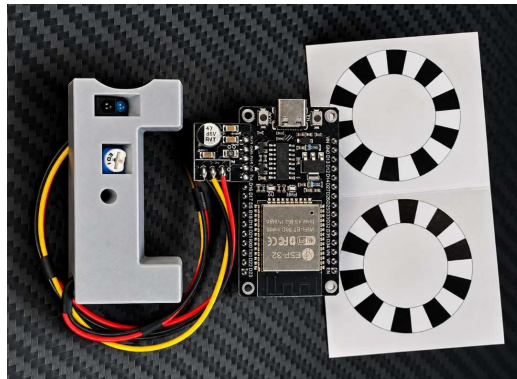




1. INTRODUCTION:

This Quick Installation Guide provides step-by-step instructions for installing the **Tachometer Kit**, designed to upgrade your existing Traverse 2.0 to the latest Traverse 2.1 version.

The kit includes a microcontroller with the latest software version and a tachometer sensor designed to be mounted on the Mojotone winder. Additionally, two tachometer discs are provided.



This kit is specifically designed for use with Mojotone winding machines and adds tachometer functionality, enabling precise rotational speed measurement and improved speed control.

The guide will walk you through the installation, configuration, and calibration process to ensure your upgraded system operates correctly.

2. WHAT YOU WILL NEED:

Before starting the upgrade, make sure you have the following:

- Tachometer Kit – Available for purchase on our website.
- MicroSD card (32 GB or less) – Required for the upgrade process.

Follow the instructions carefully to ensure a successful upgrade to Traverse 2.1.

3. INSTALLATION:

Here are the steps to follow to install this kit:

➤ STEP 1: Disconnect Power and cables, and Remove the Left Side Panel

Before starting the installation, disconnect the power supply from your Traverse unit to ensure safe handling. Next, disconnect the Mojitone control cables from the connectors located on the left side panel of the Traverse.



To remove the left side panel, carefully unscrew the following:

- Four Phillips-head screws located at the corners of the panel.
- Two Allen screws (2 mm hex key required) securing the power connector to the panel.



Once all six screws have been removed, carefully detach the left side panel to access the internal components.



Important:

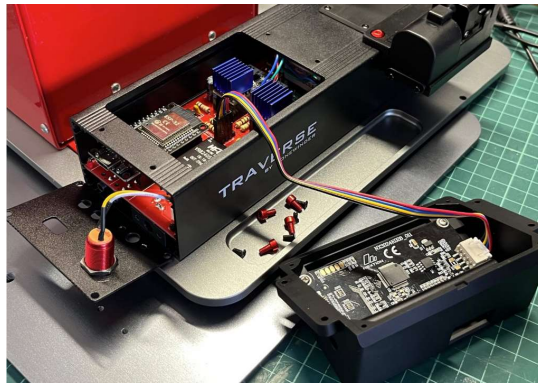
- Make sure the Traverse unit is completely disconnected from its power supply before opening the enclosure.
- Be careful when removing the panel, as internal wires may still be connected to it.

➤ **STEP 2: Remove the Touchscreen and Microcontroller**

To remove the touchscreen assembly, including its mounting bracket, unscrew the four screws securing it to the Traverse frame.

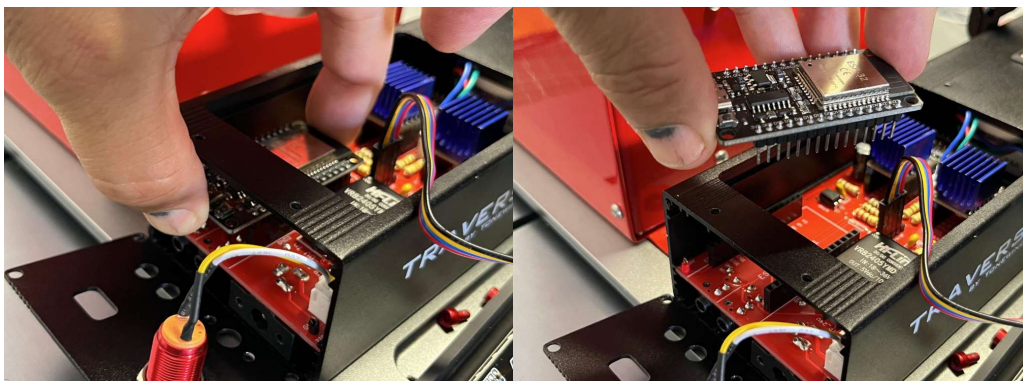


Carefully lift the touchscreen assembly away from the frame. There is no need to disconnect the touchscreen cables. However, if you choose to disconnect them, make sure to note the original connector position and orientation for correct reassembly.



