



Download the FJDynamics App



Rough Ranger

Quick Installation Guide

June 2026 | Rev. 1.1

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The mower must not be used to tow objects weighing more than 150 lb (68 kg). Towing equipment shall only be attached to the designated hitch point. Do not tow any object on slopes exceeding 5°. On sloped terrain, the weight of the towed equipment may reduce traction and adversely affect the mower's steering control and braking performance. Exercise extreme caution when towing with highly maneuverable mowers, such as zero-turn mowers. To prevent jackknifing, operate the mower at a low speed and allow additional stopping distance for braking. Never allow children or any other persons to ride on or occupy the towed equipment. When operating the mower in Autonomous Operation Mode, ensure that the designated work area is completely clear of people before starting operation.

Before using this product, carefully read the Safety Instructions and all other applicable safety requirements. Ensure that you fully understand and agree to comply with the safety requirements set forth in the Safety Instructions and elsewhere in this manual before operating the product. To the maximum extent permitted by applicable law, FJDynamics shall not be liable for any loss, damage, penalty, fine, or expense arising directly or indirectly from the purchaser's or end user's failure to comply with the safety requirements specified by FJDynamics, whether such liability arises under contract, negligence, applicable consumer protection law, or otherwise.

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Read Before Use:

To reduce the risk of personal injury, users must read and fully understand this User Manual before operating the product. Retain this manual for future reference.



This symbol indicates important safety information. Failure to follow these instructions may result in personal injury, death, or property damage. Read and understand all instructions contained in this manual before attempting to operate the mower.

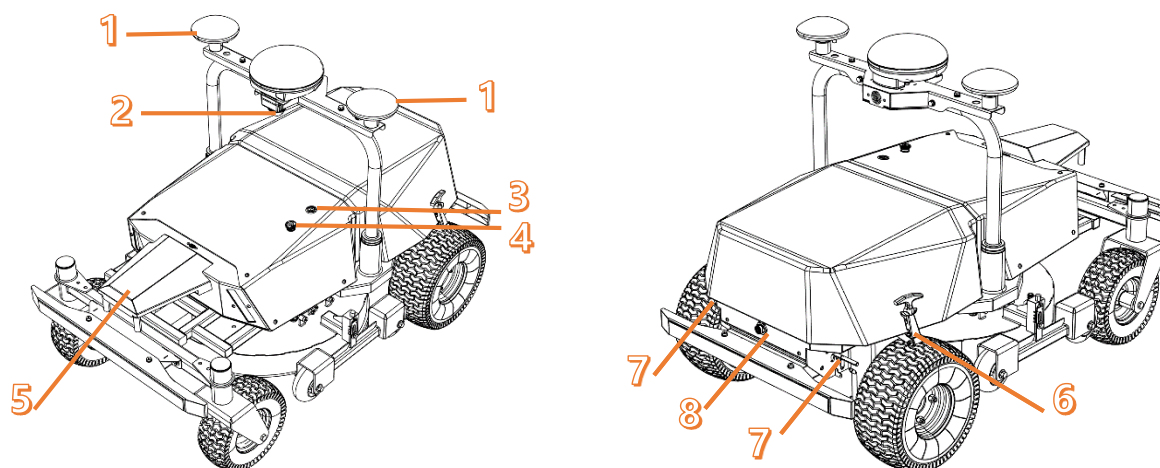


1 Product Overview

1.1 Specifications

Machine Weight	Gross Weight	157 kg
	(Without Two Batteries)	(346 lbs)
Overall Dimensions (Without Charging Station)	Overall Length	1345 mm (53 inches)
	Overall Height	970mm (38.2 inches)
	Overall Width	855mm (34 inches)
Cutting Deck	Number of Blades	1
	Cutting Width	635 mm (25 inches)
	Cutting Height	20–110 mm (0.79–4.33 inches)
Machine Performance	Maximum Slope Capability	≤ 20°
	Travel Speed	0–6 km/h (0–3.7 mph)
	Battery Voltage	48 V DC
	Battery Capacity	4 kWh
	Maximum Runtime	5 h
	Maximum Coverage	90000 m ²
	(Every 3 Days)	(22 Acres)
	Maximum Coverage per Charge	13000 m ² (3.2 Acres)
	Ingress Protection Rating (IP Rating)	IPX4
Smart Features	Automatic Path Planning	Supported
	Operating Modes	Remote Control Mode
		Autonomous Operation Mode

