

## ***Preface***

Dear customers and cycling fans!

Now your cycling experience will be enriched by a new dimension. Our Austrian invention makes up-until-now inaccessible trails and destinations achievable at the touch of a button – and all of this within a healthy pulse range! Nothing more can get in the way of a relaxed, yet fitness-enhancing cycling experience in a group or with your partner.

Please read these operating instructions carefully and keep the booklet for future reference!

From now on you'll be riding with a tailwind!

Your GRUBER Assist Team



## Table of contents

<b>1.</b>	<b>For Your Safety .....</b>	<b>4</b>
1.1	Introduction.....	Fehler! Textmarke nicht definiert.
1.2	Intended Conditions of Use.....	Fehler! Textmarke nicht definiert.
1.3	Safety Information .....	Fehler! Textmarke nicht definiert.
<b>2.</b>	<b>Technical Specification .....</b>	<b>6</b>
2.1	Assembly.....	Fehler! Textmarke nicht definiert.
2.2	Technical Data .....	8
<b>3.</b>	<b>Before You Cycle .....</b>	<b>9</b>
3.1	Installation / Removal of the Battery .....	9
3.2	Recharging the Battery.....	10
3.3	Adjusting the Saddle Post .....	Fehler! Textmarke nicht definiert.
3.4	Saddlebag .....	Fehler! Textmarke nicht definiert.
<b>4.</b>	<b>Operation and Programming .....</b>	<b>13</b>
4.1	Switching the Drive On / Off.....	13
4.2	Storing the Pedal Frequency....	Fehler! Textmarke nicht definiert.
4.3	Tips for Biking.....	Fehler! Textmarke nicht definiert.
<b>5.</b>	<b>Service and Maintenance .....</b>	<b>Fehler! Textmarke nicht definiert.</b>
5.1	Inspecting .....	16
5.2	Maintenance .....	Fehler! Textmarke nicht definiert.
5.3	Cleaning .....	Fehler! Textmarke nicht definiert.
5.4	Service points .....	16
<b>6.</b>	<b>Troubleshooting.....</b>	<b>Fehler! Textmarke nicht definiert.</b>



## 1. For Your Safety

### 1.1 Introduction

In these operation instructions, dangers and information are indicated by the following notices:



#### **Warning!**

Denotes a danger arising from a product, which, without sufficient precautions, could lead to serious physical injuries or even death.



#### **Attention!**

Signifies dangers, which can lead to light physical injuries or damage to the product when the appropriate precautionary measures are not taken.



**Danger notice** : risk of being burnt.



#### **Note!**

Refers to useful, additional information and tips for handling the product.

### 1.2 Intended Conditions of Use

The GRUBER Assist drive is exclusively designed to provide additional power to physically assist the cyclist. A different use or one extending beyond this is not deemed to be for the intended purpose. The manufacturer / supplier shall not be liable for damages arising from this. The user bears the risk solely.

Paying attention to the information included on the operation, the safety regulations, as well as the maintenance work and inspection of the bike as indicated in these operating instructions also belongs to the intended conditions of use.



### 1.3 Safety Information

- Familiarise yourself with the operating instructions before starting the GRUBER Assist Drive!
- Pay attention to the instructions of the bicycle manufacturer.
- Note the safety information and instructions for operation and maintenance of the product in the manual!
- Conduct a careful inspection before departure!



#### **Warning**

During continuous operation, the seat tube can become very hot (up to 70°C). Avoid direct skin contact; burn hazard!

