

ROAD TEST

Supercharged Sprite

ALL the way from Scotch Corner to Boroughbridge the little Sprite cruised at over 6000 rpm—95 mph. Traffic was light, and, except when roundabouts impeded progress, its speed rarely dropped below 90 mph. At Boroughbridge, having done 188 miles in 3½ hours, I stopped to check the effect of this flogging on the car. The oil level was just as it had been at Edinburgh. The header tank was still full and petrol consumption worked out at just over 100 miles on every four gallons of petrol.

This, of course, was no ordinary Sprite, but a supercharged one supplied by the Donald Healey Motor Co., Ltd., of Warwick and fitted with a Shorrock supercharger. Bolting-on the supercharger to the otherwise standard Sprite engine increases the maximum power output from 42.5 hp at 5000 rpm to 68 hp at 5700 rpm; the relative torque figures are 52.5 lb ft at 3300 rpm and 64.8 lb ft at 3,000 rpm. Other modifications on the test car included the Healey disc brake/wire wheel conversion (the front discs being supported by 8 inch drums), an anti-roll bar and competition shock absorbers.

A more thorough test than is sometimes possible was given to this combination by driving from London to the Isle of Skye via Warrington, Lancaster, Carlisle, Glasgow and Fort William, exploring most of the island's varied roads, and returning southwards by way of the Highlands, Edinburgh, A68 and A1. In a total of 1700 miles it proved to be an ideal means of covering 300 or more miles in a day (on the return trip it did Edinburgh-Aylesbury in 7½ hours) and its general behaviour throughout this time was an absolute revelation.

By comparison with the standard car the performance of the supercharged Sprite is on an altogether different plane, and its road-holding could hardly be faulted, except perhaps on fast Ess-bends where a stiffer anti-roll bar might have helped on the change from one lock to the other. The slight "roll-oversteer" of the standard Sprite is completely eliminated, however, and this— together with the positive rack-and-pinion steering, results in handling qualities which are almost up to sports/racing standards. The modified brakes are well up to the increased



performance, and the front disc/rear drum set-up seems ideally suited to this comparatively light car, additional advantages being the provision of moderate pedal pressure at all times and a really adequate hand-brake.

As to performance itself, the fitting of the Shorrock supercharger completely transforms the car. Acceleration times through the gears are improved by more than 100 per cent in some cases, and at the same time the engine is smoother and more flexible than the standard unit. Maximum speed is increased by some 20 per cent, even with the normal hood and sidescrims fitted, and it seems almost certain that the smoother contours of a hard-top would make this a true 100 mph car.

Such considerations are of far less importance, however, than the more practical aspects of the car's performance, particularly its remarkable "liveliness" in traffic. From any sort of check the Supercharged Sprite will accelerate back to a cruising speed not far short of its maximum in an incredibly short time. Even in top gear it will go from 30—80 mph quicker than some 1½-litre sports cars. And the engine of the test car was so smooth at all speeds that I suspected it of being specially prepared and balanced, although I was assured that this was not the case.

The supercharger installation on the Sprite, illustrated below, consists of a Type C/75/B Shorrock eccentric-rotor-type compressor—suitable for all BMC 'A' series engines and distributed in the British Isles by the Donald Healey Motor Co, Ltd— together with a 1½ in SU horizontal carburettor mounted on a replacement inlet manifold. Drive is by "V" belts in combination with a special crankshaft pulley, and maximum boost is 7 lb per square inch. Automatic lubrication is achieved by means of a metering valve built into the supercharger and

connected with a special tapping into the engine oil pressure line. All these components, together with supercharger mounting brackets, studs and bolts, are included in the price of £69 17s. Fitting is quite straightforward, the only alterations required being the removal of the existing manifold and replacement of the crankshaft pulley. Alternatively, the Donald Healey Motor Company will fit the supercharger to the Sprite, or any BMC 'A'-series engine car, for £10.

One of the chief advantages of the eccentric rotor-type supercharger is that it affords both high mechanical efficiency and reliability due to there being no actual contact between the vanes and the outer casing. Both of these features were demonstrated during the recent BMC record runs in Utah, when an A-series engine car fitted with a Type C/75/B supercharger covered 146.95 miles in one hour and did 1000 miles at an average of 138.55 mph. These runs, in addition to gaining world-wide publicity, also acted as a final proving for the "blown" power unit, and the availability of a supercharged Sprite was announced during the second week of the Earls Court Motor Show.

PERFORMANCE DATA

	Standard Sprite	Supercharged Sprite
Acceleration		
0—50 mph	13.0	8.2
0—60 mph	21.2	10.8
0—70 mph	33.8	14.8
Standing start ¼ mile	21.0	18.4
Mean Maximum speed 80 mph		96 mph
Overall fuel consumption	32 mpg	27 mpg

With many conversions it is necessary to make certain concessions in the interest of higher performance or improved roadholding, but the supercharged Sprite gave absolutely no grounds for criticism by comparison with the standard car. The engine was much more flexible, always started easily and showed never a trace of temperament. The ride, although firm, was no less comfortable than in the standard model, and both driver and passenger appreciated the marked reduction in roll. The disc brake/wire wheel conversion, although dearer than the supercharger, also proved its worth not only by slowing the car abruptly whenever necessary, but also by imparting the comforting feeling that, however steep the descent, whatever the hazard, the Sprite would always be able to stop.

Fully converted, then, the Sprite is in an altogether different class from the standard version (and would generally be placed in a higher capacity class for competition purposes) and becomes one of the quickest cars on the road. It is also one of the most enjoyable to drive, and extremely practical in that its large, if rather austere "boot" will carry a surprising amount of luggage. For Sprite-owners who object to being left at the lights, or anyone who wants a really good, safe, small sports car, this could well be the answer.

DAVID PHIPPS.

Under the bonnet, the Shorrock supercharger, anti-roll bar, disc brakes and wire wheels.

