

WATCH

WORLDWIDE ALLISON TRANSMISSION COMMUNICATION HOTLINE



Revisions to this document are noted
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WATCH #501, Rev. C
April, 2016
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SUBJECT: Allison Transmission 5th Generation Controls 2016 (B161, C161, and D161) Software Features and Enhancements

MODELS AFFECTED: 1000, 2000, 3000, 4000 Series Product Families, TC10 Series Transmissions

Introduction:

Allison Transmission, Inc. (ATI) is pleased to announce the release of the Allison 5th Generation Controls 2016 (B161, C161, and D161) Software Features and Enhancements. This release will include enhanced software and calibrations for the Transmission Control Module (TCM).

For Additional Information:

For further information regarding the Allison 5th Generation Controls, refer to the Allison 5th Generation Controls publications available on the Allison Transmission Extranet Tech Data website or contact your Allison representative.

This WATCH is organized into the following sections that describe the key features and enhancements to the 5th Generation Controls:

1000/2000/3000/4000 Series Product Families, TC10 Series Transmissions:

- Support Suspect Parameter Number (SPN) 3086 for Electronic Brake System (EBS) Hill Holder
- Extended Engine Run Time Before VEPS Event

1000/2000 Series Product Families:

- Inhibit Rolling Direction Change at Low Speeds
- Enable Controller Area Network 1 (CAN 1) 500k Capability in G60 Vocational Model Calibrations (VMCs)

3000/4000 Series Product Families:

- Addition of Neutral at Stop Input (AS) to Multiple GPIO Packages
- Engine Options

Continuous Improvement Activities

- Shift Lever Selector Nomenclature Change

Support Suspect Parameter Number (SPN) 3086 for Electronic Brake System (EBS) Hill Holder (1000/2000/3000/4000 Series Product Families, TC10 Series Transmissions)

Software has been upgraded to support Hill Holder functions provided by other vehicle systems, such as Anti-lock Brake System (ABS) or EBS.

New parameter 30600 – HILL HOLD INTERFACE has been added to programming guides (ALL VMCs affected). The default setting is "disabled". Applications that want to make use of this Datalink message must create new calibrations in Allison Calibration Configuration Tool (ACCT) or with the Vehicle Electronic Programming Stations (VEPS) process.



NOTE: For additional information, refer to <https://sap.allisontransmission.com/extranet/techdata>.

Extended Engine Run Time Before VEPS Event (1000/2000/3000/4000 Series Product Families, TC10 Series Transmissions)

Allison Transmission is extending the current 10 hour engine run time clock by 10 hours. This will allow for VEPS OEMs to have more time to make adjustments after the initial successful VEPS events. After 20 total engine run hours, the VCP will not be able to re-VEPS a TCM.

Inhibit Rolling Direction Change at Low Speeds (1000/2000 Series Product Families)

Allison Transmission is offering the ability to **inhibit** a direction change either from **D** (Drive) to **R** (Reverse) or **R** (Reverse) to **D** (Drive) at drive shaft speeds of about 6 km/h or (4 mph) in typical applications. The output shaft speed must be nearly stopped to allow the direction change, approximately 90 rpm or lower. If the output shaft speed exceeds 90 rpm, the TCM's Range Inhibit Indicator output will be active, illuminating the application's associated dash light, indicating that the shift is inhibited.

This optional feature (parameter 17140) must be specified when defining the TCM calibration.



CAUTION: The Rolling Direction Change inhibit feature is designed to protect the transmission from potential damage associated with direction changes during excessive speeds. This feature should not be regarded as a replacement for safety interlocks which restrict vehicle operation during the use of auxiliary equipment or other specialized vehicle functions.

Enable Controller Area Network 1 (CAN 1) 500k Capability in G60 Vocational Model Calibrations (VMCs) (1000/2000 Series Product Families)

OEMs now have the ability to choose between 250k and 500k Baud Rate for CAN1. Parameter 18040 was defaulted to 250 kbps and was not available to be configured in releases prior to BCD 161 PC in G60 VMCs.



NOTE: 250k Baud Rate will be the default setting, and will continue to be supported for applications included in Allison Controls Releases prior to BCD 161 PC.

