

Comparison of Four-stroke and two-stroke engine:

Four-stroke engine	Two-stroke engine
1. Four stroke of the piston and two revolution of crankshaft	Two stroke of the piston and one revolution of crankshaft
2. One power stroke in every two revolution of crankshaft	One power stroke in each revolution of crankshaft
3. Heavier flywheel due to non-uniform turning movement	Lighter flywheel due to more uniform turning movement
4. Power produce is less	Theoretically power produce is twice than the four stroke engine for same size
5. Heavy and bulky	Light and compact
6. Lesser cooling and lubrication requirements	Greater cooling and lubrication requirements
7. Lesser rate of wear and tear	Higher rate of wear and tear
8. Contains valve and valve mechanism	Contains ports arrangement
9. Higher initial cost	Cheaper initial cost
10. Volumetric efficiency is more due to greater time of induction	Volumetric efficiency less due to lesser time of induction
11. Thermal efficiency is high and also part load efficiency better	Thermal efficiency is low, part load efficiency lesser
12. It is used where efficiency is important.	It is used where low cost, compactness and light weight are important.
<u>Ex-cars, buses, trucks, tractors, industrial engines, aero planes, power generation etc.</u>	<u>Ex-lawn mowers, scooters, motor cycles, mopeds, propulsion ship etc.</u>

Comparison of SI and CI engine:

SI engine	CI engine
Working cycle is Otto cycle.	Working cycle is diesel cycle.
Petrol or gasoline or high octane fuel is used.	Diesel or high cetane fuel is used.
High self-ignition temperature.	Low self-ignition temperature.
Fuel and air introduced as a gaseous mixture in the suction stroke.	Fuel is injected directly into the combustion chamber at high pressure at the end of compression stroke.
Carburettor used to provide the mixture. Throttle controls the quantity of mixture introduced.	Injector and high pressure pump used to supply of fuel. Quantity of fuel regulated in pump.
Use of spark plug for ignition system	Self-ignition by the compression of air which increased the temperature required for combustion
Compression ratio is 6 to 10.5	Compression ratio is 14 to 22
Higher maximum RPM due to lower weight	Lower maximum RPM
Maximum efficiency lower due to lower compression ratio	Higher maximum efficiency due to higher compression ratio
Lighter	Heavier due to higher pressures