



Nomad Lock-Up Kit User Guide



Please read through all of the instructions carefully before proceeding. If any of the information does not appear correct or the diagrams don't match your vehicle, please contact Wholesale Automatic Transmissions on +61 3 9762 8004.

1. Application Install and Setup

- 1.1. The free Nomad LockUp application is available to install on IOS devices (iPhone/iPads) via the Apple App Store or Android (phones and tablets) via the google Play store.



- 1.2. Open your appropriate application store and search for “Nomad Lockup”

< Search



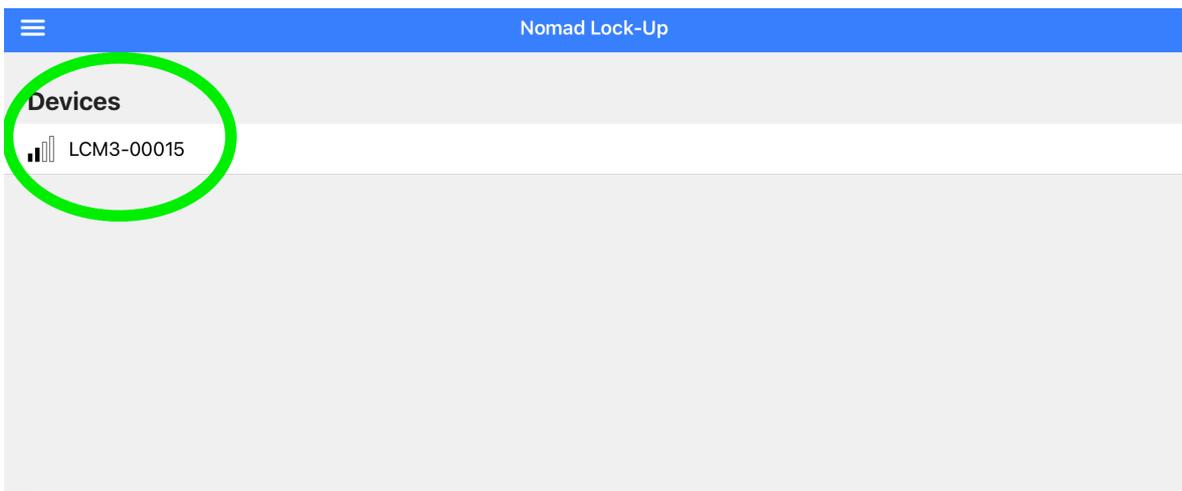
Nomad LockUp

Fully Automated Lock-Up Kit

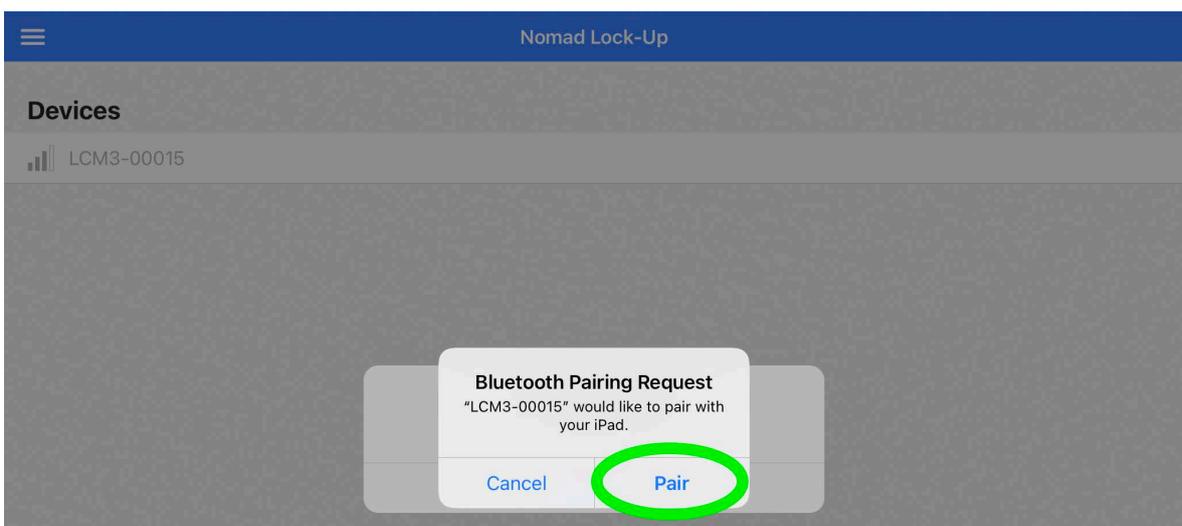
- 1.3. Download and Install the application.

- 1.4. Turn your vehicle's ignition on, but do not start the engine.
- 1.5. Open the Nomad LockUp Application
- 1.6. Select your Lock-Up Controller from the list. The device name can be found under the barcode on the rear of your Nomad Lock-Up Controller. Unless you are in range of multiple controllers yours will be the only controller in the list.

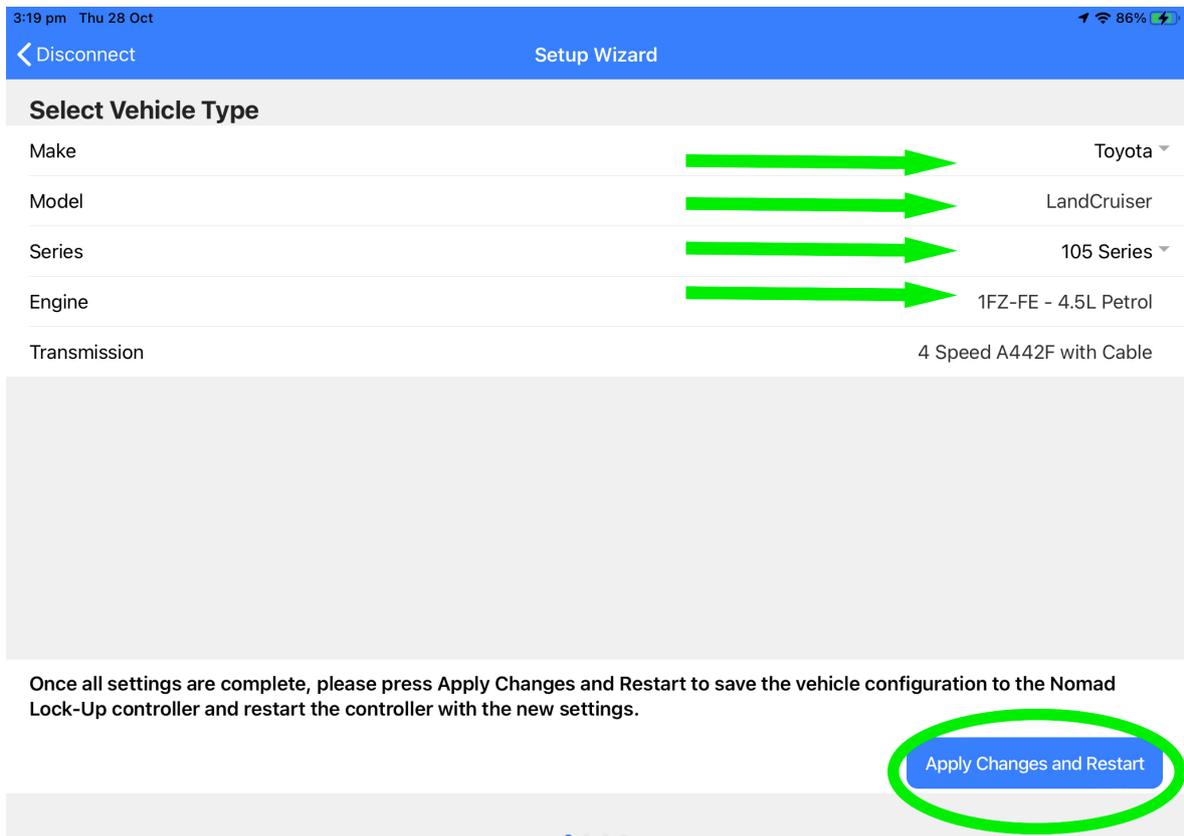
Click on the name to continue.



