




SPECIALIZED MISSION CONTROL APP

USER GUIDE



SPECIALIZED MISSION CONTROL APP

CUSTOMIZE, CONTROL, AND DIAGNOSE YOUR SPECIALIZED TURBO WITH MISSION CONTROL.

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- 1. TUNE THE RIDE**
Customize your motor characteristics with Support, Peak Power, and more tunable features.
 - 2. DIAGNOSE**
Get immediate feedback and overviews of motor, battery, and system health.
 - 3. RECORD RIDES**
Have a detailed overview of your fitness and ride history at your fingertips.
 - 4. SMART CONTROL**
Adjust the motor and battery output based on how far, or how long, you want to ride.
 - 5. CONNECTIVITY**
Integrate and automatically upload your rides to STRAVA's dedicated e-bike segment.
 - 6. FIRMWARE UPDATES**
Be notified about firmware updates and install them on your bike (may vary according to model).

Mission Control is compatible with all Turbo Levo, Kenevo, Creo SL, Vado, Como bikes with TCD-w, some Turbo S/X models (Model Year 2016/17) and future Turbo bikes.

INSTALLING THE APP

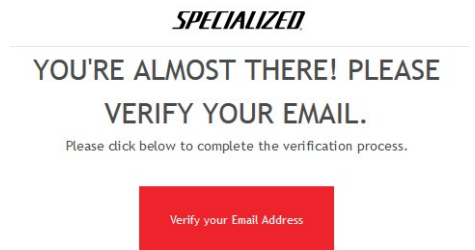
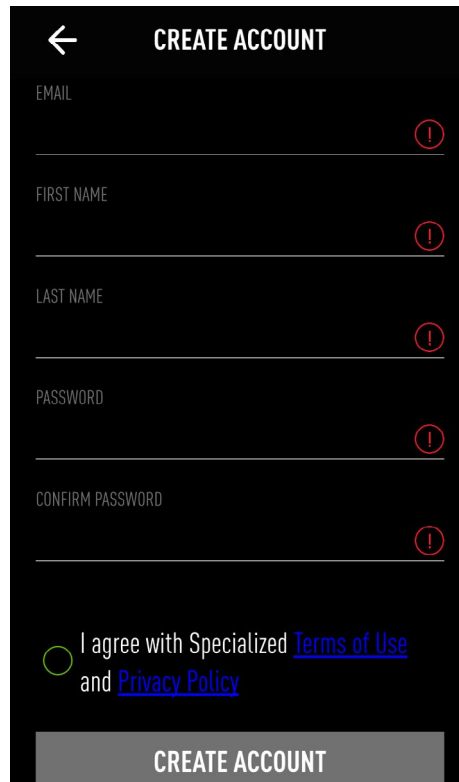
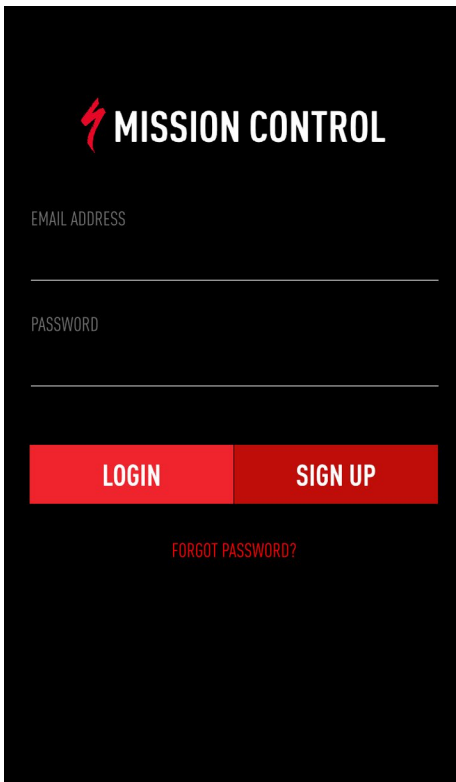
DOWNLOAD

To download Mission Control, go to the App Store (iOS devices) or the Google Play Store (Android devices), search for "Specialized Mission Control" and install the application. See below for information on how to create an account and connect to your Turbo.



CREATE YOUR ACCOUNT

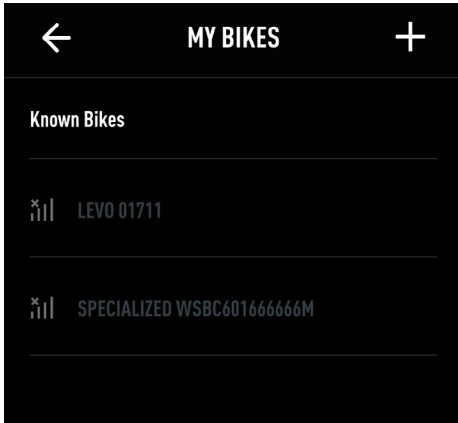
Download, install, and follow the instructions in the app to create an account with your email address. We'll automatically create a Specialized Rider Account for you, and once you've registered and logged-in for the first time, the app will remember your credentials.