Once the touchscreen assembly has been moved aside, locate the microcontroller.

Gently grip the microcontroller with two fingers and carefully pull it straight upward to remove it from its socket.

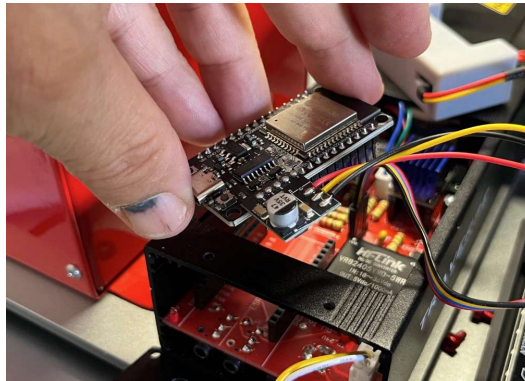


Important:

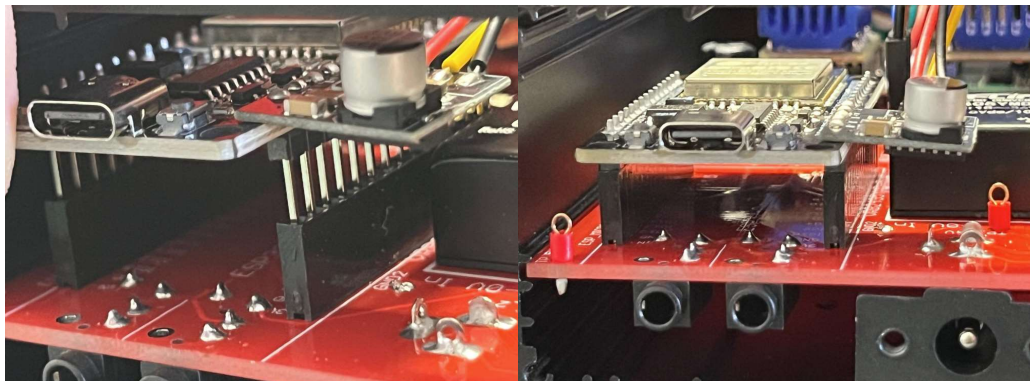
- Handle the touchscreen carefully to avoid damaging the display or its cables.
- Avoid twisting or bending the microcontroller while removing it.
- Do not apply excessive force. Make sure the microcontroller is pulled straight out to prevent damage to the pins or socket.

➤ **STEP 3: Install the new Microcontroller with tachometer**

Install the new microcontroller supplied with the Tachometer Kit, which comes pre-connected to the tachometer sensor. This sensor will later be mounted underneath the Mojutone winder's pickup mounting plate.



Carefully position the new microcontroller over its socket, making sure that all pins are correctly aligned with the corresponding connectors on the circuit board.



Once properly aligned, gently press the microcontroller into place until it is fully seated.

Important:

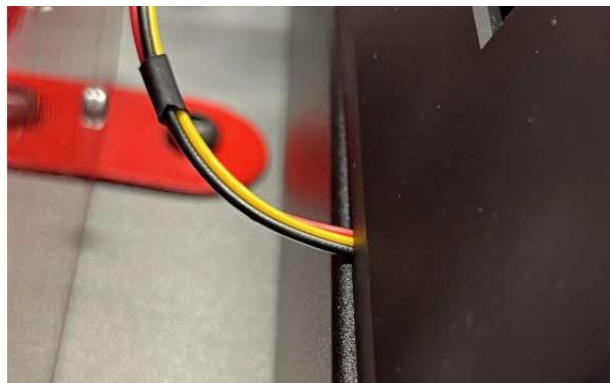
- Double-check the position and orientation of the microcontroller before inserting it.
- Make sure all pins are properly aligned to avoid bending or damaging them.
- Do not force the microcontroller into place. If you feel resistance, stop and check the alignment before proceeding.

