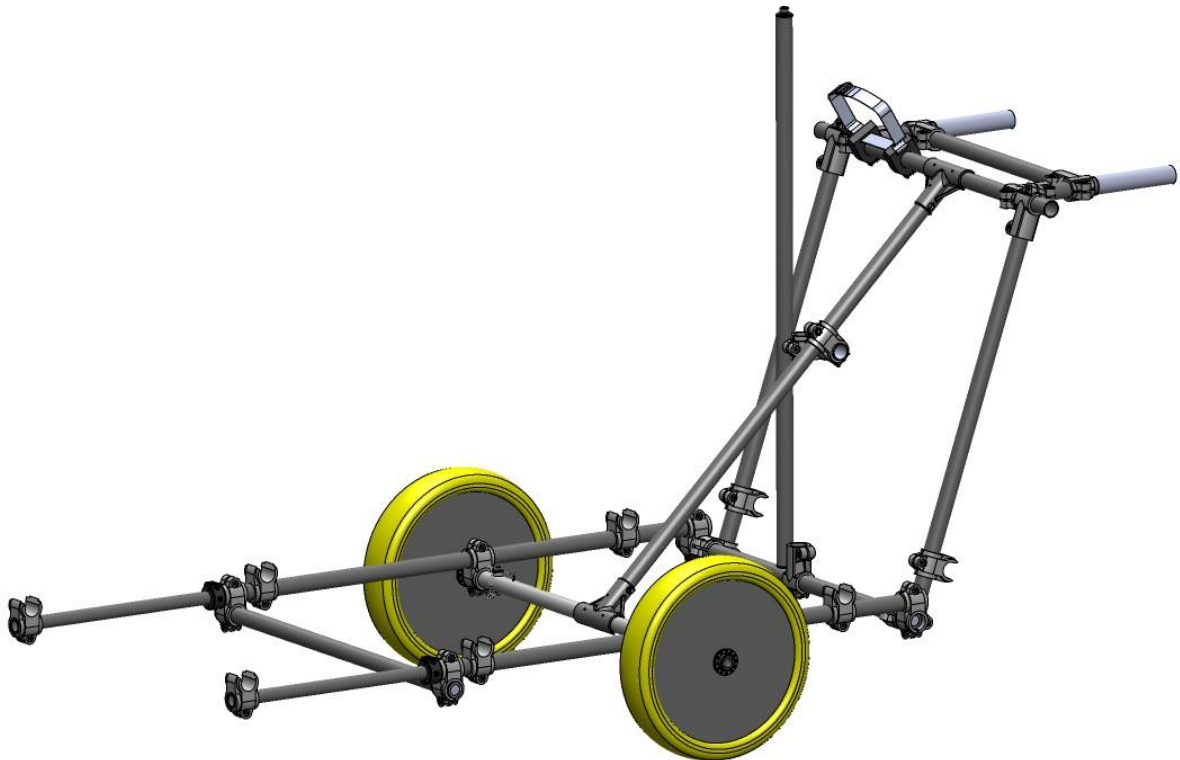


# WHEELED CARRIER

# VMXV1



## ASSEMBLY AND OPERATION MANUAL

Issue EN 02/2021

*Searching with Excellence*



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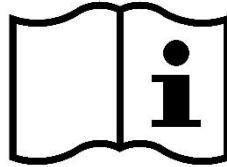
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## 1 Prior to starting

Thank you for purchasing one of our leading-edge products. Our company, which has been certified in accordance with ISO 9001 by an independent testing institute, stands for highest quality in the development and manufacturing of devices and assemblies.

The technology and the equipment are state-of-the-art regarding their functionality and safety in accordance with national and international requirements. Further developments and improvements are continuously taken into account. Therefore, the figures, technical data, and general contents specified in this document may change due to adjustment to new findings\*.



This assembly and operation manual is designed to help you to use our product with its versatile possibilities optimally and safely.

**That is why we ask you to read this assembly and operation manual thoroughly and to make sure you have understood everything prior to putting the wheeled carrier VMXV1 into operation. Always keep the assembly and operation manual near the wheeled carrier so that it is quickly available when needed.**

Please do not hesitate to contact us if you have any further questions.

\*All details as stated in this document comply with the technical standard that is applicable at the date of printing. It is subject to technical modifications and error.

### 1.1 Applicable documents

Prior to putting the wheeled carrier VMXV1 into operation, please read the operation manual of the large loop metal detector and further electronic components that are mounted on the wheeled carrier.

- Large loop metal detector VMX10 (option)
- VALLON field computers and software for data recording (option)
- GNSS system (option)

## 2 Safety instructions

### 2.1 Intended use

The wheeled carrier VMXV1 is used for the mounting of a VALLON large loop metal detector VMX10 and further electronic components (e.g. field computer) for the detection of metal objects such as unexploded ordnance (UXO) in the ground.

The wheeled carrier is lifted and pushed by a handle.

Harms and damages caused by operation not in accordance with the intended use are the full responsibility and liability of the operator, the manufacturer assumes no liability.

Do **not change or modify** the wheeled carrier. Improper changes or modifications of the wheeled carrier can result in accidents with serious injury.

### 2.2 Necessary qualifications

The knowledge of this assembly and operation manual is a precondition for the safe assembly and operation of the wheeled carrier.

The minimum age for personnel assembling the wheeled carrier is 16 years.

The personnel responsible for the assembly and operation of the wheeled carrier must be instructed and trained by the system operator in the assembly and operation of the wheeled carrier. The system operator must ensure that only duly trained and qualified personnel work on and with the wheeled carrier.

Please contact VALLON GmbH in case further training of the personnel is required after delivery of the wheeled carrier.

### 3 Description

The wheeled carrier VMXV1 is used for the mounting of a VALLON large loop metal detector VMX10 and further electronic components (e.g. GNSS system, field computer).

Search coils with the dimensions 1 x 1 m, 2 x 1 m and 2 x 2 m can be mounted on the wheeled carrier.

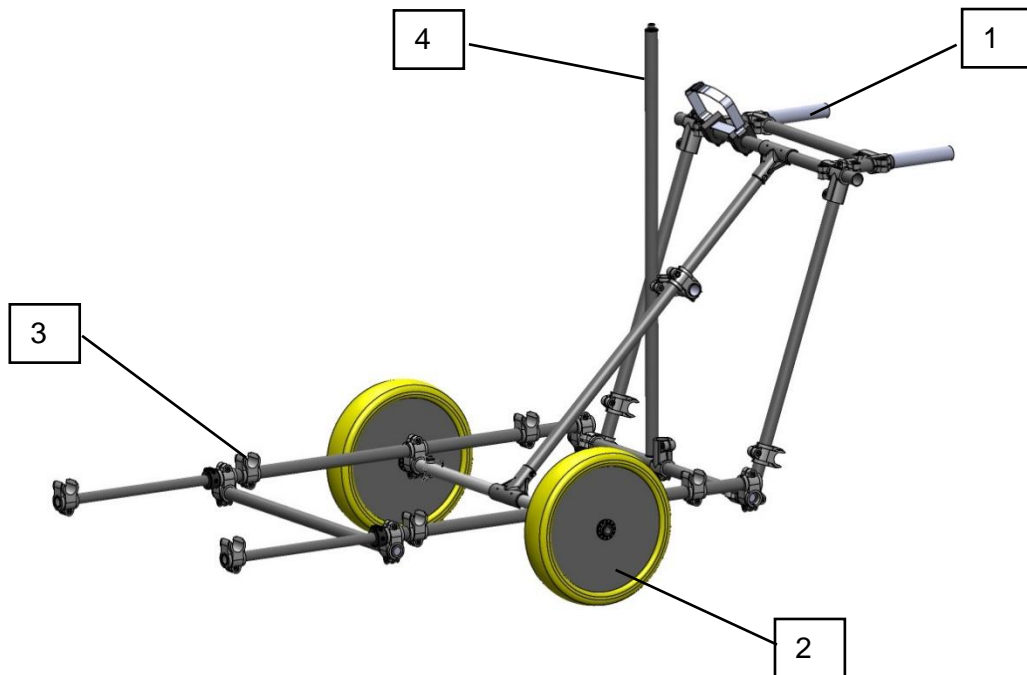


Fig. 3-1: Wheeled carrier VMXV1

#### Key

1. Handle
2. Wheels
3. Frame with retaining clips for the search coils
4. Holder for GNSS antenna

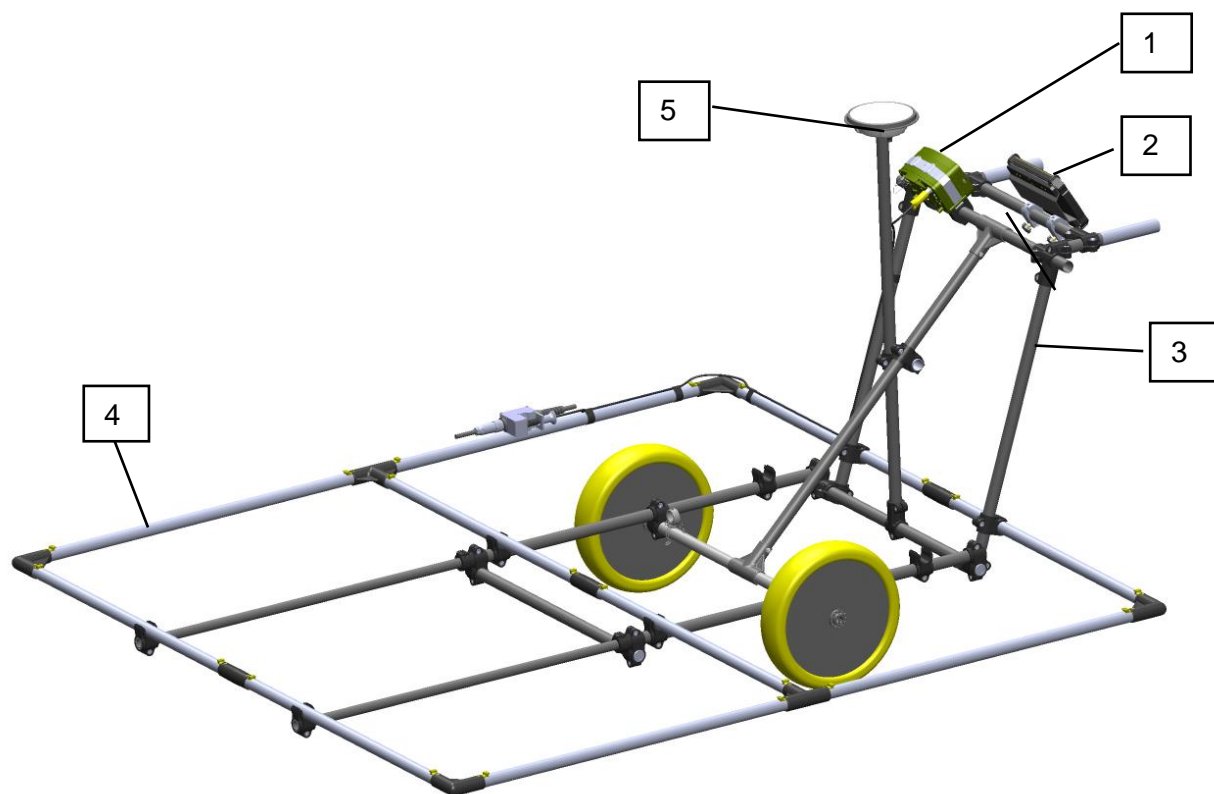


Fig. 3-2: Wheeled carrier VMXV1 with optional large loop metal detector VMX10 (2 x 2 m)

### Key

1. Control unit VMX10
2. Field computer
3. Wheeled carrier
4. Carrying frame VMX10 (2 x 2 m) without detection cable
5. GNSS antenna

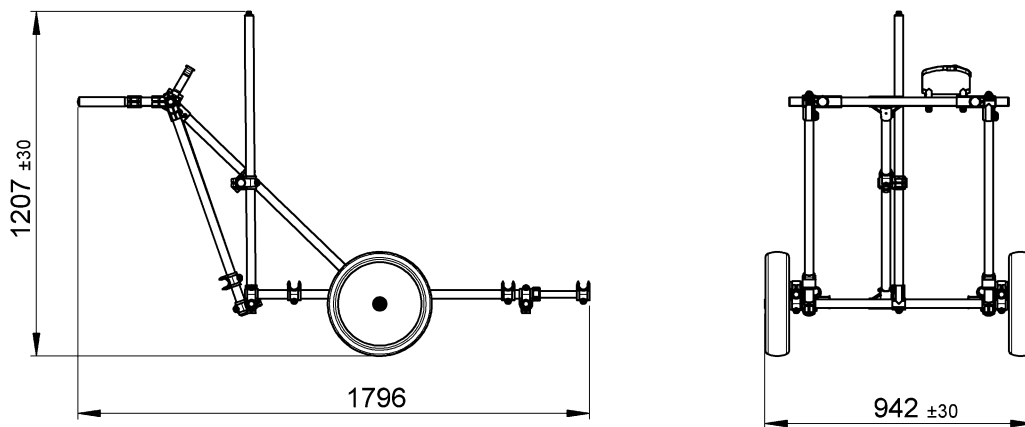
### 3.1 Type plate

The type plate is fixed on the frame of the wheeled carrier. The type plate contains the type designation, the serial number and the year of manufacture of the wheeled carrier.

