

Instructions



CATAlert™ - Patent Pending **A-CATA400-B** Universal Catalytic Converter Anti-Theft System

System Overview

CATAlert™ is designed to minimize the risk of vehicle catalytic converter theft. It consists of a small in-cabin module and sensor(s) attached to up to two catalytic converters on the vehicle. Power is provided by the OBDII port using a plug and play connector. The only other required connection is to the vehicle's horn circuit. Once installed, the horn will sound anytime tampering or removal of the catalytic converter is detected.

An optional wired connection provides a way to signal a Telematics unit, which could then alert a central monitoring station of a theft.

Installation time is less than an hour. A periodic brief LED flash on the module confirms the system is armed and ready.

A sticker is provided in the kit, warning would-be thieves that the vehicle is protected by CATAlert™.

IMPORTANT — READ BEFORE INSTALLATION

It is the installer's responsibility to route and secure all wiring harnesses where they cannot be damaged by sharp objects, mechanical moving parts and high heat sources. Failure to do so could result in damage to the system or vehicle and create possible safety concerns for the operator and passengers.

Avoid placing the module where it could encounter strong magnetic fields from high current cabling connected to motors, solenoids, etc. Avoid radio frequency energy from antennas or inverters next to the module. Avoid high voltage spikes in vehicle wiring by always using diode clamped relays and solenoids when installing upfitter circuits.

CAUTION

All electronic products are susceptible to damage from Electrostatic Discharge or ESD. Ground yourself before handling or working with the module and harnessing by first touching chassis ground, such as the barrel of the cigarette lighter.



Installation

The CATAlert™ Module

Remove the lower dash panel below the steering column and find a suitable location to mount the module. Locate the module in an area away from excessive heat sources (engine, heater ducts, etc.). Ensure when routing harnesses that the tilt steering column does not contact them in the full down position. When installing the harnesses, leave several inches of take-out so the module can be removed if necessary. Do not actually mount module until all wire harnesses are routed and secure. The last step of the installation is to mount the module.

Instructions

CATAlert™ Power Harness connection

1. Locate the vehicle's OBDII Data Link Connector. It will be located below the lower left dash panel.
2. Plug the CATAlert's™ plug and play Power Harness into the vehicle's OBDII connector, and seat it all the way in.
3. Secure the CATAlert™ Power Harness so that it does not hang below the lower dash panel.
4. Do not plug the 4-Pin connector on the other end of the Power Harness into the CATAlert™ module at this time.



Power Harness plugs in here

CATAlert™ Sensor(s) Installation

Ensure the vehicle and catalytic converter(s) have cooled down before attempting sensor installation. Because this product is a universal system, the installation instructions below are an example of how the CATAlert™ sensor(s) will be installed on the vehicle. Actual installation may vary slightly.

1. Locate the catalytic converter(s) and find a spot directly on the converter, preferably on the top or side and sand the area with medium sandpaper (preferably 100-grit) or use a wire brush. After slightly roughing an area on the converter, clean with a no-residue cleaner such as window cleaner and a clean paper towel and allow to dry.



Instructions

CATAlert™ Sensor(s) Installation (Continued)

2. Wrap the metal strap around the catalytic converter. Ensure the eyelet under the strap is located in the spot previously sanded and cleaned in step 1. Insert the end of the strap into the worm clamp and tighten the screw (turning clockwise) until the strap is secured to the catalytic converter (10-25 lb-in). Trim off any excess hose clamp.



3. If there is a second catalytic converter, repeat steps 1 and 2.
4. Route the wire(s) into the cab of the vehicle. Loosely connect the bullet connector(s) to their mating connector(s). These will need to be unplugged later during post installation testing. Do not plug the 8-pin connector into the CATAlert™ module at this time.

Instructions

Horn Connection

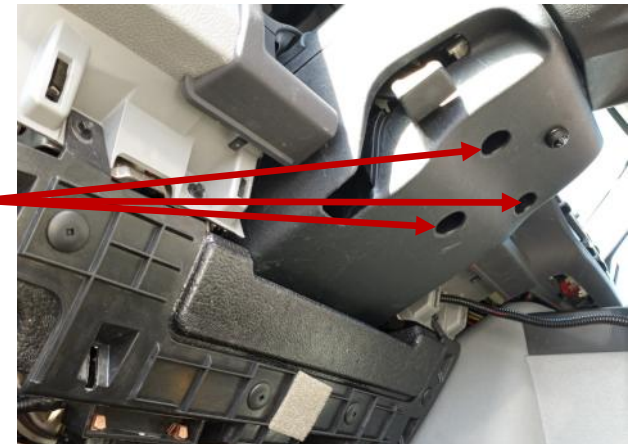
<u>Horn(s)</u>	<u>Page(s)</u>
2021 - 2022 Ford E-Series	4 - 5
2021 - 2022 Ford F150	6
2017 - 2022 Ford F250 - F600	7
2023 - 2026 Ford F250 - F600	8
2021 - 2022 Ford F650/750	9
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Auxiliary Horn	15

