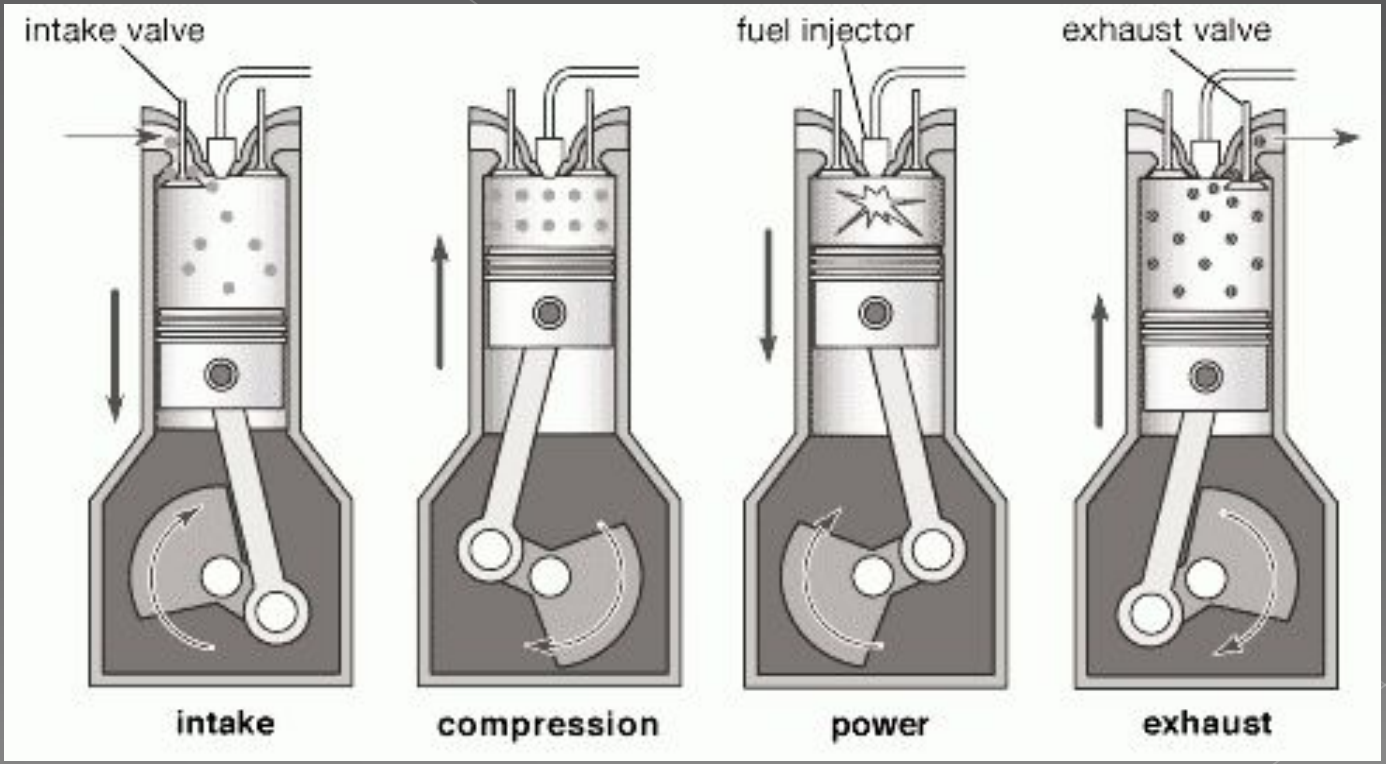
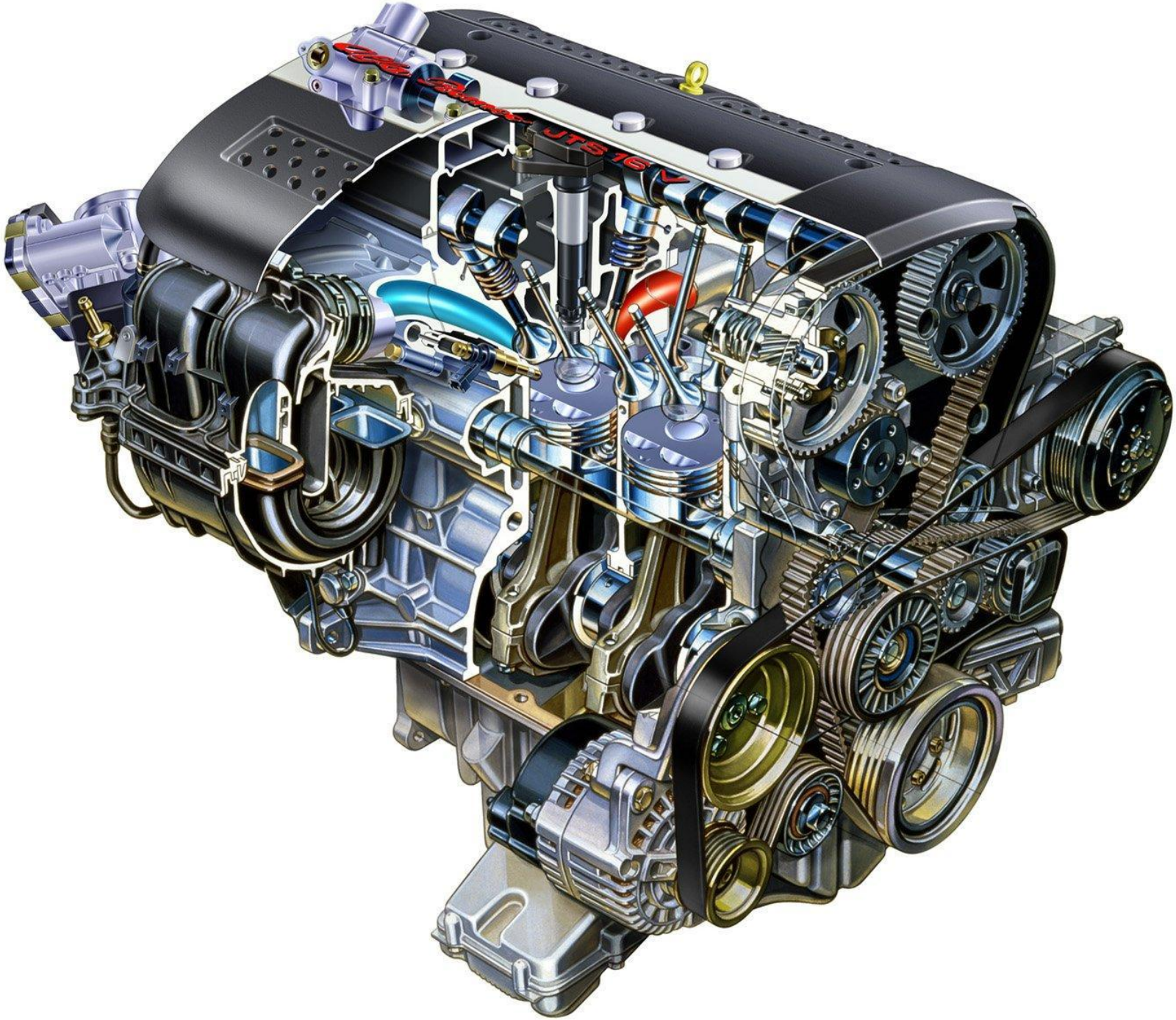
4 tacte engine





