

EROAD Ehubo[®]

Installation Guide



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1. Introduction

IMPORTANT: DO NOT INSTALL OR USE THE EROAD HARDWARE UNTIL YOU HAVE READ THIS INSTALLATION GUIDE THOROUGHLY.

Congratulations on choosing EROAD. This device is an FMCSA-compliant electronic logging device (ELD), in addition to an Oregon Department of Transportation (ODOT)-approved electronic Weight-Mile Tax collection device. The EROAD technology platform also offers a complete suite of user-friendly compliance and telematics assets, including automated IFTA, safety, and fleet management reporting.

The EROAD in-vehicle device is referred to as the Ehubo in the remainder of this guide, which is the name of our in-vehicle hardware.

EROAD recommends the use of a professional automotive technician to install the Ehubo in your vehicle. Please make this guide available to your installer and keep it for future reference.

The Ehubo is easy to install by carrying out the following steps as described in this guide:

1. Make sure to read the Safety Information section, familiarize yourself with the local laws regarding the installation and use of the Ehubo, and use and follow all standard safety precautions.
2. Choose a suitable mounting location and mount the Ehubo.
3. Install the Ehubo by connecting it to the vehicle.
4. Complete the installation by following the Ehubo's on-screen guide.

Keep this manual, because you will need these instructions when:

- Replacing or moving an Ehubo unit
- Rerunning the installation wizard (1) if moving the unit, (2) if the unit loses connection to the ECM and a diagnostic code appears, (3) or if requested by a technical support representative
- Ordering replacement parts

CAUTION:

THERE IS A RISK OF EXPLOSION IF THE BATTERY IS REPLACED BY AN INCORRECT TYPE.

DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

See Chapter 3 for more information.

Refer to **Replacement Installation** on page 36 if you are installing a replacement Ehubo.

REVISION HISTORY

The document changes are outlined below.

Date	Ver. No.	Description
Jan. 2018	2	<ul style="list-style-type: none"> • Intro: Revised, added safety precaution • Updated legal notice, trademarks • Ch. 3: Added Replaceable battery guidelines and precaution • Ch. 4: Added mounting kits • Ch. 5: Added mounting instructions • Ch. 6: Added Install Wizard instructions and troubleshooting • Ch. 7: Added Install Wizard Instructions and troubleshooting • Ch. 8: New OBD-II instructions • Appendix: Added pin diagrams for troubleshooting • Includes contents from service bulletins TSB-Ehubo-2017-1, TSB-Ehubo-2017-2, and TSB-Ehubo-2017-3
Feb 2019	2.1d	<ul style="list-style-type: none"> • Updated FCC Statement

ABBREVIATIONS

The following acronyms and abbreviations are used throughout this installation guide. They are defined on their first appearance and then abbreviated.

Abbreviation	Description
ABS	Anti-lock braking system
ACC	Accessory
EBS	Electronic braking system
ECM	Electronic control module
Ehubo	EROAD's in-vehicle device (may be configured as an ELD)
ELD	Electronic logging device
FCC	Federal Communications Commission
FMCSA	Federal Motor Carrier Safety Administration
GPS	Global positioning system
IFTA	International Fuel Tax Agreement
IGN	Ignition
LED	Light emitting diode
Nyloc	Nylon-insert lock nut
ODOT	Oregon Department of Transportation
PPE	Personal protective equipment

2. Legal Notices

Please read carefully before beginning installation!

2.1 LEGAL NOTICE AND DISCLAIMER

The legislation and rules concerning the installation and operation of GPS driver aids and messaging devices such as the Ehubo vary from each country and state. Please familiarize yourself with the laws of the jurisdiction(s) in which the vehicle will be operated in prior to installing and using the Ehubo.

Driving laws place the responsibility on the driver to correctly install and use GPS driver aids. It is, therefore, the Customer's sole responsibility to install and use the Ehubo in a manner that complies with the law and will not cause accidents, personal injury or property damage. The owner of this Ehubo is solely responsible for observing safe driving practices.

EROAD DISCLAIMS ALL LIABILITY FOR ANY USE OF THIS EHUBO IN A WAY THAT MAY CAUSE ACCIDENTS, DAMAGE OR VIOLATE THE LAW.

TO THE MAXIMUM EXTENT PERMITTED BY LAW, ALL REPRESENTATIONS AND WARRANTIES (EXCEPT ANY WHICH MAY NOT LAWFULLY BE EXCLUDED) ARE EXPRESSLY EXCLUDED, INCLUDING WITHOUT PREJUDICE TO THE GENERALITY OF THE FOREGOING, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

As EROAD is continuously improving its products, EROAD may make changes to the Ehubo at any time, which may not be reflected in this document. Please contact your nearest EROAD office if you require any further assistance.

If you think that installation of EROAD's in-vehicle hardware or any accessories associated with EROAD's system may have caused your vehicle's performance to be impeded, please contact EROAD Technical Support at 1-855-503-7623 immediately to resolve the issue. EROAD is not liable for any costs or expenses incurred by engaging a third party to repair the fault without EROAD's prior consent.

2.2 GOOGLE PROTOCOL BUFFER SOFTWARE LICENSE

Copyright 2008, Google Inc.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

- Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Code generated by the Protocol Buffer compiler is owned by the owner of the input file used when generating it. This code is not standalone and requires a support library to be linked with it. This support library is itself covered by the above license

2.3 TRADEMARKS

Bluetooth® is a registered trademark of Bluetooth SIG, Inc., and its affiliates. Any other company names, product names, service names and logos are the trademarks of their respective owners.

RAM® and RAM Mount are either registered trademarks or trademarks of National Products Inc., in the United States and/or other companies.

3. Important Safety Information

3.1 PERSONAL PROTECTIVE EQUIPMENT

Federal, national or local health, and safety regulations may require wearing appropriate Personal Protective Equipment (PPE). PPE may include items such as safety glasses, safety shoes, work gloves, hard hat, high visibility vest, and work uniform. Make sure to comply with appropriate standards, and check with customers or third parties to verify whether they have additional PPE requirements.

3.2 INSTALLATION

- Installers and contractors must follow all health and safety regulatory requirements to ensure a safe and healthy work environment.
- Set the parking brake whenever the equipment is parked. Equipment parked on inclines shall have the wheels chocked and the parking brake set.
- Equipment, or parts thereof, which are suspended or held aloft by use of slings, hoists, or jacks shall be substantially blocked or cribbed to prevent falling or shifting before employees are permitted to work under or between them.
- Installing and servicing electronic devices can be hazardous due

to electrical components. Make sure to create a safe working environment to avoid hazards and to ensure correct and safe installation and operation.

- EROAD recommends the use of a qualified professional automotive technician to install the Ehubo. Make this Installation Guide available to the appropriate personnel. Store it for future reference.
- Do not run cables close to heat sources, sharp edges or other obstacles that might damage them.
- Do not run cables directly next to safety-relevant devices.
- Place all wiring under the dash to avoid creating a hazard.
- Do not damage existing wiring and components when drilling the dashboard.
- Some countries and states prohibit the installation of global positioning system (GPS) driver aids on windshields. Some areas might allow installation of the Ehubo on the windshield. It should be positioned as low as possible and closest to the driver door to minimize obstruction of the driver's field of view.
- Avoid fitting the Ehubo in a location that could cause injury to a driver or passenger in a crash. This includes potential head strike zones on the windshield or dashboard, or other locations where a deploying airbag may contact the Ehubo.
- Do not block or impair the deployment of airbags and other safety-relevant devices.
- Avoid placing the Ehubo where it may impede or limit the driver's movement when driving or exiting the vehicle (including in an accident).
- Check that all safety-relevant equipment is working properly after installation.

3.3 OPERATION

- Familiarize yourself with local laws concerning the use of GPS driver aids. Some countries and states prohibit drivers from viewing screens or making or receiving text messages while driving a vehicle.
- The Ehubo screen is initially configured to automatically turn off when movement is detected to avoid driver distraction.
- Minimize the amount of time spent viewing the screen if the Ehubo screen has been activated to turn on during driving.
- Only operate or look at the Ehubo when it is safe to do so. Do not message, change settings or access functions while driving. Pull over before you wish to attempt such activities. Always keep your hands free to operate the vehicle while driving. Your first consideration while driving should be road safety.
- The screen display of the speed limit or the vehicle's speed is for information only. Please ensure that you observe all posted speed limits and drive to the conditions.
- Do not use sharp-edged objects on the Ehubo touch screen.
- The Ehubo is not waterproof. Do not spill any liquid on it.
- Protect the Ehubo from extreme temperatures. Operating temperature for the Ehubo is between $-20^{\circ}\text{C}/-4^{\circ}\text{F}$ and $85^{\circ}\text{C}/185^{\circ}\text{F}$.
- Always follow local regulations when disposing of the Ehubo.
- Do not dispose of the battery in trash cans, fire or water.



3.4 FCC COMPLIANCE STATEMENT

This device complies with part 15 of the Federal Communications Commission (FCC) Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Responsible Party - U.S. Contact Information

Company Name: EROAD, Inc.

