

A faint, light gray illustration of two interlocking gears is positioned on the left side of the page, partially obscured by a vertical yellow bar.

Hutch CONNECT **INSTALLATION GUIDE**



www.hutchsystems.com

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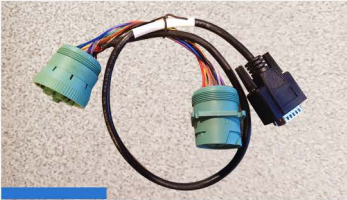
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1 Component Overview



Hutch CONNECT

Hutch CONNECT is a device that uses Bluetooth Technology to transfer ECM Data to Hutch ELD/AOBRD application installed on Mobile Device.



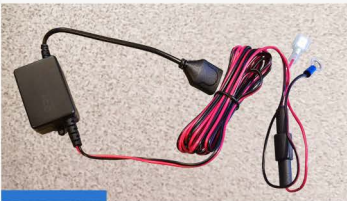
Harness

Connect Hutch CONNECT device to Vehicle's ECM via Hardwire or Diagnostic port



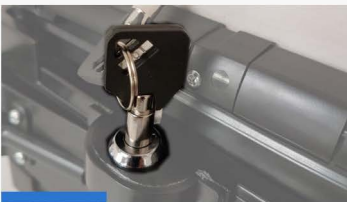
Smart Mount

It is a mounting hardware for the Samsung Tablet to mount it in the vehicle.



DC/DC Converter

It converts Vehicle's 12VDC to 5VDC for the Tablet



Locking Key

This key helps you lock the Smart Mount to the tablet.



Connecting Base

It secures the mounting hardware to the vehicle.



Tablet

It is a Samsung Galaxy Tab provide by Hutch to install and run ELD/AOBRD application.

2 Installation Planning

Regulatory Compliance Information

Note : May Contain U.S. Canada and International Export Controlled Information

FCC/IC Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two Conditions:

- » This device may not cause harmful interference.
- » This device must accept any interference received, including interference that may cause undesired operation.

Note:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Cet appareil est conforme aux exigences gouvernementales en ce qui concerne l'exposition aux ondes radio. Cet appareil est conçu et fabriqué pour ne pas dépasser les limites d'exposition aux radiofréquences (RF) de la Federal Communications Commission (FCC) des États-Unis et d'Industrie Canada (IC). Pour profiter d'un rendement optimal et pour éviter de dépasser les limites d'exposition aux RF de la FCC et d'IC, veuillez toujours orienter l'appareil en mode paysage en positionnant l'antenne cellulaire (située dans le coin supérieur droit de l'appareil) loin du corps ou d'autres objets.

La norme d'exposition emploie le débit d'absorption spécifique (DAS) comme unité de mesure. Le DAS maximum établi par la FCC est de 1,6 W/kg (sur 1 g de tissus) pour le corps et de 4,0 W/kg (sur 10 g de tissus) pour les extrémités. Les essais pour le DAS ont été menés en utilisant des positions de fonctionnement standard acceptées par la FCC et IC, et le matériel à l'essai transmettait sur différents canaux au niveau de puissance spécifié. Bien que le DAS soit mesuré au niveau de puissance le plus élevé pour chaque fréquence, le DAS réel de l'appareil en fonctionnement peut être bien en deçà du maximum permis, parce que l'appareil règle la puissance de la transmission en partie selon la proximité du réseau cellulaire. Règle générale, plus vous êtes près d'une station cellulaire, plus la puis-

La valeur de DAS la plus élevée rapportée pour cet appareil par la FCC est de 1,26 W/kg (sur 1 g de tissus) près du corps et de 0,68 W/kg (sur 10 g de tissus) pour l'exposition des extrémités.

L'appareil a été testé selon les normes et procédures de mesure décrites dans le supplément C du Bulletin 65 de l'Office of Engineering and Technology de la FCC (édition 01-01), et par la norme CNR-102 au Canada. La FCC et IC ont accordé leur autorisation à cet appareil et déterminé que tous les niveaux de DAS mesurés sont conformes aux directives sur l'exposition aux RF. Les données sur le DAS de cet appareil sont enregistrées à la FCC et se trouvent dans la section « Display Grant » (afficher une demande) de la page www.fcc.gov/oet/ea/fccid, à l'aide du numéro FCC A3LSMT377W. Vous pouvez aussi consulter la section Nomenclature du matériel radio du site d'Industrie Canada et rechercher le numéro de certification A3LSMT377W.

Caution

Any changes or modifications not expressly approved by the party responsible for compliance to this equipment would void the user's authority to operate this device. This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:



- This device may not cause interference.
- This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- l'appareil ne doit pas produire de brouillage.
- l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement. CAN ICES-3 (A)/NMB-3(A)

RF Exposure Information (SAR)

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured to not exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission (FCC) of the United States Government and Industry Canada (IC) of Canada. For optimal device performance and so that human exposure to RF energy does not exceed the FCC and IC guidelines, always follow these instructions and precautions: Orient the device in landscape mode with the cellular antenna (located at the top right corner of the device) away from your body or other objects.

The exposure standard employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg(1g) for body exposure and 4.0W/ kg(10g) for extremity exposure. Tests for SAR are conducted using standard operating positions accepted by the FCC/IC with the EUT transmitting at the specified power level in different channels. Although SAR is determined at the highest certified power level in each frequency band, the actual SAR level of the device while in operation can be well below the maximum value because device adjusts its cellular transmitting power based, in part, on proximity to the wireless network.

In general, the closer you are to a cellular base station, the lower the cellular transmitting power level. The highest SAR value for the device as reported to the FCC is 1.26 W/kg(1g) when placed next to the body and 0.68 W/kg(10g) when exposed to extremities.

The device was tested according to measurement standards and procedures specified in FCC OET Bulletin 65, Supplement C (Edition 01-01) and Canada RSS 102. The FCC/IC has granted an Equipment Authorization for this device with all reported SAR levels evaluated as in compliance with the defined RF exposure guidelines. SAR information on this device is on file with the FCC and can be found under the Display Grant section of www.fcc.gov/oet/ea/fccid and searching on FCC ID: A3LSMT377W.

