

MaxxForce[®] 11 and 13 (2007-2009)

Overview: *Vehicle Setup*

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General Overview: Vehicle Setup

The Vehicle Setup feature consists of a list of all original equipment manufacturer, and customer programmable parameters, within the engine control module (ECM).

This document will address the unique vehicle setup functionality for the MaxxForce® 11 and 13.

Description and Operation

The vehicle setup feature reports and updates all stored vehicle setup information.

Programmable Parameters

The following programmable parameters are available with the vehicle setup feature.

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 dealer authorization.

Parameter Value	Description	Possible Values	Cust Pgrm	Recommended Settings
Transmission Type (8200)	This parameter indicates the type of transmission equipped on the vehicle.	6: Manual 7: Eaton Auto Shift® 8: Eaton Ultra Shift® 9: Allison 4000® 10: Allison 3000®	NO	Program Support
Two Speed Axle Enable (8000)	This parameter should be enabled if the vehicle is equipped with a 2-speed axle	0: Disable 1: Enable	YES	Varies with Vehicle Application
Tire Revs Per Mile (8001)	This value is provided by the tire manufacturer and is used in the vehicle speed calculation	300 to 676 (rev/mile)	YES	Varies with Vehicle Application
Vehicle Speed Signal Mode (8900)	This parameter specifies the correct signal for vehicle speed. <ul style="list-style-type: none"> ▪ If set to (0) – The VSS is hardwired from the transmission output shaft. T ▪ If set to (1) – The VSS signal comes from the J1939 transmission output shaft signal. <p>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 regardless of mode.</p> <p>Refer to the "Remote Engine Speed Control (PTO)" document for more information</p>	0: Enable Hardwired OSS feature 2: Public J1939/CAN Vehicle Speed 3: Public J1939/CAN OSS	NO	Program Support

Parameter Value	Description	Possible Values	Cust Pgrm	Recommended Settings
Transmission Tailshaft Gear Teeth (8007)	This parameter indicates the number of teeth on the transmission output OR transfer case shaft.	5 to 255	YES	Varies with Vehicle Application
Rear Axle Ratio Low (8002)	This is the application specific final drive gear ratio. Note 1: This is a "low speed" gear ratio if equipped with a 2-speed axle. Note 2: If equipped with a single speed axle, then parameter (8002) and (8003) must be programmed to the same value.	2.5 to 40.00	YES	Varies with Vehicle Application
Rear Axle Ratio High (8003)	This is the application specific final drive gear ratio. Note 1: This is a "high speed" gear ratio if equipped with a 2-speed axle. Note 2: If equipped with a single speed axle, then parameter (8002) and (8003) must be programmed to the same value.	2.5 to 40.00	YES	Varies with Vehicle Application
Top Gear Minus 1 Gear Ratio (7729)	This parameter is used by the gear down protection feature. It is the gear ratio which the "Gear Down Protection (GDP) Vehicle Speed Limit (Top Gear Minus 1)" will be active. For example, on a 10 speed transmission this is the gear ratio of 9 th gear.	0 to 75	YES	Varies with Vehicle Application
Top Gear Minus 2 Gear Ratio (7730)	This parameter is used by the gear down protection feature. It is the gear ratio which the "GDP Vehicle Speed Limit (Top Gear Minus 2)" will be active. For example, on a 10 speed transmission this is the gear ratio of 8 th gear.	0 to 75	YES	Varies with Vehicle Application
Transmission Top Gear Ratio (8004)	The gear ratio of the highest gear in the transmission.	0.6 to 20	YES	Varies with Vehicle Application
Low Axle Ratio Pulses Per Mile Count (8005)	This parameter indicates the low axle ratio pulses per mile (PPM). This is found by multiplying the following: [Tire Revs Per Mile (8001) * Rear Axle Ratio Low (8002) * Output Shaft Teeth (8007)]	18,017 to 157,157 Pulses per mile	YES	Varies with Vehicle Application
High Axle Ratio Pulses Per Mile Count (8006)	This parameter indicates the high axle ratio PPM. This is found by multiplying the following: [Tire Revs Per Mile (8001) * Rear Axle Ratio Low (8002) * Output Shaft Teeth (8007)]	18,017 to 157,157 Pulses per mile	YES	Varies with Vehicle Application
Low Idle Engine Speed (8202)	The engine speed in revolutions per minute (RPM) at normal low engine idle speed.	600 to 750 rpm	NO	(650 to 750 rpm): Non Eaton Ultra Shift® transmissions (600 to 650 rpm): Eaton Ultra Shift® transmissions
High Idle Engine Speed (8203)	The engine speed at high idle engine speed.	1,450 to 4,200 rpm	NO	Program Support

Parameter Value	Description	Possible Values	Cust Pgrm	Recommended Settings
Rated Engine Speed (8204)	The RPM at which the engine achieves its rated horsepower (HP).	1,400 to 3,000 rpm	NO	Program Support
Rated Horsepower (8205)	The maximum HP at the "Rated Engine Speed" (8204) parameter value.	25 to 500 HP	NO	Program Support
Multi Torque Rating Enable (7745)	If enabled, this parameter allows greater torque in the upper transmission gears.	0: Disable 1: Enable	NO	Program Support
AIT Sensor Availability (6903)	This parameter indicates the air intake temperature (AIT) sensor location. <ul style="list-style-type: none"> ▪ If set to (0) – Leaving sensor in the intake. ▪ If set to (1) – Relocating sensor to a 5th wheel. 	0: Not Available 1: Available	NO	Program Support
Cold Ambient Protection Enable (9400)	This parameter enables or disables the cold ambient protection (CAP) feature. <ul style="list-style-type: none"> ▪ If set to (0) – CAP will not be able to increase the engine speed. ▪ If set to (1) – CAP will increase the engine speed as required to warm-up the engine. Refer to the MaxxForce® 11 and 13 Diesel Engines Operation and Maintenance Manual for more information about CAP.	0: Disable 1: Enable	YES	Customer Chosen
Parking Brake CAP Enable (9401)	This parameter set the functionality of CAP using the Parking Brake.	0: Disable 1: Enable	NO	Program Support
Coolant Tank Selection (9200)	This parameter selects the coolant tank equipped on vehicle.	0: Float Sensor (Plastic Tank) 1: Conductive Probe (Metallic or Plastic Tank)	YES	Depends on vehicle equipment.
Engine Running Output Control Mode (7300)	This parameter is set to (1) Enable.	0: Disable 1: Enable	NO	Program Support
Engine Running Output Run Mode Time (7301)	This parameter is set to 2 seconds.	1 to 5 seconds	NO	Program Support
Multi Torque TopGear Minus 1 (8912)		0.60 to 20	NO	Program Support - Set to 1.00.
Multi Torque TopGear Minus 2 Ratio (8913)		0.60 to 20	NO	Program Support - Set to 1.38.

Definitions/Acronyms

The following terms are referenced in this document:

Acronym	Definition
ABS	Anti-lock Braking System
AIT	Air Intake Temperature
CAN	Controller Area Network
CAP	Cold Ambient Protection
ECM	Engine Control Module
GDP	Gear Down Protection
HP	Horsepower
OSS	Output Shaft Speed
PPM	Pulses Per Mile
PTO	Power Take-Off
RPM	Revolutions Per Minute
VSL	Vehicle Speed Limiter
VSS	Vehicle Speed Sensor