Address: 7618 S.W. Mohawk Street, Tualatin, OR 97062

Contact Information: 1-855-503-7623

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF Exposure Information

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation.

Viewing Regulatory and Compliance Information

Hold down the **EROAD logo** in the upper left corner until the Options menu appears, and then tap the **Regulatory** button.

3.5 REPLACEABLE BATTERIES

Newer devices use rechargeable batteries, but older devices use replaceable batteries. Do not replace a rechargeable battery with a replaceable battery. If you replace a battery with an incorrect type and it could result in an explosion (such as some lithium batteries), the following applies:

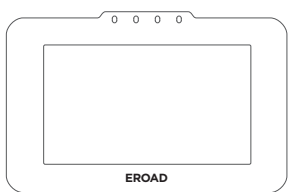
- if the battery is placed in an OPERATOR ACCESS AREA, add a marking close to the battery or a statement in both the operating and the servicing instructions, or
- if the battery is placed elsewhere in the equipment, add a marking close to the battery or a statement in the servicing instructions, as follows:

CAUTION: RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

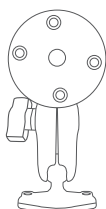
4. Parts List and Documentation

Your Ehubo box contains the parts and documentation for the mounting option that you selected. Not all of the following parts are included in your box. Individual parts included in each mounting kit are described in the tables shown on the right.

NOTE: Place the EROAD ELD User Manual and visor cards in the truck cab per the ELD mandate.



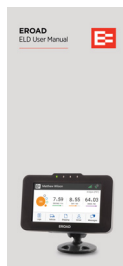
EROAD Ehubo
(Pre-fitted Extendable Cable)



Mounting
Arm

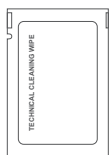


Installation
Guide



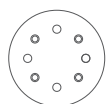
ELD User Manual
+ visor cards,
if applicable

A



Alcohol wipe

B



Mounting plate

F



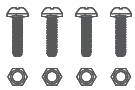
2 x $\frac{3}{4}$ " / 19 mm
screws + washers

G



4 x $\frac{1}{2}$ " / 13 mm
counter sunk screws
+ nyloc nuts

H



4 x 1" / 25 mm
screws + nuts

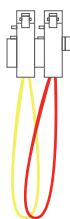
Screws, nuts and washers
to mount Ehubo

C



High-strength
adhesive tape
(optional, for
tape mount)

D



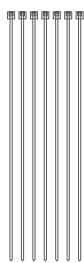
Fuse kit
(not included w/ELD)
(permanent/
switched power)

E



Wiring Harness
(not included
w/ELD)

I



Cable ties

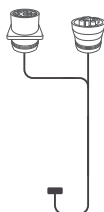
K



Rear hatch
security plugs
(not included)

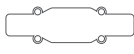
L1

L2



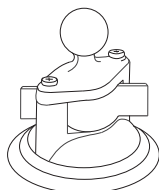
ECM Y-cable -
included with cable
kit (model year
2000 or newer)

J



Cable
clamp

M



RAM Suction Cup

4.1 OPTION 1: RAM SUCTION CUP MOUNTING KIT

Code	Item Name	Part Number
	RAM Suction Cup Mounting Kit (with all parts listed below)	HR000900A-G
	Mounting arm	MS000806-G
(M)	RAM suction cup	MS000803-G
(F)	2 x 1/4" / 19mm screws	
(A)	Alcohol wipe	

4.2 OPTION 2: PERMANENT MOUNT/TAPE MOUNTING KIT

Code	Item Name	Part Number
	Permanent Mount / Tape Mounting Kit (with all parts listed below)	HR000901A-G
	Mounting arm	MS000806-G
(A)	Alcohol wipe	
(C)	High-strength adhesive tape	
(B)	Mounting plate	
(H)	4 x 1" / 25mm screws + nuts	HR000800
(G)	4 x 1/2" / 13mm counter sunk screws + nyloc nuts	
(F)	2 x 1/4" / 19mm screws + washers	

4.3 EHUBO HARDWARE INSTALLATION KIT (NON-ECM & OBD-II)

Code	Item Name	Part Number
	Ehubo Hardware Installation Kit (with all parts listed below)	HR00071B1-G
(D)	Fuse Kit	
(E)	Wiring Harness	

5. Mount the Ehubo

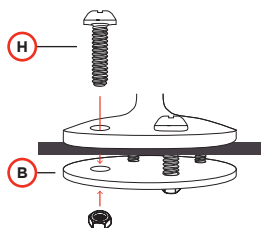
The Ehubo can be mounted on the dashboard or windshield (where permitted by law where the vehicle is being operated). Use either the adhesive tape (supplied for the windshield mount) or the suction cup for temporary installation on a flat surface.

NOTE: Choose the mounting location for your Ehubo carefully and ensure that it complies with all local regulations. Ensure that the Ehubo does not impair the driver's visibility, does not pose a risk in the event of an accident, does not interfere with any systems used in the operation of the vehicle, does not block or impair the deployment of the airbag, and has a good view of the sky. Choose a location that does not expose the Ehubo to excessive temperature or vibration. Contact your account manager if you prefer a suction cup mount.

- 1 Perform one of the three installation procedures:
 - 1A - PERMANENT MOUNT (dashboard)
 - 1B - TAPE MOUNT (windshield or flat surface)
 - 1C - SUCTION CUP MOUNT (windshield or flat surface).

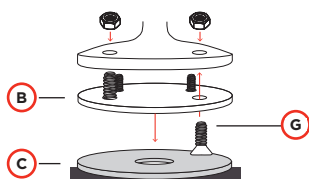
1A PERMANENT MOUNT

Attach mount to the dash using the mounting plate (B), screws and nuts (H).



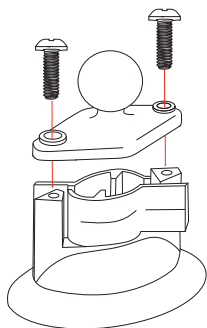
1B TAPE MOUNT

- Clean the flat surface with the alcohol wipe (A)
- Fit the mounting plate (B) to the mount using counter sunk screws/holes and nuts (G)
- Apply adhesive tape (C) to the mounting plate and firmly press to the surface



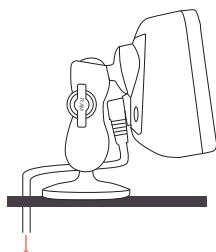
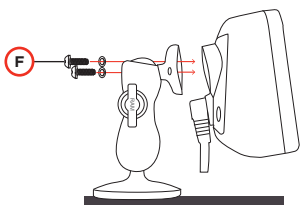
1C SUCTION CUP MOUNT

- Clean the windshield surface with the alcohol wipe (A)
- Fit the composite diamond base on the suction cup base using the supplied screws.



(M)

- 2 Attach the Ehubo to the mount using screws and washers (F). Use of the washers is essential to reliably secure the device!
- 3 Route the wiring out of the way and down the back of the dashboard.



NOTE: Do not reuse the nylon-insert lock nuts (nyloc) if swapping the mounting option; use unused nuts (supplied).

6. Standard Installation (with ECM Connection)

NOTES

- If you are operating a pre-2000 vehicle or post-2000 vehicle with no ECM connection (e.g. mechanical engine), refer to Installing the Ehubo – No Electronic Control Module (ECM) connection.
- The engine must be turned off prior to installing Ehubo.
- Power supply must not be taken from any Anti-lock Braking System (ABS) / Electronic Braking System (EBS).

6.1 HARDWARE

- 1 Connect the 8-way connector **(M)** on the extendable cable **(N)** to the corresponding connector on the ECM Y-cable **(O)**. Secure with the cable clamp **(J)** included in your cable kit.
- 2 Remove the vehicle's diagnostic connector (data connector) from the bracket or panel where it is fastened. Consult your vehicle's maintenance guide to properly remove panels, as required.
- 3 Connect the vehicle's diagnostic connector to the mating connector on the ECM Y-cable **(L2)** and secure by twisting the collar until it locks into place (tug lightly to check). Your Ehubo display screen should power on at this point with a green LED **(P)** above the display.
- 4 Feed the second connector on the ECM Y-cable **(L1)** into the existing vehicle diagnostic connector housing and fasten to the vehicle.
- 5 Finalize by following the on-screen instructions. (See section 6.2) After the checks are successfully completed, the Pending Assignment, or the Ehubo home screen (if unit is assigned to a vehicle) is displayed.
- 6 Store all unused wires neatly, insulated and secured using cable ties. Reinstall any dashboard pieces or panels removed during installation. Remove the screen protection film from the Ehubo display screen. Ensure the driver-required manual and visor cards are in the vehicle.