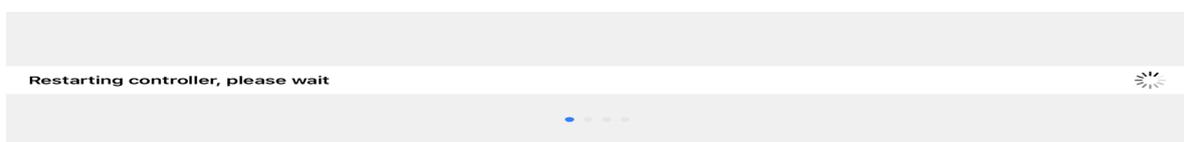
- 1.7. If this is the first time you have connected to the controller you will be prompted to pair your device. Click to Pair.



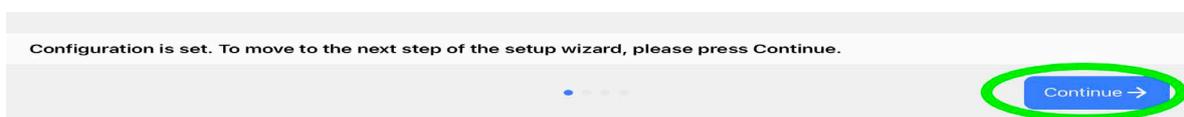
- 1.8. Select your vehicle's make, model and series. Depending on your vehicle, some information will be automatically filled. Select "Apply Changes and Restart" to continue.



- 1.9. Wait while the Nomad LockUp Controller restarts

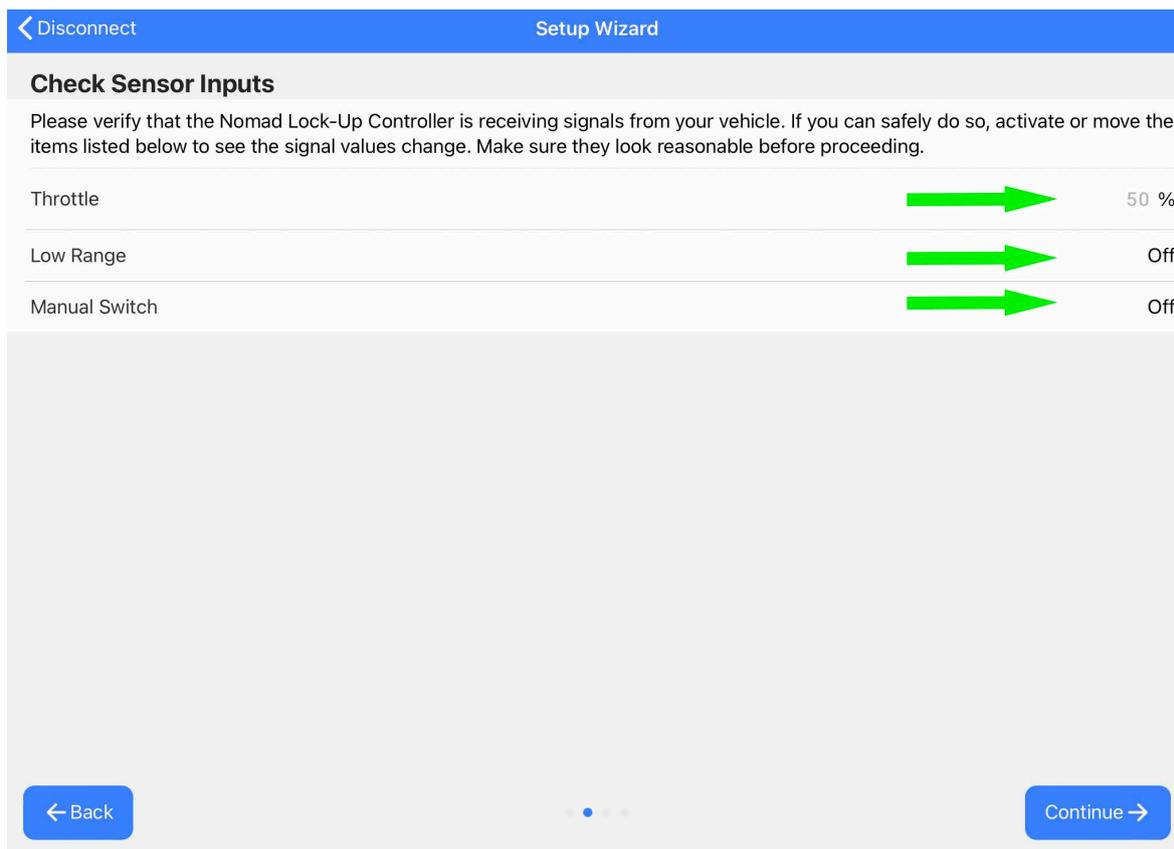


- 1.10. Then select "Continue"



Ensure the Ignition is ON but the engine is NOT RUNNING before proceeding

1.11. Verify the Nomad Lockup Controller is receiving input signals



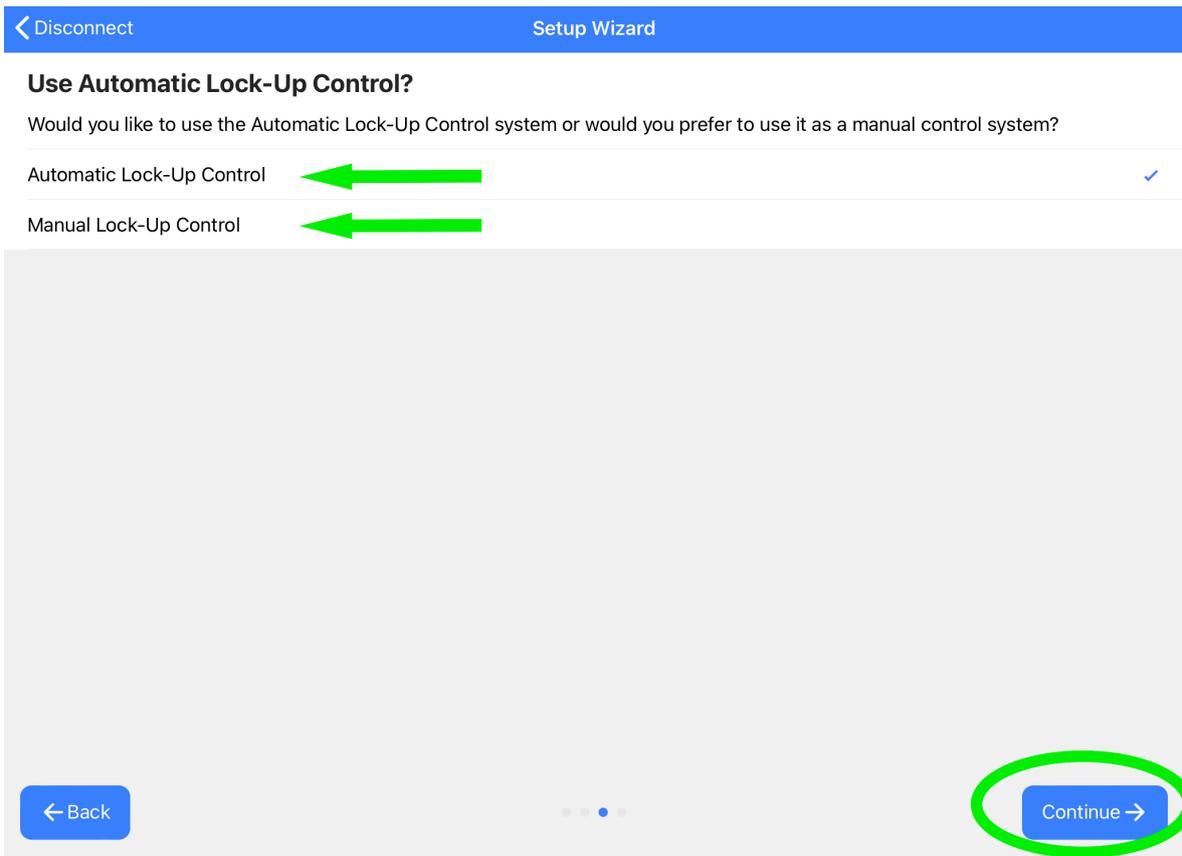
Press down on the Accelerator and the Throttle value should increase and decrease according to the percentage of pedal movement

Engage Low Range and the value should change from “Off” to “On”

Toggle the TCC switch and the Manual Switch value will change from “Off” to “On”

Select “Continue” to proceed to the next step

1.12. On the next screen, indicate if you intend to the Nomad LockUp Controller to operate in Automatic or Manual Mode

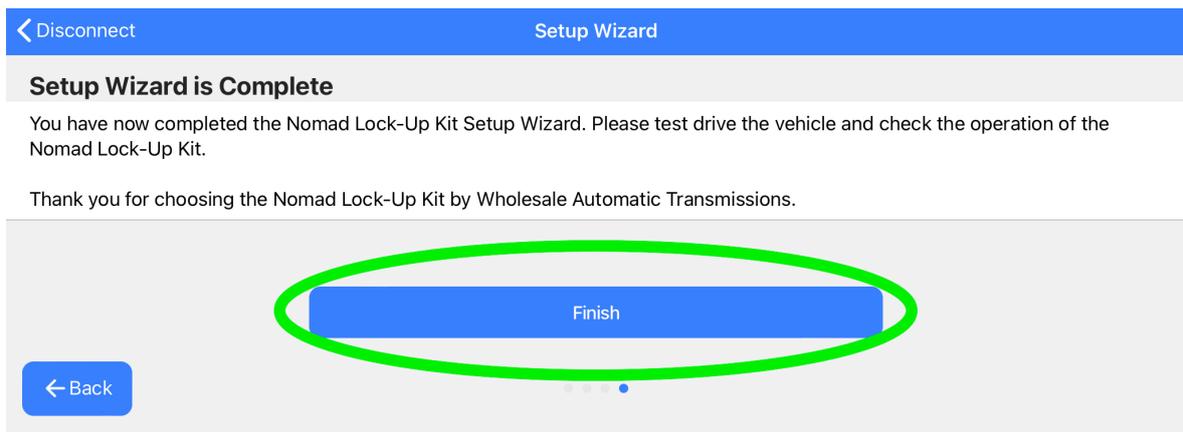


Automatic mode - The torque converter lock-up will automatically engage and disengage at predetermined speeds. These speeds can be modified at anytime to suit your driving style. In Low Range the lock-up is still controlled manually via the switch. **This is the recommended setting for most people.**

Manual mode - You decide when the lock-up is engaged by toggling lock-up on and off via the manual switch.

Select "Continue" to proceed to the next step

1.13. Select "Finish" to complete the Setup Wizard

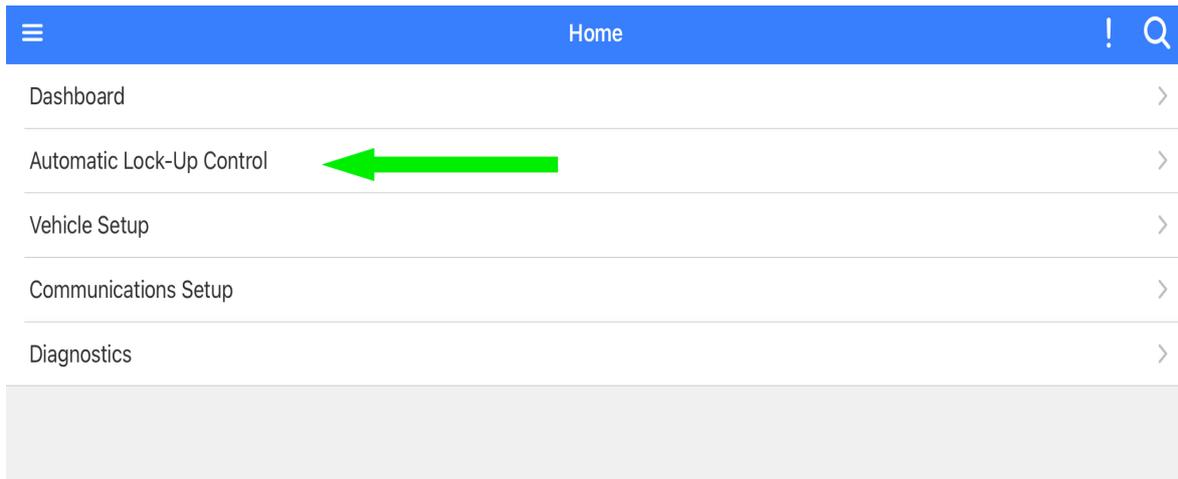


- 1.14. This completes the setup of the Nomad LockUp Controller. Continue to the next section to fine tune when the automatic lockup will engage and disengage to suit your driving style.

