

# Journal of Engineering Research

## ENGLISH-SPANISH GLOSSARY OF TECHNICAL TERMINOLOGY IN AUTOMOTIVE MECHANICS

---

*Juan Carlos Núñez López*

*Erika Gabriela Lescano Acosta*

*Blanca Isabel Castillo Chérrez*

*Gabriela Alexandra Lara Aldas*

*Germania Maribel Chiliquina Quispe*

Acceptance date: 19/08/2025



All content in this magazine is licensed under the Creative Commons Attribution 4.0 International License (CC BY 4.0).



# **GLOSARIO**

INGLÉS ESPAÑOL DE  
TERMINOLOGÍA TÉCNICA DE  
**MECÁNICA AUTOMOTRIZ**

Juan Carlos Núñez López  
Erika Gabriela Lescano Acosta  
Blanca Isabel Castillo Chérrez  
Gabriela Alexandra Lara Aldas  
Germania Maribel Chilliquinga Quispe

**JULIO 2025**

## INTRODUCTION

Welcome to the Glossary of Automotive Mechanics, your go-to resource for understanding key terms in vehicle maintenance, repair, and technology. Whether you're a mechanic, technician, or automotive enthusiast, this glossary provides clear definitions of essential concepts across areas like engines, powertrains, electrical systems, suspension, and emerging technologies like electric and autonomous vehicles.

Use this guide to deepen your knowledge, troubleshoot problems, or explore advancements in automotive mechanics. Let's get started!

## ACKNOWLEDGMENTS

We extend our deepest gratitude to Instituto Superior Tecnológico Tungurahua for providing all the necessary facilities for the development of this project. Your unwavering support for our Language Center growth and encouragement of teamwork have been invaluable. This achievement would not have been possible without your commitment and dedication to fostering a collaborative and supportive environment.

## ENGLISH-SPANISH GLOSSARY OF TECHNICAL TERMINOLOGY IN THE FIELD OF INDUSTRIAL MECHANICS

### AUTOMOTIVE TRANSMISSION SYSTEMS



Sistemas de Transmisión Automotriz

By; Bing images, IA

#### 1. AIRBAG

**Definition:** A safety device that inflates in case of a collision to protect occupants.

**Translation:** bolsa de aire

**Example:** “The driver’s airbag deployed during the accident, preventing severe injuries.”

#### 2. ACCELERATION

**Definition:** The process of increasing the speed of a vehicle.

**Translation:** Aceleración

**Example:** The car’s acceleration was impressive when merging onto the highway.

#### 3. ALTERNATOR

**Definition:** A device that generates electrical power to charge the battery and supply electricity to the car’s systems

**Translation:** Alternador

**Example:** “A malfunctioning alternator can cause the car battery to drain quickly.”

#### 4. ALTERNATOR

**Definition:** A generator that produces electricity to charge the battery and power the vehicle's electrical systems

**Translation:** Alternador

**Example:** A faulty alternator can cause electrical failures in the car.

#### 5. ALL-WHEEL DRIVE (AWD)

**Definition:** A drivetrain configuration where all four wheels receive power from the engine, typically for improved traction.

**Translation:** Tracción total (AWD)

**Example:** The AWD system helps the vehicle maintain stability on slippery roads.

#### 6. AMPERE

**Definition:** A unit of electrical current, often used to measure electrical systems in vehicles.

**Translation:** Amperio

**Example:** "The alternator provides the required amperage to charge the battery."

#### 7. AUTOMATIC

**Definition:** A type of transmission that automatically shifts gears without manual input.

**Translation:** Automática

**Example:** The car's automatic transmission makes driving easier, especially in traffic.

#### 8. AXLE

**Definition:** A rod or spindle that connects and supports rotating wheels

**Translation:** Eje

**Example:** The rear axle of the vehicle needed replacement.

#### 9. BATTERY

**Definition:** A device that stores and supplies electrical energy to the vehicle

**Translation:** Batería

**Example:** The car battery was replaced after it stopped holding a charge.

#### 10. BEARINGS

**Definition:** Components that allow parts to rotate smoothly by reducing friction.

**Translation:** Rodamientos

**Example:** The bearings in the transmission help prevent wear and tear on moving parts.

#### 11. BRAKE PAD

**Definition:** A component of the braking system that creates friction to stop the vehicle

**Translation:** Pastilla de freno

**Example:** Worn brake pads should be replaced immediately for safety.

#### 12. BRAKE WEAR

**Definition:** The gradual reduction of the brake pads' material due to friction with the brake disc.

**Translation:** Desgaste de frenos

**Example:** "The mechanic checked the brake wear and recommended replacing the pads."

#### 13. BRAKING SYSTEM;

**Definition:** A set of devices that reduce the speed or stop the vehicle

**Translation:** Sistema de frenado;

**Example:** "The disc braking system is very effective at stopping the vehicle quickly."

#### 14. BREAKDOWN

**Definition:** A mechanical failure that causes a vehicle to stop functioning.

**Translation:** Avería

**Example:** The car experienced a breakdown on the highway and needed to be towed.

## 15. BUCKET SEAT

**Definition:** A seat designed to hold the occupant securely, often found in racing or sports cars.

**Translation:** Baquet

**Example:** “The bucket seat offers great support during high-speed maneuvers.”

## 16. CAMSHAFT

**Definition:** A shaft in an engine that controls the opening and closing of the engine’s valves.

**Translation:** Árbol de levas

**Example:** “The camshaft’s precise timing ensures the engine operates efficiently.”

## 17. CENTER OF GRAVITY

**Definition:** The point at which the mass of a vehicle is considered to be concentrated, affecting handling and stability.

**Translation:** Baricentro

**Example:** “Lowering the center of gravity improves the car’s cornering ability.”

## 18. CONVERTIBLE

**Definition:** A car with a roof that can be folded or removed to allow open-air driving.

**Translation:** Descapotable

**Example:** “She enjoyed driving her convertible with the top down on sunny days.”

## 19. CHASSIS

**Definition:** The structural framework of a vehicle; that supports its components;

**Translation:** Chasis

**Example:** The chassis provides strength and stability to the vehicle.

## 20. CLUTCH

**Definition:** A mechanical device in manual transmissions that engages and disengages the engine from the drivetrain.

**Translation:** Embrague

**Example:** “The clutch allows smooth gear shifting in manual vehicles.”

## 21. CVT (CONTINUOUSLY VARIABLE TRANSMISSION)

**Definition:** A type of transmission that provides a continuous range of gear ratios, rather than fixed gears.

**Translation:** Transmisión variable continua (CVT)

**Example:** The CVT allows for smooth acceleration without noticeable shifts.

## 22. ECONOMIZER

**Definition:** A device or system designed to improve fuel efficiency.

**Translation:** Economizador

**Example:** “The car’s economizer mode adjusts the engine’s performance to save fuel.”

## 23. COOLING SYSTEM

**Definition:** A set of components that regulate the engine’s temperature to prevent overheating. Translation: Sistema de enfriamiento

