

International® S13 Integrated (2023)

Overview: *Vehicle Setup*

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General Overview: Vehicle Setup

The Vehicle Setup feature consists of a list of several original equipment manufacturer and customer programmable parameters, within the engine control module (CEM1) and the powertrain interface module (PIM). This document will address the unique vehicle setup 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 vehicle setup feature reports and updates stored vehicle setup information.

Programmable Parameters

The following programmable parameters are available for vehicle setup.

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 cannot be changed without dealer authorization.

Parameter Value	Description	Possible Values	Cust Pgrm?	Recommended Settings
(PIM) Transmission Type (T) (B106 000)	This parameter indicates the type of transmission equipped on the vehicle.	- Manual - AMT with Clutch Pedal - AMT without Clutch Pedal - Torque Converter Automatic	NO	Program Support
(PIM) Tire Revs Per Mile (TRPM) (B105 009) (CEM1) Tire Revs Per Mile (TRPM) (1016 000)	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
(PIM) Vehicle Speed Signal Mode (VSSM) (B104 004)	This parameter specifies the correct signal for vehicle speed. <ul style="list-style-type: none"> If set to (Hardwire Sensor) - For manual transmissions and transfer cases, the VSS is hardwired from the transmission output shaft or transfer case. (Vehicle Speed Source Selection When Split Shaft is Active A801 007) should be set to 1. If set to (Public J1939/CAN Vehicle Speed) - The VSS signal comes from the ABS module over the J1939 Public CAN. If set to (Public J1939/CAN OSS) - For automatic transmissions, the VSS signal comes from the J1939 transmission output shaft signal. Vehicle Speed Source Selection When Split Shaft is Active 	- Hardwire Sensor - Public J1939/CAN Vehicle Speed - Public J1939/CAN OSS	NO	Program Support

Parameter Value	Description	Possible Values	Cust Pgrm?	Recommended Settings
(PIM) Rear Axle Ratio Low (RARL) (B107 000)	This is the application specific final drive gear ratio. Note - This is a "low speed" gear ratio if equipped with a 2-speed axle. Note - If equipped with a single speed axle, then parameter Rear Axle Ratio Low (B107 000) and Rear Axle Ratio High (B107 001) must be programmed to the same value.	1 to 20.00	Dealer	Varies with Vehicle Application
(PIM) Rear Axle Ratio High (RARH) (B107 001)	This is the application specific final drive gear ratio. Note - This is a "high speed" gear ratio if equipped with a 2-speed axle. Note - If equipped with a single speed axle, then parameter Rear Axle Ratio Low (B107 000) and Rear Axle Ratio High (B107 001) must be programmed to the same value.	1 to 20.00	Dealer	Varies with Vehicle Application
(PIM) Transmission Top Gear Ratio (TTGR) (B105 008)	The gear ratio of the highest gear in the transmission.	0.6 to 20	YES	Varies with Vehicle Application
(PIM) High Idle Engine Speed (HIES) (B10A 009)	The engine speed at high idle engine speed.	1,450 to 3000 rpm	NO	Varies with Vehicle Application
(PIM) Hard Brake Incident Monitor Enable (HBIME) (B109 000)	This parameter enables the hard brake monitor in the vehicle activity report	0 - Disabled 1 - Enabled	NO	1 - Enabled
(PIM) Hard Brake Decel Rate Threshold (HBDRT) (B109 001)	This parameter sets up the hard brake monitor sensitivity in the vehicle activity report.	0 - 260.98 MPH/S	YES	8.70 MPH/S
Parked Low Idle Speed (LIS) CEM1 (10CA 000)	Parked low idle speed (500 - 600)	Numeric	YES	Factory Set
Low Idle Engine Speed (LIES) PIM (B10F 022)	Low Idle Engine Speed	Numeric	NO	Factory Set

Definitions/Acronyms

The following terms are referenced in this document:

Acronym	Definition
ABS	Anti-lock Braking System
AESC	Auxiliary Engine Speed Control
CAN	Controller Area Network
CAP	Cold Ambient Protection
CEM1	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
PIM	Powertrain Interface Module