TORP Motor

TM50 Pro & Speed

BEFORE YOU START

What's in the Box

The TM50Pro/Speed is built for the SurRon Ultra Bee and TORP controller (TC1000 / encoder version). It can also run with other aftermarket controller brands (hall version). To check compatibility with other brands, contact that controller's manufacturer.

Where it goes	What you get
Shaft (pulley) side	1× M8×50 mm bolt · 1× M8×55 mm bolt
Front side	1× M8×20 mm bolt · 1× M8×25 mm bolt

Work in this order: fit the pulley, mount the motor, then run the calibration in the TORP Controller app.

The Pro and the Speed TM50 motors are installed exactly the same way. The only difference is which one you pick in the setup wizard at the end.

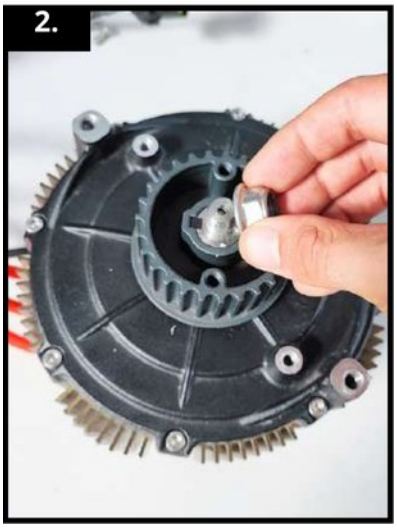
STEP 1 OF 2

Fit the Pulley

Move the pulley from the stock motor onto the TM50

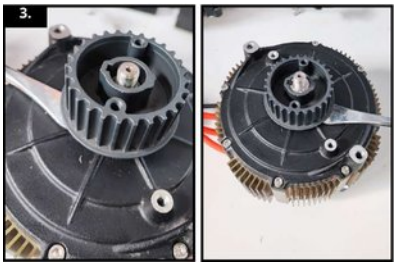
1. Take off the stock motor

Remove it from the bike so you can work on it freely.



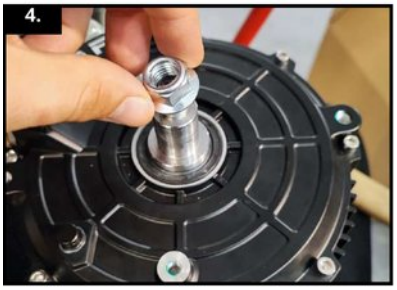
2. Remove the nut

Undo the nut in the middle of the stock pulley.



3. Lever the pulley off

Use a lever and work a little from each side, so the pulley comes off straight.



4. Remove the nut from the motor

The TM50 comes with its nut fitted. Take it off to free the shaft.

STEP 1 OF 2

Fit the Pulley

Mount the pulley on the TM50

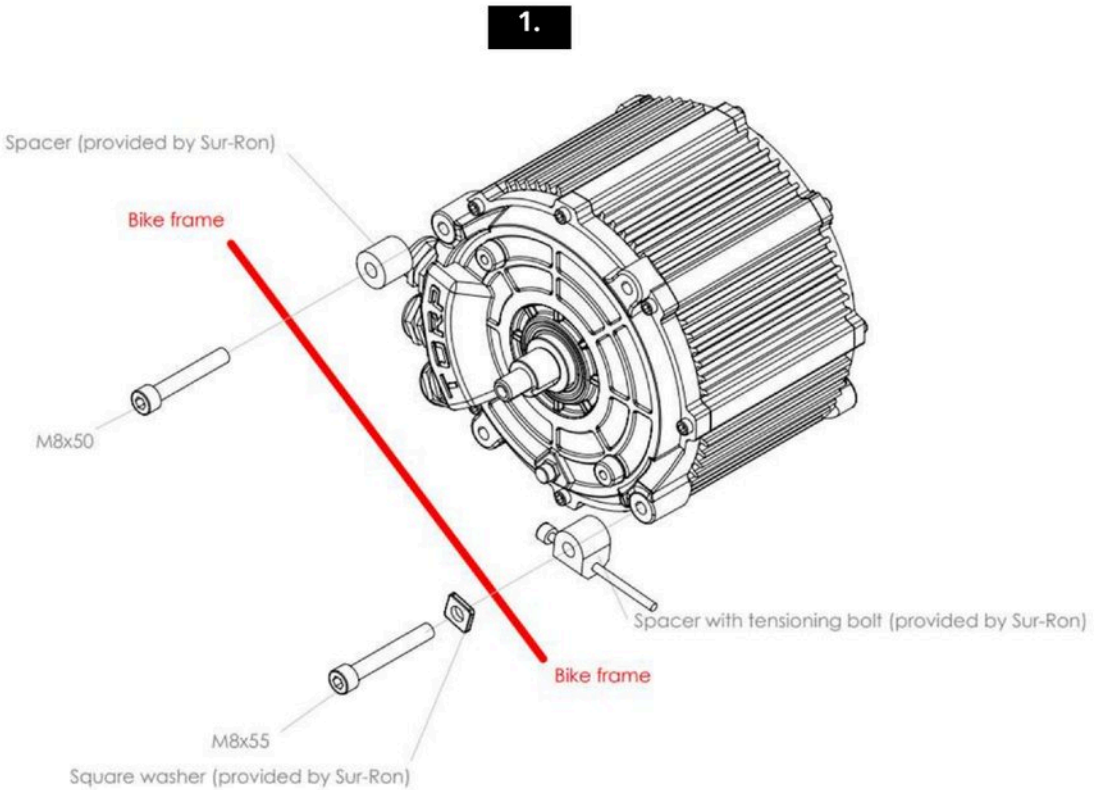
5. Mount the pulley

Slide the pulley onto the shaft. The shaft key is already fitted.

