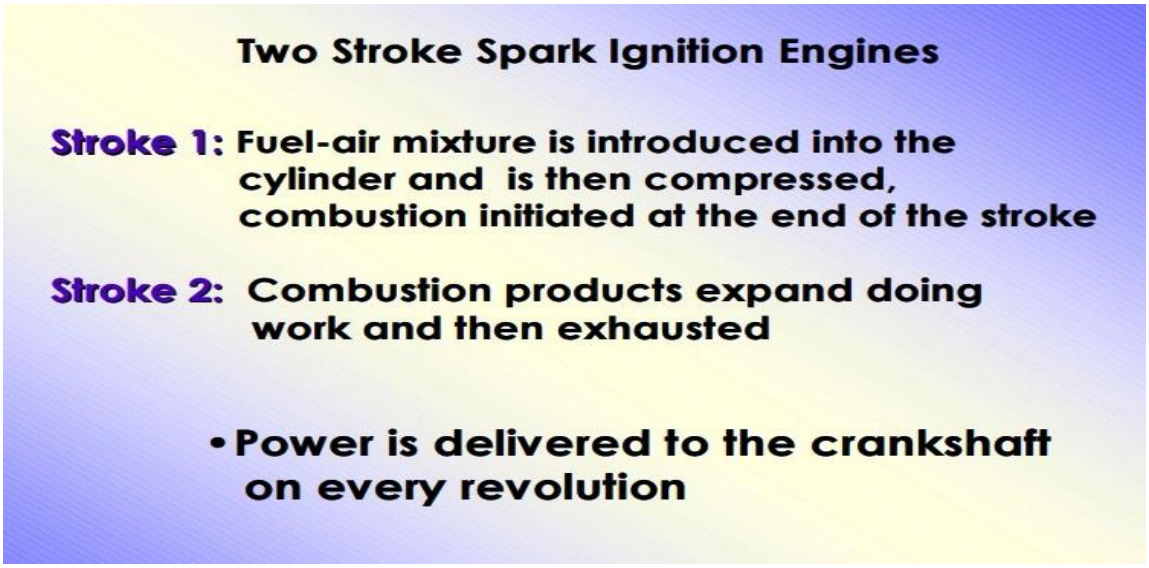
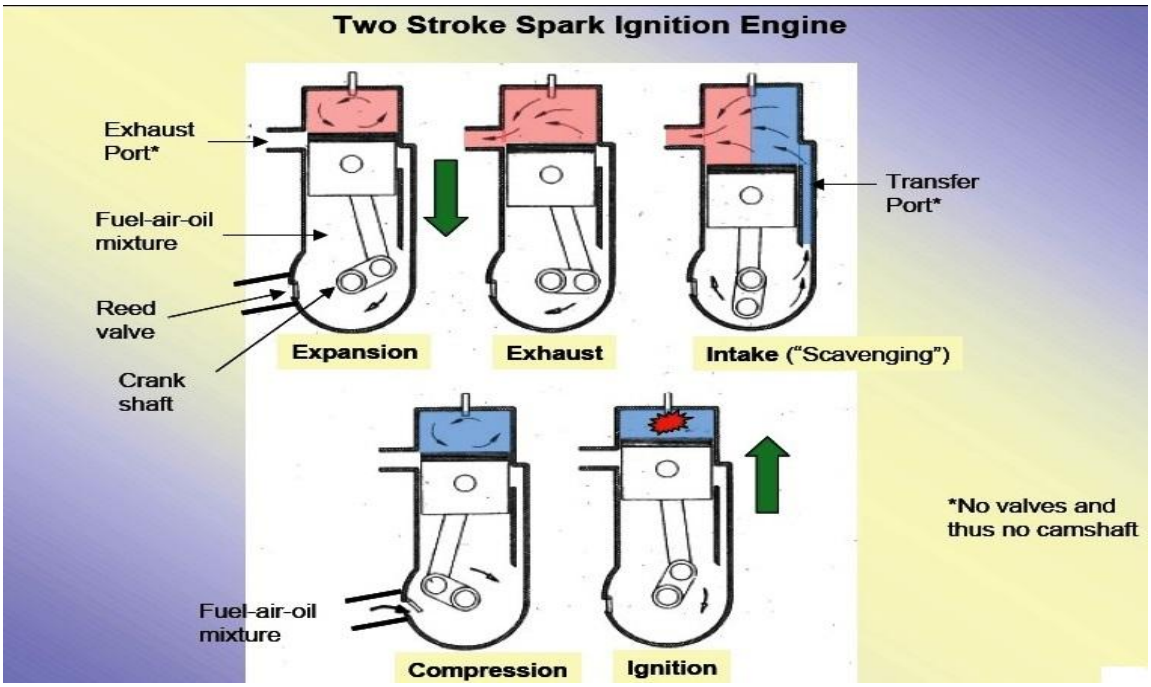
Aim: **-To Study the construction details & working principal of 2-Stroke Petrol Engine.**

