ELD Solutions – Installation Partner Training

February 2022

ELD Cabling Overview

WHY?

Why is Lytx changing the ECM Cabling solution?

In order to support ELD (Electronic Log Data) we will need to connect into the vehicle data in a different method than our legacy CAN Coupler.

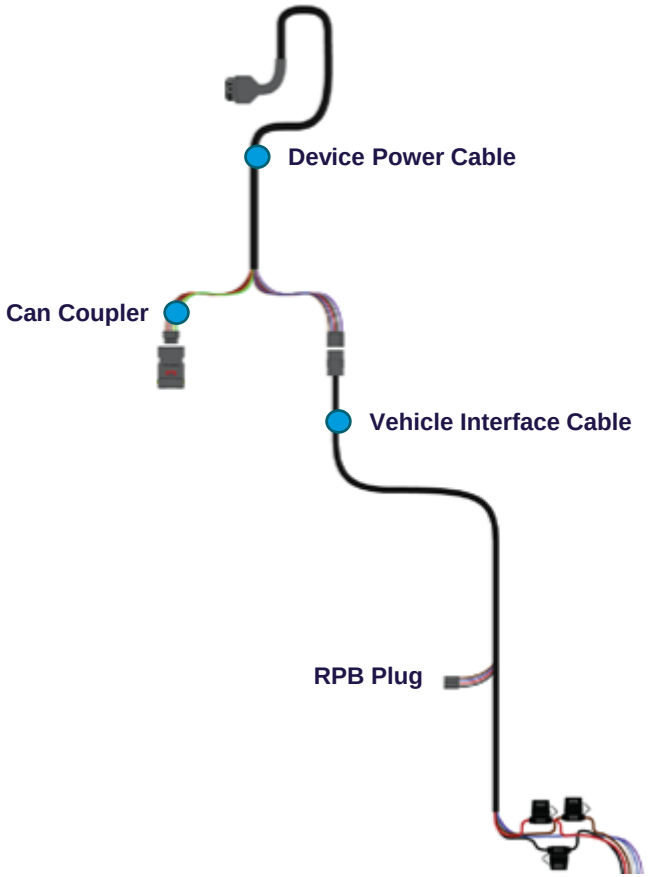
- CAN Coupler only ‘reads’ data.
- ELD requires bi-directional communication
  - CAN Repeater supports this
  - CAN Repeater allows Lytx cable length to be compliant to CAN specifications
- This is achieved utilizing diagnostic ports:
  - 9 Pin diagnostic port
  - 16 Pin diagnostic port (Volvo & Mack)
  - RP1226 (Select 2019+ vehicles)

