CoreHub In-cab Install Guide

INCAB CoreHub Installation Instructions

Written By: Vic Borrelli

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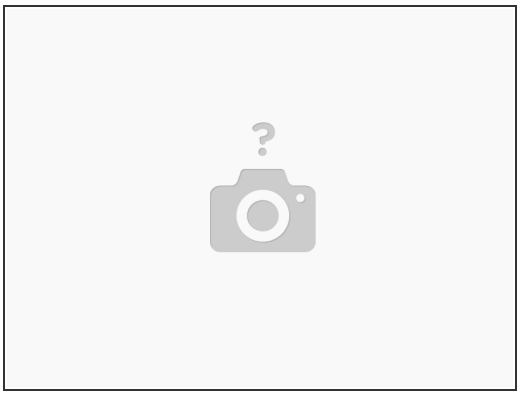
TOOLS:

- Cordless drill (1)
- Uni bit / Step bit 3/4" diameter (1)
- Multi-bit screwdriver (1)
- Torx bit set (1)
- #2 Robertson (Square Drive) Bit (1)
- Pliers (1)
- Side Cutter (1)
- Wire Stripper (1)
- Crimping Tool (1)
- Butane Torch (1)
- Panel removal tool (1)
- Electrical Tape (1)
- Digital Multimeter (1)
- Tablet or Smartphone with access to your e-mail and the internet (1)

PARTS:

- Corehub Kit (1)
- Breakout harness (1)
- Power Harness (1)
- Data Link Y Harness (1)
- Antenna (Optional) (1)
- Tablet w/cradle and backing plate (Optional) (1)

Step 1 — Pre-requisites



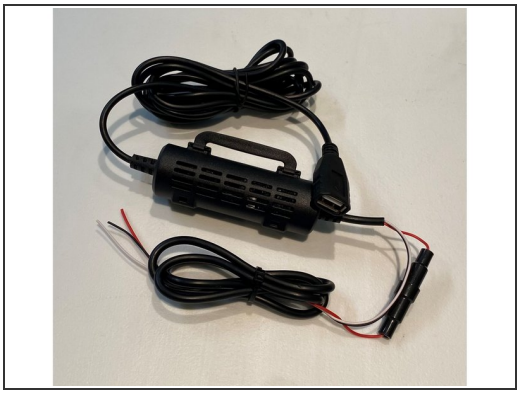
- Before you begin, you must have:
  - An Installer App Login/Password from EROAD Support
  - The customer’s vehicle name convention (their way of naming vehicles), and fleet name.
  - The specific vehicle’s CANbus protocol/speed
  - A camera-equipped mobile device
  - A CoreHub installation kit for the vehicle’s specific year/ make/ model
  - Read the Health & Safety / Legal aspects of an EROAD install, found in this guide.

Step 2 — Pre-Check

- Start the truck and inspect for any issues, making notes of warning lights illuminated or basic features not working i.e. headlights, dash lights, turn signals, wipers, blower motor.
- Site inspection: The CoreHub should aways be mounted under the dash, and the antenna mounted near a windshield corner. Neither the CoreHub, antenna, nor tablet locations should block the driver's sightlines to the road.
- Turn the truck off before installing the electrics.
- Use a panel remover tool to open up dash panels.
- The CoreHub should be mounted under the dash, and securely mounted with screws or zip ties.

⚠ EROAD advises testing/ provisioning the CoreHub system BEFORE permanently mounting the equipment, as a precautionary practice.

