Four Stroke Engines

MCCTC

CBI PROGRAM

Parts of a Four Stroke Engine

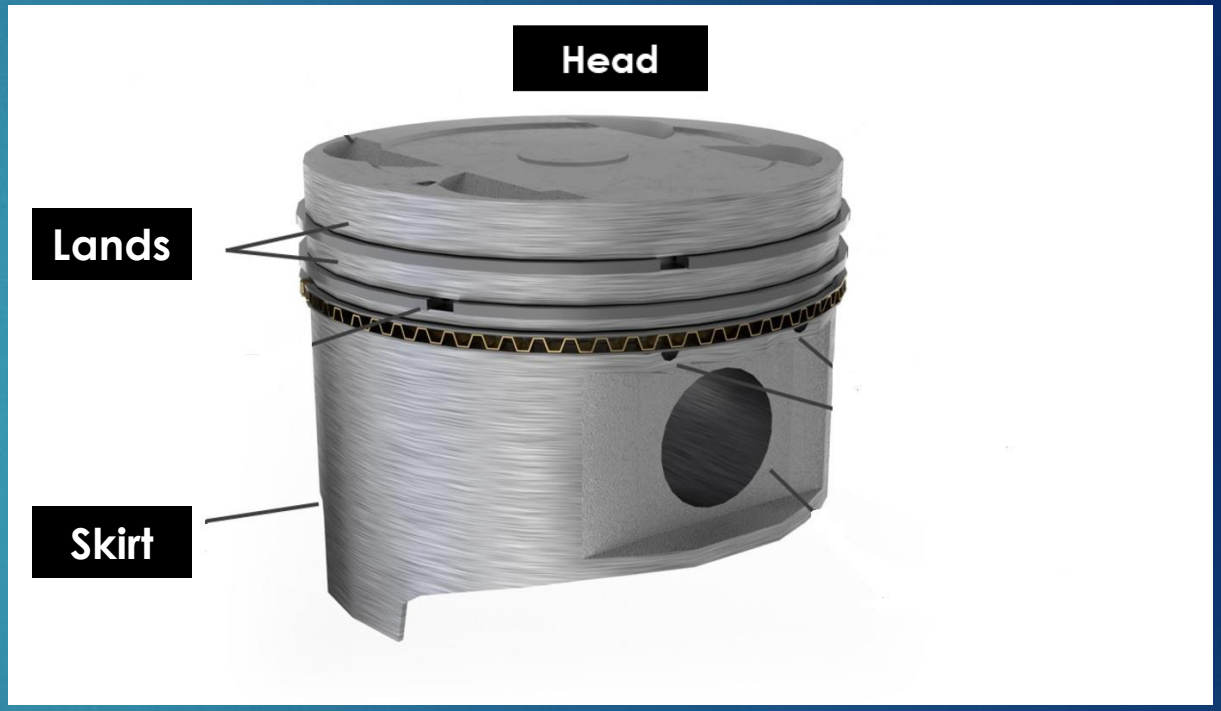
Piston

The purpose of the piston is to compress air and fuel in the cylinder.

The grooves between piston rings are called **lands**.

The top of the piston is called the **head or dome**.

The bottom of the piston is called the **skirt**.