2021 - 2022 Ford E-Series

1. Remove the lower dash panel below the steering column.



2. Remove the 3 screws from the lower half of the steering column cover and remove the upper and lower column covers.

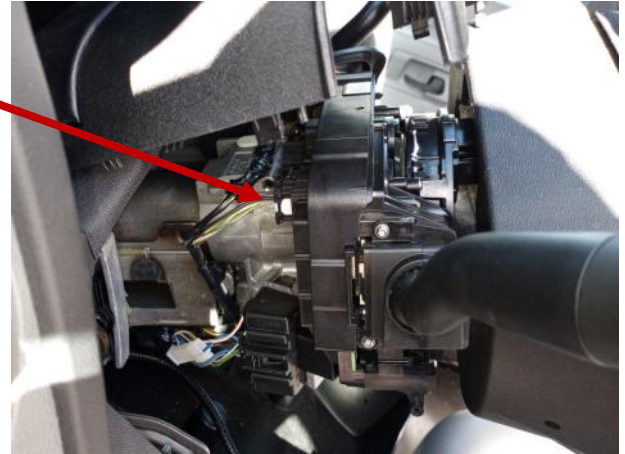


Instructions

Horn Connection (Continued)

3. Locate the 12-pin connector (see photo) and unplug it.

NOTE: IF THE HORN CONNECTOR ON ANY VEHICLE INCLUDES AN AIRBAG CIRCUIT, YOU MUST DISCONNECT THE BATTERY AND WAIT 15 MINUTES BEFORE PROCEEDING! AIRBAGS CAN BE ACTIVATED WITH STATIC ELECTRICITY. USUALLY CONNECTORS WITH AIRBAG SIGNALS ARE YELLOW, BUT NOT ALWAYS.



4. Locate the Green/White wire in Pin-1 of the 12-pin connector. This Green/White wire should provide a Ground signal whenever the horn is pressed. Connect the Gray wire from pin 6 on the CATAlert™ 8-pin connector using the provided Posi-Tap* (See Instructions below). Plug the OEM 12-Pin connector back into it's mating connector.

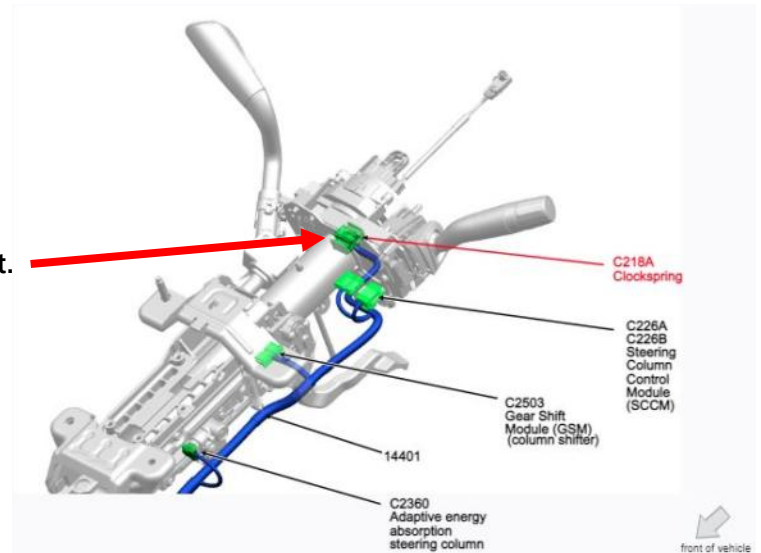
*Unscrew the cap on the included Posi-Tap connector and install it on the Green/White wire, (Pin-1 of the 12-pin connector) then screw the rest of the connector onto the cap (snug it down, but not overly tight). Unscrew the Red portion of the Posi-Tap connector and insert the stripped portion of the Gray wire from pin 6 on the CATAlert™ 8-pin connector and insert it through the loose piece. Hold the wire so it doesn't push back out of the Posi-Tap, and screw it back into the main Posi-Tap body. Holding the main Posi-Tap body, gently pull on the just-installed wire to make sure it is solidly connected. Secure the connection using tape.



Instructions

2021 - 2022 Ford F-150

1. Remove the upper and lower steering column.
2. Locate the 18-pin connector (C218A) and unplug it.



3. Locate the Green/White wire in Pin-9 of the 18-pin connector. This Green/White wire should provide a Ground signal whenever the horn is pressed. Connect the Gray wire from pin 6 on the CATAlert™ 8-pin connector using the provided Posi-Tap* (See Instructions below). Plug the OEM 18-Pin connector back into it's mating connector.

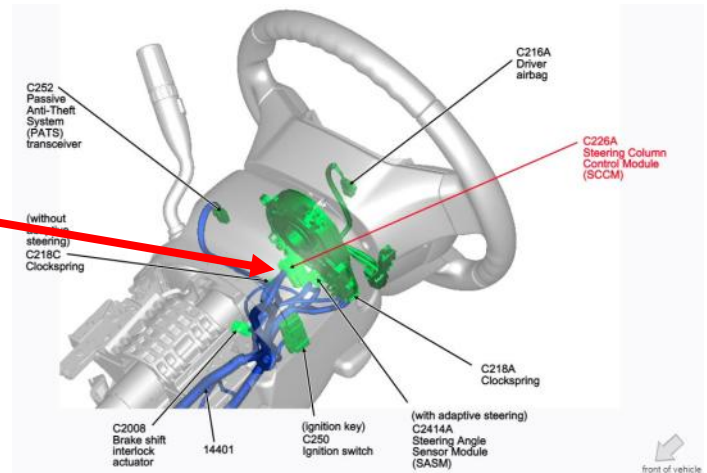
*Unscrew the cap on the included Posi-Tap connector and install it on the Green/White wire, (Pin-9 of the 18-pin connector) then screw the rest of the connector onto the cap (snug it down, but not overly tight). Unscrew the Red portion of the Posi-Tap connector and insert the stripped portion of the Gray wire from pin 6 on the CATAlert™ 8-pin connector and insert it through the loose piece. Hold the wire so it doesn't push back out of the Posi-Tap, and screw it back into the main Posi-Tap body. Holding the main Posi-Tap body, gently pull on the just-installed wire to make sure it is solidly connected. Secure the connection using tape.

