An ISO 9001:2015 Registered Company

CCM501A

Cruise Control Module

2023 Ford F250 - F600 (H-CCM501-A)

2024 Ford F150

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Introduction

The CCM501A product is designed for vehicles equipped to travel on railroad tracks. The module will disable cruise control when the vehicle is travelling on the rails. A single input to the module (Low or High true) is required to indicate when the vehicle is on the rails. The module has an additional output that indicates to the user when it is in the cruise control disable mode.

Installation Instructions

Disconnect vehicle battery before proceeding with installation.

WARNING
Disconnect the battery to prevent setting a check engine light.

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.
It is important to avoid placing the module where it could encounter strong magnetic fields from high current cabling connected to motors, solenoids, etc. Also avoid radio frequency energy from antenna's or inverters next to the module. Finally, avoid high voltage spikes in vehicle wiring by always using diode clamped relays when installing upfitter circuits.

CCM501 Module

Remove the lower dash panel below the steering column area and find a suitable location to mount the CCM501 module. Locate the module in an area away from any external heat sources (engine heat, heater ducts, etc.). Do not actually mount the module until all wire harnesses are routed and secure. The last step will be to mount the module.

Data Link Harness Installation

The Ford F Series has an OEM Gateway module located on the other side of the SYNC 4 module, which is behind the center console. Follow the steps below to access it:

1. Remove the RH instrument panel trim using a trim removal tool. The trim starts at the ignition switch and ends at the silver clip. The glove compartment can be opened to better access the back side of the trim.

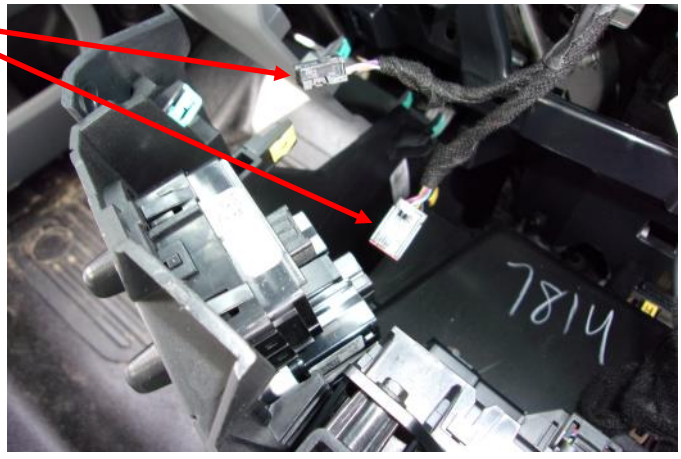
2. Using a trim removal tool, pop out the upper right corner of the lower steering column close out panel. Position it away from the center stack.

3. Remove the 4 bolts (Size: 7mm) located at the top of the center stack.

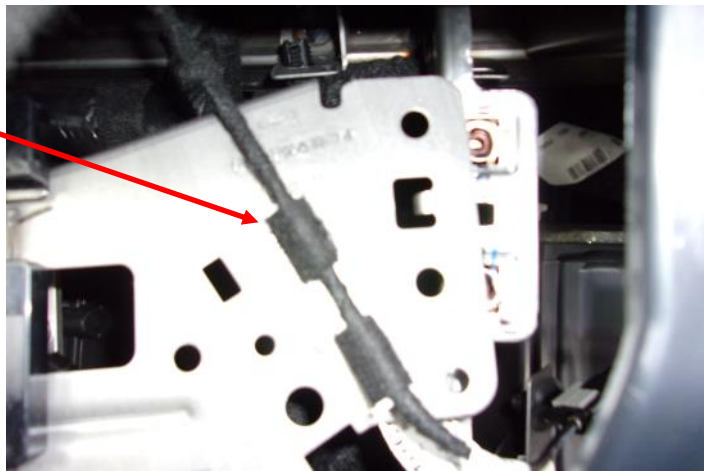
4. Release the clips on both sides of the center stack using a trim removal tool. Position the center stack away from the mounting points.

   NOTE: The F150 requires the LH and RH side panel to be removed from the center console. Start at the rear of the panel and release the clips moving towards the dash. Once the clips are released, pull the panel towards the rear to remove it from the dash.

