A Comprehensive Guide On How Car Engines Works

Car engines are complex machines that convert the energy stored in gasoline into motion. This process occurs through a series of four strokes: intake, compression, power, and exhaust. Each stroke serves a specific purpose and is essential for the engine to function properly.

The Intake Stroke

The intake stroke is the first stroke of the engine cycle. During the intake stroke, the piston moves down the cylinder, creating a vacuum that draws air and fuel into the cylinder through the intake valve. The intake valve is then closed, sealing the air and fuel mixture in the cylinder.

HOW CAR WORKS: A comprehensive guide on how car engines works by Lilly Jones

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The Compression Stroke

The compression stroke is the second stroke of the engine cycle. During the compression stroke, the piston moves up the cylinder, compressing the air and fuel mixture. This compression increases the temperature and pressure of the mixture, making it more combustible.

The Power Stroke

The power stroke is the third stroke of the engine cycle. During the power stroke, the spark plug ignites the air and fuel mixture, causing it to explode. This explosion drives the piston down the cylinder, generating power. The exhaust valve is then opened, allowing the exhaust gases to escape from the cylinder.

The Exhaust Stroke

The exhaust stroke is the fourth and final stroke of the engine cycle. During the exhaust stroke, the piston moves up the cylinder, pushing the exhaust gases out of the cylinder and through the exhaust valve. The exhaust valve is then closed, and the intake valve is opened, beginning the next cycle.

The Engine Block

The engine block is the main structural component of the engine. It houses the cylinders, pistons, crankshaft, and other moving parts. The engine block is made of cast iron or aluminum and is designed to withstand the high temperatures and pressures generated by the combustion process.

The Cylinder Head

The cylinder head is located at the top of the engine block and seals the combustion chamber. It contains the intake and exhaust valves, as well as

the spark plugs. The cylinder head is made of aluminum or cast iron and is designed to dissipate heat efficiently.

The Pistons

The pistons are cylindrical-shaped components that move up and down the cylinders. They are connected to the crankshaft via connecting rods. The pistons are made of aluminum or steel and are designed to withstand the high temperatures and pressures generated by the combustion process.

The Crankshaft

The crankshaft is a rotating shaft that converts the reciprocating motion of the pistons into rotary motion. The crankshaft is made of forged steel and is designed to withstand the high stresses generated by the combustion process.

The Camshaft

The camshaft is a shaft that controls the opening and closing of the intake and exhaust valves. The camshaft is driven by the crankshaft via timing gears. The camshaft is made of steel or cast iron and is designed to withstand the high stresses generated by the combustion process.

The Oil Pump

The oil pump is a pump that circulates oil throughout the engine. Oil lubricates the moving parts of the engine and helps to dissipate heat. The oil pump is driven by the crankshaft via a gear or chain.

The Water Pump

The water pump is a pump that circulates coolant throughout the engine. Coolant helps to dissipate heat from the engine and prevent it from overheating. The water pump is driven by the crankshaft via a gear or belt.

The Fuel System

The fuel system delivers fuel to the engine. The fuel system consists of a fuel tank, fuel pump, fuel filter, and fuel injector. The fuel tank stores the fuel, the fuel pump delivers the fuel to the fuel injector, the fuel filter removes impurities from the fuel, and the fuel injector sprays the fuel into the cylinders.

The Ignition System

The ignition system generates the spark that ignites the air and fuel mixture in the cylinders. The ignition system consists of a battery, ignition coil, distributor, and spark plugs. The battery provides the electrical power for the ignition system, the ignition coil generates the high voltage spark, the distributor distributes the spark to the spark plugs, and the spark plugs ignite the air and fuel mixture.

The Exhaust System

The exhaust system removes the

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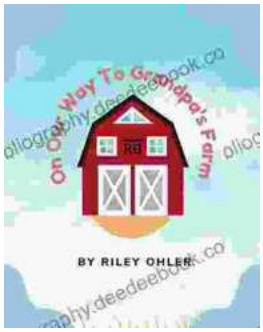

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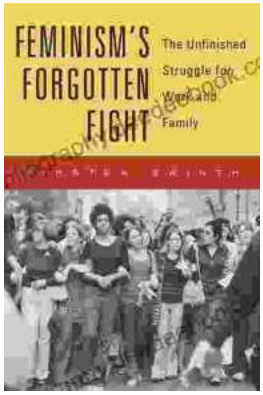

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