Step 3 — Mounting the Tablet



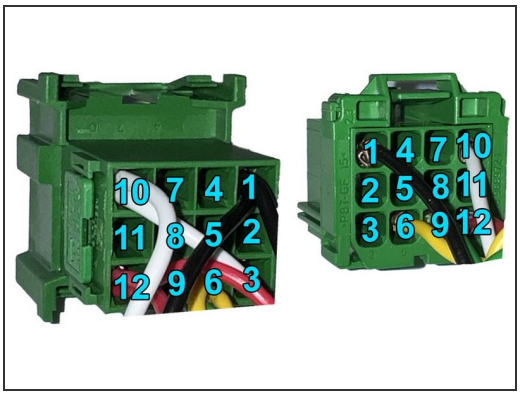
- The tablet's location can determine how all other equipment and cabling is laid out. Find a location that is within a driver's easy reach, doesn't block access to other controls and minimizes blocking a driver's sightlines to the road.
- Take care to route tablet wiring so it will not get pinched between dash panels or mounting arm. Drill a hole in the dash if necessary. Make sure to leave enough excess cable to allow the driver to position the tablet as necessary.
- If the USB power supply is supplied, plug the USB connector into the tablet power supply and tape or wire tie together so the connector will not come disconnected.
- Wire the tablet power supply along with the CoreHub power wires to Constant Power (Red Wire), Ignition (White Wire) and Ground (Black Wire).
- Use the backing plate if possible, or fender washers, to distribute the strain on the dash caused by the tablet's weight.

Step 4 — Antenna Mounting

⚠ Ensure the antenna's **SKY SIDE** will face forward/up when mounted.

- Clean the back of the antenna with the alcohol wipe provided, and allow to dry.
- Use a clean cloth to wipe the back of the antenna again, to remove any residual alcohol from the previous step.
- Attach the adhesive to the antenna and press firmly for 30 seconds.
- Mount the antenna clear of metal grills, plates or guards, out of the driver's sightline, with the **SKY SIDE** toward the sky.
- Connect the antenna leads to the CoreHub, ensuring they are fully pushed in.

Step 5 — FMS Connection



24 V vehicles		
FMS-Standard connector: AMP 12 PIN female (vehicle side)		
Signal	Pin	Remarks
clamp 15 (Ubat)	10	Always
clamp 30 (24V)	12	Always
clamp 31 (24V power ground)	1	Always
CAN low	9	Always
CAN high	6	Always
CAN ground or CAN low shield	8	Option
CAN high shield	5	Option
clamp 15R (Ubat)	11	Option
12 V+	3	optional for 24V vehicles
12 V ground	4	optional for 24V vehicles
Reserved	2	Reserved
D8 from tachograph	7	Option
minimum 100mA for clamp 15 and 15R (might be not more)		
minimum 5A for clamp 30 (more is fuse dependant)		
minimum current for Pin 3 is OEM specific in 24V vehicles		
Coding A		
Colour : yellow green RAL 6018		

12 V vehicles		
FMS-Standard connector: AMP 12 PIN female (vehicle side)		
Signal	Pin	Remarks
clamp 15 (Ubat)	10	Always
clamp 30 (24V)	12	optional for 12V vehicles
clamp 31 (24V power ground)	1	optional for 12V vehicles
CAN low	9	Always
CAN high	6	Always
CAN ground or CAN low shield	8	Option
CAN high shield	5	Option
clamp 15R (Ubat)	11	Option
12 V+	3	Always
12 V ground	4	Always
Reserved	2	reserved
D8 from tachograph	7	Option
minimum 100mA for clamp 15 and 15R (might be not more)		
minimum 5A for cl. 30 (more is fuse dependant)		
minimum current for Pin 3 is tbd.		
Coding A		
Colour : yellow green RAL 6018		

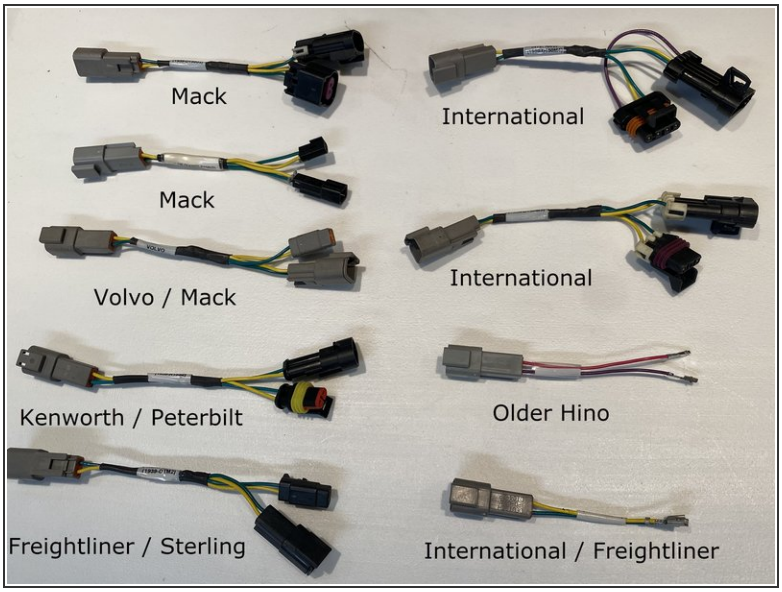
ⓘ Modern European vehicles are using the FMS interface system standard. For vehicles requiring J1939/J1708 connectivity, see later page.

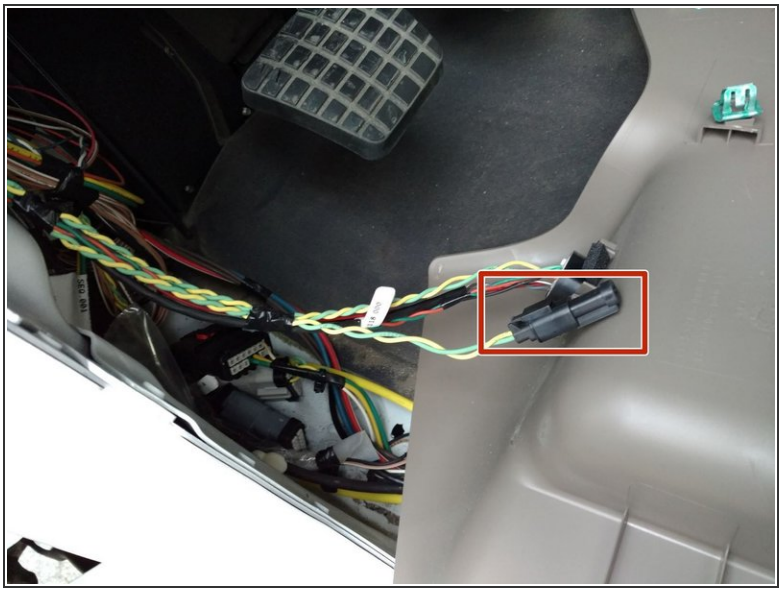
- The FMS connector is in different locations, depending on make/model of the vehicle. With the electrical systems off, unplug the initial tail, and replace it with the FMS Y-Splitter. Replace the tail into either of the available Y-Splitter female connectors. Common FMS interface locations:
  - **Mercedes** - Actros & Arocs: Above main windshield, panel left of stereo.
  - **Scania** - P and R Series: Right and behind the fuse panel vent, under passenger-side dash (older models may be using the 3-pin DT connector).
  - **Volvo** - FH 2015+ : Under the driver-side dash left of the steering column, or the passenger-side fuse box under the dash, near the central drive shaft tunnel.

ⓘ While most installs shouldn't have to deal with pinning or de-pinning FMS connectors on-the-fly, pinout info is supplied for convenience.

⚠ **Spec departures** - The tables provided are reliable, but some Make/Models depart from the norm - **Kenworth T610**: 12 V Pin 2 --> Battery. **DAF CF & CF Euro 6**: use an A098 (18 pin) FMS gateway. Consult vehicle specs for pinouts.

Step 6 — Connecting the Data Link Y-harness to J1939



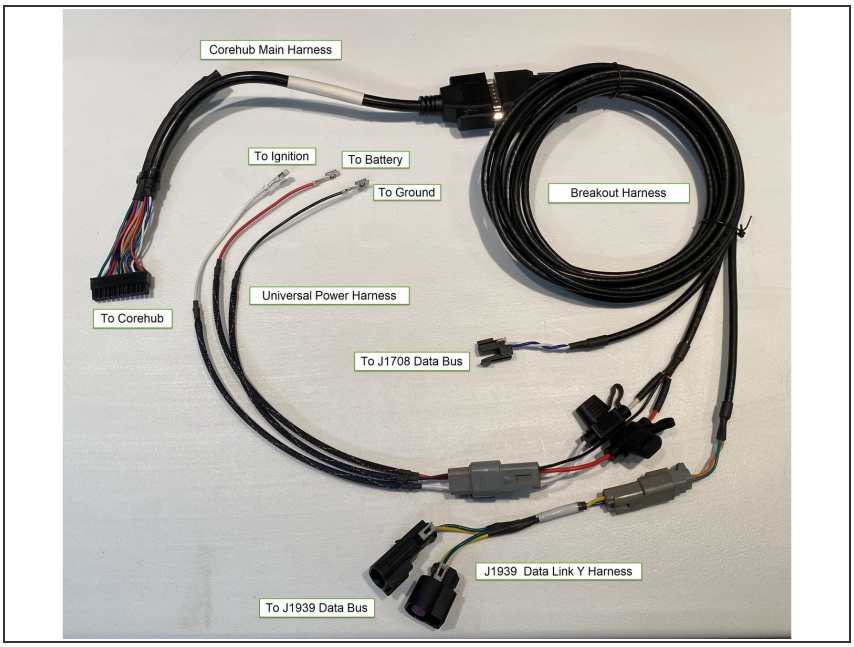


ⓘ Many of these harnesses/ splitters are designed for either US-brand or older vehicles.

- Locate the vehicle's CANbus interface and attach the appropriate DataLink Y-harness. The connection location varies by Make, Model, Year and may be found here:
  - **Freightliner**: Behind left kick panel, above 9 pin or center of dash near the floor.
  - **Mack/Volvo**: Top center of dash above fuse panel.
  - **International**: Right kick panel.
  - **Western Star**: Behind dash, Passenger-side of steering column.
  - **Kenworth**: Behind key switch or instrument cluster.

⚠ The Vehicle Data Bus connector may include a plug with a terminating resistor inside. This must be plugged back into our Y-harness or a check engine fault will appear and the vehicle may be inoperable.

Step 7 — Connecting the Main and Breakout Harnesses

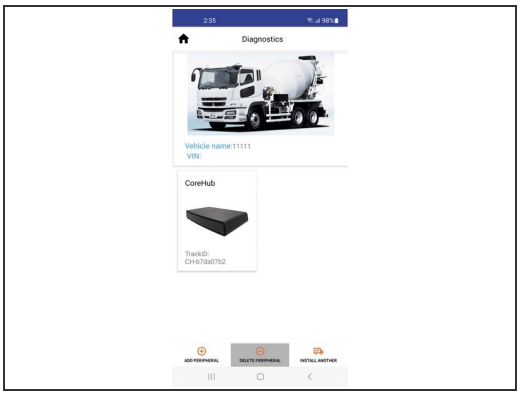


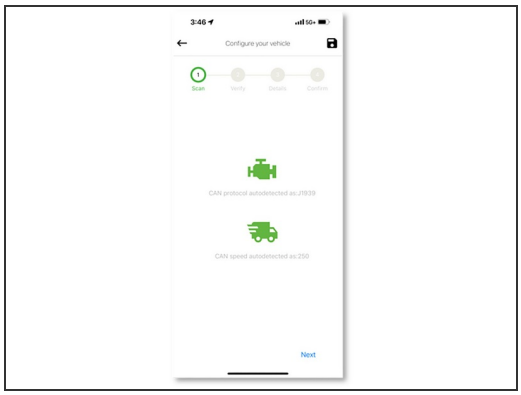
- Connect the Main Harness to the CoreHub. Make sure the connector is fully seated and locked in place. NOTE: The J1708 Data bus is NOT connected to the Main Harness.
- Connect the Breakout Harness to the Main Harness and tighten thumb screws.
- Route the Breakout Harness endpoints to their connecting locations. Leave a service loop in the harness near the CoreHub so it can be pulled out if necessary.
- Use cable ties to neatly secure the harnesses.
- Depending on make and model, locate factory splice blocks or studs for Power, Ground and Ignition.

⚠ Locate Universal Power Harness supplied and connect RED to BATTERY; WHITE to IGNITION; BLACK to GROUND.

- Connect the Universal Power Harness to the CoreHub.
- Power on the vehicle, then the tablet (if required), ensuring the CoreHub is powered up LAST.

