top of table)
Maximum value: 255 seconds (bottom of table)

Store by pressing programming button P.

Once button P is no longer pressed, indicator 2 (warning phase) flashes.

Using the (+) and (-) buttons, the warning phase can be set (see table).

Minimum value: 5 seconds (top of table)
Maximum value: 70 seconds (bottom of table)

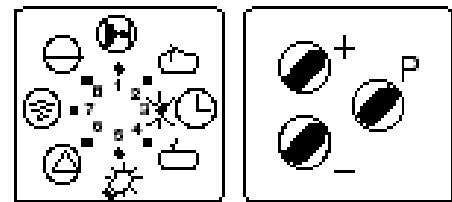
Store by pressing programming button P.

Once button P is no longer pressed, indicator 3 (start-up warning) flashes.

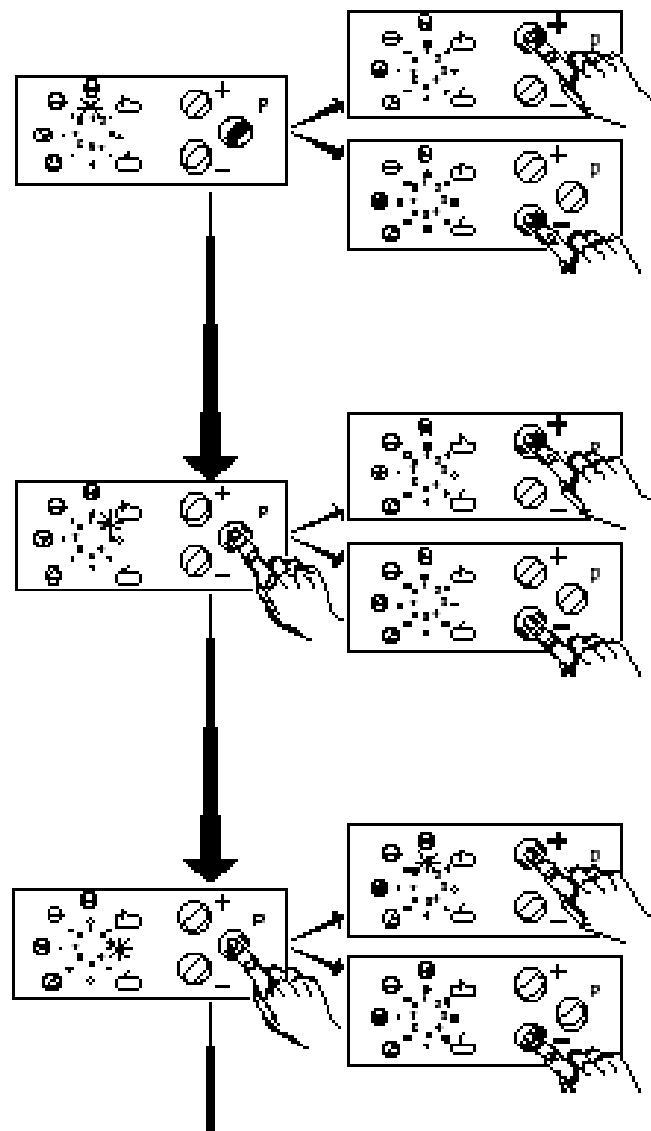
Using the (+) and (-) buttons, the start-up warning can be set (see table).

Minimum value: 0 seconds (top of table)
Maximum value: 7 seconds (bottom of table)

Store by pressing programming button P.



LED off
• LED glows
* LED flashes



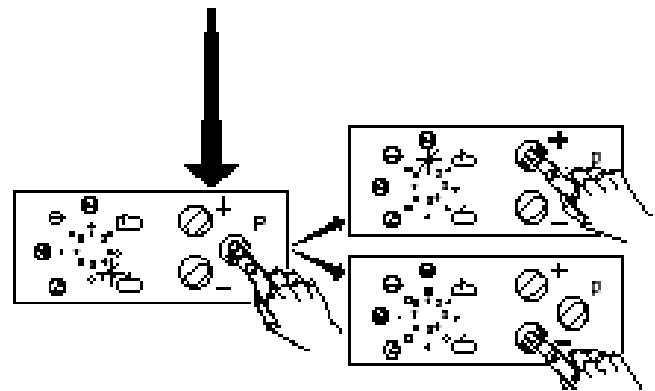
Once button F is no longer pressed, indicator 4 (early closing after driving past the through-traffic photocell) flashes.

