This user manual explains all of the features of the ST UNLOCKER mobile. This manual is provided as a reference for the operation of the app. Please be sure to read through this entire manual completely in order to fully understand the app's functions and capabilities.
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**NOTE:** The app screenshots shown in this manual are taken from different devices and are meant as examples only; your device version may look slightly different from what is shown.
READ THIS FIRST! (WARNING BEFORE USAGE)

ANY ELECTRIC BIKE MODIFICATION AND/OR TUNING IS DONE AT YOUR OWN RISK!

IF YOU ARE WORRIED ABOUT POSSIBLY VOIDING YOUR WARRANTY, DO NOT USE THIS APP. JUST STICK TO THE FACTORY APP.

THE USAGE OF ST UNLOCKER MAY VOID THE MANUFACTURER’S WARRANTY OF YOUR ELECTRIC BIKE AND/OR CAUSE IREVERSIBLE OR PERMANENT DAMAGE TO YOUR E-BIKE, DRIVE UNIT (MOTOR), BATTERY, AND RELATED COMPONENTS. THERE ARE NO GUARANTEES ATTACHED TO THE USAGE OF THE ST UNLOCKER APP.

NO LIABILITY IS ASSUMED FOR ANY PAST, PRESENT, OR FUTURE DAMAGES TO EQUIPMENT, PROPERTY, OBJECTS AND/OR PERSONS CAUSED BY THE USAGE AND/OR MODIFICATIONS MADE USING THE ST UNLOCKER APP.

ANY ELECTRIC BIKES MODIFIED USING THE ST UNLOCKER APP MAY ONLY BE LEGALLY USED ON PRIVATE, ENCLOSED AREAS OR DESIGNATED ROUTES. BE AWARE OF YOUR LOCAL LAWS. MODIFIED ELECTRIC BICYCLES ARE NOT ALLOWED ON PUBLIC ROADS AND ANY OTHER AREAS WHERE TRAFFIC LAWS APPLY.

ALLWAYS FOLLOW THE LEGAL REGULATIONS IN YOUR AREA. YOU ARE RESPONSIBLE FOR HOW, WHEN, AND WHERE YOU USE YOUR E-BIKE.

RIDE SAFELY, AND ALWAYS USE A CERTIFIED BICYCLE HELMET.
DRIVE UNIT / MOBILE DEVICE COMPATIBILITY

The following shows the settings and adjustments available through the ST UNLOCKER app for Android based on your E-Bike’s drive unit (motor) and system firmware version:

DRIVE UNIT AND FIRMWARE VERSIONS

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* E5000/E6100 settings MAY reset back to default when powered off.
** Only when equipped with the SC-E8000 display unit or EW-EN100 Junction.

MOBILE DEVICE COMPATIBILITY (TUNING INTERFACE)

The ST UNLOCKER app is compatible with most Android devices that have Bluetooth and Android version 5.0 or newer installed.
CONNECTING TO YOUR E-BIKE
Follow the steps below to connect the ST UNLOCKER app to your E-Bike. Make sure you have Bluetooth turned ON in your mobile device, then go ahead and open the ST UNLOCKER app.

STEP 1
First turn your E-Bike on, then immediately tap on the [CONNECT] button.

(If you’re having trouble connecting to your E-Bike, see the FAQ / TROUBLESHOOTING page for suggestions.)

STEP 2
If this is the first time using the app, you will see the Information pop-up. Follow the instructions to initiate the connection. Tap [OK] or [DON’T SHOW AGAIN] to go back to the connect screen.

STEP 3
Tap [CONNECT] again and after a moment, the Bluetooth name of your E-Bike should show up in the ST UNLOCKER app. Tap on your E-Bike ‘s name to connect.

At this point the ST UNLOCKER app will gather and collect your E-Bike’s settings and information. Keep your mobile device awake and within range of your E-Bike and allow the app to finish collecting information.
E-BIKE’S INFO

After the ST UNLOCKER app has successfully gathered your E-Bike’s settings and information, you will be taken to the E-BIKE’S INFO screen. The top half of this info screen will show your E-Bike specifications and the following information at a glance:

- **Motor Model**
  Shows the type of motor and display unit equipped on your E-Bike.

- **Firmware Version**
  Shows the current firmware of your motor and display unit.

- **Serial Number**
  This is your E-Bike system serial number.

- **Total Distance**
  This is the total distance travelled by your E-Bike’s motor (odometer).

- **Battery State**
  This is the current charge level of your E-Bike’s battery.

- **Battery Health**
  This shows your relative battery health and the total number of charge cycles.

- **Gears (Type, Front/Rear)**
  This shows specified rear mech type, highest mechanical gear ratio, and drive unit mounting angle.

- **Light Status and Reserve Time**
  Allows you to set a reserve time for optional LED lighting powered by your E-Bike’s optional light circuit.

*Other settings shown (Market, Circumference, Assist Settings, Speed Correction, etc.) will be covered in more detail later in this manual.

The bottom half of the info screen shows tuning settings. To start tuning your E-Bike, tap on the menu icon at the top-left of the info screen to get to the MAIN MENU.
STANDARD FEATURES - MAIN MENU (Unlicensed Version)
If you have an unlicensed version, the MAIN MENU of the ST UNLOCKER app will have the standard options described below*.

- **Disconnect from E-Bike**
  Tap and confirm to close the Bluetooth connection between the app and E-Bike.

- **E-Bike’s Info**
  Takes you back to the E-Bike Info screen.

- **Presets (see section I)**
  Allows you to save the current settings or recall your custom setting presets.

- **Assist Settings (see section II)**
  This is where you can adjust your motor’s assist, torque, and maximum power.

- **Gears Settings (see section III)**
  This is where you can specify your rear mech type and highest gear ratio.

- **Light Settings (see section IV)**
  Allows you to set a reserve time for optional LED lighting.

- **Speedometer Calibration (See section V)**
  Allows you to calibrate the speedometer.

- **Standard App Settings**
  Application-specific settings.

*The availability and functionality of the tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the DRIVE UNIT / MOBILE DEVICE COMPATIBILITY section for more information.*
I. PRESETS – OVERVIEW
In this section you can select, create, save, and recall system presets for your E-Bike. To get started, the easiest way is to begin with the default (built-in) preset examples.

- **How-To Load Default Presets**
  To load the built-in preset examples, tap on the Presets sub-menu (the three dots on the upper-right corner of the screen).

- **Select and Apply a Preset**
  To select a preset, simply tap the preset, then tap [OK] to confirm.

- **Delete a Preset**
  To delete a preset, tap and hold the preset, then tap [DELETE] in the window that pops up.

- **Apply a Preset**
  To apply a preset (load the preset into your E-Bike), tap the desired preset. The app will show you the preset’s assist settings and ask you to confirm – tap on [OK] to load the presets to your E-Bike.

*TIP: After you are done tuning and you’ve exited the ST UNLOCKER app, don’t forget to power cycle (turn off, then on) your E-Bike before use.*
**PRESETS - SAVE A CUSTOM PRESET**

You can save your own customized presets into the app for later use. To save your custom presets, you must do the following steps:

**STEP 1**
Before saving a custom preset, first use the **ST UNLOCKER** app and adjust your E-Bike settings to your liking.

**STEP 2**
Go to the **PRESETS** screen and tap the empty circle with the + symbol.

**STEP 3**
A window will pop up allowing you to specify a name for your preset, and you can specify which settings to save in the preset. When you are happy with the preset, tap on [OK] to save your custom preset.

You should now be able to see your newly made custom preset on the **PRESETS** screen.
II. ASSIST SETTINGS

This is where you can adjust your motor assist, torque, and maximum power settings for each of the three drive modes (ECO, TRAIL, and BOOST).

- **Assist (by Percentage)**
  This parameter adjusts how much additional assist your E-Bike motor will provide, relative to your pedaling input. For example, setting this to 60% means your E-Bike’s motor will add an additional 60% of your input as electric assist (up to maximum torque setting, below).

- **Max Torque (in Nm)**
  This parameter adjusts the maximum amount of torque your E-Bike will produce during electric assist, regardless of your pedaling input.

- **Power (Maximum, in Watts)***
  This parameter limits the maximum amount of total power your E-Bike will produce during assist. A higher setting means more total power.

