

MAINTENANCE COSTS for 40,000 MILES



IN May, 1922, a member of *The Motor Cycle* staff purchased one of the early Scott Squirrels.

Later in the year it was sold to a young enthusiast interested in two businesses separated by 16 miles of main road, though a rough cross-country cut permitted the daily run to be shortened when weather conditions were favourable. A careful log of the behaviour of the machine was kept until it once more changed hands at the end of November, 1924, and passed beyond the writer's ken.

When such pessimistic remarks are current and depreciation, it is worth adding that this three-year-old bus with sidecar fetched nearly £40, and that half a dozen local observers were eager to become its third owner.

The engine was very carefully run in on delivery, no great speeds being attempted for the first 1,000 miles, and to this caution its subsequent achievements are mainly due. Slow running was obtained in neutral by shutting the air lever and allowing the engine to four-stroke. The makers' advice that the ball of the foot should be applied to the kick-starter was early discarded in favour of the arch, as backfires produced acute pain and much loss of skin and blood.

Original Plugs' 25,000 Miles.

As a few petty criticisms will be made later, and a list of renewal parts set out, the preface should state what did not happen during the 40,000 miles. The machine stopped twice on the road against the rider's wishes, once when it crashed into a wall in dodging a cart, and once when the petrol tank ran dry. No other involuntary stoppages ever occurred. No chain ever broke, the jet never choked (thanks to a good Enots filter at base of tank), no plug ever failed completely, nor did misfiring from partial oiling-up occur after the first 100 miles. (The original pair of green Splitorfs ran for 25,000 miles, and were only discarded because the outer points were bent inwards when the centre electrodes burnt clean through, and the plugs seemed less efficient afterwards. Another pair covered the remaining 15,000 miles, but seemed more subject to pre-ignition than the first pair.)

The original gudgeon pins are still in, though one is a shade loose in the piston. The mainshaft roller bearings are still tight. The original engine sprockets are still in use, though becoming slightly hook-toothed; so are the gear drum sprockets, but the chains do not ride up on them. The front forks have undergone no repair, and show a trifle of play in the bottom sleeves, probably

The Detailed Record of an Owner who kept his Machine Two and a-Half Years.

By "ROAD RIDER."

through side drag from the sidecar, which was added after 23,000 miles. The frame is still dead true. The radiator has never leaked. The plating is good, except on the handle-bars (these are black-finished on the current model); and the enamel is very decent.

Nothing ever shook loose or fell off excepting the tail lamp and rear number plate, which would be better riveted on; they were actually attached by bolts. The front horseshoe or stirrup brake was not used, to avoid ruining the front rim; and the rear brake, though tolerably efficient when dry, was quite unworthy of such a fast machine as soon as it got wet. On the 1925 model two first-class expanding brakes are standard.

Petrol consumption averaged round about 80 miles per gallon solo—nothing but aviation was used—and the addition of a sidecar reduced this figure to 70 m.p.g. on long runs, or as low as 65 m.p.g. on local pottering.

The Log.

A formal diary of this longevity is set out below. In a few items the mileage figure opposite a note is only approximate, but no serious divergencies from fact are included.

MILES.	NOTES.
100	For first few miles plugs occasionally missed a little through partial oiling, but were easily cleaned.
200	Low gear evinced a tendency to jump out; spring clip on quick thread drum was fouling gear bracket. This drum is too much exposed for bad weather, and needs a cover.
2,000	First decarbonisation. All piston rings tightly stuck. Bad carbon in exhaust ports and on piston crowns, but cylinder heads very clean. (N.B.—Pity that piston cooling is still so tremendously inefficient as compared with water-cooled parts.)
2,100	Tank came loose; tapping lock ring at top cured this. Keying the tank is not a sound method; two corrugated washers, one on tank and one on frame, would be surer.
5,500	Second decarbonisation.
9,000	Third decarbonisation.
10,000	Fitted new high gear and driving chains.
11,500	Back tyre (Avon heavy three-rib) went at bead. Fitted heavy Dunlop. Fourth decarbonisation.
14,500	Fifth decarbonisation.
17,500	Sixth decarbonisation. Two tyres went—the back Dunlop after 6,000 miles, and the original front three-rib Avon after the splendid distance of 17,500. It still had a visible centre rib, but had become inclined to skid. A pair of the latest Dunlops were now fitted, together with new chains all round. A batch of minor troubles occurred at this point, as, in addition to the above very reasonable replacements, a distinct leak was noticeable at the left-hand crankshaft bearing. Contrary to the makers' instructions, the crank assembly was dismantled at home with cautious but mighty blows from a 7 lb. hammer. The faulty packing gland was patiently ground in, and after reassembly (a long job) the

