

*SERVICE  
INSTRUCTIONS*

*MISTRAL*



These instructions contain information about:

Fault-finding

Repair

Edition: 03.2001

## **General information**

These repair instructions contains all the information necessary for maintenance and overhaul of the wheelchair.

- All maintenance and overhaul work must be carried out in accordance with these repair instructions.
- Please observe all safety instructions.
- Information about operation or about general maintenance and care work should be taken from the wheelchair Operating Manual.
- You can find information about ordering spare parts in the spare parts catalogue.
- We reserve the right to make any alterations on the grounds of technical improvements.
- The wheelchair may only be maintained and overhauled by qualified personnel.
- - The minimum requirement for a maintenance technician is a specialist training e.g. as bicycle or orthopaedic mechanic, or suitably long experience.  
- Experience and knowledge of electrical measuring devices (Multimeter) is also a requirement.
- If you have any problems or questions please contact INVACARE SERVICE:

Central office: Tel.	05731-754-0
Fax.	05731-754-111
Service Dept.: Tel.	05731-7545-(70-80)
Fax.	05731-7542-(08-16)

Address: Invacare Deutschland GmbH  
Dehmer Str. 66  
32549 Bad Oeynhausen

PO Box: Invacare Deutschland GmbH  
Postfach 60 01 06  
32 527 Bad Oeynhausen

- Alterations to the wheelchair which occur as a result of incorrectly or improperly executed maintenance or overhaul work lead to the exclusion of all liability on the side of INVACARE.

## **Notes on transport**

- If the wheelchair has to be shipped back to the manufacturer for major repairs, you should always use the original packaging for transport.
- You should also include as accurate a fault description as possible.

## **The following symbols are used in these repair instructions:**



### **Note:**

This symbol identifies general information which indicate special points or simplifications in dismantling / reassembly.



### **CAUTION:**

it is imperative that you observe any >safety instructions< identified with this symbol

This symbol identifies service work.

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## 1 Safety and assembly instructions

The safety instructions are intended as prevention of accidents at work and it is imperative that they are observed.

### 1.1 Before any inspection or repair work:

- Read and observe this repair manual and the associated operating manual.
- Observe the minimum requirements for carrying out the work (see chapter "General information").



#### **CAUTION:**

- Please note the high weight of some components. This applies especially to removal of drive units and batteries.
- The wheelchair must be switched off before removal of voltage-carrying components. To do this remove the battery.
- When making measurements on voltage-carrying components, avoid short-circuiting the contacts.  
**Danger of fire and combustion !**
- Use only undamaged tools in good condition.

### 1.2 During dismantling/reassembly

- Mark all current settings for the wheelchair (seat, armrests, backrest etc.), and the cable connecting plugs associated, before any removals. This makes reassembly easier.



#### **CAUTION:**

- Support the wheelchair when raised with suitable equipment before beginning removal or reassembly.
- Never use "standard" nuts instead of self-locking nuts.
- Always use correctly dimensioned washers or spacers.



#### **NOTE:**

- All plugs are fitted with mechanical safety devices which prevent release of the connecting plugs during operation.
- To release the connecting plugs the safety devices must be pressed in.
- When reassembling ensure that these safety devices are correctly engaged.
- Cable binders which have been cut off during disassembly should be replaced by new ones during reassembly.

1.3 Before operation / after completion of work:



**CAUTION:**

- Check all fixings for tight fit.
- Check all parts for correct interlocking.
- Only operate wheelchair with correct tyre pressure (2.5 bar).
- Check electrical components for correct functioning, as incorrect cable polarity can lead to "reverse" functioning (e.g. electrical leg supports).

As a last check always carry out a trial run.



## 2 Tool list

You will need a standard tool set with at least the following:

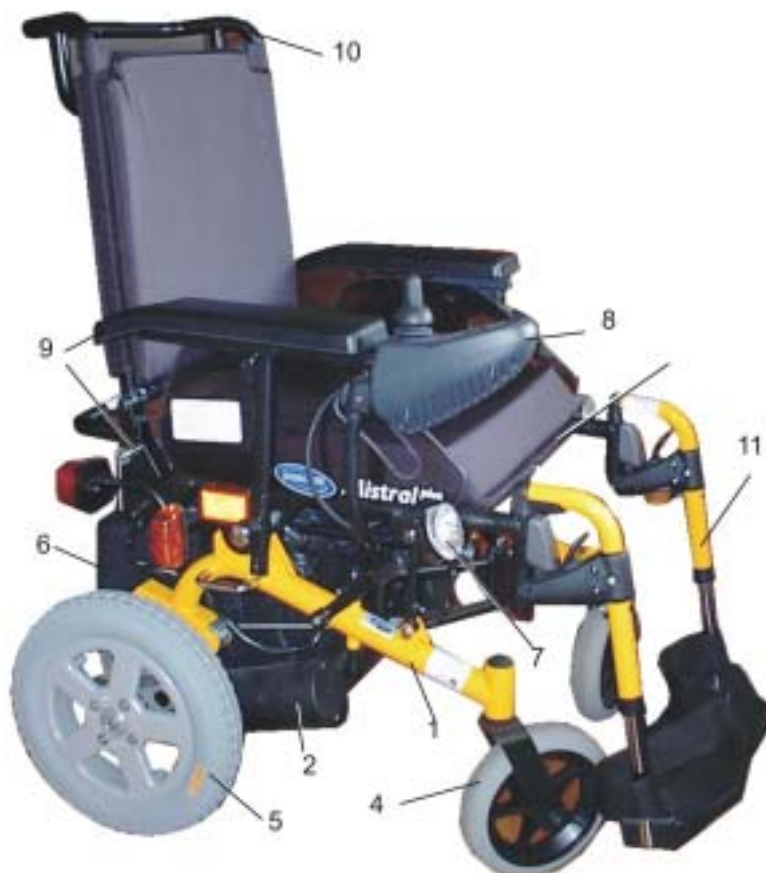
- set of open and ring spanner
- set of Allen keys
- torque wrench (commercial)
- socket spanner set
- set of screwdrivers
- oblique pliers
- flat-nosed pliers
- circlip pliers
- pointed pliers
- cable lug pliers
- wooden or plastic hammer
- tyre repair kit (commercial)
- tyre pressure indicator
- valve removal tool
- wheel bearing puller
- Multimeter with probes and various cable clips
- soldering iron 30 W
- front wheel hub puller (available from INVACARE Service)
- circlip pliers for Star lock caps (commercial, e.g. Tigtemeyer)
- pop riveting tool
- stepped mandril

### 3 Layout of modules, components and displays and controls

The following figures show the layout of "MISTRAL" modules.

Removal and reassembly of spare parts is described in Chapter 9.

- 1 Chassis
- 2 Drive unit, disengaging mechanism, anti-tip mechanism
- 3 Brake (no diagram)
- 4 Steering wheel
- 5 Drive wheel
- 6 Battery case
- 7 Lighting
- 8 Electronics
- 9 Seat unit, seat angle adjustment, armrests, side panels
- 10 Backrest
- 11 Leg supports
- 12 Accessories (no diagram) kerb climber, cane holder



## 4 Electronic controller components / Electronics

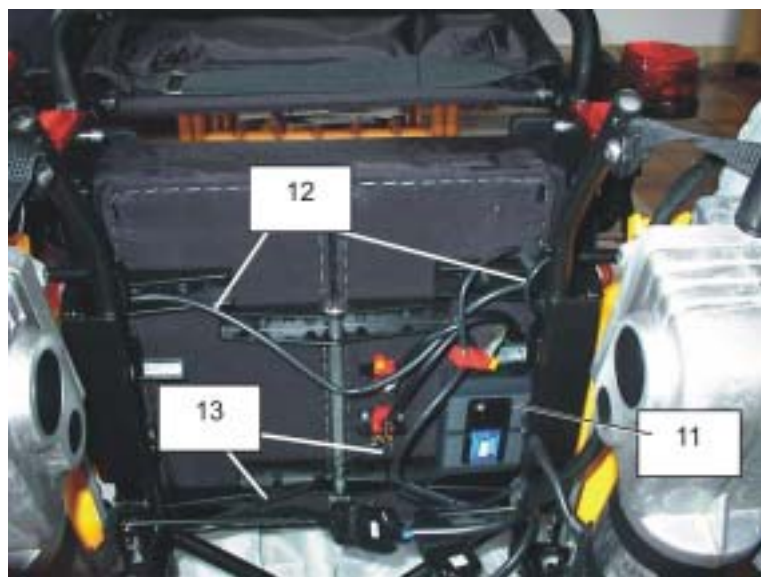
1. Remote
2. Lighting
3. Drive RH
4. Connecting cable remote – battery – drive units
5. Battery case
6. Drive unit LH



7. 2 batteries 12 V
8. Strip fuse holder with strip fuse
9. Battery bridge
10. Battery cable



11. ACS-Clam (light-motor module combined)
12. Lighting
13. Electr. leg supports



## 5 Inspection plan

Component	Check	Remedy	Chapter	✓
<b>Armrests and side panels</b>	• Armrest damage and fastening	⇒ Tighten screws, replace padding	9.9	
	• Side panel damage and fixing	⇒ Tighten screws, replace side panels	9.9	
<b>Seat unit / seat angle adjustment</b>	• Check seat angle adjustment	⇒ Replace parts	9.9	
<b>Back unit mechanical</b>	• Damage and seams	⇒ Replace parts	9.10	
<b>Back unit electrical</b>	• Fixings • Check cabling • Check function	⇒ Tighten screws ⇒ Replace cable or motor if necessary		
<b>Chassis with battery case strap / battery case fixing</b>	• Fixings, welded seams, reflectors and battery case strap. Check	⇒ Tighten screws, replace components	9.1	
<b>Wheel suspension and wheels</b>	• Check drive wheels for tight fit and side play	⇒ Adjust, replace wheel hubs	9.5	
	• Check steering wheels for tight fit, float and side play	⇒ Replace wheels, wheel fork or wheel bearings	9.4	
	• Check steering wheel forks	⇒ Replace	9.4	
	• Check tyres	⇒ Fit new	9.4	
<b>Drive units, disengaging mechanism</b>	• Check functions in drive and push modes	⇒ Replace motor if necessary	9.2	
	• Check disengaging mechanism	⇒ Tighten screws / nuts, adjust or replace if necessary	9.2	
<b>Footrests</b>	• Check welded seams, interlocking, screws, footplates	⇒ Tighten, replace	9.11	
<b>Electrical leg supports</b>	• Check cabling • Check contacts • Check functions	⇒ Replace cable if necessary	9.11	
<b>Lighting</b>	• Check cabling • Check function	⇒ Replace cable or bulbs if necessary	9.11	

<b>Component</b>	<b>Check</b>	<b>Remedy</b>	<b>Chapter</b>	<b>✓</b>
<b>Batteries</b>	<ul style="list-style-type: none"><li>• Damage to batteries and case, contact corrosion</li><li>• Check contacts, terminals</li><li>• Check battery voltage</li></ul>	<p>⇒ Clean contacts, replace batteries or case</p> <p>⇒ Tighten, replace</p> <p>⇒ Charge batteries / replace</p>	9.6	
<b>Remote / electronics</b>	<ul style="list-style-type: none"><li>• Remote, status display blinking</li><li>• Fixing</li><li>• Cable, connecting plug</li><li>• Joystick function</li><li>• Power supply</li></ul>	<p>⇒ Evaluate blinking code</p> <p>⇒ Tighten, replace</p> <p>⇒ Replace</p> <p>⇒ Replace joystick</p> <p>⇒ Replace cable, connector plug or console</p>	7  9.8 9.6, 9.8 9.8 9.6	

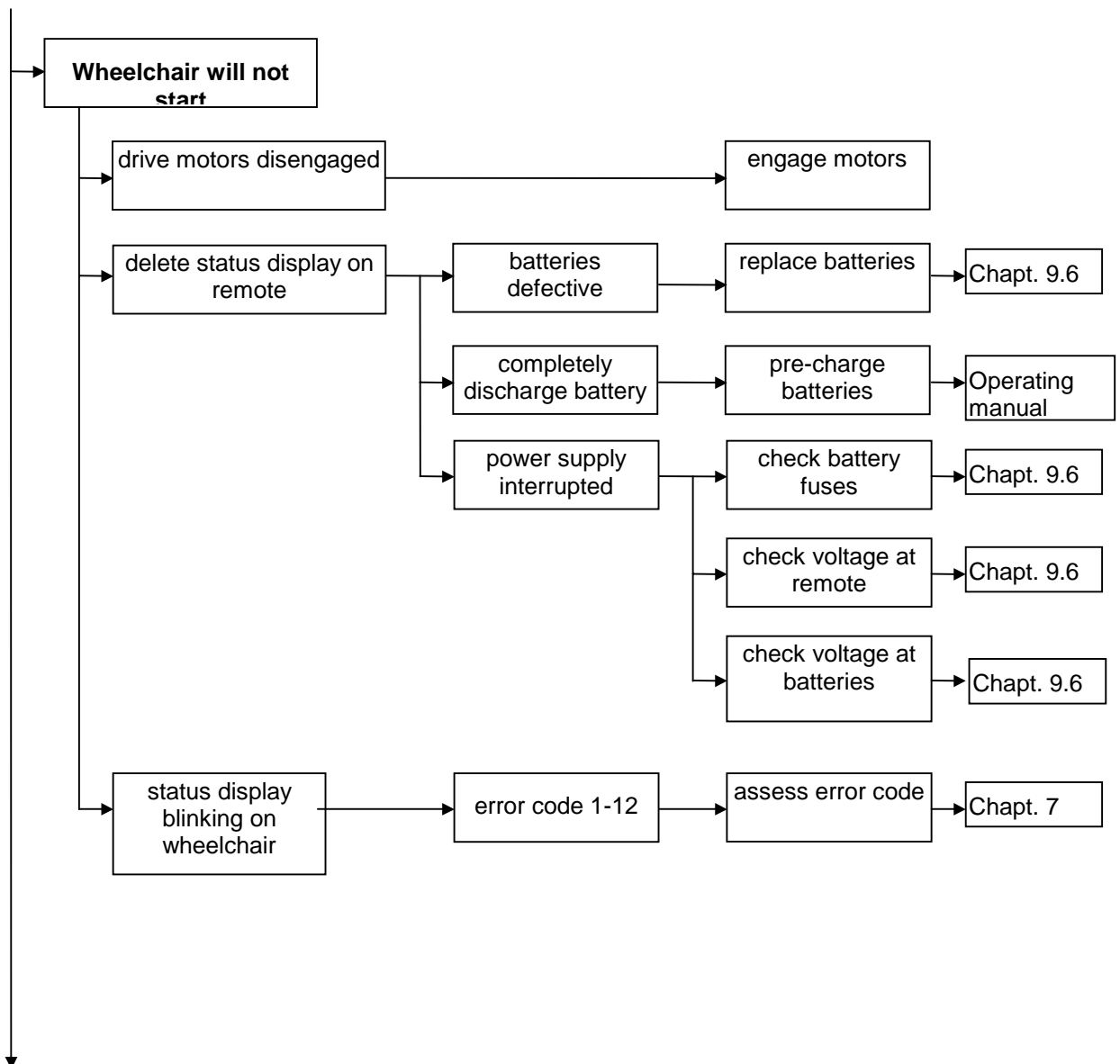
## 6 Operational faults

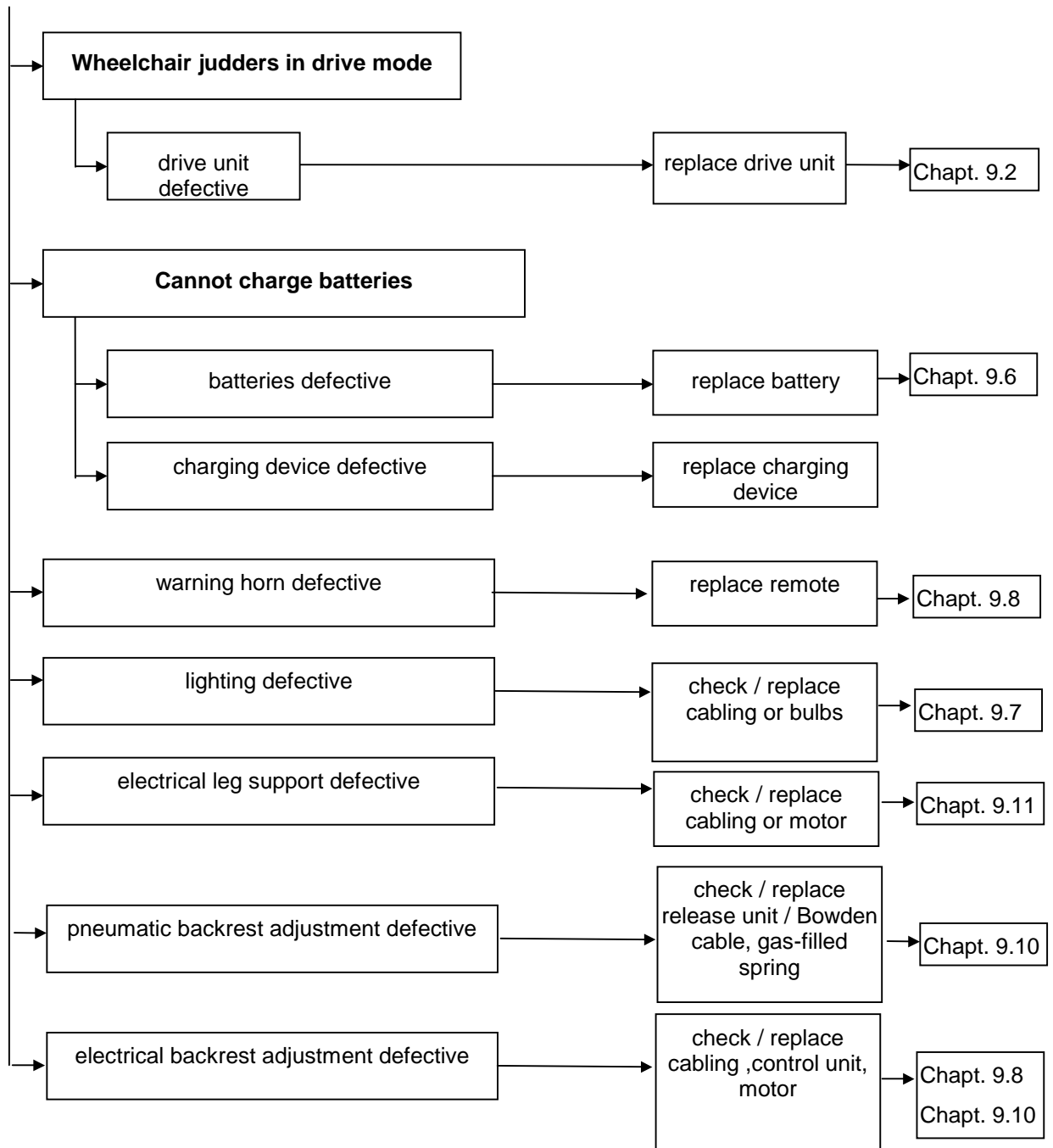
### 6.1 General

If faults occur in drive mode or power supply proceed as follows:

- First assess the fault causes described in Chapter 6.2.
- Check the status display on the remote and assess the error codes in accordance with Chapter 7.
- Carry out the necessary testing / repairs. While doing this please note the references to the appropriate chapter in the manual or to the appropriate documentation.

### 6.2 Fault causes





## 7 Error codes for remote

Before assessing the error codes, carry out the following test:

- Turn the remote on and off several times. Before you switch on wait approx.. 5 seconds.

The test checks whether the error can be automatically rectified by the electronics, and if necessary deactivates the blinking status display at the remote. If this is not the case, you can locate the fault using the blink codes as follows:

- turn the remote on and off
- check which blink code is showing by counting
- wait for the blink code pause (approx. 2-3 seconds)
- re-count the code.

<b>Blink code:</b>	<b>Meaning:</b>	<b>Immediate measure:</b>	
<b>1 x blink</b>	Module defective	-	Replace module Chapt. 9.8
<b>2 x blink</b>	Accessory fault	-	
<b>3 x blink</b>	Fault in right-hand motor. Connection loose/defective	<ul style="list-style-type: none"> <li>• Check connecting plugs</li> </ul>	Check drive unit / battery Chapt. 9.2 / 9.6
<b>4 x blink</b>	Fault in left-hand motor. Connection loose/defective or motor defective	<ul style="list-style-type: none"> <li>• Check connecting plugs</li> </ul>	Check drive unit / battery Chapt. 9.2 / 9.6
<b>5 x blink</b>	Fault/brake fault on right-hand motor. Connection loose/defective or motor defective  Motors disengaged	<ul style="list-style-type: none"> <li>• Check connecting plugs</li> <li>• Engage motors Turn the remote on and off</li> </ul>	Check drive unit / battery  Chapt. 9.2 / 9.6
<b>6 x blink</b>	Fault/brake fault on left-hand motor. Connection loose/defective or motor defective.	<ul style="list-style-type: none"> <li>• Check connecting plugs</li> </ul>	Check drive unit / battery Chapt. 9.2 / 9.6
<b>7 x blink</b>	Completely discharge battery	<ul style="list-style-type: none"> <li>• Pre-charge battery</li> </ul>	Check battery Chapt. 9.6
<b>8 x blink</b>	Battery voltage too high	-	Check battery Chapt. 9.6
<b>9 or 10 x blink</b>	Faulty data transmission between modules	-	Check drive unit / battery Chapt. 9.2 / 9.6
<b>11 x blink</b>	Motors overloaded	<ul style="list-style-type: none"> <li>• Turn remote on and off</li> </ul>	
<b>12 x blink</b>	Compatibility problems	-	Check drive unit / battery Chapt. 9.2 / 9.6



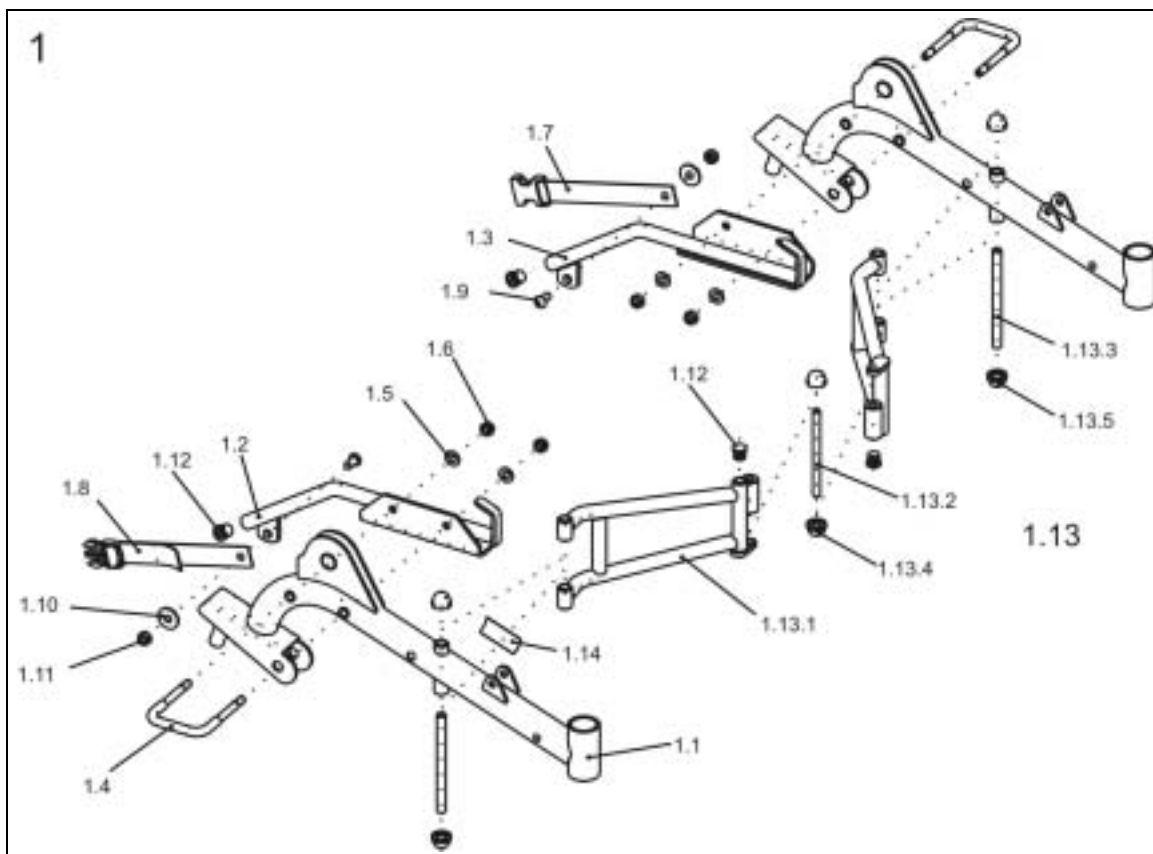
## **8 Module composition / variations**



The Mistral can be supplied the following options from start of production:



- **Batteries (Chapt. 9.6)**
  - 31 Ah
  - 50 Ah
- **Brake (Chapt. 9.3)**
- **Drive wheels (Chapt. 9.5)**
  - 12-1/2 x 1-1/4 (pneumatic tyre)
  - 12-1/2 x 1-1/4 (puncture-proof)
  - 200 x 50
- **Lighting (9.7)**
- **Remote and accessories (9.8)**
  - Compact
  - ACS operation for attendant
  - "Commando" attendant operation for backrest adjustable
  - "Commando" attendant operation for backrest detachable
  - Swivelling table
  - Operating console holder height-adjustable / swivelling
- **Backrest elements (9.10)**
  - Backrest element adjustable
  - Pneumatic backrest adjustment
  - Electrical backrest adjustment
- **Headrest (9-10)**
- **Footrests / leg supports (9.11)**
  - Standard 80
  - With preset angle adjustment
  - Vari 90° - 65°
  - Angle-adjustable footplates
  - Leg supports manually height-adjustable with angle adjustment
  - Leg supports manually height-adjustable with ergonomic length adjustment
  - Leg supports with electrical height adjustment
- **Kerb climber (9.12)**
- **Cane holder (9.12)**

## 9 Maintenance and repair

### 9.1 Chassis



Pos	Qty.	Item No./Pcs.	Item Description	
1.1	2	B210001.P18	Frame tube, RAL 5025 Pearl Gentian Blue	
1.1	2	B210001.P91	Frame tube, RAL 1028 Melon Yellow	
1.1	2	B210001.P92	Frame tube, Silver Grey gloss	
1.2	1	B284012.P28	Battery case fixing RH	
1.3	1	B284005.P28	Battery case fixing LH	
1.4	2	B210015.00	Transport shackle	
1.5	4	G00106	Washer 8.4 x 17 x 1.6	
1.6	4	F20105	Hexagon nut M8 self-locking	
1.7	1	B284020	Battery case fastening strap LH	
1.8	1	B284021	Battery case fastening strap RH	
1.9	2	D90195	Countersunk screw with Allen key M8 x 16 ULS A2	
1.10	2	G10103	Washer 8.4 x 25 x 2	
1.11	2	F00002	Hexagon nut M8 self-locking	
1.12	4	B284031	Cover plugs	

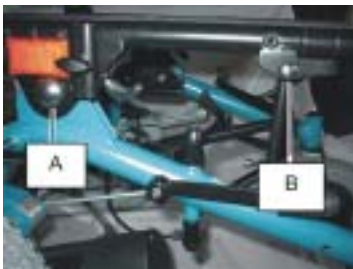
Pos	Qty.	Item No./Pcs.	Item Description	
1.13	1	B212007	Scissor stay complete	
1.13.1	2	B212006.P28	Scissor stay	
1.13.2	1	B212008.99	Straight pin Ø 8 x 110	
1.13.3	2	B212009.99	Straight pin Ø 10 x 125	
1.13.4	2	K32302	Star lock cap 8 mm, black	
1.13.5	4	K32303	Star lock cap 10 mm, black	
1.14	1	B290001	"Mistral" nameplate	



**Note:**

Repair work to the chassis is easier to carry out if the complete seat unit has been dismantled beforehand.

**Removal of seat unit**



- carefully lever off Star lock caps (A , B) with screwdriver
- pull out straight pins
- the complete seat unit can then be removed upwards



**Scissor stay (1.13, 1.13.1)**



- carefully lever off Star lock caps (1.13.5) with screwdriver
- pull out straight pins (1.13.3)
- carefully lever off Star lock cap (1.13.4) with screwdriver
- pull out straight pins (1.13.2)
- insert new scissor stay(s) (1.13.1)

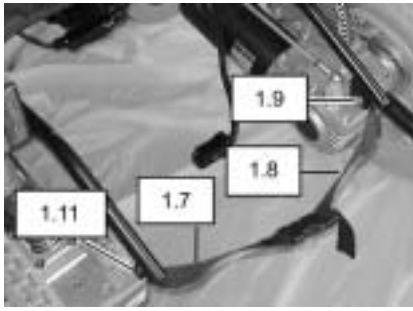


**Note:**

Use new Star lock caps when reassembling.



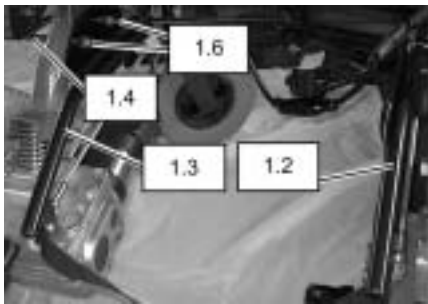
**Battery case fastening strap (1.7 left, 1.8 right)**



- loosen countersunk screw with Allen key (1.9) and hexagon nut (1.11)
- insert new battery case fastening strap (1.7 RH or 1.8LH)



**Battery case fixing (1.2 right, 1.3 left) / transport shackle (1.4)**

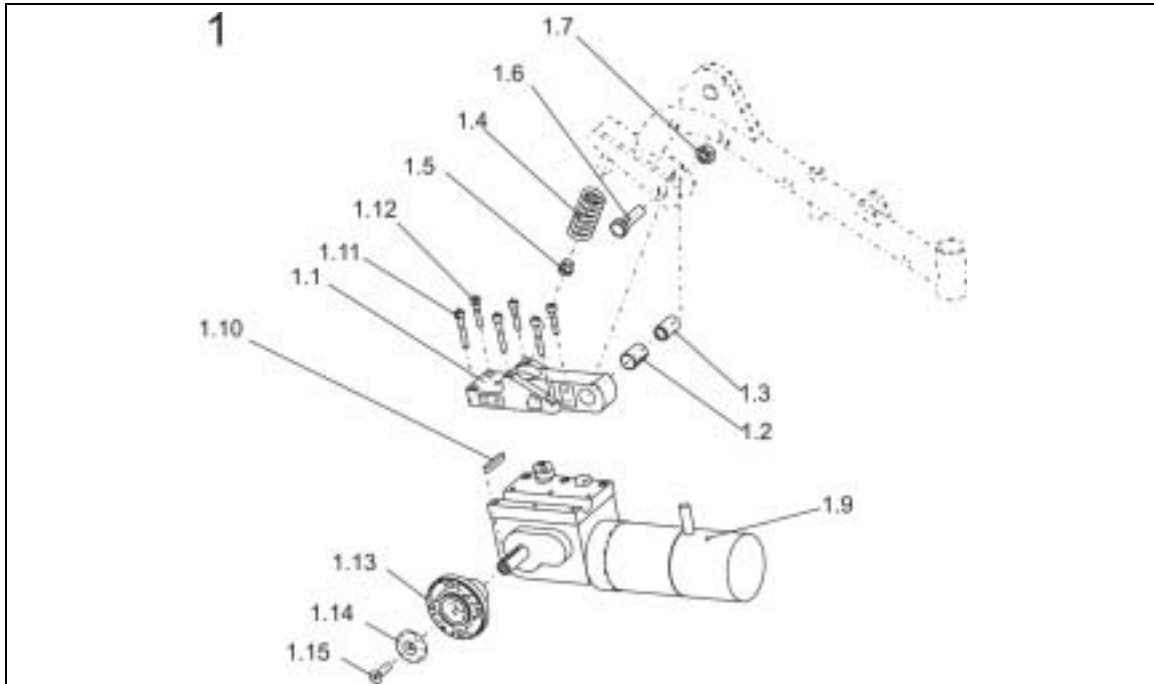


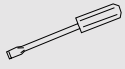
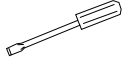
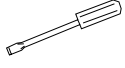
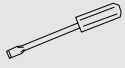
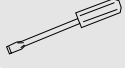
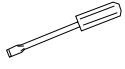
- unscrew hexagon nut M8 (1.6)
- remove battery fastening (1.2 or. 1.3)
- carefully tap transport shackle (1.4) out with wood block and hammer
- insert new transport shackle or new battery fastening

**Reassembly takes place in the reverse order.**

## 9.2 Drive unit, disengaging mechanism, anti-tip mechanism

### 9.2.1 Drive unit



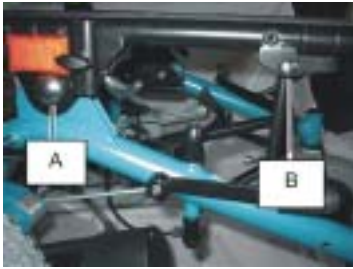
Pos	Qty.	Item No./Pcs.	Item Description	
1	1	B253001	Drive unit complete	
1.1	2	B222003	Crank	
1.2	2	B222012	Lining 20x1x28,6	
1.3	2	B222013	Lining 18x3x29	
1.4	2	B222023.00	Spring	
1.5	2	B222014	Stop	
1.6	2	DG00001	Hexagon bolt M12 x 45	
1.7	2	F00105	Hexagon nut M12	
1.8	1	P00038	Drive unit LH	
1.9	1	P00039	Drive unit RH	
1.10	2	N23004	Feather key A 6 x 6 x 40	
1.11	6	D50120	Cylinder-head screw with Allen key M6 x 40	
1.12	6	D50133	Cylinder-head screw with Allen key M6 x 30	
1.13	2	N322007	Wheel hub	
1.14	2	Z122014	Wheel hub cover	
1.15	2	D60200	Countersunk screw with Allen key M8 x 30-8.8 PB	



**Note:**

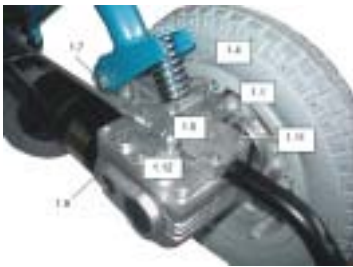
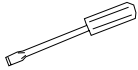
Repair work is easier to carry out if the complete seat unit has been dismantled beforehand.

**Removal of seat unit**



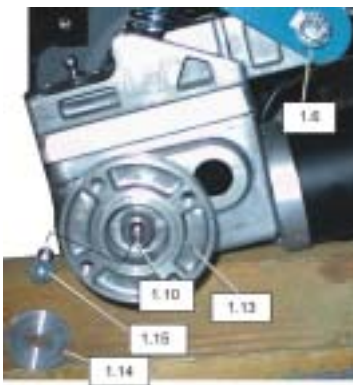
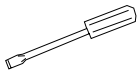
- carefully lever off Star lock caps (A , B) with screwdriver
- pull out straight pins
- the complete seat unit can then be removed upwards

**9.2.2 Tongue (1.4) / Crank (1.1)**



- dismantle drive gear (see chapter drive gear)
- support drive unit with woodblock (weight)
- unscrew hexagon bolt (1.6) /nut (1.7)
- replace spring(1.4)
- unscrew cylinder-head screw (1.11, 1.12)
- replace crank (1.1)

**9.2.3 Wheel hub (1.13)**



- Engage motor
- Lay wheelchair on soft bed on its side, so that the drive wheel to be removed is at the top or use suitable support (e. g. wooden block) and prop the wheelchair up so that the drive wheels are free.
- Loosen countersunk screw (1.15) with cover (1.14) and pull drive wheel complete with wheel hub off the drive motor (the axle has a feather key (1.10) fitted).

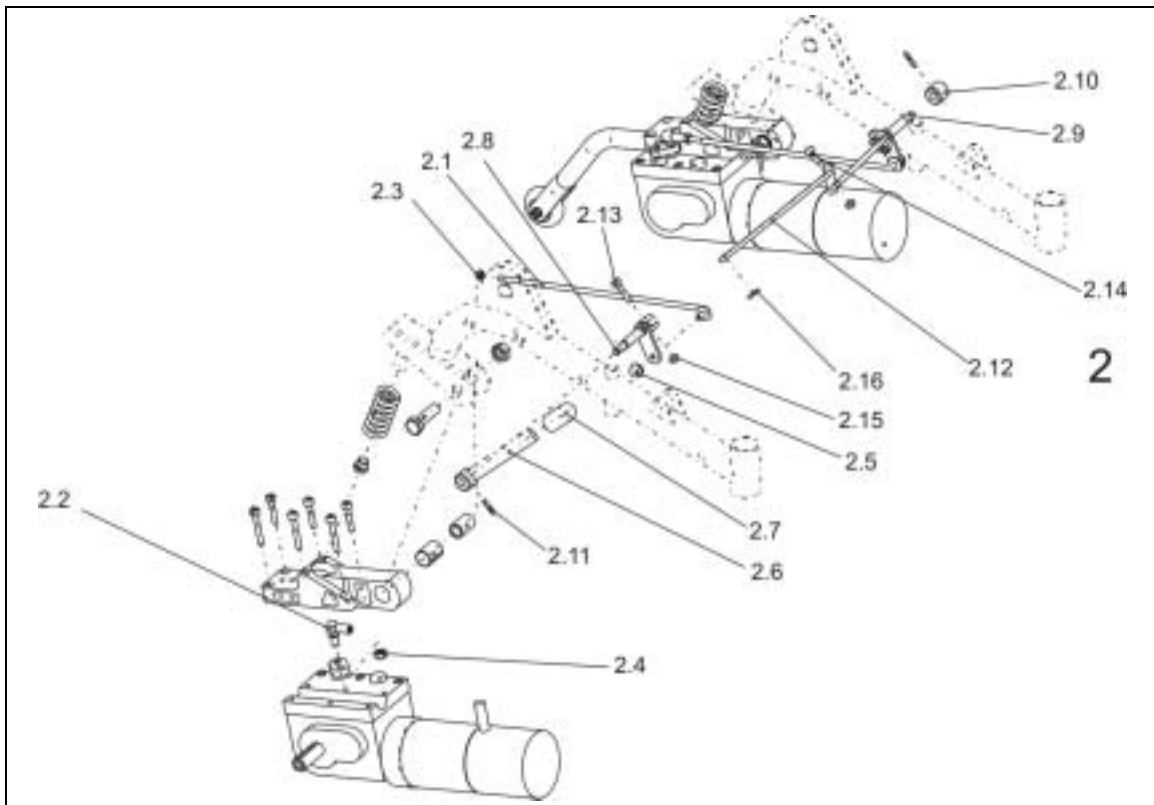


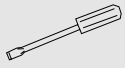
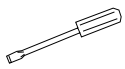

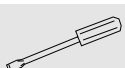
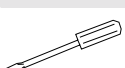


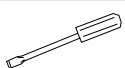
**NOTE:**

When removing the wheel hub (1.13) do not lose the feather key (1.10) in gear axle.