*The “Power” adjustment can be disabled in the “App Settings” page to prevent the user from forcing the E-Bike to exceed the system’s safe rated output.

Use the controls to modify each parameter for each drive mode, then when you’re finished tap [UPDATE] to transfer the settings to your E-Bike. If you want to go back to factory settings, simply tap the [DEFAULT] button for each mode, then tap [UPDATE] to adjust your drive modes back to the OEM default parameters.

*TIP: After you are done tuning and you’ve exited the ST UNLOCKER app, don’t forget to power cycle (turn off, then on) your E-Bike before use.*
III. GEARS SETTINGS
This is where you can specify or adjust the gearing on your E-Bike to modify system calibration and accurate system readings.

- **Type**
  Select **MECHANICAL** if you have a mechanical rear derailleur or **ELECTRICAL** if you have the electrical shifting system on your E-Bike.

- **Chainrings – Front***
  Set this parameter to the tooth size of your LARGEST front chainring.

- **Chainrings – Rear***
  Set this parameter to the tooth size of your SMALLEST rear cassette cog.

*The “Chainrings” adjustments can be disabled in the APP SETTINGS page to prevent the user from modifying the chainring sizing of the E-Bike.

Use the controls to modify each parameter for your gear setup, then when you’re finished tap [UPDATE] to transfer the settings to your E-Bike.
IV. LIGHT SETTINGS

If you have an optional LED light connected to your drive unit’s light circuit, here you can set a specific calculated time for your LED lights that will be reserved by the system.

- **Status**
  Toggles the reserved preset on/off.

- **Reserved Time**
  Set this parameter to the amount of time to reserve for operation of your LED lights (in minutes).

Use the arrows to modify each gear parameter, then when you’re finished tap [UPDATE] to save the settings to your E-Bike.
V. SPEEDOMETER CALIBRATION

In **CIRCUMFERENCE SETTINGS** this is where you can calibrate the speedometer for more accurate speed readings. This does not alter the drive unit’s actual top speed; it only affects the speed shown on the display unit.

- **Speed Correction (Percentage)**
  You can adjust this to calibrate the speed shown on your display unit; the percentage represents the system’s speed/odometer internal multiplier from -5% to +5%.

*NOTE: The Speed Correction setting is only available with firmware 4.7.x (E-8000) or 4.4.x (E-7000) and up.

If you make any changes above, don’t forget to tap [UPDATE] to save the changes.

*The availability and functionality of the premium tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the DRIVE UNIT / MOBILE DEVICE COMPATIBILITY section for more information.*

*TIP: After you are done tuning and you’ve exited the ST UNLOCKER app, don’t forget to power cycle (turn off, then on) your E-Bike before use.*
STANDARD APP SETTINGS
Here you can adjust other miscellaneous application settings, as described below.

- **Language**
  Select your desired language.

- **Auto Connect to E-bike**
  When checked, just press the CONNECT button when you first start the app, and the app will connect to your E-bike automatically as soon as the E-bike is powered on.

- **Allow to change Assist Power**
  Enables or disables the “Power” adjustment slider on the ASSIST SETTINGS page.

- **Show Info message before connecting**
  Enables or disables the “How to Connect” pop-up information message.

- **Bluetooth Access PIN**
  If you are using a custom Bluetooth access PIN code to connect to your E-Bike, enter the Bluetooth access PIN here.

- **Use Default PIN**
  Check to force the app to use the default Bluetooth access PIN code (000000)

If you make any changes above, don’t forget to tap [APPLY] to save the changes.
SEND A LICENSE REQUEST
To unlock more tuning options for your E-Bike you can request a license.

The Premium license costs $33 USD (~ 30 EURO) excluding VAT.

A licensed app will unlock premium tuning options and other features*:

- Market Settings
- Drive Unit Mounting Angle
- Wheel Circumference
- Top Speed Adjustment
- Black Box Data
- Auto Presets
- Home Screen Preset Widgets

HOW-TO: REQUEST A LICENSE

1. Go to the Main Menu and tap “Send A License Request.”

2. Your mobile device will open the built-in Mail app and pre-fill your E-Bike information in the Message field.

3. Simply tap Send to send the email request. Shortly you should receive a reply with a payment request.

*The availability and functionality of the premium tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the DRIVE UNIT / MOBILE DEVICE COMPATIBILITY section for more information.
PREMIUM FEATURES: MAIN MENU (Licensed Version)
If you have upgraded to the licensed version, the MAIN MENU of the ST UNLOCKER app will have additional tuning options*.

