



# **T.E.C. TAYLORED ENERGY CONCEPT PACK FOR SHIMANO STEPS E8000**

**EN/ ORIGINAL USER GUIDE**

VERSION 2 | 14.08.2019

FOR SAFETY,  
BE SURE TO READ  
THIS USER'S MANUAL  
THOROUGHLY BEFORE  
USE, AND FOLLOW THEM  
FOR CORRECT USE.

#RIDEBEYOND

ENGINEERED IN GERMANY  
SINCE 1993

SMART  
PERFORMANCE  
BIKES

  
**FOCUS**

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## I. Introduction

The Tailored Energy Concept T.E.C. opens up unprecedented possibilities to adapt the energy supply to individual needs. One battery is optimally integrated in the lower tube and the drive is supported in technical demanding passages with the necessary thrust. For long tours the T.E.C. Pack can be easily installed.

[https://www.youtube.com/watch?v=zsbIYN\\_23uk](https://www.youtube.com/watch?v=zsbIYN_23uk)



This user guide will help you to enjoy all the benefits of your Focus T.E.C. Pack and to use it correctly.



### GEFAHR

**Prior to initial use, carefully read this manual. Familiarise yourself with the meaning and depiction of safety information in the user guide.** Ensure to contact your cycle dealer in the event clarification is required. Failure to comply with safety symbols and instructions can cause electric shock, fire, serious injury and/or damage to the cycle. The manufacturer's liability and warranty are deemed null and void for damage and injury caused by a failure to adhere to safety symbols and instructions.

### GEFAHR



**Make sure your dealer has provided you with all of the documentation that was delivered with the pedelec. BKeep the user guides for informational and reference purposes in the future. The guides must be passed on to all those using, looking after and repairing this Pedelec. Refer to your dealer for mounting and adjustments not described in the instructions.** Otherwise uncertainties can arise that could result in death, severe injuries and/or damage to the pedelec.




You can download this guide as PDFs from our website: [www.derby-cycle.com/en/downloads/downloads.html](http://www.derby-cycle.com/en/downloads/downloads.html).



## I.I Explanation of the safety information symbols


### DANGER



This symbol  combined with the signal word “DANGER” indicates a potentially dangerous situation. Failure to comply with this safety instruction can result in death or very serious injuries.


### WARNING



This symbol  in conjunction with the signal word “WARNING” indicates a potentially dangerous situation. Failure to comply with this safety warning can result in serious injury.


## CAUTION



This symbol  combined with the signal word “CAUTION” indicates a potentially dangerous situation. Failure to comply with this safety instruction can result in minor injuries.

## IMPORTANT



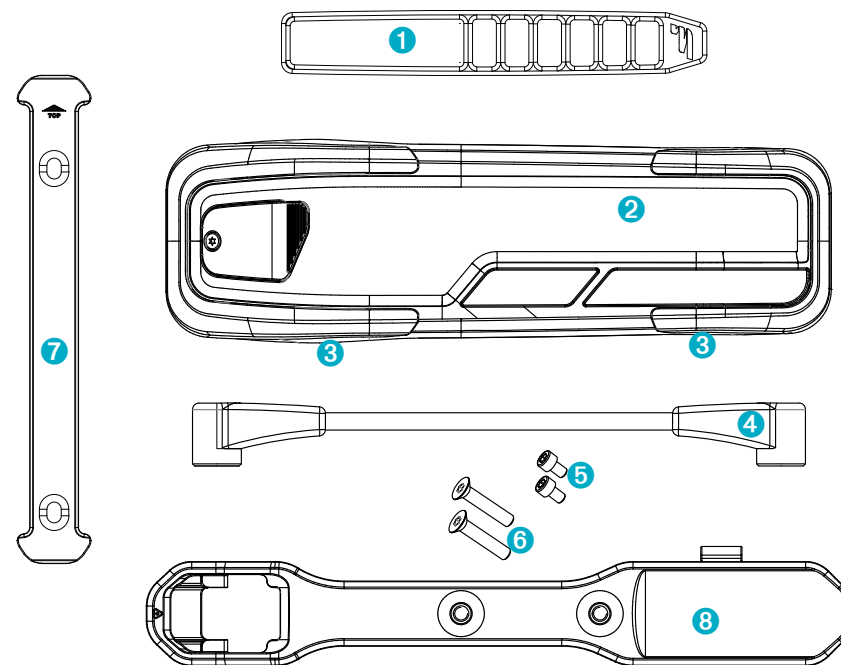
This symbol  combined with the signal word “IMPORTANT” indicates a potentially dangerous situation. Failure to comply with this safety instruction can result in damage to the pedelec and its components.