**Reassembly takes place in the reverse order.  
(Observe position of groove in wheel and feather key on axle).**

## 9.2.4 Disengaging mechanism

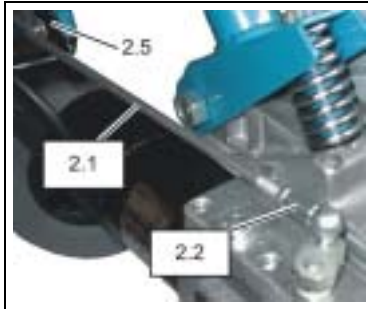


Pos	Qty.	Item No./Pcs.	Item Description	
<b>2</b>	<b>1</b>	<b>B252012</b>	<b>Disengaging mechanism complete</b>	
2.1	2	B252007.99	Disengaging rod complete	
2.2	2	B252017.99	Ball joint with M8 thread	
2.3	2	F00103	Hexagon nut M6	
2.4	2	F00104	Hexagon nut M8	
2.5	2	K32301	Star lock cap 6 mm, black	
2.6	1	B252004.P28	Disengaging lever, matt black	
2.7	1	B252011	Plastic handle	
2.8	1	B252001.P28	Turning knuckle RH, matt black	
2.9	1	B252014.P28	Turning knuckle LH, matt black	
2.10	1	B252005.P28	Lining 22x8,2x20	
<b>Pos</b>	<b>Qty.</b>	<b>Item No./Pcs.</b>	<b>Item Description</b>	
2.11	2	J30007	Dowel pin 4 x 20	
2.12	2	B252009.P28	Disengaging strut	

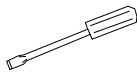
2.13	2	D50108	Cylinder-head screw with Allen key M6 x 25	
2.14	1	D50051	Cylinder-head screw with Allen key M6 x 16	
2.15	3	F20109	Hexagon nut M6 self-locking	
2.16	2	B252016.89	Washer T 2.5	

✓ After repair work to the disengaging mechanism it must be adjusted and checked for correct functioning.

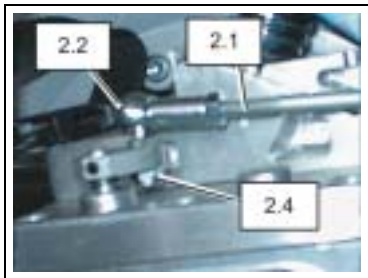
**Disengaging rod (2.1)**



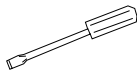
- carefully lever off Star lock cap (2.5) with screwdriver
- pull out disengaging rod (2.1) from turning knuckle (2.8 or 2.9)
- unscrew disengaging rod (2.1) from ball joint (2.2)



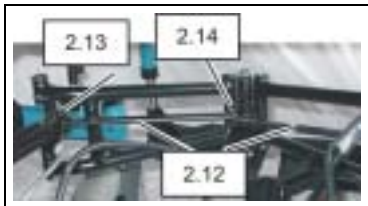
**Ball joint (2.2)**



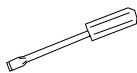
- unscrew hexagon cap nut (2.4)
- pull out ball joint (2.2) upwards and unscrew out of disengaging rod (2.1)
- insert new ball joint



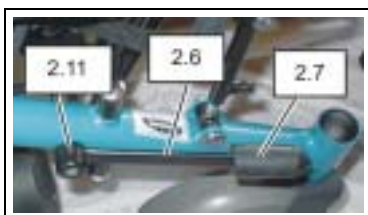
**Disengaging strut (2.12)**



- unscrew cylinder head screw (2.13, 1.14)
- remove disengaging strut (2.12)

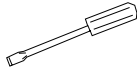


**Plastic handle (2.7), disengaging lever (2.6) / lining (2.10)**

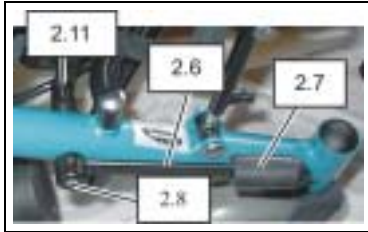


- pull off plastic handle (2.7)
- carefully drill out dowel pin (2.11)
- remove disengaging lever (2.6) from turning knuckle





## Turning knuckle (2.8 right, 2.9 left)



- dismantle disengaging lever (2.6) or lining (2.10)
- unscrew cylinder head screw (2.13)
- remove disengaging lever ( 2.6) or lining (2.10) from turning knuckle (2.8 or 2.9)

## Functional check of disengaging mechanism

- prop the wheelchair up so that the drive wheels are free.
- set the switch lever to the horizontal position (both drive wheels should not be able to be turned by hand)
- slowly turn the switch lever upwards and try to turn the drive wheels at the same time

Both drive wheels should be simultaneously disengaged (the wheels can be turned).



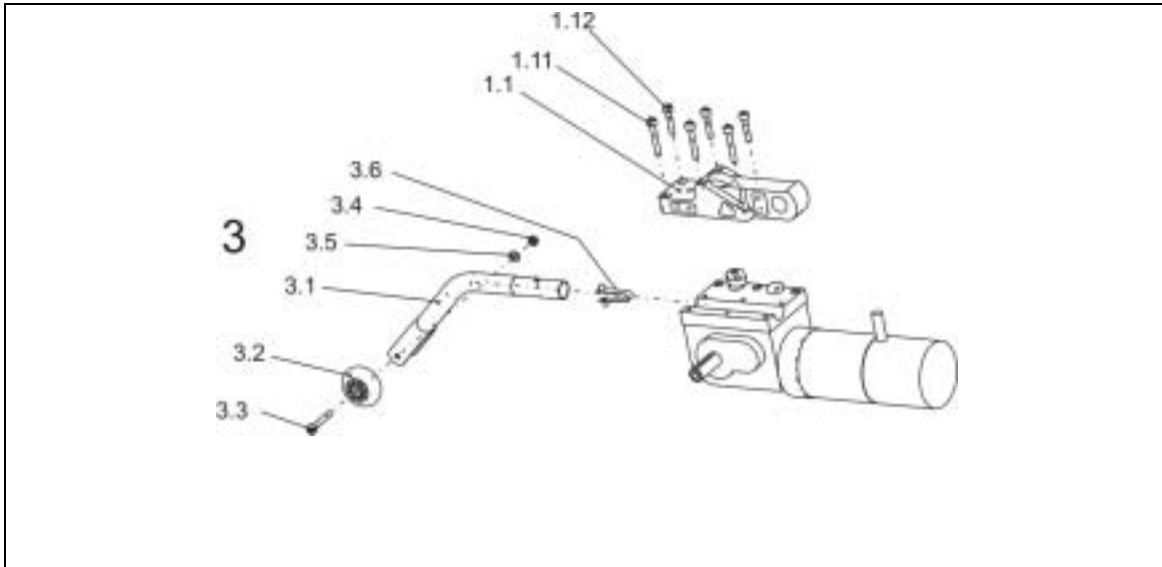
### NOTE:

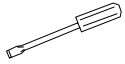
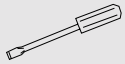
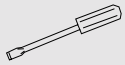
When the switch lever is in the upper position both drive wheels must be freely rotating. If this is not the case, the disengaging mechanism must be readjusted.

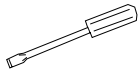
## Adjusting the disengaging mechanism

- loosen hexagon nut (2.3) on disengaging rod (2.1)
- carefully lever off ball joint (2.4) with screwdriver
- screw disengaging rod more or less into the ball joint
- set the ball joint on again and push down until the ball has engaged properly
- when adjustment is correct retighten hexagon nut

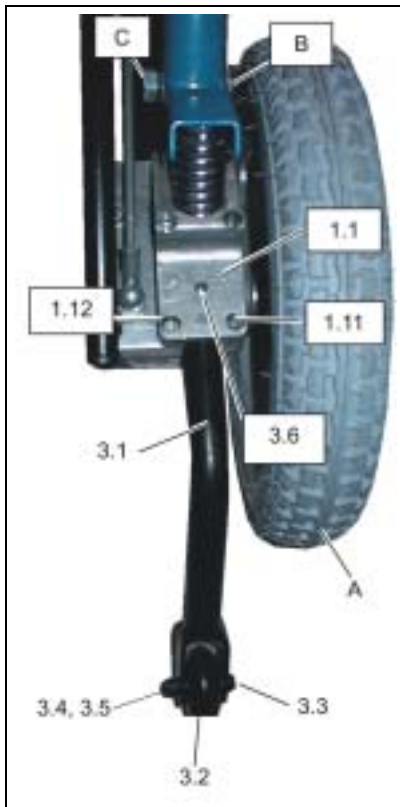
9.3 Anti-tip mechanism



Pos	Qty.	Item No./Pcs.	Item Description	
<b>3</b>	<b>2</b>	<b>B222022</b>	<b>Anti-tip mechanism complete</b>	
3.1	1	B222017.P28	Anti-tip tube; matt black	
3.2	1	M14905	Support wheel	
3.3	1	D50138	Cylinder-head screw with Allen key M6 x 40	
3.4	1	F20109	Hexagon nut M6 self-locking	
3.5	1	G00115	Washer 6.4 x 12.5 x 1.6	
3.6	1	B222019.99	Anti-tip spring	



## Support wheel (3.2), Anti-tip tube (3.1), Anti-tip spring (3.6)



### Support wheel (3.2)

- unscrew cylinder-head screw (3.3) and hexagon nut (3.4)
- remove support wheel (3.2)

### 9.3.1 Anti-tip tube (3.1)

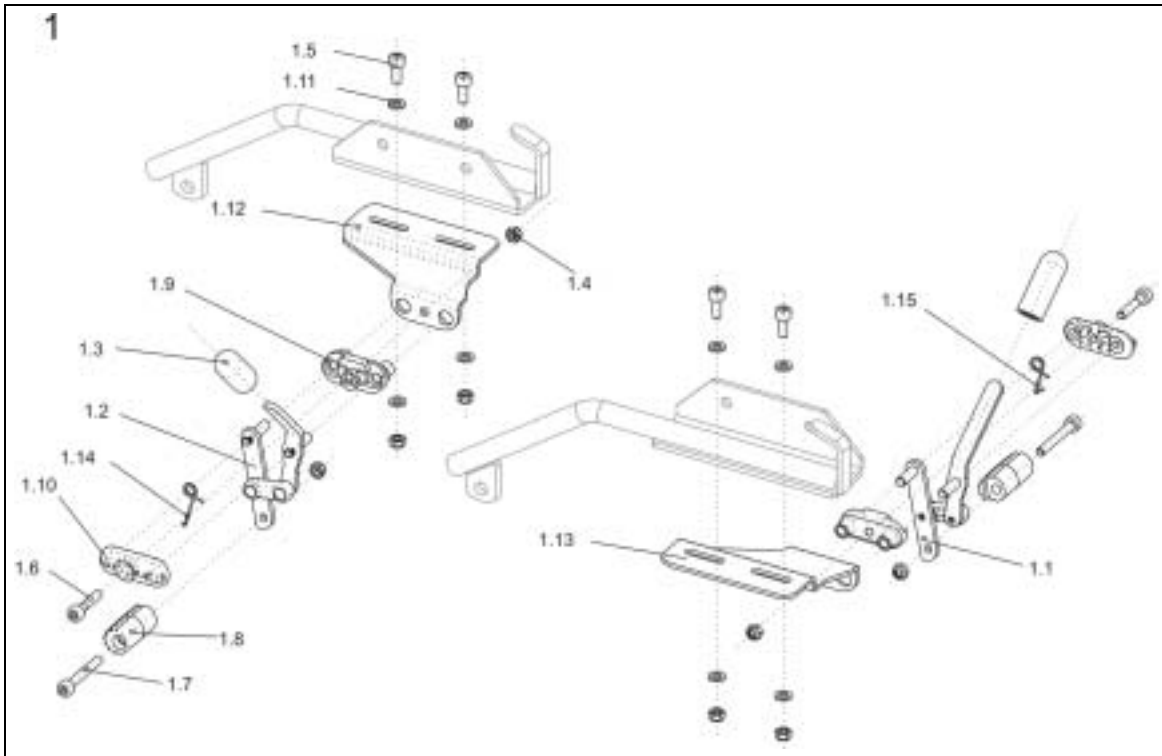
- loosen Allen screw (1.11, 1.12) on crank (1.1)
- pull out anti-tip tube (3.1)
- dismantle support wheel (3.2)
- when reassembling ensure that anti-tip spring (3.6) engages

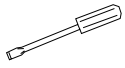
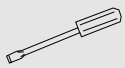
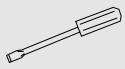
### 9.3.2 Anti-tip spring (3.6)

- dismantle anti-tip tube
- push anti-tip spring (3.6) completely home on both sides (e.g. with Allen key)
- pull out anti-tip spring e.g. with pointed pliers
- when reassembling ensure that anti-tip spring (3.6) engages in anti-tip tube (3.1)

Reassembly takes place in the reverse order.

9.4 Brake

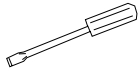


Pos	Qty.	Item No./Pcs.	Item Description	
<b>1</b>	<b>1</b>	<b>B2XX002</b>	<b>Brake complete</b>	
1.1	1	B231007	Brake lever LH	
1.2	1	B231006	Brake lever RH	
1.3	2	5007791	Brake lever handle	
1.4	8	F20109	Hexagon nut M6 self-locking	
1.5	4	D50051	Cylinder-head screw with Allen key M6 x 16	
1.6	2	D50004	Cylinder-head screw with Allen key M6 x 30	
1.7	2	D50122	Cylinder-head screw with Allen key M6 x 45	
1.8	2	1400669	Brake cylinder	
1.9	2	1400666-2	Connection piece	
1.10	2	1400671-2	Cap	
1.11	8	G00115	Washer 6.4 x 12.5 x 1.6	
1.12	1	B231001.P28	Brake bracket RH	
1.13	1	B231002.P28	Brake bracket LH	
1.14	1	1400670	Spring LH	
1.15	1	1400671	Spring RH	

## Brake installation

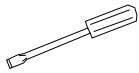


- Screw the brake bracket RH (1.12) or LH (1.13) loosely to the LH or RH battery holder with cylinder head screws (1.5).
- Align the brake brackets so that the brake acts firmly when operated, and so that there is enough play between the wheel and the brake cylinder in drive mode.



### Replacing the brake cylinder (1.8)

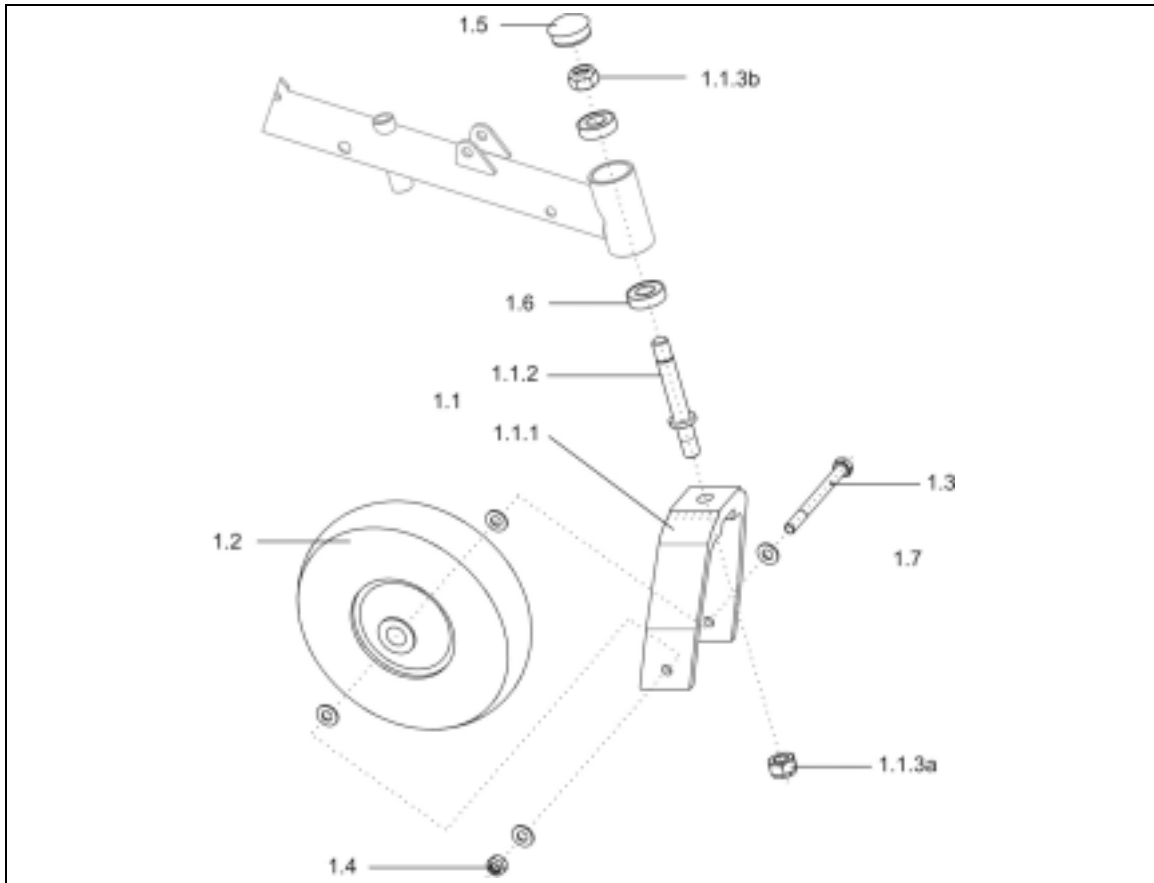
- unscrew cylinder head screw (1.7)
- screw on new brake cylinder
- check brake for functioning and readjust if necessary (see brake assembly)







### Replacing the brake lever (1.1 LH, 1.2 RH)

- unscrew cylinder head screw (1.6 and 1.7)
- replace brake lever
- check brake for functioning and readjust if necessary (see brake assembly)

9.5 Steering wheels 8" x 2"

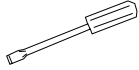


Pos	Qty.	Item No./Pcs.	Item Description	
<b>1</b>	<b>1</b>	<b>B222011</b>	<b>Wheel suspension 200 x 50 complete</b>	
<b>1.1</b>	<b>1</b>	<b>B222015</b>	<b>Wheel fork complete</b>	
1.1.1	1	B222001.79	Wheel fork	
1.1.2	1	B222002.99	Head tube axle	
1.1.3	2	F00115	Hexagon nut M12 x 1.5 self-locking	
1.2	1	5004320	Solid rubber wheel 8" x 2" with bearing	
1.3	1	D08196	Hexagon bolt M8 x 90	
1.4	1	F20105	Hexagon nut M8	
1.5	1	B210013	Protective cap	
1.6	2	2701003	Bearings R8-2RS 1/2" x 1.1/8" x 5/16	
1.7	4	G00106	Washer 8.4 x 17 x 1.6	

## 9.5.1 Removal of steering wheels

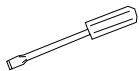
Use suitable support (e.g. wooden block) and prop the wheelchair up so that the steering wheels are free.

## 9.5.2 Solid rubber wheel (steering wheel) (1.2)



- unscrew hexagon cap nut (1.3)
- replace solid rubber wheel (1.2)

## 9.5.3 Deep groove ball bearing (1.6), head tube axle (1.1.2), wheel fork (1.1.1)

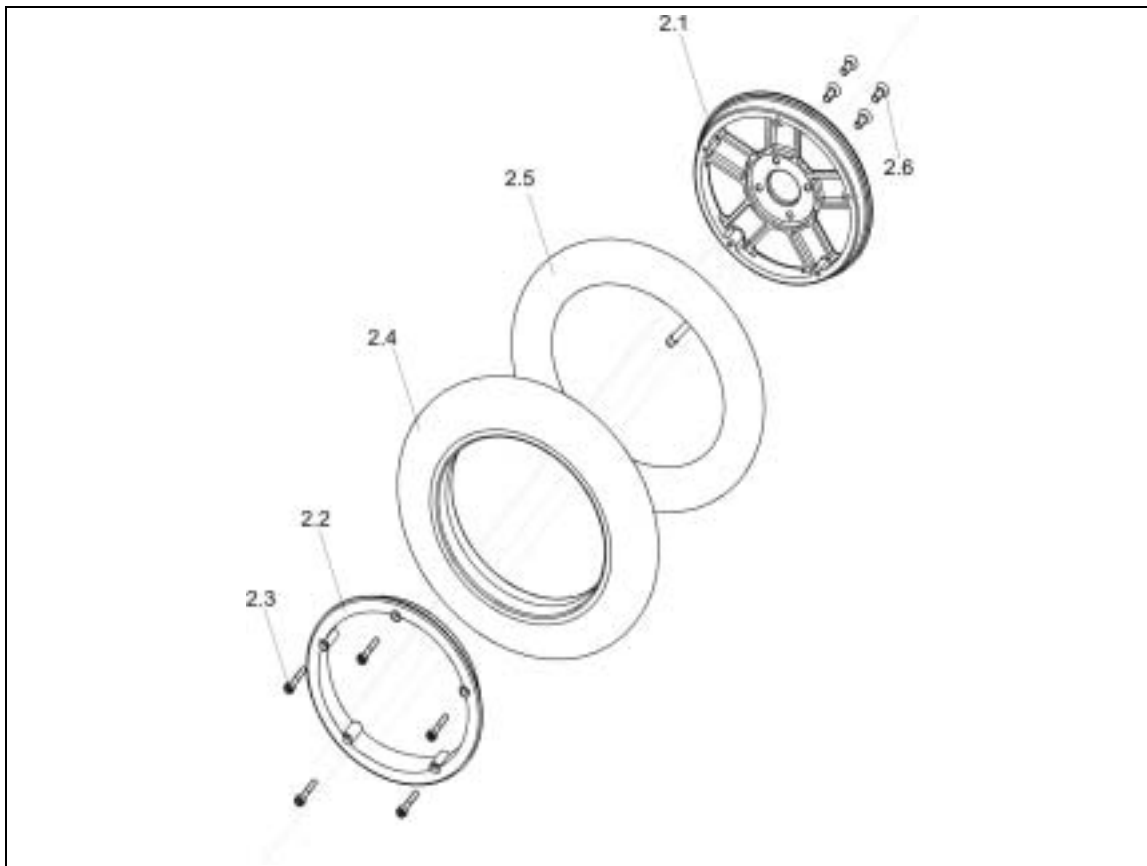






- remove protective cap (1.5) (lever out carefully with screwdriver)
- unscrew hexagon nut (1.1.3a)
- pull out steering wheel with wheel fork
- the deep groove ball bearing (1.6) can now be replaced
- unscrew hexagon nut (1.1.3b)
- replace head tube axle (1.1.2) or wheel fork (1.1.1)

**Reassembly takes place in the reverse order.**

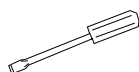
9.6 Drive wheels

9.6.1 Wheel 12-1/2 X 2-1/4



Pos	Qty.	Item No./Pcs.	Item Description	
<b>2</b>	<b>2</b>	<b>N321003</b>	<b>Wheel 12-1/2 x 2-1/4 complete</b>	
2.1	1	Z121007.P17	Wheel rim 1.5 J X 8" (external wheel rim body)	
2.2	1	Z121008.P17	Wheel rim 1.5 J X 8" (internal wheel rim body)	
2.3	5	D50117	Cylinder-head screw with Allen key M6 x 35	
2.4	1	M11005	Tyre 12-1/2 x 2-1/4	
2.5	1	M12004	Hose 12-1/4 x 2-1/4	
2.6	4	D60183	Countersunk screw with Allen key M8 x 20	

Lay wheelchair on not too soft bed on its side, so that the drive wheel to be removed is at the top or use suitable support (e. g. wooden block) and prop the wheelchair up so that the drive wheels are free.



**Drive wheels (2)**

- unscrew countersunk screw (2.6) complete and remove drive gear (2)



**Caution:**

Risk of accidents: Before the next stage you must remove the valve cap and depressurise the tyre by pushing in the valve seat.



## 9.6.2 Wheel rim halves (2.1 external, 2.2 internal)



- loosen cylinder-head screw with Allen key (2.3) and loosen both wheel rim halves (2.1, 2.2) from the tyre (2.4)



### Tyre (2.4), inner tube (2.5)

- remove inner tube (2.5) from tyre
- repair inner tube or replace with new, or replace tyre

## 9.6.3 Reassembly

- pump up inner tube (2.5) a little until round
- place inner tube (2.5) in tyre (2.4) and place both wheel rim halves (2.1 external, 2.2 internal) in the tyre from outside



### NOTE:

the recesses in the wheel rim halves must enclose the valve.  
Ensure that the inner tube is not caught between the wheel rim halves.

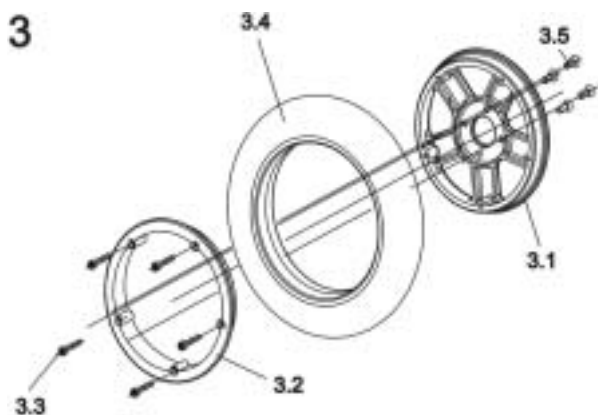
- insert countersunk screw (2.6), tighten gradually and then tighten with torque wrench (25-30 Nm)
- pump tyres up to full pressure (2.5 bar) and screw on valve cap
- insert wheel into hub, screw in cylinder head screw with Allen key (2.3) and tighten securely





### NOTE:

The cylinder head screws must under no circumstances be lubricated.  
During factory assembly they are inserted with "Plasbolt" and can be dismantled/reassembled up to 6 times.  
After the 7th reassembly the bolts must be cleaned and inserted with "Loctite" thereafter.

9.6.4 Wheel 12-1/2 X 2-1/4 puncture-proof



Pos	Qty.	Item No./Pcs.	Item Description	
3	2	1415040	Wheel 12-1/2 X 2-1/4 grey puncture-proof complete	
3.1	1	Z121007.P17	Wheel rim 1.5 J X 8" (external wheel rim body)	
3.2	1	Z121008.P17	Wheel rim 1.5 J X 8" (internal wheel rim body)	
3.3	5	D50117	Cylinder-head screw with Allen key M6 x 35	
3.4	1	B221001	Tyre 12-1/2 x 2-1/4	
3.5	4	D60183	Countersunk screw with Allen key M8 x 20 PH	

Lay wheelchair on not too soft bed on its side, so that the drive wheel to be removed is at the top or use suitable support (e. g. wooden block) and prop the wheelchair up so that the drive wheels are free.

 Drive wheels (3) puncture-proof

- unscrew countersunk screw (3.5) complete and remove drive gear (3)

9.6.5 Wheel rim halves (3.1 external, 3.2 internal)



- loosen cylinder-head screw with Allen key (3.3) and loosen both wheel rim halves (3.1, 3.2) from the tyre (2.4)



Tyre (3.4)

- replace tyre

## 9.6.6 Reassembly



### NOTE:

Both wheel rim halves must be pressed together during reassembly. You can use two or three longer bolts (M6x50) as an aid.

Insert the cylinder head screws (3.3) in the other holes.

Tighten the aid bolts so far that they reach into the cylinder head screws. Then replace the aid bolts with the cylinder head screws (3.3).

- insert cylinder head screw (3.3), tighten gradually and then tighten with torque wrench (25-30 Nm)
- insert wheel into hub, screw in cylinder head screw with Allen key (3.3) and tighten securely



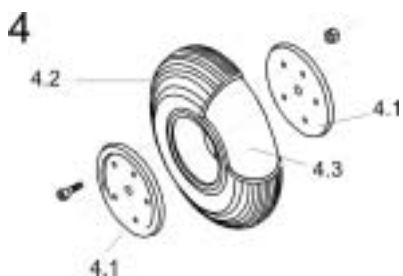
### NOTE:




The cylinder head screws (3.3) must under no circumstances be lubricated.

During factory assembly they are inserted with "Plasbolt" and can be dismantled/reassembled up to 6 times.

After the 7th reassembly the bolts must be cleaned and inserted with "Loctite" thereafter.

9.6.7 Wheel 200 X 50



Pos	Qty.	Item No./Pcs.	Item Description	
4	2	U121051	Wheel 200 X 50 with 2-part wheel rim; black / grey	
4.1	1	M10998	Plastic wheel rim 2-part	
4.2	1	M11010	Tyre 200 X 50 grooved; grey	
4.3	1	M12001	Hose 7 X 1-3/4" with valve 90°; black	
4.4	5	Not available as spare part	Cylinder head screw with Allen key	
4.5	5	Not available as spare part	Hex-nut	

Lay wheelchair on not too soft bed on its side, so that the drive wheel to be removed is at the top or use suitable support (e. g. wooden block) and prop the wheelchair up so that the drive wheels are free.



**Drive wheels (4)**

- unscrew countersunk screw complete and remove drive gear (4)



**Caution:**

Risk of accidents: Before the next stage you must remove the valve cap and depressurise the tyre by pushing in the valve seat.

9.6.8 Wheel rim halves (4.1)



- loosen cylinder-head screw with Allen key (4.4) and loosen both wheel rim halves (4.1) from the tyre (4.2)



**Tyre (4.2), inner tube (4.3)**

- remove inner tube (4.3) from tyre
- repair inner tube or replace with new, or replace tyre

## 9.6.9 Reassembly

- pump up inner tube (4.3) a little until round
- place inner tube (4.3) in tyre (4.2) and place both wheel rim halves (4.1) in the tyre (4.2) from outside



### **NOTE:**

the recesses in the wheel rim halves must enclose the valve.  
Ensure that the inner tube is not caught between the wheel rim halves.

- insert cylinder head screw with Allen key (4.4) and hex-nut (4.5) , gradually tighten diagonally, and then tighten with torque wrench (25-30 Nm)
- pump tyres up to full pressure (2.5 bar) and screw on valve cap

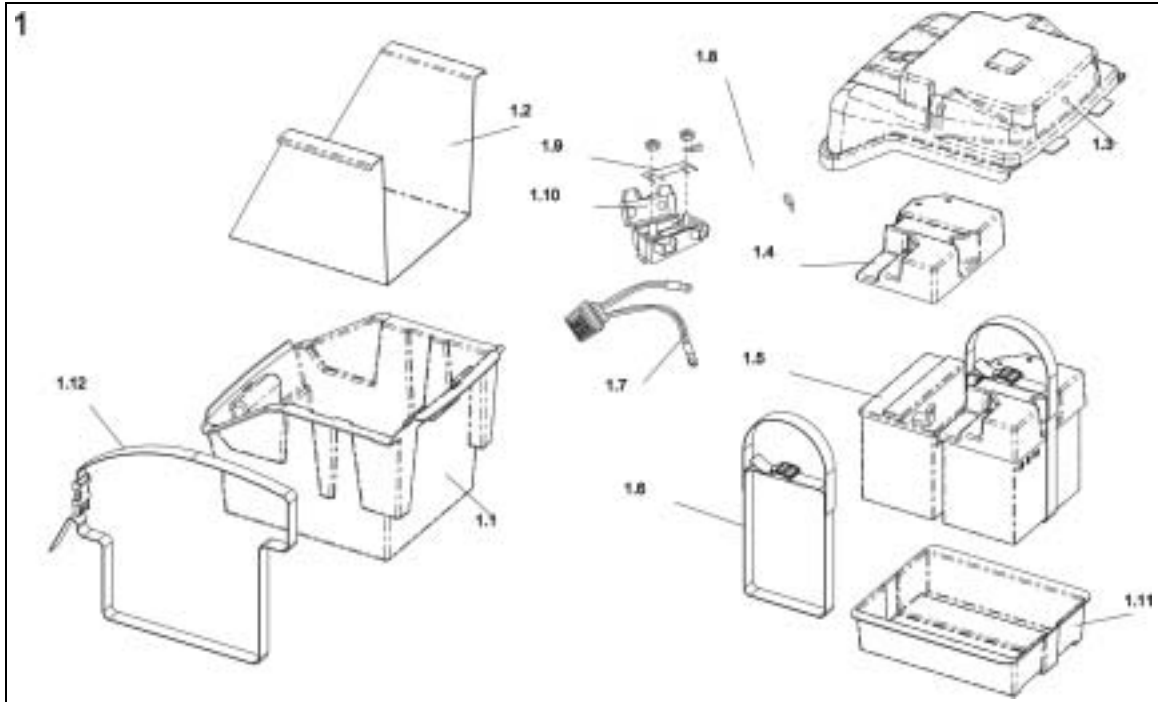






### **NOTE:**

The cylinder head screws (4.4) must under no circumstances be lubricated.  
During factory assembly they are inserted with "Plasbolt" and can be dismantled/reassembled up to 6 times.  
After the 7th reassembly the bolts must be cleaned and inserted with "Loctite" thereafter.

9.7 Battery case

9.7.1 Battery case 31 Ah



Pos	Qty.	Item No./Pcs.	Item Description	
<b>1</b>	<b>1</b>	<b>B284017</b>	<b>Battery case 31 Ah complete</b>	
1.1	1	B284006	Battery case	
1.2	1	B284007.99	Battery tray	
1.3	1	B284008	Battery case cover	
1.4	2	B284015	Battery cover	
1.5	2	P50029	Battery 12V / 31 Ah	
1.6	2	B284018	Battery strap	
1.7	2	B284011	Battery cable	
1.8	2	B284013	Battery bridge	
1.9	2	P12191	Strip fuse 50A	
1.10	2	P12293	Strip fuse holder	
1.11	1	B284016	Battery adapter	
1.12	1	B284019	Battery case strap	
1.13	1	B284029	Battery adapter cable	

## 9.7.2 Batteries (1.5)

- ensure that both batteries are charged (24V), if necessary charge batteries completely



### Caution:

- Take care with tools. Do not bridge battery terminals, **risk of short circuit!**
- Please note the high battery weight, **risk of crushing!**
- Use only batteries supplied by Sonnenschein as spare batteries in accordance with the spare parts list.

### Examination of batteries:

Check total battery voltage with a Multimeter (50V / 25V DC) on the charging jack at the remote.



- voltage below 24V: charge batteries
- voltage below 19V: check individual battery voltage



## Batteries (1.5)



- to pull off the connector plug press the safety device together.
- when reassembling ensure that connector plugs are engaged!

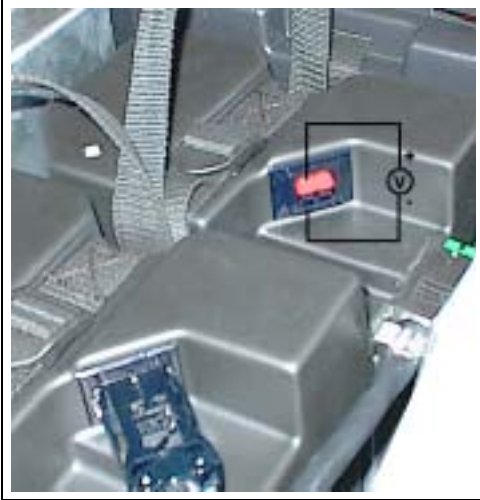
- pull "remote – battery case" connecting cable off at remote
- open battery case strap and pull battery case out towards rear
- open battery case strap (1.12) and remove battery case cover (1.3)
- pull battery cable (1.7) off

## Checking individual battery voltage

- connect Multimeter directly to battery terminal
- voltage < 9.5V : charge battery

If the voltage is still too low after charging, replace battery.

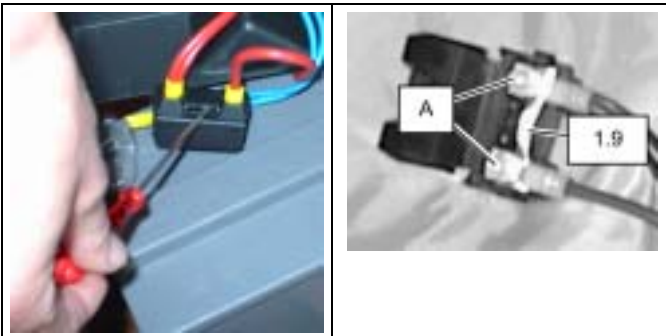
- measure voltage at battery cover jack (1.4) between red and black



If the voltage measured at the battery is correct, and that measured at the jack is 0V, check strip fuse (1.7) and battery cable (1.8) and replace if necessary.