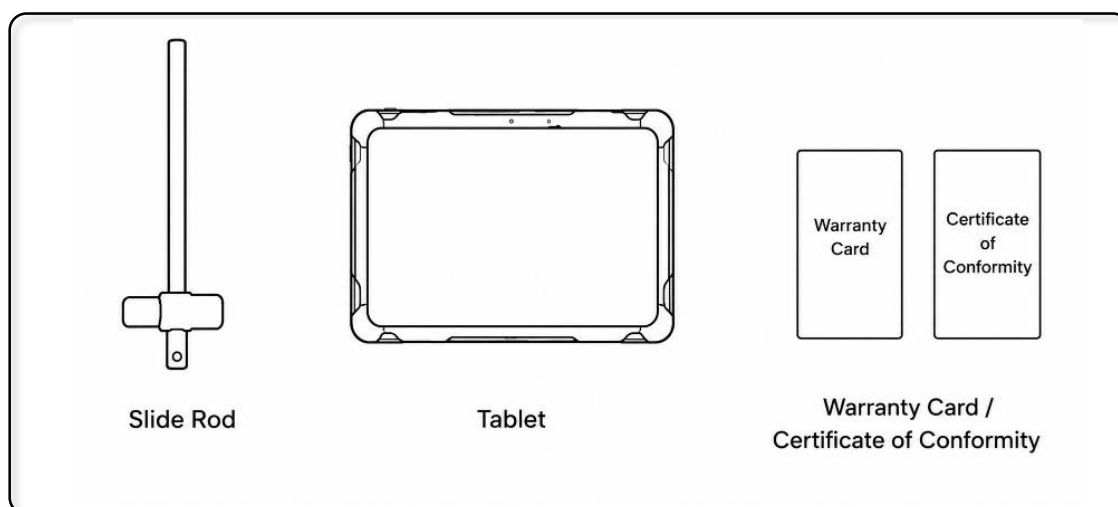
1.2 Mower Overview



1	GNSS Antenna	5	Charging Port
2	LiDAR	6	Hood Latch
3	Power Switch	7	Manual Brake Release Lever
4	Emergency Stop Button (E-Stop)	8	Emergency Charging Port

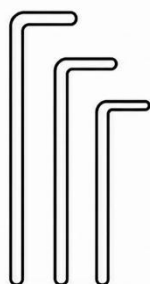
2 Accessory Inspection

Before unpacking the machine, ensure that all required tools and accessories are prepared and verified to prevent interruptions during the installation process.

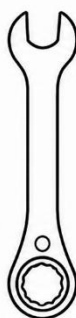




Hook Spanner



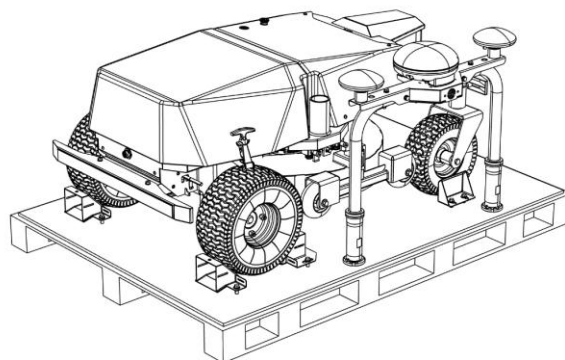
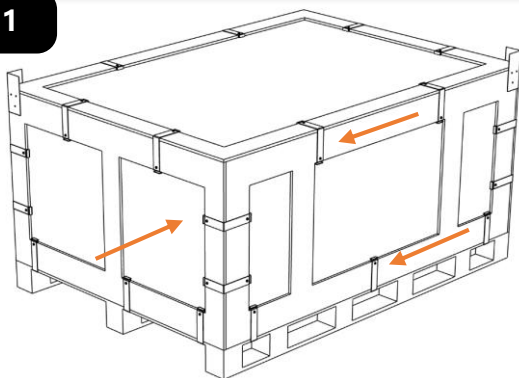
Hex Key Set