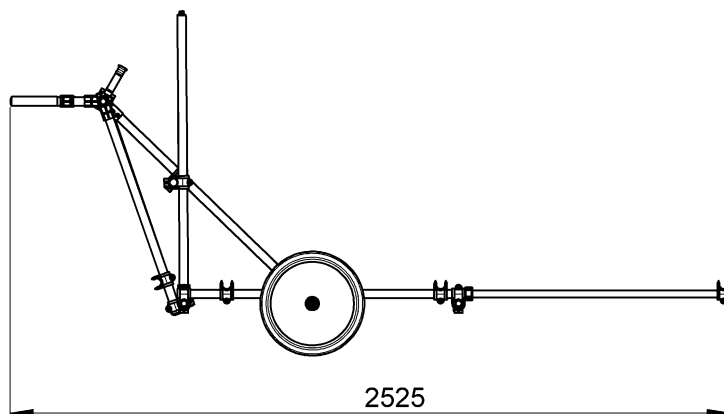


Fig. 3.1-1: Type plate

### 3.2 Dimensions of the wheeled carrier



Länge bei Suchspulenkonfiguration 1 x 1 m und 2 x 1 m  
Length with coil configuration 1 x 1 m and 2 x 1 m



Länge bei Suchspulenkonfiguration 1 x 2 m und 2 x 2 m  
Length with coil configuration 1 x 2 m and 2 x 2 m

Fig. 3.2-1: Dimensions

### **3.3 Predictable misuse**

Use of the wheeled carrier for the transport of persons; mounting of parts or components that are not designated for the wheeled carrier.

The wheeled carrier must not be used for the transport of persons. It is not allowed to use other parts on the wheeled carrier than VALLON coils and electronic components designated for this purpose.

The wheeled carrier must only be used in proper technical condition.

Intoxicated persons under the influence of alcohol, drugs or medication affecting their reactions must not operate the wheeled carrier.

### **3.4 Residual risks**

Use in uneven terrain may cause the wheeled carrier to overturn.

The wheeled carrier must not be used in uneven or steep areas.



## 4 Scope of delivery

The wheeled carrier VMXV1 is delivered in a case.

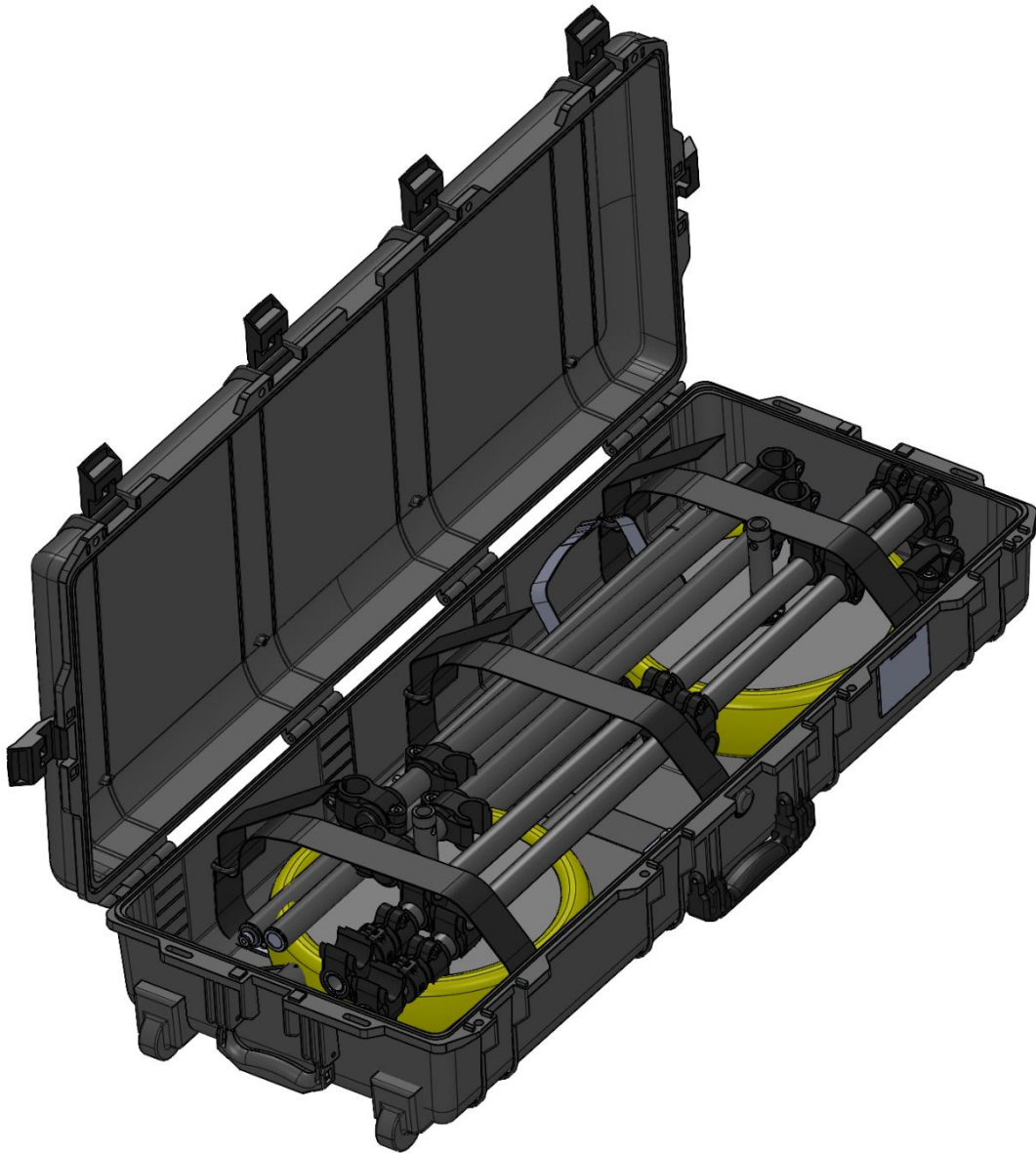


Fig. 4-1: Wheeled carrier in case

The scope of delivery of the wheeled carrier consists of the following components:

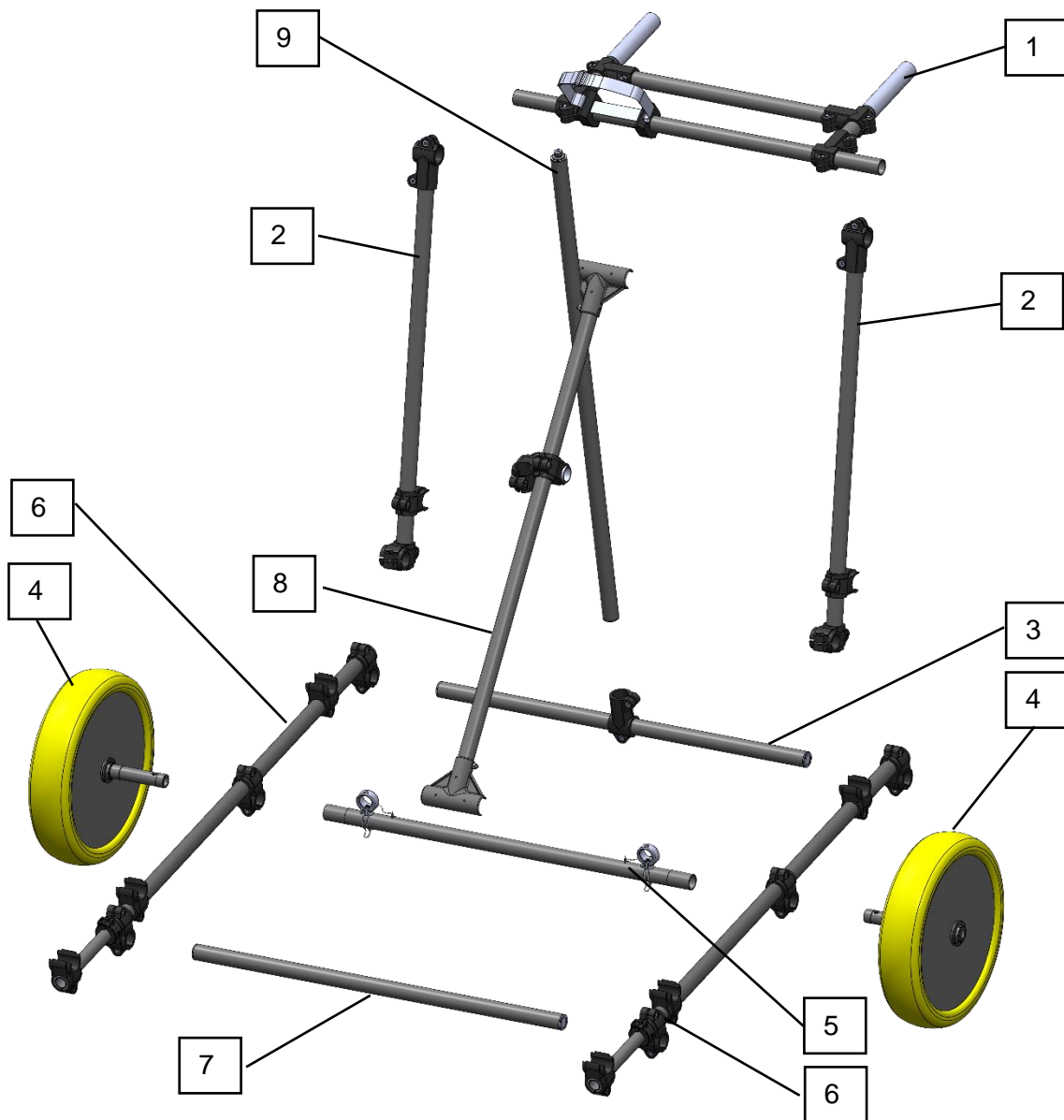


Fig. 4-2: Scope of delivery wheeled carrier

**Key**

- 1 Handle
- 2 Handle tube
- 3 Cross tube rear with clamping piece for antenna holder
- 4 Wheels with axle stub
- 5 Wheel axle with locking pins for wheels
- 6 Side members with extendable extensions
- 7 Cross tube front
- 8 Strut
- 9 Holder for GNSS antenna

## 5 Setup

### 5.1 Assembly

Hereafter the individual assembly steps are described for the wheeled carrier. The designation of the individual components and their installation position can also be found in the exploded view in sect. 4.

**ATTENTION:** All screw connections that do not have to be loosened or tightened when disassembling or assembling the wheeled carrier are marked in red. These screws are also secured with a screw locking agent to prevent them from being unscrewed unintentionally.

**NOTE:** The tightening torque for all screw connections not marked in red is 6 Nm. Use the supplied torque wrench to tighten the screws.

- As shown in fig. 5.1-1, push the clamping pieces from one of the two handle tubes onto the handle and onto the rear cross tube.
- Then push the clamping pieces of the second handle tube onto the handle and onto the rear cross tube.

Make sure that the retaining clips for the search coil on the handle tubes are directed towards the rear and the clamping piece for the antenna holder on the rear cross tube is directed upwards.

