International® A26

Overview: *Vehicle Speed Limiting*

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General Overview: Vehicle Speed Limiting (VSL)

VSL limits maximum vehicle speed on a level road and can be set for a blend of fuel economy and performance.

Description and Operation

> *NOTE: Refer to the vehicle operation and maintenance manual, as well as the A26 engine operation and maintenance manual, for additional information on operation and indications.*

This feature limits the maximum vehicle speed controlled by the accelerator pedal. If your engine reaches a speed and feels like it should have more power to travel faster, you are probably traveling at the governed maximum speed limit.

VSL Override

This feature raises the vehicle speed limit provided by the VSL feature to a customer programmable speed when the driver identifies a passing situation.

The operator control of the feature consists of the accelerator pedal.

The following text messages in the cluster may be used by this feature.

- **Active** – Indication which informs the operator that the accelerator vehicle speed limit is actively increased

- **Expiring** – Indication which informs the operator that the vehicle speed override is about to expire

To activate the VSL Override feature

Activate the VSL Override feature by double-pumping the accelerator foot pedal. This is done by starting at the full throttle position. Next, release the accelerator pedal completely and then return it back to full throttle, release it again and then return to full throttle once again.

If successful, VSL Override is enabled. The message "Active" will appear. The double-pumping of the accelerator foot pedal should be started when the vehicle speed has reached the normal accelerator vehicle speed limit.

VSL override may work while cruise is enabled, but VSL override operation does not depend on cruise control. The VSL override does not change the current cruise set speed or the cruise maximum set speed.

After the vehicle speed is currently being maintained above the normal accelerator vehicle speed limit, if the vehicle speed drops below the normal accelerator vehicle speed limit, VSL override is automatically deactivated. The operator must repeat the double-pump action to reactivate the feature.

The operator may be warned by the "Expiring" message any time that the vehicle speed limit increase is about to expire.

Additional Information

Activating VSL override does not deactivate cruise control if it is on when the passing event begins. Once the vehicle has passed the other vehicles and VSL override has deactivated, the cruise control takes over again automatically.

The customer can program the duration of allowed vehicle speed limit increase. In addition, the customer can choose whether the duration is based on real time (if equipped with a real-time clock) or based on engine hours.

Feature Interaction

Global VSL is the maximum vehicle speed. No features can increase this limit.

- Cruise Control Maximum VSL – This can be increased/decreased using driver reward/penalty
- Accelerator VSL – Can be influenced using driver reward, VSL override, and the accelerator vehicle speed limiter switch
- In gears lower than top gear, Gear Down Protection (GDP) or ProShift will likely limit the vehicle speed less than the Global VSL setting

Programmable Parameters

The following programmable parameters are required for VSL 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.

VSL Parameters

Parameter Value	Description	Possible Values	Cust Pgrm?	Recommended Settings
Maximum Standstill Engine Speed (A801 022)	The Maximum Standstill Speed feature allows the owner/operator to set the maximum engine speed the engine will achieve, when the AESC is not active, the vehicle is not moving, the parking brake is set, and the accelerator is depressed more than 2%	1200 to 6000 RPM/2	YES	As desired by the customer
Maximum Vehicle Speed Limit (A801 010)	This parameter sets the maximum accelerator controlled vehicle speed. The engine will not power the vehicle faster than this value. This parameter can be used to encourage driver behavior. For fuel economy, it is recommended to set parameter Max Vehicle Speed Limit (A801 010) less than Cruise Control Vehicle Speed High Limit (A804 006) parameter. • For passing opportunities, it is recommended to set parameter (A801 010) higher than the Cruise Control Vehicle Speed High Limit (A804 006) parameter. The limits should be programmed as follows: (A801 017 + A801 010) > (A801 010 + A801 012) **Note:** (A801 017) is part of driver reward. Ignore this from the calculation if driver reward is not in the vehicle configuration.	0 – 132 (MPH)	YES	Customer Chosen **Note:** Must be set to a value less than the Max Global Vehicle Speed Limit (A801 01A) parameter setting.