Instructions

2017 - 2022 Ford F250 - F600

1. Remove the upper and lower steering column.

2. Locate the 12-pin connector (C226A) and unplug it.



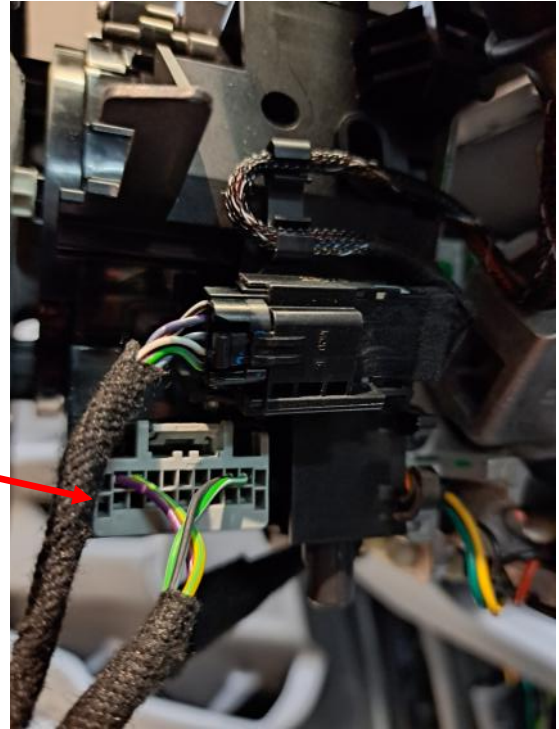
3. Locate the Green/White wire in pin 1 of the 12-pin connector. This Green/White wire should provide a Ground signal whenever the horn is pressed. Connect the Gray wire from pin 6 on the CATAlert™ 8-pin connector using the provided Posi-Tap* (See Instructions below). Plug the OEM 12-pin connector back into its mating connector.

*Unscrew the cap on the included Posi-Tap connector and install it on the Green/White wire, (pin 1 of the 12-pin connector) then screw the rest of the connector onto the cap (snug it down, but not overly tight). Unscrew the Red portion of the Posi-Tap connector and insert the stripped portion of the Gray wire from pin 6 on the CATAlert™ 8-pin connector and insert it through the loose piece. Hold the wire so it doesn't push back out of the Posi-Tap, and screw it back into the main Posi-Tap body. Holding the main Posi-Tap body, gently pull on the just-installed wire to make sure it is solidly connected. Secure the connection using tape.

Instructions

2023-2026 Ford F250 - F600

1. Remove the upper and lower steering column.
2. Locate the 18-pin connector (C218A) on the right side of the steering column, and unplug it.



3. Locate the Green/White wire in pin 9 of the 18-pin connector. This Green/White wire should provide a Ground signal whenever the horn is pressed. Connect the Gray wire from pin 6 on the CATAlert™ 8-pin connector using the provided Posi-Tap* (See Instructions below). Plug the OEM 18-pin connector back into its mating connector.

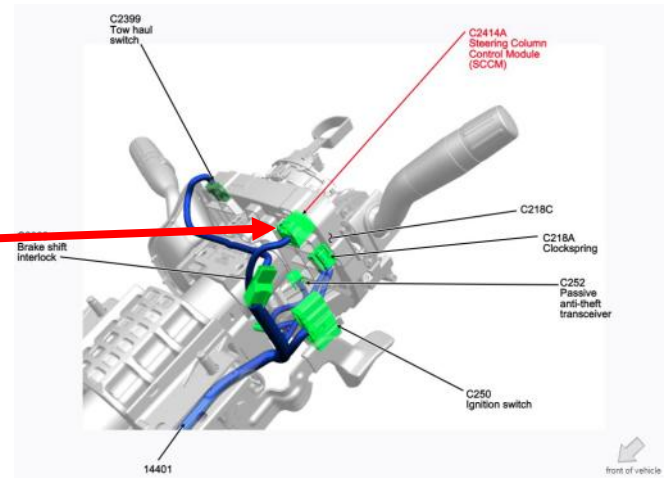
*Unscrew the cap on the included Posi-Tap connector and install it on the Green/White wire, (pin 9 of the 18-pin connector) then screw the rest of the connector onto the cap (snug it down, but not overly tight). Unscrew the Red portion of the Posi-Tap connector and insert the stripped portion of the Gray wire from pin 6 on the CATAlert™ 8-pin connector and insert it through the loose piece. Hold the wire so it doesn't push back out of the Posi-Tap, and screw it back into the main Posi-Tap body. Holding the main Posi-Tap body, gently pull on the just-installed wire to make sure it is solidly connected. Secure the connection using tape.

Instructions

2021 - 2022 Ford F-650/750

1. Remove the upper and lower steering column.

2. Locate the 12-pin connector (C2414A) and unplug it.



3. Locate the Green/White wire in Pin-1 of the 12-pin connector. This Green/White wire should provide a Ground signal whenever the horn is pressed. Connect the Gray wire from pin 6 on the CATAlert™ 8-pin connector using the provided Posi-Tap* (See Instructions below). Plug the OEM 12-Pin connector back into it's mating connector.

