

INSTALLATION INSTRUCTIONS

HELP V

SINGLE ARM ELECTRIC LIFTING PLATFORM



Cod. HELP V

INSTALLATION AND MAINTENANCE INSTRUCTIONS

Remember that you are about to install a device in a vehicle driven by a disabled person. The device is therefore essential to make that person's life as normal and independent as possible.

Sure of your understanding, we are certain you will carry out the work taking maximum care in order to guarantee reliable and long-lasting use.

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Kit parts:

- N. 1 Lifting platform HELP V
- N. 1 Adapted upper fixing bracket,
with specific screws and bolts depending on the vehicle
- N. 1 Maxi fuse holder with transparent cover
- N. 1 Maxi fuse 20 A
- N. 1 Eyelet terminal Ø6mm for sec.10mm wire (to crimp)
- N. 1 Insulated eyelet terminal Ø6mm, yellow
- N. 2 Eyelet terminals Ø5mm for sec.10mm wire (to crimp)
- N. 2 Eyelet terminals Ø8mm for sec.10mm wire (to crimp)
- N. 2 Hex socket head bolts M6x30mm
- N. 2 Combi pan head bolts M5x8mm
- N. 2 Self-locking nuts M6
- N. 4 Washers Ø6mm
- N. 2 Grower Ø5mm
- N. 1 Self drilling parker screws 4x20mm
- N. 2 Cross countersunk head Parker screws 2,7x5mm
- N. 2 Black parker screws 3,5x12
- N. 1 4 channels remote
- N. 1 Supporting bracket for the remote
- N. 1 Complete remote battery master switches
- N. 1 17mm pipe key for the emergency situation
- N. 1 6mm hex key for the emergency situation
- N. 1 Electric system with specific control unit
depending on the vehicle
- cm 15 heat shrinkable sheath Ø12mm

Technical characteristics

a) General characteristics

Acoustic and visible detectors
Automatic flap which can be removed
Removable remote control with spiraled wire
Mechanical emergency system

b) Mechanical characteristics

Weight: about 95 kg
Lifting capacity: 200 kg
Maximum vertical distance allowed: 650 mm

c) Electrical characteristics

Power supply: 12 Vcc
Maximum absorption: 20 A
Electric actuator for the up & down with a 4500 N boost
Electric actuator for the in & out with a 6000 N boost



General mounting instructions

Vehicle preparation

1. **Disconnect the battery.**
2. Remove the moquette and the soundproof material from the floor in the middle space of the vehicle, near the side door, where the lifter will be fixed.
3. Remove the covering plastics of the central upright (between the front door and the sliding door) and remove the right lateral panel (behind the lateral door).
4. If present, remove the original fixing guide of the seats of the central row and shape it once the positioning of the platform and of its lower fixing bracket has been defined.

Installation

1. Enter the lifter into the vehicle. Its position will be influenced by the upper fixing bracket. This bracket changes from vehicle to vehicle, but it will always have as reference the holes that binds the seat belt to the central upright in the upper part. (Photo 1,2).

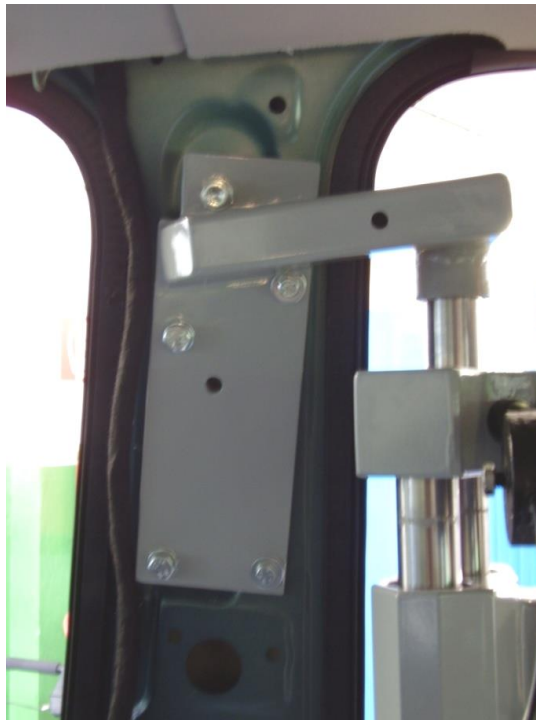


Photo 1



Photo 2

N.B.: The upper and the lower brackets change from vehicle to vehicle, so the standard instructions will be supplied with photos concerning the specific vehicle the lifter has been built for. Moreover, they could also change due to the optional chosen for the vehicle.

2. Once the upper fixing bracket has been positioned and tightened to the upright, correctly place the lifter following the fixing hole of the lower plate (*Photo 3*) (the holes will be different depending on the vehicle). If the original floor has gaps, use the thicknesses provided to remove the empty spaces and to avoid the bending of the floor itself when tightening the screws. Before drilling, it will be necessary to check that the lifter is in line with the floor of the vehicle (*Photo 4*): before starting the way down, the lifter must be lifted by at least 2 or 3 cm. it can be useful to use a positioning in which the external edge of the lifter is 3 or 4 mm higher than the floor, in order to contrast the bendings caused by the load.