ELD Overview

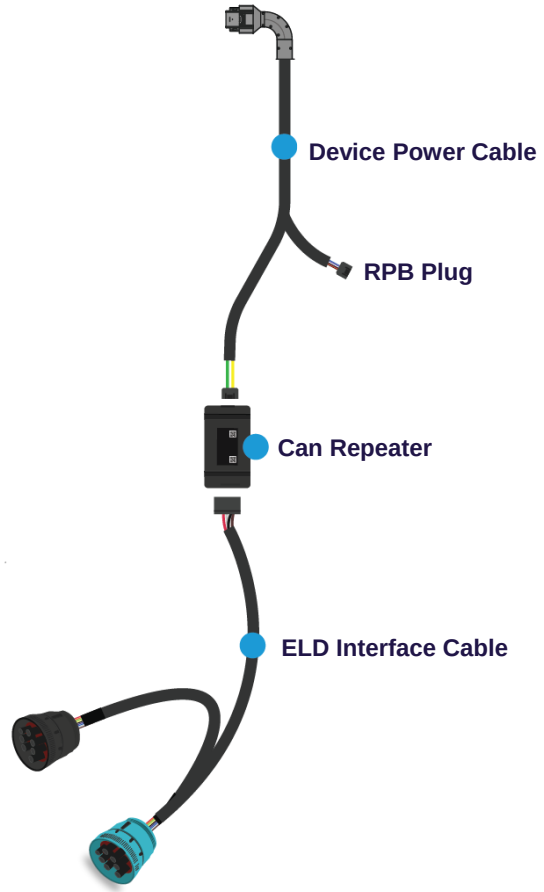
Highlights

- **Currently in Beta**. Plan is to go General Availability **(GA) 4/1** for ELD.
  - **9 & 16 pin cable solutions GA 2/25**
- Initial GA offering will be focused on Clients who want **ELD**. All other's will still use CAN Coupler
  - Intent is to exhaust existing inventory of CAN Couplers and then get new product out in the market
  - We **expect exceptions** to this rule. There should be no impact to installation on these exceptions.
- Anticipate to fully move to CAN **Repeater** product for all J1939 installs at some point (no hard commitment date yet)
  - Supports 'easier' installation requirements
- CAN Repeater / ELD Product Overview
  - Supports vehicle connection for data + power (ignition is simulated)
  - Common connection point for the camera – industry standard
    - **9-pin**
      - Pre 2019 non Volvo/Mack
    - **16-pin**
      - Volvo/Mack
    - **RP1226 (on hold for now)**
      - Finding challenges with consistency with RP1226 in vehicles
      - 2019+ vehicles (if present)
      - For GA we will only send the 9 or 16 pin until comfort level with RP1226 consistency
  - **No 3rd party device on the ports. Not supported with our cable. Must be independent**
    - Different approach in determining this. IPM to inquire about telematics in lieu of 'ports'.
    - IPM to identify prior to installation what the installer's action is IF another device is in the port: a) Installer approved to remove device or b) unable to install in the vehicle
    - Product Management investigating ways to support this long term

What's the Installation difference?



Standard ECM Solution



ELD Solution

All new cabling

- Upgrade to ELD will require removal of all existing Lytx cabling

Easier installation

- No separate power connections
- 'Plug and play'
- Average install time of 30 minutes

ELD Beta Metrics

- Installations through 2/18/2022
  - Total Installs: 68 Total Installs with 9 or 16 pin
    - 39 installs with 9 Pin diagnostics
    - 29 installs with 16 pin diagnostics

16 Pin Installs

Row Labels	Count of Make
Mack	**29**
Anthem	13
CXU	9
Granite	5
GU	2
Grand Total	29

9 Pin Installs

Row Labels	Count of Make
Ford	1
F-750	1
Freightliner	**18**
Cascadia	13
New Cascadia	4
M2	1
Freightliner	5
SD122	4
SD123	1
International	4
A025	1
MV607	2
LT625	1
International	2
LF627	2
Kenworth	1
T8 Series	1
Peterbilt	2
389	2
Western Star	3
4700	3
Western Star	2
4900	2
Western Star	1
4900	1
Grand Total	39

ELD Beta Metrics

- Installation attempts on **RP1226** through 2/18/2022
  - Total Installs: 68 Total Installs with 9 or 16 pin
    - 39 installs with 9 Pin diagnostics
    - 29 installs with 16 pin diagnostics

