

TT8643EN
May 26, 2020
Page 1 of 4

SUBJECT: Incorrect Engine Retarder Selection Calibration Setting in Navistar Vehicles

MODELS AFFECTED: Navistar Vehicles with 1000/2000 Series™ Transmissions with 5th Generation Controls



NOTE: This Tech Tip is in support of Navistar's Service iKNow Article IK1300185. Allison Transmission locations performing these service instructions should work with their local International® dealer for reimbursement.



NOTE: This issue is the responsibility of the OEM, and as such will not be repaired under Allison Transmission, Inc. product Warranty, Partner Coverage, or ETC Coverage.

Background:

Navistar supplied an incorrect Transmission Control Module (TCM) calibration setting for parameter **J1939 Reception: EBC1 Engine Retarder Selection [28040]**. This incorrect setting prevents the transmission's Engine Brake Preselects from functioning. **J1939 Reception: EBC1 Engine Retarder Selection [28040]** was incorrectly set to **Disabled [0]**. The correct value for this parameter in vehicles within this population is **Enabled [1]**. This Tech Tip is to support Navistar's Service iKNow Article IK1300185.

Service Procedure:

1. Confirm the following:
 - The vehicle has an ISB engine with engine brake.
 - The vehicle has a build date of 11/02/2018 through 10/11/2019.
 - The transmission does not downshift to the range specified by the calibration parameter **Engine Brake: Minimum Preselect Range [22020]** when the engine brake is active.

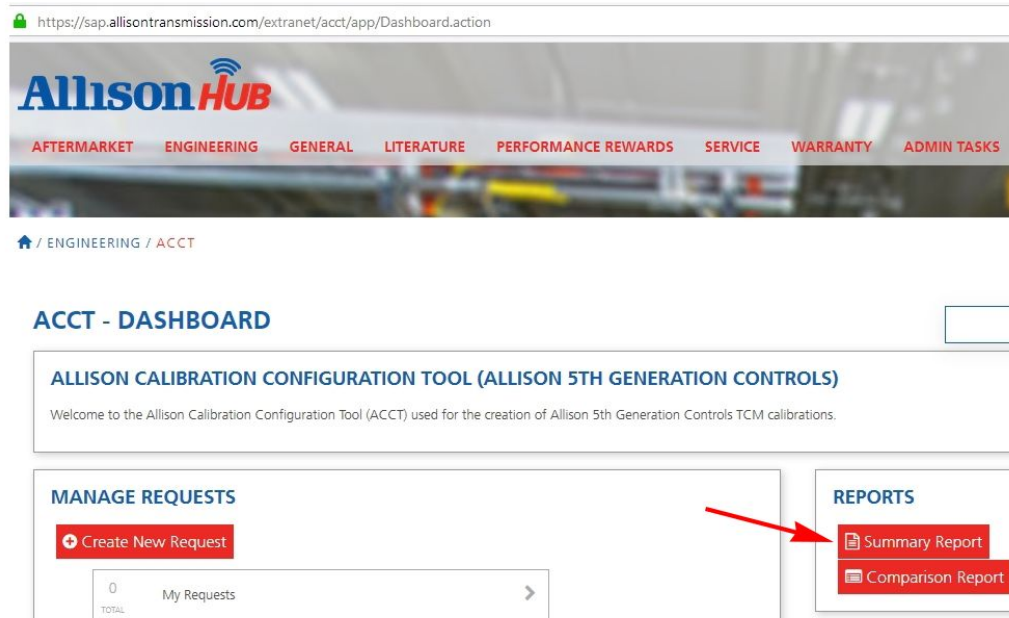
If all 3 criteria are met, proceed with this service procedure.

2. Inform the local International® dealer of the complaint and confirm that the International® dealer will reimburse the Allison shop for this work.
3. Using Allison TCM Reflash™ software, enter the TCM Serial Number or VIN into the 5th Generation Controls database. Load the calibration into the TCM. The system will correct the calibration setting in TCMs associated with the vehicles that have been included in the Navistar population.



NOTE: Do NOT use Allison DOC® to upload the calibration file from the TCM prior to reflashing the TCM. Uploading the file with Allison DOC® will overwrite the corrected parameters in the Allison database.

4. If internet access was not available when reflashing the TCM, log onto Allison TCM Reflash™ as soon as internet access is available. Go to the File menu and select Upload Logs to return verification (VER) file(s) to the Allison database. This will ensure that future service events will use the proper settings.
5. Wait 10 – 20 minutes before proceeding to Step 6. This will ensure adequate time for system processing of the returned verification (VER) file(s). Since Allison DOC® does not display this parameter, ACCT (Allison Calibration Configuration Tool), which is available on the Allison HUB, must be used to confirm that the parameter was set properly during the Allison TCM Reflash™ event.
6. Using ACCT, which can be found in the Engineering section of the Allison HUB, verify that parameter **J1939 Reception: EBC1 Engine Retarder Selection [28040]** is set to **Enabled [1]** on the Calibration Summary Report.
 - a. Choose Summary Report from the ACCT Dashboard on the Allison HUB. See [Figure 1](#).