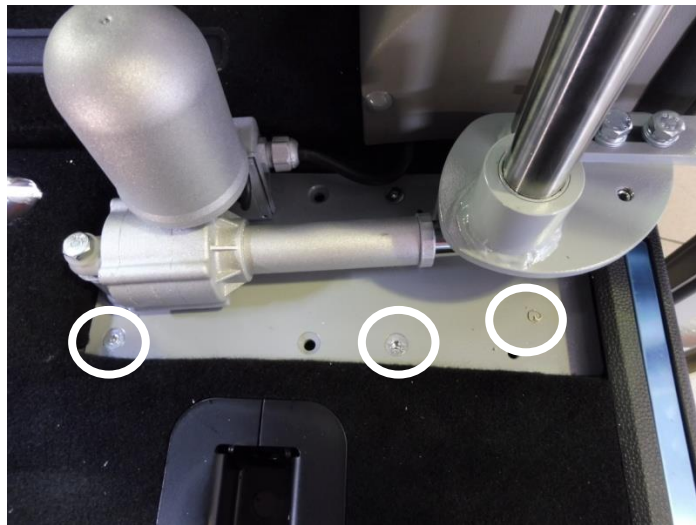


Photo 3



Photo 4

- When the platform is inside the vehicle, check that it is in line with the floor of the vehicle. Then temporarily fix the lower bracket and open the lifter, controlling that it did not collide with the door of the vehicle (*Photo 5*).



Photo 5

- Once the lifter is completely opened, start the way down, making sure that the platform does not collide with the sills of the vehicle. Moreover, check that, with the way down completed, the platform lays to the ground in the flattest and safest manner, remembering that its external edge will be necessary higher, in order to compensate the load on the platform. In some vehicles, the floor can be lightly inclined. In this cases there could never be a perfect coplanarity of the platform with the ground (*Photo 6,7*).



Photo 6



Photo 7

N.B.: Hardly you can achieve getting a condition in which both inside and outside the vehicle it is equal to the position required, because the vehicles are never perfectly parallel to the ground.

Definitive lower plate fixing

Once established that the previously listed conditions has been satisfied, go on with the definitive fixing of the lower plate. This fixing is different from vehicle to vehicle. M8 Countersunk bolts are usually used. To fix them, it will be necessary to drill the floor of the vehicle, taking care not to damage the harness, the plumbing system or other particulars of the vehicle. Then insert the M8 bolts and under the floor insert the counter plates, before carrying out the definitive tightening. Depending on the type of vehicle you are working on, the lower fixing bracket of the plate could have a supplementary support to be used to fix it to the floor.

Definitive upper plate fixing

The upper plate previously positioned must be definitely fixed only after the previously listed conditions have been satisfied. This fixing differs from vehicle to vehicle. Usually, threaded holes are used to fix the seat belt , but in the case in which it is required the fixing of the threaded inserts, it will be necessary to drill, fix the inserts and carefully tighten the bracket.

N.B.: Every holes must be treated with anti-rust material and the counter plates under the floor of the vehicle must be sealed to avoid water infiltrations.

Electrical connections

1. An electric system dedicated to the vehicle is supplied with the lifter, so the harness already has a defined length. Therefore it is important to correctly place the box that contains the control unit of the lifter. This control unit is often fixed under the right front seat or near the upright which divides the front right door and the sliding door (*Photo 8,9,10,11*).



Photo 8



Photo 9



Photo 10



Photo 11

2. The box is supplied with many outputs:

- **Power supply output**

Supplied with a blue wire 10mm section and a black wire 6mm section.

The black wire must be fixed to the bodywork of the vehicle or directly to the battery, using the eyelet yellow connector supplied, while the blue power supply wire must be connected to the positive pole of the battery, not before passing through the remote battery master switch and the fuse that protects the system. The remote battery master switch can be fixed with the two M6 screws supplied to the base of the seat (near the control unit) (*Photo 13*) or near the driver's seat (most used for public-use vehicles) (*Photo 12*).



Photo 12



Photo 13

The fuse holder (*Photo 14*) must be located as close as possible to the battery (and in a position which lets it easy to be replaced) (*Photo 15*) and fixed with the self drilling screws supplied.



Photo 14



Photo 15

In order to connect the 10mm section blue wire to the remote battery master switch, it is necessary to use the eyelet connectors with Ø8mm hole, tightening them with correct pliers and in some cases inserting a piece of heat shrinkable sheath for a higher safety.

In order to connect the 10mm section blue wire to fuse holder, it is necessary to use the eyelet connectors with Ø5mm hole, tightening them with correct pliers and in some cases inserting a piece of heat shrinkable sheath for a higher safety.

The connection to the positive pole will be made using the eyelet connector of the require diameter, depending on the type of vehicle.

- **Output of the remote control connection**

The wire for the remote control is a double-insulated cable, in which there are five conductors. This wire has to run a travel which leads it from the control unit to the female connector for the insertion of the remote control located on the car door seal, on the opposite side of the fixing of the lifter in the lower part.