Parameter ID	Network Speed	Values/Ranges	Description
18040	CAN1	0 = 250 KBPS with 75% Sample Point 1 = 250 KPBS with 81% (J1939) Sample Point (Default) 2 = 500 KPBS with 75% Sample Point 3 = 500 KPBS with 81% (J1939) Sample Point	CAN1 sets the Baud Rate for CAN1. For more information, see Datalink Communication Technical Data.

Addition of Neutral at Stop Input (AS) to Multiple GPIO Packages (3000/4000 Series Product Families)

Neutral at Stop (AS) via wire will be added to I/O packages 170, 180 & 183 for 3000/4000 series transmissions.

The Neutral at Stop (AS) input is a change to existing packages, it uses an existing inactive pin within these packages, and if this function is turned on this change makes the pin active.

If this function is used via hard wire input, some additional rewiring or wire harness changes in the vehicle may be required as specified in Tech Data so that Neutral at Stop functionality will work on the vehicle.

For both VEPS and ACCT using customers, new PAR files will be required to enable the Neutral at Stop Input (AS).

Engine Options (3000/4000 Series Product Families)

The following engine has been added as an option for the Engine Make and Model Parameter:

- Navistar N9/10 2013 (4000 Series) – Parameter ID 11020 (Engine 77)
- Programming Guide naming conventions for engine 136 (PACCAR MX13) and engine 141 (PACCAR MX11) have been updated to simplify the OEM's order entry process. The NEW names of these North America PACCAR engines are as follows:
 - PACCAR MX11 US 2014/2017
 - PACCAR MX13 US 2013/2017

Shift Lever Selector Nomenclature Change

Clarified the naming of Value 2 for the Parameter IDs 19000 and 19010 to reflect that it is a 4th Generation Shift Lever with Inverted Forward Ranges for both Shift Selector 1 and Shift Selector 2.

Parameter ID	Vocational Rating Value/Range	
	Former	Current
19000	SHIFT SELECTOR 1	
	1 = ALLISON J1939-BASED LEVER OR PUSHBUTTON WITH BUILT IN DISPLAY 2 = ALLISON J1939-BASED WITH INVERTED FORWARD RANGES 4 = CUSTOMER-SUPPLIED ANALOG STRIP 3-BUTTON 5 = CUSTOMER-SUPPLIED ANALOG STRIP 6-BUTTON 8 = ALLISON J1939 STRIP 3-BUTTON 9 = ALLISON J1939 STRIP 6-BUTTON	1 = ALLISON J1939-BASED LEVER OR PUSHBUTTON WITH BUILT IN DISPLAY 2 = ALLISON J1939-BASED 4TH GEN LEVER* WITH INVERTED FORWARD RANGES 4 = CUSTOMER-SUPPLIED ANALOG STRIP 3-BUTTON 5 = CUSTOMER-SUPPLIED ANALOG STRIP 6-BUTTON 8 = ALLISON J1939 STRIP 3-BUTTON 9 = ALLISON J1939 STRIP 6-BUTTON
19010	SHIFT SELECTOR 2	
	1 = ALLISON J1939-BASED LEVER OR PUSHBUTTON WITH BUILT IN DISPLAY 2 = ALLISON J1939-BASED WITH INVERTED FORWARD RANGES 4 = CUSTOMER-SUPPLIED ANALOG STRIP 3-BUTTON 5 = CUSTOMER-SUPPLIED ANALOG STRIP 6-BUTTON 8 = ALLISON J1939 STRIP 3-BUTTON 9 = ALLISON J1939 STRIP 6-BUTTON	1 = ALLISON J1939-BASED LEVER OR PUSHBUTTON WITH BUILT IN DISPLAY 2 = ALLISON J1939-BASED 4TH GEN LEVER* WITH INVERTED FORWARD RANGES 4 = CUSTOMER-SUPPLIED ANALOG STRIP 3-BUTTON 5 = CUSTOMER-SUPPLIED ANALOG STRIP 6-BUTTON 8 = ALLISON J1939 STRIP 3-BUTTON 9 = ALLISON J1939 STRIP 6-BUTTON
*Denotes change in Name		

Release Plan Timing:

Table 1. Release Plan Timing

Description	Release Date
B161, C161, D161 Production System Calibration (PSC) Release	10/19/2015
B161, C161, D161 Production Calibration (PC) Release	First Shipment of TCMs programmed with BCD161 will be after 4/11/2016