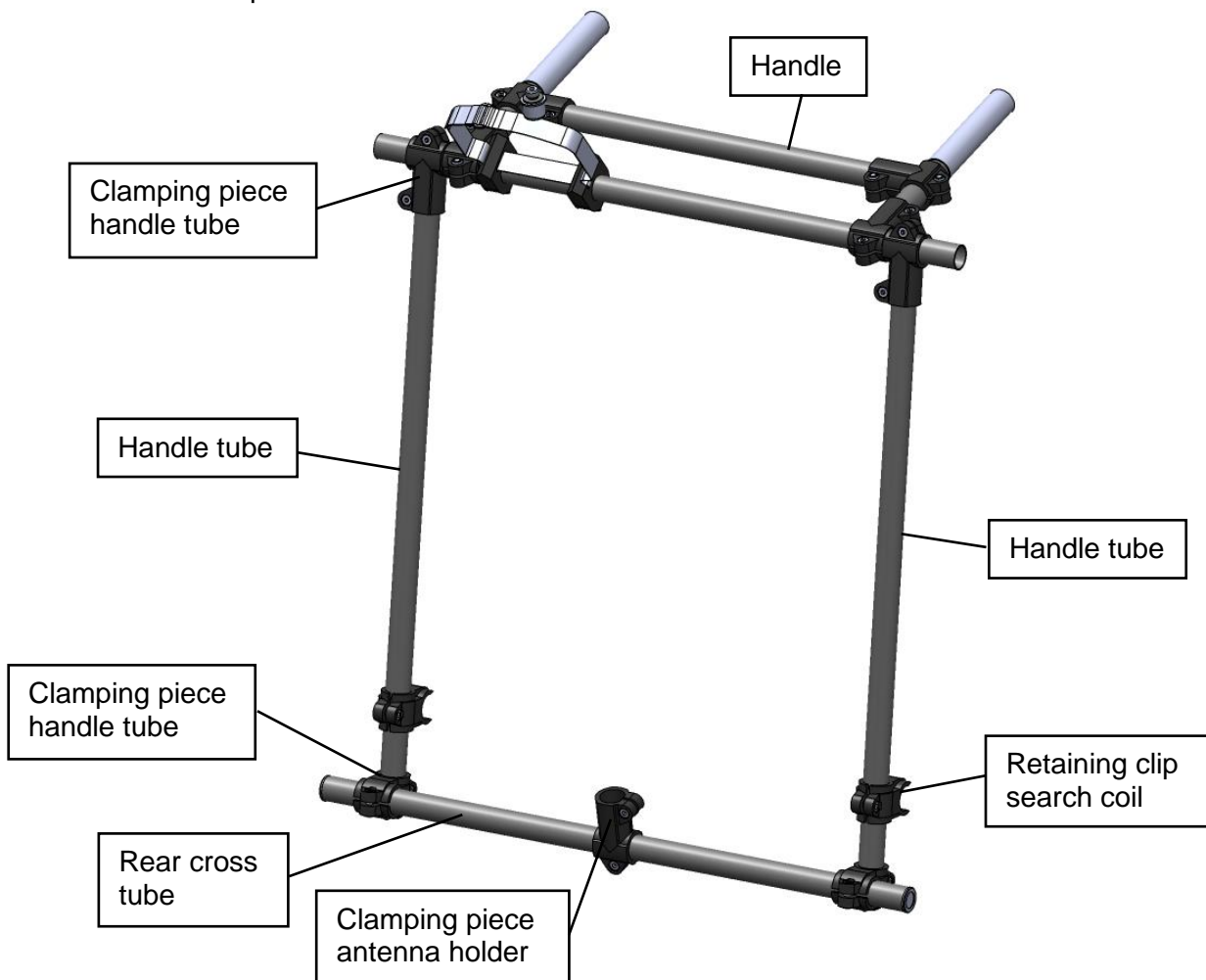


Fig. 5.1-1: Attach handle tubes

- Push the clamping piece of one side member onto the rear cross tube until the end of the rear cross tube protrudes approx. 1 mm from the clamping piece.  
The clamping piece with the retainer for the wheel axle is oriented downwards and the extendable extension points to the front.

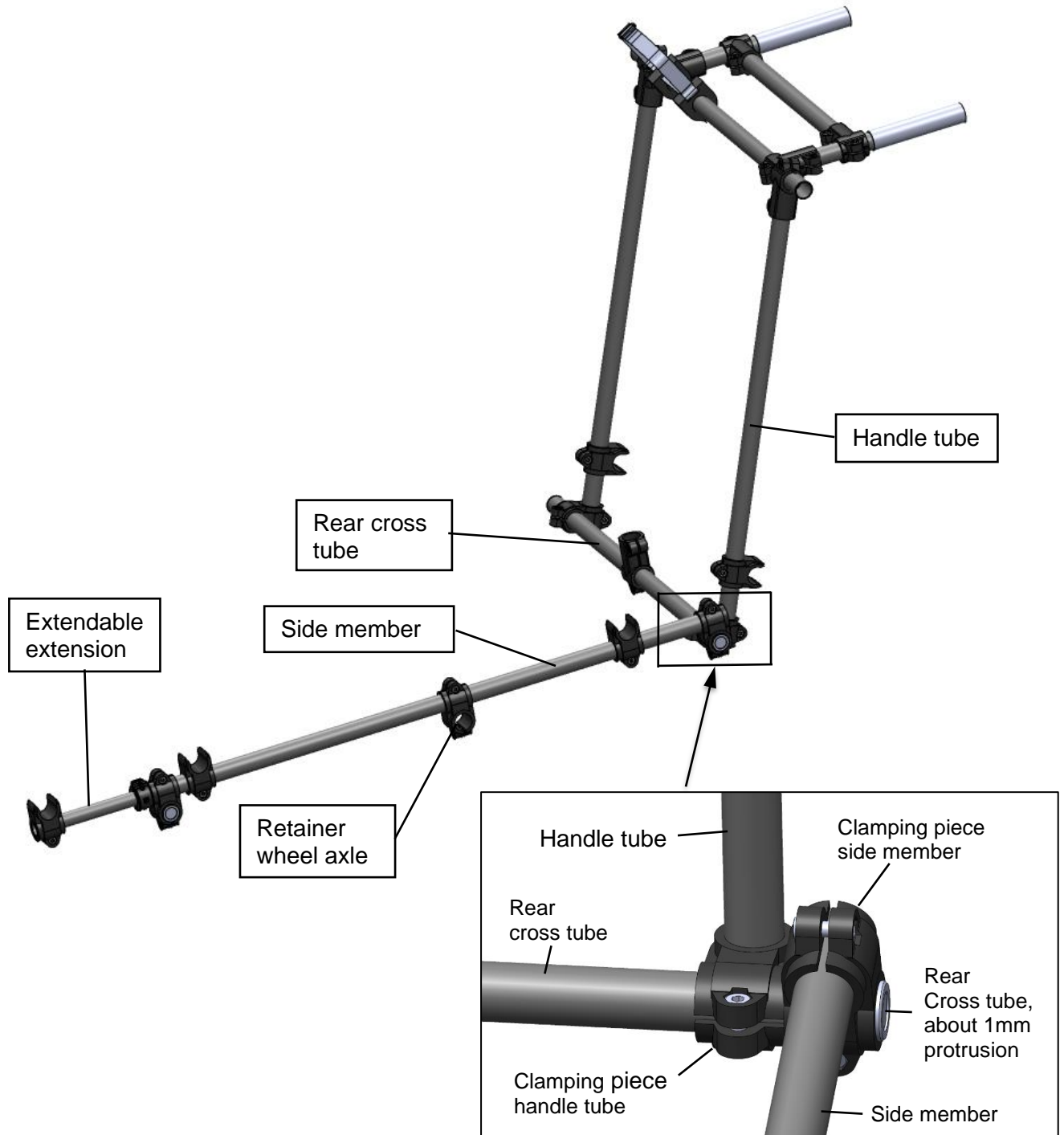


Fig. 5.1-2: Attach side member

- Push the wheel axle and the front cross tube into the corresponding clamping pieces on the side member until the tube ends protrude approx. 1 mm from the clamping pieces. Make sure that the holes in the wheel axle with the bolts for fastening the wheels are aligned vertically.

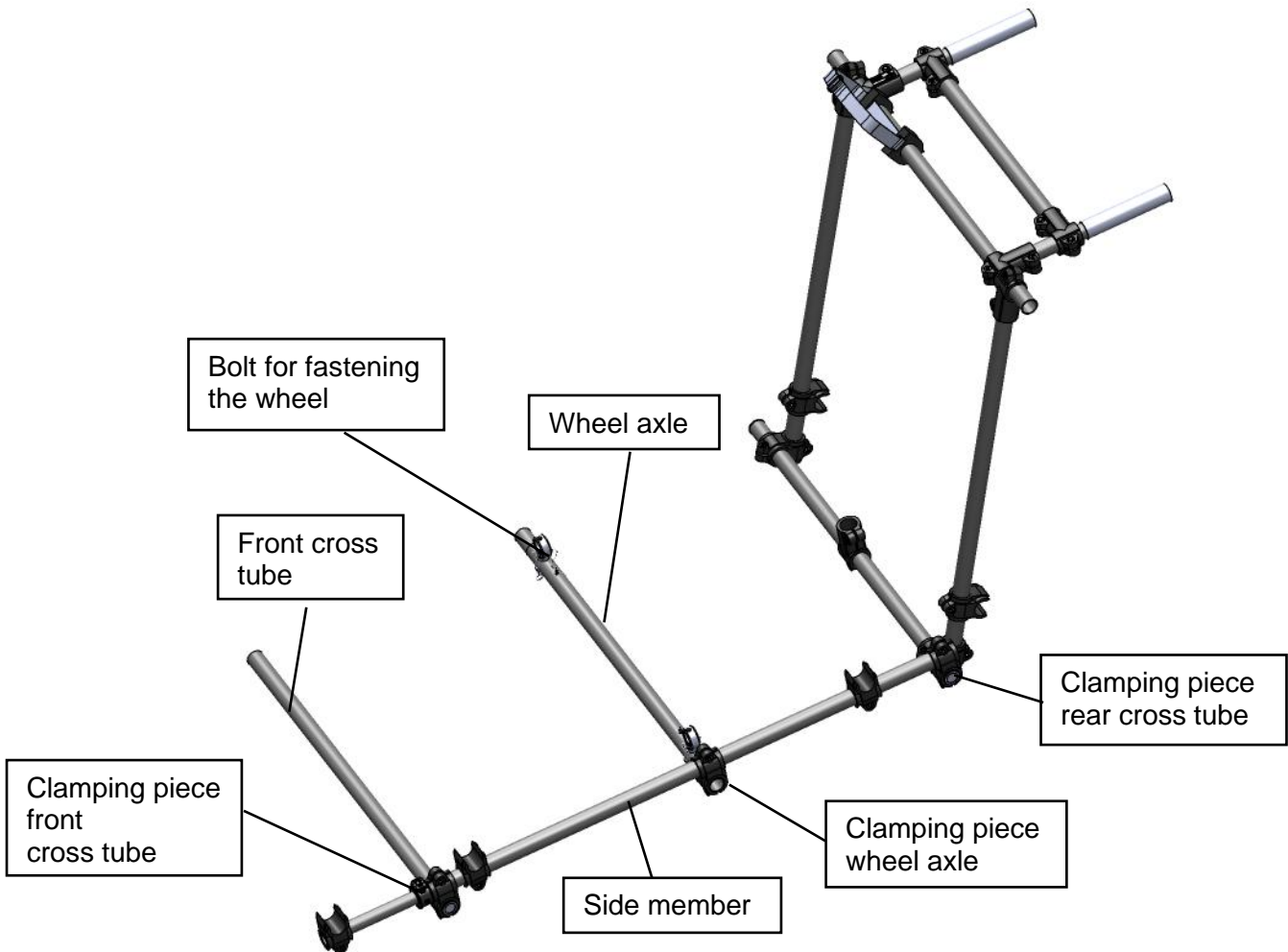


Fig. 5.1-3: Attach wheel axle and front cross tube

- Tighten the fixing screws on the two clamping pieces for the wheel axle and for the front cross tube. Tightening torque 6 Nm.

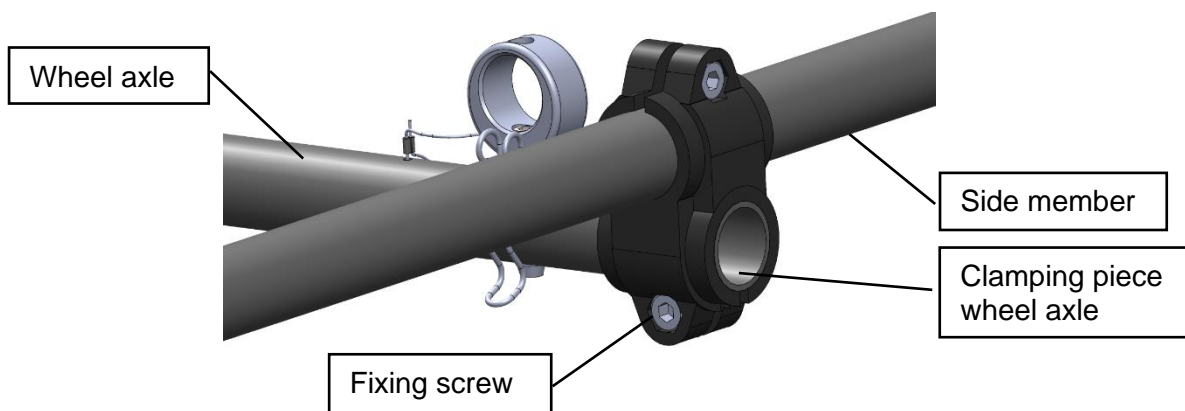


Fig. 5.1-4: Clamping piece

- Push the clamping pieces of the second side member onto the rear cross tube, onto the wheel axle and onto the front cross tube until the tube ends protrude approx. 1 mm from the clamping pieces.

