

THE HEINKEL PERLE ENGINE

Simple Maintenance on Power Unit of Ultra-clean German Moped

At first sight the proud Heinkel owner may be forgiven for wondering how on earth he can do *any* work on this cleanest of all mopeds, for the engine snug-gles neatly away, half-buried in the cast-alloy frame. However, besides ensuring that there is the minimum of work to do anyway—on the whole machine there is but one grease nipple and that is on the speedo. gearbox, which is a proprietary part!—the Heinkel designers have so arranged matters that the engine is easily decarbonized.

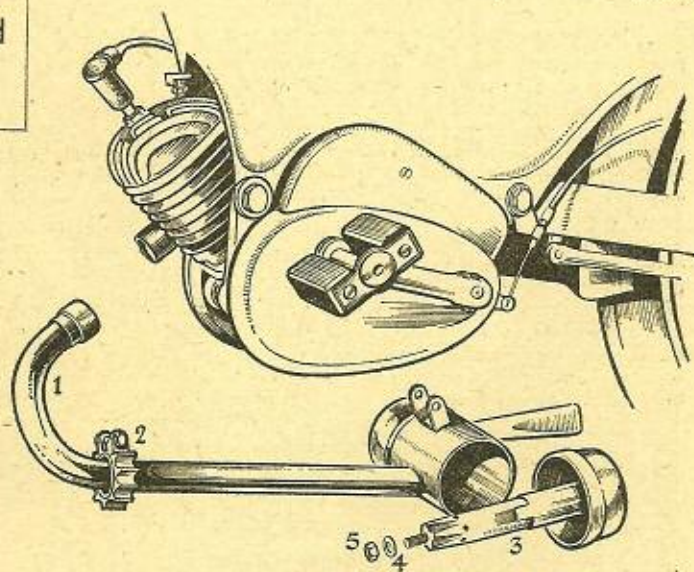
First, remove the two cast alloy frame shields, each of which is held by a slotted bolt, slip your fingers inside the frame, and slide to the rear the rubber connection between the carburetter and the intake silencer. You can now remove the air filter, which will pull out of the mouth of the Fischer carburetter. Next use a screwdriver to loosen the carburetter clamp, and slide the instrument off its stub, leaving it inside the frame for the time being.

Detach the plug lead, remove the sparking plug, and disconnect the decompressor cable by pressing the arm down and sliding the outer case from its housing. Detach the two light alloy side-shields on the engine—each is held by a single screw—and then take a 10 mm. box spanner and undo the bolt on the exhaust pipe clamp and the single bolt which secures the silencer to the engine. Lift off the exhaust system and put it to one side.

Now use a pair of 14 mm. spanners to undo the two bolts which hold the engine to the frame at the front mounting points. Before you remove them, support the engine on a box. It can then be lowered gently

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The Heinkel exhaust system detached, showing (1) the pipe; (2) the clamp ring; (3) the baffles and (4 and 5) the nut and washer which secure the silencer end-cap.



out of the frame, pivoting about its rear bolts.

The head is held in place by four 10 mm. nuts, which need a box spanner for their removal. The barrel, too, is held by 10 mm. nuts, but for these you will need an open-ender or a ring spanner. The barrel can now be drawn off and the decarbonizing carried out in the normal way. If it is necessary to remove the piston, release the circlips from the gudgeon pin recesses and warm the piston with clean

rag wrung out in boiling water until the pin can be gently driven out, using a soft-metal drift. The piston crown is stamped with an arrow to indicate the forward face, and you must be careful to reassemble it correctly. Don't forget to warm it well before attempting to replace the gudgeon pin.

If the decompressor valve shows signs of leakage, the entire unit can be screwed out of the head, using a 14 mm. spanner. Now slip the little circlip carefully off the stirrup on the decompressor body and the assembly can be demounted. Grind-in the valve with medium grinding paste, wash it carefully in petrol, and replace it.

Re-assembly Work

Finally, use a 10 mm. spanner to undo the centre bolt which holds the silencer together. You will now be able to draw the baffles out and clean them. Don't forget thoroughly to decarbonize the pipe, too. Pulling-through with an old length of chain will help to clear carbon from the bend in the pipe.