## Strip fuse (1.9) 31Ah version

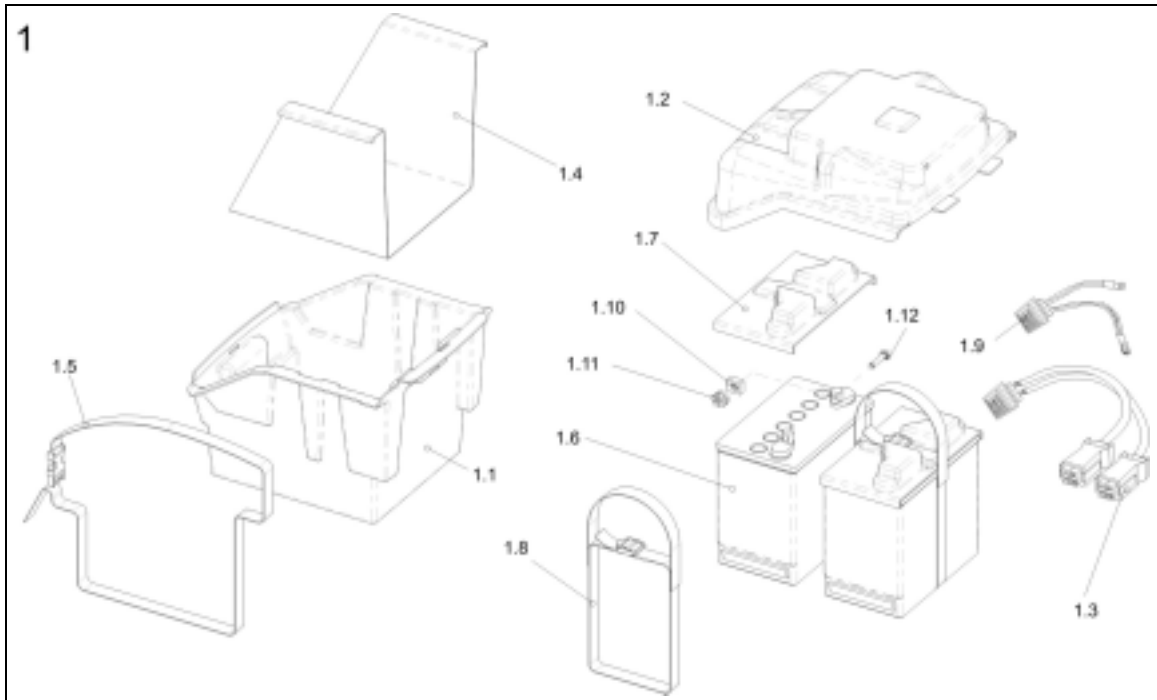




- open strip fuse holder (1.10) (carefully lever out with screwdriver)
- loosen both fixing nuts (A) and replace strip fuse (1.9)

Reassembly takes place in the reverse order.



## 9.7.3 Battery case 50 Ah



Pos	Qty.	Item No./Pcs.	Item Description	
<b>1</b>	<b>1</b>	<b>B284030</b>	<b>Battery case 50 Ah complete</b>	
1.1	1	B284006	Battery case	
1.2	1	B284008	Battery case cover	
1.3	1	B284029	Battery adapter cable	
1.4	1	B284007.99	Battery tray	
1.5	1	B284019	Battery case strap	
1.6	2	PG50989	Battery 12V/50 Ah	
1.7	2	B284014	Battery cover	
1.8	2	B284018	Battery strap	
1.9	2	B284010	Battery cable	
1.10	2	PG12187	Fuse 50 APUDENZ	
1.11	2	PG12292	Insulated nut M8 PUDENZ 255.0808.0001	
1.12	2	D08135	Hexagon bolt M8 x 35	

## 9.7.4 Batteries (1.6)

- ensure that both batteries are charged (24V), if necessary charge batteries completely



### Caution:

- Take care with tools. Do not bridge battery terminals, **risk of short circuit!**
- Please note the high battery weight, **risk of crushing!**
- Use only batteries supplied by Sonnenschein as spare batteries in accordance with the spare parts list.

### Examination of batteries:

Check total battery voltage with a Multimeter (50V / 25V DC) on the charging jack at the remote.



- voltage below 24V: charge batteries
- voltage below 19V: check individual battery voltage



## Batteries (1.6)



- To pull off the connector plug press the safety device together.
- When reassembling ensure that connector plugs are engaged!

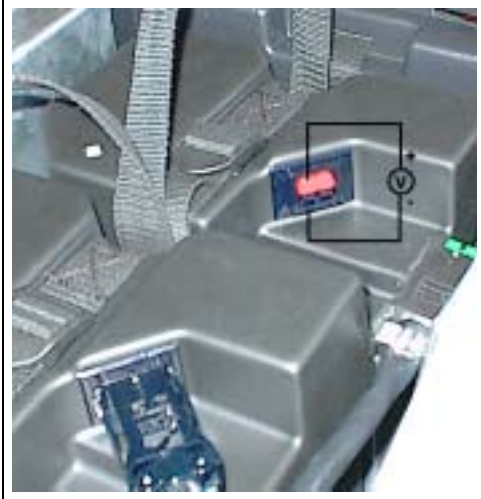
- pull "remote – battery case" connecting cable off at remote
- open battery case strap and pull battery case out towards rear
- open battery case strap (1.5) and remove battery case cover (1.7)
- pull battery cable off

## Checking individual battery voltage

- connect Multimeter directly to battery terminal
- voltage < 9.5V : charge battery

If the voltage is still too low after charging, replace battery.

- measure voltage at battery cover jack between red and black



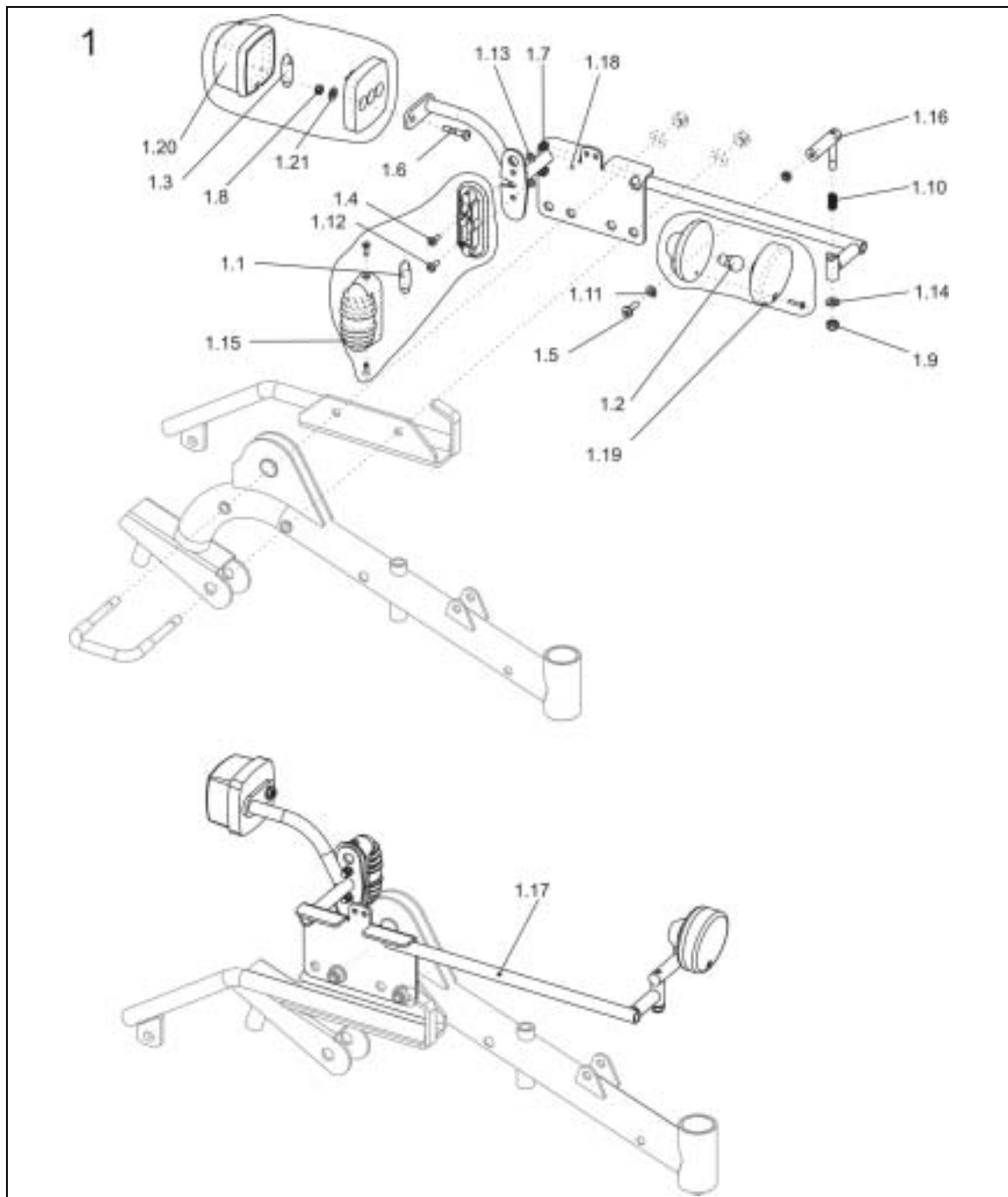
If the voltage measured at the battery is correct, and that measured at the jack is 0V, check fuse or battery cable and replace if necessary.









### Fuse (1.10) 50 Ah version

- unscrew hexagon bolt (1.12) or insulated nut (1.11)
- replace fuse (1.10)

9.8 Lighting



Pos	Qty.	Item No./Pcs.	Item Description	
<b>1</b>	<b>1</b>	<b>B281017</b>	<b>Lighting unit complete</b>	
1.1	2	P31102	Bulb 24V/18W (Sofitte)	
1.2	2	P31194	Bulb 24V/3W	
1.3	2	P31191	Bulb 24V/5W (Sofitte)	
1.4	2	D30110	Machine screw with Phillips head M4 x 16	
1.5	2	D30105	Machine screw with Phillips head M5 x 16	
1.6	2	D30108	Machine screw with Phillips head M5 x 20	
1.7	4	F60102	Hexagon cap nut M4 self-locking	
1.8	2	F20111	Hexagon nut M5 self-locking	
1.9	2	F20109	Hexagon nut M6 self-locking	
1.10	1	B281012	Spring	
1.11	4	LG50002	Headed lining 5,2 x 3	
1.12	2	EG00901	Screw M4 x 12	
1.13	4	G00103	Washer 4.3 x 9 x 0,8	
1.14	4	G00115	Washer 6.4 x 12.5 x 1.6	
1.15	2	P32008	Direction indicators	
1.16	2	B281014.P28	Headlight receptacle	
1.17	1	B281001.P28	Light bracket LH	
1.18	1	B281013.P28	Light bracket RLH	
1.19	2	P31083	Headlight LA 55	
1.20	2	PG31001	Tail lamps with reversing light	
1.21	2	G00110	Washer 6.4 x 12.5 x 1.6	



## Replace the bulb (1.2), headlight (1.20)



- unscrew Phillips head-screw
- remove front lamp part



- remove bulb holder with bulb
- unscrew bulb
- insert new bulb 24V/3W



- unsolder cable
- loosen machine screw with Phillips head (1.5)
- replace headlight (1.19)
- screw in machine screw with Phillips head (1.5)
- solder cable

Reassembly takes place in the reverse order.

**Check lighting for correct function.**



## Replace the bulb (1.3), tail lamps (1.20)



- carefully lever the Plexiglass out of the holder with a screwdriver
- remove Plexiglas



- insert new bulb 24V/5W (Sofitte)
- unsolder both cables
- unscrew screw (1.6)
- replace tail lamps (1.20)
- screw in screw (1.16) again
- solder cable

Reassembly takes place in the reverse order.

**Check lighting for correct function.**



## Replace the bulb (1.1), tail lamps (1.15)



- unscrew both Phillips head screws
- remove Plexiglas



- insert new bulb 24V/5W (Sofitte)

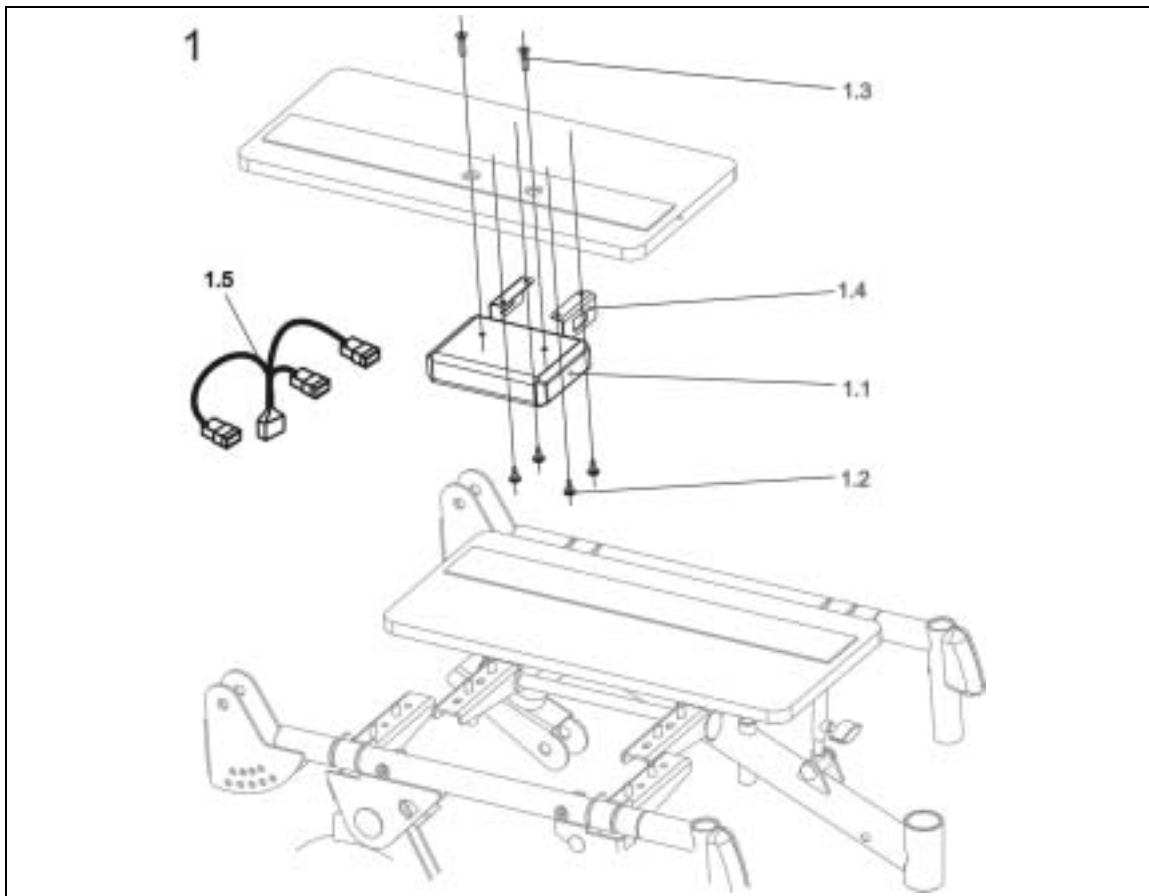


- unsolder both cables
- unscrew screws (1.4, 1.12)
- replace direction indicators (1.15)
- screw in screws (1.4,1.12) again
- solder cable

Reassembly takes place in the reverse order.

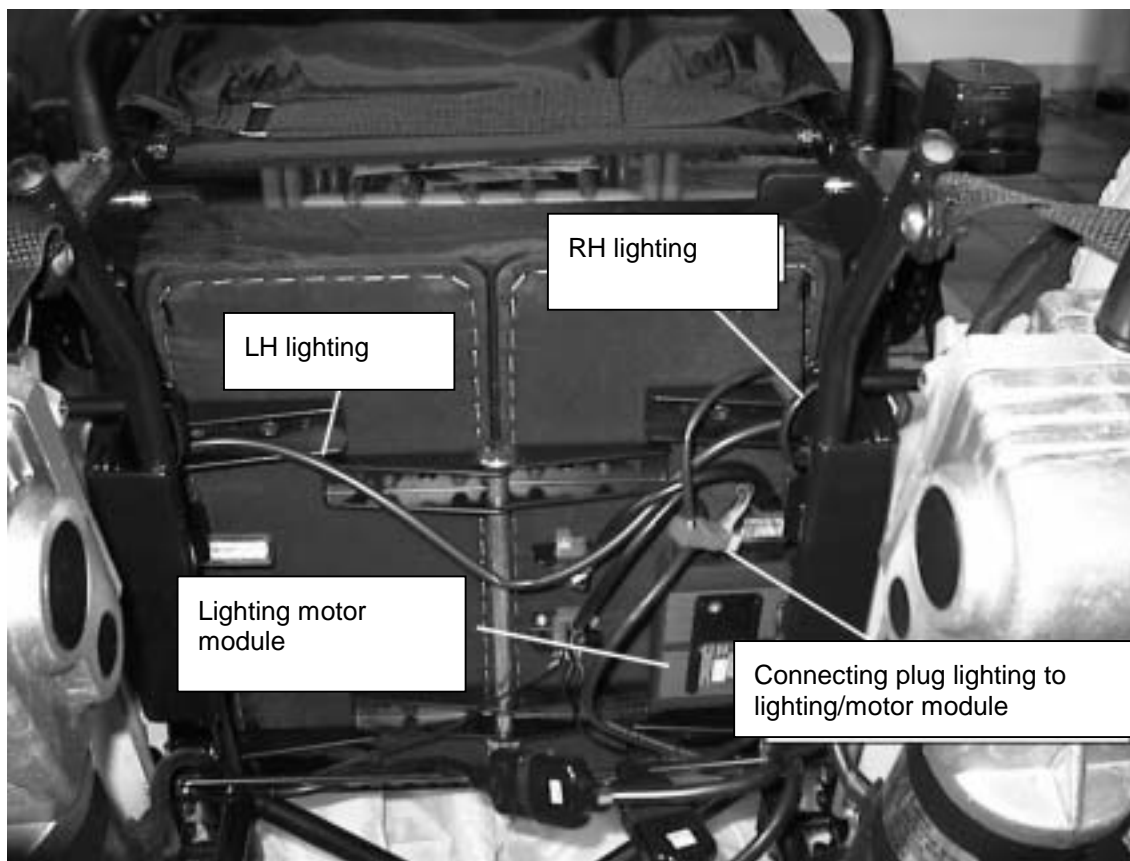
**Check lighting for correct function.**





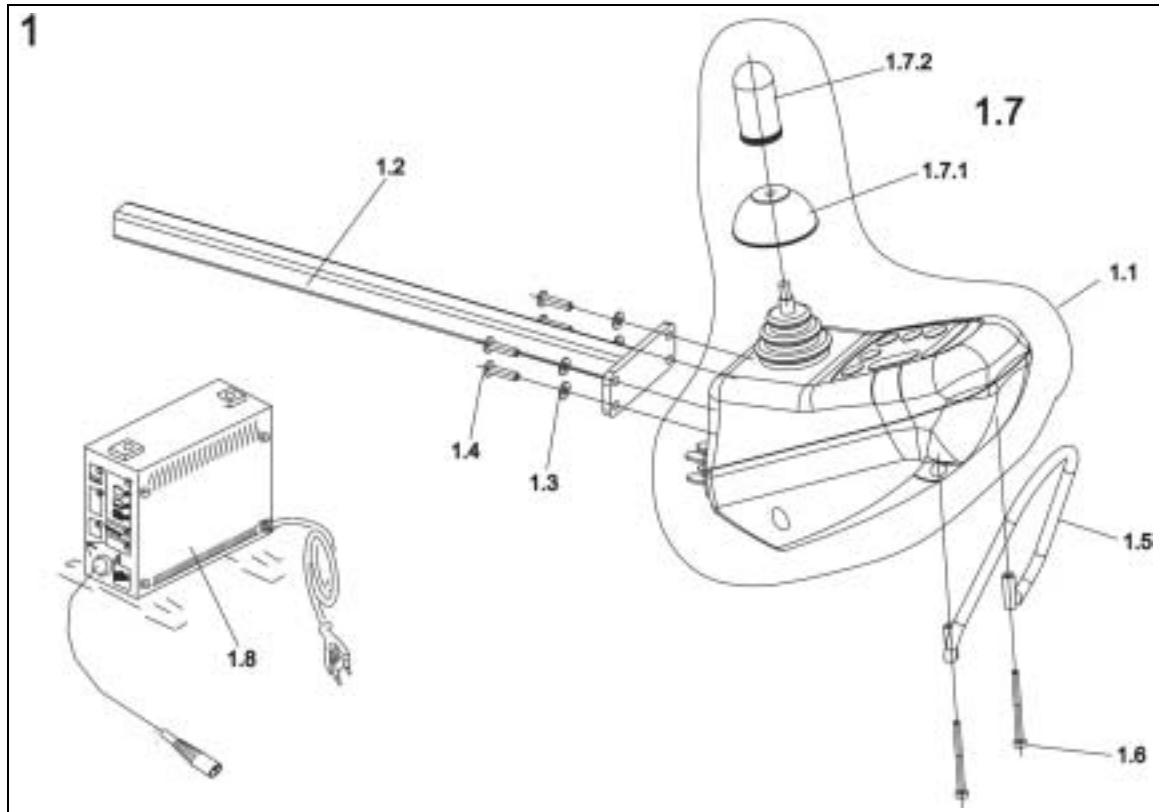
Pos	Qty.	Item No./Pcs.	Item Description
<b>1</b>	<b>1</b>	<b>B281020</b>	<b>Clam complete</b>
1.1	1	P10081	ACS-Clam (light-motor module combined)
1.2	4	D37101	Phillips self-tapping screw 4 x 12
1.3	2	D10108	Countersunk screw with Phillips head M5 x 20
1.4	2	B282002.P28	Bracket for Amp connector plug
1.5	1	B281021	Clam wiring harness






**Lighting cabling**



## 9.8 Electronics

### Compact remote



Pos	Qty.	Item No./Pcs.	Item Description	
<b>1</b>	<b>1</b>	<b>B283014</b>	<b>Compact remote complete</b>	
<b>1</b>	<b>1</b>	<b>B2XX001</b>	<b>Compact DX remote complete</b>	
1.1	1	PG10048	Compact – Basic remote	
1.1	1	PG10047	Compact – DX remote	
1.2	1	B283006.P28	Commando remote holder, matt black	
1.3	4	G00103	Washer 4.3 x 9 x 0,8	
1.4	4	D30110	Machine screw with Phillips head M4 x 16	
1.5	1	B283013.P28	Hand protector, matt black	
1.6	2	D30194	Machine screw with Phillips head M3 x 40	
<b>1.7</b>	<b>1</b>	<b>Z183229</b>	<b>Spare part joystick knob</b>	
1.7.1	1	P10398	Joystick screen	
1.7.2	1	P10399	Joystick knob	
1.8	1	P51981	Charging device 8A with XLR connector plug	



## Spare part joystick knob (1.7)

- pull off joystick knob (1.7.2) or joystick screen (1.7.1) upwards
- replace joystick knob or joystick screen



## Hand protector (1.5)

- unscrew machine screw (1.6)
- fit new hand protector



## Remote (1.1), remote holder (1.2)

- pull off connector cable "remote – battery – drive units" at remote
- unscrew machine screws (1.4)
- remove remote
- loosen wing nut on armrest and pull out remote holder

Reassembly takes place in the reverse order.

### Functional check

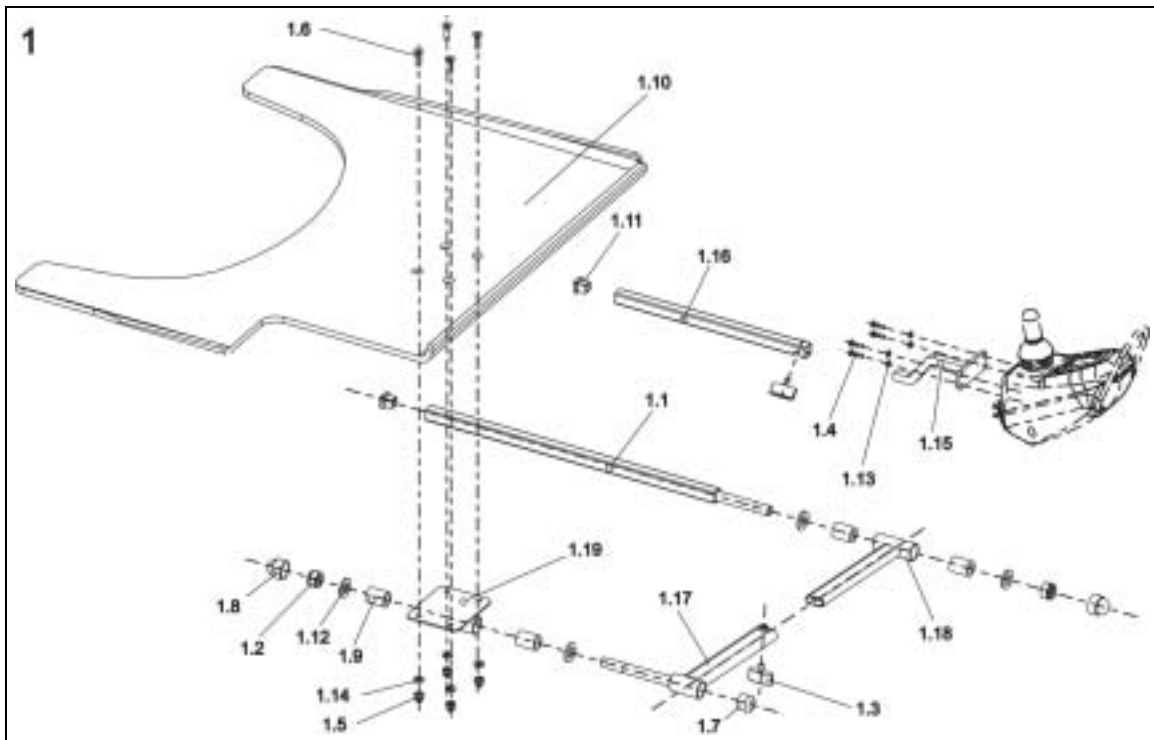
A functional check must be carried out after any repair work on the remote.



### CAUTION:

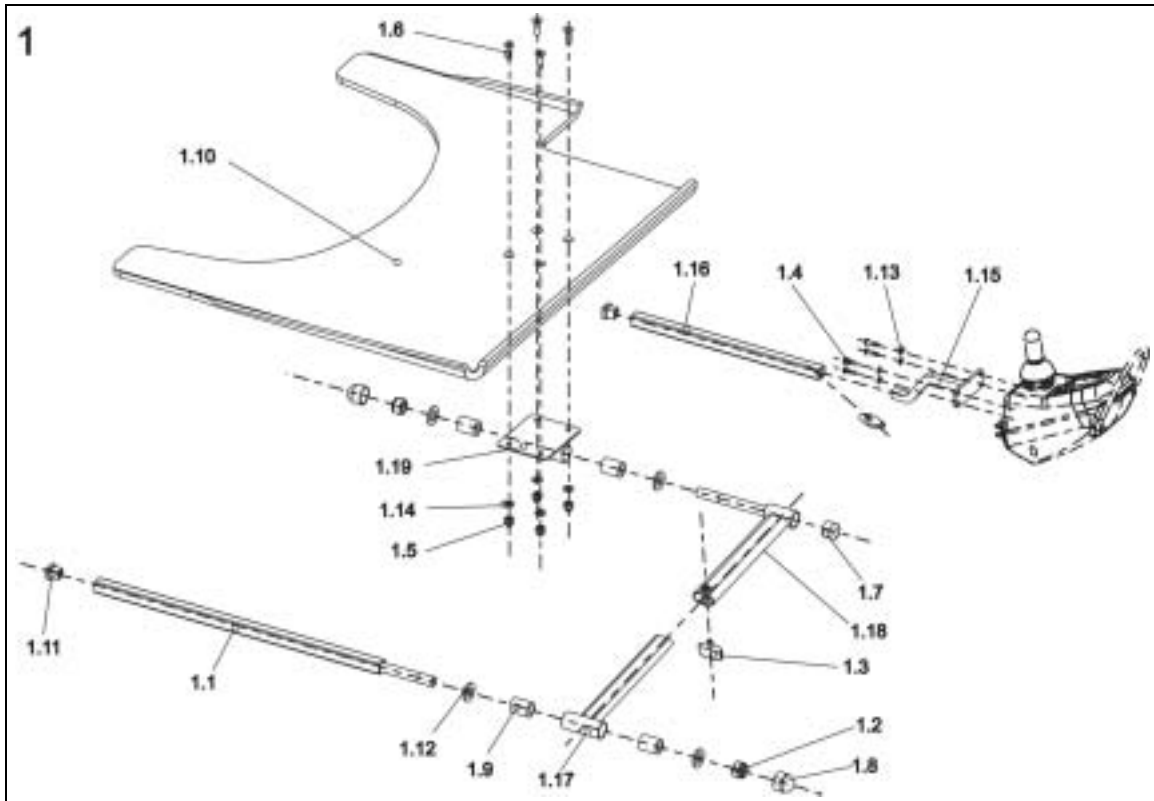
**Do not reverse the connection plug between remote – drive unit left or right. If the connection is made the wrong way round the wheelchair will drive in the opposite direction (risk of accident).**

Table can be swivelled for operation RH



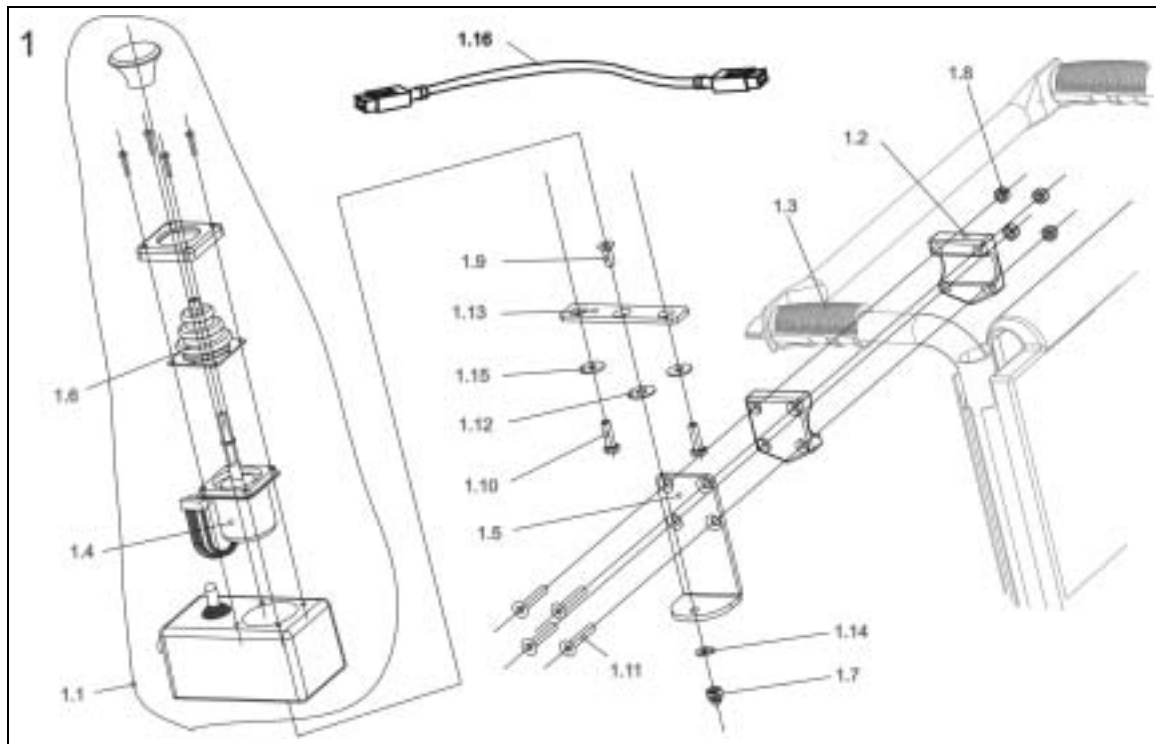
Pos	Qty.	Item No./Pcs.	Item Description
<b>1</b>	<b>1</b>	<b>B277001</b>	<b>Table can be swivelled for operation RH complete</b>
1.1	1	Z177024A.00	Guide for table/central control, chromed
1.2	2	F20106	Hexagon nut M12 self-locking
1.3	2	L31001	Wing nut M6 x 10
1.4	4	D30110	Machine screw with Phillips head M4 x 16
1.5	4	F60106	Hexagon cap nut M6 self-locking
1.6	4	D10199	Countersunk screw with Phillips head M6 x 20
1.7	1	L01008	Skidder SL 22
1.8	2	L01037	Cover cap SKS 12 for nut M12
1.9	4	Z17032A	Lining rd. 19 X 3.5 X 25
1.10	1	Z177016	Table top with cut-out RH, transparent
1.11	2	L01055	Cap cover E 15x15
1.12	4	G00104	Washer 13 x 24 x 2,5
1.13	4	G00103	Washer 4.3 x 9 x 0,8
1.14	4	G00110	Washer 6.4 x 12.5 x 1.6
1.15	1	B283031.P28	Remote holder
1.16	1	B283041.P28	Guide rod
1.17	1	Z17270A.00	Swivel arm, chromed
1.18	1	Z17150A.00	Swivel arm extension, chromed
1.19	1	Z17160A.00	Table top receptacle, chromed



Table can be swivelled for operation LH



Pos	Qty.	Item No./Pcs.	Item Description
<b>1</b>	<b>1</b>	<b>B277002</b>	<b>Table can be swivelled for operation LH complete</b>
1.1	1	Z177039.00	Guide for table/central control
1.2	2	F20106	Hexagon nut M12 self-locking
1.3	2	L31001	Wing nut M6 x 10
1.4	4	D30110	Machine screw with Phillips head M4 x 16
1.5	4	F60106	Hexagon cap nut M6 self-locking
1.6	4	D10199	Countersunk screw with Phillips head M6 x 20
1.7	1	L01008	Skidder SL 22
1.8	2	L01037	Cover cap SKS 12 for nut M12
1.9	4	Z17032A	Lining rd. 19 X 3.5 X 25
1.10	1	Z177017	Table top with cut-out LH, transparent
1.11	2	L01055	Cap cover E 15x15
1.12	4	G00104	Washer 13 x 24 x 2,5
1.13	4	G00103	Washer 4.3 x 9 x 0,8
1.14	4	G00110	Washer 6.4 x 12.5 x 1.6
1.15	1	B283031.P28	remote holder
1.16	1	B283041.P28	Guide rod
1.17	1	Z17270A.00	Swivel arm, chromed
1.18	1	Z17150A.00	Swivel arm extension, chromed
1.19	1	Z17160A.00	Table top receptacle, chromed

## ACS operation for attendant switchable



Pos	Qty.	Item No./Pcs.	Item Description	
<b>1</b>	<b>1</b>	<b>1415033</b>	<b>ACS operation for attendant switchable complete</b>	
1.1	1	6001425	ACS operation for attendant switchable	
1.2	2	Z12008A.P40	Clamp terminal with hex hole, RAL 9005 deep black	
1.3	1	1415035	Handle (shortened)	
1.4	1	P10304	ACS joystick for standard remote	
1.5	1	Z183196.P40	Fixing bracket operation attendant, RAL 9005 deep black	
1.6	1	Z183001A	Bellows for ACS joystick, black	
1.7	1	F60107	Hexagon cap nut M6 self-locking	
1.8	6	F20109	Hexagon nut M6 self-locking	
1.9	1	D60111	Countersunk screw with Allen key M6 x 16	
1.10	2	D08127	Hexagon bolt M6 x 20	
1.11	4	D60106	Countersunk screw with Allen key M6 x 35	
1.12	1	G10502	Washer 20 x 7,9 x 1	
1.13	1	Z183183.P40	Bracket for operator attendant, RAL 9005 deep black	
1.14	3	G00115	Washer 6.4 x 12.5 x 1.6	
1.15	2	G00107	Washer 6,4 x 18 x 1,6	
1.16	1	GSM63008	ACS bus cable L=800 mm	
1.16	1	GSM63011	ACS bus cable L=1100 mm	

## **Fitting ACS operation for attendant**

- **screw on clamp terminal and fixing bracket (1.5) with the countersunk screws (1.11) to the back tube**
- screw bracket (1.13) with countersunk screw (1.9) to fixing bracket (1.5)
- screw operation ACS to bracket (1.13) with countersunk screws (1.10) )

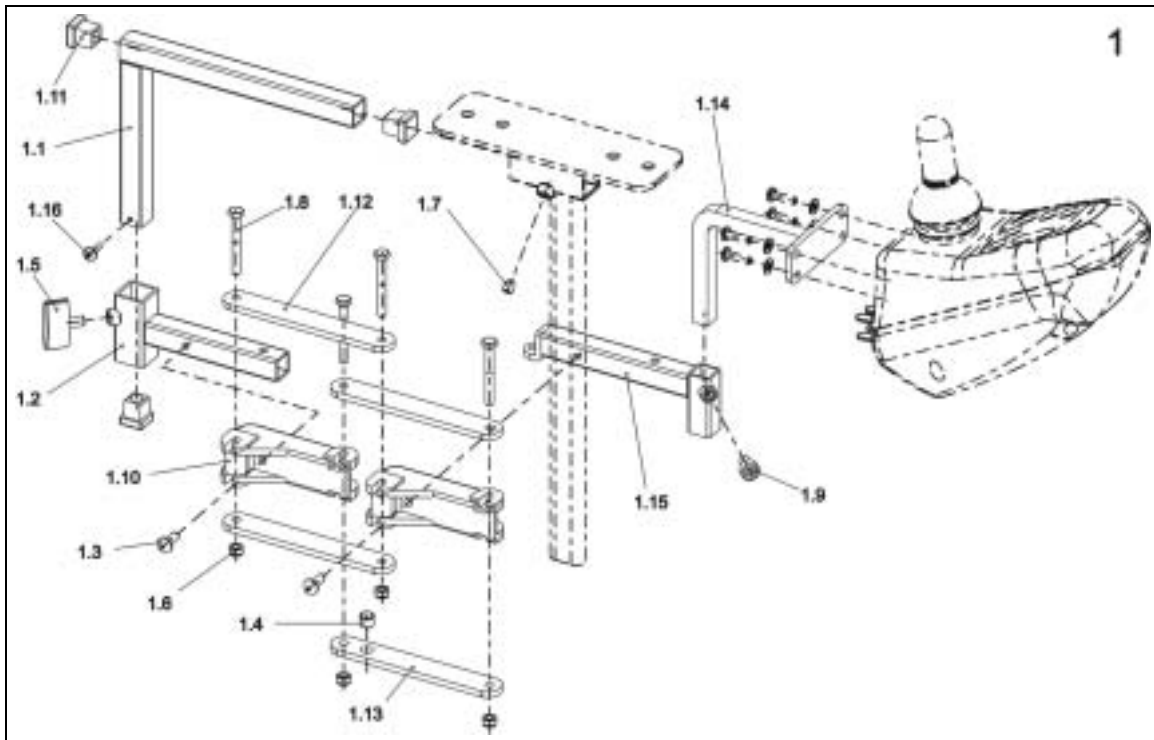


## **Bellows (1.6), ACS joystick (1.4)**

- pull off joystick-button (A)
- loosen screws (B)
- pull off bellows (1.6) upwards
- remove plugs from ACS joystick (1.4)
- replace ACS joystick

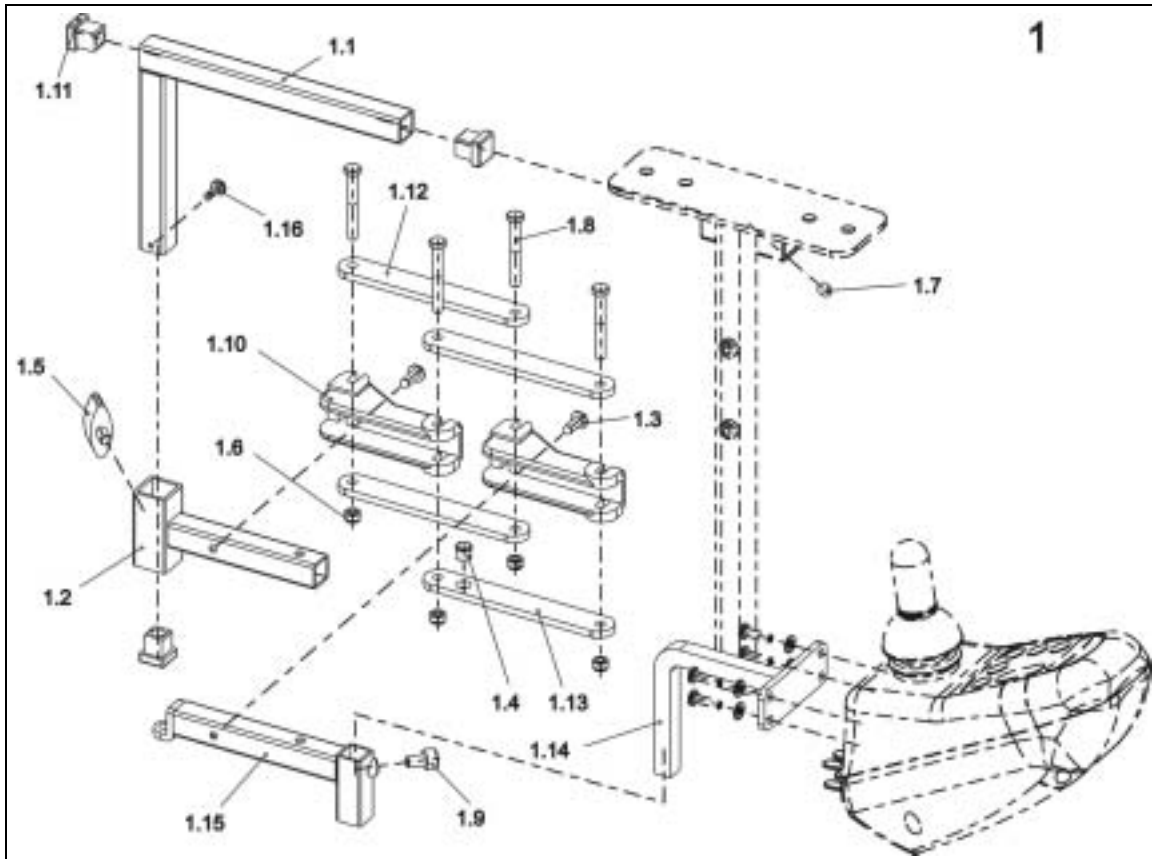


Remote holder RH height-adjustable and swivelable.