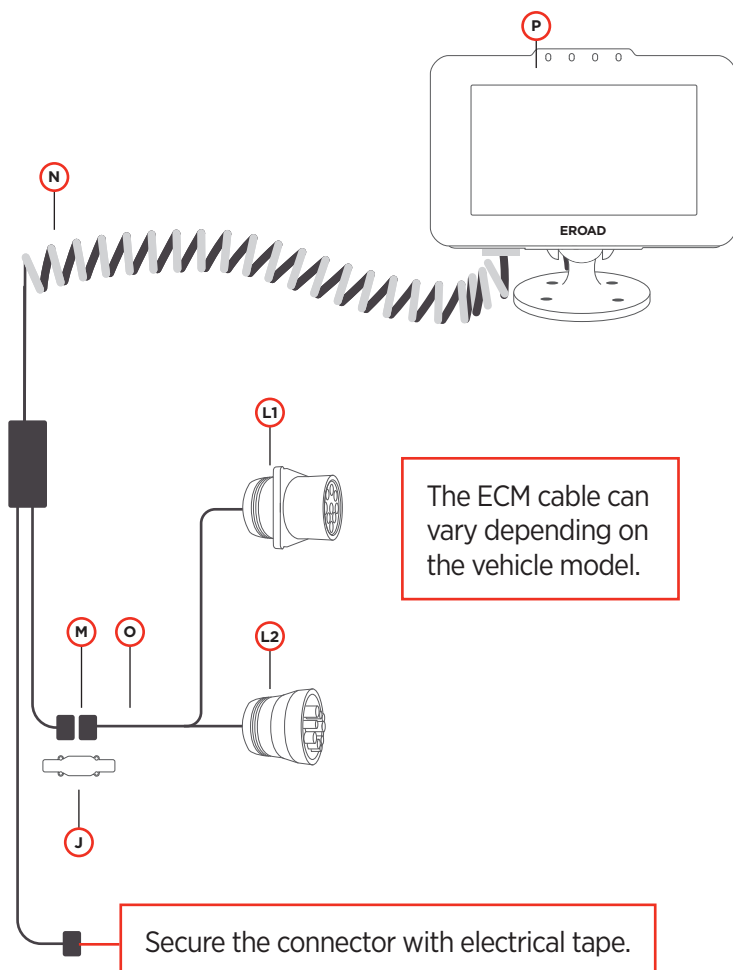
NOTES

If additional wires are required for monitoring activity through the three digital inputs, connect to their respective sources with an in-line 3A fuse listed in section 4.3.

Electronic logs are activated in Depot after installation. Contact your Customer Success Account Manager for more information, if needed.

The Ehubo needs a permanent power source and a good view of the sky to operate optimally.

The curly cable must remain above the dash.



The Ehubo shuts down to a lower power mode and draws a very small current from the vehicle supply when the vehicle is off.

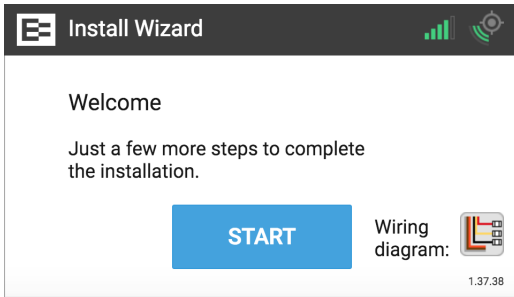
Remove the Ehubo permanent power fuse if the vehicle is in storage or parked up for more than a month to avoid discharging the vehicle battery.

6.2 RUNNING THE INSTALL WIZARD (WITH ECM CONNECTION)

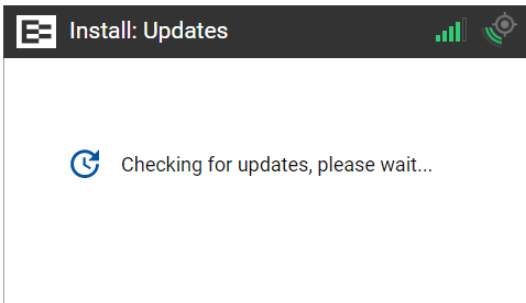
You must run the Install Wizard to complete your installation on vehicles with an ECM connection. Typically, these vehicles were manufactured in the year 2000 or later. Perform the following steps to run the Install Wizard.


1. The Welcome screen appears once the Ehubo is physically installed and the vehicle is powered ON.

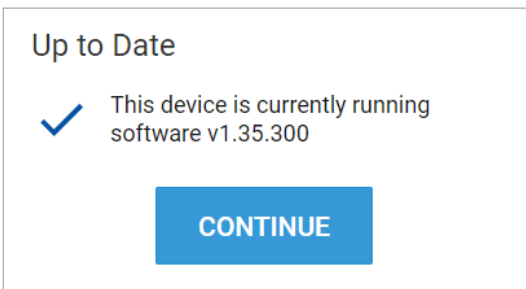
Tap the **Start**  button.



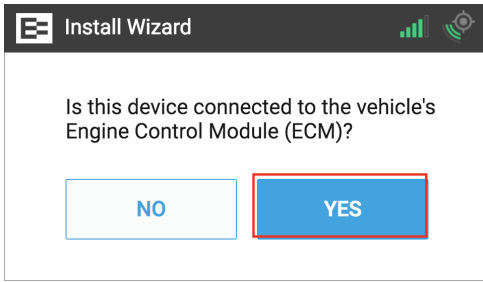
The Install Wizard displays a message that it is checking for updates. Please wait until this cycle is completed and the Up to Date screen appears.



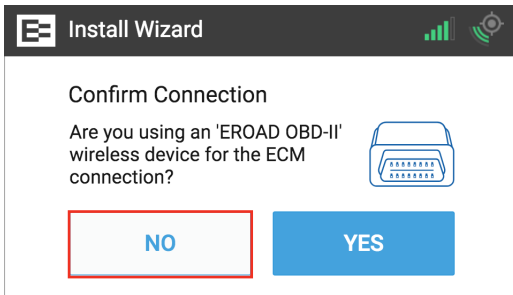
2. Tap the **Continue**  button in the Up to Date screen.



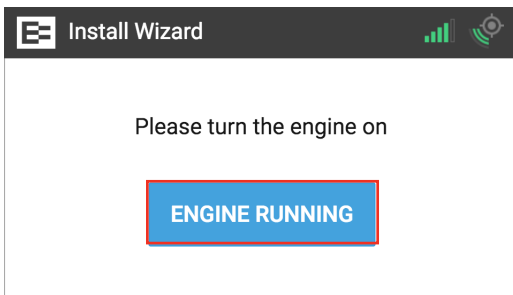
3. Tap the **Yes** YES button in this screen after installing the EROAD ECM Y-cable and ensuring that the device is properly connected to the ECM.



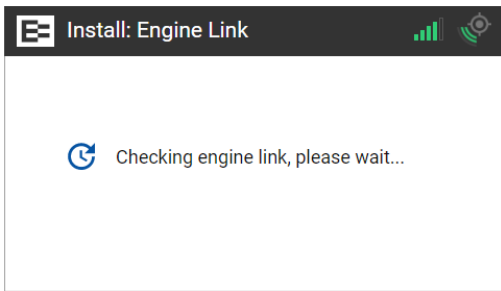
4. The following prompt displays if you are on the latest firmware.
 - 4A. Tap the **No** NO button when using the ECM Y-cable.
 - 4B. Tap the **Yes** YES button *only* if you've installed the device in a light or medium-duty vehicle not equipped with a standard, round 9-pin or 6-pin diagnostic connector, and you are using this adapter.



5. Turn the engine ON and ensure that it is running (not just ON). Tap the **Engine Running** ENGINE RUNNING button.



The Ehubo starts counting down as it receives data from the ECM. You can watch the seconds tick down until it is ready for the next step.

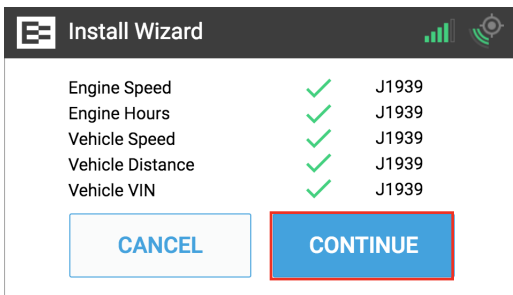


The Ehubo displays the system checks on engine speed and hours, as well as vehicle speed, distance, and VIN. This means that it has retrieved all required data from the ECM.

This example uses the J1939 protocol, which displays for new trucks. Vehicles using the older communication standard J1708 would also display data on this screen.

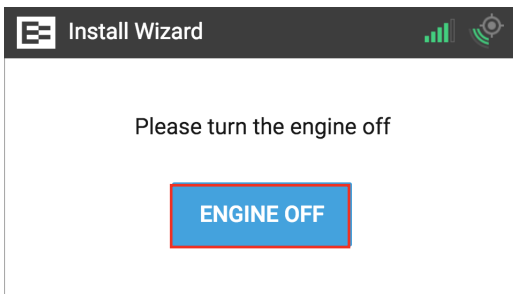
6. Tap the **Continue** CONTINUE button.


NOTE: Contact EROAD at support@eroad.com if you see a red X rather than green check marks or if the screen displays the "Something is not quite right" message.



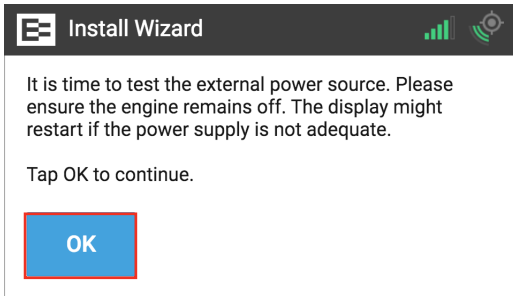
7. Physically turn OFF the truck. Notice the key icon has turned red, which is located on the upper right corner of the Ehubo.