This symbol indicates helpful tips, useful or important information about the product or its additional uses. It does not indicate a dangerous or harmful situation.

## 1. Delivery

T.E.C. Pack Box // AM170818501



① Rubber Band  
DCW = 325917053

⑤ Bottle Cage Screws  
DCW = 199117041

② T.E.C. Pack  
DCW = 170817060

⑥ Bone Rail Screws  
DCW = 199117037

③ Protection Rubber  
Blue DCW = 325917079/90  
Black DCW = 325917048/49

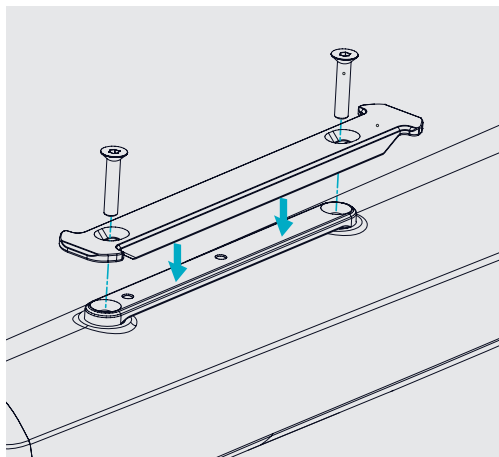
⑦ Bone Rail  
DCW = 325918304

④ Connector  
DCW = 170817064

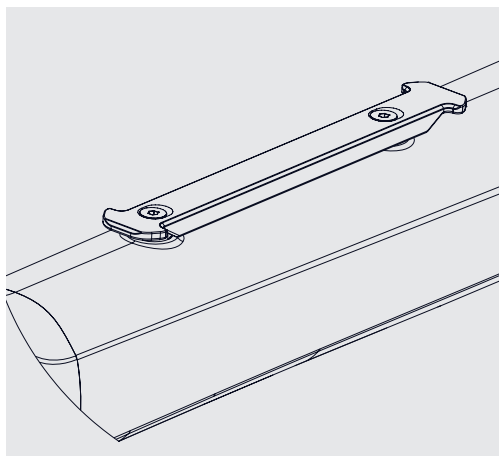
⑧ Smart Rack  
DCW = 325917052

## 2. Mount the Bone Rail

1. Use the both Bone Rail screws (DCW = 199117037) to mount the Bone Rail onto the bracket. Tighten the M5 screws with 4 - 5 Nm.



for 1. Mount the Bone Rail



for 1. Mounted Bone Rail

## 3. Battery

### 3.1 Safety information

#### WARNING



**Only use your Pedelec with the correct, original battery.** Using other batteries can result in explosions, serious burns and fire. Malfunction and limited service life can also entail.

**Only use your Pedelec with the correct, original charger.** Using other chargers can result in explosions, serious burns and fire. Malfunction and limited service life can also entail.

**Keep batteries away from sparks and fires. Prevent batteries from heating up too much.** They can explode and cause serious burns and fires. Further consequences can include malfunctions and a limited battery life. Keep batteries away from sources of heat (e.g. direct sunlight and radiators). When charging the battery, ensure there is adequate ventilation and observe the permitted ambient temperature range: 0 - 40 °C. Do not extinguish a burning battery with water, only the surrounding burning material. Fire extinguishers with metal fire powder (Class D) are more suitable. If it is possible to take the battery safely outside, smother the fire with sand.

## WARNING



**Batteries must not be destroyed, shredded, taken apart, opened up or repaired.** They can explode and cause serious burns and fires. Contact your cycle dealer for help if you have problems with the battery.

