



Installation Manual



≡ *ALPHA* ≡
Chair - stairlift
CE

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Observe the following points before installation!

Installation teams must have a general knowledge in:

- working on electric controls
- basic mechanical engineering and providing adequate fixation of the rails and pillars
- reading and understanding circuit diagrams and wiring schematics

The following points are necessary for the installation:

- Have a complete tool kit on hand for mechanical and electrical works
- Check beforehand what fixing materials (screws, anchor bolts, adhesives) are required for the proper fixing of the rails to the wall or the pillars to the floor. These materials are not included in the delivery! The installation company is responsible for the fixing of the rail to the wall or the pillars to the floor/steps!
- Check the packages for shipping damage and missing parts before bringing the lift to the site. Take pictures of damaged parts as soon as these are discovered to provide proof for warranty claims.
- A team of 1 qualified technician and an assisting technician is necessary to install the lift.

Beginning the Installation

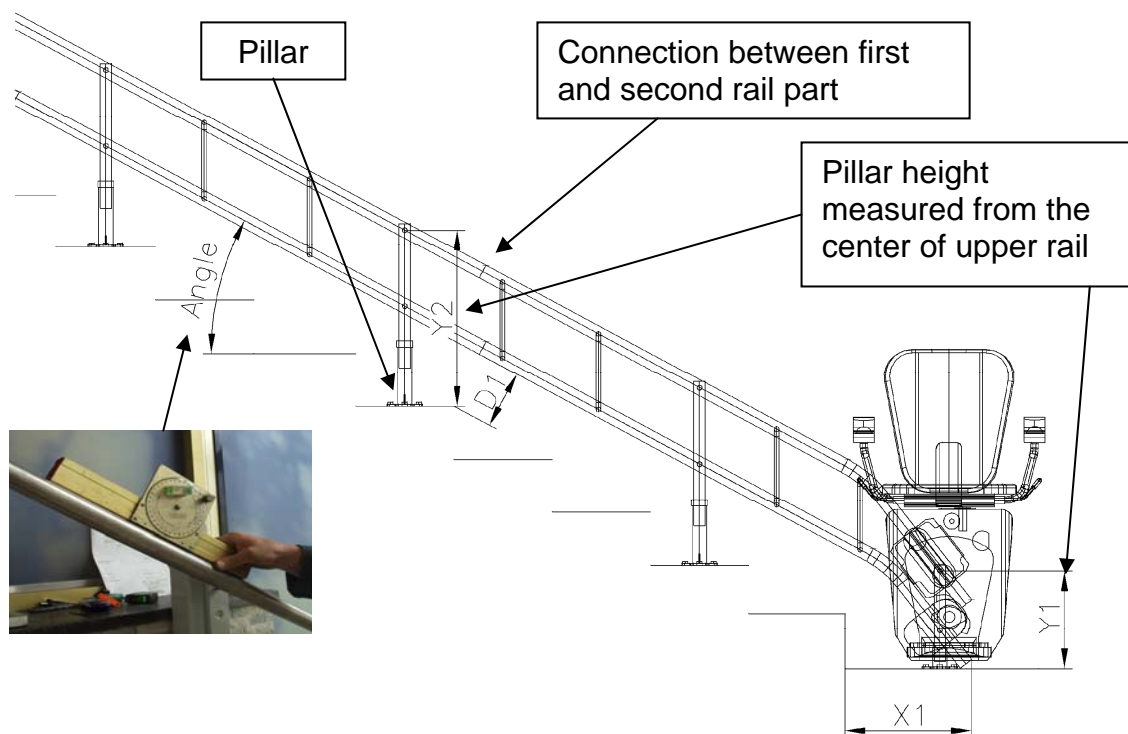
Bring the platform to the upper landing before fixing the rails in order to prevent damage to the rail and platform during transport on the staircase! The platform can only be engaged from the upper end of the rail.

The following tools will be required to finish the installation successfully:

- A complete toolset for mechanical and electrical works
- Voltmeter
- Drilling machines
- Drills, thread cutter
- Fixing material based on on-site requirements
- Spirit level with angle indication



Installation of the rails



Step 1: Start fixing the rail from the bottom! Do not start installation from the top.

Add the pillar to the rail posts and place the first rail part on the staircase. Fix the post only temporarily with the worm screws. Do not fix too tight so not to leave pressure marks on the paint as you might need to change height of the post during installation.

Step 2: In order to later connect both landings stations to the charger it is necessary to insert a single phase (1x1mm²) cable into the lower tube. If the rail is short this can be done at the end of the installation. If the rail is long this should be done while combining the individual rail parts. In this case please enter the cable into the first part and then, before combining the rail part, also into the second rail part and so forth.

Step 3: Add the second rail part. Now make sure the vertical measures from the first pillars Y1 and the first pillar of the second rail part Y2 are correct. Check diagonal measure D1 measured from the step nose to the underside of the lower rail. Check also if the angle indicated in the installation drawing is respected on the installed rail.