The clamping piece with the retainer for the wheel axle is oriented downwards and the extendable extension points to the front.

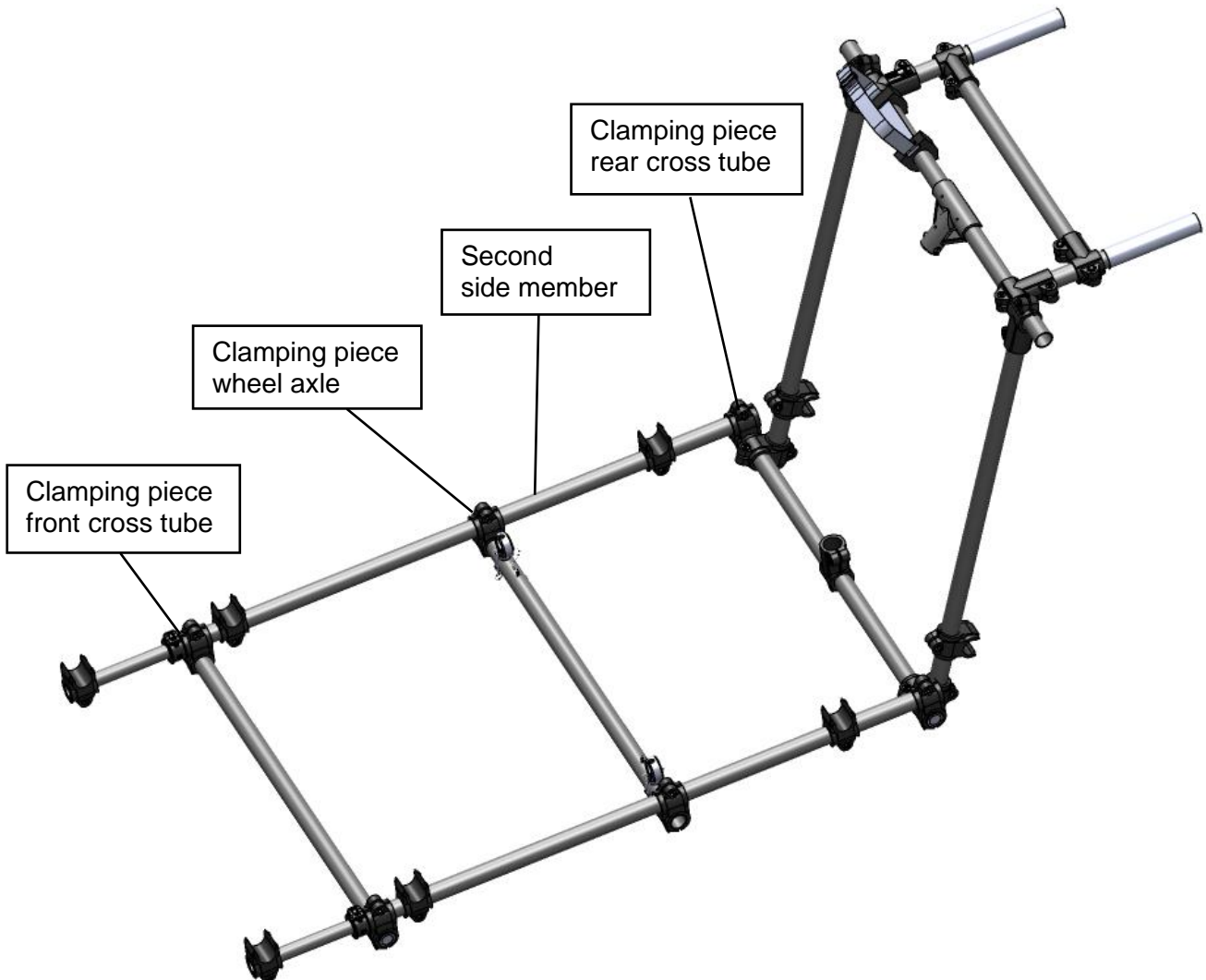


Fig. 5.1-5: Attach second side member

- Tighten the fixing screws on the two clamping pieces for the wheel axle and for the front cross tube. Tightening torque 6 Nm.

- Now clip the two retaining clips of the strut into the wheel axle and into the handle.
- Push the holder for the GNSS antenna through the retainer of the joint piece into the clamping piece for the antenna holder on the rear cross tube until its stop.  
The thread for the antenna is aligned upwards.
- Tighten the fixing screws on the joint piece and on the clamping piece for the antenna holder. Tightening torque 6 Nm.

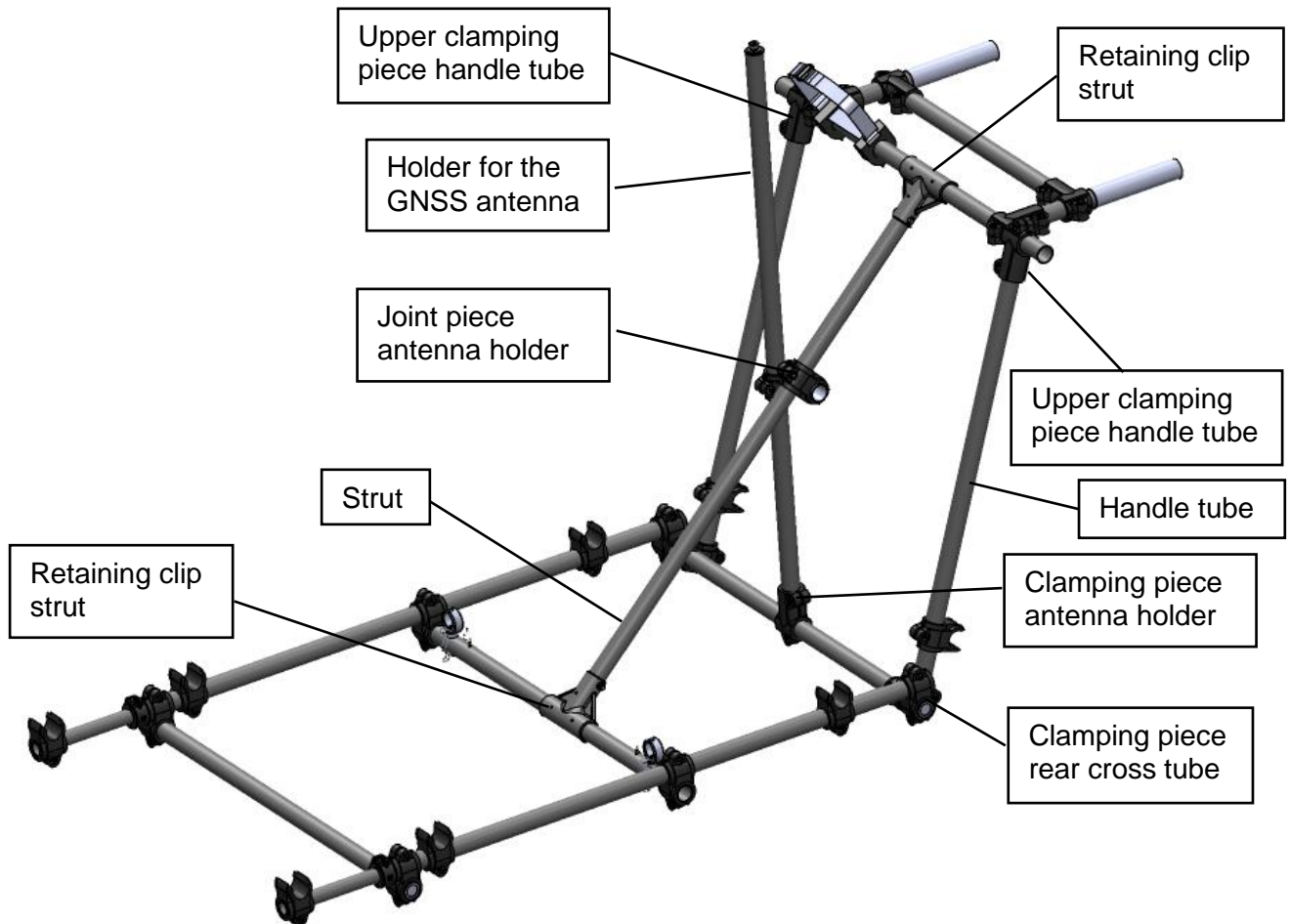


Fig. 5.1-6: Mount holder for GNSS antenna and strut

- Now tighten the fixing screws on the two clamping pieces on the side member for the rear cross tube. Tightening torque 6 Nm.
- Tighten the fixing screws on the 4 clamping pieces of the handle tubes (see also fig. 5.1-1). Tightening torque 6 Nm.,
- Tighten the fixing screws on the joint piece antenna holder. Tightening torque 6 Nm.

**NOTE:** The height of the handle can be individually adapted to the size of the operator. To do this, loosen the two fixing screws on the upper clamping pieces of the handle tubes and adjust the handle accordingly. Then tighten the fixing screws again.

- Insert the axle stubs of the two wheels into the wheel axle.  
Make sure that the holes in the wheel axle and in the axle stubs are on top of each other.
- Secure the wheels with the two bolts for fastening the wheels. The bolts must be completely inserted into the holes. The bolts are secured against unintentional loosening with spring clips.