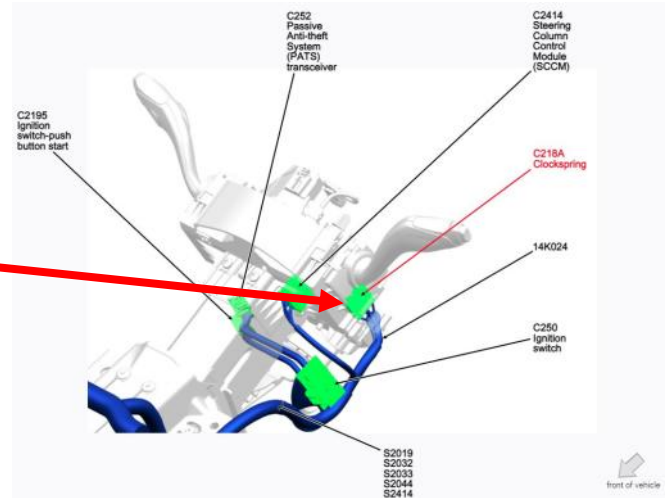
*Unscrew the cap on the included Posi-Tap connector and install it on the Green/White wire, (Pin-1 of the 12-pin connector) then screw the rest of the connector onto the cap (snug it down, but not overly tight). Unscrew the Red portion of the Posi-Tap connector and insert the stripped portion of the Gray wire from pin 6 on the CATAlert™ 8-pin connector and insert it through the loose piece. Hold the wire so it doesn't push back out of the Posi-Tap, and screw it back into the main Posi-Tap body. Holding the main Posi-Tap body, gently pull on the just-installed wire to make sure it is solidly connected. Secure the connection using tape.

Instructions

2015 - 2022 Ford Transit

1. Remove the upper and lower steering column.

2. Locate the 8-pin connector (C218A) and unplug it.



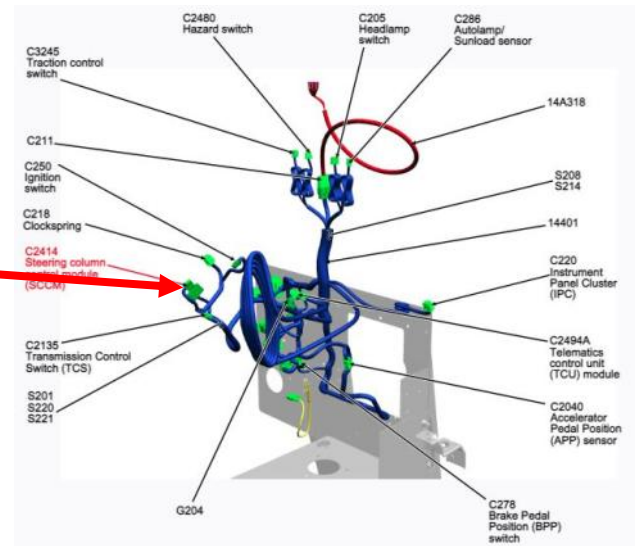
3. Locate the Blue/White wire in Pin-4 of the 8-pin connector. This Blue/White wire should provide a Ground signal whenever the horn is pressed. Connect the Gray wire from pin 6 on the CATAlert™ 8-pin connector using the provided Posi-Tap* (See Instructions below). Plug the OEM 8-Pin connector back into its mating connector.

*Unscrew the cap on the included Posi-Tap connector and install it on the Blue/White wire, (Pin-4 of the 8-pin connector) then screw the rest of the connector onto the cap (snug it down, but not overly tight). Unscrew the Red portion of the Posi-Tap connector and insert the stripped portion of the Gray wire from pin 6 on the CATAlert™ 8-pin connector and insert it through the loose piece. Hold the wire so it doesn't push back out of the Posi-Tap, and screw it back into the main Posi-Tap body. Holding the main Posi-Tap body, gently pull on the just-installed wire to make sure it is solidly connected. Secure the connection using tape.

Instructions

2020 - 2022 Ford F53/59

1. Locate the 12-pin connector (C2414) and unplug it.



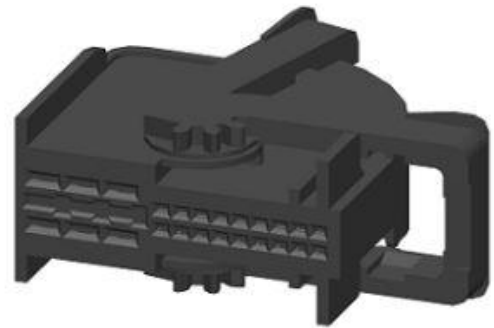
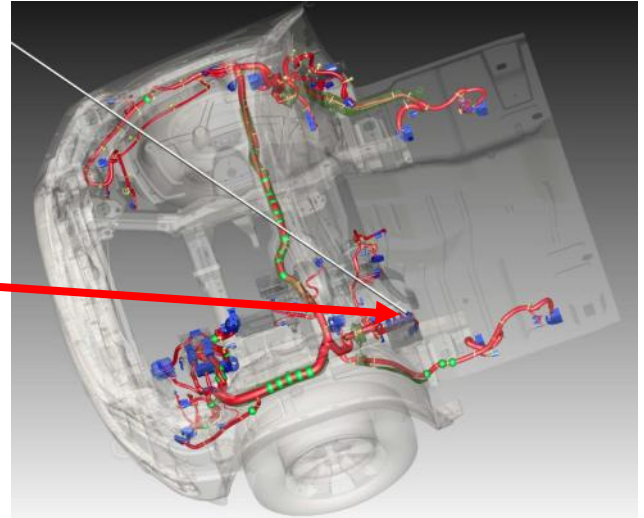
2. Locate the Green/White wire in Pin-1 of the 12-pin connector. This Green/White wire should provide a Ground signal whenever the horn is pressed. Connect the Gray wire from pin 6 on the CATAlert™ 8-pin connector using the provided Posi-Tap* (See Instructions below). Plug the OEM 8-Pin connector back into it's mating connector.

