

# SS 1034169 New Cascadia Adjusting Idle Speed with Cummins Engines

## Applicable Vehicles

New Cascadia with Cummins Engines (CM2350) ECM.

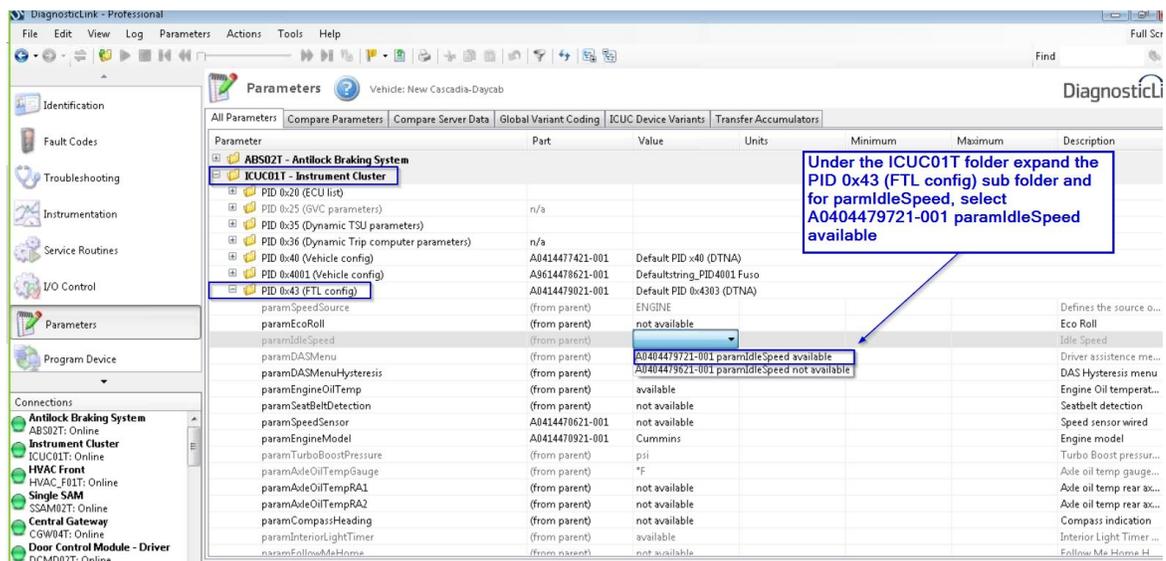
## Issue

Customer wants to be able to idle up the engine when parked. Because the New Cascadia Vehicle does not have an On/Off switch for Cruise/PTO the Set / Resume switch located on the steering wheel, cannot be used to ramp the engine speed up or down without making some modifications. This solution will only address the idle speed setting, and a separate solution will be written to address cab PTO engine speed control.

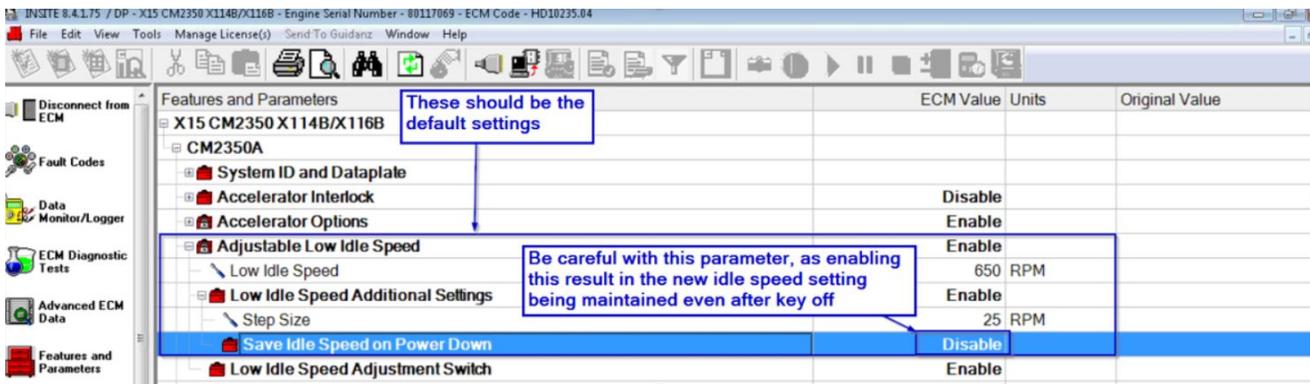
## Solution

The following will outline how to set up the parameters to enable "Idle Adjust" using the ICUC to adjust engine idle speed. The Set/Resume buttons will not be used to adjust idle.