**Damaged batteries must not be charged, used or transported.**

- » They can explode and cause serious burns and fires.
- » Gases can be released and irritate the airways. Ensure there is a supply of fresh air and consult a doctor in the event of discomfort.
- » Liquid can escape and cause skin irritation. Prevent contact with it. In the event of accidental contact, wash off the liquid with water. If the liquid gets into the eyes, flush out with plenty of water and seek medical help.

**Do not send batteries by post.** Batteries are dangerous goods that under certain conditions may explode, causing severe burns and fires. Only trained personnel may prepare and transport batteries. If you have a complaint about a battery, please always go through your cycle dealer. Dealers are able to have batteries collected free of charge under hazardous goods regulations.

## CAUTION



**Batteries must not be immersed in water.** This presents a risk of explosion. Do not extinguish a burning battery with water, only the surrounding burning material. Fire extinguishers with metal fire powder (Class D) are more suitable. If it is possible to take the battery safely outside, smother the fire with sand. But you need not be afraid of the battery exploding under you when you ride the cycle through rain. The battery is sealed to prevent moisture and spray water from entering.

## IMPORTANT



**Batteries must not be subjected to mechanical impact.** This poses a risk of damage. A battery can still be damaged after a drop or impact even if there are no visible signs of damage. A battery which looks fine on the outside should therefore also be subjected to an inspection. Please contact your cycle dealer.

**Perform a 'learning cycle':** A new, **fully charged** battery should be run down once until the motor assist stops and without recharging in between. In that way the battery 'learns' its capacity, and the actual capacity will agree with the level indicated on the battery status display. As soon as the battery enters Sleep mode, press the battery button for one second. Then the learn cycle can be continued. Please perform a learn cycle every six months or 5,000 kilometres. When the battery becomes older and you do not repeat the cycle from time to time, the difference between actual battery capacity and charge level display will become greater and greater.

## IMPORTANT



**Only use the battery to operate this pedelec**, otherwise there is a risk of damage to the device.



Batteries are subject to the dangerous goods regulations. Private users are permitted to transport them on the road without further conditions. When transported by commercial third parties (such as by air, freight forwarders and logistics firms), special requirements of packaging and labelling must be observed. Please contact your cycle dealer if you have any questions about transportation.

### 3.1.1 Storage

1. Store the battery in a dry, not excessively warm room. The battery should not be exposed to direct sunshine. The recommended storage temperature range is 18 to 23 °C.

## IMPORTANT



**The battery should not be stored in a fully charged state.** A charge level of 50–70% is ideal. Since the battery loses charge very slowly, you should only recharge it when only one or two LEDs come on, but after six months at the latest.

### 3.1.2 Range

Various factors determine how far you can go with your battery:



When you go on a long trip it is worth taking a spare battery or battery charger with you.

**Ride profile:** You need the most power in the highest ride profile. The range becomes shorter.



Vary the assist modes you use. If there is a tailwind when going downhill or on the level, you can still go fast with a lower assist mode.

**Tyre pressure:** If the tyre pressure is too low it is harder for the tyres to rotate. The drive unit needs to provide more assistance and the range decreases.

**Riding style:** A low pedalling speed combined with high gears results in high power consumption.



Change down in good time to maintain constant cadence, especially when starting.

**Your fitness level:** The fitter you are, the less assistance you will need.

**Total weight:** The lower the total weight supported by the bike, the easier it will be to ride.

**Outside temperatures:** The lower the outside temperatures (e.g. cold in winter), the shorter the range.

**Route selected:** You need to pedal harder when cycling uphill or against strong head wind. This is registered by the power sensor, which in turn requires the motor to work harder.

## 3.2 Technical details



Type	DCW-04 lithium ion battery, external (T.E.C. pack)
Position	Down tube
Nominal capacity	10,5 Ah
Power	378 Wh
Nominal voltage	36 V
Weight	2100 g
Charge time*	approx. 3 h.
Charge cycles	1100
Cell	Li-Ion
Permissible ambient temperature in operation	-10 to +40 °C
Permissible ambient temperature when charging	0 to 40 °C
Storage temperature	-10 to +50 °C
Recommended storage temperature	18 to 23 °C

\* With a 4 A charger, until battery is fully charged (95% battery capacity).