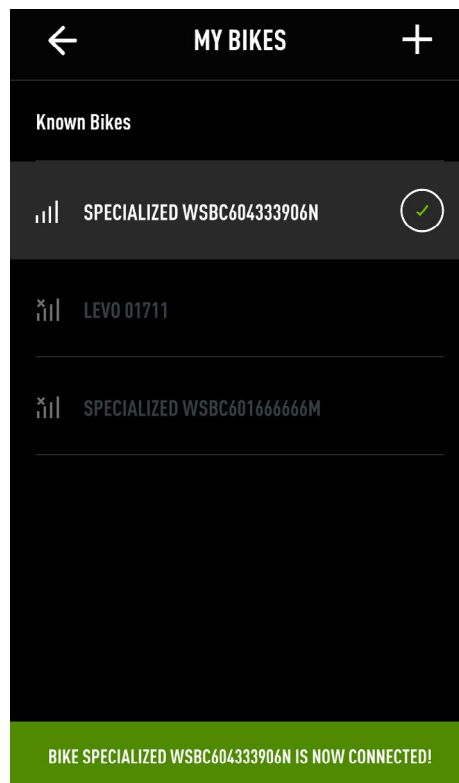
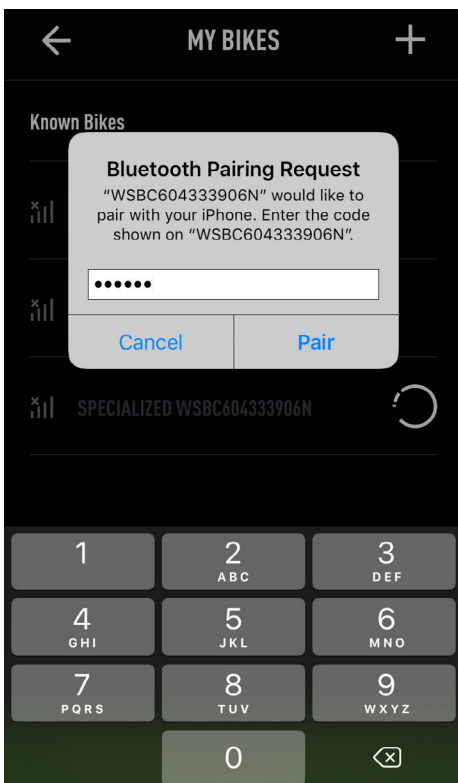
CONNECT YOUR TURBO - OVERVIEW

STEPS

1. Go to SETTINGS > MY BIKES: Tap on the “+” symbol in the upper-right of the screen to search for available bikes.
 - Alternatively, tap on “DISCONNECTED” on the start screen to enter MY BIKES.
2. Tap on the bike you want to connect with.



- If you're asked for a pairing code, enter the 6-digit code that comes with your bike.
- The connected bike is marked with a green check.



CONNECT YOUR TURBO

CONNECT TO A TURBO WITH TCU IN TOP TUBE

1. For easy identification, available and/or connected TCU equipped bikes show with WSBC bike serial number in App menu MY BIKES (under SETTINGS)
2. To connect bike and App, you once need to enter a pairing code PIN as requested by Mission Control App. This 6-digit-code can be found on the TCU itself and the yellow Peel Me Sticker (should be kept on last page of User Manual)



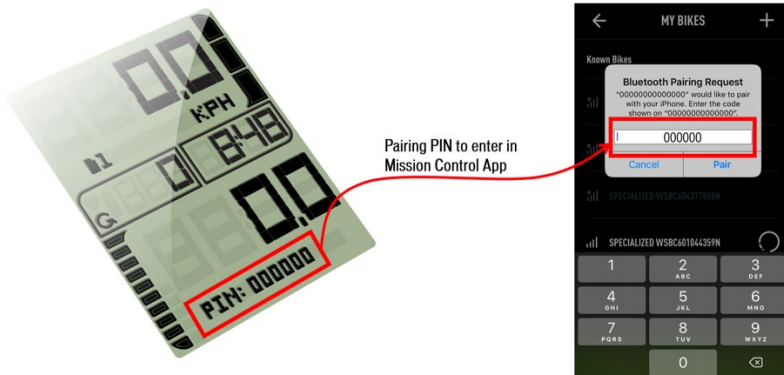
- If you have to remove/reinstall the TCU to read the code, make sure you do not overtighten the Torx 10 screw that holds it (max. 0.8 Nm)



CONNECT YOUR TURBO

CONNECT TO A TURBO WITH A TCD-w

1. For easy identification, available and/or connected TCD-w equipped bikes show with WSBC bike serial number in App menu MY BIKES (under SETTINGS)
2. To connect bike and App, you once need to enter a pairing code PIN as requested by Mission Control App.
3. The PIN appears on the TCD-w for about 20 seconds; if that PIN is not entered, a new one will be issued at next attempted connection.
4. Once you have entered the PIN, the App automatically reconnects to a powered bike when you open the App.

