

# RAP DECOKE

Centaur gives some tips on decarbonizing a recent road test model. The principles outlined below can be applied to any two-stroke moped

**O**PINIONS vary as to what mileage should elapse between decokes on a small two-stroke engine. Some say as little as 2,000 miles while others state that if the correct amount of oil is used in the petrol and if all other manufacturer's specifications are adhered to, a moped may run for as long as 10,000 miles without decarbonisation.

One thing is certain. It does no harm to decoke your machine at regular intervals, and it may do great good. It is worth while learning the correct procedure so that the whole operation can be completed in well under an hour and does not remain like a black cloud on the horizon.

The RAP Imperial, like other two stroke mopeds is easy to decoke and nobody should have the slightest hesitation about tackling the job.

Put the moped up on its stand so that it can be reached both sides and turn the fuel tap off, as the pipe has to be disconnected through the fairing, which should be removed. Take out the plug, give it a general clean-up, preferably by sandblasting, and check the points gap.

## Remove Carburettor With Stub

The carburettor can be removed complete with stub by loosening the two nuts which hold the latter. It is a good idea to clean external grease from the carburettor while it is free of the cylinder as this allows you to clean the hard-to-reach sections easily.

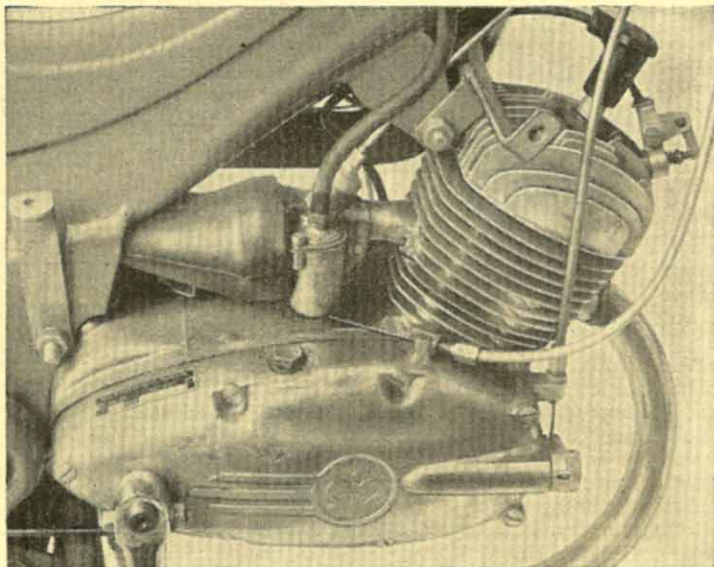
Disconnect the decompressor valve cable by loosening the screw which holds the securing collar tight. The cable can then be slid free. When the cylinder head is off it is possible to release the valve by removing the split pin from the section of stem visible above the mounting. If there are any signs of pitting on the active faces of the valve, the latter should be ground back into its seat with grinding paste until it is a clean fit. Do not forget to remove all traces of grinding paste before re-seating the valve finally, and also install a new split-pin. Twice-used pins have a tendency to shear off with disastrous consequences.

Before removing the cylinder head, it is as well to clean off any exterior grease or grime so that this is not transferred to the inside of the cylinder. The four nuts holding down the cylinder head can now be removed and the head lifted off. Two six-sided nuts secure the exhaust pipe to the cylinder and the latter can now be removed cautiously, placing a hand beneath to catch the piston as it slides free. A rag should then be packed round the connecting rod at the point where it enters the crankcase to prevent any unwanted items from dropping in.

## Mark Piston Position

To remove the piston from the connecting rod, the circlip holding the gudgeon pin should be lifted out with a pair of round-nosed pliers, although it is possible to do this by carefully using a screwdriver. The gudgeon pin should slide clear of the piston, but if it does not, dip a cloth in boiling water and apply it to the piston. This should cause the piston to expand a little to allow the gudgeon pin easy exit. Mark which way the piston faces so that it is not re-installed 180 degrees out of place.

All the relevant pieces are ready for decarbonisation. In scraping the piston with a fairly blunt knife or screwdriver it is advisable to avoid any deep scoring. The piston rings should only be tackled if they are not bright and clean on the working surfaces and free in their grooves. Great care should be taken in removing and replacing the rings as they are very brittle. When extending them it is necessary to exert the same amount of force outwards at three points so that they do



Clean the engine before dismantling.

not snap. Thin strips of metal can be inserted underneath the ring which can then be slipped off easily. If the grooves are carboned up they should be cleaned by scraping them carefully with a piece of broken ring.

As far as the cylinder barrel is concerned, the only decarbonisation necessary is through the exhaust port. Afterwards the bore should be washed clean of any suspected fragments of carbon.

Now for the head. Once again it is necessary to exercise care due to the fact that anything with corners tends to score parallel grooves in the relatively soft metal of the concave surface. Ideally the scraper should be something softer than the head metal, although this is not always feasible since the carbon is often a tough proposition.

When all traces of carbon have been removed reassembly can begin, but not until all interior surfaces have been washed with a little petrol to remove any carbon which may have got inside. Take care that the rings go in smoothly when re-installing the piston into the cylinder barrel.

With the barrel in place the head can be slipped on over the four studs which protrude up through the sides of the barrel from the crankcase. The fixing nuts can then be screwed on (with their washers until they are finger-tight. To avoid incorrectly seating the head, the nuts should be tightened up a little at a time in diagonal pairs.

## Silencer Equally Important

Finally we are left with the exhaust system and silencer which is just as important as the rest of the engine in this context. A clogged silencer can reduce power enormously and can also do damage to plug and possibly condenser.

The RAP silencer is held at only one other point apart from the cylinder, and this is at a bracket located near the foot of the stand when the latter is in the "up" position. When the solitary screw that holds the silencer is loosened it can be disconnected from the exhaust pipe and can be cleaned independently. A small screw inside holds in the end baffle and with this baffle out the other baffles can be cleaned.

A thick gasket is used at the point where the exhaust pipe joins the cylinder and this should be replaced if it is showing signs of wear. Be particularly careful when securing the exhaust pipe that you do not strip the thread from the mounting stubs, and show the same care when mounting the carburettor at the other side of the cylinder on similar stubs.

After this procedure has been repeated a couple of times decarbonisation will hold no mysteries for the owner, whose RAP will probably repay him with many more miles of happy riding.





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