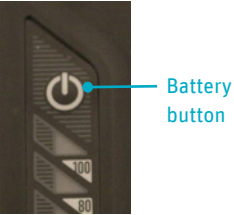


3.3 Overview and functions

3.3.1 Overview



3.3.2 Display field



On the outside of the battery there is a display panel with five LEDs and a battery button. The LEDs show percentage values. The LEDs light up when you press the battery button. The number lighting up, and how, provides information on the battery.

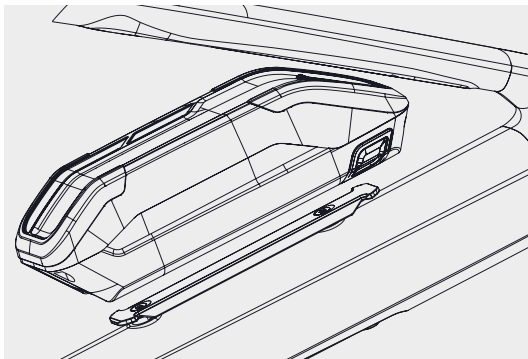
3.3.3 Battery charge level

1. Press the battery button for two seconds. The LEDs light up.

Display		Description	Battery charge level
100	■ ■ ■ ■ ■	Five LEDs light up	100 – 81 %
80	■ ■ ■ ■	Four LEDs light up	80 – 61 %
60	■ ■ ■	Three LEDs light up	60 – 41 %
40	■ ■	Two LEDs light up	40 – 21 %
20	■	One LED lights up	20 – 0 %

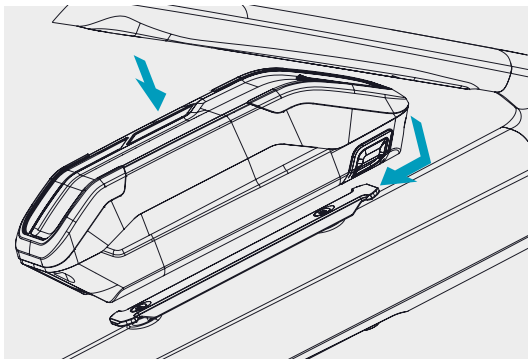
### 3.3.4 Inserting the battery

1. Hold battery at docking bar.



for 1. Hold at docking bar

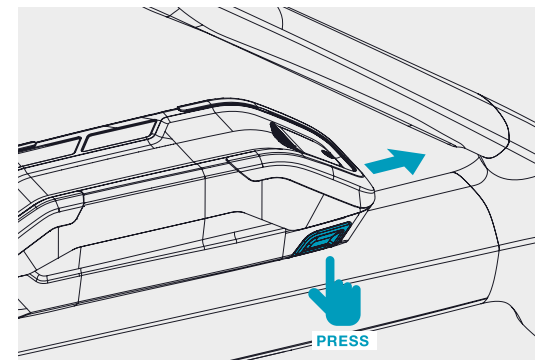
2. Place battery on the docking bar whilst simultaneously pushing downward until it clicks into place.



for 2. Place on the docking bar and simultaneously push downwards

### 3.3.5 Removing the battery

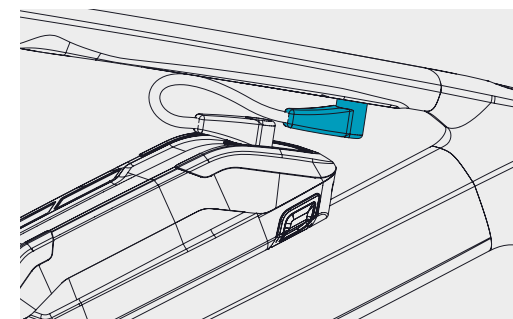
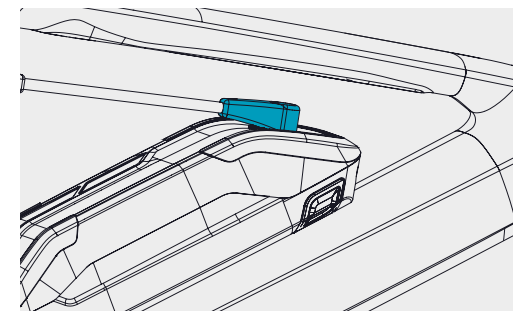
1. Press the locking button whilst simultaneously pushing the battery upwards, until it can be removed.




