"SWIFT" IS THE NEW SCOTT

Bernal Osborne Tries Out the Latest Model of a Famous Marque—a 500 c.c. "Flat-top" Two-stroke Twin with a 90-plus Maximum

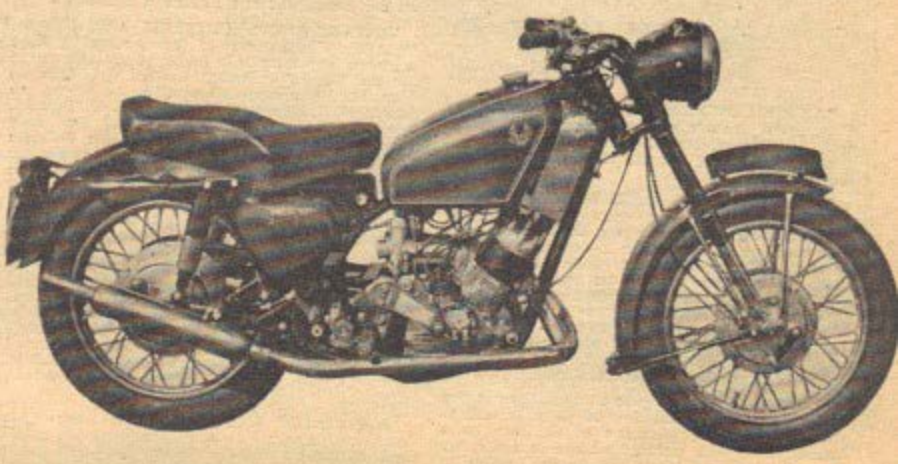
COMMANDING respect wherever motorcyclists foregather, the name Scott is one which, apart from labelling a famous make of machine, represents a still active tradition covering some half-century of British motorcycle development. Still active? Yes, that is true, for although the original Scott set-up at Shipley, Yorkshire, is no more, the enterprise, enthusiasm and hard work of Matt Holder, "gaffer" of Aerco Jigs and Tools, Ltd., 2 St. Mary's Row, in Birmingham 4, have served during the past few years to perpetuate the name and now to produce a new Scott model with a number of interesting improvements.

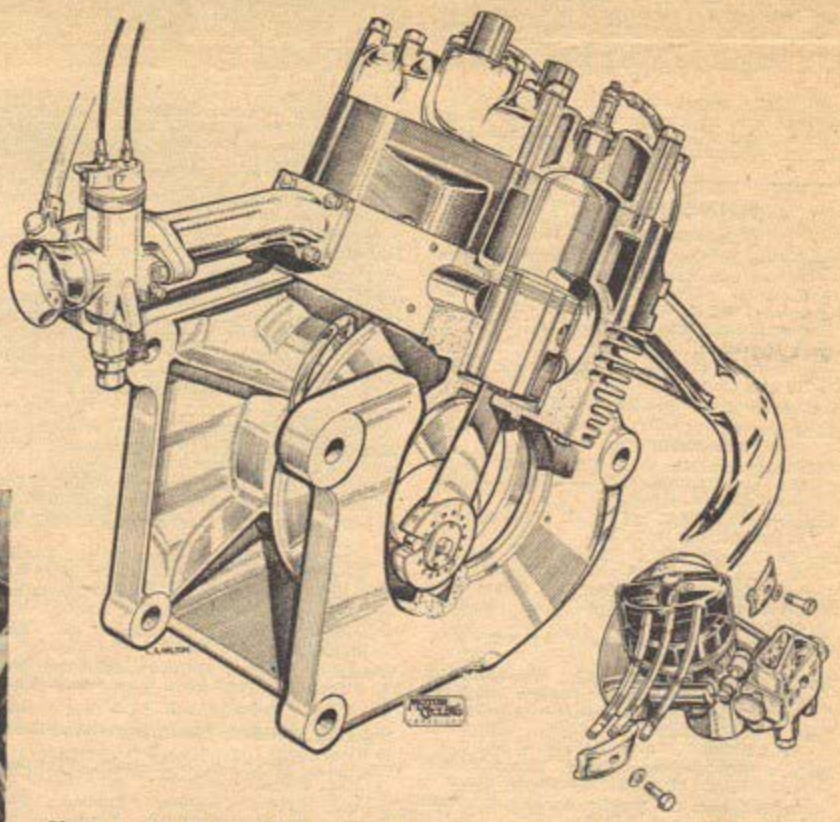
Outstanding is the change-over in the design of the pistons from the deflector pattern, used so faithfully ever since the late Alfred Scott produced his first, and at that time highly revolutionary, water-cooled two-stroke twin. Piston crowns for the new model, which is to be called the Scott "Swift," are nominally flat; the unit is a three-port job operating on the well-established loop scavenging principle. Accordingly there has been extensive redesigning of the crankcase and cylinder block to provide a new transfer passage layout and the use of flat-top pistons results in a more efficient combustion chamber, making possible a compression ratio of 8 : 1.