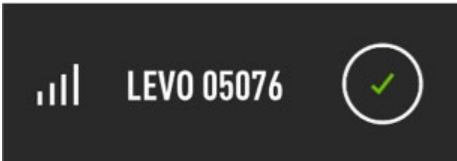


MANAGE YOUR BIKES

BIKES

In the MY BIKES menu, you can see:

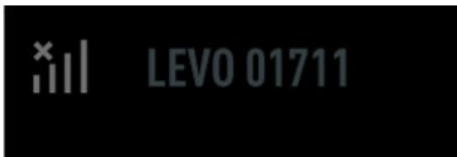
- A. Connected bike, green check, and mentioned in the green status bar.



- B. Once connected and available bike(s), marked with proximity bars.

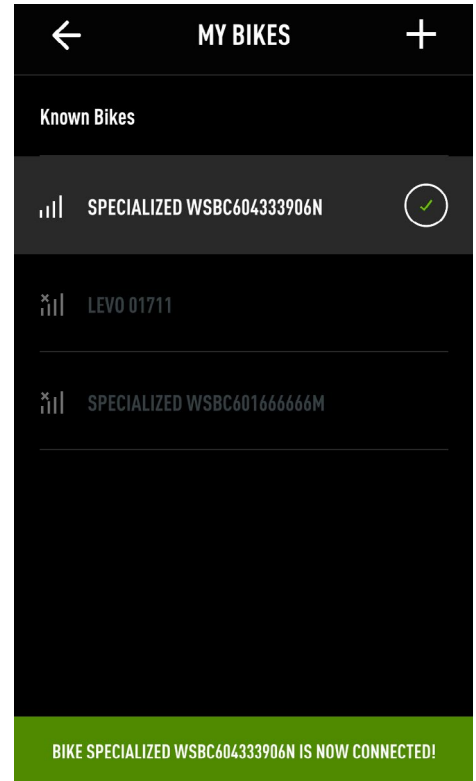
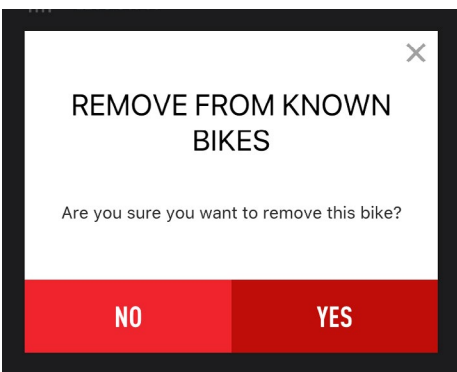


- C. Once connected, but unavailable bike(s), marked with cross-over proximity bars.



DELETE BIKES

Carry out a long tap on connected bike to confirm deletion.



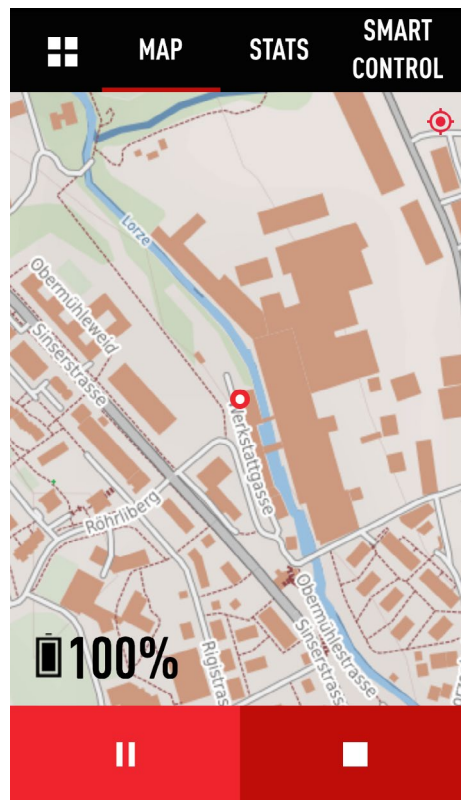
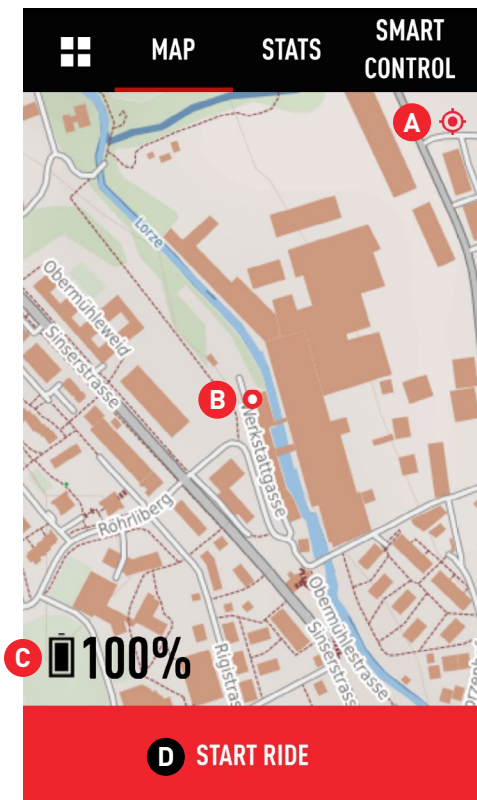
LET'S RIDE

MAP

- A. Show current position if you moved cached map.
- B. Current position on map.
- C. Bike battery state of charge.
- D. Record ride.