Apparatus: **- Models of 2-Stroke petrol engine.**

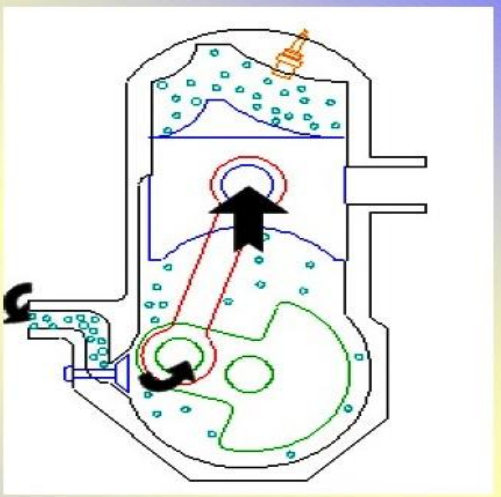
Theory: - The working Principle of Engines

2-Stroke (S.I) Engine

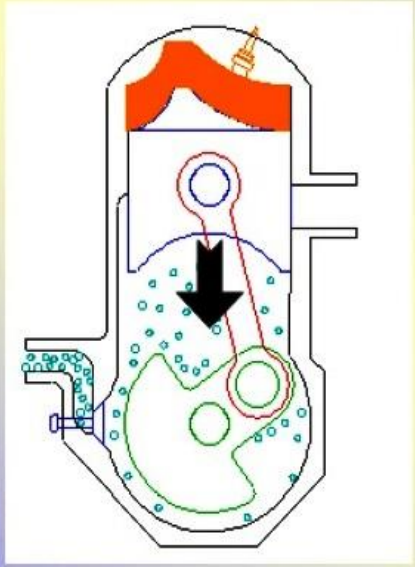




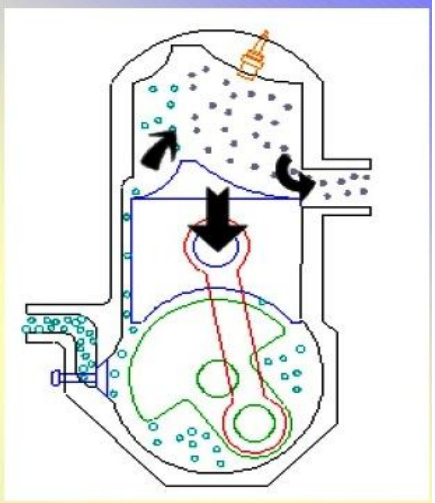
Intake: The fuel/air mixture is first drawn into the crankcase by the vacuum created during the upward stroke of the piston. The illustrated engine features a poppet intake valve, however many engines use a rotary valve incorporated into the crankshaft.



During the downward stroke the poppet valve is forced closed by the increased crankcase pressure. The fuel mixture is then compressed in the crankcase during the remainder of the stroke.

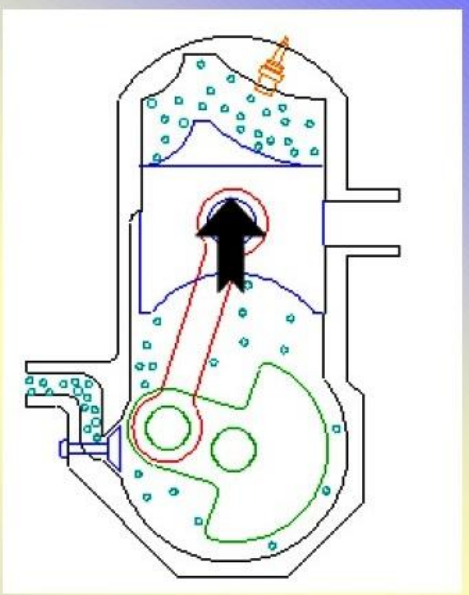


Transfer/Exhaust: Towards the end of the stroke, the piston exposes the intake port, allowing the compressed fuel/air mixture in the crankcase to escape around the piston into the main cylinder. This expels the exhaust gasses out the exhaust port, usually located on the opposite side of the cylinder. Unfortunately, some of the fresh fuel mixture is usually expelled as well.



Compression: The piston then rises, driven by flywheel momentum, and compresses the fuel mixture.

(At the same time, another intake stroke is happening beneath the piston).



Construction Details

- **Cylinder**: - It is a cylindrical vessel or space in which the piston makes a reciprocating produces.
- **Piston**: - It is a cylindrical component fitted into the cylinder forming the moving boundary of combustion system. It fits in cylinder perfectly.
- **Combustion Chamber**: - It is the space enclosed in the upper part of cylinder, by the cylinder head & the piston top during combustion process.
- **Reed Valves**: - It is provided on the Crank case to regulate the charge coming into Crank case.
- **Intake port**: It allows the compressed air-fuel mixture in crank case to escape around

the piston into main cylinder.

- **Exhaust port**: Through this port exhaust gases expels out.
- **Spark Plug**: - It is used to initiate the combustion process in S.I engines.
- **Connected Rod**: - It connects piston & the crank shaft.
- **Crank shaft**: - It converts the reciprocating motion of the piston into useful rotary motion of output shaft.
- **Gudgeon pins**: - It forms a link between connection rod and the piston. .
- **Carburetor**: - Used in S.I engine for atomizing & vaporizing and mixture it with air in varying proportion.

Conclusion: