NAVISTAR ENGINE GROUP

# MaxxForce® DT, 9, 10 (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 (OEM), and customer programmable parameters, within the engine control module (ECM).

This document will address the unique vehicle setup functionality for the MaxxForce® DT, 9, 10.

## 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. | **0:** Manual Non-Isochronous<br>**1:** Manual Isochronous<br>**2:** Allison AT/MT<br>**4:** Allison MD<br>**5:** Eaton<br>**6:** Dana | NO | Varies with Vehicle Application |
| Two Speed Axle Enable (8000) | This parameter should be enabled if the vehicle is equipped with a 2-speed axle<br>**Note 1:** This parameter can be used for a transfer case enable. | **0:** Disable<br>**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 RPM | YES | Varies with Vehicle Application |
| Vehicle Speed Signal Mode (8900) | This parameter specifies the correct signal for vehicle speed.<br>▪ **If set to (0) –** The VSS is hardwired from the transmission output shaft.<br>▪ **If set to (1)** - The VSS signal comes from the J1587/ATA Vehicle Speed output.<br>▪ **If set to (2) –** The VSS signal comes from the Society of Automotive Engineers (SAE) J1939 transmission output shaft. | **0:** Enable Hardwired OSS feature<br>**1:** Enable J1587/ATA Vehicle Speed<br>**2:** Public 1939/CAN Vehicle Speed<br>**3:** Public 1939/CAN OSS | NO | Varies with Vehicle Application |
| 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 |

| Parameter Value | Description | Possible Values | Cust Pgrm | Recommended Settings |
|---|---|---|---|---|
| Rear Axle Ratio Low (8002) | This is the application specific final drive gear ratio.<br>**Note 1:** This is a "low speed" gear ratio if equipped with a 2-speed axle.<br>**Note 2:** If equipped with a single speed axle, then parameter (8002) and (8003) must be programmed to the same value. | 2.50 to 30.00 | YES | Varies with Vehicle Application |
| Rear Axle Ratio High (8003) | This is the application specific final drive gear ratio.<br>**Note 1:** This is a "high speed" gear ratio if equipped with a 2-speed axle.<br>**Note 2:** If equipped with a single speed axle, then parameter (8002) and (8003) must be programmed to the same value. | 2.50 to 30.00 | 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).<br>This is found by multiplying the following:<br>[Tire Revs Per Mile (8001) * Rear Axle Ratio Low (8002) * Transmission Tailshaft GearTeeth (8007)] | 18,017 to 200,000 (PPM) | YES | Varies with Vehicle Application |
| High Axle Ratio Pulses Per Mile Count (8006) | This parameter indicates the high axle ratio PPM.<br>This is found by multiplying the following:<br>[Tire Revs Per Mile (8001) * Rear Axle Ratio Low (8002) * Transmission Tailshaft GearTeeth (8007)] | 18,017 to 200,000 (PPM) | YES | Varies with Vehicle Application |
| Low Idle Engine Speed (8202) | The engine speed in revolutions per minute (RPM) at normal low engine idle speed. | 650 to 750 RPM | YES | Varies with Vehicle Application |
| High Idle Engine Speed (8203) | The engine speed at high idle engine speed. | 1,450 to 4,200 RPM | NO | Varies with Vehicle Application |
| Rated Engine Speed (8204) | The RPM at which the engine achieves its rated horsepower (HP). | 1,400 to 4,000 RPM | NO | Varies with Vehicle Application |
| Rated Horsepower (8205) | The maximum Horsepower (HP) at the "Rated Engine Speed" (8204) parameter value. | 25 to 500 HP | NO | Varies with Vehicle Application |
| Cold Ambient Protection Enable (9400) | This parameter enables or disables the cold ambient protection (CAP) feature.<br>▪ **If set to (0) –** CAP will not be able to increase the engine speed.<br>▪ **If set to (1) –** CAP will increase the engine speed as required to warm-up the engine. | **0:** Disable<br>**1:** Enable | YES | Varies with Vehicle Application |

## Definitions/Acronyms

The following terms are referenced in this document:

| Acronym | Definition |
|---|---|
| CAP | Cold Ambient Protection |
| ECM | Engine Control Module |
| HP | Horsepower |
| PPM | Pulses Per Mile |
| PTO | Power Take-Off |
| RPM | Revolutions Per Minute |
| VSS | Vehicle Speed Sensor |