

Replace A Cars Piston Rings

Piston Removal Checklist



PISTON-TRIBE
REV UP YOUR ENGINES...

Step 1

Disconnect the Battery

- Disconnect the negative battery terminal first, then disconnect the positive

Step 2

Drain All Fluids

- Drain the engine oil and coolant to prevent spillages

Step 3

- Remove all components preventing access to the following:

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Accessing The Valve Cover Bolts

- Remove Engine Cover(s)** – The decorative top cover on many modern car engines
- Unclip Wiring Harnesses** (*Note: This may include unclipping Detach Ignition Coils/Spark Plug Wiring (for petrol cars only)*)
- Disconnect All Air Intake Components** (Inc Air Filter & Air Intake tubing)
- Remove PCV (Positive Crankcase Ventilation) Valve and Hoses**
- Remove Valve Cover**

Accessing the Timing Cover

- Release Timing Tensioner**
- Remove Auxiliary / Serpentine / Accessory belt(s)**
- Remove Engine Mount** (*subject to model*)

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- Remove all under trays, splash shields and skid plates
- Remove Crankshaft Pulley/Harmonic Balancer
- Remove Water Pump (*subject to engine design*)

Accessing the Cylinder Head

- Remove Throttle Body & EGR (Exhaust Gas Recirculation) Components (*subject to diesel cars***)
- Remove Fuel Rail, Fuel Injectors, and High-Pressure fuel system
- Remove Coolant Hoses
- Remove Intake and exhaust manifolds
- Remove Turbo (front subframe may need to be removed for this)

Step 4

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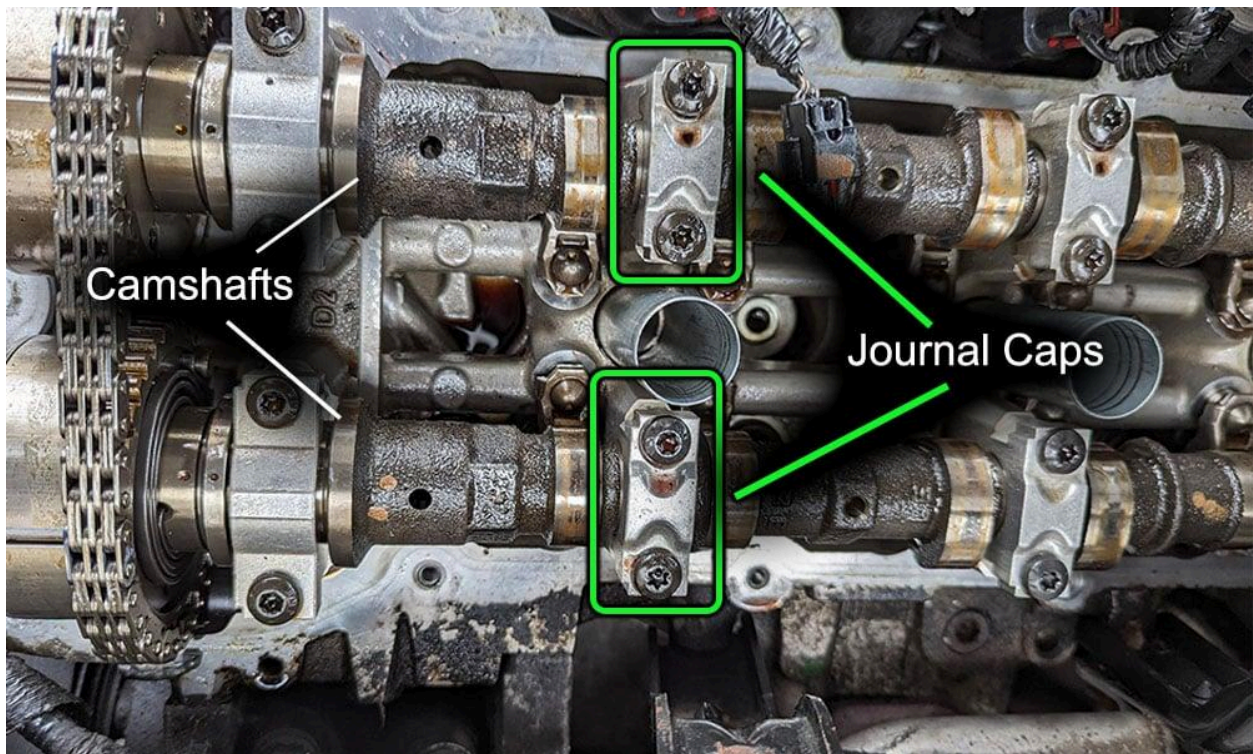


Remove valve Cover

Often referred to as the “Rocker Cover”: Generally secured with several bolts.

Side note: Do not forget to remove the oil filler cap and dipstick rod first

With the valve cover removed, your engine should look something like this.



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Please Note : I may use the words timing chain or belt or cam belt interchangeably here, as they all serve the same purpose.

