Adventure A10
Informationen für Therapeuten und Fachhändler

D

Adventure A10
Information for Therapists and DME Dealers

GB/US

Adventure A10
Informations pour les thérapeutes et les commerçants spécialisés

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Adventure A10
Informazioni per i terapisti e rivenditori

I

ADVENTURE

Neu!
New!
Noveau!
Nuovo!

3

Auflage
Edition
Edition
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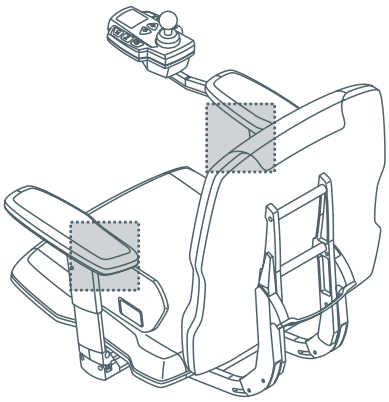
Contents

General notes

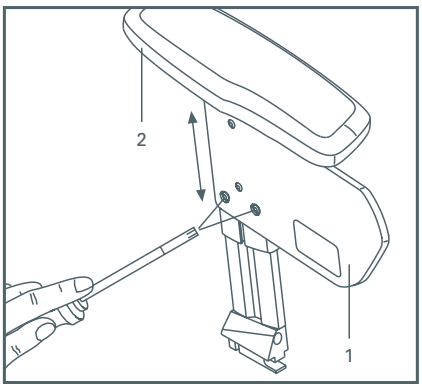
For the work procedures described in this information bulletin you will need a set of hexagon socket keys (Allen keys) 2.5 to 8 mm.
Ordering information for spare parts can be found in our product manual.
alber offers specialist dealers for medical accessories training courses for repairing the **adventure** and other **alber** products.

Standard seat
The **adventure** wheelchair is now equipped with the functional or Recaro (optional) seating system and no longer with the standard seat.
The information on the standard seat contained in this brochure only refers to possible adjustments to the **adventure** wheelchairs that are still equipped with the standard seat.

1 Mechanical adjustments to the adventure



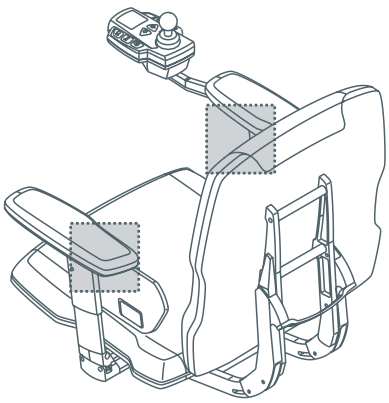
1.1 Armrest height adjustment



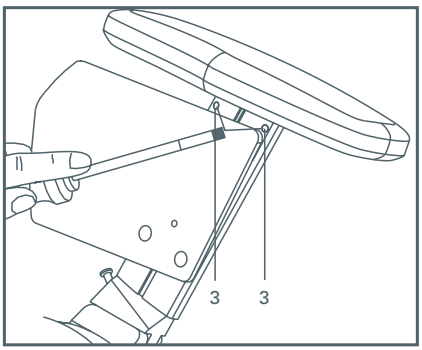
– Loosen the two screws [1] located in the side support.

– Push the armrest [2] to the desired height.

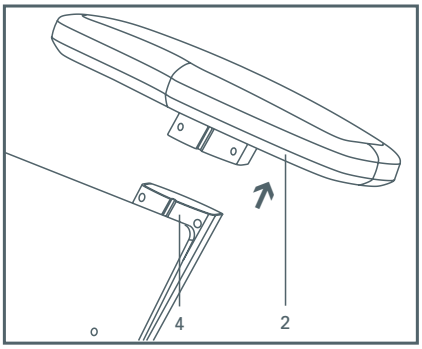
– Tighten the two screws [1] again.



1.2 Armrest length adjustment



– Loosen and remove the two screws [3] located in the side support under the upholstery.



– Pull the armrest [2] completely out of the holder [4].

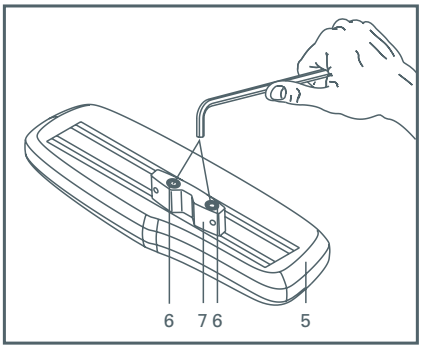
– Loosen the two screws [6] located underneath the upholstery [5].

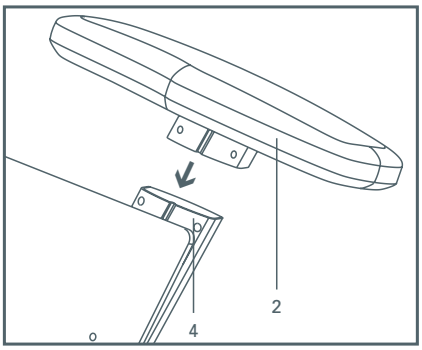
– Push the moveable part [7] to the desired position.

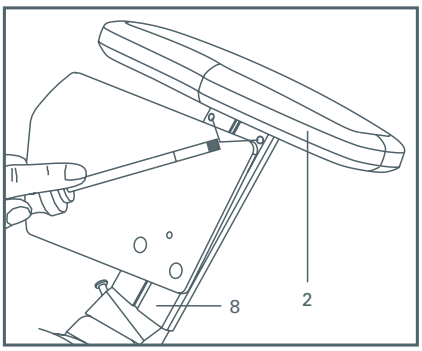
– Tighten the two screws [6] again.

– Push the armrest [2] back into the holder [4].

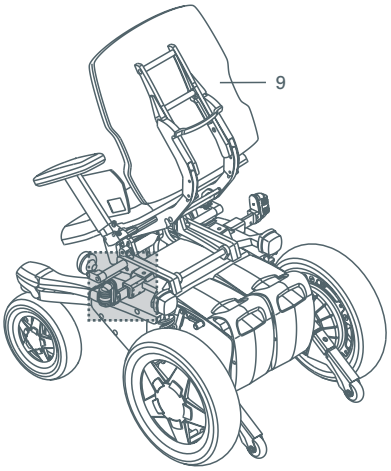
– Screw the armrest [2] back onto the side support [8].

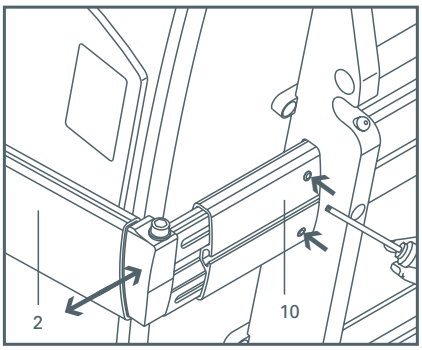






1.3 Armrest sideways adjustment





– Tilt the entire seat [9] forwards.

– Loosen the two screws [10] located under the seat.

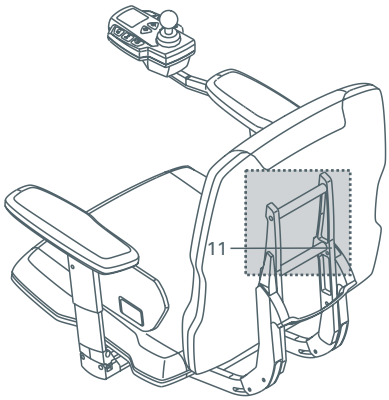
– Push the complete armrest [2] into the desired position.

– Tighten the two screws [10] again.

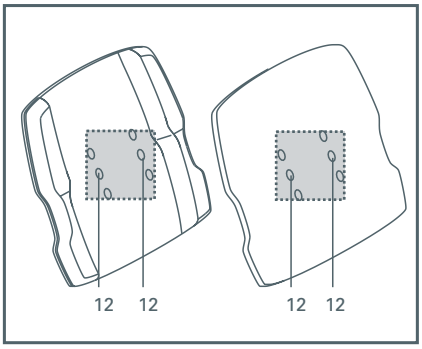
– Fold the seat **carefully** back down onto the chassis. Check the position of the armrest [2] in relation to the direction indicators.

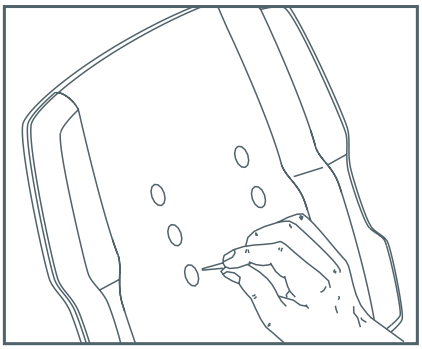
!

If the armrest bumps into the direction indicators, then they will have to be adjusted too (see chapter 1.14).

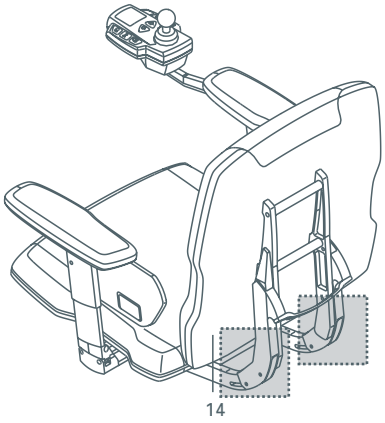


1.4 Backrest height adjustment
Only Function seat (comfort and standard upholstery)

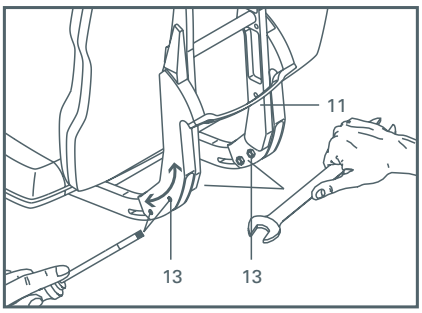




- Remove the cushion from the backrest.
- Loosen and remove the 4 screws that hold the backrest to the support bracket [11].
- On the inside of the backrest there are 3 holes in each of two rows which are normally covered by the upholstery. Feel for these holes with a sharp object.
- Select the hole [12] which will provide the desired height for the backrest.
- With a sharp knife, cut an opening into the upholstery over the chosen holes.
- As an alternative to a knife a soldering iron may also be used. When the screw holes melt it should leave an even, clean and heat-sealed border around the holes.
- Screw the backrest back onto the support bracket [11] in the height position you have selected.
- Replace the cushion on the backrest.