**Translation:** Sistema de enfriamiento

**Example:** “The cooling system keeps the engine at an optimal temperature during operation.”

## 24. CYLINDER

**Definition:** A chamber in an engine where fuel is combusted to produce power;

**Translation:** Cilindro

**Example:** The engine has six cylinders arranged in a V-shape.

## 25. DIFFERENTIAL

**Definition:** A mechanical device that allows wheels to rotate at different speeds

**Translation:** Diferencial

**Example:** The differential ensures smooth turns without skidding.



## 26. DIFFERENTIAL

**Definition:** A component that allows the drive wheels to rotate at different speeds, especially when cornering

**Translation:** Diferencial;

**Example:** “The differential is essential for maintaining vehicle stability in turns.”

## 27. DSG (DUAL-CLUTCH TRANSMISSION)

**Definition:** A transmission that uses two clutches for faster and smoother gear shifts.

**Translation:** Transmisión de doble embrague (DSG)

**Example:** The DSG transmission provides faster gear changes than a traditional manual.

## 28. EXHAUST

**Definition:** A system that expels waste gases from the engine

**Translation:** Escape

**Example:** The car’s exhaust system reduces harmful emissions.

## 29. EXHAUST SYSTEM

**Definition:** A set of components that expel combustion gases from the engine to the vehicle’s exterior.

**Translation:** Sistema de escape;

**Example:** “A well-maintained exhaust system helps reduce noise and emissions.”

## 30. FILTER

**Definition:** A device used to remove impurities or particles from air, fuel, or oil in a vehicle.

**Translation:** Filtro

**Example:** “A clogged air filter can reduce engine performance and fuel efficiency.”

## 31. FORK

**Definition:** A component that moves the synchronizer rings to engage the gears in a transmission.

**Translation:** Horquilla

**Example:** The fork in the transmission allows for smooth gear engagement.

## 32. FLYWHEEL

**Definition:** A heavy wheel that stores rotational energy to maintain engine balance

**Translation:** Volante de inercia

**Example:** The flywheel helps smooth out the power delivery of the engine.

## 33. FUEL PUMP

**Definition:** A pump that delivers fuel from the tank to the engine

**Translation:** Bomba de combustible

**Example:** A faulty fuel pump can prevent the engine from starting.

## 34. FRONT-WHEEL DRIVE (FWD)

**Definition:** A drivetrain configuration where the engine’s power is sent to the front wheels.

**Translation:** Tracción delantera (FWD)

**Example:** The front-wheel drive system improves fuel efficiency and handling in most vehicles.

## 35. FOUR-WHEEL DRIVE (4WD)

**Definition:** A drivetrain configuration where power is distributed to all four wheels.

**Translation:** Tracción en las cuatro ruedas (4WD)

**Example:** The four-wheel drive system provides better traction on rough terrain.

### 36. GASES

**Definition:** Gaseous substances such as exhaust fumes produced by the engine during combustion.

**Translation:** Gases

**Example:** “The vehicle’s exhaust system filters harmful gases before they are released into the atmosphere.”

### 37. GEARS

**Definition:** Mechanical components that transfer motion and torque between machine parts.

**Translation:** Engranajes

**Example:** The gears inside the transmission help control the speed and power of the vehicle.

### 38. GEAR SHIFT

**Definition:** The mechanism used to change gears in a vehicle.

**Translation:** Cambio de marcha

**Example:** He used the gear shift to change from first to second gear

### 39. GEARBOX

**Definition:** A set of components that transmit engine power to the wheels.

**Translation:** Caja de cambios;

**Example:** “The manual transmission system allows the driver to shift gears manually.”

### 40. GEAR WEAR

**Definition:** The erosion or degradation of gears due to constant use.

**Translation:** Desgaste de engranajes

**Example:** Gear wear can cause the transmission to malfunction over time

### 41. GEAR REDUCTION

**Definition:** A reduction in speed achieved by using gears to increase torque.

**Translation:** Desmultiplicación

**Example:** Gear reduction allows the vehicle to have more torque at lower speeds.

### 42. INERTIA

**Definition:** The tendency of an object to resist changes in its state of motion, affecting the vehicle’s acceleration and deceleration.

**Translation:** Inercia

**Example:** “Inertia caused the car to continue moving even after the driver applied the brakes.”

### 43. INNER TUBE

**Definition:** A rubber tube inside a tire that holds air and maintains tire pressure.

**Translation:** Cámara de aire

**Example:** “A puncture in the inner tube caused the tire to deflate.”

### 44. INTERCOOLER

**Definition:** A device that cools the air compressed by the turbocharger or supercharger before it enters the engine.

**Translation:** Intercooler

**Example:** “The intercooler helped lower the intake air temperature, improving engine efficiency.”

### 45. INPUT SHAFT

**Definition:** The shaft that transmits power from the engine to the transmission.

**Translation:** Árbol de entrada

**Example:** The input shaft connects the engine’s power to the transmission system.

### 46. IGNITION COIL

**Definition:** A component that transforms the battery’s voltage to ignite the fuel-air mixture

**Translation:** Bobina de encendido

**Example:** The ignition coil was replaced to fix the starting issue.

#### 47. INTAKE MANIFOLD

**Definition:** A component that distributes air to the engine cylinders

**Translation:** Colector de admisión

**Example:** A cracked intake manifold can cause air leaks.

#### 48. INTERNAL COMBUSTION ENGINE

**Definition:** An engine that converts fuel energy into mechanical energy through internal combustion.;

**Translation:** Motor de combustión interna;

**Example:** “The internal combustion engine is the most common type in modern cars.”

#### 49. LEAF SPRING

**Definition:** A type of spring used in suspension systems to support the vehicle’s weight and absorb shocks.

**Translation:** Ballesta

**Example:** “Leaf springs are commonly used in the rear suspension of heavy-duty trucks.”

#### 50. LUBRICATION

**Definition:** The process of applying a substance to reduce friction and wear in moving parts.

**Translation:** Lubricación

**Example:** Proper lubrication of the engine and transmission is essential for vehicle performance.

#### 51. MUFFLER

**Definition:** A device that reduces noise from the exhaust system

**Translation:** Silenciador

**Example:** The muffler reduces the noise level of the vehicle’s engine.

#### 52. OIL LEAK

**Definition:** The unintended release of oil from the engine or transmission.

**Translation:** Fuga de aceite

**Example:** The mechanic noticed an oil leak during the vehicle inspection

#### 53. OIL PUMP

**Definition:** A pump that circulates oil to lubricate engine components

**Translation:** Bomba de aceite

**Example:** A malfunctioning oil pump can lead to engine damage.

#### 54. OIL PRESSURE GAUGE

**Definition:** A device that monitors the oil pressure in an engine to ensure proper lubrication.

**Translation:** Indicador de la presión de aceite

**Example:** “The oil pressure gauge indicated a drop in pressure, signaling a potential problem.”

#### 55. OUTPUT SHAFT

**Definition:** The shaft that transfers power from the transmission to the wheels.

**Translation:** Árbol de salida

**Example:** The output shaft is responsible for driving the wheels of the vehicle

#### 56. POWER WINDOW

**Definition:** An electric window system that allows the driver to raise or lower the window with the push of a button.

**Translation:** Elevalunas

**Example:** “The power window malfunctioned, preventing the driver from closing it.”

#### 57. PISTON

**Definition:** A cylindrical part that moves up and down inside an engine cylinder to transfer force.

**Translation:** Pistón

**Example:** The mechanic replaced the worn-out pistons in the engine.



## 58. PINION

**Definition:** A small gear that meshes with a larger gear to transmit power.

**Translation:** Piñón

**Example:** The pinion gear is responsible for transmitting power to the differential.

## 59. RADIATOR

**Definition:** A component of the cooling system that dissipates heat from the coolant to maintain the engine's temperature.