Using the ⊕ or ⊖ buttons, the factor "early closing after driving past the through-traffic photocell" or a set time phase can be programmed.

Indicator 1 flashes: Door closes after the set time phase.

Indicator 1 glows: Door closes after driving past the through-traffic photocell.

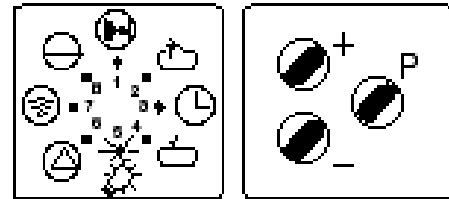
Complete the programming process by depressing programming button F; recognizable by all indicators going on in the sequence 8 - 1. Afterwards, the control unit returns to the operating state (indicator 8 glows; if the door is in an open or closed state, the corresponding indicators 2 or 4 also glow).



Deactivating the automatic timer (both phases without function)

If in accordance with the table the open or warning phase is set "without function", the "automatic timer" is switched off.

Programming the operator lighting/signal lights



- LED off
- LED glows
- ✱ LED flashes

Signal lights

The operator allows connection of an external signal light, provided the automatic timer is activated. The output can be programmed in such a way that the signal lights flash or glow.

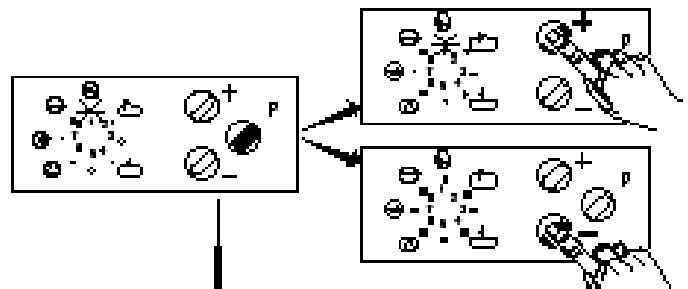
The control unit is in the operating state as described on page 17. If button P is pressed for longer than 10 seconds, the control unit changes to the programming level for extended operator functions (indicator 3 flashes rapidly). Keep button P depressed and using the ⊕ or ⊖ buttons select programming level 5 (indicator 5 flashes rapidly, all other indicators glow). Release button P.

At the end of this section you will find an overview (Table of lighting phases) that will help you to set the desired lighting phase. Here you can also enter your own stored settings for later reference.

Once button P is no longer pressed, indicator 1 (lighting phase) flashes.

Using the ⊕ or ⊖ buttons, the lighting phase can be set (see table).

Store by pressing programming button P.

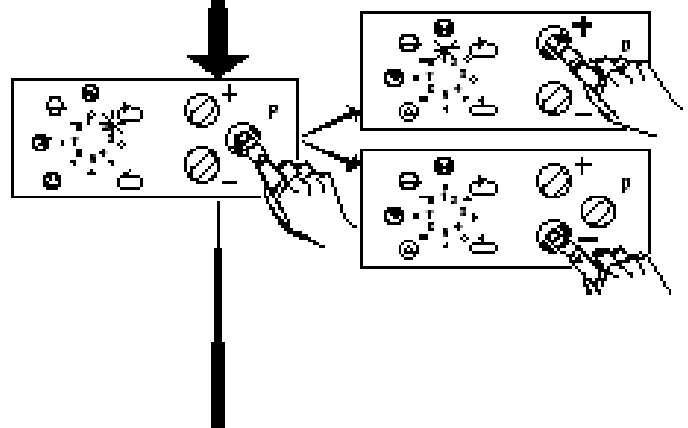


Once button P is no longer pressed, indicator 2 (signal lights) flashes.

Using the ⊕ or ⊖ buttons, the signal lights function can be set.

Indicator 1 flashes: external signal lighting on.
Indicator 1 glows: external signal light flashes.

Store by pressing programming button P.