1.5 Backrest angle of inclination adjustment Function seat



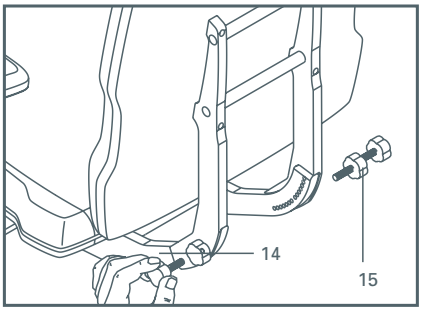
– Loosen the screws [13] in the support bracket.

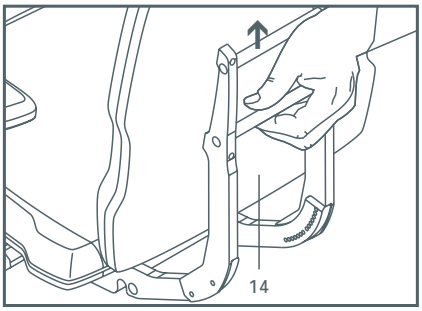
– Push the entire backrest [14] to the desired angle of inclination.

– Tighten the screws [13] again.

!

By adjusting the angle of inclination, the height of the backrest is also altered. It may be necessary to re-set the height (see chapter 1.4).





1.6 Backrest angle of inclination adjustment Standard seat

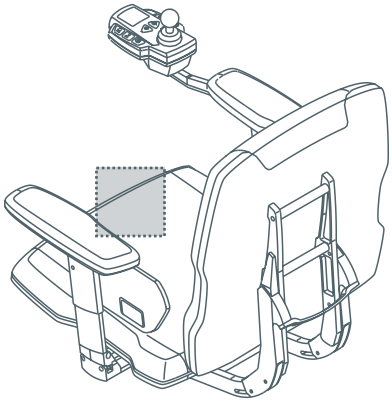
– Loosen and remove the four star grips [15].

– Pull or push the backrest [14] to the desired position.

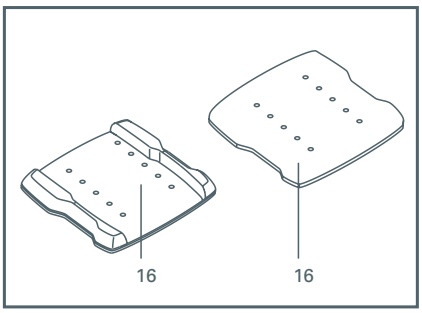
– Screw the four star grips [15] back in and tighten them.

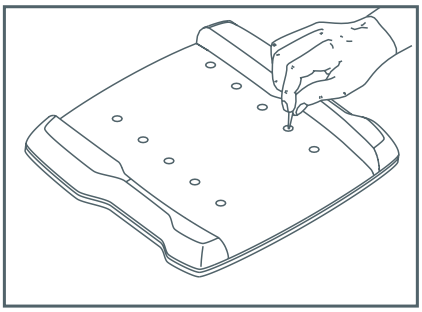
!

By adjusting the angle of inclination, the height of the backrest is also altered. It may be necessary to re-set the height (see chapter 1.4).



1.7 Seat length adjustment
Function seat (standard and comfort upholstery)





– Pull the cushion off the seat.

– Loosen and remove the four screws holding the seat.

– On the inside of the seat there are 5 holes in each of two rows which are normally covered by the upholstery. Feel for these holes with a sharp object.

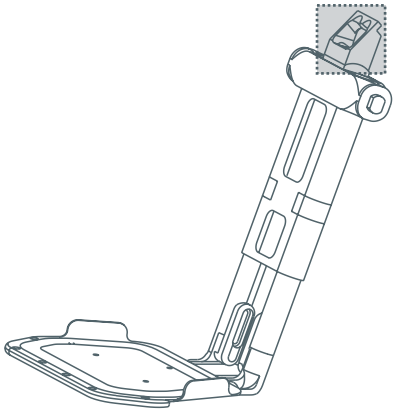
– Select the hole [16] which will provide the desired seat length for you.

– With a sharp knife, cut an opening into the upholstery over the chosen holes.

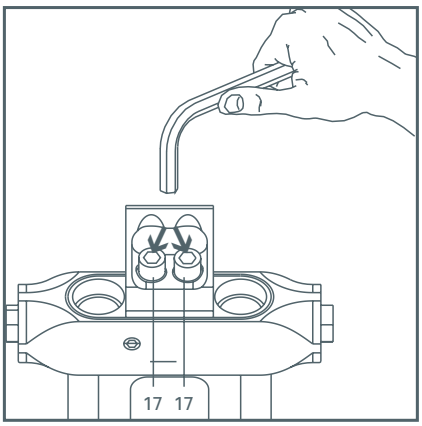
– As an alternative to a knife a soldering iron may also be used. When the screw holes melt it should leave an even, clean and heat-sealed border around the holes.

– Screw the seat back on in the position you have selected.

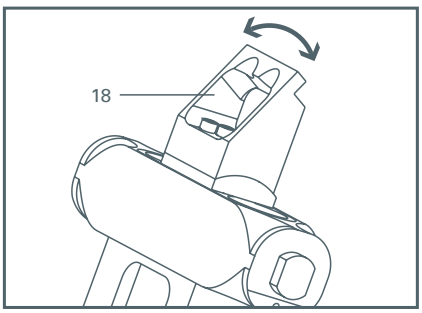
– Replace the cushion on the seat.

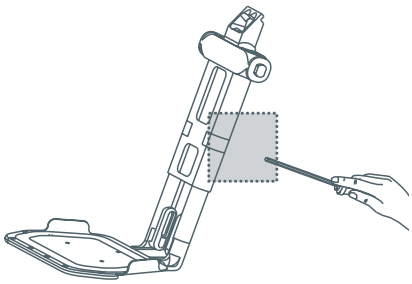


1.8 Leg support angle adjustment Function seat

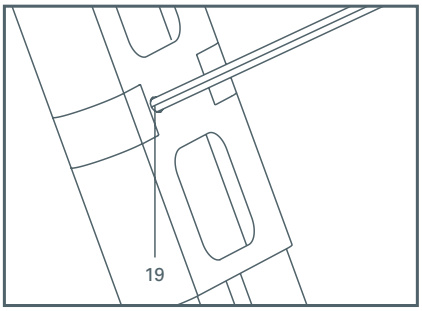


- Remove the leg support from the seat.
- Loosen the two screws [17] on the top of the leg support. The connecting piece [18] is now freely moveable.
- Set the desired angle.
- Tighten the two screws [17] again.
- Attach the leg support back onto the seat.





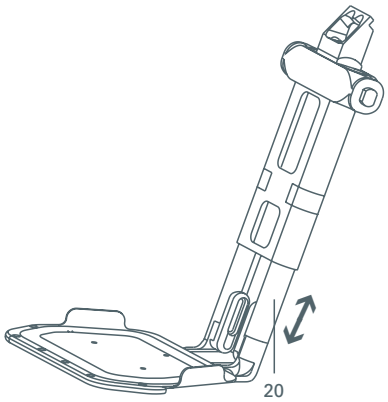
1.9 Leg support length adjustment
Standard and function seats

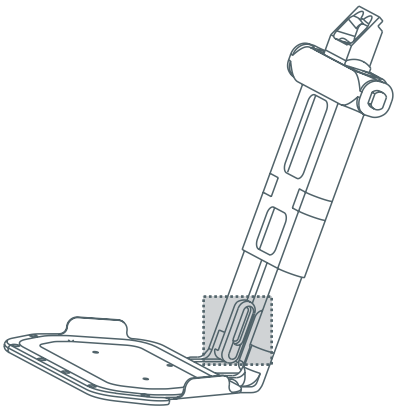


– Loosen the two screws [19] at the back of the leg support.

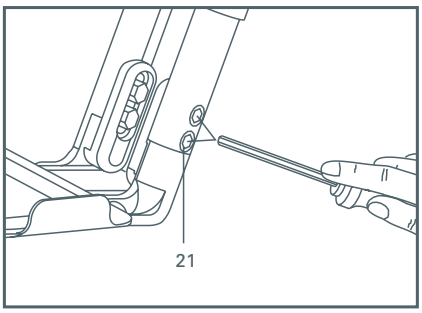
– Pull or push the lower part of the leg support [20] into the desired position.

– Firmly tighten the two screws [19] again.