**Translation:** Radiador

**Example:** "The radiator ensures the engine doesn't overheat while running."

## 60. RADIATOR

**Definition:** A device that cools the engine by dissipating heat

**Translation:** Radiador

**Example:** The radiator prevents the engine from overheating.

## 61. REDUCTION

**Definition:** The process of reducing speed and increasing torque through gears.

**Translation:** Reducción

**Example:** The reduction gear helps the vehicle climb steep hills more easily.

## 62. REAR-WHEEL DRIVE (RWD)

**Definition:** A drivetrain configuration where the rear wheels are powered by the engine.

**Translation:** Tracción trasera (RWD)

**Example:** Rear-wheel drive cars are known for their balanced handling and performance.

## 63. ROD

**Definition:** A thin straight bar, especially of wood or metal.

**Translation:** Varilla;

**Example:** The construction worker reinforced the building walls with huge

rods.

## 64. ROBOTIC

**Definition:** A type of automated transmission that uses robotics to shift gears.

**Translation:** Robotizada

**Example:** The robotic transmission system automatically shifts gears without driver intervention.

## 65. REPAIR CLIP

**Definition:** A fastener used to hold parts together or to secure components during repair.

**Translation:** Grapa de reparación

**Example:** "The mechanic used a repair clip to secure the loose wiring."

## 66. ROCKER ARM

**Definition:** A part that transmits motion from the camshaft to the engine's valves.

**Translation:** Balancín

**Example:** "The rocker arm controls the opening and closing of the engine valves."

## 67. SUMP

**Definition:** The reservoir that holds the transmission fluid or oil in the vehicle.

**Translation:** Cáster

**Example:** The sump needs to be checked regularly to avoid oil leaks.

## 68. SEQUENTIAL

**Definition:** A type of transmission that allows the driver to change gears in a fixed sequence.

**Translation:** Secuencial

**Example:** The sequential transmission in race cars allows for quick gear changes.

## 69. SELECTOR

**Definition:** A lever or mechanism used to select gears in a transmission.

**Translation:** Selector

**Example:** The gear selector is used to

choose between different driving modes.

#### 70. SHOCK ABSORBER

**Definition:** A device that dampens vibrations and shocks from the road

**Translation:** Amortiguador

**Example:** The car's shock absorbers were replaced for a smoother ride

#### 71. STABILIZER BAR

**Definition:** A suspension component that reduces body roll during turns by connecting opposite wheels.

**Translation:** Barra estabilizadora

**Example:** "The stabilizer bar prevents the car from leaning too much during sharp turns."

#### 72. SPARK PLUG

**Definition:** A component in the ignition system that produces a spark to ignite the air-fuel mixture in the engine.

**Translation:** Bujía

**Example:** "Worn-out spark plugs can lead to engine misfires and reduced fuel efficiency

#### 73. STEERING SYSTEM

**Definition:** A mechanism that changes the vehicle's direction by turning the front wheels.

**Translation:** Sistema de dirección;

**Example:** "The power steering system makes the steering wheel easier to turn."

#### 74. STEERING WHEEL

**Definition:** A circular device used to control the direction of a vehicle;

**Translation:** Volante

**Example:** The driver adjusted the steering wheel for a comfortable position.

#### 75. SUSPENSION;

**Definition:** A system that connects the wheels to the chassis and absorbs impacts to provide stability and comfort.

**Translation:** Suspensión;

**Example:** "Air suspension improves comfort on uneven terrains."

#### 76. TIMING BELT

**Definition:** A belt that synchronizes the rotation of the camshaft and crankshaft

**Translation:** Correa de distribución;

**Example:** A broken timing belt can cause severe engine damage.

#### 77. TIMING CHAIN

**Definition:** A chain that synchronizes the camshaft and crankshaft

**Translation:** Cadena de distribución

**Example:** The timing chain is more durable than a timing belt.

#### 78. TORQUE

**Definition:** A measure of the rotational force produced by an engine

**Translation:** Torque

**Example:** The truck's engine generates a high amount of torque for towing heavy loads.

#### 79. TRANSMISSION

**Definition:** A mechanism that transfers power from the engine to the wheels

**Translation:** Transmisión

**Example:** The car has an automatic transmission system.

#### 80. TRANSMISSION SYSTEM

**Definition:** A set of components that transmit engine power to the wheels.

**Translation:** Sistema de transmisión;

**Example:** "The manual transmission system allows the driver to shift gears manually."

#### 81. TURBOCHARGER

**Definition:** A device that increases engine power by compressing intake air.

**Translation:** turbocompresor;

**Example:** “The catalytic converter helps reduce the toxic gases emitted by the engine.”

## 82. WEAR

**Definition:** The gradual degradation of parts due to friction and use.

**Translation:** Desgaste

**Example:** The engine showed signs of wear after years of high-mileage driving.

## 83. VIBRATIONS

**Definition:** Oscillations or shaking movements caused by mechanical imbalances.

**Translation:** Vibraciones

**Example:** The vibrations in the steering wheel were caused by unbalanced tires.

## COMPUTER AIDED DESIGN

### DISEÑO ASISTIDO POR COMPUTADORA



By; Bing images, IA

## 84. 2D SKETCH

**Definition:** A two-dimensional drawing or representation of a component or design.

**Translation:** Boceto 2D

**Example:** The designer made a 2D sketch of the car's body for the initial concept.

## 85. 2D VIEW GENERATION

**Definition:** The process of creating 2D projections of a 3D model.

**Translation:** Generación de Vistas 2D

**Example:** The software automatically generates a 2D view of the 3D model for the technical drawing.

## 86. 3D ANIMATION

**Definition:** A digital animation where objects are created and manipulated in a three-dimensional space.

**Translation:** Animación 3D

**Example:** The 3D animation showed how the car engine would work in real-time.

## 87. 3D DIGITIZATION

**Definition:** The process of converting physical objects into digital 3D models using scanners.

**Translation:** Digitalización 3D

**Example:** The engineer used 3D digitization to create a digital replica of the prototype.

## 88. 3D MESH

**Definition:** A collection of vertices, edges, and faces that defines the shape of a 3D object.

**Translation:** Malla 3D

**Example:** The 3D mesh of the car's body was analyzed for aerodynamic testing.

## 89. 3D MODELING

**Definition:** The process of creating a three-dimensional representation of an object.

**Translation:** Modelado 3D

**Example:** 3D modeling allows designers to visualize the car before it is built.

## 90. 3D PRINTING

**Definition:** A manufacturing process that creates a physical object from a digital

model by adding material layer by layer.

**Translation:** Impresión 3D

**Example:** The prototype was created using 3D printing technology to test the design.

### 91. 3D PRINTING TECHNOLOGIES FOR AUTOMOTIVE

**Definition:** The use of 3D printing in the automotive industry to create parts and prototypes.

**Translation:** Tecnologías de Impresión 3D para Automotriz

**Example:** 3D printing technologies for automotive parts allow for rapid prototyping and customization.

### 92. 3D SCANNING

**Definition:** The process of capturing the physical shape of an object and converting it into a digital model using a 3D scanner.