Step 8 — Configuring the CoreHub Part 1

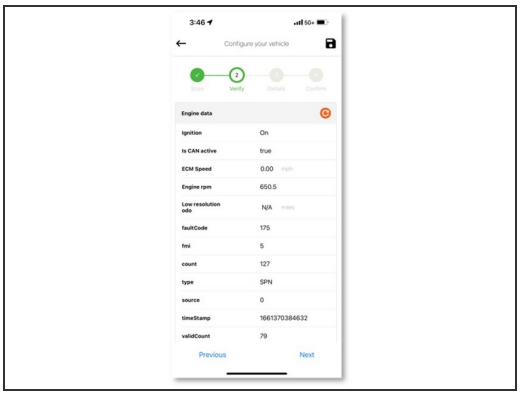


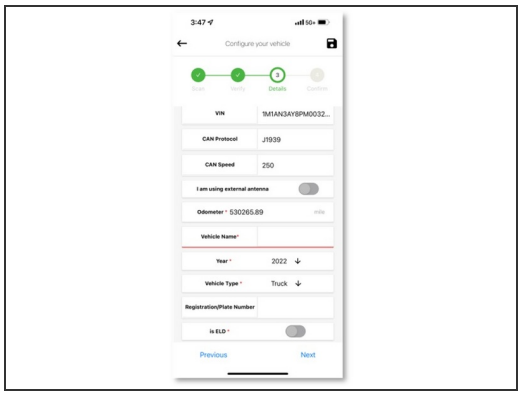


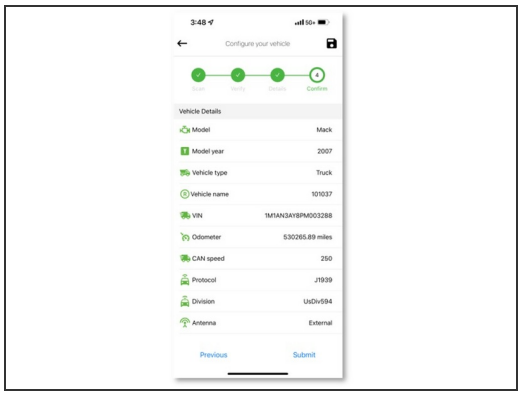
- Download and install the Corehub Installer App from the App or Play Store to your smartphone or tablet. Log in credentials should have already been set up and supplied to you in an email.
- Tap **Install**, or **Install Another** if appropriate, and follow the prompts to enter the company and fleet information.
- **Turn the vehicle on.**
- When prompted, scan the QR code on the sticker placed in the door jamb, or on the back of the CoreHub.
- The Installer App will automatically attempt to connect to a Vehicle's CANbus and draw down data.

⚠ Some vehicles might form an imperfect bridge with Installer App, causing the app to crash, bringing you back to your Home screen. **Persistence is the key.** Re-open Installer App and begin again. Even if CAN auto-detect fails, eventually you will access the manual CANbus settings.

Step 9 — Configuring a CoreHub Pt 2







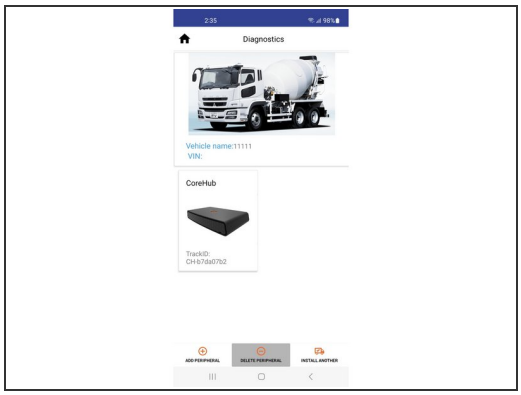
- If CANbus settings have NOT been correctly auto-detected, Manual CANbus settings will allow you to enter the vehicle-specific protocol and dataspeed in their respective fields.
- Verify Engine data is showing, then tap **Next**.
- Configure/ Verify the vehicle details, then tap **Next**.