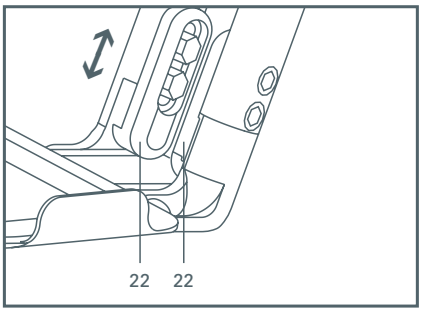


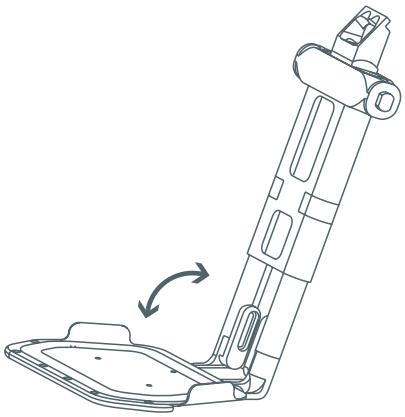


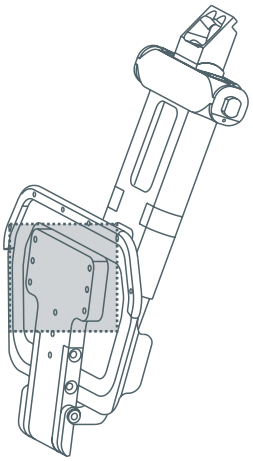
1.10 Leg support footrest angle adjustment Function seat



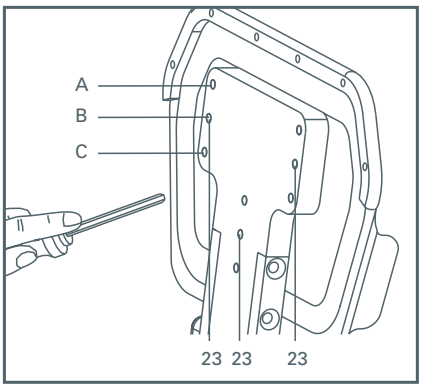
- Loosen the screws [21] on both sides at the lower end of the leg support.
- Push the retainer [22] into the desired position.
- Check the retainer and with it the angle of the footrest. If necessary, the retainer [22] may have to be moved again.
- If the retainer and with that the desired angle of the footrest are set correctly, then tighten the screws [21] again.







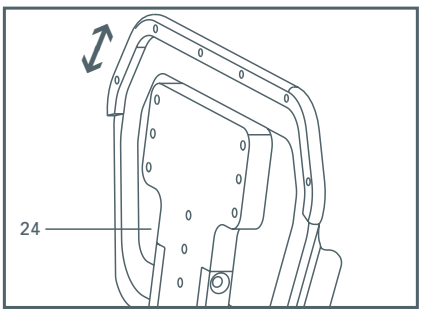
1.11 Leg support footrest length adjustment Standard and function seats

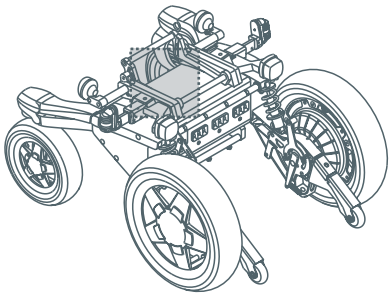


– Loosen the three screws [23] underneath the footrest.

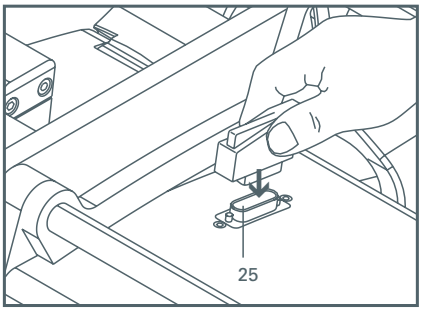
– The length can be adjusted by inserting the screws in one of the three sets of holes A, B or C.

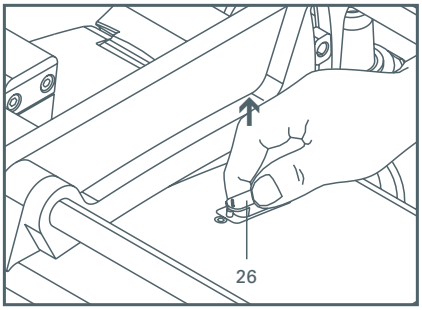
– Screw the footrest [24] into the desired position.





1.12 Interface instructions





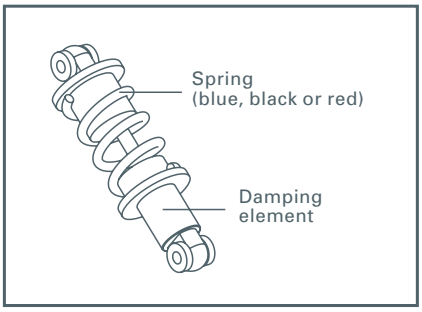
The interface [25] located on the chassis is for the attachment of a peripheral module for the control of external drives.

The cover [26] prevents the interface getting dirty or damaged and must only be removed if a device is to be attached.

1.13 Adjusting the chassis springing and damping

1.13.1 General information

When the **adventure** is first delivered, the chassis is optimally adjusted to the respective weight of the user and, as a rule, does not need any further adjustment. If a second-hand device is to be used or the body weight of the wheelchair driver should change significantly, then the chassis should be readjusted.



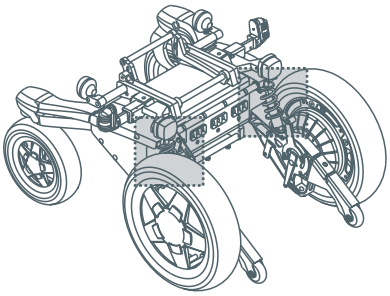
The spring hardness is principally responsible for the degree of comfort of the chassis and should be selected to match the weight of the wheelchair driver. Basically there are three different degrees of spring hardness available for the respective weight categories:

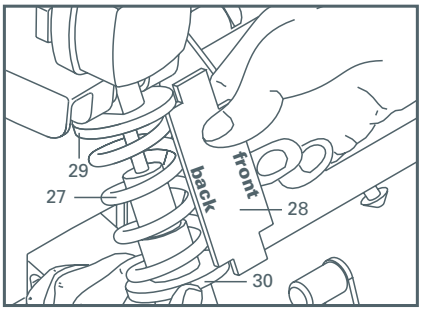
Blue springs:
Wheelchair drivers with up to 80 kg body weight

Black springs:
Wheelchair drivers with from 81 to 120 kg body weight

Red springs:
Wheelchair drivers with from 121 to 140 kg body weight

Determine into which weight category the wheelchair driver falls and whether the colour of the installed springs corresponds. Under some circumstances the springs will have to be exchanged or readjusted. This must only be undertaken by an authorised and trained dealer or by the **alber** Service Center (phone +49 (0) 800 90 96 250).
The rear springs are principally responsible for the comfort of the ride and they can be finely set thanks to the adjustable spring preload. The front springs need to be readjusted only in rare cases (spring replacement necessary, significant weight change of the wheelchair driver) and should, as a rule, remain in the position set in the factory.





1.13.2 Adjusting the rear springing

Prior to adjusting the springing the batteries must be removed (see illustration) so that the spring/damper element is completely load-free.

The preload of the rear springs [27] can be set with the help of several differently coloured spacer gauges that can be obtained from **alber** or with a conventional one.

– Place the spacer gauge [28] against the spring [27] as shown in the diagram.
  The spacer gauge [28] must make contact with the spring buffer [29].

– Turn the adjusting wheel [30] on the spring.

– You have set the correct spacing, as taken from the table below, when the adjustment wheel [30] makes contact with the spacer gauge.

!

Make sure that you set the same figure for both rear springs.
The maximum additional load of 140 kg should never be exceeded.

Spacer gauge

Identifier:
blue (for blue springs)

To 50 kg	84 mm
To 60 kg	83 mm
To 70 kg	82 mm
To 80 kg	80 mm

Identifier:
black (for black springs)

To 90 kg	83 mm
To 100 kg	81 mm
To 110 kg	79 mm
To 120 kg	77 mm

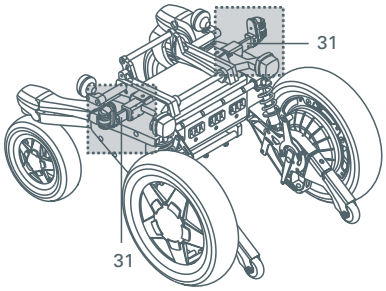
Identifier:
red (for red springs)

To 130 kg	79 mm
To 140 kg	77 mm

!

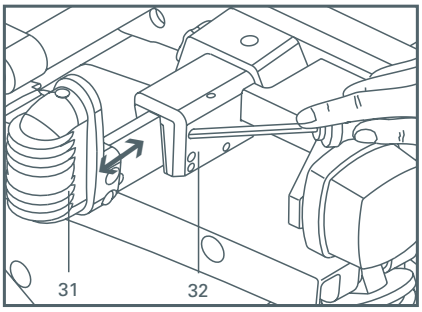
Please inform the wheelchair occupant that a readjustment of the front* and rear suspensions will be necessary if he or she gains or loses substantially in weight (for example, due to a particular illness).
If the user gains a large amount of weight there is a danger that the chassis may be damaged; if there is a large loss in weight the comfort during driving is reduced.

* To carry out installation work and adjustments to the front part of the chassis, prior training by **alber** is a prerequisite. Please contact us for this.



1.14 Setting the direction indicators

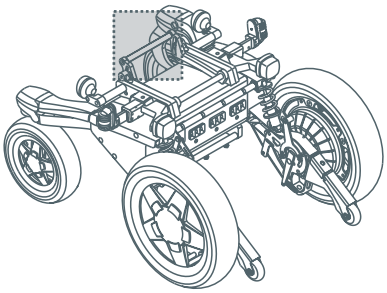
When the armrest is adjusted sideways (see chapter 1.3), it may prove necessary to re-position the two direction indicators [31].



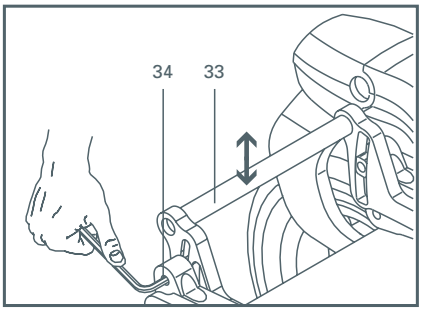
– Loosen the two screws [32].

– Pull or push the direction indicator [31] into the desired position. There should always be a small space (approx. 5 mm) between the direction indicator [31] and armrest.

– Tighten the two screws [32] again.



