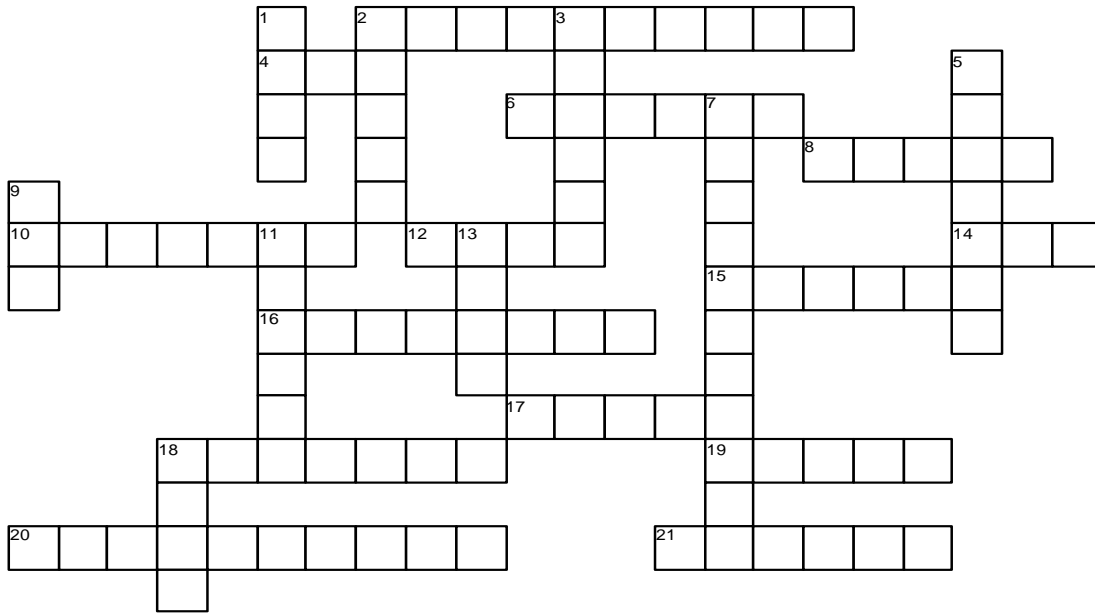


Automotive Electrical and Engine Performance 9th Edition Chapter 28 - PCM Fundamentals



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ACROSS

- 2 _____ Control Module (PCM): The main computer that controls both engine and transmission functions in the vehicle.
- 4 ___ (Electronic Control Unit): A general term for any onboard computer that controls specific systems in the vehicle.
- 6 _____ mapping: A process used to create a performance graph of the engine's output under various conditions, which helps optimize driveability and emissions.
- 8 _____ generator: A crystal oscillator that produces a steady stream of voltage pulses, regulating the timing for computer operations.
- 10 _____ Processing Unit (CPU): The main microprocessor that performs the essential mathematical operations and logic decisions, often considered the brain of the computer.
- 12 _____ (Programmable Read-Only Memory): A memory chip that stores calibration data and can be reprogrammed for updates.
- 14 ___ (Electronic Control Assembly): A term for a vehicle's computer that manages certain control functions.
- 15 _____ drivers: Circuits within the computer that control the operation of actuators by sending electrical signals.
- 16 An output device that converts electrical signals from the computer into mechanical actions, such as adjusting engine idle speed or controlling ignition timing.
- 17 Signals received from sensors, switches, or other devices that provide data for the computer to process.
- 18 _____ computer: A computer that processes information using binary code (0s and 1s), requiring input signals to be converted from analog to digital form.
- 19 conditioning: A process where voltage signals from

sensors are amplified or adjusted before being sent to the computer.

- 20 Another term for a computer or module in a vehicle system that processes inputs and controls outputs.
- 21 _____ (Electrically Erasable Programmable Read-Only Memory): A memory type that stores data even when power is off and can be reprogrammed electronically.

DOWN

- 1 Alive Memory (KAM): A memory type used to store adaptive data for vehicle systems even when the vehicle is off.
- 2 _____-Width Modulation (PWM): A method of controlling devices by varying the amount of time the voltage signal stays on during a cycle.
- 3 _____ Access Memory (RAM): Temporary memory used to store data that is lost when the power is turned off.
- 5 _____ of Automotive Engineers (SAE): An organization that sets standards for automotive technology, including the terminology for vehicle computers.
- 7 _____ RAM: A memory type that retains its contents even when power is removed.
- 9 ___ (Engine Control Module): A specific module that controls the engine functions and monitors the engine sensors.
- 11 _____-to-digital (AD) converter: A circuit that transforms analog signals into digital signals so the computer can process them.
- 13 _____-Only Memory (ROM): Permanent memory used to store data and instructions that cannot be altered by the computer.
- 18 _____ cycle: The percentage of time that a signal or device is active during a given cycle.