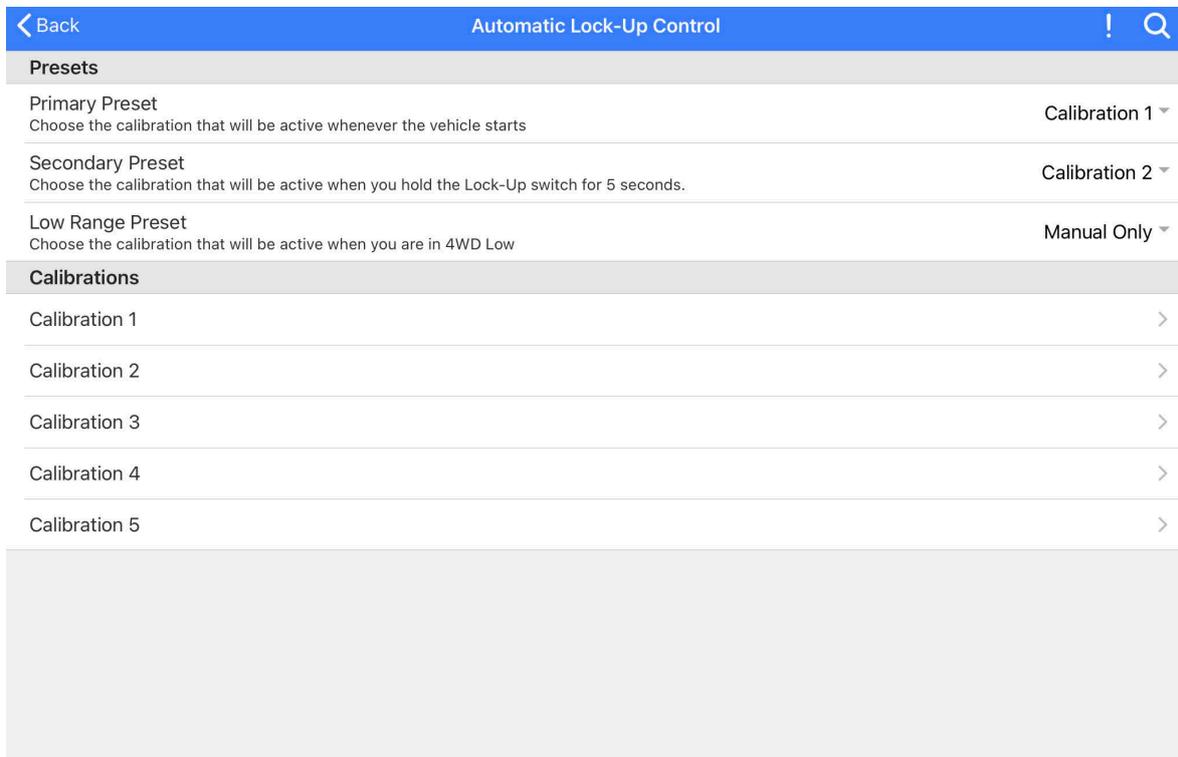
2. Fine Tune Automatic Lock-up engagement

2.1. Presets and Calibrations

2.2. From the Main Menu, select “Automatic Lock-Up Control”



2.3. Presets



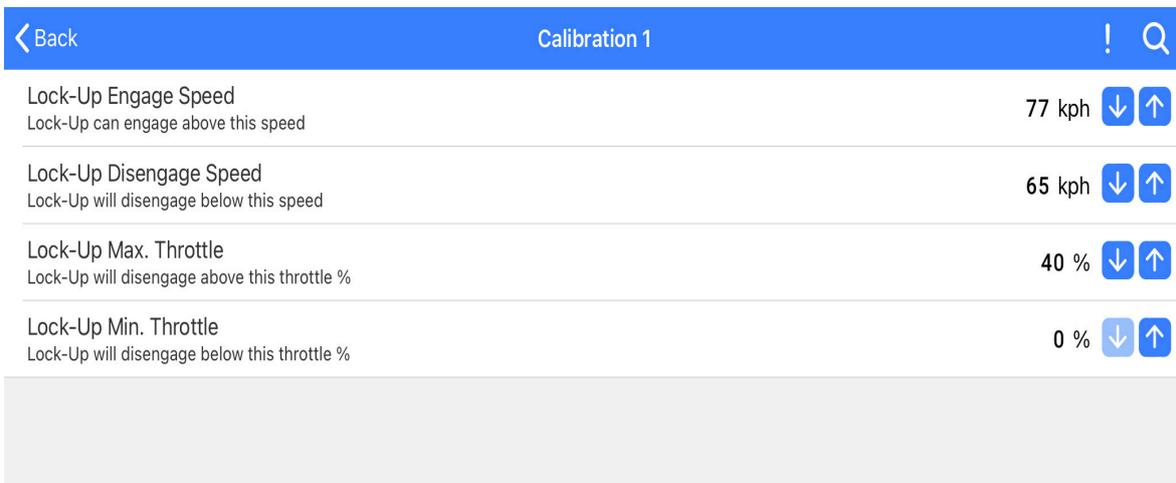
Primary Preset - this is the default calibration the Nomad Lockup will use to determine when to automatically engage and disengage the torque converter lockup. This preset will be enabled whenever the car is started or when shifting from Low Range back into High Range or 2WD

Secondary Preset - This is your alternate calibration that can be engaged on an as needs bases to suit differing driving conditions (ie: sand or snow). Toggle the second preset by pressing and holding the switch for 5 seconds. You do not need to configure a second preset if you feel it is not required.

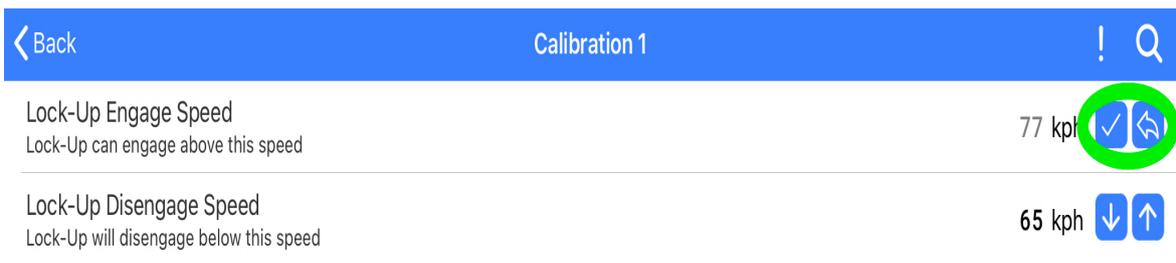
Low Range Preset - is engaged when you shift the vehicle into Low Range. The default and recommended setting is “Manual Only” disabling the automatic lock-up function. Lock-up can still be engaged in Low Range by pressing the switch

2.3.1 Your Nomad Lock-Up Controller comes with 5 predetermined calibrations that you can choose from to apply to the Primary, Secondary and Low Range presets.

Click on a Calibration to modify its properties, click the up and down arrows to set the values.



You can also type a value in here, but ensure you select the “tick” to save the setting.



Lock-Up Engage Speed - Set the speed that the controller will automatically engage the torque converter lockup.

Lock-Up Disengage Speed - Set the speed that the controller will automatically disengage the torque converter lockup.