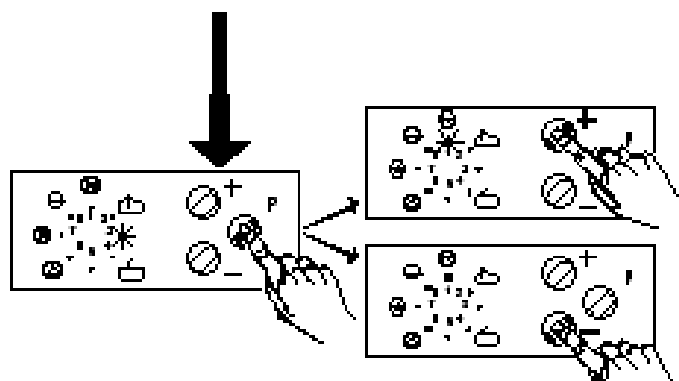


Once button P is no longer pressed, indicator 3 (lighting) flashes.

Using the ⊕ or ⊖ buttons, the lighting fraction can be set (see table).

Indicator 1 flashes: no function

Indicator 1 glows: no function



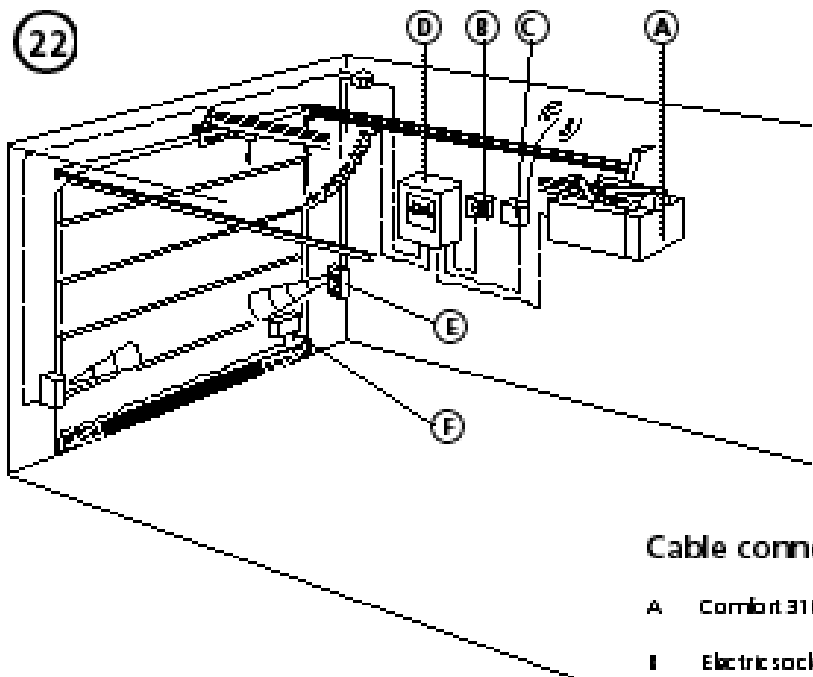
Complete the programming process by pressing programming button P; recognizable by all indicators going out in the sequence 3 - 1. Afterwards, the control unit returns to the operating state (indicator 3 glows; if the door is in an open or closed state, the corresponding indicators 2 or 4 also glow).