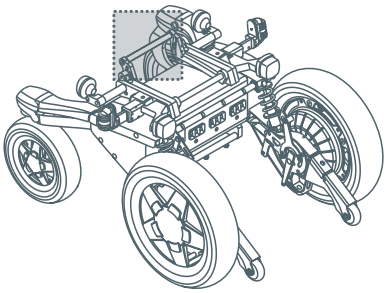
1.15 Setting the seat position
Function seat



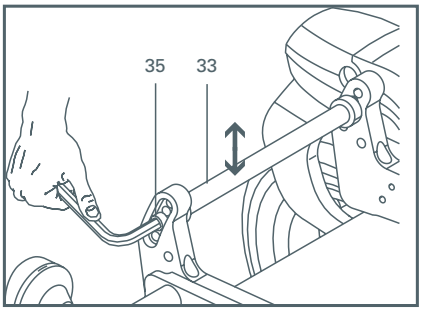
– Loosen the screws [34] on both sides of the holder stay [33].

– Pull or push on the holder stay [33] so that the entire seat holder moves into the desired position.

– Firmly tighten the two screws [34] on both sides of the holder stay [33] again.



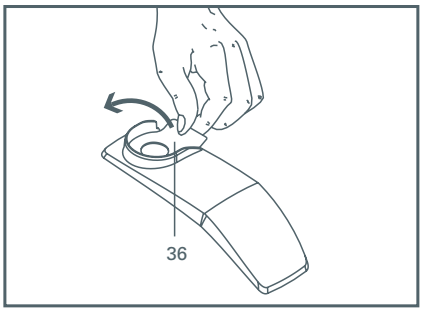
1.16 Setting the seat position
Standard seat

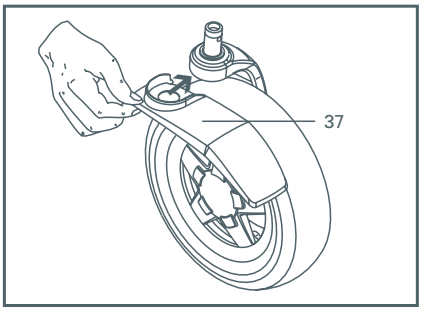


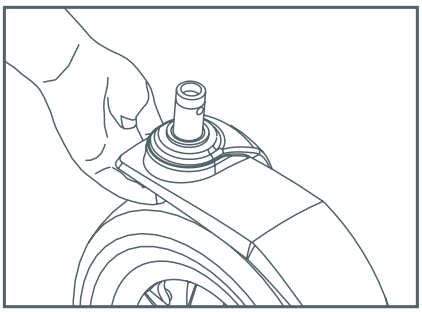
– Loosen and remove the screws [35] on both sides of the holder stay [33].

– Place the holder stay [33] against the hole positions desired.

– Screw the holder stay [33] tight again using the screws [35].







1.17 Fitting mudguards (optional extra)

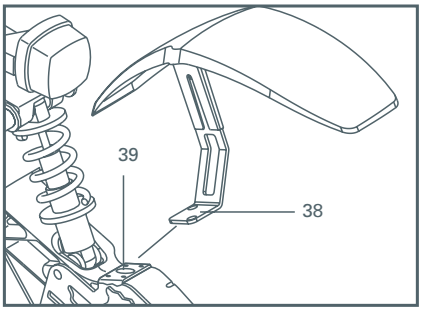
1.17.1 Mudguards for the steering wheels

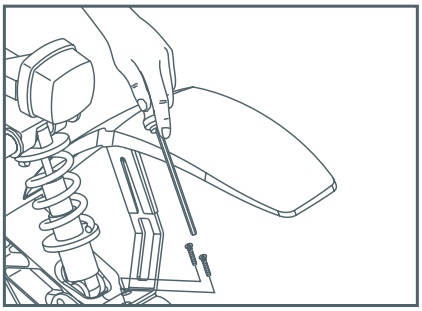
– **Thoroughly clean the connecting surface of the fork. It must be free of all dirt and grease.**

– Remove the self-adhesive foil [36] from the mudguard.

– Push the mudguard [37] under the fork of the steering wheel. Make sure it is positioned properly.

– Press the mudguard [37] firmly against the steering wheel fork for a short time.

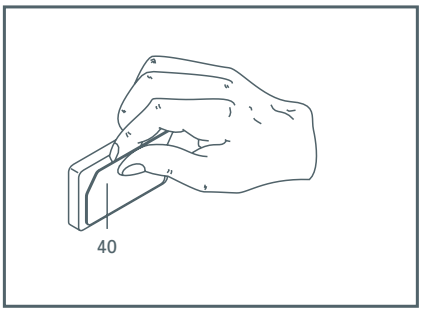


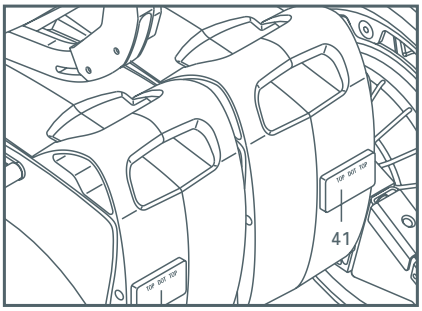


1.17.2 Mudguards for the powered wheels

– Position the angle bracket of the mudguard [38] on the holder [39], as shown in the diagram.

– Screw the mudguard [38] onto the holder [39].





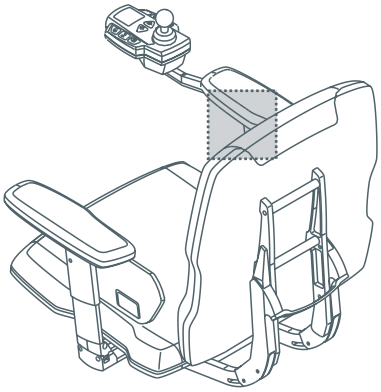
1.17.3 Fitting rear reflectors

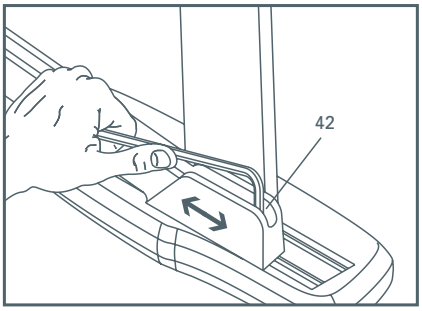
– Remove the adhesive foil [40] from the back of the rear reflectors [41].

– Stick the rear reflectors [41], as shown in the diagram, onto the back of the batteries (the wording TOP/DOT/TOP must be at the top)

! **Driving with mudguards and without rear reflectors is not permitted.**

1.18 Control unit length adjustment



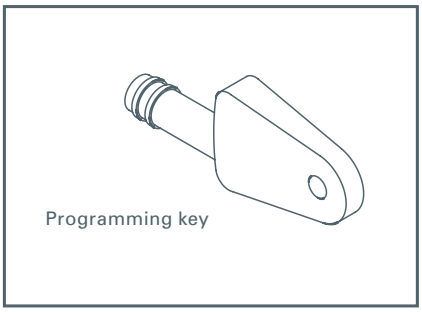


– Loosen the two screws [42] in the bracket [43] situated underneath the armrest.

– Push the bracket holding the control unit to the desired position.

– Tighten the two screws [42] again.

2.1 General information regarding programming mode


Programming key

In order to meet the different requirements of customers and the various sorts of disablement, the **adventure** provides a wide range of variable driving parameters.
Programming can be carried out directly via the control unit without any additional device. Only a programming key, which is delivered with every new **adventure**, is needed.

!

For safety reasons, the programming key should not be given to the user. Driving parameters must only be changed by qualified persons (e.g. a therapist, a specialist dealer).
After the program has been changed, a trial run should be undertaken, supervised by a qualified person, to ensure that the user can cope with the new driving characteristics.

2.2 Driving programs

There are two driving programs available for the **adventure** – Indoor and Outdoor modes. To a great extent, both modes can be programmed independently of each other, so that travel indoors can be based on different parameters from travel outdoors. It is also possible to make individual settings to reflect the state of health and disablement of the wheelchair occupant.

The essential differences between the two modes are:

– In Outdoor mode the wheel at the outside of a curve is accelerated, resulting in nimble driving conduct

– In Indoor mode the wheel at the inside of a curve is braked, resulting in driving conduct that is tolerant and predictable

2.3 Changeable parameters

The following parameters may be adjusted to user requirements directly via the control unit, without any external programming device:

Select parameter set Indoor / Outdoor
- The **adventure** allows the parameters for Indoor and Outdoor use to be programmed independently of each other. For example, slow and fine for indoors and with maximum speed and precise straight ahead travel for outdoors (factory setting).
- The following parameters change both for Indoor and Outdoor mode when they are re-programmed and they cannot be saved as different for the two modes:
  - 9 [Self switch off time]
  - 10 [Driving signal displacement]
  - 12 [change of direction joystick]

  always apply to both Indoor and Outdoor
- Can also be set according to the state of health or mind of the user, e.g. weak or strong constitution.

Maximum speed forwards
- Determines the maximum attainable speed.
- Can be set in 5 steps (20 %, 40 %, 60 %, 80 % and 100 %).
- Reduction of speed is recommended for beginners or for use exclusively indoors.
- Reduction also sensible for older (geriatric) users.

Maximum speed backwards
- Determines the maximum attainable speed.
- For safety reasons, it is limited to a maximum of 70 % of the set maximum speed forwards.
- Reduction recommended if a very slow speed is desired (e.g. for drivers with bad coordination, older users and for travel indoors).

Acceleration time
- Time taken to reach the maximum set speed.
- Also perceived by the user as “Reaction” (prompt / sluggish).
- Reduction for tremor or ataxia.
- Increase to enable small obstructions to be overcome more easily at low speeds (e.g. thresholds indoors).

