

English

USER MANUAL

MASTERMIND T3

SBC-D09

turnbuc



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CONTENTS

1. INTRODUCTION	2
1.1. Warranty	2
1.2. Legend	2
2. GENERAL INFORMATION ABOUT YOUR LEVO	3
2.1. Intended Use	3
2.2. Pedelec / EPAC	3
2.3. Speed Modification and Manipulation	3
2.4. Structural Weight Limits	3
3. GENERAL NOTES ABOUT RIDING	4
3.1. Motor Support	4
3.2. Walk Assist	4
3.3. Electric Bicycle Riding Tips	5
3.4. Before Riding	5
3.5. Motor Support Activation	5
4. SYSTEM INTERFACE	7
4.1. Powering On	7
4.2. MasterMind T3 HMI System	8
4.2.1 MasterMind T3 Remote	8
4.2.2 MasterMind T3 Display	8
4.3. MasterMind T3 Remote	9
4.4. MasterMind T3 Display	10
4.4.1 Screen Layout	10
4.4.2 Data Field Icons	10
4.5. Support Modes	11
4.5.1 Micro Tune Mode	12
4.6. Customizing The Display	12
4.7. Auto Start	13
4.8. Pedal Coach On The MasterMind T3	13
4.9. envolo AUTOMATIQ Hub, Pedal Pace	14
4.10. Turbo System Lock	14
4.10.1 App Lock and Unlock	14
4.10.2 Pin Unlock	14
4.11. Radar	15
4.11.1 Radar Start-up	15
4.11.2 Visual Alerts	16
4.11.3 Sound Alerts	16
4.12. Error Messages	17
4.13. Legal Documentation	17
4.14. Standard And Factory Reset	18
4.15. Connectivity Options	18

5. SPECIALIZED APP	19
5.1. Specialized App Features	19
5.2. Sign In To The Specialized App	19
5.3. In-App Help Guide	19
5.4. Pairing Your Bicycle	19
6. BATTERY AND CHARGER	20
6.1. Important Safety Instructions	20
6.1.1 Instructions pertaining to the risk of fire or electric shock	20
6.2. Battery Damage	22
6.3. Battery Installation Instructions	23
6.3.1 Battery Removal & Replacement	23
6.4. Operating Instructions	25
6.4.1 Charging The Battery	25
6.4.2 Battery Charge Level Display	27
6.5. User Maintenance Instructions	28
6.5.1 Cleaning	28
6.5.2 Battery troubleshooting	28
6.6. Moving And Storage Instructions	29
6.6.1 Transport	29
6.6.2 Storage	29
6.7. Disposal	30
6.8. Range Extender (RE)	30
6.8.1 Range Extender Installation Instructions	31
6.8.2 RIDING With only the re installed	32
6.8.3 Operating Instructions	33
6.8.4 Range Extender Battery Discharge MODES	34
6.8.5 RE Battery Charge Level Display	34
6.9. Battery Technical Data	35
6.10. Charger Technical Data	35
6.11. Charging Times	36
6.12. Battery Discharge Information	37
6.12.1 Main Battery Discharge Behaviour	37
6.12.2 range Extender battery Discharge Behaviour	37
6.13. Thermal Power Derating	38
7. REGULATORY STATEMENTS	38
8. EC - DECLARATION OF CONFORMITY	39
9. UK - DECLARATION OF CONFORMITY	41

Congratulations on the purchase of your new Specialized Turbo bike! Before we get you set up for your first ride, a few words about electric bikes.

As the name suggests, and unlike regular bicycles, Specialized electric bikes have very sophisticated and carefully engineered high-precision electrical components, including a built-in custom motor drive unit, a high-performance battery integrated into the frame, sensors, one or more display units, and wiring throughout to make sure everything is connected. You will also have a unique riding experience with added speed and acceleration from the motor support. Because of this, you need to treat your electric bicycle differently from a regular bicycle and you need to be careful not to damage electrical components. This means you should not expose any electrical components to water (e.g., do not pressure-wash your bicycle), drop or otherwise damage your battery, touch any live components, or open up or otherwise tamper with electrical components. This also means you should be mindful that your lithium-ion battery, when sufficiently charged, has enough energy stored to potentially start a fire. Follow the instructions in this manual when it comes to charging, transporting, cleaning, or storing your battery.

Not following these instructions may have serious consequences and can result in a fire, which may injure you and other people. Be sure you read this manual in its entirety and contact your local Rider Care team if you have any questions.

⚠ WARNING! Please read and familiarize yourself with the Important Safety Instructions pertaining to the risk of fire or electric shock in the BATTERY AND CHARGING Section Of this User Manual before riding or servicing your bicycle.

⚠ WARNING! Be careful not to damage or expose electrical components to water. Do not pressure wash your battery, motor, or any other electrical components. Damaging electrical components or exposing them to water may start a fire, resulting in serious injury or even death.

⚠ WARNING! Always be present when charging your battery, and disconnect it when it is fully charged. Do not leave your battery plugged in or let it charge overnight. Immediately disconnect the battery from the charger when you encounter any problem during the charging process, e.g., when the charger or battery gets extremely hot or when the LED lights signal a problem. Failure to follow this warning can start a fire which can result in serious injury or even death.

i The term “battery” used in this user manual refers to all original Turbo batteries.

i The instructions, functionality of the system interface, and components as summarized in this manual are current as of the date this manual was written and is subject to change. Specialized reserves the right to change the specification and functionality at any time and without notice, including modifying, reducing, and/or adding features. Please visit www.specialized.com for periodic updates.

The images shown in this manual may differ from your bicycle, but are similar enough to help you understand the instructions.

SPECIALIZED BICYCLE COMPONENTS | 15130 Concord Circle, Morgan Hill, CA 95037 (408) 779-6229

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We may occasionally issue updates and addendum to this document. Please periodically check www.specialized.com or contact Rider Care to make sure you have the latest information.

1. INTRODUCTION

THIS USER MANUAL CONTAINS IMPORTANT INFORMATION. PLEASE READ CAREFULLY AND STORE IN A SAFE PLACE.

This manual was drafted in the English language (original instructions) and may have been translated into other languages as applicable (translation of original instructions).

This User Manual is specific to your Specialized Levo hereinafter referred to as "the bicycle," and should be read in addition to the Specialized Bicycle Owner's Manual ("Owner's Manual"). It contains important safety, performance, and technical information, which you should read before your first ride and keep for reference. If you do not have a copy of the Owner's Manual, you can download it at no cost at www.specialized.com, or obtain it from your nearest Authorized Specialized Retailer or Specialized Rider Care.

Additional safety, performance, and service information for specific components such as suspension or pedals on your bicycle, or for accessories such as helmets or lights, may also be available. Make sure that your Authorized Specialized Retailer has given you all the manufacturers' literature that was included with your bicycle or accessories. If there is a difference between the instructions in this manual and the information provided by a component manufacturer, please refer to your Authorized Specialized Retailer.

1.1. WARRANTY

Please refer to the written warranty provisions provided with your bicycle, or visit www.specialized.com. A copy is also available at your Authorized Specialized Retailer.

1.2. LEGEND

When reading this user manual, you will note various important symbols and warnings, which are explained below:

 **WARNING!** The combination of this symbol and word indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death. Many of the Warnings say "you may lose control and fall." Because any fall can result in serious injury or even death, we do not always repeat the warning of possible injury or death.

 **CAUTION:** The combination of the safety alert symbol and the word **CAUTION** indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury, or is an alert against unsafe practices.

The word **CAUTION** used without the safety alert symbol indicates a situation which, if not avoided, could result in serious damage to the bicycle or the voiding of your warranty.

 **INFO:** This symbol alerts the reader to information which is particularly important.

 **TECH TIP:** Tech Tips are useful tips and tricks regarding installation and use.

 **GREASE:** This symbol means that high-quality grease should be applied as illustrated.

2. GENERAL INFORMATION ABOUT YOUR LEVO

2.1. INTENDED USE

Bicycles designed for riding Conditions 1, 2, and 3, plus rough technical areas, moderately sized obstacles, and small jumps. These bicycles are intended for trail and uphill riding. All-Mountain bicycles are: (1) more heavy duty than cross country bicycles, but less heavy duty than Freeride bicycles, (2) lighter and more nimble than Freeride bicycles, (3) heavier and have more suspension travel than a cross country bicycle, allowing them to be ridden in more difficult terrain, over larger obstacles and moderate jumps, (4) intermediate in suspension travel and use components that fit the intermediate intended use, (5) cover a fairly wide range of intended use, with models that are more or less heavy duty. Talk to your Authorized Specialized Retailer about your needs and these models.

These bicycles are **NOT** intended for use in extreme forms of jumping/riding such as hardcore mountain, freeriding, downhill, North Shore, dirt jumping, hucking etc. Not for large dropoffs, jumps or launches (wooden structures, dirt embankments) requiring long suspension travel or heavy duty components; and not for spending time in the air (landing hard and hammering through obstacles).

Condition 4
ALL
MOUNTAIN



 Information on the various conditions can be found in the Specialized Bicycle Owner's Manual.

2.2. PEDELEC / EPAC

The bicycle is classified as a Pedelec/EPAC. Regardless of its classification, it will provide motor support only while pedaling. Depending on the classification, there can be different requirements and regulations affecting your use of the bicycle.

Motor support will automatically shut off when you stop pedaling or you reach a maximum assistance speed depending on the class of electric bicycle. A driver's license is typically not required.

 Before using your bicycle, inform yourself of all applicable legal requirements and regulations in your country or state. There may be restrictions on riding your Turbo bicycle on public roads, cycling paths, and/or trails. There may also be applicable helmet requirements, passenger restrictions, age restrictions, license, or insurance requirements. Specialized does not, and will not, make any promise, representation, or warranty regarding the use of your Turbo bicycle. As laws and regulations regarding electric bicycles vary by country and/or state and are constantly changing, make sure to obtain the latest information. You should also regularly see your Authorized Specialized Retailer for updated information.

2.3. SPEED MODIFICATION AND MANIPULATION

Modifying or manipulating (tampering) your electric bicycle's speed limit may change the classification of your electric bicycle, which depending on the country, may make the electric bicycle no longer approved for use on public roads.

 **CAUTION:** All Turbo bicycles have a fixed pre-set speed limit, according to your region, at which the motor support will automatically shut off. Any unauthorized tampering with the power output and/or system is prohibited and will void the warranty.

