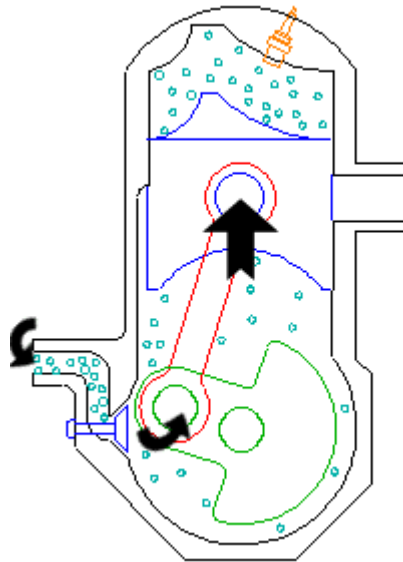


Working of 2 – Stroke Engines

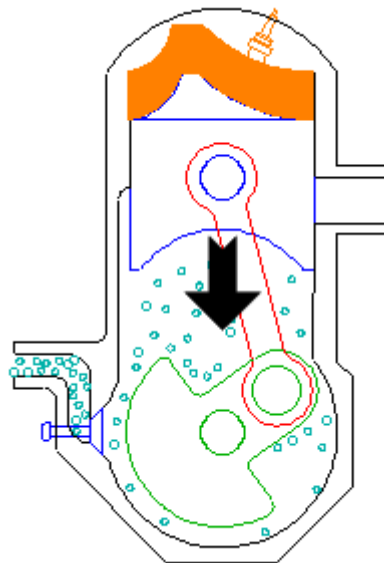
The two stroke engine employs the crankcase as well as the cylinder to achieve all the elements of the Otto cycle in only two strokes of the piston.

Intake:

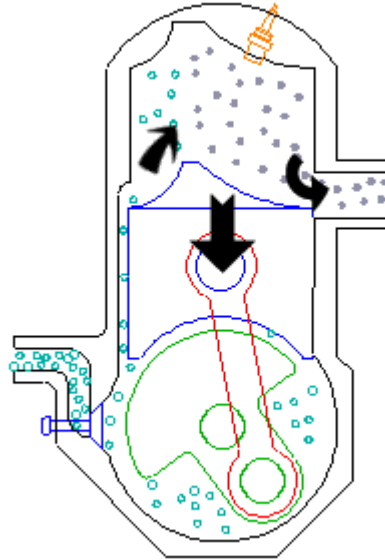
The fuel/air mixture is first drawn into the crankcase by the vacuum created during the upward stroke of the piston. The illustrated engine features a poppet intake valve, however many engines use a rotary valve incorporated into the crankshaft.



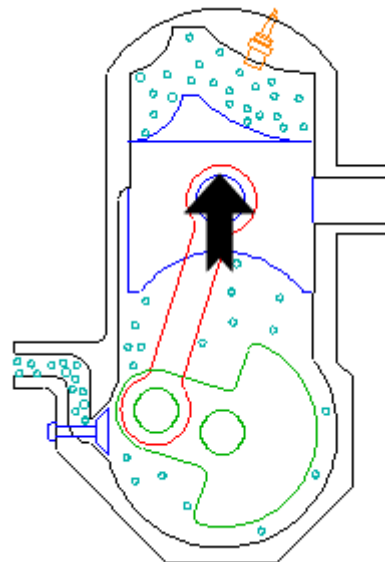
During the downward stroke the poppet valve is forced closed by the increased crankcase pressure. The fuel mixture is then compressed in the crankcase during the remainder of the stroke.



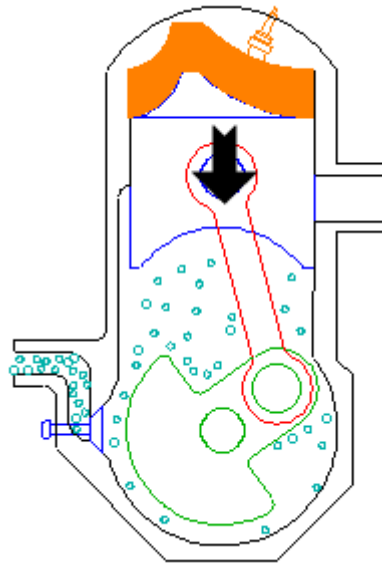
Transfer/Exhaust: Toward the end of the stroke, the piston exposes the intake port, allowing the compressed fuel/air mixture in the crankcase to escape around the piston into the main cylinder. This expels the exhaust gasses out the exhaust port, usually located on the opposite side of the cylinder. 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).



Power: At the top of the stroke the spark plug ignites the fuel mixture. The burning fuel expands, driving the piston downward, to complete the cycle.



Since the two stroke engine fires on every revolution of the crankshaft, a two stroke engine is usually more powerful than a four stroke engine of equivalent size. This, coupled with their lighter, simpler construction, makes two stroke engines popular in chainsaws, line trimmers, outboard motors, snowmobiles, jet-skis, light motorcycles, and model airplanes. Unfortunately most two stroke engines are inefficient and are terrible polluters due to the amount of unspent fuel that escapes through the exhaust port.

Reference: <http://www.keveney.com/>