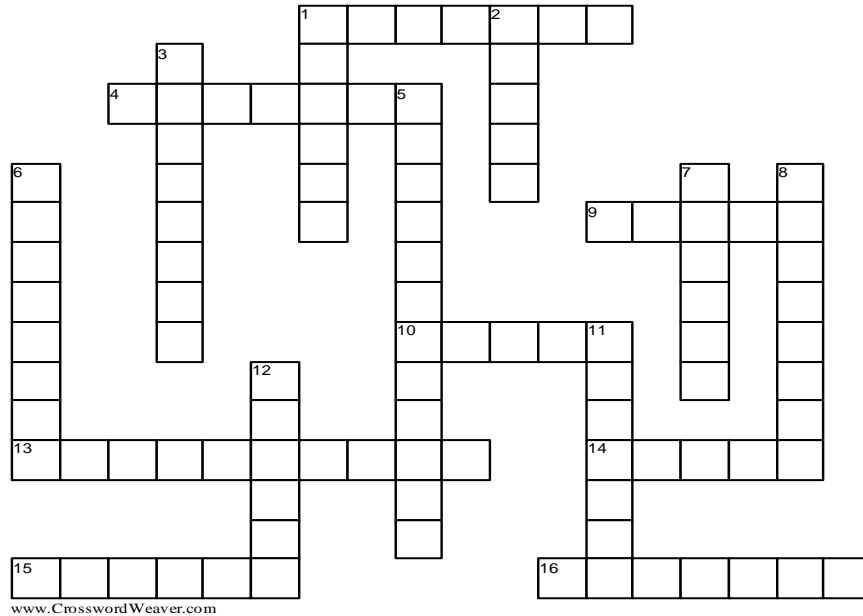


Advanced Engine Performance Diagnosis 8th Edition

Chapter 25

Electronic Transmission Controls



ACROSS

- 1 Transmission _____ module: A dedicated electronic _____ unit that manages the operation of the transmission, controlling shifts, pressure, and clutch engagement.
- 4 _____ (Limp in): A fail-safe mode that allows limited vehicle operation when the transmission control module detects a serious fault.
- 9 Transmission _____ temperature: A sensor that monitors the temperature of the transmission _____, providing input to the TCM to adjust shifting and pressure control.
- 10 _____ speed sensor: A sensor that measures the rotational speed of the transmission's input shaft, providing critical data for controlling shift timing.
- 13 _____ pressure control: A solenoid that regulates the hydraulic pressure in the transmission to control gear shifts and clutch application.
- 14 _____ on/off: A switch that provides a signal to the TCM when the brake pedal is pressed, affecting the transmission's behavior, such as releasing the torque converter clutch (TCC).
- 15 Clutch _____ index: A calculated value that indicates the volume of fluid needed to engage a clutch. This value changes over time as the clutch wears.
- 16 _____ speed sensor: A sensor that measures the speed of the vehicle, used by the TCM and other systems to control transmission shifting and speed-related functions.

DOWN

- 1 _____ fill volume index: A measure used to monitor and adjust the amount of fluid required to engage a clutch in the transmission.
- 2 Transmission _____ switch: A switch that detects the position of the gear selector and sends this information to the TCM to control gear selection.
- 3 Adaptive _____: The process by which the transmission control module (TCM) learns and adapts to changes in the transmission's performance over time, such as wear in components.
- 5 _____ adapt pressure: A pressure adjustment made by the TCM to optimize shifting based on _____ wear and operating conditions.
- 6 _____ control solenoid: A solenoid that controls the pressure of the hydraulic fluid in the transmission to ensure smooth and efficient gear shifts.
- 7 _____ speed sensor: A sensor that measures the rotational speed of the output shaft of the transmission, used to determine vehicle speed and adjust transmission operation.
- 8 _____ control: A system that adjusts transmission operation based on driving conditions and driver habits to optimize performance and efficiency.
- 11 _____ speed sensor: A sensor that measures the rotational speed of the _____ in the torque converter, providing data to the TCM for precise control of shifts.
- 12 _____ management: A system that reduces engine _____ during shifts to prevent harsh engagement and improve transmission longevity.