

Blue iQ Cummins B6.7L CNG De-rate and Hours to Empty Calibrations ENP-733 April 27, 2020



1. Introduction

The Agility Fuel Solutions (Agility[®]) service team has identified two fuel system ECU (electronic control unit) calibration issues in Blue iQ CNG (compressed natural gas) fuel systems for the Cummins[®] 6.7L engine as follows:

- Issue 1: Program incompatibility causes throttle response to drop to zero when an attempt is made to operate in economy (Eco) mode.
- Issue 2: "Liters to Empty" Smart Gauge function is not programmed; at fuel levels less than 5-10%, zero throttle response results.

Agility[®] is coding a new ECU calibration to remedy these conditions which will be distributed through the Cummins INSITE customer online portal.

Effective immediately and continuing until affected units receive the new calibration, Agility[®] recommends the following precautionary measures:

- 1) Do not operate the vehicle in Eco mode, and
- 2) Do not rely on the Liters to Empty Smart Gauge function; always keep the vehicle well-fueled to avoid an unexpected empty condition.

2. Affected Units

Two Autocar (VINs 232122 and 232123) and 52 TICO yard tractors equipped with Agility[®] Blue iQ CNG fuel systems and Cummins[®] 6.7L engines.

3. Tools Required

- 1. Cummins[®] INLINE7[™] or NEXIQ Technologies[®] USB-Link 2[™]
- 2. Cummins[®] Calterm[™]

4. Diagnostic Symptoms and Preventative Measures

Issue 1: Zero throttle response when Eco Mode is enabled. Figure 1



Figure 1. Smart Gauge green LED (1) illuminated and "Eco Mode Enabled" message (2) displayed.



ACTION: Press and hold the right Smart Gauge function button until the display changes to "Eco Mode Disabled" and the red LED illuminates to disable Eco Mode. *Figure 2*



Figure 2. Smart Gauge right function button (3), red LED (1) illuminated, and "Eco Mode Disabled" message (2) displayed.

The Smart Gauge should display "Eco Mode Disabled" during unit operation until the ECU calibration update is released. *Figure 2*

Issue 2: Zero throttle response at low fuel levels less than 5-10%.



Figure 3.

Smart Gauge red LED (1) illuminated and "Derate Active" message (2) displayed.

ACTION: Unit must refuel to disable the derate condition automatically.

ALTERNATIVE ACTION: Temporarily disable derate by holding down the Override button; this allows units to be operated on CNG pony tanks.



5. Corrective Action / Procedure

Issues 1 and 2: Install new Agility[®] ECU calibration, software version TBA via Cummins[®] INSITE using the following procedure:

Step 1: Using either a NEXIQ[®] USB-Link 2 or Cummins[®] INLINE7 tool, verify OBD-II connection is correctly selected. *Figure 4.*



NEXIQ tool programming screens (not shown throughout this procedure) are similar.



Step 2: Click "Connect to ECM" from the left tab menu. Figure 4

Figure 4. Initial programming screen. INLINE7 tool connection verification (1) and Step 2 "Connect to ECM" (2).

Step 3a: Click "Connect." NOTE: No security type or password credentials are required. *Figure 5*





Figure 5. Step 3a - "Connect" button.

Step 3b: Select "Agility Fuel Delivery System [18]" and click "Connect." Figure 6.

	×
INSITE has detected multiple subsystems. Please select a subsystem from the following list to connect to:	
Agility(R) Fuel Delivery System CM1881 AFS101[18]	
Agility(R) Fuel Delivery System CM1881 AFS101[18]	
Connec <u>t</u> <u>H</u> elp	

Figure 6. Step 3b - "Agility Fuel Delivery System [18]" *and "Connect" button.*





Step 4: Click "New" and "OK" on the pop-up menus. Figure 7

Figure 7. Step 4 - "New" and "OK" buttons.

Step 5: Once connected, verify ECM connection at the bottom left of the window. Figure 8



Figure 8. Step 5 - Green circle indicates tool is connected to the ECM.



😫 INSITE 8.6.0.104 / DP - I-20200227-162546440 - Engine Serial Number - 76013143	3 - ECM Code - IV10003.03
<u>File Edit View Tools Manage License(s)</u> Send To Guidanz Window	Help
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Disconnect from Contract from	To search for the latest ECM/PDD Codes please select ECM/PDD Code Search
Fault Codes	7. ECM/PDD Code Search
Data Monitor/Logger	To download the calibrations to an ECM and a Programmable datalink device, please select the ECM/PDD button.
ECM Diagnostic Tests	ECM/PDD
Advanced ECM Data	
Features and Parameters	
Selection	
Work Orders ECM Images ECM Templates	
Trip Information	

Step 6: Click "Calibration Selection" from the left tab menu. Figure 9

Figure 9.

Step 6 - "Calibration Selection" tab (6) and Step 7 "ECM/PDD Code Search" button (7).