2.4. STRUCTURAL WEIGHT LIMITS

STRUCTURAL WEIGHT LIMIT: The maximum total weight (rider and cargo) a bicycle is designed and tested to support structurally.

CARGO WEIGHT LIMIT: The maximum cargo weight a bicycle has been designed and tested to support structurally.

MODEL	CARGO		STRUCTURAL (lb / kg)
	REAR (lb / kg)	FRONT (lb / kg)	
LEVO COMP / EXPERT / PRO CARBON			
LEVO S-WORKS CARBON			

 For more information on the intended use and structural weight limits for the frame and components, please refer to the Owner's Manual.

WARNING! Never exceed the maximum specified cargo or structural weight limit for your bicycle/fork or the rack's maximum allowed cargo weight limit. When loading cargo, only do so through the use of compatible racks or other accessories, which may have different cargo weight limits apply to them, as indicated. In case the specified cargo weight limit for the

 bicycle differs from the cargo weight limit specified by the rack or accessory manufacturer, always use the lowest limit. If you add any load-bearing accessories not approved by Specialized, including baskets or child carriers, you do so at your own risk because these accessories have not been tested for compatibility, reliability, or safety on your bicycle. Failure to follow this warning may result in serious personal injury or death.

3. GENERAL NOTES ABOUT RIDING

3.1. MOTOR SUPPORT

The Turbo motor only provides pedal assistance while you pedal and the bicycle is in motion. The amount of pedal assistance will be higher or lower depending on the force applied by the rider to the pedals. If you stop pedaling, the motor will stop providing any assistance. The Turbo bicycle can also be ridden like a regular bicycle without motor assistance by switching the display to the OFF mode. The same applies if the battery charge drops below 4%.

3.2. WALK ASSIST

The Turbo bicycle walk-assist mode engages the motor up to 6 km/h (3.7 mph) to assist when walking the bicycle up a hill without any pedal force applied by pressing the Bottom Button.

 **WARNING!** The walk-assist mode is designed to be used only while pushing the bicycle with both hands placed on the handlebar and walking alongside it. At least one hand should be placed on the brake.

 **WARNING!** Keep your feet on the pedals at all times during riding.

3.3. ELECTRIC BICYCLE RIDING TIPS

Because of the electric motor assist, your electric bicycle offers a unique riding experience compared to a bicycle without motor assist. Below are some riding tips and information that may also reduce component wear and increase battery range:

- Pay attention to your speed going into a corner and stop pedaling well before entering it. Otherwise, you may carry too much speed, which may cause you to lose control and fall.
- Ride at a comfortable, efficient cadence and look ahead.
- Change the gear ratio to stay in an optimal cadence range and lower the gear ratio before coming to a stop.
- Braking while steering may reduce the ability to control your bicycle.
- Check the tire pressure regularly. Low pressure can cause the tires to roll inefficiently.
- Do not expose your bicycle to prolonged excessive heat.
- Only carry the cargo you need. More weight drains the battery faster.
- **If you plan to ride your bicycle in cooler temperatures (0 °C / 32 °F), keep it stored indoors until just before riding.**

 **WARNING!** Use caution when viewing or using the display while riding, as it can be distracting and can lead to accidents. You should always stop before changing settings or operating the various functions of the display.

 **WARNING – HOT SURFACE!** Do not touch exposed motor casings during or after motor use. The motor can become extremely hot, especially after long or intense use such as going up a prolonged steep climb. Turn off the system and allow the motor to cool down before handling. The system may reduce power in the advent of overheating.

 **CAUTION:** The weight of your Turbo bicycle is significantly higher than a bicycle without motor support. Use caution when handling the bicycle (including, but not limited to, parking, lifting, pushing, loading it into a car or onto a bicycle carrier, and unloading it).

3.4. BEFORE RIDING

Regardless of your experience level, you should read the "FIRST" section of your Owner's Manual (Bike Fit, Safety First, Mechanical Safety Check, and First Ride) and carry out all important safety checks. In addition, make sure you are familiar with the following specific electric bicycle information.

Have you ridden an electric bicycle?

Practice riding your Turbo bicycle in an open space clear of traffic, obstructions, and obstacles to familiarize yourself with handling your bicycle.

 **WARNING!** The acceleration of an electric bicycle can be faster than anticipated and may feel unusual at first. Before your first ride, you should use the lowest power ECO mode and become familiar with the operation of the electric bicycle by practicing starting and stopping, cornering, and navigating obstacles in a safe environment away from other bicycles, pedestrians, and/or vehicles. Due to the greater acceleration of an electric bicycle, you should also pay particular attention to terrain conditions as you may approach obstacles faster than expected. Please note that the default motor support mode upon start-up is always SPORT mode.

WARNING! The motor support is activated as soon as you begin pedaling. Therefore, make sure you're seated on the bicycle with one foot on the ground and one brake engaged before starting to pedal. Do not put one foot on a pedal and throw a leg over the bicycle, as the bicycle could accelerate unexpectedly. Failure to follow this warning may result in severe injury or even death.

Electric bicycle weight:

The weight of your Turbo bicycle is significantly heavier than non-electrically assisted bicycles (conventional) and handles differently than conventional bicycles, meaning:

- Increased braking distance requires earlier braking.
- Decreased maneuverability and cornering abilities.
- Increased difficulty pushing, parking, lifting, carrying, loading it into a car or onto a bicycle carrier, and unloading it.

MasterMind T3 display:

Make sure you are familiar with the layout and functions of the display.

Changing the gear ratio:

Make sure you are familiar with changing the gear ratio using the handlebar shifter.

Seatpost height:

Adjust the seatpost to ensure your saddle is set at the correct height. See the Owner's Manual and the seatpost section of this manual for more information on setting up the correct saddle height.

Safety accessories:

Make sure your bicycle is equipped with all the necessary accessories that comply with your local electric bicycle's legal requirements.

- Reflectors
- Bells
- Lights
- License plate numbers (if required by law)

Clothing:

Do not wear any loose clothing as it may be caught in the bicycle drivetrain (belt and cogs), rotors, or wheels.

Removable battery:

Make sure the battery is fully charged and secured in the downtube battery holder with the charge port cover closed.

3.5. BRAKE ROTOR

WARNING! Be careful to keep body parts and other objects away from the moving disc brake rotors to avoid injury. Also, disc brake rotors can get extremely hot with extended use. Be careful not to touch a rotor until it has had plenty of time to cool.

CAUTION: Do not allow oil or grease onto the disc brake rotor and/or brake pads. Riding the bicycle with oil or grease on the disc brake rotor and brake pads may prevent the brakes from operating correctly.

3.6. MOTOR SUPPORT ACTIVATION

As mentioned in this manual, with the system powered up, the motor support will activate as soon as the cranks are rotated and torque is detected. This can also happen when not actively riding the bicycle, e.g., when the bicycle is in a work stand or flipped upside down and the cranks are turned, or the chain is moved (which then turns the cranks) when walking alongside and pushing the bicycle and the cranks are turned, or any other scenario where the cranks are turned, whether intentionally or unintentionally, and the wheels are moving. This means that the system should be powered off when motor assist is not desired to avoid any unintentional motor engagement.

WARNING! The system must always be powered off when not in use or when performing any bicycle maintenance.

- Pushing the bicycle along without walk-assist activated.
- Loading passengers or children on the bicycle.
- Loading the bicycle for transportation (e.g., car or train).
- Carrying the bicycle (e.g., over stairs).
- Fixing a dropped belt.
- Installing or removing a pedal.
- Changing a flat tire.
- Performing belt/drivetrain maintenance.

4. SYSTEM INTERFACE

This bicycle is equipped with the Mastermind T3 System (SBC-D09) which controls the system and functionality of the bicycle.



The functionality of the system interface as summarized in this manual is current as of the date this manual was written and is subject to change. Specialized reserves the right to change the functionality at any time and without notice, including modifying, reducing, and/or adding features.

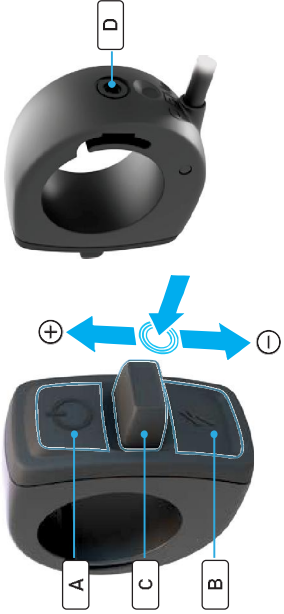
WARNING! Use caution when viewing or using the display while riding, as it can be distracting and can lead to accidents. You should always stop before changing settings or operating the various functions of the display. Do not attempt to customize the pages or perform setup adjustments while riding.

4.1. POWERING ON



- To start the system, press and hold the POWER [Top] button on the MasterMind T3 remote until the display powers on.
- To power off the system, press and hold the POWER button again.

4.2. MASTERMIND T3 HMI SYSTEM



4.2.1 MASTERMIND T3 REMOTE

- The MasterMind T3 handlebar remote controls the function of the system. The remote powers on the bicycle, controls the level of motor support, and controls the operations and scrolling of the MasterMind T3 display.
- The remote has five function buttons used to control your bicycle's functions. **(A)** Top Button (Power), **(B)** Bottom Button (Walk Assist), and the **(C)** Joystick button, which is pushed upward, downward, and inward to perform different functions.
- The compression screw **(D)** is used to secure the remote to your preferred angle (2 mm hex key at 0.8 Nm / 7 in.-lbf).

4.2.2 MASTERMIND T3 DISPLAY



- The MasterMind T3 display is integrated into the top tube, and displays realtime ride information on the display **(E)**.
- The display is removed from the frame by pulling the display toward the rear of the bicycle and using your fingernails to lift the top of the display upward and out.

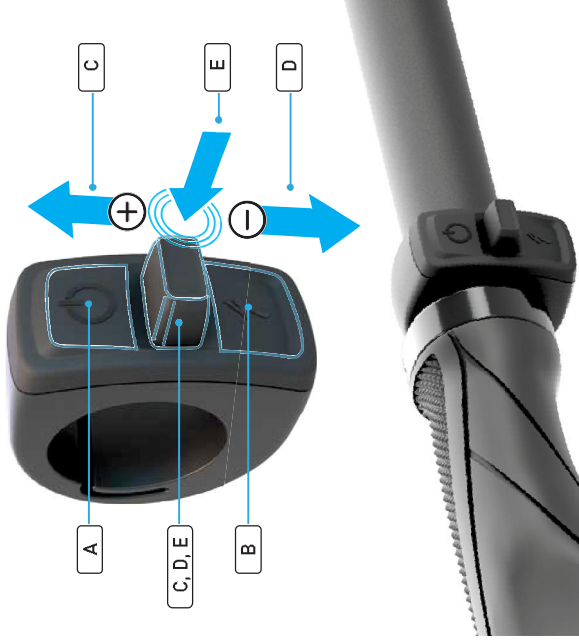
! **CAUTION:** Never use a screwdriver or sharp tool to remove the Mastermind T3 display from the top tube as this could cause scratches to the frame and display.