Ratcheting
Combination Wrench*2Double Open-End
Wrench*3

Hex Socket*3

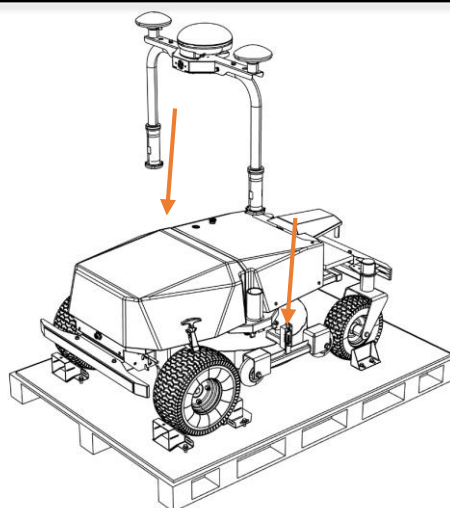
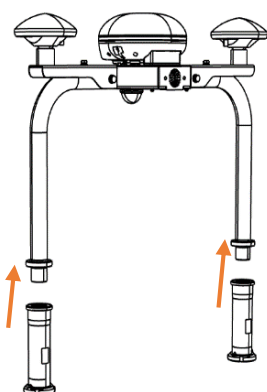
3 Hardware Installation

Step 1



1. Remove all Phillips self-tapping screws securing the wooden crate, then remove all retaining clips around the crate.
2. Remove the top cover and all side panels of the wooden crate.
3. Remove all EPE foam and other protective packaging materials surrounding the machine.

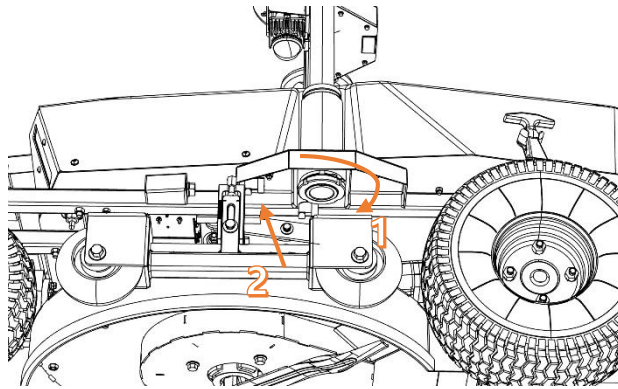
Step 2





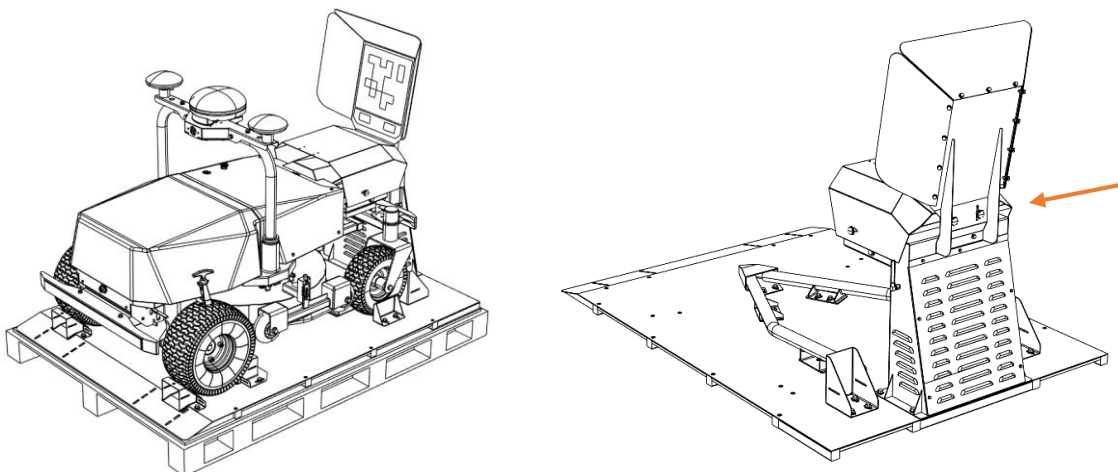
1. Install the mounting brackets onto the U-shaped RTK mounting tube by rotating them into position. Install one bracket on each side.
2. Align the RTK mount with the mounting points on the mower frame, then insert it fully into position.

