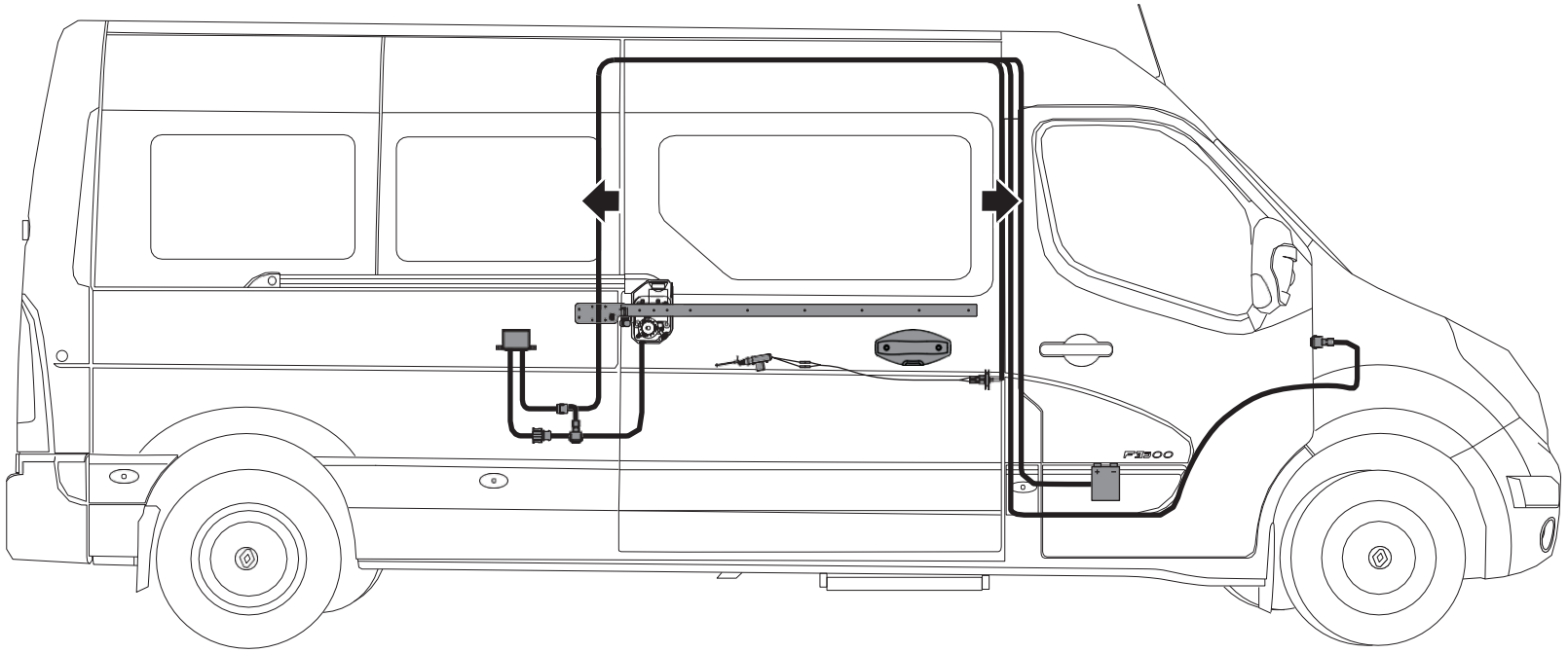
WIN-DOOR AUTOMATIC SLIDING DOOR OPENING

INSTALLATION MANUAL

RENAULT MASTER



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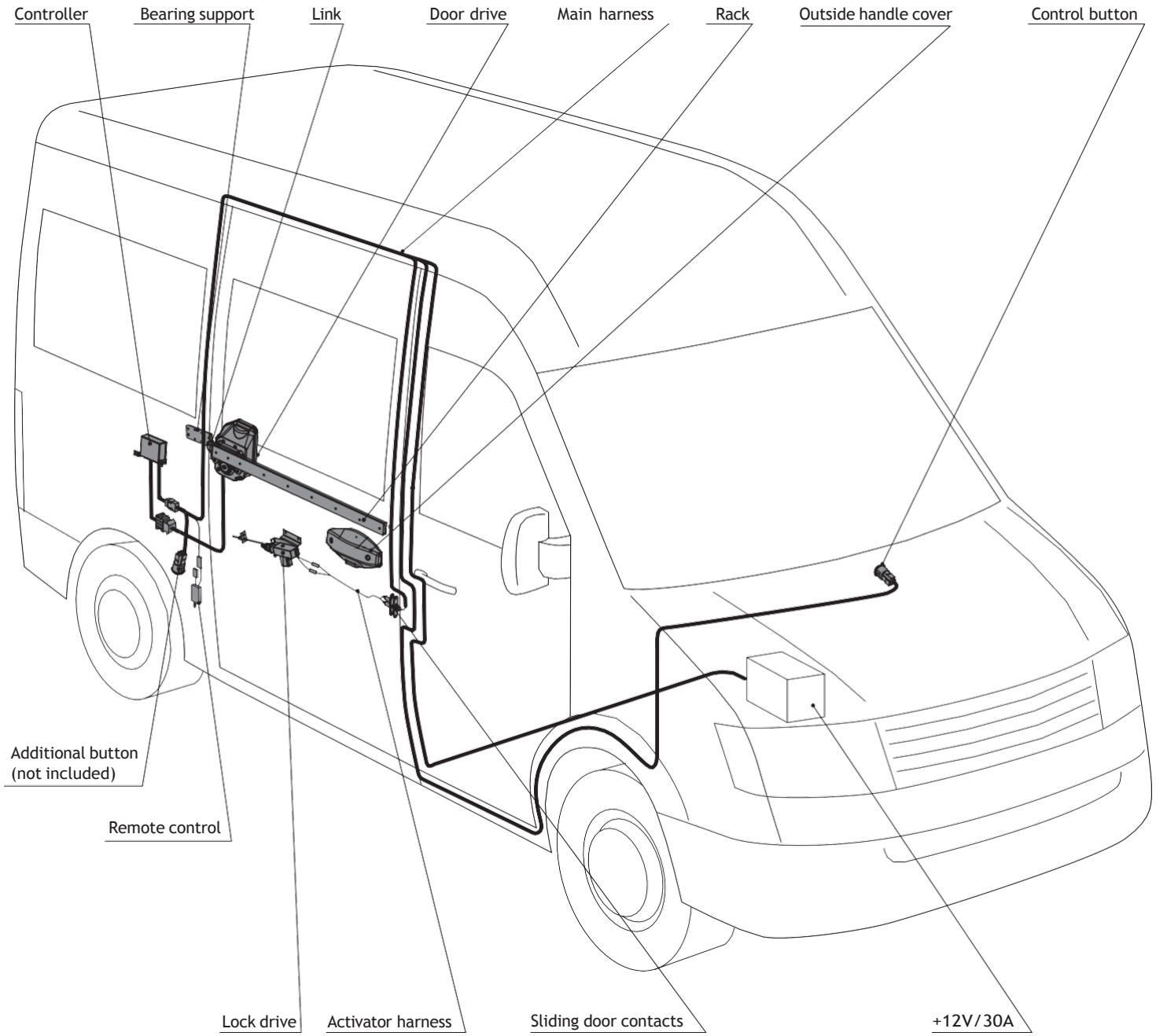


This model is suitable for opening and closing sliding door of «Renault Master» vans.

Disposition of assemblies and parts of the drive is shown on the model of a standard minibus.

NOTE

This manual describes installation of the drive WIN-DOOR with maximum specifications. If you install a door drive without any additional options, just omit unnecessary paragraphs of the manual.

BASIC TECHNICAL CHARACTERISTICS

WIN-DOOR drive is designed for opening and closing doors in minibuses working as taxi buses. The models of the buses are listed on the manual cover.

Power consumption (nominal)	70 W
Power consumption (maximum)	250 W
Time of door opening (depends on the width settings)	2 - 6 .sec
Time of door closing (depends on the width settings)	2 - 6 .sec
External temperatures	-40 - +40
Maximum allowed angle of bus ascent when the door will close	15%
Resource	Not less than 1200000 opening/ closing cycles
Maximum force on the door	370N (37 kg)

⚠ NOTE ⚠

Long-lasting and trouble-free operation of WIN-DOOR drive depends on the quality of installation.

OPERATING CONTROL

WIN-DOOR drive is an electromechanical device which operates being connected to the in-vehicle network. The drive consists of two main parts: lock drive and door drive. The lock drive opens the lock and the door drive opens and closes the door Drive control can be carried out by means of:

- **Main control button**

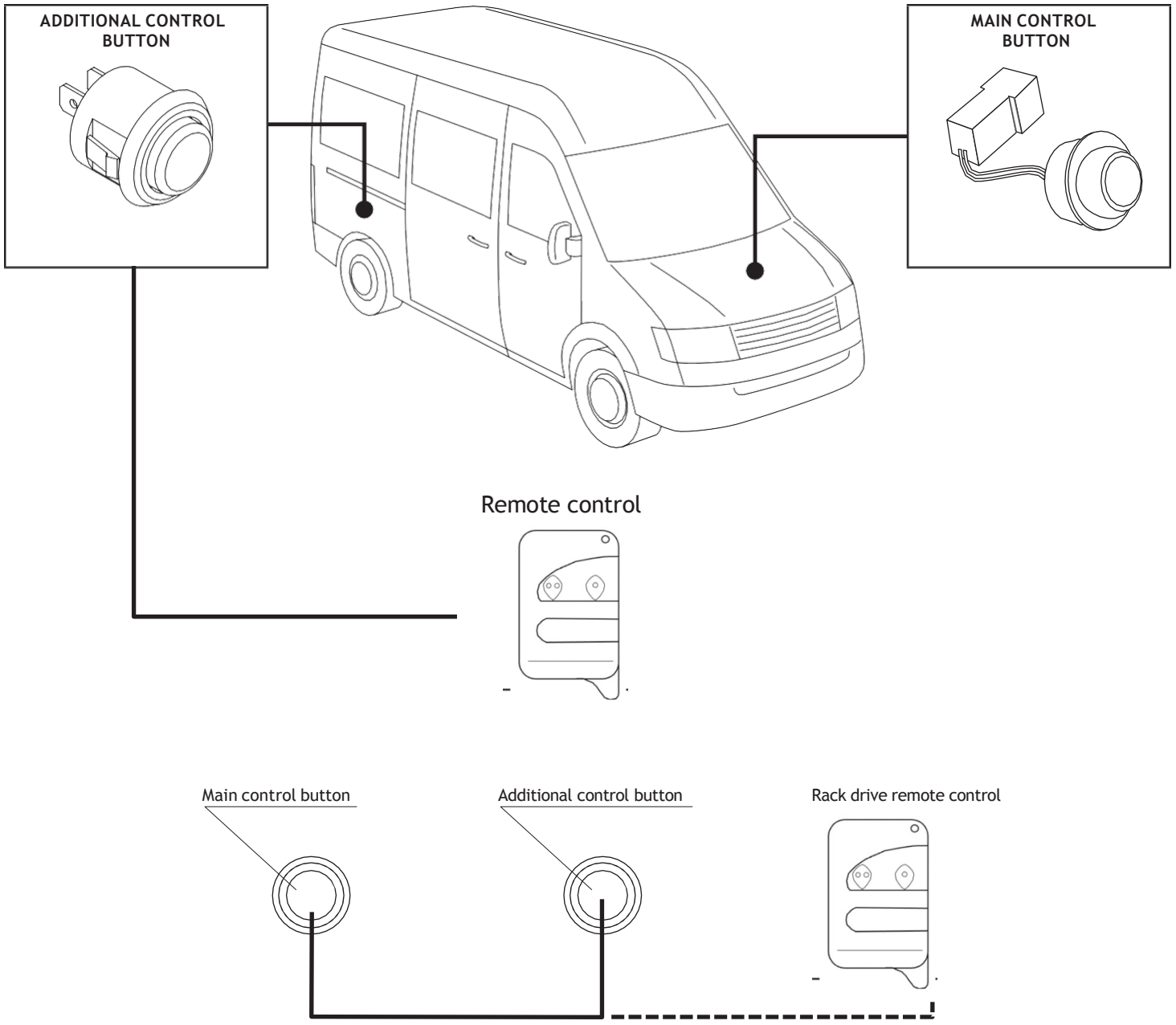
which controls the door functions and the system settings

- **Rack drive remote control**

which controls the door functions

MOTOR DRIVE FUNCTIONS:

- **Opening and closing the door**
- **Automatic roll-back of the door**
- **Door stopping**
- **Sound signal**
- **Operating mode with and without fixing the sliding door**
- **Adjustment of the opening width**
- **Adjusting the door closing speed**



PRECAUTIONS

Drive installation involves refining of existing body parts of a minibus. All body parts of a minibus are made of sheet metal, so there is a high probability of being cut by sharp edges appearing after refinement or by sharp parts of mechanical hand tools. During drive installation follow safety procedures while working with mechanical hand tools, blunt sharp edges of drilled holes. Use only tools in good working condition. During installation keep your working place clean, especially in the bus saloon. Before starting installation prepare all the necessary tools and parts, take away unnecessary things.

Trouble-free operation, reliability and operating life of the drive depend on precise accomplishments of the instructions given. It also depends on the precision of relative disposition of drive parts and assemblies. Before drilling fixation holes put the marks for drilling thoroughly, check correct disposition of a concrete part or assembly and only after that drill the holes.

This drive is an electromechanical device, so alongside metalwork there is also wire installation and connection to power supply. That is why electrical safety procedures must be followed. While connecting contacts, keep your hands and working place clean. This will provide reliable contacts connection and trouble-free operation of the drive as a whole .

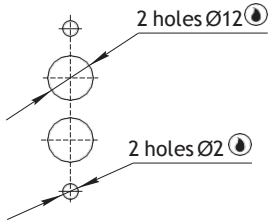
TOOL LIST

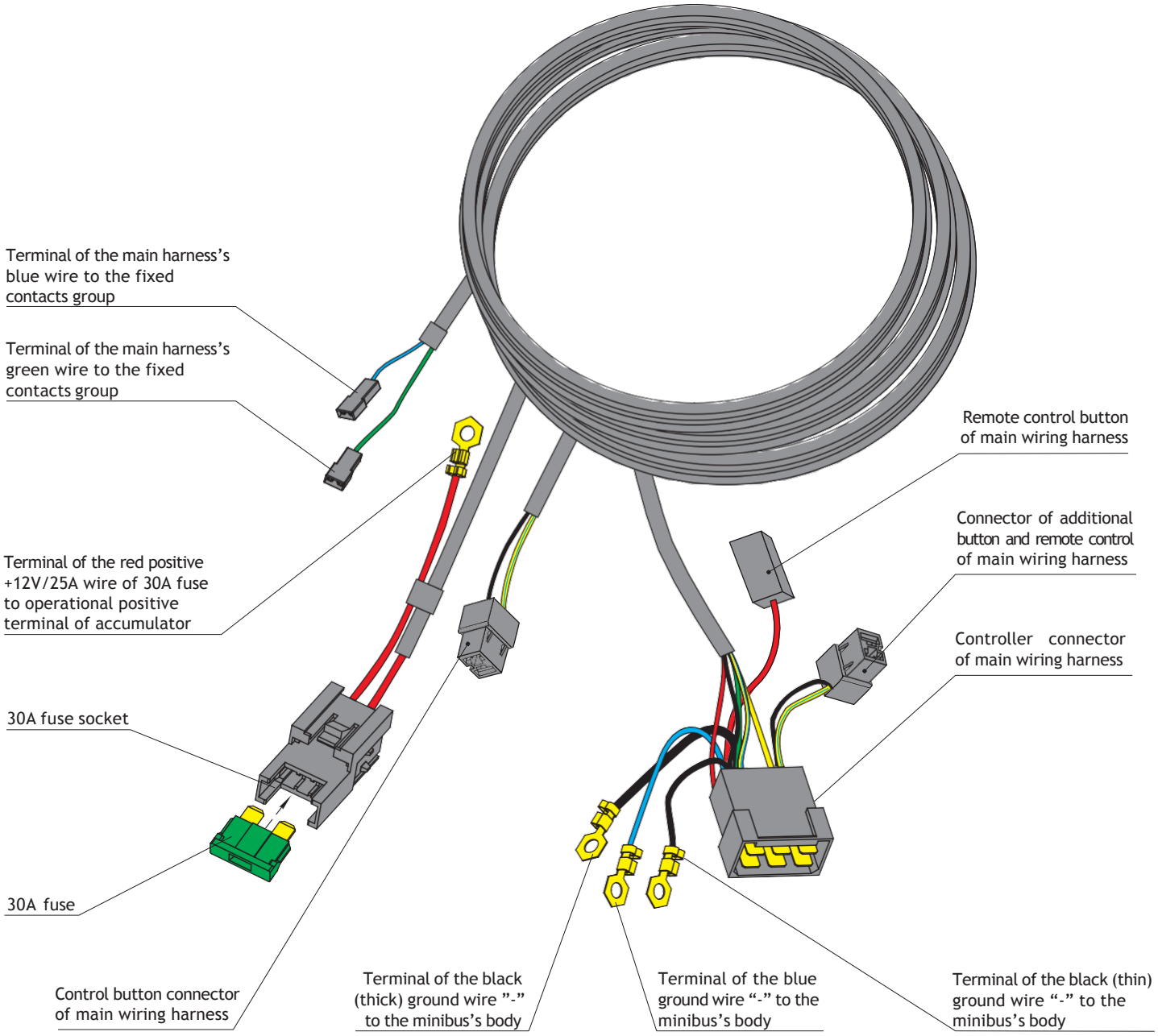
Clip withdrawal tool 1
Head stock 10-17 mm 1set
Riveter 1
Riveter for pull-out nuts GESIPA GBM 10 1
Centre punch 1
Combination wrenches 1set
Metal ruler 1
Hammer 1
Hexagon wrench tools 1
Star wrench tools Torx..... 1
Knife..... 1
Flat tip screwdriver 1
Cross tip screwdriver 1set
Pliers 1set
Wire for tightening ..... 3m.
Drill bits 2.5; 3.2; 5; 6.5; 9; 1
Step-shaped drill 4-24 mm..... 1
Slack adjuster..... 1
Electrical extension cord..... 1
Lamp..... 1
Sliding calipers 1
Electric drill 1
Hack saw..... 1
Multimeter 1
Sidecutter..... 1
Rivet nut..... 15
Rubber solvent petrol ..... 1 bottle

After drilling holes burrs are left on hole edges and paint coating of the body is inevitably damaged. In some places which require additional processing the following symbols will be used

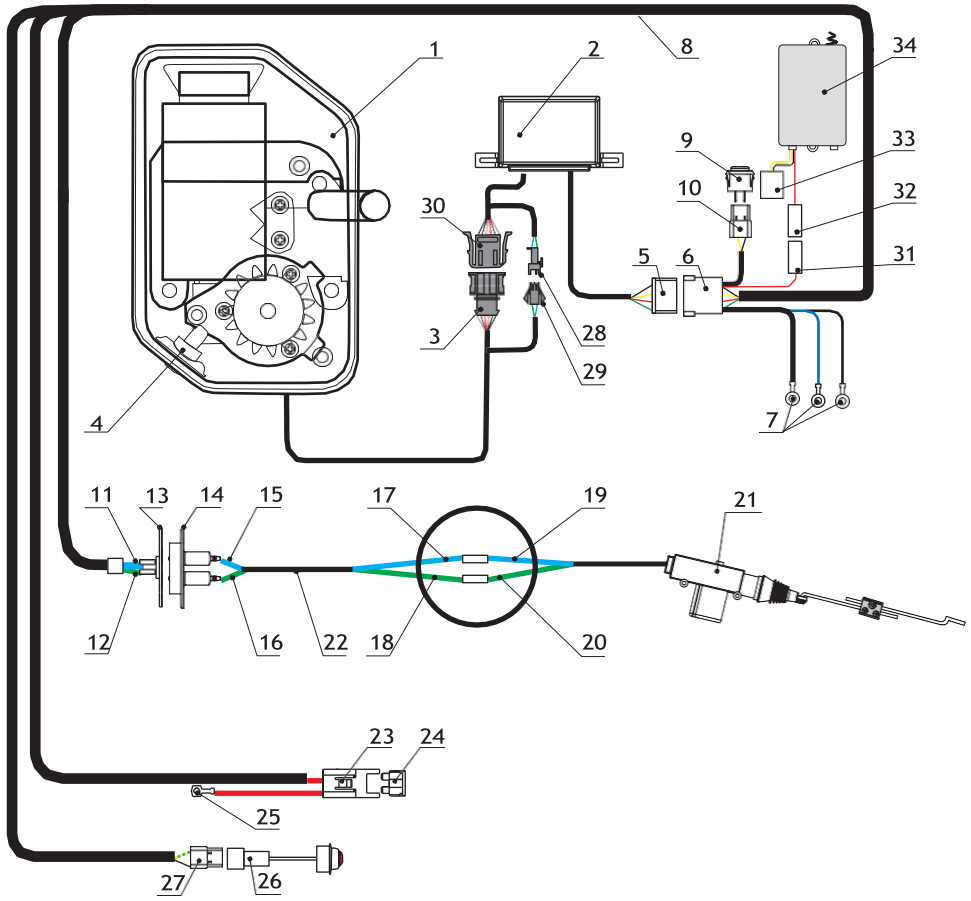
— Remove burrs off the edges
— Blunt sharp edges
— Coat the edge with rust-proof liquid

Example: coat the edges of the holes with rust-proof liquid




Terminal of the main harness's blue wire to the fixed contacts group
Terminal of the main harness's green wire to the fixed contacts group
Terminal of the red positive +12V/25A wire of 30A fuse to operational positive terminal of accumulator
30A fuse socket
30A fuse
Control button connector of main wiring harness
Terminal of the black (thick) ground wire "-" to the minibus's body
Terminal of the blue ground wire "-" to the minibus's body
Terminal of the black (thin) ground wire "-" to the minibus's body
Remote control button of main wiring harness
Connector of additional button and remote control of main wiring harness
Controller connector of main wiring harness

2.2 CONNECTION DIAGRAM OF RACK AND PINION DRIVE



1. WIN-DOOR drive
2. Controller
3. Drive harness connector to controller wiring harness (black, red, grey-and-black, blue-and-black, grey-and-white, red-and-white)
4. Torch
5. Controller wiring harness connector (red, black, green, yellow-and-blue, yellow)
6. Main wiring harness connector (green, red, blue, black (thick), black (thin), yellow-and-blue)
7. Terminals of the ground (black (thick), black (thin), blue) wires "-" to the minibus's body
8. Main wiring harness
9. Additional button
10. Additional button connector (black, yellow-and-blue) and remote control
11. Terminal of the main wiring harness's blue wire to the fixed contacts group
12. Terminal of the main wiring harness's green wire to the fixed contacts group
13. Movable contacts group
14. Fixed contacts group
15. Terminal of the activator blue wire to the movable contacts group
16. Terminal of the activator green wire to the movable contacts group
17. Terminal of the activator wiring harness's blue wire
18. Terminal of the activator wiring harness's green wire
19. Terminal of the activator blue wire
20. Terminal of the activator green wire
21. Lock drive
22. Actuator wiring harness
23. Terminal of 30A fuse red wire
24. 30A fuse
25. Terminal of +12V red positive wire of 30A fuse to operational positive terminal of accumulator
26. Main control button
27. Main control button connector (black, yellow-and-blue)
28. Controller connector to torch connector (green, blue)
29. Torch connector (green, blue)
30. Connector of controller (black, red, grey-and-black, blue-and-black, grey-and-white, red-and-white)
31. Main wiring harness connector (red)
32. Remote control wiring harness connector (red)
33. Remote control wiring harness connector (yellow-and-blue, black)
34. Remote control

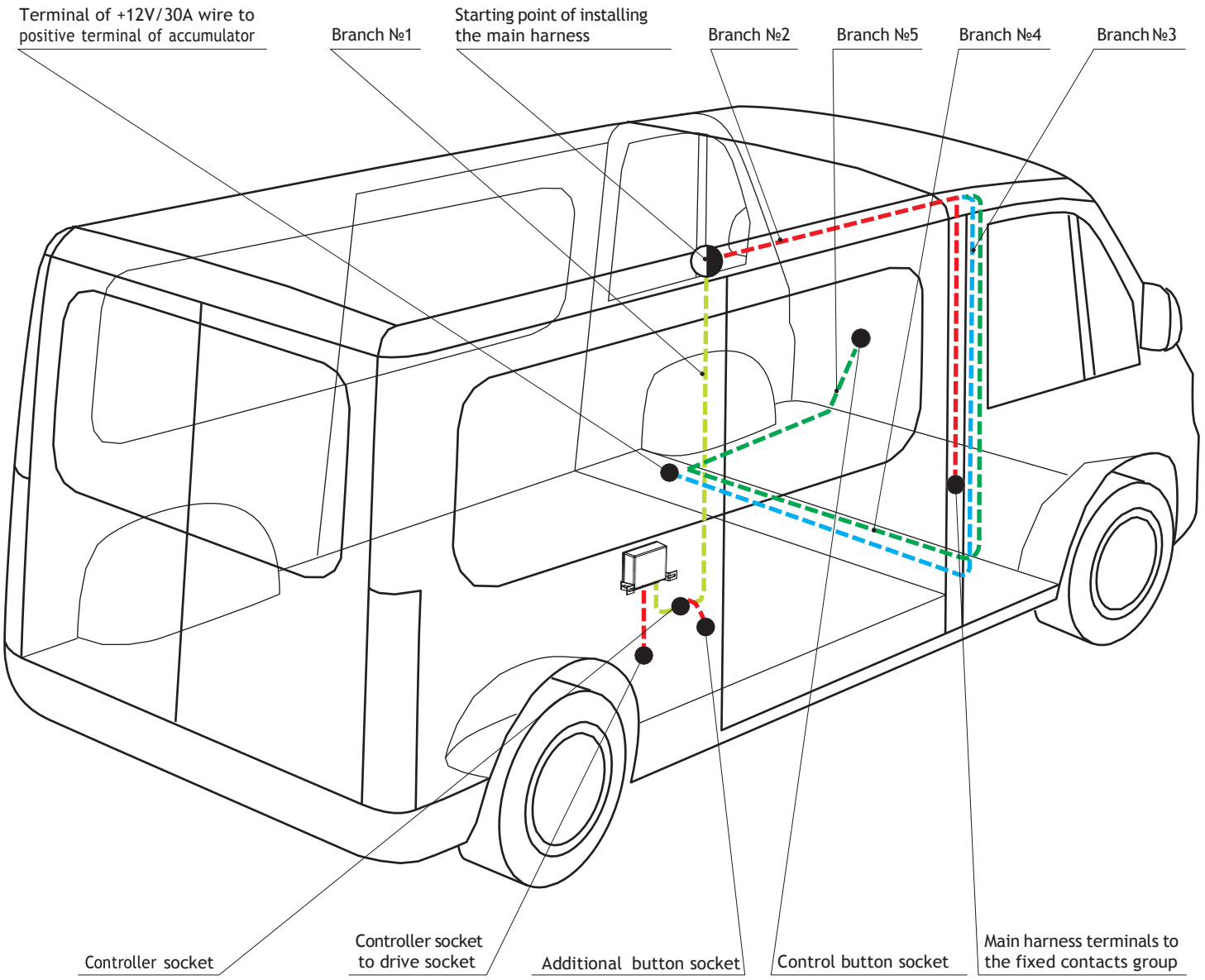
NOTE

All wires must be protected and firmly attached to avoid any breakage, abrasion or chafing.

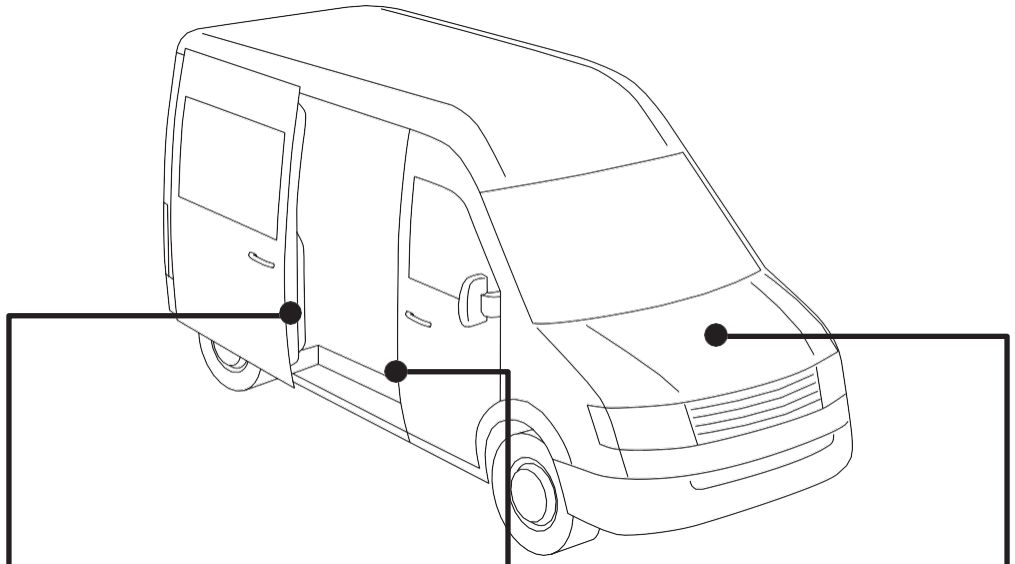
When installing the main harness use steel wire to conceal the harness in the hidden places. Disposition of the main harness is shown in the picture. Be careful while installing the harness: insulating material must not be damaged.

