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SUBJECT:	R156 — Aftermarket Calibration Change Requests	
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MODELS1000 Series™, 2000 Series™, 3000 Series™, 4000 Series™ and eGen Power® with 6thAFFECTED:Generation Controls

Introduction

With UN R156 regulations going into effect, some Allison Transmission calibrations are impacted, and making changes to some of those calibrations is restricted. This SIL explains the types of changes that are allowed through Allison systems and tools, along with types of changes that can only be made with approval from the vehicle Original Equipment Manufacturer (OEM).

Introducing Integrity Validation Data

Integrity Validation Data (IVD) is a calculation that runs on a portion of the Transmission Control Module (TCM) calibration memory. The IVD value is stored in an OEM database for tracking purposes under the R156 regulation. This enables the identification of unapproved changes to the calibration after the vehicle is put into service.

Identifying Impacted Calibrations

Calibrations that are impacted by the R156 regulations can be identified in two different ways:

- 1. Viewing a calibration summary report in ACCT on Allison HUB™:
 - a. Navigate to The Hub. From the home page, select ENGINEERING → ACCT ALLISON 5TH AND 6TH GENERATION CONTROLS. From there, select SUMMARY REPORT and then type in either the TCM Serial Number (SN), TCM Assembly Number, Transmission SN, Vehicle Identification Number (VIN) or CPN. Select GENERATE HTML or EXPORT TO EXCEL to view the calibration summary report. Refer to Figure 1, Figure 2 and Figure 3.

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Please Note: Allison Transmission Service Information Letters are intended for use by professional, trained technicians, not for the "do-it-yourselfer." They are written to inform those technicians of conditions that may occur on some transmission models (or serial numbers ranges) or to provide information that could assist in the proper servicing of a specific Allison transmission. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, do not assume that the Service Information Letter applies to your transmission, or that your transmission has the condition described. Product evolution and information updates are inevitable. Please see your authorized Allison Transmission service leader or distributor to understand if your particular transmission may benefit from the information contained within the Service Information Letter.

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SUMMARY REPORTS	+ ACCT MENU
CRITERIA	
SEARCH BY SEARCH VALUE AS OF DATE	
OPTIONS	
SHOW ADDENDUM PARAMETERS WITH DEFAULT ANSWERS	
Generate HTML Steport to Excel	
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NOTE: ACCT can compare multiple vehicles at once. To accomplish this, go to COMPARISON REPORT → MASS COMPARE, select the applicable Type (TCM, SN or VIN) and then type the TCM serial number(s) or VIN(s) in the window (one per line). There is a limit to how many will work, but the number varies based on server load and other unknown factors. If there are too many vehicles, an error will show.

2. Viewing calibration information when connected to a TCM using Allison DOC[®] software:

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a. **Legacy DOC:** After connecting to a vehicle, select the Calibration Information tab on the left. If you need to view additional calibration information, select ADDITIONAL CALIBRATION INFORMATION on the bottom right of the Calibration Information screen. Refer to Figure 4.