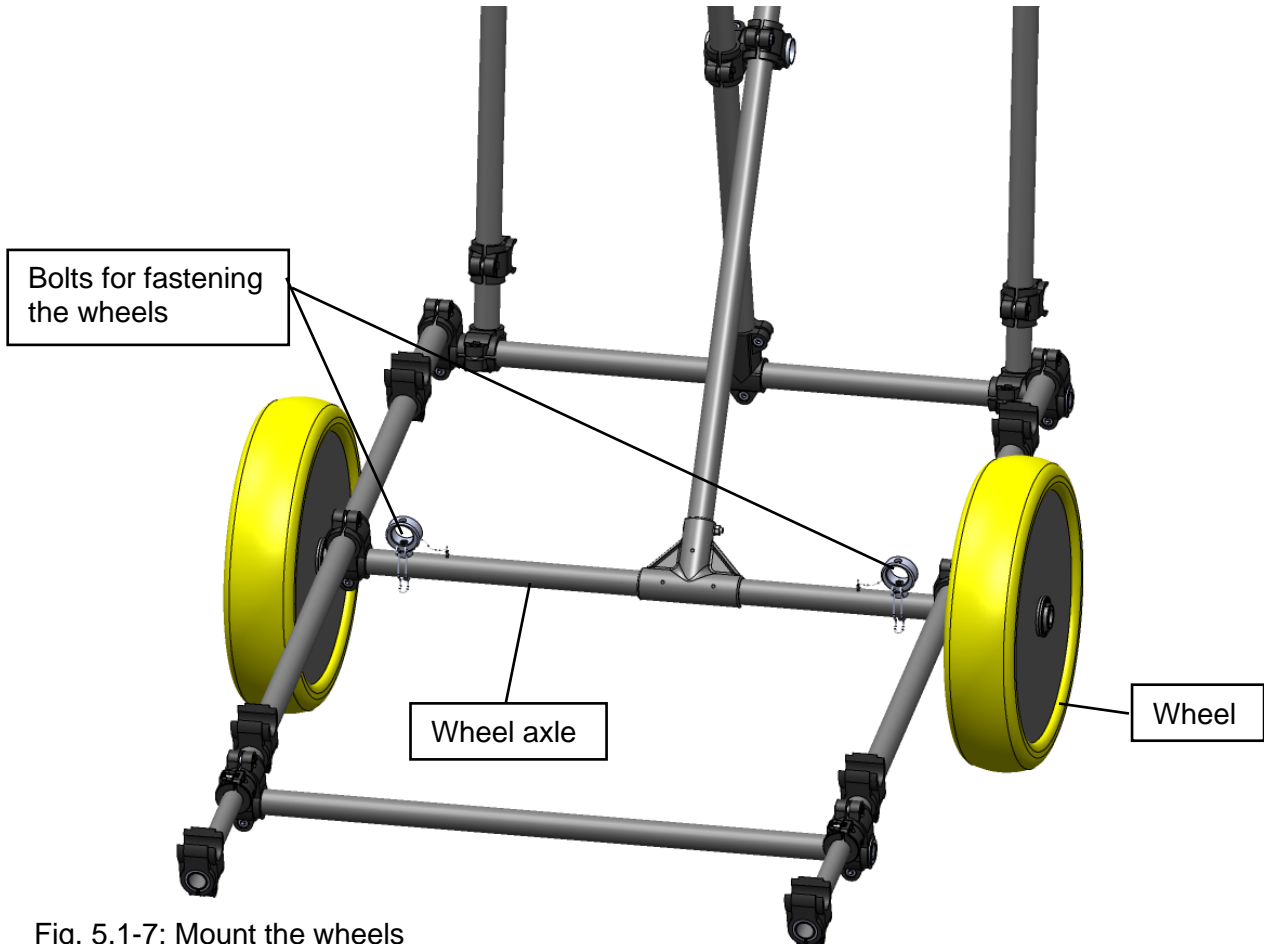


Fig. 5.1-7: Mount the wheels

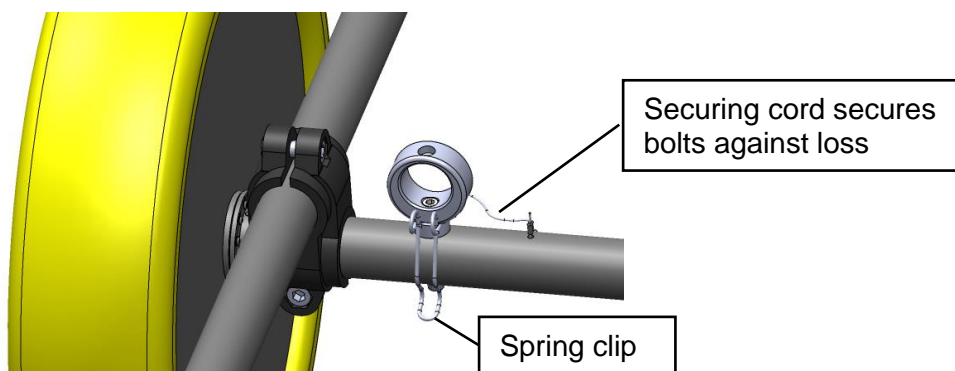


Fig. 5.1-8: Bolt for fastening the wheel

The wheeled carrier is disassembled in reversed order.

Please note that the screw connections marked in red do **not** have to be loosened.



## 5.2 Mounting the electronic components on the wheel carrier

The wheeled carrier was designed for the attachment of a VALLON large loop metal detector.

Three different search coils can be attached:

- Search coil 1 x 1 m
- Search coil 2 x 1 m, lengthwise and crosswise
- Search coil 2 x 2 m

Furthermore, an optionally available field computer and an optionally available GNSS system can be fitted.

All fastening elements required for assembly are already present on the wheeled carrier.

### 5.2.1 Mounting the search coils

- Open the levers of the two clamps (pos. 4) and pull out the two extensions (pos. 3) to the required length.
- As shown in fig. 5.2.1-1 to 5.2.1-4, clip the search coil (pos. 2) into the corresponding retaining clips (pos. 1).
- Close the levers of the clamps (pos. 4).
- Place the control unit (pos. 7) on the bracket provided and fasten it with the fastening strap (see also sect. 5.2.2).
- Lay the connection cable (pos. 6) between the search coil and the control unit as shown in the figure and attach it to the wheeled carrier with the velcro straps (pos. 5).
- Insert the plug of the connection cable (pos. 6) into the control unit.

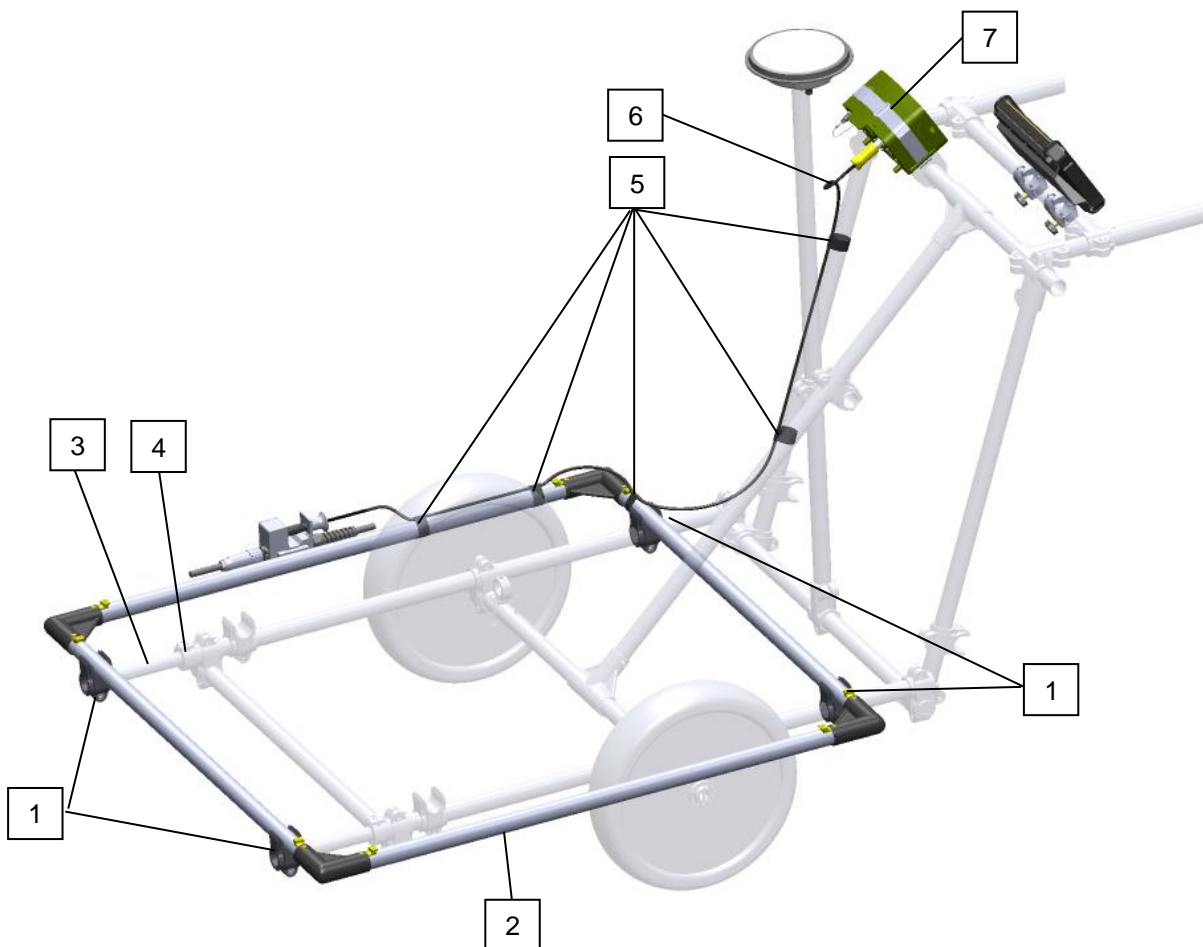


Fig. 5.2.1-1: Wheeled carrier with search coil 1 x 1 m

#### Key

- |   |   |
|---|---|
| 1 | Retaining clips for search coil 1 x 1 m |
| 2 | Search coil VMX10, 1 x 1 m              |
| 3 | Extendable extension                    |
| 4 | Clamp                                   |
| 5 | Velcro straps                           |
| 6 | Connection cable                        |
| 7 | Control unit VMX10                      |

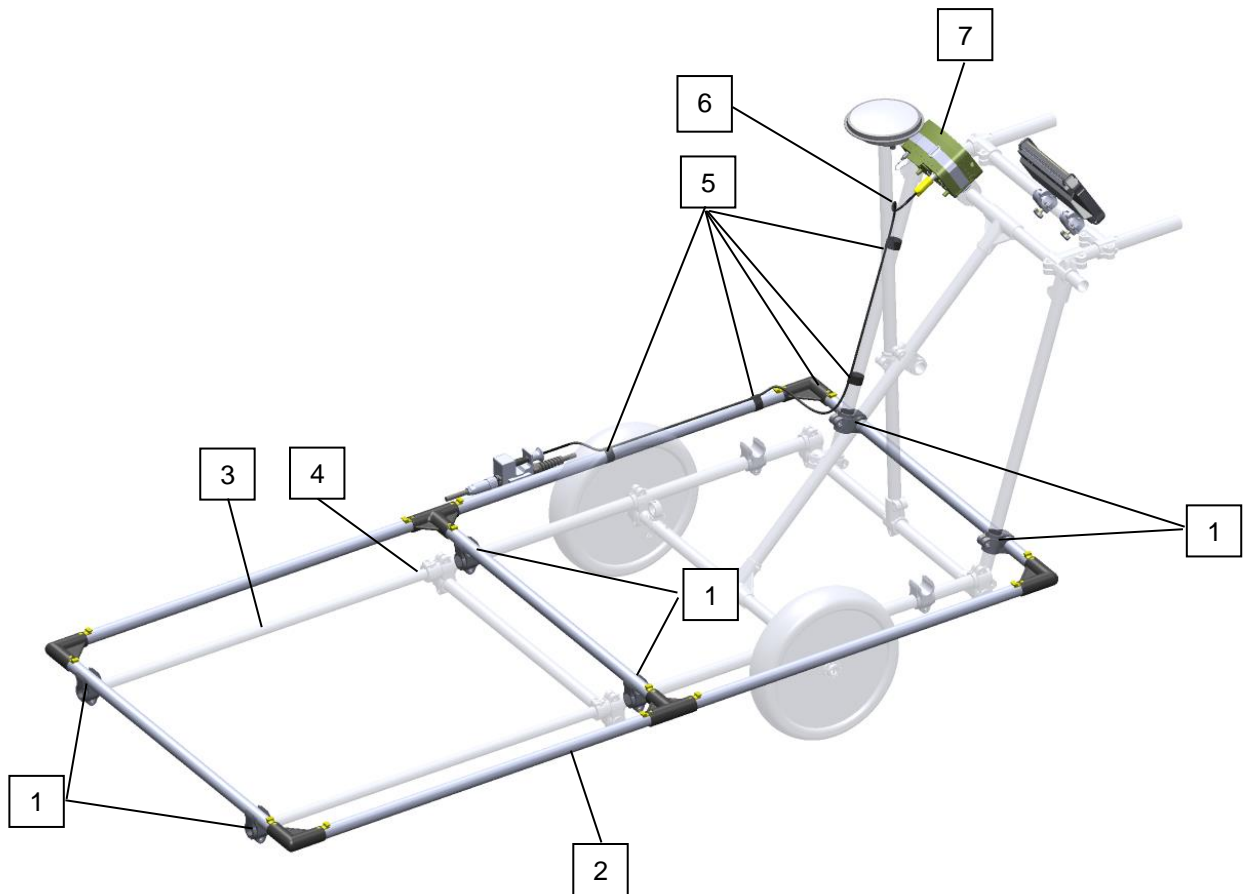


Fig. 5.2.1-2: Wheeled carrier with search coil 1 x 2 m, fitted lengthwise

### Key

- 1 Retaining clips for search coil 1 x 2 m, fitted lengthwise
- 2 Search coil VMX10, 1 x 2 m, fitted lengthwise
- 3 Extendable extension
- 4 Clamp
- 5 Velcro straps
- 6 Connection cable
- 7 Control unit VMX10