Installation Guidelines

Typical Installation Steps:

- Install Hutch CONNECT
- Install Smart Mount
- Run Initial Setup
- System Verification



Safety, Reliability and Accessibility

Follow these safety instructions while installing Hutch CONNECT:

- Use eye protection when using a drill/performing work that may be hazardous to the eyes.
- Use ear protection in noisy work areas.
- Wear appropriate clothing/uniforms and safety shoes.
- Maintain three points of contact when climbing in and out of cab.
- Make sure you know what is behind the area before you drill.
- Install equipment in such a way that it becomes loose over time and no damage is done to vehicle in any way.
- Make sure there are no loose components/cables and no unsecured components.
- Use solid/Flat mounting surfaces.
- Route all cables away from hot or abrasive areas.
- Choose installation locations where components can be easily serviced.
- Choose installation locations where components are safe from tampering and damage.
- Avoid direct sunlight, extreme high/low temperatures, extreme vibrations, no liquid contact.

Tools And Supplies Recommended for Installation

The following tools are required for Installation of ELD device:

- Crimpers
- Soldering iron and solder
- Diagonal Wire Cutters
- Wire Strippers
- Screwdrivers: Phillips #2 and Slotted
- Torx Drivers: #10, #20 and #25
- Volt/Ohm Meter
- Flush Cutters
- Flash/Drop Light
- 3M 1" wide double sided tape
- Electrical Tape



3 Hutch CONNECT Installation

The Hutch CONNECT KIT is prepared for a specific vehicle when your order is placed with Hutch Systems.
The kit includes a Hutch Harness specific to your vehicle.



➡ Harnesses

Connector Type	Connector Type
9-pin	Most 2006 and newer trucks
6-pin	Most 2005 and older trucks
9-pin ring connector	2007 and newer Kenworth, Peterbilt trucks
OBD2 Style	2014 and newer Volvo/Mack trucks
9-pin 500kbps green connector	2016 and newer Freightliner trucks
9-pin 500kbps green ring connector	2016 and newer Kenworth, Peterbilt trucks

➡ Connecting Hutch CONNECT Harness

Step
1

With vehicle's ignition switch OFF, locate and remove the existing diagnostic connector. Check the connector for corrosion and make sure that there are no bent/broken or corroded pins.

**Step
2**

Connect the harness to the truck's diagnostic connector. Verify that the outer ring is twisted and clicks into place so the ends do not become disconnected by accident. Pull on the connector to verify it does not come loose.

**Step
3**

Install the other connector at the same place on the harness where you originally removed the first connector. (only for Y cables)

**Step
4**

Harness should not be placed near High Voltage or components emitting extreme EMI.

**Step
5**

Connect the other Harness end to the Hutch CONNECT Device DLC port .

**Step
6**

ECM (Diagnostic Port) Should be the OEM port and should not have been modified
Locate a flat surface and clean it with rubbing alcohol (Let it dry for a few moments).

**Step
7**

Place the Hutch CONNECT device and hold it firmly to let the 3M double sided tape to become affixed to the surface. Try to apply small pressure to check if it has been securely affixed.

Note:

- » Make sure Hutch CONNECT is not installed behind solid steel
- » Hutch CONNECT must be supplied with +12V DC constant power and Power must not cut out or go below +12 V DC power when Ignition is on.
- » Avoid installing device inside of the dashboard.

4 Selecting a Mounting Location for Hutch CONNECT

IMPORTANT SAFETY INFORMATION: Do not locate the display unit where it obstructs the driver's field of vision, distracts the driver from the driving task, interferes with the driver's operation of controls or displays, or creates a safety hazard. Follow all laws and regulations governing the placement of equipment and mounts. Place the Hutch CONNECT device in the center of the dash or on flat surface vertical to the ground without any obstruction to the sky. The external antennas is only needed when the Hutch CONNECT is installed without a clear view of the sky. Otherwise, the device has internal antennas and will work perfectly provided the device has a clear view of the sky and is not within 6" of any window frit

NOTE : External Antenna can be purchased From Hutch Systems in case it is required.

➡ *Install The Hutch CONNECT Where*

- It can be safely installed on a secured bracket that is robust enough to minimize any vibration and sustain the weight of Device.
- The mounting surface is strong enough to support the mounting hardware.
- The mounting surface is flat.
- It is in the driver's line-of-sight, but does not block the view of the road or the mirror.
- The surrounding area is clear of dash controls and gauges.
- It is not mounted in direct sunlight.
- It does not limit a passenger's leg room or block access to any other compartments.
- It does not interfere with anyone entering or exiting the vehicle cab.
- It is not likely to impact the driver or passenger in case of an accident or collision.
- It is not located in an area where driver or passenger can spill liquid on the Device.



➡ *Do Not Install The Hutch CONNECT Where*

- It obstructs the driver's field of vision
- It distracts the driver from driving task

- ⦿ It interferes with driver's operation of controls or shifting of gears
- ⦿ It obstructs the area swept by the windshield wipers
- ⦿ It blocks the deployment of airbags
- ⦿ Where direct sunlight is present most of the time.
- ⦿ It blocks access to power and volume buttons on the tablet

Additional Information For Selecting An Installation Location

- ⦿ Installation of Hutch CONNECT should not obstruct the driver's field of vision while operating the vehicle, and should comply with all applicable federal and state/provincial laws and regulations when selecting an installation location (including restriction against the mounting of objects on a vehicle's windshield) and driver distraction.

Note : Make sure there is no Kink in the wire. In case, the harness needs to be routed in a way when bending is required, it should be properly curved to avoid kinks.

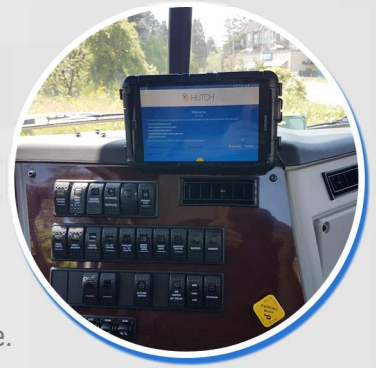


5 Selecting a Mounting Location for Tablet

IMPORTANT SAFETY INFORMATION: Do not locate the display unit where it obstructs the driver's field of vision, distracts the driver from the driving task, interferes with the driver's operation of controls or displays, or creates a safety hazard. Follow all laws and regulations governing the placement of equipment and mounts.