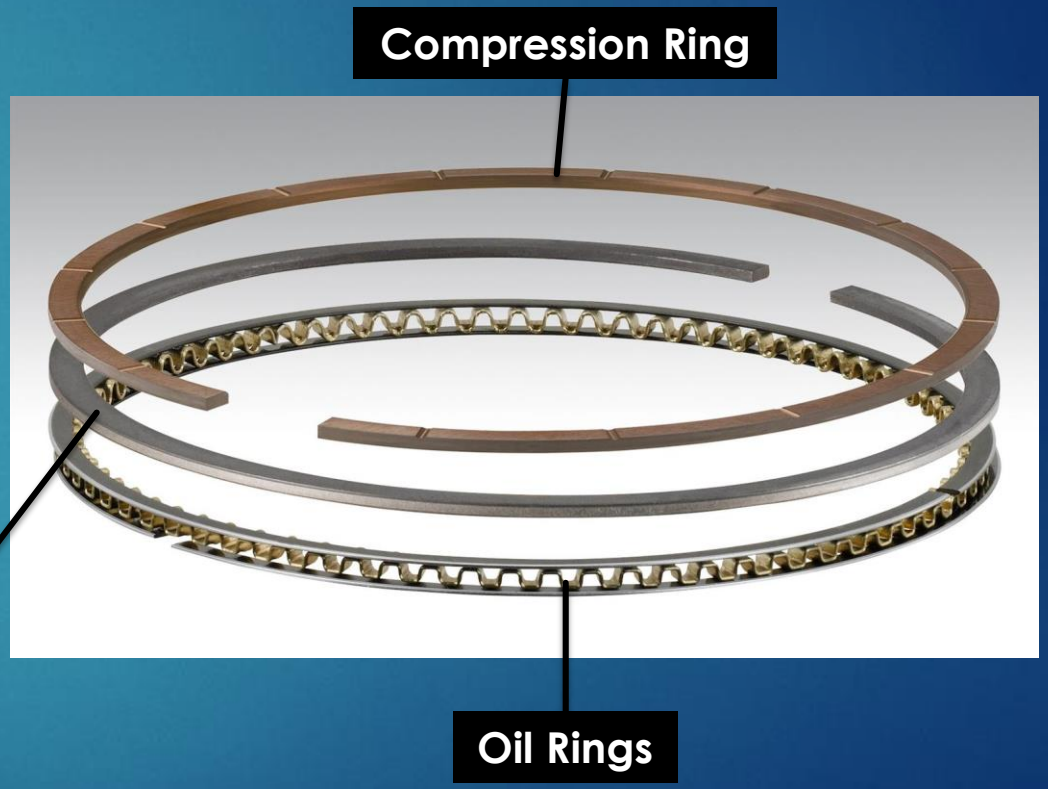


Piston Rings

Top ring- **compression** rings, which seals the chamber to prevent the loss of compression pressure during the power stroke

Middle ring- **scraper** ring, coats chamber in oil

Lower ring- **oil** rings, which control the amount of oil on the cylinder walls, returns excess to the engine block



Piston Pin

Piston pin connects the piston to the connecting rod.

Piston pin retainer clips. These hold the piston pin in the piston.

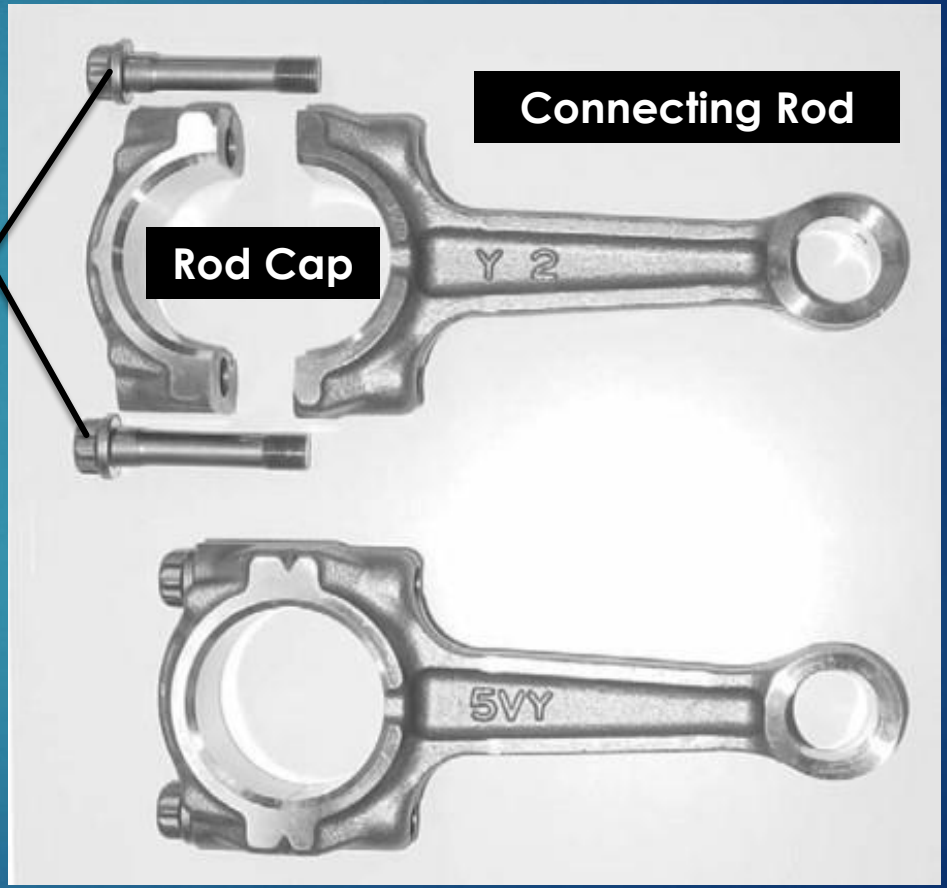
Also known as a **wrist pin**.