*Unscrew the cap on the included Posi-Tap connector and install it on the Green/White wire, (Pin-1 of the 12-pin connector) then screw the rest of the connector onto the cap (snug it down, but not overly tight). Unscrew the Red portion of the Posi-Tap connector and insert the stripped portion of the Gray wire from pin 6 on the CATAlert™ 8-pin connector and insert it through the loose piece. Hold the wire so it doesn't push back out of the Posi-Tap, and screw it back into the main Posi-Tap body. Holding the main Posi-Tap body, gently pull on the just-installed wire to make sure it is solidly connected. Secure the connection using tape.

Instructions

2013 - 2024 Ram 1500
2013 - 2024 Ram 2500 - 5500

1. Locate the 24-pin connector at the BCM and unplug it.
The connector is located on the floor of the vehicle underneath the Service Brake



2. Locate the Green/White wire in Pin-23 of the 24-pin connector. This Green/White wire should provide a +12V signal whenever the horn is pressed. Connect the Orange wire from pin 3 on the CATAlert™ 8-pin connector using the provided Posi-Tap* (See Instructions below). Plug the OEM 8-Pin connector back into its mating connector.

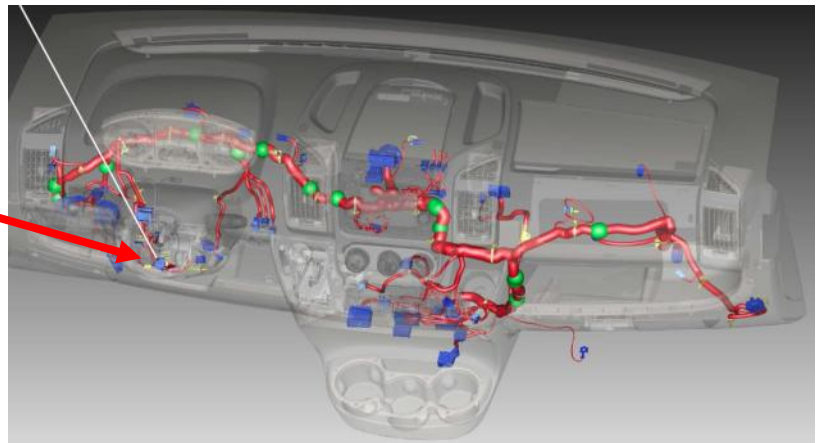
*Unscrew the cap on the included Posi-Tap connector and install it on the Green/White wire, (Pin-23 of the 24-pin connector) then screw the rest of the connector onto the cap (snug it down, but not overly tight). Unscrew the Red portion of the Posi-Tap connector and insert the stripped portion of the Orange wire from pin 3 on the CATAlert™ 8-pin connector and insert it through the loose piece. Hold the wire so it doesn't push back out of the Posi-Tap, and screw it back into the main Posi-Tap body. Holding the main Posi-Tap body, gently pull on the just-installed wire to make sure it is solidly connected. Secure the connection using tape.

Instructions

2014 - 2021 Ram Promaster

1. Remove the upper and lower steering column.

2. Locate the 12-pin connector and unplug it.



3. Locate the Brown/Green wire in Pin-8 of the 12-pin connector. This Brown/Green wire should provide a ground signal whenever the horn is pressed. Connect the Gray wire from pin 6 on the CATAlert™ 8-pin connector using the provided Posi-Tap* (See Instructions below). Plug the OEM 8-Pin connector back into its mating connector.

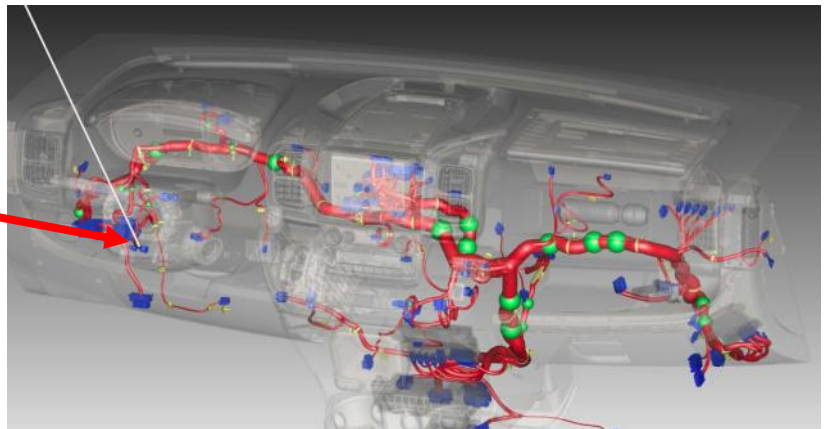
*Unscrew the cap on the included Posi-Tap connector and install it on the Brown/Green wire, (Pin-8 of the 12-pin connector) then screw the rest of the connector onto the cap (snug it down, but not overly tight). Unscrew the Red portion of the Posi-Tap connector and insert the stripped portion of the Gray wire from pin 6 on the CATAlert™ 8-pin connector and insert it through the loose piece. Hold the wire so it doesn't push back out of the Posi-Tap, and screw it back into the main Posi-Tap body. Holding the main Posi-Tap body, gently pull on the just-installed wire to make sure it is solidly connected. Secure the connection using tape.