IMPORTANT

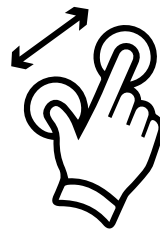
To show your location on the map, you need to allow Mission Control to access your device's location. You're asked for permission during the set up, and you can also change permissions in the App settings on your device.



Once you've started tracking a ride, you'll see symbols for pausing and finishing your ride recording. Finishing saves the ride.

MAP ZOOMING

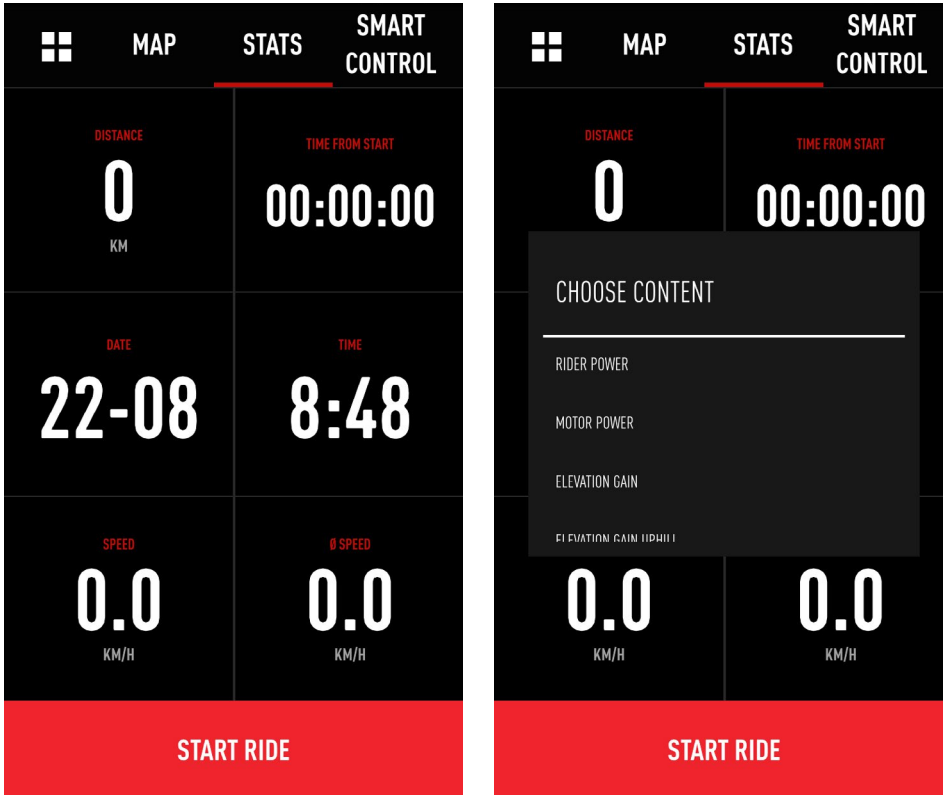
To zoom in and out of maps, use the pinch-to-zoom gesture with moving two fingers on screen closer or apart.



LET'S RIDE

RIDE STATS

To customize a data field, perform a long tap on the desired field and choose the content you want to see in this field from the drop down menu.



NOTE ON POWER

Only Turbo Levo & Kenevo bike models can show motor power AND rider power. Turbos with rear-hub motors only show the motor power's mechanical vs. electric output. Due to some inevitable loss, mechanical power is slightly lower than electric power. The app shows electric power.

SMART CONTROL

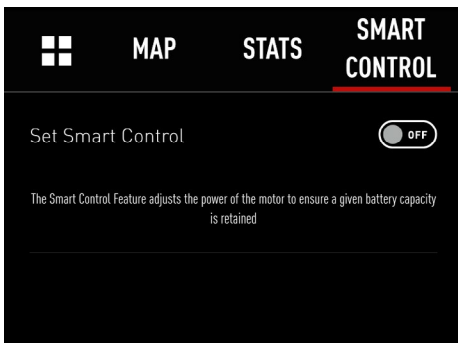
OVERVIEW

Smart Control is an algorithm based on tons of ride data. Activating Smart Control, based on ride time or distance, controls the motor output, so you don't have to worry about the mode setting or battery capacity for your ride. Every 10 seconds, the system calculates multiple parameters, like energy consumed, time/distance absolved and ahead, etc. Based on that calculation, the motor output is adjusted as needed. You ride—Smart Control does the rest.

ACTIVATION

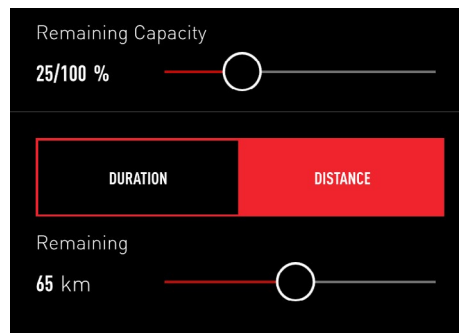
LET'S RIDE > SMART CONTROL > Toggle ON/OFF.