➤ Step 4: Modify the Touchscreen Bracket and Reassemble the Unit

Before reinstalling the touchscreen, make a small notch in the bottom edge of the touchscreen mounting bracket to allow the tachometer sensor wires to pass through without being pinched.



A 6 × 1 mm notch (width × depth) is sufficient for this purpose. You can easily make it using a small metal file.



Once the notch is complete, carefully reinstall the touchscreen assembly and its mounting bracket, followed by the left side panel of the Traverse unit.

Important:

- Make sure the sensor wires are properly routed through the notch and are not pinched or damaged during reassembly.
- Remove any metal filings or debris before closing the unit.
- Check that all screws are correctly tightened and that the touchscreen is securely mounted.

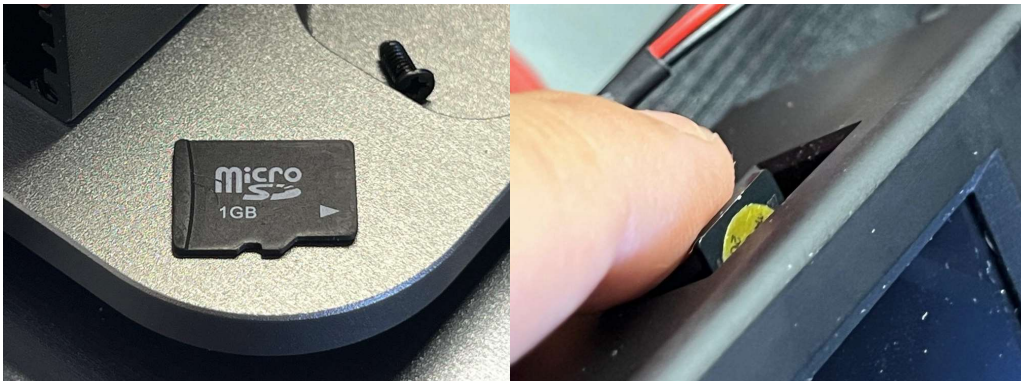
➤ Step 5: Install the Touchscreen Control Software

Download the **latest software version for Traverse 2.1** from our website.

Two files are available for download, but for this procedure, you will only need the **touchscreen firmware file (.tft)**.

Copy the .tft file to a **microSD card (32 GB or less)**, making sure it is the **only file stored on the card**.

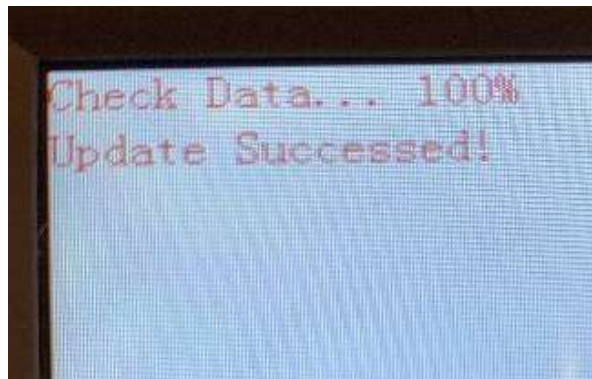
Once the file has been copied, insert the microSD card into the slot located on the touchscreen mounting bracket, with the **metal contacts facing toward you**. Gently push the card in until you feel a click, indicating that it is properly inserted.



Next, **power on your Traverse unit**. The touchscreen will turn white, and the firmware installation process will start automatically.