**Translation:** Escaneo 3D

**Example:** The car's exterior was scanned in 3D to create an accurate digital model for testing.

### 93. AM (ADDITIVE MANUFACTURING)

**Definition:** A process of manufacturing where material is added layer by layer to create an object.

**Translation:** Manufactura Aditiva

**Example:** AM allows for the creation of complex geometries that traditional manufacturing methods cannot.

### 94. ASSEMBLY

**Definition:** The process of putting together different parts to form a complete product.

**Translation:** Ensamblaje

**Example:** The assembly of the car's engine was completed in under an hour.

### 95. ASSEMBLY MODELING

**Definition:** The creation of a digital model that represents the assembly of various

parts and components.

**Translation:** Modelado de Ensamblajes

**Example:** The assembly modeling software helped to optimize the car's manufacturing process.

### 96. AUTOCAD

**Definition:** A software application used for computer-aided design (CAD) and drafting.

**Translation:** AutoCAD

**Example:** AutoCAD is widely used in the automotive industry for creating precise engineering drawings.

### 97. AUTOMOTIVE COMPONENT MODELING

**Definition:** The process of creating detailed 3D models of individual automotive components.

**Translation:** Modelado de Componentes Automotrices

**Example:** Automotive component modeling allows for testing the strength of each part in simulation.

### 98. AUTOMOTIVE COMPONENT SCANNING

**Definition:** The process of scanning automotive components to create digital models for analysis or reproduction.

**Translation:** Escaneo de Componentes Automotrices

**Example:** The component scanning was used to recreate a missing part for the car's transmission.

### 99. BEZIER CURVES

**Definition:** Curves defined by mathematical equations used in computer graphics and design, often in CAD software.

**Translation:** Curvas Bézier

**Example:** Bezier curves are used to model the smooth contours of a car's body.

### 100. CAD FILE CONVERSION

**Definition:** The process of changing a CAD file from one format to another to be compatible with different software or

machines.

**Translation:** Conversión de Archivos CAD

**Example:** The CAD file conversion allowed the design to be imported into the CNC machine for production.

### 101. CAD-CAM INTEGRATION

**Definition:** The combination of Computer-Aided Design (CAD) and Computer-Aided Manufacturing (CAM) to streamline the design-to-manufacturing process.

**Translation:** Integración CAD-CAM

**Example:** CAD-CAM integration helps reduce errors and improves efficiency in automotive manufacturing.

### 102. CAE (COMPUTER-AIDED ENGINEERING)

**Definition:** The use of computer software to simulate and analyze engineering designs.

**Translation:** Análisis Asistido por Computadora

**Example:** CAE simulations helped in predicting the car's behavior in a crash scenario.

### 103. CAM (COMPUTER-AIDED MANUFACTURING)

**Definition:** The use of computer software to control manufacturing processes.

**Translation:** Fabricación Asistida por Computadora

**Example:** CAM software was used to guide the CNC machine in manufacturing the car's engine block.

### 104. CATIA

**Definition:** A multi-platform software suite used for computer-aided design (CAD), computer-aided engineering (CAE), and computer-aided manufacturing (CAM).

**Translation:** CATIA

**Example:** CATIA is commonly used in the automotive industry for designing complex vehicle components.

### 105. CNC MACHINING

**Definition:** A subtractive manufacturing process where computer-controlled machines cut away material to create parts from a solid block.

**Translation:** Mecanizado CNC

**Example:** The engine block was fabricated using CNC machining for precise dimensions.

### 106. COMPLETE GEOMETRY

**Definition:** A fully defined 3D model that includes all the required components, features, and dimensions necessary for production or simulation.

**Translation:** Geometría Completa

**Example:** The engineer worked on ensuring the complete geometry of the car's chassis before starting the prototyping process.

### 107. COMPOSITE MATERIALS

**Definition:** Materials made from two or more different substances that, when combined, exhibit improved properties. Often used in automotive for lightweight and durable components.

**Translation:** Materiales Compuestos

**Example:** The use of composite materials in the car's body panels helped reduce its weight while maintaining strength.

### 108. COMPUTATIONAL FLUID DYNAMICS (CFD) SIMULATION

**Definition:** A computational tool used to analyze and simulate the flow of fluids (air, water, etc.) over surfaces to optimize designs.

**Translation:** Simulación de Fluido Computacional

**Example:** CFD simulations were conducted to test the aerodynamics of the car before building a physical prototype.



## 109. CONCEPT SKETCH

**Definition:** An initial, often rough, drawing used to represent ideas or concepts for a design.

**Translation:** Boceto de Concepto

**Example:** The concept sketch of the car's interior helped the design team visualize its layout and functionality.

## 110. CONVERSION OF CAD MODELS TO PROTOTYPES

**Definition:** The process of converting a 3D digital model into a physical prototype, usually using methods like 3D printing or CNC machining.

**Translation:** Transformación de Modelos CAD a Prototipos

**Example:** The CAD model of the new exhaust system was converted into a prototype for testing in real-world conditions.

## 111. CRASH ANALYSIS

**Definition:** The use of simulations to study how a vehicle would behave in a crash, helping to improve safety.

**Translation:** Análisis de Choque

**Example:** Crash analysis revealed how the car's structure would absorb impact in a frontal collision.

## 112. DEFORMATION ANALYSIS

**Definition:** A simulation used to predict how materials and structures will deform under stress or load.

**Translation:** Análisis de Deformación

**Example:** Deformation analysis showed that the car's frame could bend under extreme conditions, requiring design adjustments.

## 113. DESIGN FOR MANUFACTURABILITY (DFM)

**Definition:** The practice of designing products with ease of manufacturing in mind, minimizing production costs and

complexity.

**Translation:** Diseño para Manufactura

**Example:** Design for manufacturability principles were applied to ensure the car's components could be easily produced at scale.

## 114. DESIGN ITERATION

**Definition:** The process of refining and improving a design through successive revisions or versions.

**Translation:** Iteración de Diseño

**Example:** The design iteration process allowed the team to test multiple configurations of the vehicle's suspension system.

## 115. DESIGN OPTIMIZATION

**Definition:** The process of adjusting and improving a design to achieve the best performance while minimizing cost, weight, and other factors.

**Translation:** Optimización de Diseño

**Example:** Design optimization helped reduce the car's weight without compromising structural integrity.

## 116. DESIGN PROTECTION (PATENTS)

**Definition:** Legal protection granted to original designs or inventions, ensuring that others cannot copy or use them without permission.

**Translation:** Protección de Diseño

**Example:** The innovative design of the car's fuel-efficient engine was patented to prevent competitors from replicating it.

## 117. DIGITAL PROTOTYPING PLATFORMS

**Definition:** Software tools and systems that allow the creation and testing of digital prototypes before physical production.

**Translation:** Plataformas de Prototipado

Digital

**Example:** The company used digital prototyping platforms to test the ergonomics of the car's interior design.

### 118. DIMENSIONAL TOLERANCES

**Definition:** The permissible variation in the dimensions of a part, ensuring it fits correctly with other components.

**Translation:** Tolerancias Dimensionales

**Example:** Dimensional tolerances are critical in the automotive industry to ensure that all parts fit together perfectly.

### 119. DROP SIMULATION

**Definition:** A simulation that mimics the effects of dropping a product to test its durability or the resilience of materials.

**Translation:** Simulación de Caídas

**Example:** Drop simulation was used to test how the car's electronic components would perform if dropped during assembly.

### 120. EFFICIENCY SIMULATION

**Definition:** A simulation used to analyze and optimize a system or product's performance, often focusing on energy consumption or fuel efficiency.