➡ *Install The Tablet Where*

- It can be safely installed on a secured bracket that is robust enough to minimize any vibration and sustain the weight of Smart Mount and Tablet.
- The mounting surface is strong enough to support the mounting hardware.
- The mounting surface is flat.
- It is in the driver's line-of-sight, easy to touch, but does not block the view of the road or the mirror.
- The surrounding area is clear of dash controls and gauges.
- It is not mounted in constant, direct sunlight.
- It does not limit a passenger's leg room or block access to any other compartments.
- It does not interfere with anyone entering or exiting the vehicle cab.
- It is not likely to impact the driver or passenger in case of an accident or collision.
- It is not located in an area where the driver or passenger can spill liquid on the tablet.



➡ *Do Not Install The Tablet Where*

- It obstructs the driver's field of vision
- It distracts the driver from driving task

- ⦿ It interferes with driver's operation of controls or shifting of gears
- ⦿ It obstructs the area swept by the windshield wipers
- ⦿ It blocks the deployment of airbags
- ⦿ It blocks access to locking mechanism of the smart mount
- ⦿ It blocks access to power and volume buttons on the tablet

Additional Information For Selecting An Installation Location

- ⦿ Installation of ELD should not obstruct the driver's field of vision while operating the vehicle, and should comply with all applicable federal and state/provincial laws and regulations when selecting an installation location (including restriction against the mounting of objects on a vehicle's windshield) and driver distraction.
- ⦿ Consider the owner's preference in selecting the installation location and check whether it is a team driver or a single driver operation.
- ⦿ Adhere to the ELD mandate. The driver must be able to see the screen when seated in driver seat.

6 Connecting DC/DC Converter

When supplying power to the tablet, always use the Hutch supplied DC/DC converter. Do not substitute as it may damage the tablet and void all warranties.



Step
1

Turn off the ignition switch.

Step
2

Locate unswitched +12V DC power source (Always test with volt meter).

Step
3

Splice into the wire and peel away the plastic casing (Do not peel excessively).

Step
4

Connect the **RED/BLACK** wire and solder it.

Step
5

Wrap electrical tape around the connection (Make sure the tape does not unwrap).

Step
6

Locate solid truck chassis ground.

Step
7

Connect **BLACK** to chassis ground (Make sure there is not painted, rusted surface).

Step
8

Verify that the indicator on the DC/DC converter is illuminated (It will be illuminated green when the ignition is on or off).

Step
9

Find a flat and clean surface to mount the DC/DC converter.

Step
10

Using the double side tape, mount the DC/DC converter.

Step
11

Connect the USB Port from the Smartmount to DC/DC Converter.

Step
12

Tie down all excess/loose wires.

Step
13

Mount the tablet in the holster and make sure the tablet starts charging.

Completing Initial Setup

Download and Install the Latest ELD/AOBRD APP from Google Play Store or From www.hutchsystems.com on Tablet.

Download and Install the Latest TeamViewer QuickSupport APP from Google Play Store or From www.hutchsystems.com on Tablet.

During the setup, Hutch ELD/AOBRD verifies various functions of the system. Complete this procedure prior to assem-bling back the vehicle.

Step
1

Turn off ignition and switch to ACC (Verify that the parking brakes are set and the vehicle is in neutral or park).

Step
2

Power the tablet by holding power button down for about 5 seconds (This may take few minutes to boot up).

Step
3

Click on the ELD/AOBRD icon and Click the yellow arrow proceed button.

Step
4

Select vehicle type (Heavy or Passenger); Heavy = J1939&J1708 Passenger = OBD/OBD2. (Only odometer and engine hours are required for OBD/OBD2)

Step
5

Enter Installer ID (Contact Hutch if you do not know your installer ID).

Step
6

Click the Proceed arrow (Hutch ELD/AOBRD will check various functions).

Step
7

Select the Hutch CONNECT installed in the vehicle (If you are not able to see the Hutch CONNECT , please make sure Hutch CONNECT is powered with 12V DC).

Step
8

Start the vehicle when requested. Verify that all of the information is displayed (Odometer reading, engine hour, RPM, VIN).

Step
9

Turn Off the vehicle.

Step
10

Click the proceed button.

Step
11

Verify Hutch ELD/AOBRD is able to detect GPS satellites.

Step
12

Click the proceed button.

Step
13

Verify the setup was successful.

Step
14

Reboot the Tablet.

Step
15

Click on the ELD/AOBRD.

>> Finalize installation by reassembly of all panels in vehicle and clean up the left debris.

7 Troubleshooting Guidelines

Troubleshooting Guidelines

During the setup, Hutch ELD/AOBRD verifies various functions of the system. If unable to complete the setup these troubleshooting steps must be performed.

- ⦿ Tablet
- ⦿ Smart Mount
- ⦿ DC/DC Converter
- ⦿ Hutch CONNECT Harness
- ⦿ Hutch CONNECT

Always verify determined defected parts on a different vehicle, or on a test bench. If the part is deemed defective, it must be RMA'd or replaced in the event of harness or DC/DC converter.

Perform a Visual Inspection of the Installed Hutch ELD

- ⦿ Check for damaged cables, improper electrical connections, loose connections, and the integrity of the installation. Incorrect installation will void the warranty of the device.
Read this manual carefully before installation.
- ⦿ Bad mounts or excessive vibration may contribute to system problems.
- ⦿ Blocking or interference with bluetooth radio may degrade the system performance or intermittent Hutch CONNECT bluetooth connection failure
- ⦿ If Hutch Tablet and Hutch CONNECT is installed in direct sunlight, they may overheat or tablet screen may not be readable, therefore always follow the location selection guidelines.

Reseat Cables or Connectors

- ⦿ Always inspect and reseat the cable connector prior to replacing the parts.
- ⦿ Check for pinched or broken cables
- ⦿ Inspection for corrosion and bent, broken, pushed, missing pins, and/or sockets.
- ⦿ Verify all Hutch CONNECT status indicators are in normal state.

LED Indication On the Harness Cable

- ⦿ In case the light is not ON it means the 12VDC is not present for Hutch CONNECT
- ⦿ Reseat the cable and check if the problem persists.
- ⦿ Verify the vehicle diagnostic port has 12VDC present.

Check System Voltage Measurements and Grounding

- ⦿ Always check fuses when Hutch Tablet or Hutch CONNECT is not receiving power
- ⦿ Always use good ground
- ⦿ Verify the vehicle battery and cables are in good condition.
- ⦿ Check voltages with Volt/Ohm meter. DC/DC and Hutch CONNECT must be powered with Constant +12V DC power supply.

Replace Only Faulty Parts

Typically, only one part is bad. Once the system is operating, you can substitute suspect parts back into the system to verify which part is bad, or use a test bench equipped with known good spare parts to retest suspect parts.