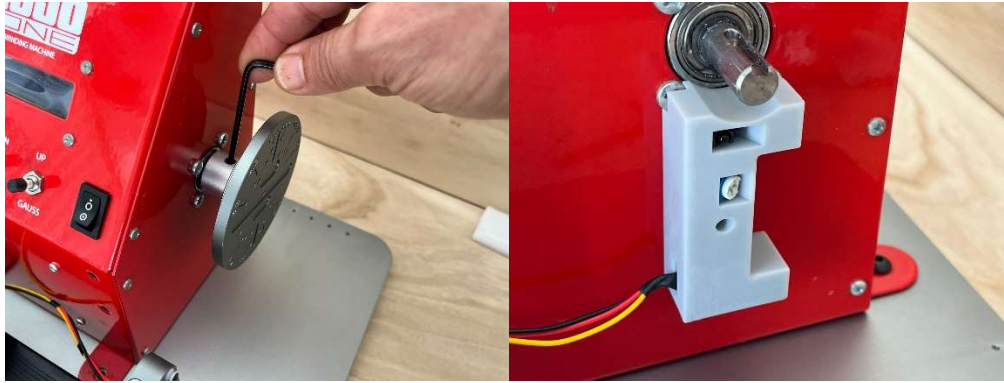
Wait until the installation is complete and verify that the new software has loaded correctly.

Once the update has been successfully completed, **power off the Traverse unit and remove the microSD card**.



➤ STEP 7: Install the Tachometer

Remove the pickup support plate from your Mojotone winder. Next, install the tachometer, which is connected to the microcontroller unit by a three-wire cable.



The tachometer is designed to fit perfectly in **one specific position** and is held securely in place by magnets. Make sure it is properly seated. If additional cable length is required, gently pull the cable from where it exits the rear of the touchscreen display.



Important: Handle the cable carefully and avoid pulling it with excessive force to prevent damage to the wires or their connections.

➤ Step 8: Adjust the Tachometer Sensor

Power on your Traverse 2.1 unit to check and, if necessary, adjust the tachometer sensor.

Note: The sensors are pre-adjusted at the factory. However, minor adjustments may be required depending on the individual unit, ambient lighting conditions, and installation environment.

Under normal lighting conditions, the sensor should remain OFF when unobstructed (no red light visible inside the sensor opening).



When you place your finger over the sensor opening, blocking the light, the red LED should turn ON.

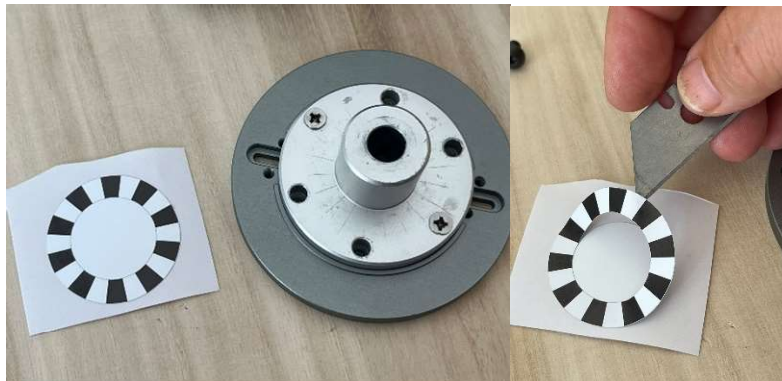
If the sensor does not respond as described, carefully adjust the potentiometer until the correct behavior is achieved.



Important: Verify that the red LED turns ON when the sensor is covered and OFF when it is uncovered. Avoid excessive ambient lighting during adjustment, as it may affect sensor operation.

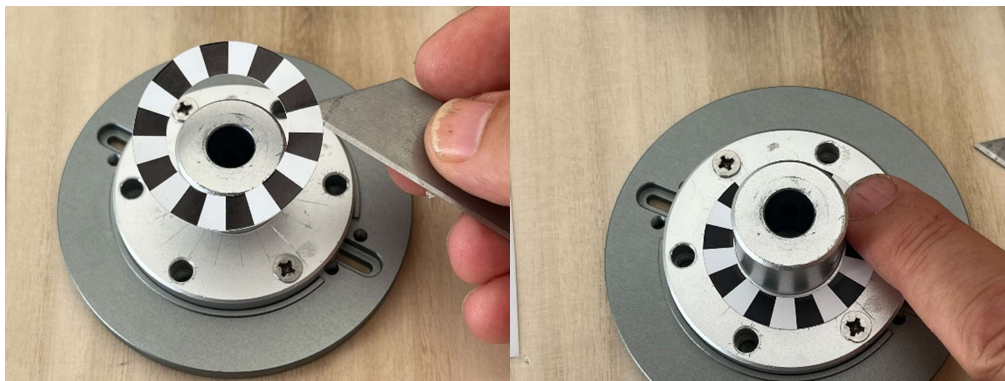
➤ Step 9: Install the Tachometer Disc

Carefully peel the **tachometer disc** from its backing sheet, using a small blade or knife to help lift the edge if necessary. The second disc is provided as a spare.