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Figure 1. ACCT Dashboard

- b. Enter the TCM Serial Number in the Search Value field. Wait for the **As of Date** field to populate. Confirm that the **As of Date** shown is today's date, indicating that this is the new file just flashed into the TCM. Then, click Generate HTML. See [Figure 2](#).

https://sap.allisontransmission.com/extranet/acct/app/SummaryReport.action

Allison HUB

AFTERMARKET ENGINEERING GENERAL LITERATURE PERFORMANCE REWARDS SERVICE WARRANTY ADMIN TASKS

HOME / ENGINEERING / ACCT / SUMMARY REPORT

SUMMARY REPORTS

CRITERIA

SEARCH BY: TCM SN SEARCH VALUE: 28040 AS OF DATE: 05/26/2020 10:40:00 AM

OPTIONS

☐ SHOW ADDENDUM PARAMETERS WITH DEFAULT ANSWERS

[Generate HTML](#) [Export to Excel](#)

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Figure 2. Summary Report Generation

- c. Verify that parameter **J1939 Reception: EBC1 Engine Retarder Selection [28040]** is set to **Enabled [1]** in the **Features and Options: Interfaces** section of the Calibration Summary Report. Refer to [Figure 3](#). If it is **Disabled [0]**, proceed to Step 7. If it is set to **Enabled [1]**, proceed to Step 8.

Features & Options - Interfaces				
GPIO Wire I:102/157 O:104	Parameter	Setting		
	ENGINE BRAKE INTERFACE [22000]	PRIMARY ON-VEHICLE PROTOCOL [1]		
	ENGINE BRAKE: Minimum Preselect Range [22020]	2ND RANGE [2]		
	ENGINE BRAKE: Alternate Minimum Preselect Range [22030]	6TH RANGE [6]		
	ENGINE BRAKE: Automatic Preselect Optimization [22040]	NONE [0]		
	J1939 RECEPTION: EBC1 Engine Retarder Selection [28040]	ENABLED [1]		
	HILL HOLD INTERFACE [30600]	DISABLED [0]		
	PTO DRIVE INTERFACE 1 [27030]	GPI C1 & GPO G1 IF DEFINED IN SELECTED GPIO PACKAGE [1]		
	PTO DRIVE INTERFACE 1: Maximum Engine Speed for Engagement [27040]	900	900 (std)	500 (min) 2600 (max)
	PTO DRIVE INTERFACE 1: Maximum Engine Speed for Operation [27050]	4000	4000 (std)	375 (min) 5000 (max)
	PTO DRIVE INTERFACE 1: Maximum Output Speed for Engagement [27060]	250	250 (std)	50 (min) 6000 (max)
	PTO DRIVE INTERFACE 1: Maximum Output Speed for Operation [27070]	300	300 (std)	60 (min) 6000 (max)
	PTO DRIVE INTERFACE 1: Torque Limiting [27082]	DISABLED [0]		
	PTO DRIVE INTERFACE 1: Torque Limit [27083]	1084	1084 (std)	100 (min) 1084 (max)
	PTO DRIVE INTERFACE 1: Drive Ratio (Percentage of Engine Speed) [27084]	120	120 (std)	75 (min) 200 (max)
	PTO DRIVE INTERFACE 2 [27090]	DISABLED [0]		
	REVERSE INHIBIT WITH PRESELECT REQUEST INTERFACE [27150]	DISABLED [0]		
	RETARDER [20000]	NOT PRESENT [0]		

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Figure 3. Summary Report Verification

7. If parameter **J1939 Reception: EBC1 Engine Retarder Selection [28040]** is set to **Disabled [0]**, then a new calibration will be required to correct the issue. Submit a change request in ACCT or send the TCM serial number and a description of the issue to calibration_support@allisontransmission.com. Use the title "**Navistar 28040 Change**". A Calibration Support Service Engineer will provide a Road Ready assembly number with the correct setting.
 - a. Using Allison TCM Reflash™, enter the new Road Ready assembly number as the TCM assembly number in the 5th Generation Controls database. Load the calibration into the TCM.
 - b. Repeat Steps 4 through 6
8. Confirm that engine brake preselect downshifts activate upon engine braking, causing the transmission to downshift to the range specified in calibration parameter **Engine Brake: Minimum Preselect Range [22020]**.
9. If TCMs are going to be removed from vehicles and put into a different vehicle as a part of this action, then using the Reprogramming feature in Allison DOC®, program the new VIN into the TCM (this can only be done with the TCM connected to the vehicle).
10. Service Procedure is complete.