Begin installing the main harness at the starting point as shown in the picture in the following order:

- Extend branch №1
- Extend branch №2
- Extend branch №3
- Extend branch №4
- Extend branch №5



2.4 DISPOSITION OF CONTROL BUTTON AND SLIDIN G DOOR CONTACTS



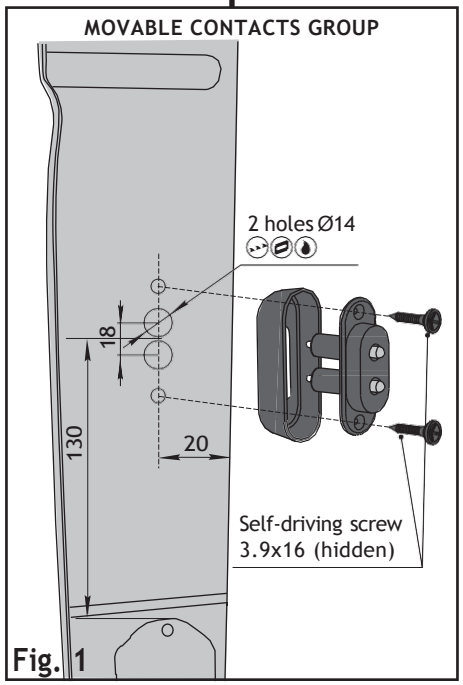


Fig. 1

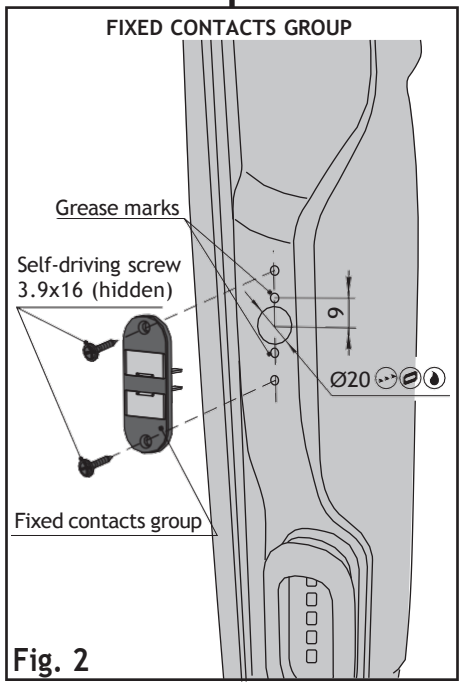


Fig. 2

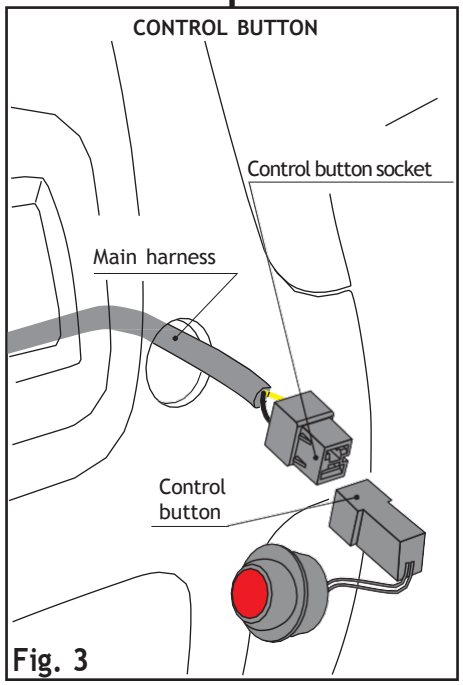


Fig. 3

To place the control button drill a hole Ø 23 mm on the dashboard where you find it convenient to use. Remove burr from the edges and blunt sharp edges. Insert the control button into the hole having connected it to the main wiring harness connector (fig. 3).

NOTE

The movable contacts and fixed contacts groups must be located in such a way that «Autodoor» inscription is positioned on top of it.

Mark out on the exposed face of the sliding door as shown in fig. 1. Drill 2 holesØ 14 mm (fig. 1). Connect the blue wire of wiring harness of an actuator to the top contact of the portable contact group, and green to the underneath one according to the diagram at p.8 and the figure at p. 12 Fix the movable contacts group with 2 tapping screws 3,9 x 16 using the contacts separator (fig. 1).

Apply grease lubricant on the contacts of the movable group. Open/close the door. Using the marks left by the grease on the pillar, mark and drill 2 holes Ø 20 mm (fig. 2).

Connect the blue wire terminal of the main wiring harness to the upper terminal of the fixed contacts group and the green one to the lower terminal as shown in scheme on page 8.

Secure the fixed contacts group with 2 tapping screws 3,9 x 16 (fig. 2).

In the car sidebar place and screw up a controller with two self-tapping screws 4,2x12 from the hardware bag as shown in fig. 4

To fix ground wire «-» terminals it is required to make a hole with diameter Ø 6.5 mm in any place of the car inside bar, next to the controller as shown in fig. 4. Remove the paint around the hole completely so you can see metal in order to provide a good contact as shown in fig. 5. With the bolt M6x14, toothed washer and the nut M 6 from hardware bag fix the ground wire "-" terminals as shown in fig. 6. The toothed washer must be between terminals and a car body. After tightening an M6 screw, apply the rust proofing on the surface with damaged rust-proofing paint.

⚠ NOTE ⚠

It is necessary to place the controller so as working hole looked down to prevent the controller card from ingress and accumulation of condensate (v. fig. 4)

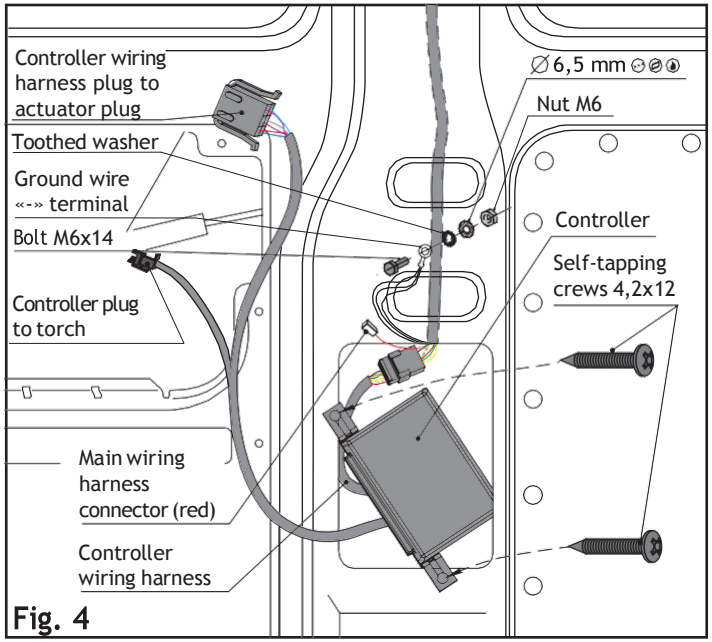


Fig. 4

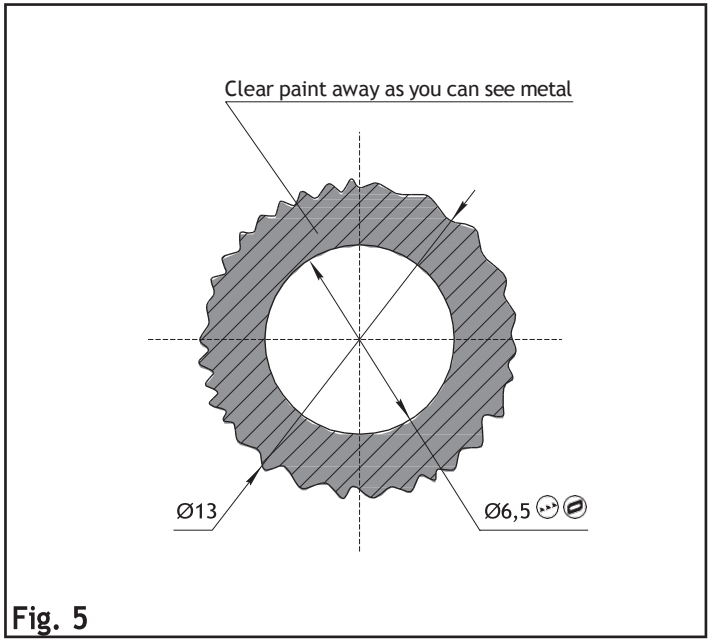


Fig. 5

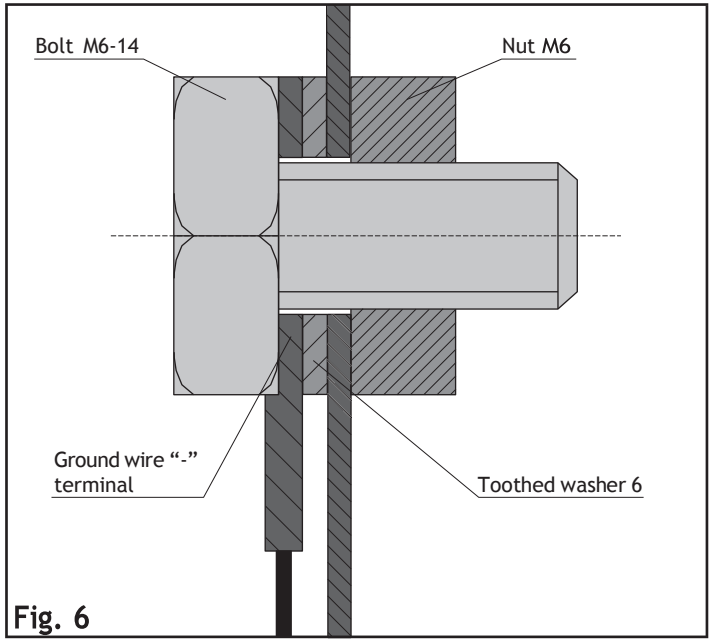
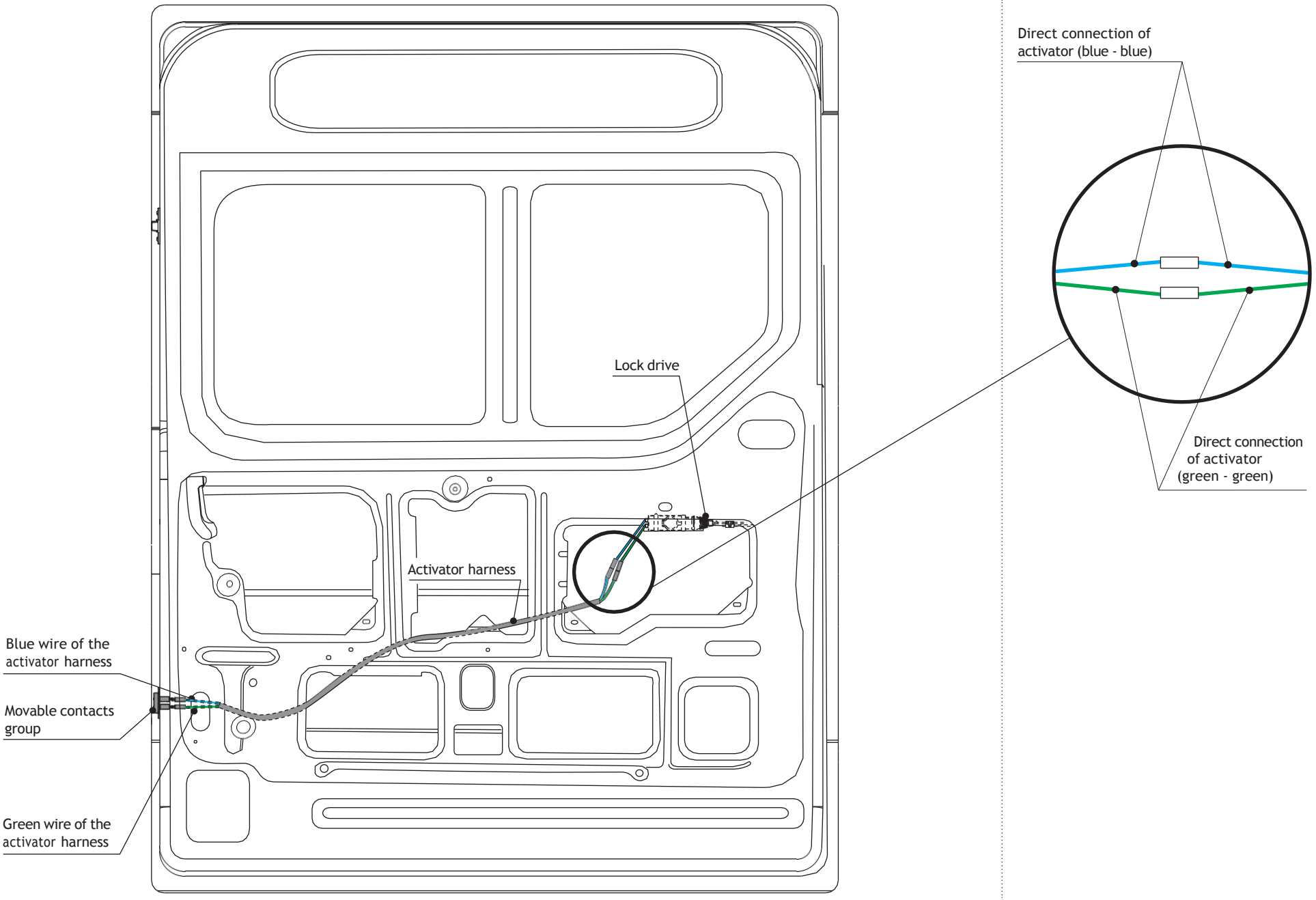


Fig. 6

2.6 INSTALLATION OF LOCK ACTUATOR AND ITS WIRING HARNESS



1. Detach the standard lock from the door by unscrewing the mounting screws (fig. 7).
2. Disconnect the standard opening cable together with the clip from the lock (fig. 8).
3. Drill a Ø 3.5 mm hole in the pivoted lock lever (fig. 9).
4. Insert the lock drive rod into the hole Ø 3.5 mm, place the standard cable back (fig. 10) and fix the lock on the door (fig. 7).

