

# Replacing Piston and Rings Guide

Find and purchase your replacement piston and rings, normally around \$65

Remove the spark plug.

Drain oil (not necessary, but recommended)

Remove stator cover.

You'll find a 'T' and a 'F' on the flywheel,

F= fire (this is where the CDI tells the spark plug to fire just before the piston hits the top, which is where you get the most compressed fuel air mixture

T= TDC (Top Dead Centre)

Insert a screwdriver little into the sparkplug hole, rotate the flywheel clockwise until the piston hits the screwy and starts going back, this is the most the piston will go forwards. that is known as top dead centre (the same on any car engine too).

Take a look at this to help you understand how the engine works...

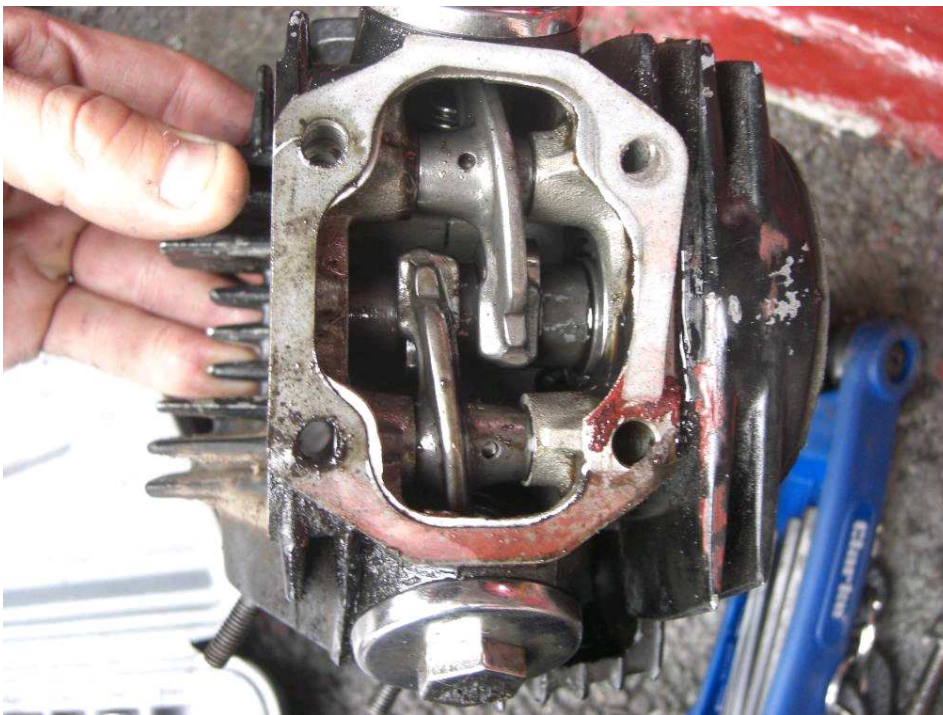
<http://auto.howstuffworks.com/engine1.htm>

