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1. Vehicle Speed Governor (General Overview)

Vehicle Speed Governor is a feature designed to regulate the maximum vehicle speed as controlled by the accelerator pedal.

Programmable parameters within the engine control module (ECM) provide vehicle speed governor related options that can be adjusted to suit the customer’s needs. A parameter is used to set the maximum accelerator controlled vehicle speed.

Additional programming flexibility is included to allow a tradeoff to be made between performance and fuel economy.

The document will address unique vehicle speed governor functionality for International® MaxxForce™ 11 and 13 engines.

1.1. Feature Codes

N/A

2. Definitions/Acronyms

The following terms are referenced in this document:

- **ECM** – Engine Control Module
- **VSS** – Vehicle Speed Sensor

3. Description and Operation

3.1. Operation

This feature limits the maximum vehicle speed. If your engine reaches a certain speed and feels like it should have more power to travel faster, you are probably traveling at the governed maximum speed limit. Verify the “Accelerator Vehicle Speed Limit” (7902) parameter setting.

The driver controls for this feature work through the accelerator pedal only. There are no other operator interactions involved, such as switches or indicators.

The following interlocks must be satisfied for vehicle speed governor to be active:

- As long as the “Vehicle Speed Governor Enable” (7900) parameter is “enabled” and there are no active vehicle speed sensor (VSS) faults, then the feature will be active.

NOTE: If the vehicle speed sensor (VSS) is faulted, the engine speed will be limited to the programmable “Engine Speed Limit with VSS Fault” (7901) parameter setting.

3.2. Feature Interaction

The vehicle speed governor feature interacts with the following engine features:

- Cruise Control and Accelerator Pedals – Fuel economy improvements can be realized by encouraging the driver to use cruise by setting the “Maximum Cruise Control Speed” (7604) parameter higher than the “Accelerator Vehicle Speed Limit” (7902) setting used by the “Vehicle Speed Governor” feature. High fuel economy drivers can be rewarded by setting (7902) higher than (7604) to allow passing opportunities when the accelerator pedal is required.

4. Programmable Parameters

The following programmable parameters are required for vehicle speed governor operation. These parameters should be programmed to the operation which will best suit the vehicle conditions expected.

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 can’t be changed without authorization.

Parameter Name	Description	Possible Values	Customer Programmable?	Recommended Setting
Accelerator Vehicle Speed Limit (7902)	<p>This parameter sets the maximum accelerator controlled vehicle speed. The engine will not power the vehicle faster than this value.</p> <p>This parameter can be used to encourage driver behavior.</p> <ul style="list-style-type: none"> For fuel economy, it is recommended to set the “Maximum Cruise Control Speed” (7604) parameter higher than the “Accelerator Vehicle Speed Limit” (7902) setting. For passing opportunities, it is recommended to (7902) higher than (7604) when the accelerator pedal is required. 	1 – 127 (mph)	YES	Customer Chosen

Vehicle Speed Governor

<p>Engine Speed Limit with VSS Fault (7901)</p>	<p>This parameter sets the maximum engine speed allowed when an active vehicle speed sensor (VSS) fault exits and PTO engine speed control is not active.</p> <p>This parameter might be useful in preventing the operator from exceeding the “Accelerator Vehicle Speed Limit” (7902) parameter setting by tampering with the vehicle speed sensor.</p>	<p>1200 to 2100 (rpm)</p>	<p>YES</p>	<p>1500 rpm</p>
<p>Vehicle Speed Under Speed Limit (7904)</p>	<p>This parameter sets the amount of vehicle speed allowed below the programmed vehicle speed limit, useful during uphill grades.</p> <p>Adjusting this parameter adjusts how tightly the engine tries to maintain the vehicle speed limit based on accelerator pedal demand. This parameter setting effects performance and fuel economy.</p> <ul style="list-style-type: none"> Setting this value lower will more aggressively track the programmed “Accelerator Vehicle Speed Limit” (7902) parameter setting. This increases performance and decreases fuel economy. Setting this value higher will allow the vehicle speed to drop below the programmed “Accelerator Vehicle Speed Limit” (7902) parameter setting. This reduces the time that the engine spends at maximum fueling and therefore improves fuel economy. 	<p>1 to 4 (mph)</p>	<p>YES</p>	<p>Customer Chosen</p> <p>Set between 1 & 4 (mph)</p> <p>1 = best performance 4 = best fuel economy</p>
<p>Vehicle Speed Over Speed Limit (7903)</p>	<p>This parameter sets the amount of vehicle speed allowed above the programmed vehicle speed limit, useful during downhill grades.</p> <p>Adjusting this parameter adjusts how tightly the engine tries to maintain the vehicle speed limit based on accelerator pedal demand. This parameter setting effects performance and fuel economy.</p> <ul style="list-style-type: none"> Setting this value lower will more aggressively track the programmed “Accelerator Vehicle Speed Limit” (7902) parameter setting. This increases performance and decreases fuel economy. Setting this value higher will allow the vehicle to go above the programmed “Accelerator Vehicle Speed Limit” (7902) parameter setting. This increases the benefits of momentum and therefore improves fuel economy. 	<p>1 to 4 (mph)</p>	<p>YES</p>	<p>Customer Chosen</p> <p>Set between 1 & 4 (mph)</p> <p>1 = best performance 4 = best fuel economy</p>
<p>Vehicle Speed Governor Parameter #1 (7900)</p>	<p>This parameter is required to be set to 1.</p>	<p>N/A</p>	<p>YES</p>	<p>Must be set to 1</p>

5. Parameter Setup

5.1. Possible Vehicle Speed Governor Applications

This section briefly describes one example of vehicle speed governor configuration and operation. This configuration will likely need to be modified to meet the needs of the actual application that the owner/operator requires.

Please review the description and operation section and the programmable parameters for a better understanding of how the various vehicle speed governor parameters might be best configured for your vehicle.

(Example A) Basic Vehicle Speed Governor Configuration

In this example, the operator requires basic vehicle speed governor operation with a blend of fuel economy and performance.

Adjust parameters as follows:

Parameter Name	Action Required
Accelerator Vehicle Speed Limit (7902)	Set to "65" mph
Engine Speed Limit with VSS Fault (7901)	Set to "1500" rpm
Vehicle Speed Under Speed Limit (7904)	Set to "2" mph
Vehicle Speed Over Speed Limit (7903)	Set to "2" mph
Vehicle Speed Governor Parameter #1 (7900)	Set to "1" (On)

6. Frequently Asked Questions

Q: Can the vehicle speed governor feature be configured to help the vehicle perform better during an uphill grade?

A: Yes, depending on whether fuel economy or performance is desired during uphill grades, the "Vehicle Speed Under Speed Limit" (7904) parameter can be set to meet the customer's needs.

- Setting this parameter to a lower value will more aggressively track the programmed "Accelerator Vehicle Speed Limit" (7902) parameter setting. This increases performance and decreases fuel economy.
- Setting this parameter to a higher value will allow the vehicle speed to drop below the programmed "Accelerator Vehicle Speed Limit" (7902) parameter setting. This reduces the time that the engine spends at maximum fueling and therefore improves fuel economy.