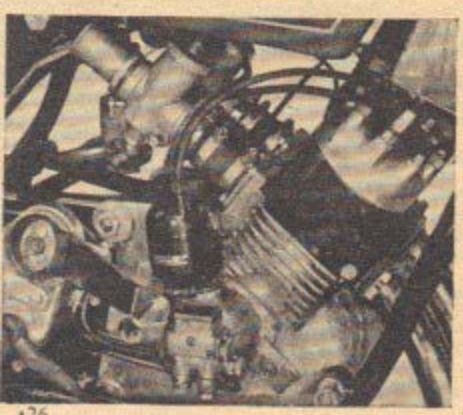
With this machine Scotts have introduced a standard "500" and have finally relinquished the 596 c.c. version. This is to be the only model offered, although it is hoped that later the machine will be listed in touring and super-sports forms. Bore and stroke dimensions are 66.5 mm. by 71 mm. respectively and the semi-slipper type pistons, each carrying three pegged compression rings, work direct in the deeply spigotted cast-iron barrels. The bottom half of the engine has been suitably stiffened by the introduction of bigger diameter crankpins and tougher connecting rods and, to improve acceleration, the centre flywheel has been reduced in diameter from 9 in. to 7½ in.

Lubrication is still by means of a duplex Pilgrim pump which, together with the distributor, has a keyed drive from the offside crankshaft. On the nearside, the crankshaft carries the rotor for the 6-v. A.C.-output generator.

A prototype tested on an airstrip last week revealed slight deterioration in pulling power at low r.p.m. compared with the lusty traction of the 596 c.c. version, and therefore the 8.9 : 1 low-gear ratio tended to make the get-away from standstill a little sluggish, but this gear was good for







Shown in this "broken" drawing are the flat-topped pistons, side-entry transfer ports and twin induction system which distinguish the "Swift" engine from its predecessors. Close-up on the left is of a prototype fitted with Amal G.P. carburetters.

48 m.p.h., a rate of travel that could be attained in 7 sec. Like its predecessors, the Scott "Swift" showed itself to have a seemingly endless store of revs., and in the 5.5 : 1 second ratio more than 70 m.p.h. was attainable in 18 sec. The three quite close ratios—top was 4.2 : 1—made possible high cruising speeds with very little variation in engine r.p.m. The best and most comfortable "top" cruising speed was between 65 and 70 m.p.h. and, in suitable conditions, 91 m.p.h. could be notched.

The test machine had no more than 250 miles on the clock and therefore we were at pains not to overtax the unit while testing for maximum speeds. Matt Holder demonstrated the value of the Pilgrim pump which, of course, can be adjusted to supply the extra oil necessary to cope with heavy-duty requirements.