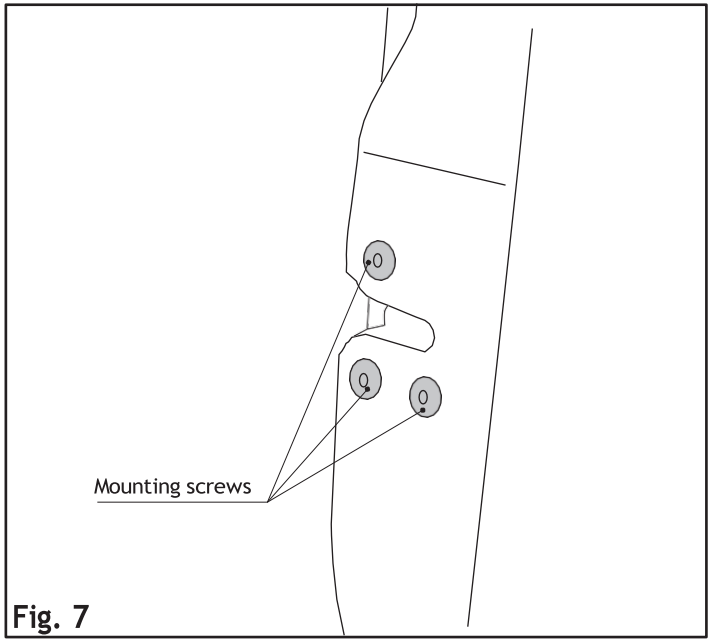


Fig. 7

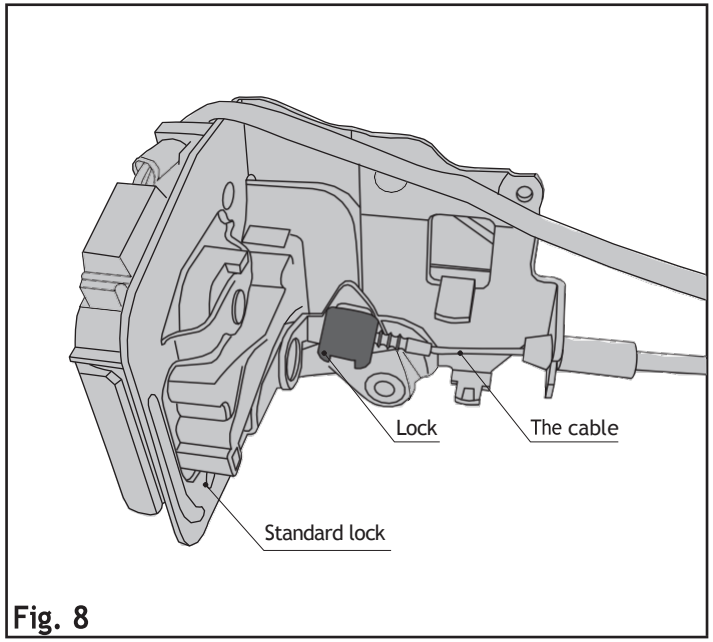


Fig. 8

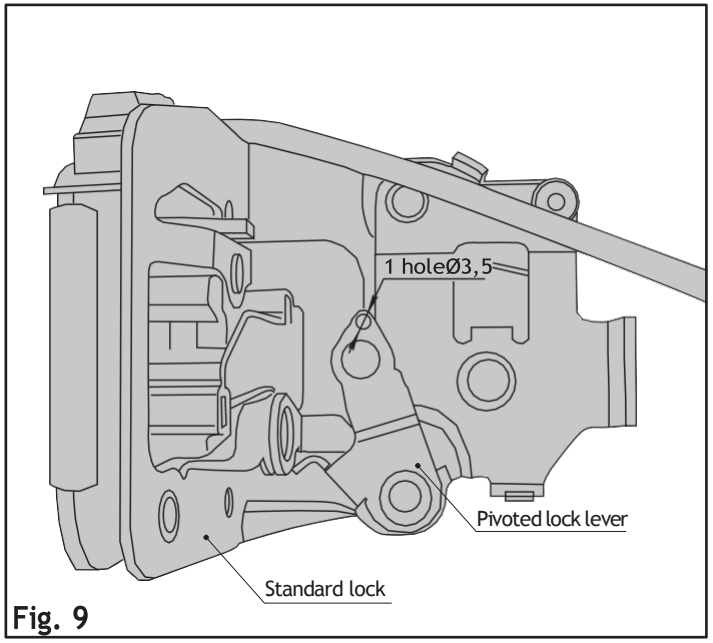


Fig. 9

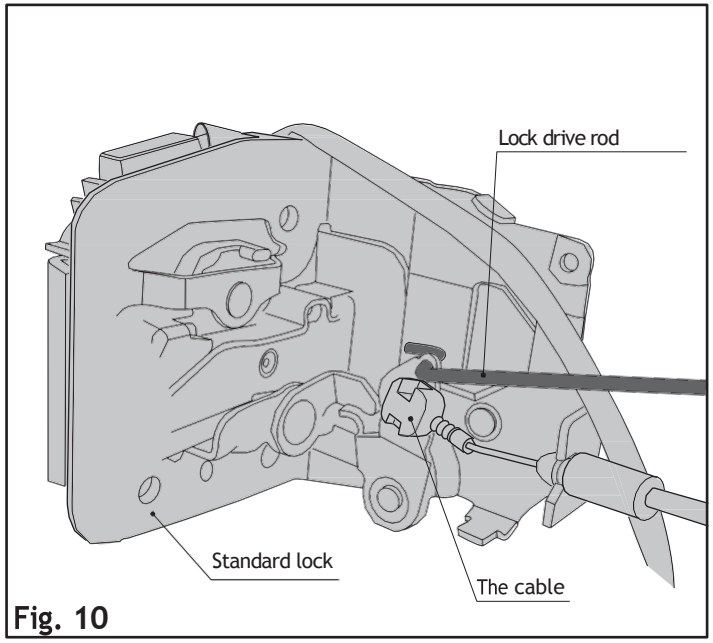


Fig. 10

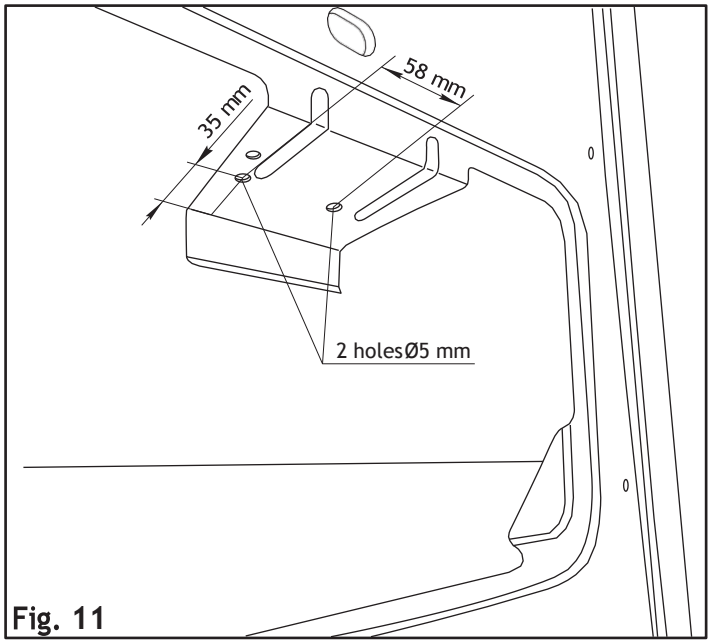


Fig. 11

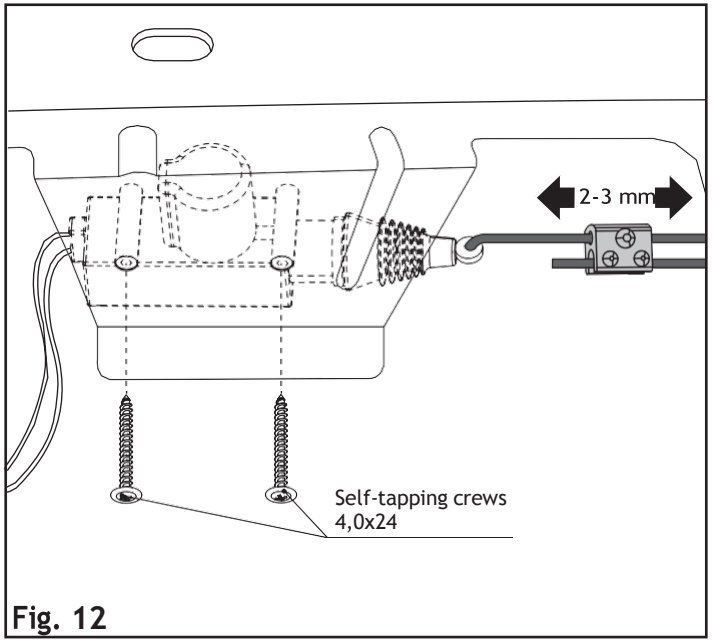


Fig. 12

In the door arch, make two Ø 5 mm holes according to the marking (fig. 11).

Screw up the actuator with two 4.0x24 self-tapping screws from the hardware package and connect the rods coming from the actuator and from the lock with a terminal strip.

Close the door manually. Using the terminal strip, adjust the length of the lock drive rod so that the clearance is 2-3 mm (fig. 12).

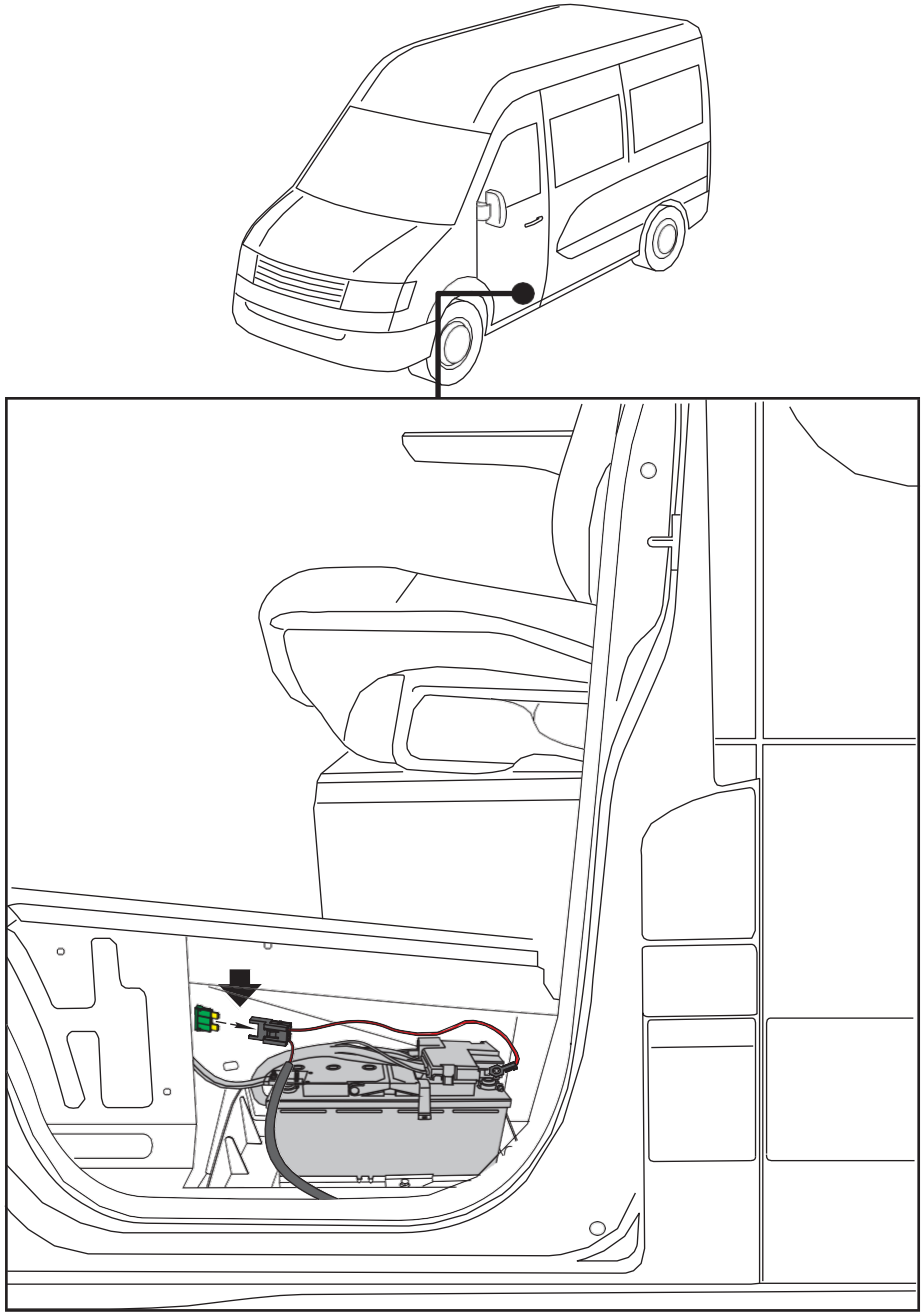
Connect the green wire of the actuator to the green wire of the actuator wiring harness, and the blue to the blue, correspondingly, as at page 12.

2.7 CONNECTION OF POSITIVE WIRE TO POSITIVE TERMINAL OF THE BATTERY

Connect the wire terminal +12V of the basic wiring harness to a free positive battery terminal, which is under a driver's feet. Fix the wire terminal +12V of the basic wiring harness with the standard accumulator nut.

ATTENTION

Before connecting, please, take the fuse 30A out of the fuse terminal block.