- **Market Settings (See section VI)**
  Allows you to set the assist maximum speed limit cut-off based on the drive unit’s market destination.

- **Drive Unit Angle (See section VII)**
  Allows you to adjust the mounting angle parameter of your drive unit.

- **Wheel Circumference (See section VIII)**
  Specify your wheel circumference for accurate speedometer calibration.

- **Top Speed Adjustment (See section IX)**
  Allows you to raise the motor assist speed limit cut-off point (also known as “derestricting”).

- **Black Box (See section X)**
  View system internal recorded data.

- **Auto Presets (See section XI)**
  Select the presets that will be loaded to your E-Bike automatically when using the ST UNLOCKER app widgets.

- **Home Screen Preset Widgets (See section XII)**
  Add AUTO PRESET shortcut widgets to your home screen for quick activation without having to open the ST UNLOCKER app.

*The availability and functionality of the premium tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the DRIVE UNIT / MOBILE DEVICE COMPATIBILITY section for more information.
VI. PREMIUM FEATURE: MARKET SETTINGS

This is where you can select your motor’s “market setting” to specify the maximum speed limit cut-off for your E-Bike’s assist.

- **Europe (25 km/h limit)**
  Select this to restrict your E-Bike assist to 25 km/h (15.5 mph) max.

- **United States (32 km/h limit)**
  Select this to restrict your E-Bike assist to 32 km/h (19.9 mph) max.

- **Japan (25 km/h limit)**
  Select this to restrict your E-Bike assist to 25 km/h (15.5 mph) max.

- **Taiwan (25 km/h limit)**
  Select this to restrict your E-Bike assist to 25 km/h (15.5 mph) max.

- **Korea (25 km/h limit)**
  Select this to restrict your E-Bike assist to 25 km/h (15.5 mph) max.

If you make any changes above, don’t forget to tap [UPDATE] to save the changes.

*The availability and functionality of the premium tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the DRIVE UNIT / MOBILE DEVICE COMPATIBILITY section for more information.*

*TIP: After you are done tuning and you’ve exited the ST UNLOCKER app, don’t forget to power cycle (turn off, then on) your E-Bike before use.*
VII. PREMIUM FEATURE: DRIVE UNIT ANGLE
As an added premium feature to the GEARs section, this is where you can adjust the parameter of your E-Bike’s drive unit mounting angle; this parameter can increase the WALK speed on certain model E-Bikes.

- **Other settings (Mount Angle)**
  Use this to adjust the mounting angle parameter of your drive unit; altering the mounting angle may increase the top speed of WALK MODE when activated.

If you make any changes above, don’t forget to tap [UPDATE] to save the changes.

*The availability and functionality of the premium tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the DRIVE UNIT / MOBILE DEVICE COMPATIBILITY section for more information.

**TIP:** After you are done tuning and you’ve exited the ST UNLOCKER app, don’t forget to power cycle (turn off, then on) your E-Bike before use.
VIII. PREMIUM FEATURE: WHEEL CIRCUMFERENCE
As an added premium feature to the CIRCUMFERENCE section, this is where you can select and/or calibrate your E-Bike’s wheel size specification for accurate speedometer readings.

- **Circumference Presets**
  Select 29”, 27.5”, 26”, or 700c to match the actual wheel size of your E-Bike.

- **Circumference (Custom)**
  If you select “Custom”, use the left/right arrow heads to set your actual tire circumference as measured in millimeters.

If you make any changes above, don’t forget to tap [UPDATE] to save the changes.

*The availability and functionality of the premium tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the DRIVE UNIT / MOBILE DEVICE COMPATIBILITY section for more information.*
IX. PREMIUM FEATURE: TOP SPEED ADJUSTMENT

This is where you can raise or lower the motor assist speed limit cut-off point (also known as “derestricting”) for each of the three drive modes (ECO, TRAIL, and BOOST).