Com fort 310 Programming Table

Level 5: Operator Lighting / Signal Lights

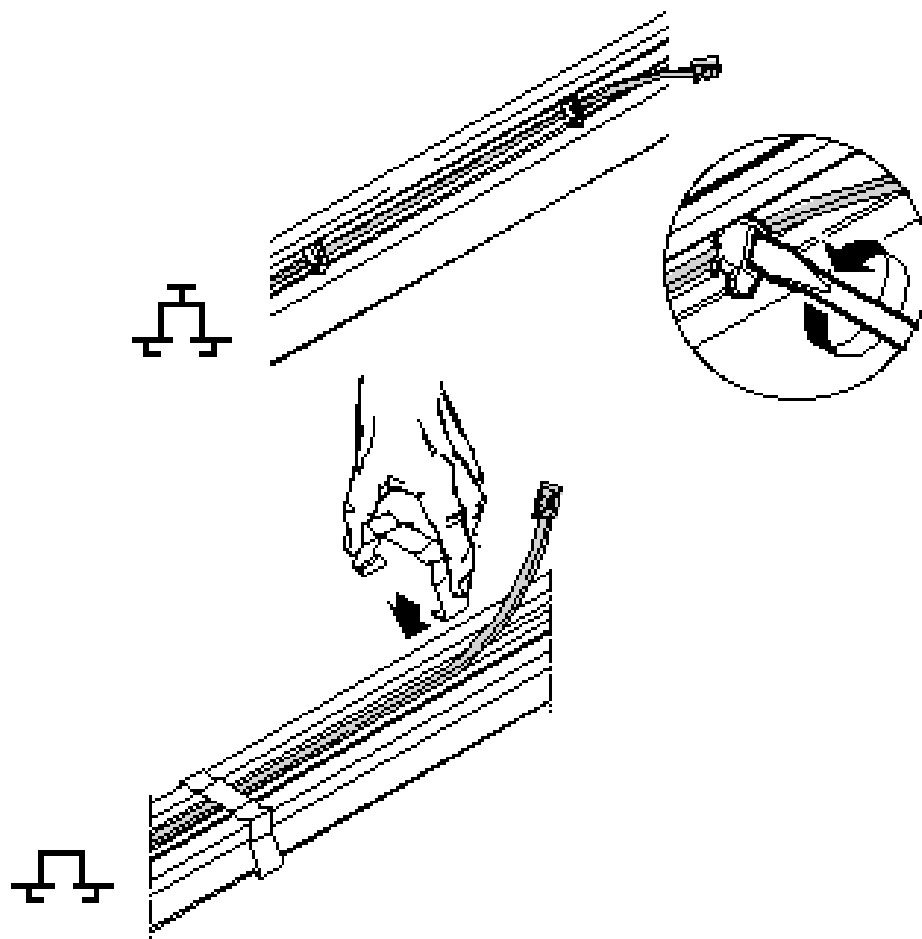
		← BUTTON (C)										BUTTON (D) →																										
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																					
Menu 1																																						
Lighting phase		2	95	100	110	120	130	140	150	160	170	180	190	200	210	220	240																					
Signal lights																																						
Lighting																																						

- Legend:
- LED flashes
 - LED on/bw
 - LED does not bw
 - Factory setting
 - Not possible

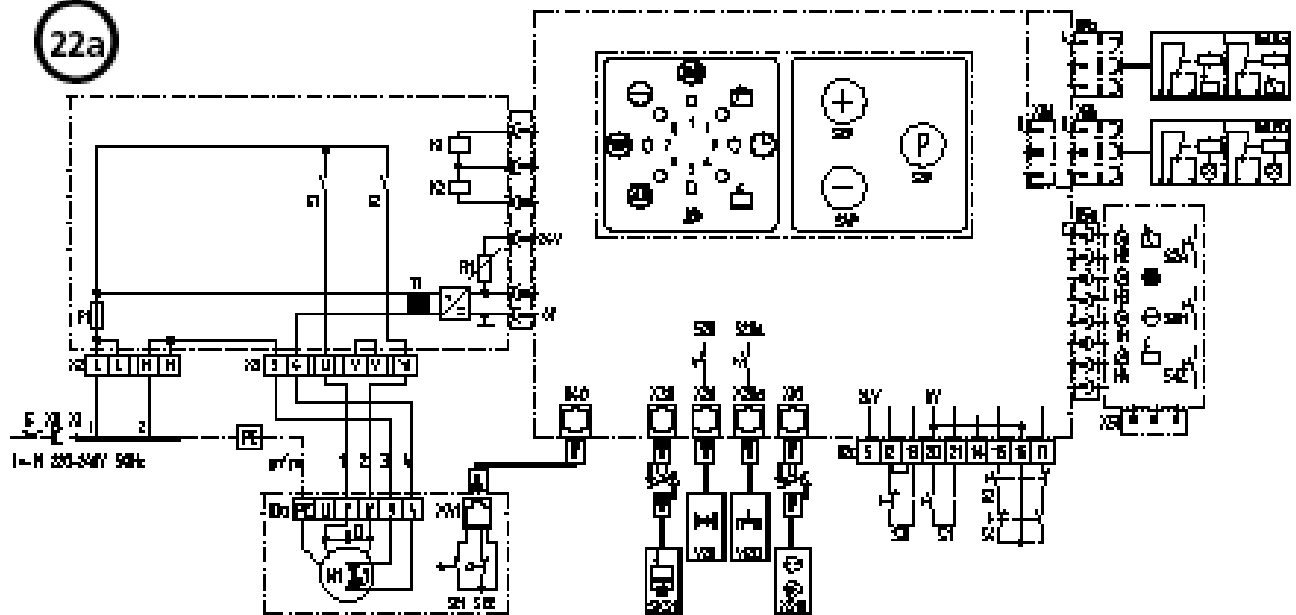


Cable connecting plan

- A Combiot 310 drive unit
- B Electric socket with earth contact
230 V, 50 Hz (on site)
- C Electronic aerial (if installed)
- D Combiot 310 control unit
- E Photocell
- F Optoselector