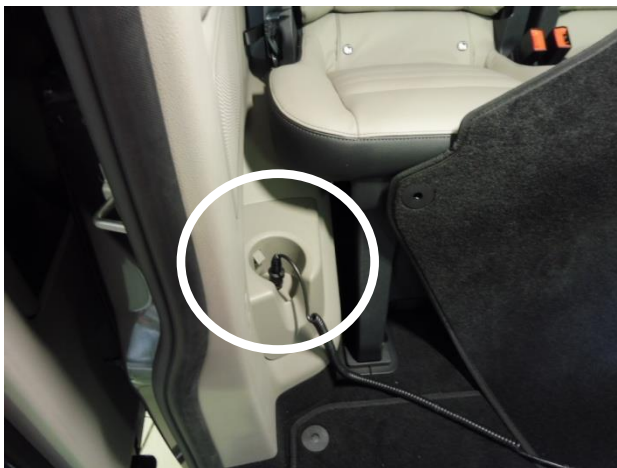


Photo 16



Photo 17

The female connector fixing will be carried out drilling a Ø16mm hole on the panel, and then it will be fixed with the supplied screws. A piece of wire of a 20cm length is connected to the female connector, and it will be connected to the wire that comes from the control unit (this wire could pass under the covering plastic of the car door seal, under the floor of the vehicle or inside a case of the vehicle). The connection between the two wires can be obtained through two faston connectors (already wired) or a header with screw-tightening. It must be wired following the colors shown in the electrical scheme.

The remote control connector must be installed in a safest position possible, not to be damaged for example by an unintentional kick during the way down (for example it can be placed inside a cup holder) (Photo 16,17).

The remote control must be located in the rest position, near the connector, using the supplied support, which must be fixed using the two parker screws supplied. (Photo 18,19).



Photo 18



Photo 19

N.B.: Take care that the spiral cable of the remote control in the rest position could not be pinched during the closure of the sliding door or the movements of the lifter.

- **Output of the rotation actuator and the relative limit switches**

The connecting wire between the control unit and the rotation actuator is a double-insulated cable in which there are six conductors.

This connection is interrupted by a 6 ways male connector (to let the dismantle of the actuator group in case of failure), the female connector is connected to the actuator group, while the male connector is connected to the control unit.

The travel of this wire is very short because the actuator group is particularly close to the control unit, so in some cases it is not even necessary to fix it. It is necessary, tighten it with clamps paying attention that, during the movements of the lifter, the light movement of the rotation actuator does not excessively stress it.

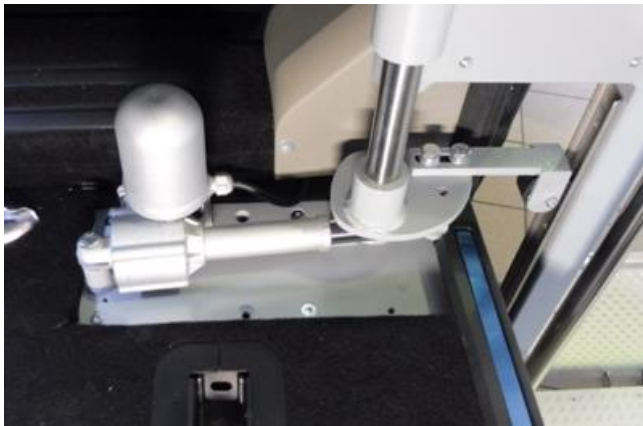


Photo 20

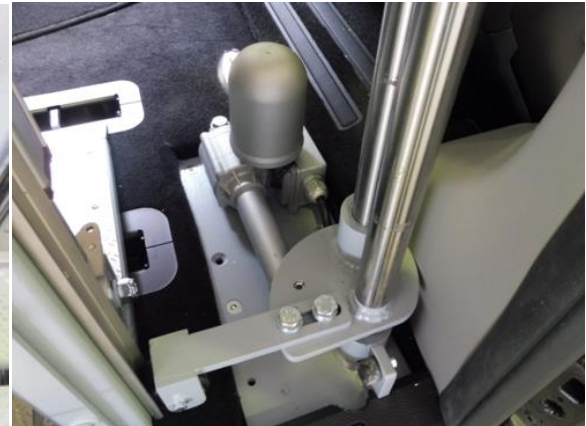


Photo 21

Obviously the connector is already wired and it is also supplied with a heat shrinkable sheath, to be used once the installation is completed to cover the connector and tighten it definitely (the sheath must be heated to carry out the tighten of the connector).

- **Output of the lifting actuator (beacon)**

The wire will start from the control unit, passing through the floor of the vehicle (under the covering plastics) and the central upright. It must be fixed together with already present harnesses or creating fixing points with clamps. Take care that the wires do not rub with the seat belt and that they do not hinder the sliding of the belt inside and outside the upright.

The power supply wire of the actuator and the one of the beacon will go further until the upper supporting bracket of the lifter.

The power supply wire for the way up and the way down must be connected near the upper bracket with the wires coming from the actuator and from the beacon (3 ways connector), as shown in *Photo 26*.

- **Connections of the up&down and in&out limit switches**

The double insulated wire must be connected to the spiral cable which outgoes from the lifter. This connection will be carried out using a connector provided with screw-tightening and connecting it following the electrical scheme (*Page 19*). This connection is to be effectuated in the space under the covering carter of the upright or, in the case the upright is not coated, inside it. To do this it is necessary to drill a Ø13mm hole to insert the fairlead inside which the spiral cable coming from the lifter will be inserted (*Photo 22*).

