

Revisions to this document are noted
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TT7994EN, Rev. A
November, 2017
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SUBJECT: P2789 Code in IC Bus School Buses with PSI 8.8L Propane (LPG) Engine

MODELS AFFECTED: 1000/2000 Series Product Family Pupil Transport Series (PTS) Transmissions in IC
Bus School Buses

Description of Complaint:

The check transmission light can illuminate due to Diagnostic Trouble Code (DTC) P2789 in IC Bus school buses equipped with a 1000 or 2000 Series PTS transmission and a PSI 8.8L Propane (LPG) engine. The C3 clutch may be reported as “Not OK” in the “Trans Health Indicator” section of the “Prognostics” tab in Allison DOC® Premium.

Cause:

In some cases, the PSI 8.8L Propane (LPG) engine can produce more torque than expected. As a result, the Transmission Control Module (TCM) is unable to accurately adapt the shifts.

Service Channel Procedure Overview:

If a customer complains that the check transmission light is illuminating due to DTC P2789 as described above, the Allison Service Outlet must first obtain the transmission serial number and an Authorization Number to confirm that the school bus is covered by this Tech Tip. Once an Authorization Number has been obtained, record the serial number from the TCM installed in the school bus. The TCM will be reflashed using Allison TCM Reflash™ to update the calibration specific to the TCM serial number. Allison DOC® Premium will then be used to verify that the calibration changes were made.



NOTE: Do **NOT** upload the current TCM configuration using the Action Request option in Allison DOC® Premium at any point during the service procedure. Doing so will cause the calibration changes to reset prior to reflashing the TCM.

Procedure to Obtain an Authorization Number:

Log in to the Allison Hub (<https://hub.allisontransmission.com>). Under the “Warranty” tab, select “Field Action Authorization”. Enter the transmission serial number. If the requested serial number does not return an authorization number on the Allison Hub, this indicates that the recalibration has already been performed or the transmission serial number is not covered under this Tech Tip. If an authorization number is returned, record the authorization number and include it in the Allison Warranty Administration and Analysis Reporting Environment (AWAARE) claim narrative.

Service Channel Procedure:

Using Allison TCM Reflash™, login and connect to the 5th Gen - Production Calibration Configuration System (PCCS) Database. Add a calibration to download and when prompted, enter the TCM serial number previously

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recorded. Add and submit to download the calibration. The downloaded calibration will contain new settings for the specific TCM. Flash the TCM with the updated calibration (refer to [Figure 1](#)).



NOTE: An Authorization Number is required prior to recalibrating the TCM.