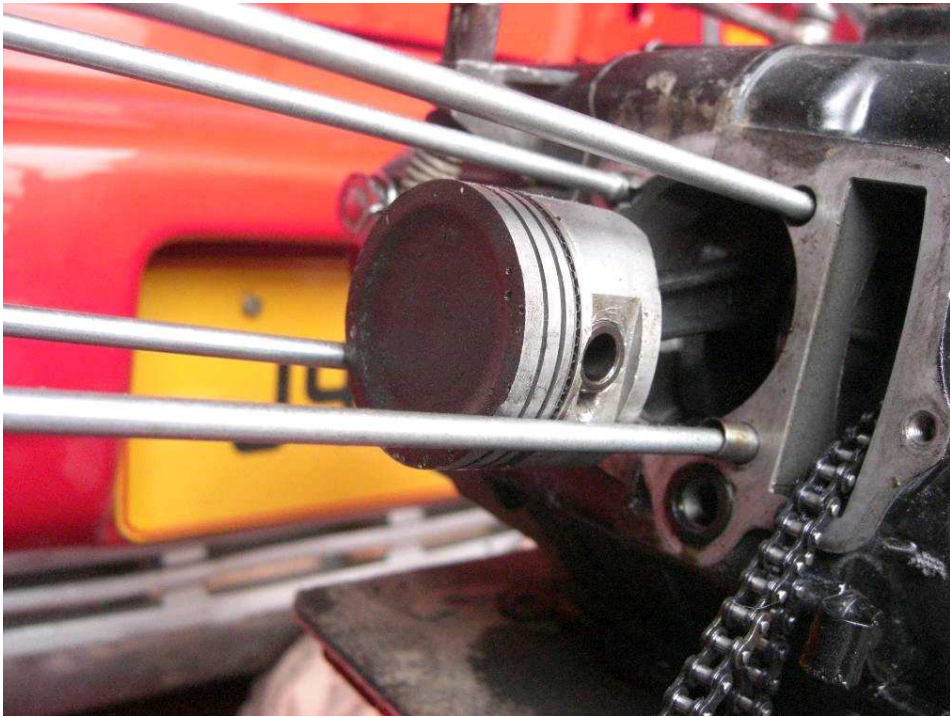
Undo the cam retaining bolt and remove both side covers and remove bolt, inside you will find three bolts holding your cam chain sprocket in place, take them out and remember where your alignment was, this is normally at the 9'oclock position. let it hang down and leave it be

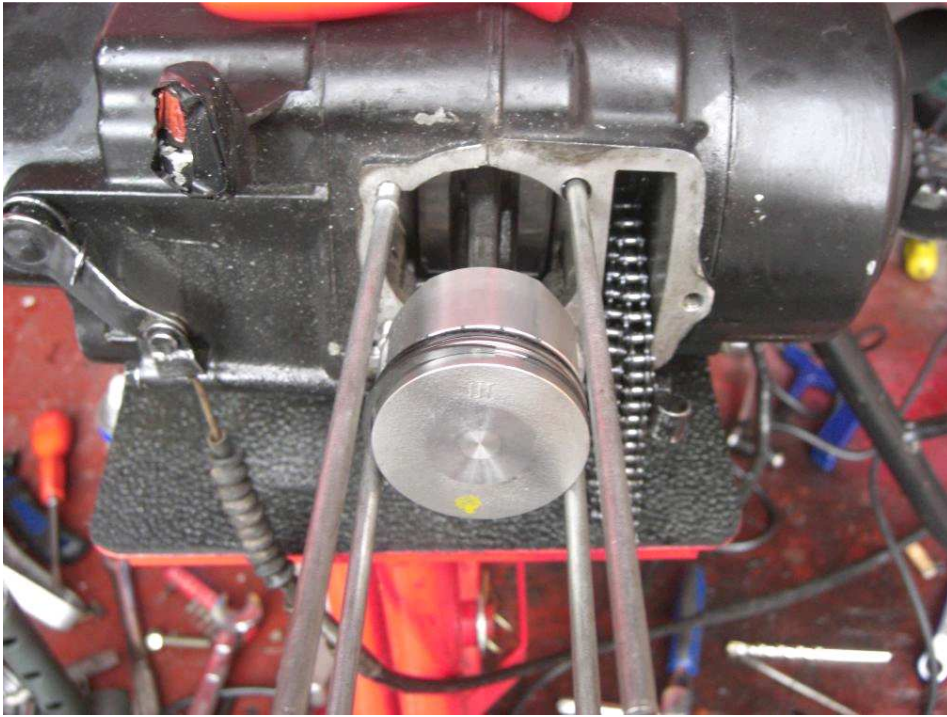
Undo the 2 side 10mm bolts either side of the cylinder and remove

Undo the 4 head bolts equally crisscrossing each other (this ensures they are all equal when loosening), you'll find a little oil comes out, this doesn't matter.