Thoroughly clean the back surface of the **pickup mounting plate** using a suitable solvent to remove any grease, dust, or residue. Allow the surface to dry completely before proceeding.

Next, carefully position the tachometer disc in the **center of the back of the mounting plate**, ensuring it is properly aligned (centered).



Press firmly and evenly with your fingers across the entire surface of the disc to ensure good adhesion.

Important:

- Handle the adhesive disc carefully to avoid bending or damaging it.
- Make sure the disc is perfectly centered and securely attached before reinstalling the mounting plate.

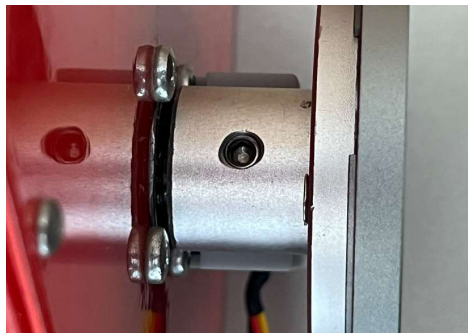
➤ **Step 10: Reinstall the Pickup Mounting Plate and Verify Sensor Operation**

Reinstall the pickup mounting plate on your Mojotone winder, positioning it as close to the winder body as possible.



Before fully tightening it, slowly rotate the plate by hand and verify that the red LED on the tachometer sensor turns ON and OFF as the plate rotates.

If the LED does not respond correctly, carefully perform a fine adjustment of the sensor potentiometer until the LED switches reliably between ON and OFF during rotation.



Important:

- Make sure the tachometer disc is properly aligned with the sensor.
- Verify that the LED switches consistently during a complete rotation.
- Once correct operation has been confirmed, securely fasten the mounting plate in its final position.

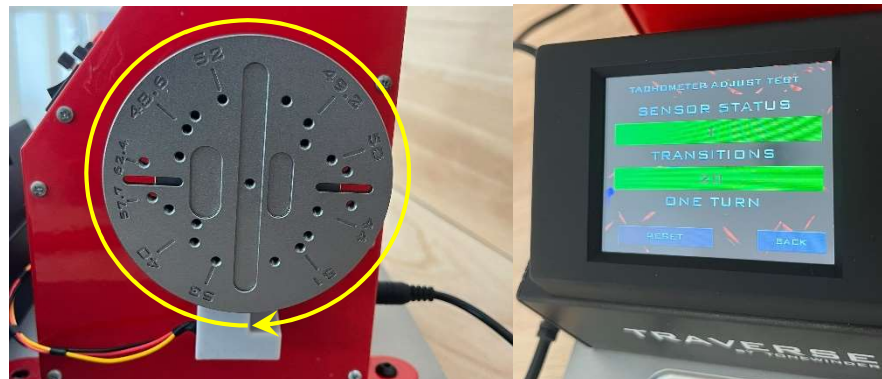
➤ Step 11: Verify Tachometer Sensor Operation

To verify that the tachometer sensor is working correctly, navigate to:

MAIN MENU → SETTINGS → BASIC PARAMETERS → Tachometer Test



Once inside the test screen, manually rotate the pickup mounting plate of your MojoTone winder **exactly one full revolution (360°)**, as accurately as possible.



The tachometer should register **20 counts per revolution**.

- **If the reading is close to 20:** Repeat the test, making sure you rotate the plate exactly one full revolution. Small deviations may be caused by inaccurate manual rotation.
- **If the reading differs significantly from 20** (for example, 5 or 35 counts): Readjust the tachometer sensor potentiometer as described in the previous steps, then repeat the test.
- **If the reading is exactly 20:** The tachometer sensor is correctly calibrated, and you can proceed to the next step.

