MaxxForce® 11 and 13 (2007-2009)

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, time at idle, or all.

This document will address unique driver reward functionality for the MaxxForce® 11 and 13.

Description and Operation

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:

DRV 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 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.

There are 3 levels of driver achievement that the customer can program (Expected, Good, and Excellent) for both fuel economy and idle percent. A programmable penalty level may be applied if the expected level is not achieved by the driver.

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 Driver Reward data can only be reset using an electronic service tool.

Parameter Name	Description	Possible Values	Cust Pgrm?	Recommended Settings
Driver Reward Enable (7918)	This parameter enables or disables the driver reward feature in the engine.	0: Disabled 1: Enabled	YES	Customer Choice
Driver Reward Mode (7930)	This parameter selects whether rewards/penalties will be applied to the following parameters: Max Vehicle Speed (7902), the Maximum Vehicle Speed with Cruise Control (7909) or the Cruise Control Vehicle Speed High Limit (7604) 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.	**0: :** Driver Reward Road Speed Limit **1:** Driver Reward Cruise Control Speed Limit **2:** Both Enabled	YES	Customer Choice
Fuel Economy - Expected Level (7921)	This parameter selects the fuel economy standard that the driver is expected to achieve.	0 – 16.00 mpg	YES	Customer Choice
Fuel Economy - Good Level (7920)	If the value of this parameter setting is exceeded, a "good" reward level will be applied.	0 – 16.00 mpg	YES	Customer Choice NOTE: Must be set above the (7921) parameter setting.
Fuel Economy - Excellent Level (7919)	If the value of this parameter setting is exceeded, an "excellent" reward level will be applied.	0 – 16.00 mpg	YES	Customer Choice NOTE: Must be set above the (7920) parameter setting.
Percent Idle Time - Expected Level (7924)	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 60 miles.	0 – 100%.	YES	25%

Parameter Name	Description	Possible Values	Cust Pgrm?	Recommended Settings
Percent Idle Time - Good Level (7923)	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 (7924) parameter setting.
Percent Idle Time - Excellent Level (7922)	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 (7923) parameter setting.
VS Limit Increment - Expected Level (7926)	This parameter sets the amount of increase in vehicle speed that will be added when the "expected" level is achieved.	0 – 21 MPH	YES	0 mph
VS Limit Increment - Good Level (7927)	This parameter sets the amount of increase in vehicle speed that will be added when the "good" level is achieved.	0 – 21 MPH	YES	2 mph
VS Limit Increment - Excellent Level (7928)	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: (7928 + 7902) > (7902 + 7912) NOTE: (7902, 7912) is part of vehicle speed limiter.	0 – 21 MPH	YES	5 mph
VS Limit Decrement - Penalty Level (7929)	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
Driver Reward Performance Criteria (7925)	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.	0: Fuel Economy Based Reward Mode 1: Trip Idle Percent Based Reward Mode 2: Both Enabled	YES	Customer Choice

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 - Mode (7930)	Set to 1: "Driver Reward Cruise Control Speed Limit"	Numeric
Driver Reward Mode (7930)	Set to 6	MPG
Fuel Economy - Expected Level (7921)	Set to 7	MPG
Fuel Economy - Good Level (7920)	Set to 8	MPG
Fuel Economy - Excellent Level (7919)	Set to 25%	Percent
Percent Idle Time - Expected Level (7924)	Set to 15%	Percent
Percent Idle Time - Good Level (7923)	Set to 10%	Percent
Percent Idle Time - Excellent Level (7922)	Set to 0	MPH
VS Limit Increment - Expected Level (7926)	Set to 2	MPH
VS Limit Increment - Good Level (7927)	Set to 5	MPH
VS Limit Increment - Excellent Level (7928)	Set to -2	MPH
VS Limit Decrement - Penalty Level (7929)	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

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

A: Set the "Driver Reward Performance Criteria" (7925) 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