Tighten the nut clockwise, in the direction of the green arrow.

STEP 2 OF 2

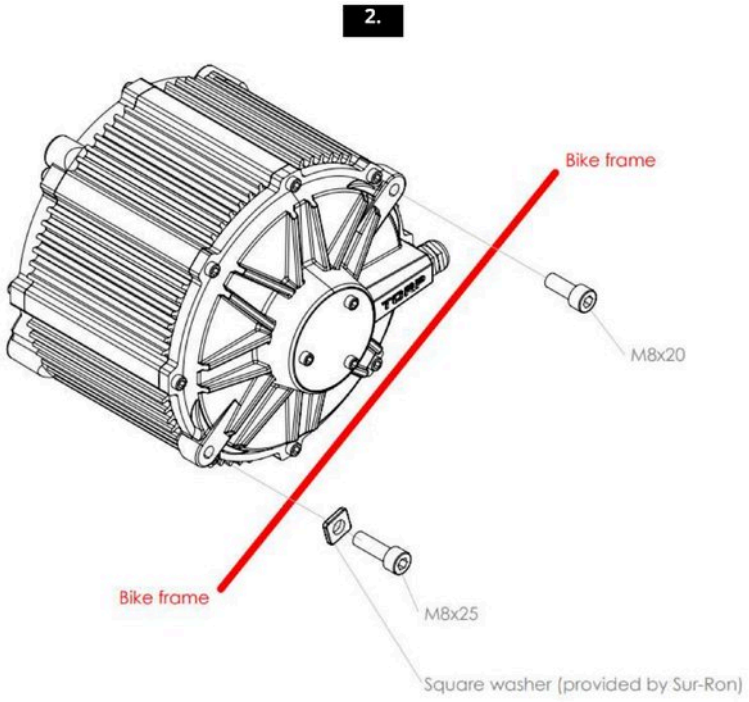
Mount the Motor



Shaft (pulley) side — the M8×50 and M8×55 bolts, with the spacer, the spacer with tensioning bolt and the square washer that came with your SurRon.

STEP 2 OF 2

Mount the Motor



Front side — the M8×20 bolt, and the M8×25 bolt with the square washer that came with your SurRon.

1. Torque the pulley nut

With everything mounted, hold the rear brake and tighten the nut clockwise to 40–50 Nm.

FINISHING UP

Set the Motor Up in the App

Tell your TORP controller which motor is fitted

1. Connect to the TORP Controller app.
2. Open the 5th screen of the app and go to CALIBRATION.
3. Start the SETUP WIZARD and pick TM50 Pro or TM50 Speed from the list.
4. Follow the wizard to the end.

CARE GUIDE

Looking After the Motor

A few habits that keep the motor reliable

> ⚠ **Always take the battery out of the bike before you inspect or work on the motor.**

Keep water out

- Never point a pressure washer at the motor. High-pressure water gets past the seals and damages the motor inside.
- Do not wash the motor while it is still hot.
- Do not ride through streams, rivers or flooded trails, or anywhere the motor goes under water.
- Clean the motor gently with a damp cloth.

Check the bolts and wiring

- Keep connectors and wiring clean and dry, especially after wet, sandy or muddy rides.
- Before plugging a connector back in, check it and clean out any dirt. Make sure the rubber seals are still inside and sitting properly.
- Vibration loosens bolts over time. Every few rides check that the motor bearings, motor case, encoder cover and pulley nut are tight. Use thread locker such as Loctite Blue if you need it.
- If you take the encoder cover off, make sure all four seals go back in — one large O-ring and three small ones.

Use a belt, not a chain

TORP motors are designed for belt drive. We recommend an aftermarket belt such as GATES. Check the belt's condition and tension before every ride - a belt that is too loose or too tight wears out early and can damage the motor.

	Belt (recommended)	Chain
Maintenance	Check condition and tension before a ride.	Check and re-tighten before every ride, and lubricate regularly.
Wear	Made for high torque, so it lasts longer.	Wears out faster and can snap if it is neglected.
Noise	Quiet and smooth.	Noisier, with more vibration.
Effect on the motor	Normal load on the shaft and bearings.	Extra stress on the shaft and bearings: faster wear, more heat, internal noise.
Watch out for	Correct tension.	Correct tension, plus the connecting link — fit it properly or the chain can fail.

> **Need help?** Contact us through the support form at **torpmotors.com/contact**, or in the Contact section of the TORP website.