After defining the settings, the current SMART CONTROL support level is shown.



TIPS

Smart Control works especially well on the time-based setting, and we strive to constantly improve it. The system doesn't know the route profile ahead, so do not set the remaining capacity lower than 10%. This will give you a safety margin on your ride.



CREO SL SPECIFIC FEATURES

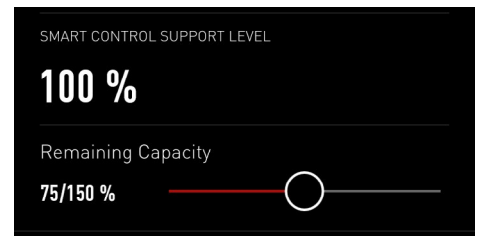
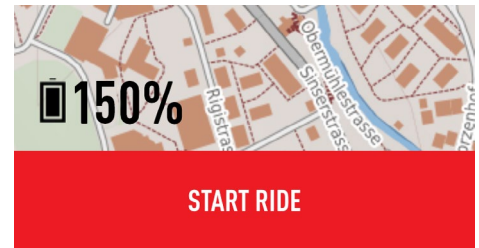
TURBO CREO SL AND RANGE EXTENDER BATTERY

There are some unique Mission Control features when using a Range Extender Battery with the system.

START SCREEN

Here you see the state of charge for either the internal battery only (100% max) or the soc for both batteries, in case a Range Extender battery is used (150% max). The underlying logic is that the RE battery adds half the capacity of the internal battery (160 Wh on top of 320 Wh).

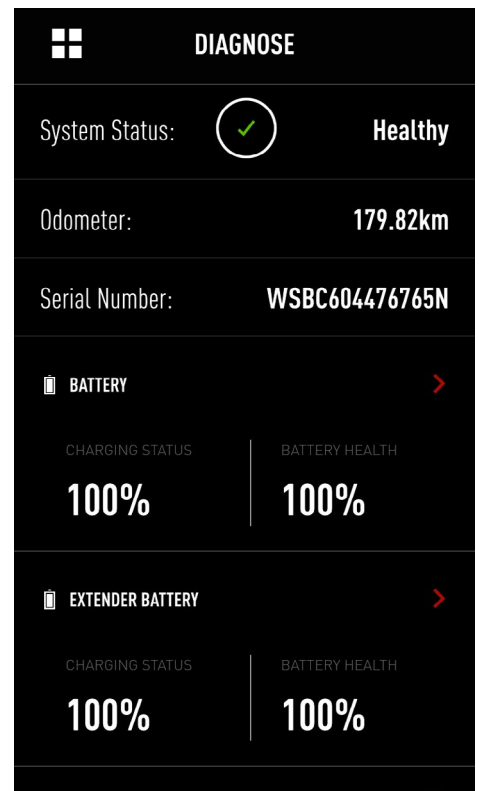
The same logic is applied when you view the soc in the Map screen or when setting Smart Control.



DIAGNOSE

In the Diagnose menu, both batteries can be viewed separately. Each battery will be shown with an soc of 100% max.

Battery details, such as the health status, can be viewed separately as well.



MY RIDES

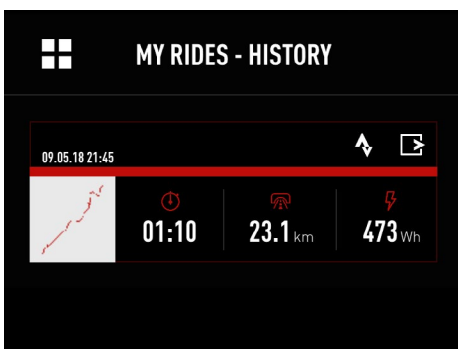
OVERVIEW

All of your tracked rides are stored here to either view in detail or to be exported as a .fit file.



VIEW RIDE DETAILS

Tap on a listed ride to see details.



STRAVA SYNC

Tap on the STRAVA® symbol to upload the desired ride to STRAVA®.

Note: If you activated AUTO UPLOAD for STRAVA® in SETTINGS, all of your tracked rides are uploaded to the STRAVA® e-Bike category automatically.



EXPORT RIDE

Tap on the export symbol (b) to send your track via mail (.fit format). This allows you to use them in other devices or programs. There are also free programs available to convert .fit to .gpx, if needed.



DELETE RIDE

To delete a ride, perform a long tap on the desired ride. You have to confirm deletion in the following dialogue box.

TUNE - DEFINITIONS

FUNCTIONS

Adjust Motor Support and Peak Power, customize Acceleration Response, set Shuttle, activate the Fake Channel, turn on Stealth Mode, deactivate/activate the Beeper sounds of the battery or display, and restore Default Settings.

TUNE

You have the freedom to change the default Support and Peak Power settings for each mode to customize the motor characteristics based on your needs and preferences.