Instructions

2022-2025 Ram Promaster

1. Remove the upper and lower steering column.

2. Locate the 10-pin connector and unplug it.



3. Locate the Brown/Green wire in Pin-9 of the 10-pin connector. This Brown/Green wire should provide a ground signal whenever the horn is pressed. Connect the Gray wire from pin 6 on the CATAlert™ 8-pin connector using the provided Posi-Tap* (See Instructions below). Plug the OEM 8-Pin connector back into its mating connector.

*Unscrew the cap on the included Posi-Tap connector and install it on the Brown/Green wire, (Pin-9 of the 10-pin connector) then screw the rest of the connector onto the cap (snug it down, but not overly tight). Unscrew the Red portion of the Posi-Tap connector and insert the stripped portion of the Gray wire from pin 6 on the CATAlert™ 8-pin connector and insert it through the loose piece. Hold the wire so it doesn't push back out of the Posi-Tap, and screw it back into the main Posi-Tap body. Holding the main Posi-Tap body, gently pull on the just-installed wire to make sure it is solidly connected. Secure the connection using tape.

Instructions

Auxiliary Horn

1. An optional auxiliary horn is available which eliminates the need to tap into the OEM wiring. Install the auxiliary horn under the hood or any other safe, protected location.
2. Ground the horn's black wire to the chassis.
3. A loomed Orange horn wire is provided with a spade for connection to the horn. Find an appropriate location for passing this wire through the firewall bulkhead and plug it's bullet connector into the Orange wire from the CATAlert module.

Connect CATAlert Orange
Horn wire here



Instructions

Control Inputs/Outputs - 8-pin connector

Pin #1 - RED - If the module can not find ignition status over the CAN network, the module will enter an error state and turn on LED 3. To exit the error state, connect a hot-in-run signal to this input.

Pin #3 - ORANGE - This output provides 12V@8 Amps to drive a horn when a theft is detected. This output could be used to drive a horn relay by connecting to the high side of a horn relay coil.

Pin #4 - GREEN - Jumper to pin #5

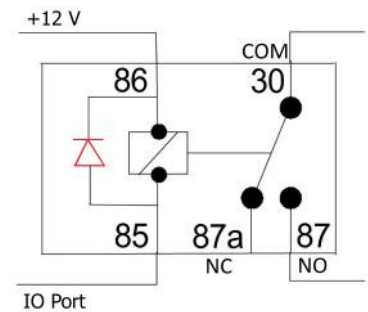
Pin #5 - GREEN - Sensor1 Input

Pin #6 - Gray - This output provides a 0.5 A ground signal that can be used to control a horn relay when a theft is detected. Most OEM horn circuitry contain a horn relay that can be tapped into. When using this output with a non-OEM horn, an external relay must be provided.

Please ensure that the relay used is diode clamped.

An example relay would be:

Digikey Part # 2449-A2F1CSQ12VDC1.6D-ND.



Pin #7 - Yellow - The telematics output is a 12V@0.5 Amps signal that is used to indicate when the CATAlert has detected the theft of a catalytic converter.

Pin #8 - Brown - Sensor2 Input

Instructions

Final Connections

1. Plug the 8-Pin connector into the mating connector on the CATAlert™ module with the vehicle key Off.
2. Turn the key to the Run position (engine Off).
3. Plug the 4-Pin connector into the mating connector on the CATAlert™ module. If the Hot in Run input is not connected, the module LEDs will start scrolling.
4. When the LEDs stop scrolling, the horn will chirp once per calibrated sensor. LED 4 may turn on if the engine is running or the Hot in Run input is connected. If so, turn the key to the off position and wait 10 seconds. LED 4 will turn off and sensor calibration will proceed.
5. Start the vehicle engine and let it run for 10 seconds. If the horn honks twice (1 short honk, 1 long honk), the module failed to acquire the engine state and will require a connection to the Hot in Run input. Please connect the Hot in Run input and restart from step 1. Otherwise, proceed to step 6.
6. Turn the key to the off position. After 10 seconds LED1 and/or LED2 will flash once per second to confirm the system is armed. Please verify that the flashing LEDs correspond to the installed sensors, i.e. LED1 for sensor 1 and LED2 for sensor 2.
7. Attach the provided sticker to the vehicle in a conspicuous location.



Note: If all connections are made and a sensor fails to initialize, check the resistance from the equivalent harness pin to ground. If the sensor is functioning properly, a resistance around 50 Ohms should be seen. If the resistance is less than 25 Ohms or greater than 100 Ohms, contact InterMotive support. The sensor may be damaged.

Post Installation Checklist

To ensure the system is working correctly, follow the steps below. Repeat this checklist for each sensor connected.