- The USB-C port **(F)** on the left side of the display is for Specialized retailers and service centers. Ensure the rubber port seal **(G)** is firmly closed when the bicycle is in use.

8

- Do not expose the display to intense heat or sunlight for a prolonged period. This can damage the display and/or internal battery.
- Only use a damp or dry soft cloth to clean the display. Do not use harsh cleaning products.
- Do not disassemble or drop the display.
- Make sure the display and mount are firmly installed on the handlebar before riding.

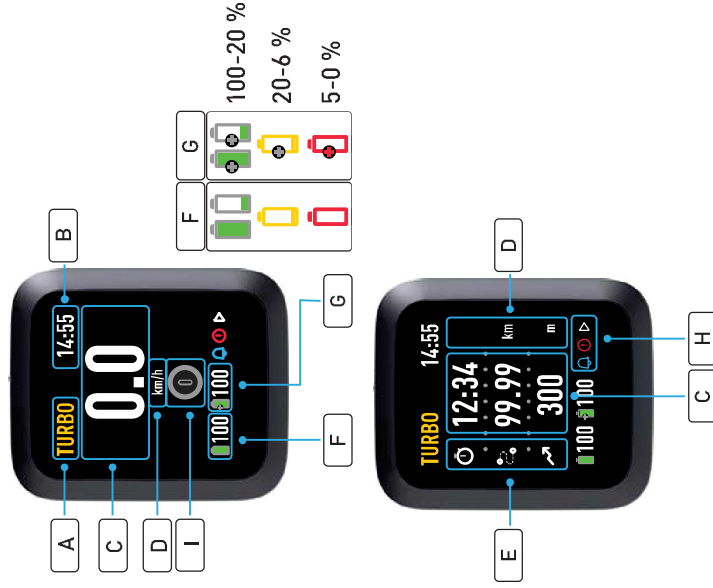
4.3. MASTERMIND T3 REMOTE



DESCRIPTION		FUNCTION
A	Top Button	Long press
		Power On
		Long press
B	Bottom Button	Long Press 40 sec
		Power Off
		Factory Reset
C	Center Joystick Up-Press	Press & hold
		Activates the Walk Assist mode.*
		Short press
D	Center Joystick Down-Press	Increases the amount of support.**
		Switches to Micro Tune mode
		Long press (2 secs)
E	Center Joystick Center-Press	Long press (10 secs)
		Apple Find My Instructions
		Decreases the amount of support.**
C&E	Center Joystick Center-Press & Up-Press	Short press
		Resets all the ride data and automatically stops your ride in the Specialized App if connected.
		Long press (5 Secs)
		Toggles the MasterMind T3 pages to display more data fields such as odometer, speed, and distance.
		Opens the legal and regulatory information and is navigated by the up and down press buttons. Pressing the bottom button exits the information.

9

4.4. MASTERMIND T3 DISPLAY



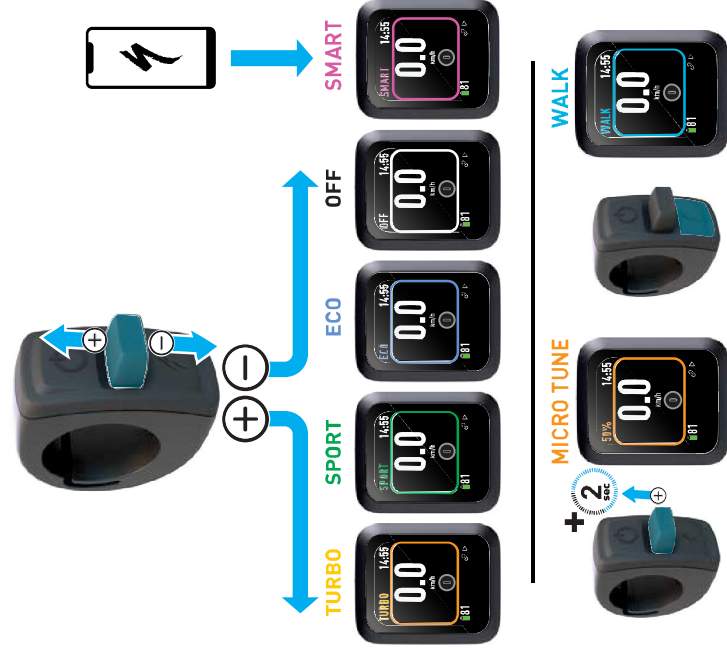
4.4.1 SCREEN LAYOUT

A	Assist Mode	E	Data Field Icon
B	Time Of Day	F	Battery Charge Status
C	Data Field	G	Range Extender Charge Status
D	Unit of Measurement	H	Notification Icon

4.4.2 DATA FIELD ICONS

DESCRIPTION	DESCRIPTION	DESCRIPTION
Countdown time remaining	Alt decent	Range trend
Support peak power	Lock	Shifter battery
Ride time	Heart rate	AXS
Distance	Motor power electric	Jump count
Odometer	Rider power	Jump time
Cadence	Motor power	Jump distance
Altitude	Grade	
Alt gain	Estimated range	

4.5. SUPPORT MODES



The Turbo motor offers six assist modes: **TURBO, SPORT / TRAIL, ECO, OFF, MICRO TUNE, SMART CONTROL**, and **WALK ASSIST**. As a quick reference, each mode is associated with a color. When you change modes, the color on the display changes.

SUPPORT MODES:

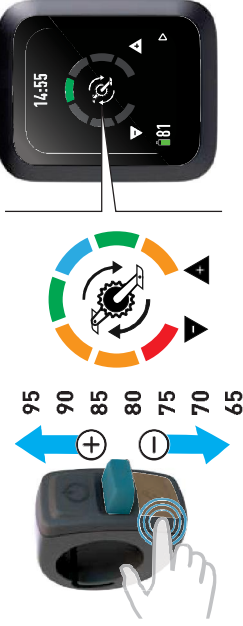
- **TURBO:** Maximum power mode for high-speed sections and climbing.
- **SPORT/TRAIL:** Maximum control, with sufficient power on demand.
- **ECO:** Most efficient mode for maximum range while offering good power.
- **OFF:** The motor will not offer any assistance, but the display and lights will still function.
- **SMART CONTROL:** The motor, while pedaling, adjusts the power output based on the ride parameters determined in the Specialized App.
- **MICRO TUNE:** Micro Tune mode allows you to simultaneously change the support and peak power in 10% increments whilst riding.
- **WALK ASSIST:** Walk Assist provides motor assist at **6 km/h / 3.7 mph** to help push the bicycle uphill when walking.

The default Support mode and the individual **support mode settings can be modified in the Specialized App.**

The Smart Control mode is only accessible when the bicycle is connected to the Specialized App and Smart Control mode is turned on. When more or less motor support is needed or desired, Smart Control can be bypassed for a short period of time by toggling between the **OFF / SMART / SPORT-TRAIL** modes. Smart Control will then automatically reactivate after a short period of time. Smart Control mode can only be turned off in the Specialized app.

4.9. ENVIOLo AUTOMATIq HUB, PEDAL PACE

On Bicycles equipped with the enviolo AUTOMATIq IGH you can set your target Pedal Pace [cadence] at which you are most comfortable pedaling. The transmission is controlled automatically, so you can always pedal at the same pace, up or downhill. You can adjust your preferred pedal pace [cadence] in the Specialized App.



- Short-pressing the Bottom Button will activate the enviolo cadence adjustment setting.
- Short-pressing the Joystick Up-Press increases the desired pedal pace while short-pressing the Joystick Down-Press decreases the desired pedal pace.

i The pedal pace page for the enviolo AUTOMATIq IGH is displayed for 5 seconds after the last button push and will then revert to the previous layout.

4.10. TURBO SYSTEM LOCK

i Your bicycle must first be Activated to use the system lock feature.

MasterMind T3 equipped bicycles include a Turbo System Lock that electronically locks the motor support of the bicycle. There is also an optional beeper alarm or lights if the bike is moved with System Lock Activated. You can unlock your bicycle with the Specialized App or enter your preset PIN using your MasterMind remote.

4.10.1 APP LOCK AND UNLOCK

The bicycle can be locked and unlocked manually or automatically with the Specialized App.

The Manual lock requires you to open the app and lock and unlock the bicycle in the app.

The Automatic lock functions when your mobile phone is near the bicycle, automatically locking and unlocking the system lock.

i Some mobile phone operating systems might need to have the Specialized App already open for the automatic system lock to function.

4.10.2 PIN UNLOCK

If you cannot access your mobile phone, you can use the remote to insert your pin code and unlock the bicycle.

- Power on your bicycle, then press the Joystick Center button on your handlebar remote. The PIN entry field will appear on the MasterMind T3
- Press Joystick Up or Down button to change the number. Press the center button on the joystick to move to the next digit entry.
- Once the correct four digits are entered, press the Joystick Center Button to submit the PIN and unlock the bicycle.

14

4.11. RADAR

Some bicycle models are fitted with a Garmin radar system designed to warn you of vehicles approaching you from behind.

! **WARNING!** Before using the Garmin radar system, please read the applicable sections in the provided manual(s), including all safety warnings and instructions.

! **WARNING!** While the Garmin radar device can be used as general guidance with respect to vehicles approaching directly from behind you, make sure you are aware of your surroundings at all times. Depending on size, speed, location, not all traffic participants may be accurately detected and displayed.

i Some Turbo models do not have the Radar system integrated and the Garmin Radar Wireless system can be paired using the Specialized App

4.11.1 RADAR STARTUP



The Garmin radar system is integrated into the MasterMind T3 display and appears on the left side of the display on equipped models **(A)**. When the bicycle powers on, the radar is shown as a flashing amber dot **(B)** on the top left side of the display, when the system is activated the dot will turn green **(C)**.

15

4.11.2 VISUAL ALERTS



4.11.3 SOUND ALERTS

The MasterMind T3 emits an alarm tone for various alerts.