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A-Decreed Date ()-02 Looks ()-148 ()-TRADECTIV"	Carl O La Construction Data Mar	La State				
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Group Automate Bayfry Engage		1 Care		C251100856,744		
AUTOMATIC NEUTRAL - SINGLE INPUT	Deather	TCM Assembly Bumber		P3C884/10		
AUTOMATIC NEUTRAL - SINGLE INPUT WITH SELECTOR OVERIDE	Disabled	Software Level		CHOCK PC 44	Catalon PC 6LP	
AUTOMATIC NEUTRAL - DUAL INPUT	Disabled	Serial Bumber		0425404012400	0010	
AUTOMATIC NEUTRAL - DUAL INPUT WITH AUTOMATIC RETURN-TO-RANGE	Disable d	Part Rumber		29562548		
AVTOMATIC NEUTRAL - DUAL INPUT WITH SERVICE BRAKE STATUS	Disabled	TCM Date		83-69-2021		
Group: PTD Enable		HCN/CCN		67/C268CN_PC	C_8L8	
PTO DRIVE INTERFACE 1	GPLC1 & GPD G1 IF DEFINED	Programmed VW				
PTO DRIVE INTERFACE 1: Maximum Engine Speed for Engagement	908 rpm	Engine VIII		Not Available		
PTO DRIVE INTERFACE 1: Maximum Engine Speed for Operation	4000 rpm	This Tool 5%		262967		
IFTO DRIVE INTERFACE 1: Maximum Output Spreed for Engagement	250 rpm	Last Tool Sill		LESTATION		
IFTO DRIVE INTERFACE 1: Maximum Output Speed for Operation	300 rpm	Vocational Model		2600 RDS		
PTO DRIVE INTERFACE 1: Torque Lawling	Deabled	Transmission Model		2506		
PTO DRIVE INTERFACE 1: Tongue Limit	800 TL-ID / 1004 WM	100		- United		
PTO DRIVE INTERVACE 1: Drive Ratio (Percentage of Engine Speed)	89 m-lb-1 120 MM	RCETCAN BUT		Cashing		
PTO DRIVE INTERFACE 2	Disabled	AUTO AUTO DURCTUR DAACE INTO	T. MACLE MENT	Charling		
Group Engine Brake and Pro-Select Request		AUDILIARY FUNCTION BANCE INTER	T. DIAL MPUT	Charlied		
ENGINE BRAKE INTERFACE	Primary On-Webicle Protocol	AND MARY HOLD INPUT	11 - 04046 MM 81	OF OF STREET, MARKETING	O PACKAGE	
PRESELECT 3: Minimum Prevelect Range	4th Bange	ORDICT INCLUMENT		Consideral		
ENGINE BRAKE: Alternate Minimum Elevated Downshift Range	6th Range	ORDET INCLO INPUT BASAR		4th Banke		
Group: Range bidcator		DEECTION CHANGE ENABLE INFICT		Constitut		
RANGE INDICATOR	GPO C # DEFINED IN SELECT	INCR BY BATIO INPUT		Onabled		
Selected Rangen		REVERSE ENABLE INPUT		Onabled		
Group: Output Speed Indicator A	and the second	MCONDARY MODE WPST		GPLA # DEFINED IN SELECTED GP	10 PACKAGE	
OVTPUT SPEED INDICATOR A	GPO D IF DEFINED IN MELECT	SERVICE BRAKE STATUS INPUT		GPLAA # DEFINED IN SELECTED G	PROPACKAGE	
OUTPUT SPEED INDICATOR A: Turn On Speed	B0 rgm	SHIFT SELECTOR DISPLAY BLAND	NG INPUT	Quabled		
OUTPUT SPEED INDICATOR A: Tern OFF Speed	60 rgm	SHIFT SELECTOR TRANSITION INFO	IT .	Oinabled		
Group: Engine Overapeed Induator		SHIFT SELECTOR TRANSITION AND	SECONDARY SHIFT SCHED	ALE INPUT Disabled		
ENGINE OVERSPEED INORATION	Disabled	Local Local	Elected State	function Name	function links	
Group OI Level Sentage		tit bishes	(11	Inned - Anti-Lord Brake Sectors (ABI)	087	
OR LEVIL SENSOR	Autodetected	140	000	Instal, Austinery Bold	CER	
Group: Retarder Parameters	1002.9 Million and a start of the second second	Database		Insert - Dennel Particulate Ellips	007	
RETARDER INTERNACE	BOTH GPIO AND JISTO WITCH	Databas		input - Alternate Gear Start	OFF	
RETAILER Refairder Capacity Level	LOW	143	011	input - FTG-Drive Interface 1	ON	
BETAIDER: Exgine Coolaire Temperature (ECT) Based Pressilents	Dreatilies					
IETAROER Cancel Retarder when Cruise Control is Active	8.	Signal Source	Signal State	Function Name	Function State	
RETARDER: Cancel Cruise Control upon Rapid Modulation Reguest Increase		Detabos		Output - Lockup Redicator	OFF	
IN TAXOUT Engine Contact Temperature (ICT) Record Capacity Reduction	Disative	105	OFF	Output - Output Speed Indicator A	OFF	
RE TARDE R	Autodetected	120	OFF	Output - PTO Drive Interface 1	OFF	
RETARCER: As computed	PRESENT - ACTIVATE AS NEL-	146	CR .	Output - Range Indicator	ON	
Group: Two Speed Aske Enabled	- Market Market and	Detailoure		Output - Range Inhibit Indicator	OFF	
TWG-SPEED ARLE INTERFACE	Disabled	-				
Group: Neutral Indicator for PTO	100000			Addresol Calibration Information		

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b. New DOC: After connecting to a vehicle, select the Launch Pad tab, open the Tools drop down and select RUN next to CALIBRATION INFORMATION. Select ADDITIONAL CALIBRATION INFORMATION on the bottom right to view additional information. Refer to Figure 5, Figure 6 and Figure 7.

