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Major System: PROGRAMMING SUPPORT

Current Language: English

Other Languages: [Français](#), [Español](#), [Portuguese](#)

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Author: Jeff Polich

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Coding Information

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Title: Cummins Programming Guide and Cummins 285 & 286 Fault Code

Applies To: Cummins B6.7, X15, L9, ISX EPA model years 2010, 2013, 2017 2021 and 2024 Euro 4 and 5

**CHANGE LOG - Dealers: Please refer to the change log text box below for recent changes to this article:**

10/29/2021 - Updated Author for feedback purposes  
06/26/2018 - Updated link for Cummins PowerSpec  
04/03/2018 - Author updated for feedback purposes  
9/30/2014 - Updated section 2.  
6/30/2014 - Added link to Cummins PowerSpec website

Fault Code	Description
SA:0 SPN: 639 FMI:09 (Cummins Fault 285)	ECM expected information from a multiplexed device but did not receive it soon enough or did not receive it at all
SA:0 SPN: 639 FMI: 13 (Cummins Fault 286)	The ECM expected information from a multiplexed device but only received a portion of the necessary information

**DESCRIPTION**

There are several possible causes for 285 and 286 codes in a Cummins engine. The 2 most common causes are:

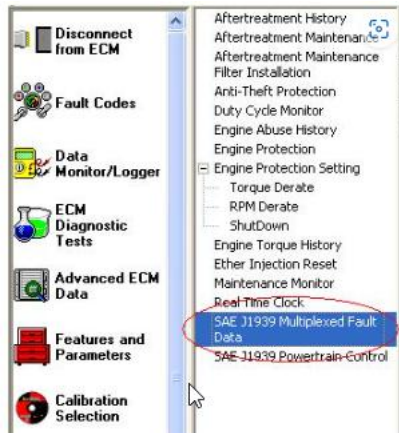
- 1) A problem with the 1939 datalink. Ensure that all modules are communicating on the 1939. For 1939 diagnostics: [Click Here](#)
- 2) An incorrectly programmed parameter in the engine.

Procedure to see what parameter is causing the code

1. Connect to truck and open Cummins Insite
2. Click on the button labeled "Advance ECM Data"



3. Click on "SAE J1939 Multiplexed Fault Data"



4. See what components or parameters are causing the issue

Fault Code	Multiplexed Component or Data Parameter	Status	Total ECM Time (Key On Time)	ECM Real Time
CM671				
0285	SAE J1939 Multiplexing PGN Timeout Error			
	AC PRESSURE SWITCH	Active	3473:48:34	Not Applicable
0286	SAE J1939 Multiplexing Configuration Error			
No SAE J1939 Multiplexed Fault Data is available for display because there has been no occurrence of Fault Code 0286				

5. Click on "Features and Parameters" Icon



6. Go to "SAE J1939 Multiplexing" and click the + button to expand the list of parameters

Powertrain Protection Engine Speed Limit
PTO
Remote Accelerator Pedal or Lever
Road Speed Governor
<b>SAE J1939 Multiplexing</b>
Service Brake Switch
Smart Coast

7. Check current parameter value and compare to table below "Recommended Settings"

Features and Parameters	ECM Value
SAE J1939 Multiplexing	
Accelerator Interlock Switch	Disable
Accelerator Pedal Or Lever Position	Disable
Adaptive Cruise Control Usage Demand Switch	Disable
Aftertreatment Regeneration Permit Switch	Enable
Aftertreatment Regeneration Start Switch	Enable
Air Conditioning Pressure Switch	Disable
Auxiliary Shutdown Switch	Disable
Clutch Pedal Position Switch	Disable
Cruise Control On/Off Switch	Enable
Cruise Control Pause Switch	Enable
Cruise Control Set / Resume Switch	Enable
Diagnostic Test Mode Switch	Disable
Engine Brake Switch Level	Enable
Engine Protection Shutdown Manual Override	Disable
Fan Control Switch	Enable
Fan Control Switch 2	Disable
Fuel Level Sensor	Enable
Fuel Level Sensor 2	Disable
Idle Increment/ Idle Decrement Switch	Enable
Idle Shutdown Battery Pack Charge Sensor	Disable
Idle Shutdown Internal Cabin Temperature Sensor	Disable
Idle Shutdown Timer Override Switch	Disable
Idle Shutdown Transmission Oil Temperature Sensor	Disable
Idle Validation Switch	Disable
Parking Brake	Enable
PTO Acceleration Switch	Disable
PTO Deceleration Switch	Disable
PTO On/Off Switch	Enable
PTO Set / Resume Switch	Enable
Rear Axle Ratio Switch	Disable
Remote Accelerator Pedal or Lever	Disable
Remote Accelerator Pedal or Lever Switch	Disable
Remote PTO Switch	Disable
Service Brake Switch	Enable
Torque Derate Switch	Disable

8. If fault code/codes remains active,  
1. Please open a Tech Service case file for further assistance

### Recommended Settings

NOTE: All values listed below may not fit every application. Information below represents the majority of the trucks as built. Customers or body builders may enable or disable features to meet customer needs.