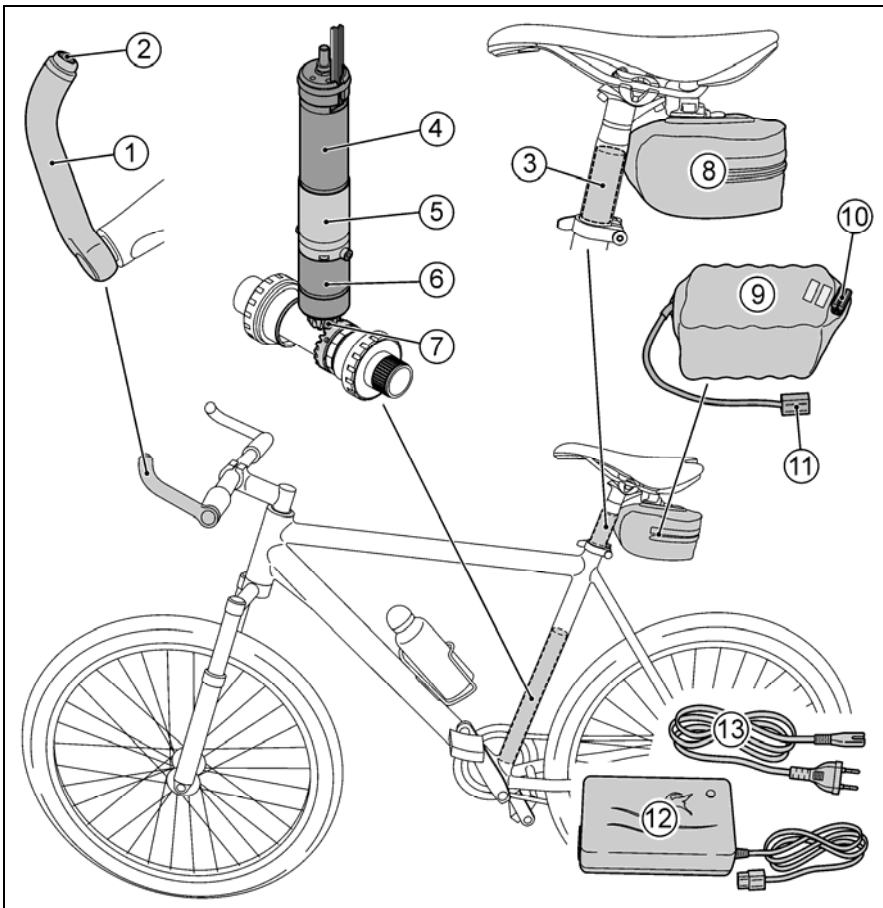
- On parking the bicycle, in order to prevent improper operation of the drive unit, always remove the plug fuse from the battery!
- Damage to the drive unit and the electrical components must be repaired immediately by a specialist.
- Only clean and perform maintenance work when the battery has been removed.
- Do not perform any repairs or maintenance work, you are not qualified for!
- Keep children away during maintenance work!
- Do not leave the battery pack to recharge unattended. Do not recharge on flammable material, or in a closed container (saddlebag).
- The drive is not suitable for people with cardiac pacemakers.
- Never abruptly slow down the running motor when the rear wheel is elevated!



## 2. Technical Specification

### 2.1 Assembly

The GRUBER Assist Drive for bikes supports your muscular strength using an additional electric motor. Propulsion is provided by an electric motor, acting crank via the cog-wheels. The power supply is provided by the high performance battery, which is stowed away in the saddlebag. The motor is activated by the push-button at the left Bar end.



### **Operating Elements**

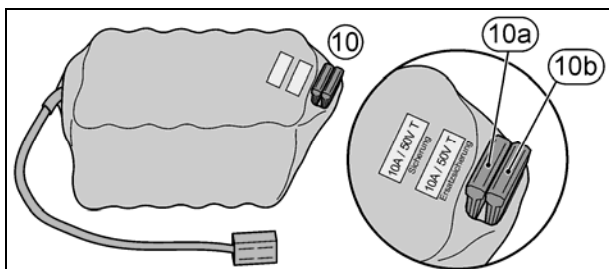
- 1 Bar end
- 2 Function push-button
  - Switching the motor on / off
  - Recording the pedal frequency

### **Drive Unit**

- 3 Controller: electronic control in the seat post
- 4 Motor
- 5 Gear unit
- 6 Free-wheel
- 7 Bevel gear unit: Power transmission from the motor to the crank

### **Power Supply**

- 8 Saddlebag: Storage space for the battery
- 9 Battery
- 10 Electrical plug fuses 10A/50V T (recommended with a viewing window)
  - 10a Fuse
  - 10b Spare fuseFuses are obtainable in specialist dealerships for motor vehicles.



- 11 Connection plug for the battery

### **Battery Charger**

- 12 Battery charger with a connecting cable for the battery
- 13 Power cable for the battery charger



## 2.2 Technical Data

Motor components:	
- Motor	Maintenance-free, brushless 200 watt D.C. motor
- Gear unit	Planetary gear set with free-wheel
- Output to the foot pedal	Bevel gear
Weight – mechanical ascentaid	approx. 775 g
Electronic control unit	Control module in the seat post
Weight	approx. 125 g
Battery	NiMH 30V 4500 mAh
Battery – Duration of operation	approx. 1,5 h – depending on the burden
Battery – Recharging time	approx. 3 h
Battery – Service life	within approx. 500 recharging cycles, the capacity decreases to about 80%
Battery - Weight	approx. 1,700 g
Battery – Plug fuse	10A/50V T (retarded)
Battery charger	30V / 65W
Function push-button	On/Off, for programming pedal frequency
Bar end model	BBB Trail Monkey, straight, black
Seat post model	Truativ XR
Suitable crank set	Shimano Hollowtech II (LX, XT, XTR)