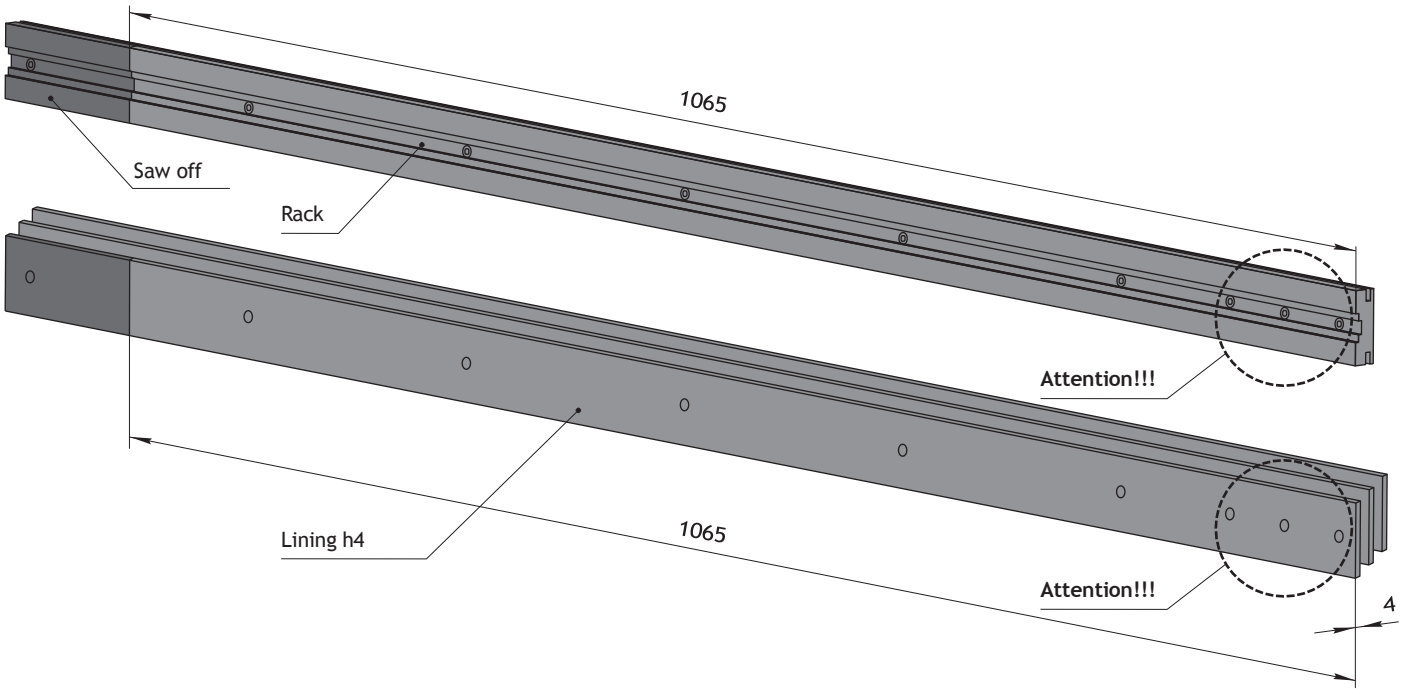


Fig. 13

It is recommended to install a rack with maximum length using some special liners.

NOTE

The rack must be sawn only on the left side .

The rack is installed on 3 lining H4 which must be sawn to the needed length beforehand .

3.2 INSTALLATION OF THE RA CK ON THE DOOR

At this page the suggested place for installation of the rack on the door is shown.

Close the door and remove the door padding.

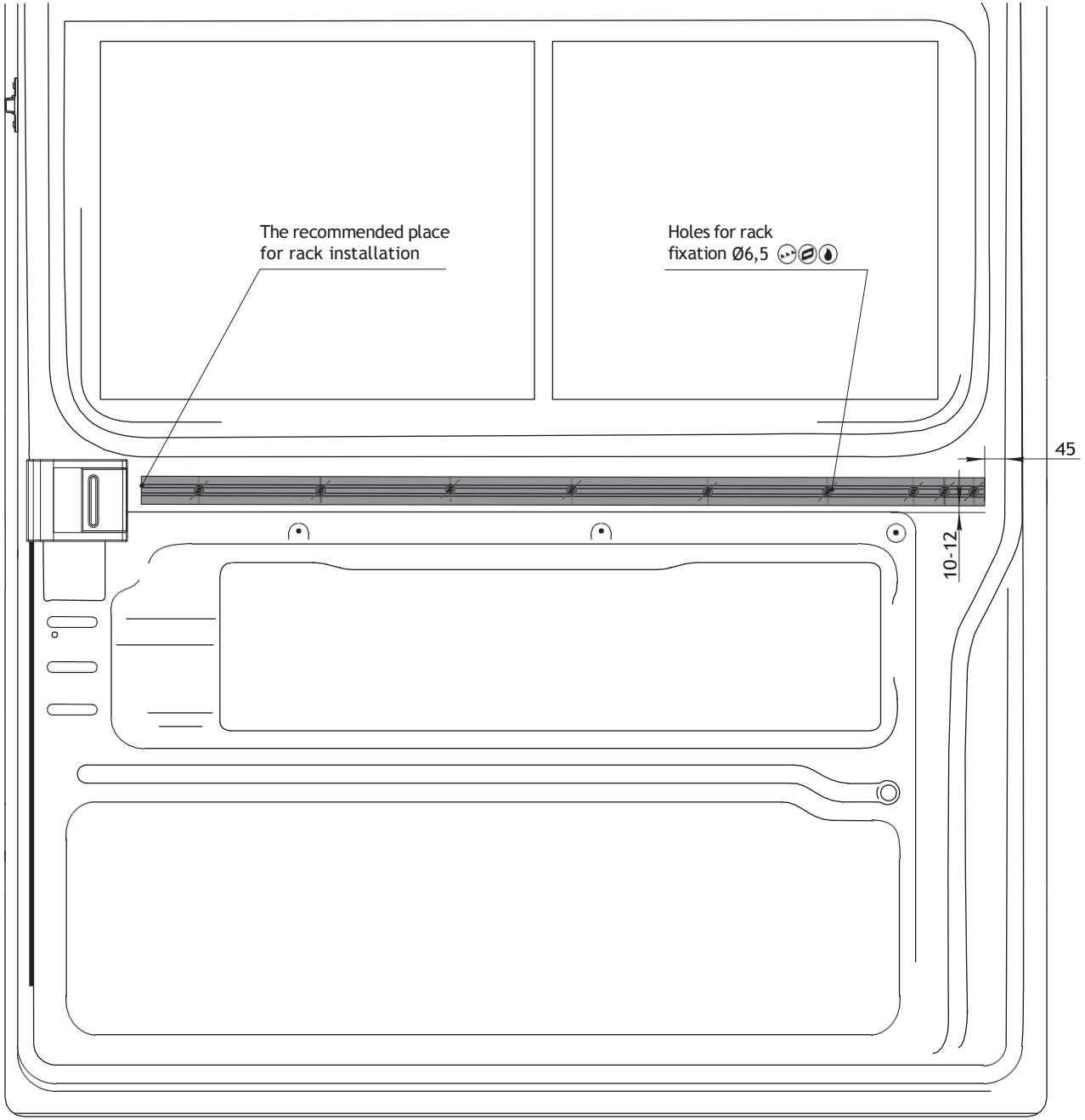
Put the rack to the suggested place as shown in the figure. Using the rack mark up the centers of future fixing holes.

NOTE

If operating mode of the drive is very intensive, you should use an inset under the rack. It is installed through 3 back fixation holes of the rack .

Using the marking, first drill Ø 6.5 mm holes. Remove the door panel. Under the rear three holes, rivet the "captive nut for a rack".

Drill the remaining holes as Ø 9 mm.



3.2 INSTALLATION OF THE RACK ON THE DOOR

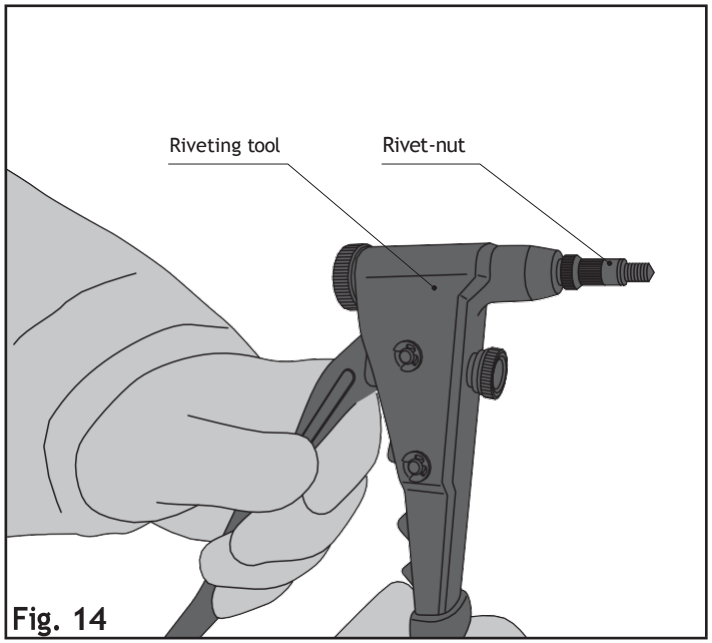


Fig. 14

Rivet all holes drilled up to Ø 9 mm on the sliding door frame with riveting nuts (not included in kit), as shown in fig.14 and 15.

Place the sliding door panel back on the sliding door.

Attach the rack and the linings using a hardware bag:

- With screws M6x40 (fig. 16)

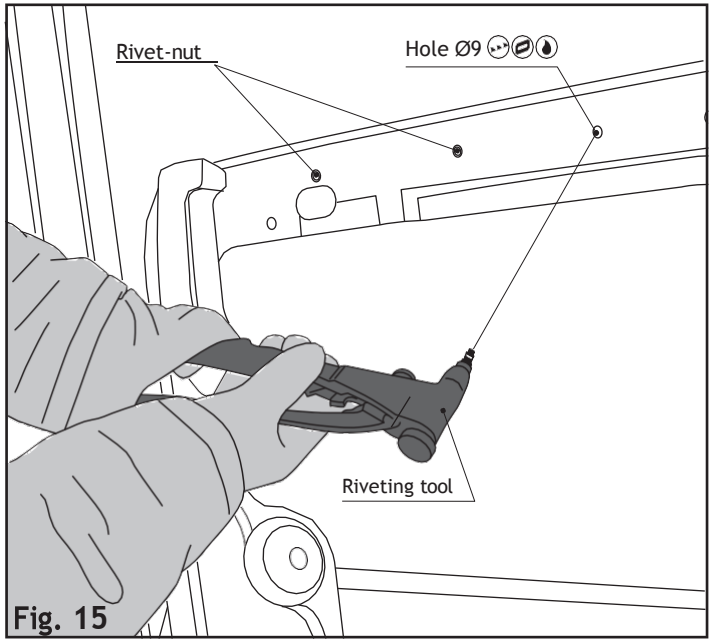


Fig. 15

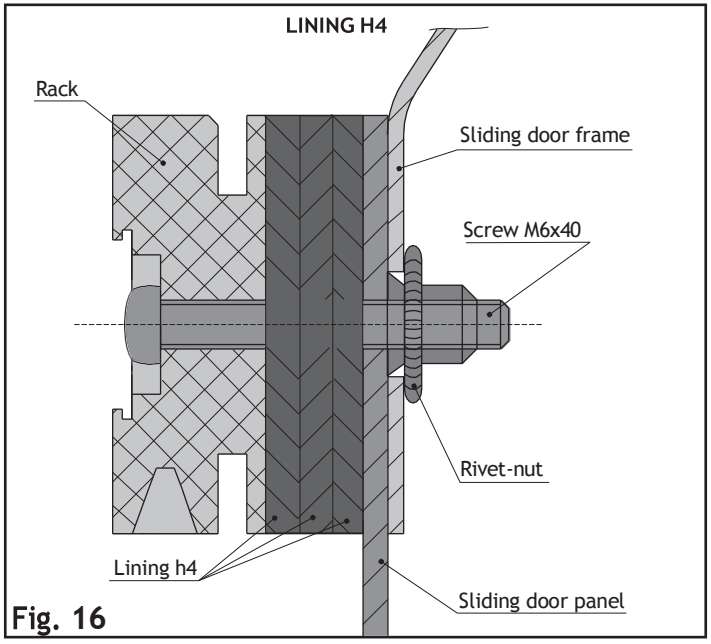


Fig. 16

Remove door seal in the area of bearing support installation (figure 17).

Put the bearing support to the body pillar (figure 19) so that rack plane A would be 8-10 mm above the bearing support plane B and space C between the bearing support and the rack would be 6-10 mm. Mark the centre of fixation holes on the bearing support with a marker.

Drill a hole Ø6.5 mm for a screw M6-25 using the marks. Drill holes Ø5 mm for rivets 4.8x12from the metalware set (figure 18).

Fix the bearing support with a screw M6-8 only, then with rivets 4.8-12from the metalware set (figure 20).

Cut off a part of the door seal from the inside so that the cutout would envelope the support's spacing collar (figure 17)

Put the door seal back.