Determine If the Problem Is Intermittent

Check for bad or loose electrical connections including cable connectors, ring terminals, butt splices, and power/ground connections. These can contribute to intermittent system performance.

J1587/J1708 Packet Detection Fails

Vehicle engine must be running for Hutch ELD to detect J1587/J1708 data packets.

- ⦿ **Note:** If the Core Data Items and J1939 tests pass (i.e. green check), it's acceptable for the J1587 Packet Detection test to fail. This would mean that the Hutch ELD is getting its vehicle data from the J1939 link.
- ⦿ Some 2012 and newer trucks do not supply J1587 packets. In order to get J1587 data, a truck's engine must be supplying the J1587 data, a connection must be made to the J1587 wires (power I/O cable).
- ⦿ If packets are not detected, check and reseal Hutch CONNECT Harness connections at the truck's diagnostic

- If some Core Data Items are missing, the vehicle may not support them. You may need to contact Hutch Support to get further information.
- **Note:** Many newer trucks do not provide J1708 data. The Hutch ELD/AOBRD will auto-detect data bus, including J1708 bus traffic, and automatically select the most reliable source for vehicle data.

➡ *J1939 Packet Detection Fails*

Vehicle engine must be running for Hutch ELD/AOBRD to detect J1939 data packets.

- **Note:** Many pre-2007 trucks do not submit J1939 packets. If the Core Data Items and J1587 tests pass (i.e. green check), it's acceptable for the J1939 Packet Detection test to fail. This would mean that Hutch ELD/AOBRD is getting its vehicle data from the J1 587 link.
- Hutch ELD/AOBRD will auto-detect bus traffic, including J1939 bus traffic (250 kbps and 500 kbps), and automatically select the most reliable source for vehicle data. In order to get J1939 data, a truck's engine must be supplying the J1939 data, a connection must be made to the J1939 wires.
- Many old trucks/engines do not transmit J1939 packets.

➡ *OBD/OBD2 Packet Detection Fails*

Vehicle engine must be running for Hutch ELD/AOBRD to detect OBD/OBD2 data packets. You must also choose Passenger Vehicle if installing Hutch ELD/AOBRD in light duty vehicle(s).

Note: Hutch ELD/AOBRD will auto-detect bus traffic (250 kbps and 500 kbps) and vehicle must support Core Data Items.






➡ *GPS Fix Problem*

- Check if the vehicle has clear view of the Sky.
- Make sure GPS Light is Solid on Hutch CONNECT

- ⦿ Make Sure that the Hutch CONNECT is not obstructed from clear Sky View.
- ⦿ Make Sure that the Hutch CONNECT is not installed behind metals
- ⦿ Hutch ELD make take a up to 5 minutes to detect GPS Satellites

Cellular Signal Strength Problem

If the Cellular Signal Strength test is failing when performing a system verification, or the cellular icon at the top of the screen shows not data activity, follow the steps below.

-  1 Make sure you have activated the Hutch CONNECT Device.
-  2 Make sure you are in an area where cellular reception is good
-  3 Make Sure Hutch CONNECT is getting power
-  4 Hutch Operates on Bell, Rogers, and AT&T Networks.
-  5 Contact Hutch Support if you are still facing issues.

Hutch System Connection Problem

Note: Cellular signal must be passed for this.

- ⦿ Verify device is activated and assigned to correct vehicle and Correct subscription plan has been purchased.
- ⦿ Verify all android permissions enabled for Hutch ELD/AOBRD
- ⦿ Verify the tablet has Internet connection available.

Hutch BTB Connection Problem

- ⦿ Verify Hutch BTB is receiving +12V unswitched Constant power

- Verify Bluetooth is enabled in Tablet
- Verify Tablet and Hutch BTB is with 3 meter range.
- Verify Hutch BTB bluetooth signal is not obstructed by metals or wires.
- Verify Hutch BTB is installed in the assigned vehicle.

➡ *Hutch CONNECT Not Responding (Completely Frozen)*

- Unplug the harness from the back.
- Press the reset button on the Hutch CONNECT
- Replug the Cable and Check if the Device is functioning properly

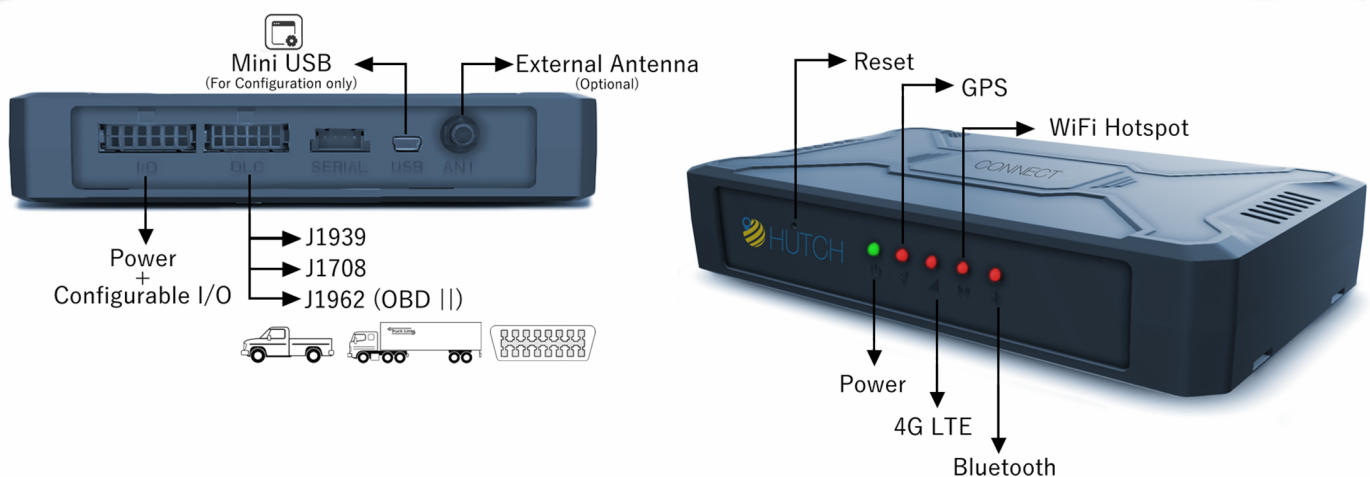
➡ *Status of Led's on the Hutch CONNECT Device.*