RP1226 Results

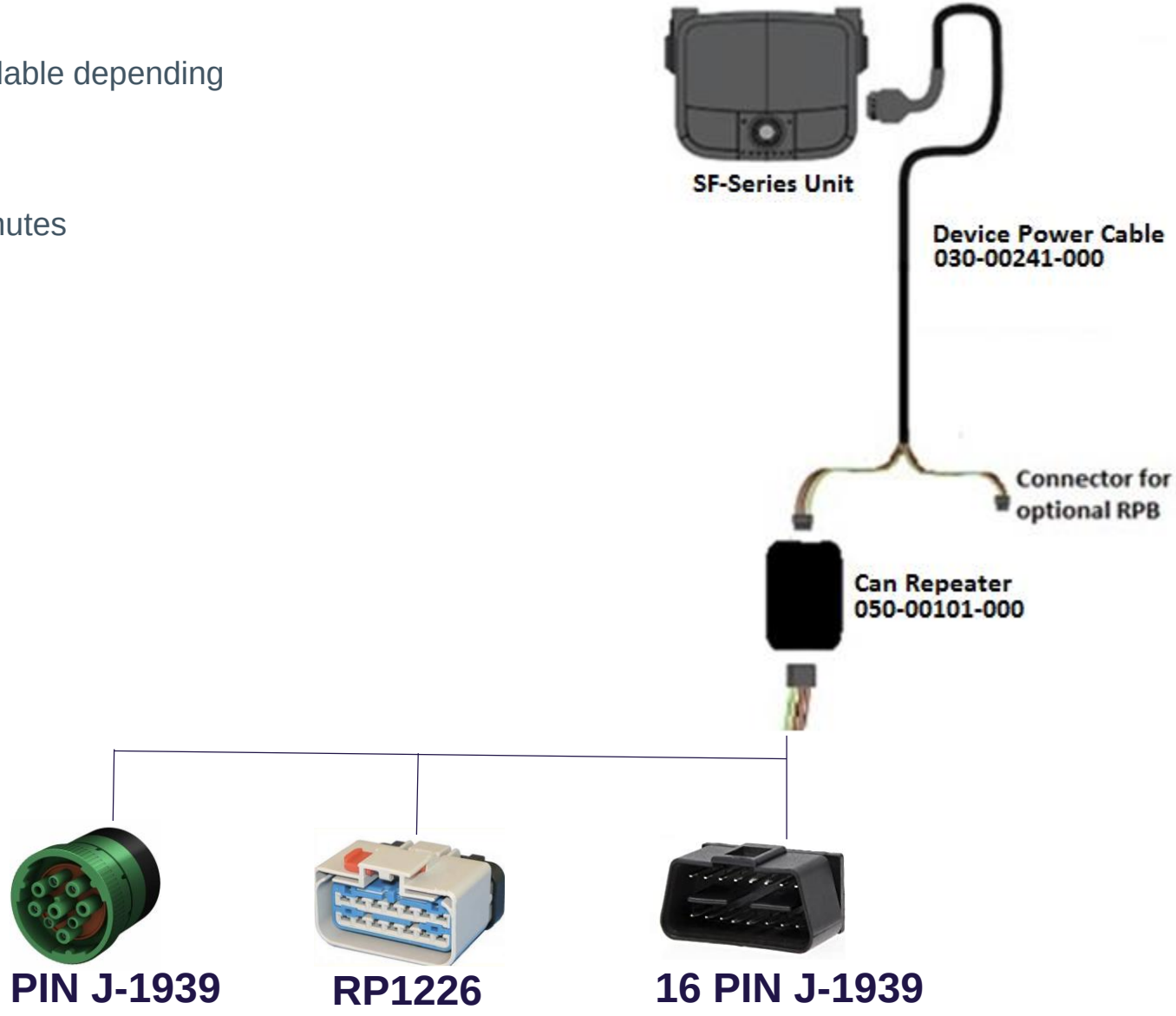
Row Labels	Count of Actual
FREIGHTLINER	3
M2	1
2022	1
RP1226	1
New Cascadia	2
2020	2
9-pin diagnostic	2
International	3
LT625	1
2020	1
9-pin diagnostic	1
MV607	2
2020	2
9-pin diagnostic	2
Mack	13
Anthem	9
2019	3
16-pin diagnostic	3
2020	2
16-pin diagnostic	2
2021	1
16-pin diagnostic	1
2022	3
16-pin diagnostic	3
Granite	4
2019	1
16-pin diagnostic	1
2021	2
16-pin diagnostic	2
2022	1
16-pin diagnostic	1
(blank)	
(blank)	
(blank)	
(blank)	
Grand Total	19

ELD Cabling Installation Overview– Diagnostic port cable options

-Three different connection point options are available depending on vehicle type

-Average installation time is approximately 30 minutes

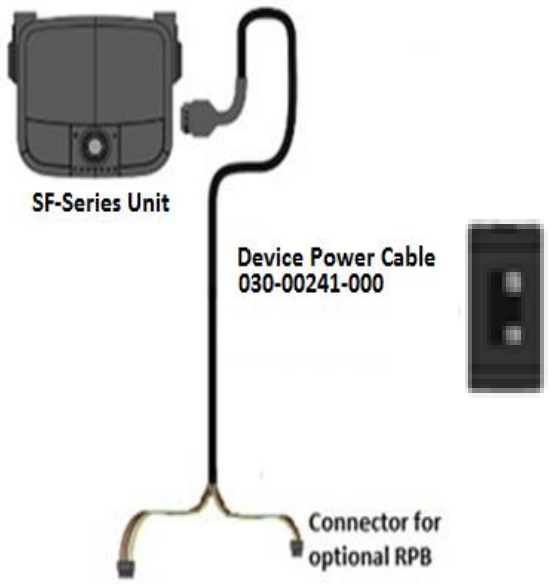
-**HUB is not currently supported with ELD**