Connecting Rod, Cap, and Bolts.

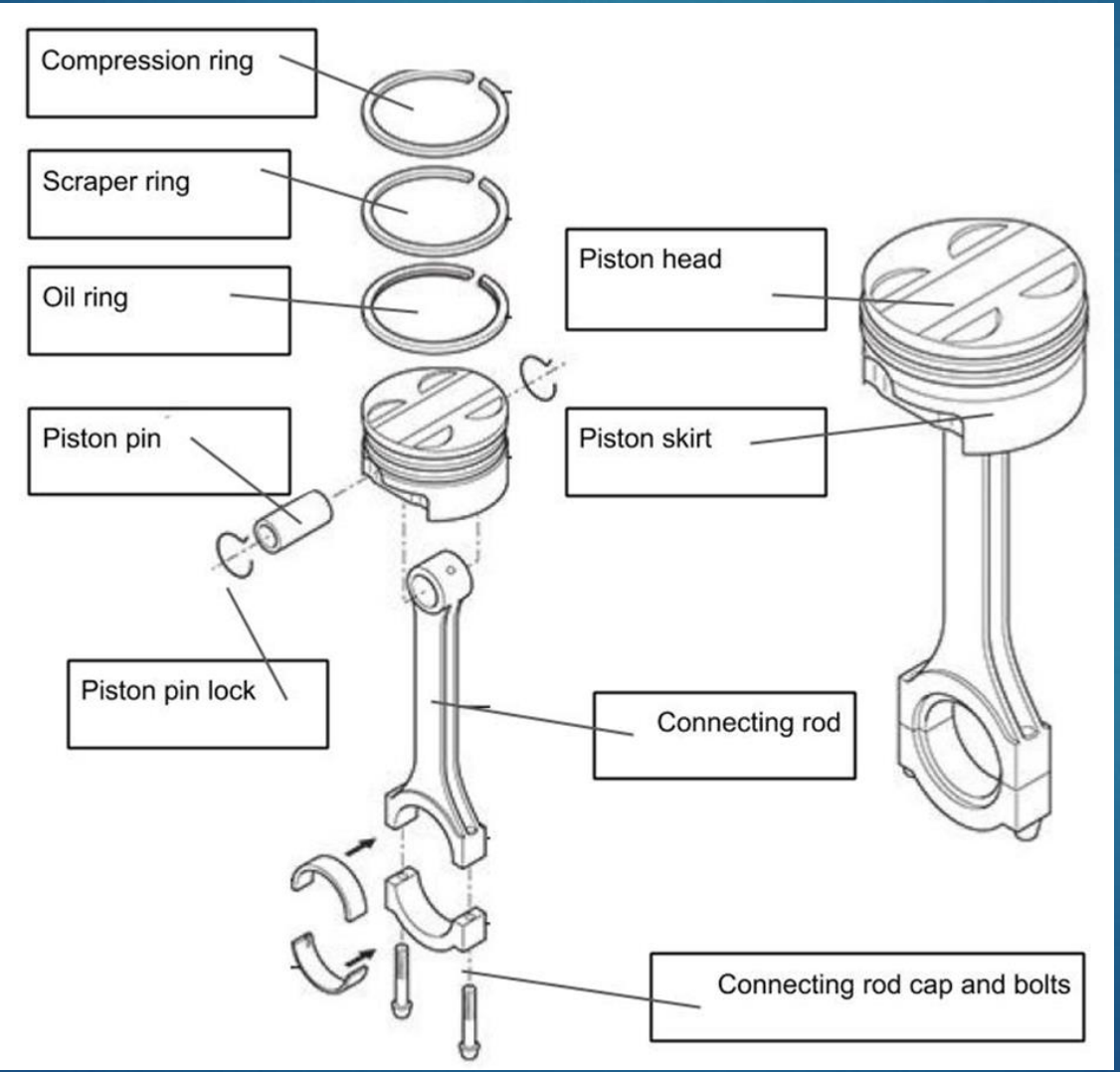
The Connecting rod connects the piston to the crankshaft.