LED	Indication	Description
PWR (Green)	Solid On	Device functional without ECM Data
	1 blink (0.1 sec.) in every 8 sec.	In sleep mode
	Blinking	Receiving ECM Data
GPS (Red)	0.7 sec. On, 0.7 sec. Off	Searching for GPS signal
	Solid On	Position fixed
WWAN (Red)	Off	GSM/GPRS Module Off
	0.7 sec. On, 0.7 sec. Off	Searching for Cellular Network
	0.2 sec. On, 2 sec. Off	Registered on Cell Network
	Solid ON	Connected to Hutch Network
	Continuous blinking	SIM Error
WIFI Hotspot (Red)	Solid ON	Wifi Hotspot Enabled and Registered to GPRS Network
Bluetooth	Solid On	ELD/AOBRD Connected
	Off	ELD/AOBRD Disconnected

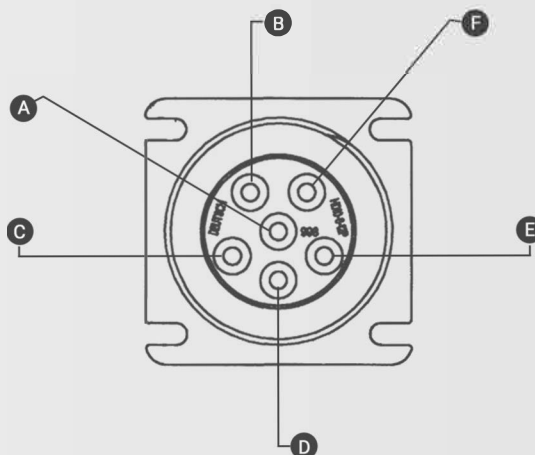
- A Wire Diagram and Charts
- B Environment and Power Requirements
- C General Wiring and Installation Guidelines.
- D Preventative Maintenance Inspection
- E Hutch RMA Procedure

A Wire Diagram and Charts



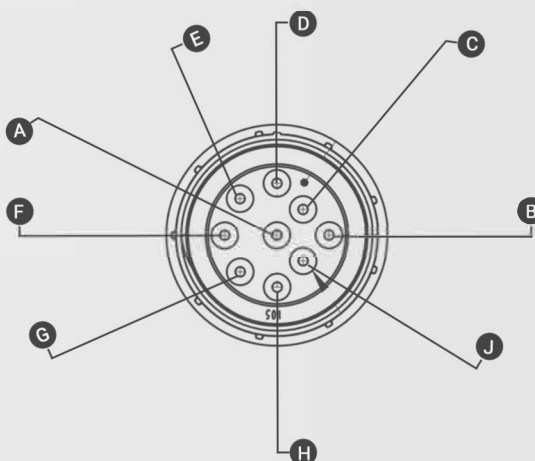
➡ 6-pin Power I/O Cable

SIGNAL	PIN
J1708/J1587 DATA LINK+	A
J1708/J1587 DATA LINK-	B
+12VDC	C
N/C	D
BATTERY GROUND	E
N/C	F



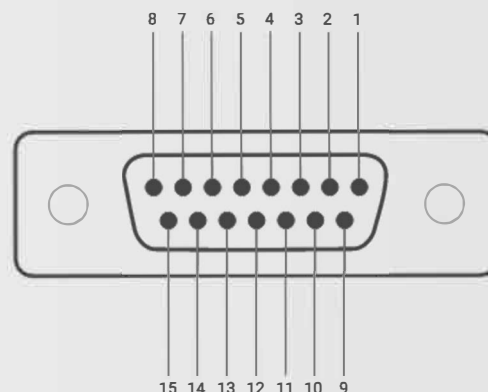
➡ 9-pin Power I/O Cable and Paccar Adapter Cable

SIGNAL	PIN
BATTERY GROUND	A
+12VDC	B
J1939 DATA LINK+	C
J1939 DATA LINK-	D
J1708/J1587 DATA LINK+	F
J1708/J1587 DATA LINK-	G
OEM_CAN_H	H
OEM_CAN_L	J



➡ Hutch BTB DB-15 style Connector

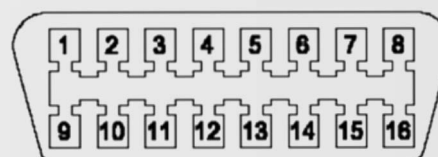
SIGNAL	PIN
J1939 HIGH (BUS 1)	5
J1939 LOW (BUS 1)	10
J1939 LOW (BUS 0)	12
J1939 HIGH (BUS 0)	13
J1708/J1587 DATA LINK -	14
J1708/J1587 DATA LINK +	15



HUTCH BTB DB-15 STYLE CONNECTOR

➡ Newer OBDII style Connector

SIGNAL	PIN
J1939 CAN (HIGH)	3
CHASSIS GROUND	4
SIGNAL GROUND	5
J1939 CAN (LOW)	11
J1708/J1587 DATA LINK +	12
J1708/J1587 DATA LINK -	13



NEWER OBDII STYLE CONNECTOR

➡ HINO

P2: BLUE US-BUILT VEHICLE

P3: WHITE: JAPANESE-BUILT VEHICLE

SIGNAL	P2	P3
BATTERY	H	J
CHASSIS GROUND (BATT RETURN)	A	B
CAN HIGH	F	G
CAN LOW	C	D
IGNITION	B	C

B

Environmental and Power Requirements

CONDITION	REQUIREMENT
OPERATING TEMPERATURE	-30° C TO 70° C (-35° F TO 158° F)
HUMIDITY TABLET HUTCH BTB	NOT WATERTIGHT. DO NOT GET WET. NOT WATERTIGHT. 95%RH @ 50° C non-condensing for Hutch CONNECT
POWER/OPERATING TEMPRATURE HUTCH CONNECT	+12 TO +24 VOLTS DC / -40°C TO +70 °C (Without Battery) -20 to +60°C (With Battery)
POWER TABLET	+5 VOLTS
POWER DC/DC CONVERTER	+12 VOLTS DC
OPERATING AT +12V (HUTCH ELD)	HUTCH DRAWS A MAXIMUM OF 1.5 AMPS. AVERAGE CURRENT DRAW IS LESS THAN 1 AMP.
ASLEEP	HUTCH ELD DRAWS 10 MA.
FREQUENCY OF MODEMS	850/1900/2100/LTE Mhz

The HUTCH system has no user-serviceable parts. The HUTCH ELD Tablet contains a permanent lithium ION battery ; proper recycling or disposal per local law is required for all components of the HUTCH ELD.