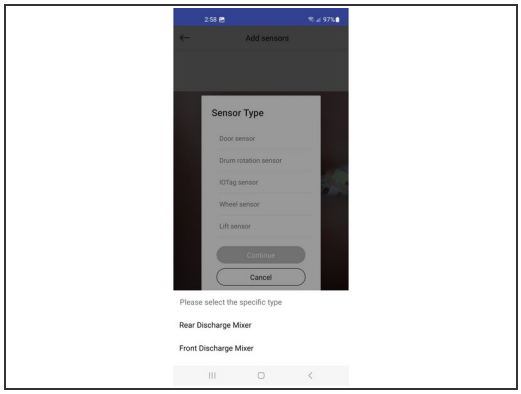
ⓘ **Ensure the Vehicle name aligns with the customer's Fleet ID convention.** For large customers, the Fleet ID is a primary search and management reference.

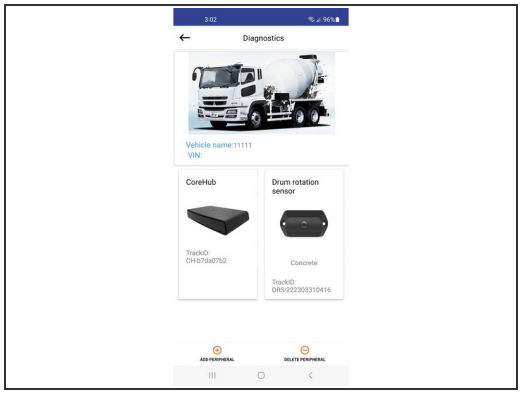
- Review the vehicle details, and if correct, tap **Submit**.

⚠ **YOU'RE NOT FINISHED**. Keep the Installer App open to mount the hardware, take a verification photo, and add sensors.

Step 10 — Add a sensor (Optional)





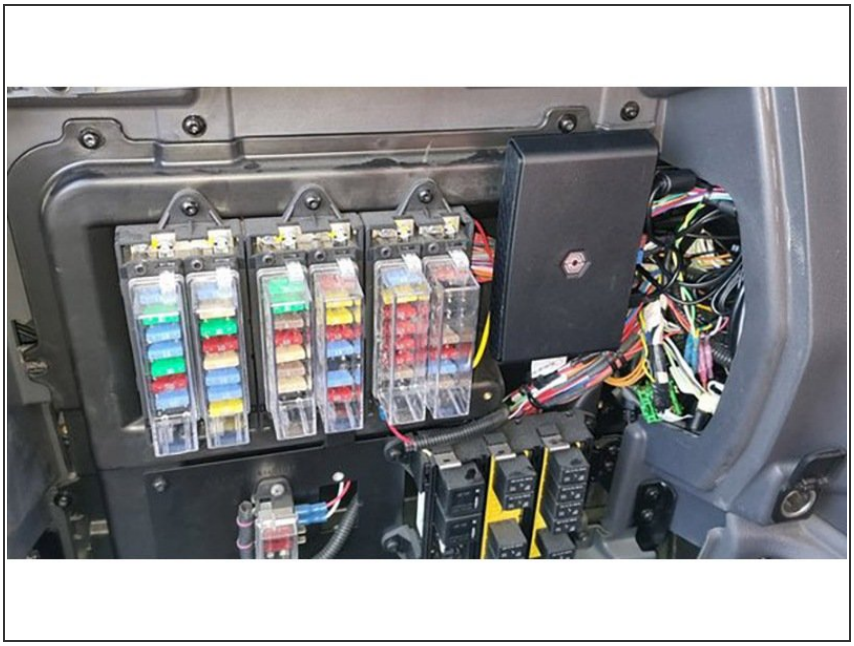


Usually, sensors are already mounted on the vehicle, or are installed as part of the initial provisioning. But additional sensors may be added.

- If following on after a CoreHub install, tap **Add Peripheral**. (If starting a fresh job from re-running the Installer app, tap **Add Sensor**).
- From the pop-up list, tap the appropriate sensor.
- If the selected sensor has Specific Type options, choose the appropriate option.

CHOOSE WISELY. Drum Rotation Sensors, for example, have two Specific Types: the wrong type could damage the appliance. If the Specific Type was incorrectly tapped, use Delete Peripheral to remove this sensor, and re-add it with the correct Specific Type.

