

International® T14 (2023)

Overview: *Transmission
Mounted Power Take Off (PTO)
Parameters*

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General Overview: Transmission Mounted Power Take Off

This feature provides programming for PTO support.

This document will address the unique PTO functionality for PTO devices used with the T14 transmission.

Description and Operation

NOTE: Refer to the vehicle operation and maintenance manual, as well as the T14 transmission operation and maintenance manual, for additional information on operation and indications.

The PTO feature provides TCM programming allowing the owner/operator to select the customer programmable parameters for the desired vehicle configuration.

This document applies to the transmission mounted PTOs.

Transmission mounted PTOs are controlled by switches in the switch pack.

The switch pack communicates with the BCM, which communicates the desired operation to the TCM.

Transfer case mounted and split shaft PTOs are covered in a separate document.

Look at the configuration in DLB to determine which connectors and pins are configured as inputs.

Body controller features must be programmed correctly to support PTO functionality.

Programmable Parameters

The following programmable parameters are required for PTO configuration in the TCM, CEM1 and the body controller. These parameters should be programmed to match what is desired on the vehicle.

TCM parameters configure the type of PTOs that are installed.

CEM1 parameters configure the available Interlocks that may be desired.

Parameters indicated as “Customer Programmable” can be adjusted differently than the production assembly plant setting to meet the customer’s needs. If the parameter

is indicated as non-customer programmable, the parameter setting is preset from the factory and cannot be changed without authorization.

TCM Parameters for Transmission PTO Configurations:

Parameter Value	Description	Possible Values	Cust Pgrm	Recommended Settings
TCM Trans PTO 1 Configuration (PEG1C) (D50D 000)	Specifies if the vehicle is equipped with gearbox power take-off 1. The lower PTO is EG1.	1,Without PTO EG1 2,With PTO EG1	YES	1
TCM Trans PTO 2 Configuration (PEG2C) (D50E 000)	Specifies if the vehicle is equipped with gearbox power take-off 2. Only used when vehicle is configured with 2 or more PTO EG. The upper PTO is EG2.	1,Without PTO EG2 2,With PTO EG2	YES	1
TCM Split Gear in Neutral (SGIN) (D014 000)	Used to set up the PTO High/Low operation. If there is a switch in the dash, option 1 should be selected. If there is not a switch in the dash, one of the other options should be selected. Switch selection must be made when in neutral at standstill, prior to engaging the transmission PTO. Manual changes in neutral are inhibited for option 2, 3 and 4. A pop-up message will appear in the cluster when a transmission PTO is engaged.	1,Choosable and programmed with dash switch 2,Don't care 3,Fixed split low 4,Fixed split high	YES	1, Choosable and programmed with Dash switch (default)
TCM Activate Maneuvering Mode for PTO (PAMM) (D00A 000)	If this parameter is enabled, maneuvering mode is automatically activated as soon as a PTO is engaged.	Disabled Enabled	Dealer	Customer Chosen
TCM PTO Split Shaft Configuration (PSSC) (D53B 000)	Specifies if the vehicle is equipped with a split shaft power take-off	1,Without PTO split shaft 2,With PTO split shaft	YES	Customer Chosen NOTE: Must be set to with PTO Split if Split Shaft operation is desired.
TCM PTO preselected Gear (PTOSG) (D008 000)	If enabled, the start gear is limited to the value set in PP 0xD036 (reverse) and 0xD04E (forward). Attempts by the driver to manually select a higher gear will be blocked.		YES	Customer Chosen
TCM Max Vehicle speed for Transmission PTO Engagement (VSFPPEE) (D08C 000)	Max engagement speed for the PTO Hotshift Clutch, speed in km/h	0 to 112 km/h	YES	30
TCM Load Inertia of Equipment Connected to Hot Shift PTO (ELI) (D08D 000)	Load inertia of the equipment connected to the PTO Hotshift. Moment of inertia (kgm ²)	0.01 to 2.5 KG*M*M	Dealer	2.5 KG*M*M

Parameter Value	Description	Possible Values	Cust Pgrm	Recommended Settings
TCM Trans PTO Hot Shift Clutch Configuration (EHSCC) (D54F 000)	Transmission PTO Hot Shift Clutch Configuration	1,WithoutHotshift PTO 2,With EG10R MC 3,With EG9R MC 4,With EG8R MC 5,With EG6R MD 6,With EG8R MB	Engineerin g	

ECM Parameters for Transmission PTO Configurations:

Parameter Value	Description	Possible Values	Cust Pgrm	Recommended Settings
CEM1 Engine Speed Limiter with Transmission PTO (1053 000)	Provide a constant engine speed limiter gearbox PTO. Applied if a gearbox PTO is engaged. Engagement of each PTO is reported to the ECM with CAN messages for the individual PTOs		Dealer	Customer Chosen
CEM1 Constant Engine Speed Limiter with External PTO (ME) (1057 000)	Provide a constant engine speed limiter for external PTO. External PTO engine speed limit is the engine speed limit when an external body builder device requests engine speed control.		Dealer	Customer Chosen

BCM Features for Transmission PTO Configurations:

Parameter Value	Description	Possible Values	Cust Pgrm	Recommended Settings
597521 BCM PROG, TRANSMISSION PTO Split Speed with Switch	Configures the operation of the Split Speed Switch to control the transmission split Speed during PTO operation.	- Installed - Not Installed	Fleet	Customer Chosen
0597553 BCM PROG, TRANSMISSION PTO SINGLE DRIVE, AIR SHIFT	Configures the operation of the Single PTO Switch to control the lower mounted transmission PTO. This feature has 2 parameters that inhibit engagement for vehicle speed and engine speed.	- Installed - Not Installed	Fleet	Customer Chosen
597554 BCM PROG, TRANSMISSION PTO DUAL DRIVE, AIR SHIFT	Configures the operation of the two PTO Switches to control the lower and upper mounted transmission PTOs. This feature has 2 parameters that inhibit engagement for vehicle speed and engine speed.	- Installed - Not Installed	Fleet	Customer Chosen
0597307 TRANSMISSION PTO DUAL PTO, OVER J1939, WITH 42 PARAMETERS, FOR T14 TRANSMISSION	Configures the operation of the two PTO Switches to control the lower and upper mounted transmission PTOs. . This feature has 42 parameters that provide inhibit, disengagement, reengagement and alarm parameters for several conditions.	- Installed - Not Installed	Fleet	Customer Chosen

Parameter Value	Description	Possible Values	Cust Pgrm	Recommended Settings
0597743 BCM PROG, TRANSMISSION PTO Single PTO, Over J1939, with 42 Parameters, for T14 Transmission	Configures the operation of the Single PTO Switch to control the lower mounted transmission PTO. This feature has 42 parameters that provide inhibit, disengagement, reengagement and alarm parameters for several conditions.	- Installed - Not Installed	Fleet	Customer Chosen
597555 BCM PROG, TRANSMISSION PTO Hot Shift	Configures the operation of the Hot Shift PTO Switch and PTO Switch to control the transmission mounted hot shift PTO.	- Installed - Not Installed	Fleet	Customer Chosen

Frequently Asked Questions

NA

Definitions/Acronyms

Acronym	Definition
BCM	Body Control Module
DLB	Diamond Logic Builder
CEM1	Engine Control Module
TCM	Transmission Control Module
PIM	Powertrain Interface Module
AMT	Automated Manual Transmission
FEPTO	Front Engine Power Take Off
REPTO	Rear Engine Power Take Off