C

General Wiring and Installation Guidelines

➡ Making Electrical Connections - Standard Installations

For standard HUTCH installations, the only electrical connection needed to the truck will be the DLC harness

➡ Cutting and Splicing Power I/O Cable - Non-standard Installation

Some trucks may use a different 9-pin diagnostic connector than supplied on the HUTCH harness. Consult OEM user manual for correct DLC wiring diagram.

CABLE	Truck
BATT_V	12 VDC UNSWITCHED SOURCE
BATT_RTN	CHASSIS GROUND
J1708+	POSITIVE J1587/J1708 TRUCK WIRE
J1708-	NEGATIVE J1587/J1708 TRUCK WIRE
CAN_H	J1939+ TRUCK WIRE (YELLOW TO YELLOW)
CAN_L	J1939- TRUCK WIRE (GREEN TO GREEN)

Approved Hutch Electrical Connectors

The wiring for the HUTCH system is expected to be inside the cab. The only Hutch-approved electrical connections other than standard connectors are crimp butt splices and crimp ring terminals. Connections are typically made by mating the two connectors. Many of the following general guidelines apply to non-standard HUTCH connections where the power I/O cable must be cut because it can easily mount on the truck's dashboard.



Caution

Not following proper wiring guidelines and using improper crimps and butt splices may cause intermittent connections and may result in unexpected truck down time or system failure.

➡ Wire Stripping

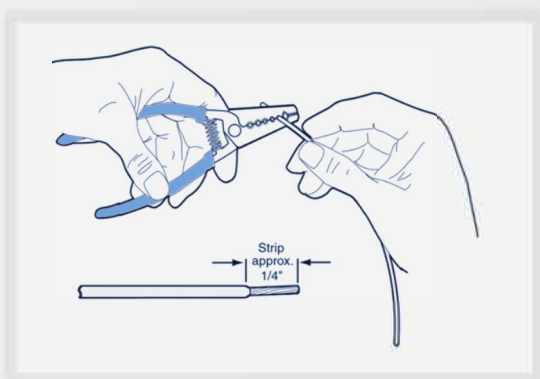


Caution

Use care in stripping wires. Vibration can cause nicked wires to fail. Using wire cutters, knives, or other tools can damage the conductor wire and/or insulation.

Knowing and following proper wire stripping techniques is essential for performing successful and safe electrical connections of all system components.

- 1 Using a wire stripper, strip approximately 1/4" off the end of an insulated wire



- 2 After stripping the wire, verify that the wire is not severed, nicked, or damaged by the stripping tool. If the wire has been properly stripped, it is ready to be butt spliced. If the wire has been damaged, restrip the wire (**see step 1.**)

➡ Butt Splicing

- Hutch recommends Nylon insulated, seamless butt connectors with inspection windows.
- Heat-shrinkable butt connectors are preferred.

Make sure the size of the butt splice is appropriate for the job. A good butt splice has these characteristics:

- The ends of the bare wires are visible through an inspection window.
- The ends of the wires "butt" up against the stop.
- The wires are not exposed beyond splice shielding.
- Crimping does not cut off or damage the wires or insulation.

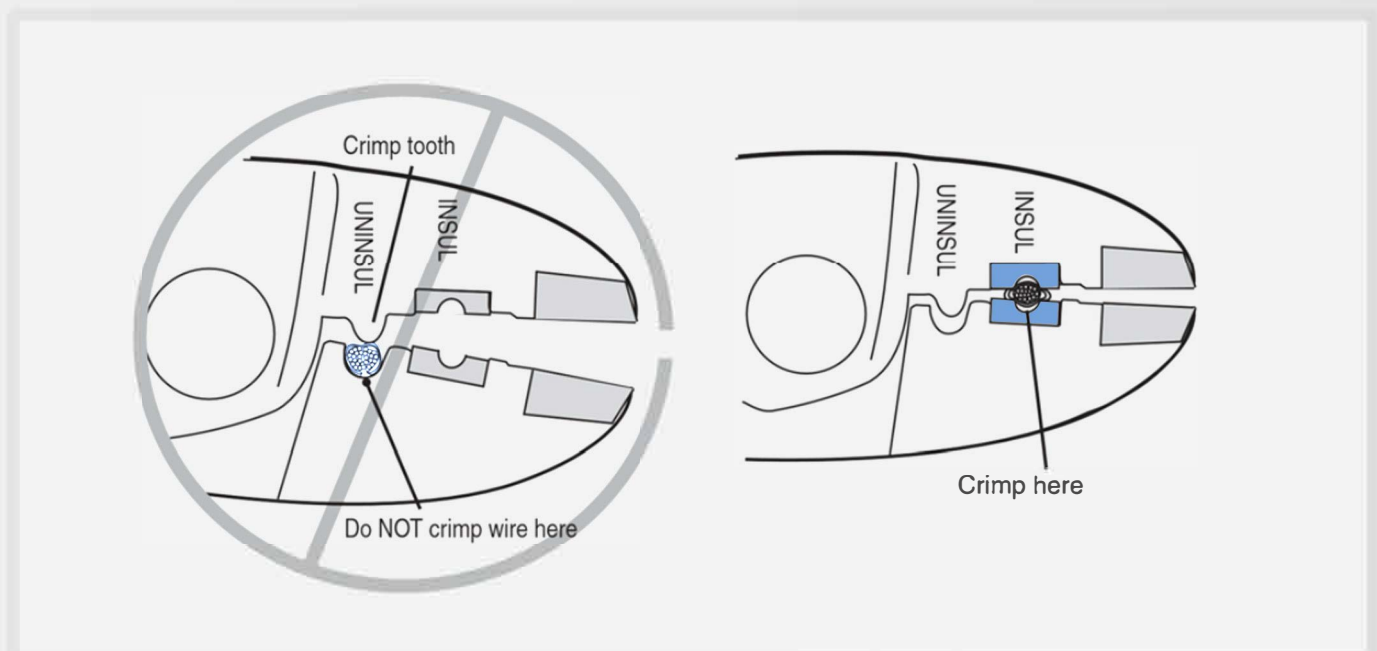
Crimping

- When crimping a butt-spliced wire or cable, be sure the insulated butt splice is crimped using the insulated position on the crimp tool and not the crimping "tooth" of the tool.
- Crimping butt splices incorrectly can result in a severed wire and a failed wire connection.