Step 3

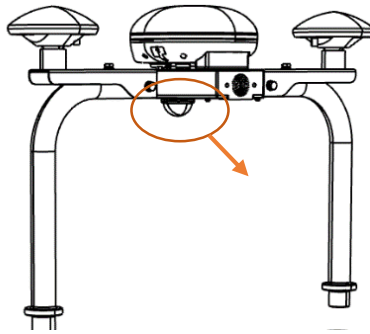


1. Install the round lock nuts and tighten them securely using the hook spanner. Install one lock nut on each side.
2. Connect the RTK mount wiring harness to the corresponding connector on the mower, ensuring that the connection is fully seated.

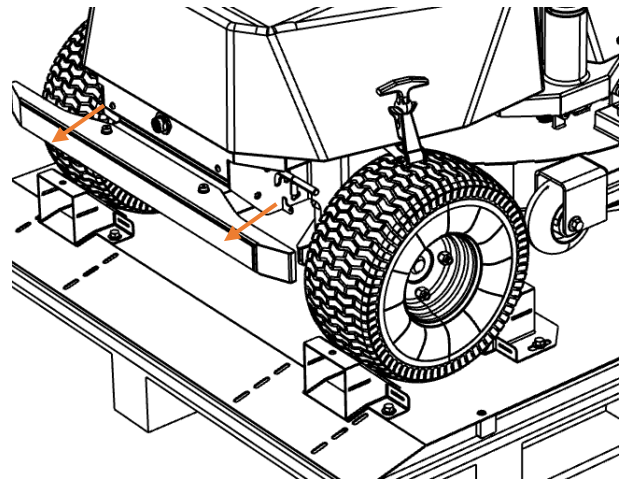
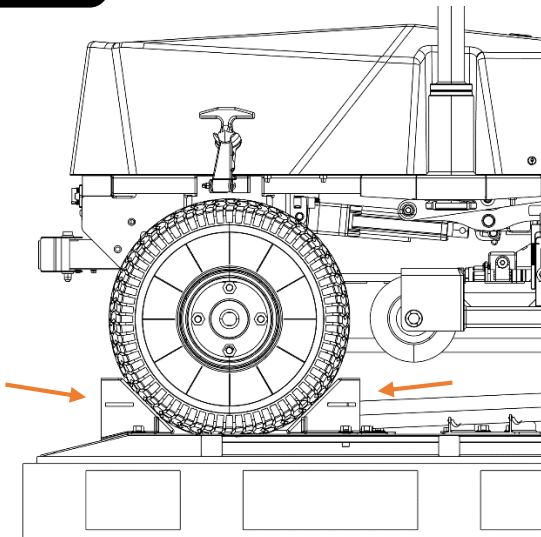
Step 4



1. Install the QR Code Panel onto the charging station, then tighten the mounting screws located on the rear of the panel.