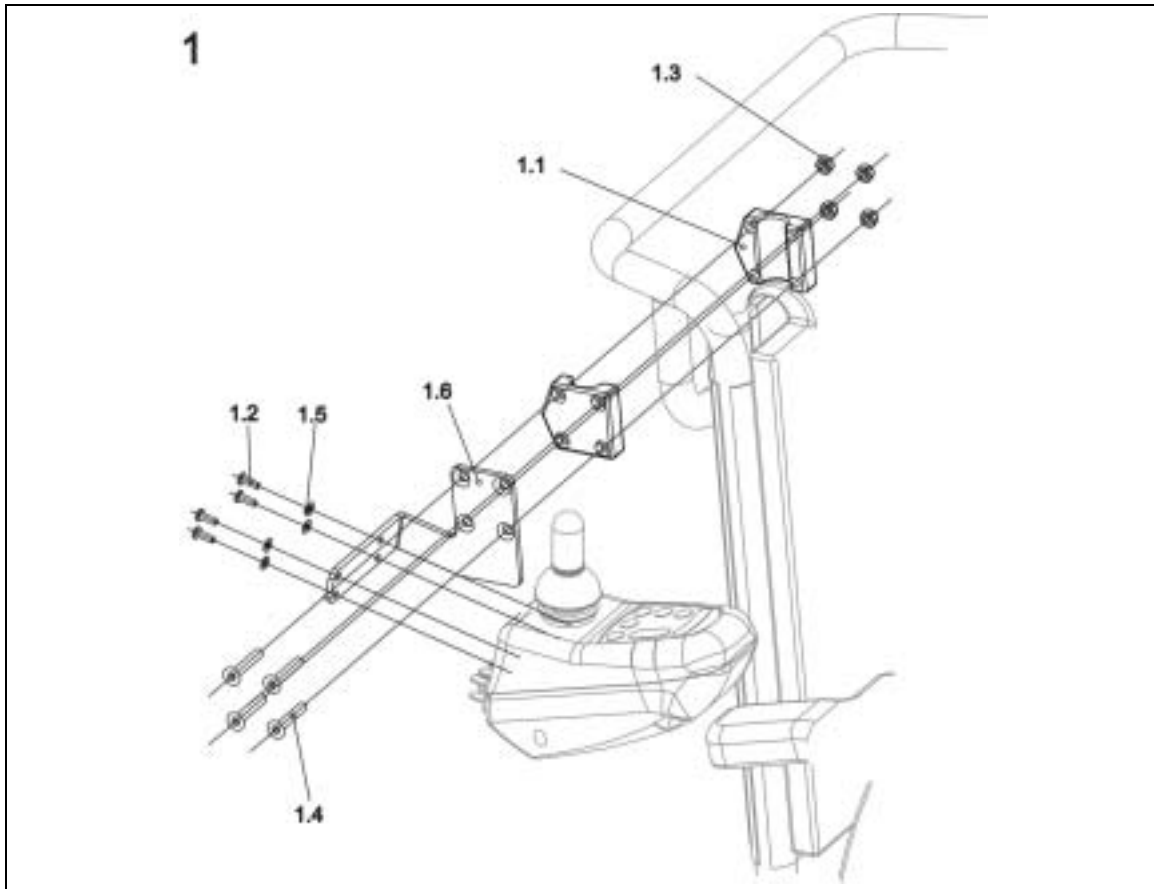
Pos	Qty.	Item No./Pcs.	Item Description
<b>1</b>	<b>1</b>	<b>B283036</b>	<b>Remote holder RH height-adjustable and swivelable, complete</b>
1.1	1	F383069.P28	Guide 3 for remote swiv., matt black
1.2	1	F383071.P28	Guide for remote swiv., matt black
1.3	2	D36112	Pan head tapping screw with Phillips head 4,8 x 16
1.4	1	N19999	Thrust pad 8 mm, sprung
1.5	1	L31001	Wing nut M6 x 10
1.6	4	F20111	Hexagon nut M5 self-locking
1.7	1	D70188	Grub screw with Allen key and point M6 x 8
1.8	4	D08192	Hexagon bolt with shaft M5 x 40
1.9	1	D50126	Cylinder head screw with Allen key M6 x 10
1.10	2	F18001A	Bearing block
1.11	3	L01055	Cap cover E 15x15
1.12	3	F383010.P28	Lever 1 for remote swiv., matt black
1.13	1	F383011.P28	Lever 2 for remote swiv., matt black
1.14	1	B283016.P28	Remote receptacle 90° for remote holder swivelable
1.15	1	B283020.P28	Guide RH, matt black
1.16	1	D90188	Drilling screw with cheese head 4.2 x 13

Remote holder LH height-adjustable and swivelable.



Pos	Qty.	Item No./Pcs.	Item Description
1	1	B283037	Remote holder LH height-adjustable and swivelable, complete
1.1	1	F383069.P28	Guide 3 for remote swivelable, matt black
1.2	1	F383071.P28	for remote swivelable, matt black
1.3	2	D36112	Pan head tapping screw with Phillips head 4,8 x 16
1.4	1	N19999	Thrust pad 8 mm, sprung
1.5	1	L31001	Wing nut M6 x 10
1.6	4	F20111	Hexagon nut M5 self-locking
1.7	1	D70188	Grub screw with Allen key and point M6 x 8
1.8	4	D08192	Hexagon bolt with shaft M5 x 40
1.9	1	D50126	Cylinder-head screw with Allen key M6 x 10
1.10	2	F18001A	Bearing block
1.11	3	L01055	Cap cover E 15x15
1.12	3	F383010.P28	Lever 1 for remote swivelable, matt black
1.13	1	F383011.P28	Lever 2 for remote swivelable, matt black
1.14	1	B283016.P28	Remote receptacle 90°
1.15	1	B283020.P28	Guide RH, matt black
1.16	1	D90188	Drilling screw with cheese head 4.2 x 13

## "Commando" attendant operation for backrest adjustable

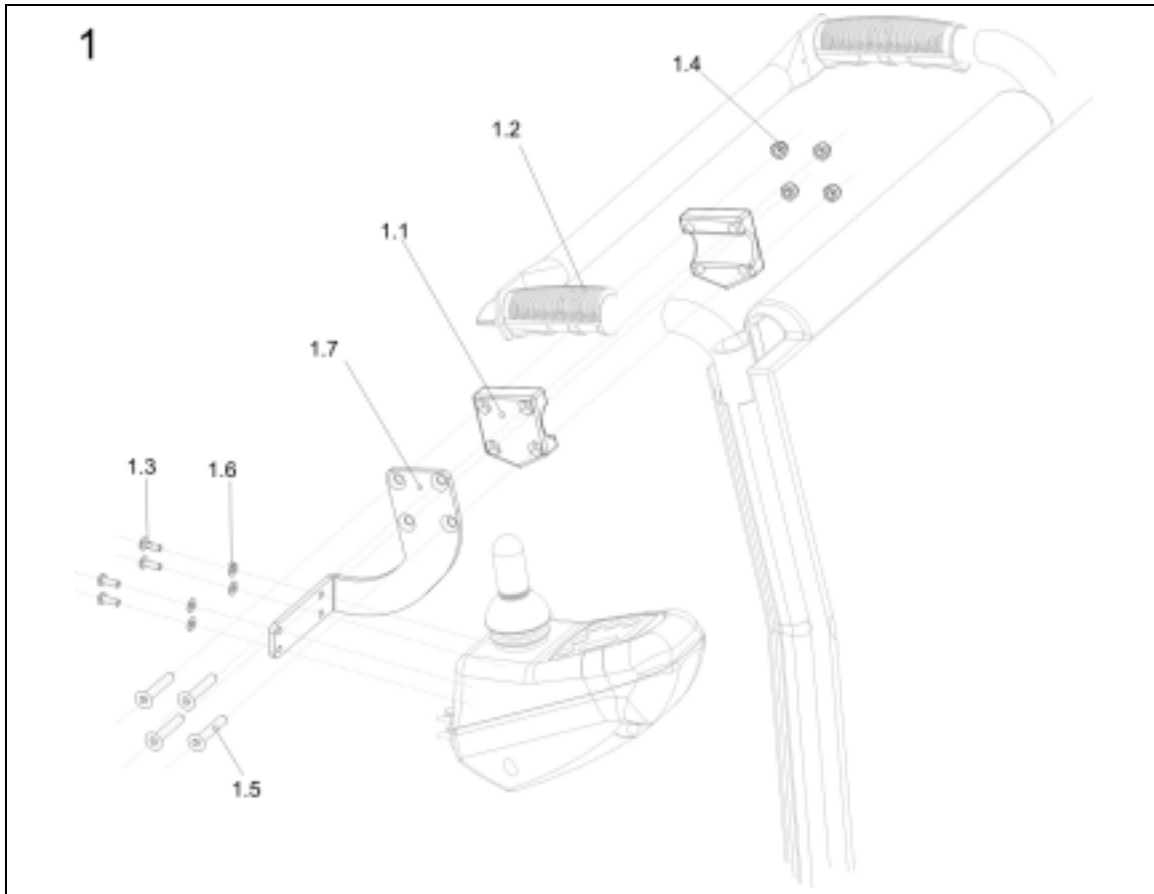


Pos	Qty.	Item No./Pcs.	Item Description
<b>1</b>	<b>1</b>	<b>1415046</b>	<b>"Commando" attendant operation for backrest adjustable</b>
1.1	2	Z12008A.P28	Clamp terminal with hex hole
1.2	4	D30110	Machine screw with Phillips head M4 x 16
1.3	8	F20109	Hexagon nut M6 self-locking
1.4	4	D60106	Countersunk screw with Allen key M6 x 35
1.5	4	G00103	Washer 4.3 x 9 x 0,8
1.6	1	1415070.P28	Bracket RH for attendant operation console

## "Commando" attendant operation for backrest adjustable

- screw on clamp terminal and holder (1.6) with the countersunk screws (1.4) to the back tube
- screw on "Commando" attendant operation console to the bracket (1.6) with the machine screw (1.2)
- connect cable and check function

**"Commando" attendant operation for backrest detachable**



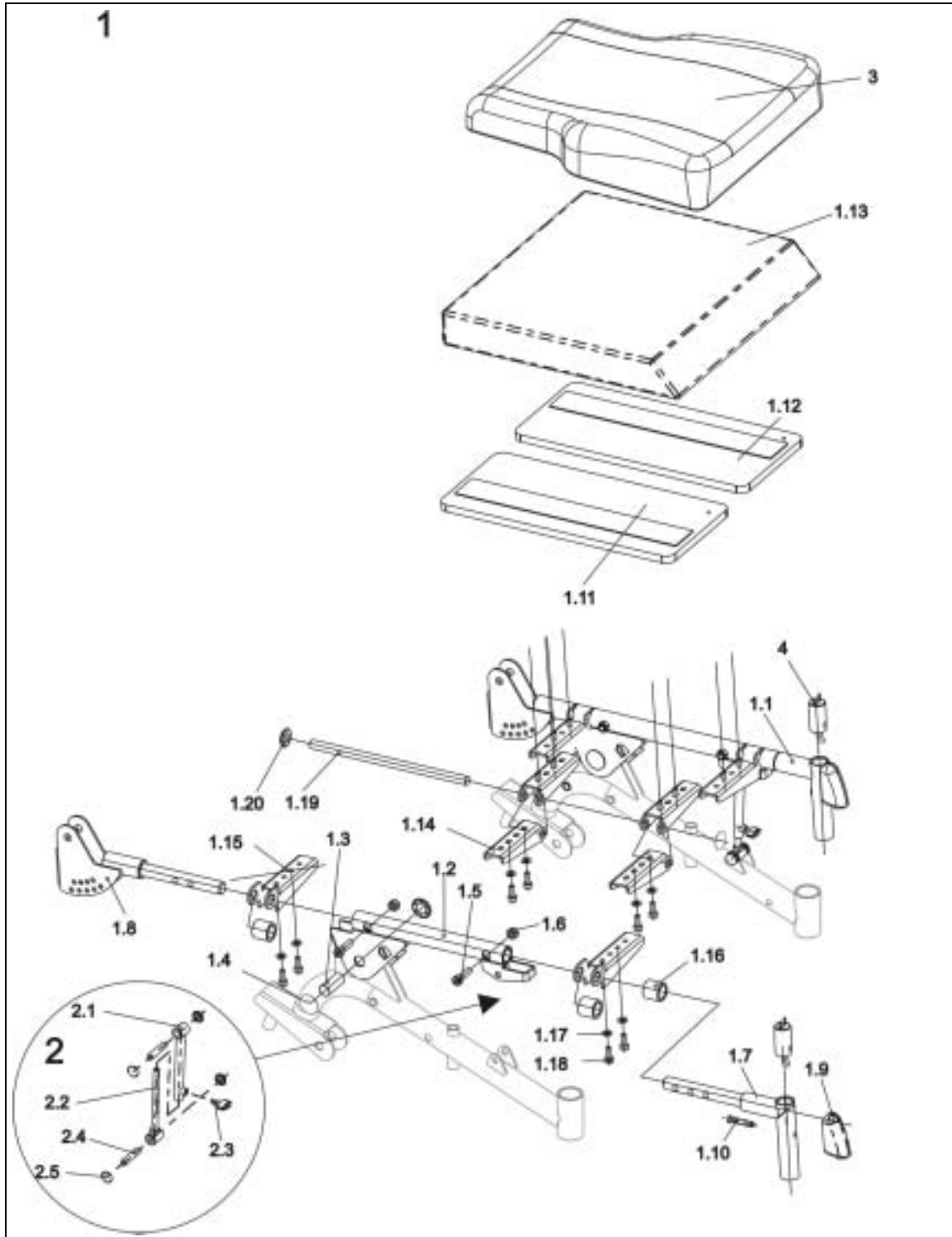
Pos	Qty.	Item No./Pcs.	Item Description
<b>1</b>	<b>1</b>	<b>1415059</b>	<b>"Commando" attendant operation for backrest detachable</b>
1.1	2	Z12008A.P28	Clamp terminal with hex hole
1.2	1	1415035	Handle (shortened)
1.3	4	D30110	Machine screw with Phillips head M4 x 16
1.4	4	F20109	Hexagon nut M6 self-locking
1.5	4	D60106	Countersunk screw with Allen key M6 x 35
1.6	4	G00103	Washer 4.3 x 9 x 0,8
1.7	1	1415069.P28	Bracket RH for backrest detachable



**"Commando" attendant operation for backrest detachable**


- screw on clamp terminal (1.1) and holder (1.7) with the countersunk screws (1.5) to the back tube
- screw on "Commando" attendant operation console to the bracket (1.7) with the machine screws (1.3)
- connect cable and check function


## 9.9 Seat unit, seat angle adjustment, armrest and side panel

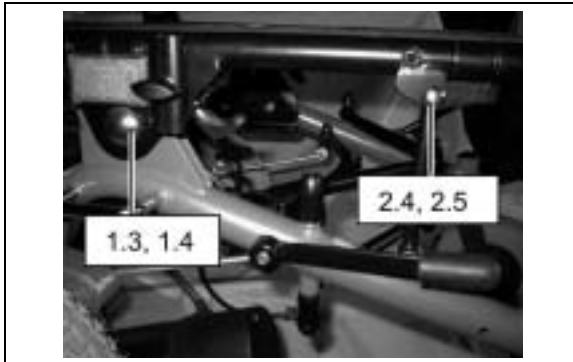
### 9.9.1 Seat unit, seat angle adjustment



Pos	Qty.	Item No./Pcs.	Item Description	
<b>1</b>	<b>1</b>	<b>B263001</b>	<b>Seat unit complete</b>	
1.1	1	B261004.P28	Seat frame middle part LH; matt black	
1.2	1	B261005.P28	Seat frame middle part RH, matt black	
1.3	2	B261034.99	Straight pin Ø 15.9	
1.4	4	K32306	Star lock cap 16 mm	
1.5	4	D50176	Cylinder-head screw with Allen key M8 x 30	
1.6	4	F00002	Hexagon nut M8 self-locking, DIN-985	
1.7	2	B261012.P28	Seat frame front; matt black	
1.8	2	B261024.P28	Seat frame rear; black matt	
1.9	2	Z173201.79	Footrest adapter	
1.10	2	D90185	Cheese-head screw with Allen key M6 x 35	
1.11	1	B261027	Seat base RH	
1.12	1	B261028	Seat base LH	
1.13	1	B260001	Seat cushion	
1.14	4	B261001.P28	Hinge; black matt	
1.15	4	B261002.P28	Hinge; black matt	
1.16	6	B261031.P28	Lining, matt black	
1.17	16	G00115	Washer 6.4 x 12.5 x 1.6	
1.18	16	D50051	Cylinder-head screw with Allen key M6 x 16	
1.19	1	B261032.99	Straight pin Ø 12	
1.20	2	K32307	Star lock cap 12 mm	
<b>2</b>	<b>2</b>	<b>B264010</b>	<b>Seat angle adjustment complete</b>	
2.1	1	B264001.P28	Seat adjustment top, matt black	
2.2	1	B264005.P28	Seat adjustment bottom, matt black	
2.3	1	L10024	Wing nut M6 x 16	
2.4	2	B264009.99	Straight pin Ø 8 x 40	
2.5	4	K32397	Star lock cap 8 mm	
3	1	B260005	"Contour" cushion	
4	2	B281026	Electrical adapter for leg support, height-adjustable	

**CAUTION:**  seat adjustments such as seat angle, seat depth, backrest angle and distance between armrests should be individually adjusted to suit the user. These settings should therefore be retained when carrying out service work.

 **Note:** Repair work to the seat unit is easier to carry out if the complete seat unit has been dismantled beforehand.



- carefully lever off Star lock caps (1.4, 2.5) with screwdriver
- pull out straight pin (1.3, 2.4)
- the complete seat unit can then be removed upwards

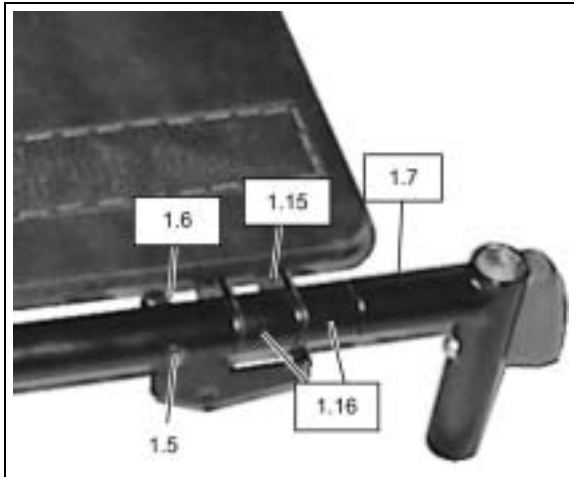
 **Seat base(1.11 right, 1.12 left), hinge(1.14)**



- unscrew cylinder-head screw with Allen key (1.18)
- insert new seat base (1.11, 1.12)
- carefully lever off Star lock cap (1.20) with screwdriver
- pull out straight pin (1.19)
- unscrew cylinder-head screw with Allen key (1.18)
- replace hinge (1.14)



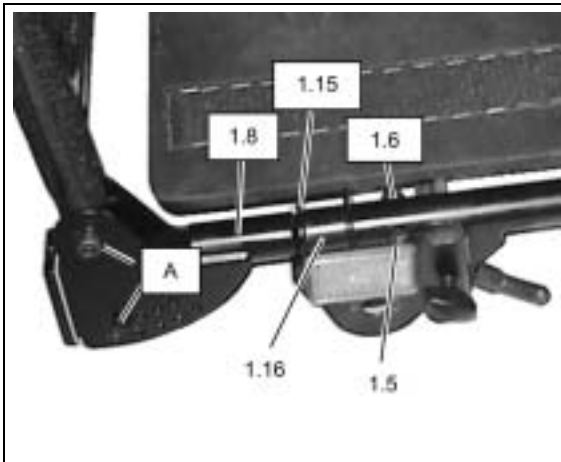
**Seat frame front (1.7), lining front (1.16), hinge front (1.15)**



- unscrew front hexagon nut M8 (1.6)
- unscrew cylinder-head screw with Allen key (1.5)
- pull out seat frame towards front
- front seat frame (1.7) or lining (1.16) can be replaced
- unscrew cylinder-head screw with Allen key (1.18)
- hinge (1.15) can be replaced



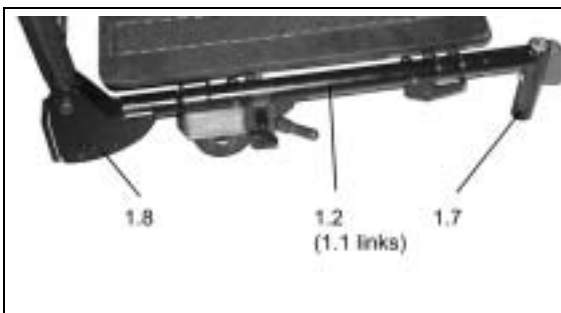
**Seat frame rear (1.9), lining rear (1.16), hinge rear (1.15)**



- unscrew screws A (dismantling of backrest tube)
- unscrew rear hexagon nut M8 (1.6)
- unscrew cylinder-head screw with Allen key (1.5)
- pull out seat frame towards rear
- rear seat frame (1.8) or lining (1.16) can be replaced
- unscrew cylinder-head screw with Allen key (1.18)
- hinge (1.15) can be replaced



**Seat frame middle part (1.1 left, 1.2 right)**

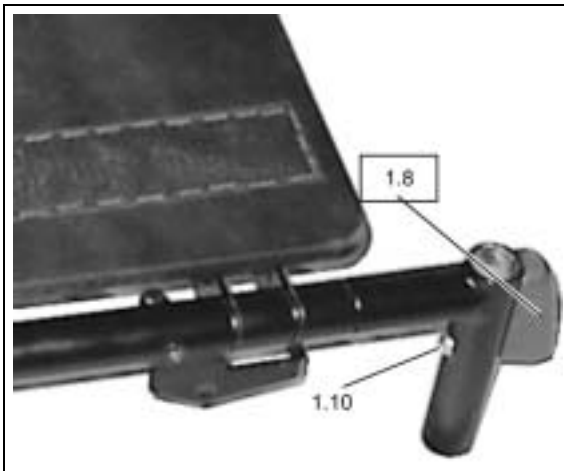


- dismantle front seat frame (1.7) and rear seat frame (1.8)
- seat frame middle part(1.1, 1.2) can be replaced





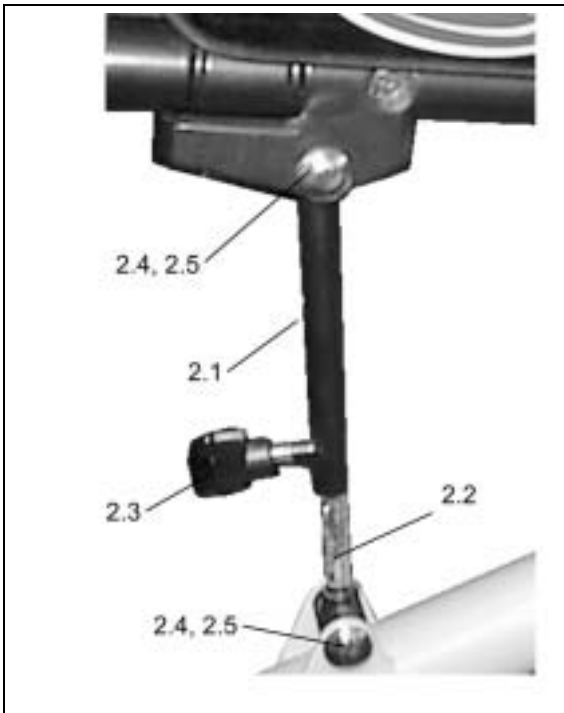
## Footrest adapter (1.9)



- unscrew cheese-head screw with Allen key M6 x 1.10
- replace footrest adapter (1.9)



## Seat angle adjustment



- loosen wing nut (2.3)
- carefully lever off Star lock cap (2.5) with screwdriver
- pull out straight pin (2.4)
- replace seat adjustment (2.1) or (2.2)
- When assembling, ensure that the wing nut (2.3) locates in the bore provided. The seat angle setting should not be changed.

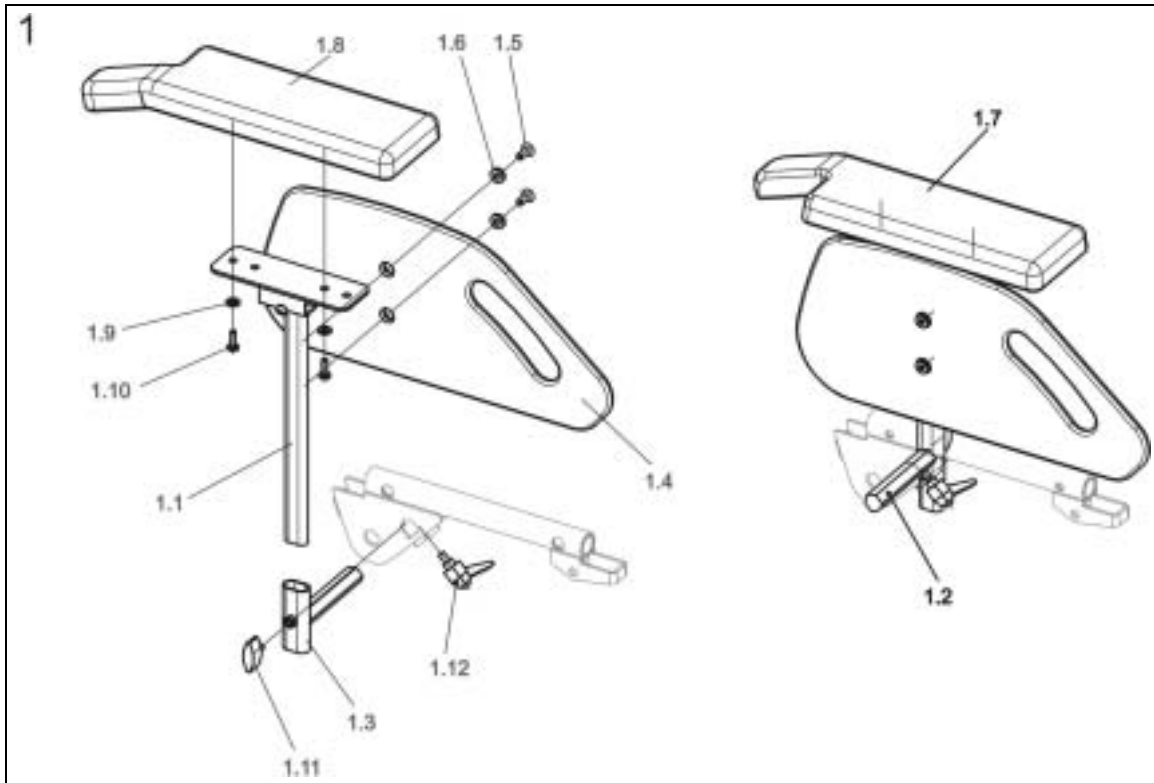
Reassembly takes place in the reverse order.










### Note:

Use new Star lock caps when reassembling.

9.9.2 Armrests and side panels



Pos	Qty.	Item No./Pcs.	Item Description	
<b>1</b>	<b>2</b>	<b>B270009</b>	<b>Side panel complete</b>	
1.1	2	B271001.P28	Side panel mounting	
1.2	1	B270005.P28	Side panel mounting LH	
1.3	1	B270006.P28	Side panel mounting RH	
1.4	2	B270001	Side panel plate	
1.5	4	D60177	Countersunk screw with Allen key M5 x 16	
1.6	4	G91108	Insert ring	
1.7	1	D171009A	Armrest padding LH	
1.8	1	D1710010A	Armrest padding RH	
1.9	4	G00115	Washer 6.4 x 12.5 x 1.6	
1.10	4	D30105	Machine screw with Phillips head M5 x 16	
1.11	4	L31001	Wing nut M6 x 10	
1.12	2	L32902	Clamping lever M6 x 10	

## 9.10 Side panel (1)



- loosen wing nut (1.11) and pull out side panel upwards

### 9.10.1.1 Armrest padding (1.7 left, 1.8 right)



- unscrew machine screws (1.10) and remove armrest padding

### 9.10.1.2 Side panel plate (1.4)



- unscrew countersunk screws (1.5) and remove side panel plate (1.4)

## 9.11 Side panel mounting (1.2 left, 1.3 right)



- loosen wing nut (1.11) and pull out side panel upwards
- loosen clamping lever (1.12)
- pull out side panel mounting (1.2, 1.3)

### 9.11.1 Clamping lever (1.12)

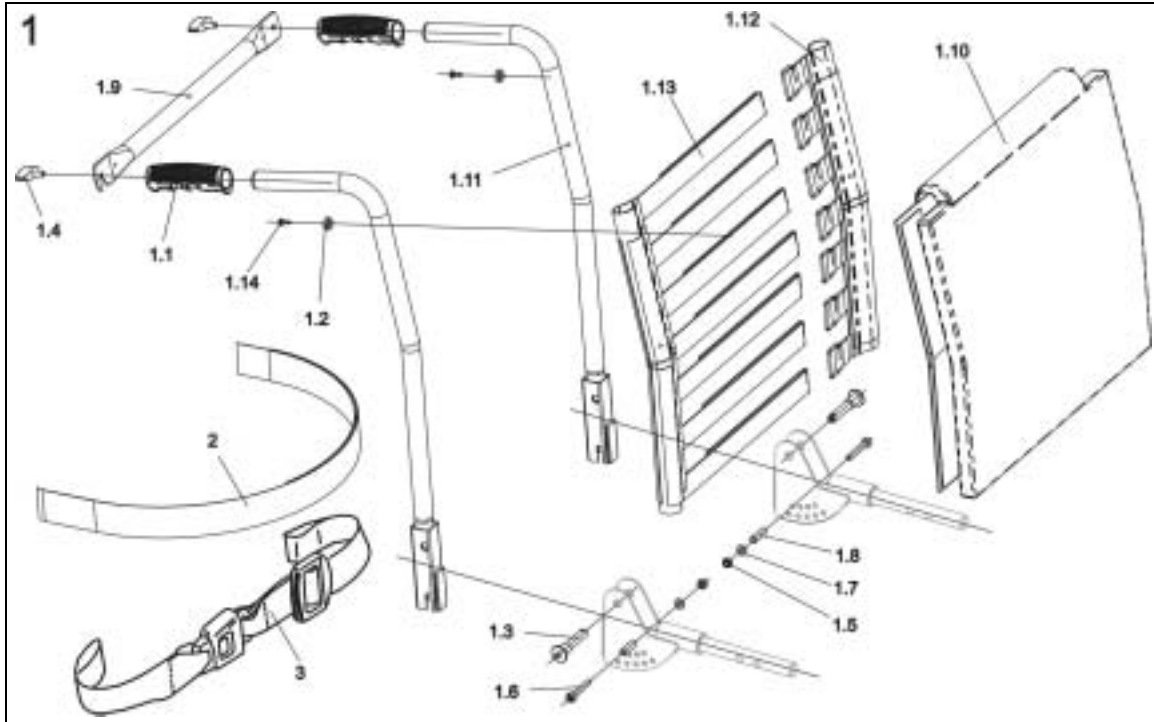







- unscrew

**Reassembly takes place in the reverse order.**

9.12 Backrest unit

9.12.1 Backrest detachable



Pos	Qty.	Item No./Pcs.	Item Description	
1	1	B266010	Backrest detachable complete	
1.1	2	L01009	Handle	
1.2	2	5009551	Plastic rosette	
1.3	2	F368016.99	Quick release bolts (QUICK RELEASE)	
1.4	2	L10024	Wing nut M6 x 16	
1.5	2	F20109	Hexagon nut M6 self-locking	
1.6	2	D50138	Cylinder-head screw with Allen key M6 x 40	
1.7	2	G00115	Washer 6.4 x 12.5 x 1.6	
1.8	2	B266002.99	Sleeve M6	
1.9	1	B266005.P28	Connecting strut	
1.10	1	B265002	Cushion	
1.11	2	B266008.P28	Back tube	
1.12	1	B265003	Backrest fixing LH	
1.13	1	B265004	Backrest fixing RH	
1.14	2	D90188	Drilling screw with cheese head 4.2 x 13	
2	1	B267001	Seat belt Velcro	
3	1	Z163006A	Seat belt long with snap buckle	

## 9.12.2 Connecting strut (1.9)



- unscrew wing nut (1.4)
- replace connecting strut

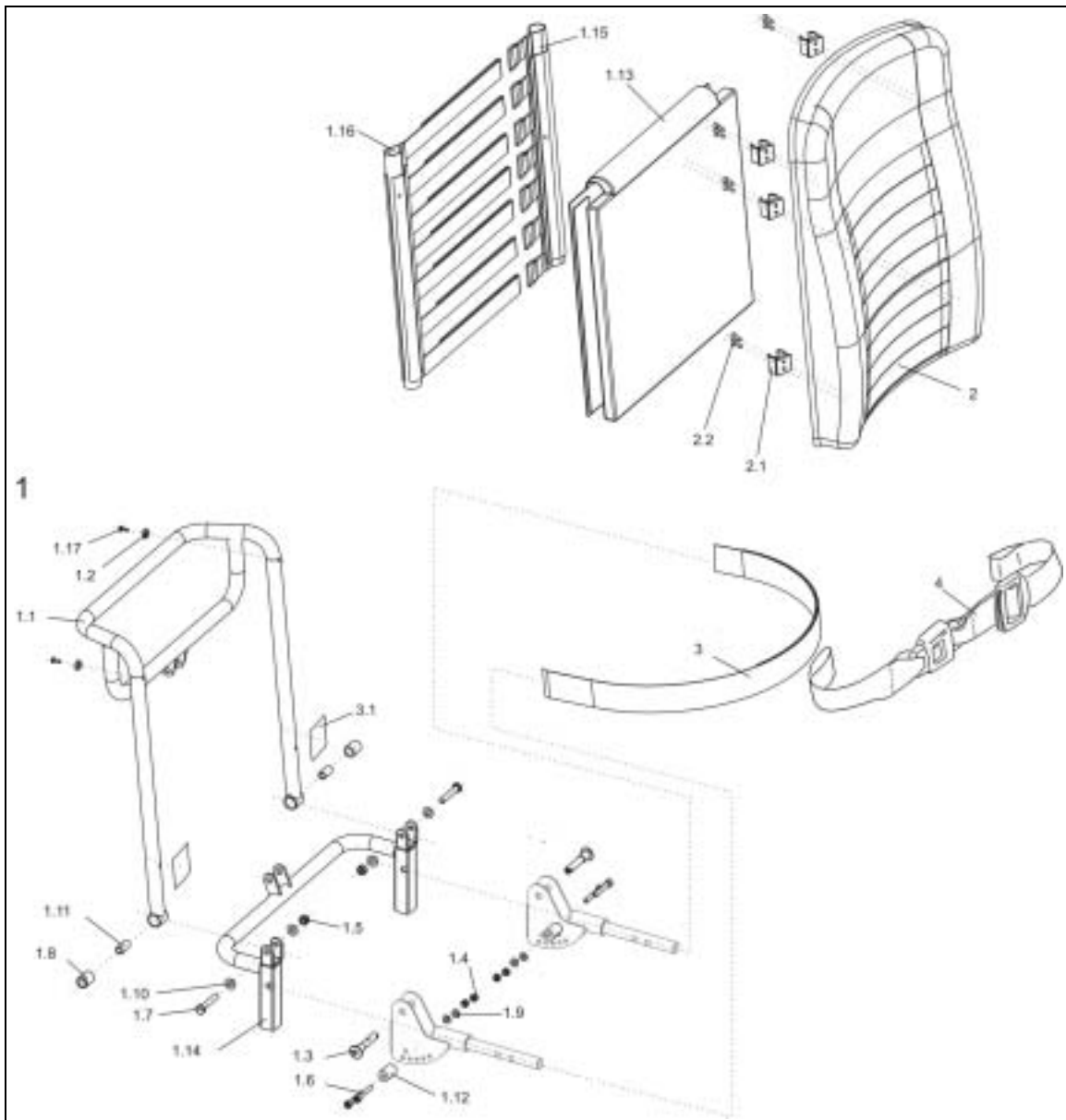
## 9.12.3 Backrest padding fixing(1.12 left, 1.13 right) , backrest tube (1.11) , handle (1.1)





- unscrew cylinder-head screw with Allen key (1.6)
- unscrew drilling screw with cheese head (1.14)
- pull backrest padding fixing downwards and replace if necessary
- pull off handle (1.1) (use compressed air if necessary)
- replace backrest tube (1.11) or handle (1.1)

**Reassembly takes place in the reverse order.**

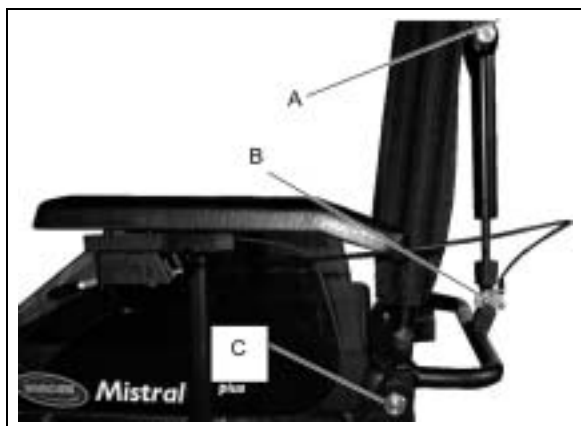
9.12.4 Backrest element adjustable



Pos	Qty.	Item No./Pcs.	Item Description	
<b>1</b>	<b>1</b>	<b>B267003</b>	<b>Backrest element adjustable complete</b>	
1.1	1	F366004.P28	Frame tube for backrest element adjustable	
1.2	2	5009551	Plastic rosette	
1.3	2	F368016.99	Quick release bolts (QUICK RELEASE)	
1.4	4	F20109	Hexagon nut M6 self-locking	
1.5	2	F00002	Hexagon nut M8 self-locking, DIN-985	
1.6	4	D50138	Cylinder-head screw with Allen key M6 x 40	
1.7	2	D00102	Hexagon bolt with shaft M8 x 45	
1.8	2	Z131009A	Lining rd. 18 x 3 x 22	
1.9	4	G00115	Washer 6.4 x 12.5 x 1.6	
1.10	4	G00107	Washer 8.4 x 17 x 1.6	
1.11	2	H11036A.99	Lining rd. 12 x 1.8 x 23	
1.12	2	B266013	Lining	
1.13	1	B265002	Cushion	
1.14	1	B268001.P28	Back tube bottom	
1.15	1	B265003	Backrest fixing LH	
1.16	1	B265004	Backrest fixing RH	
1.17	2	D90188	Drilling screw with cheese head 4.2 x 13	
2	1	F365029	Backrest upholstery contour. grey	
2.1	4	Z16001A	Clamp terminal	
2.2	8	D16108	Self-tapping screw with Phillips head 4,8 x 22	
3	1	B267001	Seat belt Velcro	
3.1	2	U20094	Brushed belt cut 50 x 50 mm	
4	1	Z163006A	Seat belt long with snap buckle	

The backrest element can be supplied with pneumatic or electrical backrest adjustment.  
Service work is identical for both backrests.

## 9.12.5 Backrest removal



- press in quick release bolts (A) and pull out
- unscrew screw (B)
- remove backrest adjustment (pneum. or electrical)
- press in quick release bolts (C) on left and right and pull out
- the complete backrest can now be removed



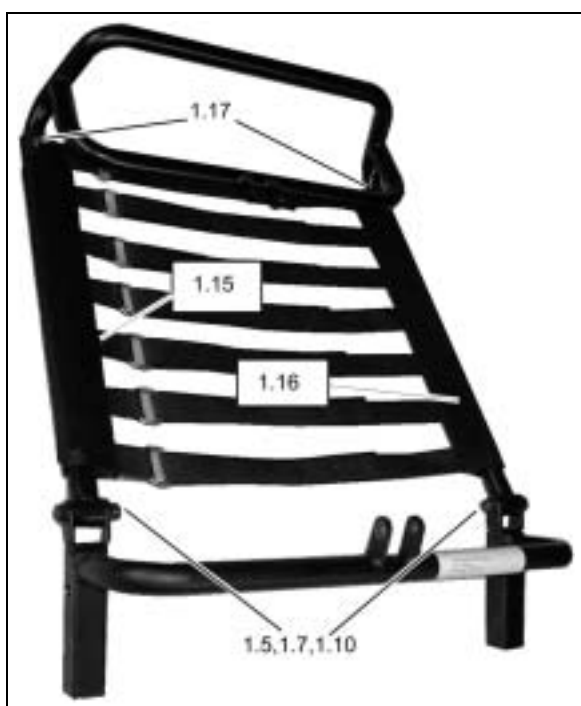
Frame tube for backrest element (1.1),



Back tube bottom (1.14)



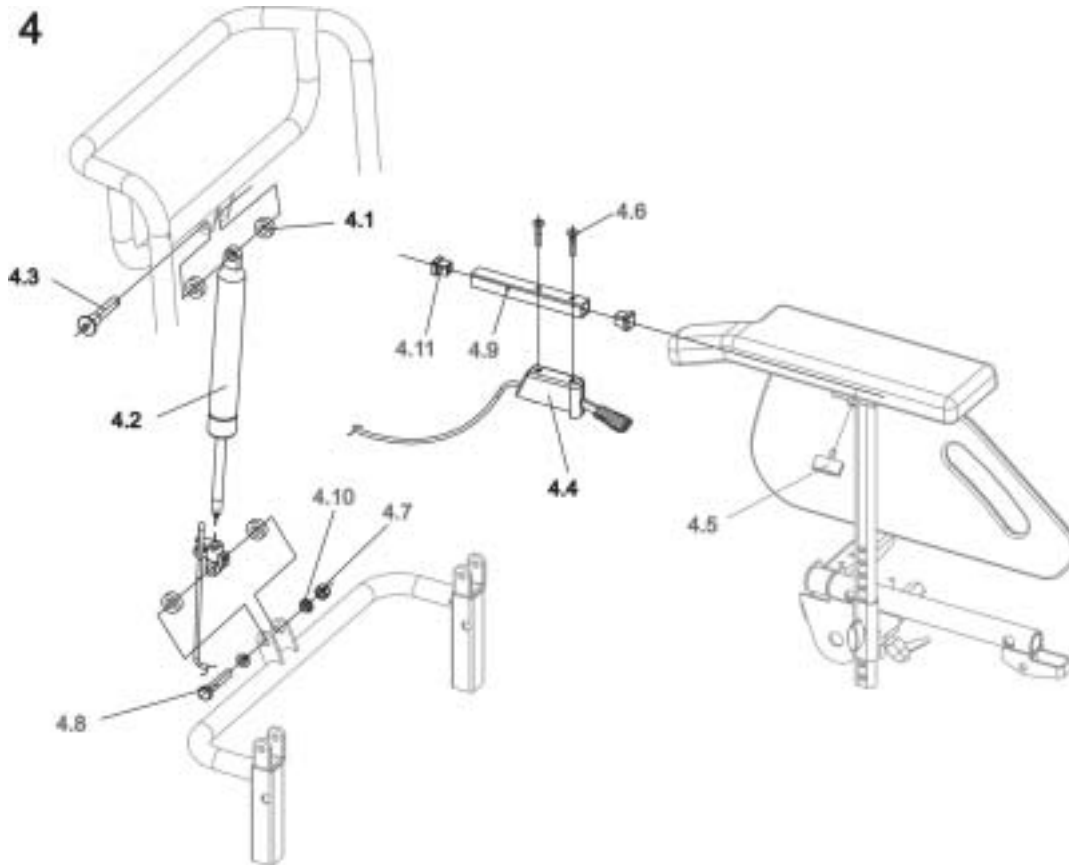
Backrest fixing (1.15 LH, 1.16 RH)




- unscrew hex screw (1.7)
- remove back tube downwards (1.14)
- when reassembling the hex screws (1.7) do not tighten so much that the backrest cannot be moved.
- unscrew drilling screw (1.17)
- replace backrest fixing (1.15 LH or 1.16 RH).

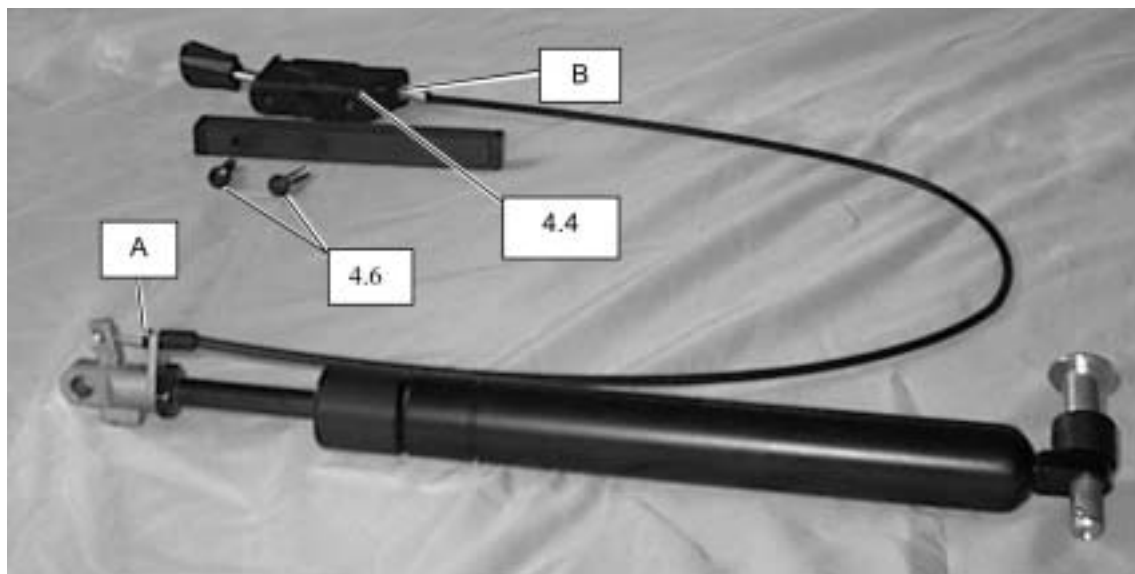


## 9.12.5.1 Pneumatic backrest adjustment



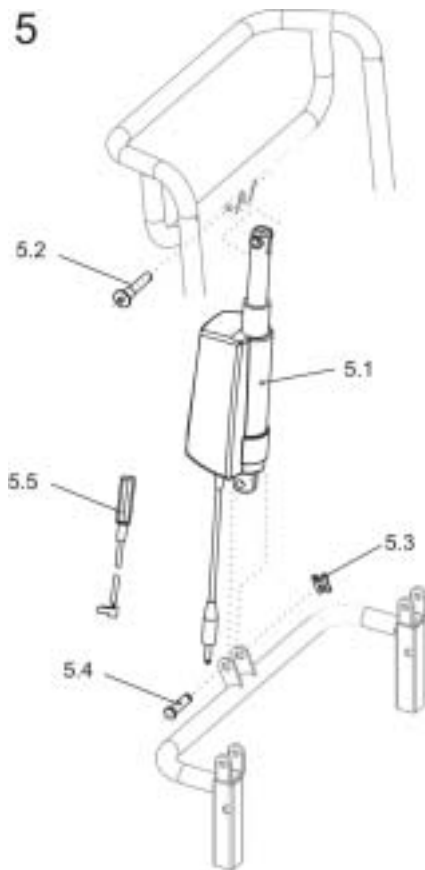
Pos	Qty.	Item No./Pcs.	Item Description	
<b>4</b>	<b>1</b>	<b>B268006</b>	<b>Pneumatic backrest adjustment, complete</b>	
4.1	4	Z168005	Lining rd. 20 X 10,5 X 7	
4.2	1	F368018	Gas-filled spring F=350 N	
4.3	1	F368016.99	Quick release bolts (QUICK RELEASE)	
4.4	1	N368003	Stabilus release unit	
4.5	1	L31001	Wing nut M6 x 10	
4.6	2	D30108	Machine screw with Phillips head M5 x 20	
4.7	1	F00002	Hexagon nut M8 self-locking, DIN-985	
4.8	1	D00102	Hexagon bolt with shaft M8 x 45	
4.9	1	N368002.P14	Bracket for released lever; RAL 7021 dark grey	
4.10	2	N368004	Sliding liner	
4.11	2	L01055	Cap cover E 15x15	


 **Pneumatic release unit (4.4)**



- unscrew machine screw (4.6)
- remove the Bowden cable from the gas-filled spring (A)
- screw on a new release unit
- fit the Bowden cable to the gas-filled spring (A)
- adjust the Bowden cable with the hex nut (B) so that when the release leader is operated the gas-filled spring is released (adjustable backrest). If the lever is not operated, the backrest must remain locked in place.

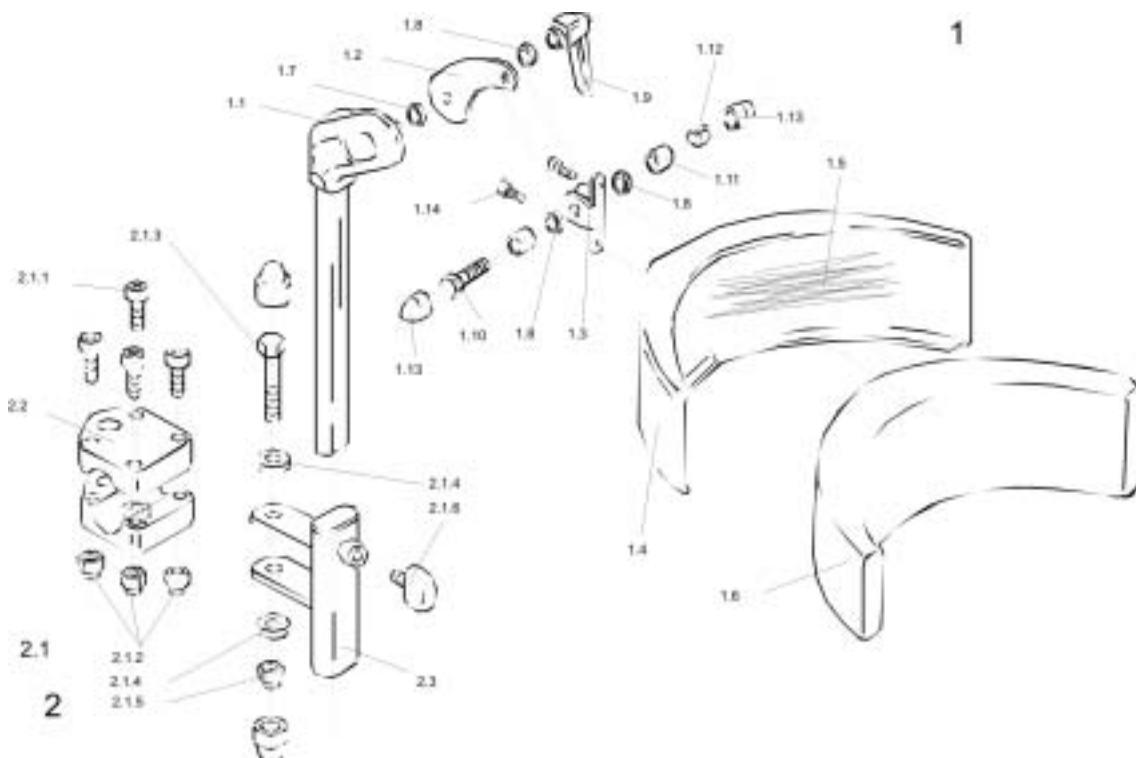
## 9.12.5.2 Electrical backrest adjustment, motor (5.1)





Pos	Qty.	Item No./Pcs.	Item Description	
<b>5</b>	<b>1</b>	<b>B266014</b>	<b>Adjustable electrical backrest, complete</b>	
5.1	1	PG01050	Motor LA 28.1-75-24-001	
5.2	1	F368016.99	Quick release bolts (QUICK RELEASE)	
5.3	1	K32395	Self-locking washer 10 mm	
5.4	1	J50999	Bolt BEK 10x39,5x35	
5.5	1	B281022	Extension cable for backrest motor	

- pull-out extension cable (5.5)
- remove locking washer (5.3)
- pull out bolt (5.4)
- pull out quick release bolts 5.2
- replace motor (5.1)
- check function after reassembly

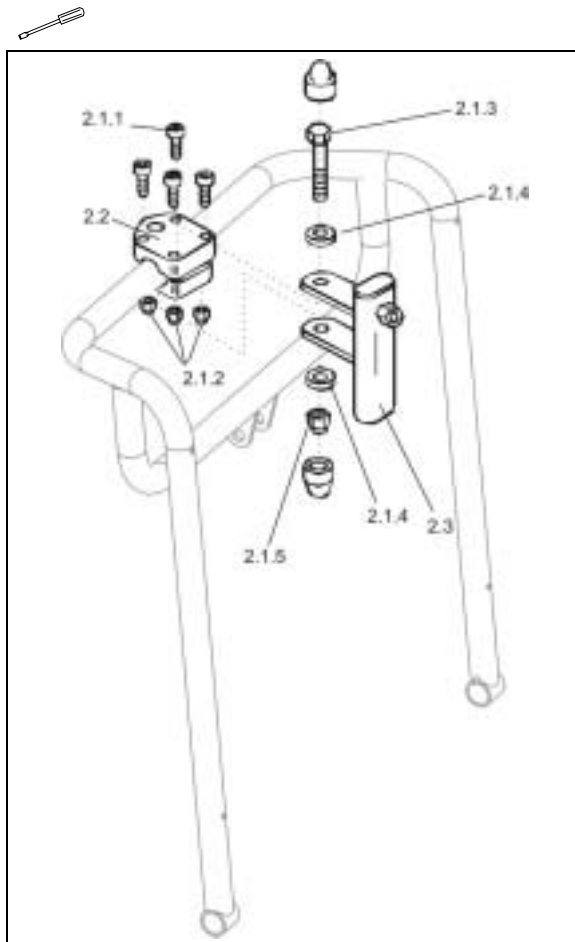
9.12.5.3 Headrest



Pos	Qty.	Item No./Pcs.	Item Description	
<b>1</b>	<b>1</b>	<b>F375001</b>	<b>Headrest fabric pre-fitted</b>	
1.1	1	4005575	Headrest holder	
1.2	1	4005576.P40	Headrest arm	
1.3	1	C175011B.89	Fixing for headrest shell	
1.4	1	C175016	Headrest shell	
1.5	1	U20093	Brushed belt cut 50 x 410 mm	
1.6	1	C175004A	Headrest cushion black	
1.7	1	G10502	Washer 20 x 7,9 x 1	
1.8	3	G00107	Washer 8.4 x 17 x 1.6	
1.9	1	L32901	Clamping lever M8	
1.10	1	D08138	Hexagon bolt M8 x 50	
1.11	2	E541038A.99	Lining rd. 12 x 1,8 x 13,5	
1.12	1	F20105	Hexagon nut M8 self-locking	
1.13	2	L01041	Cover cap SKS 8 for nut M8	
1.14	2	D30105	Machine screw with Phillips head M5 x 16	
<b>2</b>	<b>1</b>	<b>Z175001</b>	<b>Headrest holder for standard/comfort seat, complete</b>	
<b>2.1</b>	<b>1</b>	<b>Z175002</b>	<b>Headrest holder fixing kit</b>	
2.1.1	4	D50108	Cylinder-head screw with Allen key M6 x 25	
2.1.2	4	F20109	Hexagon nut M6 self-locking	
2.1.3	1	D00091	Hexagon bolt M8 x 55	

Pos	Qty.	Item No./Pcs.	Item Description
2.1.4	2	G00107	Washer 8,4x17x1,6
2.1.5	1	F00002	Hexagon nut M8 self-locking
2.1.6	1	L31001	Wing nut M6x10
2.2	2	Z12008A.P14	Clamp terminal with hex hole
2.3	1	F16020A.P14	Headrest holder

### 9.12.6 Fixing the headrest



- screw the clamp terminals (2.2) to the back tube with the cylinder head screws (2.1.1)
- screw the headrest holder (2.3) on with the hex bolt (2.1.3) washers (2.1.4) and hex nut (2.1.5)
- insert headrest holder (1.1) and fix with wing nut (2.1.6)

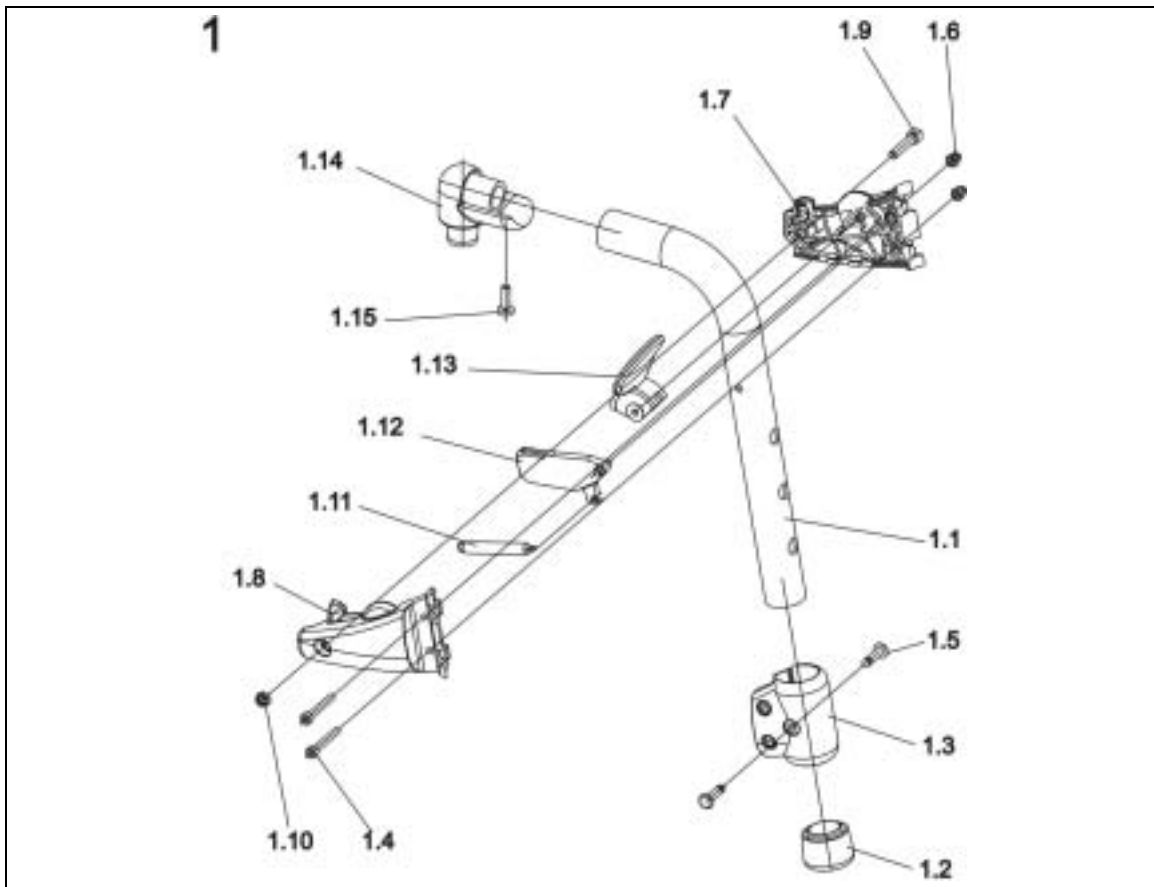
### 9.12.7 Headrest shell (1.4)













- unscrew machine screw (1.14)
- screw on new headrest shell

**10 Footrests / leg supports**

**10.1.1 Footrest upper part standard 80**

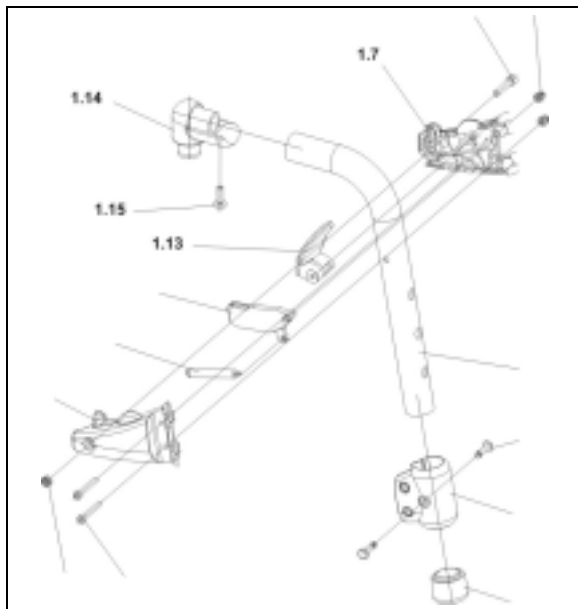


Pos	Qty.	Item No./Pcs.	Item Description	
1	1	<b>B273002</b>	Footrest upper part standard 80 RH complete, RAL 5025 Pearl Gentian Blue	
1	1	<b>1418089</b>	Footrest upper part standard 80 RH complete, RAL 1028 Melon Yellow	
1	1	<b>1418091</b>	Footrest upper part standard 80 RH complete, RAL silver-grey gloss	
1	1	<b>B273003</b>	Footrest upper part standard 80 RLH complete, RAL 5025 Pearl Gentian Blue	
1	1	<b>1418090</b>	Footrest upper part standard 80 LH complete, RAL 1028 Melon Yellow	
1	1	<b>1418092</b>	Footrest upper part standard 80 LH complete, RAL silver-grey gloss	
1.1	1	B273004.P18	Footrest tube; RAL 5025 Pearl Gentian Blue	
1.1	1	B273004.P91	Footrest tube, RAL 1028 Melon Yellow	
1.1	1	B273004.P92	Footrest tube, silver-grey gloss	
1.2	1	1026124	Tube end stops, open	
1.3	1	Z173192	Clamp	
1.4	2	D50075	Cylinder-head screw with Allen key M4 x 30	
1.5	2	H40694	Pop blind rivet LSR ACD 608 AS	
1.6	2	F60102	Hexagon cap nut M4 self-locking	
1.7	1	Z173173	Shell LH	
1.8	1	Z173174	Shell RH	
1.9	1	D50050	Cylinder-head screw with Allen key M5 x 25	
1.10	1	F20111	Hexagon nut M5 self-locking	
1.11	1	Z173178	Tension spring	
1.12	1	Z173177	Clasp lever	
1.13	1	Z173190	Release lever RH	
1.13	1	Z173191	Release lever LH	
1.14	1	Z173175	Turning knuckle	
1.15	1	D90194	Machine screw with Phillips head M5 x 16	

10.1.2 Turning knuckle (1.14)

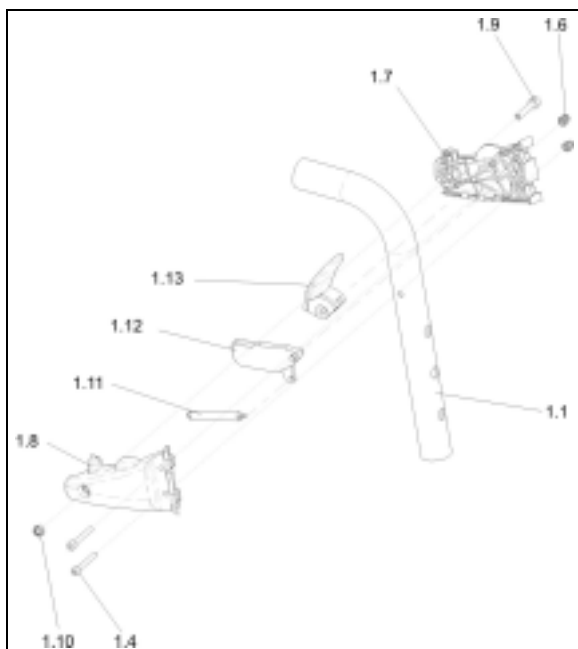


10.2 Loosen machine screw with Phillips head (1.15)



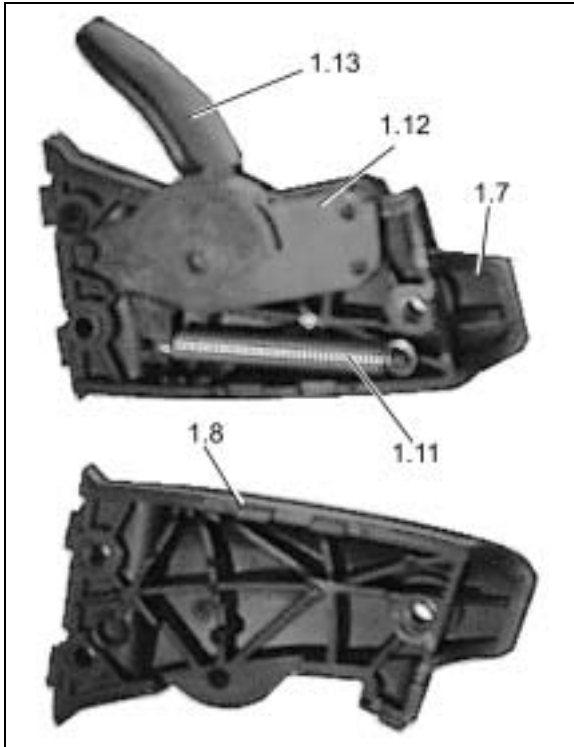
- insert new turning knuckle (1.14)

10.2.1 Interlock



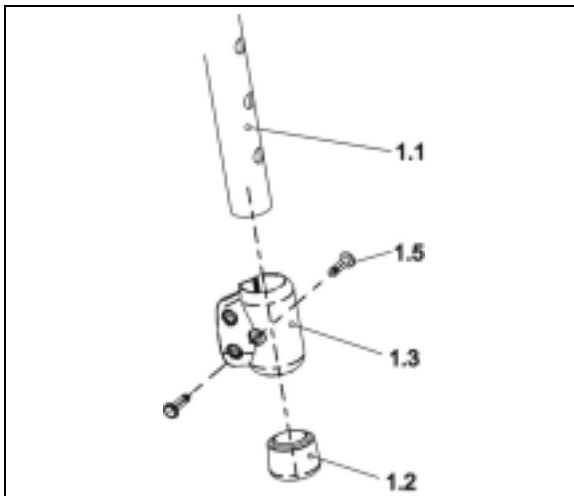
- unscrew cylinder-head screw (1.4) and hexagon cap nuts (1.6)
- pull out interlock
- unscrew cylinder-head screw (1.9)
- remove both shells (1.7, 1.8)





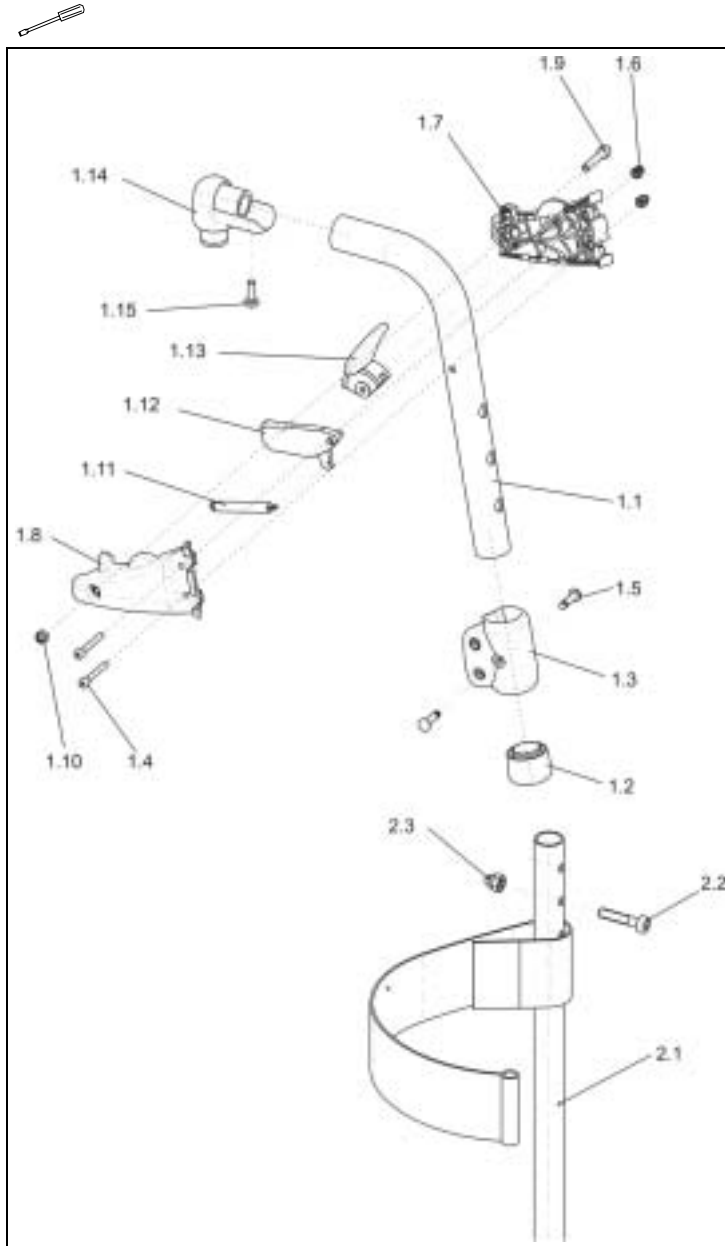
- tension spring (1.11), clasp lever (1.12) or release lever (1.13) can now be replaced

## 10.2.2 Clamp (1.3)



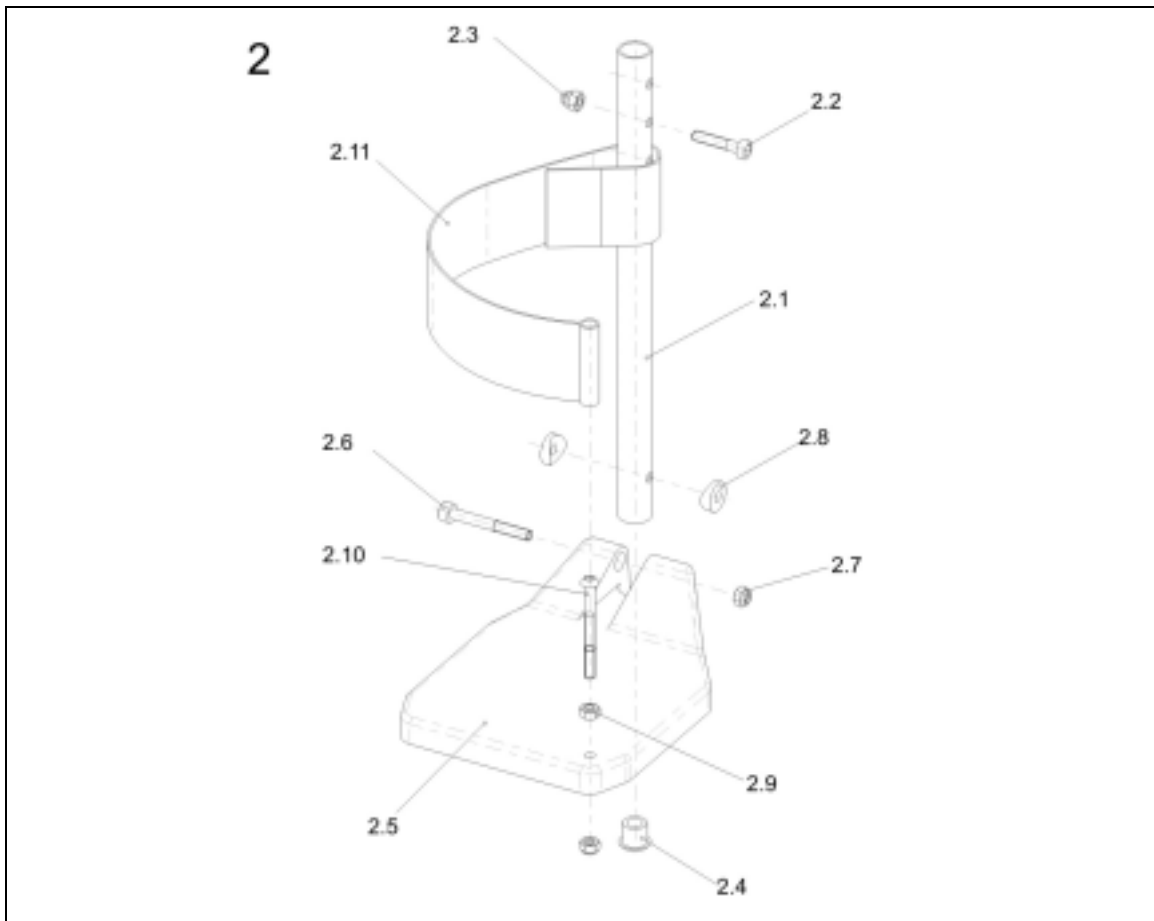
- carefully drill out pop blind rivet (1.5) and remove clamp (1.3)





10.2.3 Footrest tube (1.1)



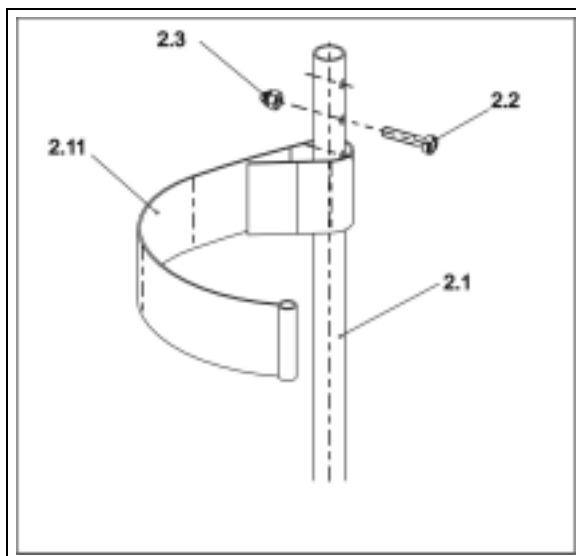
- unscrew hexagon cap nut (2.3)
- unscrew cylinder-head screw (2.2)
- pull out push-in tube (2.1)
- unscrew cylinder-head screw (1.4) and hexagon cap nuts (1.6)
- pull out interlock
- carefully drill out pop blind rivet (1.5) and remove clamp (1.3)
- unscrew machine screw (1.15)
- remove turning knuckle (1.14)

**10.2.4 Footrest lower part**



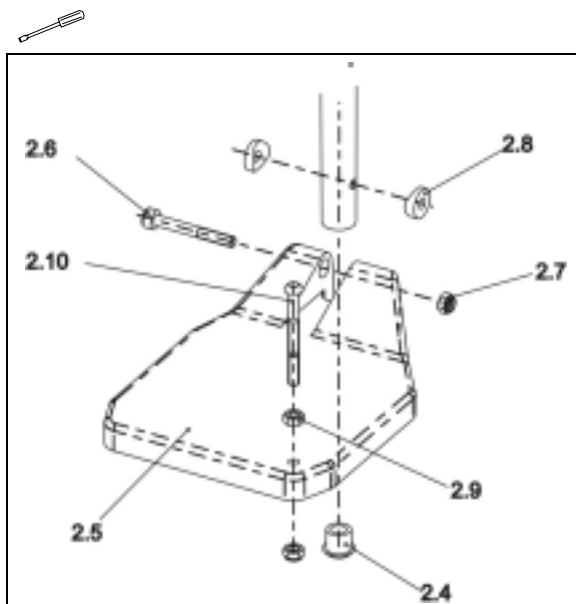
Pos	Qty.	Item No./Pcs.	Item Description	
<b>2</b>	<b>1</b>	<b>B273010</b>	<b>Footrest lower part standard LH, complete</b>	
<b>2</b>	<b>1</b>	<b>B273009</b>	<b>Footrest lower part standard RH, complete</b>	
2.1	1	B273005.00	Push-in tube	
2.2	1	DG50001	Cylinder-head screw with Allen key M6 x 30	
2.3	1	F60107	Hexagon cap nut M6 self-locking	
2.4	1	L01049	Skidder SL 18	
2.5	1	0572-04435	Footplate LH, black	
2.5	1	0572-04449	Footplate RH, black	
2.6	1	D50114	Cylinder-head screw with Allen key M6 x 50	
2.7	2	F20109	Hexagon nut M6 self-locking	
2.8	2	0572-02152	Circular washer shape B, black	
2.9	1	F00103	Hexagon nut M6	
2.10	1	0029-40516	Screw M6 x 60	
2.11	1	B273011	Calf strap	

10.2.5 Calf strap (2.11)



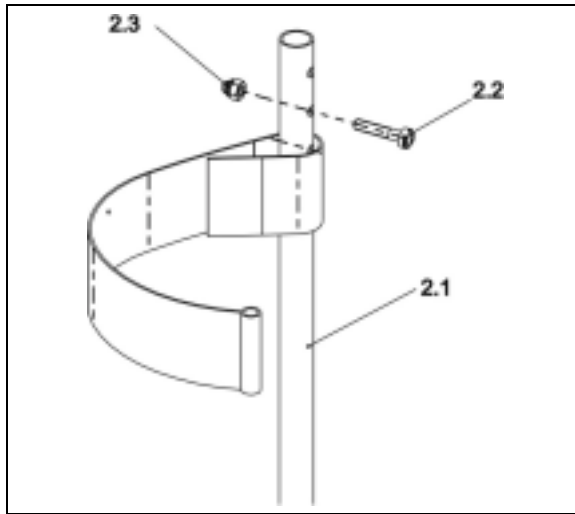
- unscrew hexagon cap nut (2.3)
- unscrew cylinder-head screw (2.2)
- pull out push-in tube (2.1)
- insert new calf strap (2.11)

10.2.6 Footplate (2.5) / Circular washer (2.8)



- loosen cylinder-head screw (2.6)
- replace footplate (2.5) or circular washer (2.8)

## 10.2.7 Push-in tube (2.1)



- dismantle footplate (2.5)
- unscrew hexagon cap nut (2.3)
- unscrew cylinder-head screw (2.2)
- insert new push-in tube (2.1)

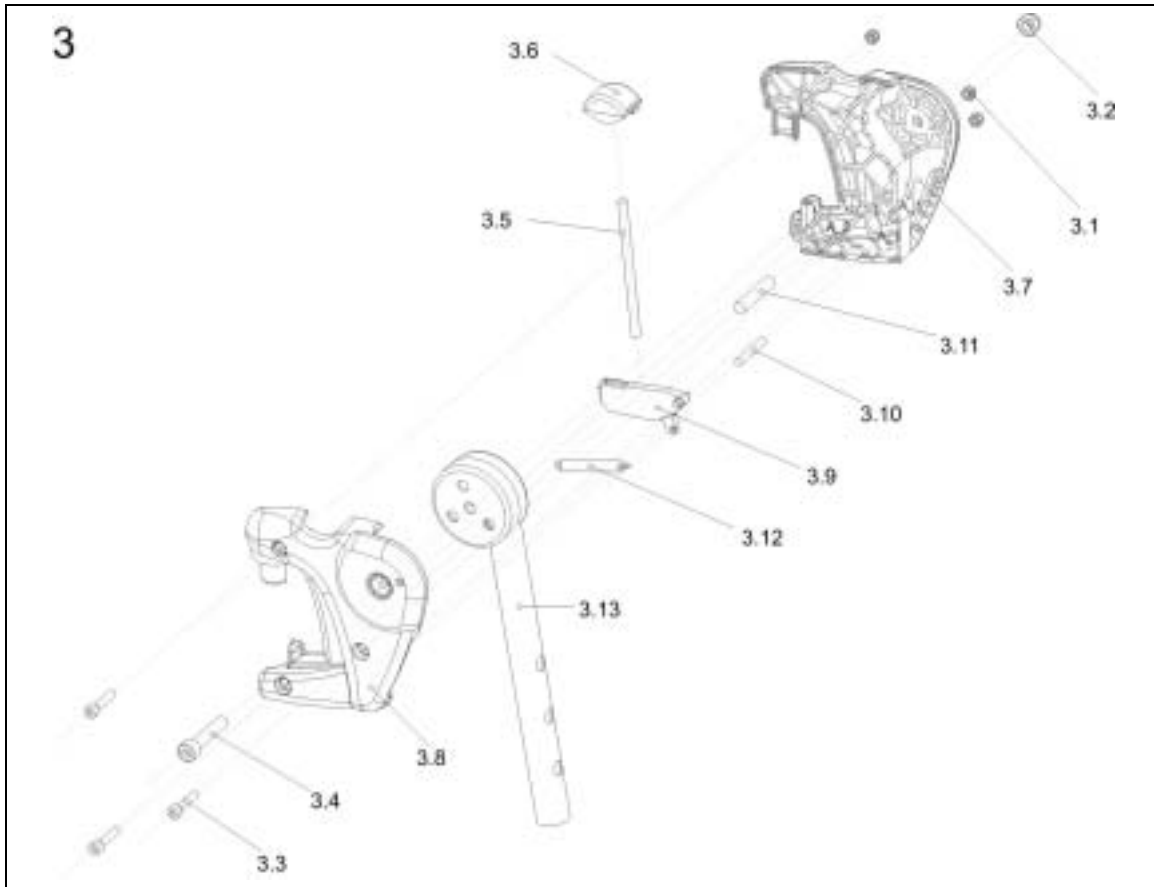
## 10.2.8 Reassembly takes place in the reverse order.









### Note:

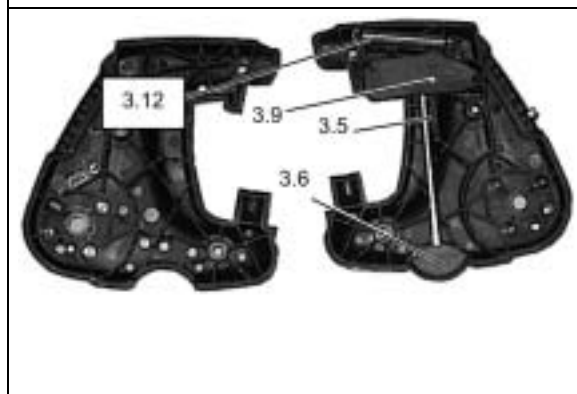
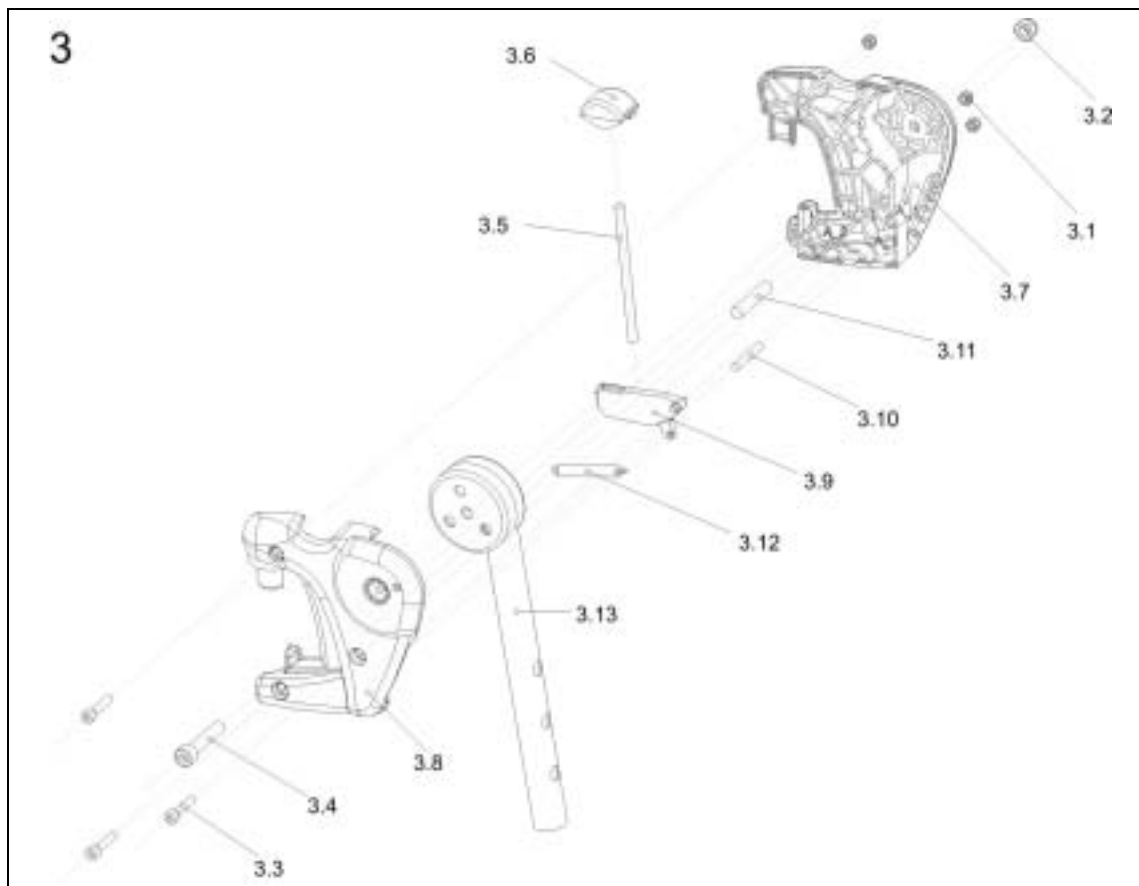
Observe part orientation while reassembling (LH = left-hand side / RH = right-hand side).  
Adjust leg supports to identical length .

10.2.9 Leg support upper part with preset angle adjustment



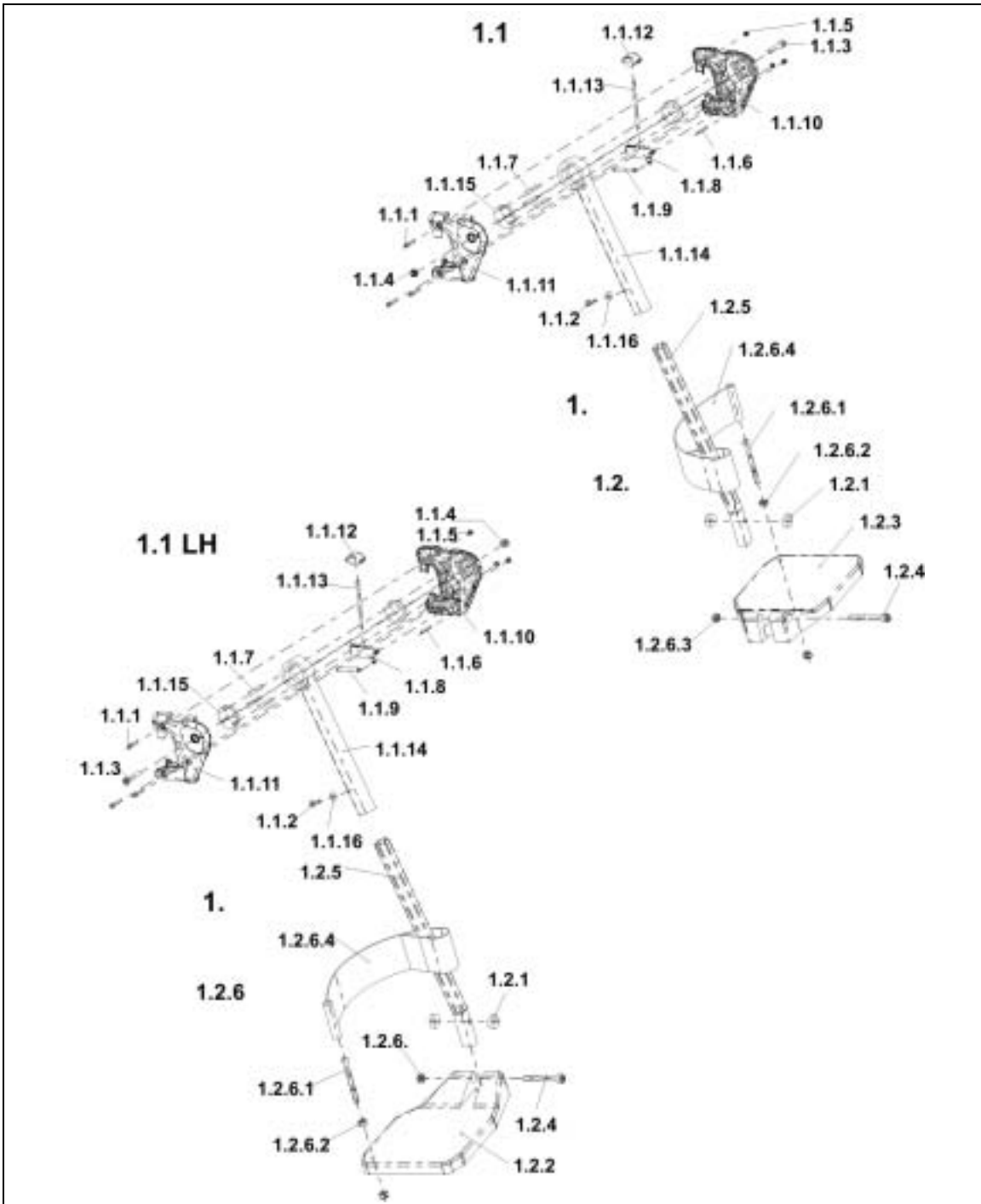
Pos	Qty.	Item No./Pcs.	Item Description	
<b>3</b>	<b>2</b>	<b>B21XX001</b>	<b>Leg support upper part with preset angle adjustment</b>	
3.1	3	F20111	Hexagon nut M5 self-locking	
3.2	1	F00002	Hexagon nut M8 self-locking, DIN-985	
3.3	3	D50050	Cylinder-head screw with Allen key M5 x 25	
3.4	1	D50052	Cylinder-head screw with Allen key M8 x 40	
3.5	1	Z173184.99	Plunger rod	
3.6	1	Z173183	Release button	
3.7	1	Z173181	Leg support shell LH	
3.8	1	Z173182	Leg support shell RH	
3.9	1	Z173177	Clasp lever	
3.10	1	J10096	Straight pin RD. 5 X 32, DIN-7	
3.11	1	J10097	Straight pin RD. 8 X 40, DIN-7	
3.12	1	Z173178	Tension spring	
3.13	1	B273015.P28	Leg support upper part	

## 10.2.10 Interlock












- unscrew cylinder-head screw (3.2) and hexagon nut (3.4)
- unscrew cylinder-head screw (3.1) and hexagon nut (3.3)
- remove leg support shell (3.8 RH)
- plunger rod (3.5), release button (3.6), clasp lever (3.9) and tension spring (3.12) can now be replaced
- replace leg support shells (3.7, 3.8) if necessary

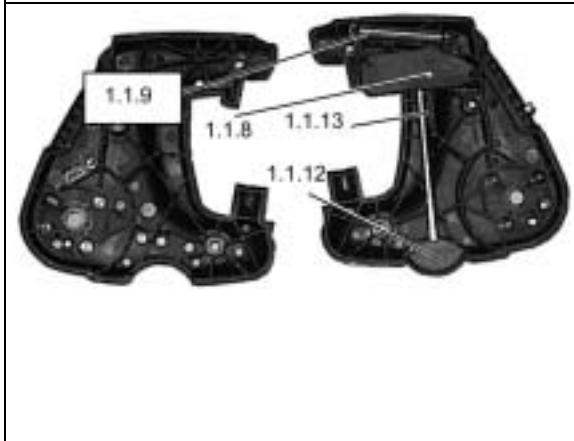
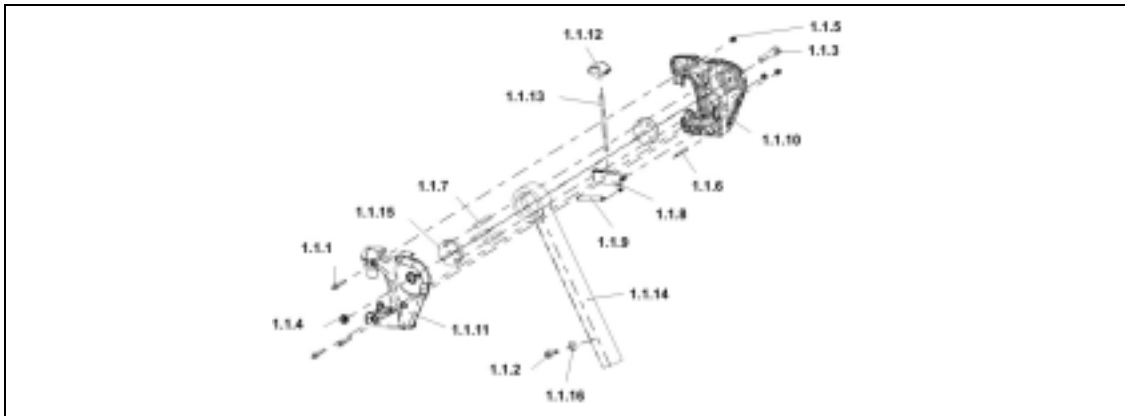
10.2.11 Footrest (VARI F, 90°-65°) with fixed footplates






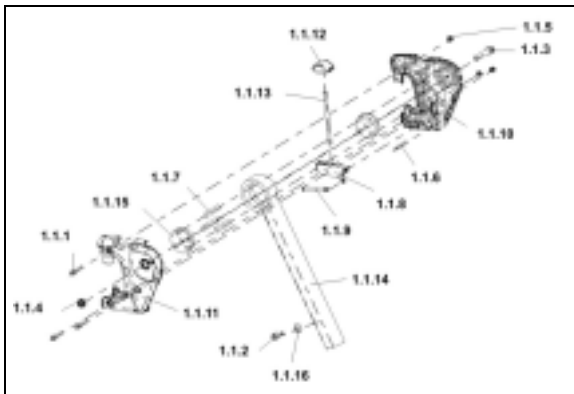
Pos	Qty.	Item No./Pcs.	Item Description	
1	1	Z173199	Footrest LH (VARI F, 90°-65°) with fixed footplates	
1	1	Z173200	Footrest RH (VARI F, 90°-65°) with fixed footplates	
1.1	1	Z173197	upper part LH (Vari F) pre-assembled	
1.1	1	Z173198	upper part RH (Vari F) pre-assembled	
1.1.1	3	D50050	Cylinder-head screw with Allen key M5 x 25	
1.1.2	1	D50051	Cylinder-head screw with Allen key M6 x 16	
1.1.3	1	D50052	Cylinder-head screw with Allen key M8 x 40	
1.1.4	1	F00002	Hexagon nut M8 self-locking, DIN-985	
1.1.5	3	F20111	Hexagon nut M5 self-locking	
1.1.6	1	J10096	Straight pin RD. 5 X 32, DIN-7	
1.1.7	3	J10097	Straight pin RD. 8 X 40, DIN-7	
1.1.8	1	Z173177	Clasp lever	
1.1.9	1	Z173178.99	Tension spring	
1.1.10	1	Z173181	Leg support shell LH (Vari F)	
1.1.11	1	Z173182	Leg support shell RH (Vari F)	
1.1.12	1	Z173183	Release button	
1.1.13	1	Z173184.99	Plunger rod	
1.1.14	1	Z173185.P14	Leg support upper part Vari F, RAL 7021 dark grey	
1.1.15	2	Z173188	Pressure cone	
1.1.16	1	Z173189.99	Nut M6 SP-14	
1.2	1	Z173195	Lower part LH with fixed footplate, pre-assembled	
1.2	1	Z173196	Lower part RH with fixed footplate, pre-assembled	
1.2.1	2	0572-02152	Circular washer shape B, black	
1.2.2	1	0572-04449	Footplate RH, black	
1.2.3	1	0572-04435	Footplate LH, black	
1.2.4	1	D50114	Cylinder-head screw with Allen key M6 x 50	
1.2.5	1	Z173211.89	Push-in tube (Vari F)	
1.2.6	1	Z174158	Heel band complete	
1.2.6.1	1	0029-40516	Screw M6 x 60	
1.2.6.2	1	F00103	Hexagon nut M6	
1.2.6.3	1	F20109	Hexagon nut M6 self-locking	
1.2.6.4	1	Z174156	Heel band	

 **Interlock**

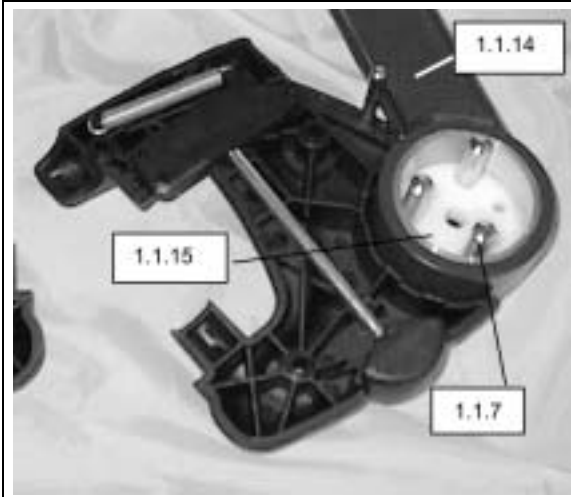


- unscrew cylinder-head screw (1.1.3) and hexagon cap nuts (1.1.4)
- unscrew cylinder head screw with Allen key (1.1.1), hexagon nut (1.1.5)
- remove leg support shell (1.1.11 RH)
- plunger rod (1.1.13), release button (1.1.12), clasp lever (1.1.8) and tension spring (1.1.9) can now be replaced
- replace leg support shell (1.1.10 LH, 1.1.11 RH) if necessary

 **Leg support upper part (1.1.14), pressure cone (1.1.15)**



- unscrew cylinder head screw (1.1.2)
- pull out push-in tube (1.2.5)
- remove leg support shell (1.1.11 RH)
- dismantle interlock
- pull out straight pins (1.1.7)



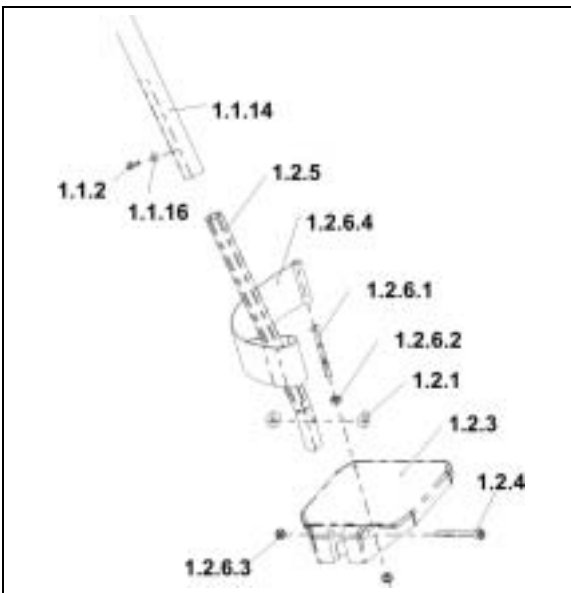
- remove pressure cone (2x 1.1.15)
- leg support upper part (1.1.14) and pressure cone (1.1.15) can now be replaced



- When reassembling, ensure that the pressure cone has the side with the smallest diameter facing inwards.

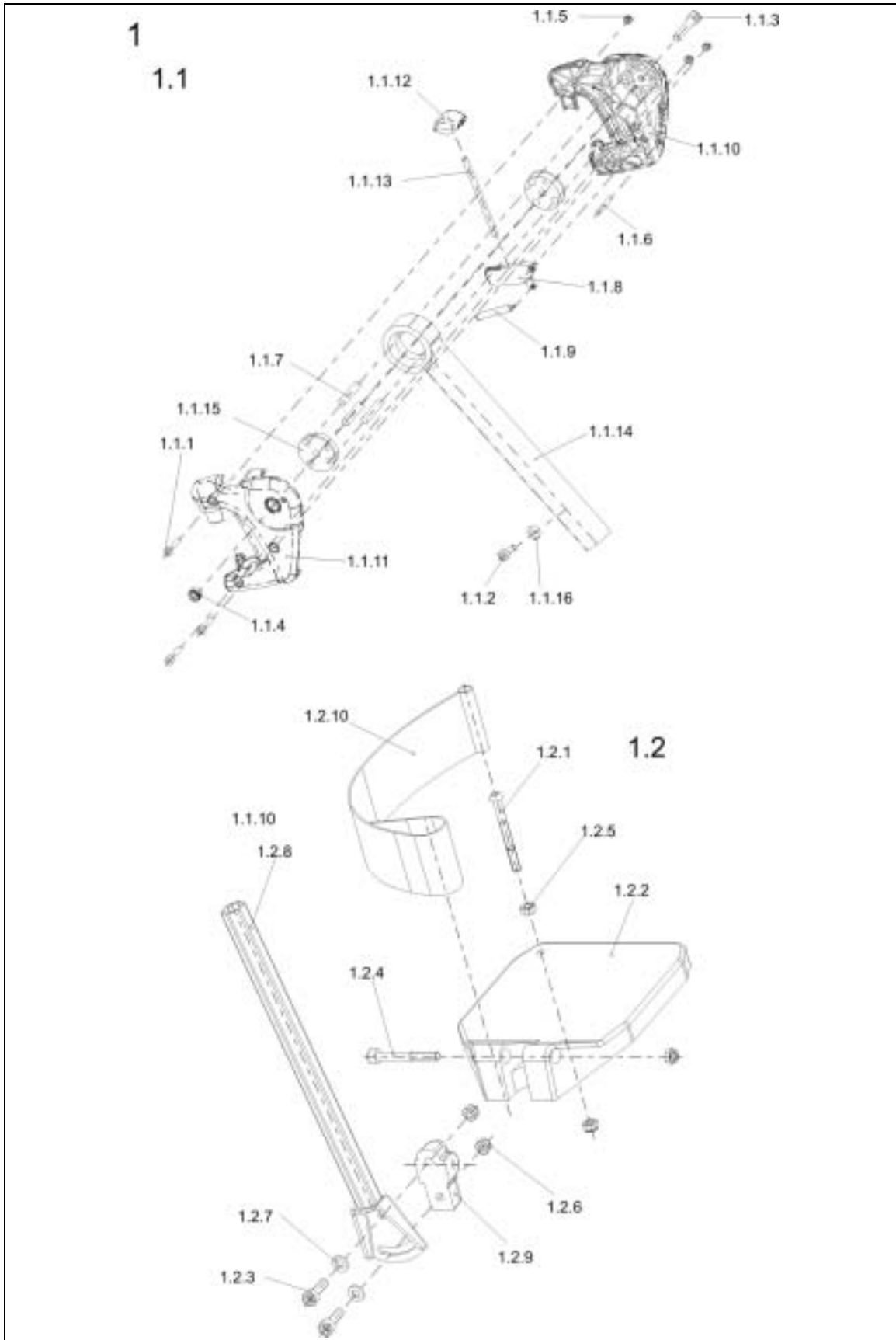











### Push-in tube (1.2.5), heel band (1.2.6.4), footplate (1.2.2 RH, 1.2.3 LH)



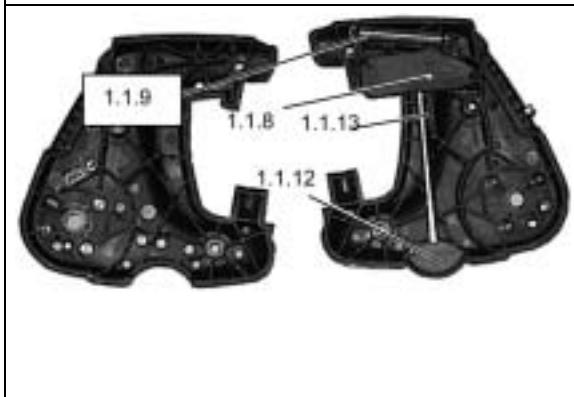
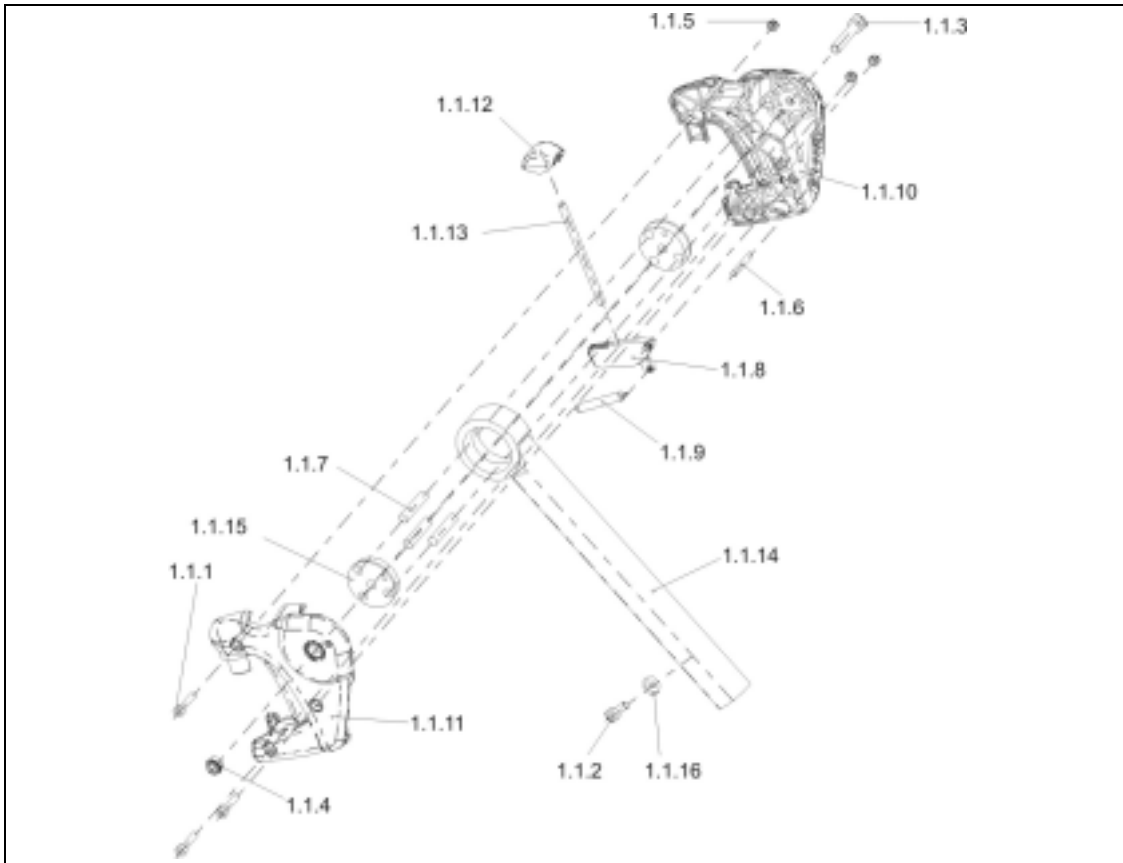
- unscrew cylinder head screw (1.1.2 )
- pull out push-in tube (1.2.5)
- unscrew cylinder head screw (1.2.4)
- remove footplate (1.2.2 RH or 1.2.3 LH) and circular washer (1.2.1)
- when reassembling the footplate, ensure that the circular washer is in the right position (radius towards inside)

10.2.12 Footrest LH (90°-65°) with angle-adjustable footplate



Pos	Qty.	Item No./Pcs.	Item Description	
1	1	Z173215	Footrest LH (90°-65°) with angle-adjustable footplate	
1	1	Z173216	Footrest RH (90°-65°) with angle-adjustable footplate, complete	
1.1	1	Z173197	upper part LH (Vari F) pre-assembled	
1.1	1	Z173198	upper part RH (Vari F) pre-assembled	
1.1.1	3	D50050	Cylinder-head screw with Allen key M5 x 25	
1.1.2	1	D50051	Cylinder-head screw with Allen key M6 x 16	
1.1.3	1	D50052	Cylinder-head screw with Allen key M8 x 40	
1.1.4	1	F00002	Hexagon nut M8 self-locking, DIN-985	
1.1.5	3	F20111	Hexagon nut M5 self-locking	
1.1.6	1	J10096	Straight pin RD. 5 X 32, DIN-7	
1.1.7	3	J10097	Straight pin RD. 8 X 40, DIN-7	
1.1.8	1	Z173177	Clasp lever	
1.1.9	1	Z173178.99	Tension spring	
1.1.10	1	Z173181	Leg support shell LH (Vari F)	
1.1.11	1	Z173182	Leg support shell RH (Vari F)	
1.1.12	1	Z173183	Release button	
1.1.13	1	Z173184.99	Plunger rod	
1.1.14	1	Z173185.P14	Leg support upper part Vari F, RAL 7021 dark grey	
1.1.15	2	Z173188	Pressure cone	
1.1.16	1	Z173189.99	Nut M6 SP-14	
1.2	1	Z174155	Footrest lower part LH angle-adjustable	
1.2	1	Z174154	Footrest lower part RH angle-adjustable	
1.2.1	1	0029-40516	Screw M6 x 60	
1.2.2	1	0572-04449	Footplate RH, black	
1.2.2	1	0572-04435	Footplate LH, black	
1.2.3	2	D50049	Cylinder-head screw with Allen key M6 x 20	
1.2.4	1	D50114	Cylinder-head screw with Allen key M6 x 50	
1.2.5	1	F00103	Hexagon nut M6	
1.2.6	4	F20109	Hexagon nut M6 self-locking	
1.2.7	2	G00115	Washer 6.4 x 12.5 x 1.6	
1.2.8	1	Z174144.89	Push-in tube	
1.2.9	1	Z174147.79	Footplate receptacle	
1.2.10	1	Z174156	Heel band	

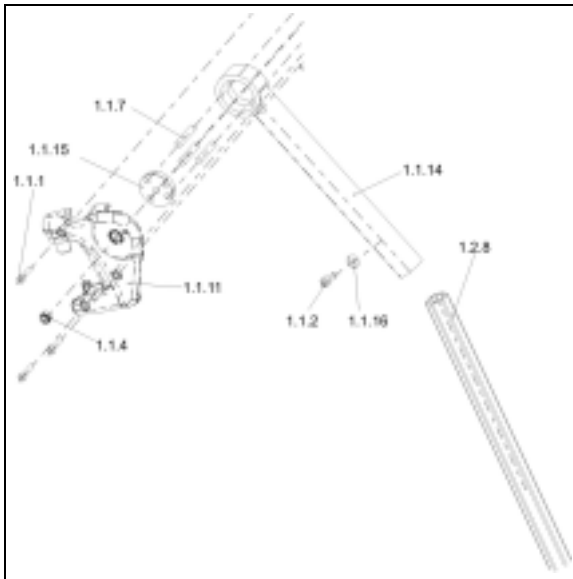
 Interlock



- unscrew cylinder-head screw (1.1.3) and hexagon cap nuts (1.1.4)
- unscrew cylinder-head screw (1.1.1) and hexagon cap nuts (1.1.5)
- remove leg support shell (1.1.11)
- plunger rod (1.1.13), release button (1.1.12), clasp lever (1.1.8) and tension spring (1.1.9) can now be replaced
- replace leg support shell (1.1.10 LH, 1.1.11 RH) if necessary



## Leg support upper part (1.1.14), pressure cone (1.1.15)



- unscrew cylinder head screw (1.1.2)
- pull out push-in tube (1.2.8)
- remove leg support shell (1.1.11)
- dismantle interlock



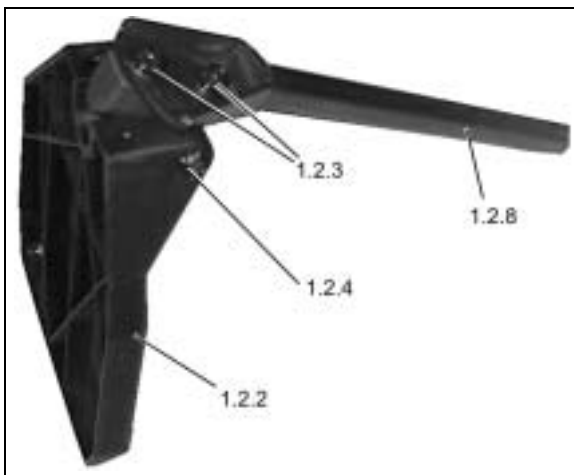
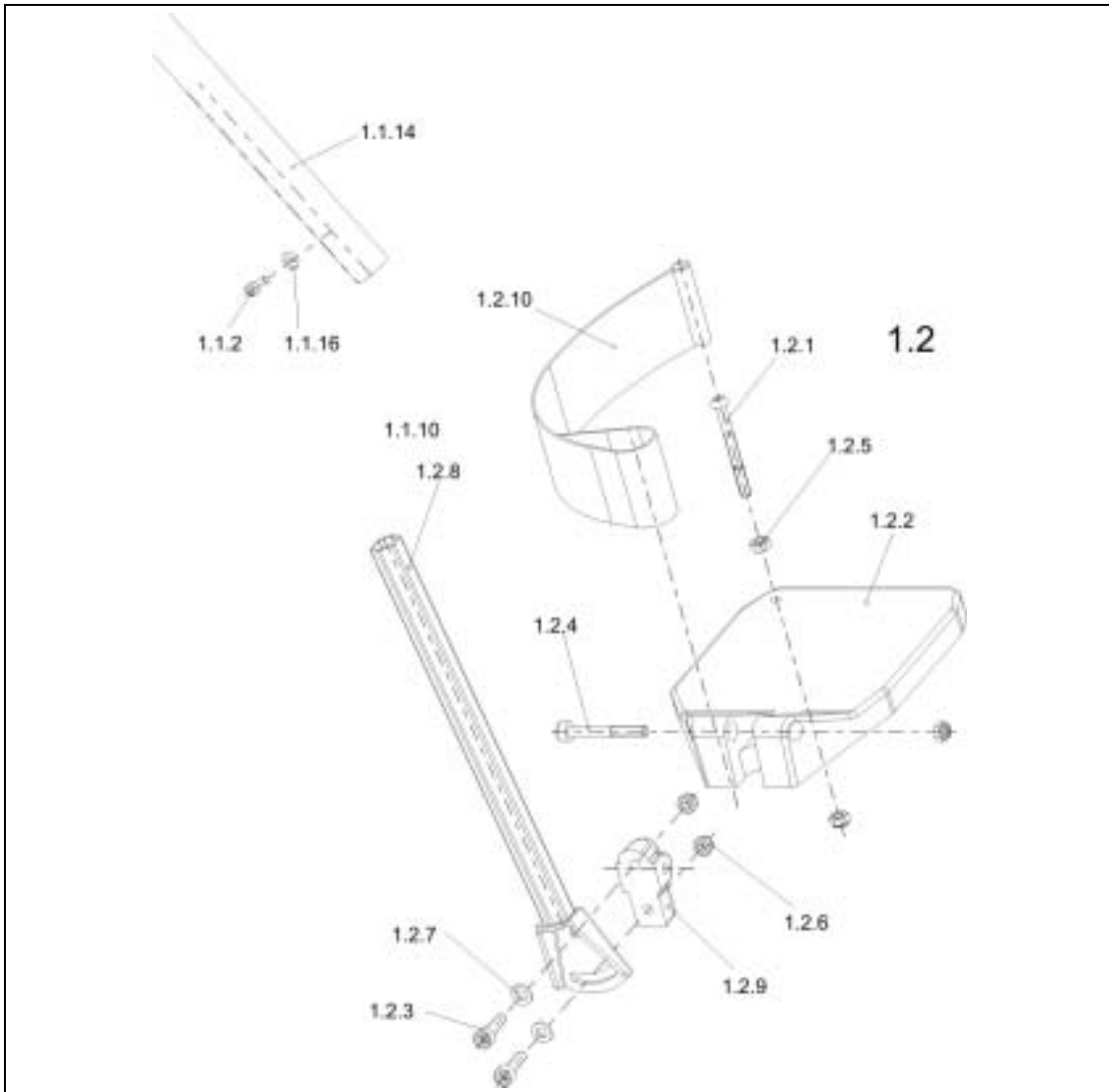
- pull out straight pins (1.1.7)
- remove pressure cone (2x 1.1.15)
- leg support upper part (1.1.14) and cone (1.1.15) can now be replaced



- When reassembling, ensure that the pressure cone has the side with the smallest diameter facing inwards.



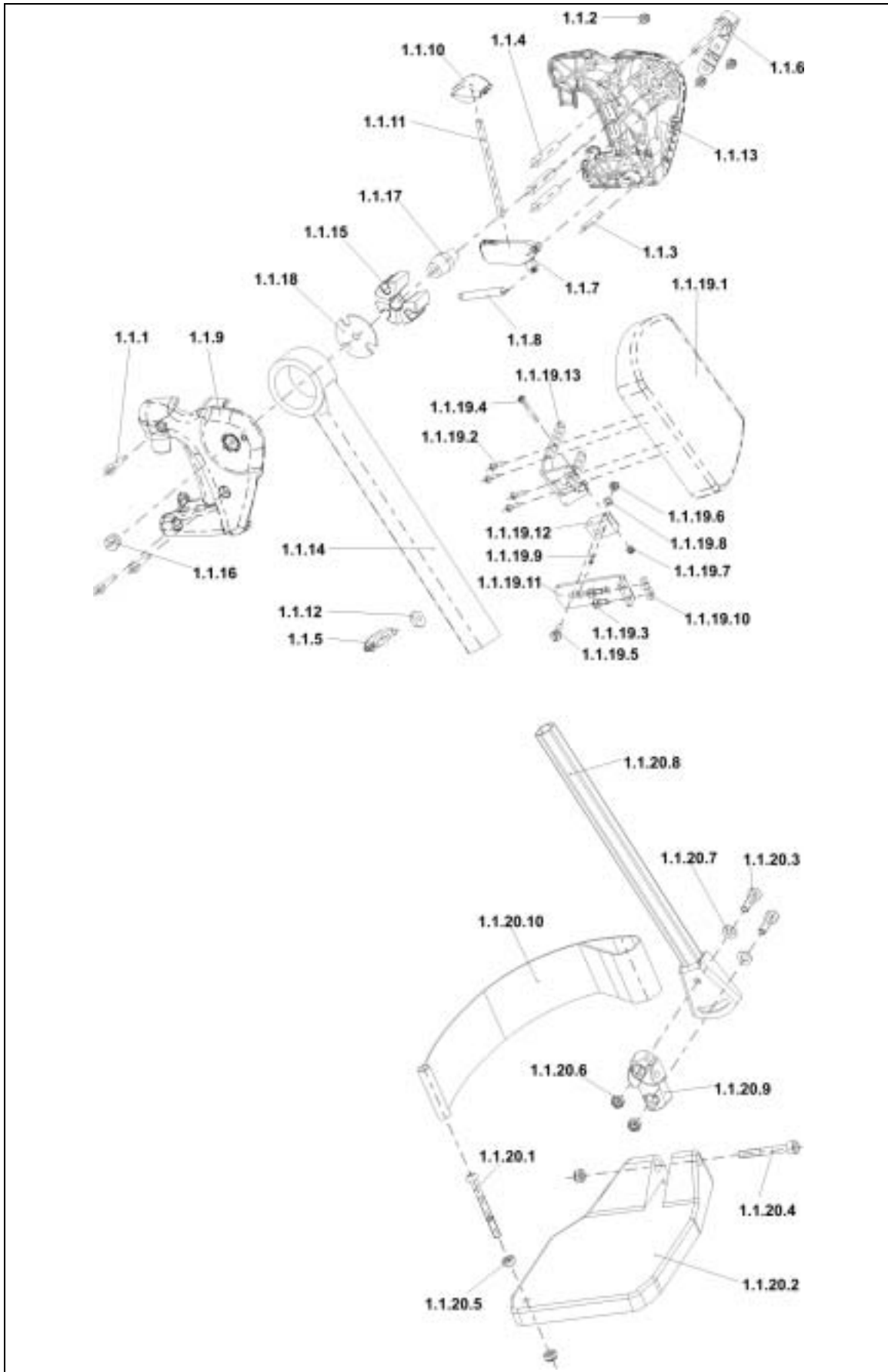
Push-in tube (1.2.8), heel band (1.2.10), footplate (1.2.2)


















- unscrew cylinder head screw (1.1.2)
- pull out push-in tube (1.2.8)
- pull off heel strap (1.2.10) upwards
- unscrew cylinder head screw (1.2.3)
- remove push-in tube (1.2.8) and footplate receptacle (1.2.9)
- unscrew cylinder head screw (1.2.4)
- remove footplate (1.2.2)



10.2.13 Leg support manually height-adjustable with angle adjustment

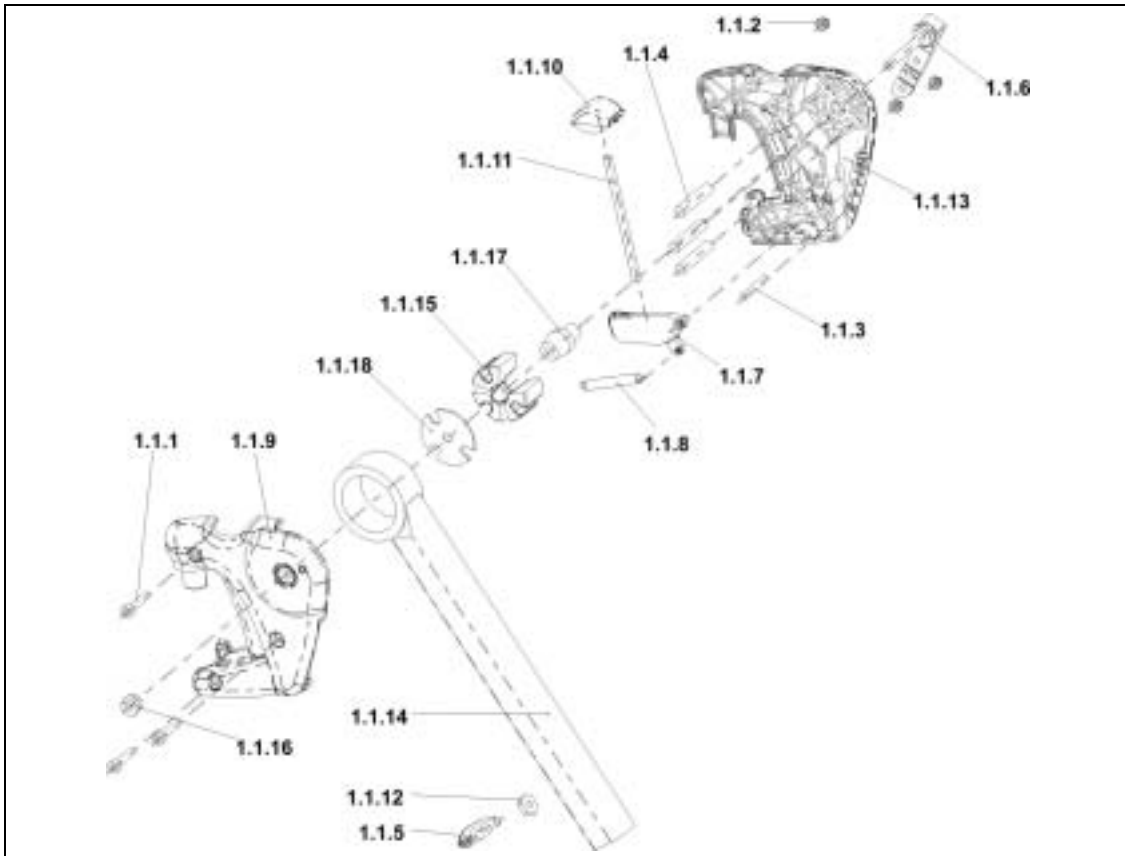


Pos	Qty.	Item No./Pcs.	Item Description	
1	1	Z174151	Leg supports LH manually height-adjustable, with angle adjustment	
1	1	Z174150	Leg supports LH manually height-adjustable, with angle adjustment	
1.1	1	Z174153	Upper part adjustable LH pre-assembled	
1.1	1	Z174152	Upper part adjustable RH pre-assembled	
1.1.1	3	D50050	Cylinder-head screw with Allen key M5 x 25	
1.1.2	3	F20111	Hexagon nut M5 self-locking	
1.1.3	1	J10096	Straight pin RD. 5 X 32, DIN-7	
1.1.4	3	J10097	Straight pin RD. 8 X 40, DIN-7	
1.1.5	1	L10024	Wing nut M6 x 16	
1.1.6	1	L32906	Clamping lever M6	
1.1.7	1	Z173177	Clasp lever	
1.1.8	1	Z173178.99	Tension spring	
1.1.9	1	Z173182	Leg support shell RH (Vari F)	
1.1.10	1	Z173183	Release button	
1.1.11	1	Z173184.99	Plunger rod	
1.1.12	1	Z173189.99	Nut M6 SP-14	
1.1.13	1	Z173193	Leg support shell LH outside	
1.1.14	1	Z173203.P14	Upper part adjustable (Vari A), RAL 7021 dark grey	
1.1.15	3	Z173206.80	Clamp block	
1.1.16	1	Z174131.89	Nut M6 SW13	
1.1.17	1	Z174132.99	Clamp cone	
1.1.18	1	Z174133.99	Bearing plate	
1.1.19	1	Z174163	<b>Calf plate complete</b>	
1.1.19.1	1	6301333	Calf plate	
1.1.19.2	4	D36121	Pan head tapping screw with Phillips head 4,8 x 19	
1.1.19.3	2	D50047	Cylinder-head screw with Allen key M6 x 12	
1.1.19.4	1	D50048	Cylinder-head screw with Allen key M5 x 35	
1.1.19.5	1	D90098	Countersunk screw with slot and stud M6 x 12	
1.1.19.6	1	F20109	Hexagon nut M6 self-locking	
1.1.19.7	1	F20111	Hexagon nut M5 self-locking	
1.1.19.8	1	G40100	Lock washer A6-Fst	
1.1.19.9	1	J30006	Dowel pin 4 x 16	
1.1.19.10	2	Z173189.99	Nut M6 SP-14	
1.1.19.11	1	Z174116.89	Calf plate holder	
Pos	Qty.	Item No./Pcs.	Item Description	

1.1.19.12	1	Z174141.79	Calf plate rocker	
1.1.19.13	1	Z174142.89	Calf plate receptacle	
<b>1.1.20</b>	<b>1</b>	<b>Z174155</b>	<b>Footrest lower part LH angle-adjustable, pre-assembled</b>	
<b>1.1.20</b>	<b>1</b>	<b>Z174154</b>	<b>Footrest lower part RH angle-adjustable, pre-assembled</b>	
1.1.20.1	1	0029-40516	Screw M6 x 60	
1.1.20.2	1	0572-04449	Footplate RH, black	
1.1.20.2	1	0572-04435	Footplate LH, black	
1.1.20.3	2	D50049	Cylinder-head screw with Allen key M6 x 20	
1.1.20.4	1	D50114	Cylinder-head screw with Allen key M6 x 50	
1.1.20.5	1	F00103	Hexagon nut M6	
1.1.20.6	4	F20109	Hexagon nut M6 self-locking	
1.1.20.7	2	G00115	Washer 6.4 x 12.5 x 1.6	
1.1.20.8	1	Z174144.89	Insert tube	
1.1.20.9	1	Z174147.79	Footplate receptacle	
1.1.20.10	1	Z174156	Heel band	



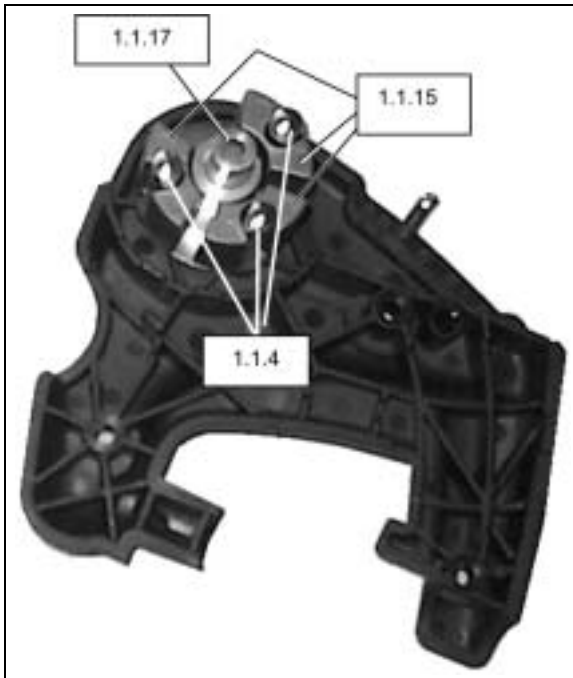
Interlock, angle adjustment



- unscrew clamping lever (1.1.6) and hexagon cap nuts (1.1.16)
- unscrew cylinder-head screw (1.1.1) and hexagon cap nuts (1.1.2)
- remove leg support shell RH (1.1.9 )
- plunger rod (1.1.11), release button (1.1.10), clasp lever (1.1.7) and tension spring (1.1.8) can now be replaced
- replace leg support shell (1.1.9 RH, 1.1.13 LH) if necessary



## Clamp cone (1.1.17), Clamp blocks (1.1.15)



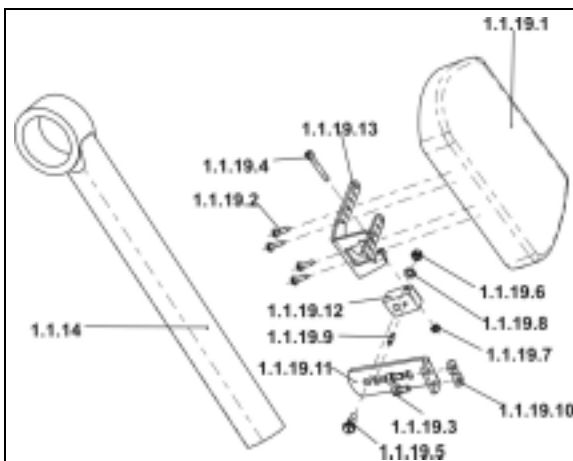
- pull out straight pin (1.1.4)
- pull out clamp cone (1.1.17), if necessary knock out carefully
- remove clamp blocks (3x 1.1.15)



- when reassembling, ensure that the clamp blocks (3x 1.1.15) and the clamp cone (1.1.17) are in the right position
- only screw the clamping lever (1.1.6) in so far that the leg support is securely locked in place when the clamping lever is activated, and so that it can be set at an angle when the clamping lever is opened



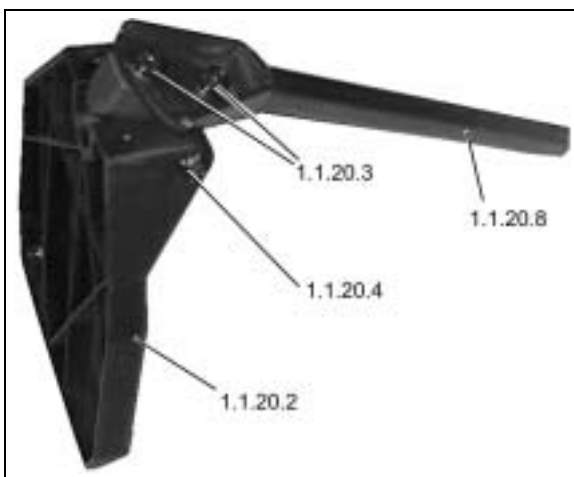
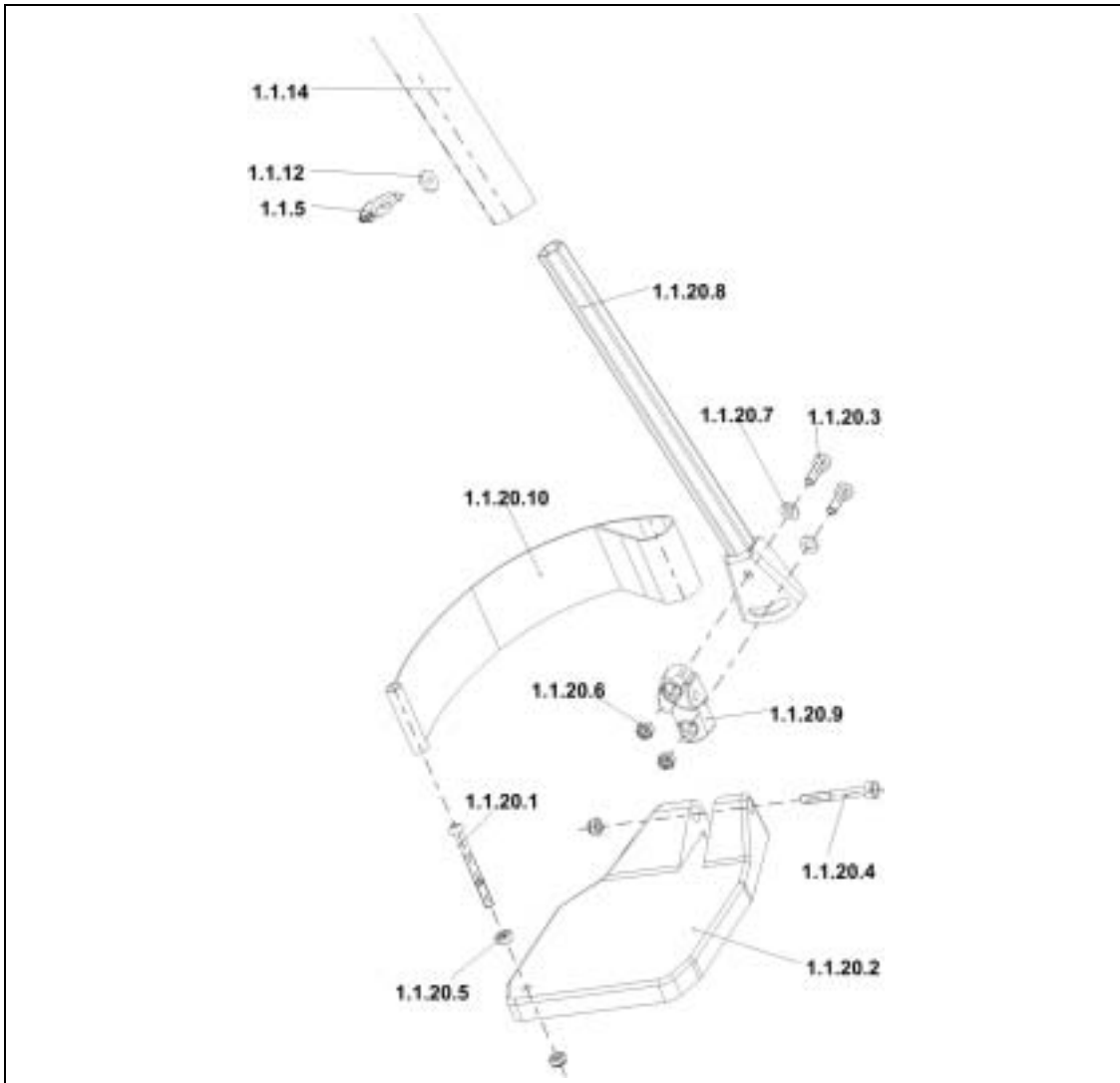
## Calf plate (1.1.19.1)



- unscrew cylinder head screw (1.1.19.2)
- replace calf plate (1.1.19.1)

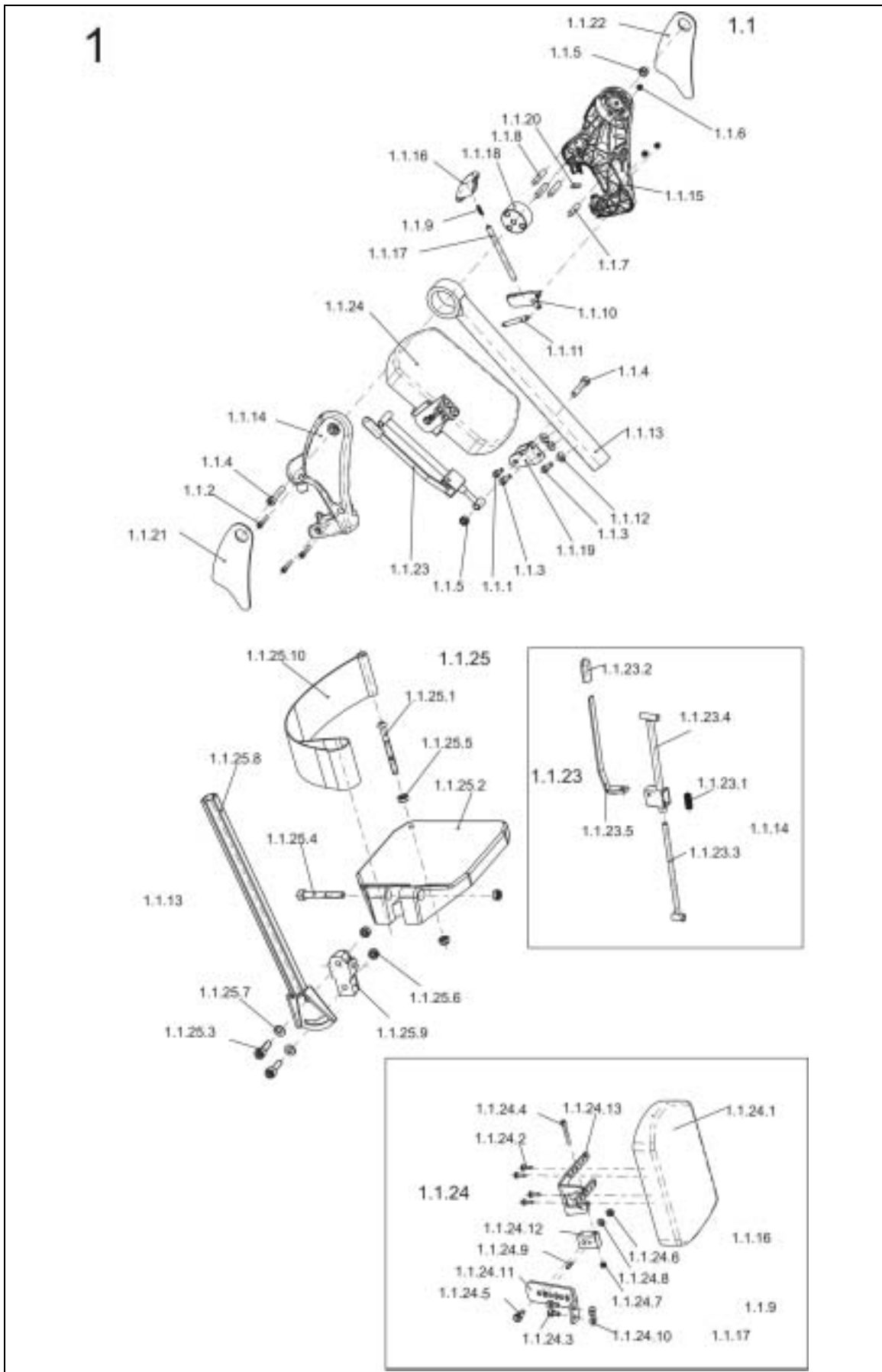












Push-in tube (1.1.20.8), heel band (1.1.20.10), footplate (1.1.20.2)








- loosen wing nut (1.1.5)
- pull out push-in tube (1.1.20.8)
- pull off heel strap (1.1.20.10) upwards
- unscrew cylinder head screw (1.1.20.3)
- remove push-in tube (1.1.20.8) and footplate receptacle (1.1.20.9)
- unscrew cylinder head screw (1.1.20.4)
- remove footplate (1.1.20.2)

10.2.14 Leg support manually height-adjustable with ergonomic length adjustment

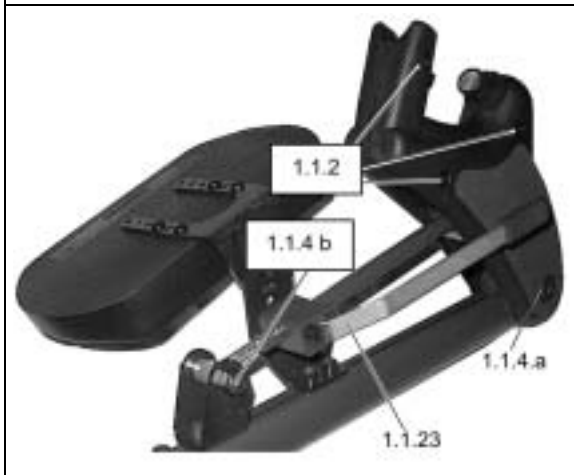
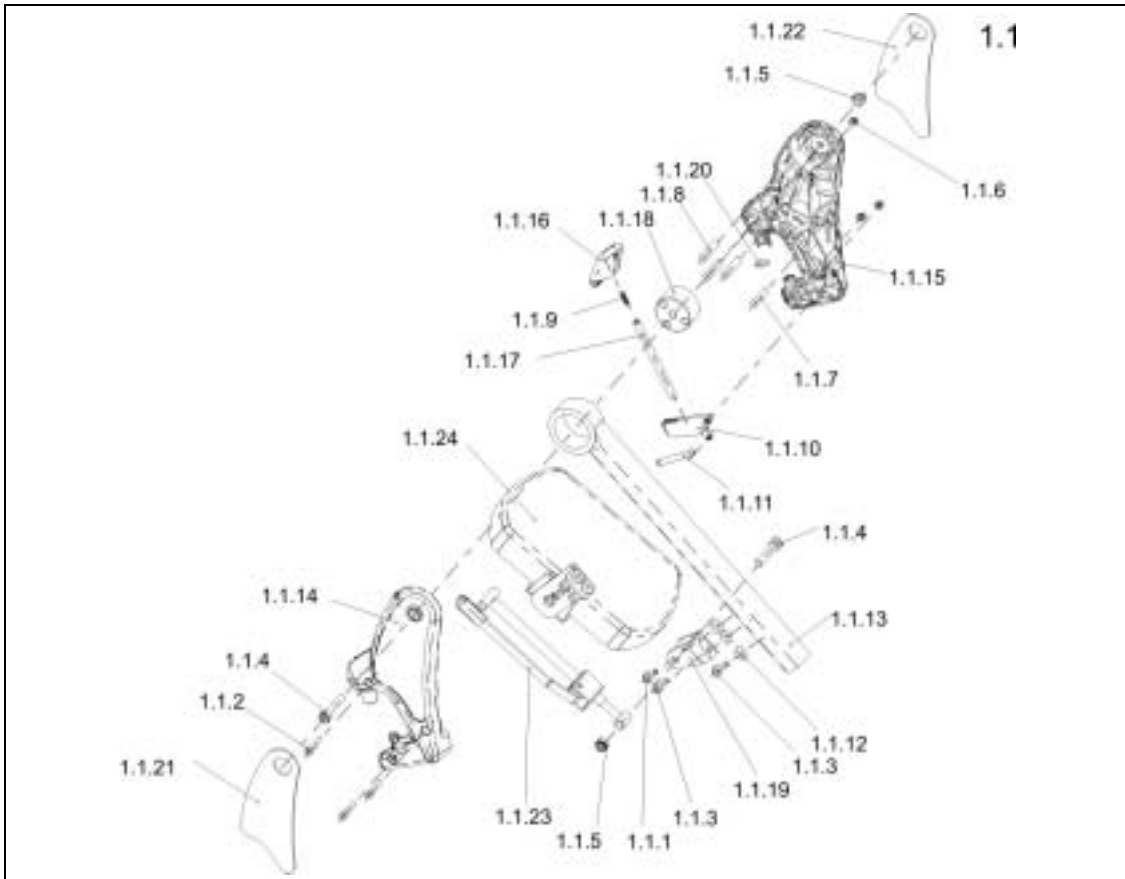


Pos	Qty.	Item No./Pcs.	Item Description	
1	1	Z174180	Leg support RH manually height-adjustable with ergonomic length adjustment	
1	1	Z174181	Leg support LH manually height-adjustable with ergonomic length adjustment	
1.1	1	Z174178	Upper part (ADM) RH pre-assembled	
1.1	1	Z174179	Upper part LH manually adjustable pre-assembled	
1.1.1	1	D50047	Cylinder-head screw with Allen key M6 x 12	
1.1.2	3	D50050	Cylinder-head screw with Allen key M5 x 25	
1.1.3	2	D50051	Cylinder-head screw with Allen key M6 x 16	
1.1.4	2	D50052	Cylinder-head screw with Allen key M8 x 40	
1.1.5	2	F00002	Hexagon nut M8 self-locking, DIN-985	
1.1.6	3	F20111	Hexagon nut M5 self-locking	
1.1.7	1	J10093	Straight pin RD. 8 x 30, DIN-7	
1.1.8	3	J10094	Straight pin RD. 8 X 36, DIN-7	
1.1.9	1	N12196	Pressure spring L0=16,4 D=0,5 DA=5,5	
1.1.10	1	Z173177	Clasp lever	
1.1.11	1	Z173178	Tension spring	
1.1.12	3	Z173189.99	Nut M6 SS-14	
1.1.13	1	Z173207.P14	Upper part ADM; RAL 7021 dark grey	
1.1.14	1	Z174110	Leg support shell (AD) RH	
1.1.15	1	Z174111	Leg support shell (AD) LH	
1.1.16	1	Z174112	Release lever (AD)	
1.1.17	1	Z174113.99	Locking rod	
1.1.18	1	Z174134	Sliding cylinder	
1.1.19	1	Z174135.89	Motor receptacle	
1.1.20	1	Z174139	ADP blank	
1.1.21	1	Z174162	Knee cushion (ADM) LH	
1.1.22	1	Z174172	Knee cushion (ADM) RH	
1.1.23	1	Z174130	ADM adjustment, complete	
1.1.23.1	1	0634-11152	Pressure spring	
1.1.23.2	1	L01064	Cap	
1.1.23.3	1	Z174127.99	Plunger rod	
1.1.23.4	1	Z174128.P14	Guide, RAL 7021 dark grey	
1.1.23.5	1	Z174136.99	Operating lever	

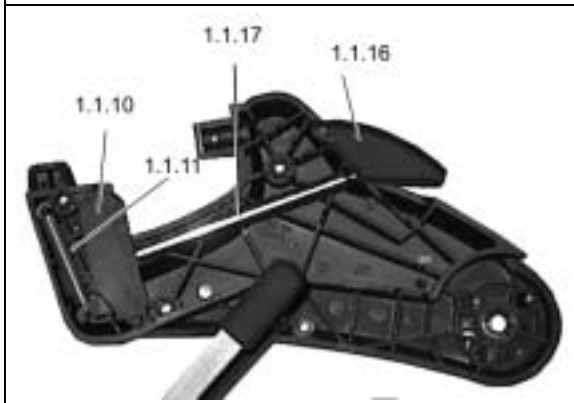


Pos	Qty.	Item No./Pcs.	Item Description	
<b>1.1.24</b>	<b>1</b>	<b>Z174164</b>	<b>Calf plate pre-assembled</b>	
1.1.24.1	1	6301333	Calf plate	
1.1.24.2	4	D36121	Pan head tapping screw with Phillips head 4,8 x 19	
1.1.24.3	2	D50047	Cylinder-head screw with Allen key M6 x 12	
1.1.24.4	1	D50048	Cylinder-head screw with Allen key M5 x 35	
1.1.24.5	1	D90098	Countersunk screw with slot and stud M6 x 12	
1.1.24.6	1	F20109	Hexagon nut M6 self-locking	
1.1.24.7	1	F20111	Hexagon nut M5 self-locking	
1.1.24.8	1	G40100	Lock washer A6-Fst	
1.1.24.9	1	J30006	Dowel pin 4 x 16	
1.1.24.10	2	Z173189.99	Nut M6 SP-14	
1.1.24.11	1	Z174140.89	Calf plate holder	
1.1.24.12	1	Z174141.79	Calf plate rocker	
1.1.24.13	1	Z174142.89	Calf plate receptacle	
<b>1.1.25</b>	<b>1</b>	<b>Z174154</b>	<b>Footrest lower part RH angle-adjustable, pre-assembled</b>	
<b>1.1.25</b>	<b>1</b>	<b>Z174155</b>	<b>Footrest lower part LH angle-adjustable, pre-assembled</b>	
1.1.25.1	1	0029-40516	Screw M6 x 60	
1.1.25.2	1	0572-04435	Footplate LH, black	
1.1.25.2	1	0572-04449	Footplate RH, black	
1.1.25.3	2	D50049	Cylinder-head screw with Allen key M6 x 20	
1.1.25.4	1	D50114	Cylinder-head screw with Allen key M6 x 50	
1.1.25.5	1	F00103	Hexagon nut M6	
1.1.25.6	4	F20109	Hexagon nut M6 self-locking	
1.1.25.7	2	G00115	Washer 6.4 x 12.5 x 1.6	
1.1.25.8	1	Z174144.89	Insert tube	
1.1.25.9	1	Z174147.79	Footplate receptacle	
1.1.25.10	1	Z174156	Heel band	

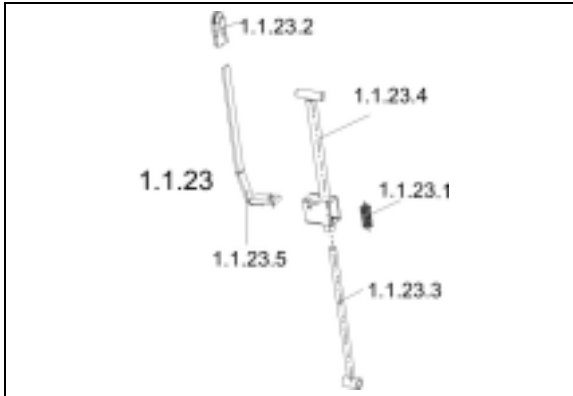
 Interlock, ADM adjustment (1.1.23)



- unscrew cylinder head screw (1.1.4 b)
- unscrew cylinder-head screw (1.1.4a) and hexagon cap nuts (1.1.5)
- unscrew cylinder-head screw (1.1.2) and hexagon cap nuts (1.1.5)
- remove leg support shell (AD) RH (1.1.14)
- remove ADM adjustment 1.1.23