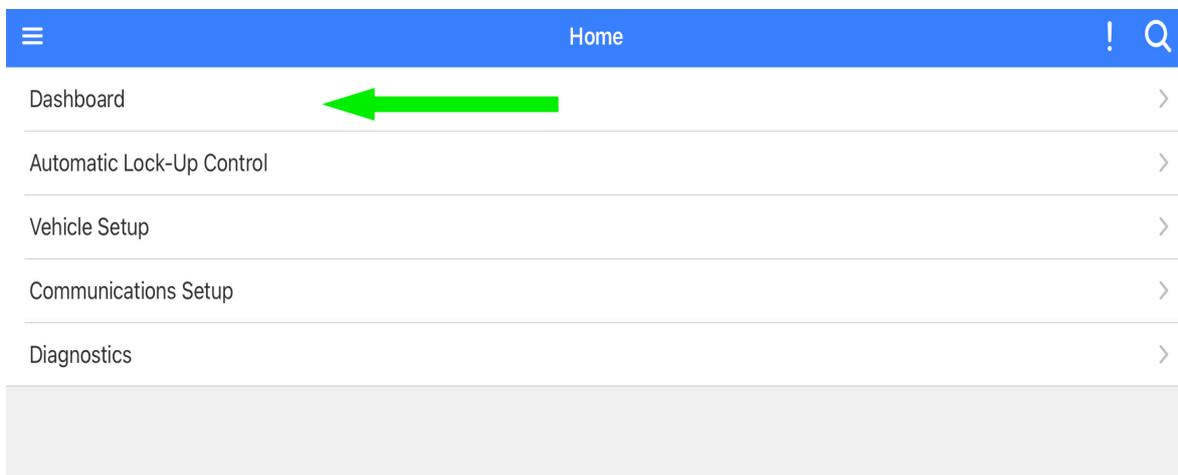
Lock-Up Max. Throttle - percentage of acceleration above which the torque converter lock-up will dis-engage

Lock-Up Min. Throttle - percentage of acceleration below which the torque converter lock-up will dis-engage

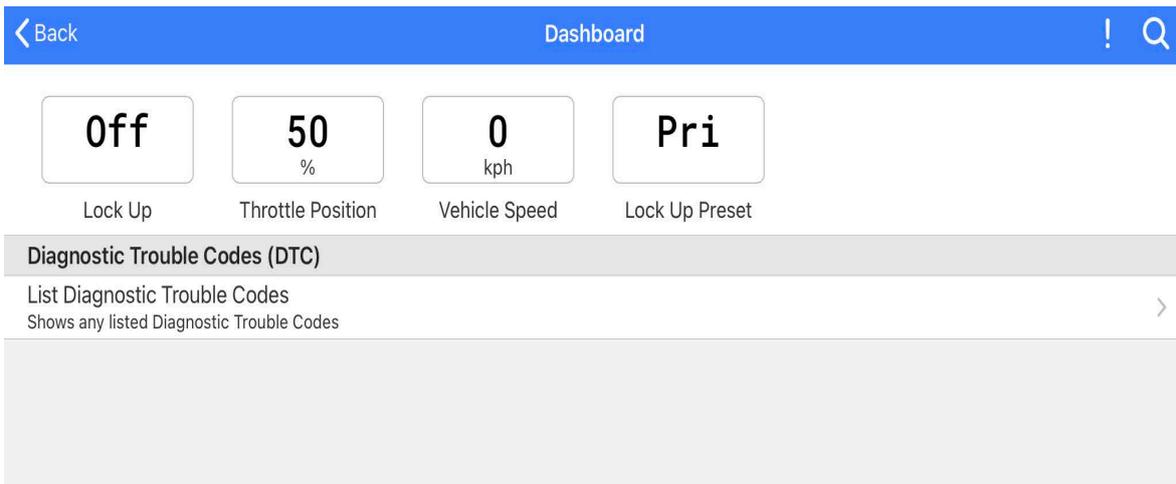
It is good practice to make changes to a calibration that is not currently in use so you can always revert to your original settings if required.

3. Dashboard

3.1. Select Dashboard from the min menu



3.2. The Dashboard provides real-time information so you can understand the behavior of the Nomad lock-up controller or to assist with diagnosing any issues that may occur.



Lock Up - On/Off - current state of the torque converter lockup

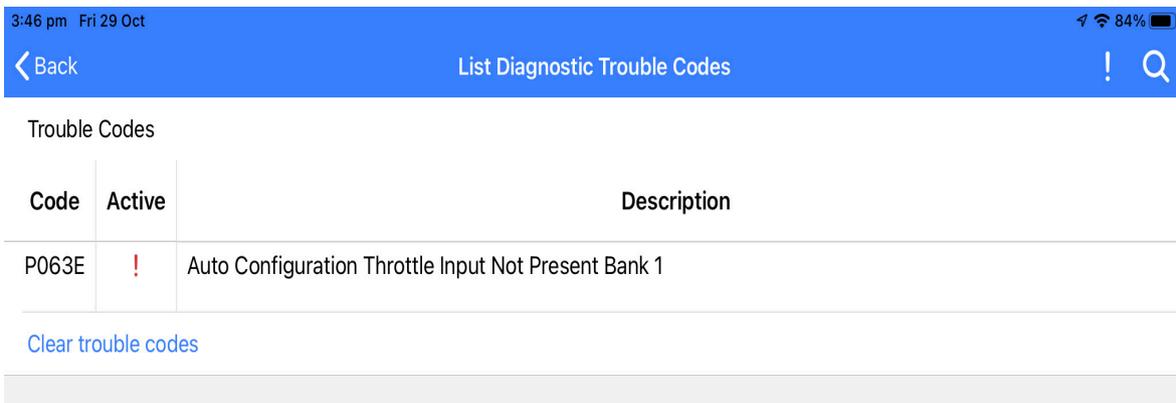
Throttle Position - percentage representing how much pressure is applied to the accelerator pedal

Vehicle Speed - current speed according to the Nomad Lock-Up module. This should be compared against GPS speed. If they differ by more than +/-1 Kph changes may need to be made to the Vehicle setup.

Lock Up Preset - indicates which preset is active. Can be toggled between Primary and Secondary by pressing and holding the Lock Up button for 5 seconds.

3.3. DTC Trouble Codes (DTC)

The Nomad lockup controller will display any lockup related DTC codes that may be affecting the vehicle. Provide these codes when troubleshooting. Codes will clear if the vehicle is turned off or the module is reset.