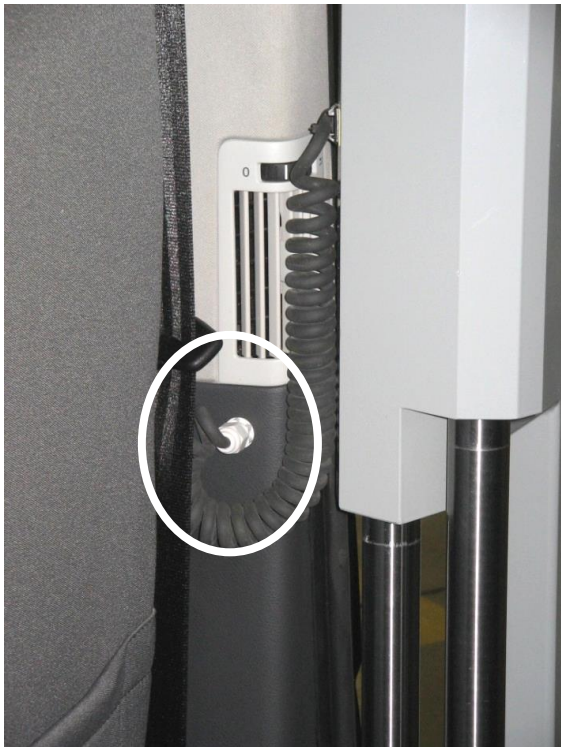


Photo 22



Photo 23

N.B.: When drilling for the fixing of the fairlead, consider that during the movements of the lifter the spiral cable must not be pinched or must not rub with other objects (*Photo 23*).

The power supply wires of the actuator and of the beacon should be fixed to the upper bracket of the lifter through the clamps present on it (it can be necessary to shape the covering plastic of the upright to let the harness outgo) (*Photo 24,25*).



Photo 24



Photo 25

On the edge of the harness there is a 3 ways female faston connector which must be inserted into the connector on the lifter, then it is necessary to put on the heat shrinkable sheath and heat it to make it adherent to the connector. The harness must be fixed to the lifter with its clamps (*Photo 26*)

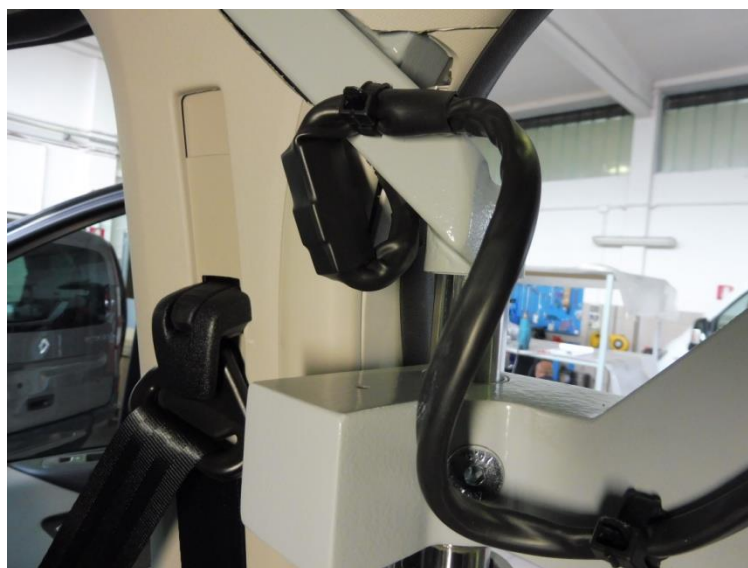


Photo 26

N.B.: Before definitely tightening the clamps which binds the harness to the upper supporting bracket and to the lifter, check that during the rotation of the lifter, the harness is not excessively stressed.

Once verified the previously described electrical connections, test the working of the lifter, then finish to package the wires. Remount the plastic covers, shaping if necessary, and seal the possible holes where the harness passes (to protect them from cuts and to protect the vehicle from water infiltrations).

In&Out limit switches regulations

1. Unscrew the two screws on the cover and remove it (*Photo 27*).

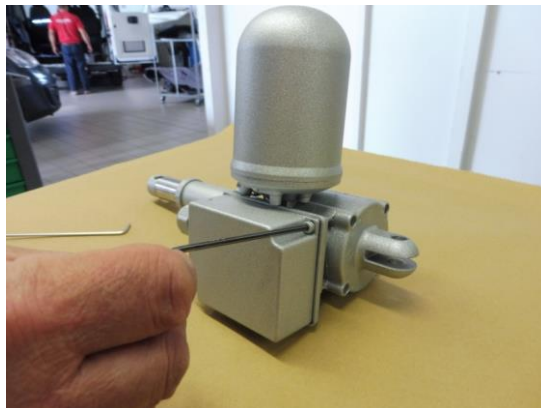


Photo 27

2. To obtain a correct alignment between the platform of the completely opened lifter and the vehicle, work on the external cam (*Photo 28*), loosening the relative screw with a 2.5mm hex key. If the platform is too much closed, rotate the cam clockwise, instead, if the platform is too much opened, rotate the cam anticlockwise. Once the regulation has been carried out, tighten the fixing screw.