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Parameter Value	Description	Possible Values	Cust Pgrm?	Recommended Settings
Maxx Engine Speed with VSS Fault (A900 003)	This parameter sets the maximum engine speed allowed when an active vehicle speed sensor (VSS) fault exists, and PTO engine speed control is not active. This parameter might be useful in preventing the operator from exceeding the Max Vehicle Speed Limit (A801 010) parameter setting by tampering with the vehicle speed sensor.	700 to 5,000 RPM	YES	This parameter should be set to match the Max Vehicle Speed with Road Speed Limiting On (A801 010) parameter setting.
Maximum Vehicle Speed Limit Global (A801 01A)	This parameter sets the maximum road speed allowed	30 to 130 MPH	NO	This parameter sets the maximum road speed allowed

VSL Override Parameters

Parameter Value	Description	Possible Values	Cust Pgrm?	Recommended Settings
VSLO Vehicle Speed Limit Override Enable (A801 011)	Set this parameter to enable the Vehicle Speed Limit Override Feature.	**0:** Disabled **1:** Enabled	YES	Customer Choice
VSLO Speed Increment (A801 012)	This parameter selects the amount of vehicle speed that is allowed above the Road Speed Limiting - Maximum Vehicle Speed (A801 010) when this feature is enabled. The limits should be programmed as follows: (A801 017 + A801 010) > (A801 010 + A801 012 **Note:** (A801 017) is part of driver reward. Ignore this from the calculation if driver reward is not in the vehicle configuration.	0 – 132 MPH	YES	5 MPH
VSLO Time Duration Source (A801 015)	This parameter selects whether the VSLO Duration (A801 013) parameters is reset based on engine hours or real-time clock time.	**0:** Engine Hours **1:** SART NOTE: 0 setting (Engine Hours) will work for most applications. 1 setting (SART) will work for fleets with driver rotations. Real time Clock will run even when the engine is turned off.	YES	Customer Choice
VSLO Maximum Time Duration (A801 013)	This parameter selects the maximum amount of time that VSL Override feature can be used by the driver during the interval set by parameter Road Speed Limiting - Time Interval to Reset Vehicle Speed Limit Override (A801 014).	0 – 1000 minutes	YES	30 minutes

Parameter Value	Description	Possible Values	Cust Pgrm?	Recommended Settings
VSLO Time Interval to reset (A801 014)	This parameter selects the vehicle time interval after which the Road Speed Limiting – Vehicle Speed Limit Override Duration (A801 013) parameter is automatically reset, and the feature is deactivated. **Note:** The time can be based on engine hours or real-time clock hours.	0 – 24 hours	YES	8 hours
VSLO Time Duration Source (A801 015)	This parameter specifies the correct signal for vehicle speed. ▪ **If set to (0) –** For manual transmissions and transfer cases, the VSS is hardwired from the transmission output shaft or transfer case. PP A801 012 should be set to 1. ▪ **If set to (1) -** The VSS signal comes from the ABS module over the J1939 Public CAN. ▪ **If set to (3) –** For automatic transmissions, the VSS signal comes from the J1939 transmission output shaft signal. PP A801 007 should be set to 1. **Note 1:** If operating in "Split Shaft" Power Take-Off (PTO) mode, the engine looks for a SAE J1939 message from an Anti-Lock Braking System (ABS) source address module. A801 013 should be set to 1 and PP A801 007 should be set to 0.	**0:** Hardwire Sensor **1:** Public J1939/CAN Vehicle Speed **3:** Public J1939/CAN OSS	NO	Program Support

Parameter Setup

This section briefly describes one example of VSL configuration and operation.

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

EXAMPLE A – VSL Configuration, with VSL Override, and VSL Anti–Tampering

In this example, the customer requires vehicle speed limiter operation with a blend of fuel economy and performance. In addition, this customer requires adjustable VSL at 35MPH, VSL Override increase of 5MPH, and Anti-Tampering functionality.

Adjust parameters as follows:

Parameter Name	Action Required
VSLO Vehicle Speed Limit Override Enable (A801 011)	Set to enable
VSLO Speed Increment (A801 012)	Set to 5 MPH
VSLO Maximum Time Duration (A801 013)	Set to 30 minutes
VSLO Time Duration Source (A801 015)	Set to 0
Time Interval to Reset VSLO (A801 014)	Set to 8 hours

Definitions/Acronyms

The following terms are referenced in this document:

Acronym	Definition
ECM	Engine Control Module
GDP	Gear Down Protection
VSL	Vehicle Speed Limiter
VSS	Vehicle Speed Sensor