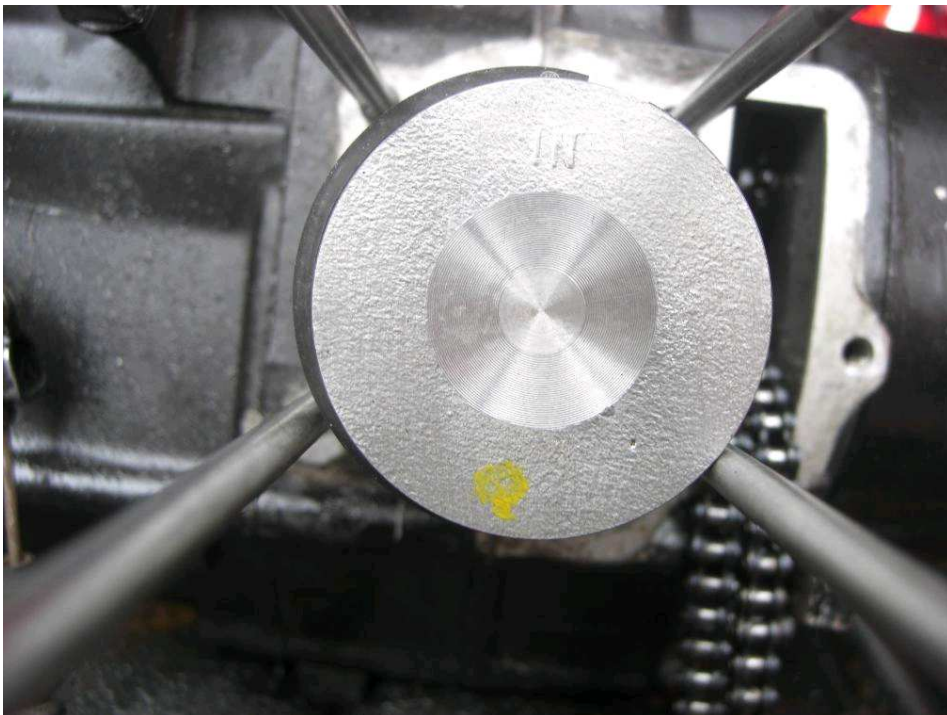
Remove head with cam intact, careful of the gaskets but recommend replacing with new ones after, slide the head off the 4 long bolts and cylinder after that, this reveals the top of the piston, watch out for the guide pins at the edge that seat the cylinder properly.







you may need a piston removal tool as they are normally well stuck on there, remove locking pins and REMOVE PISTON and gudgeon pin, replace with new piston and gudgeon pin and rings (x5), ensure it is central and make sure the gaps in the rings don't line up (you'll also notice the bottom one is slightly thicker than the top 4, this is wavy and is for scraping oil to the cylinder) and the locking pins. This is quite an intricate process but endure with it and don't hit it with a hammer, this will weaken your conrod, and will snap later when riding... be warned! This will result in a new engine as it will be sticking out somewhere!



Squeeze the rings together and fit inside the cylinder after wiping it out for any bits, fit new gaskets as you put it all back together, watching all the hollow pins are seated correctly, and looking for a tight fit with all the rings inside the combustion chamber



Refit cam chain with the same original position, make sure the bolts are tight.

tighten the 2 side bolts on the outside of the cylinder, put the head nuts back on and tighten the same as before in a diagonal way so that they are all done together at the same pace, refit the cam bolt and covers, and ensure the piston goes up and down the cylinder freely with more compression than before.

place everything back and clean the plug, (it's a good idea at this point to wire brush replace oil then you should be up and running,

Remember that you may need to adjust the mixture settings as they will be different than before as now there is more compression.

You cannot adjust 'Timing' on flywheel models, it is controlled by the electro-magnet pick-up that you see next to the flywheel and the CDI, it knows how fast the motor is running and fires the plug accordingly.

Text and images from <http://www.pitbikeclub.co.uk/showthread.php?t=13224>