**Translation:** Simulación de Eficiencia

**Example:** Efficiency simulation helped improve the vehicle's fuel consumption by optimizing the engine design.

### 121. EPOXY RESIN

**Definition:** A type of synthetic resin used for making composite materials, known for its strong bonding and durability properties.

**Translation:** Resina Epóxica

**Example:** Epoxy resin was used to bind carbon fiber layers in the car's lightweight body panels.

### 122. EXTRUSION

**Definition:** A manufacturing process in which material (usually plastic, metal, or rubber) is forced through a mold to create a continuous shape with a fixed cross-section.

**Translation:** Extrusión

**Example:** Extrusion was used to create the car's plastic trim components.

### 123. FATIGUE ANALYSIS

**Definition:** A method of evaluating the durability of a part by simulating repeated stress cycles that can lead to material fatigue and failure over time.

**Translation:** Análisis de Fatiga

**Example:** Fatigue analysis revealed potential weak points in the suspension system that needed reinforcement.

### 124. FDM (FUSED DEPOSITION MODELING)

**Definition:** A 3D printing technology that builds objects layer by layer using a molten material, often plastic, which is extruded through a heated nozzle.

**Translation:** Modelado por Deposición Fundida

**Example:** FDM is commonly used in rapid prototyping to create models quickly and at a low cost.

### 125. FUNCTIONAL PROTOTYPE

**Definition:** A prototype built to mimic the functionality of the final product, used to test and validate the design.

**Translation:** Prototipo Funcional

**Example:** The functional prototype of the vehicle's transmission system was tested to ensure proper gear shifting.

## 126. FUNCTIONAL PROTOTYPE IN METAL

**Definition:** A functional prototype made using metal materials, typically for testing mechanical properties, strength, and durability.

**Translation:** Prototipo Funcional en Metal

**Example:** The functional prototype in metal was created to evaluate the engine block's heat resistance.

## 127. FUSION 360

**Definition:** A cloud-based 3D CAD, CAM, and CAE tool for product design and manufacturing.

**Translation:** Fusion 360

**Example:** Fusion 360 is popular for collaborative design work and quick prototyping in the automotive industry.

## 128. GEOMETRIC TOLERANCES

**Definition:** A set of tolerances that define the allowable variations in the shape, orientation, and location of features of a part.

**Translation:** Tolerancia Geométrica

**Example:** Geometric tolerances ensure that the car's wheel hubs align properly with the axle for smooth performance.

## 129. HIGH-PRECISION PROTOTYPE

**Definition:** A prototype that is produced with extremely tight tolerances and high accuracy, often used for final-stage testing.

**Translation:** Prototipo de Alta Precisión

**Example:** A high-precision prototype of the braking system was developed to test its response under extreme conditions.

## 130. HIGH-PRECISION PROTOTYPING

**Definition:** The process of creating prototypes with a high degree of accuracy and fine detail.

**Translation:** Prototipado de Alta Precisión

**Example:** High-precision prototyping was used to produce the car's complex

suspension components.

## 131. INTERACTIVE PROTOTYPING:

**Definition:** Creating prototypes that allow for real-time interaction, helping users experience the functionality and feel of the product.

**Translation:** Prototipado Interactivo

**Example:** Interactive prototyping allowed engineers to test user interactions with the car's dashboard controls.

## 132. INVENTOR

**Definition:** A CAD software tool developed by Autodesk for 3D mechanical design, simulation, visualization, and documentation.

**Translation:** Inventor

**Example:** Inventor was used to design the car's complex suspension system with precise moving parts.

## 133. LASER CUTTING FOR PROTOTYPES

**Definition:** A process that uses laser technology to cut or engrave materials, such as metal, plastic, or wood, into precise shapes for prototypes.

**Translation:** Corte Láser para Prototipos

**Example:** Laser cutting was employed to fabricate the intricate metal parts of the car's chassis prototype.

## 134. MATERIAL TESTING

**Definition:** The process of testing the properties of materials (strength, flexibility, heat resistance, etc.) to determine their suitability for a particular application.

**Translation:** Ensayo de Materiales

**Example:** Material testing revealed that the new polymer would be durable enough for the car's exterior panels.

## 135. MECHANICAL COMPONENT PROTOTYPING

**Definition:** The creation of physical

models or prototypes of mechanical parts to test their fit, function, and performance.

**Translation:** Prototipado de Componentes Mecánicos

**Example:** Mechanical component prototyping was crucial to ensure the reliability of the new engine valve design.

### 136. MODULAR DESIGN

**Definition:** A design approach that uses interchangeable components or modules to build a product, making it easier to customize and upgrade.

**Translation:** Diseño Modular

**Example:** Modular design allows the automotive manufacturer to offer different configurations of the car's interior.

### 137. MOTION ANALYSIS TOOLS

**Definition:** Software tools used to analyze and simulate the movement of parts or assemblies to ensure proper function and identify potential issues.

**Translation:** Herramientas de Análisis de Movimiento

**Example:** Motion analysis tools helped engineers optimize the car's suspension system for better handling.

### 138. MOTION SIMULATION

**Definition:** The simulation of the movement of parts or systems to assess their performance in real-world scenarios.

**Translation:** Simulación de Movimiento

**Example:** Motion simulation was used to evaluate how the car's doors opened and closed under various conditions.

### 139. NURBS SURFACE

**Definition:** Non-Uniform Rational B-Splines, a mathematical representation of 3D surfaces commonly used in CAD software for designing smooth and

complex surfaces.

**Translation:** Superficie NURBS

**Example:** NURBS surfaces were used to model the aerodynamic curves of the car's body for optimized airflow.

### 140. PARAMETRIC MODELING:

**Definition:** A modeling technique that uses parameters (dimensions, constraints) to define the geometry of a design.

**Translation:** Modelado Paramétrico

**Example:** Parametric modeling allowed the designer to easily adjust the car's suspension system based on specific parameters.

### 141. PDM (PRODUCT DATA MANAGEMENT):

**Definition:** A system used to manage and track data related to product design, engineering changes, and manufacturing processes.

**Translation:** Gestión de Datos de Producto

**Example:** PDM software helps ensure that all team members have access to the latest design files and product specifications.

### 142. PRODUCT DEFINITION:

**Definition:** The process of detailing all aspects of a product, including its design, materials, features, and manufacturing requirements.

**Translation:** Definición de Producto

**Example:** The product definition document outlined all the specifications for the car's new braking system.

### 143. PRODUCTION PLANNING

**Definition:** The process of organizing and scheduling the production of goods to ensure efficient use of resources and timely delivery.

**Translation:** Planificación de Producción

**Example:** Production planning was key to ensuring the timely assembly of the car's parts and meeting delivery deadlines.

#### 144. PROTOTYPE IMPACT

##### ANALYSIS:

**Definition:** The process of analyzing how a prototype responds to external forces or impacts to determine its durability and performance under real-world conditions.

**Translation:** Análisis de Impacto en Prototipos

**Example:** Prototype impact analysis showed that the car's bumper absorbed impact effectively during crash tests.

#### 145. PROTOTYPE REDUCTION:

**Definition:** The process of reducing the complexity or size of a prototype while retaining key features to simplify testing and evaluation.

**Translation:** Reducción de Prototipos

**Example:** Prototype reduction allowed the team to test the car's aerodynamics using a smaller scale model.

#### 146. RAPID PROTOTYPING

**Definition:** A quick manufacturing process used to create a model or prototype of a product directly from digital data, typically using 3D printing or other fast methods.