Step 5

Removing The Timing Chain

- Remove the Timing cover
- Lock the timing chain/belt tensioner
- Remove Timing Chain/Belt Guides
- Remove Timing Chain Or Belt
- Remove Oil Pan

Potential - Additional Steps

Some engines may require you to carry out a few extra steps here.

- Lock oil pump Timing Chain/Belt Tensioner

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- Remove Oil Pump Timing chain
- Remove The Oil Pump

Step 6

Remove Camshafts

Each camshaft is held in with a camshaft journal cap and two bolts. Please note, camshaft journal bolts must be removed by following a specific sequence found in the vehicles [service repair manual](#).

step 7

Remove The Engines Cylinder Head

Most engines contain 10 to 12 cylinder head bolts that are accessed by removing the camshafts. Each bolt must be removed in specific order to prevent cylinder head warpage.

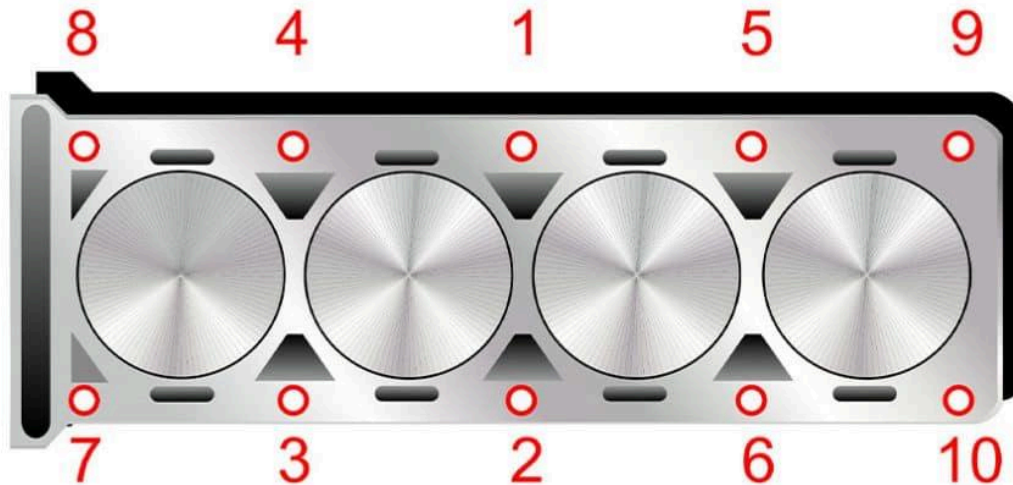
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A typical sequence for removing cylinder head bolts is designed to evenly release the pressure on the cylinder head to prevent warping or cracking.

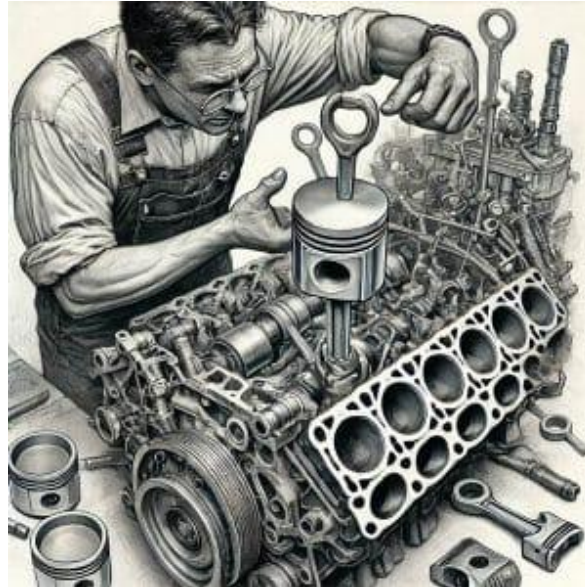
Here's an example of a typical cylinder head bolt removal sequence for a 4-cylinder inline engine:

The sequence generally starts at the outer edges of the cylinder head and works inwards in a crisscross or spiral pattern.



Once the bolts have been removed, it's time to get a set of gloves on and remove the cylinder head. A rubber mallet and pry bar may be required to free up the head from the engine block.

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Step 8

Remove the pistons

Work on a piston by piston basis, making sure to fully label and reassemble each piston before moving onto the next.

To do so, remove the two bolts in the big end bearing cap, remove the cap, then push the piston up and out the top of the cylinder. A rubber handle on a hammer works perfectly for this.

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Please Note: You will need to rotate the engine via the crankshaft pulley to access varying big end bearing caps. You can do this by temporarily fitting the crankshaft pulley bolt back in and then using a spanner manually to turn the engine.

Remove The piston Rings

Number Each Piston When Removing: Using a liquid marker pen, mark each piston to ensure they are put back into the same cylinder when re assembling.

Try to ensure the rings DO NOT BREAK on removal! as we need them intact for inspection and test fitting later.

Pull each ring off the piston using a small hand pick. Or you can simply slide them up, and off the piston head with your hands. Whichever method you prefer to use is fine.

Head to PistonTribe.com for more information