- The alarm tone for an approaching vehicle differs from the tone when the vehicle has passed. The device will sound an alert as soon as another vehicle is detected.

i Activating or disabling tones can be set in the Specialized App.

4.12. ERROR MESSAGES



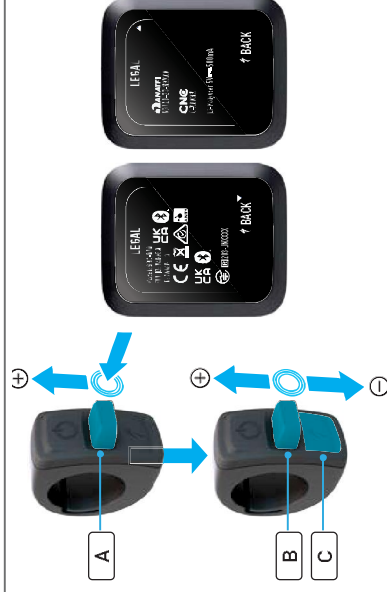
MasterMind T3 has a built-in diagnostic system to automatically check and identify the functionality of the system. If the system detects an error, it shows on the display. In some cases, the error message can be dismissed by pushing any button on the remote. When dismissed, the icon appears in the lower notification bar.

If you receive such an error, check the app for user actions. If the error message continues to display, power off your bicycle and contact your Authorized Specialized Retailer for further help.

Depending on the type of error message, the system may switch off automatically. In any case, the bicycle can be ridden without motor support with the system turned off.

i The Specialized app supports the rider with user actions for errors and diagnostic reports which can be shared with Retailers who can give further advice based on the bike serial number.

4.13. LEGAL DOCUMENTATION



All legal and regulatory information can be accessed on the MasterMind T3 display.

- To open the legal and regulatory information page. Press the joystick center button (A) and then push the joystick upward on the remote and hold for 5 seconds.
- Use the joystick up and down buttons (B) to scroll through the pages.
- To exit the legal and regulatory information, press the bottom button (C).

4.14. STANDARD AND FACTORY RESET

Under certain conditions, it might be required to perform a factory reset of the MasterMind T3 display.

- When a new or used bicycle is sold, the new user should perform a factory reset.
- To troubleshoot bicycle or display (e.g., app connection issues).
- Factory Reset will restore the default tune settings and reset all zeroable data on the MasterMind display [distance, ride time, etc.]
- Reset will clear any pairing with the Specialized App and any ANT+ or other BLE devices.
- Before pairing again with the Specialized app, you have to forget/clear the bike from your phone's list of known BLE devices.



Factory Reset (Resets all Settings)

- Press and hold the POWER button for 40 seconds. During this process, the MasterMind T3 will reboot twice.
- Release the button when the MasterMind T3 reboots for the second time.

i Once a factory reset has been performed, reconnect your bicycle to the Specialized app to reset to your personal system settings.

i Factory Reset is disabled when the bicycle is in the locked mode.

4.15. CONNECTIVITY OPTIONS

The Turbo Technology System provides a high degree of interface flexibility through Bluetooth and/or ANT+ connectivity.

Bluetooth low energy (BLE)

- BLE is used for connecting the bicycle to the Specialized app.
- ANT+ can be used to connect to the sensors for Speed, Rider Power, and Cadence. The sensor data can be received via the ANT+ module built into the MasterMind T3.
- In your ANT+ device, search for those sensors and connect to them.
- Some bicycle-specific ANT+ devices feature so-called "LEV" data fields you can use to see all available e-bike data.
- You can also connect a heart rate sensor, Radar and AXS to your bike directly via the Specialized app.

5. SPECIALIZED APP

The Specialized app enables you to personalize and enhance your ride. In addition, it gives you tools to unleash your bicycle's full potential and achieve your cycling goals.

Most importantly, the app allows you to customize motor characteristics, diagnose the bicycle system, record rides, see real-time ride data, and control the bicycle range.

i The Specialized app is constantly being improved and is subject to change without notice. Make sure you have the latest version of the App installed on your mobile device. Use the in-app guide to stay up to date on all the latest features and updates.

5.1. SPECIALIZED APP FEATURES

MOTOR TUNE

- Customize and transform your ride based on your wants by adjusting your motor performance based on Support and Peak Power.
- You can save your tune settings as a custom preset and save multiple presets for your different types of rides.

CONNECTED RIDE RECORDING

- See the live map and view live ride data.
- Record your route, speed, distance, rider power, and time with a single tap.
- View your recorded rides in the app or use the app integration to upload your rides to 3rd party apps.

SMART CONTROL

- Activating Smart Control means you don't have to worry about the mode setting or battery capacity during your ride. You can set the Smart Control by distance, duration, or heart rate goal and let your bike do the rest.

DIAGNOSE

- Diagnose can give you an overview of your bicycles motor, system, and battery health, including user guidance with some bike errors.

FIRMWARE UPDATES

- Update some of your bicycle firmware with over-the-air updates.

BICYCLE LOCK

- Bikes equipped with the MasterMind T3 include a Turbo System Lock that electronically locks the motor support for the bike. There is also an optional beeper alarm or lights if the bike is moved while locked. You can unlock your bike either with the Specialized app or by entering your PIN using your remote

5.2. SIGN IN TO THE SPECIALIZED APP

Once you've installed the App, you can sign in using the same email address and password you use for other Specialized digital platforms such as Specialized.com, Ride, or Retül. You can also create a new account in the app.

5.3. IN-APP HELP GUIDE

More in-depth information can be found on the individual screens within the app. This in-app help guide explains the key terms and features of the individual screens.

5.4. PAIRING YOUR BICYCLE

When connecting to the Specialized app for the first time, the app prompts you to add your bicycle.

Select the bicycle serial number that matches the bicycle you are pairing. The bicycle serial number can be found on the frame or the removable yellow sticker IN YOUR MANUAL.

When the app prompts you, confirm the six-digit pairing code shown on the display. Then, follow the instructions displayed on the display and in-

app messages to complete the connection. More bicycles may be added to the app in the MY BIKES Section.

i You'll only need to pair your bicycle with the Specialized app once unless you clear your device's Bluetooth history or switch to a new device.

6. BATTERY AND CHARGER

Your bicycle includes a powerful high-performance Lithium-Ion battery integrated into the bicycle frame. The Turbo SL battery is fitted inside the down tube and can only be removed by first removing the motor. Any work required on the motor and battery should be carried out by an Authorized Specialized Turbo Retailer.

Be mindful of the energy stored in your battery and make sure you read and follow the below instructions regarding handling, charging, storing, and cleaning. Not following these instructions may have serious consequences and can result in a fire, which may seriously injure you and/or other people.

Refer to the Battery technical data section of this manual for all operating and storage temperature ranges.

Any work required on the motor and battery should be carried out by an Authorized Specialized Turbo Retailer.

6.1. IMPORTANT SAFETY INSTRUCTIONS

6.1.1 INSTRUCTIONS PERTAINING TO THE RISK OF FIRE OR ELECTRIC SHOCK

! **WARNING!** When using this product, basic precautions should always be followed, including the following.

! **WARNING!** Risk of fire - no user serviceable parts.

1. Read all the instructions before using the bicycle.
2. Close supervision is necessary to reduce the risk of injury when the product is used near children. Children should also not play with the battery system.
3. **Keep battery packs and chargers away from children. Do not charge or store your electric bike or battery packs in children's rooms or**

20

bedrooms.

4. This battery system is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities or lack of experience and knowledge unless they have been given supervision or instruction concerning the use of the battery system by a person responsible for their safety.
5. Do not put your fingers or hands into the product.
6. Rechargeable battery systems need to be charged before use. For charging, please follow the producer's instructions or the instructions in the manual of the device.
7. After a prolonged storage time, it may be necessary to charge and discharge the battery system multiple times to get back to performance.
8. Do not use this product if the flexible power cord or output cable is frayed or has broken insulation or any other signs of damage.
9. Only use the type of battery specifically designed for and approved by Specialized for use with your bicycle. The same applies to the charger, charger cord, and output cable. Only use charger components approved by Specialized to work with your battery.
10. Rechargeable battery systems have the greatest performance when kept and used at normal room temperature **20 °C (68°F)**.
11. This equipment is not intended to be used at ambient temperatures less than **-10°C (14°F)** or above ambient temperatures of **40°C (104°F)**.
12. This battery is intended to be charged only when the ambient temperature is between **0°C (32°F)** and **40°C (104°F)**. Never charge the battery when ambient temperatures are out of this range.
13. Do not expose the battery to big temperature changes.
14. Exposing the battery to temperatures above **70°C (158°F)** may result in battery leakage and rupture.
15. Never use or charge a battery with external damage, such as a cracked or chipped enclosure, or if it leaks any battery fluid. The same applies to your charger, charger cord, and output cable. If your charger has any external damage, do not use it. If the charger cord or output cable

16. Do not expose battery systems to strong mechanical impacts. A hard enough impact can potentially damage the battery, which may or may not be visible from the outside but can render the battery unsafe.
17. Always keep the battery and battery system dry and clean.
18. Store the battery in a dry place, away from open flames and food.
19. Water inside a battery or charger can cause a short circuit and fire. Do not pressure-wash your battery or charger. Do not submerge them in water or leave them out in the rain or snow.
20. Do not expose battery systems to any solvent materials (i.e., dilution, alcohol, oil, anticorrosive) or chemicals that could impact the surfaces of the battery (i.e., detergents).
21. Chargers are designed for indoor use only. When you connect the charger to the battery, make sure the connections are dry and clean.
22. Always be present when charging your battery, and disconnect the charger from the battery when it is fully charged. Do not leave your battery plugged in or let it charge overnight. Immediately disconnect the battery from the charger when you encounter a problem during the charging process, e.g., if the charger or battery gets abnormally hot (e.g., hot to the touch) or if the LED lights or display(s) signal a problem.
23. Do not charge or store your electric bike or battery packs by an exit door as your exit path may be blocked in case of a fire or other emergency.
24. The charger may get warm during the charging process. Place it on a level, stable surface unaffected by heat and allow for sufficient ventilation. Do not place the charger on a rug or carpet or cover it up during charging, as it may cause a fire. If the charger stays warm for an extended period after charging, it may be damaged and should be replaced. The same applies to the battery.
25. Never open up, disassemble, or modify the battery or charger. Do not touch any live components. Always turn the battery off before working on your bicycle, before charging the battery, and when the bicycle is not

21

26. Products with broken seals shall not be used and immediately forwarded for appropriate recycling.
27. Do not allow metallic objects such as keys, coins, or screws to come in contact with the battery, charging socket, or the charger's charging connector.
28. Do not pierce the battery with a sharp object like a screwdriver or nail.
29. Do not store batteries haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.
30. Do not expose the battery to an open fire or excessive heat, e.g., inside a hot car or in strong sunlight. Review the Battery technical data section, which lists acceptable temperature ranges where the battery can be charged, used, or stored. Never place the battery in a microwave oven or dryer.
31. In the event that you experience symptoms clearly resulting from inhalation or ingestion of combustion gases or if there is direct contact with your skin or eyes, it is imperative to seek immediate medical aid.
32. After inhalation: leave the area immediately for fresh air. Seek medical assistance.
33. In the event of contact with the skin: promptly eliminate any solid particles. It is essential to swiftly remove any clothing that has come into contact with contaminants.
34. In the event of a fire, we urge you to follow these essential steps:
35. Battery Safety:
 1. Exercise extreme caution and, if feasible, carefully remove any additional batteries connected to your bicycle.
 2. Always prioritize your personal safety, and do not endanger yourself by attempting to remove batteries if it puts you at risk.
36. Immediate Evacuation:
 1. Promptly evacuate all individuals from the immediate vicinity of the fire.