- plunger rod (1.1.17), release button (1.1.16), clasp lever (1.1.10) and tension spring (1.1.11) can now be replaced
- replace leg support shell AD (1.1.21 RH, 1.1.15 LH) if necessary



- pull out the plunger rod (1.1.23.3) downwards, and ensure that the pressure spring (1.1.23.1) does not get lost

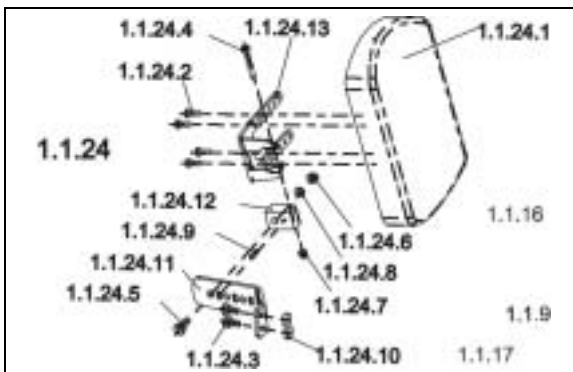


- you can now replace the individual parts

Ensure that you insert the pressure spring (1.1.23.1) correctly when reassembling (see diagram on left)



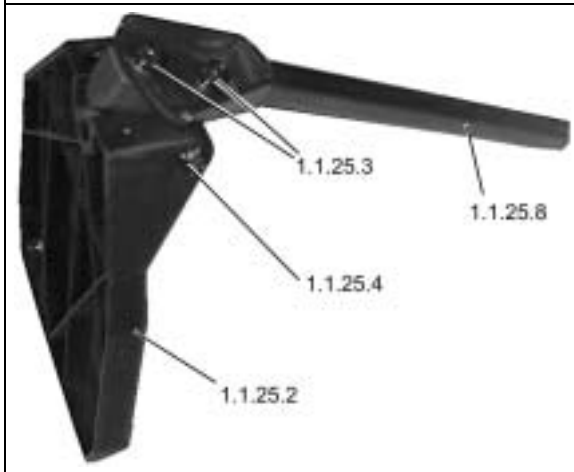
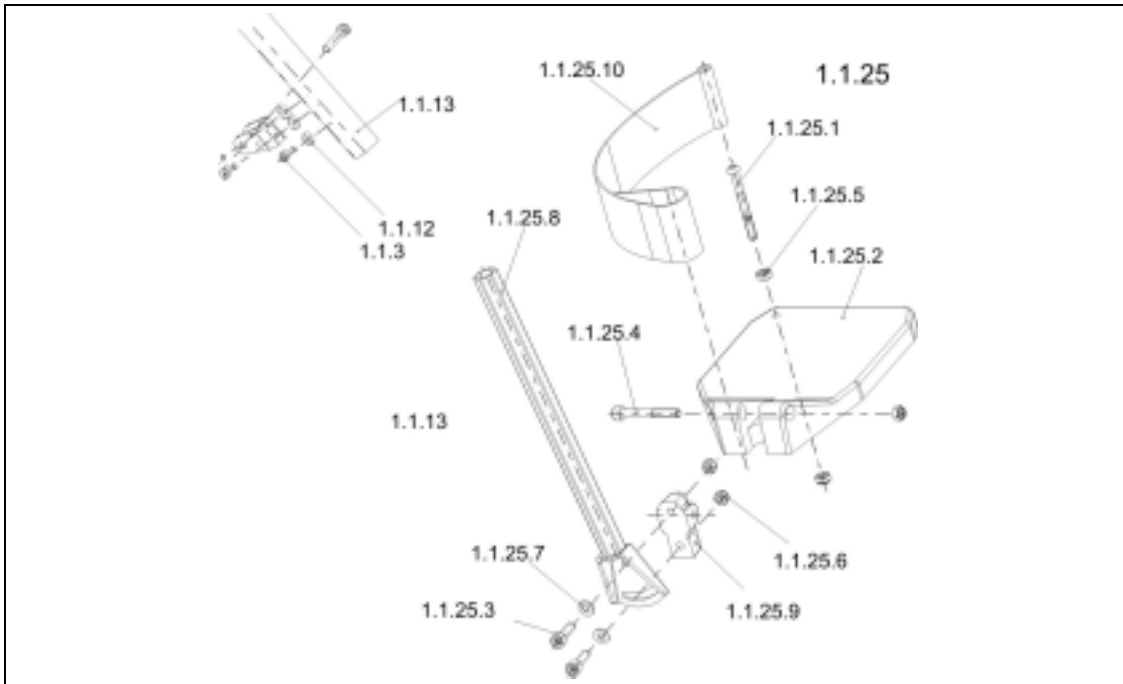
### Calf plate (1.1.24.1)



- unscrew cylinder head screw (1.1.24.2)
- replace calf plate (1.1.24.1)

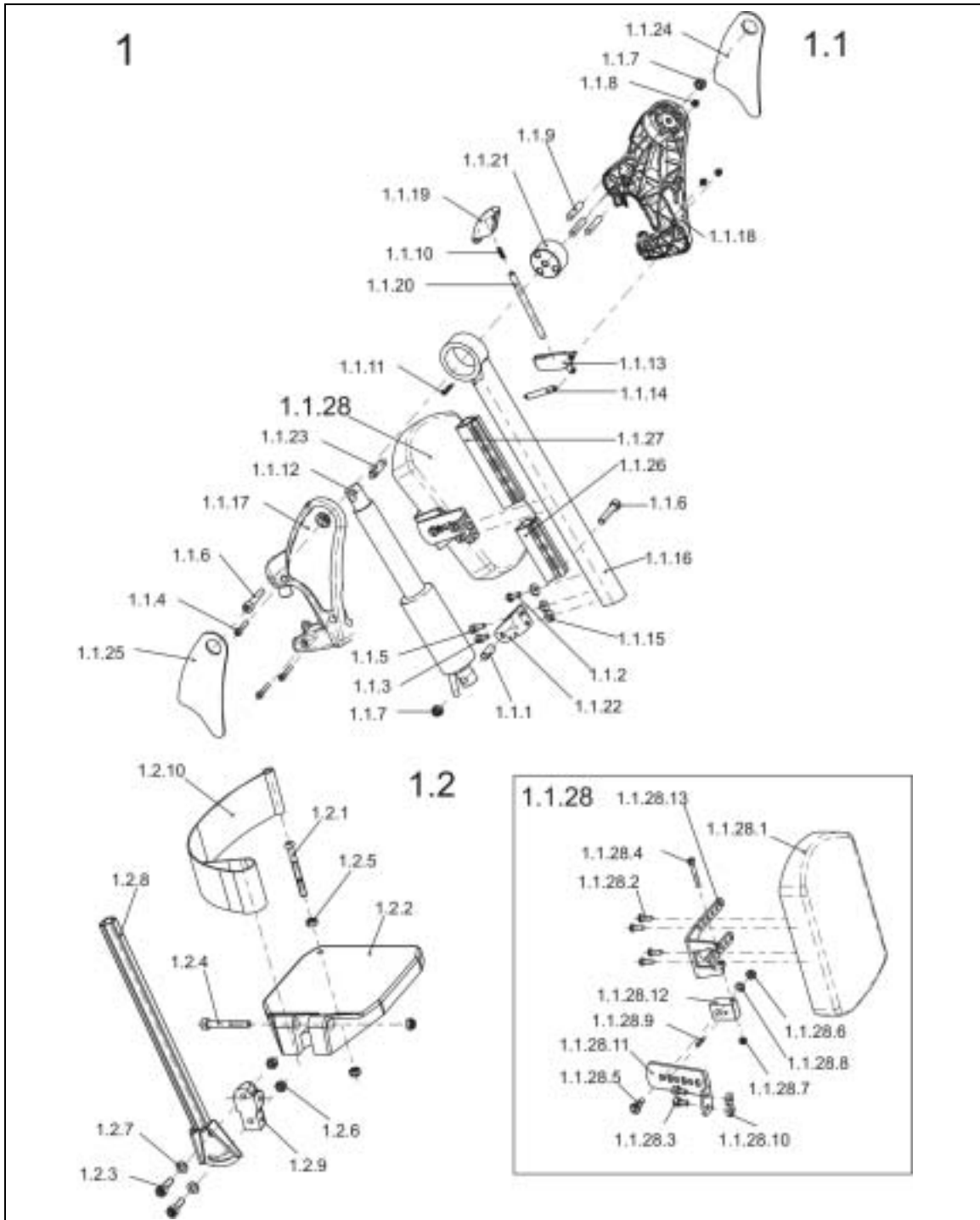


Push-in tube (1.1.25.8), heel band (1.1.25.10), footplate (1.1.25.2)








- unscrew cylinder head screw (1.1.3)
- pull out push-in tube (1.1.25.8)
- pull off heel strap (1.1.25.10) upwards
- unscrew cylinder head screw (1.1.25.3)
- remove push-in tube (1.1.25.8) and footplate receptacle (1.1.25.9)
- unscrew cylinder head screw (1.1.25.4)
- remove footplate (1.1.25.2)

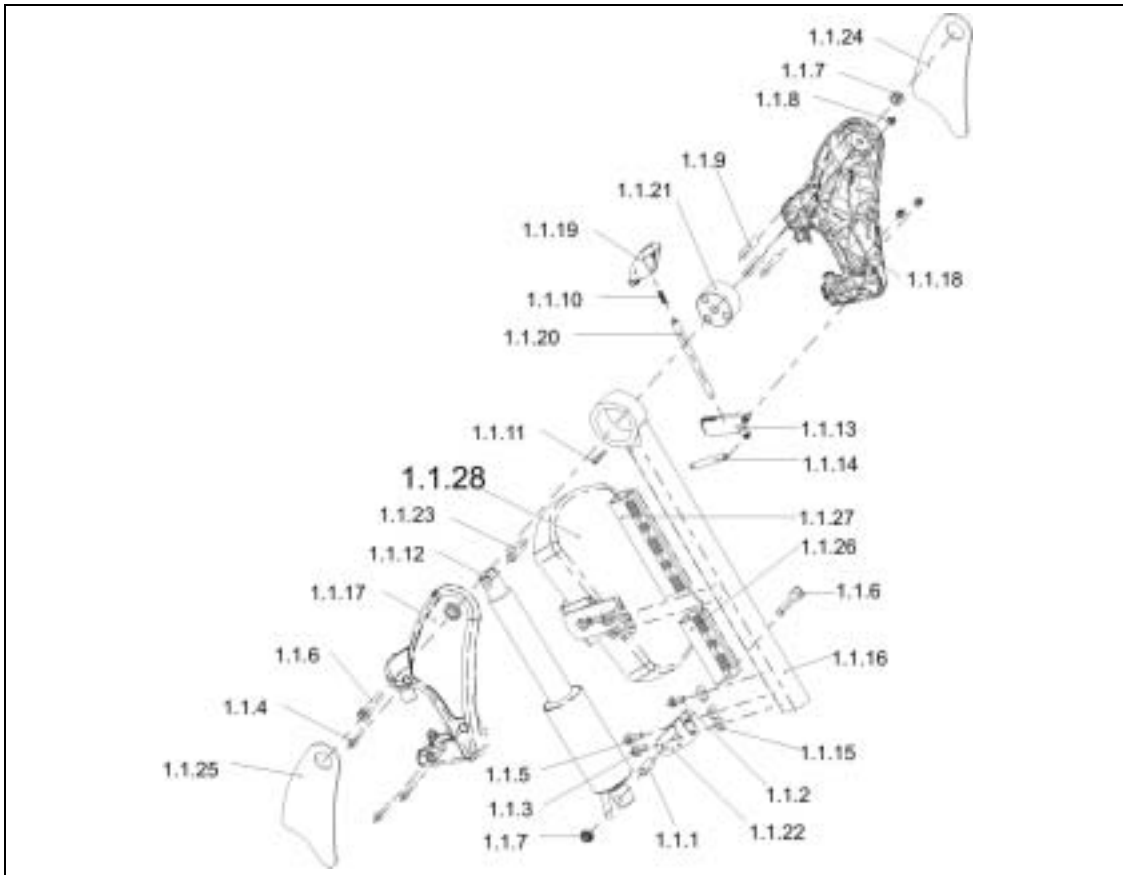
10.2.15 Leg support RH electrical height adjustment with ergonomic length adjustment



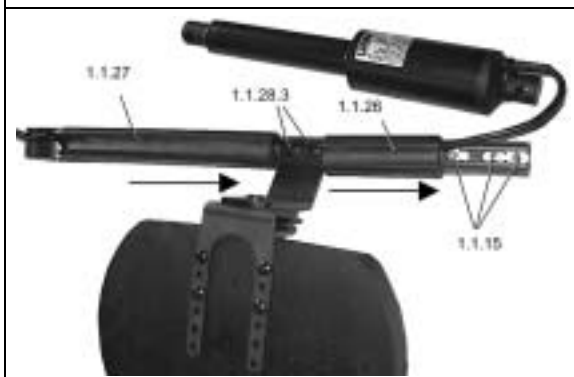
Pos	Qty.	Item No./Pcs.	Item Description	
<b>1</b>	<b>1</b>	<b>Z174170</b>	<b>Leg support RH electrical height adjustment with ergonomic length adjustment</b>	
<b>1.1</b>	<b>1</b>	<b>Z174168</b>	<b>Upper part (ADP) RH pre-assembled</b>	
1.1.1	1	4000665	Lining rd. 10 x 1 x 22,5	
1.1.2	1	D08120	Hexagon bolt M6 x 16	
1.1.3	1	D50047	Cylinder-head screw with Allen key M6 x 12	
1.1.4	3	D50050	Cylinder-head screw with Allen key M5 x 25	
1.1.5	1	D50051	Cylinder-head screw with Allen key M6 x 16	
1.1.6	2	D50052	Cylinder-head screw with Allen key M8 x 40	
1.1.7	2	F00002	Hexagon nut M8 self-locking, DIN-985	
1.1.8	3	F20111	Hexagon nut M5 self-locking	
1.1.9	3	J10094	Straight pin RD. 8 X 36, DIN-7	
1.1.10	1	N12196	Pressure spring L0=16,4 D=0,5 DA=5,5	
1.1.11	1	P22413	Cable binder L=99 mm	
1.1.12	1	Z151006	Lifting motor with blank pre-assembled	
1.1.13	1	Z173177	Clasp lever	
1.1.14	1	Z173178	Tension spring	
1.1.15	3	Z173189.99	Nut M6 SP-14	
1.1.16	1	Z173205.P14	Leg support upper part; RAL 7021 dark grey	
1.1.17	1	Z174110	Leg support shell (AD) RH	
1.1.18	1	Z174111	Leg support shell (AD) LH	
1.1.19	1	Z174112	Release lever (AD)	
1.1.20	1	Z174113.99	Locking rod	
1.1.21	1	Z174134	Sliding cylinder	
1.1.22	1	Z174135.89	Motor receptacle	
1.1.23	1	Z174137.99	Pintles	
1.1.24	1	Z174162	Knee cushion (ADM) LH	
1.1.25	1	Z174172	Knee cushion (ADM) RH	
1.1.26	1	Z174174	Protector bottom	
1.1.27	1	Z174175	Protector top	
<b>1.1.28</b>	<b>1</b>	<b>Z174164</b>	<b>Calf plate pre-assembled</b>	
1.1.28.1	1	6301333	Calf plate	
1.1.28.2	4	D36121	Pan head tapping screw with Phillips head 4,8 x 19	
1.1.28.3	2	D50047	Cylinder-head screw with Allen key M6 x 12	
1.1.28.4	1	D50048	Cylinder-head screw with Allen key M5 x 35	
1.1.28.5	1	D90098	Countersunk screw with slot and stud M6 x 12	
1.1.28.6	1	F20109	Hexagon nut M6 self-locking	

1.1.28.7	1	F20111	Hexagon nut M5 self-locking	
Pos	Qty.	Item No./Pcs.	Item Description	
1.1.28.8	1	G40100	Lock washer A6-Fst	
1.1.28.9	1	J30006	Dowel pin 4 x 16	
1.1.28.10	2	Z173189.99	Nut M6 SP-14	
1.1.28.11	1	Z174140.89	Calf plate holder	
1.1.28.12	1	Z174141.79	Calf plate rocker	
1.1.28.13	1	Z174142.89	Calf plate receptacle	
<b>1.2</b>	<b>1</b>	<b>Z174154</b>	<b>Footrest lower part RH angle-adjustable, pre-assembled</b>	
1.2.1	1	0029-40516	Screw M6 x 60	
1.2.2	1	0572-04435	Footplate LH, black	
1.2.2	1	0572-04449	Footplate RH, black	
1.2.3	2	D50049	Cylinder-head screw with Allen key M6 x 20	
1.2.4	1	D50114	Cylinder-head screw with Allen key M6 x 50	
1.2.5	1	F00103	Hexagon nut M6	
1.2.6	4	F20109	Hexagon nut M6 self-locking	
1.2.7	2	G00115	Washer 6.4 x 12.5 x 1.6	
1.2.8	1	Z174144.89	Insert tube	
1.2.9	1	Z174147.79	Footplate receptacle	
1.2.10	1	Z174156	Heel band	

 Leg support upper part (1.1.16), interlock, lift motor (1.1.12)

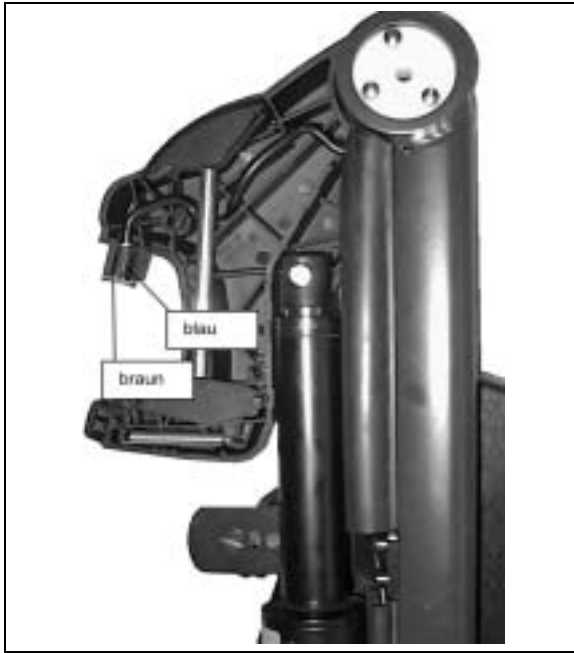


- unscrew cylinder head screw (1.1.6)
- unscrew cylinder head screw (1.1.4)
- remove leg support shell (AD) (1.1.17 RH)
- clasp lever (1.1.13), tension spring (1.1.14), release lever (AD) (1.1.19) and locking rod (1.1.20) can now be replaced



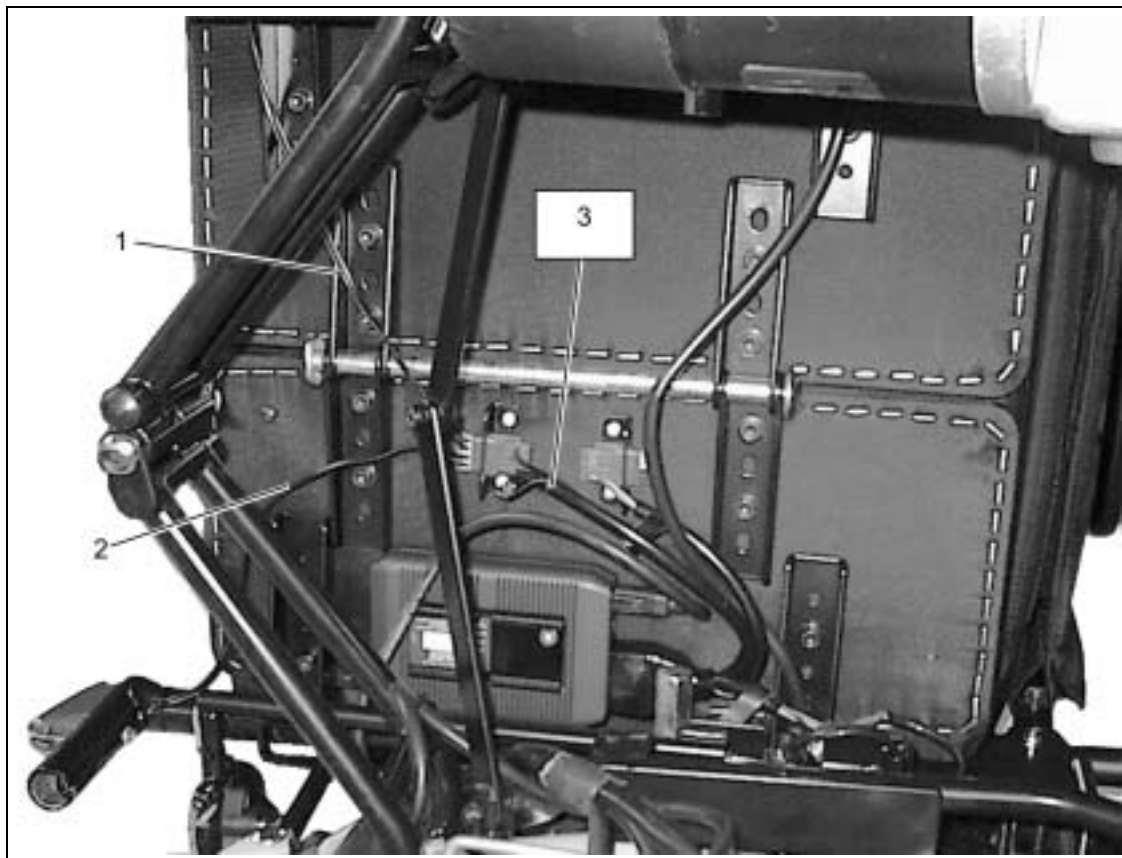
- unscrew cylinder head screws (1.1.3, 1.1.5) and hexagon bolt (1.2)
- cut off cable binders
- pull nut (1.1.15) out of the tube profile
- pull protector (1.1.26, 1.1.27) out of the tube profile
- lift motor (1.1.12) can be replaced





- ensure that the contacts are correctly located with reassembling
- plug the cable into the corresponding recesses (see diagram left)
- push protector (1.1.26, 1.1.27) into the tube profile
- fit leg support
- fix cable with cable binder
- check leg support for correct functioning
- if the polarity is wrong, turn the adapter through 180 degrees

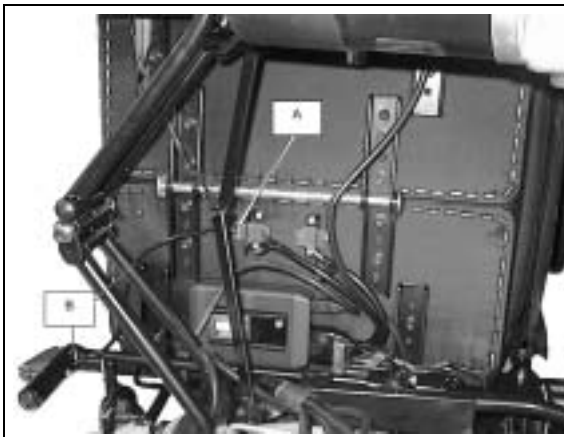
 Cabling



- 1 Adapter for electrical leg support height-adjustable (B281026)
- 2 Adapter for electrical leg support height-adjustable (B281026)
- 3 CLAM wiring harness (B281021)
- 4 contacts for leg support



## Adapter for leg support (B281026)



- pull out connector plug (A)
- cut through cable binder (B)



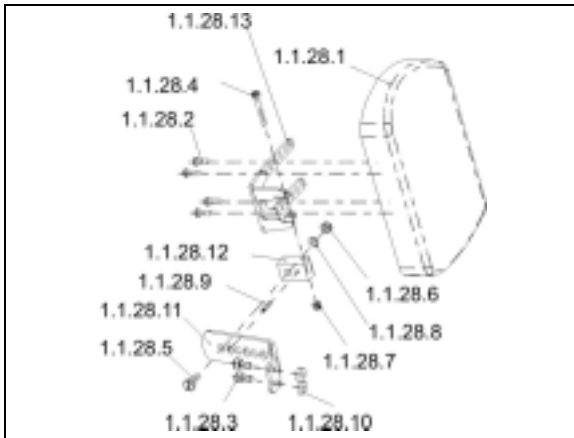
- unscrew cheese-head screw with Allen key M6 x
- pull the adapter out of the leg support downwards



- ensure all contacts have the right polarity when reassembling
- insert the adapter (D) so that the tallow-drop screw (C) fits through the adapter drillhole
- insert the leg supports and check for function before finally fixing the cable to the socket (A)
- turn the adapter (D) through 180° if necessary (wrong polarity)
- fix cable with cable binders



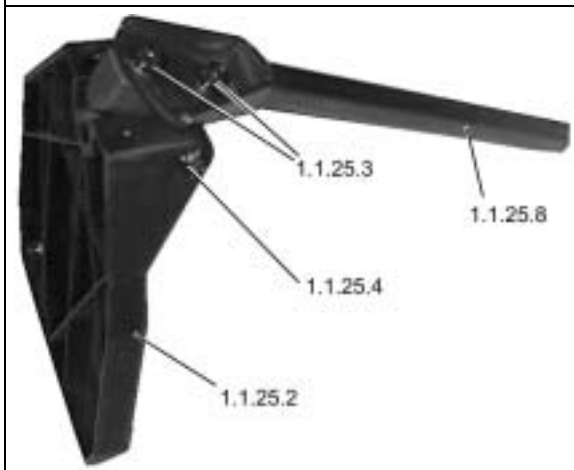
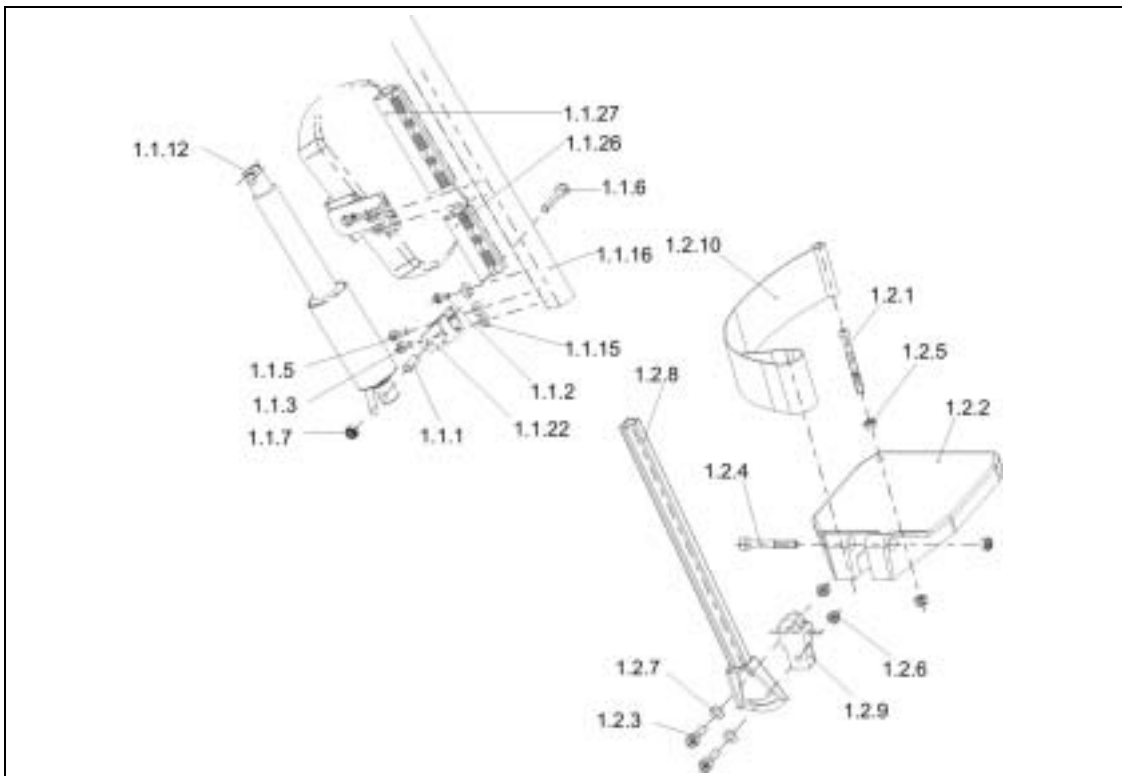
**Calf plate (1.1.28.1)**



- unscrew cylinder head screw (1.1.28.2)
- replace calf plate (1.1.28.1)



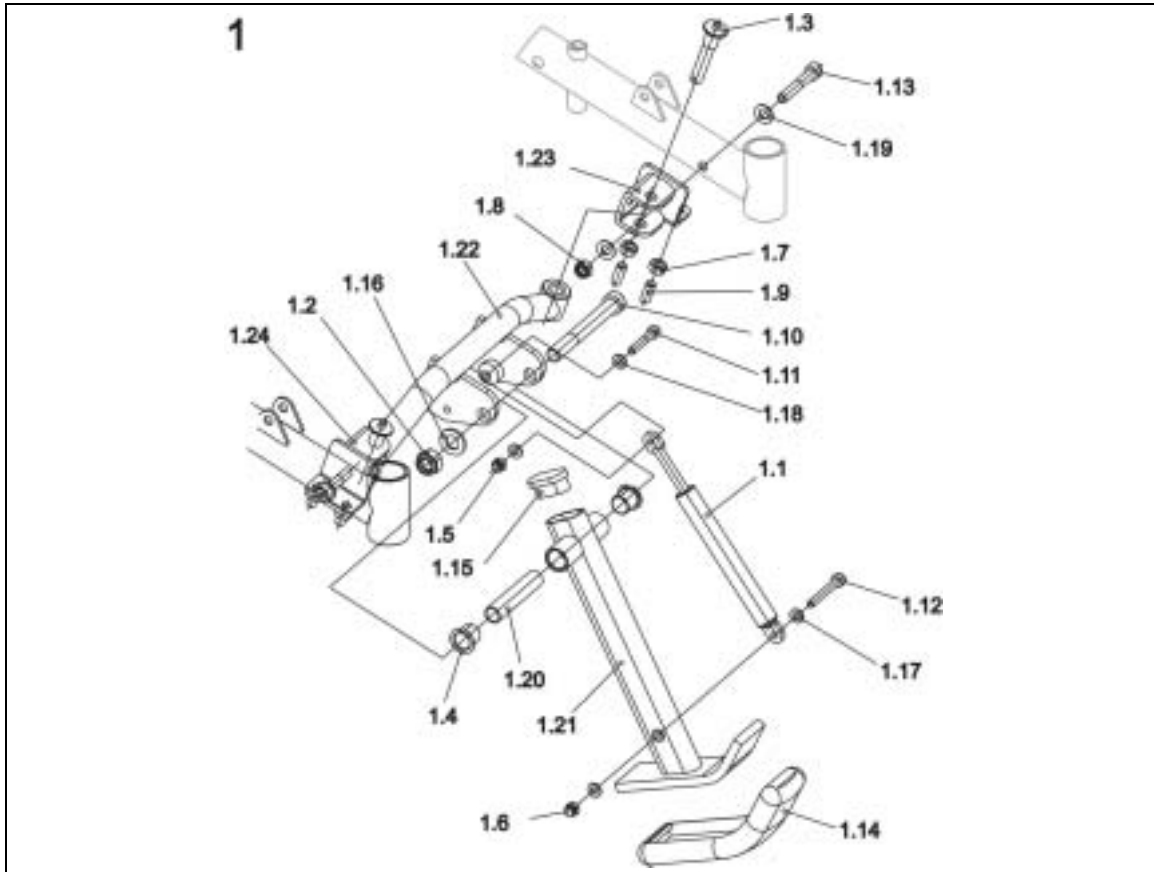
**Push-in tube (1.1.25.8), heel band (1.1.25.10), footplate (1.1.25.2)**





- unscrew cylinder head screw (1.1.6)
- pull out push-in tube (1.2.8)
- pull off heel strap (1.2.10) upwards
- unscrew cylinder head screw (1.2.3)
- remove push-in tube (1.2.8) and footplate receptacle (1.2.9)
- unscrew cylinder head screw (1.2.4)
- remove footplate (1.2.2)

## 10.3 Accessories

### 10.3.1 Kerb climber



Pos	Qty.	Item No./Pcs.	Item Description	
<b>1</b>	<b>1</b>	<b>B210017</b>	<b>10.4 Kerb climber complete</b>	
1.1	1	N10499	Gas-filled spring	
1.2	1	F20106	Hexagon nut M12 self-locking	
1.3	2	F368016.99	Quick release bolts (QUICK RELEASE)	
1.4	2	N02201	Lining BB 1517 DU	
1.5	1	F60106	Hexagon cap nut M6 self-locking	
1.6	1	F60107	Hexagon cap nut M6 self-locking	
1.7	4	F00114	Hexagon nut M8	
1.8	2	F00002	Hexagon nut M8 self-locking, DIN-985	
1.10	1	D50094	Cylinder head screw with Allen key M12 x 100	
1.11	1	D50117	Cylinder-head screw with Allen key M6 x 35	
1.12	1	D50122	Cylinder-head screw with Allen key M6 x 45	
1.13	2	D50170	Cylinder-head screw with Allen key M8 x 50	
Pos	Qty.	Item No./Pcs.	Item Description	

1.14	1	B11037B	Contact shoe
1.15	1	L01039	Cap cover F 38 x 20
1.16	1	G00104	Washer 13 x 24 x 2,5
1.17	2	G00115	Washer 6.4 x 12.5 x 1.6
1.18	2	G00110	Washer 6.4 x 12.5 x 1.6
1.19	4	G00107	Washer 8.4 x 17 x 1.6
1.20	1	F310060	Spacer lining
1.21	1	F310062.P14	Kerb climber, RAL 7021 dark grey
1.22	1	B210021.P28	Kerb climber receptacle, matt black
1.23	1	B210022.P28	Chassis receptacle LH, matt black
1.24	1	B210023.P28	Chassis receptacle RH, matt black



**Gas-filled spring (1.1)**

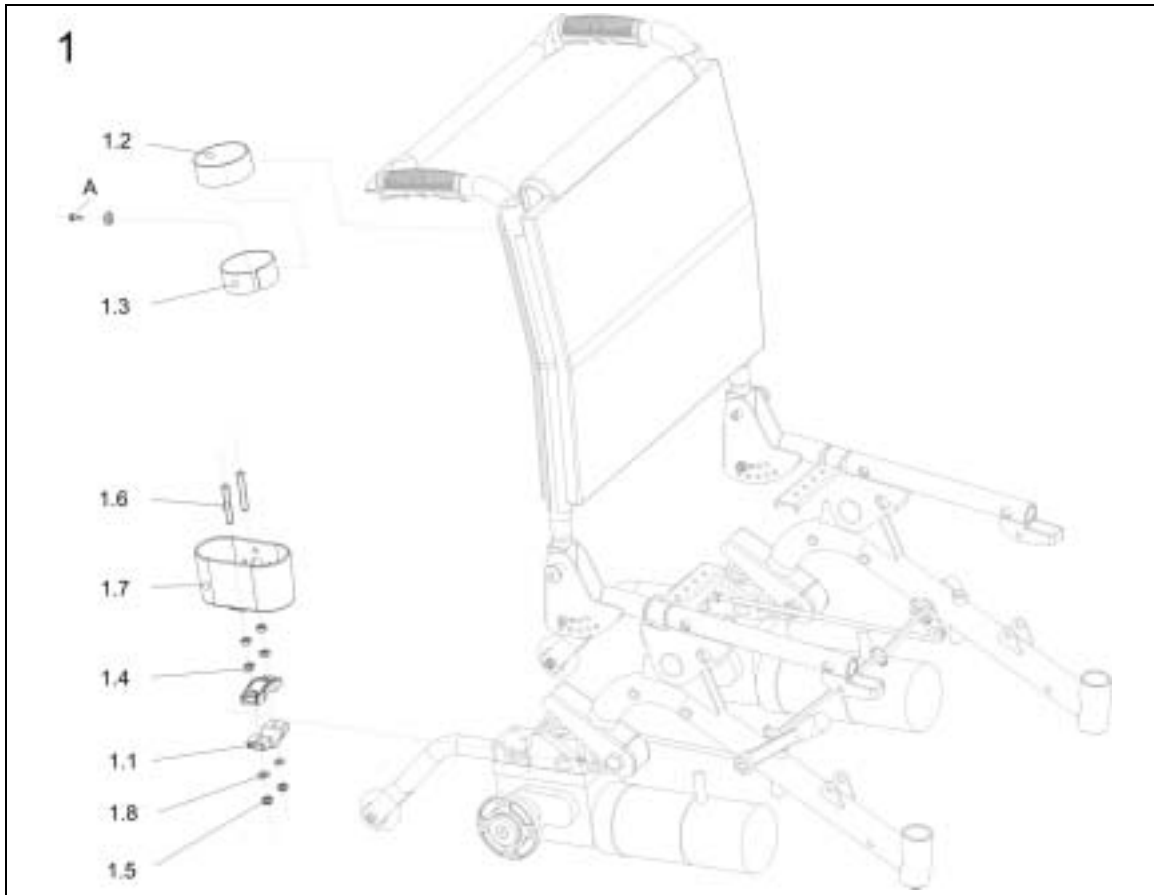
- unscrew cylinder head screw (1.12)
- unscrew cylinder head screw (1.10)
- replace gas-filled spring (1.1)

**10.5 Lining BB 1517 DU (1.4)**



- unscrew cylinder head screw (1.10)
- carefully knock in the new collar bush (1.4) with a stepped mandril

## 10.5.1 Cane holder complete



Pos	Qty.	Item No./Pcs.	Item Description
<b>1</b>	<b>1</b>	<b>B276001</b>	<b>Cane holder complete</b>
1.1	2	Z131001A	Clip
1.2	1	U20092	Brushed belt cut 25 x 190 mm
1.3	1	U21095	Hooked belt cut 25 x 190 mm
1.4	4	F00097	Hexagon nut M6
1.5	2	F20109	Hexagon nut M6 self-locking
1.6	2	D90183	Cheese-head screw with Allen key M6 x 45
1.7	1	5007160	Cane holder shell 117 X 61
1.8	2	G00115	Washer 6.4 x 12.5 x 1.6



### Fitting cane holder (1.7)

- screw the clip (1.1) to the anti-tip tube with the 2 tallow-drop screws
- unscrew the drilling screw (A) from the backrest
- screw the holder (1.2, 1.3) to the backrest with the drilling screw (A)