Step 4: Make sure all pillars are vertical and also that both rail tubes are aligned vertically above each other.

Step 5: Fix the rail parts with the locking pin. Tighten the other pillars at the correct height with the 3 worm screws.



Step 6: When all rail parts are connected and all pillars are set to the correct height check again all clearance measures and the correct position of the rail according to the installation drawing.

Step 7: If all is ok fix the pillars to the steps. Use appropriate fixing material according to the staircase material.

Installation of the drive unit onto the rail

Step 1: Take the box with the drive unit close to the upper end of the rail. Open the box so that the rails and trolleys are on the top of the box. Take out the drive unit and place it on the floor so that it is standing upright



Step 2: Take off the wooden plates on each side. Put the drive unit on the floor (use protection under it so not to scratch it). Then 2 people should lift the drive unit on the rails and attach the installation rails to the top of the installed rail on the staircase. Then slide the drive unit down until it reaches the top of the installed rail. Use the handwheel to drive the unit onto the installed rail so that the lower rail passes entirely through the lower trolley.



Step 3: Take of the side and front plastic covers. Then put the chair into the fixation and fix and lock it with the screw and washer from inside the drive unit.



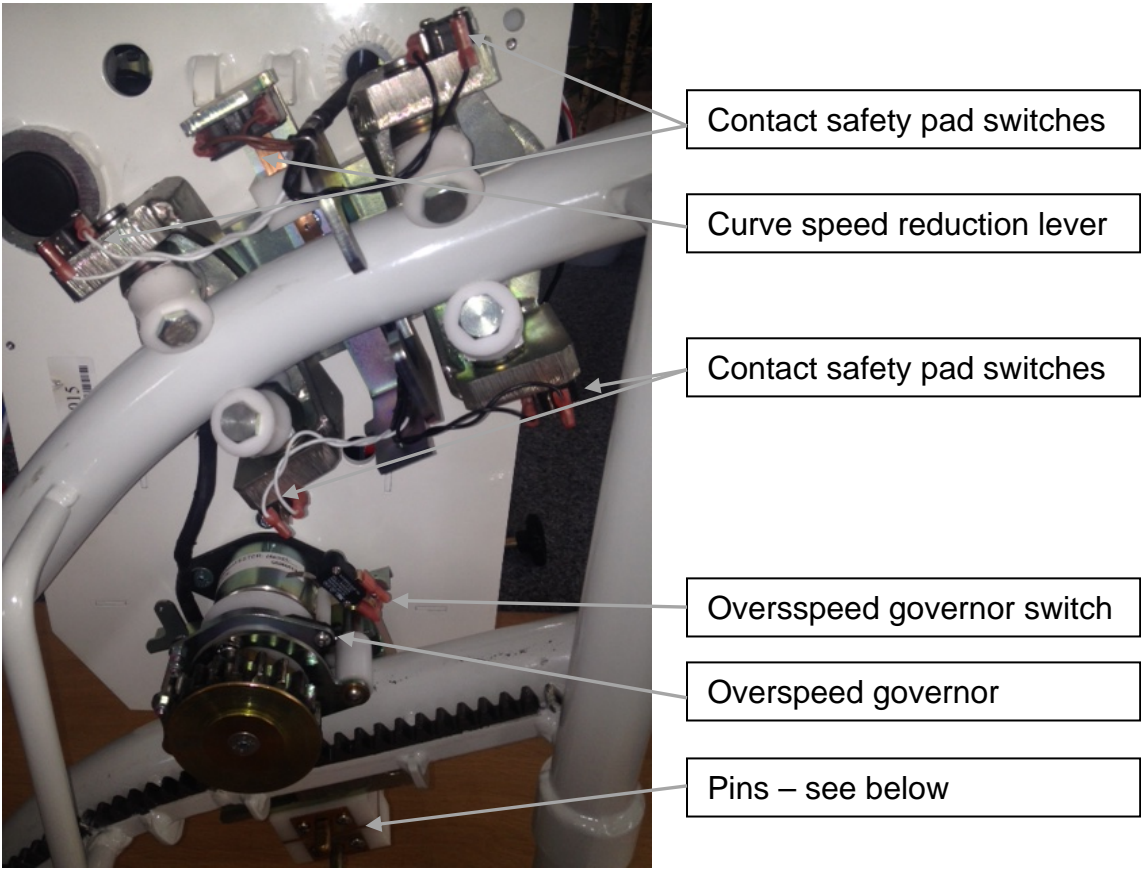
Washer and
screw

Step 4: Use cable ties to fix the connection cable between from the chair to the drive unit. Makes sure the seat can freely rotate with the cable getting twisted or squeezed. Before fixing the cables rotate the seat to the maximum, then fix cables in place and rotate back and forth to see if the cable moves freely.

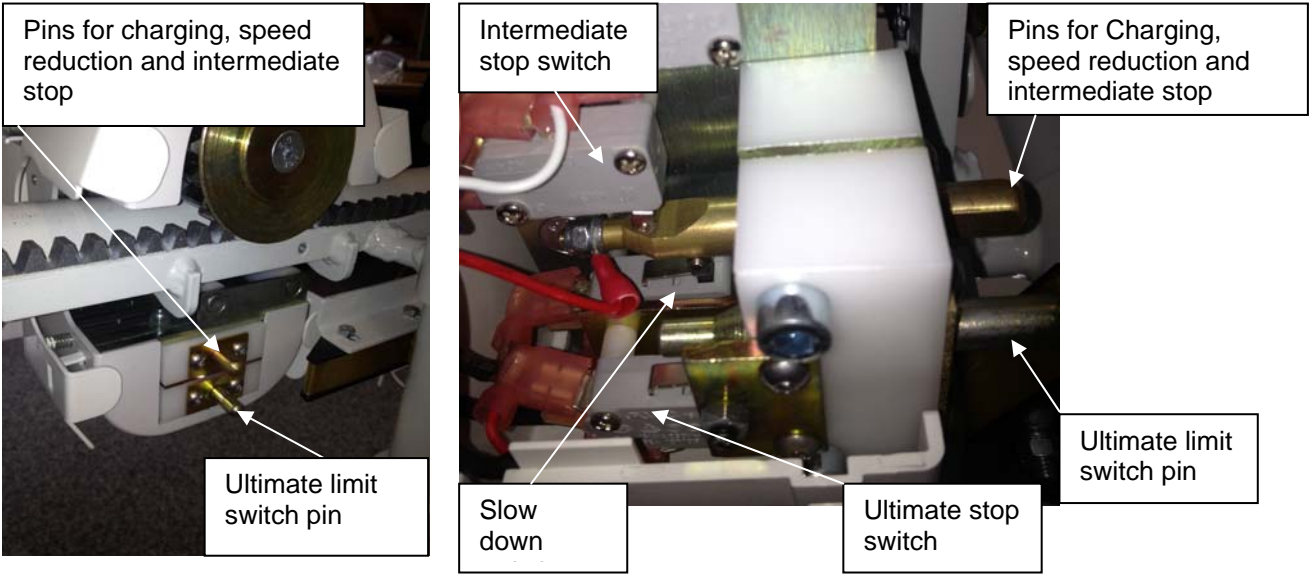


Step 5: Now drive the unit down and up to check if the seat passes all steps and if the clearance is ok.

Explanation of upper and lower trolley



The lower pin is the ultimate stop pin. This activates the safety switch at the end of the rail (in case the normal stop would not work). The upper pin is responsible for taking the positive charging current and at the same time activates a slow down switch when at hitting the landing station charging cams. On an intermediate stop assembly this pin is pressed further inside and then additionally activates the intermediate stop switch. This only happens on intermediate stops, not on end stops.

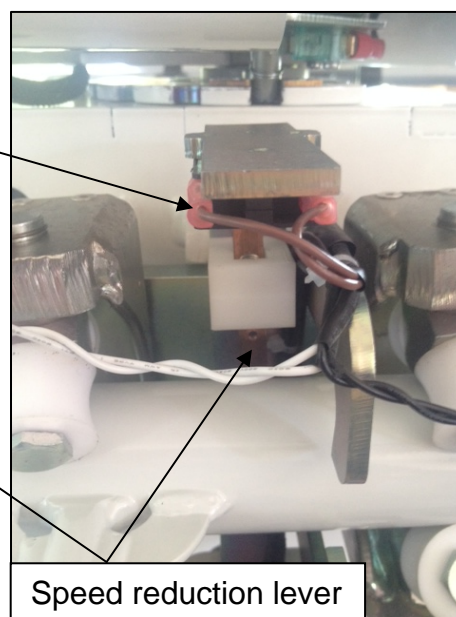
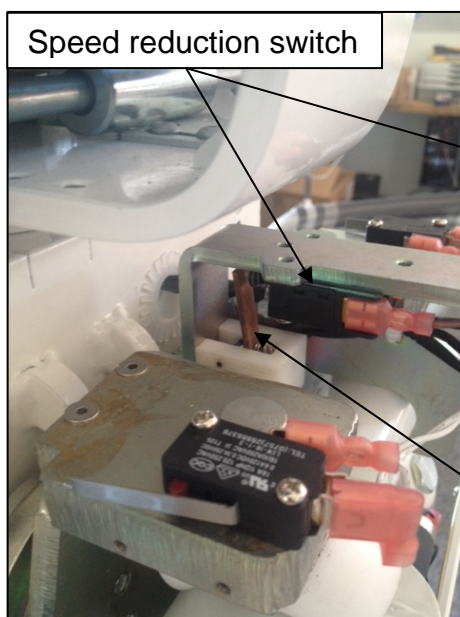


Speed reduction lever (slowdown arm) for curve speed

Take off the top metal cover of the upper trolley and take out a foam cube that is located between the speed control pin and the back of the trolley. This foam is there so the speed reduction lever cannot get bent when the drive unit is put onto the rails at the start of the installation. Then check if the unit slows down correctly in the curves and drives fast in the straight sections.



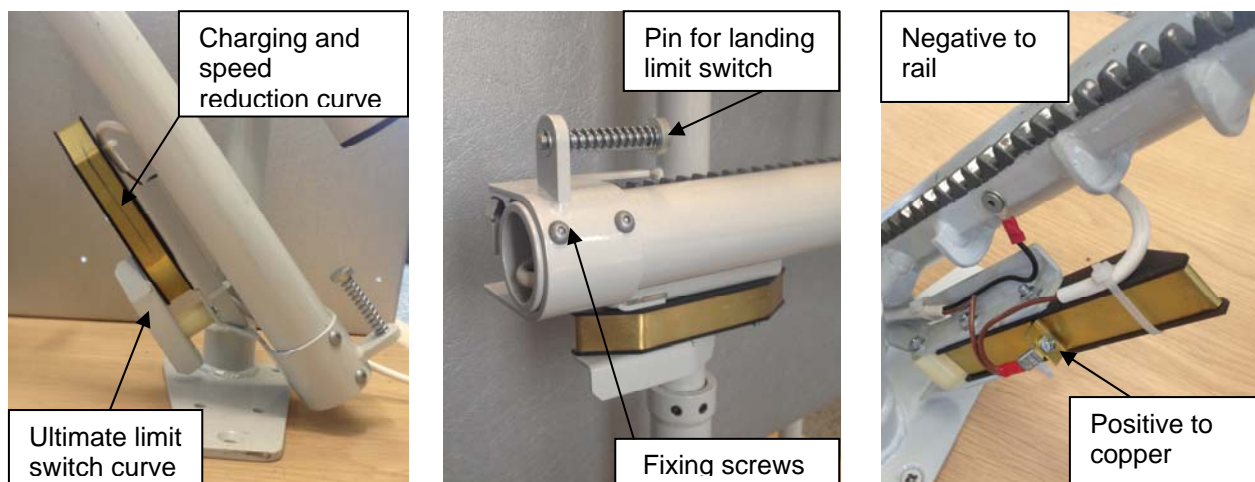
The lever is activated by the rail. When the lift drives into a curve the rail bend presses the lever so that it activates the speed reduction switch. If the unit does not slow down correctly please bend the lever a little so that the speed reduction switch is pressed even more when the lift drives into a curve. Make sure you do not bend it so much that it drives slow also on straight sections.



Installing of the charging station/limit assembly

The chairlift is stop when it reaches the end of the charging station by the metal pin pressing the lower carriage contact plate. Make sure the seat stops in the correct place and mark this spot for the charging station. Then fix the charging station by drilling 2 threaded holes (dimension M5) into the pipe. Fix the charger close to the upper or lower landing station, where it is most convenient. Then connect the charger to the landing stations closest to the charger. Connect the negative to the rail and the positive to the copper of the charging station.

Connect all copper plate on all charging stations with 1 cable. Run this cable in the lower tube of the rails and bring it out close to each charging station.

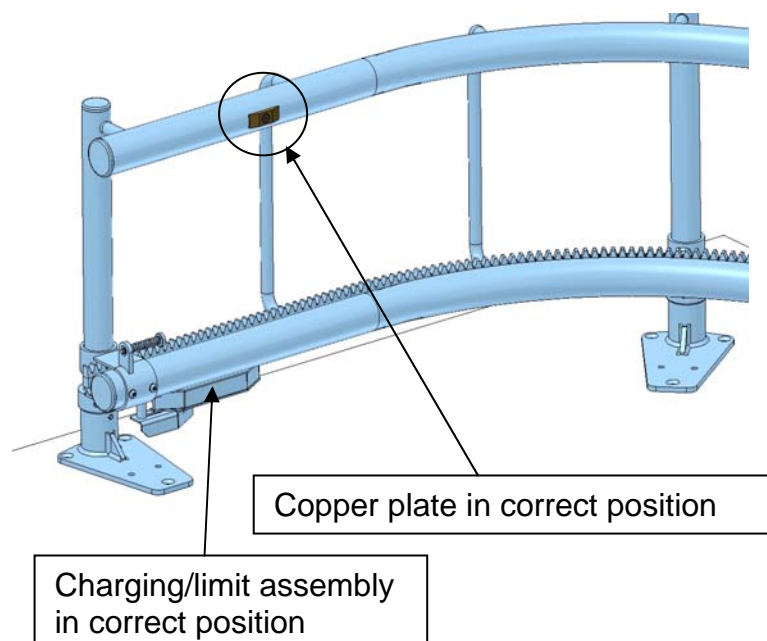


On inclined rail parts the electrical ground is transferred to the board via the rack. But in horizontal section this ground connection can be unstable. Therefore, in case of a horizontal stop or an intermediate landing it is necessary to add a copper plate onto the upper tube. This copper plate ensures the electrical ground connection to the stairlift board.