Step 11 — Mount the hardware

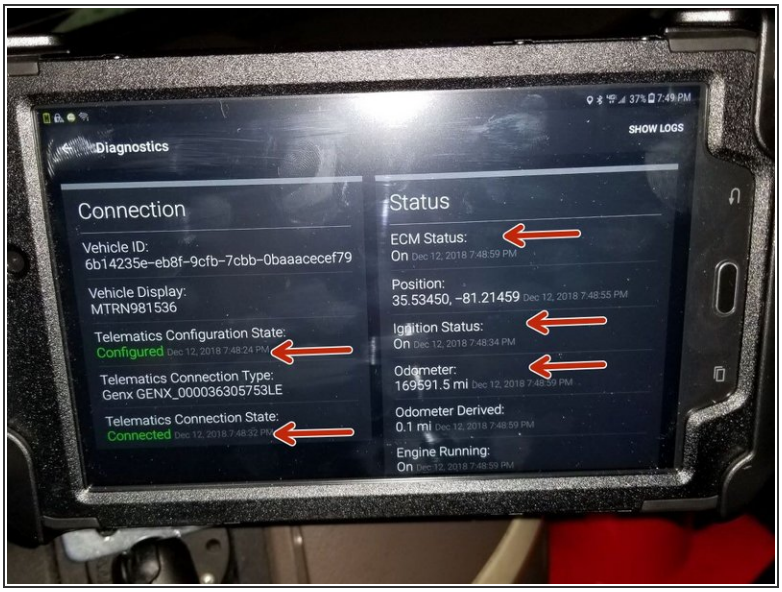


- Once you confirmed the devices are operating and communicating with each other correctly, turn the engine off and begin mounting the hardware and tidying cables:
  - Mount the CoreHub: using the bracket, screws and/or zip ties, mount the CoreHub in an easily accessible position securely in place.

⚠ If the CoreHub is not securely mounted it may shake abnormally, sending incorrect driving events to the customer.

  - When running cables to/from devices, ensure excess cabling is tidied - not cut - out of the way, using zip ties.
  - (Optional) Allow some service loop slack around tablets for re-positioning. Antenna slack should be gathered and run as unobtrusively as practical behind the dash.
  - Where appropriate, use heatshrink and/or electrician's tape to insulate connections and seal them from water ingress.
  - Attach the spare QR Code sticker included in the CoreHub kit to the driver door jamb for easy reference.

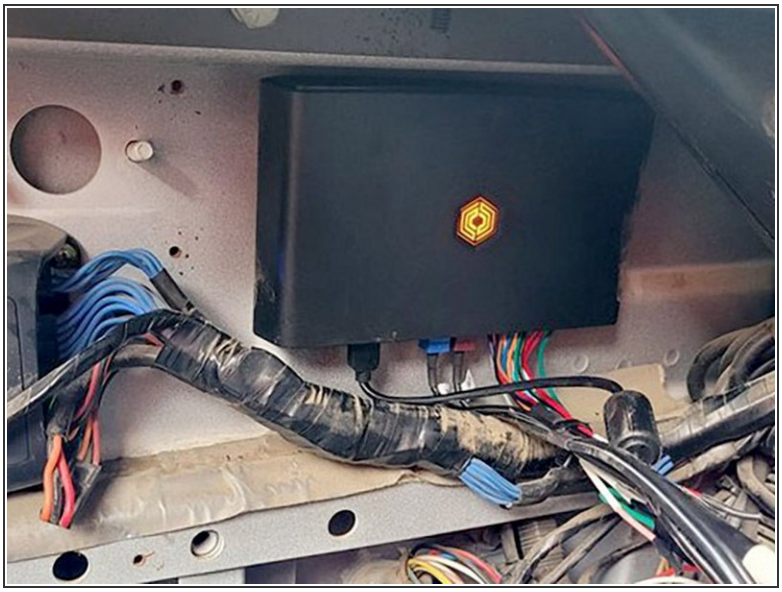
Step 12 — Drive connection confirmation



- To verify if Drive has a proper connectivity bridge with the CoreHub, enter the Super Admin Mode Pin (illustrated) on Sign in. This takes you to Drive's diagnostics screen.
  - Check:
    - **Configured** and **Connected**
    - ECM status **ON**
    - Ignition Status **ON**
    - Odometer is reading correctly.