8. Tap the **Engine Off** ENGINE OFF button.



9. The Ehubo is now testing the external power source to ensure that the device is receiving the proper voltage from the diagnostic connector. Tap the **OK**  button.

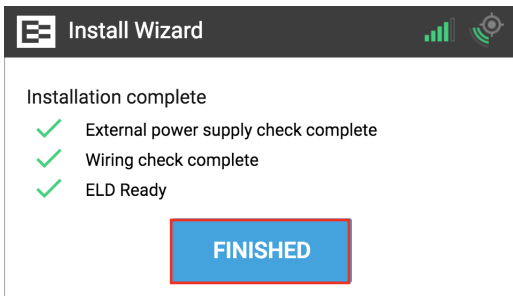
NOTE: The device might restart if the power supply is not adequate.



Next, the green check marks on the Installation Complete screen indicate that the unit has good external power, the wiring checks are complete, and the system is now ELD ready.

ELD ready means that this vehicle is now ready to be enabled in Depot to collect electronic logs on the device.

10. Tap the **Finished**  button.



You've just successfully completed the installation wizard. The following Pending Assignment screen appears until you assign the Ehubo to a vehicle in the Depot application.

NOTE: Enabling the device is typically performed in the Depot application by your back office personnel.

See the [Assign an Ehubo to a Vehicle](#) training lesson for more information.



11. Place the following documents in the truck cab, which came in the Ehubo box:

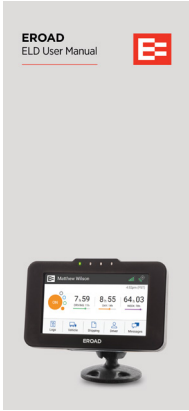
1. EROAD ELD User Manual
2. Roadside Inspection visor card
3. Resolving Data Diagnostic visor card

These documents are required to be carried in the vehicle by the federal ELD mandate. Drivers might be cited during an inspection if they do not have these documents.

1

2

3




EROAD ELD

Roadside Inspection

Follow instructions when a roadside inspection occurs.

1. Tap the **Duty Status** icon and tap the **ON** status. You can also access the Roadside screens while in **Driving** mode.
2. Tap the **Logs** icon.
3. Tap the **Roadside** icon.
4. Loosen the fastener on the mounting arm and remove the EROAD ELD.
5. Hand the device to the inspector.




EROAD ELD

Resolving Data Diagnostics

A red banner covers across the Home screen under the driver's name if data diagnostics have a problem. Scroll down the page and enter the required information to resolve the issue.

1. Tap the **red banner** on the Home screen.
2. Tap the **Details** icon on the **Current Issues** screen to see more information about the **Data Diagnostic** issue.
3. Follow the on-screen instructions to correct the issue. Locate the **Data Diagnostic** issue code in the **Link** on the right side of the card, and follow the instructions in the **Resolution / Roadside Info**.

NOTE: You can also access the **Current Issues** screen from the **Home** on the **Logs** screen. These steps are identical under the **driver's name** section of the card.



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6.3 TROUBLESHOOTING ECM INSTALLATIONS

The following issues might occur on ECM installation. See the pin diagrams in the Appendix for more information.

Issue or Symptom	Cause	Resolution
Device is not powering on or remains blank	<ul style="list-style-type: none"> • No power on the diagnostic connector • Faulty ECM cable 	<ul style="list-style-type: none"> • Ensure the vehicle engine is running • Ensure there is 12-24V on the diagnostic connector by referring to the appropriate pin-out diagram • Vehicle must be repaired to restore power to the connector if less than 8V is measured • Try a different ECM cable, if others are available • Contact EROAD if there are no alternative cables available
ECM cable does not match or fit within the existing mounting hole or bracket on the vehicle	<ul style="list-style-type: none"> • Wrong cable selected or shipped 	<ul style="list-style-type: none"> • Try a different ECM cable if others are available; note the subtle difference between screw-nut and flange-style connectors • Contact EROAD if there are no alternative cables available
No ECM data is detected when the installation wizard is run (receiving all red Xs) or the <i>Something is not quite right</i> screen appears	<ul style="list-style-type: none"> • ECM Y-cable is missing or not installed correctly • An older Ehubo device is used on a MY 2007 or older truck that has only an SAE J1708/J1587 ECM interface 	<ul style="list-style-type: none"> • Ensure that the correct ECM cable has been installed • Double check that the ECM cable is correctly connected to both the Ehubo cable and the vehicle's diagnostic connector • Check the year in which the truck was manufactured • Contact EROAD for an updated Ehubo that supports SAE J1708/J1587 if the Ehubo serial number begins with 0300

NOTE: Send a message to EROAD support if you need assistance at support@eroad.com.

7. Non-Standard Installation (without ECM Connection)

Use these instructions if you are installing the Ehubo into a pre-2000 vehicle or post-2000 vehicle with no ECM connection available. Review the instructions and diagrams carefully before you begin.

NOTES

- The engine must be turned off prior to installing the Ehubo.
- Power supply must not be taken from any anti-lock braking system/electronic braking system (ABS/EBS).

7.1 HARDWARE

- 1 Connect the 10-way connector (Q) on the extendable cable (N) to the corresponding connector on the Ehubo wiring harness (E). Secure with cable clamp (J) included in your cable kit.
- 2 Connect the black wire on the Ehubo wiring harness (E) to an appropriate grounding location that is fit for that purpose.
- 3 Connect the red wire on the wiring harness to the in-line 2A fuse (D) (included), and then to a permanent power source.

NOTE: Ensure there is a constant 12-24V when the key is inserted, with the engine running, and also when the key is not inserted and the engine is off.

- 4 Connect the yellow wire to an in-line fuse (D), then to the engine or ignition switched power source. Do not connect to an accessory wire.

NOTE: It is strongly recommended to connect to a source with a constant 12-24V when the engine is running, and zero volts when it is not for accurate idle reporting.

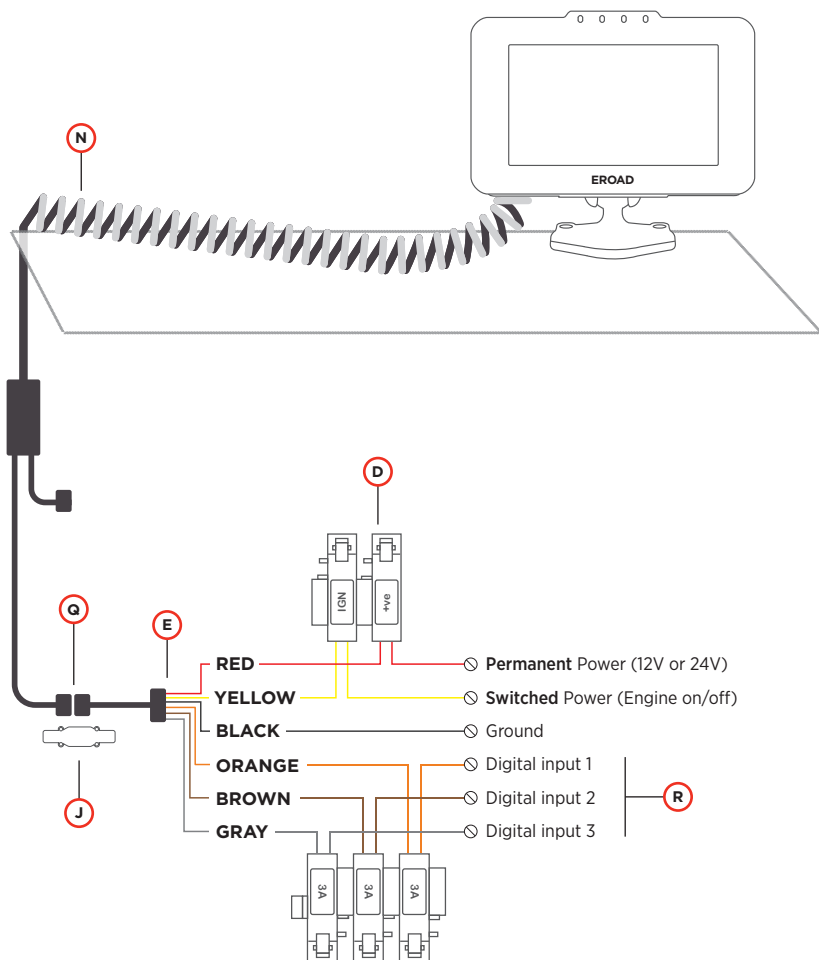
You may connect to an ignition source with a constant 12-24V when the key is in the ON position, and zero volts when the key is in the accessory (ACC) and OFF positions, if this is not possible.

