

Description and Operation

System Operation

Programmable Module Installation (PMI)

PMI (programmable module installation) is a 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 scan tool session is started. If this data cannot be retrieved from the module being replaced, the IDS (Integrated Diagnostic System) 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 PMI when a strategy/calibration update is available.

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

Module Programming

Module reprogramming (also referred to as 'flashing') is a 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 (Technical Service Bulletin) 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 DTC (diagnostic trouble code)s 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 IDS 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 (vehicle identification number), tire size, axle ratio, and whether or not the vehicle is equipped with cruise control.

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.

It is not necessary to obtain As-Built data unless directed to do so by the IDS. This data may be accessed from the technician service publication web site.

Module Configuration and Parameter Chart

The chart describes specific module configuration information:

	Programmable Module Installation (PMI)	Reprogram /Flash	Requires Adaptive Learning or	Available Programmable
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Module Name	Available	Capable	Calibration	Parameters
APIM (SYNC module)	Yes	Yes	No	None
ABS (anti-lock brake system) module	Yes	Yes	• IVD initialization	None
ACM (audio front control module)	Yes	Yes	No	• Radio presets
BCM (body control module)	Yes	Yes	• Ambient lighting calibration • Rear view camera calibration	• DRL (daytime running lamps) configuration • Keyless entry/passive start configuration • Remote start enable/disable • switch enable/disable
CCM (cruise control module)	Yes	Yes	No	None
DSP (audio digital signal processing module)	Yes	Yes	No	None
DC (direct current)/DC Converter Control Module (Voltage Quality Module)	Yes	Yes	No	None
DDM (driver door module)	Yes	Yes	No	None
DSM (driver front seat module)	Yes	Yes	No	None
FCIM (front controls interface module)	Yes	Yes	No	None
FCDIM (front control/display interface module)	Yes	Yes	No	None
SCME (front seat climate control module)	Yes	Yes	No	None
GWM (gateway module A)	Yes	Yes	No	None
GPSM (global positioning system module)	Yes	Yes	No	None
HSWM (heated steering wheel module)	Yes	Yes	No	None
IPMA (image processing module A)	Yes	Yes	• Camera calibration	None
IPC (instrument panel cluster)	Yes	Yes	No	• Automatic engine ignition shutdown (AEIS) with override • Daytime running lamps (DRLs) control function • Driver Beltminder • Mid-passenger Beltminder • Passenger Beltminder • Remote start enable/disable - climate settings - driver seat - passenger seat - rear defrost
PAM (parking assist control module) (integrated with BCM)	Yes	Yes	No	None
PSCM (power steering control module)	Yes	Yes	No	None
PCM (powertrain control module)	Yes	Yes	No	None
PDM (passenger door module)	Yes	Yes	No	None
RTM (radio transceiver module)	Yes	Yes	No	None
RCM (restraints control module)	Yes	Yes	No	None
SODL (side obstacle detection control module LH)	Yes	Yes	No	• Blockage enabled • Enable/disable configuration
SODR (side obstacle detection control module RH)	Yes	Yes	No	• Blockage enabled • Enable/disable configuration
SCCM (steering column control module)	Yes	Yes	No	None

NOTE: All details as stated in this document comply with the technical standard that is applicable at the date of printing.