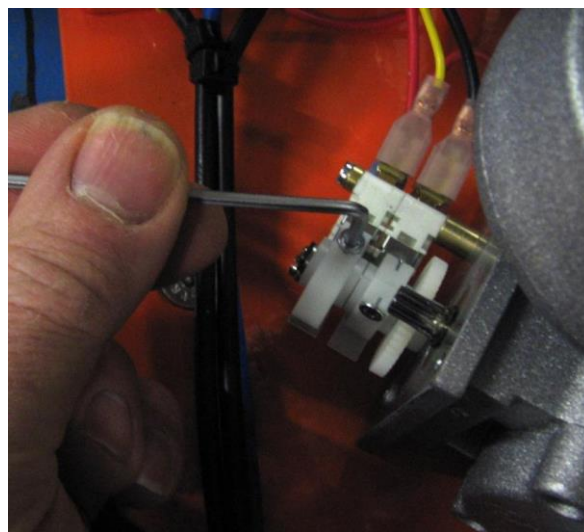


Photo 28

3. To obtain a correct alignment between the platform of the completely closed lifter and the vehicle, work on the internal cam (*Photo 29*), loosening the relative screw with a 2.5mm hex key. If the platform is too much closed, rotate the cam clockwise, instead, if the platform is too much opened, rotate the cam anticlockwise. Once the regulation has been carried out, tighten the fixing screw.

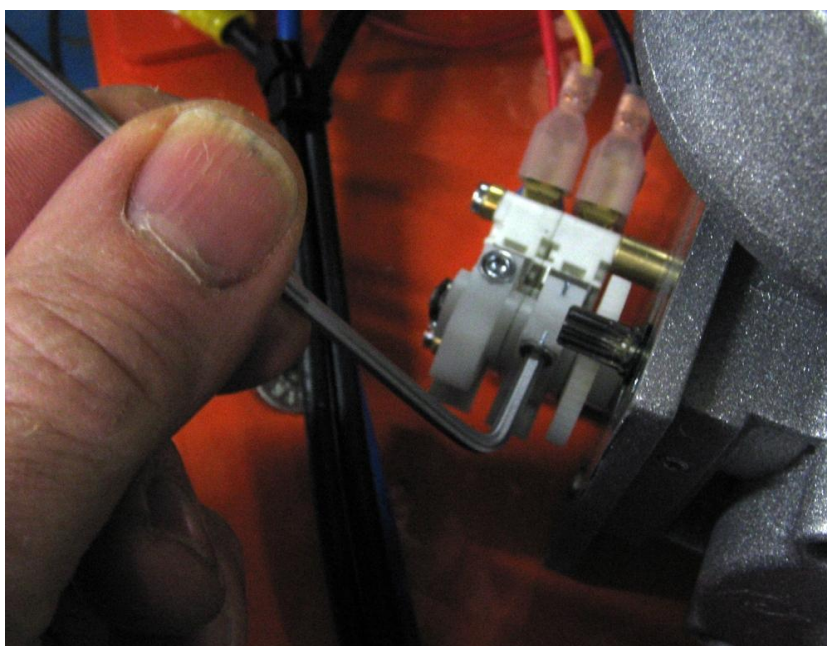


Photo 29

4. Put the cover on the motor and screw the two screws.

Finishes

1. Shape the plastic part and the parts near the attachment of the upper plate for the casing of the bracket (*Photo 30*).