SAE J1939 Multiplexing Parameter Names	EPA 2021 and 2024 Euro 4 and 5 ISX B6.7, L9 & X15 w/	EPA 2017 B6.7, L9 & X15 w/ CM2450	EPA 2013 B6.7, L9 & ISX15 w/ CM2350	EPA 2010 B6.7, & ISX15 w/ CM2
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	CM2450 ECM		ECM	ECM	ECM
SAE J1939 Multiplexing - Accelerator Interlock Switch	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)
SAE J1939 Multiplexing - Accelerator Pedal Or Lever Position	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)
SAE J1939 Multiplexing - Adaptive Cruise Control Usage Demand Switch	Disable (All Models)	Not Available	Disable (All Models)	Not Available	Not Available
<b>SAE J1939 Multiplexing - Aftertreatment Diesel Exhaust Fluid Tank Level Sensor</b>	Not Applicable	Enable (All Models)	Enable (All Models)	Enable (All Models)	Enable (All Models)
Source Address	Not Applicable	163 - Catalyst Fluid Sensor (All Models)	163 - Catalyst Fluid Sensor (All Models)	163- Catalyst Fluid Sensor (All Models)	163 - Catalyst Fluid Ser (All Models)
<b>SAE J1939 Multiplexing - Aftertreatment Diesel Exhaust Fluid Tank Temperature Sensor</b>	Not Available	Enable (All Models)	Enable (All Models)	Enable (All Models)	Enable (All Models)
Source Address	Not Applicable	163 - Catalyst Fluid Sensor (All Models)	163 - Catalyst Fluid Sensor (All Models)	163 - Catalyst Fluid Sensor (All Models)	163 - Catalyst Fluid Ser (All Models)
<b>SAE J1939 Multiplexing - Aftertreatment Regeneration Permit Switch</b>	Disabled (All Models)	Not Applicable	Disabled (All Models)	Disabled (All Models)	Disabled (All Models)
	Enable only if built with feature code 0007WZX (Inhibit Regen Switch)		Enable only if built with feature code 0007WZX (Inhibit Regen Switch)	Enable only if built with feature code 0007WZX (Inhibit Regen Switch)	Enable only if built with feature code 0007WZX (Inhibit Regen Switch)
Source Address	33 - Body Controller only if built with feature code 0007WZX	N/A	33 - Body Controller only if built with feature code 0007WZX	33 - Body Controller only if built with feature code 0007WZX	33 - Body Controller on built with feature code 0007WZX
<b>SAE J1939 Multiplexing - Aftertreatment Regeneration Start Switch</b>	Enabled (All Models)	Not Available	Enable (LT, MV, HV, HX, and CE/RE Bus)	Enable (ProStar, LoneStar, MV, HV, HX, and CE/RE Bus)	Enable (ProStar, LoneStar, MV, HV, HX, and CE/RE Bus)
			Disabled only on 4300/4400 models	Disabled only on 4300/4400 models	Disabled only on 4300/4400 models
Source Address	33 - Body Controller	N/A	33 - Body Controller	34 - Body Controller	35 - Body Controller
SAE J1939 Multiplexing - Air Conditioning Pressure Switch	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)
SAE J1939 Multiplexing - Ambient Air Temp Sensor	Not Available	Disable (All Models)	Not Available	Not Available	Not Available
SAE J1939 Multiplexing - Auxiliary Shutdown Switch	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)
<b>SAE J1939 Multiplexing - Clutch Pedal Position Switch</b>	Disable with Automated Transmissions	Disable with Automated Transmissions	Disable with Automated Transmissions	Disable with Automated Transmissions	Disable with Automatec Transmissions
	Enabled with Manual Transmissions	Enabled with Manual Transmissions	Enabled with Manual Transmissions	Enabled with Manual Transmissions	Enabled with Manual Transmissions
Source Address	33 - Body Controller (Manual Transmission Only)	33 - Body Controller (Manual Transmission Only)	33 - Body Controller (Manual Transmission Only)	33 - Body Controller (Manual Transmission Only)	33 - Body Controller (M Transmission Only)
<b>SAE J1939 Multiplexing - Cruise Control On/Off Switch</b>	Enabled (All Models)	Enabled (All Models)	Enable (LT, MV, HV and CE &RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE &RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE &RE B
			Disabled on HX and 4300/4400 models	Disabled on HX and 4300/4400 models	Disabled on HX and 4300/4400 models
Source Address	33 - Body Controller	33 - Body Controller	33 - Body Controller	33 - Body Controller	33 - Body Controller
<b>SAE J1939 Multiplexing - Cruise Control Pause Switch</b>	Enabled (All Models)	Disable (All Models)	Enable (LT, MV, HV and CE &RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE &RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE &RE B
			Disabled on HX and 4300/4400 models	Disabled on HX and 4300/4400 models	Disabled on HX and 4300/4400 models
Source Address	33 - Body Controller	N/A	33 - Body Controller	33 - Body Controller	33 - Body Controller
<b>SAE J1939 Multiplexing - Cruise Control Set / Resume Switch</b>	Enabled (All Models)	Enabled (All Models)	Enable (LT, MV, HV and CE &RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE &RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE &RE B
			Disabled on HX and 4300/4400 models	Disabled on HX and 4300/4400 models	Disabled on HX and 4300/4400 models
Source Address	33 - Body Controller	33 - Body Controller	33 - Body Controller	33 - Body Controller	33 - Body Controller
SAE J1939 Multiplexing - Diagnostic Test Mode Switch	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)
<b>SAE J1939 Multiplexing - Engine Brake Switch Level</b>	Enabled (All Models)	Enabled (All Models)	Enable (LT, MV, HV and CE &RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE &RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE &RE B
			Disabled on HX and 4300/4400 models	Disabled on HX and 4300/4400 models	Disabled on HX and 4300/4400 models
Source Address	33 - Body Controller	33 - Body Controller	33 - Body Controller	33 - Body Controller	33 - Body Controller
SAE J1939 Multiplexing - Engine Protection Shutdown Manual Override	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)