Slow down time
- The time taken for braking from the maximum speed to the desired speed or to a standstill.
- Reduction if very gentle driving is required at lower speeds (e.g. for users with diminished upper body / trunk stability).
- Increase if very precise driving is required at lower speeds (e.g. confined living room) or rapid reaction is desired.

Turning speed
- Determines the maximum speed at which an arc of a circle or curve is travelled at.
- Reduction produces more stable straight forward driving at high speeds; at low speeds sluggish / tolerant.
- Increase at lower speeds (indoors) improves travel round tight curves; at higher speeds more nervous / rapid reaction.

Turning acceleration / slow down (sensitivity)
- Time taken to attain maximum turning speed.
- Also usually described as sensitivity or reaction.
- 5 bars = rapid reaction / acceleration.
- Reduction down to 1 or 2 bars to adjust for tremor or ataxia.

Audible signals
- Switches audible signal on / off, for example a beep when error messages appear or for battery state-of-charge warning.

Braking onset
- The time delay until the electromagnetic parking brakes are applied after the last issuance of a driving command (displacement of the joystick).
- Without time delay (1 second): if an immediate safe stand is required (e.g. on approaching lightly sloping kerbs / ledges).
- With time delay (30 seconds): avoids constant braking onset – undesirable “clicking” noise prevented.

Self switch off time
- The time until the **adventure** switches itself off (to save the battery).
- May be set from 1 to 5 hours.

Joystick through
- Attaining the maximum speed dependent on joystick displacement
- Setting to 1 bar (minimum) means that: after 50% of the way (half displacement of the joystick) the maximum speed will already be reached. A further displacement beyond that does not increase the speed!
- Makes sense for those with little muscular strength (MD), with restricted arm and / or hand functions or when used as mouth or chin controller
- Setting to 5 bars: the maximum speed is reached when the joystick is fully displaced.

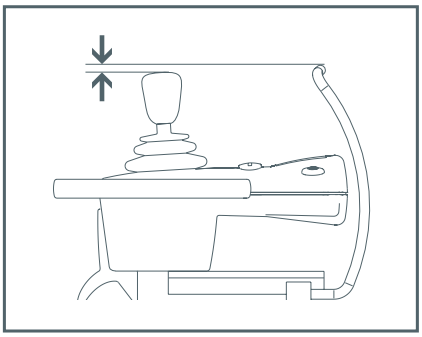
11

Battery capacity
- To provide most exact battery capacity indication, the battery size can be adjusted for 2 different types of the battery pack.
- Factory pre-set according to battery size ordered.

12

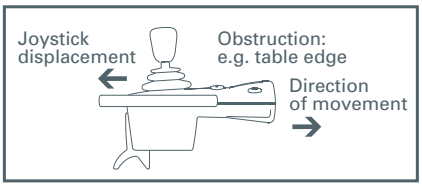
Change of direction joystick
Particularly useful for users who can only displace the joystick in certain directions (e.g. can merely pull it) or if the control unit is fitted in the opposite direction (e.g. with a therapeutic table).

Possible changes:
- Change the joystick setting to the actual direction of movement
- Change forwards / backwards
- Change left / right
- Change both joystick settings



Attention!
With changed movement parameter 12 “change of direction joystick” the **adventure** may only be operated with the bow-type handle for protection against ramming for control unit (optional accessory)!

On accidentally bumping into an obstacle, (e.g. a tabletop) without protection against ramming, the joystick will be displaced even more. Consequently the driver will not be able to get out of this situation single-handedly. He will be effectively pinned in. If such a situation should arise, all that the driver can do is to switch off the **adventure**.



!

Caution!
After changing this driving parameter the user must be given time to adjust to the new driving characteristics very slowly and under professional supervision (at minimum speed).

13

Display option
Setting options for various displays on the screen.

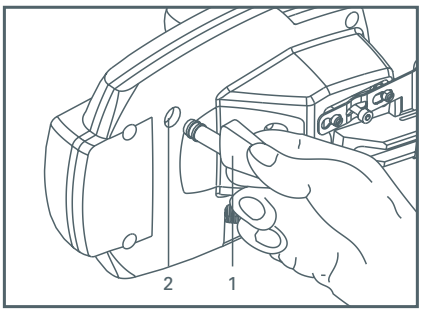
Possible settings:
- Normal display
- Driving speed
- Daily kilometre counter

Note:
By pressing the menu button for approx. 3 seconds the daily kilometre counter is set to “zero”.

Speed reduction
This parameter can only be altered in conjunction with the attachment of a periphery module.

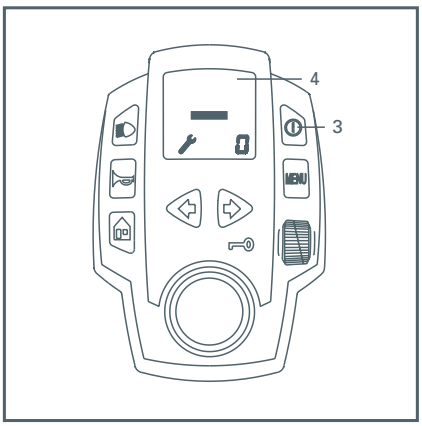
Chassis with short or long rocker
- Setting 1 bar: More gentle braking (Setting only admissible for chassis with long wheelbase)
- Setting 5 bars: Standard setting (without additional functions)

Lighting/Direction indicators
- Setting 1 bar: functions deactivated
- Setting 5 bars: functions activated



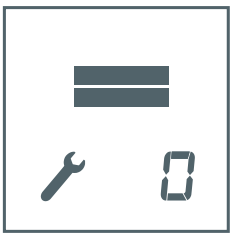
2.4 Activating service mode

In order to activate service mode you must first insert the programming key [1] into the opening [2] underneath the control unit.



Then switch the **adventure** on by pressing the On / Off button [3]. On the display screen [4] the symbol , the code “0“ and a single bar will be shown.

Outdoor Mode

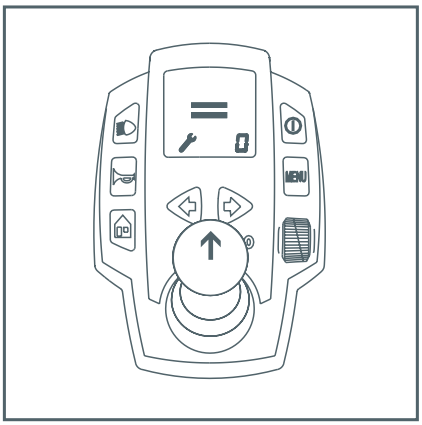


Indoor Mode

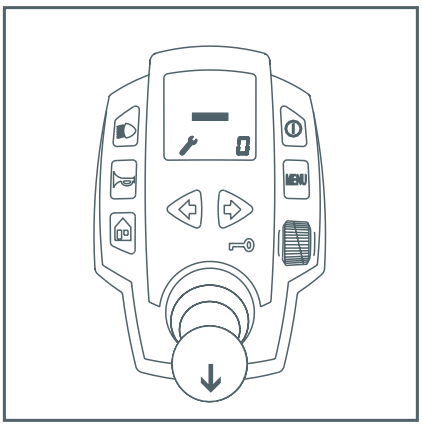
2.5 Selection of the parameter settings Indoor / Outdoor

Now you must choose the mode which you wish to change. Initially the mode in which you currently are will be shown.

The following indicators apply:
One bar display = Outdoor mode
Two bars display = Indoor mode



To switch from Outdoor to Indoor mode, push the joystick upwards once – the second bar will appear.

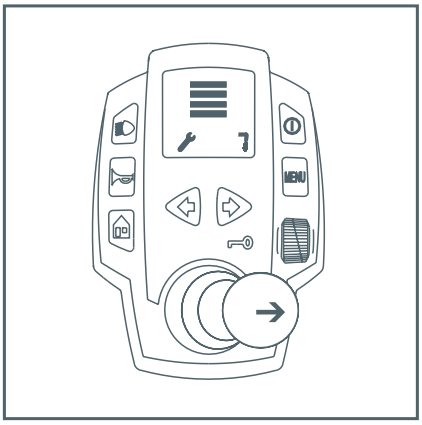


To switch from Indoor to Outdoor mode, push the joystick downwards once – the second bar will disappear.

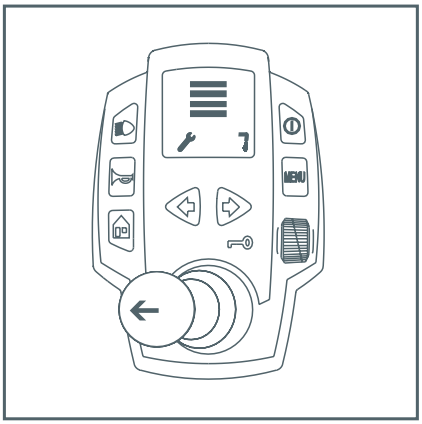
2.6 Changing the parameters

After you have established the mode which you wish to change, you can begin with the individual programming. By displacing the joystick to the left or right the various parameters described in chapter 2.3 may be set.

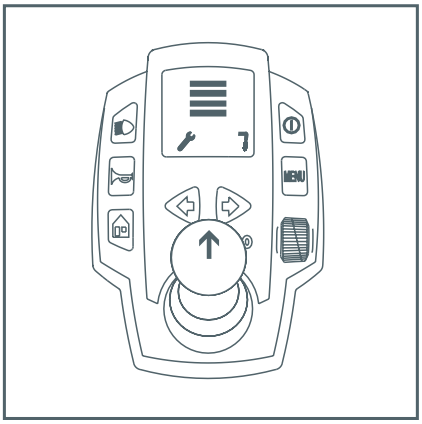
The following apply:



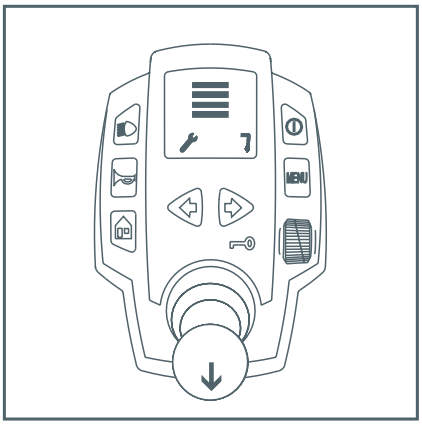
Displacement to the right: number code (1-15) is increased (change to the next highest parameter).