1. Ensure everyone moves to a safe location away from the flames, heat, and smoke.
37. Fire Suppression Techniques:
1. Utilize copious amounts of cold water to extinguish the fire.
 1. It is recommended to use at least ten times the weight of the battery pack in cold water.
 2. This substantial amount of water helps to cool down the affected area and douse the flames effectively.
38. Before storing the battery, reduce the charge to approximately 50%. Charge the battery back up to 50% of charge every three to six months to ensure the battery does not completely discharge itself, which can lead to the battery being unable to be charged again.
39. Always keep the battery and charger out of reach of children. They are not toys.
40. Keep original printed papers with product information for later consultation.

SAVE THESE INSTRUCTIONS for future reference so that they can be easily accessed when needed.

WARNING! Failure to follow the instructions in this section may result in damage to electrical components and may cause a fire or electric shock, which may result in serious personal injury or even death. If your battery is damaged, do not charge it. If possible, bring the charge down to under 50% and do not store it inside your home or office. Store it outside in a safe area or in an appropriate specialty battery container. If your battery presents an immediate danger, call your local Fire Department.



6.2. BATTERY DAMAGE

Always keep in mind that when sufficiently charged, your battery has enough energy stored inside to cause a fire. Charging, using, handling, or transporting a damaged battery may seriously injure you and others.

22

Because of this, it is important to regularly inspect the battery for physical damage, especially after a crash or impact. If your battery is fully hidden inside the frame, checking it may require partial disassembly of the bicycle which should be performed by your Authorized Specialized Retailer. It is also important to regularly check your battery health by connecting it to the Specialized app. The app may alert you to any internal issues with the battery in which case you should follow the instructions given to you in the app. You should also have it inspected regularly by your Authorized Specialized Retailer which has additional tools available and can also make sure you have the latest firmware installed. Abnormal behavior, e.g., the battery becomes hot to the touch while charging or stays warm for long periods of time after disconnecting it from the charger, may be signs that the battery is damaged.

The following are signs of physical damage which may render your battery unsafe requiring immediate replacement:

- Cracking or chipping of the battery enclosure
- Thermal deformation (e.g., bulging)
- Odor, smoke, or a hissing sound coming from the battery
- Leaking of battery fluid
- Damaged connectors
- Signs of water ingress into the battery (e.g. rust)

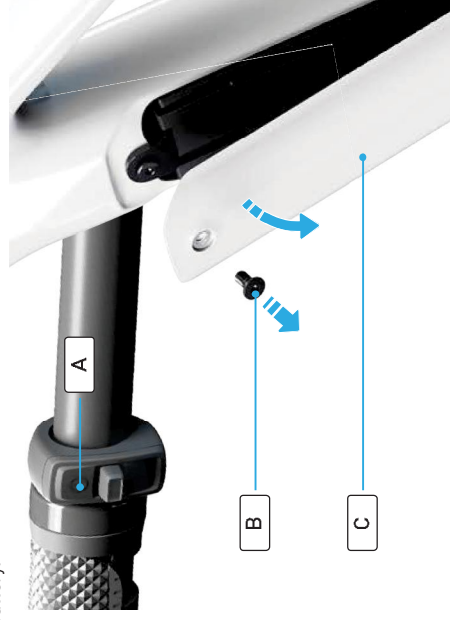
WARNING! If your battery has signs of damage, do not charge it. If possible, bring the charge down to under 50% and do not store it inside your home or office. Store it outside in a safe area or in an appropriate specialty battery container. If your battery presents an immediate danger, call your local Fire Department.

WARNING! Battery liquid can cause skin irritation and burns. If you come in contact with battery fluid, immediately flush with water and seek medical assistance, if needed.

6.3. BATTERY INSTALLATION INSTRUCTIONS

6.3.1 BATTERY REMOVAL & REPLACEMENT

The battery can be charged with the battery installed in or removed from the bicycle. Follow the instructions regarding removing and installing the battery.



OPENING THE BATTERY COVER

- Press and hold the POWER button **(A)** on the MasterMind T3 remote until the display powers off.
- Use a 5mm hex key from the SWAT™ Conceal Carry MTB tool to unscrew the battery cover bolt **(B)**.
- Remove the battery cover **(C)**.

23



REMOVING THE BATTERY

- Use the battery webbing belt **(A)** and pull outward and up to remove the battery gently from the downtube.

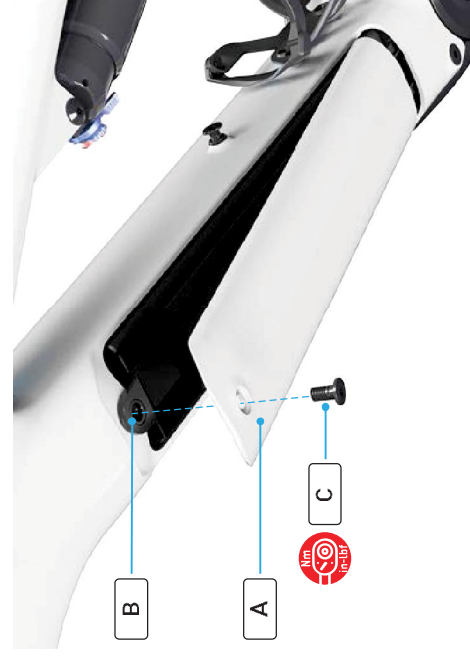
WARNING! Take care not to drop the battery when removed from the bicycle. A hard enough impact can potentially damage the battery, which may or may not be visible from the outside but can render the battery unsafe.



REINSTALLING THE BATTERY

- Align the base of the battery with the downtube, then place the battery over the exposed lip **(A)** at the base of the opening and install it into the frame.
- Align the eyelet at the top of the battery to be flush with the battery cover mount **(B)** to ensure the battery is seated correctly.
- Press and hold the POWER button on the MasterMind T3 remote until the display powers on to ensure the battery is seated correctly.

24

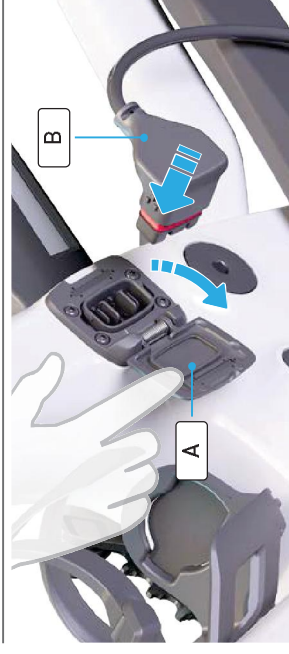


REINSTALLING THE BATTERY COVER

- Press and hold the POWER button on the MasterMind T3 remote until the display powers off.
- Install the base of the battery cover **(A)** into the frame and the align the mounting bolt **(C)** with the battery cover mount **(B)** at the top of the downtube.
- Use a torque wrench and a 5 mm hex bit to torque the battery cover bolt to specification.

6.4. OPERATING INSTRUCTIONS

6.4.1 CHARGING THE BATTERY



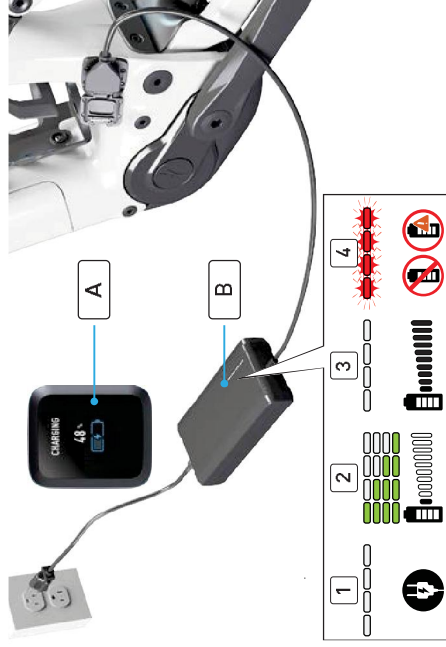
CONNECTING THE CHARGER TO THE CHARGEPORT

- Press and hold the POWER button on the MasterMind T3 remote until the display powers off.
- Plug the charger into an outlet, using the appropriate plug for the country's standards. Do not plug the charger into an extension cord. The diodes on the charger glow white.
- Open and hold the charge port door on the non-drive side of the frame near the motor **(A)**.
- Insert the charging plug **(B)** into the charge port as indicated.

CAUTION: Make sure your charger is rated appropriate for the voltage output in your area. Check the charger label for more information. Connecting the charger to an outlet that has too much or too little output may damage it.

WARNING! When charging your battery, always make sure the charger cord is fully inserted into the charger and the plug is fully inserted into the outlet. A loose connection can potentially start a fire.

25



- Once the battery is charging, you will see visual cues on the MasterMind T3 indicating the charging status **(A)**.
- During charging, the diode on the charger **(B)** glows green **(2)**.
- When the battery is fully charged, the diode on the charger will turn white **(3)**.

WARNING! If the diode on the charger flashes red **(4)**, a charging error has occurred. Immediately remove the charger from the charging socket and outlet and contact your Authorized Specialized Retailer.