**Step 5**

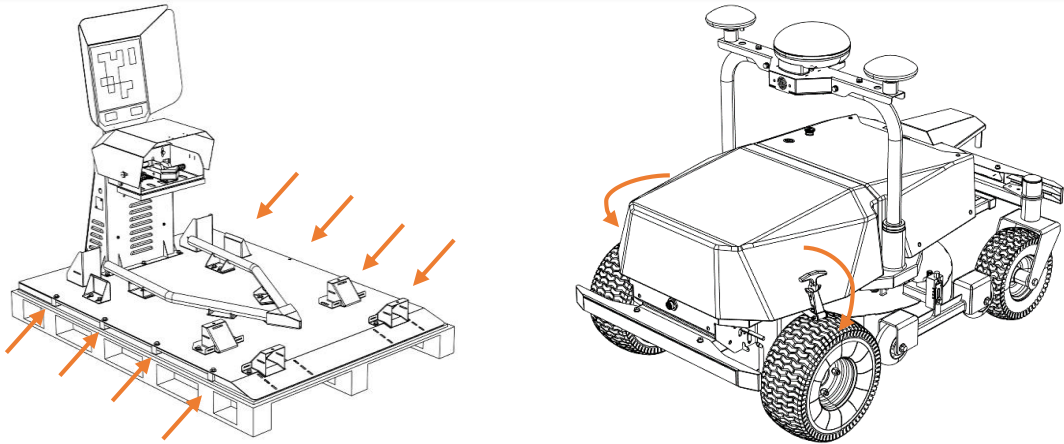
1. Remove the LiDAR protective cover from the RTK mount.

Step 6

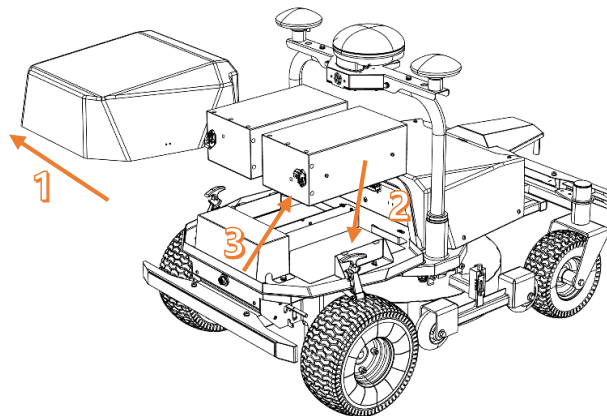
1. Remove the four wheel chocks from the wheels.
2. Pull the manual electromagnetic brake release lever downward to disengage the rear wheel brake.
3. Position one of the wooden crate side panels behind the charging station to serve as a ramp. While supporting the RTK mount, carefully guide the mower down the ramp until it is completely removed from the shipping crate.



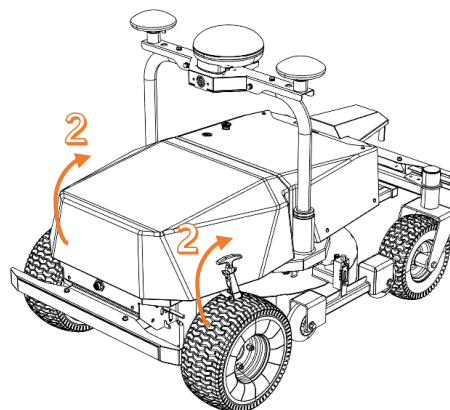
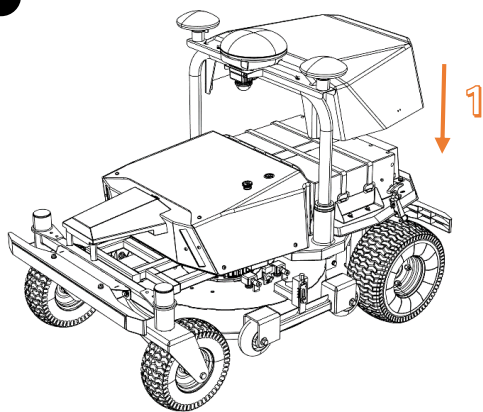
Two people are required when unloading the mower from the shipping crate. Ensure that the mower remains stable throughout the unloading process to prevent tipping, collision, or personal injury.

**Step 7**

1. Remove the mounting screws securing the charging station.
2. Place the charging station in the designated installation area. Ensure that it is installed on a level surface in a dry environment with sufficient clearance for safe operation and access.
3. Release the T-shaped latches on both sides of the hood.

Step 8

1. Lift the hood upward and remove it from the mower.
2. Install the batteries into the battery compartment and secure them with the retaining straps.
3. Connect the battery cables, ensuring that all connections are fully seated and securely fastened.