9 PIN Diagnostic “Y” CABLE (J1939)

- Easier installation
- Y-Cable utilization with various brackets
- CAN Repeater technology
- Supports 250 and 500 baud network
- Vehicles supported:
  - Freightliner
  - Kenworth
  - Peterbilt
  - **Mack (pre 2014)**
  - **Volvo 2016+** w/ Cummins Engine
  - Western Star
- OEM port must NOT have anything already connected to it
- Green Template will come attached. No installer action. Intent:
  - Post install troubleshooting. Preventing old tool being used on 500 baud network
  - If not already attached – have installer insert regardless of network

J-1939 Data+Power

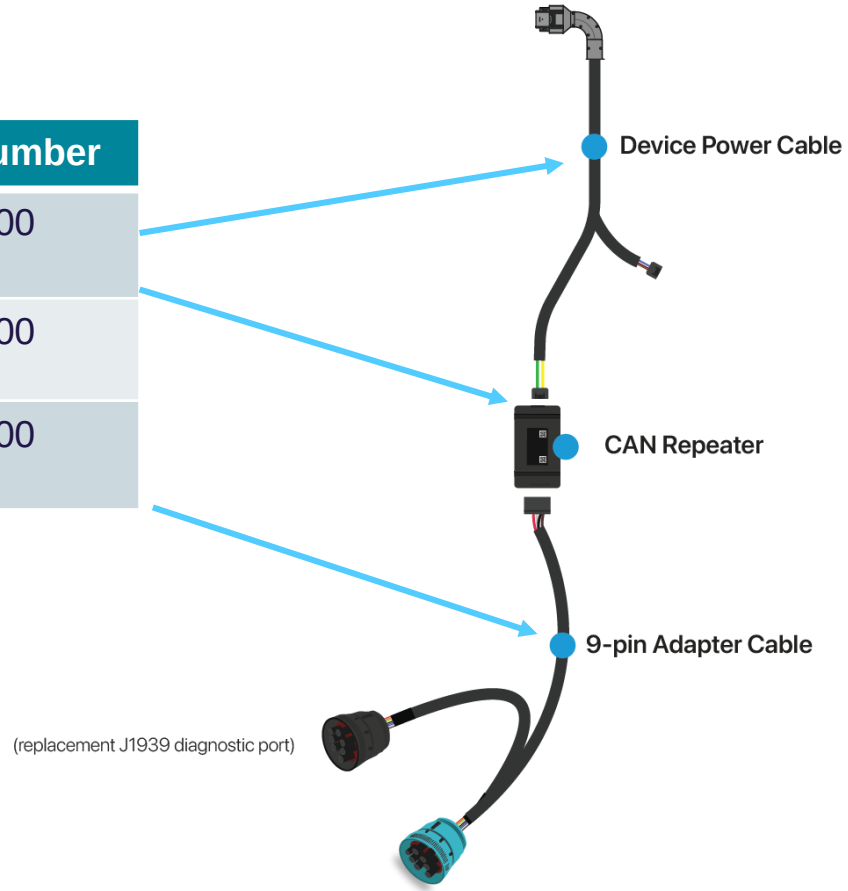


J1939 cable plugs into the CAN Repeater.