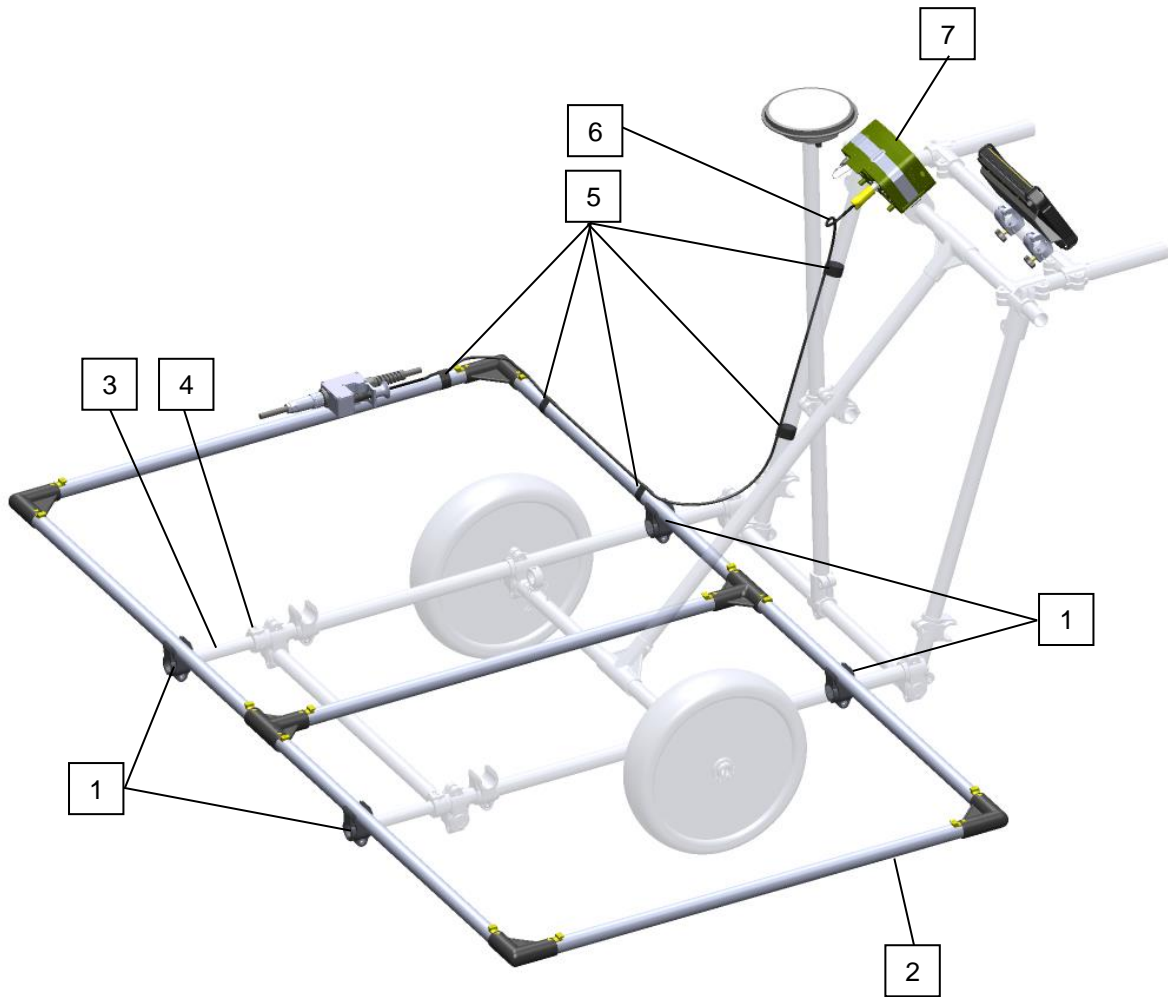


Fig. 5.2.1-3: Wheeled carrier with search coil 2 x 1 m, fitted crosswise

**Key**

- 1 Retaining clips for search coil 2 x 1 m, fitted crosswise
- 2 Search coil VMX10, 2 x 1 m, fitted crosswise
- 3 Extendable extension
- 4 Clamp
- 5 Velcro straps
- 6 Connection cable
- 7 Control unit VMX10

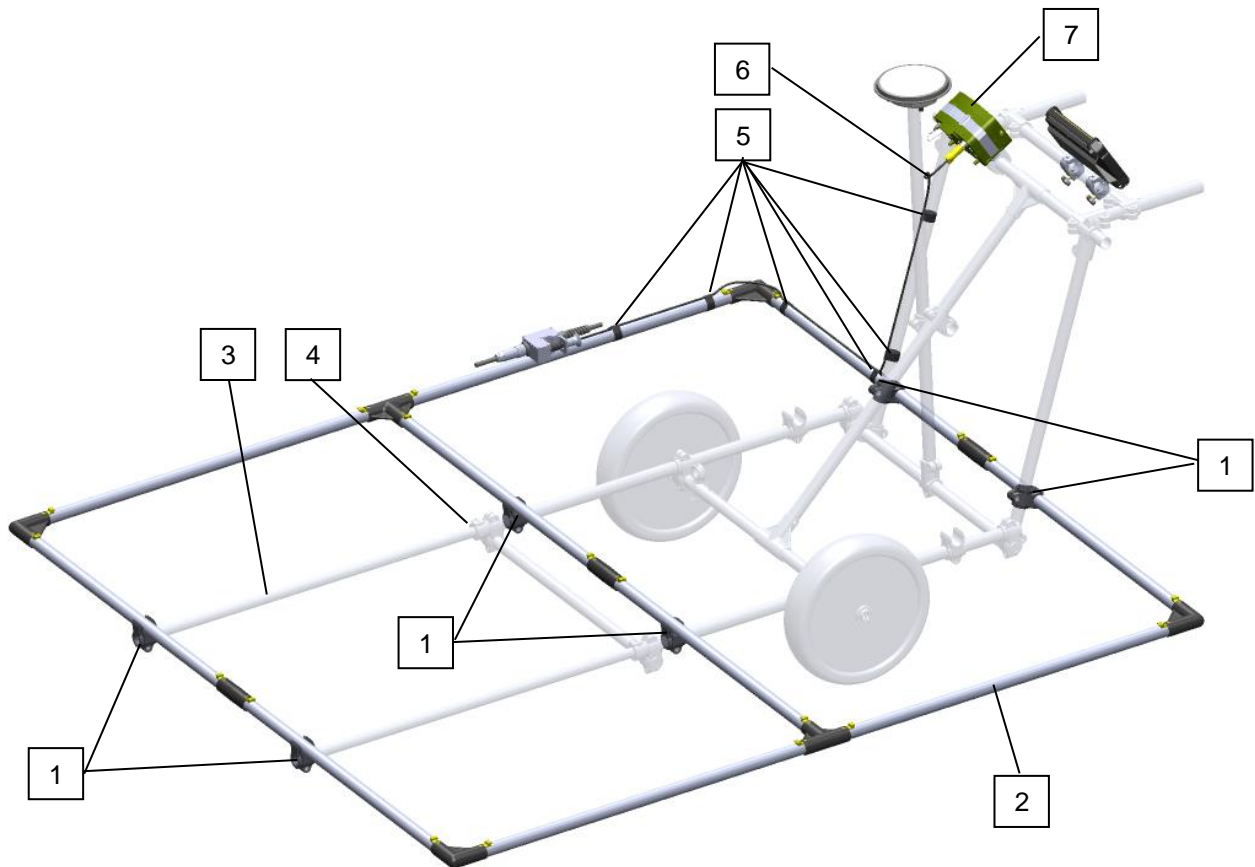


Fig. 5.2.1-4: Wheeled carrier system with search coil 2 x 2 m

**Key**

- 1 Retaining clips for search coil 2 x 2 m
- 2 Search coil VMX10, 2 x 2 m
- 3 Extendable extension
- 4 Clamp
- 5 Velcro straps
- 6 Connection cable
- 7 Control unit VMX10

## 5.2.2 Fitting the control unit

The control unit is attached to the handle of the wheeled carrier.

- If necessary, loosen the screws of the two brackets (pos. 1) and slide the brackets to the desired position.  
Observe the distance between the two brackets. Both brackets must engage in the corresponding recesses in the control unit (see fig. 5.2.2-2).
- Tighten the screws of the two brackets again.

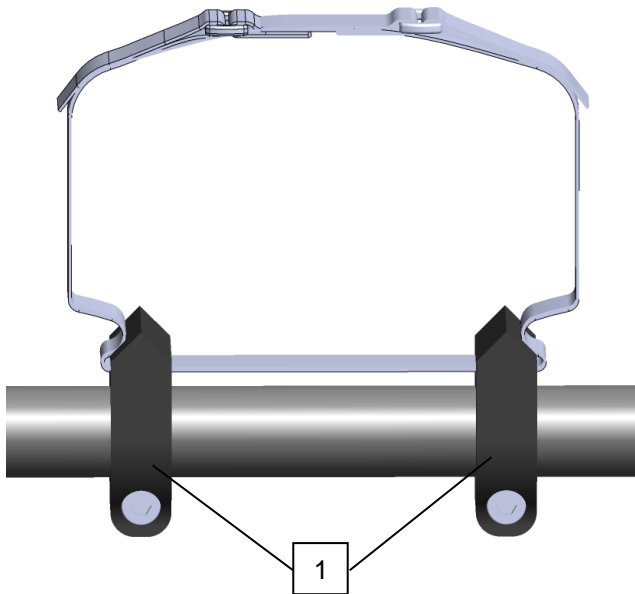


Fig. 5.2.2-1: Bracket for control unit

- Place the control unit (pos. 2) on the brackets (pos. 1) as shown in Fig. 5.2.2-2.  
Both brackets must engage in the corresponding recesses (pos. 3) in the control unit.

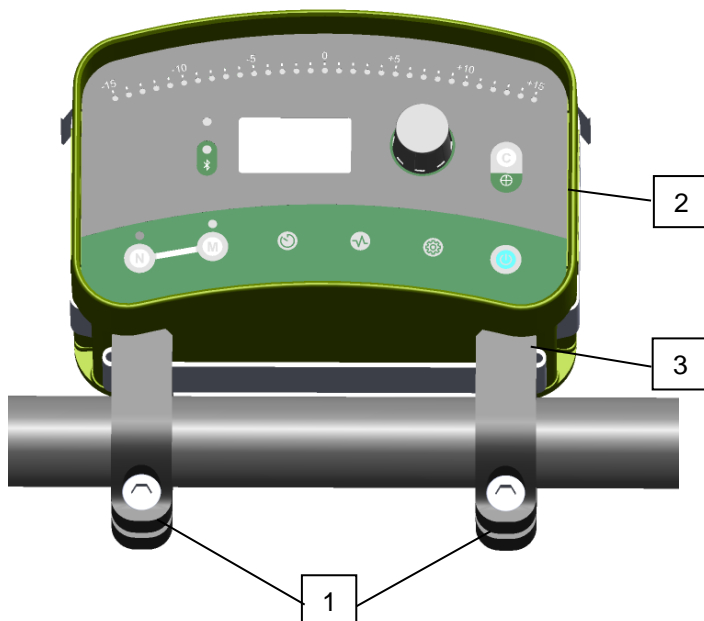


Fig. 5.2.2-2: Place the control unit on brackets

- Fasten the control unit with the fastening strap (pos.4).

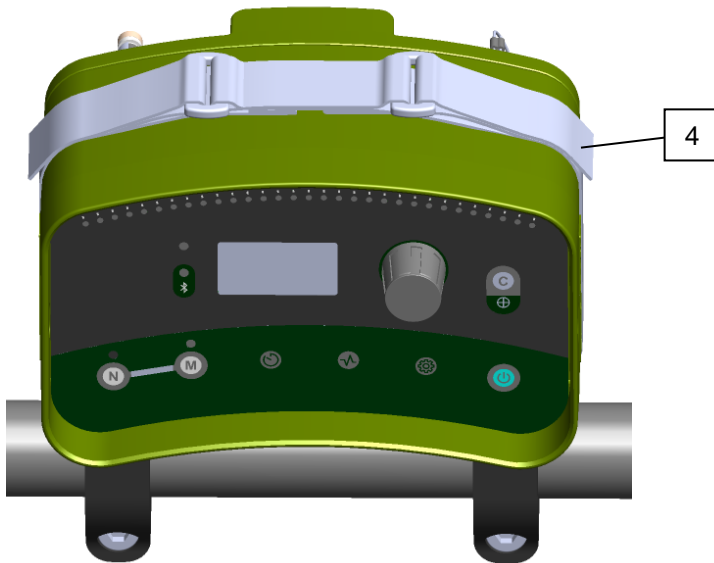


Fig. 5.2.2-3: Fasten control unit

## 6 Working with the wheeled carrier

Make sure that nobody is in the danger areas if the wheeled carrier tips over.

- Provide the power supply and make all settings on the electronic components according to the information in the separate operation manuals.
- Lift the wheeled carrier using the handle.
- Hold the wheeled carrier in such way that the coil is aligned vertically.  
If necessary, you can adjust the height of the handle accordingly.  
See sect. 5.1 for further information.

## 7 Technical data

Dimensions	See sect. 3.2
Weight without equipment	Approx. 10 kg
Weight with case	Approx. 19 kg

## 8 Maintenance and cleaning

### 8.1 Maintenance

Work to be performed	Interval	Maintenance personnel
Check wheeled carrier for damages and broken, torn or missing parts.	Daily before operation	Operator
Check all screw connections and tighten them if necessary.	Weekly	Operator

### 8.2 Cleaning

If required, clean the wheeled carrier with a damp cloth.

Do not use a high-pressure cleaner for cleaning the wheeled carrier.



## 9 Warranty

Safe operation of the wheeled carrier is only possible if used as intended and according to the assembly and operation manual.

- Warranty claims will become void if the wheeled carrier is not used in accordance with this assembly and operation manual.
- Warranty claims will become void if the wheeled carrier is not used in accordance with the intended use.
- Due to their limited durability, parts subject to particular wear are excluded from the legal warranty obligation.