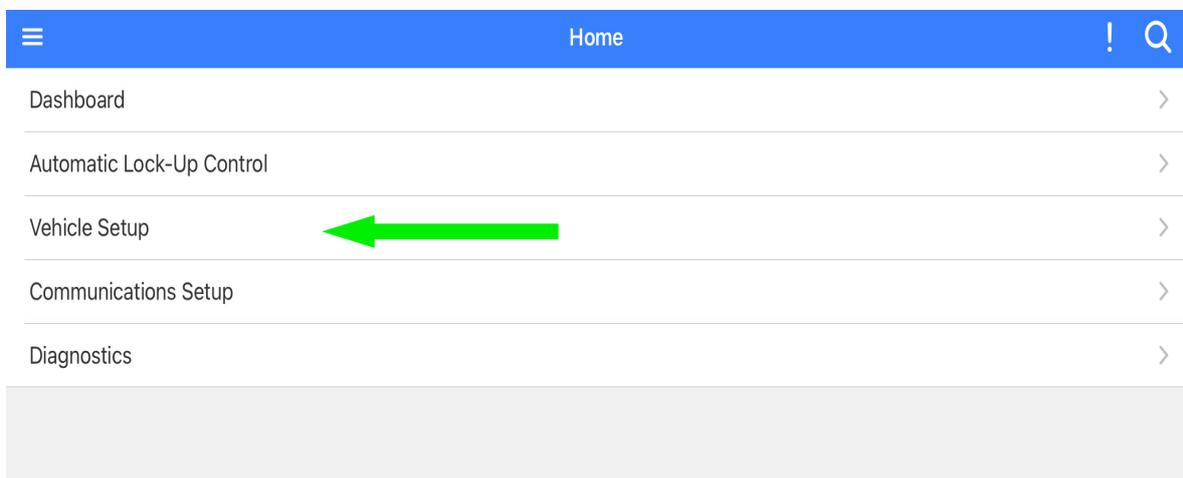
4. Vehicle Setup - Advanced Configuration

- 4.1. If you have a modified vehicle, use the Advanced configuration menu to account for changes that may affect how the Nomad Lockup Controller calculates the speed of the vehicle.

These settings can affect how the lockup controller functions.

If unsure, seek expert mechanical advice before making any changes.

- 4.2. From the main menu, select Vehicle Setup



- 4.3.

[← Back](#)
Vehicle Setup ! 🔍

Vehicle Type

Make	Toyota
Model	LandCruiser
Series	105 Series
Engine	1FZ-FE - 4.5L Petrol
Transmission	4 Speed A442F with Cable

[Reset Controller to Default](#)
 This will reset all settings to default and restart the Lock-Up Wizard process.

Vehicle Information

Final Drive Ratio Ratio in differential or transaxle	4.10 :1	↓ ↑
Tire Rolling Diameter Enter for correct vehicle speed reading on dashboard and calibration.	79.0 cm	↓ ↑
Transfer Case Ratio Reduction of the transfer case in low range.	1.00 :1	↓ ↑
Vehicle Speed Sensor Pulse Count Pulses per drive shaft turn on the VSS. Depending on transmission, may not be adjustable.	18	↓ ↑
Transfer Case Switch Sense State of the transfer case switch in low range.	To Ground	▼
Lock-Up Engage Delay Delay after a shift before the Lock-Up will engage	1.00 s	↓ ↑

TPS Calibration

Reverse TPS 🔘
 Makes increasing sensor voltage correspond to smaller throttle opening or pedal position.

[TPS Calibration](#)

Advanced TPS

Throttle Position Sensor Measured throttle position	50 %
Throttle Position Sensor Voltage Measured voltage at the sensor	0.00 V
TPS Low Calibration Voltage at fully closed throttle	5.00 V ↓ ↑
TPS High Calibration Voltage at fully opened throttle	0.00 V ↓ ↑
Throttle Filter Size	100 ms ↓ ↑

4.4. Vehicle Information

- 4.5. The Vehicle Information settings are used to calculate the speed of the vehicle. It is important this is correct to ensure the Automated LockUp will engage and disengage at the correct speeds.

Final Drive Ratio - Set the Ratio in differential or transaxle

Tire Rolling Diameter - You will need to adjust the Tire Diameter setting to your current vehicle size. We are looking for the rolling diameter of your tires so the best way to work this out is to use a tape measure and measure from the ground to the center of the axle and double it.

As a guide only, we have found the following measurements:

31" Tires usually has a rolling diameter of 74cm

33" Tires usually has a rolling diameter of 79cm

35" Tires usually has a rolling diameter of 84cm

Transfer Case Ratio - Reduction of the transfer case in low range

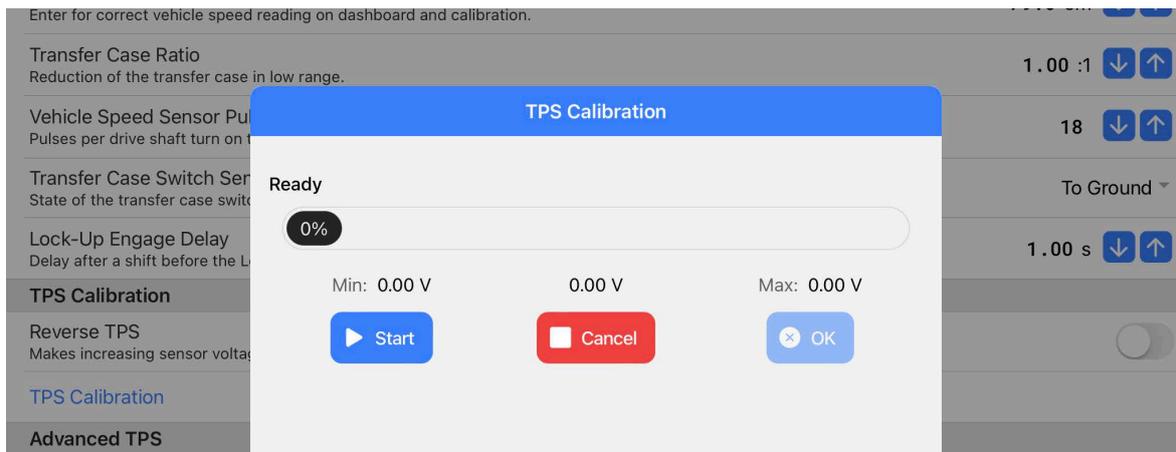
Vehicle Speed Sensor Pulse Count - The pulses per drive shaft turn on the VSS (cannot be changed on some transmissions)

Transfer Case Switch Sense - State of the transfer case switch in low range, To Ground or To Power

Lock-Up Engage Delay - Add a delay after a shift before the LockUp will engage

4.6. TPS Calibration

- 4.7. Click TPS Calibration.
- 4.8. To start the calibration process, select the Start button.



4.9. This will give you 5 seconds to complete the calibration process

4.10. Depress the Throttle through the full range so that the COMPUSHIFT will detect the Minimum and Maximum voltages automatically.

We recommend depressing the throttle 3 x times in total within the 5 seconds. Once calibration has been accepted, the OK button will no longer be greyed out.