9 PIN Diagnostic “Y” CABLE (J1939)

Cable Part Numbers

Part Name	Part Number	Inventory Number
Power Cable	CBL-HD-K10-011P (Kit)	030-00241-000
CAN Repeater	CBL-HD-K10-011P (Kit) *PER-CAT-0575	050-00101-000
9 Pin Y Cable w/ Brackets	CBL-HD-K10-011P (Kit) *PER-CAT-0579 no brackets	030-00261-000



9 PIN Diagnostic “Y” Brackets (J1939)

Installation QuickLook

FITTING BRACKETS
J1939 All-in-one 9-pin Diagnostic Cable

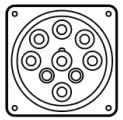
PROVIDED FITTING BRACKETS

Hexagonal Nut | Jam Mount Clip | Screw Clip | Flange Clip | Washer

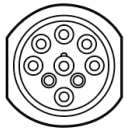
STEP 1.
Identify the mounting clip that matches the vehicle’s connector

A. Flange Mount

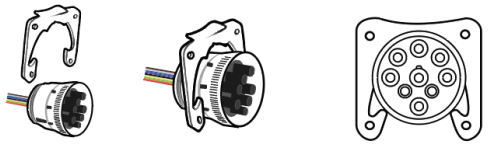
B. Screw Mount



C. Jam Mount



STEP 2.
Identify the mounting clip that matches the vehicle’s connector



9 PIN Diagnostic “Y” Brackets (J1939)

Nut and Washer

Jam Nut Clip

- This mount type is common in older trucks

- We advise using a combination With the nut and washer depending on the application

Block off plate
*Should come pre-installed. If not installer should insert

Screw Clip

- This mount type is common in Navistar International Trucks

Flange Clip

- This mount type is common in Freightliners

J-1939 16 PIN Y HD CABLE

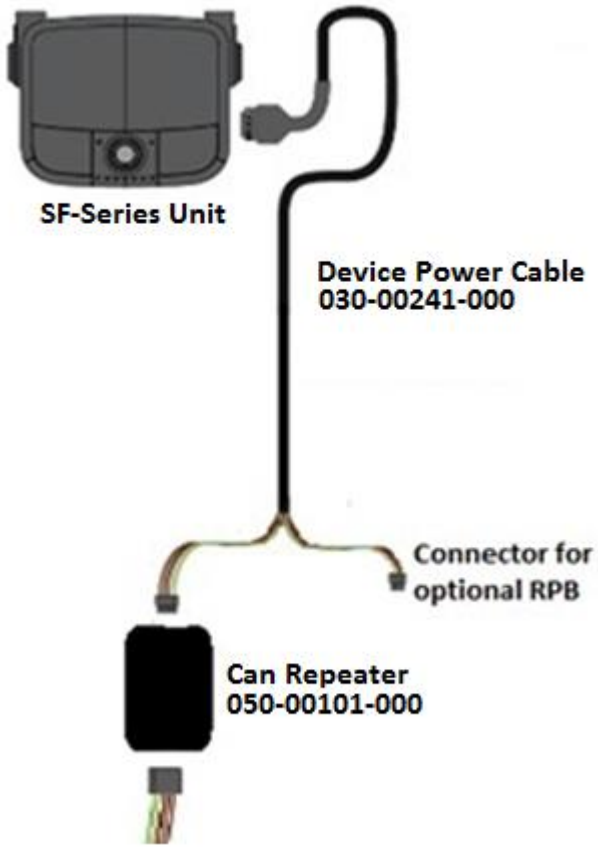
- Same reasons as 9 pin
- Vehicle Types:
  - 2014+ Mack/Volvo with Volvo engine

- **2008 - 2022**
  - **Volvo/Mack = 16 Pin**

Engine Type	Manufactured Date	Diagnostic Port Type
Cummins	12-31-2015 and prior	9 pin
All other	12-31-2012 and prior	9 pin
All other	1-1-2013 and newer	16 pin