- 5 (Optional) If additional wires (orange, brown and gray) (R) from the wiring harness are required for monitoring activity on the three digital inputs, connect to their respective sources with an in-line 3A fuse.
- 6 Finalize by following the on-screen instructions. (See section 7.2) After the checks are successfully completed, the Pending Assignment, or the Ehubo home screen (if unit is assigned to a vehicle) is displayed.
- 7 Store all unused wires neatly, insulated, and secured using cable ties. Reinstall any dashboard pieces or panels removed during installation. Remove the screen protection film from the Ehubo display screen. Ensure the driver-required manual and visor cards are in the vehicle.

NOTE: Electronic logs are activated in Depot after installation. Contact your Customer Success Account Manager for more information, if needed.

The Ehubo needs a permanent power source and a good view of the sky to operate optimally.

The curly cable must remain above the dash.



(Fuse note) You must fuse the following wires when connected for short-circuit protection:

- RED - Permanent Power (Fuse supplied)
- YELLOW - Switched Power (Fuse supplied)
- ORANGE - Digital Input 1 (3A Fuse)
- BROWN - Digital Input 2 (3A Fuse)
- GRAY - Digital Input 3 (3A Fuse)

The Ehubo shuts down to a lower power mode and draws a very small current from the vehicle supply when the vehicle is off.

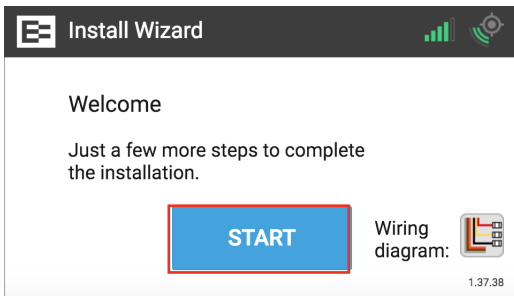
Remove the Ehubo permanent power fuse if the vehicle is in storage or parked up for more than a month to avoid discharging the vehicle battery.

7.2 RUNNING THE INSTALL WIZARD (NON-ECM INSTALLATION)

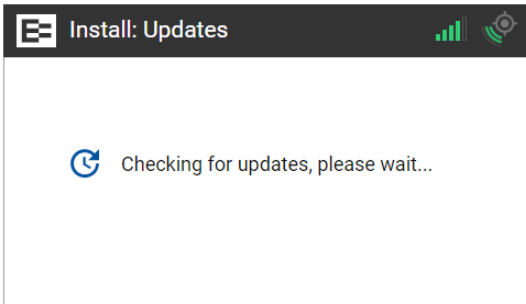
You must run the Install Wizard to complete your installation on vehicles with a non-ECM connection. Typically, these vehicles were manufactured in the year 1999 or earlier. This device is hard-wired for ground, permanent power, and ignition.

Perform the following steps to run the Install Wizard.

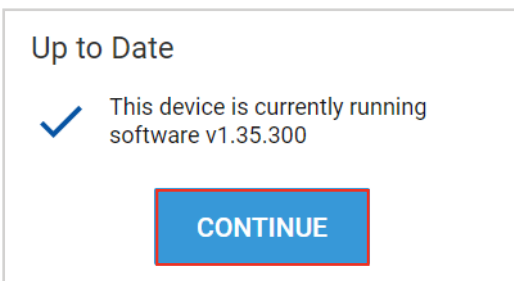
1. The Welcome screen appears once the Ehubo is physically installed and the vehicle is powered ON.
Tap the **Start** START button.



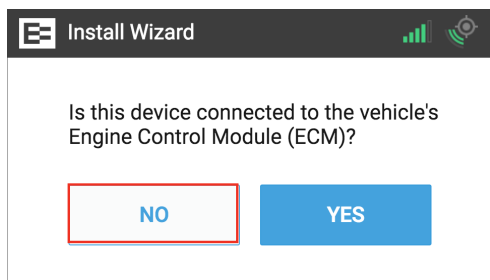
The Install Wizard displays a message that it is checking for updates. Please wait until this cycle is completed and the Up to Date screen appears.



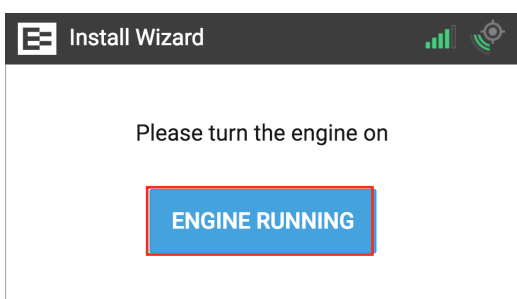
2. Tap the **Continue** CONTINUE button in the Up to Date screen.



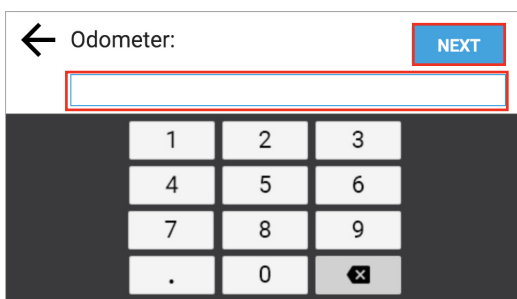
3. Tap the **No** NO button in the ECM prompt, because it is not connected to the ECM.



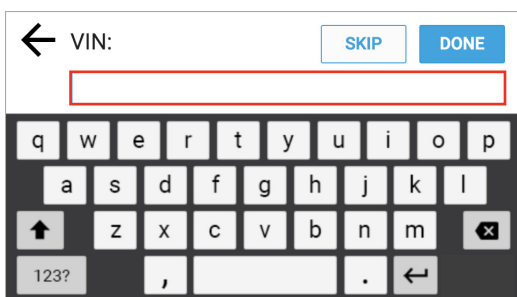
4. Turn the engine ON until the key symbol in the upper right corner of the Ehubo turns green.
5. Tap the **Engine Running** ENGINE RUNNING button.



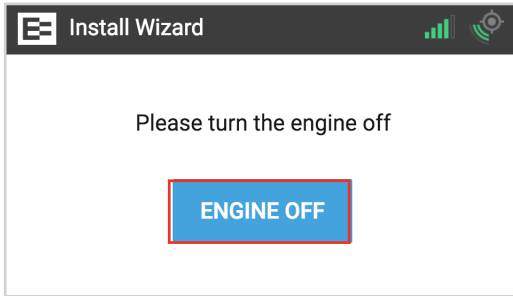
6. Enter the vehicle's reading in the Odometer field on the screen.
7. Tap the **Next** NEXT button.



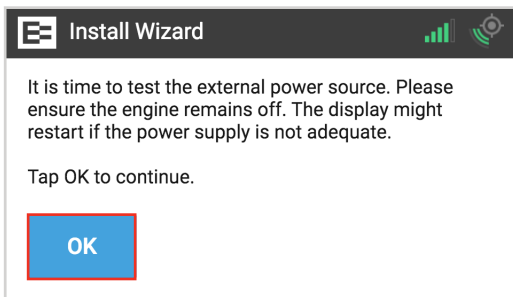
8. (Optional) Enter the vehicle's identification number (VIN) in the VIN field on screen. You may skip this step if you do not have access to the VIN.
9. Tap the **Done** DONE button or tap the **Skip** SKIP button if you do not have the information.



10. Turn the engine OFF. The key icon on the device should turn red.
11. Tap the **Engine Off** ENGINE OFF button.



12. The Ehubo is now testing the external power source to ensure that the device is receiving the proper voltage from the diagnostic connector. Tap the **OK** OK button to continue. **NOTE:** The device might restart if the power supply is not adequate.

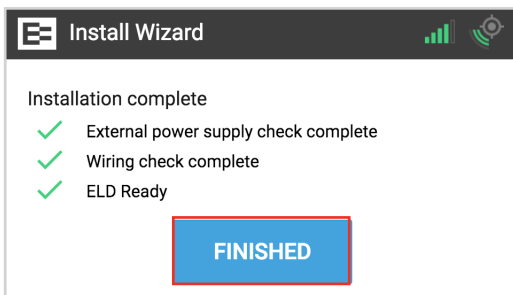


Next, the green check marks on the Installation Complete screen indicate that the unit has good external power, the wiring checks are complete, and the system is now ELD ready.

This vehicle is now set up as a pre-2000 vehicle in the Depot application, which means that you can still activate EROAD logs if you want to on this truck.

Talk to your Customer Success specialist for more information.

13. Tap the **Finished** FINISHED button.



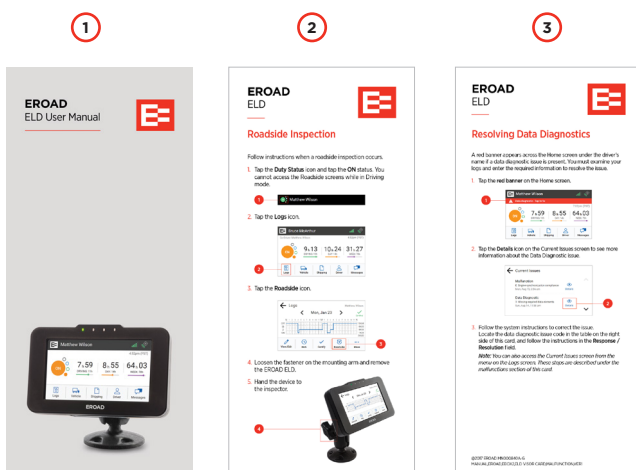
You've just successfully completed the installation wizard. The following Pending Assignment screen appears.