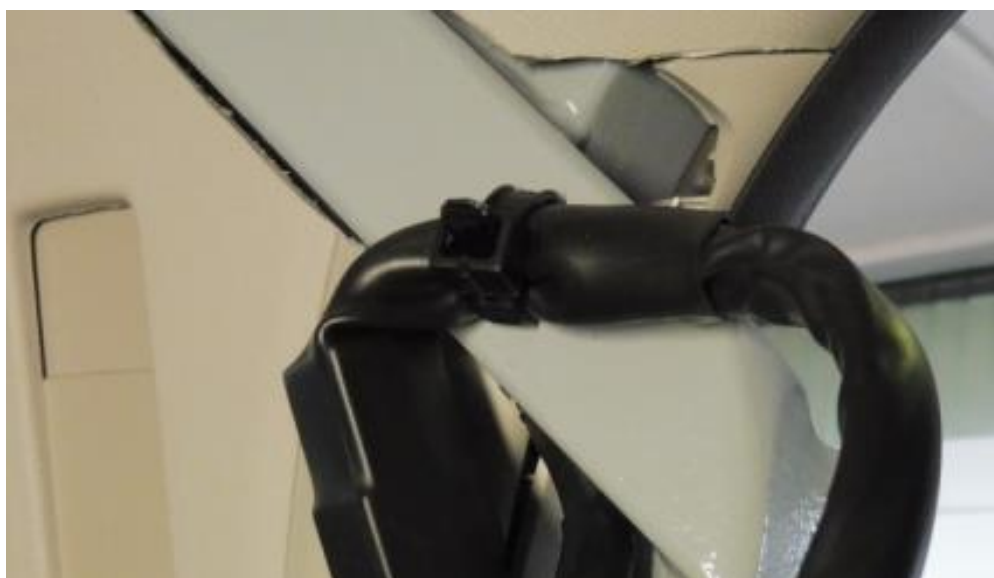


Photo 30

2. Shape the moquette and the heel pad plastic near the lower plate so that it does not create an obstacle during the rotation of the platform. The finishes of the border of the plate depend on the type of the floor of the vehicle: if it is original, leave a length margin of the moquette along the perimeter of the plate and turn up the moquette inwards (*Photo 31*). If the floor is new, or if it is made of wood, it is necessary to cover the perimeter with finishing edges, as shown in *Photo 32*.

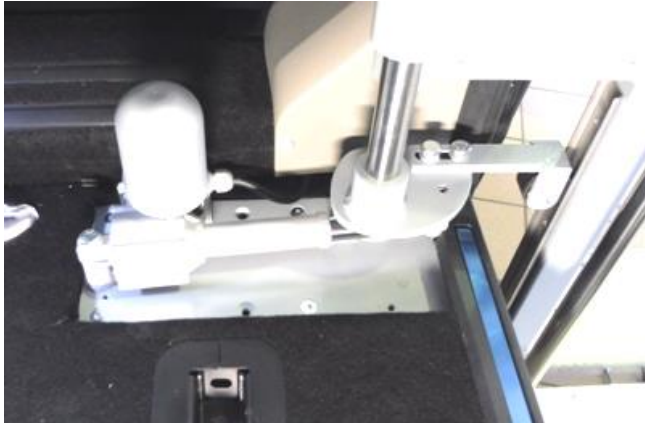


Photo 31

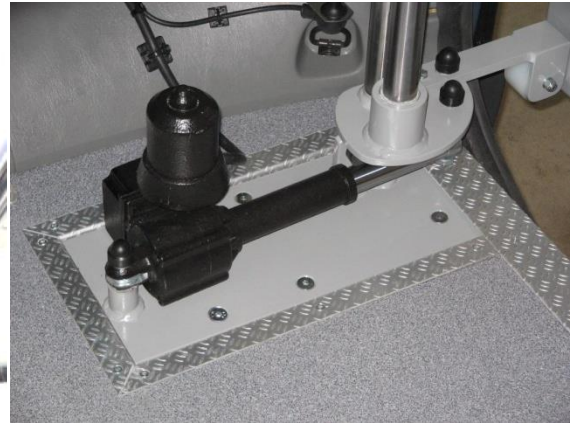
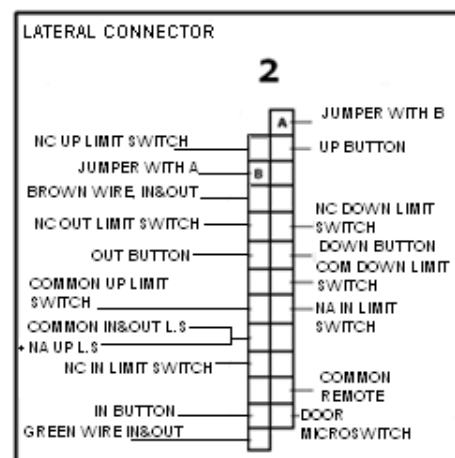
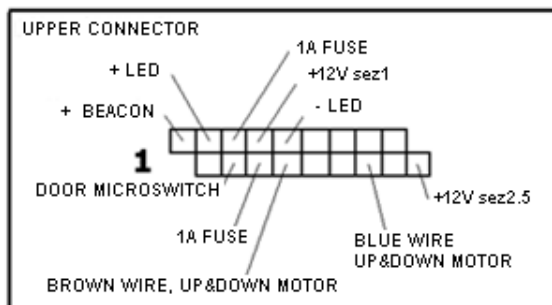
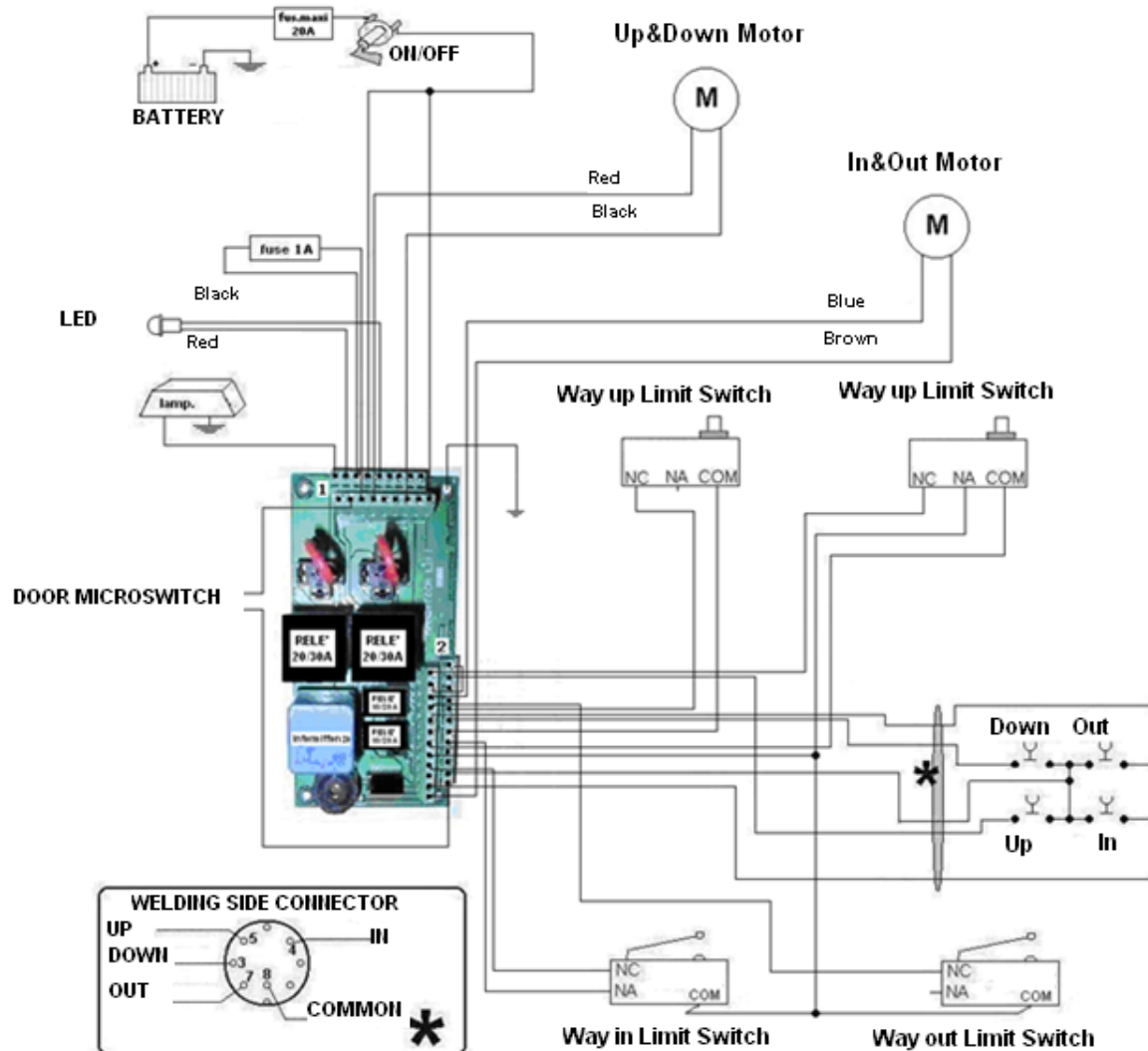