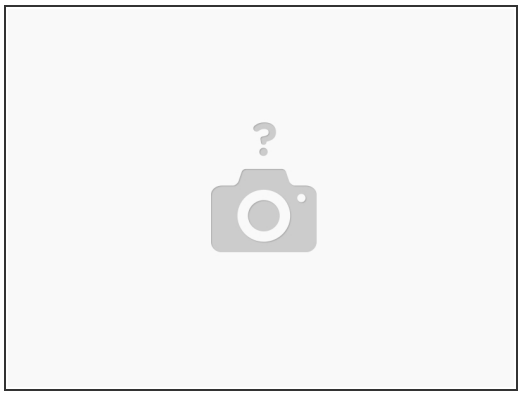
⚠ Entering either an incorrect protocol or speed COULD DISABLE THE VEHICLE or make it unsafe in various ways. Should this happen you will need to re-run Installer App and enter in the correct details.

Step 13 — Photo verification



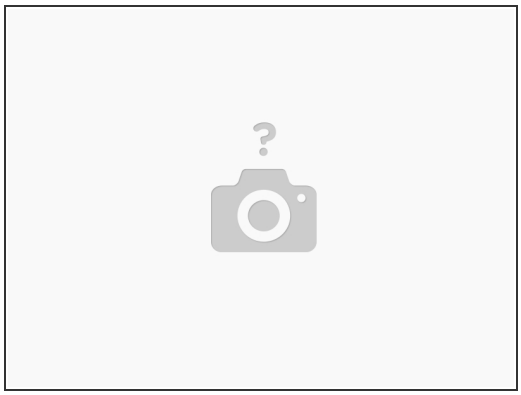
- Installers are encouraged to photo-document their work to assist in supporting work order documents.
- Any digital camera may be used for 2 or 3 images per site, but images must:
  - Show the unit clearly, mounted in place, oriented appropriately.
  - Show connections and wiring secure and tidily managed.
  - Indicate the environment in which the device is installed (its position in the cab, or on the asset).
  - You may also wish to note the vehicle make/model for future reference.
- Photos are evidence of a compliant install. They protect EROAD’s and the Installer’s liability, should a future 3rd party or incident affect compliance integrity.

Step 14 — Health & Safety



- Before installing EROAD equipment in a vehicle you must be, in Australia, an approved EROAD installer and, in New Zealand, an accredited EROAD installer. EROAD expects installers and contractors to understand and follow all relevant health and safety regulatory requirements.
- The installer must wear appropriate Personal Protective Equipment (PPE) for the install risk and customer requirements. PPE may include safety glasses, safety shoes, work gloves, hard hat, high visibility vest, sun cream, sun hat and coveralls. You must understand and comply with the safety requirements of customers or third parties.
- Avoid fitting EROAD equipment in locations that could impede or cause injury to people. This includes potential head strike zones on the windshield or dashboard, airbag deployment locations, seatbelts, and other safety-relevant devices.
- The vehicle must be parked and level, with the parking brake engaged.
- Before installation, check that other safety-relevant equipment is working properly, and if people must work under or around suspended equipment – held aloft with slings, hoists, or jacks – that the equipment is secured to prevent collapse or falls. Report any issues to the customer
- Avoid running cables close to heat sources, sharp edges, obstacles or safety-relevant devices.
- After installation, check that all other safety-relevant equipment continues to work properly.
- Protect this unit and other EROAD units from extreme temperatures. Operating temperatures for the equipment related to this guide are found on the Specifications page.

Step 15 — Legal



- This installation guide sets out the minimum installation requirements that Installers must meet when installing EROAD equipment.
- It is the customer’s responsibility to ensure their chosen Installer complies with the instructions and specifications in this document. When performing the installation, Installers must comply with all applicable laws, rules and standards.
- The customer is responsible for their own compliance with applicable laws, rules and standards, including privacy laws. Note in some jurisdictions, the customer and the driver(s) are required to advise all vehicle occupants that the vehicle is equipped with audio and video recording equipment.
- EROAD disclaims all liability for any installation of EROAD equipment in a way that may cause accidents, damage or violate the law.