14. Place the following documents in the truck cab, which came in the Ehubo box:



1. EROAD ELD User Manual
2. Roadside Inspection visor card
3. Resolving Data Diagnostic visor card

These documents are required to be carried in the vehicle by the federal ELD mandate. Drivers might be cited during an inspection if they do not have these documents.



7.3 TROUBLESHOOTING NON-ECM INSTALLATIONS

This section provides some solutions if the installation of your Ehubo is unsuccessful or the Ehubo doesn't perform as expected. The following issues might occur on non ECM installations. See the pin diagrams in the Appendix for more information, if needed.

Issue or Symptom	Cause	Resolution
Device is not powering on or remains blank	<ul style="list-style-type: none"> • Red permanent power wire is not connected properly or is not connected to a good source • Black ground wire is not connected to a good ground • Main cable has become unplugged from the back of the unit 	<ul style="list-style-type: none"> • Check that the permanent power has been connected correctly and there is 12-24V when the key is in the OFF, ON, and RUN positions. • Ensure that there is a good ground connected to the black wire • Ensure that the main cable is fully seated in the connection on the back of the unit. • Ensure that the fuse inline is connected per the installation instructions, and the 2A fuse is inserted
Engine on/off icon shows incorrectly  	<ul style="list-style-type: none"> • Ignition (switched power) is not connected properly 	<ul style="list-style-type: none"> • Ensure that switched power has been connected correctly and there is 12-24V when the key is in the ON and RUN positions, and there are zero volts when the key is in the OFF positions • Ensure that the fuse in-line is connected per the installation instructions, and the 2A fuse is inserted

NOTE: Send a message to EROAD support if you need assistance at support@eroad.com.

8. OBD-II Installation

Using the OBD-II Bluetooth® connection allows light vehicles to use ELD technology. A dongle provides the connection to the ECM and plugs into the OBD-II port. Ground, permanent power, and ignition are accomplished using the three-wire installation procedure.

Use these instructions if you are installing the Ehubo into a lighter class vehicle (class 1-6) with an OBD-II diagnostic connector. Review the instructions and diagrams carefully before you begin.

NOTES

- The engine must be turned off prior to installing the Ehubo.
- Power supply must not be taken from any anti-lock braking system/electronic braking system (ABS/EBS).

8.1 HARDWARE

- 1 Connect the 10-way connector (Q) on extendable cable (N) to the corresponding connector on the Ehubo wiring harness (E). Secure with cable clamp (J) included in your cable kit.
- 2 Connect the black wire on the Ehubo wiring harness (E) to an appropriate grounding location that is fit for that purpose.
- 3 Connect the red wire on the wiring harness to the inline 2A fuse (D) (included), and then to a permanent power source.

NOTE: Ensure there is a constant 12-24V when the key is inserted, with the engine running, and also when the key is not inserted and the engine is off.

- 4 Connect the yellow wire to an inline fuse (D), then to the engine or ignition switched power source. Do not connect to an accessory wire.

NOTE: It is strongly recommended to connect to a source with a constant 12-24V when the engine is running, and zero volts when it is not for accurate idle reporting.

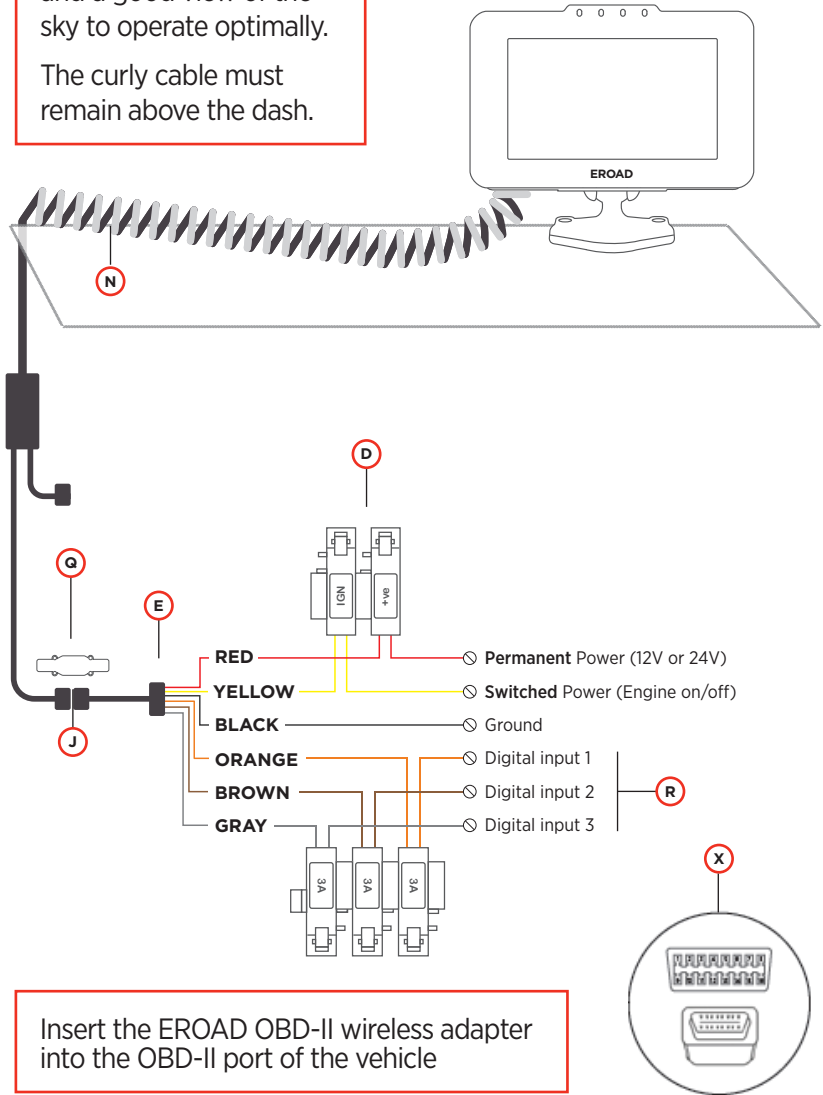
You may connect to an ignition source with a constant 12-24V when the key is in the ON position, and zero volts when the key is in the accessory (ACC) and OFF positions, if this is not possible.

- 5 (Optional) If additional wires (orange, brown and gray) (R) from the wiring harness are required for monitoring activity on the three digital inputs, connect to their respective sources with an inline 3A fuse.
- 6 Insert the EROAD OBD-II wireless adapter into the OBD-II port of the vehicle ensuring that it is fully seated in position.
- 7 Finalize by following the on-screen instructions. (See section 8.2) After the checks are successfully completed, the Pending Assignment, or the Ehubo home screen (if unit is assigned to a vehicle) is displayed.
- 8 Store all unused wires neatly, insulated, and secured using cable ties. Reinstall any dashboard pieces or panels removed during installation. Remove the screen protection film from the Ehubo display screen. Ensure the driver-required manual and visor cards are in the vehicle.

NOTE: Electronic logs are activated in Depot after installation. Contact your Customer Success Account Manager for more information, if needed.

The Ehubo needs a permanent power source and a good view of the sky to operate optimally.

The curly cable must remain above the dash.



(Fuse note) You must fuse the following wires when connected for short-circuit protection:

- RED - Permanent Power (Fuse supplied)
- YELLOW - Switched Power (Fuse supplied)
- ORANGE - Digital Input 1 (3A Fuse)
- BROWN - Digital Input 2 (3A Fuse)
- GRAY - Digital Input 3 (3A Fuse)

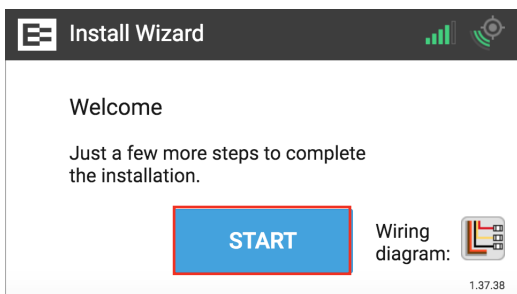
The Ehubo shuts down to a lower power mode and draws a very small current from the vehicle supply when the vehicle is off.

Remove the Ehubo permanent power fuse if the vehicle is in storage or parked up for more than a month to avoid discharging the vehicle battery.

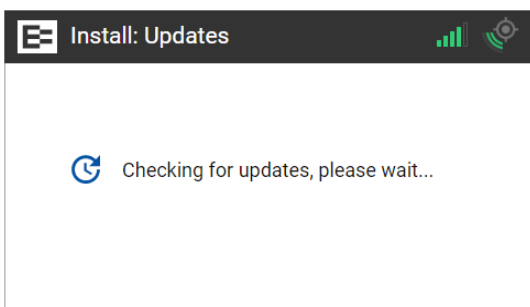
8.2 RUNNING THE INSTALL WIZARD (OBD-II INSTALLATIONS)

You must run the Install Wizard to complete your installation on vehicles with an OBD-II adapter. Perform the following steps to run the Install Wizard.