SUPPORT

Support defines the proportion of assistance for rider input in each mode. Generally, more Support provides faster acceleration and easier climbing at the expense of shorter range and a greater chance of wheel-spin. Less Support results in longer range and more control in situations where traction is limited. A Support level lower than 100% can be compensated by the rider. For example, pedaling in Trail Mode with Support set at 50% will require approximately double the effort to get the same motor assist as compared to pedaling in Turbo Mode with Support set at 100% (given identical Peak Power settings).

PEAK POWER

This refers to the power output by the motor for each Support Mode. This can be set up to 100% for all Support Modes. If Peak Power is set to 100% for all Support Modes, the harder you pedal, the more assist you'll get in each Support Mode. For example, if a Support Mode is set at 35%, with Peak Power set at 100%, you can still achieve 100% motor output by pedaling with more effort and a higher rider torque. If Peak Power is set at less than 100%, you'll limit the amount of power that the motor delivers, and this will create an artificial ceiling that cannot be compensated for by leg power. Lower Peak Power will improve range, and it allows for a greater differentiation between the Support Modes.

ACCELERATION RESPONSE

This setting determines how quickly/slowly the motor responds to your rider input. Usually, a slower response setting results in more traction and control during off-road use.

- The default setting ensures a good balance of control and direct motor response.
- Setting the response to 0% results in the slowest response, whereas 100% provides the fastest response.
- The best setting will depend on the terrain, your riding style, and personal preference.

SHUTTLE

With Shuttle activated, you easily get full motor support when pedaling in a higher cadence with less torque (equals leg power). Generally speaking, the motor delivers high power in the most typical riding cadences above 50 RPM when Shuttle is on. So, if you're someone that prefers to spin a high cadence with less leg power, you're now able to get maximum motor support. Additionally, Shuttle gives you full support with less leg power when starting from a standstill, like at a traffic light.

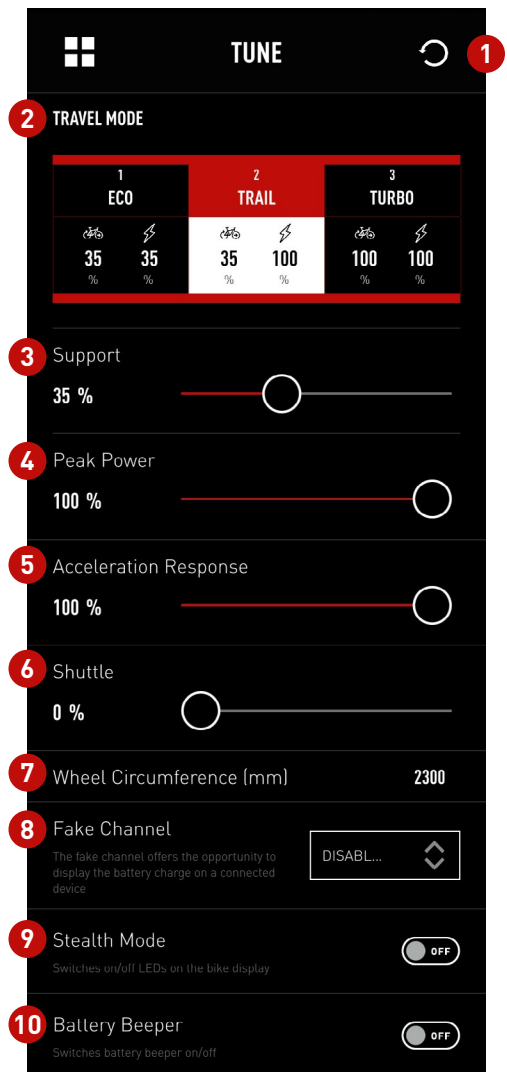
- 0% means that Shuttle is off.
- 100% results in the greatest effect of Shuttle.

TUNE - SETTINGS

SETTINGS

1. Tap here to reset all settings to their default values.
2. The selected mode is highlighted. The Support and Peak Power settings always show for the selected mode. Tap on any mode to see and change its settings.
3. Change sliders to customize the proportion of assist for rider input.
4. Change sliders to select the maximum amount of power the motor will deliver in each mode.
5. Change the default setting to make the motor respond quicker or slower to rider input. We recommend leaving it on a lower level for enhanced control and smoother shifting.
6. Activate Shuttle by setting the slider to a value greater than 0%. The higher the setting, the more support you get when pedaling with less torque and higher cadence. A higher setting results in more battery consumption.
7. See the default value here. Adapting wheel circumference to tire changes can only be performed by an authorized Specialized retailer.
8. Activate an unused ANT+ channel to connect any ANT+ device to the bike in order to see additional information (see next page for details).
9. When turned on, the LEDs of the display, used in certain modes, turn dark shortly after you press a button. This does not apply to all Turbo models.
10. Turn the battery or display beeper on or off. A restart of the bike is required to save the setting.

NOTE: This is a list of all potential Tune options. The scope of functions depends on the bike you connect to.



TUNE - EXTENDER BATTERY

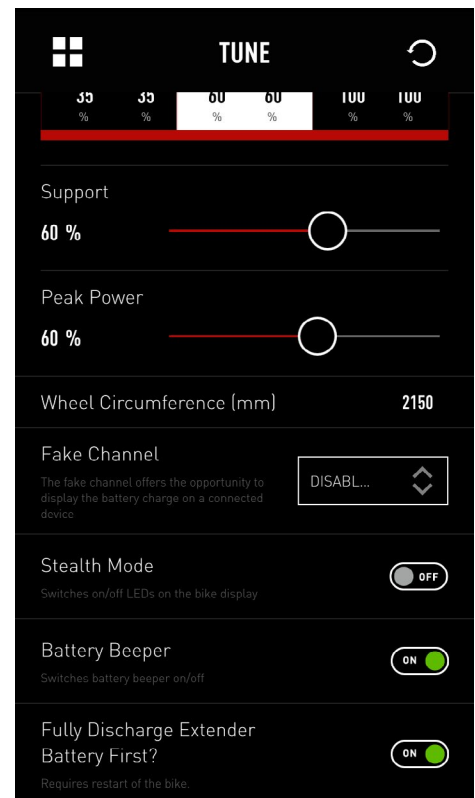
SETTINGS

You can change the default parallel discharging logic to activate the option “Fully Discharge Extender Battery First” (requires system restart to activate).

Overall, activating “Extender Battery First” only makes sense if you have the need to remove the RE battery during your ride to have a lighter bike or if you want to use the bottle cage for hydration.

NOTES

- We generally recommend parallel discharging
- Discharging the RE first means that you will more quickly notice less motor output because of a quicker drop in voltage.
- 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 on batteries used and the applied discharging logic.
- Excessive use of this option may impact long term battery health as the RE cells experience more strain.



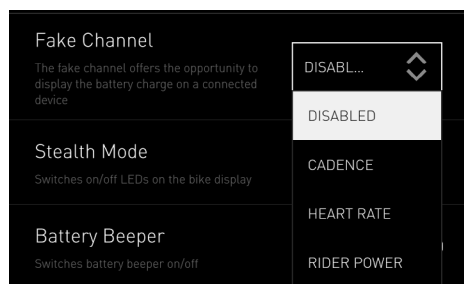
FAKE CHANNEL (ANT+)

OVERVIEW

Using the Fake Channel, you can display the battery state of charge (SoC) of a Turbo Levo/Kenevo battery on any ANT+ device (wearables, GPS devices, bicycle computers, etc.).

For this example, a Garmin® Fenix 3 GPS watch was used.

1. Activate the Fake Channel in the TUNE menu (choose e.g. CADENCE).
2. Restart bike to activate Fake Channel.
3. Search for sensors in ANT+ device and choose faked sensor (if necessary, make needed data field for sensor visible).
4. See the battery's State of Charge in the chosen menu of the ANT+ device. Here, the connected Turbo Levo battery has a charge level of 86%.



If you use a Garmin® device and select the “Heart Rate” channel, values below 30 will not be displayed. Choose another channel, like cadence.



DIAGNOSE

START PAGE

In Diagnose, you can see the system health status and view detailed information on the battery and motor.

System Status

Should the status of your bike not be “Healthy,” see your authorized Specialized Retailer for diagnostics and servicing.

Odometer

The data is saved in the motor, but it’s sent to the App through either the battery or display.

Serial Number

This is the bike’s serial number that’s also stated on the frame itself.

Battery

Tap the red arrow to view battery details.

Battery Charging Status

Shows the current SoC for the bike battery. If you don’t use a display option to see the exact charge status, you can see it here as a percentage figure.

Battery Health

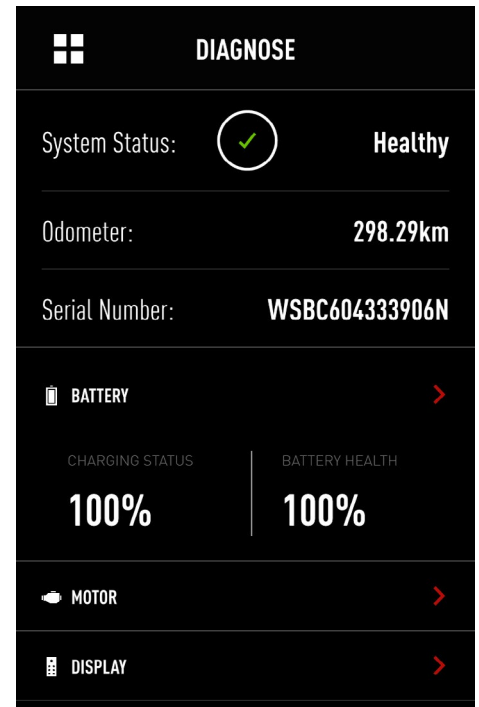
Shows the percentage of remaining battery capacity.

Motor

Tap the red arrow to view motor details.

Display

Tap the red arrow to view display details. Only shows for bikes with a dedicated display.



DIAGNOSE

BATTERY

Battery Health

Specialized guarantees that the battery holds at least 75% capacity after 300 charge cycles, or alternatively, after two years. It is not uncommon for batteries to drop a few % within 20 cycles, but to hold that for a year or more. See your Turbo manual for more battery details.

Charge Cycles

The Battery Management System counts the amount of full charge cycles. One charge cycle is added when, for example, 500 Wh have been recharged into a 500 Wh battery. Battery aging over an estimated lifetime is taken into account for counting the cycles.

Firmware

The installed battery firmware is shown here. Please make sure that you always run the latest firmware for the best performance and the full scope of functions.

← BATTERY		
CHARGING STATUS	BATTERY HEALTH	CHARGE CYCLES
100%	100%	18
Serial Number:	-	
Hardware:	2.0	
Firmware:	2.2.5	
Temperature:	23°C	
Voltage:	41.40V	
Current Level:	0.00A	

MOTOR

Serial Number

Displays the motor's serial number to reference type and manufacturing details. This is not relevant to most riders.

Hardware

Identifies the motor in detail. This information is not relevant to most riders.

Firmware

The installed motor firmware is displayed here. Please be sure that you always run the latest firmware for the best performance and the full scope of functions.

Temperature

Overheating issues with motors are extremely rare. In the event of overheating, the system activates a protection mechanism by reducing power, or in extreme cases, by shutting off the system. Temperatures up to 90 degrees Celsius are considered normal.

← MOTOR	
Serial Number:	E01680-100180626-2-25 38
Hardware:	02120901150618002331
Firmware:	6.0.1
Temperature:	29°C

DIAGNOSE

DISPLAY

Serial Number

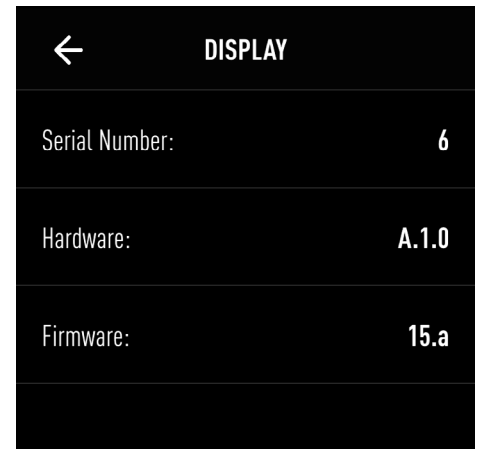
Shows the display serial number to reference type and manufacturing details. This information is not relevant to most riders.

Hardware

Identifies the motor in detail. This information is not relevant to most riders.

Firmware

The installed display firmware is shown here. Please make sure that you always run the latest firmware to ensure the best performance and the full scope of functions.



SETTINGS

My Bikes

Add a new bike, or manage bikes you're already connected to, here.

My Profile

Define personal data, like date of birth, sex, height, and weight. This allows you to log out of the App.

Auto Start Active

If turned on, Mission Control records your rides automatically once you are moving (with connection to bike).

Unit system

Choose between Metric (km/h and km) and Imperial (mph and mi) units.

STRAVA®

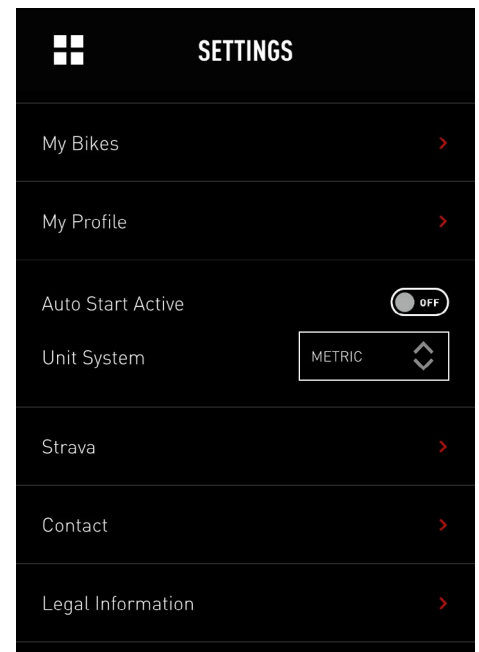
You can choose to automatically upload your rides to your STRAVA® account here. Once on STRAVA®, they'll be saved in a dedicated e-Bike category.

Contact

Refer to this section to read Mission Control FAQs and to reach out to our customer support team.

Legal Information

Read our Terms of Use and Privacy Policy here.



NOTES

TIPS

- Note your password somewhere safe after registering.
- Instead of logging out, close the App after use.
- To show your location on the App, you need to allow Mission Control to access your device's location. You're asked for permission during set up, and you can also change permissions in the App settings on your device.
- Do not mount your smartphone to the handlebars, as the majority of mobile devices are not made for usage on a bike. Physical impacts can damage your phone. If you really feel the need to mount your phone to your handlebars, use a robust and reliable mounting system that offers adequate protection for your device.

SAFETY NOTICE

- For your own safety and that of others, never look on your phone or use touchscreen/buttons while moving. If you need to use the phone and/or Mission Control App, stop in a safe place and stow away the phone before you continue your ride.

