International® S13 (2023)

Overview: *Driver Reward*

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General Overview: Driver Reward

The Driver Reward feature is designed to give the operator incentives for driving more efficiently. The feature accomplishes this by measuring the driver's habits based on vehicle speed, cruise control operation, fuel economy and time at idle.

This document will address unique driver reward functionality for the S13.

Description and Operation

> NOTE: Refer to the vehicle operation and maintenance manual, as well as the S13 engine operation and maintenance manual, for additional information on operation and indications.

The driver control of the driver reward feature consists of the following:

- The driving habits of the operator (i.e. good/bad).
- The related programmable parameters.

The following visual indications are used for driver reward:

Driver Reward Indications

- "Expected"
- "Good"
- "Excellent"
- "Penalty"
- "Increasing"
- "Decreasing"

Driver Reward consists of target levels and rewards for achieving those levels. The feature requires that the vehicle is driven a minimum distance of good or excellent driving so that enough fuel economy and idle time data is acquired before determining a reward/penalty. This minimum distance of 50 miles must be covered after every reset.

The driver reward feature records fuel economy and/or idle time for the duration of each trip to provide driver rewards or penalties. The rewards/penalties given are based on levels set by the customer programmable parameters.

The rewards/penalties take the form of increased/decreased accelerator vehicle speed limit and/or cruise control vehicle speed limit.

Feature Interaction

The driver reward feature interacts with the following engine features:

- Adjustable Road Speed Limiter
- Cruise Control
- Gear Down Protection
- Vehicle Speed Limiter Override
- Progressive Shift
- Vehicle Speed Limiter

NOTE: In general, the lowest engine or vehicle speed limit of these features will be followed.

Programmable Parameters

The following programmable parameters are required for driver reward. These parameters should be programmed to encourage drivers to maintain the engine's most efficient speed range for fuel economy.

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.

NOTE: The Engine can be programmed so the Driver Reward data can be reset either by using an electronic service tool or with a key cycle.

Parameter Name	Description	Possible Values	Cust Pgrm	Recommended Settings
Driver Reward Enable (**DRE**) (B10B 000)	This parameter enables or disables the driver reward feature in the engine.	- Disabled - Enabled With Service Tool Reset - Enabled With Key off Reset	YES	Customer Choice
Driver Reward Incentive Type (DRIT) (B10B 008)	This parameter selects whether rewards/penalties will be applied to the following parameters: Maximum Vehicle Speed Limit (MVSL) (B103 00A) or the Cruise Control Vehicle Speed Range High Limit (CCVSRHL) (B101 002) parameters. ■ If set to 0 – Rewards/penalties will only be applied to the accelerator vehicle speed limit. ■ If set to 1- Rewards/penalties will only be applied to the maximum cruise control speed. ■ If set to 2- Rewards/penalties will only be applied to the accelerator vehicle speed limit and the maximum cruise control speed.	- Driver Reward Road Speed Limit - Driver Reward Cruise Control Speed Limit - Both Enabled	YES	Customer Choice
Driver Reward Ambient Temperature Limit High (DRATLH) (B10B 00D)	Defines high temperature limit for accumulating idle time as part of driver reward feature	-40 to 302 deg F	YES	Customer Choice

Parameter Name	Description	Possible Values	Cust Pgrm	Recommended Settings
Driver Reward Ambient Temperature Limit Low (DRATLL) (B10B 00E)	Defines low temperature limit for accumulating idle time as part of driver reward feature	**-40 to 320 deg F**	YES	Customer Choice
Trip Average Fuel Economy -Expected Level (TAFEEL) (B10B 004)	This parameter selects the fuel economy standard that the driver is expected to achieve.	0.00 – 215.00 MPG	YES	Customer Choice
Trip Average Fuel Economy -Good Level (TAFEGL) (B10B 003)	If the value of this parameter setting is exceeded, a "good" reward level will be applied.	0.00 – 215.00 MPG	YES	Customer Choice NOTE: Must be set above the Trip Average Fuel Economy - Expected Level (B10B 004) setting.
Trip Average Fuel Economy -Excellent Level (TAFEEL) (B10B 002)	If the value of this parameter setting is exceeded, an "excellent" reward level will be applied.	0.00 – 215.00 MPG	YES	Customer Choice NOTE: Must be set above the Trip Average Fuel Economy - Good Level (B10B 003) setting.
Trip Percent at Idle Time -Expected Level (B10B 012)	This parameter is the percentage of trip time at idle that the driver is expected to achieve. NOTE: The Driver Reward data can only be reset using an electronic service tool. The Driver Reward feature will start recording new data but will not display reward indications for 50 miles.	0 – 100%.	YES	25%
Trip Percent at Idle Time -Good Level (TPAIEL) (B10B 007)	This parameter is the percentage of trip time at idle that the driver should reduce his percent of time at idle to achieve. Once this level is achieved the 'good' level reward will be activated. NOTE: The Driver Reward data can only be reset using an electronic service tool. The Driver Reward feature will start recording new data but will not display reward indications for 60 miles.	0 – 100%.	YES	15% NOTE: Must be set below the Trip Percent at Idle Time - Expected Level (B10B 012) setting.
Trip Percent at Idle Time -Excellent Level (TPAIEL) (B10B 005)	This parameter is the percentage of trip time at idle that the driver should reduce his percent of time at idle to achieve. Once this level is achieved the 'excellent' level reward will be activated. NOTE: The Driver Reward data can only be reset using an electronic service tool. The Driver Reward feature will start recording new data but will not display reward indications for 60 miles.	0 – 100%.	YES	10% NOTE: Must be set below the Trip Percent at Idle Time -Good Level (B10B 007) setting.
Driver Reward Performance Criteria (DRPC) (B10B 001)	This parameter selects whether fuel economy, percent time at idle, or both is monitored for providing driver reward. • If set to 0 – Only the fuel economy will be monitored. • If set to 1 – Only the trip idle percent will be monitored. • If set to 2 – Both the fuel economy and trip idle percent will be monitored.	-Fuel Economy Based Reward Mode -Trip Idle Percent Based Reward Mode - Both Enabled	YES	Customer Choice
Vehicle Speed Expected Level (VSEL) (B10B 00B)	This parameter sets the amount of increase in vehicle speed that will be added when the "expected" level is achieved.	0 – 20 MPH	YES	0 mph