5. Disconnect the 2 connectors behind the center stack.



6. Detach the push-mount cable tie from the bracket and position the cable out of the way.

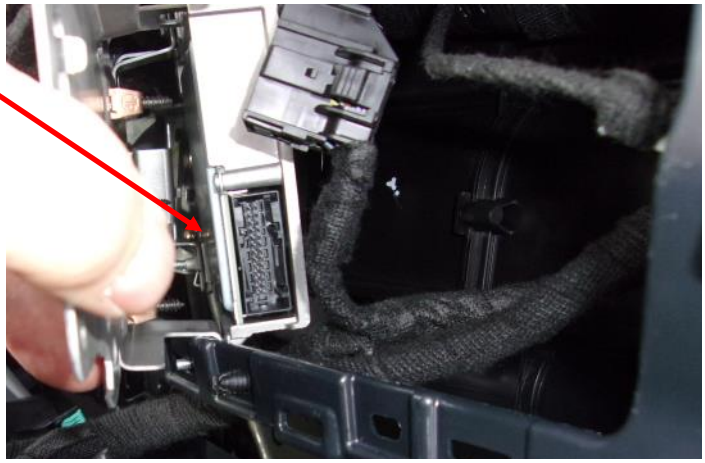


7. Remove the 4 bolts (Size: 7mm) and position the bracket away from the mounting points to access the Gateway Module. The Gateway Module is located behind the bracket.

   NOTE: The F150 has (3) 8mm bolts.

   A few connectors will likely need to be unplugged from the front module so that the bracket can be rotated to gain access to the Gateway Connector.

8. Disconnect the Gateway Connector by pressing down on the tab and pulling the connector away from the module.



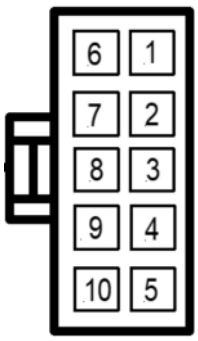
9. Install the Datalink Harness between the Gateway Module and the disconnected Gateway Connector.

10. Run the 6-pin connector of the datalink harness to the mounting location of the CCM501 module.

11. After the Datalink Harness is installed, reverse the installation procedure to reassemble.

10-pin connector pin out definition

- Pin #1 - High True Output for Cruise Control Disabled Status
- Pin #2 - Low True Output for Cruise Control Enabled Status
- Pin #3 - Configurable Input Indicating Vehicle on Rails
- Pin #4 - High True Cruise Control Disabled Status (if installed)
- Pin #5 - 12V
- Pin #6 - Low True PnR input
- Pin #7 - Jumper to Pin 8
- Pin #8 - Low True Cruise Control Disabled Status
- Pin #9 - Low True Cruse Control Disabled Status (if installed)
- PIN #10 - Ground



Back of Connector

NOTE: For the pin #4 output to be used, pin #9 must be tied to 12V.
To use pin #9, pin #4 must be grounded.

Vehicle on Rails Input

Connect the Green/White wire from Pin #3 to a switch that provides a ground signal when the vehicle is on the rails. If a 12V input is desired, refer to page 7 for input PnR instructions.

CCM Diagnostic Mode Testing

Enabling Diagnostic Mode allows a visual indication of system status and is a good troubleshooting tool used in conjunction with the below tests. The module is fully functional in this mode. Enter Diagnostic Mode by the following steps:

1. Place transmission in Park and turn ignition switch to run position.
2. Momentarily press the red "Test" button.
3. Initially, when the module goes into Diagnostic Mode, the LED's will scroll twice followed by LED1 blinking out the installed firmware version. After this, the LED's will display the following:

- LED 1 will be on when the PnR low true input (J1/Pin6) is active.
- LED 2 will be on when the Cruise Control Disable input (J1/Pin3) is active.
- LED 3 Blinks every 2 seconds to indicate the module is disabling Cruise Control (Ford).
- LED 4 Indicates that the Cruise Control Disable input is currently in high true mode.
- Status LED Blinks out the current mode of the Cruise Control Disable indicator.
    - 1-1 indicates the output will be 5 volts when inactive.
    - 1-2 indicates the output will be 12 volts when inactive.
- Cycling the key or pressing the test button will exit Diagnostic Mode and all LED's will be off.

Post Installation

Testing the module consists of putting the vehicle in the "On Rail" mode and attempting to drive using Cruise Control. The module will prevent Cruise Control operation when vehicle is in this condition. Taking the vehicle out of the "On Rail" mode should allow full cruise control operation once again. NOTE: the module checks periodically for Cruise Control requests so even though it may be possible to put the vehicle into Cruise Control, it will be disengaged within a few seconds after doing so.

Cruise Control Disabled Status Indicator Output

Connect the Yellow wire from Pin #8 of J1 to a device or LED that will indicate whether the module is disabling Cruise Control or not. This output will be a ground output when Cruise Control is disabled and either a 5V (default) or a 12V (Source) output when Cruise Control is enabled (Highway Mode). To switch between a 5V output and a 12V output, perform the following procedure:

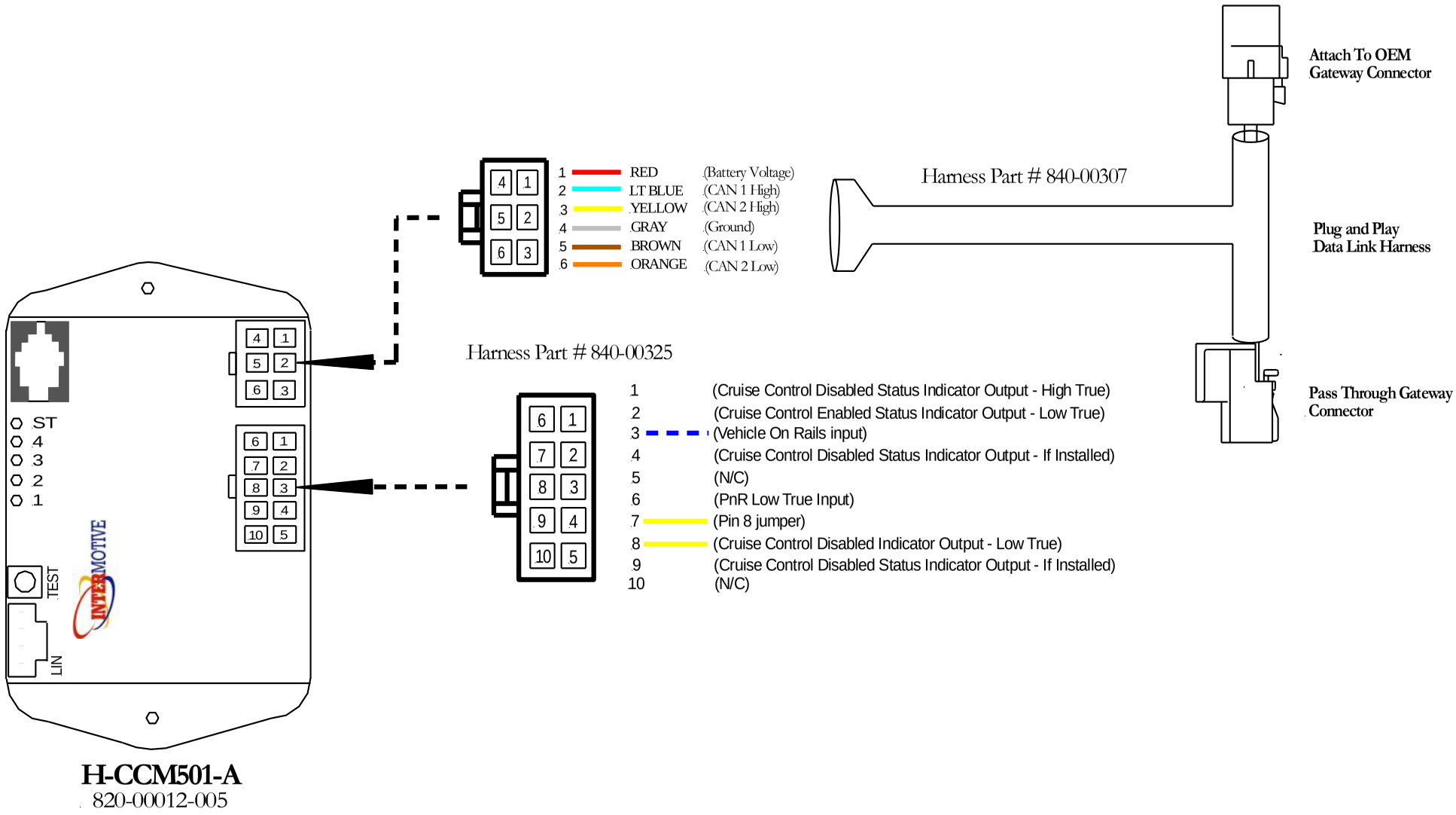
1. Put module into Diagnostic Mode (see "CCM Diagnostic Mode Testing")).
2. Ground pin 6 of the J1 connector.
3. Tap the service brake 3 times within 6 seconds.
4. All LEDs will flash when the PnR is successfully completed. If the LEDs flash once, the module is in 5v mode. If the LEDs flash twice, the module is in 12V mode.

Vehicle on Rails Input

Connect the Yellow wire from Pin #3 of J1 to a high or low true signal that indicated when the vehicle is in "On Rail" mode. This input can be configured to either be high true or low true. To toggle between these modes, perform the following procedure:

1. Put module into Diagnostic Mode (see "CCM Diagnostic Mode Testing")
2. Ground pin 6 of the J1 connector.
3. Hold the service brake for 6 seconds.
4. When the PnR is successfully completed, LED4 will toggle. If LED4 is on, the input is set to high true mode. If the LED is off, the input is set to low true.

If the CCM501 fails any step in the Post Installation Instructions, please contact Intermotive Technical Support at (530) 823-1048.



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Submit product registration at www.intermotive.net

If the CCM501 fails any step in the Post Installation Test, review the installation instructions and check all connections. If necessary, call InterMotive Technical Support at (530) 823-1048.