

# International<sup>®</sup> T14 (2023)

*Overview: Initial Vehicle  
Movement (IVM) and Low Idle  
Drive Mode (Creep) Parameters*

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## General Overview: Initial Vehicle Movement (IVM) and Low Idle Drive (Creep) Mode

The Initial Vehicle Movement (IVM) and Low Idle Drive Mode (Creep) features have TCM programming allowing the owner/operator to select the customer programmable parameters for the desired vehicle configuration.

This document will address the unique Initial Vehicle Movement (IVM) and Low Idle Drive Mode (Creep) functionality for 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.*

**Low Idle Drive Mode** - triggered by a manual gear shift request. The normal gear shift sequence is initiated, and the clutch will open to reduce the torque. After the driveline torque has been decreased and the current gear is disengaged the synchronization phase of the new target gear starts. Different logic is used to engage the clutch after the new gear is engaged. The same logic that closes the clutch in initial vehicle movement mode is used if it is an up shift. There is no need for a clutch ramp in case of down shift. In that case, the clutch closes when the target speed drops to the low idle governor speed. The maximum operating gear for Creep Mode is seventh gear. The degradation and inactivation conditions are the same as for initial vehicle movement mode.

**Reverse On Low Idle Governor** - This parameter decides the clutch behavior when the accelerator pedal is released and the engine hits low idle, but the vehicle is still rolling. If this parameter is enabled, the clutch will be kept closed so that the low idle governor propels the vehicle. If it is disabled, the clutch will open so that the vehicle rolls to standstill.

**Initial Vehicle Movement Mode** - Initial Vehicle Movement Mode (IVM) allows the vehicle to automatically start moving when the transmission is in gear and the driver releases the service brake. After the vehicle has launched the vehicle will creep at a constant speed at engine idle without the need to hold the throttle pedal position. The feature is useful for stop and go applications allowing the vehicle to launch and creep without applying the accelerator.

(IVM) uses target acceleration and the current driving resistance as inputs and adds extra torque demand depending on the current conditions. The acceleration target and driving resistance are used to calculate a corresponding torque using the mass, gear ratio and wheel radius. The

calculated torque request is sent to the clutch control to actuate. IVM will disable during traction control events.

## Programmable Parameters

The following programmable parameters are required for Low Idle Drive Mode configuration in the TCM. These parameters should be programmed to match what is desired on the vehicle.

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.

### Parameters for Low Idle Drive Mode and IVM:

Parameter Value	Description	Possible Values	Cust Pgrm	Recommended Settings
Low Idle Drive Mode (D071 000)	With this feature enabled, the vehicle can drive with closed clutch on low idle and the driver can adjust the speed by manually shifting up/ down.	1, Disabled 2, Enabled forward only 3, Enabled both directions	Fleet	3, Enabled both directions
Reverse On Low Idle Governor (D004)	Decides the clutch behavior when the accelerator pedal is released and the engine hits low idle but the vehicle is still rolling. If this parameter is enabled, the clutch will be kept closed so that the vehicle is propelled by the low idle governor.	1, Disabled 2, Enabled 3, Forward on low idle disabled	Fleet	2, Enabled
Initial Vehicle Movement (D072 000)	This parameter enables the Initial Vehicle Movement feature, also called "urge to move".	1, Disabled 2, Enabled	YES	Customer Chosen

Interactions between combinations of the PP's (0xD072, 0xD071) are described below:

IVM – D072	LowIdleDriveMode – D071	Drivemode	Result
Disable	Disable	Reverse	No IVM / No LowIdleDrive
Disable	Disable	Forward	No IVM / No LowIdleDrive
Disable	Enable Forward	Reverse	No IVM / No LowIdleDrive
Disable	Enable Forward	Forward	No IVM / LowIdleDrive
Disable	Enable both -(Forward/Reverse)	Reverse	No IVM / LowIdleDrive
Disable	Enable both -(Forward/Reverse)	Forward	No IVM / LowIdleDrive
Enable	Disable	Reverse	IVM / No LowIdleDrive*
Enable	Disable	Forward	IVM / No LowIdleDrive*
Enable	Enable Forward	Reverse	No IVM / No LowIdleDrive
Enable	Enable Forward	Forward	IVM/ LowIdleDrive
Enable	Enable both -(Forward/Reverse)	Reverse	IVM / LowIdleDrive
Enable	Enable both -(Forward/Reverse)	Forward	IVM / LowIdleDrive

\*Note – Clutch opens as soon as IVM has closed the clutch causing very poor drivability.

## Frequently Asked Questions

NA

## Definitions/Acronyms

Acronym	Definition
TCM	Transmission Control Module
PIM	Powertrain Interface Module
AMT	Automated Manual Transmission
IVM	Initial Vehicle Movement