22a



Comfort 310 Wiring Diagram

- C1 Motor capacitor
- F Fuse (max. 6.3 A)

Control lights:

- H1 OPERATING VOLTAGE
- H2 OPEN
- H3 CLOSING EDGE SAFETY DEVICE
- H4 CLOSE
- K1 OPEN relay
- K2 CLOSE relay
- K3 Operator missing relay
- M1 Motor with thermal overload protection
- B1 Short-circuit protection
- S ⊗ Main switch
- S0 ⊗ "STOP" button
- S0H "STOP" button
- S1 ⊗ "IMPULSE" button
- S2 ⊗ "OPEN" button
- S2A "OPEN" button
- S2F "OPEN" test button
- S3F Plug emitting button
- S4 ⊗ "CLOSE" button
- S4F "CLOSE" button
- S4Z "CLOSE" button
- S20 Plug emitting switch PHOTOCELL S20a
Plug emitting switch 2nd PHOTOCELL
- S21 RPM sensor
- S22 Reference point sensor
- T1 Transformer
- X0 ⊗ Mains electric socket
- X1 Mains lead with plug

Connecting terminals:

- X2 Mains lead
- X2c Command unit
- X3 Drive
- X3a Motor

Plug connections:

- X5a Cover keyboard
- X5b Keyswitch
- X8a Travel limit relay
- X8b Signal lights relay
- X8d Special function relay
- X10 External control elements
- X20 External photocell
- X20a Electronic aerial
- X30 Closing edge safety device
- X40 Drive RPM sensor
- X41 Motor RPM sensor

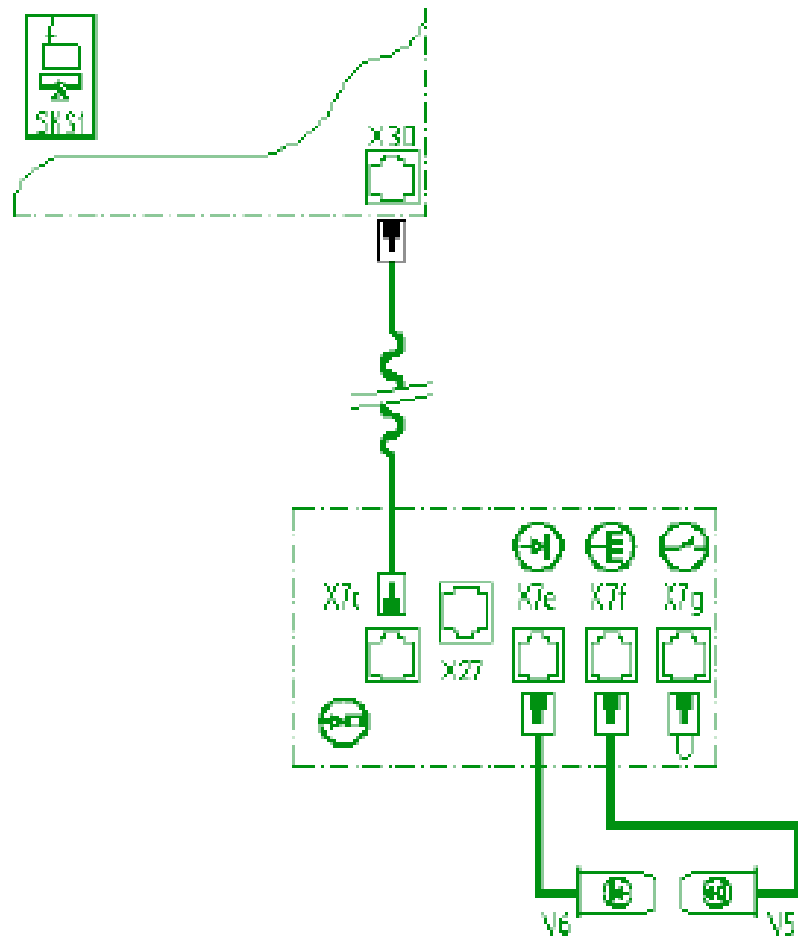
Connecting places for accessories:

- Is Isa TRAVEL LIMITS relay
- Is Isb SIGNAL LIGHTS relay
- SKS1 -) Closing edge safety device
- V20 ☐ External photocell
- W20 Electronic aerial
- XS10 -) External control elements
- +) on site
- ⊗ if fitted
-) for connection, remove short-circuit plug
- ☐ for connection, switch plug: switch S20 to OFF

Attention: External voltage at the plug sockets X10, X20, X20a, X30, X40 or screw terminals X3 and X3a will completely destroy the electronics.