When reassembling, fit new gaskets at the cylinder base and the head. Replacement of all parts simply involves reversing the procedure already mentioned. When your engine is reassembled, apart from the exhaust system, swing it up into place and slide a support underneath while the mounting bolts are inserted and tightened. Then reconnect the carburetter—unless you wish to service it—and replace the exhaust

system and the shields. That done, your Heinkel should require no further "de-coke" for another 1,200 miles at least, and other work on the power unit boils down to keeping an eye on the sparking plug (clean and re-gap it every 300 miles) and cleaning the engine if mud accumulates around the fins at the bottom of the barrel. Simple, isn't it? Next week we'll be advising you on the upkeep of the cycle side of the Heinkel, which is likewise quite uncomplicated.

REST OF THE HEINKEL

Hints on the Care of the Cycle Parts, Electrics and Carburetter

A REGULAR task with the Heinkel is to check the adjustment of the gear control once every 300 miles. To do this, loosen the lock-nut on the cable adjuster below the left twistgrip, set the gear control to "Neutral," and screw the adjuster in or out until you hear no noise in the gearbox when the rear wheel is turned. Now check that both gears engage nicely. If they do, lock the adjuster. The clutch play can be checked at the same time—about a quarter of an inch of slack is about right—and it takes only a minute to test each brake for "bite" while you're at it, taking up any excess slack on the cable adjusters provided.

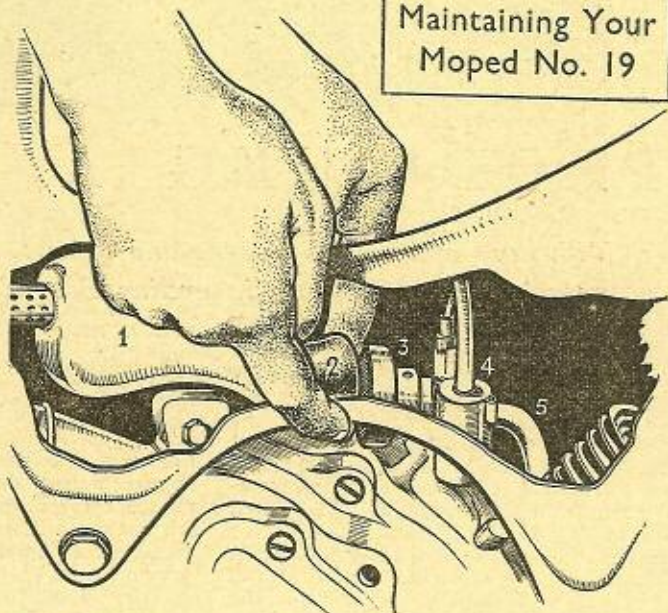
Every 1,200 miles—the same mileage at which you decarbonize—you should change the gearbox oil. This is done quite easily by unscrewing the drain plug in the base of the gearbox and draining away the dirty oil. Lift the rear wheel off the ground to ensure that all the old oil from the chain

Keeping the screwdriver in the bolt's slot, tighten the lock-nut, and then recheck for chain play before refitting the plug. Should it ever be necessary to renew a chain, undo the clips which secure the rubber chaincase bellows (they have a screw apiece) and slide the bellows back on to the engine. Then undo the screws which hold the chain-case cover, slacken off the jockey pulley adjustment, detach the spring link from the chain, and use it to fix the new chain to the old. Now pull on the free end of the old chain so that it leads the new one over the gearbox sprocket. When the new chain is properly threaded through, detach the old one, link up the new, ad-

pulled to the left to disengage from the three driving pegs which connect it to the rear sprocket. This done, it can be taken out of the fork. Front and rear wheels are interchangeable.

Carburetter maintenance amounts to nothing more than a cleaning every 600 miles. Instructions for detaching the air filter were given last week. This should be done from time to time, and the filter washed in petrol and steeped in clean, thin oil. To remove the entire carburetter—again, the basic procedure was given last week—draw it out through the frame gap, and undo the 8 mm. adjuster atop the instrument. This holds the top in place, and when it is undone