1. With the Key out of the ignition, confirm that LED 1 and/or 2 is flashing on the CATAlert™ module. LEDs will flash very briefly about once per second anytime the system is armed.
2. Unplug the sensor's bullet connector from the mating connector. The horn should start honking, signifying that the system no longer detects the catalytic sensor. The Status LED on the module should also turn on.
3. Plug the bullet connector back into the mating connector. Make sure the connection is fully seated.
4. Unplug the 4-Pin connector to shut the system Off and silence the horn.
5. Turn the Key to the Run position (engine off). Plug the 4-Pin Power Harness connector back into the module to reset it. Short chirps of the horn indicate it has detected the sensor(s). It is now armed.

DO NOT PUT VEHICLE IN SERVICE IF IT DOES NOT PASS ALL OF THE ABOVE TESTS

Contact InterMotive at 530-823-1048 for technical assistance.

Instructions

Using Module LEDs

The module has 5 on-board LEDs which are used to convey information about the operation of the module.

Operation Errors - Under certain conditions the module LEDs are used to indicate errors which prevent continued operation. In this case, the Status LED will blink and depending on which other LEDs are lit, the error is identified as follows:

- LED 1 ON - Set-up error on output device.
- LED 2 ON - Could not set up the CAN communication
- LED 3 ON - Could not detect ignition
- LED 4 ON - Waiting for key off to calibrate the sensors
- LED 2&3 ON - Output error
- LED 1,2,&3 ON - Could not calibrate sensors

Normal Operation - During normal operation, the module will flash LEDs 1 and/or 2 depending on which sensors are installed and calibrated. If a sensor has faulted, the corresponding LED will stop flashing.

Diagnostic Mode - One can put the module into a diagnostic mode to access additional diagnostic information. In this mode, LEDs 1-4 light in response to the state of the module. The module is fully functional in this mode.

To enter diagnostic mode, press the Red button on the module. Additional presses of the button will cycle through the 3 diagnostic pages, with page 3 transitioning back to the normal operation mode.

LEDs will reveal system status as follows:

Page 1 (Basic Functionality Info)

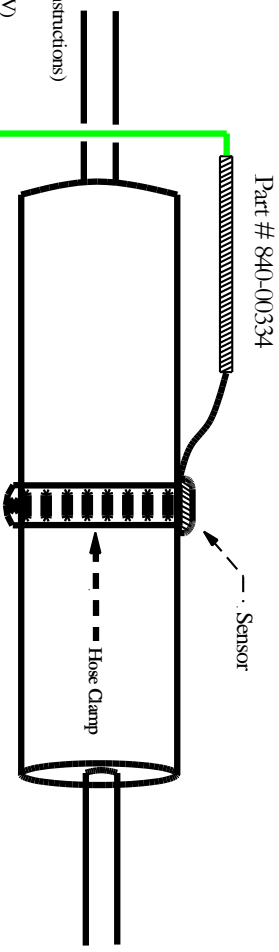
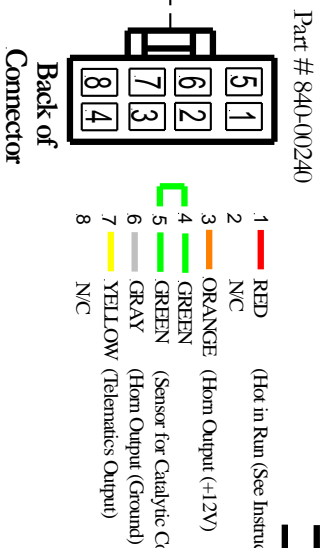
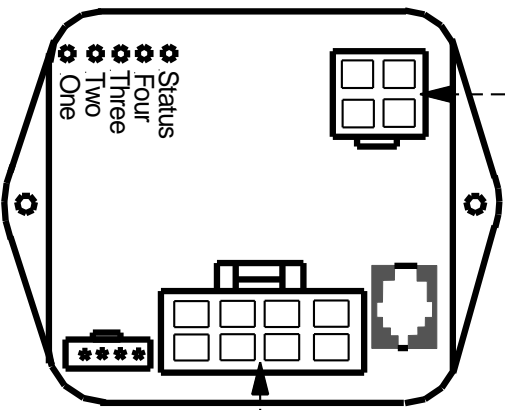
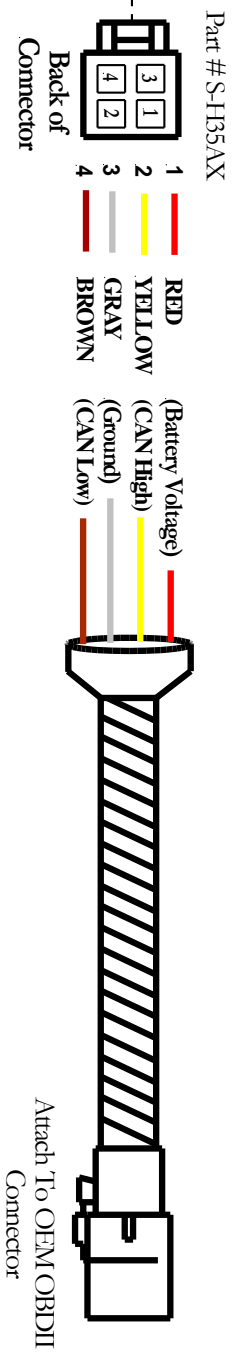
- LED 1 ON when Sensor 1 calibrated
- LED 2 ON when Sensor 2 calibrated
- LED 3 ON when Theft detected
- LED 4 ON when System armed
- STATUS LED will blink out the current page once per second