Attention: Attention! Observe local safety regulations!
Always lay mains cable and control cable separately.

22b



Comfort 310 wiring diagram - dosing edge safety device

- V5 Transmitter optocoupler „grey“
- V6 Receiver optocoupler „black“
- X7c Plug-in connecting terminal for optocoupler coiled cable
- X7e Plug socket for receiver optocoupler
- X7f Plug socket for transmitter optocoupler
- X7g Plug socket for wicket door contact
- X30 Plug socket for optocoupler

IMPORTANT: Low voltage!
External voltage at the plug socket X30 will completely destroy the electronics.

IMPORTANT: Observe local safety regulations!
Always lay mains cable and control cable separately.

Connection and initial operation of the extensions

Travel limit signals (relay)

Function: On reaching the OPEN/CLOSE travel limits, the corresponding relay connects.

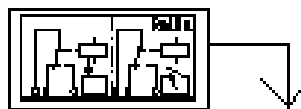
Connecting the relay output circuit board (Item no. 153 044)

Always attach the flat cable plug in such a way that the cable is at a right angle to the circuit board edge.

Connect the relay circuit board and the control unit with the supplied flat cable.

Relay circuit board: plug connector X4

Control unit: plug connector X8a (33)



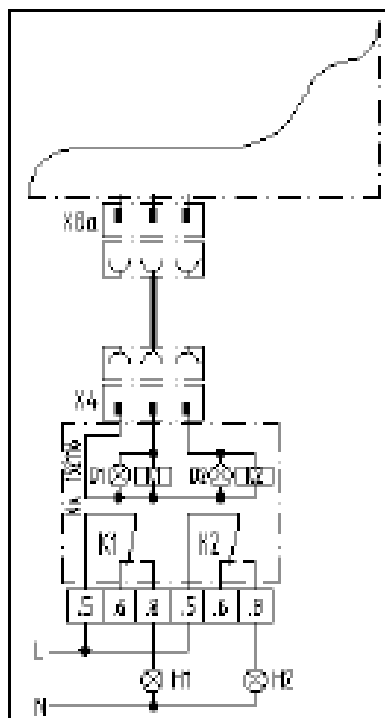
Wiring diagram: detail of travel limit signal (relay):

Legend:

- D1 CLOSE control light
- D2 OPEN control light
- H1 CLOSE signal light
- H2 OPEN signal light
- K1 CLOSE relay
- K2 OPEN relay

Plug connections:

- X4 Relay triggering
- X8a Travel limit relay (to the control unit)



Connection and initial operation of the extensions

Signal lights connection for timer function

Function: The signal lights flash on power operation of the door. If the automatic timer is switched on, the signal lights flash in addition during the warning phase.

Connection of the relay circuit board

Always attach the flat cable plug in such a way that the cable is at a right angle to the circuit board edge.

Connect the relay circuit board and the control unit with the supplied flat cable.

Relay circuit board: plug connector X4a

Control unit: plug connector X8b

Programming the automatic timer

When the automatic timer is switched on, an opened door is held open for the duration of the open phase and closed automatically after the warning phase has elapsed.

See also point 20. Level 3 automatic timer; page 19.

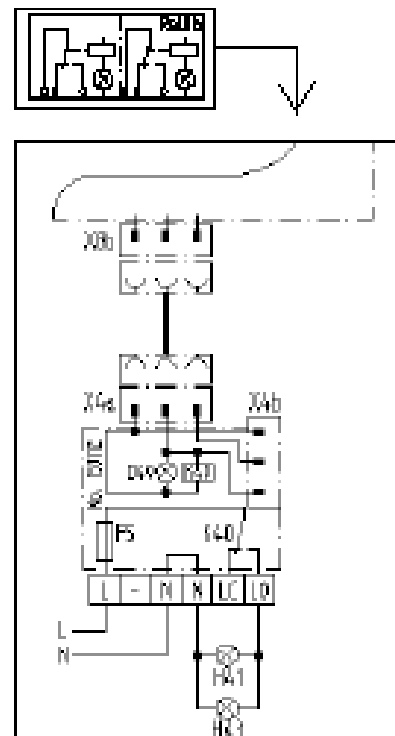
Wiring diagram: detail of signal lights relay:

Legend:

- D40 SIGNAL LIGHTS control light
- F5 Mains fuse (max. 4A)
- H41 EXIT signal light (amber)
- H43 ENTER signal light (amber)
- K40 SIGNAL LIGHTS relay

Plug connections:

- X4a Relay triggering
- X4b Relay triggering
- X8b Signal lights relay (in the control unit)



Connection and initial operation of the extensions

Lighting (special function relay)

Function: On starting the operator the relay is briefly activated (wiper impulse)

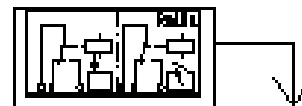
Connection of the relay output circuit board (norm no. 153 04-4)

Always attach the flat cable plug in such a way that the cable is at a right angle to the circuit board edge.

Connect the relay circuit board and the control unit with the supplied flat cable.

Relay circuit board: plug connector X4

Control unit: plug connector X8d



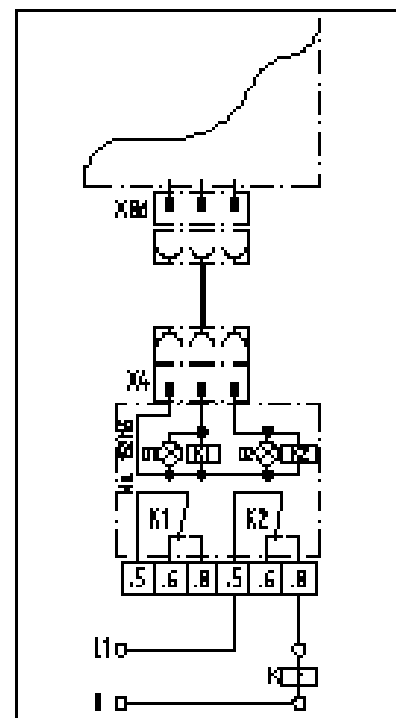
Wiring diagram: detail of lighting (special function relay):

Legend:

- K Automatic light (on site)
- K1 Relay OPERATOR RUNNING (WIPE IMPULSE)
- K2 Relay OPERATOR RUNNING (WIPE IMPULSE)

Plug connections:

- X4 Relay triggering
- X8d Special function relay (in the control unit)



24 Test Instructions - continued -

The fault number is displayed on briefly pressing programming button 1.

Fault	Fault No.	Indicator flashes erratically
Photocell activated	6	Indicator 6
Programming aborted	7	Indicator 7
Defective LFM sensor	9	Indicator 8 + 1
Power limit	10	Indicator 8 + 2
Excess travel stop	11	Indicator 8 + 3
Photocell self-monitoring is not o.k.	15	Indicator 8 + 7
Power limit self-monitoring is not o.k.	16	Indicator 8 + 7 + 1
Learned power limit	28	Indicator 8 + 7 + 6 + 5 + 2
Response sensitivity of power limit	27	Indicator 8 + 7 + 6 + 5 + 1
Static element circuit broken	36	Indicator 1 - 8

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Putting into operation

Power-operated windows, doors and gates for industrial or commercial use must be checked by a specialist after initial installation and then regularly at intervals of 1 year minimum.

Maintenance

The Comfort 310 garage door operator is virtually maintenance-free. However, all movable parts of the door and operator systems should be checked regularly and kept in an easily movable condition. The door must be easy to operate manually. The separate door counterbalance mechanism must be checked regularly. The "OPEN" and "CLOSE" settings of the automatic cut-outs should be checked regularly.

Technical data:

Comfort 310
Garage Door Operator

Connected loads:
230 V
260 W

Door travel speed:
0.14 m/s
0.08 m/s

Push and pull force:
Comfort 310: 700 N

Excess travel stop:
88 sec.

Automatic timer device:
with additional signal lights and
through-traffic photocell. Warning phase adjustable from
2 to 70 seconds. Open phase adjustable from 5 - 255 seconds.

Lighting:
With additional relay

Control voltage:
low voltage below 24 V DC.

Automatic cut-out:
Electronic power limit through microprocessor and
LFM sensor

Anti-lock system:
Through microprocessor and LFM sensor.

Push-open protection:
Through microprocessor and LFM sensor

Protection category:
Residential buildings only.

