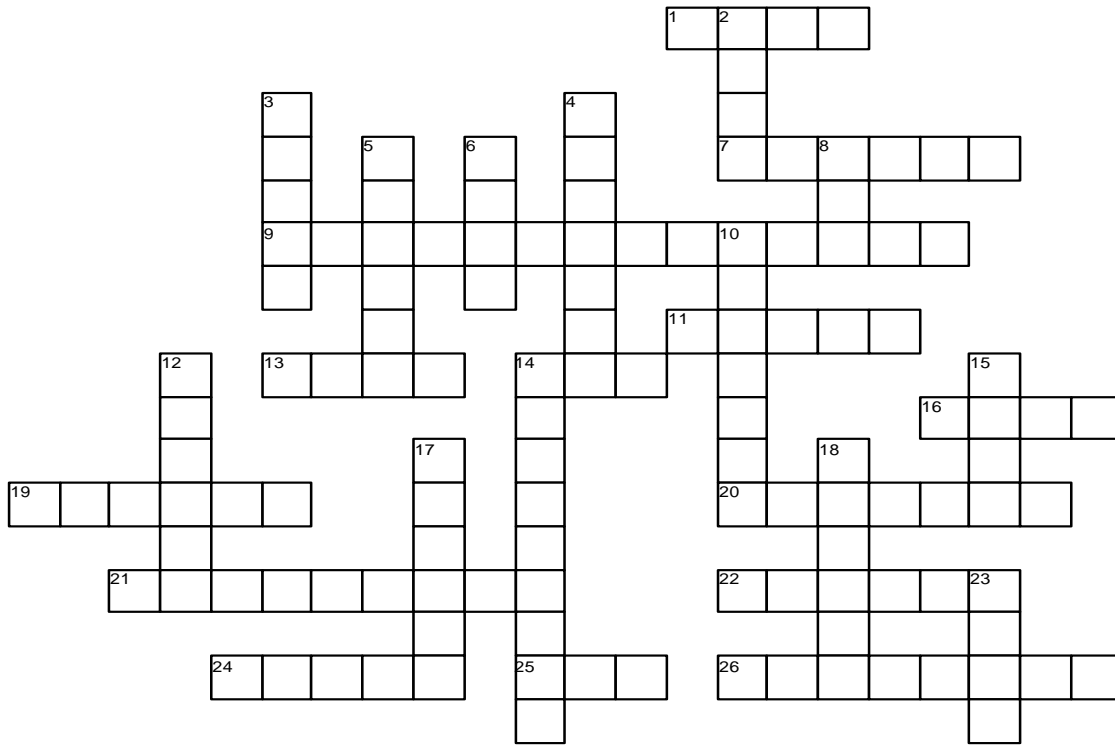


Automotive Electrical and Engine Performance 9th Edition

Chapter 33 - Narrow and Wide-Band Oxygen Sensors



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ACROSS

- 1 _____ loop: A condition where the engine control module ignores oxygen sensor feedback and operates based on preset parameters.
- 7 A design style used in oxygen sensors to optimize performance and response time.
- 9 The ideal air–fuel ratio (14.7:1) for complete combustion in gasoline engines.
- 11 _____-term fuel trim (STFT): Immediate adjustments to the fuel delivery based on real-time oxygen sensor feedback.
- 13 _____-band oxygen sensors: Sensors capable of measuring a broad range of air–fuel ratios, improving accuracy.
- 14 (Room Temperature Vulcanizing): A type of silicone sealant used in sensor and engine repairs.
- 16 _____ trim: Adjustments made by the engine control module to the fuel delivery based on sensor feedback to maintain optimal combustion.
- 19 _____ sensors (O2S): Sensors used to monitor the oxygen content in the exhaust, helping control emissions and fuel delivery.
- 20 _____ design: A traditional structural design of oxygen sensors used in older vehicles.
- 21 _____ electrode: The electrode in the oxygen sensor used as a baseline to measure changes in exhaust composition.
- 22 _____ electrode: The part of the oxygen sensor that sends data to the engine control module.
- 24 _____-off time (LOT): The time taken by the catalytic converter to reach the temperature required for efficient operation.
- 25 _____ design: A structural design of certain sensors, including oxygen sensors, to enhance durability and performance.
- 26 A material used in the construction of oxygen sensors due to its ability to conduct oxygen ions at high temperatures.

DOWN

- 2 _____ cell: A component in certain oxygen sensors that regulates the oxygen content in the sensor's diffusion chamber.
- 3 _____ lean: A diagnostic condition where the oxygen sensor inaccurately indicates a lean air–fuel mixture, usually due to faults.
- 4 _____ side electrode: The part of the oxygen sensor exposed to outside air for reference purposes.
- 5 _____ loop: A condition in which the engine control module uses feedback from the oxygen sensors to adjust the air–fuel mixture in real-time.
- 6 False _____: A condition where the oxygen sensor provides incorrect readings suggesting a rich air–fuel mixture.
- 8 _____-fuel ratio sensor: A sensor that measures the air–fuel mixture in the exhaust system, providing data to maintain optimal combustion.
- 10 _____ side electrode: The electrode in the oxygen sensor that measures the oxygen content in the exhaust gases.
- 12 _____ cell: A type of wide-band oxygen sensor with a single internal cell used for air–fuel mixture monitoring.
- 14 A comparison point used in oxygen sensors to determine oxygen levels in the exhaust.
- 15 _____ cell: A type of wide-band oxygen sensor with two internal cells working together to measure exhaust composition.
- 17 _____ cell: A component in the oxygen sensor that generates voltage based on the difference in oxygen levels between the exhaust and ambient air.
- 18 _____ design: A particular structural design for oxygen sensors to improve sensing capabilities.
- 23 _____-term fuel trim (LTFT): Fuel adjustments made over a longer period based on accumulated sensor data.