- When charging is complete, disconnect the charging plug from the battery charging socket and unplug the charger from the outlet.
- The charge port lid closes automatically to seal it against water and debris.

i Please note that Li-ion batteries gradually lose capacity depending on age and use. Strongly reduced operating time after fully charging can be a sign that the battery is reaching the end of its useful life and has to be replaced. Provided the bicycle has been used properly, approximately 75% of the battery's original capacity should remain after 300 charging cycles or two years. Replacement batteries can be purchased from your Authorized Specialized Retailer.

CAUTION: Do not move the bike or rotate the crank arms when the charger plug is inserted into the charge port. This may cause damage to the charger plug and/or the charger socket. If the bike, charger, or charger are damaged by moving the bike or crank arms while charging, stop using the charger, have an Authorized Specialized Turbo Retailer inspect the damage, and replace all damaged parts.

i Power off the bicycle to turn off the lights. The bicycle will remain charging while powered off.

6.4.2 BATTERY CHARGE LEVEL DISPLAY



A: RIDING MODE

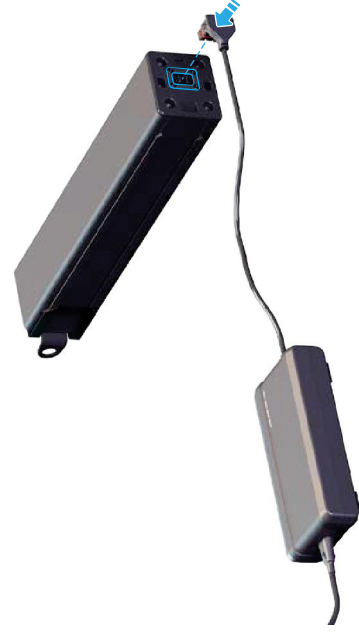
When riding the charge level of the internal battery is displayed in the bottom left corner of the MasterMind T3.

B: CHARGING MODE

When Charging the charge level of the internal battery is displayed on the MasterMind T3.

C: BATTERY CHARGE LIMIT

To promote good battery health, you can activate the Battery Charge Limit in the Specialized app. This function will limit the battery charge to 80% of full capacity.



CHARGING THE BATTERY OUTSIDE THE FRAME

- Press and hold the POWER button on the MasterMind T3 remote until the display powers off.
- Follow the steps outlined in **Section 6.3.1** in this User Manual to remove the battery.
- Place the battery on a clean, dry surface.
- Plug the charger into an outlet, using the appropriate plug for the country's standards.
- Insert the charging plug into the socket.
- Follow the information and warnings outlined in **Section 10.4.1**.
- Charging the battery** in this manual to complete battery charging.
- When charging is complete, disconnect the charging plug from the battery charging socket and unplug the charger from the outlet.
- Follow the steps outlined in **Section 6.3.1** in this User Manual to reinstall the battery.

6.5. USER MAINTENANCE INSTRUCTIONS

6.5.1 CLEANING

- Always turn the battery off and remove the charger from the charge port and wall socket before cleaning the battery or bicycle.
- Use a dry or slightly damp cloth for cleaning the battery or bicycle frame. If there is dirt in or around the charge port, trying using low air pressure or a soft brush to remove it. For instructions on how to clean drivetrain components, please refer to the drivetrain manufacturer's instructions.
- When cleaning, make sure the charge port on the bicycle is fully closed and no water comes into contact with the electrical components. If wet, leave the charge port open to dry out completely before connecting the charger.
- If your bicycle is fitted with a RE, remove the connector from the charge port and close the charge port before cleaning.

WARNING! Be careful not to damage or expose electrical components to water. Do not pressure wash your battery, motor, or any other electrical components. Damaging electrical components or exposing them to water may start a fire which can result in serious injury or even death. Do not use or charge a battery you believe had water seep inside. Likewise, all connectors, including the charge port, must be completely dry and clean before using or charging the bicycle.

WARNING! Do not use alcohol, solvents, or abrasive cleaners to clean the charger. Instead, use a dry or slightly damp cloth.

6.5.2 BATTERY TROUBLESHOOTING

Bicycle DOES NOT POWER ON:

- Remove the battery from the frame and reinstall it.
- Inspect the battery terminals for any signs of damage and corrosion.
- Clean with a dry brush or compressed air, if needed.
- Ensure the locking mechanism/lever fully engages, and the battery sits flush in the down tube.
- Connect the charger to your bicycle and make sure the battery is accepting a charge.
- A solid blue light on the charger indicates the battery is charging, and a solid green light indicates the battery is fully charged or that the battery is not accepting charge.
- A flashing red light indicates a charging or battery error. Consult your retailer for battery diagnostics.
- Note: Ensure charging is attempted within the accepted cell temperature range.
- Connect a powered USB C cable to the display.
- Especially after long-term storage, it is possible that the internal MasterMind T3 display battery is not sufficiently charged. This means the bicycle will not power on directly.
- It is advisable to keep the MasterMind T3 display connected to a power source for around 30 minutes to charge the internal battery to at least 50%; riding with the bicycle powered on always charges up the internal MasterMind T3 battery.
- Note: ensure to reseat the USB C port with the rubber plug before reinstalling into the top tube.

28

Bicycle POWERS ON, BUT DOES NOT PROVIDE MOTOR ASSIST:

- Power the bicycle off, wait a few seconds, and restart it.
- Check the bicycle display for any error messages.
- "Error" messages can be caused by a defective component, but there are exceptions – for instance, a missing speed sensor magnet would trigger a motor error.
- "Not found" or "no xy" messages are mostly caused by communication issues between components and often relate to a lost connection.
- Check the Specialized app for errors and user actions on live errors; follow any given advice.
- Power the bicycle off, connect the charger to your bicycle and make sure it is accepting a charge.
- A solid blue light on the charger indicates the battery is charging, and a solid green light indicates the battery is fully charged or that the battery is not accepting charge.
- A flashing red light indicates a charging or battery error. Consult your retailer for battery diagnostics.
- Note: Make sure charging is attempted within the accepted cell temperature range.
- Perform a factory reset on the display.
- Note: after a reset, you need to delete your bicycle from your phone's Bluetooth device list and from the Specialized app before pairing with the app again.
- Run remote diagnostics with your retailer.
- Upload the bicycle error log through the Specialized app ('Diagnose' – 'Advanced Diagnostic' – 'Send').
- Call your retailer, explain the issue, and share your bicycle serial number (W5BCxxxxxxx). Your retailer can enter the serial number in a retailer application to view the latest events in order to give you further advice.

6.6. MOVING AND STORAGE INSTRUCTIONS

6.6.1 TRANSPORT

WARNING! Lithium batteries are dangerous goods (UN-T 3480) and, as such, require special packaging for transportation. All domestic and international shipments containing lithium batteries are subject to transport regulations on hazardous goods.

WARNING! When shipping or transporting the battery over long distances, including air travel, the charge should be reduced to 30% or less in case it gets damaged during transit. Package it carefully. Never transport a damaged battery on an airplane.

Transporting and/or shipping your battery may be subject to certain restrictions and may require special handling, labeling, and/or packaging. Be sure to inform yourself beforehand of all applicable legal requirements and regulations in your country or state. Your Authorized Specialized Retailer may also have helpful information available. When carrying the battery outside the frame, Specialized recommends using an approved battery transport box.

CAUTION: Be aware that your electric bicycle may be significantly heavier than a bicycle without motor support. Use caution when handling, carrying, or lifting.

6.6.2 STORAGE

WARNING! When the bicycle is not in use for an extended period of time, store it in a dry, cool, and well-ventilated area. Protect the battery against water and moisture. Before storing, reduce the charge to approximately **50%**. Charge the battery back up to **50%** of charge every three to six months to ensure the battery does not completely discharge itself which can lead to the battery not being able to be charged again.

WARNING! Do not leave the charger connected to the bicycle when storing it.

6.7. DISPOSAL

Batteries, chargers, and electronic devices must not be disposed of in your household trash! They must be disposed of in an environmentally friendly manner in accordance with the applicable regulations in your country or state. Ask your Authorized Specialized Retailer for information and any applicable battery take-back program.

EUROPE: According to European Guideline 2012/19/EC and European Guideline 2006/66/EC, electronic devices/tools and batteries must be recycled separately and disposed of in an environmentally friendly manner.

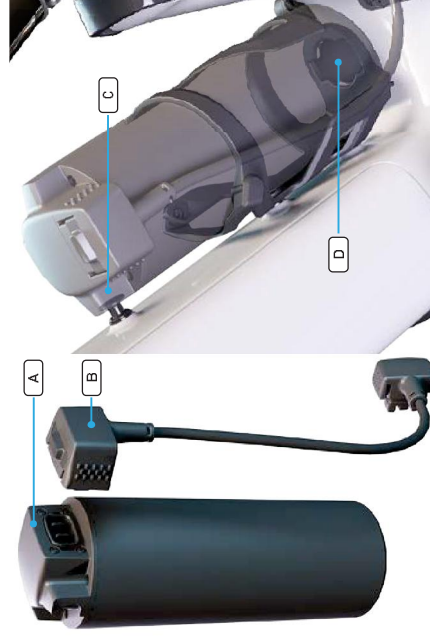
BRAZIL: Após o uso, as pilhas e/ou baterias devem ser entregues ao estabelecimento comercial ou rede de assistência técnica autorizada.

BRAZIL: After use, batteries must be delivered to a commercial establishment or authorized technical assistance network.

6.8. RANGE EXTENDER (RE)

Your bicycle is compatible with the Range Extender to increase the range and ride time of the bicycle, or if required the bicycle can be ridden with only the RE to reduce the overall weight of the bicycle. The RE (A) mounts securely using the Pluto bottle cage mount (D) and the RE musroom bolt (C) on the down tube, and connects to the motor through a dedicated power RE cable (B). One RE adds 280Wh to the system adding additional range which will vary considerably depending on the riding conditions, such as the gradient of your route and the support mode. Refer to the Battery and charger section of this manual for general and safety information about handling, using, and charging the RE.

Please see your Authorized Specialized Retailer for the RE(s), cable, and the specified bottle cage.