After the charging stations has been fixed in its final position, please run the seat in this stop and check where the lever for the speed reduction in curves is positioned when the stairlift is in the stop position.

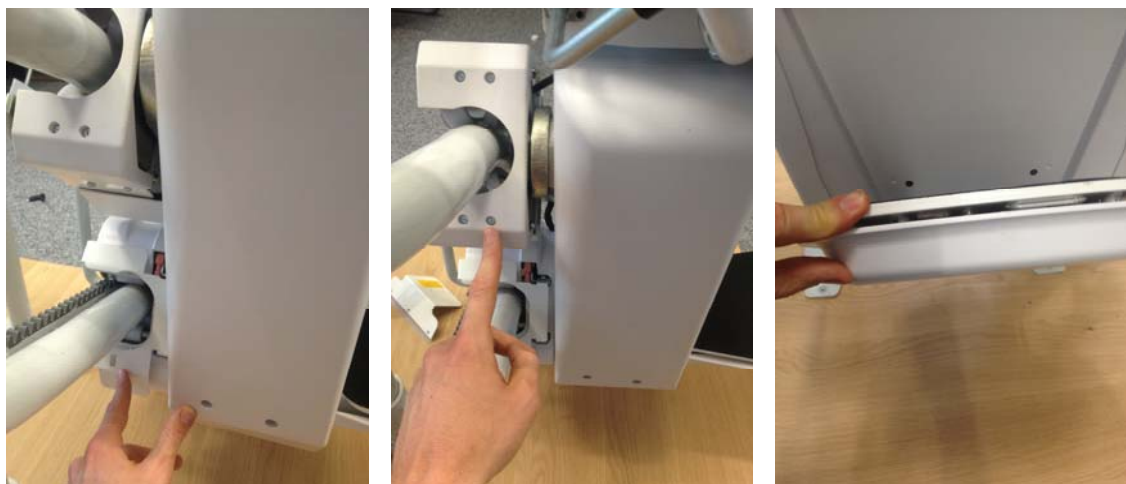
The copper plate now needs to be placed on this exact spot. Drill and tap the upper tube to fix the copper plate.

When the lift is in the stop position the speed reduction lever is pressing against this copper plate in the upper stop.



Checks:

- Check the correct function of all safety contact pads. These are located on the bottom and top trolley, on the side and below the drive unit and under the footrest. These contact pads should stop the lift when pressed against the driving direction. See below:




- Check the function of the seat rotation switch and the armrest switch.
- Check the function of the curve speed reduction switch/lever.
- Check the function of the landing stations speed reduction pin/switch.
- Check the function of the intermediate landing pin/switch.
- Check the function of the final stop pin/switch.
- Check the function of the landing limit switch. This is the contact switch in the safety pads of the lower trolley. Check the correct position of the stop pin that activates the safety pads in the landing assembly.
- Check the correct charging of the drive unit in the landings stations.

Control switchboard

The LED indication on the switchboard can be used for fault finding. Please check the wiring diagram for more detailed information. Here only some simple advice is given. In this example a right hand side stairlift is located in the lower stop position.

Left covers drive unit	Left cover upper trolley	Foot rest cover	End limit switch down S28	Right covers drive unit	Right cover upper trolley	End limit switch drive up S27	These connection to the left refer to LED 25 and 26 which indicate the directional limit switches. LED 26 is for the right side and LED 25 for the left side switches.
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Connection to the motor brake
LED 15 indicates that the lift is in an intermediate stop position. It is on when outside a stop position.
LED 14 indicates that the lift is outside a charging station. It is off if the lift is in the charging station.
LED 25 and 26 indicate the directional limit switches. If the LED is on all limit switches are not pressed. For example, if the unit is in the lower stop LED 26 will be off indicating that the directional limit switch for the down drive is pressed.
LED 10 indicates the armrest position. It is off when the armrest is horizontal and on when vertical.
LED 8 is on when a drive command to the right is given. LED 9 when there is a command to the left.
LED 7 indicates that the lift is not in a curve (slow drive). It is off during slow drive in a curve.
LED 16 indicates the function of the over speed governor. If engaged LED 16 to LED 23 will be off!
LED 24 is on when the safety circuit is ok. (SC is made of the overspeed, ultimate limit and the swivel switch)
LED 06 is on when the batteries are loaded.
LED 17 is on when the ultimate limit switch is not pressed.
LED 18 indicates the seat rotation (swivel switch). If is on if the seat is in drive position. LED 18 to LED 23 will be off!
LED 01 is on when the batteries are ok and not weak.
Programming button for external radio controls
LED 27 is on when the drive motor current is reaching a certain limit. Turn potentiometer R40 counterclockwise to increase current overload limit. R40 is located next to the LED 27

Overspeed governor

Explanation:

The overspeed governor is set to trip at 0,3m/s so of speed.

The tripping point is set via the length of the activation screw. Screws, pins and springs that keep the governor in place are set by the factory and sealed with paint markings.

If the spring is not properly set the overspeed governor could activate too quickly during normal run. In such a case the spring needs to be readjusted accordingly.

Pin to keep governor in place

Spring to keep governor in place

Activation screw



Sound indication

- If the lift is parked outside a charging station (not charging!) it will make a beep sound after 5 seconds. The beep sound will appear every second with a 0,3 second long signal.
- If the battery voltage is getting low a beep sound will appear every 2,5 seconds with a 2 second long signal.

Programming of remotes

The remotes come already programmed. In case you need to programme new remotes press the programming button on the main board for 2 seconds. The LED on the remote receiver should start flashing fast (every 0,5 seconds instead of every second). Then press the up and down button of the remote sender at the same time.

First the LED on the sender flashes orange, then it should show an orange light and finally show a green light. Now you can programme a second remote sender by again pressing both buttons at the same time.

When finished press again the programming button on the main board for 2 seconds. The LED on the receiver board should return to flash normally (every second)

Troubleshooting

The **seat does not react at all from the call station or the armrest control**

- Check if LED 24 is on. If not the safety circuit is broken (swivel seat switch, overspeed switch and ultimate stop switch)
- Check if the overspeed governor is not engaged. If engaged LED 16-23 is off.
- Check if the ultimate stop switch is pressed. If pressed LED 17-23 is off.
- Check if the seat is in the correct position and not rotated. The seat swivel switch must not be pressed! If it is pressed LED 18-23 is off.

The **seat does only react from the remote call stations but not from the armrest control joystick**

- Check if the armrest is folded down correctly and if the key switch in the armrest is turned on.

The **seat does only react from the armrest control and not from the control stations**

- Check if the LED on the external control shows a blinking green light. If the lift is blinking orange then the receiver does not receive the signal. If it is blinking green it is receiving correctly.
- If you press the drive up or down button the LED 8 or 9 should come on. If not the board does not receive the drive command from the receiver.

The **seat drives only in 1 direction**

- Check the LED 25 and 26. If one of the 2 LEDs is off then the contact pads on the drive unit or the trolley are blocked in the driving direction that is not working.

The **lift makes a beeping sound (out of charging sound) although it is located in the charging station and LED 6 is OFF**

- Check that the charging pin is correctly in contact with the copper charging plate on the charging station.
- Measure if the board receives the ground from the rail (it is transmitted through the drive pinion in the chassis) through the fixing screws of the board to the chassis.

The **lift makes a beeping sound (every 2,5 second – low battery voltage)** is located in or outside the charging station

- Check if LED 1 is on. If not this indicates weak battery voltage.

The lift stop during driving upwards with load

- Check if LED 27 is on. If it is on, turn potentiometer R40 the maximum possible counter-clockwise. Try again.

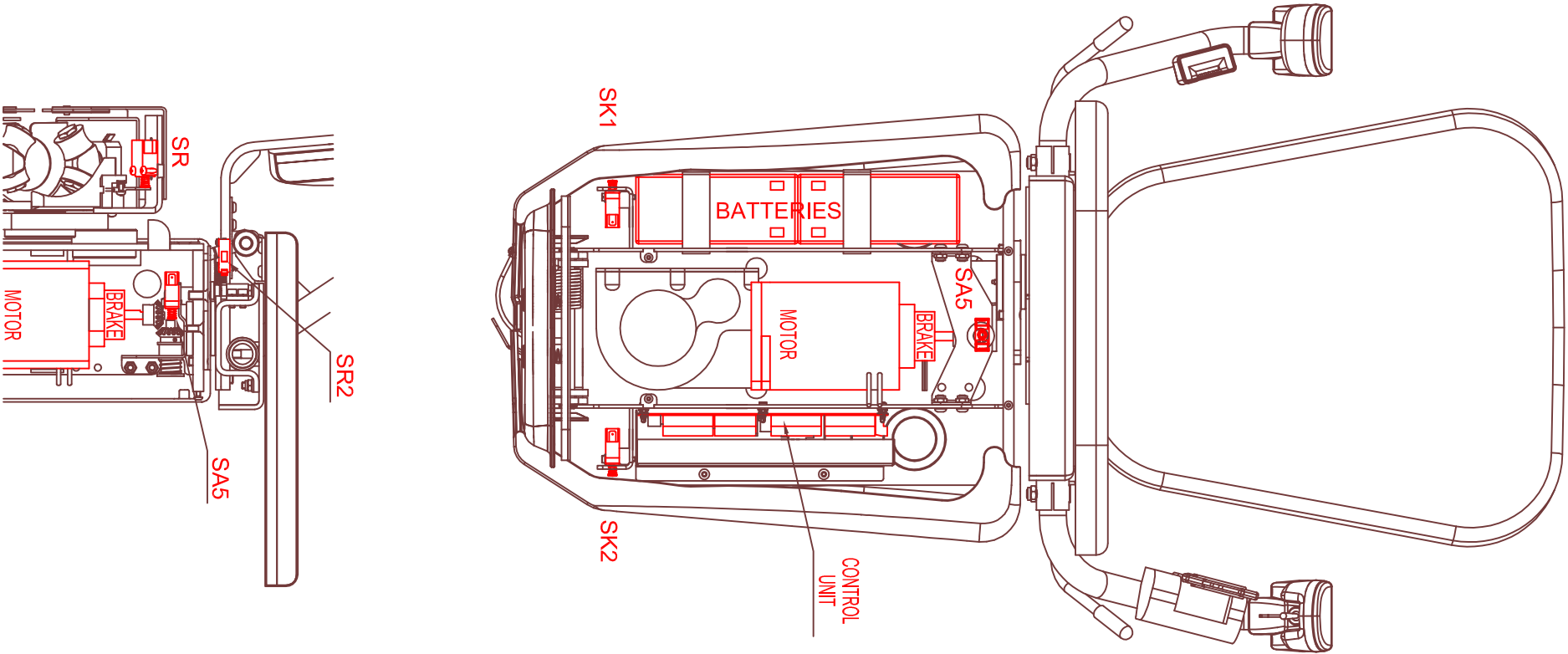
The seat does not stop in the intermediate stop station.