2014+ Volvo/Mack

Multiple mounting adapters included



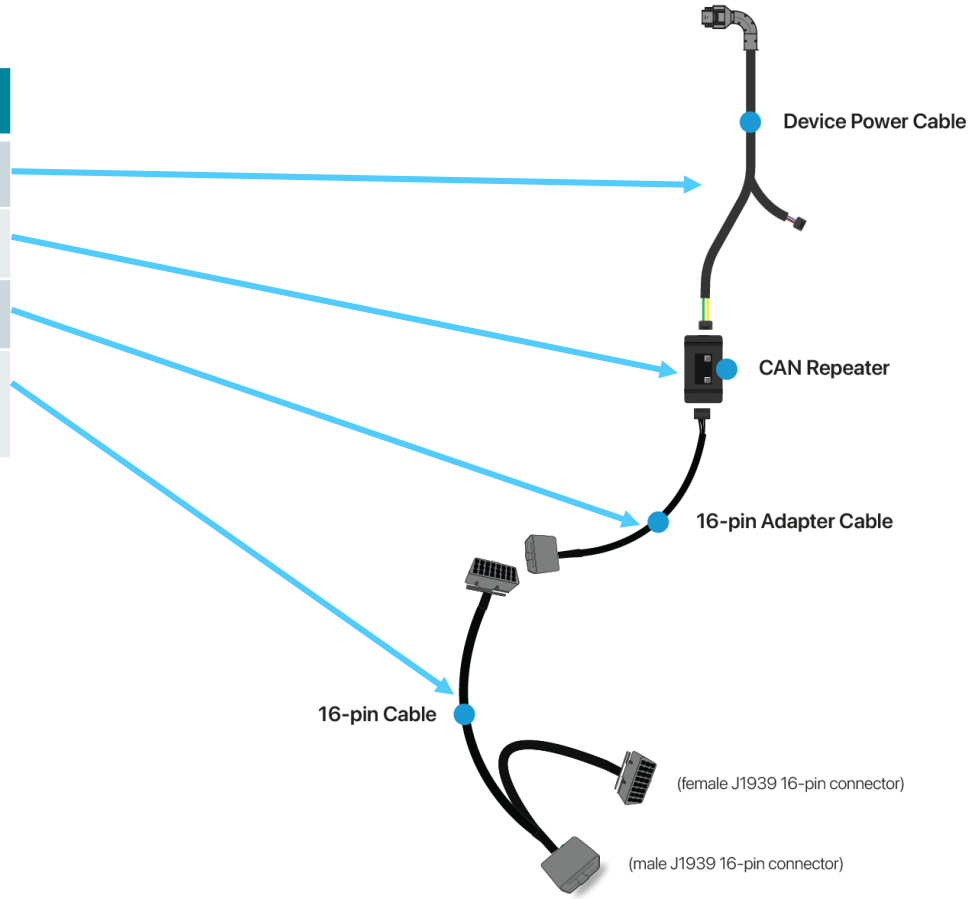
J-1939 16 PIN Y HD CABLE

2014+ Volvo/Mack

Multiple mounting adapters included

Cable Part Numbers - kitted

Part Name	Part Number	Inventory Number
Power Cable	CBL-HD-K10-012P	030-00241-000
CAN Repeater	CBL-HD-K10-012P	050-00101-000
16 Pin Adapter Cable	CBL-HD-K10-012P	030-00263-000
16Pin Y Cable w/ Brackets	CBL-HD-K10-012P	030-00262-000



J-1939 16 PIN Y HD BRACKETS

- **OPEN ITEM – is the cable the same as the OBDII cable? Bing asked – Yes and the brackets are the same**

	OBDII	J1939
	• Ford • GM • Chrysler	
	• Ford • GM	
	• Mercedes • BMW	
	• Chrysler • Hyundai	-Volvo -Mack
	• Fiat • Citroën • Peugeot	
	• Volkswagen • Audi	
	• Toyota • Hyundai • Kia • Ford • Land Rover	
	• Honda	