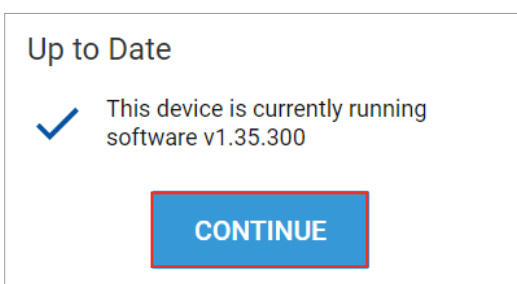
1. The Welcome screen appears once the Ehubo is physically installed and the vehicle is powered ON. Tap the **Start** START button.



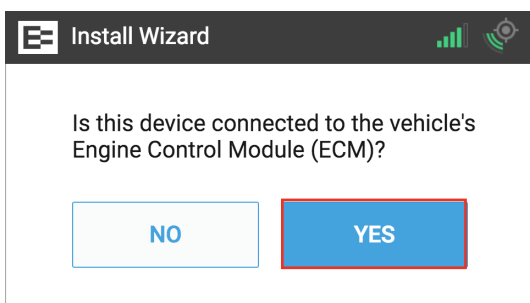
The Install Wizard displays a message that it is checking for updates. Please wait until this cycle is completed and the Up to Date screen appears.



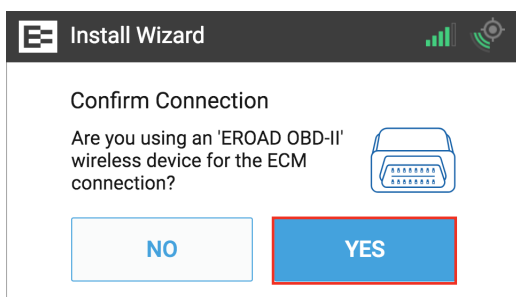
2. Tap the **Continue** CONTINUE button in the Up to Date screen.



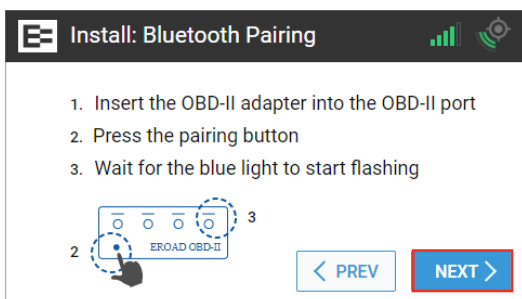
3. Tap the **Yes** YES button in this screen after ensuring that the device is properly connected to the ECM.



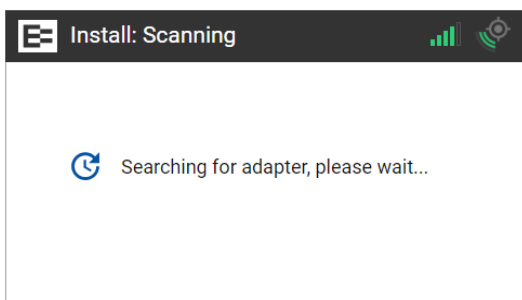
4. Tap the **Yes** YES button if you've installed the device in a light or medium-duty vehicle not equipped with a standard, round 9-pin or 6-pin diagnostic connector, and you are using this adapter.



5. Insert the OBD-II adapter into the OBD-II port.
 6. Press the **Pairing** button on the adapter.
 7. Wait for the blue light to start rapidly flashing.
 8. Tap the **Next** NEXT > button on the screen.

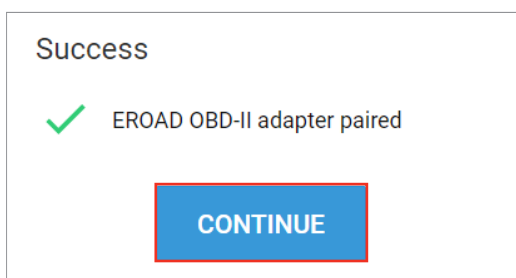


The device begins searching for the OBD-II adapter, so please wait until this step is completed.



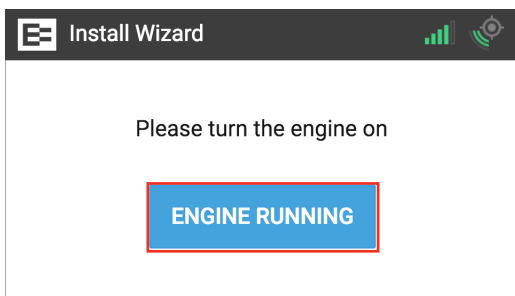
The Success screen appears when the EROAD OBD-II adapter pairing is completed.

9. Tap the **Continue** CONTINUE button.



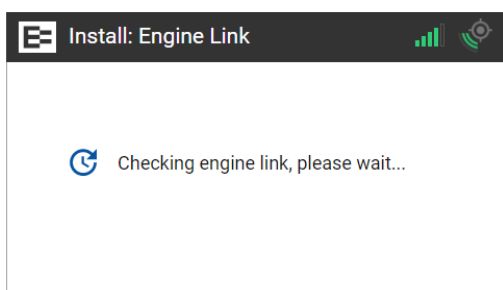
10. Turn the engine ON and ensure that it is running (not just ON).

11. Tap the **Engine Running**  button.



The Ehubo starts counting down as it receives data from the OBD-II adapter.

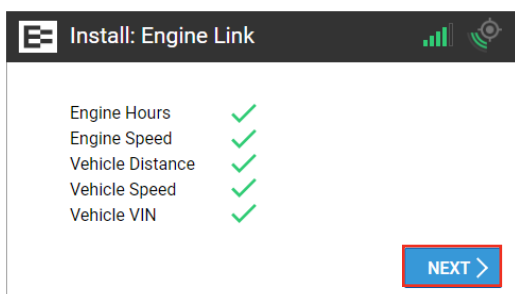
Watch the seconds tick down until it is ready for the next step.



Next, the Ehubo displays the system checks on engine speed and hours, vehicle speed, distance, and VIN. This means that it has retrieved all required data.

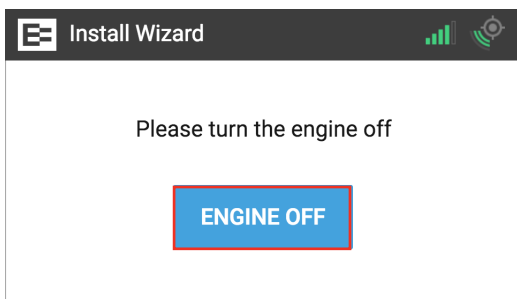
NOTE: A red X instead of a green check mark appears, or the "Something is not quite right" screen appears, if you are missing data. You might be prompted to enter the odometer reading or the VIN. Check the Troubleshooting section 8.3, if you need assistance. You may contact EROAD at support@eroad.com after completing the troubleshooting steps, if needed.

12. Tap the **Next**  button.



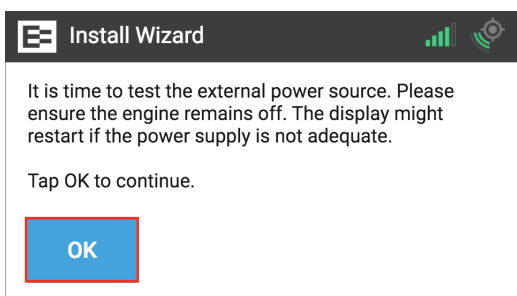
13. Physically turn OFF the truck. Notice the key icon has turned red, which is located on the upper right corner of the Ehubo.

14. Tap the **Engine Off** ENGINE OFF button.



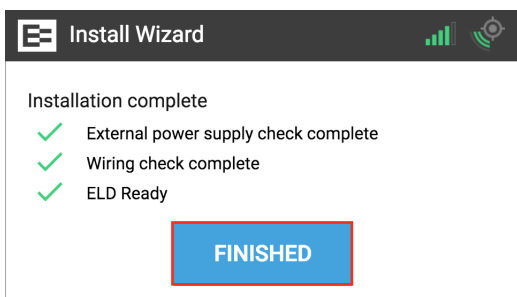
15. The Ehubo is now testing the external power source to ensure that the device is receiving the proper voltage from the diagnostic connector. Tap the **OK** OK button to continue.

Note: *The device might restart if the power supply is not adequate.*



Next, the green check marks on the Installation Complete screen indicate that the unit has good external power, the wiring checks are complete, and the system is now ELD ready. ELD ready means that this vehicle is now ready to be enabled in Depot to collect electronic logs on the device.

16. Tap the **Finished** FINISHED button.



You've successfully completed the installation wizard. The following Pending Assignment screen appears until you assign the Ehubo to a vehicle in the Depot application.

