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:

- Programmable Module Installation (PMI)
- Module Reprogramming
- Programmable Parameters
- As-Built

These selections may not be present for all vehicles.

Programmable Module Installation (PMI)

Programmable Module Installation (PMI) is a diagnostic scan tool process which configures settings in a new module. Data used for the Programmable Module Installation (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 As-Built data entry or display a list of parameter values that need to be manually selected. Some modules are reprogrammed during Programmable Module Installation (PMI) when a strategy/calibration update is available.

It is important that 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 Programmable Module Installation (PMI).

Module Programming

Module reprogramming (also referred to as "flashing") is a diagnostic scan tool process which updates the strategy/calibration in a module. During module programming, the IDS will read the current software levels within the module and compare this information with the IDS database. If there is an update, it will be displayed on the IDS screen.

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 Programmable Module Installation (PMI) when a later strategy/calibration is available.

Limit module reprogramming to circumstances where a published TSB procedure 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. Follow the IDS key cycling instructions carefully to avoid reprogramming errors, including failure of programming one or more of the modules.

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's Literature. While many configuration options may exist for a module, only a few of these options are programmable parameters.

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.

Vehicle Identification (VID) Block

Vehicle identification block commonly stores powertrain configuration items such as VIN , tire size, axle ratio, and whether or not the vehicle is equipped with cruise control.

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 .

As-Built Data

As-Built data is a VIN -specific module configuration record. During vehicle build, the configuration from all modules is downloaded and stored in the As-Built database. As-Built 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.

As-Built data is not the same as module configuration data.

It is not necessary to obtain As-Built data unless directed to do so by the diagnostic scan tool. This data is retrieved automatically from the technician service publication website. If automatic data retrieval fails, the data can be entered into IDS manually.

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 Progammable Parameters
APIM	7D0	Yes	Yes	No	None
ABS module (Hydraulic brakes)	760	Yes	Yes	No	None
ABS module (Air brakes)	J1939	No	No	No	None
ACM	727	Yes	Yes	No	None
AHCM	7E3	No	No	No	None
BCM	726	Yes	Yes	No	• Axle ratio • Daytime running lamps feature • Daytime running lamp type • Smart unlock • Turn lamp/stop lamp bulb outage • Tire size • Front tire placard pressure • Rear tire placard pressure
HVAC module	733	Yes	Yes	No	None

Module Name	Module Address	Programmable Module Installation (PMI) Available	Reprogram/Flash Capable	Requires Adaptive Learning or Calibration	Available Progammable Parameters
GFM (Ancillary Translator Module [ATM])	7A1	Yes	Yes	No	• Wheel size configuration
IPC	720	Yes	Yes	• Manual regeneration initiation (diesel) Refer to: Diesel Particulate Filter (DPF) Static Regeneration (309-00B Exhaust System - 6.7L Power Stroke Diesel, General Procedures). • Manual regeneration with Active Regen inhibited (diesel) Refer to: Diesel Particulate Filter (DPF) Static Regeneration (309-00B Exhaust System - 6.7L Power Stroke Diesel, General Procedures).	• Auto lock control • Auto unlock control • Auto Regen control • BeltMinder enable/disable • Diesel exhaust filter manual regen display • Engine idle hours • English/metric • Fuel tank size • Language • Number of fuel senders • Number of fuel tanks
PCM	7E0	Yes	Yes	• Manual regeneration initiation (diesel) Refer to: Diesel Particulate Filter (DPF) Static Regeneration (309-00B Exhaust System - 6.7L Power Stroke Diesel, General Procedures). • Manual regeneration with Active Regen inhibited (diesel) Refer to: Diesel Particulate Filter (DPF) Static Regeneration (309-00B Exhaust System - 6.7L Power Stroke Diesel, General Procedures).	None
RTM	759	No	Yes	No	None
SCCM	72C	Yes	Yes	No	None
TCM	7E9	Yes	Yes	No	None