**Translation:** Prototipado Rápido

**Example:** Rapid prototyping enabled the team to test multiple design concepts for the car's dashboard in a matter of days.

#### 147. RAPID PROTOTYPING (RP)

**Definition:** The process of quickly creating prototypes, often with 3D printing, to test design concepts and make iterative changes.

**Translation:** Fabricación Rápida de Prototipos

**Example:** Rapid prototyping (RP)

was essential for evaluating the fit and functionality of the new gear mechanism.

#### 148. REAL-WORLD DRIVING CONDITIONS SIMULATION

**Definition:** The use of simulation software to replicate actual driving conditions and assess vehicle performance, handling, and safety.

**Translation:** Simulación de Condiciones Reales de Conducción

**Example:** Real-world driving conditions simulation helped optimize the car's suspension system for different terrains.

#### 149. RENDERING

**Definition:** The process of generating a 2D or 3D image of a model, often used for visualizing products before they are built.

**Translation:** Renderizado

**Example:** Rendering was used to create photorealistic images of the car's design to present to stakeholders.

#### 150. REVOLUTION

**Definition:** A 3D modeling operation where a 2D shape is rotated around an axis to create a symmetrical object or surface.

**Translation:** Revolución

**Example:** The wheel rim was created using the revolution method to ensure perfect symmetry.

#### 151. SECTION CUTTING

**Definition:** A technique used in CAD software to create a cut-through view of a model, showing internal features.

**Translation:** Corte Sección

**Example:** Section cutting was used to reveal the internal components of the car's engine during the design review.



## 152. SENSOR INTEGRATION IN PROTOTYPES:

**Definition:** The process of embedding sensors into a prototype to collect data or monitor real-time performance.

**Translation:** Integración de Sensores en Prototipos

**Example:** Sensor integration in prototypes allowed the team to measure the stress and temperature on the car's braking system.

## 153. SIEMENS NX

**Definition:** A comprehensive CAD, CAM, and CAE software used for product design, engineering, and manufacturing in industries such as automotive and aerospace.

**Translation:** Siemens NX

**Example:** Siemens NX was used to design and simulate the complex mechanical components of the car.

## 154. SKETCH

**Definition:** A basic or preliminary drawing of an idea or concept, often used as the first step in product design.

**Translation:** Boceto

**Example:** The designer created a quick sketch of the car's dashboard layout for the initial concept.

## 155. SLA (STEREOLITHOGRAPHY)

**Definition:** A 3D printing technology that uses a laser to cure liquid resin layer by layer to create high-precision prototypes.

**Translation:** Estereolitografía

**Example:** SLA was used to create a high-precision prototype of the car's side mirror for aerodynamic testing.

## 156. SLS (SELECTIVE LASER SINTERING)

**Definition:** A 3D printing process that uses a laser to fuse powdered material (usually plastic, metal, or ceramic) into solid parts.

**Translation:** Sinterización Selectiva por Láser

**Example:** SLS was utilized to create functional automotive components that required both durability and precision.

## 157. SOLIDWORKS

**Definition:** A CAD software used for 3D design, modeling, and simulation, widely used in engineering and manufacturing.

**Translation:** SolidWorks

**Example:** SolidWorks was used to model the new engine design, allowing for in-depth simulations of its performance.

## 158. STRESS ANALYSIS

**Definition:** A method of evaluating how materials or structures react under applied forces, helping to predict failure points or weaknesses.

**Translation:** Análisis de Esfuerzo

**Example:** Stress analysis identified the weak spots in the frame, which were reinforced in the final design.

## 159. STRUCTURAL RIGIDITY

**Definition:** The ability of a structure to resist deformation or bending under applied loads.

**Translation:** Rigidez Estructural

**Example:** Structural rigidity was a key consideration in the design of the car's chassis to ensure stability during high-speed driving.

## 160. STRUCTURAL SIMULATION

**Definition:** A computational method used to simulate how a structure will behave under various loads, helping to optimize its design.

**Translation:** Simulación de Estructuras

**Example:** Structural simulation confirmed the car's frame would withstand the forces during a crash test.

## 161. SURFACE MODELING

**Definition:** The creation of smooth, complex surfaces in 3D design, often used to model exterior body parts in automotive design.

**Translation:** Modelado de Superficies

**Example:** Surface modeling was essential for designing the car's aerodynamic body, ensuring smooth airflow.

## 162. TENSILE FORCES

**Definition:** Forces that attempt to stretch or elongate a material, often tested to understand a material's strength.

**Translation:** Fuerzas de Tensión

**Example:** Tensile forces were applied to test the strength of the car's suspension components.

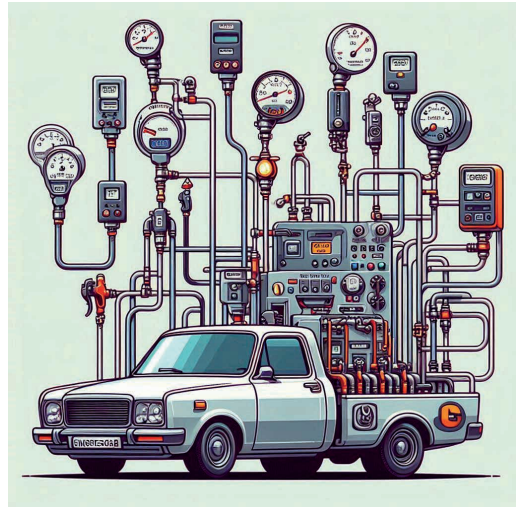
## 163. TENSION ANALYSIS

**Definition:** A study of how materials respond to tensile forces to ensure they can withstand expected stresses without failure.

**Translation:** Análisis de Tensión

**Example:** Tension analysis showed that the steel used for the car's frame could endure high levels of force without breaking.