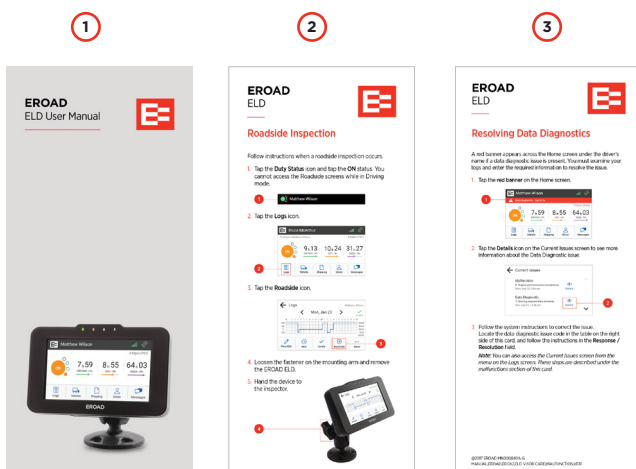
NOTE: Enabling the device is typically performed in the Depot application by your back office personnel. See the [Assign an Ehubo to a Vehicle](#) training lesson for more information.



17. Place the following documents in the truck cab, which came in the Ehubo box:

1. EROAD ELD User Manual
2. Roadside Inspection visor card
3. Resolving Data Diagnostic visor card

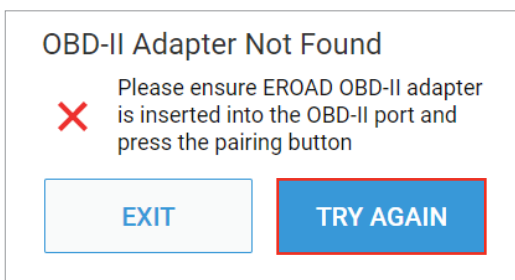
These documents are required to be carried in the vehicle by the federal ELD mandate. Drivers might be cited during an inspection if they do not have these documents.



8.3 TROUBLESHOOTING OBD-II INSTALLATIONS

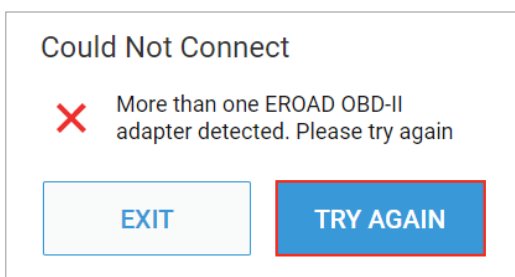
The OBD-II installation might fail if the OBD-II adapter is not inserted properly into the OBD-II port before tapping the Pairing button.

1. Tap the **Try Again** TRY AGAIN button if this occurs and repeat the installation steps described in section 8.2.



The following error message occurs if there is more than one OBD-II adapter detected while the installation wizard is running.

2. Tap the **Try Again** TRY AGAIN button if this occurs and repeat the installation steps described in section 8.2.



9. Replacement Installation

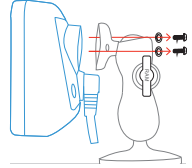
Replacing an existing Ehubo includes:

- Disconnect the power cable from the existing Ehubo
- Connect it to the replacement Ehubo.

NOTE: Turn OFF the engine prior to replacing the Ehubo

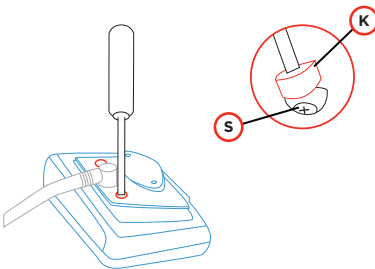
Perform the following steps:

- 1** Remove the **existing Ehubo** from its mount and carefully place it screen down on a clean, flat surface.
Make sure to not scratch or damage the screen!

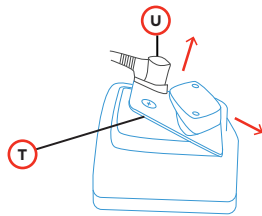


- 2** Unpack the **replacement Ehubo** and also place it screen down on a clean, flat surface.
Make sure to not scratch or damage the screen!

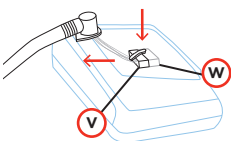
- 3** Remove the rear hatch security plugs (**K**) of both, the **existing** and the **replacement Ehubo**, **if applicable**. This is easily done by inserting a flat head screwdriver and scooping out the plug. Unwind the screw underneath (**S**).



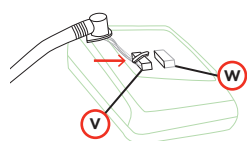
- 4** Lift the rear hatch (**T**) off the **existing Ehubo** and slide it off the cable grommet (**U**). Lift the rear hatch off the **replacement Ehubo**.



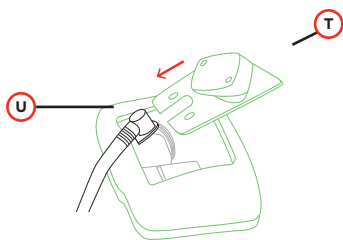
- 5** **EXISTING EHUBO:** Push down the cable plug latch to release the cable plug (**V**) and carefully slide the cable plug off the internal connector (**W**).



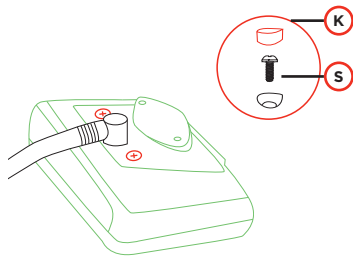
- 6** **REPLACEMENT EHUBO:** Carefully insert the cable plug (**V**) into the internal connector (**W**). Ensure the cable plug latch clicks into place to safely secure the plug.



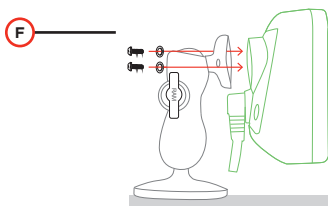
- 7 Slide the **replacement Ehubo's** rear hatch (**T**) onto the cable grommet (**U**) and insert it into the **replacement Ehubo**.



- 8 Insert the two rear hatch screws (**S**) and new security plugs (**K**), if applicable.



- 9 Mount the **replacement Ehubo** on the existing mount using the screws and washers (**F**) supplied with the **replacement Ehubo**.



- 10 Pull the sticker and screen protection film off the Ehubo screen.
- 11 The install wizard must be re-run to completion on the new unit. Follow the instructions on the screen to complete the installation. (*See the Install Wizard instructions in previous chapters for more information.*) The installation is complete when the Ehubo Home screen is displayed. This is the end of the process.
- 12 Please place the uninstalled Ehubo in the replacement box and return to EROAD, including any surplus parts.

You must rerun the Install Wizard when the Ehubo is powered ON. Perform these steps if the system does not prompt you to complete the Install Wizard.

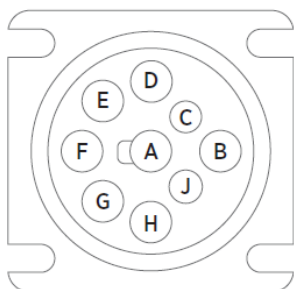
- Press and hold the **EROAD logo** on the top left corner of the Home screen for seven (7) seconds to access the Diagnostics Mode screen. Alternatively, press and hold **Login** if no one has logged into the Ehubo.
- Tap **Install Wizard** once the Diagnostic Mode screen appears. Follow the applicable installation procedure for your vehicle.

10. Appendix

Use the following PIN diagrams, when directed by the respective troubleshooting instructions.

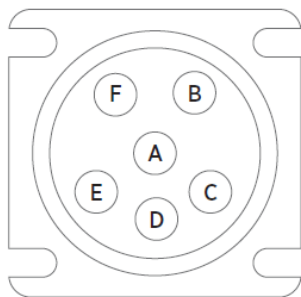
9-Pin J-BUS Connector and Diagram

PIN	Description	Wire Color (Typical)
A	Ground (Earth)	Black
B	12V Power Supply	Red
C	J1939 + (Data +)	Yellow
D	J1939 - (Data -)	Brown
E	J1939 Shield	White
F	J1708/J1587 +	Green
G	J1708/J1587 -	Blue
H	Not connected/ CAN2 High	
J	Not connected/ CAN2 Low	



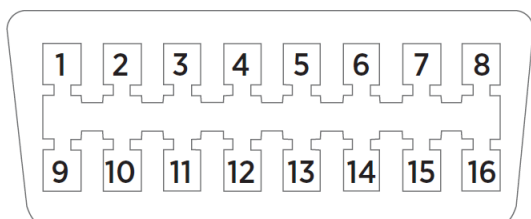
6-Pin J-BUS Connector and Diagram

PIN	Description	Wire Color (Typical)
A	J1587 + (Data +)	Green
B	J1587 - (Data -)	Blue
C	12V Power Supply	Red
D	Not Connected	
E	Ground (Earth)	Black
F	Not Connected	



OBD-II Connector and Pin-out Diagram

PIN	Description	PIN	Description
1	Vendor Option	9	Vendor Option
2	J1850 Bus +	10	J1850 Bus
3	Vendor Option	11	Vendor Option
4	Chassis Ground	12	Vendor Option
5	Signal Ground	13	Vendor Option
6	CAN (J-2234) High	14	CAN (J-2234) Low
7	ISO 9141-2 K-Line	15	ISO 9141-2 Low
8	Vendor Option	16	Battery Power



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