Caution

DO NOT crimp on the crimp "tooth"



- 1 Using a crimping tool, crimp the butt splice one end at a time. **First**, crimp the inside crimp area where the wire has been stripped. Apply necessary pressure to this inside area.

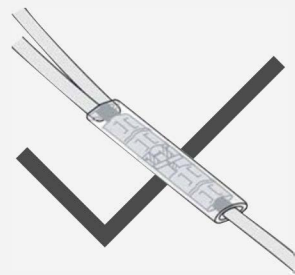
Note:

The objective is to apply the necessary pressure to crimp the butt splice closed and hold the wire connections together. Do not apply so much pressure as to crush the butt splice and sever the wire or the insulation on the wire.



WRONG

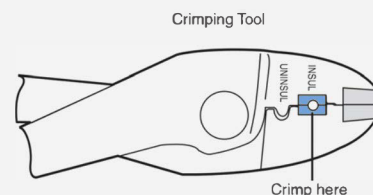
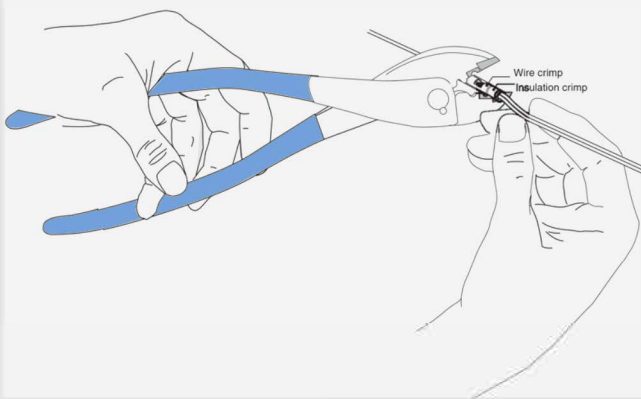
Butt splice is visibly crushed, possibly damaging the wire and the wire connection.

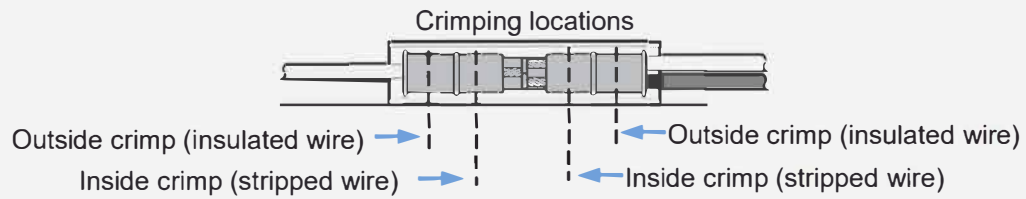


CORRECT

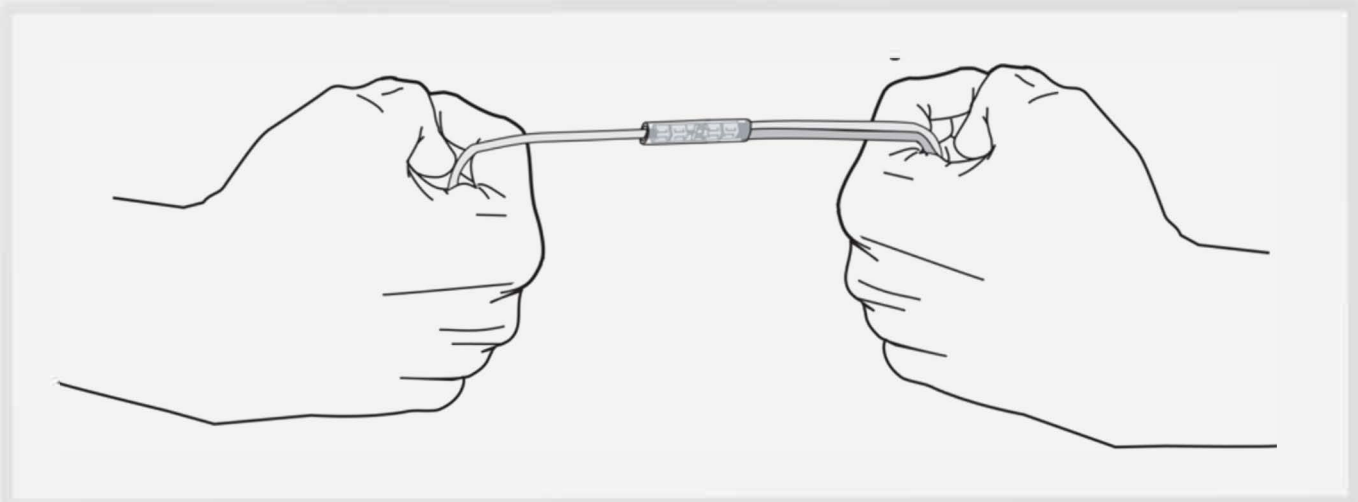
Crimping is done properly, protecting the wire and the wire connection.
No exposed wires.

- 2 After crimping the inside of both ends of the butt splice on the “insulated” area of the crimping tool, next crimp the outside of both ends of the butt splice.





- 3 Verify that the crimps are good and the wires have not been damaged.
- 4 Do a pull test. Pull on both ends of the wires to ensure a solid butt-spliced connection exists. The crimped butt splice securely grips the insulated wires.



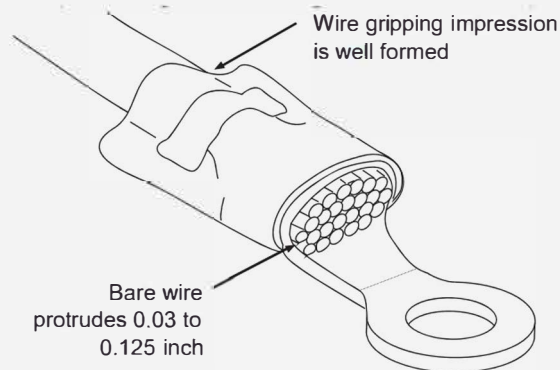
WARNING

If using heat shrinkable crimps, DO NOT use a heat gun or open flame near combustible materials. Use a heat gun only when it is safe and appropriate to do so. Protect surrounding wiring and other components when using a heat gun