The Rod cap holds the crank bearing in place so that it can rotate around the crankshaft journal.

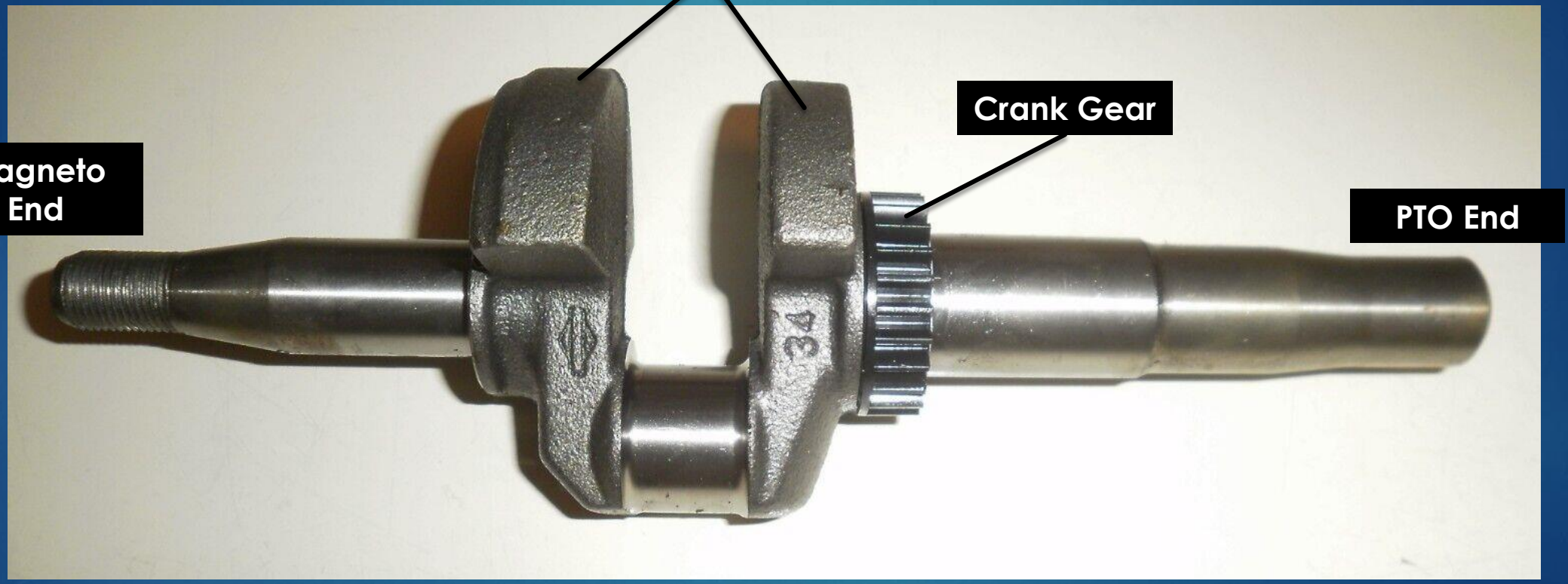
The Rod cap bolts hold the Rod cap and connecting rod together.



