

Distinguish, differentiate, compare and explain what are the differences between Petrol and Diesel Engines. Comparison and Difference.

Differences between Petrol and Diesel Engines

1. In the petrol engine, the fuel used is Petrol, so high self-ignition temperature desirable. In the diesel engine, fuel used is diesel oil and so low self-ignition temperature desirable.
2. In the petrol engine, the basic cycle is based on the Otto cycle. Diesel Engine is based on the diesel cycle.
3. First one requires an ignition system with a spark plug in the combustion chamber while in other self-ignition is due to the high temperature, caused by high compression of air when fuel is injected.
4. In the petrol engine, fuel and air introduced as a gaseous mixture in the suction stroke. The carburetor is necessary to provide the mixture. Throttle controls the quantity of mixture introduced. In the diesel engine, fuel is injected directly into the combustion chamber at high pressure and at the end of compression stroke. The carburetor is eliminated but at the high-pressure fuel pump and injector necessary. The quantity of fuel regulated in a pump.
5. The petrol engine has a higher maximum revolution per minute r.p.m. due to a higher weight.
6. In first, the compression ratio is between 6 to 10.5. The antiknock quality of fuel limits the upper value of C.R. In the second one, the compression ratio is between 14 to 22. The rapidly increasing weight of the engine structure limits the upper value of C.R. Under those circumstances, the compression ratio further increases.
7. The diesel engine is much heavier due to higher pressure.
8. Maximum efficiency of petrol engine is low due to low compression ratio whereas diesel engine has higher maximum efficiency due to higher compression ratio.