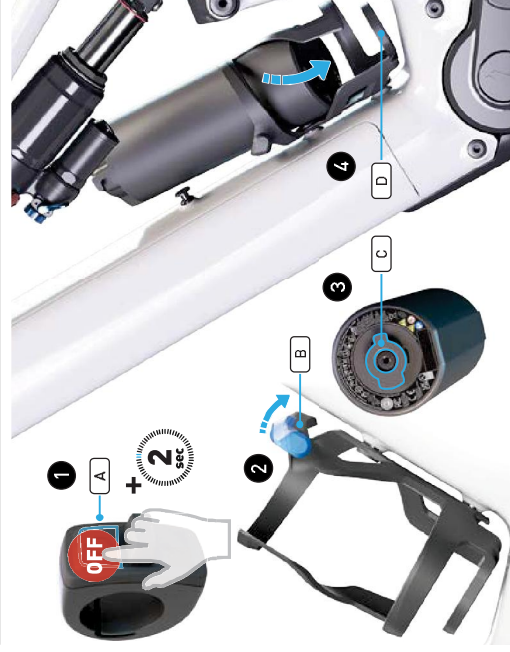


30

WARNING! Due to the portable nature of the RE, handle it carefully during installation and removal and do not drop it. Do not use or charge an RE that has sustained a significant impact (e.g. from a drop or crash) or is otherwise damaged as it may not be safe to charge or use.

WARNING! Please read and familiarize yourself with the Important Safety Instructions pertaining to the risk of fire or electric shock in the BATTERY AND CHARGING Section of this User Manual before riding or servicing your bicycle.

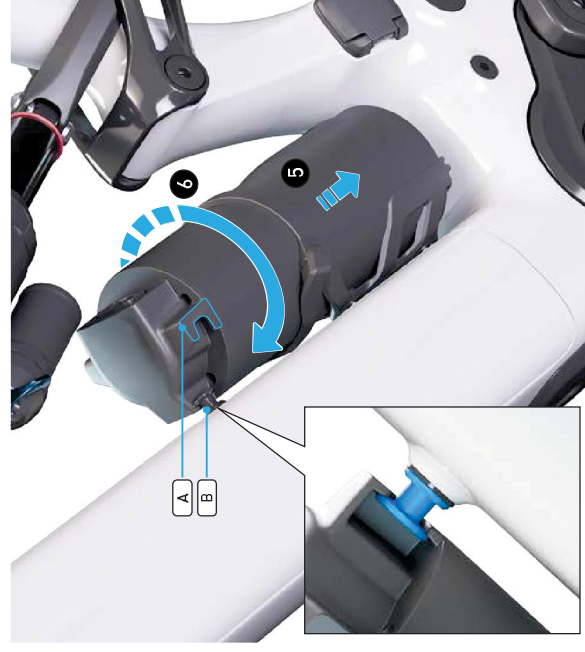
6.8.1 RANGE EXTENDER INSTALLATION INSTRUCTIONS



31

INSERTING THE RE INTO THE BOTTLE CAGE

1. Press and hold the POWER button(A) on the MasterMind T3 remote until the display powers off.
2. Rotate the bottle cage neck(B) towards the frame to allow the RE to be installed.
3. Align the twist-lock adapter(C) at the base of the RE with the Pluto bottle cage mount(D) in the base of the bottle cage.
4. Insert the RE from the drive side of the bicycle into the bottle cage.



5. Slide the RE down the bottle cage, making sure that the twist-clock connector engages with the Pluto bottle cage mount.
6. Firmly grasp and rotate the RE inside the bottle cage until the slot in the RE is secured on the mushroom bolt.



- Align the large connector **(A)** on the RE cable with the charge port on the RE **(B)** and insert until you hear an audible “click” from the release button **(C)** on the connector.
- Open the charge port lid **(D)** on the non-drive side of the frame, near the bottom bracket and insert the RE plug **(E)** into the charge port until you hear an audible “click” from the connector.
- To verify the RE is successfully connected to the system, check that the RE battery level **(F)** is indicated on the MasterMind T3.

INSTALLING THE BATTERY CONNECTOR COVER

- Follow the steps outlined in **Section 6.3.1** to remove the battery cover and battery from the bicycle.
- Place the battery connector cover **(A)** over the connectors in the base of the downtube cavity with the word **INSIDE** facing the inside of the frame and the word **OUTSIDE** facing the side of the opening.
- Install the base of the battery cover into the frame and align the mounting bolt with the battery cover mount at the top of the downtube.
- Use a torque wrench and a 5 mm hex bit to torque the battery cover bolt to specification.

6.8.8.3 OPERATING INSTRUCTIONS



- When charging the RE, use the standard battery charger and cable supplied with your bicycle to charge the RE.

i The RE cable connects to the bicycle chargeport with the cable facing the front of the bicycle which is different to the charger cable.

WARNING! When reinstalling the bottle cage or any other accessory, make sure to use the supplied bolts and washers. Longer bolts can cause damage to the internal battery, and larger bolt heads can cause damage to the RE.

WARNING! When riding with an RE, always keep the RE cable plugged into the charge port of the bicycle. A loose cable can cause damage to your bicycle and the RE and can become an obstruction which may cause you to lose control and fall.

6.8.2 RIDING WITH ONLY THE RE INSTALLED

To provide the rider with more riding options it is now possible to ride with no battery and only a RE installed. When riding without a battery always install the battery connector cover **(A)**:



- Refer to the INSTRUCTIONS PERTAINING TO THE RISK OF FIRE OR ELECTRIC SHOCK section for general and safety information about handling, using, and charging the RE.

i Due to a lower charging current, charging the RE alone takes longer than charging the internal battery and as long as charging RE + internal battery through Y-cable. The reason for slower charge times is to maintain battery health for riders (higher currents would stress the cells and decrease health quicker).

WARNING: The Y-Splitter cable is designed to charge one RE and one internal battery at the same time. Do not connect the Y-Splitter cable to two REs or two internal batteries, or connect more than one Y-Splitter cable to the same charger.

i The Y-Splitter cable is available through your Authorized Specialized Retailer.

Please note that Li-ion batteries gradually lose capacity depending on age and use. Strongly reduced operating time after fully charging can be a sign that the RE is reaching the end of its useful life and has to be replaced. Provided the bicycle has been used properly, approximately **75%** of the RE's original capacity should remain after **300** charging cycles or two years. Replacement batteries can be purchased from your Authorized Specialized Retailer.



CAUTION: Always turn off the bicycle before plugging or unplugging the charger or RE.

6.8.4 RANGE EXTENDER BATTERY DISCHARGE MODES

- When the RE is plugged in, the system default is to discharge both the RE and the internal battery simultaneously.
- Using the Specialized app, you can adjust the default to completely discharge the RE first. **This will require you to restart the bike to take effect.**

When to activate "RE first"?

- RE first gives more flexibility and allows further improved bike handling when continuing to ride without the RE after it has been drained.
- To make room for an additional water bottle after RE discharge

Why to avoid discharging RE first?

- Excessive use of this option may impact long term battery health as the RE cells experience more strain. Also, if a rider wants the best motor support throughout ride, batteries should be drained in parallel

What effect will rider feel when choosing "RE first"?

- Discharging the RE first means that rider will more quickly notice less motor output because of a quicker drop in voltage (theoretically in half the time since RE only holds 50 % of the internal battery capacity).
- In normal cell operating temperature [0 to +50°C], the power output is reduced when reaching a certain state of charge. This ensures uninterrupted motor support till motor shut-off. The point of power reduction not only depends on cell temperature, but also batteries used and the applied discharging logic.

i Parallel discharging is the recommended discharge scenario when using a RE. It offers optimal motor assist over the discharge spectrum and reduces stress on the RE battery compared to discharging the RE first.

6.8.5 RE BATTERY CHARGE LEVEL DISPLAY

MASTERMIND T3



A: RIDING MODE

When riding the charge level of the Range Extender battery is displayed next to the main battery charge level indicator in the bottom left corner of the MasterMind T3.

B: CHARGING MODE

When Charging the bicycle and range extender together with the Y-Splitter cable the charge level of the Range Extender battery is displayed under the the main battery charge level indicator, on the MasterMind T3.



The Range Extender battery does not have the Battery Charge Limit functionality.

6.9. BATTERY TECHNICAL DATA

DESCRIPTION	UNIT	SPECIFICATION		
		SBC - B26	SBC - B30	SBC - B28(RE)
Operating voltage	V	50.96		50.96
Charging temperature	°C	0 – +40		0 – +40
	°F	+32 – +104		+32 – +104
Operating temperature	°C	-10 – +40		-10 – +40
	°F	+14 – +104		+14 – +104
Storage temperature (1 month)	°C	-20 – +60		0 – +60
	°F	-4 – +140		+32 – +140
Storage temperature (3 months)				
Storage temperature (1 year)				
Weight	Kg	2.6		1
	Lb	5.73		2.2

Rated capacity	Ah	9.8 Ah	5.33 Ah/ 5.49 Ah
Charging cut current	mA		
Energy	Wh	840 Wh	280 Wh
Charge time	See Section 6.11		
Dimension	mm	L: 420 mm W: 80.42 H: 56.6mm	

6.10. CHARGER TECHNICAL DATA

DESCRIPTION	UNIT	SPECIFICATION
Charger model number		SBC-C08
Charging temperature	°C	00 – +40
	°F	+32 – +104
Storage temperature	°C	-20 — +60
	°F	-4 — +140
Operating voltage	V	58.8
AC input voltage	V	100 – 240
Frequency	Hz	47 / 63
Max charge current	A	4
Dimensions	mm	177 x 78 x 38.5

The range of the battery can vary considerably depending on the model/ capacity of the battery and riding conditions, such as the gradient of your route and the support mode.

36

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6.11. CHARGING TIMES

CHARGING SETUP	3% - 100%	STOPS CHARGING (CHARGER LED TURNS GREEN & BIKE TURNS OFF)	CHARGING CURRENT
Main battery			
Range Extender			
Main battery + Range Extender using Y-Cable			

* Due to a lower charging current, charging the RE alone takes longer than charging the main battery and as long as charging RE + main battery through Y-cable. The reason for slower charge times is to maintain battery health for riders (higher currents would stress the cells and decrease health quicker).



6.12. BATTERY DISCHARGE INFORMATION

It is normal system behaviour that at certain battery remaining state of charge (rsoc) levels, the system starts reducing motor support to ensure uninterrupted support at lower charge and voltage levels. The point of reduction depends on some variables such as battery combination, discharge sequence, current, voltage, cell temperature, start rsoc of each battery, etc.

- The timing of the motor shut-off may slightly vary depending on cell temperature or discharge scenario (e.g. when using a Range Extender in single or parallel discharge).
- If your bicycle is at a standstill for **15 minutes** or longer, the system turns itself off to save power. In order to continue riding with support, you have to turn the system on again.