Parameter Name	Description	Possible Values	Cust Pgrm	Recommended Settings
Vehicle Speed Good Level (B10B 00A)	This parameter sets the amount of increase in vehicle speed that will be added when the "good" level is achieved.	0 – 20 MPH	YES	2 mph
Vehicle Speed Excellent Level (VSEL) (B10B 009)	This parameter sets the amount of increase in vehicle speed that will be added when the "excellent" level is achieved. The limits should be programmed as follows: Vehicle Speed Excellent Level (VSEL) + Maximum Vehicle Speed Limit (MVSL) limit) **>** Maximum Vehicle Speed Limit (MVSL) + Momentary Road Speed Limit Override Vehicle Speed Increment (MRSLOVSI) NOTE: (Maximum Vehicle Speed Limit (MVSL) limit and + Momentary Road Speed Limit Override Vehicle Speed Increment (MRSLOVSI) are in the vehicle speed limiter document.	0 – 20 MPH	YES	5 mph
Vehicle Speed Penalty Level (B10B 00C)	This parameter sets the amount of decrease in vehicle speed that will be deducted when the "expected" level is not achieved.	-20 to 0 MPH	YES	-2 mph

Parameter Setup

Possible Driver Reward Applications

This section describes only a few possible feature applications and how the programmable parameters can be effectively configured for each application. This is not a comprehensive list and does not include all possible applications that an owner/operator might encounter.

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

(Example A) – Customer desires driver reward to monitor fuel economy and desires the operator's driving habits to be rewarded/penalized based on increased/decreased cruise control speed limit.

Adjust parameters as follows:

Driver Reward Programmable Parameter Setup for Example A:

Parameter	Value	Units
Driver Reward Incentive Type (B10B 008)	Set to - "Driver Reward Cruise Control Speed Limit"	Numeric
Trip Average Fuel Economy -Expected Level (B10B 004))	Set to 6	MPG
Trip Average Fuel Economy -Good Level (B10B 003)	Set to 7	MPG
Trip Average Fuel Economy -Excellent Level (B10B 002)	Set to 8	MPG
Trip Percent at Idle Time -Expected Level	Set to 25%	Percent

Parameter	Value	Units
(B10B 012)		
Trip Percent at Idle Time -Good Level (B10B 007)	Set to 15%	Percent
Trip Percent at Idle Time -Excellent Level (B10B 005)	Set to 10%	Percent
Vehicle Speed Expected Level (B10B 00B)	Set to 0	MPH
Vehicle Speed Good Level (B10B 00A)	Set to 2	MPH
Vehicle Speed Excellent Level (B10B 009)	Set to 5	MPH
Vehicle Speed Penalty Level (B10B 00C)	Set to -2	MPH
Driver Reward Performance Criteria (B10B 001)	Set to 0	Numeric

Additional Information

The customer may decide to set the "Expected" level of fuel economy and idle percentage levels at 8 MPG and 55%. If there is no desire to reward the driver for achieving this level, then the rewards for this level should be set to 0 MPH.

If the customer decides to set the "Good" level of fuel economy at 10 MPG and idle percentage at 50% then the driver can be rewarded for achieving these levels. The reward is determined by setting the "Good" level reward parameters. In this example, the setting is 5 MPH and the "Driver Reward Incentive Select" is set to "Both" so both the accelerator vehicle speed limit and the cruise control vehicle speed limits are increased by 5 MPH.

The customer may decide to penalize driver if expected fuel economy is not achieved. If there is no desire to penalize the driver then the penalty should be set to 0 mph.

Frequently Asked Questions

How can I set up the driver reward feature to monitor both fuel economy and trip percent time at idle?

Set the "Driver Reward Performance Criteria" parameter to a value of 2. Refer to the Programmable Parameters section for more information.

Definitions/Acronyms

The following terms are referenced in this document:

Acronym	Definition
ECM	Engine Control Module
GDP	Gear Down Protection
RSL	Road Speed Limit
VS	Vehicle Speed
PIM	Powertrain Interface Module