

TORP controller

Wheelie Control

For TORP controllers with a built-in motion sensor (IMU).

What Wheelie Control does

The controller measures the bike's pitch angle with its built-in motion sensor and adjusts motor power to hold the front wheel at the target angle you set. When you end the wheelie, it lets the front wheel down with a soft landing.

You keep full control of the throttle and the brakes.

Where to find it in the app

Settings screen → PERIPHERALS → Wheelie Control

Open the Settings screen, tap the PERIPHERALS button at the bottom, then scroll to the Wheelie Control section. The first time, the app guides you through calibration.

Wheelie Control: read before use

Wheelie Control is a rider-assistance feature, not a safety system. It cannot prevent every loop-out, loss of control or crash. Improper use may result in serious injury.

- The battery charge must be below 90%. A nearly full battery may not accept sufficient regenerative braking, reducing the system's ability to lower the front wheel.
- Always keep the rear brake covered and be prepared to apply it immediately. Never use Wheelie Control unless the rear brake is working correctly.
- Before using Wheelie Control, ensure that the displayed vehicle speed is accurate. Wheelie Control determines its control parameters from the configured wheel diameter and gear ratio. If these settings produce an incorrect speed reading, Wheelie Control may behave unexpectedly.
- Wheelie Control is intended only for low-speed use. Do not use it at high speeds.
- Wear full protective gear, including an approved helmet.
- Practice only in a safe, open and traffic-free area, away from people and obstacles.
- Use Wheelie Control only on a flat, level surface. Do not use it uphill, downhill or on sloped terrain.
- Start with a low target angle and increase it only gradually as your skill improves.
- Do not use Wheelie Control on wet, loose or slippery surfaces.

By enabling Wheelie Control, you acknowledge and accept the risks involved. You use this feature entirely at your own risk. To the fullest extent permitted by applicable law, Torp is not responsible for injuries, property damage or legal consequences resulting from its use.

SETUP

Requirements

What you need before enabling Wheelie Control

Requirement	Details
Controller	TORP TC500 or TC1000, hardware version 2.0 or newer
Controller firmware	Firmware version 1.17, or more
Mobile app	Torp app 2.1 or newer
Bike setup	Motor and throttle calibrated. Correct speed calibration: the speed shown in the app must match your real speed.

Calibration

One-time setup in three steps, about 10 minutes. The app guides you through each step.

Step	What to do
1. IMU calibration	Park on firm, level ground (not soft soil or gravel). Hold the bike upright and still, off the stand, until the step completes. The throttle is disabled during this step.
2. Tilt verification	Lean the bike left, then right, as the app shows. Hold each lean for 1 second.
3. Speed calibration	Wheelie Control works correctly only when the bike knows its real speed. A short ride at a steady 15–20 km/h. The app compares the controller's speed with your phone's GPS. During the ride the bike is limited to 20 km/h and 300 A; your settings are restored afterwards.

When calibration completes, Wheelie Control turns on.

- **Repeat the speed calibration** after changing a sprocket, the gear ratio or the wheel / tire size. When you change these values the app warns you; tap **AUTOCALIBRATE** to measure the correct speed with GPS.
- **Repeat the full calibration** after a factory reset, a controller replacement or any change to how the controller is mounted.

Activation and status

- Tap the Wheelie Control **OFF** button to switch it **ON**, then read and accept the guidelines.
- Turning Wheelie Control on **turns Traction Control off**. The two systems cannot operate at the same time.
- It also sets **Throttle Release Regen** and **Brake Lever Regen** to 0, so they do not cancel the soft landing. They are not restored automatically when Wheelie Control is turned off.
- To stop using it, tap **ON** to switch it **OFF**. Wheelie Control will not help balance the bike until you turn it back on.

Settings

Everything else is calculated for your bike during calibration.

Target angle

HOW IT WORKS	The angle Wheelie Control balances the bike at. A higher angle means a steeper wheelie, closer to the balance point.
GUIDANCE	Start low and increase in small steps as your skill and confidence improve.

Aggressiveness

HOW IT WORKS	How hard the assist corrects toward the target angle. Higher values make the bike respond more quickly and forcefully.
GUIDANCE	50% is the tune calculated for your bike. Leave it there if the wheelie holds well. Higher values lift the front wheel faster, so stronger regen is needed to catch it at the target angle. Raise it only if you are sure your BMS can accept the higher regen current.

Soft landing

HOW IT WORKS	Keeps a little power on while the front wheel comes down, so the landing settles gently instead of dropping hard. OFF, LOW, MEDIUM or HIGH.
GUIDANCE	A stronger soft landing lands more gently, but the bike takes longer and more distance to stop.

Warnings in the app

Shown on the dashboard. Tap a warning for details.

Warning	What it means	What to do
PITCH OVERSHOOT	The front wheel came up higher than intended above your target angle.	Lower Aggressiveness, or lift the front wheel more gently.
WHEELIE LIMITED	The battery could not take the braking energy: the pack is too full or too warm. Once you are back down, motor power is limited to 200 A so you can ride home.	Restart the bike to clear it. Let the battery cool, or ride it below 90% before doing wheelies.
WHEELIE LOW REGEN	The battery is almost full. Wheelie Control lowers the front wheel with regenerative braking, which charges the battery. On a full battery the BMS can limit or cut that charging at any moment to protect the cells, and the front wheel may then not come down as expected.	Ride until the battery drops below 90%.

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