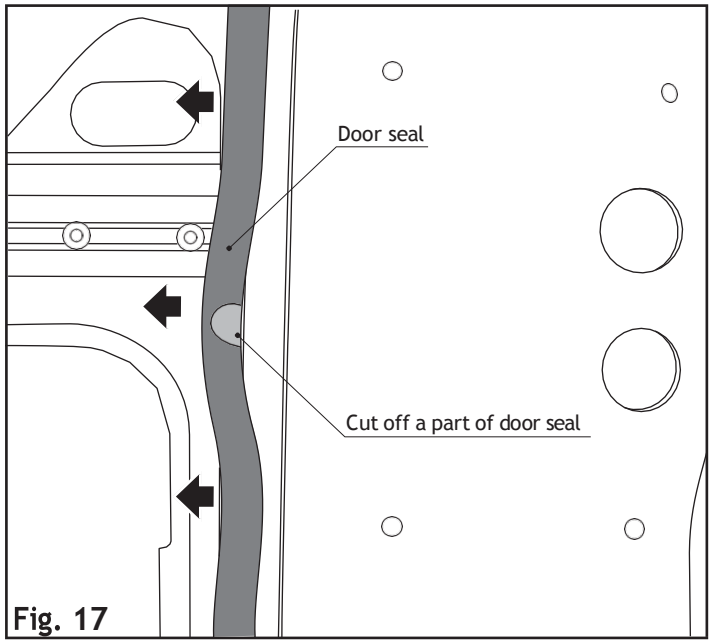


Fig. 17

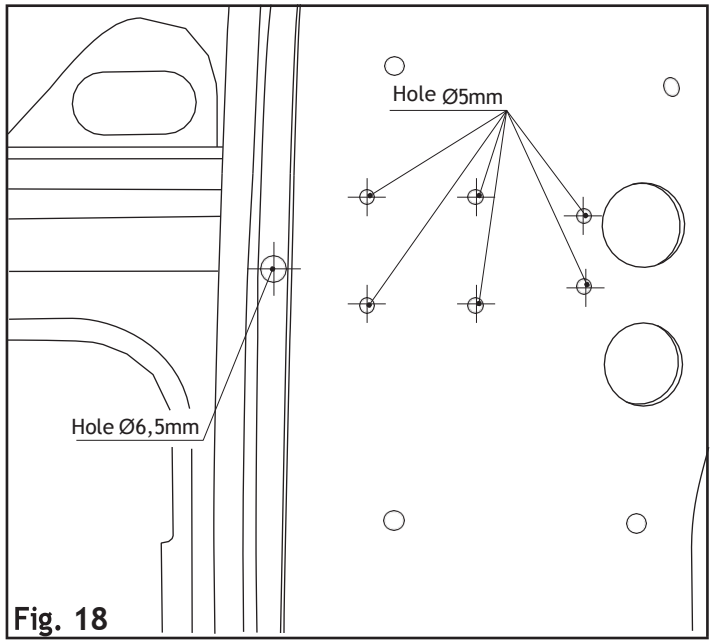


Fig. 18

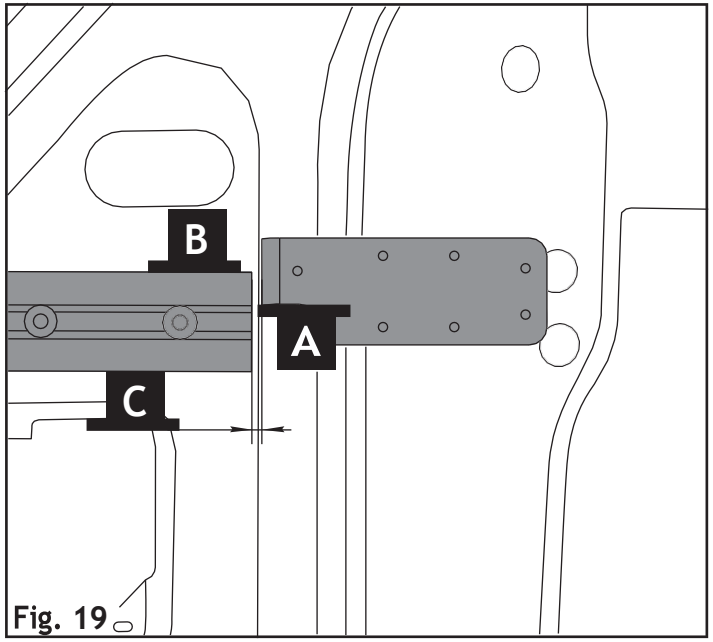


Fig. 19

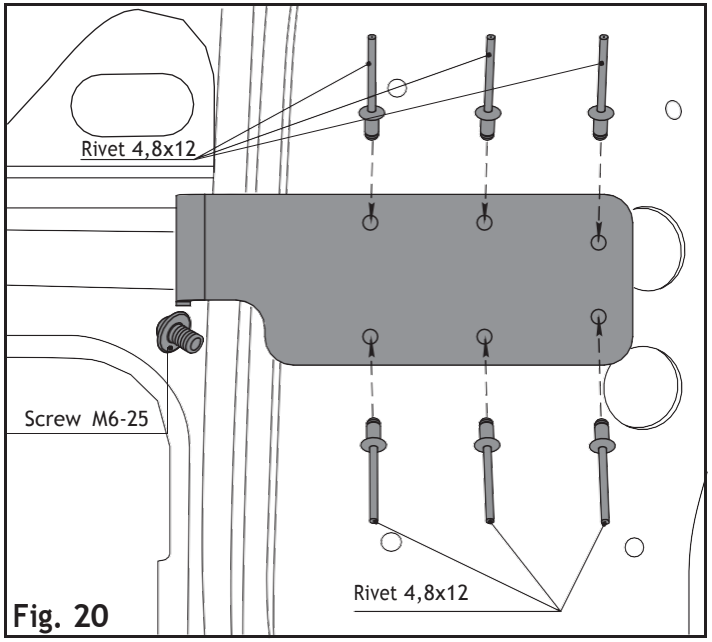


Fig. 20

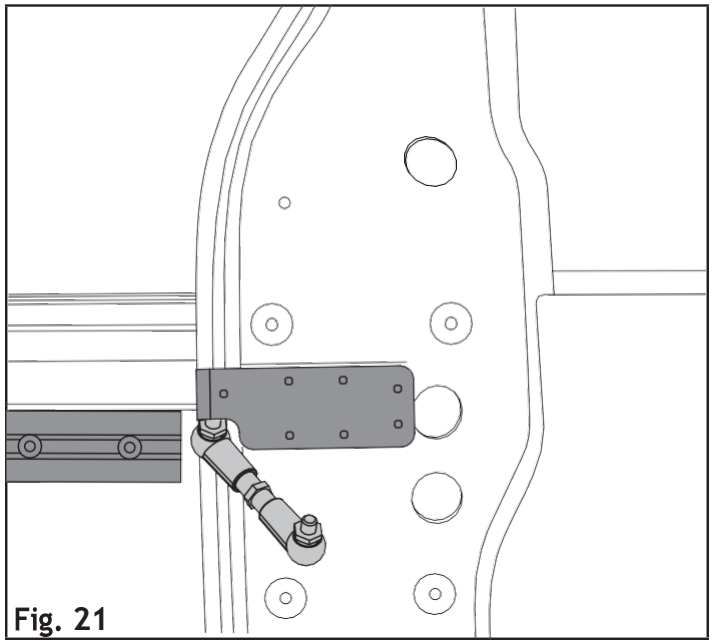


Fig. 21

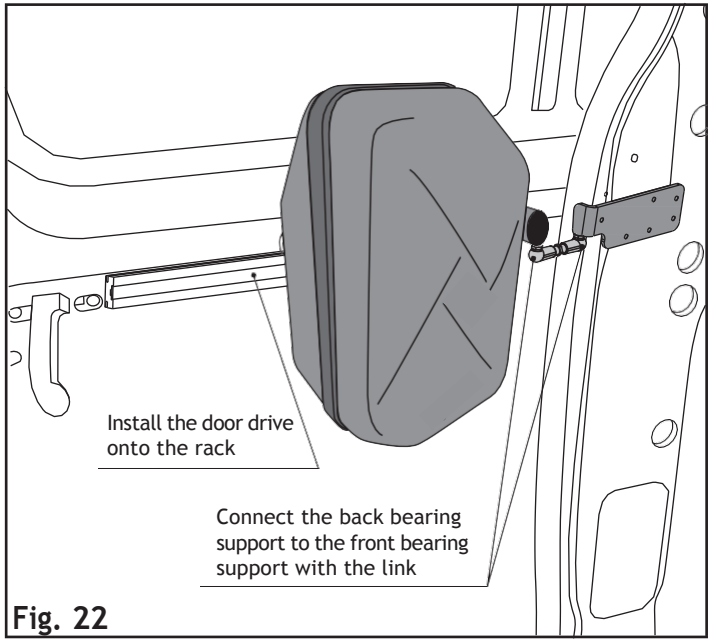


Fig. 22

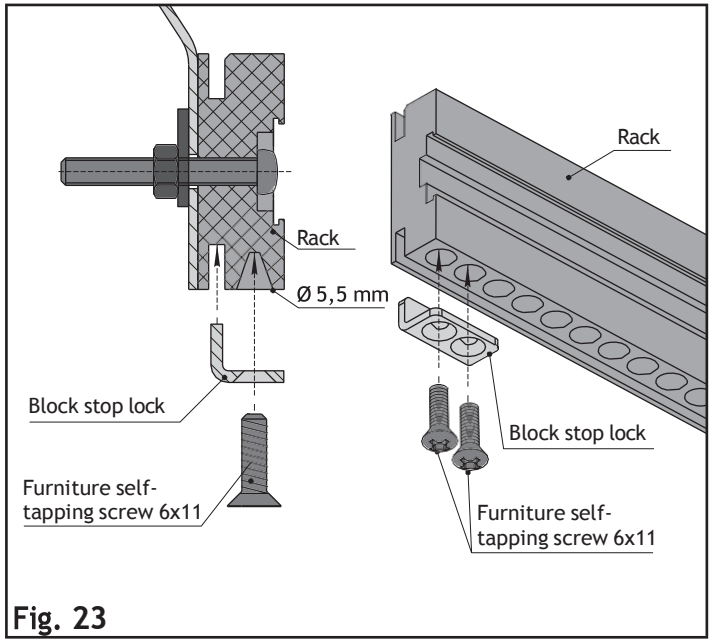


Fig. 23

Close the door manually.

Check to be sure that racks of the bearing item and the rod do not make the door closing difficult (fig. 21).

Install the door drive on the rack (fig. 22). Connect the drive to the rear bearing with the rod.

Drill two holes with diameter Ø 5.5 mm in the front part and set there the block stop lock (fig. 23).

Clear up the grooves of the rack from cuttings (figure 25).

Connect the drive to the controller (figure 24).

Insert 30A fuse into the fuse socket. The controller will make a sound signal.

Start up the engine of the van.

Press the control button. The drive will close the door and the controller will be making sound signals for 1-2 sec. Then start opening cycle. The drive will open the door and slowly roll up to the index pin. After that the drive will be working in regular operation mode.

⚠ ATTENTION ⚠

Before removing the drive (if necessary) or switching off the controller, first remove 30A fuse from the fuse socket .