Photo 32

Electric scheme



Functioning in emergency situation

If the device is not working, follow these steps to exit from the vehicle:

1. Unscrew the cap on the upper part of the device with a 6mm hex key (*Photo 33*).



Photo 33

2. Remove the cap, insert again the hex key and rotate clockwise to get the way up. Obviously rotate anticlockwise to get the way down. (*Photo 34*)



Photo 34

3. To carry out the rotation, work on the lower part of the device, on the motor. Insert the pipe key supplied and completely unscrew the bolt (*Photo 35*). This way the platform will be free to rotate. Before starting the forced rotation, lightly lift the platform without colliding with the heel pad of the vehicle.



Photo 35

N.B. It could be particularly difficult to unscrew the screw. In these cases, use a screwdriver or a solid rod to increase the leverage and as consequence the force (*Photo 36*).

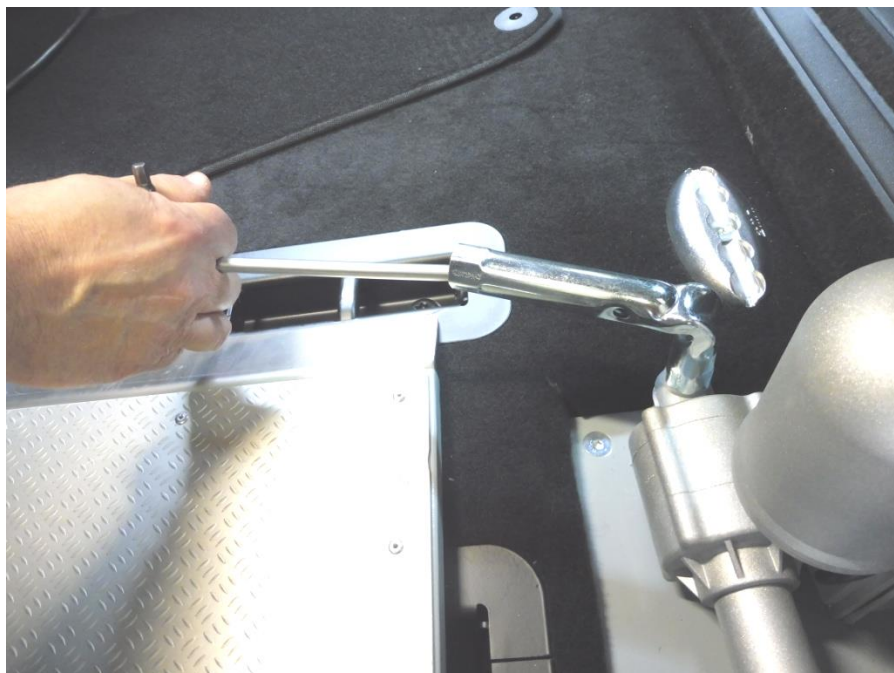


Photo 36

What to do if...