Maintenance Costs for 40,000 Miles.—

- left-hand cylinder seemed as weak as ever. But in 1,000 miles it ran itself in again, and has been perfect ever since.
- 20,000 Seventh decarbonisation.
- 23,000 Eighth decarbonisation, and complete amateur overhaul. The gear was dismantled, and needed new thrust rollers. New big end rollers were put in the engine, though the old ones only showed .0001in. wear by micrometer. Two new piston rings were inserted, one having been snapped during removal. At this point a Watsonian 4-point suspended sidecar was attached, and a 19-tooth sprocket was fitted, reducing the gear ratios to 4.34 high and 6.9 low. With these gears the passenger performance was found practically equivalent to the solo standard in ordinary riding, though a matter of perhaps 7 m.p.h. was peeled off the maximum speed all out.
- 24,000 Slight fracas with wall, owing to thoughtless manoeuvre by horse and cart.
- 25,000 Uncertain starting and intermittent missing traced to magneto. Cured by new carbon brushes for 50 miles, when trouble recurred. Found groove worn in ebonite of slip-ring (Lucas B.T.H. type), so that brushes got chewed up on edge of brass segment. New slip-ring fitted.
- 27,700 Attempt to do 5,000 with sidecar without decoking proved futile, as severe pre-ignition set in after 4,700. On taking cylinders off, found that the exhaust ports were coked right up except for a small hole in each about the size of a sixpence. The top piston rings were baked right home, and there was a thick hard crust of carbon on the piston crowns. The cylinder heads were practically clear, a great testimony to water-cooling.
- 31,000 Tenth decarbonisation. Renewed chains. Water in magneto condenser—there was no rubber washer on one of the brush holders.
- 35,000 Balls began to break up in the back hub. Renewed same.
- 34,000 Twice renewed balls in front hub. The double job was apparently due to the first set having been adjusted too tight.
- 34,100 Renewed magneto chain. It is most remarkable that this tiny cycle size Renold chain should have run the magneto at engine speed for 34,000 miles without giving any trouble. Eleventh decarbonisation.
- 37,000 Back chain started to jump rear sprocket unless adjusted very taut. Renewed this, and also gear box driving sprocket. Twelfth decarbonisation. From now until machine was sold at a few miles under the 40,000 it received no attention whatsoever, and was actually fractionally faster than it had ever been in its youth.
- 40,000 Machine sold.

The cost of renewals is sure to interest men who contemplate running a machine on business "for keeps":—

<i>Engine.</i> —Two sets big end rollers at 4s.; 9 Brico piston rings at 2s.	1 6 0
<i>Transmission.</i> —Pair gear thrust rollers, 1s. 3d.; high gear chains at 12s.; two low gear chains at 12s. 4d.; back chains at 22s. (1 at 6d. extra); 1 magneto chain at 3s. 3d.; 2 sets of spring links, 2s. 3d.; 2 driving sprockets at 8s.; 1 rear sprocket at 30s.	9 16 0
<i>Controls.</i> —Three lengths of Bowden wire	1 0 6
<i>Magneto.</i> —New slip-ring, 11s.; two sets of carbon brushes at four shillings per set (!)	19 0
<i>Wheel Bearings.</i> —Three sets of balls at 1s. per set	3 0
<i>Saddle.</i> —One new spring	2 10
<i>Brakes.</i> —Two new blocks	2 4
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	£13 9 8

The spare chain links were never used, and the invoice for certain small port packings has been lost; perhaps they were supplied gratis. Turning to tyres the costs were as follows:—

	£ s. d.
1 Cover	2 5 0
1 Cover	1 18 6
3 Covers at £2 0s. 6d.	6 1 6
1 Tube at 8s. 6d.	8 6
1 Tube at 10s.	10 0
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	£11 5 6

This record shows that, apart from the ordinary and constant small outlays on running necessities, such as fuel and oil, the rider was never once faced with any substantial outlay except on the occasion of the accident, which was covered by insurance, and incidentally justified the payment of a heavy "full cover" premium for three seasons.

Repairs and renewals totted up to the very modest figure of 12s. 4d. per 1,000 miles covered; and it will be noticed that the owner who keeps a watchful eye on his mount, and renews a part as it becomes worn, can actually ride for three seasons without an involuntary road stop. The record is equally creditable to the rider, to the makers of the machine, and to the factories whence such parts as tyres, chains, and magnetos emanate. The writer is personally divided in mind as to what is the finest item in this excellent record—the Avon front tyre which did 17,500 miles must perhaps fight out the issue with the cycle chain which drove a magneto at engine speed for 34,000 miles, and the Splitdorf plugs which ran 25,000 miles.

It is needless to add that the 1925 mount is another Scott—this time a Super Squirrel.

COMPETITORS' LIABILITY FOR SPECTATORS' SAFETY.

AN action arising out of a fatality which occurred in connection with the speed trials of the North Down Motor Cycle Club at Clondeboye, Co. Down, in April of last year, and to which reference has already been made in our columns, was tried recently before a common jury in the King's Bench Division, Belfast.

The mother and daughter of a boy who was killed by one of the competitors running off the road and colliding with him brought an action against the competitor for compensation for the boy's death, the promoting club being also sued.

The answers of the jury to the questions put to them leave the case in an unsatisfactory position, and, after legal argument, the judge declined to enter judgment for either side,

leaving it to either the plaintiffs or the defendant to move for judgment in the Divisional Court.

The findings of the jury may be regarded as being more or less at cross purposes. They found that the club was guilty of negligence in running the speed trials irregularly. (The trials were held before the passing of the Act of the Northern Ireland Parliament which gives power to local authorities to close the roads for such events.) They found that the road was unfit for the carrying out of such trials, and that the club was negligent in permitting Malcolmson (the motor cyclist concerned) to start. On the other hand, they gave an affirmative reply to the question as to whether the deceased was lawfully on the road, was a spectator, and knew the risks which he incurred by being there.