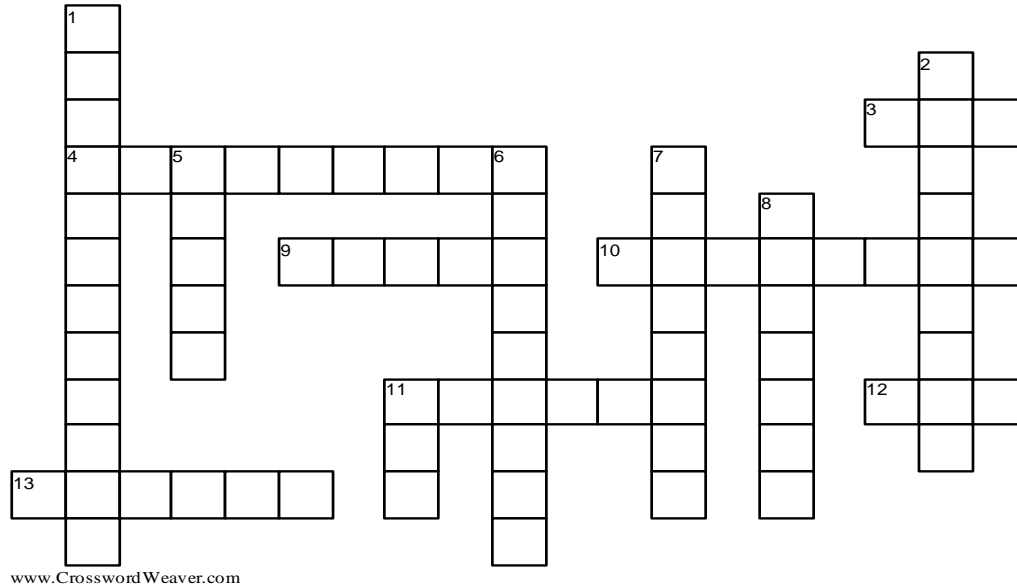


Automotive Electrical and Engine Performance 9th Edition

Chapter 43 - Catalytic Converters



ACROSS

- 3** ___ Test: A diagnostic test performed by tapping the converter to detect loose or damaged internal components.
- 4** _____ Converter: An exhaust after-treatment device designed to reduce harmful emissions by using catalysts to convert gases like carbon monoxide (CO) and hydrocarbons (HC) into water vapor (H₂O) and carbon dioxide (CO₂).
- 9** _____-off Temperature: The minimum temperature (around 500°F or 260°C) at which the catalytic converter becomes effective and starts to operate efficiently.
- 10** A layer applied to the ceramic substrate in catalytic converters to provide a large surface area for the catalyst to adhere to, enhancing the efficiency of emissions reduction.
- 11** _____ Storage Capacity (OSC): A measure of the converter's ability to absorb and release oxygen, helping maintain the optimal air-fuel ratio for efficient combustion.
- 12** _____ (Mini) Converter: A smaller catalytic converter often used as a secondary unit to help control emissions in addition to the main converter.
- 13** A chemical element used in catalytic converters to improve oxygen storage capacity, enhancing emission reduction during varying driving conditions.

DOWN

- 1** A small converter installed before the main catalytic converter to further reduce emissions during engine warm-up.
- 2** A precious metal used as a catalyst in catalytic converters to oxidize hydrocarbons and carbon monoxide.
- 5** _____-way Converter (TWC): A type of catalytic converter designed to simultaneously reduce nitrogen oxides (NO_x), carbon monoxide (CO), and hydrocarbons (HC).
- 6** Chemicals that promote a chemical reaction without being consumed in the process, used inside catalytic converters to convert harmful emissions into less harmful substances.
- 7** A catalyst used in catalytic converters to promote chemical reactions, primarily aiding in the oxidation of carbon monoxide and hydrocarbons.
- 8** A rare metal used in catalytic converters to promote the reduction of nitrogen oxides (NO_x) into nitrogen and oxygen.
- 11** Light-_____ Converter (LOC): A smaller, initial catalytic converter installed closer to the exhaust manifold to start the oxidation process before gases enter the main converter.