

# SINGLE SIMPLICITY

*With acknowledgements to Motor Cycle Weekly*

One benefit of a long production run is that steady development will have hoisted in-built reliability ace-high and ironed out any maintenance problems. No better example could be found than in the 347 and 498cc "heavyweight" A.J.S. and Matchless single-cylinder roadster models with an ancestral line going back to pre-war days.

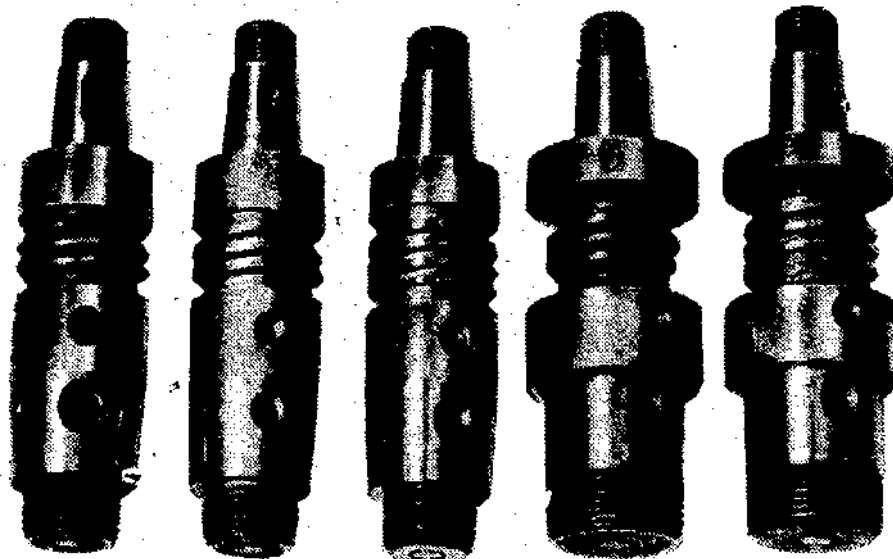
Except for "squarer" bore and stroke measurements, which necessitated a different crank assembly, the short-stroke 348cc engine introduced late in 1961 follows the same basic design of the other engines.

The two "lightweight" models are of much shorter lineage but they also are of straightforward design. The two-fifty appeared in 1958, followed the next year by a three-fifty derivative. The larger version is no longer in the lists.

## Oil Pump

Let's start with the long established units. In many instances, modifications embodied in later engines can be incorporated in more elderly jobs. For instance, delivery of the oil pump in pre-1946 engines can be stepped up by using a later worm drive.

There have been no fewer than four modifications, all in the quest for even greater efficiency and longer life.



Above, left to right:  
(1) single-start oil-pump drive; (2) two-start; (3) two-start with extra groove; (4) double-start, two-groove; (5) strengthened version of (4).  
Left: Oil-pump plunger at the top is used in "heavies" up to 1946, that in the middle on 1947 models and the one at the bottom from 1948

THESE TIPS MAKE WORK ON A.J.S. OR MATCHLESS SINGLES PLAIN SAILING

To the naked eye, the mods may appear insignificant and the two-start worm drive, used between 1947 and 1953, is none too easy to discern at first. But the "double start," as the name implies, has the effect of driving the pump at twice its original speed – hence doubling the oil flow.

But it was found that the worm required strengthening, so a replacement was designed with the extra worm and a shallower groove. This axle shaft is now available for pre-1953 engines.

A larger diameter shaft (and timing-side bush to suit) was introduced in 1954, and this also embodied a double-start worm. A final mod, in 1960, was to make the worm more robust; this latest design can be fitted to 1954-1960 engines.

If you contemplate bringing your model up to date by embodying an improved oil pump drive, bear in mind that a matching plunger must also be fitted. Three different variations exist and it is, of course, essential that you hit the ball first time. All double-start plungers have 2S stamped on one end.

The two later plungers, one introduced in 1947 for that year and the other used from 1948 to the present day, have a slightly more angled cut on the helical teeth. The 1948 version also has a bigger gap for the guide pin; and it may have an additional hole to allow extra oil through from the crankcase oilways.

## Plunger

Still on lubrication: before 1947 a one-piece guide screw meshed with the groove in the plunger. Then, in 1947, a hollow screw, fitted with a hardened-steel pin, was introduced.



*Oil-pump guide peg must be fitted with the relieved end inside the hollow screw*

The following year, a larger diameter screw, with corresponding pin was used. These changes should, of course, be taken into account if modifications are contemplated.

There are two points to bear in mind with the latest pattern pin. First, one end is relieved and this must seat inside the hollow screw. If incorrectly fitted, the narrow end will allow free play in the groove of the plunger and cause rapid wear.

The second point – take care when replacing the screw in the crankcase. Remember, you are threading steel into aluminium alloy. Rotate the engine slowly, by hand, until you feel the pin locate in the groove in the plunger. This dodge applies also to the two fifty and light three-fifty engines.