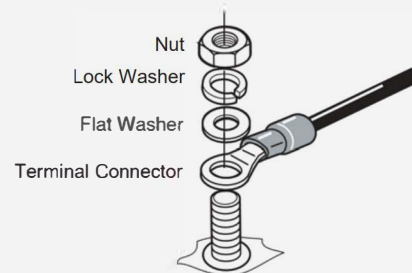
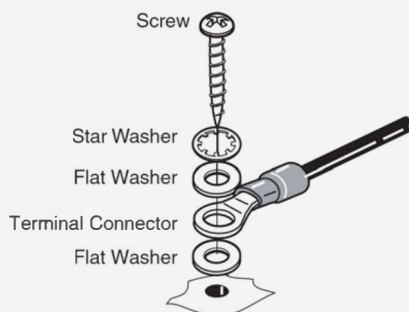
➡ Ring Terminals

When making electrical connections, crimp ring terminals onto the ends of the wires to ensure good contacts. A properly crimped ring terminal has these characteristics:

- The barrel crimping indent is well-formed and properly positioned.
- The insulated wire's grip impression is well-formed and provides proper support without crushing the insulation
- The wire does not move independently of the lug. Firmly tug on the ring terminal to ensure it does not pull loose.
- The end of the bare wire extends through the crimp barrel approximately 0.03 to 0.125" depending on the lug size and crimp tool.



➤ Install the ring terminal on the ground connection using one of the following options:



Proper Grounding

When establishing a good chassis ground, avoid areas that may be potentially isolated from the ground by a hinge or bad welds. It is extremely important that you create clean, secure, tight, metal-to-metal grounds. If grounding terminals are not available, remove the paint from the surface of the metal connected to the chassis to make the ground. Make sure the wires are not strained or vulnerable to damage.



WARNING

Not following proper grounding guidelines may cause intermittent connections and may result in unexpected truck downtime or system failure.

General Installation Guidelines

- Determine the most direct and protected route when routing cables to connect the components to each other and to the vehicle.
- Do not trim cable lengths to fit a specific vehicle.
- Use only wire strippers for stripping wires.
- Use only the appropriate insulated crimping tool for crimping insulated connectors.
- Use existing holes for cable routing whenever possible.
- Avoid running cable over or near heat sources.

Routing and Protecting Cables

- Provide strain relief for all cables
- Use tie wraps
- Debur any drilled holes



DO NOT route cables:

- ⦿ Near audio system amplifiers
- ⦿ Near exhaust pipes and other sources of heat
- ⦿ Near the brake, clutch, or accelerator pedals, and linkage
- ⦿ Near foot traffic areas
- ⦿ Near the windshield wiper mechanism
- ⦿ Near CB radio wires
- ⦿ Over sharp edges
- ⦿ Over moving parts



Routing and Protecting Cables

- ⦿ Route cables under kick plates or carpets.
- ⦿ Avoid high foot traffic areas.
- ⦿ When reinstalling dash panels, be careful that screws do not penetrate cables.
- ⦿ Route cables with any existing vehicle cables.



Storing Excess Cabling

- ⦿ Secure excess cabling with tie wraps.
- ⦿ Stow out of sight.
- ⦿ Do not Bend the Cable as it will cause Issues. There should be no kink.



Stress Relief

- ⦿ Ensure cables have enough slack so connections are not being pulled.



Preventative Maintenance Inspection

➡ How Often Should Inspections Be Performed?

- ⦿ Hutch recommends inspections to be performed at least once every 90 days.
- ⦿ During normally scheduled vehicle preventive maintenance inspections.

➡ Perform System Verification

Step
1

Access System Diagnose via System Menu >> Settings >> Diagnose

Step
2

Click Run Diagnose

Step
3

Verify the following (These must be marked green) :


- ⦿ Cellular Connection
- ⦿ Hutch CONNECT Connection
- ⦿ Hutch Systems Connection
- ⦿ GPS Fix
- ⦿ Core Data Items (Vehicle ECM information)


Inspecting Hutch ELD/ AORBD


- Verify that tablet screen is clean. Hutch recommends that you use a soft cloth and either plain water, glass cleaner, or mild soap to gently clean the surfaces of the tablet as well as the display screen.
- Hutch ELD/AORBD components are not watertight. Do not spray any liquid directly on the display screen or other components.
- Do not use pencils, pens, metal objects, or any other devices which could possibly scratch the touch-screen.
- Verify the display screen is readable in any lighting condition.
- Make sure the display is securely lockable Smart Mount.
- Make sure Smart Mount has no damaged or missing parts
- Make sure the Charging Port is clean and PINS are not worn or missing.
- Make sure Smart Mount mountings screws are secure in place.


Hutch RMA Procedure

Launch a ticket via Hutch Ticketing Systems. Our technician will diagnose the system and if any part is found defective, you will be issued a RMA number. Please return the defective part(s) to Hutch Systems USA LLC if returning from USA or to Hutch System Canada Inc if returning from Canada. Make sure that the RMA number is marked clearly on the outside of the box.QQ

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701 Fifth Avenue, Seattle
Washington 98104-5119 USA

 support@hutchsystems.com

 +1 604 776 3564

To prevent damage during shipment and handling, carefully package all equipment being returned. If the original shipping container and packing material are available, please use them to return the equipment.

8 Glossary

Term	Definition
Data Bus	A link that transmits data from the ELD/AOBRD to the ECM (Engine Control Module) of vehicle.
DOT (Department of Transportation)	The governmental department that regulates transportation (including Commercial Motor Vehicle).
ELD (Electronic Logging Device)	An electronic solution that automatically records the driver logs and track the Hours of Service(HOS). This term was used in the 2015 DOT rule that mandates the usage of electronic logs complying with standards.
FMCSA (Federal Motor Carrier Safety Administration)	An agency in the United States DOT that regulates the commercial transportation and works to boost the general safety.
AOBRD (Automatic Onboard Recording Device)	It is used to calculate HOS compliance by using electronic logging device and is regulated in 49 CFR 395.15.
ECM (Electronic Control Module)	It is the embedded systems in motor carriers utilized to manage the functioning of electrical system used to manage the functions of electrical systems within a vehicle
USB (Universal Serial Bus)	It is an industry standard that is used to connect electronic device to a computer system. It can be re-ferred to connectors and cables that are used for communication and connection between devices and computers.
OBD (On Board Diagnostics)	It is self-diagnostic ability of a vehicle that can be used to access the status of vehicle's subsystems.

Disclaimer : Please use this product as directed by this Manual. Do not Disassemble any parts of this product.The Manufacturer is not responsible for any damages due to modification of this product.



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