for 1. Press the locking button and slide the battery upwards

### 3.3.6 Fix the connector

1. Connect the T.E.C. Connector with the power jack of the battery.
2. Connect the T.E.C. Connector with the socket on the frame

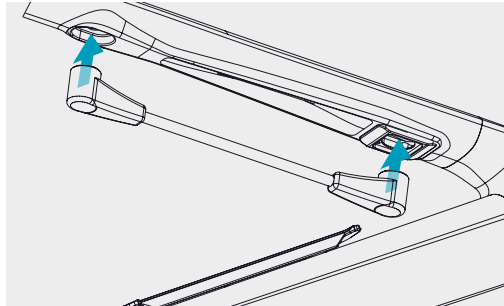




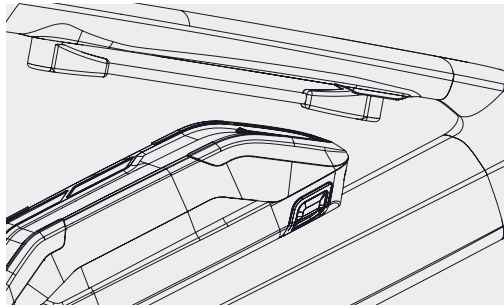
First, the external battery discharges. Accordingly the battery state of the external battery first appears on the display. When the external battery is empty the motor support switches off. The T.E.C. Connector between battery and socket on the frame must be released. The pedelec goes off and must be switched on about the -button again.

### 3.3.7 Remove connector

1. For easy transport plug in the T.E.C. Connector on bottom side of the toptube.




for 1. Plug in the T.E.C. Connector



for 1. Safe transport of the Connector

## 3.4 Fault

Description	Cause	Remedy
The battery cannot be recharged.	a) The power plug of the charger is not securely inserted into the electrical outlet.	a) Disconnect the power plug of the charger. Reconnect it, and then repeat the recharging operation.
	a) Charging plug of the charger is not securely inserted into the battery.	b) Disconnect and then reconnect the charging plug of the charger. Then repeat the charging process.
	c) Damaged battery.	 <b>c) Damaged batteries must not be charged or used for any other purpose.</b> The battery may have to be replaced.
	d) Charger defective.	d) This may have to be replaced.
The battery gets hot.	The temperature of the battery may have exceeded the operating temperature range.	Stop charging, wait for a while and then start charging again. If the battery is too hot to touch, it may indicate a problem with the battery.
An abnormal odour can be detected.	The battery may be defective.	Stop using the battery immediately.
Smoke is coming out from the battery.	The battery may be defective.	Stop using the battery immediately.
The battery quickly loses its charge.	The battery may be at the end of its service life.	Replace the battery with a new one.
The range appears too short	The range depends on: <ul style="list-style-type: none"> <li>» Ride profile</li> <li>» Assist mode</li> <li>» Tyre pressure</li> <li>» Riding style</li> <li>» Physical condition</li> <li>» Overall weight</li> <li>» Outside temperatures</li> <li>» Battery capacity</li> <li>» The route selected</li> </ul>	a) There are many reasons why the range may seem low.





## 4. Charger



Please refer to chapter 8 of the "Owner's Manual Shimano E8000" for information on the safety and function of the charger. Error messages that may occur on the charger can be found in chapter 9.3 of the manual.

### 4.1 Charging the battery

Connect the power cable to the battery charger.

1. Connect the charging cable to the charging socket on the battery (it clicks into place).
2. Plug the mains connector into a socket. The green LED on the charger flashes rapidly at a constant rate . The  button on the crossbar lights up blue.
3. The charger switches off once the battery is fully charged. The green LED on the charger is continually on . The  button on the crossbar lights up blue.