Intake stroke

- The piston moves from BMT to HMT, the inlet valve is opened, the final valve is closed. The cylinder creates a vacuum, resulting in a fresh charge of a combustible mixture consisting of gasoline vapor and air, sucked through the inlet gas line into the cylinder and, mixing with the residual exhaust gases, forms a working mixture.

Compression stroke

- Occurs when the piston moves from the NMT. To id. With the compression stroke, both valves are closed. The working mixture is compressed by the piston and shortly before the VMT. Is ignited by an electric spark with some advance.

Power stroke

- The fuel injected at the end of the compression stroke, mixing with the heated air, ignites, and the combustion process begins, characterized by a rapid increase in temperature and pressure. At the same time, the maximum gas pressure reaches 6-9 MPa, and the temperature is 1800-2000 ° C. Under the influence of gas pressure, the piston moves from TDC to BDC - the working stroke takes place. Near NNT, the pressure drops to 0.3 - 0.5 MPa, and the temperature drops to 700 - 900oC.

Exhaust stroke

- The piston moves from the HMT to the TDC and through the open exhaust valve the exhaust gases are pushed out of the cylinder. The pressure of the gases is reduced to 0.11 - 0.12 MPa, and the temperature is up to 500-700oC. After the end of the exhaust stroke with further rotation of the crankshaft, the duty cycle is repeated in the same sequence.