1. Using DiagnosticLink, enable idle speed for the ICUC. The parameter is located in "Parameters" under the Instrument Cluster folder. Select the sub folder PID 0x43 (FTL config) and set the parameter for idle speed to "paramIdleSpeed Available". This will allow the Idle Speed selection to be viewed in the ICUC.



- Next shutdown DiagnosticLink and Open Cummins Insite. Once Insite is open, select the "Features and Parameters" tab on the left side of the page. Make sure the default settings are set per the screen print below. You can adjust the step RPM if needed. Be careful if changing the "Save Idle Speed on Power Down" as changing this feature to "enable" would retain the set idle speed when the ignition is cycled off and on.



- After checking (and adjusting if needed) the low idle speed settings, under the SAE J1939 Multiplexing Folder find the Idle Increment/Decrement Switch and enable the feature. Once enabled the drop down for the source address can be seen. Select 23-Instrument Cluster for the source address.

Fuel Level Sensor 2		Disable
Idle Increment/ Idle Decrement Switch	Disable	
Idle Validation Switch	Disable	
Parking Brake	Enable	
PTO On/Off Switch	Disable	
PTO Set/ Resume Switch	Enable	
Fan Control Switch	Disable	
Fan Control Switch 2	Enable	
Fuel Level Sensor	Enable	
Fuel Level Sensor 2	Disable	
Idle Increment/ Idle Decrement Switch	Enable	
Source Address	23 - Instrument Cluster #1	
Idle Validation Switch	Disable	
Parking Brake	Enable	
PTO On/Off Switch	Disable	
PTO Set/ Resume Switch	Enable	
Rear Axle Ratio Switch	Disable	
Remote Accelerator Pedal or Lever	Disable	

Under the SAE J1939 Multiplexing folder "enable" Idle increment/Idle Decrement Switch. Once enabled the drop down for the source address can then be seen.

4. Make sure once all of the changes are applied, to turn the ignition off for greater that 100 seconds. If you do not wait this amount of time, the changes that have been implement may not be seen.

5. After changes have been completed, test the operation of the "Idle Adjust". Idle adjust will be located in the ICUc menu as pictured below. Remember since Idle Adjust is a step adjustment, once the Idle adjust screen is selected, the arrow up and arrow down buttons must be pressed and released to step up or down based on the programed low speed adjust value. Holding the arrow up or down button will NOT ramp the idle speed up or down, again as this is a step speed function. Max speed for Idle Adjust is 800 RPM.

The image is a composite of four parts illustrating the process of adjusting idle speed:

- Vehicle Settings Menu:** A screenshot of the vehicle's infotainment system showing the 'Vehicle Settings' menu. The 'Idle Adjust' option is highlighted with a yellow box. A yellow arrow points to the truck icon in the top navigation bar. Below the menu, it says 'To Select - Press OK' with a blue 'OK' button highlighted.
- Engine Idle Adjust Screen:** A screenshot of the 'Engine Idle Adjust' screen, labeled '4/6'. It features a central RPM gauge icon with blue up and down arrows for adjustment. A 'Deactivate' button with a right-pointing arrow is at the bottom right. The bottom of the screen shows '55 mph', '10 economy', and '12:20 pm'.
- Steering Wheel Controls:** Two images of steering wheel controls. The left image shows a four-way directional pad with a central green 'OK' button, highlighted with a yellow box. A blue arrow points from a text box to this control. The right image shows a different steering wheel control panel with buttons for 'VOL', 'ONCL', 'RES', and 'SET'.
- Instructional Text:** A blue-bordered text box on the left states: 'Left side steering wheel controls will be used to navigate through the ICUC menu and to adjust Idle speed'.