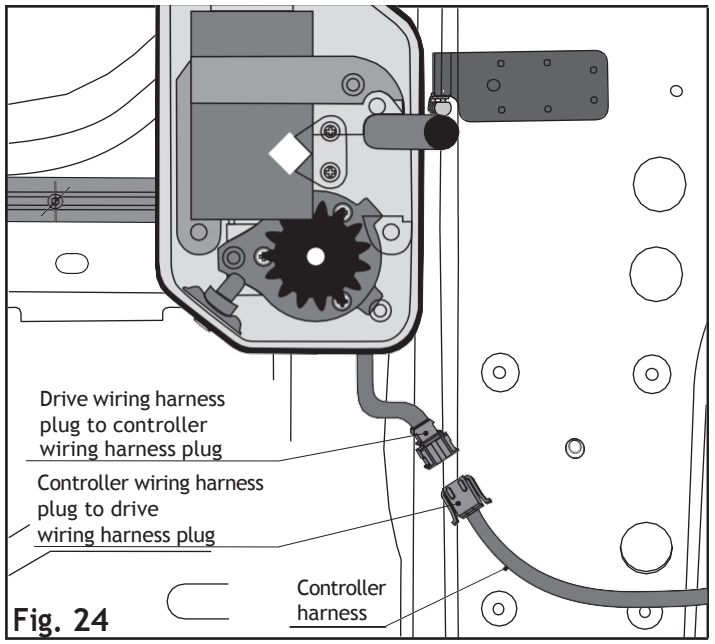


Fig. 24

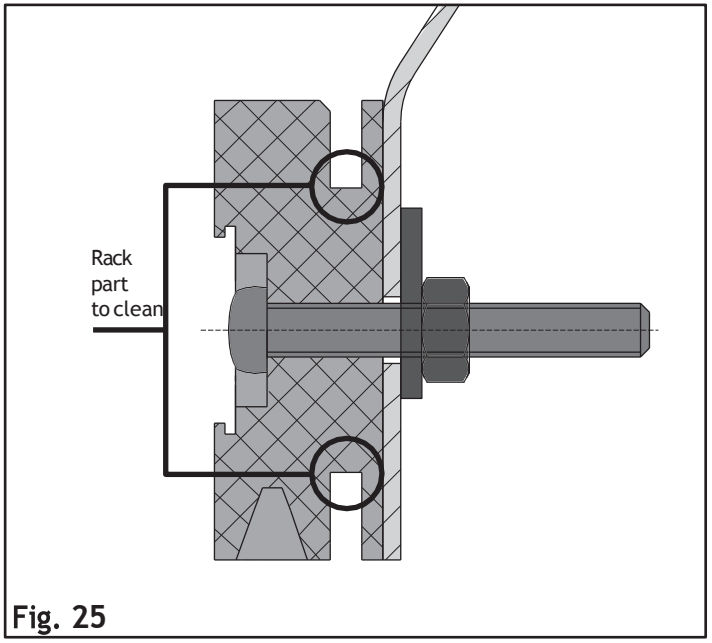


Fig. 25

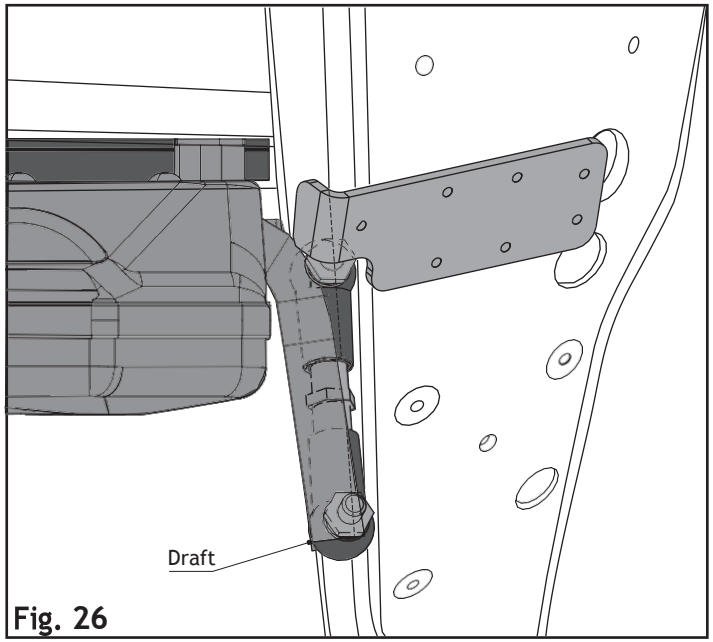


Fig. 26

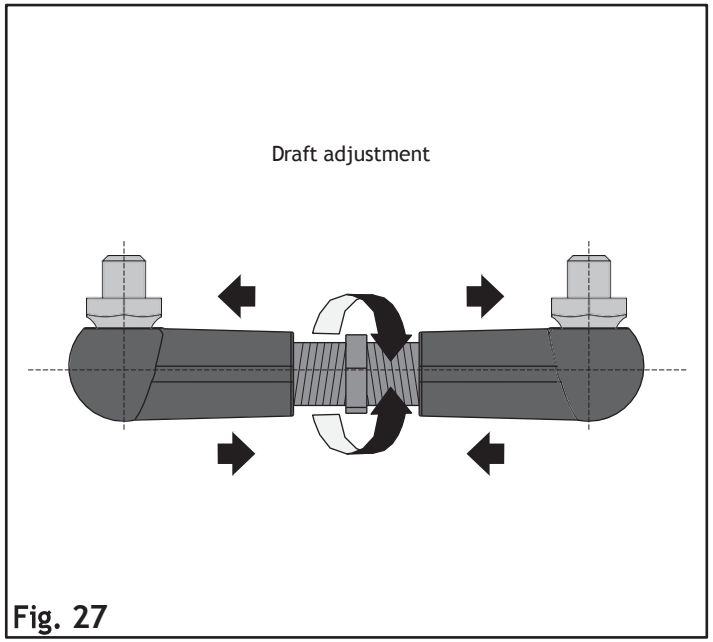


Fig. 27

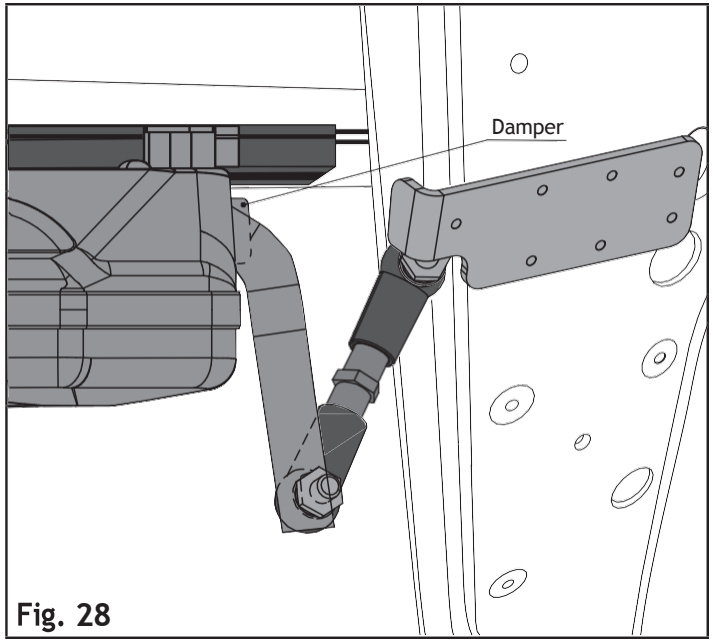


Fig. 28

DRAFT ADJUSTMENT

Draft position with correctly closed door in the locking mode is shown in fig. 26 and fig. 37, p. 26.

Rotating the pin by the hexagon drive (fig. 27), adjust the draft length so as the door could close tightly.

If draft installed correctly, it should bear against the cluster gear damper (fig. 26).

Draft position with correctly closed door in the nonlocking mode is shown in fig. 28 and fig. 38, p. 26.

Cut the decorative strap according to the rack (fig. 30 and 31).

Carefully put the strap into the rack housing as shown in figures 29, 30 and 31.

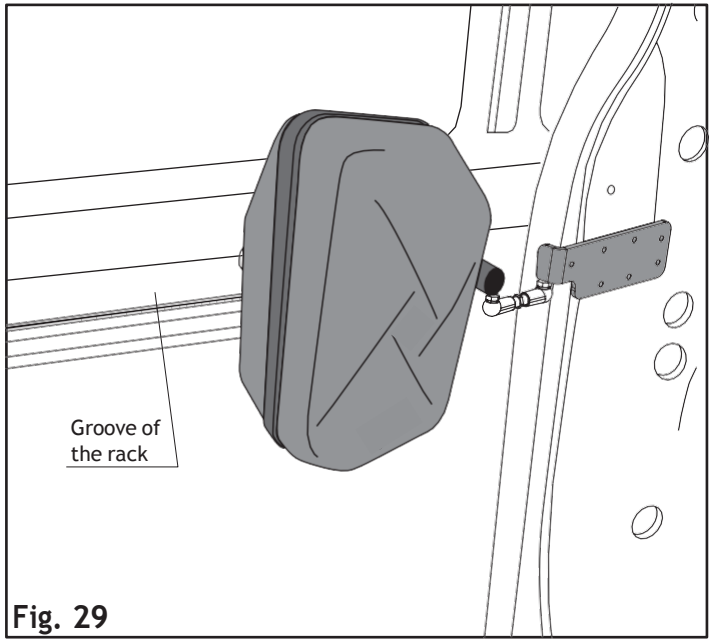


Fig. 29

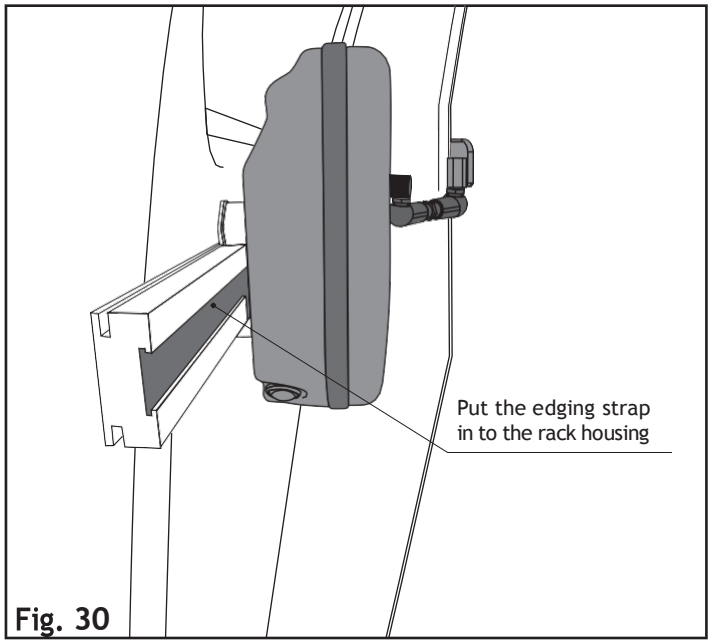


Fig. 30

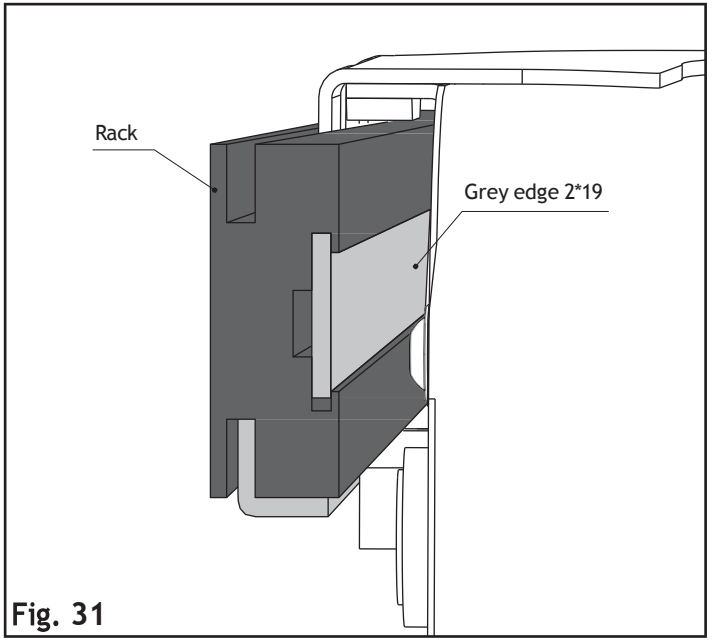


Fig. 31

4.4 MOUNTING OF OUTER HANDLE COVER AND INNER HANDLE COVER

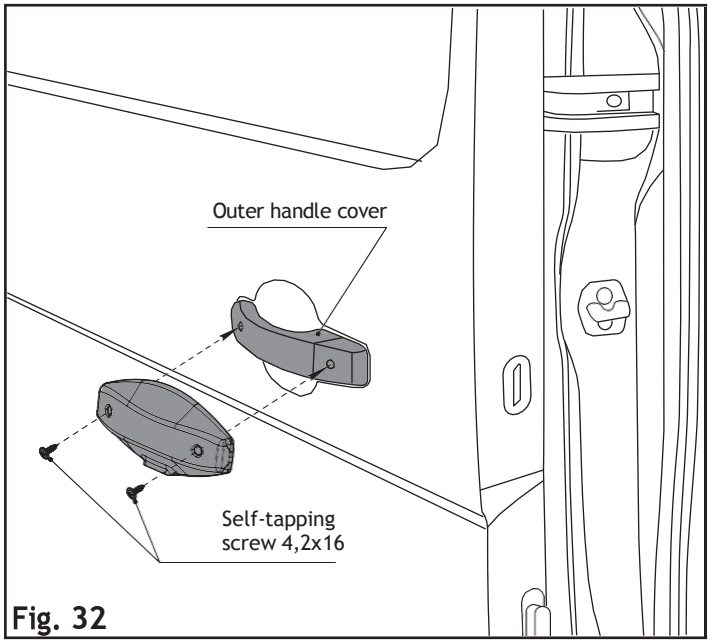


Fig. 32

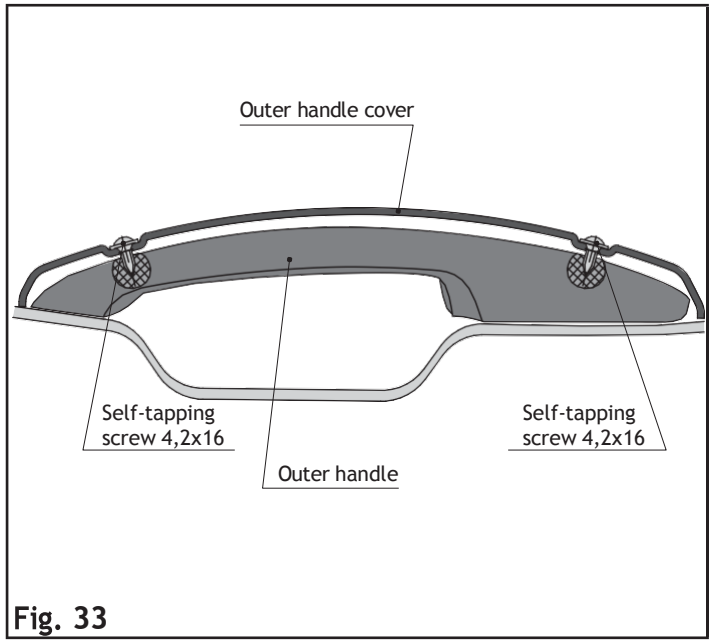


Fig. 33

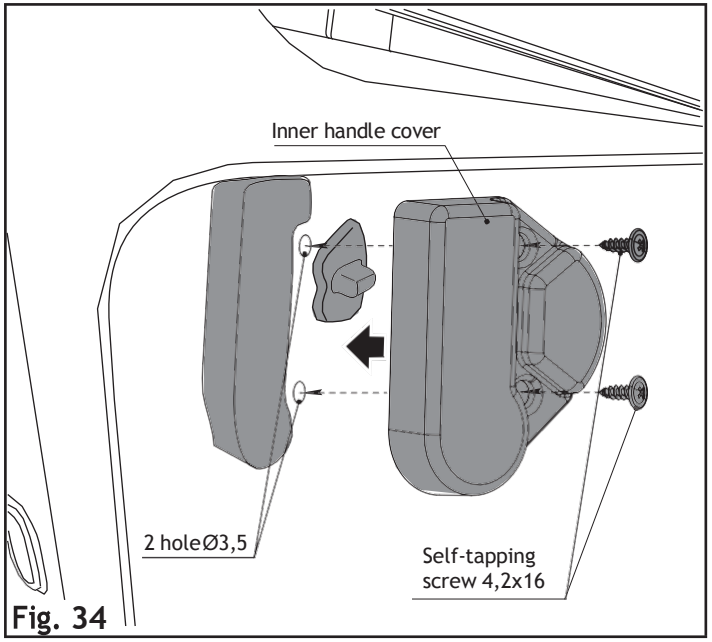


Fig. 34

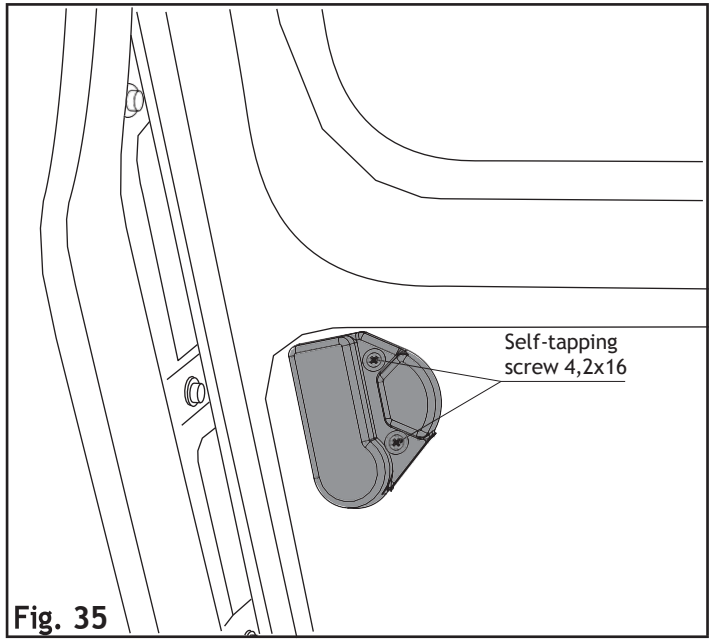
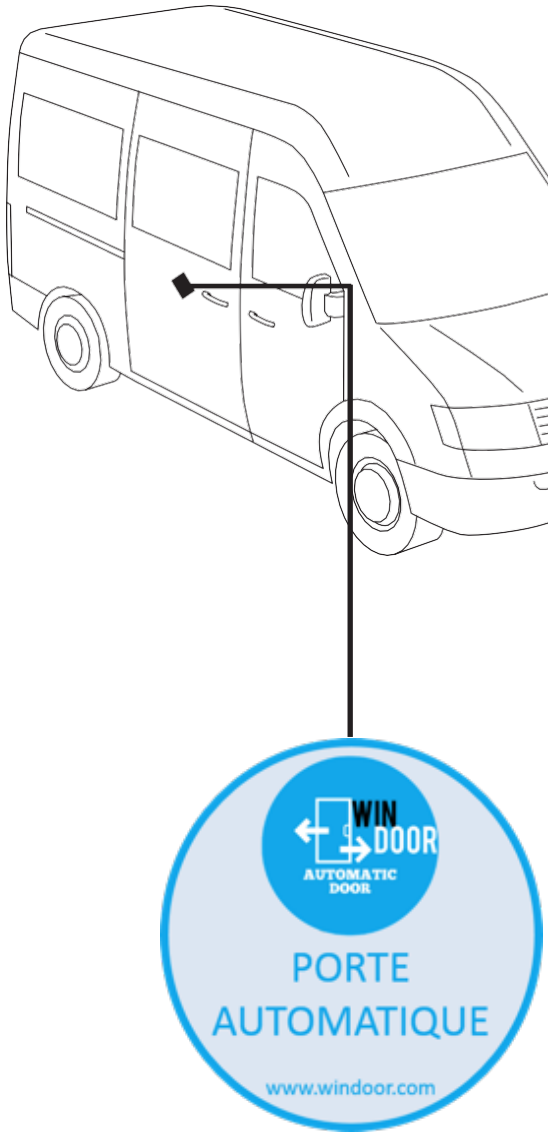


Fig. 35

Put the outside handle cover to the handle itself, mark on and make two holes with diameter Ø 3,5 mm. Screw up the cover on the handle with two self-tapping screws 4.2x16 from the hardware bag, as shown in fig. 32 and 33.