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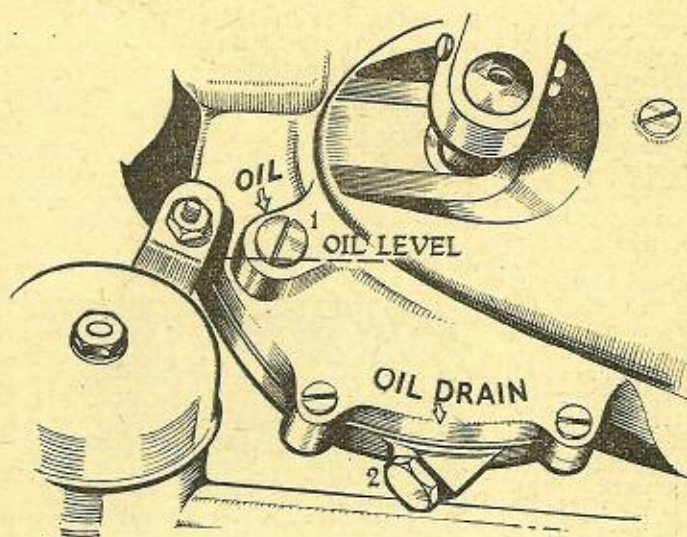


Above is seen the manner of removing the air filter (3) by inserting a finger through each frame "arch" and sliding back the rubber bellows (2) connecting the carburetter (4) to the intake silencer (1). The carburetter is clamped to its stub (5). On the left are seen the oil filler (1) and drain (2) plugs on the gearbox, with the correct oil level marked by a dotted line.

the slide and choke plunger can be removed. Pull off the fuel pipe before removing the carburetter; then undo the two screws which hold the float chamber top, and be careful not to lose the small conical filter in the needle valve stem. This should be cleaned and the chamber washed out, while the jets (the main jet is the brass screw on the side, the stack-pipe the brass screw beneath the carburetter) should also be taken out and washed.

Every 600 miles you should check the contact-breaker points in the flywheel magneto, cleaning them, and adjusting the gap to .012 in. This is a standard Bosch instrument, with an eccentric screw adjuster which can be brought into play after the large locking screw on the fixed point has been loosened.

Only one job remains—every 1,200 miles the cam-lubricating felt washer in the magneto should be lubricated with melted grease. These—and a drop of oil on the pedal bearings from time to time—are the sum total of jobs you will ever be called upon to perform on your Heinkel. In fact, the routine tasks are so few in number that in these two articles we have gone well beyond our normal range of advice—the day-to-day jobs would scarcely have filled a page!



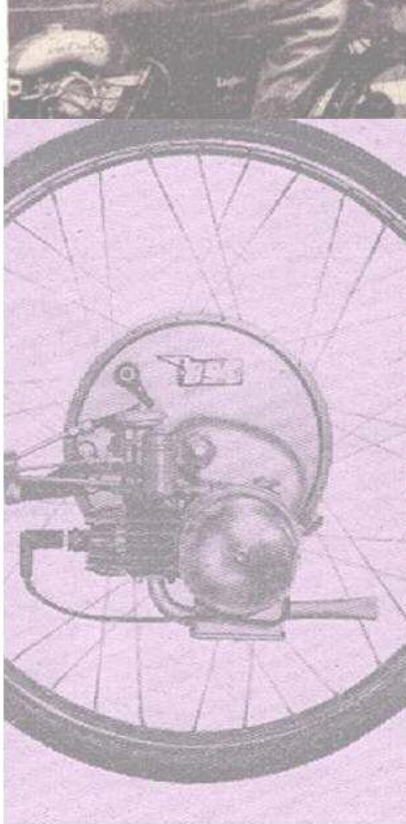
case also runs away. Then unscrew the oil-filler plug, replace the drain plug, and pour in fresh oil until it is level with the hole when the machine is upright. Replace the plug and forget it for the next 1,200 miles. The job, incidentally, should always be done when the motor is hot.

Chain tension is checked by removing the rubber plug in the chain case and testing for play on the top run. It should be free from sag. If it is not, loosen the lock-nut of the adjuster bolt beneath the case, and screw the bolt in until the play is taken up.

just the jockey pulley and replace the cover and bellows.

Rear wheel removal is simple—it does not require disturbance of the chain. Simply rack out the cable adjuster for the rear brake until the nipple can be slipped out of its anchorage on the brake arm, and then undo the 15 mm. nut on the chain-case side and pull the spindle clear. Now slightly spring the ends of the fork apart, and push the rear of the brake torque arm downwards to disengage it from the peg on the brake plate. It can now be withdrawn, and the wheel

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