## GASOLINE INJECTION SYSTEM



Sistema de Inyección a Gasolina

By; Bing images, IA

## 165. ACCUMULATOR

**Definition:** A device that stores energy in hydraulic or pneumatic systems.

**Translation:** Acumulador

**Example:** The hydraulic accumulator helps maintain pressure in the braking system.

## 165. AGST

**Definition:** Acronym for Advanced Gasoline Spark Timing.

**Translation:** Tiempo de chispa avanzado de gasolina

**Example:** AGST optimizes engine performance by adjusting spark timing.

## 166. ALTERNATIVE ENERGY

**Definition:** Energy derived from non-traditional sources such as solar or hydrogen.

**Translation:** Energía alternativa

**Example:** Electric vehicles use alternative energy instead of fossil fuels.

## 167. AUTOMOTIVE

**Definition:** Relating to motor vehicles.

**Translation:** Automotriz

**Example:** The automotive industry is shifting towards electric mobility.

## 168. BOLT

**Definition:** A threaded fastener used to hold parts together.

**Translation:** Perno

**Example:** The mechanic tightened the bolt securing the engine mount.

## 169. BORE

**Definition:** The inner diameter of a cylinder in an engine.

**Translation:** Diámetro interior

**Example:** The bore size affects the engine's displacement.

## 170. BOXER

**Definition:** An engine configuration where cylinders are horizontally opposed.

**Translation:** Motor bóxer

**Example:** Subaru uses a boxer engine for better balance and stability.

## 171. CFR

**Definition:** Cooperative Fuel Research, used for engine fuel testing.

**Translation:** Investigación cooperativa de combustible

**Example:** The CFR engine is used for fuel octane rating tests.

## 172. CHISEL

**Definition:** A tool with a sharp cutting edge for shaping metal or wood.

**Translation:** Cincel

**Example:** The mechanic used a chisel to remove the damaged bearing.

## 173. CRANKCASE

**Definition:** The housing for the crankshaft in an internal combustion engine.

**Translation:** Cáster

**Example:** The crankcase must be properly sealed to prevent oil leaks.

## 174. CREST

**Definition:** The highest point of a gear tooth.

**Translation:** Cresta

**Example:** The crest of the gear ensures smooth engagement between gears.

## 175. DEALERSHIP

**Definition:** A business authorized to sell and service vehicles.

**Translation:** Concesionario

**Example:** The dealership offers both new and used vehicles.

## 176. DIAGNOSIS

**Definition:** The process of identifying mechanical issues in a vehicle.

**Translation:** Diagnóstico

**Example:** The technician performed a diagnosis to determine the engine problem.

## 177. DISABLE

**Definition:** To deactivate a system or component.

**Translation:** Desactivar

**Example:** The mechanic disabled the fuel pump before working on the engine.

## 178. DISTILLATION

**Definition:** A process of separating liquids based on boiling points.

**Translation:** Destilación

**Example:** Fuel refining involves distillation to separate components.

### 179. ELECTRICAL CORD

**Definition:** A flexible cable for transmitting electricity.

**Translation:** Cable eléctrico

**Example:** The technician used an electrical cord to power the diagnostic tool.

### 180. ELECTRONIC

**Definition:** Relating to electrical circuits and components.

**Translation:** Electrónico

**Example:** Modern vehicles have electronic fuel injection systems.

### 181. ENGINE

**Definition:** A machine that converts fuel into mechanical energy.

**Translation:** Motor

**Example:** The engine provides the necessary power to move the vehicle.

### 182. EPA

**Definition:** Environmental Protection Agency, which regulates vehicle emissions.

**Translation:** Agencia de Protección Ambiental

**Example:** The EPA enforces fuel economy standards for new cars.

### 183. EQUIP

**Definition:** To supply with necessary tools or components.

**Translation:** Equipar

**Example:** The car was equipped with a turbocharger for better performance.

### 184. FIRE EXTINGUISHERS

**Definition:** Devices used to put out fires.

**Translation:** Extintores

**Example:** Fire extinguishers are mandatory in vehicle repair shops.

### 185. FUEL

**Definition:** A substance burned to produce energy.

**Translation:** Combustible

**Example:** Gasoline is a common fuel for internal combustion engines.

### 186. FUEL-CELL STACK

**Definition:** A system that generates electricity from hydrogen.

**Translation:** Pilas de combustible

**Example:** Fuel-cell stacks are used in hydrogen-powered vehicles.

### 187. GLOVE

**Definition:** Protective hand covering.

**Translation:** Guante

**Example:** Mechanics wear gloves to protect their hands from chemicals.

### 188. GVWR

**Definition:** Gross Vehicle Weight Rating, the maximum weight a vehicle can handle.

**Translation:** Peso Bruto Vehicular

**Example:** Exceeding the GVWR can damage the suspension system.

### 189. HACKSAW

**Definition:** A fine-toothed saw used for cutting metal.

**Translation:** Sierra para metales

**Example:** The mechanic used a hacksaw to cut the exhaust pipe.

### 190. HAMMER

**Definition:** A tool with a heavy head used to strike objects.

**Translation:** Martillo

**Example:** The technician used a hammer to remove the old bearing.

### 191. HAZARDOUS

**Definition:** Something that is dangerous or poses a risk.

**Translation:** Peligroso

**Example:** Mechanics must handle hazardous materials with caution.

### 192. HOISTING

**Definition:** The act of lifting a vehicle or heavy object.

**Translation:** Izado

**Example:** The technician used a hoisting system to lift the engine out of the car.

### 193. HUMIDIFIER

**Definition:** A device that increases humidity levels.

**Translation:** Humidificador

**Example:** Some paint booths use a humidifier to maintain optimal conditions.

### 194. HYBRID

**Definition:** A vehicle that uses both an internal combustion engine and an electric motor.

**Translation:** Híbrido

**Example:** The hybrid car switches between gasoline and electric power for efficiency.

### 195. HYDROGEN

**Definition:** A chemical element used as fuel in hydrogen-powered vehicles.

**Translation:** Hidrógeno

**Example:** Hydrogen fuel cells produce electricity without emissions.

### 196. IGNITER

**Definition:** A component that initiates combustion in an engine.

**Translation:** Encendedor

**Example:** The igniter is essential for starting the engine.

### 197. INJECTION

**Definition:** The process of delivering fuel into an engine's combustion chamber.

**Translation:** Inyección

**Example:** Fuel injection improves engine efficiency compared to carburetors.

### 198. LABEL

**Definition:** A tag or marking that provides information about a component.

**Translation:** Etiqueta

**Example:** The label on the battery indicates voltage and capacity.

### 199. MAKE

**Definition:** The brand or manufacturer of a vehicle.

**Translation:** Marca

**Example:** Toyota is a popular make in the automotive industry.

### 200. MALLET

**Definition:** A hammer with a large rubber or wooden head.

**Translation:** Mazo

**Example:** A mallet is used to apply force without damaging surfaces.

### 201. MANUFACTURE

**Definition:** The process of producing automotive parts or vehicles.

**Translation:** Fabricación

**Example:** The company specializes in the manufacture of high-performance engines.

### 202. MICRON

**Definition:** A unit of measurement equal to one-millionth of a meter.

**Translation:** Micrón

**Example:** Air filters trap particles as small as a micron.



### 203. NONCHECKING

**Definition:** A material or component that does not crack or split.

**Translation:** Antigrietas

**Example:** The nonchecking coating prolongs the life of rubber seals.

### 204 NUT

**Definition:** A fastener with an internal thread that secures a bolt.

**Translation:** Tuerca

**Example:** The mechanic tightened the nut to secure the wheel.

### 205. OIL

**Definition:** A lubricant used to reduce friction in engine components.

**Translation:** Aceite

**Example:** Regular oil changes improve engine performance and longevity.

### 206. OSHA

**Definition:** Occupational Safety and Health Administration, which regulates workplace safety.

**Translation:** Administración de Seguridad y Salud Ocupacional

**Example:** OSHA guidelines ensure mechanics work in a safe environment.

### 207. PING

**Definition:** A knocking noise caused by premature combustion in an engine.

**Translation:** Golpeteo

**Example:** Using the correct octane fuel can prevent engine ping.

