

SS 1033425 Cruise Control Not Working When Replacing ICU3 With ICU3S M2 Vehicles With Caterpillar Engine Only

Applicable Vehicles

This solution applies to any M2 vehicle with a Caterpillar engine.

Issue

The original ICU3 used on the M2 vehicles were programmed to broadcast the cruise pause switch on the J1939 network. This appeared as a source address 23 (Instrument Controller). Since fast idle used the same cruise control switches, if any part of the messages for the cruise control function is not seen by the Engine Control Module (ECM), then the Check Engine Lamp (CEL) will be illuminated (Fault code 0-231-2 - J1939 Required Data Not Received) and both the fast idle and cruise functions will not work. Because the ICU3S does not broadcast the cruise control pause on the J1939 network, when replacing an ICU3 with an ICU3S the CEL will be illuminated and both fast idle and cruise control will not work.

Solution

Even though an ICU3S will not directly replace an ICU3 out of the box, the Caterpillar engine can be reprogrammed using Caterpillar's Electronic Technician (ET) to allow the new ICU3S to function properly. Since the ICU3S is not broadcasting the cruise pause switch on J1939 network, the ECM needs to be reprogrammed. Use Cat ET to connect to the ECM. Under the "Configuration" icon, select "Input Selections". When viewing the input selections, find the "Cruise Control Pause Switch". Change the programming from "J1939 - Instrument Cluster" to "None". This will turn off the CEL and will allow the cruise control and fast idle functions to work using the cruise switches in the dash. Do keep in mind that there may be other issues to address regarding legend positions and wiring concerns, but these are documented in Freightliner Service bulletin 54-299. See screen print below for a visual aid when trying to locate the programming in ET.

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Cat Electronic Technician 2017B v1.0 - Configuration

File View Diagnostics Information Service Utilities Help

Need to be in Configuration screen to see the programming

3126 Truck (HEP04419)

- Selected Engine Rating
- ECM Identification Parameters
- Security Access Parameters
- Truck Manufacturer Parameters
- Vehicle Speed Parameters
- Cruise Control Parameters
- Idle Parameters (Old PTO)
- Dedicated PTO Parameters
- Exhaust Brake Options
- Engine/Gear Parameters
- Smart Idle Parameters
- Timer Parameters
- Engine Monitoring Parameters
- Maintenance Parameters
- Trip Parameters
- Input Selections
- Output Selections
- Passwords
- Data Link Parameters
- System Settings

"Input Selections" is where the Cruise Control Pause Switch is located.

With the new ICU3S on Cat engine this parameter need to be set at none. If this is set to any parameter other than None Cruise and Fast Idle will not work

Description	Value	TT
Theft Deterrent System Control	No	0
Theft Deterrent Password	0000	
Quick Stop Rate	0 mph/s	0
Input Selections		
Fan Override Switch	None	0
Transmission Neutral Switch	J1/P1:62	0
Exhaust Brake Switch	None	0
Ignore Brake/Clutch Switch	Unavailable	
Two Speed Axle Switch	None	0
Vehicle Speed Input	J1/P1:32 & 33	3
PTO Engine Shutdown Switch	Unavailable	
Torque Limit Switch	Unavailable	
PTO Engine RPM Set Speed Input A	Unavailable	
PTO Engine RPM Set Speed Input B	Unavailable	
Diagnostic Enable Switch	None	0
Cruise Control On/Off Switch	J1939 - Instrument Cluster	3
Cruise Control Set/Resume/Accel/Decel Switch	J1939 - Instrument Cluster	3
Cruise Control Pause Switch	None	4
Clutch Pedal Position Switch	J1939 - Body Controller	3
Service Brake Pedal Position Switch #1	J1939 - Body Controller	3
Accelerator Pedal Position	J1/P1:66	0
A/C High Pressure Switch	J1/P1:41	0
Output Selections		
Fan Control Type	On-Off	3
PTO Active Output	Unavailable	
PTO Switch On Lamp	J1/P1:30	0
Wait to Start Lamp	None	0
Fast Idle Enabled Lamp	J1/P1:31	0
Chassis Oil Lamp	None	0