

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 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 scan tool session is started. If this data cannot be retrieved from the module being replaced, the 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 scan tool identifies the vehicle and obtains configuration data prior to removing any modules. The new module must be able to communicate with the scan tool in order to carry out Programmable Module Installation (PMI).

Module Programming

Module reprogramming (also referred to as "flashing") is a 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 FSA, TSB or SSM 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. 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.

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. There is a 12-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. If the PCM is replaced and the PCM data cannot be inhaled or exhaled, the solenoid body identification and solenoid body strategy must be downloaded into the PCM.

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 calibration 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 Programmable Parameters
APIM	7D0	Yes	Yes	No	Travel Link (touchscreen with navigation)
ATCM (Raptor)	792	No	No	No	None
ABS module	760	Yes	Yes	IVD initialization	None
ACM	727	Yes	Yes	No	- Auxiliary 1 - Engine noise enhancement enable/disable
BECMB	723	Yes	No	No	None

BCM	726	Yes	Yes	• Ambient lighting calibration • Rear view camera calibration	• Approach detection • Autolamp delay • Auto lock/unlock • Auto relock • Bed lamp enable/disable • Body manufacture code configuration • DRL configuration • DRL by autolamps configuration • Global open/global close • Keypad enable • Lock feedback light • Mislock horn • One/two stage unlock • Park lock control • Perimeter alarm • Piezo Sounder feedback • Police dark car feature • Power lock enable • Power point max time/time out • Rain sensing enable • Rear fold mirror • Remote start enable/disable • Valet mode
CCM	764	Yes	Yes	• Radar horizontal and vertical alignment calibration	None
DSP	783	Yes	Yes	No	None
DACMC (integrated with ACM)	7D5	Yes	Yes	No	None

DC/ DC control module (voltage control module [VQM])	746	Yes	Yes	No	None
DDM	740	Yes	Yes	Windows initialization	None
DSM	744	Yes	Yes	No	None
SCMG	712	Yes	Yes	No	None
SCME (integrated with DSM)	776	Yes	Yes	No	None
FCDIM (4.2-inch screen)	7A5	Yes	Yes	No	None
FCIM	7A7	Yes	Yes	No	None
GWM	716	Yes	Yes	No	None
HUD module	7B2	No	No	No	None
HSWM	714	Yes	Yes	No	- Temperature setpoint - Low - Medium - High
IPC	720	Yes	Yes	No	- Remote start feature configuration - Climate settings - driver seat - passenger seat - steering wheel - Trailer brake gain warning - Trailer brake controller
IPMA module	706	Yes	Yes	Camera calibration	None

IPMB	7B1	Yes	Yes	• Camera calibration • LIN new model initialization	None
OCSM	765	No	No	• OCSM re-zero	None
PAM (integrated with BCM)	736	Yes	Yes	No	None
SCMH	713	Yes	Yes	No	None
PSCM	730	Yes	Yes	No	None
PCM	7E0	Yes	Yes	• Misfire Monitor Neutral Profile Correction procedure	None
PDM	741	Yes	Yes	• Windows initialization	None
PRB	766	No	No	No	None
RTM	751	Yes	Yes	No	None
RCM	737	Yes	Yes	No	• Driver Beltminder status • Passenger Beltminder status
SODL	7C4	Yes	Yes	No	• BLIS/ CTA enable/disable
SODR	7C6	Yes	Yes	No	• BLIS/ CTA enable/disable
SCCM	724	Yes	Yes	No	None
TCU	754	Yes	No	No	None
TBM	757	No	No	No	None

TRM	791	Yes	Yes	No	None
TCCM	761	No	No	No	None
TCM (10R80 transmission)	7E9	Yes	Yes	• Transmission Strategy Download	None

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