Piston Assembly



Parts of a Crankshaft



Parts of a Crankshaft

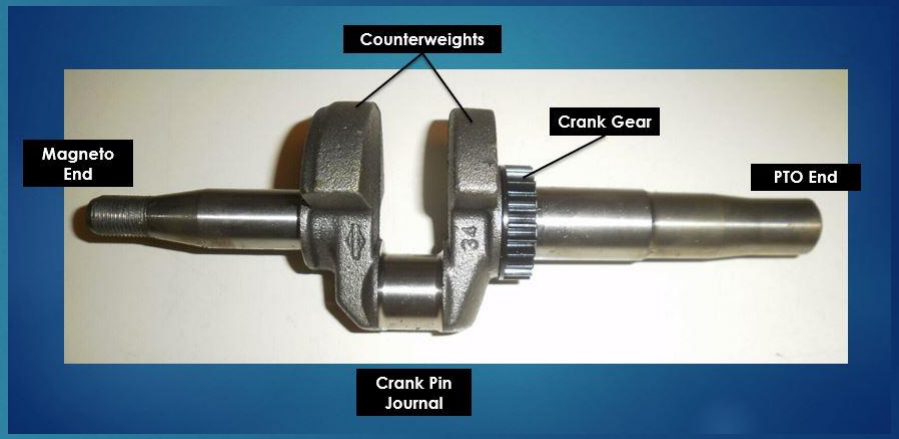
Crankpin Journal: Section of Crankshaft the connecting rod is attached to.

PTO End: Where the power from the engine is transferred to. Usually where your clutch is attached.

Magneto End: Where your flywheel is attached. Your electrical like power for lights and ignition are here.

Counterweights: Keeps a balance between the piston and the crankshaft. Usually offset to be opposite of the piston.

Crank Gear: Connects to the camshaft gear. Used to turn the crankshaft.



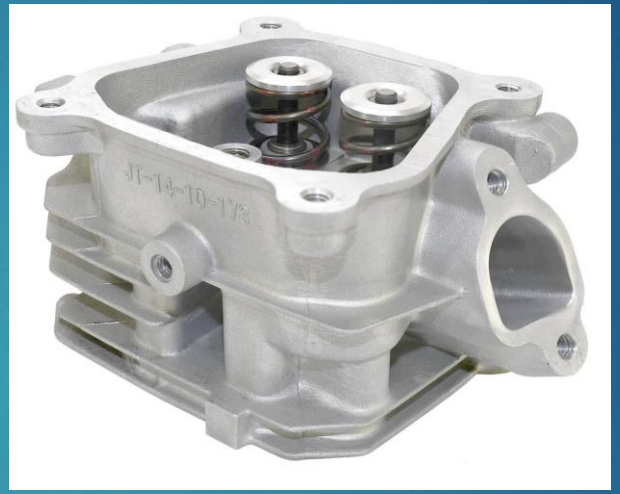
Crankcase and Cylinder

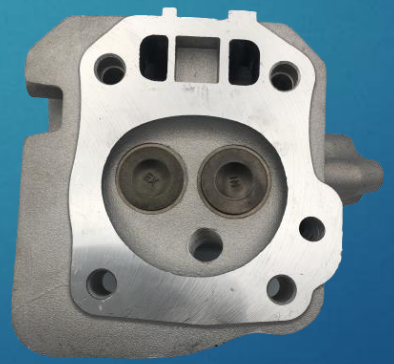
The crankcase houses all of the internals of the engine. Piston assembly, crankshaft, and camshaft.

The piston rides up and down inside of the cylinder.

Cylinder Head

The cylinder head is the top of the cylinder and provides the combustion needed to run the engine.





Valves

There are two valves. One is for fuel and air and one is for exhaust.

The camshaft opens the valves and the valve springs close them.

Camshaft and Valve Tappets

The camshaft has offset lobes that open and close the valves. This opening and closing is timed with the position of the piston.

One end of the valve tappet rides on the camshaft lobe, the other end pushes the valves open when the lobe on the camshaft is at its highest point.

Four Stroke Engine Diagram