- **Speed Settings**
  When you set a speed, your E-Bike’s motor will continue to provide assist until you reach this speed. Raising the speed means you’ll have more assist beyond the OEM speed limit.

  ![Speed Settings](image)

  Use the arrow heads to modify each parameter for each drive mode, then when you’re finished tap [UPDATE] to transfer the settings to your E-Bike.

*NOTE: This setting is only available for E-bikes that are equipped with the DU-E8000 drive unit with firmware 4.3.2 and the SC-E8000 display unit only.

*The availability and functionality of the premium tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the DRIVE UNIT / MOBILE DEVICE COMPATIBILITY section for more information.

TIP: After you are done tuning and you’ve exited the ST UNLOCKER app, don’t forget to power cycle (turn off, then on) your E-Bike before use.
X. PREMIUM FEATURE: BLACK BOX DATA

This is where you can view internal data recorded by the drive unit, plus various other information. To load the data, you must first tap on [READ] to export the data from the system and into the ST UNLOCKER app.

- **Time of Use**
  Time of usage since last reset.

- **Distance**
  Distanced travelled since last reset.

- **Total Distance**
  Total distance travelled by the system (odometer); **NOT RESETTABLE**.

- **Avg. Speed**
  Average speed since last reset

- **Max Speed**
  Maximum speed reached by the system; **NOT RESETTABLE**.

*The availability and functionality of the premium tuning options above are dependent on the firmware installed in your motor; to see what firmware versions are compatible, please see the DRIVE UNIT / MOBILE DEVICE COMPATIBILITY section for more information.*
XI. PREMIUM FEATURE: AUTO PRESETS (Configuration)

As an added premium feature to the APP SETTINGS section, this feature allows you to select two Presets (see the PRESETS section) that will automatically be loaded into your E-Bike when used in conjunction with the ST UNLOCKER app home screen Icon.

- **Preset for Widget/Shortcut**
  Here you can select one of your PRESETS to become the WIDGET PRESET; leave this setting at “None” to disable this feature.

- **Preset for the bike restriction (Panic)**
  Here you can select one of your PRESETS to become the PANIC PRESET; leave this setting at “None” to disable this feature.

Once you set your Auto Presets, you can activate them automatically from your mobile device’s home screen through the ST UNLOCKER app icon. Simply press and hold the icon and a small menu will pop up:

- **Panic (Restrict)**
  Example: Use when you want to quickly configure your E-Bike back to standard (stock) settings.

- **With Preset**
  Ideally used with E5000 and E6100 systems where the system may sometimes reset all parameters with each E-Bike restart.

- **Connect**
  Quick-connects the ST UNLOCKER app to your E-Bike without applying a Preset.
XII. PREMIUM FEATURE: HOME SCREEN PRESET WIDGETS
This feature allows you to have standard home screen widgets that automatically activate your AUTO PRESETS with a single tap.

1. Add A New Widget
Press and hold on any homescreen on your Android mobile device.

2. Select the ST UNLOCKER Widget under the ‘Add to Home’ menu.

3. Choose a Widget Size
The ST UNLOCKER app features two types of widgets: a small, standard looking shortcut icon (non-resizable) and a larger, re-sizeable widget icon that can be resized up to full screen.

You will now have one-tap access to your AUTO PRESETS you configured, without having to open the ST UNLOCKER app.
**FAQ / TROUBLESHOOTING**

**First time connecting to your E-Bike?**
Before you attempt to use the ST UNLOCKER app, you must first already establish a Bluetooth Low-Energy (BLE) paired connection between the “E-T*be” app (on your mobile device) and your E-Bike. To do this, go to the App Store on your device and download the “E-T*be” app. Launch the “E-T*be” app and follow the directions to pair the to your E-Bike. Once you have successfully paired your device, you do not have to do it again. You can close the “E-T*be” app and begin using the ST UNLOCKER app.

**I’m having trouble connecting ST UNLOCKER to my E-Bike?**
If you can connect with the “E-T*be” app (see above) but you’re having trouble connecting with ST UNLOCKER, try the following, in order:

1. Turn your E-Bike off and completely close ALL device apps
2. Restart ST UNLOCKER app first.
3. Turn your E-Bike on, then tap “Connect” in the ST UNLOCKER app.

