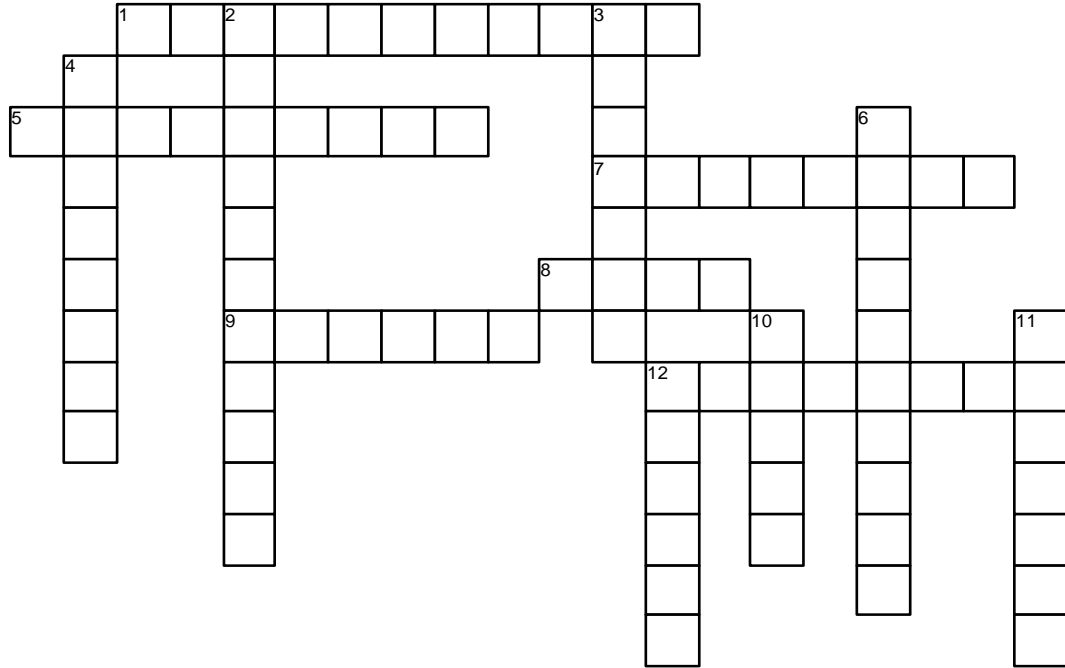


Module Programming

Chapter 84



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ACROSS

- 1 Each manufacturer has developed their own J2534 pass-through device or _____ programming interface (API) that is specific to the brands the manufacturer sells.
- 5 Many times when a module must be reprogrammed or programmed upon replacement, the security codes or key specific information must be re-entered during the process. In order to obtain this information, the shop or service technician must be a registered vehicle security professional and have a _____ ID number.
- 7 ____-_____ programming of the controller is defined as having the module programmed someplace other than in the vehicle.
- 8 In the early 1980s, the replacement _____ (programmable read only memory) was introduced.
- 9 _____ programming is a relatively new process. The servicing facility does not perform the reprogramming of the vehicle. Instead, the shop simply plugs in the equipment and follows the instructions of someone who is at a distant location.
- 12 In 1990, General Motors introduced flash reprogramming. This process allowed the technician to download the replacement software calibration from the manufacturer and to install it in the vehicles computer EEPROM (electronically _____ programmable read only memory).

DOWN

- 2 Each manufacturer has developed their own J2534 ____-_____ device or application programming interface (API) that is specific to the brands the manufacturer sells.
- 3 ____-_____ reprogramming of the controller is defined as having the module connected to the vehicle during the process.
- 4 _____ programming has been used by the engine control module to meet air quality and emission standards since fuel injection replaced carburetors.
- 6 In order to provide a stable vehicle voltage throughout the reprogramming process, it is recommended that a battery _____ be connected to the vehicle during the repair.
- 10 The _____ is a cooperative effort of the automotive service industry, the tool industry, and the original equipment manufacturers to ensure that automotive professionals employed outside of the OEMs have all the information, training, and tools they need to diagnose and repair modern automobiles.
- 11 The _____ J2534 pass-through device is designed to support multiple manufacturers.
- 12 In 1996 as part of the OBDII requirements, all modules that were responsible for emissions control were required to have _____.