<b>SAE J1939 Multiplexing - Fan Control Switch</b>	Enabled (All Models)	Disable (All Models)	Enable (LT, MV, HV and CE & RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE & RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE & RE B
	Disabled with Viscous Fan		Disabled on HX and vehicles with Viscous Fan	Disabled on HX and vehicles with Viscous Fan	
Source Address	33 - Body Controller	Not Available	33 - Body Controller	33 - Body Controller	33 - Body Controller
<b>SAE J1939 Multiplexing - Fan Control Switch 2</b>	Disable (All Models)	Not Available	Disable (All Models)	Disable (All Models)	Disable (All Models)
<b>SAE J1939 Multiplexing - Fuel Level Sensor</b>	Enabled (All Models)	Not Available	Enable (All Models)	Enable (All Models)	Enable (All Models)
Source Address	33 - Body Controller	N/A	33 - Body Controller 23 - Instrument Cluster HX only	33 - Body Controller 23 - Instrument Cluster HX only	33 - Body Controller 23 - Instrument Cluster only
<b>SAE J1939 Multiplexing - Fuel Level Sensor 2</b>	Disable (All Models)	Not Available	Disable (All Models)	Disable (All Models)	Disable (All Models)
<b>SAE J1939 Multiplexing - Idle Increment/ Idle Decrement Switch</b>	Enabled for truck with X15 engines	Enabled (All Models)	Enabled for truck with X15 engines	Enabled for truck with ISX15 engines	Enabled for truck with I engines
	Disabled on B6.7 and L9 engines		Disabled on B6.7 and L9 engines	Disabled on B6.7 and L9 engines	
Source Address	33 - Body Controller on trucks with X15 engines	33 - Body Controller on trucks with ISX15 engines	33 - Body Controller on trucks with X15 engines	33 - Body Controller on trucks with ISX15 engines	33 - Body Controller on trucks with ISX15 engr
<b>SAE J1939 Multiplexing - Idle Shutdown Battery Pack Charge Sensor</b>	Disable (All Models)	Not Available	Disable (All Models)	Disable (All Models)	Disable (All Models)
<b>SAE J1939 Multiplexing - Idle Shutdown Internal Cabin Temperature Sensor</b>	Disable (All Models)	Not Available	Not Available	Not Available	Not Available
<b>SAE J1939 Multiplexing - Idle Shutdown Timer Override Switch</b>	Disable (All Models)	Not Available	Not Available	Not Available	Not Available
<b>SAE J1939 Multiplexing - Idle Shutdown Transmission Oil Temperature Sensor</b>	Disable (All Models)	Not Available	Not Available	Not Available	Not Available
<b>SAE J1939 Multiplexing - Idle Validation Switch</b>	Disable (All Models)	Disable (All Models)	Not Available	Not Available	Not Available
<b>SAE J1939 Multiplexing - Malfunction Indicator Lamp</b>	Not Available	Disable (All Models)	Not Available	Not Available	Not Available
<b>SAE J1939 Multiplexing - Parking Brake</b>	Enabled (All Models)	Enabled (All Models)	Enable (LT, MV, HV and CE & RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE & RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE & RE Bus)
			Disabled on HX and 4300/4400 models	Disabled on HX and 4300/4400 models	Disabled on HX and 4300/4400 models
Source Address	33 - Body Controller	33 - Body Controller	33 - Body Controller	33 - Body Controller	33 - Body Controller
<b>SAE J1939 Multiplexing - PTO Acceleration Switch</b>	Disable (All Models)	Not Available	Not Available	Not Available	Not Available