1. Once inserted the red key and placed the general master switch on the ON position, the acoustic and visible detectors do not work and the lifter does not move :
 - Check the right working of the general master switch;
 - Check the maxi fuse 20 A near the battery. If interrupted replace it;
 - Check the 1 A fuse on the control unit box, if interrupted replace it;
 - Check that the remote connector is completely inserted;
 - Check the power supplies: both the +12V and the mass;

2. The lifter does not make any operation (opening, closure, way up and way down):
 - Check the right working of the micro switches that activate or deactivate them; carry out a test, controlling the opening and the closure of the contacts;
 - Check the integrity of the spiral cable of the remote and with a tester check inside the electrical board the right working of the remote (look at the electric scheme at page 19);
 - Check the right working of the relè on the electrical board;
 - Check the connections on the connector of the electrical board and the integrity of its guides;

3. The acoustic or visible detector does not work:
 - Check the integrity of the blue relè on the electrical board;
 - Check the integrity of the bulb inside the orange beacon;
 - Check the working of the buzzer on the electrical board.

If your system has a problem that is not listed, you must contact Carrozzeria 71 s.r.l.

MAINTENANCE

First check: 1.500 km or 3 months

- Check the tightening of the fixing bolts of the platform to the vehicle.
- Check the tightening of screws and bolts of the lift.
- Check the lubricating of the sliding points.
- Check visually the electric connection between battery and lift, verifying the absence of oxidations on the electric contacts.
- Visual check of the electrical board of the system.
- Verify the correct working of the lift and of its limit switches.
- Verify the working in emergency condition
- Verify the working in manual emergency condition.
- Visual check of eventual mechanical weakening.
- Check the integrity of the 3A and 20A fuses

After 12, 24 months and yearly:

Repeat the verifies at km. 1.500 or 3 months.

NOTA BENE

After 2 years it is suggested, in co-operation with your dealer/Handytech point, to check the system conditions and to replace some components if needed.

In addition, we remind you that after warranty period the maintenance schedule is at your discretion, but we suggest to carefully follow it as neglected maintenance could cause problems to the system or cause damages or danger during the running.

All maintenance operations during and after the warranty period are at complete charge of the customer.

WARRANTY: 24 MONTHS

Spare parts

CODE	WAREHOUSE CODE	DESCRIPTION	Q.TY
HELPV/R/E-01	040010001	UP&DOWN MOTOR+FORK+PLATE	1
HELPV/R/E-02	030050001	WAY DOWN LIMIT SWITCH	1
HELPV/R/M-01	020110004	BIG VIBRATION DAMPING ELEMENT	1
HELPV/R/E-03	030070001	REMOTE CONTROL WITH EXTENSIBLE CABLE	1
HELPV/R/E-04	030010002	COMPLETE BEACON	1
HELPV/R/E-05	030140016	WIRED CONNECTOR REMOTE CONTROL	1
HELPV/R/E-06	030050004	HIGHLY AH7310 LIMIT SWITCH	1
HELPV/R/E-07		SPIRAL CABLE WITH 5 FERRULES	1
	030160003	SPIRAL CABLE	0,5
	030220001	ORANGE 0.5 FERRULE	10
HELPV/R/E-08		ELECTRICAL BOARD WITH HARNESS	1
	050010001	LIFT BOARD	1
	030100004	MINI RELAY 12V 20/30A	2
	030100003	MICRO RELAY 12V 10/20A	2
	030100002	INTERMITTENCE	1
	030210001	BLUE MALE FASTON	4
	030150014	RED 1X2.5 WIRE	0,1
HELPV/R/E-09		ROTATION MOTOR WITH HARNESS	1
	040020001	HELP IN&OUT ACTUATOR	1
	030140007	6 WAYS P.M. CONNECTOR	1
	030160006	6X1 WIRE	0,6
	030240001	MALE LUG SECTION.2,5 (6,3)	6
HELPV/R/E-10		LIMIT SWITCHES INSIDE THE ROTATION MOTOR	2
HELPV/R/M-02	020110002	LITTLE VIBRATION DAMPING ELEMENTS (ROTATION)	2
HELPV/R/M-03		TEFLON WHEEL	1
HELPV/R/M-04		UNHOOK ROD FOR THE FLAP	1
HELPV/R/M-05	020100007	SPRING FOR THE FRONT FLAP	2
HELPV/R/M-06	020150002	FRONT FLAP CABLE	1
HELPV/R/M-07		TAB MADE OF ARMONIC STEEL	1
HELPV/R/M-08	020080001	SHAFT BEARINGS	4
HELPV/R/E-11		RELE' KIT AND ELECTRIC BOARD INTERMITTENCE	1
	030100004	MINI RELAY 12V 20/30A	2
	030100003	MICRO RELAY 12V 10/20A	2
	030100002	INTERMITTENCE	1