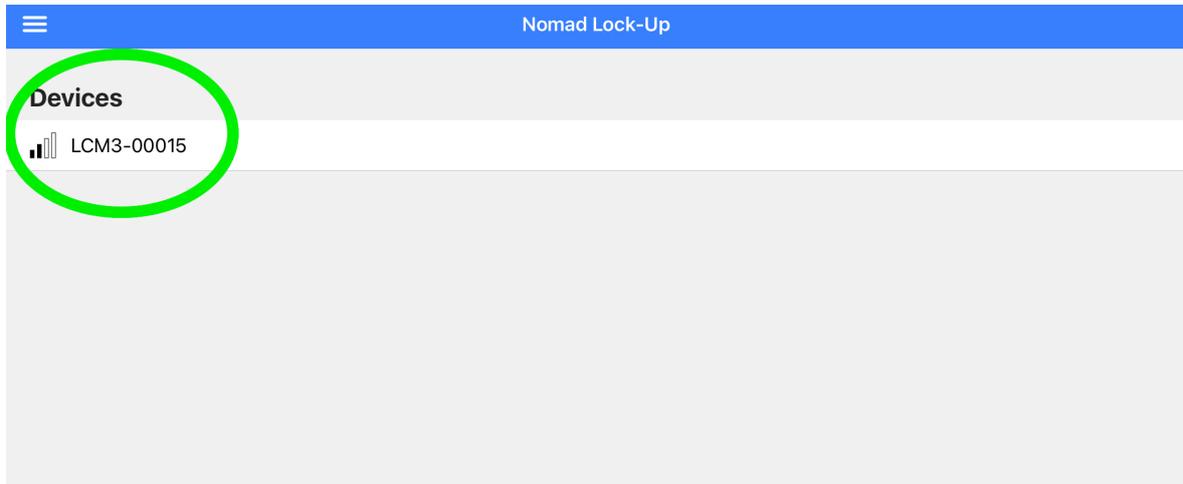
4.11. Select OK to Save the TPS Calibration.

4.12. Advanced TPS

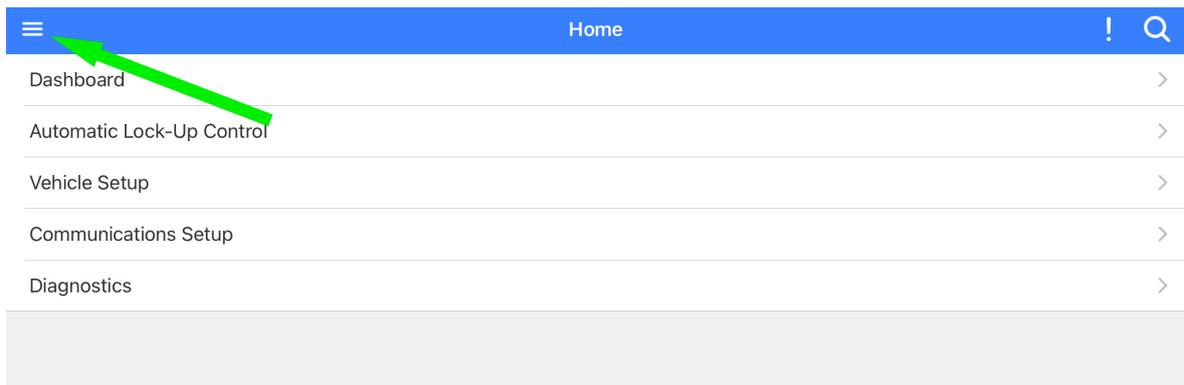
4.13. Advanced TPS settings can be used to manually set the TPS, however we recommend using the TPS Calibration process unless you are being directed by Wholesale Automatics Technical Support staff.

5. Updating the Firmware

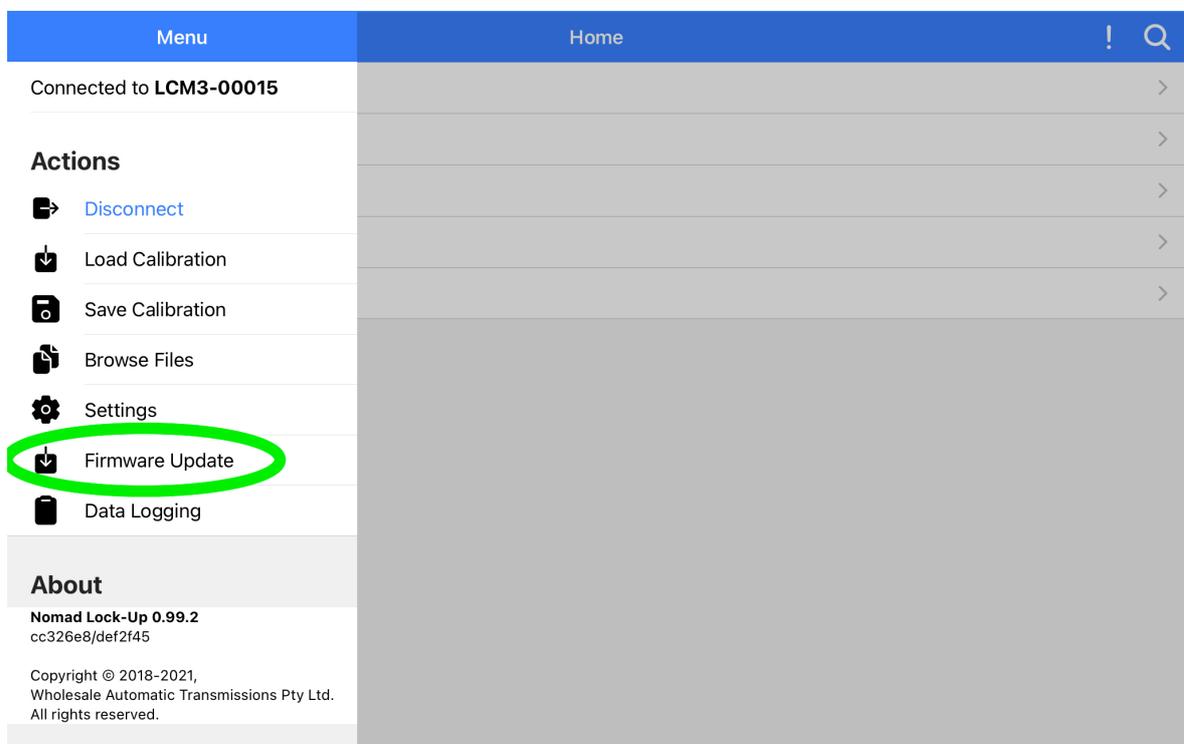
- 5.1. It is good practice to ensure that your Nomad LockUp controller's software is up to date before adjusting the settings. Over time the software will change as we add new vehicles or discover new bugs. We release new software versions for our customers to update to using their own smart device with the Nomad Lockup App. **We recommend that you switch airplane mode on and then switch Bluetooth back on so that you prevent any incoming phone calls from disrupting the firmware update.**
- 5.2. Switch the vehicle's Ignition to 'On' - no need to start the engine.
- 5.3. The App will show you a list of any Nomad Lock-Up Controller's within range. When your module shows up in the list, tap on the device to connect.



- 5.4. The App should take you straight to the Home Menu. If not, select the < Back button in the top left bar until you get to the Home page. Select the three horizontal lines at the top left of the screen.