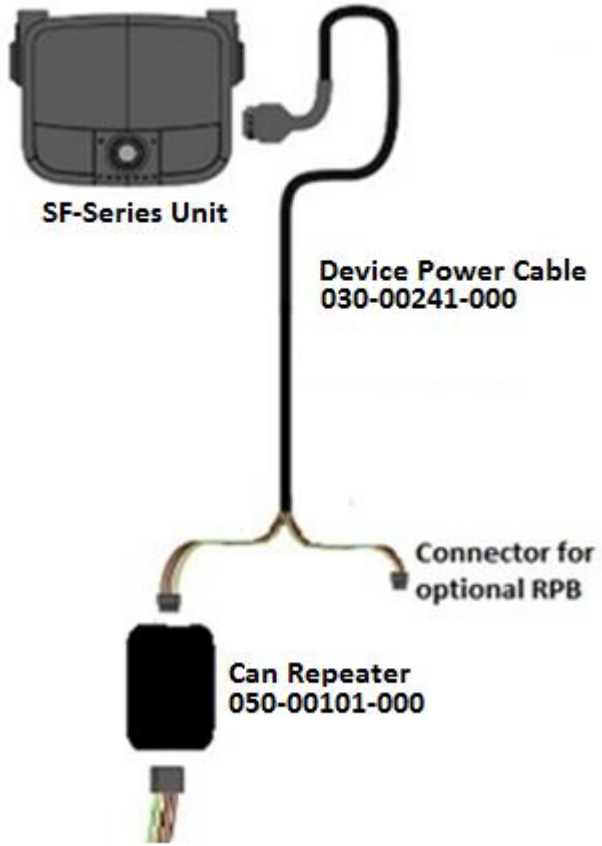
RP1226 to 7-pin CAN Repeater

Not available for GA until more data collect

- 18 of 19 vehicles we expected to have RP1226 did NOT

For vehicles with RP1226 connector in the dash or low in the truck.

Primarily 2019+



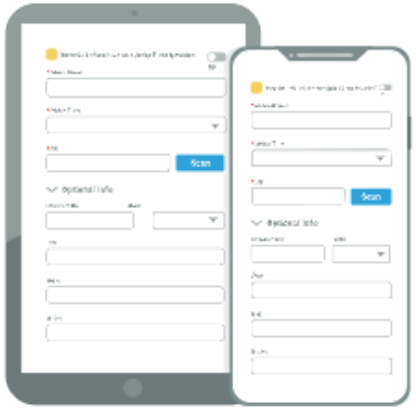
OEM port must not have any other device connected to it

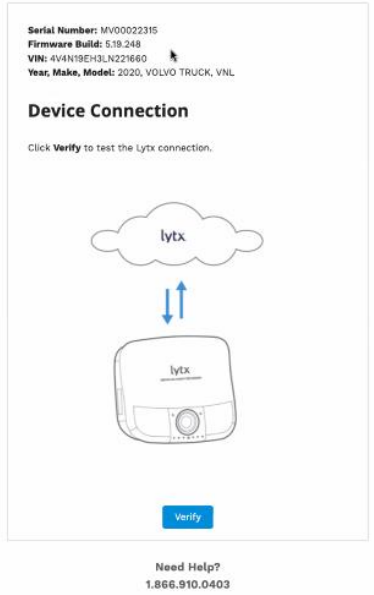
CAN Repeater Product Photos

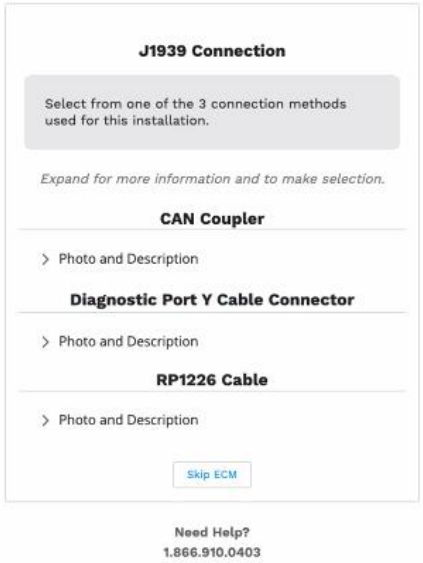
ELD Solution Beta Findings

- **Site contacts are asking installers if their ELD is live**? Refer to CSM
- Installers not using the **brackets** or understanding them
  - Green template came unassembled. Changing for better success
- **3rd party equipment** in vehicle at time of installation
- **No ECM validation** in the Installation App
  - Looking to change this for installer confirmation
- **Battery cutoff** – we will still install even though it will cut off the power to the device
- **Lytx Installation App** workflow challenges

Lytx Installation Application “LIA”







- Currently there is no ECM validation.
- Looking to add to verify proper installation and function.

- LIA now shows the camera's firmware

-There is now a back button on the last page that undoes settings

-Any issues report back

Questions / Feedback