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3	Allison Transmission		🔥 🕕 🕙 00u1pzt5i5socuut01d8 🏥 TCM-SN: CAN1 BK2548A631790767		(_)	≡
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	\succeq	Datalogger	Not Run	Run		
	E	Vehicle History	Not Run	Run		
	1	TCM Information	Not Run	Run		
	1	Allison Security (6th Gen)	Not Run	Run		
	4	DTC Test	Not Run	Run		
	4	Read Static Data	Not Run	Run		
	4	Engineering Calculations	Not Run	Run		
	4	Input/Output Function States	Not Run	Run		
	4	View Engine Faults	Not Run	Run		
	4	Calibration Information	Not Run	Run		
	4	ECU Reprogramming	Not Run	Run		
					_	7000651

Figure 6

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Transmission.		00u1pzt5i5socuut01d8 TCM-SN: CA	N1 BK2548A631790767 🖄 🔽	
⊚ Health Check 🛛 🗙 Launch Pad	Calibration Inf 🗙			
Calibration Information				
Customer Modifiable Constant	Value	I/O	Value	
AUTOMATIC NEUTRAL - SINGLE		KICKDOWN INPUT	DISABLED	
INPUT	DISADLED	AUXILIARY FUNCTION RANGE		
AUTOMATIC NEUTRAL - SINGLE	DISABLED	INHIBIT - SINGLE INPUT	DIGNOLLD	
INPUT WITH SELECTOR OVERRIDE		AUXILIARY FUNCTION RANGE	DISABLED	
AUTOMATIC NEUTRAL - DUAL INPUT	DISABLED	INHIBIT - DUAL INPUT		
AUTOMATIC NEUTRAL - DUAL INPUT	DISABLED	AUXILIARY HOLD INPUT	GPI G IF DEFINED IN SELECTED	
RANGE				
	DISABLED			
WITH SERVICE BRAKE STATUS			4TH KANGE	
	GPLC1 & GPO G1 IF		DISABLED	
PTO DRIVE INTERFACE 1	DEFINED IN SELECTED	HIGH N/V RATIO INPUT	DISABLED	
	GPIO PACKAGE	REVERSE ENABLE INPUT	DISABLED	
PTO DRIVE INTERFACE 1: Max Engine	900 RPM	SECONDARY MODE INPUT	GPI A IF DEFINED IN SELECTED	
		Additional Cal	ibration Information Exit	
			700	

Figure 7

Changes Allowed Using Allison Systems and Tools

Changes to calibration parameters requested through ACCT on The HUB, Allison DOC or by direct communication with Allison Customer Specification Engineering will still be allowed, as long as the change does not affect the calculated IVD. ACCT and Allison DOC will hide all values that cannot be changed without affecting the IVD. The values may differ depending on the vehicle OEM.

If ACCT or Allison DOC allows the change to be requested, then the IVD is not impacted.

Changes Requiring OEM Approval

Changes to calibration parameters that affect the IVD are not permitted without OEM authorization. Those parameters will not be visible in Allison DOC for that specific TCM. Only the vehicle OEM can determine which changes will be allowed under the R156 regulation; therefore, all calibration change requests to parameters that will affect the IVD must be submitted to the OEM. If the OEM approves the change, they will configure a new calibration through Allison and then provide a letter of approval to the requestor, which must:

- Originate from the OEM and be on OEM letterhead (cannot be from an OEM dealer).
- List the name, position and contact information of the OEM representative approving the change.
- Contain the VIN(s) approved for the change.
- Include the new TCM assembly number that is approved for use in the listed VIN(s).

The customer needs to supply the approval letter to the Allison distributor, who then loads the TCM (per the letter). The OEM and distributor are responsible for retaining the APN for the calibration, as well as documenting the VIN. For a visual representation of the process, refer to Figure 8.

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NOTE: Changes to vehicle calibration settings can only be made if the OEM has granted approval and may be limited to a certain timeframe after the vehicle's OEM build date. **Using the TCM or TCM calibration from another vehicle is prohibited.** Refer to *SIL 21-TR-20* for more information.

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