Step 7: Click "ECM/PDD Code Search" button (*Figure 9*) and the "Checking for calibration updates" screen will appear. *Figure 10*



Cummins INSITE	_		Х
Status			
ECM/PDD Code: 1V99999.15			\sim
Engine Serial Number: 76099999			
Vehicle Identification Number: ************************************			
			\sim
Warranty Information			
Please refer to the ECM Calibration Guidelines (111-502-017) in Section 2 of the Wa Administration Manual to determine if an ECM calibration update can be covered b warranty. You can locate the ECM Calibration Guidelines by searching for 111-502-0	rranty y Cumm)17 in	ins	^
			~
Checking for calibration updates			
Save Calibration History Help	E	kit	

Figure 10. Step 7 - Checking for calibration updates screen.

Step 8: Wait for a "Successfully found (CAL ID tba)" message to appear in the status box. When the desired calibration is found, click "Save" and proceed to Step 9. *Figure 11*

Status				
Narranty Informatio	n 🔨			
Please refer to the ECI	VI Calibration Guidelines (111-502-017) in f an ECM calibration update can be covered	ection 2 of the Warrar d by Cummins warrant	nty Administra ty. You can loc om.	ation ate
Manual to determine the ECM Calibration G	uidelines by searching for 111-502-017 in a	quicks eve.cummins.co	NAMES -	
Manual to determine the ECM Calibration G Please select any op	uidelines by searching for 111-502-017 in o ation of ECM or PDD for searching the calib	ration c		
Manual to determine the ECM Calibration G Please select any op ECM	uidelines by searching for 111-502-017 in o otion of ECM or PDD for searching the calib	ration c 8.		
Manual to determine i the ECM Calibration G Please select any op ECM ECM/PDD Code:	uidelines by searching for 111-502-017 in o ation of ECM or PDD for searching the calib O PDD Bearch	ration c 8.		
Manual to determine the ECM Calibration G Please select any op ECM ECM/PDD Code: For PDD, enter Soft	uidelines by searching for 111-502-017 in o stion of ECM or PDD for searching the calib O PDD Bearch ware Part Number. Local/Network search n	ration c 8. ot applicable for PDD.		

Figure 11.

Step 8 - "Successfully found (CAL ID tba)" message in Status box (a) and "Save" button (8).



The following screen will appear if the requested calibration is not found (Figure 12):

Cummins INSITE			-		×
Status					
ECM/PDD Code: IV10003.03					^
Engine Serial Number: 76099999					1
Vehicle Identification Number: **	****				
The requested ECM/PDD Code w	as not found. If the ECM is connected	d, a newer revision was not found.			
Locations Searched: Local And W	eb				
••••••04:34	26******				
	8.				~
Warranty Information					
Please refer to the ECM Calibratio calibration update can be covered quickserve.cummins.com.	n Guidelines (111-502-017) in Sectic d by Cummins warranty. You can loca	on 2 of the Warranty Administratio ate the ECM Calibration Guidelines	n Manual to deter by searching for	rmine if a 111-502	an ECM -017 in
Save	Calibration History	Help	Exit	į	

Figure 12. Step 8 - Calibration not found screen.

If the calibration was not found, double check the following connections:

- A. Verify stable Wi-Fi signal is present
- B. Confirm NEXIQ® USB-Link 2 or Cummins® INLINE7 tool is connected to OBD-II
- C. Confirm Agility ECU is connected properly to the fuel system chassis harness

Repeat Steps 6 through 8.

Step 9: Click the "Exit" button. Figure 12

Step 10: Click the "ECM/PDD" button, add all, and click on the "OK" button. *Figure 13*





Figure 13. Step 10 "ECM/PDD" button (10).

When these options appear, select "Add All," and click on the "OK" button.

Step 11: Click/expand all folders (the + buttons), then click on "4354537." Figure 14



Figure 14. Step 11a. Click to expand all folders (11a).

Select "Add All" and click "OK." Figure 15



	Agency	^		Certification	Agency		
DR-							
DR	Australian Motor Vehicle Certif, Board						
DR3	Australian Motor Vehicle Certif, Board						
DR7	Australian Motor Vehicle Certif, Board		>				
DR8	Australian Motor Vehicle Certif, Board	-					
RAL	AUTOMOTIVE RESEARCH ASSOCIATION (24				
RB			20				
USF	AUSFORS(Australia)					_	
AR					11		
ARB	California Air Resources Board						
CNR	CENTRAL COMM FOR NAVIGATION ON RE						
CS	China Classification Society						
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Figure 15. Step 11b. "Add All" and "OK" buttons (11b).

Step 12: Right click on the calibration ID #, then click "Transfer to ECM" in the pull down menu. *Figure 16*



Figure 16. Step 12. Select desired Cal ID # from the list, then click "Transfer to ECM" (12).



Step 13: Follow prompts until programming is successful/complete.

Step 14: When complete, click "Disconnect from ECM" tab at upper left menu and close out INSITE. *Figure 17*



Figure 17. Step 14 Disconnect from ECM tab.

6. Warranty Information

This procedure is covered under warranty. Standard repair time (SRT) is 0.5 hours. Please refer to Warranty Manual, ENP-067, for warranty reimbursement procedures.

For parts and support, contact Agility[®] Customer Care: +1 949 267 7745, toll free: +1 855 500 2445 or parts@agilityfs.com

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Agility Fuel Solutions | 3335 Susan Street Suite 100 | Costa Mesa, CA 92626 USA www.agilityfuelsolutions.com

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