**Step 9**

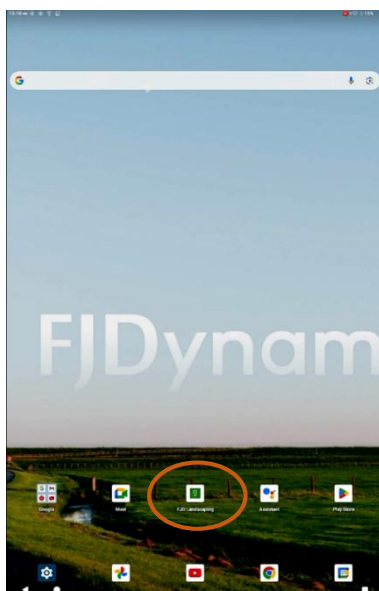
1. Lower the hood into position.
2. Secure the T-shaped latches on both sides of the hood.



Do not operate the mower until all mechanical installation procedures have been completed and all wiring harnesses have been properly connected.

4 Tablet and Software Setup

4.1 Tablet Setup

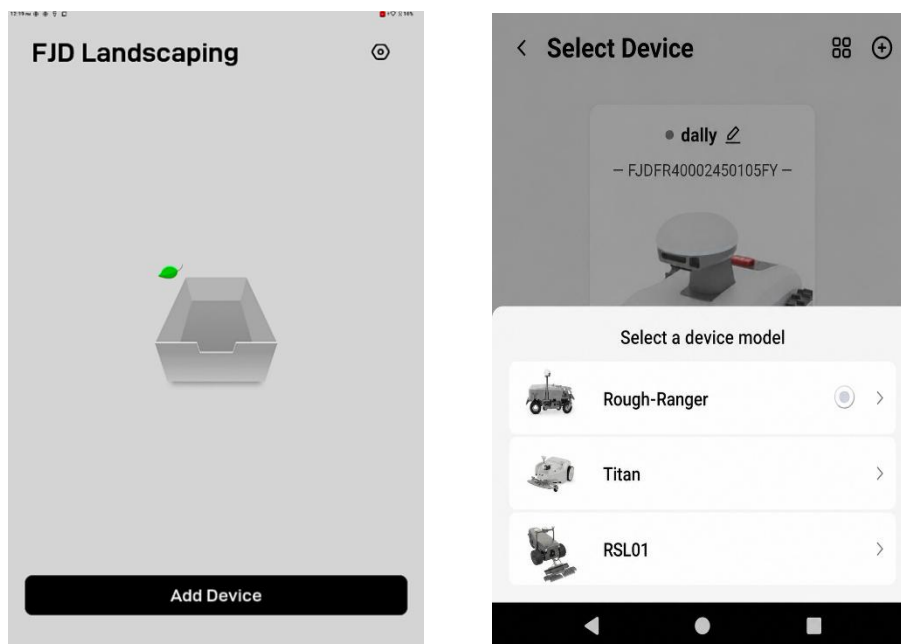


1. Power on the tablet, swipe up to unlock the screen, and launch the Landscaping app.