**I can connect, but then the ST UNLOCKER app loses the initial connection to my E-Bike?**
If it looks like you made a successful initial connection but then the app gets disconnected, this means that the PIN code in the ST UNLOCKER app’s APP SETTINGS page does not match the PIN code set in your E-Bike. Go to the APP SETTINGS page, enter correct PIN, then try again.

**I’m pretty sure my PIN is correct; how can I check this to be sure?**
If you believe that the PIN code you know is correct and original “E-T*be” App works fine with your bike - try uninstalling the “E-T*be” app, then reinstall it from the app store. The first time you open the “E-T*be” app it will ask you for your E-Bike’s PIN. Enter the PIN you know and see if it connects; if it doesn’t, then you have the wrong PIN code. **If you forgot your PIN code you can reset it with Factory Windows app with the PCE interface, or go to your local E-Bike dealer and have them reset the PIN code for you.**

**I tried all of the above, I still can’t connect to my E-Bike?**
If you still can’t connect, go to your mobile device’s BLUETOOTH settings and if you see your E-Bike listed, unpair it first, then restart the ST UNLOCKER app and try again.

**I tried using this app with my E-Bike, and nothing seems to be happening?**
We have tested the app extensively on numerous bikes, firmware versions, mobile devices, and configurations listed in this manual with success. Many customers have also had success. However obviously we cannot test EVERY system available. That said, there are no guarantees that the app will be compatible with your specific E-Bike/system/firmware.

If you have tried all the other suggestions above and you still can’t connect, try updating the firmware to the current version using the factory “E-T*be app.”
What is the default Bluetooth passkey for my E-Bike?
The default Bluetooth passkey is “000000”.

Is the app compatible with the EW-EN100 Junction?
Yes.

What happens to my ST UNLOCKER settings if I use the E-Bike’s factory app?
If you connect to your E-Bike using the E-Bike’s factory app and make any changes, this will override any changes you made using ST UNLOCKER back to the factory default ranges, including maximum assist, torque, and any speed limit modifications. Thus, to take advantage of all the capabilities of ST UNLOCKER, we suggest that you do not use the E-Bike’s factory app concurrently and just use the ST UNLOCKER app for all tuning.

My display unit showing the wrong speed, how do I fix this?
First, make sure you selected the correct wheel diameter for your E-Bike in the CIRCUMFERENCE SETTINGS area – you can use the presets, or measure your wheel to get the exact diameter. Next, determine which direction to make adjustments: if your display is showing slower than your actual speed, reduce the wheel diameter. If your display is showing faster than your actual speed, increase the wheel diameter. NOTE: If you’re using firmware 4.7.x (E-8000) or 4.4.x and up (E-7000) you can keep your wheel circumference the same, and just adjust the speed displayed in +/-5% increments with the SPEED CORRECTION setting.

Can I use this app to downgrade my firmware?
No, the ST UNLOCKER app does not downgrade firmware. You only need the E-T*be app and earlier firmware files to downgrade.

Can you tell me where to download earlier firmware or send me the files?
No, because we don’t want to be blamed if you try to install it but fail and brick your e-Bike.

HELP! I tried to downgrade my firmware, but now my E-Bike isn’t working!
Sorry to hear that. Please read page 3.

If I have to get my bike serviced under warranty, will they know/can they find out if I’ve used an app to modify my E-Bike?
It’s possible. It depends. If you’re afraid you might void your warranty coverage if something goes wrong with your E-Bike and you have to take it to a service center, then simply don’t use the ST UNLOCKER app – stick to the factory E-T*be app instead.

Can you guarantee that I won’t mess anything up using this app?
Of course not! Just because the ST UNLOCKER app can modify your E-Bike system do these extra things, it doesn’t mean that everyone who uses it will have 100% trouble-free success. We don’t know how you will use the app, so we don’t know if you’ll use it right or be stupid and try to force your E-Bike to do things it shouldn’t do. The ST UNLOCKER app is just a tool; what you do with the tool and how you use it is your responsibility.
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