## 10 Disposal of the device

The wheeled carrier shall not be disposed of with unsorted municipal waste.

Have the wheeled carrier disposed of and recycled by a waste disposal company considering all local regulations.

## 11 Spare parts

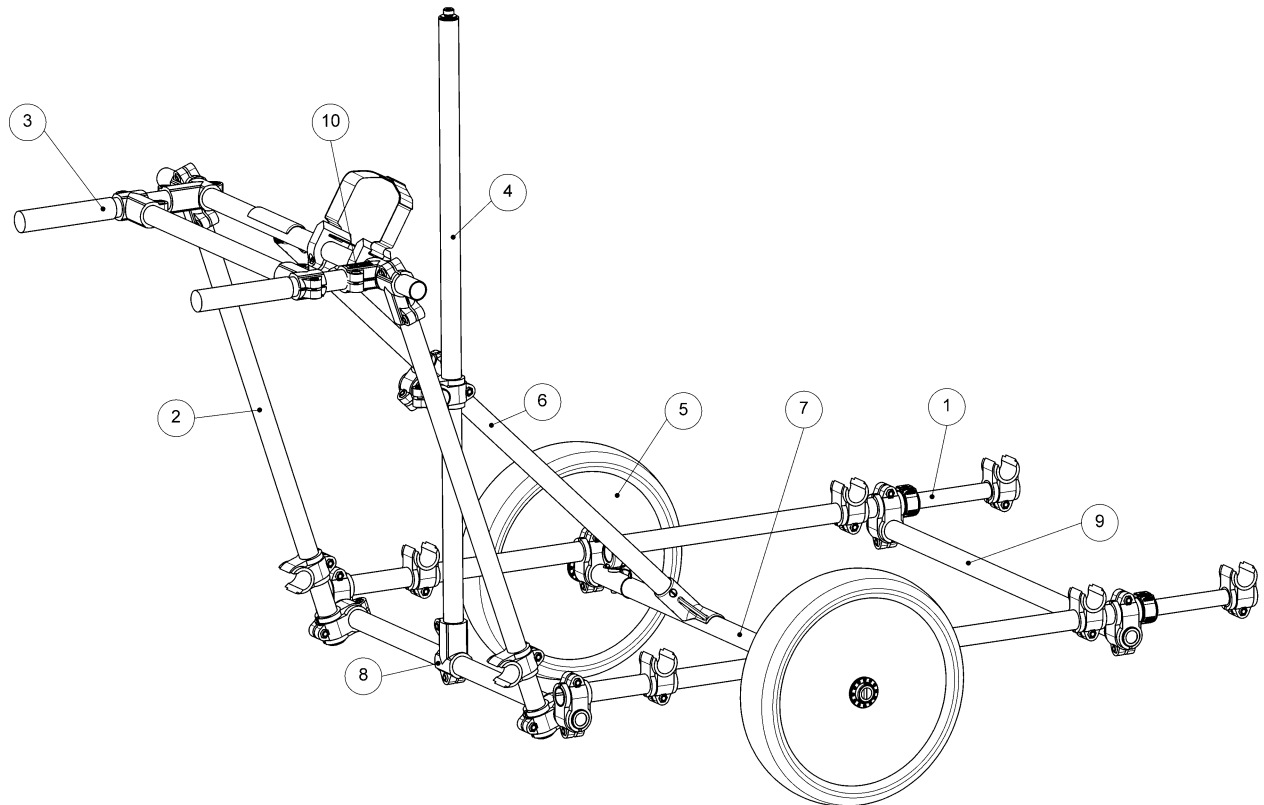
Only use genuine spare parts.

To order spare parts, please contact VALLON GmbH:

Tel: +49 7121 98550

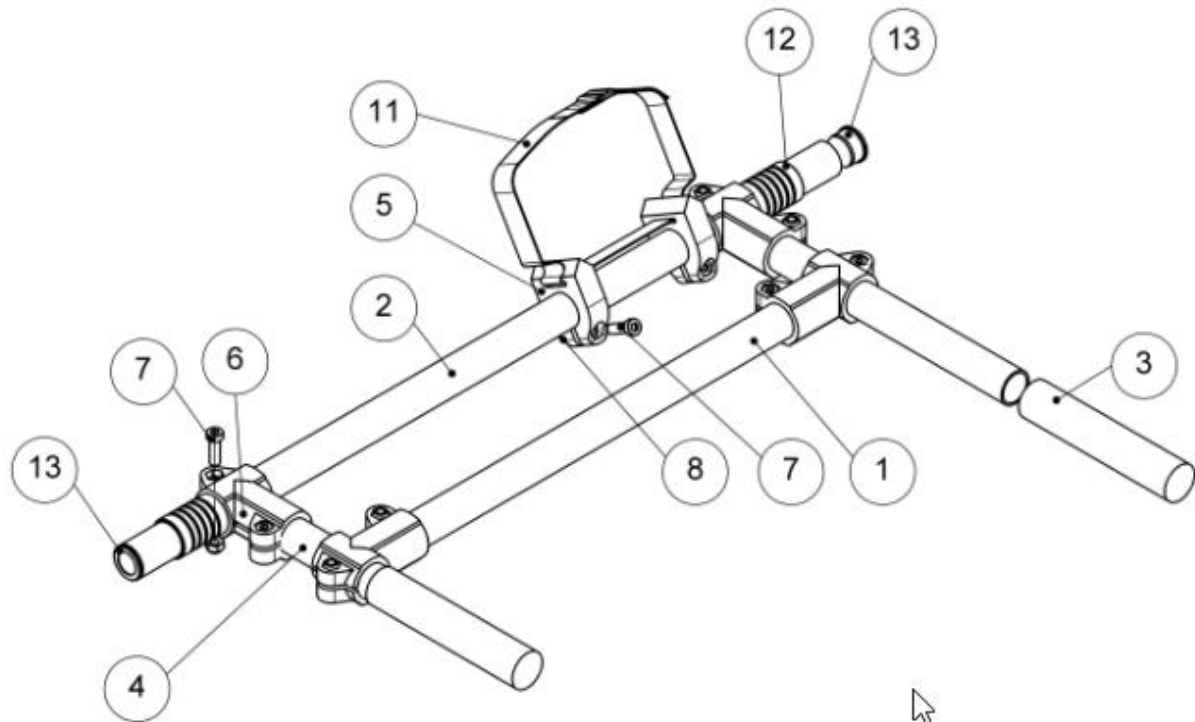
E-mail: info@vallon.de

### Wheeled carrier cplt. (2903220510)



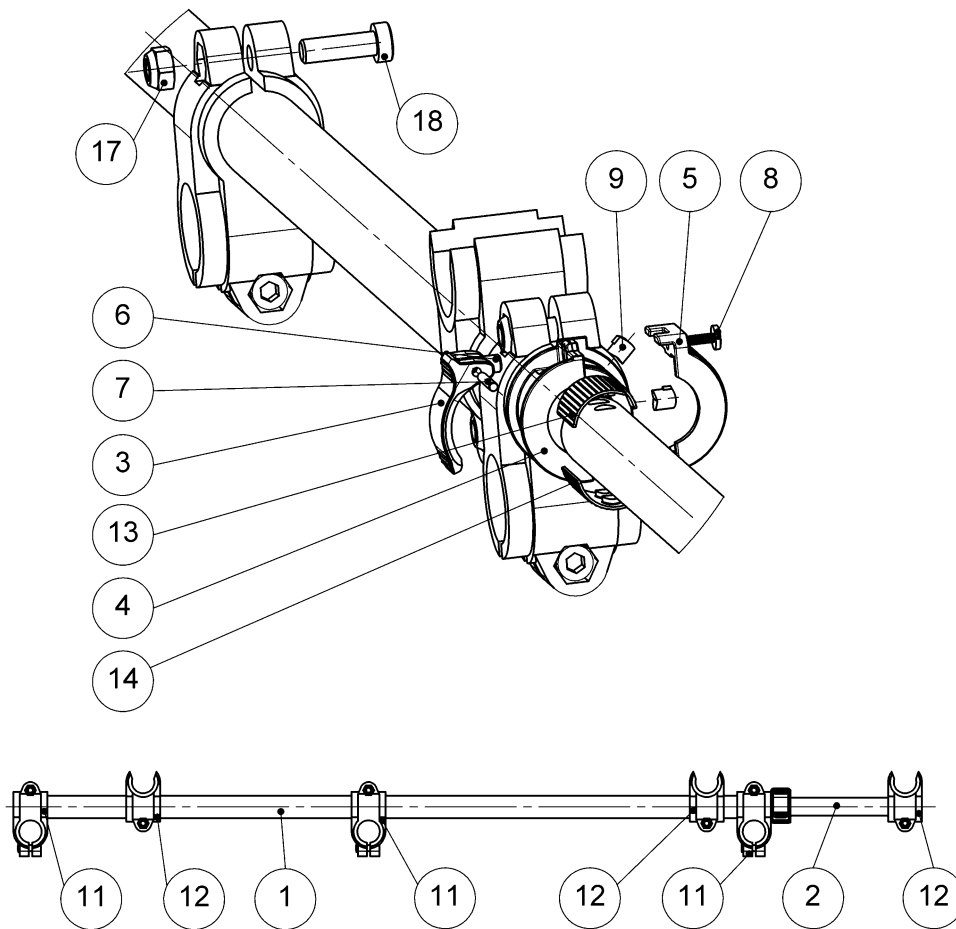
Pos no.	Part no.	Name	Number
1	2903220480	Side member cplt.	2
2	2903220460	Handle tube cplt.	2
3	2903220471	Handle cplt.	1
4	2903220490	Holder for GNSS antenna cplt.	1
5	2903220500	Wheel	2
6	2903220530	Strut cplt.	1
7	2903220520	Wheel axle	1
8	2903220540	Cross tube rear with clamping piece	1
9	2903220550	Cross tube front with plugs	1
10	8909990615	Type plate	1

## Handle cplt. (2903220471)



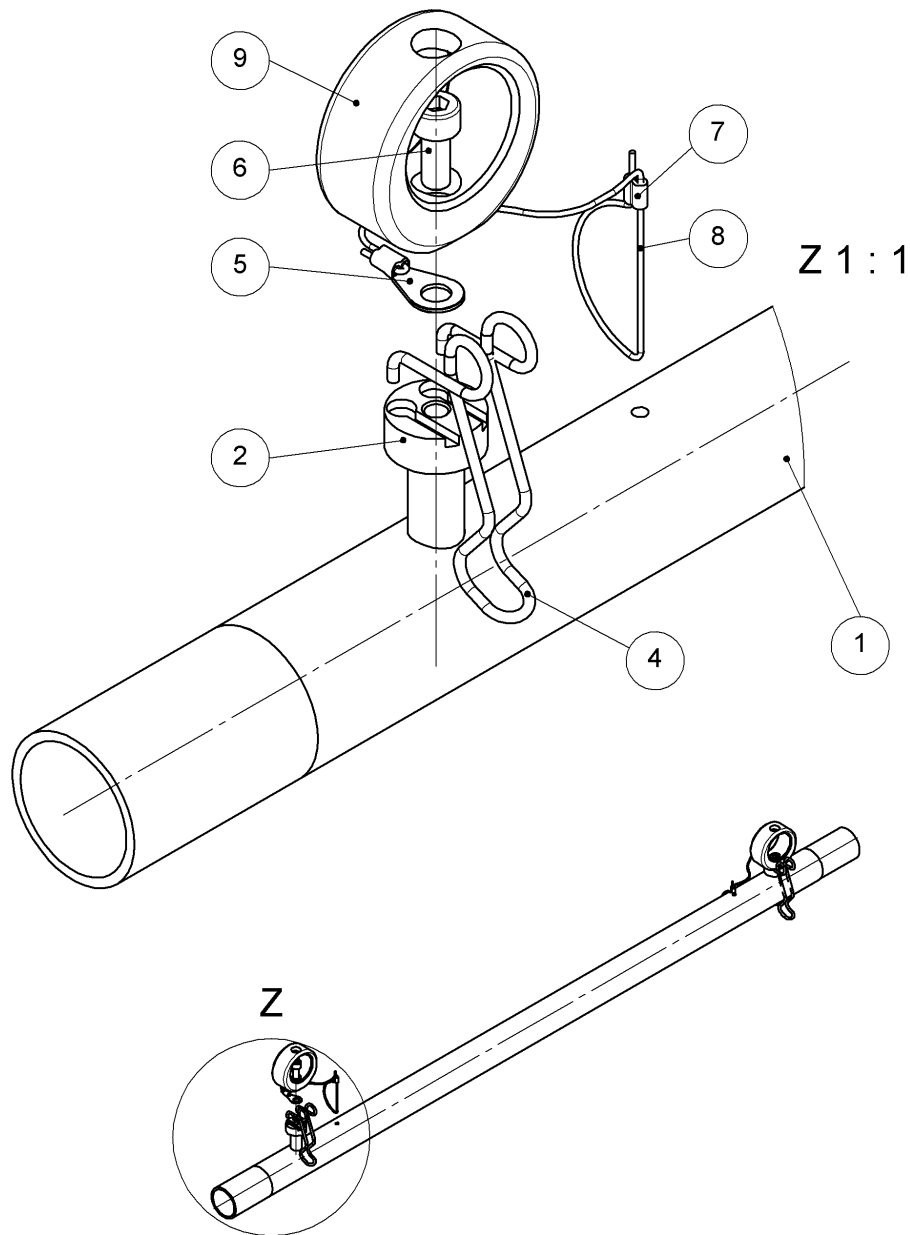
Pos no.	Part no.	Name	Number
1	8903220581	GFRP tube 495mm	1
2	8903220810	GFRP tube 765mm	1
3	9050002035	Handle covers, 1 pair ø30 L=165mm	2
4	8903220551	GFRP tube 300 mm	2
5	8903220600	Bracket for control unit	2
6	8909991470	Angular clamping piece 30-30	4
7	7090072025	Cylinder screw M8x25 DIN6912-8.8	10
8	7110177007	Nut M8 DIN985-8.8	2
11	8903220740	Fastening strap for control unit	1
12	8903220930	Sleeve handle	2
13	8903220940	Plug 27-30	2