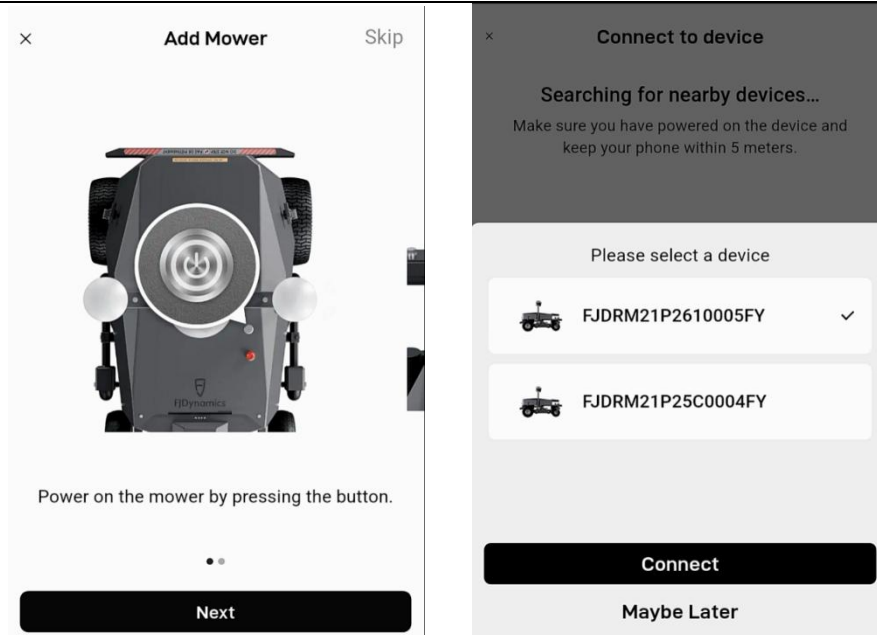


2. Create an account or sign in with an existing account.

4.2 Connect the Tablet to the Mower

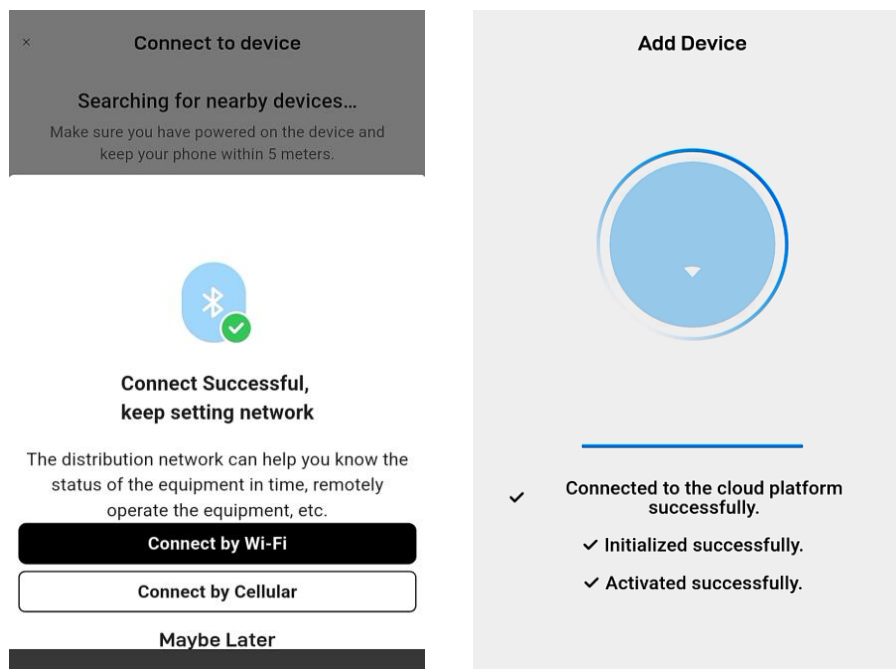


1. Tap Add Device.
2. Scroll down and select the Rough-Ranger device model.



3. Follow the on-screen instructions to turn on the mower using the Power Switch.
4. The mower's Serial Number (SN) will appear in the list of detected devices.
5. Select the correct SN to establish a connection with the mower.

