418-01 Module Configuration
Description and Operation

2022 - 2023 F-650-750 Super Duty
Procedure revision date: 02/21/2021

Module Configuration - System Operation and Component Description

System Operation

Module Programming Menu

Module programming is listed under the Toolbox tab after starting an IDS session with a vehicle. The module programming menu is disabled when a manual vehicle session is created.

The Module Programming menu has 4 selections:

- PMI
- Module Reprogramming
- Programmable Parameters
- As-Built

These selections may not be present for all vehicles.

Programmable Module Installation (PMI)

PMI is a diagnostic scan tool process which configures settings in a new module. Data used for the PMI process is automatically downloaded from the original module and stored when a diagnostic scan tool session is started. If this data cannot be retrieved from the module being replaced, the diagnostic scan tool may prompt for Configuration data entry or display a list of parameter values that need to be manually selected. Some modules are reprogrammed during PMI when a strategy/calibration update is available.

It is important the diagnostic scan tool identifies the vehicle and obtains configuration data prior to removing any modules. The new module must be able to communicate with the diagnostic scan tool in order to carry out PMI .

Module Reprogramming

Module reprogramming (also referred to as flashing) is a diagnostic scan tool process which updates the strategy/calibration in a module. Reprogramming a module with the same level of software does not improve module operation or repair a hardware failure. Module reprogramming is automatically carried out during PMI when a later strategy/calibration is available.

Limit module reprogramming to circumstances where a published TSB , GSB , SSM or FSA recommends doing so.

A module cannot communicate with other modules on the communication network while being reprogrammed. After the reprogramming process, clear any network communication Diagnostic Trouble Codes (DTCs) which may have been set in other modules.

Some modules are reprogrammed in coordination with other modules.

The following modules with an Ethernet connection can be reprogrammed using a diagnostic scan tool and USB flash drive: APIM , GWM , IPC , IPMA and TCU .

Programmable Parameters

Programmable parameters are customer preference items that may be modified by the dealer via the diagnostic scan tool, or in some cases, modified by the customer following a procedure listed in the Owner Literature. While many configuration options may exist for a module, only a few of these options are programmable parameters. Some parameters must be changed in multiple modules at the same time.

Adaptive Learning and Calibration

Some modules require a separate learning procedure be carried out if replaced as part of a repair procedure. For adaptive learning and calibration instructions, refer to the specific module removal and installation procedures.

Direct Configuration Data (formerly known as VID block)

The direct configuration data commonly stores powertrain configuration items such as tire size, axle ratio, and whether or not the vehicle is equipped with cruise control.

Configuration data is a VIN -specific module configuration record. During vehicle build, the configuration from all modules is downloaded and stored in the configuration database. Configuration data does not reflect customer preference items that have been changed from the default state. These items need to be changed using programmable parameters after the module is configured.

It is not necessary to obtain configuration data unless directed to do so by the diagnostic scan tool. This data may be accessed from the PTS web site.

Transmission Identification

The solenoid body has a unique strategy data file that must be downloaded to the PCM or TCM (diesel applications). There is an 8-digit solenoid body identification and a 13-digit solenoid body strategy for each solenoid body. When a new solenoid body or transmission is installed, the diagnostic scan tool must be used to obtain the solenoid body data file and download it into the PCM or TCM . If the PCM or TCM is replaced and the module data cannot be inhaled or exhaled, the solenoid body identification and solenoid body strategy must be downloaded into the PCM or TCM .

Module Configuration and Parameter Chart

The chart describes specific module configuration information:

Module Name	Module Address	Programmable Module Installation (PMI) Available	Reprogram/Flash Capable	Requires Adaptive Learning or Calibration	Available Programmable Parameters
ABS module (Hydraulic brakes)	760	Yes	Yes	• Yaw rate sensor calibration	None
ABS module (Air brakes)	J1939	No	No	• Yaw rate sensor calibration	None
ACM	727	Yes	Yes	No	None
BCM	726	Yes	Yes	• CEI lock configuration • Private sub nodes configuration	None
CCM	764	Yes	Yes	• Radar alignment	None
HVAC module	733	Yes	Yes	No	None
GFM (Ancillary Translator Module [ATM])	7A1	Yes	Yes	No	None
GFM2 /Upfitter Interface Module (UIM)	7D2	No	Yes	No	None
GWM	716	Yes	Yes	No	None
IPC	720	Yes	Yes	No	None
IPMA	706	Yes	Yes	• Camera alignment	None

Module Name	Module Address	Programmable Module Installation (PMI) Available	Reprogram/Flash Capable	Requires Adaptive Learning or Calibration	Available Programmable Parameters
PCM	7E0	Yes	Yes	• Neutral misfire monitor profile learning procedure	• Vehicle speed limiting
RCM /Yaw rate sensor (vehicles with collision avoidance)	737	Yes	Yes	No	None
RTM	751	No	Yes	No	None
SCCM	724	Yes	Yes	• Private sub nodes configuration	None
TCM (6.7L Power Stroke Diesel)	7E1	Yes	Yes	No	None
TCU	754	Yes	No	No	None