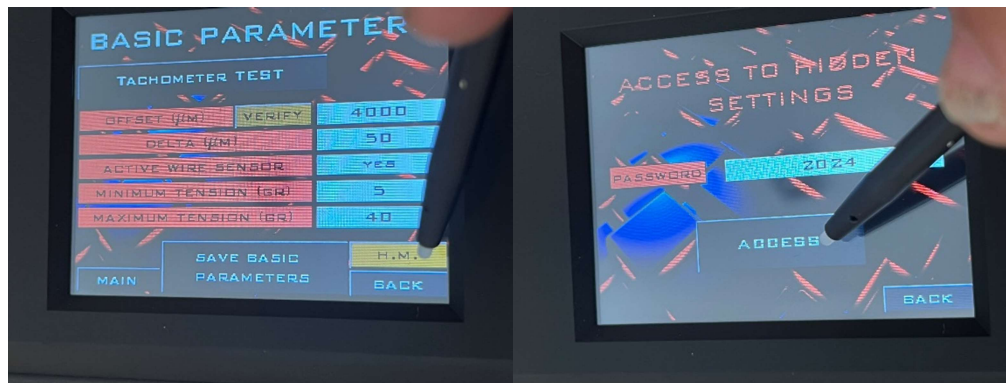
Important: The correct reading is **20 counts for one complete revolution**. Make sure the sensor consistently detects this value before continuing with the installation.

➤ Step 12: Automatic Speed Calibration

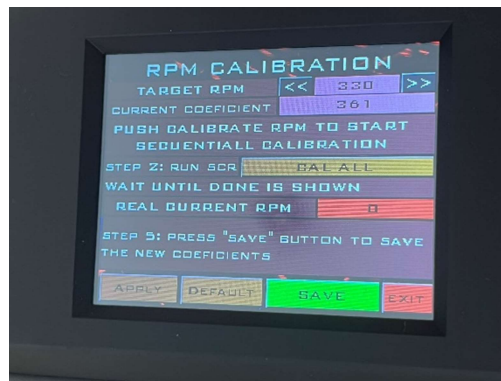
In this new version of the Traverse 2.1, speed calibration is fully automatic and takes approximately 3 minutes to complete. Before starting, power on your Mojitone winder and make sure it is properly connected to the Traverse 2.1 unit. Then, navigate to:

MAIN MENU → SETTINGS → BASIC PARAMETERS

Press the **"H.M." (Hidden Menu)** button to access the calibration settings.



Enter **2024** as the access code and select **RPM CALIBRATION**. A new screen will appear with instructions for the calibration procedure.



To start the automatic calibration, simply press the **"CAL ALL"** button. The system will automatically calibrate all speed settings without requiring any further user intervention. It will take around 3 minutes, then you have to press **APPLY**, and **SAVE**

Once calibration is complete, the system will be ready to proceed to the next installation step.

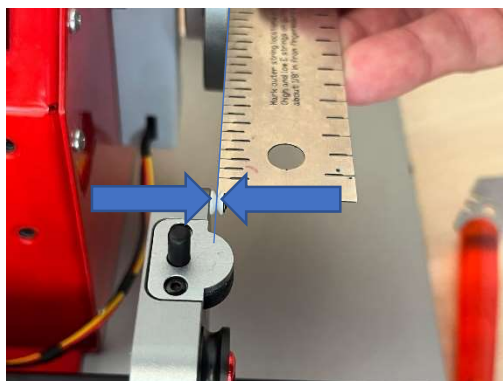
➤ Step 13: Coupling Offset Adjustment

The next step is to calibrate the coupling offset, which defines the distance between the position where the traverse arm detects the home sensor and the position where the Mojotone winder plate aligns with the output pulley (small white pulley).

To perform this adjustment, press the "Verify" button and check the alignment between the two components.



Adjust the "Offset" value as needed, repeating the verification until both elements are correctly aligned.



You can use a ruler to check the alignment more accurately.

Important:

- Make small adjustments to the Offset value to achieve precise alignment.
- Repeat/Press the verification after each adjustment.
- Once both elements are properly aligned, the coupling offset calibration is complete.



4. CONTACT FOR SUPPORTING:

If you face any kind of problem during this procedure, please contact us by email:

info@tonewinder.es