Displacement to the left: number code (1-15) is decreased (change to the next lowest parameter).



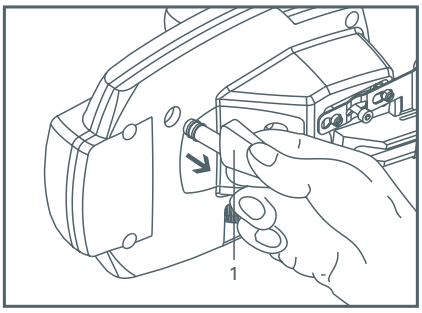
Displacement upwards: number of bars shown is increased; the currently selected parameter is increased or accepted.



Displacement downwards: number of bars shown is decreased; the currently selected parameter is decreased or deactivated.

!

Parameters, codes and possible settings can be found in the table in chapter 2.8



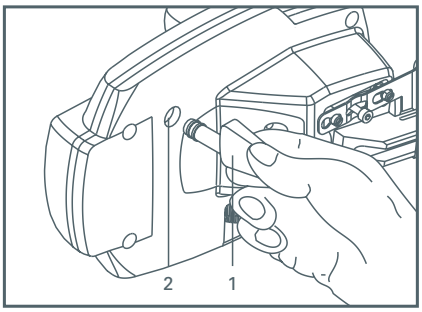
When programming is complete:

– Pull the programming key [1] out of its location underneath the control unit.

– The newly programmed driving characteristics are saved automatically.

– Carry out a trial run to check out the newly programmed driving characteristics.

2.7 Reverting to factory parameter settings



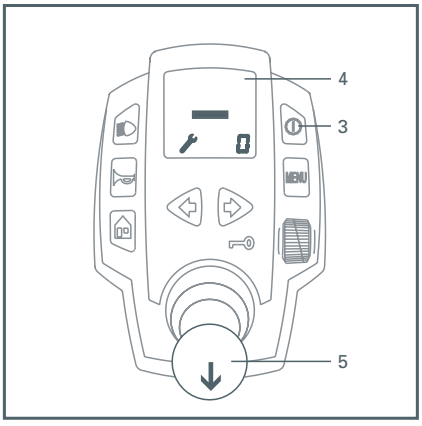
The parameters as set in the factory may be reverted to at any time as follows:

– Switch the **adventure** off.

– Insert the programming key [1] into the opening [2] located underneath the control unit.

– Pull the joystick [5] back and hold it in this position.

– Then switch the **adventure** on again by pressing the On / Off button [3].



– Wait for approx. 2 seconds until the factory programming is automatically restored.

– On the display [4] the information shown on the left will appear.

– Pull the programming key [1] out of the control unit again.

– The **adventure** can now be operated again with the parameters as set in the factory.

2.8 Parameter table

2.8.1 adventure version 6 km/h

(Factory settings are marked in **bold**)

Parameter	Code	Setting	Nominal value	
Driving program	0	1 bar 2 bars	**Outdoor** Indoor	
Parameter	**Code**	**Display indication**	**Indoor settings**	**Outdoor settings**
Maximum speed forwards	1	1 bar 2 bars 3 bars 4 bars 5 bars	1,3 km/h 2,5 km/h **3,8 km/h** 5,0 km/h 6,0 km/h	1,3 km/h 2,5 km/h 3,8 km/h 5,0 km/h **6,0 km/h**
Maximum speed reverse	2	1 bar 2 bars 3 bars 4 bars 5 bars	1,8 km/h 2,4 km/h **3,0 km/h** 3,6 km/h 4,2 km/h	1,8 km/h 2,4 km/h **3,0 km/h** 3,6 km/h 4,2 km/h
Acceleration time	3	1 bar 2 bars 3 bars 4 bars 5 bars	3,2 seconds 2,8 seconds **2,3 seconds** 1,8 seconds 1,4 seconds	3,2 seconds 2,8 seconds 2,3 seconds **1,8 seconds** 1,4 seconds
Slow down time	4	1 bar 2 bars 3 bars 4 bars 5 bars	3,7 seconds 3,2 seconds **2,8 seconds** 2,3 seconds 1,8 seconds	3,7 seconds 3,2 seconds 2,8 seconds **2,3 seconds** 1,8 seconds
Turning speed	5	1 bar 2 bars 3 bars 4 bars 5 bars	22 % (slow) 25 % 28 % **31 %** 34 % (fast)	22 % (slow) 25 % **28 %** 31 % 34 % (fast)
Turning acceleration / deceleration (sensitivity)	6	1 bar 2 bars 3 bars 4 bars 5 bras	0,09 seconds (slow) 0,06 seconds 0,05 seconds **0,04 seconds** 0,03 seconds (fast)	0,19 seconds (slow) 0,13 seconds 0,09 seconds **0,08 seconds** 0,06 seconds (fast)
Audible signals	7	1 bar 5 bars	Deactivated **Activated**	Deactivated **Activated**
Braking onset	8	1 bar 5 bars	**Time delayed by 30 seconds** Immediate (1 second)	**Time delayed by 30 seconds** Immediate (1 second)
Self switch off time	9	1 bar 2 bars 3 bars 4 bars 5 bars	**1 hour** 2 hour 3 hour 4 hour 5 hour	**1 hour** 2 hour 3 hour 4 hour 5 hour
Joystick throw joystick	10	1 bar 5 bars	50 % **100 %**	50 % **100 %**
Battery capacity	11	1 bar 5 bars	22 Ah Multipower 17 Ah Panasonic	22 Ah Multipower 17 Ah Panasonic
Change of direction joystick	12	1 bar 2 bars 3 bars 4 bars	**No change** Forwards / backwards changed Left / right changed Forwards / backwards and left / right changed	**No change** Forwards / backwards changed Left / right changed Forwards / backwards and left / right changed
Display option	13	1 bar 2 bars 3 bars	**Normal display** Driving speed Daily kilometres counter	**Normal display** Driving speed Daily kilometres counter
Speed reduction	14		Only in conjunction with periphery module	Only in conjunction with periphery module
Chassis with long or short wheelbase	15	1 bar 5 bars	More gentle braking (Setting only admissible for chassis with long wheelbase) **Standard setting (without additional function)**	More gentle braking (Setting only admissible for chassis with long wheelbase) **Standard setting (without additional function)**
Lighting/Direction indicator	16	1 bar 5 bars	functions deactivated **functions activated**	functions deactivated **functions activated**

2.8.2 adventure version 10 km/h*

* Not available in the USA
(Factory settings are marked in **bold**)

Parameter	Code	Setting	Nominal value	
Driving program	0	1 bar 2 bars	**Outdoo**r Indoor	
Parameter	**Code**	**Display indication**	**Indoor settings**	**Outdoor settings**
Maximum speed forwards	1	1 bar 2 bars 3 bars 4 bars 5 bars	2,0 km/h 4,0 km/ **6,0 km/h** 8,0 km/h 10,0 km/h	2,0 km/h 4,0 km/h 6,0 km/h 8,0 km/h **10,0 km/h**
Maximum speed reverse	2	1 bar 2 bars 3 bars 4 bars 5 bars	1,8 km/h 2,4 km/h **3,0 km/h** 3,6 km/h 4,2 km/h	1,8 km/h 2,4 km/h **3,0 km/h** 3,6 km/h 4,2 km/h
Acceleration time	3	1 bar 2 bars 3 bars 4 bars 5 bars	8,0 seconds 6,9 seconds **5,7 seconds** 4,6 seconds 3,4 seconds	8,0 seconds 6,9 seconds 5,7 seconds **4,6 seconds** 3,4 seconds
Slow down time	4	1 bar 2 bars 3 bars 4 bars 5 bars	9,2 seconds 8,0 seconds **6,9 seconds** 5,7 seconds 4,6 seconds	9,2 seconds 8,0 seconds 6,9 seconds **5,7 seconds** 4,6 seconds
Turning speed	5	1 bar 2 bars 3 bars 4 bars 5 bars	14 % (slow) 16 % 18 % **20 %** 21 % (fast)	14 % (slow) 16 % **18 %** 20 % 21 % (fast)
Turning acceleration / deceleration (sensitivity)	6	1 bar 2 bars 3 bars 4 bars 5 bars	0,08 seconds (slow) 0,05 seconds 0,04 seconds **0,03 seconds** 0,025 seconds (fast)	0,19 seconds (slow) 0,13 seconds 0,09 seconds **0,08 seconds** 0,06 seconds (fast)
Audible signals	7	1 bar 5 bars	Deactivated **Activated**	Deactivated **Activated**
Braking onset	8	1 bar 5 bars	**Time delayed by 30 seconds** Immediate (1 second)	**Time delayed by 30 seconds** Immediate (1 second)
Self switch off time	9	1 bar 2 bars 3 bars 4 bars 5 bars	**1 hour** 2 hours 3 hours 4 hours 5 hours	**1 hour** 2 hours 3 hours 4 hours 5 hours
Joystick throw joystick	10	1 bar 5 bars	50 % **100 %**	50 % **100 %**
Battery capacity	11	1 bar 5 bars	22 Ah Multipower 17 Ah Panasonic	22 Ah Multipower 17 Ah Panasonic
Change of direction joystick	12	1 bar 2 bars 3 bars 4 bars	**No change** Forwards / backwards changed Left / right changed Forwards / backwards and left / right changed	**No change** Forwards / backwards changed Left / right changed Forwards / backwards and left / right changed
Display option	13	1 bar 2 bars 3 bars	**Normal display** Driving speed Daily kilometres counter	**Normal display** Driving speed Daily kilometres counter
Speed reduction	14		Only in conjunction with periphery module	Only in conjunction with periphery module
Chassis with long or short wheelbase	15	1 bar 5 bars	More gentle braking (Setting only admissible for chassis with long wheelbase) **Standard setting (without additional function)**	More gentle braking (Setting only admissible for chassis with long wheelbase) **Standard setting (without additional function)**
Lighting/Direction indicator	16	1 bar 5 bars	functions deactivated **functions activated**	functions deactivated **functions activated**

2.8.3 adventure version 12 km/h

(Factory settings are marked in **bold**)

Parameter	Code	Setting	Nominal value	
Driving program	0	1 bar 2 bars	**Outdoo**r Indoor	
Parameter	**Code**	**Display indication**	**Indoor settings**	**Outdoor settings**
Maximum speed forwards	1	1 bar 2 bars 3 bars 4 bars 5 bars	2,4 km/h 4,8 km/h **7,2 km/h** 9,6 km/h 12,0 km/h	2,4 km/h 4,8 km/h 7,2 km/h 9,6 km/h **12,0 km/h**
Maximum speed reverse	2	1 bar 2 bars 3 bars 4 bars 5 bars	1,8 km/h 2,4 km/h **3,0 km/h** 3,6 km/h 4,2 km/h	1,8 km/h 2,4 km/h **3,0 km/h** 3,6 km/h 4,2 km/h
Acceleration time	3	1 bar 2 bars 3 bars 4 bars 5 bars	8,8 seconds 7,6 seconds **6,3 seconds** 5,1 seconds 3,8 seconds	8,8 seconds 7,6 seconds 6,3 seconds **5,1 seconds** 3,8 seconds
Slow down time	4	1 bar 2 bars 3 bars 4 bars 5 bars	10,1 seconds 8,8 seconds **7,6 seconds** 6,3 seconds 5,1 seconds	10,1 seconds 8,8 seconds 7,6 seconds **6,3 seconds** 5,1 seconds
Turning speed	5	1 bar 2 bars 3 bars 4 bars 5 bars	12 % (slow) 13 % 15 % **16 %** 18 % (fast)	12 % (slow) 13 % **15 %** 16 % 18 % (fast)
Turning acceleration / deceleration (sensitivity)	6	1 bar 2 bars 3 bars 4 bars 5 bars	0,08 seconds (slow) 0,05 seconds 0,04 seconds **0,03 seconds** 0,025 seconds (fast)	0,11 seconds (slow) 0,08 seconds 0,07 seconds **0,06 seconds** 0,05 seconds (fast)
Audible signals	7	1 bar 5 bars	Deactivated **Activated**	Deactivated **Activated**
Braking onset	8	1 bar 5 bars	**Time delayed by 30 seconds** Immediate (1 second)	**Time delayed by 30 seconds** Immediate (1 second)
Self switch off time	9	1 bar 2 bars 3 bars 4 bars 5 bars	**1 hour** 2 hours 3 hours 4 hours 5 hours	**1 hour** 2 hours 3 hours 4 hours 5 hours
Joystick throw joystick	10	1 bar 5 bars	50 % **100 %**	50 % **100 %**
Battery capacity	11	1 bar 5 bars	22 Ah Multipower 17 Ah Panasonic	22 Ah Multipower 17 Ah Panasonic
Change of direction joystick	12	1 bar 2 bars 3 bars 4 bars	**No change** Forwards / backwards changed Left / right changed Forwards / backwards and left / right changed	**No change** Forwards / backwards changed Left / right changed Forwards / backwards and left / right changed
Display option	13	1 bar 2 bars 3 bars	**Normal display** Driving speed Daily kilometres counter	**Normal display** Driving speed Daily kilomtres counter
Speed reduction	14		Only in conjunction with periphery module	Only in conjunction with periphery module
Chassis with long or short wheelbase	15	1 bar 5 bars	More gentle braking (Setting only admissible for chassis with long wheelbase) **Standard setting (without additional function)**	More gentle braking (Setting only admissible for chassis with long wheelbase) **Standard setting (without additional function)**
Lighting/Direction indicator	16	1 bar 5 bars	functions deactivated **functions activated**	functions deactivated **functions activated**

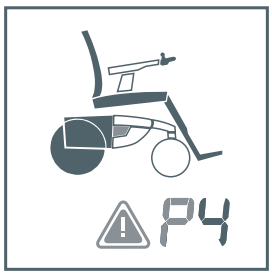
2.9 Fault detection / fault analysis codes

The **adventure** software is equipped with an automatic fault detection and analysis system. If a fault is detected in the system, it is shown on the LCD display of the control unit by means of a code number and symbol (see table below). Many faults occur due to badly or incompletely charged batteries (code number 2). As the powered wheels are disengaged for manual operation, the error code "Brake symbol flashes" (left or right powered wheel disengaged) also occurs frequently. This can be corrected by engaging the wheels again (see Operating Instructions).

2.10 Fault indications on the display

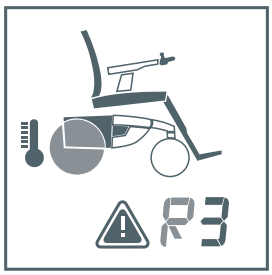
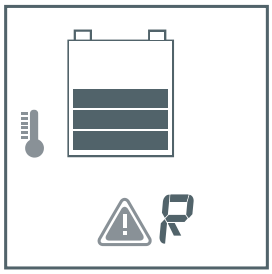
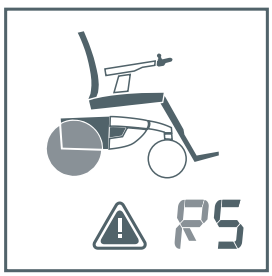
Faults that may occur on your **adventure** are indicated on the display of the control unit. The following indications are possible:

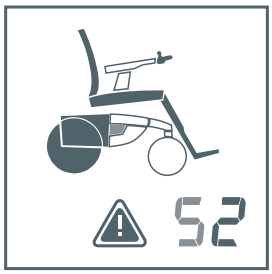
	Display indication (letters flash)	Fault description	What to do
	Control unit symbol flashes Exclamation mark lit up Code 0	Hardware fault on control panel	Excessive battery voltage calibration or EEPROM programming error Replace control unit PCB or control unit
	Control unit symbol flashes Exclamation mark flashes Code 1	EEPROM faulty or wrongly coded	1. Realize works setting 2. Replace control unit if 1. is unsuccessful!
	Control unit symbol flashes Exclamation mark lit up Code 2	Battery voltage range error	1. Battery defective. Check 2 batteries by inserting separately in central position. Check/Replace fuses on battery or replace battery completely if battery is defective! 2. Hardware fault on control unit. Replace PCB / control unit! 3. Battery fully charged. Overvoltage error when driving uphill. Remedy approx. 0.5 km uphill! 4. Battery flat! Charge storage batteries

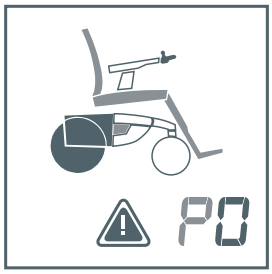
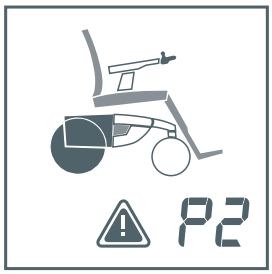
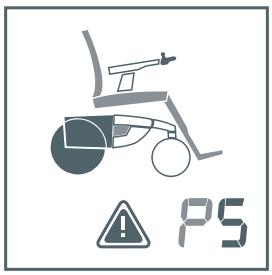
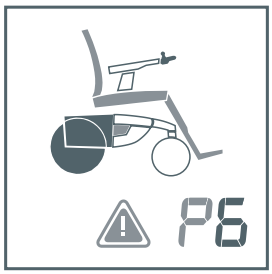
	Drive symbol flashes Exclamation mark lit up Code 3	Uneven drive coding	Left and right drive uneven. 6 km/h with 10 or 12 km/h or vice versa! Fit identical drives on both sides
	Drive symbol flashes Exclamation mark lit up Letter »L« flashes Code L4	No communication with “left“ drive	L4 has priority over R4! For L4/R4: Switch wheels from right to left! (caution, as intact wheel can also fail as a result of switch!) - error L4 is transferred if left wheel is defective! - error R4 is usually in right wheel! (always check 40A fuses in interface!) Other error sources: Interface or connection cables/contacts (replace interface / send chassis to works in this case!)
	Drive symbol flashes Exclamation mark lit up Letter »R« flashes Code R4	No communication with “right“ drive	Identical to Code L4
	Interface symbol flashes Exclamation mark lit up Letter »S« flashes Code S4	Communication fault	Check communication components: 1. control unit 2. powered wheel left 3. powered wheel right 4. interface
	Interface symbol flashes Exclamation mark lit up Letter »P« flashes Code P4	Communication fault Defective drive signal transmitter in the control unit	1. P-module defective (replace P-module PCB or P-module) 2. Sub-D plug or cable on P-module (replace cable with plug or P-module) 3. Sub-D socket or cable (replace interface)
	Control unit symbol flashes Exclamation mark lit up Code 5	Joystick fault on control unit	1. Joystick fault: Replace joystick or control unit! 2. Electronics fault: Replace PCB or control unit!

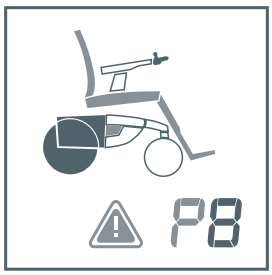
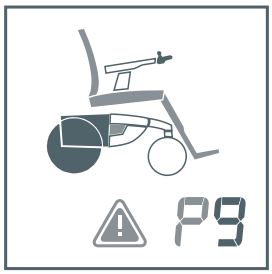
	Battery symbol flashes Exclamation mark flashes Code 6	Battery configuration error and/or detection faulty (L6 = left battery pack, R6 = right battery pack) Contact your specialist supplier or the alber Service Center if the error code continues to be displayed	1. Driving with 1 battery pack: battery not inserted in central position! 2. Driving with 2 battery packs: - one battery set defective - battery fuse (40A) defective - battery detection in interface defective Rapid error diagnosis by inserting the batteries consecutively in the middle position!
	Control unit symbol flashes Interface symbol flashes Exclamation mark lit up Code 7	No communication with special control	Connection to special control interrupted! Driving with control unit possible after reactivation on control unit! Sub-D socket or cable on interface defective: Replace cable with socket or interface! Check special control connection cable/special control!
	Control unit symbol flashes Drive symbol flashes Exclamation mark lit up Code 8	Drive unit not compatible with control unit	System can be coded as 6 km/h, but 10 or 12 km/h drives are fitted (or vice versa)! Fit power-assisted wheels permitted for top speed limit.
	Control unit symbol flashes Exclamation mark lit up Code 9	CPU fault on control unit	Replace control unit PCB or control unit
	Control unit symbol flashes Exclamation mark lit up Code 10	RAM error on control panel	Replace control unit PCB or control unit
	Control unit symbol flashes Exclamation mark lit up Code 11	ROM horizontal parity error on control unit	Replace control unit PCB or control unit

	Drive symbol flashes Exclamation mark lit up Letter »L« flashes Code L0	„Left“drive hardware/ system error	Drive must be checked at **alber** works
	Drive symbol flashes Exclamation mark lit up Letter »R« flashes Code R0	„Right“ drive hardware/ system error	Drive must be checked at **alber** works
	Drive symbol flashes Temperature symbol lit up Exclamation mark lit up Letter »L« flashes Code L1	“Left“ drive overload switch-off	Brief overloading deactivates temperature! System is operationally ready again after deactivation and reactivation
	Drive symbol flashes Temperature symbol lit up Exclamation mark lit up Letter »R« flashes Code R1	“Right“ drive overload switch-off	Brief overloading deactivates temperature! System is operationally ready again after deactivation and reactivation
	Drive symbol flashes Exclamation mark lit up Letter »L« flashes Code L2	“Left“ drive battery voltage range error	Cable fault between battery, interface and drive (can be one of the components!) Switch wheels! 1. Fault transferred! -> Fault in wheel 1. Fault not transferred! -> Interface or fuse (interface or battery) cable fault
	Drive symbol flashes Exclamation mark lit up Letter »R« flashes Code R2	“Right“ drive battery voltage range error	Cable fault between battery, interface and drive (can be one of the components!) Switch wheels! 1. Fault transferred! -> Fault in wheel 1. Fault not transferred! -> Interface or fuse (interface or battery) cable fault

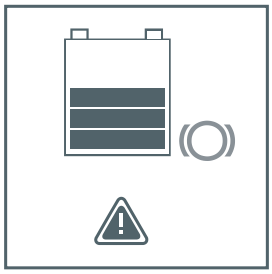
	Drive symbol flashes Temperature symbol lit up Exclamation mark lit up Letter »L« flashes Code L3	“Left“ drive operating temperature switch-off	Drive overheating deactivates temperature! Allow system to cool! (Cooling period depends on ambient temperature!)
	Drive symbol flashes Temperature symbol lit up Exclamation mark lit up Letter »R« flashes Code R3	“Right“ drive operating temperature switch-off	Drive overheating deactivates temperature! Allow system to cool! (Cooling period depends on ambient temperature!)
	Temperature symbol flashes Exclamation mark flashes Battery capacity display illuminates Code L	“Left“ drive operating temperature warning	Drive overheating warning! Reduce load, otherwise temp. system shutdown with error L3/R3!
	Temperature symbol flashes Exclamation mark flashes Battery capacity display illuminates Code R	“Right“ drive operating temperature warning	Drive overheating warning! Reduce load, otherwise temp. system shutdown with error L3/R3!
	Drive symbol flashes Exclamation mark lit up Letter »L« flashes Code L5	Wheel code/“Left“ electronic drive error	Wrong electronics in drive (e.g. 6 km/h PCB in 12 km/h machine) or wrong drive code! 1. Replace electronics 2. Edit drive code (only possible in **alber** works)
	Drive symbol flashes Exclamation mark lit up Letter »R« flashes Code R5	Wheel code/“Right“ electronic drive error	Wrong electronics in drive (e.g. 6 km/h PCB in 12 km/h machine) or wrong drive code! 1. Replace electronics 2. Edit drive code (only possible in **alber** works

	Interface symbol flashes Exclamation mark lit up Letter »S« flashes Code S0	Hardware fault on interface	Replace interface PCB or interface
	Interface symbol flashes Exclamation mark lit up Letter »S« flashes Code S1	CPU fault on interface	Replace interface PCB or interface
	Interface symbol flashes Exclamation mark lit up Letter »S« flashes Code S2	RAM error on interface	Replace interface PCB or interface
	Interface symbol flashes Exclamation mark lit up Letter »S« flashes Code S3	ROM horizontal parity error on interface	Replace interface PCB or interface
	Interface symbol flashes Exclamation mark flashes Letter »S« flashes Code S5	»Left« indicator light defective	1. Defective indicator light (change bulb) 2. Check cable for defects 3. Fault on interface PCB 4. F4 fuse (3A) on inter-Code S5 5. No lighting/no indicator light: deactivate with parameter 16
	Interface symbol flashes Exclamation mark flashes Letter »S« flashes Code S6	»Right« indicator light defective	1. Defective indicator light (change bulb) 2. Check cable for defects 3. Fault on interface PCB 4. F4 fuse (3A) on interface burnt out 5. No lighting/no indicator light: deactivate with parameter 16

	Complete seat unit* flashes Interface symbol flashes Exclamation mark lit up Letter »P« flashes Code P0	Hardware fault on peripheral module (different drive and/or relay actuation)	Replace P-module PCD or P-module
	Complete seat unit* flashes Interface symbol flashes Exclamation mark lit up Code P1	CPU fault on peripheral module	Replace P-module PCD or P-module
	Complete seat unit* flashes Interface symbol flashes Exclamation mark lit up Code P2	RAM error on peripheral module	Replace P-module PCD or P-module
	Complete seat unit* flashes Interface symbol flashes Exclamation mark lit up Code P3	ROM horizontal parity error on peripheral module	Replace P-module PCD or P-module
	Complete seat unit* flashes Interface symbol flashes Exclamation mark lit up Letter »P« flashes Code P5	Erroneous potentiometer position feedback signal (only applies to drives with feedback signal)	1. Drive sensor defective! (Test by changing connections of different drives to P-module / Should only be entrusted to authorized skilled personnel) 2. Drive/P-module cable fault! Test by changing connections of different drives to P-module / Should only be entrusted to authorized skilled personnel) 3. Defective P-module PCB
	Complete seat unit* flashes Interface symbol flashes Exclamation mark flashes Letter »P« flashes Code P6	Multiple occupancy of »left« and/or »right« indicator key function	Programming error on P-module, replace P-module

	Complete seat unit* flashes Interface symbol flashes Exclamation mark flashes Letter »P« flashes Code P7	Multiple occupancy of »decelerate« and/or »accelerate« indicator key function	Programming error on P-module, replace P-module
	Complete seat unit* flashes Interface symbol flashes Exclamation mark flashes Letter »P« flashes Code P8	No counter-function to »left« and/or »right« indicator key function exists	Programming error on P-module, replace P-module
	Complete seat unit* flashes Interface symbol flashes Exclamation mark symbol flashes Letter »P« flashes Code P9	No counter-function to »decelerate« and/or »accelerate« indicator key function exists	Programming error on P-module, replace P-module
	Control unit symbol flashes Interface symbol flashes Exclamation mark lit up Letter »E« flashes Code E0	Hardware fault on special control	Clarify problem with manufacturer of fitted special control
	Control unit symbol flashes Interface symbol flashes Exclamation mark lit up Letter »E« flashes Code E1	CPU fault on special control	Clarify problem with manufacturer of fitted special control (replace special control!)
	Control unit symbol flashes Interface symbol flashes Exclamation mark lit up Letter »E« flashes Code E2	RAM error on special control	Clarify problem with manufacturer of fitted special control (replace special control!)

	Control unit symbol flashes Interface symbol flashes Exclamation mark lit up Letter »E« flashes Code E3	ROM horizontal parity error on special control	Clarify problem with manufacturer of fitted special control (replace special control!)
	Control unit symbol flashes Interface symbol flashes Exclamation mark lit up Letter »E« flashes Code E4	Joystick fault on special control	Clarify problem with manufacturer of fitted special control
	Control unit symbol flashes Interface symbol flashes Exclamation mark lit up Letter »E« flashes Code E5	Internally-defined error on special control	Clarify problem with manufacturer of fitted special control
	Control unit symbol flashes Interface symbol flashes Exclamation mark flashes Letter »E« flashes Code E6	Internally-defined warning 1 on special control	Clarify problem with manufacturer of fitted special control
	Control unit symbol flashes Interface symbol flashes Exclamation mark flashes Letter »E« flashes Code E7	Internally-defined warning 2 on special control	Clarify problem with manufacturer of fitted special control
	Letter »E« flashes Exclamation mark flashes Code E	Special control not functioning	Clarify problem with manufacturer of fitted special control

	Brake symbol flashes Battery capacity display lit up Exclamation mark lit up	Left and right brake manually vented (L= left brake only, R= right brake only)	Move brake lever to driving position! Additional L or R display indicates actuating pin jammed in wheel ejector or drive. 1. Remove wheels, check actuating pin and Bowden cable in wheel ejector 2. Switch wheels from left to right (indicates which actuating pin may be jammed in drive)
	Complete wheelchair flashes Exclamation mark lit up	Parking brake active	Deactivate with magnetic key on control unit key symbol!

!

The complete seat unit specified in the “Display indication“ column consists of the backrest, seat and leg support. These 3 symbols should flash together in the event of Code “P“ faults occurring.

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