### 3. Before You Cycle

#### 3.1 Installation / Removal of the Battery

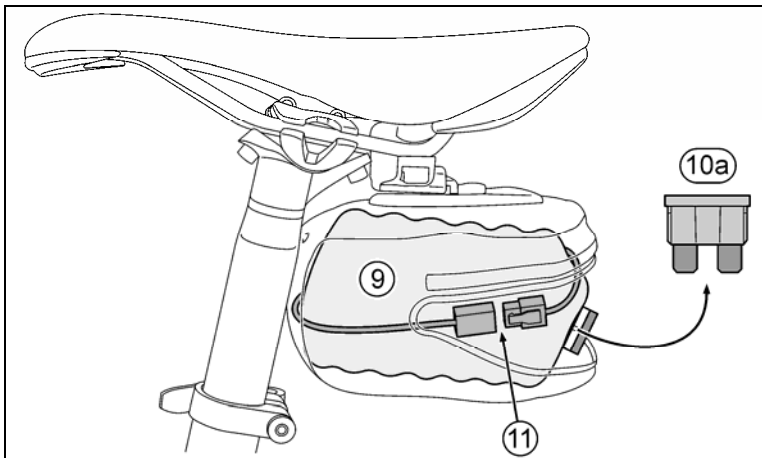
The battery is stowed away in the saddlebag, where it is protected against splashing water.

Remove the battery in the following situations:

- when recharging
- after each journey; store safely in the house
- during maintenance work on the bicycle
- during low temperatures
- during long breaks, e.g. winter

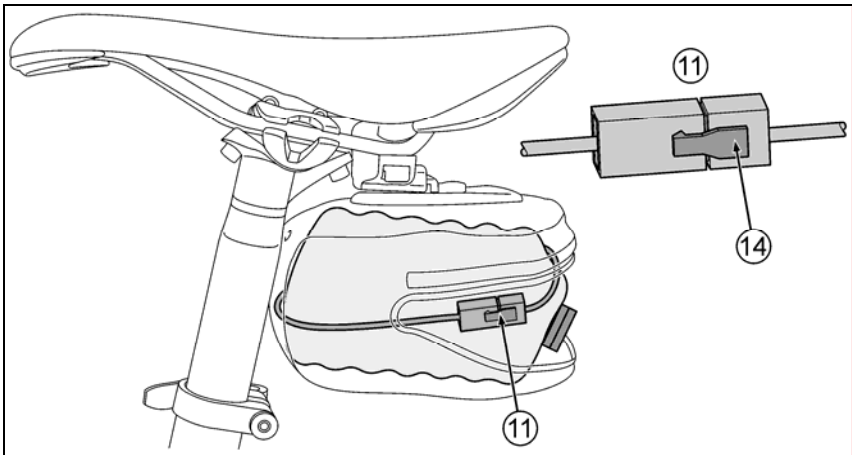
#### Installing the Battery

- ▶ Open the zip fastener of the saddlebag,
- ▶ Store the battery horizontally in the saddlebag with the fuse (10a) removed – do not remove the spare fuse,
- ▶ Bring both cables, as illustrated, around the battery and connect by means of the plug (11),
- ▶ Install the safety fuse (10a),
- ▶ Close the saddlebag.



### Removing the Battery

- ▶ Open the zip fastener of the saddlebag,
- ▶ Press the clamp nose (14) down and disconnect the plug (11). Do not wrench the cable!



### 3.2 Recharging the Battery

#### **i** Note!

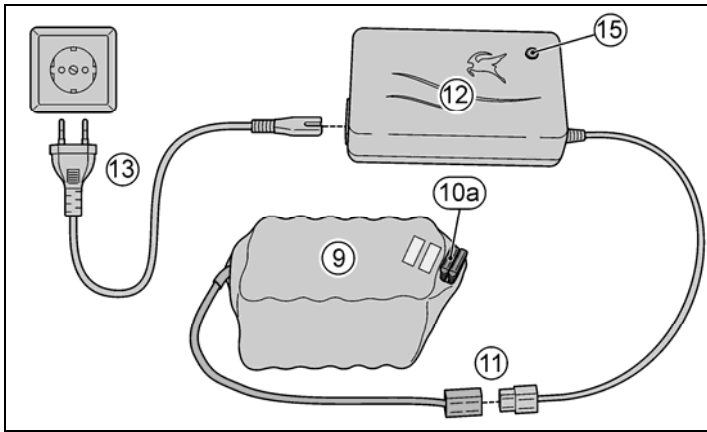
- The battery does not have a full load output until after approx. 5 recharging cycles.
- Never leave the battery to recharge unattended, or recharge on a flammable material.
- Disconnect the battery charger from the mains plug after each recharging process!
- The recharging time lasts approx. 3 hours.
- Within approx. 500 recharging cycles, the capacity decreases to about 80%.