WARNING! When the battery state of charge level has dropped low enough for the motor system to shut off and the bicycle to go into powersaving mode, wired lights will be powered only for a limited time, up to approximately 2 hours providing some visibility. Therefore, you should stop riding as soon as possible and charge the battery. Lights may shut off at any time without further warning.



6.12.1 MAIN BATTERY DISCHARGE BEHAVIOUR

Motor Power Reduction at Most Common Cell Temperature (0° < T <= 50°)				
RSOC	100%	15	10	5
				3%
Motor Support %	100%	75%	50%	25%
				0%

37

6.12.2 RANGE EXTENDER BATTERY DISCHARGE BEHAVIOUR

By design, an SL Range Extender battery supplies less current to the motor compared to the internal battery. This eliminates possible over-current scenarios that would result in the system to shut off. Further, this allows running auxiliary components, such as lights, without causing system instability.

MAIN BATTERY & RANGE EXTENDER BATTERY IN PARALLEL DISCHARGE

Motor Power Reduction at Most Common Cell Temperature [0° < T <= 50°]		Motor Power Reduction at Most Common Cell Temperature [0° < T <= 50°]	
RSOC	100%	15%	5%
Motor Support %	100%	75%	50%
			25%
			0%

i Parallel discharge: As soon as one of the two batteries reaches the given rsoc values, power reduction will happen.

*Please see range extender first scenario if your RE battery has more rsoc.

RANGE EXTENDER BATTERY DISCHARGE FIRST

You would typically get less power from the motor in the below listed scenarios, compared to parallel discharging or discharging the internal battery only.

1. Discharging the Range Extender battery first is set in the app
1. Main battery is discharged and the Range Extender battery is connected to continue riding
2. *The RE is used in combination with an internal battery that is at a lower rsoc than the RE. If parallel discharging is active, the RE would be discharged first, until both batteries are on the same

voltage level for simultaneous discharging.

Motor Power Reduction at Most Common Cell Temperature [0° < T <= 50°]		Motor Power Reduction at Most Common Cell Temperature [0° < T <= 50°]	
RSOC	100%	20%	7%
Motor Support %	90%	75%	25%
			0%

6.13. THERMAL POWER DERATING

WHAT IS THERMAL POWER DERATING?

Thermal power derating is a term used to describe the reduction in the power output of your bicycle's battery and motor system when it experiences high temperatures. When your bicycle operates in extreme temperatures or is subjected to heavy loads for extended periods, the heat generated can impact its performance.

Excessive heat can also damage the battery, motor, and other critical components of your bicycle, leading to potential safety hazards, such as fires or sudden failures while riding.

REDUCED PERFORMANCE:

When your bicycle experiences thermal derating, you may notice decreased power, and speed.

HOW TO AVOID THERMAL POWER DERATING:

- Be aware of the environmental conditions and terrain you'll be riding in. High temperatures, steep hills, and long rides can increase the likelihood of thermal derating.
- Avoid heavy loads or additional weight on your E-Bike, as this can cause the motor and battery to generate more heat.
- Ensure that your bicycle's motor and battery have adequate ventilation. Avoid covering them with insulating materials or bags that could trap heat.
- During long rides or periods of high demand, take short breaks to cool down the bicycle and prevent overheating.
- Avoid riding in extreme heat or cold when possible, as both can affect the thermal performance of your E-Bike.

■ Ride at a smooth cadence at 75 rpm and higher.

7. REGULATORY STATEMENTS

ROHS:

Specialized Bicycle Components, Inc. certifies that this product and its packaging are in compliance with European Union Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronics Equipment, commonly known as RoHS.

FCC STATEMENT:

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

CAUTION: If any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct

the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

ISED STATEMENT:

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

CAN ICES-3(B)/NMB-3(B)

The device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

IFT STATEMENT:

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux

CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils

radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- 1) L'appareil ne doit pas produire de brouillage;
- 2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Le dispositif rencontre l'exemption des limites courantes d'évaluation dans la section 2.5 de RSS 102 et la conformité à l'exposition de RSS-102 rf, utilisateurs peut obtenir l'information canadienne sur l'exposition et la conformité de rf.

Cet émetteur ne doit pas être Co-placé ou ne fonctionnant en même temps qu'aucune autre antenne ou émetteur. Cet équipement devrait être installé et actionné avec une distance minimum de 20 centimètres entre le radiateur et votre corps.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

KC MARK STATEMENT:

< 경고 > 발열, 화재, 폭발 등의 위험을 수반할 수 있으니 다음 사항을 지켜주시기 바랍니다. a) 용안으로 식별이 가능할 정도의 부풀음이 발생된 전지는 위험할 수 있으므로 제조자 또는 판매자로 즉시 문의할 것

- b) 지정된 정품 충전기만을 사용할 것
- c) 하기에 가까이 하지 말 것 (전자제어기에 넣지 말 것)
- d) 여름철 자동차 내부에 방치하지 말 것
- e) 점멸방 등 고온다습한 곳에서 보관, 사용하지 말 것
- f) 이불, 전기장판, 카펫 위에 올려 놓고 장시간 사용하지 말 것
- g) 전원을 켜 상태로 밀폐된 공간에 장시간 보관하지 말 것
- h) 전지 단자에 목걸이, 동전, 열쇠, 시계 등 금속 제품이 닿지 않도록 주의할 것
- i) 휴대 기기, 제조 업체가 보증한 리튬2차전지 사용할 것
- j) 분해, 압착, 관통 등의 행위를 하지 말 것
- k) 높은 곳에서 떨어뜨리는 등 비정상적 충격을 주지 말 것.
- l) 60°C 이상의 고온에 노출하지 말 것
- m) 습기에 접촉되지 않도록 할 것

- n) 폐기 지침 사용이 끝난 전지는 나라 혹은 지방 자치체의 법령에 따라서 폐기하는 것
- a) 충전 방법에 대한 권고 지침 전용 충전기 또는 본체 기기 사용하는 것 혹은 취급 설명서의 설명에 따르는 것

CERTIFICAÇÃO PARA O BRASIL

Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados.

EU IMPORTER ADDRESS:

Specialized Europe GmbH
Werkstattgasse 10
6330 Cham
Switzerland

UK IMPORTER ADDRESS:

Specialized UK Ltd,
65 Woodbridge Road,
Guildford, Surrey,
GU1 4RD

CERTIFICATIONS

 ICASA: TA-2020/7345	 203 - JN1154	 CNC ID: C-25552
 18030-20-11817	 CCAM20LP3380T4	 IFT: RCPSP5B20-2484
 E535626		

8. EC – DECLARATION OF CONFORMITY

The manufacturer: Specialized Bicycle Components Inc. 15130 Concord Circle Morgan Hill, CA 95037, USA Tel: +1 408 779-6229			
Hereby confirms for the following products:			
Product description:	EPAC (Electrically Power Assisted Cycle)		Li-ion Battery Charger
Model designation:	LEVO COMP CARBON G4 LEVO EXPERT CARBON G4 LEVO PRO CARBON G4		SBC-C08 SBC-C09
Compliance with all of the relevant requirements of:	Machinery Directive (2006/42/EC) Radio Equipment Directive (RED) (2014/53/EU) Electromagnetic Compatibility (2014/30/EU) Low Voltage Directive (LVD) (2014/35/EU) EN 15194:2017 Cycles – Electrically power assisted cycles – EPAC Bicycles		
The following harmonizing norms were applied to the product:	EN 60335-1 Household and similar electrical appliances - safety EN 60335-2-29 Safety of household and similar appliances Part 1: General requirements Part 2: Particular requirements for battery chargers		
Serial number:	Frame decal adhered to the back page of the user manual		
EU technical documentation by:	Dominik Geyer (Leader, Global Turbo Business) Specialized Europe GmbH, Werkstattgasse 10, 6330 Cham, Switzerland		
Signature:			Dominik Geyer (Leader, Global Turbo Business)
Specialized Europe GmbH, 6330 Cham, Switzerland, August 1st, 2021			

NOTE: THIS DECLARATION OF CONFORMITY APPLIES ONLY TO BICYCLES SOLD IN COUNTRIES FOLLOWING THE CE MARKING DIRECTIVES.

NOTE: IN ORDER TO CONNECT THE BICYCLE AND THIS USER MANUAL TOGETHER, THE YELLOW SERIAL NUMBER DECAL LOCATED ON THE FRAME OF THE BICYCLE MUST BE PLACED OVER THE FACSIMILE OF THE DECAL ON THE BACK PAGE OF THIS USER MANUAL.

9. UK – DECLARATION OF CONFORMITY

The manufacturer:

Specialized Bicycle Components Inc.
15130 Concord Circle
Morgan Hill, CA 95037, USA
Tel: +1 408 779-6229



Hereby confirms for the following products:

Product description:	EPAC (Electrically Power Assisted Cycle)	Li-ion Battery Charger
Model designation:		SBC-C09
Compliance with all of the relevant requirements of:	Supply of Machinery (Safety) Regulations 2008 Radio Equipment Regulations 2017 Electromagnetic Compatibility Regulations 2016 Electrical Equipment (Safety) Regulations 2016 BS EN 15194:2017 Cycles – Electrically power assisted cycles – EPAC Bicycles BS EN 60335-1 Household and similar electrical appliances - safety BS EN 60335-2-29 Safety of household and similar appliances Part 1: General requirements Part 2: Particular requirements for battery chargers Frame decal adhered to the back page of the user manual	
Serial number:		
UK technical documentation by:	Leigh Smithers (Operations Manager) Specialized UK Ltd, 65 Woodbridge Road, Guildford, Surrey, GU1 4RD	
Signature:		Dominik Geyer (Leader, Global Turbo Business)
Specialized Europe GmbH, 6330 Cham, Switzerland, August 1st, 2021		

NOTE: THIS DECLARATION OF CONFORMITY APPLIES ONLY TO BICYCLES SOLD IN COUNTRIES FOLLOWING THE UKCA MARKING DIRECTIVES.

NOTE: IN ORDER TO CONNECT THE BICYCLE AND THIS USER MANUAL TOGETHER, THE YELLOW SERIAL NUMBER DECAL LOCATED ON THE FRAME OF THE BICYCLE MUST BE PLACED OVER THE FACSIMILE OF THE DECAL ON THE BACK PAGE OF THIS USER MANUAL.

blurb

IT'S YOU, ONLY FASTER

SPECIALIZED BICYCLE COMPONENTS
15130 Concord Circle, Morgan Hill, CA 95037 (408) 779-6229