Page 2 (Ignition Detection Mode)

- LED1 ON with Discrete Hot In Run Input
- LED2 ON for Standard CAN mode
- LED3 ON for Extended RAM CAN
- LED4 ON for Extended Chevy CAN

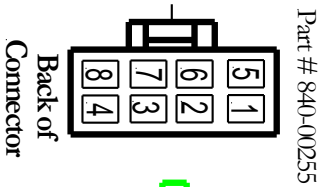
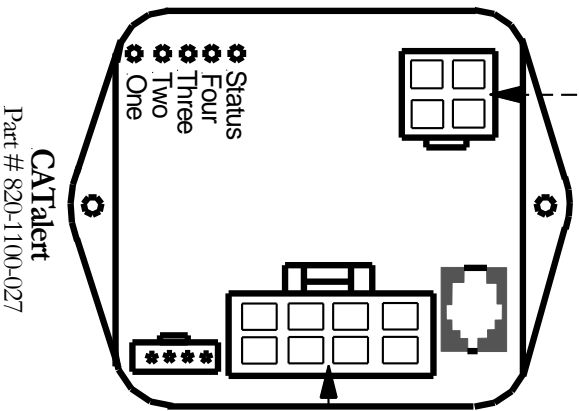
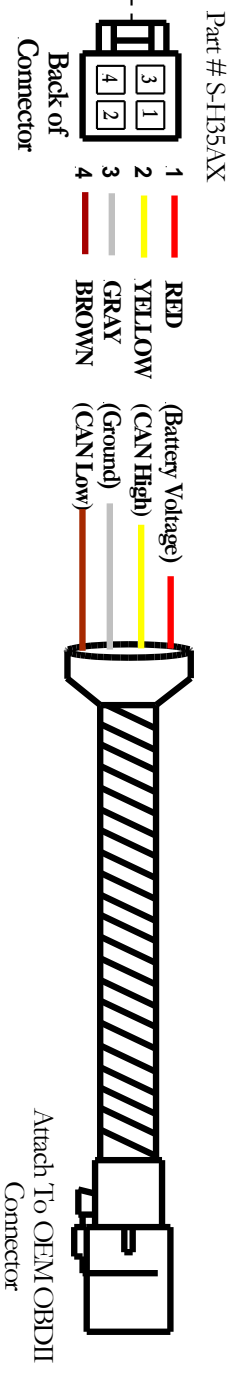
Page 3 (Ignition Input States)

- LED1 ON when Engine Running or Hot in Run Input is True
- LED2 ON when Requesting Engine Runtime over CAN
- LED3 ON when Hot In Run Discrete Input is True
- LED4 ON when Battery Voltage >13V

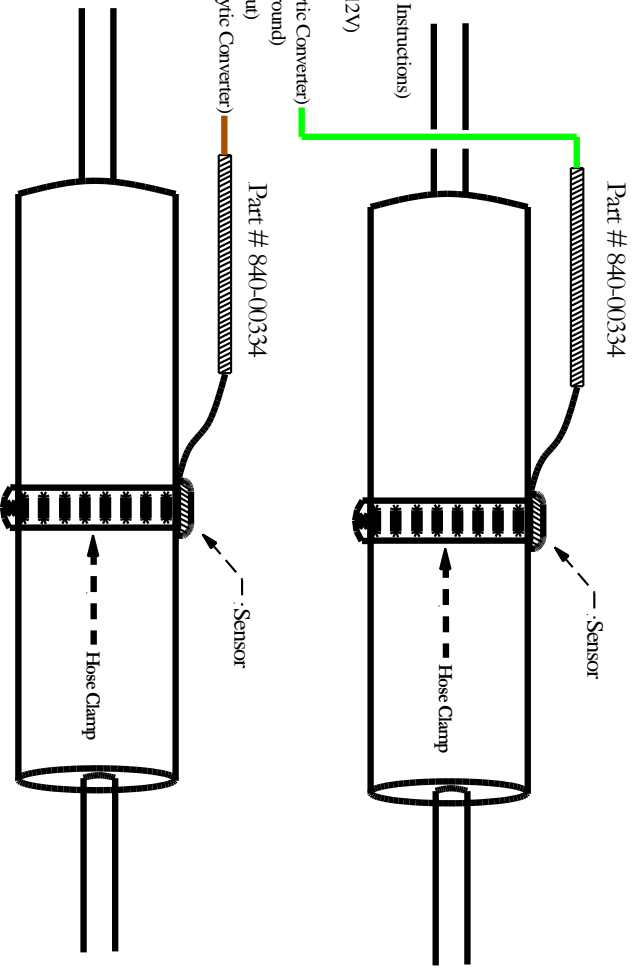


Submit product registration at www.intermotive.net

If the CATAlert™ fails any step in the Post Installation Check List, review the installation instructions and check all connections.
If necessary, call Intermotive Technical Support at (530) 823-1048.



- | | | |
|---|--------|----------------------------------|
| 1 | RED | (Hot in Run (See Instructions)) |
| 2 | N/C | |
| 3 | ORANGE | (Horn Output (+12V)) |
| 4 | GREEN | (Sensor for Catalytic Converter) |
| 5 | GREEN | (Horn Output (Ground)) |
| 6 | GRAY | (Telematics Output) |
| 7 | YELLOW | (Sensor for Catalytic Converter) |
| 8 | BROWN | |



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