- The charging pin has 2 functions/positions depending on how much it is pressed. First, it slows down the speed as soon as the lift gets to the charging station. Second, when arriving at an intermediate landing it is pressed some more and activates the intermediate landing switch. Check if this second switch is pressed correctly in the intermediate landing stop.

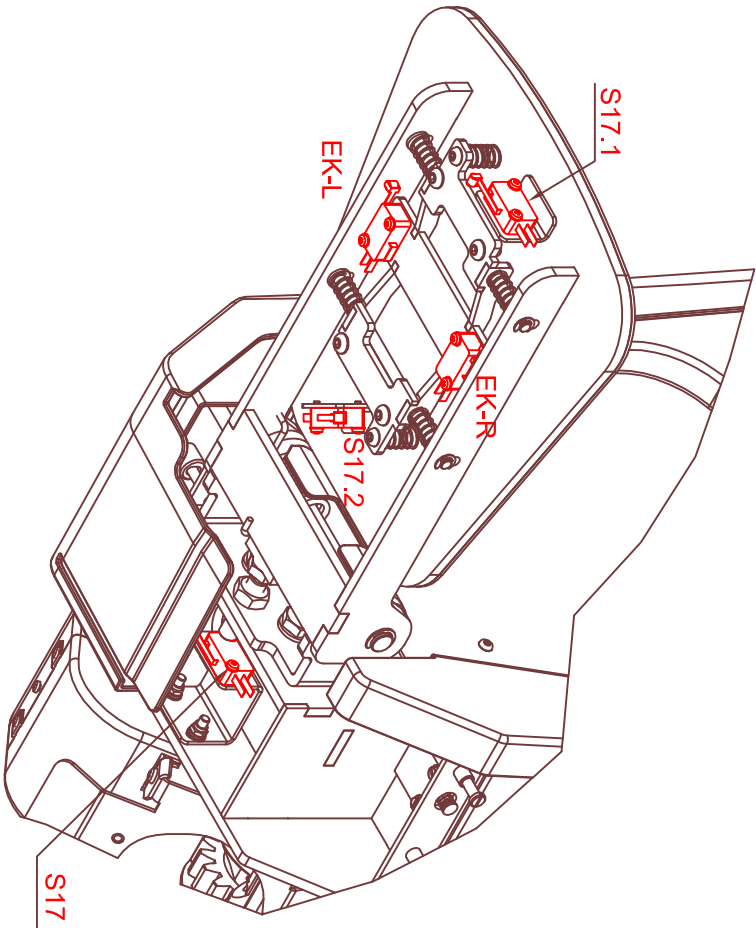
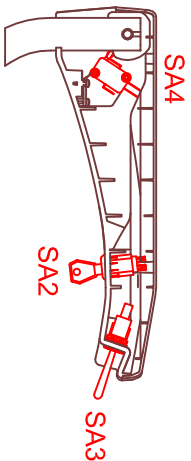
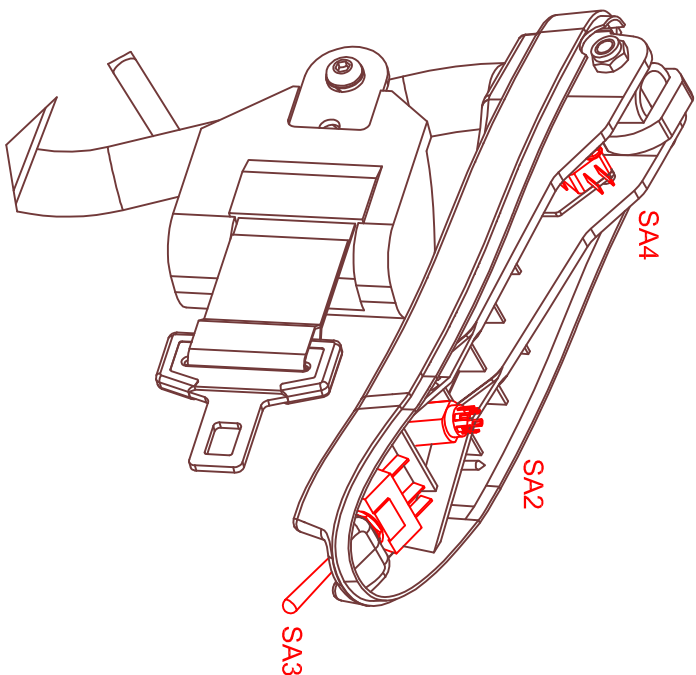
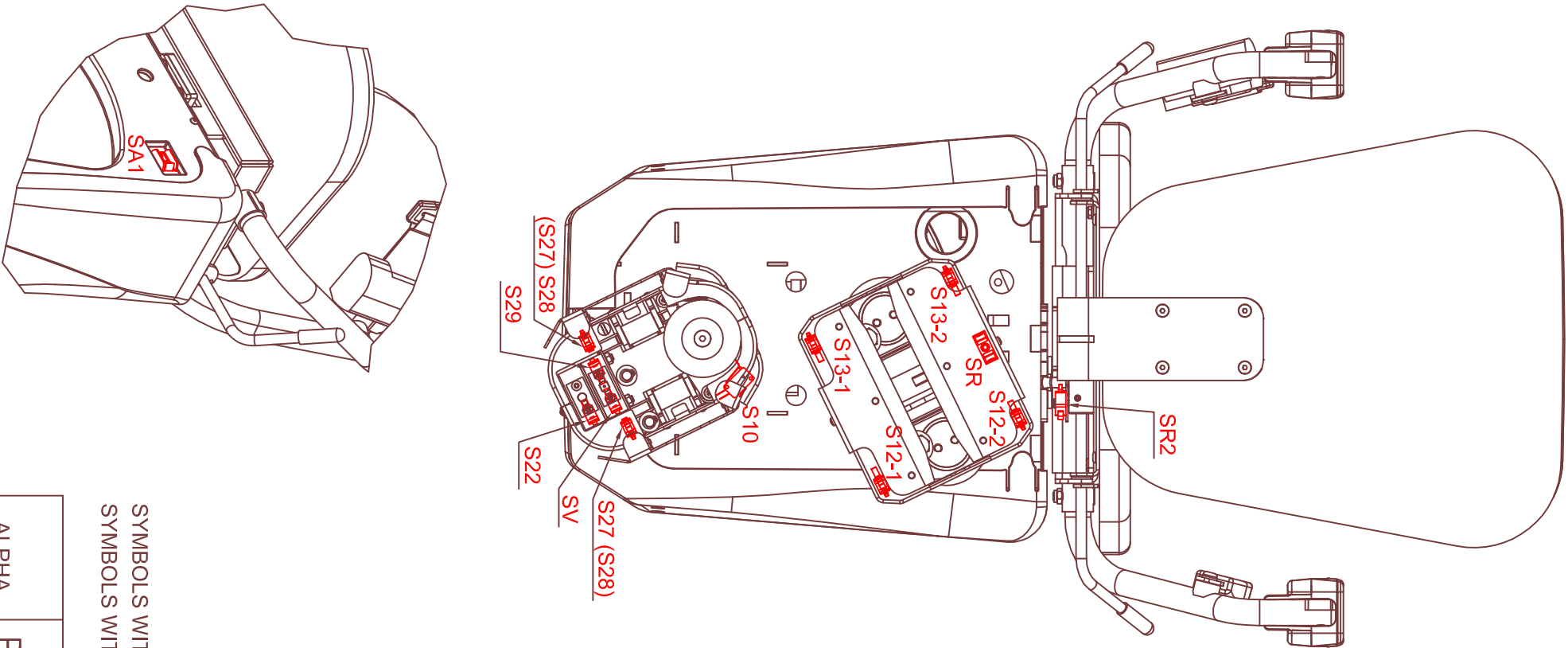
Attachments

- A) Overview location electrical switches
- B) Wiring diagram

FRONT VIEW



BACK VIEW



SYMBOLS WITHOUT PARENTHESIS - RIGHT UNIT
SYMBOLS WITH PARENTHESIS - LEFT UNIT

ALPHA

POSITION SWITCHES INSIDE THE CHAIRLIFT