### 208. PLIER

**Definition:** A hand tool used for gripping and bending materials.

**Translation:** Pinza

**Example:** The mechanic used pliers to remove a damaged wire.

### 209. PLUG-IN

**Definition:** A hybrid or electric vehicle that can be charged from an external source.

**Translation:** Enchufable

**Example:** Plug-in hybrids allow drivers to charge the battery at home.

### 210. POLARITY

**Definition:** The electrical orientation of a circuit.

**Translation:** Polaridad

**Example:** Reversing polarity can damage electronic components.

### 211. POP TESTER

**Definition:** A device used to test fuel injectors.

**Translation:** Probador de inyectores

**Example:** The pop tester checks the spray pattern and pressure of an injector.

### 212. POWERTRAIN

**Definition:** The system that generates and transmits power in a vehicle.

**Translation:** Tren motriz

**Example:** The powertrain includes the engine, transmission, and drivetrain.

### 213. PPE

**Definition:** Personal protective equipment used for safety.

**Translation:** Equipo de protección personal

**Example:** PPE such as gloves and safety glasses is mandatory in workshops.

### 214. PUNCH

**Definition:** A tool used to create indentations or holes in materials.

**Translation:** Punzonadora

**Example:** The technician used a punch to mark the drilling spot.

### 215. RAMP

**Definition:** A sloped surface used to elevate vehicles.

**Translation:** Rampa

**Example:** The car was driven onto the ramp for an undercar inspection.

### 216. RATCHET

**Definition:** A tool that allows incremental tightening or loosening of bolts.

**Translation:** Trinquete

**Example:** A ratchet wrench speeds up the process of tightening bolts.

### 217. SAFETY

**Definition:** Measures and practices to prevent accidents and injuries.

**Translation:** Seguridad

**Example:** Wearing PPE enhances workplace safety in a repair shop.

### 218. SAFETY GLASS

**Definition:** A type of glass designed to resist shattering.

**Translation:** Vidrio de seguridad

**Example:** Windshields are made of safety glass to reduce injury risks.

### 219. SCAN

**Definition:** The process of using a diagnostic tool to check a vehicle's systems.

**Translation:** Escaneo

**Example:** The technician performed a scan to identify engine faults.

### 220. SCREWDRIVER

**Definition:** A hand tool used to drive screws into materials.

**Translation:** Destornillador

**Example:** A Phillips screwdriver was needed to remove the panel screws.

### 221. SNIP

**Definition:** A tool used for cutting sheet metal or wires.

**Translation:** Tijeras de corte

**Example:** The technician used snips to cut a damaged wire.

### 222. SOCKET

**Definition:** A tool attachment used with a ratchet to turn nuts and bolts.

**Translation:** Dado

**Example:** The mechanic selected the correct socket size for the wheel bolts.

### 223. SOLDERING

**Definition:** The process of joining metals using a melted filler material.

**Translation:** Soldadura blanda

**Example:** Soldering is used to repair electrical connections in vehicles.

### 224. STUD

**Definition:** A threaded rod used to fasten components.

**Translation:** Espárrago

**Example:** The wheel is secured onto the hub using studs and nuts.

### 225. SYN-GAS

**Definition:** A synthetic gas used as an alternative fuel.

**Translation:** Gas de síntesis

**Example:** Syn-gas can be used in internal combustion engines for cleaner emissions.

### 226. TBI

**Definition:** Throttle Body Injection, a fuel injection system.

**Translation:** Inyección en cuerpo de aceleración

**Example:** Older vehicles used TBI before multiport fuel injection systems became common.

### 227. TECH

**Definition:** Short for technician, someone skilled in automotive repair.

**Translation:** Técnico

**Example:** The tech diagnosed the transmission issue using a scan tool.

### 228. TECHNICIAN

**Definition:** A skilled worker trained to repair and maintain vehicles.

**Translation:** Técnico

**Example:** The technician performed a full inspection of the engine components.

### 229. THREAD

**Definition:** The helical structure on a bolt or screw that allows fastening.

**Translation:** Rosca

**Example:** The bolt's thread was damaged and needed replacement.

### 230. TOOL

**Definition:** A device used to perform mechanical work.

**Translation:** Herramienta

**Example:** A torque wrench is a vital tool for engine assembly.

### 231. TORQUE

**Definition:** The measure of rotational force applied to an object.

**Translation:** Par motor

**Example:** Proper torque is required when tightening cylinder head bolts.

### 232. TRANSISTOR

**Definition:** A semiconductor device used in electronic circuits.

**Translation:** Transistor

**Example:** The car's ignition module contains multiple transistors.

### 233. TSB

**Definition:** Technical Service Bulletin, issued by manufacturers to address vehicle issues.

**Translation:** Boletín de servicio técnico

**Example:** The manufacturer released a TSB to correct a known sensor problem.

### 234. TURBO LAG

**Definition:** The delay in engine response before a turbocharger generates boost.

**Translation:** Retardo del turbo

**Example:** Turbo lag can be reduced by using smaller turbochargers.

### 235. TURBOCHARGING

**Definition:** The process of using a turbocharger to increase engine power.

**Translation:** Sobrealimentación por turbocompresor

**Example:** Turbocharging allows smaller engines to produce more power efficiently.

### 236. ULTRACAPACITORS

**Definition:** Energy storage devices that provide quick bursts of power.

**Translation:** Ultracapacitores

**Example:** Ultracapacitors assist electric vehicles in acceleration.

### 237. UST

**Definition:** Underground Storage Tank, used for fuel storage.

**Translation:** Tanque de almacenamiento subterráneo

**Example:** Gas stations use USTs to store large amounts of fuel safely.

### 238. VACUUM

**Definition:** A space devoid of air or a pressure lower than atmospheric pressure.

**Translation:** Vacío

**Example:** The brake booster relies on engine vacuum to assist braking.

### 239. VAF

**Definition:** Vane Airflow Meter, a sensor used to measure air intake.

**Translation:** Medidor de flujo de aire por paleta

**Example:** The VAF ensures the proper air-fuel mixture in older fuel-injected engines.

### 240. VECI

**Definition:** Vehicle Emission Control Information, a label found under the hood.

**Translation:** Información de control de emisiones del vehículo

**Example:** The VECI sticker contains emission-related specifications for the car.

### 241. VEHICLE

**Definition:** A machine used for transportation, such as a car or truck.

**Translation:** Vehículo

**Example:** The vehicle was brought in for a routine oil change.

### 242. VIN

**Definition:** Vehicle Identification Number, a unique code assigned to a vehicle.

**Translation:** Número de Identificación del Vehículo

**Example:** The VIN is used to track a vehicle's history and specifications.

### 243. WASHCOAT

**Definition:** A thin coating applied to catalytic converters to enhance emissions

reduction.

**Translation:** Capa de lavado

**Example:** The washcoat helps reduce harmful emissions from exhaust gases.

### 244. WASHER

**Definition:** A flat disc placed under a bolt or nut to distribute load.

**Translation:** Arandela

**Example:** Washers prevent bolts from loosening over time.

### 245. WASTEGATE

**Definition:** A valve that regulates turbocharger pressure.

**Translation:** Válvula de descarga

**Example:** The wastegate prevents overboosting by controlling exhaust flow to the turbo.

### 246. WHEEL

**Definition:** A circular component that enables vehicle movement.

**Translation:** Rueda

**Example:** Alloy wheels are lighter and enhance vehicle performance.

### 247. WRENCH

**Definition:** A hand tool used to turn nuts and bolts.

**Translation:** Llave

**Example:** A torque wrench ensures bolts are tightened to specification

## REFERENCES

Domínguez E, Ferrer J, (2019). *Sistemas de transmisión y frenado*, España, Editex. Libro digital.SC

James, H. (2012). *Automotive Fuel Emissions Control Systems*, third edition. Pearson.

Pérez, J. (2019). *TÉCNICAS DEL AUTOMÓVIL – CHASIS*, séptima edición, PARANINFO.

Masaquiza-Yanzapanta, A. (2024). *Dibujo Asistido por Computador*. Ambato, Ecuador, Editorial: Instituto Superior Tecnológico Tungurahua.

# LINKOGRAPHY

<https://www.bing.com/images/create?FORM=GENILP>