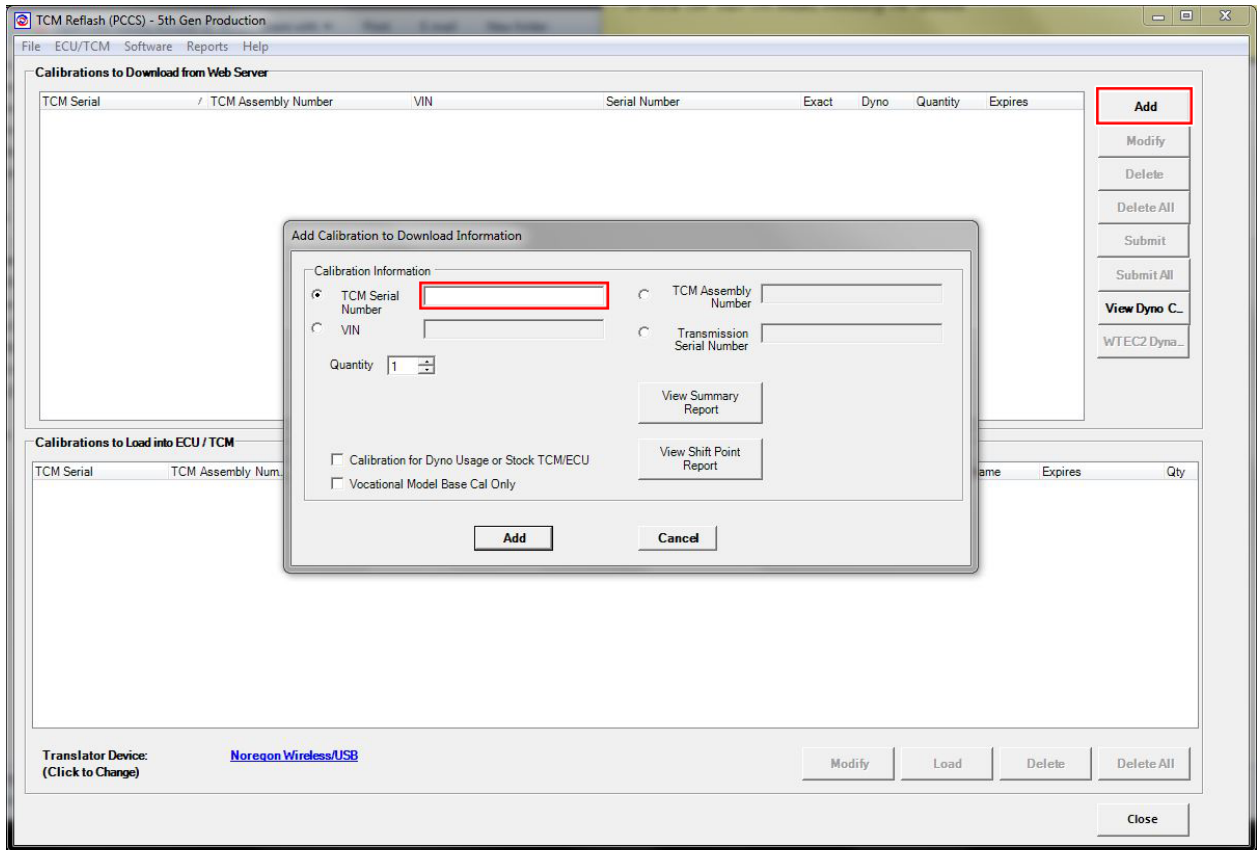


Figure 1. Enter TCM Serial Number to Download Updated Calibration

After flashing the TCM in Allison TCM Reflash™, connect to the TCM using Allison DOC® Premium. Once connected to the TCM, select Calibration Information from the left tool bar. Select Additional Calibration Information in the bottom right corner of Allison DOC® Premium. In the left side of the Additional Calibration Information screen, verify that the value for **ENGINE MAKE AND MODEL** at the top is set to "**SEM & LRTP OFF - Other Engine - Spark Ignited - Accurate Engine Torque**". Further down in the list, verify that the value for **TORQUE CONVERTER** is set to one of the following values: **211**, **221**, or **222** (refer to [Figure 2](#)).

After recalibration, if the calibration parameters are not set as listed above, call the Allison Technical Assistance Center (TAC) at 800-252-5283.

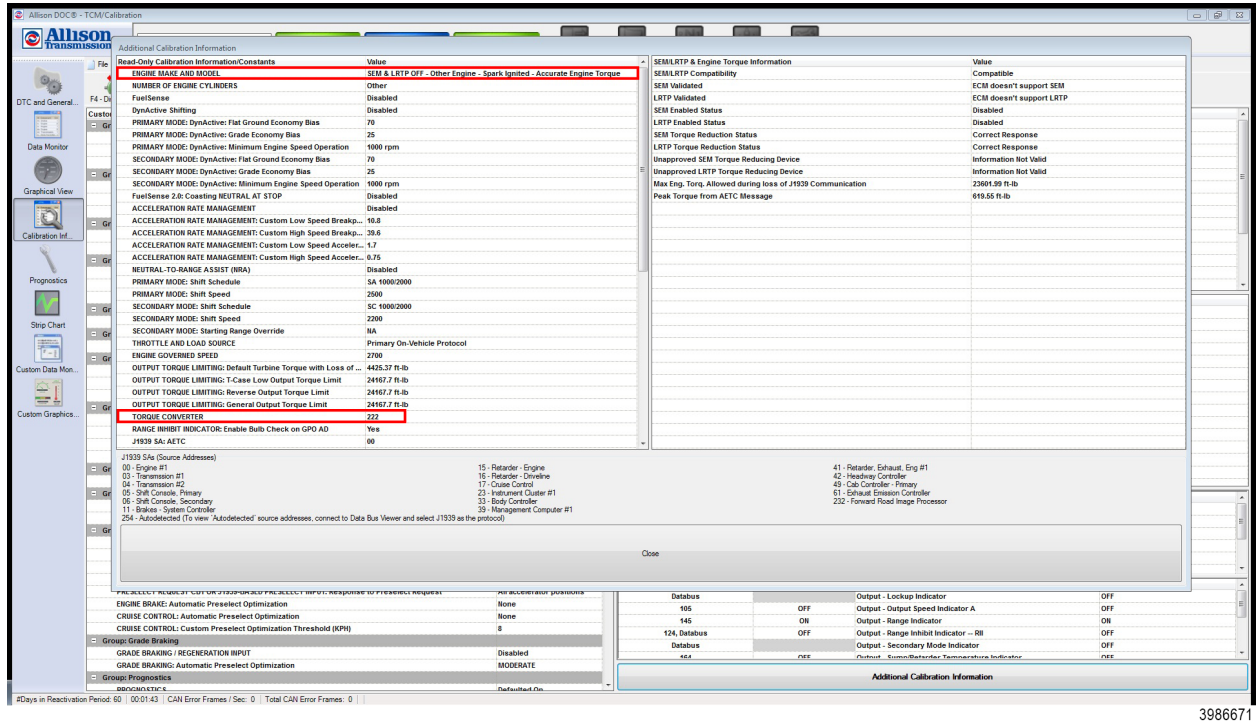


Figure 2. Example of Updated Settings After Reflashing

Warranty Information:

Allison Service Outlets shall submit an AWAARE claim type 1 for each vehicle completed under this Tech Tip. Any additional work shall be claimed separately even if performed simultaneously with another transmission repair; e.g., overhaul, solenoid replacement, etc.

AWAARE Claim Variable Values	
Claim Type	1
Authorization Number	XXXXXX
Special Activity Indicator	TT7994
Primary Failed Part	400
Complaint Code	AT04
Failure Code	BA04

AWAARE Claim Labor Variable Values		
Labor Operation Code	Labor Hours	Labor Operation Description
096501	1.0	TCM Recalibration and Verify
096400	0.5	Test Drive



NOTE: Labor is not to exceed 1.5 hours. The maximum labor time allowed to reprogram the TCM and verify changes is 1 hour. If equipped with a green J1939 diagnostic connector, disconnect the TCM 80-way connector, then use the Allison TCM Reflash™ Harness (J-47276) and WTEC Load Box (J-42455A) to update the TCM software and calibration (refer to SIL 01-TR-16). An additional 0.5 hours will be permitted to test drive the school bus after the recalibration is completed. Additional customer change requests will not be covered by this program and will be at the customer's expense.