**Tip:** If possible, discharge the battery completely before recharging.



### **Plug-in the Battery**

- ▶ Connect the battery (9) with the inserted plug fuse (10a) to the battery charger (12) using the plug (11),
- ▶ Plug the power cable (13) into the battery charger and the plug socket.



### **Recharging Process**

The recharging progress is shown on the LED (15):

- Battery is not connected or initialised: LED shines yellow
- Battery is being recharged: LED shines orange
- Battery is almost full: LED blinks green (long) / yellow (short) alternately
- Battery is fully recharged: LED shines green continuously
- Fault during recharging: LED flickers orange/green

- ▶ After completion of the recharging process, disconnect the battery charger from the mains, take the battery out of the battery charger and re-install it into the saddlebag; see section “Installing the Battery” on page 8.



### **Note!**

If the LED illuminates green and you would like to recharge a new battery, please disconnect the battery charger from the mains for at least 1 minute and then re-connect it, in order to reset the memory function on the battery charger.



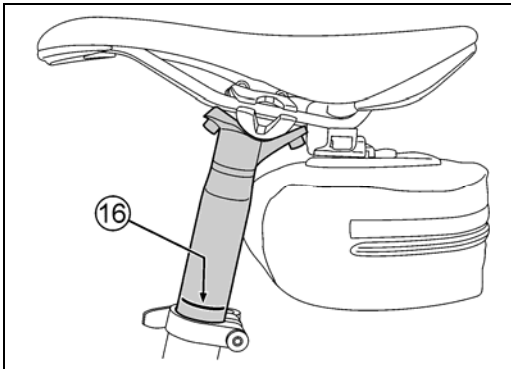
### 3.3 Adjusting the Saddle Post

The electronic control for the motor is mounted in the seat post. To avoid damage to the electronics and the cabling, the following points should be noted and adhered to without fail:



#### **Attention!**

- Never detach the seat post! Should a replacement be necessary, please contact an authorised specialist dealer or the GRUBER Assist Team!
- Never push the seat post further into the saddle tube than up to the marked ring (16)!
- When adjusting the height of the seat post, avoid circular motions as far as possible; cables can be damaged!



### 3.4 Saddlebag

The saddlebag is an integral part of the GRUBER Assist drive. The cables to the battery and electronics run through the bag.



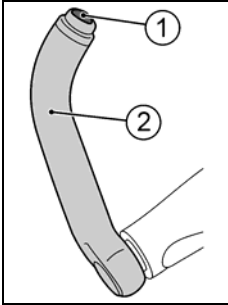
#### **Attention!**

- Do not unfasten or detach the saddlebag from the mounting!
- Should it be necessary to replace the saddlebag, all of the plug connections must be disconnected and all of the cables disentangled before removal.



## 4. Operation and Programming

The GRUBER Assist Drive is activated by the function push-button (1) on the left bar end (2). The function push-button switches the motor on and off and also stores the pedal frequency.



### 4.1 Switching the Motor On / Off

#### Switching On

Push the function push-button for approx. 1 second, the motor will be activated with the last stored pedal frequency.



#### **Danger!**

Never activate the motor other than during a journey.

If you switch the motor on when rear wheel is elevated, the pedals and the rear wheel will be propelled immediately; danger of injury!

#### Switching Off

A short activation of the function push-button switches the motor off again.

The motor switches off automatically in the following situations:

- Slowing down of the bicycle
- **Resistance against** the pedals
- Pedal frequency under approx. 30 revolutions per minute
- When the battery is discharged



## 4.2 Storing the Pedal Frequency

The GRUBER Assist Drive supports you, when your pedal frequency is lower than the stored one. Therefore, store the pedal frequency during a journey on level ground, in order to then be able to start the motor with the desired setting. You will attain the best motor assistance from a pedal frequency of approx. 70 revolutions. Pedal frequencies under 30 rpm will not be stored.

### Storage Process:

- ▶ Switch off the motor to store,
- ▶ Choose a pedal frequency somewhat higher than usual during the journey
- ▶ **Keep** the function push-button **pressed** for more than 2 seconds; the drive unit will switch on and store the current pedal frequency,
- ▶ Push the function push-button again briefly; the motor will switch off

If you notice on a slope that too low a pedal frequency has been stored, (i.e. the motor no longer assists you), alight and store the pedal frequency provided by the motor with the rear wheel elevated and in lowest gear.