<b>SAE J1939 Multiplexing - PTO Deceleration Switch</b>	Disable (All Models)	Not Available	Not Available	Not Available	Not Available
<b>SAE J1939 Multiplexing - PTO On/Off Switch</b>	Enabled (All Models)	Enabled (All Models)	Enable (LT, MV, HV and CE & RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE & RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE & RE B
			Disabled on HX and 4300/4400 models	Disabled on HX and 4300/4400 models	Disabled on HX and 4300/4400 models
Source Address	33 - Body Controller	33 - Body Controller	33 - Body Controller	33 - Body Controller	33 - Body Controller
<b>SAE J1939 Multiplexing - PTO Set / Resume Switch</b>	Enabled (All Models)	Enabled (All Models)	Enable (LT, MV, HV and CE & RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE & RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE & RE B
			Disabled on HX and 4300/4400 models	Disabled on HX and 4300/4400 models	Disabled on HX and 4300/4400 models
Source Address	33 - Body Controller	33 - Body Controller	33 - Body Controller	33 - Body Controller	33 - Body Controller
<b>SAE J1939 Multiplexing - Rear Axle Ratio Switch</b>	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)
<b>SAE J1939 Multiplexing - Remote Accelerator Pedal or Lever</b>	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)
<b>SAE J1939 Multiplexing - Remote Accelerator Pedal or Lever Switch</b>	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)
<b>SAE J1939 Multiplexing - Remote PTO Switch</b>	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)
<b>SAE J1939 Multiplexing - Service Brake Switch</b>	Enabled (All Models)	Enabled (All Models)	Enable (LT, MV, HV and CE & RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE & RE Bus)	Enable (ProStar, LoneStar, MV, HV and CE & RE B
			Disabled on HX and 4300/4400 models	Disabled on HX and 4300/4400 model	Disabled on HX and 4300/4400 models
Source Address	33 - Body Controller	33 - Body Controller	33 - Body Controller	33 - Body Controller	33 - Body Controller
<b>SAE J1939 Multiplexing - Torque Derate Switch</b>	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)	Disable (All Models)

SAE J1939 Multiplexing - Vehicle Limiting Speed Governor Decrement Switch	Not Available	Disable (All Models)	Not Available	Not Available	Not Available
SAE J1939 Multiplexing - Vehicle Limiting Speed Governor Increment Switch	Not Available	Disable (All Models)	Not Available	Not Available	Not Available
SAE J1939 Multiplexing - Vehicle Limiting Speed Governor Switch	Not Available	Disable (All Models)	Not Available	Not Available	Not Available
<b>SAE J1939 Multiplexing - Wait To Start Lamp</b>	Enable (Engines built with Grid Heater B6.7 &L9)	Not Available	Enable (Engines built with Grid Heater B6.7 &L9)	Enable (Engines built with Grid Heater B6.7 &L9)	Enable (Engines built w Grid Heater B6.7 &L9)
	Not Available for X15 engines		Not Available for X15 engines	Not Available for ISX15 engines	Not Available for ISX15 engines
Source Address	23 - Instrument Cluster #1	N/A	23 - Instrument Cluster #1	23 - Instrument Cluster #1	23 - Instrument Cluster

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