4.3 Network Configuration



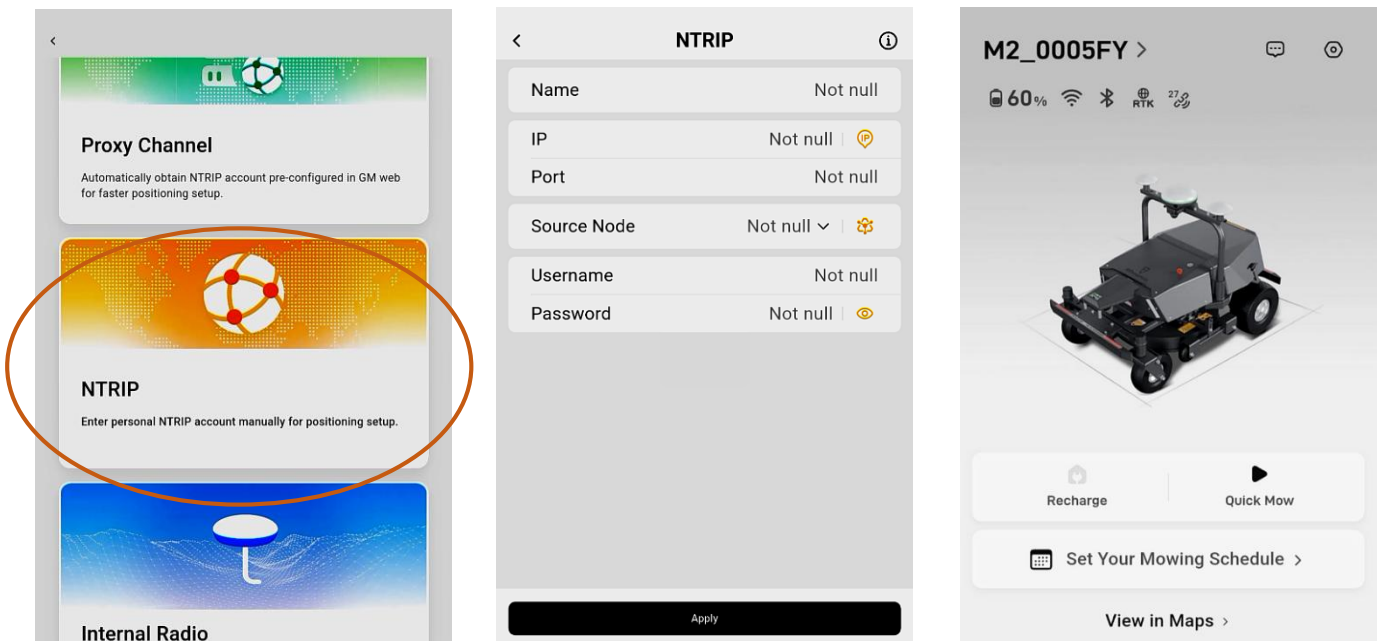
6. Ensure that Bluetooth is enabled on the tablet, then pair the tablet with the mower via Bluetooth.
7. The system will prompt you to select a network connection method for the mower. Choose the appropriate option based on your operating environment.



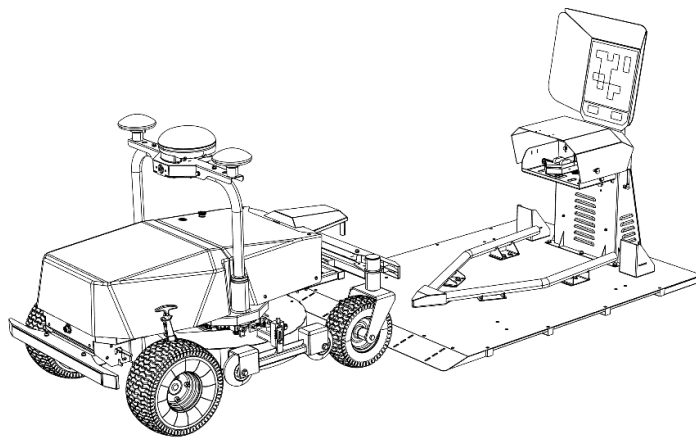
Cellular Network (SIM Card): Select this option if a SIM card is installed in the mower and you want to connect to the Internet using the cellular network.

Wi-Fi Connection: Select this option if the mower is within Wi-Fi coverage and you want to connect it to a home or corporate wireless network.

Configure the Positioning Signal Source: If you are using an NTRIP account, enter the required connection information and tap Connect. Refer to the illustration below for the configuration procedure.



5 Docking and Charging Verification



1. Use the remote control to drive the mower to the front of the charging station.
2. Position the mower so that it is aligned parallel to the charging station.
3. Tap the One-Touch Docking icon on the tablet to initiate automatic docking and charging.