### Danger!

The pedals and the rear wheel will be propelled immediately; danger of injury!

### Checking the Storage:

- ▶ Reduce the pedal frequency,
- ▶ Switch on the motor by means of the function push-button; the motor must noticeably assist your pedalling movements,
- ▶ Press the function push-button briefly once more; the motor will switch off



### Note!

The pedal frequency will remain stored until it is replaced by a new storage process.

If, when the motor is active, you pedal faster than the stored pedal frequency, you will “over-take” the motor and will no longer be supported by the propulsion.



### 4.3 Tips for Biking

- Pay attention to the safety information in these operating instructions and the instructions of the bicycle manufacturer!
- Check that the motor functions properly before beginning a cycle tour:
  - make sure that the battery is fully recharged,
  - inspect the electrical connections to the battery,
  - conduct a functional check.
- In order to guarantee sufficient battery charge for a tour, only employ the motor when you feel you require!
- Always start to cycle with the drive switched off! Switch on the drive when you are safely riding.
- You can also use the motor as assistance when pushing the bicycle. For this purpose, you must store a low pedal frequency (>30) and select the slowest transmission ratio.
- You should not use the motor or should switch it off in the following situations:
  - when you ride downhill (the motor is of no use),
  - in heavy traffic and when driving towards crossings or obstacles,
  - in critical situations and on trials – danger of falling and injury!
- In order to avoid unauthorised operation by a third party, always remove the plug fuse from the battery when parking the bicycle, e.g. for a rest!
- In case of increased noise emission from the drive, a specialist should be consulted immediately.
- After ending the journey, the battery should always be removed, recharged and stored out of reach of children.
- Note about outdoor transport by car:  
When it rains, the bicycle is exposed to very large amounts of splashing water. Protect the electrical components, such as function push-button, saddlebag and seat tube, with a water-tight, head wind blocking foil.



## 5. Service and Maintenance

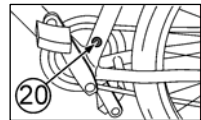
The GRUBER Assist Drive is almost maintenance-free. However, a thorough inspection before each departure is absolutely necessary for your safety!

### 5.1 Inspection

- Test that the plug connections in the saddlebag are mechanically secure.
- Check insulation of cables. Damaged cables and plugs must be replaced immediately. Please contact your specialist dealer or the GRUBER Assist Team!
- Inspect the saddlebag fastening for damage and mechanical security
- Check the saddlebag for ruptures.
- Test the battery charge.
- In case of increased noise emission from the drive, a specialist should be consulted without delay, in order to repair a potential disturbance.
- After a fall, both the bicycle and the GRUBER Assist Drive should be inspected by an authorised dealer.

### 5.2 Maintenance

- The bevel gear unit should be re-lubricated by your specialist dealer every 2-3 years.
- Never unfasten the motor mounting screw (20)!



### 5.3 Cleaning

- Pay attention to the maintenance instructions of the bicycle manufacturer!
- Remove the battery and close the saddlebag before each cleaning, so that the plugs are protected.
- Only clean your bicycle with clear water and a sponge!
- Never use a high-pressure cleaner or water jets.** The electrical equipment and electronics of the drive are not designed for this purpose!

### 5.4 Service points

You can find an overview of the authorised GRUBER Assist specialist dealers on the internet at: [www.gruberassist.com](http://www.gruberassist.com)



Please direct any questions to our hotline on +43/5332/70317 or by e-mail: info@gruberassist.com

### **6. Troubleshooting**

Only conduct repair work yourself if you have the necessary knowledge and tools!

Should the cause of the error not be definitely identifiable and the occurrence of a new incidence cannot be excluded, then an authorised specialist dealer or the GRUBER Assist Team should be contacted.

<b>Problem</b>	<b>Cause</b>	<b>Corrective Action</b>
The motor will not start or switches off independently	Battery is discharged	Recharge the battery or replace it with a recharged one
	Plug to the battery is loose, plug connection of the push-button is loose in the saddlebag	Check the plug connection; Pull the plug out once and plug in again
	Plug fuse to the battery is missing or defective	Insert or replace the fuse
	Cables are chaffed	Inspect the cabling and visit an authorised specialist dealer
	Regulator is overheated	Park the cycle and briefly let the regulator cool down
Pedal frequency will not allow itself be stored	Pedal frequency is too low	Select a higher pedal frequency and store anew; see page 13
	Regulator is defective	Visit an authorised specialist dealer
Increased noise emission	Drive is possibly defective	Visit an authorised specialist dealer