Put the inside handle cover to the marked place. Screw up the cover with the self-tapping screw 4.2 x 16 from the hardware bag, as shown in fig. 33, 34 and 35.

Place the information sticker outside the sliding door on the panel next to the handle so as it is easy to notice.



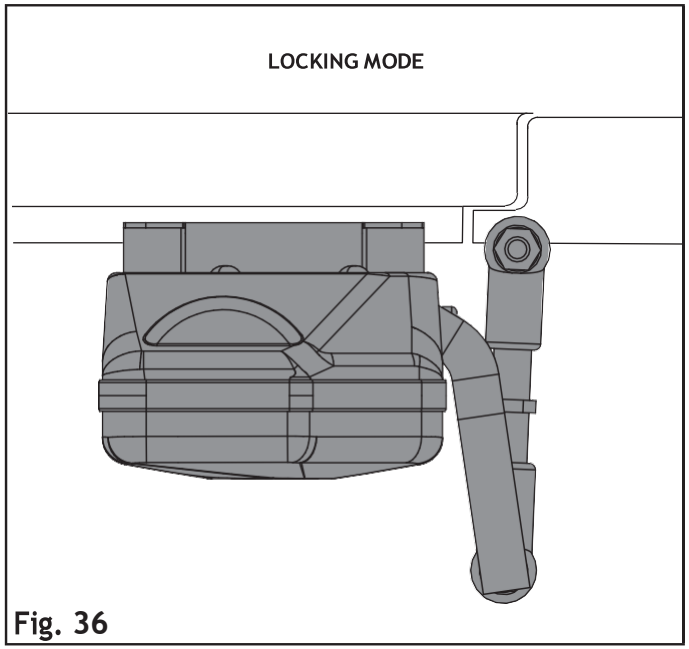


Fig. 36

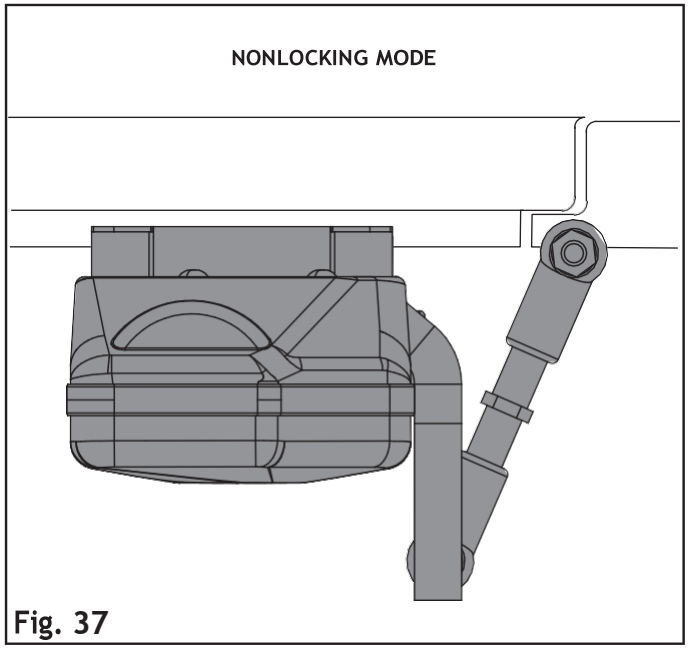


Fig. 37

OPENING AND CLOSING THE DOOR

Press and hold on the control button for about 0.5sec. The door starts moving after you release the button.

DOOR STOP

Press the control button once and shortly to stop the door on the move.

AUTOMATIC ROLL BACK

If during the closing process the door meets an obstacle, it will stop and roll back automatically.

DOOR OPENING WIDTH ADJUSTMENT

Open the door. Manually adjust it to desired width. Press and hold on the control button for about 10 seconds till double signal. Release the button. Since now the drive remembers the adjusted opening width.

SLIDING DOOR LOCKING MODE

The drive can work in two modes:

1. locking (in factory settings) fig. 36;
2. nonlocking fig. 37. (only with lock actuator)

To turn to the nonlocking mode, please, press and hold on the button for about 15 seconds until 3 long audio signals. Release the button.

ADJUSTING THE DOOR CLOSING SPEED

The drive has three door opening/closing speeds.

Press and hold on the control button for about 20 seconds until quadruple audio signal. Release the button.

In order to increase the speed by one position, it is enough to press the button once while closing the door.

In order to reduce the speed by one position, it is enough to press the button once while opening the door.

FACTORY SETTINGS RESET

Press and hold on the control button for about 25 seconds until quadruple audio signal. Release the button. All the drive settings will turn to factory.

NOTE

The drive settings reset to factory during power failure.

EMERGENCY DOOR OPENING

FROM OUTSIDE:
The system does NOT allow for an emergency / manual opening from outside. The installator AND the end-user must ensure that this does not go against the local regulations in the country of use.

FROM INSIDE:
1. Strip the inside handle cover off (fig. 40).
2. Press and hold on the button of the inside handle (fig. 40).
3. Move the drive to the left as far as it can go (fig. 40).
4. Open the door manually (fig. 40).

We recommend to NOT install the inner handle cover for ease of use in case of manual / emergency opening

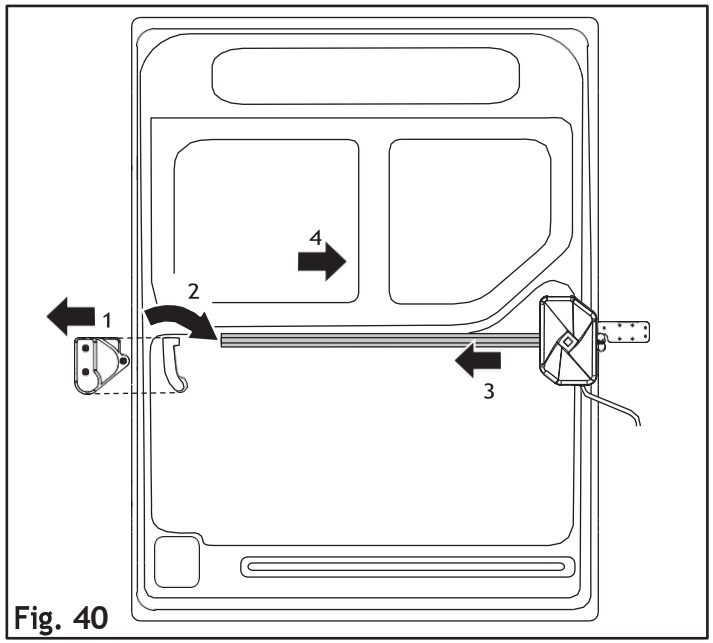


Fig. 40

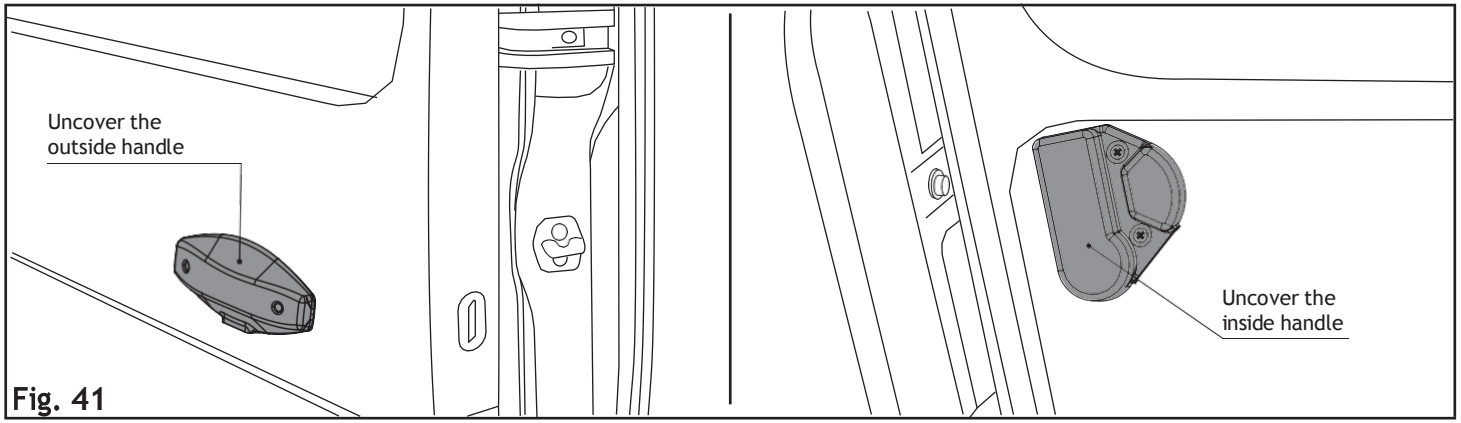


Fig. 41

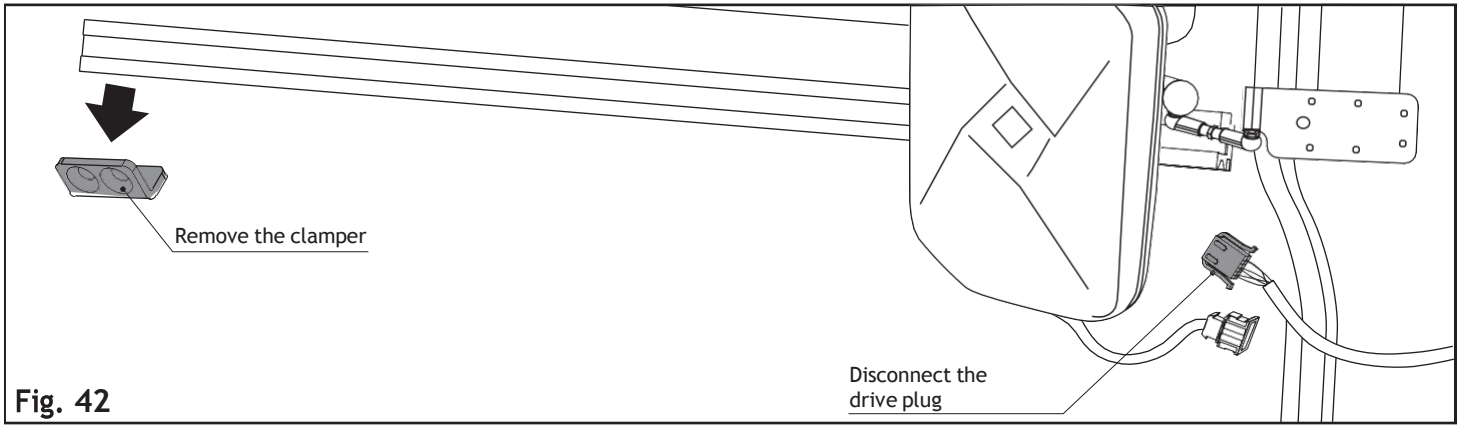


Fig. 42

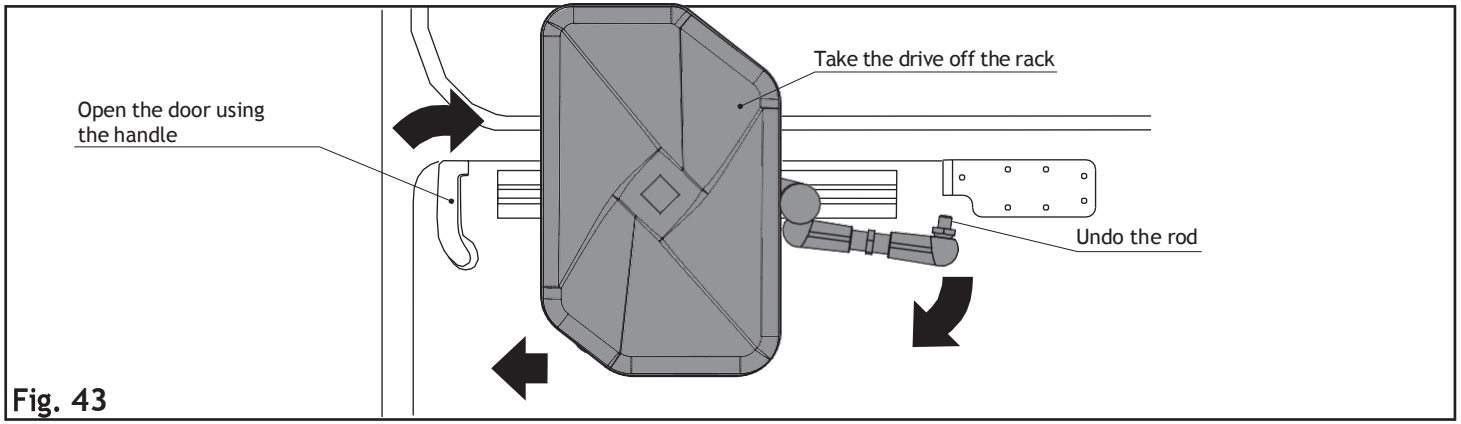


Fig. 43

PUT THE DOOR INTO MANUAL MODE

1. Open the door manually, having unscrewed handle covers. (fig. 41).
2. Remove the clamper (fig. 42).
3. Disconnect the drive plug (fig. 42).
4. Undo the rod (fig. 43).
5. Take the drive off the rack (fig. 43).

Now the door can be used in manual mode.