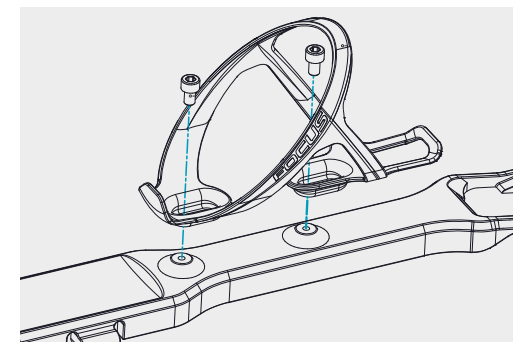
If the battery now stays on the charger, it regularly checks whether the battery is still fully charged. The LED on the charger then starts to flash green again. After checking and ascertaining that the battery is full, the charger switches back to "light continually".

4. Remove the power cable from the socket after completing the charging process.
5. Remove the charging cable from the battery charging socket on the battery.

## 5. Installing a bottle holder

To install a bottle holder, you need the Smart Rack. Follow these steps:

1. Fix the bottle holder with the two bottle holder screws on the Smart Rack. Tighten the M5 screws with 4 - 5 Nm.

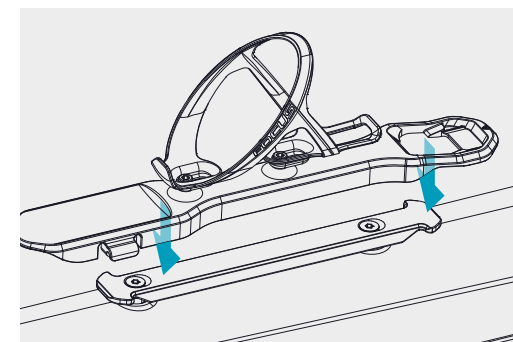


for 1. Mount the bottle holder

## 6. Smart Rack

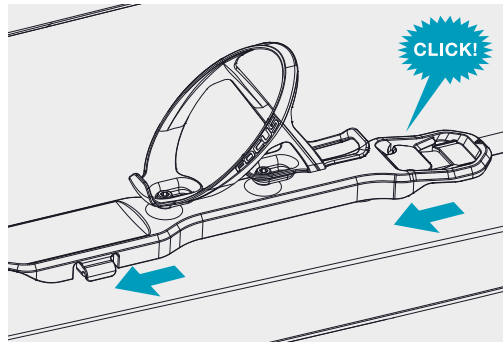
### 6.1 Fix the Smart Rack

1. Place the Smart Rack with the mounted bottle holder on the Bone Rail.

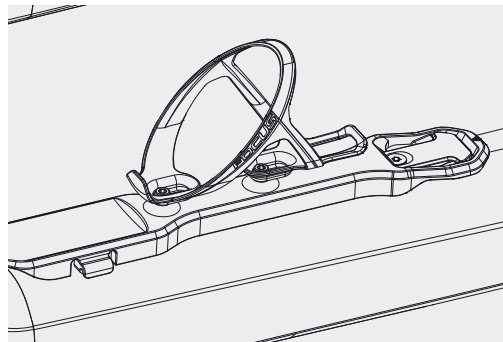


for 1. Place the Smart Rack on the Bone Rail

2. a) Slide the Smart Rack from back to the Bone Rail till it clicks. b) The Smart Rack is locked.



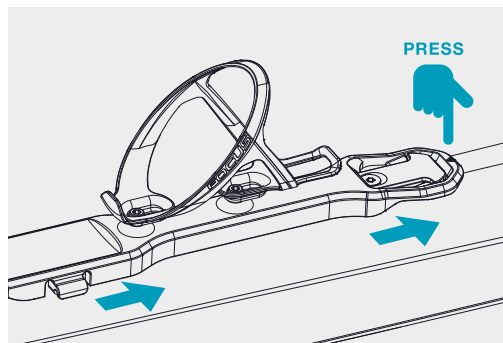
for 2. a) Slide the Smart Rack from back to the Bone Rail.



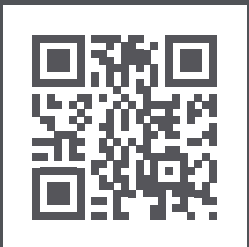
for 2. b) The Smart Rack is locked.

## 6.2 Remove the Smart Rack

1. To remove the Smart Rack, press the release button and push the Smart Rack forward at the same time.



for 1. Remove the Smart Rack



[www.focus-bikes.com](http://www.focus-bikes.com)

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