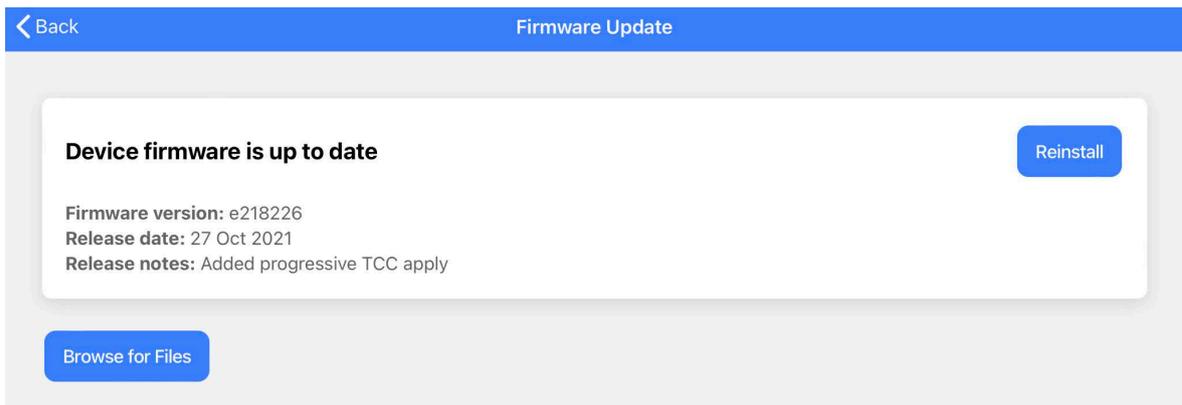


5.5. Select Firmware Update from the menu.

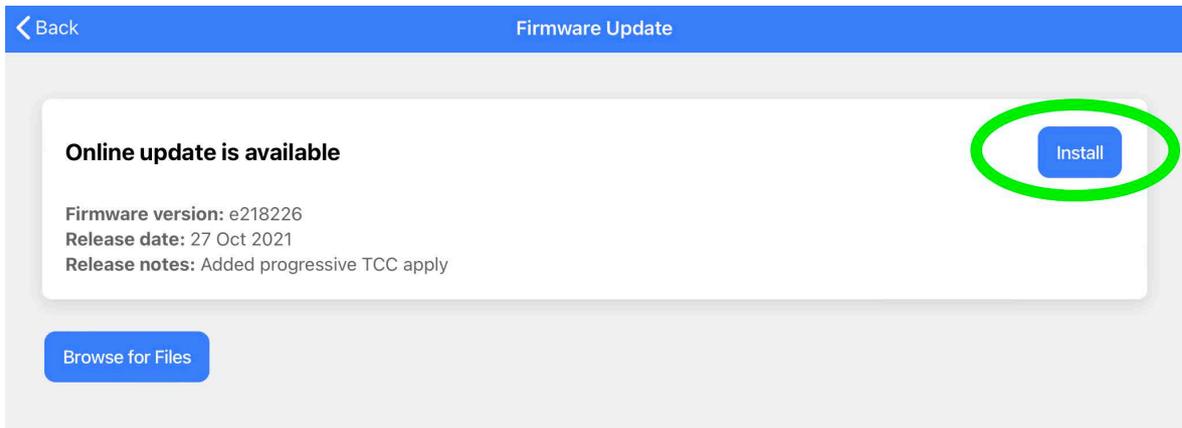


5.6. The App will now check for any Firmware updates for your Module.

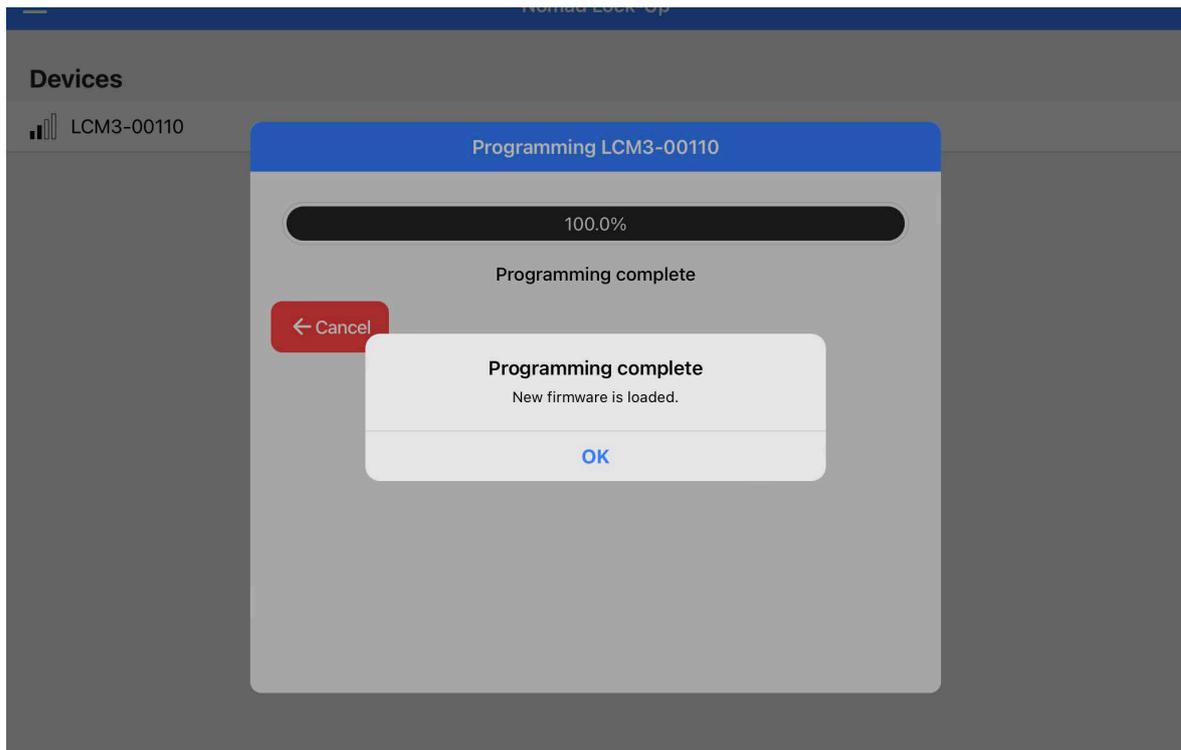
If there is NO software update available the App will say “Device firmware is up to date”.



- 5.7. If there IS a software update available, the app will say “Online Update Available” with an Install button beside it. Tap on **Install**.



- 5.8. The progress screen will show during the update progress. This can take up to 10 minutes to complete. Please keep the app open and the screen active during update.



- 5.9. When the update is finished, select **OK**.
- 5.10. **Cycle the power to the Module by turning the key off and back to ignition to ensure the SMART Lock-Up Module has been rebooted.**
- 5.11. Once the module has rebooted and the app has reconnected to the module, you should now be in the Home Menu Screen

5.12. Troubleshooting Firmware updates

If you receive a phone call or your device goes to sleep during the Firmware Update process, the Firmware Update may fail, and the Module may get locked into the Firmware Loading mode which will prevent normal operation.

To solve this, power cycle the SMART Lock-Up Module to check if that resets to normal operation. If not, start the Firmware Update process again. Take care to **NOT allow the device to go to sleep and DO NOT exit the app** while the Firmware Update process is happening.

It is recommended to put the phone into airplane mode first, then switch Bluetooth on only so that you prevent incoming phone calls from disrupting the firmware update process.