In all essentials, the Scott "Swift" carries on the traditions of its well-loved Yorkshire ancestors. With a performance equal to that of the specially developed pre-war "Clubman"—on 100 c.c. less—the current model looks like a Scott and handles impeccably. The low centre of gravity makes high-speed cornering a pleasant and safe manœuvre and the telescopic forward and swinging-fork rear suspension systems bring the machine into line with current fashion. Missing is the Scott "yowl"; large-diameter exhaust pipes, necessary to create the extractor action demanded by a flat-top piston two-stroke, are neatly siamesed and the spent gases are led out to a single expansion chamber on the off-side. The note is altogether deeper than that long associated with the two-speed and three-speed Shipley-built Scotts, but it is resonant and pleasant to the ear.

"Low centre of gravity makes high-speed cornering a pleasant and safe manœuvre. . . ."

The double front-brake arrangement introduced by the Aerco concern is retained and provides first-class braking which, in the rider's experience, should be supplemented simultaneously by the application of the rear brake. The front brake alone is a little drastic! A Lycett dual seat was fitted to the test model and provided accommodation which, in conjunction with the handlebar level, made for a particularly comfortable riding position.

Some prototypes may have been seen on the road with Amal G.P. carburetters but, in production form, double "Monoblocs" are likely to be standardized.

Altogether, the experience made for a most interesting afternoon's riding; to some extent it was a peep back into the past yet, at the same time, a glimpse of what might be a very pleasant future for those to whom the Scott name and tradition is held in high esteem. Incidentally, Scotts Northern distributors, Geoff Milnes and Harry Langman, of Leeds, are due to have a couple of these machines in the Island next week, so keep an eye open. . . .

PLUG READING TODAY

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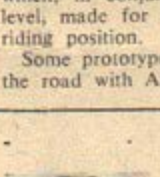
R. Battersby
Competitions Manager
AMAL

NOWADAYS, readings are considered more carefully in relation to known optimum head conditions and it is possible for a frighteningly white-looking plug to be accepted by a racing manager as being right for his particular engine. This, coupled with the extensive range of plug makes and designs and also the varieties of fuels used, makes it impossible for us, as carburetter manufacturers, to give an accurate formula for checking mixture strength by plug reading.

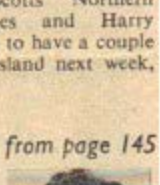
What we can say is that, in our experience, a plug will not be reasonably coloured until after about 20 miles of fast riding and that any earlier attempt to gain information as to jetting should be avoided. Any running-on of the engine after the "chop" will result in sooty deposits, due to the liquid fuel which is always present on the tract walls at full throttle vaporizing suddenly and completely under the much lower pressure that exists on the engine side of the throttle valve when this is closed.



L. N. Hands
Competitions Engineer
CHAMPION

ALL types of Champion plugs exhibit similar characteristics and there is, of course, an ideal reading to aim for. In this, the insulator nose is dull or light brown, the end of the body a shiny black with a thin trace of soot which will wipe off with the finger, and the end of the electrodes greyish in appearance with slight beading on the inter-electrode surfaces. Certain factors influence the type of reading obtained and variations will be encountered with different fuels, especially those with an alcohol base, with which the very "dry" appearance may seem to be due to weakness.

For some years at the T.T. it has been the practice for Champions during the last evening's training period to carry out a plug reading session on the Sulby Straight, a location found to give an accurate assessment of carburation. These sessions have been well supported, riders thus being able to make any changes that are required and take a check reading on the following lap.



N. Hooton
Competitions Manager
LODGE

MODERN fuels as used in racing give very little variation in plug reading, when different brands are compared, except for the effects of differing lead content. With a lead-free fuel the reading, if the mixture is correct, will be of the classic appearance as described in the introduction; but with leaded fuel the shiny, black finish to the body will be somewhat dulled and the light-brown insulator shade will look a little different. If overheating is being experienced, there will be a dull grey coating of lead over the insulator nose.

Plug reading on two-strokes is not so straightforward as with four-strokes, because due allowance must be made for the oil burnt. These engines in particular, when subjected to an increase in combustion chamber temperature and using leaded fuel show the insulator dotted with tiny metallic specks, one or more of which will, sooner or later, produce a whisker across the points