## Side members with extendable extensions cplt. (2903220480)



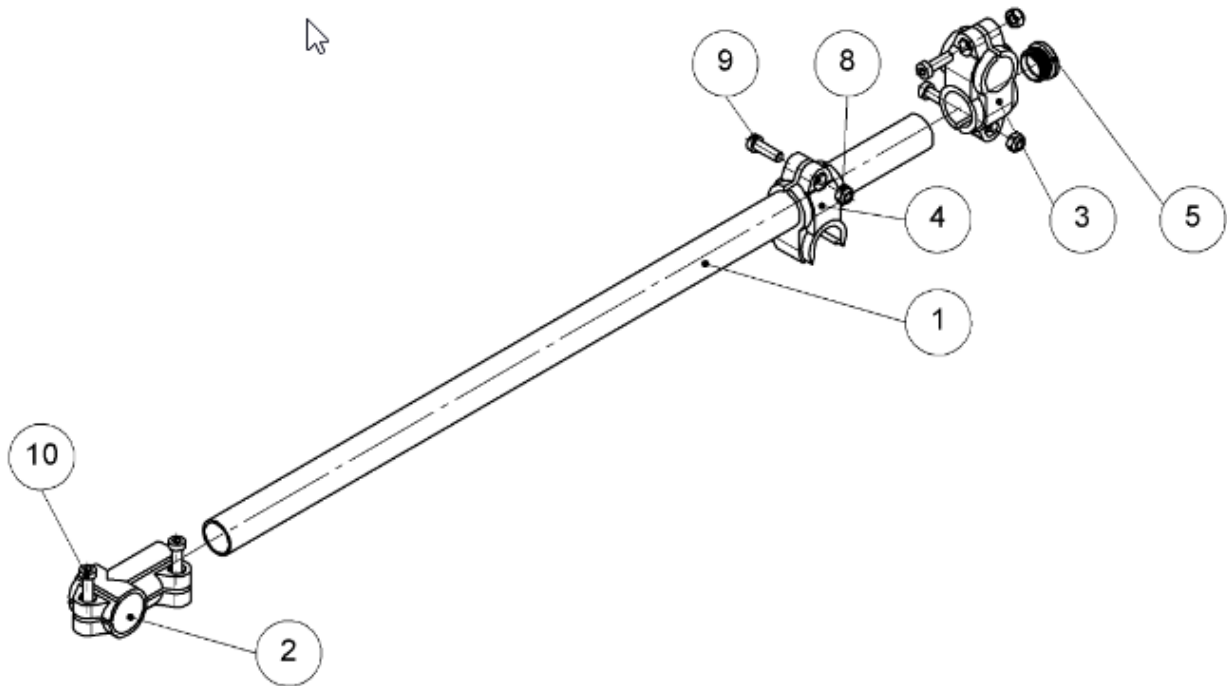
Pos no.	Part no.	Name	Number
1	8903220520	Longitudinal tube ø30	1
2	8903220530	Longitudinal tube ø24	1
3	8909990941	Clamp 3024 lever	1
4	8909990860	Clamp 3024 base part	1
5	8909990900	Clamp 3024 half shell	1
6	8909991062	Threaded sleeve clamp	1
7	7170151021	Pin 3m6x20 DIN7-A4	1
8	7090180005	Countersunk screw. M3x12 DIN921-A2	1
9	8909991080	Clamping pressure bolt	3
11	8909991450	Cross clamping piece 30-30	3
12	8909991460	Cross clamping piece 30-30	3
13	8909990991	Guide shell 24mm Teil 1	1
14	8909991001	Guide shell 24mm Teil 2	1
17	7110177006	Nut M8 DIN985- Titanium	9
18	7090072024	Cylinder screw M8x25 DIN6912-Titanium	9

### Wheel axle (2903220520)



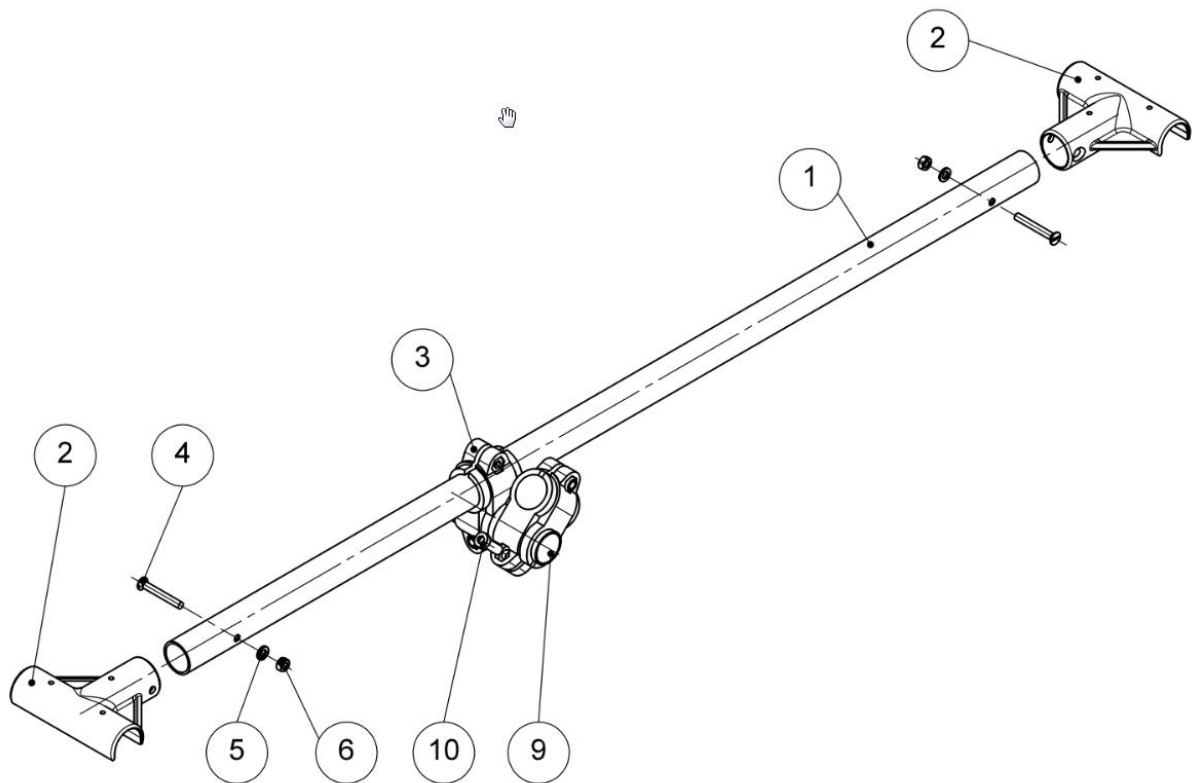
Pos no.	Part no.	Name	Number
1	8903220560	GFRP tube 765 mm	1
2	8903220700	Bolt	2
4	8903220690	Spring clip for bolt	2
5	9010001021	Crimp terminal H630/5	2
6	7090182030	Screw M5x12 DIN912-Titanium	2
7	8909990588	Sleeve black	2
8	5110603020	Polyester cord D=1	2x17cm
9	8903220880	Finger loop	2

### Handle tube cplt. (2903220460)



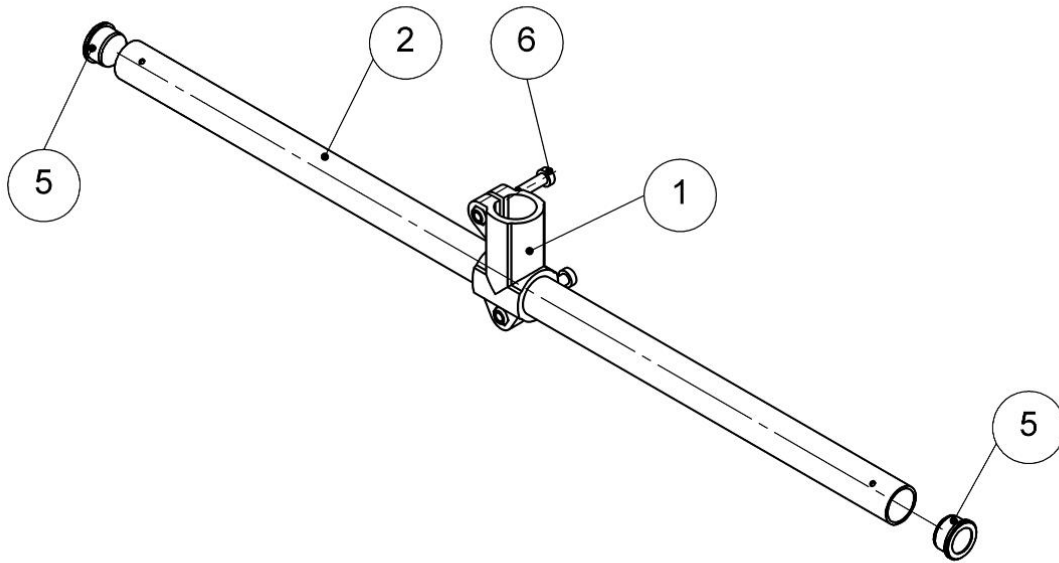
Pos no.	Part no.	Name	Number
1	8903220810	GFRP tube 765mm	1
2	8909991470	Angular clamping piece 30-30	1
3	8909991450	Cross clamping piece 30-30	1
4	8909991460	Cross clamping piece 30-30	1
5	9040001018	Plug D=30mm	1
8	7110177006	Nut M8 DIN985-Titanium	3
9	7090072024	Cylinder screw M8x25 DIN6912-Titanium	3
10	7090072025	Cylinder screw M8x25 DIN6912-8.8	2

### Strut cplt. (2903220530)



Pos no.	Part no.	Name	Number
1	8903220590	GFRP tube 990 mm	1
2	8902200580	Retaining clip	2
3	8909991450	Cross clamping piece 30-30	2
4	7090182009	Countersunk screw M6x45 DIN963-Titan	2
5	7120181001	Disc M6 DIN125-Titanium	2
6	7110177001	Nut M6 DIN934-Titanium	2
9	8903220540	Joint tube	1
10	7090072025	Cylinder screw M8x25 DIN6912-8.8	4

**Cross tube rear (2903220540)**



Pos no.	Part no.	Name	Number
1	8909991470	Angular clamping piece 30-30	1
2	8903220570	GFRP tube 765mm	1
5	8903220750	Plug 26-30	2
6	7090072025	Cylinder screw M8x25 DIN6912-8.8	2



## 12 EC Declaration of Conformity



# EC DECLARATION OF CONFORMITY

Vallon GmbH  
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72800 Eningen  
Germany

herewith declares that the

## Wheeled Carrier VMXV1

with fitted components such as large loop metal detector VMX10,  
field computer, GNSS system

agrees to the relevant requirements of the EMC-guideline concerning electromagnetic compatibility (2014/30/EU) including their alterations as well as to the corresponding legal decree concerning the implementation of the guideline to national law.

This declaration is subject to the observance of the operation manual.

In the event of a change to the device not agreed with us, this declaration will lose its validity.

Documentation officer: Wolfgang Friedrich



Eningen, January 28, 2021

**Gerhard Vallon**  
Managing Director



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