

# These Seats Travel At 113 mph



## A BROADSPEED £100 CONVERSION OF A COOPER 'S'

**N**OWADAYS the tuning industry is at the point where, apart from out-and-out racing, mere speed just isn't enough. The importance of reliability goes without saying and of course applies to racing too, but even for road use a properly converted car must show an improvement in all respects, and not just in performance, over the standard product.

All of which simply goes to convince us that the 1275 Cooper "S" we've just been testing is indeed a properly converted car. Look at the improvements. The chief weaknesses of the Cooper "S" are noise, vibration and, driven hard, an excessive oil consumption. The car we've been testing is quieter, suffers from practically no vibration despite its ability to survive a 2,000 r.p.m. increase in engine speed, and did about 200 miles per pint of oil—driven hard—compared with the 75 m.p.p. we've had from standard cars. Reliability? Well, the owner, Mr. P. Perrey, a Birmingham solicitor, has done about 19,000 miles in the car and is still sufficiently pleased with it to let us part him from it for a few days for the test, which argues that it's alright on that score. Improvements in performance? But yes. This car did 113 m.p.h. in one direction, and will get to sixty, two-up, in under nine seconds, which isn't hanging about. Given decent conditions it ought to be possible to improve on this—we were getting wheelspin in second gear as well as first, and it took us three days before we could find dry enough weather to make it worth trying.

And now for the 64-dollar question—who did the conversion? The answer, friends, is Broadspeed—to be exact, Broadspeed Engineering Ltd., of 101 Stratford Road, Birmingham 11. This car represents their Stage III tune—what is called their "Hundred Pound Conversion" on the 1275 Cooper "S". This is the one they suggest is suitable for the owner who wants to combine everyday motoring with a chance of success in week-end competitions. What they do is to modify the cylinder head, enlarging the inlet valve ports and tracts, polish ports and recontour the combustion chambers to their racing specification. The

head is then machined and surface-ground to give a compression ratio of 10.5 to 1, and on to a modified manifold are mounted two modified 1½ in. S.U. H4 carbs, along with a special exhaust manifold. The camshaft is changed for the Broadspeed "Road/Race" pattern, and bob's yer uncle. Not included in the written specification, but there nevertheless, is the reason why the oil pressure is reduced drastically—special oil seals are fitted to the valve guides, and this it seems does the trick.

The test car had a number of other fixtures and fittings, and although these don't materially affect the performance they are worth mentioning. It had Cooper wheels, Dunlop racing tyres, special seats (a reclining one for the passenger) and a cranked gear-lever to improve its access from the reclined driving seat: the rev-counter was fitted behind the steering wheel, a smart wood-rimmed pattern on a lowered column. Rubber "Flik-switches" were fitted to the lighting and wiper switches.

A couple of problems presented themselves from our point of view—the racing tyres didn't agree terribly well with the road surface conditions of a soggy November, and from where we sat we could only see the rev-counter up to about 6,000 r.p.m. without leaning forward. The other snag was that the cranking of the gearlever meant that you couldn't select reverse gear until the handbrake was released—small points, but we mention them in case you're thinking of similar mods.

There was absolutely nothing, apart from the special wheels, about this car to suggest that its performance was in any way different from standard, which may be one of the reasons why the owner enjoys it so much! Since it is without doubt considerably faster than the majority of cars of up to 2½-litres the odd enterprising youth in a standard 1275 or other received a series of ugly shocks as 5 NOB disappeared into the dusk like a scalded cat. After all, 0-90 in 21 seconds isn't the sort of thing you come across every day, now is it? For all this, though, the whole thing was a vast improvement on the standard 1275 which, in



**NOB "TAKES FIVE" AFTER A RUN UP THE MOTORWAY AT OVER 100**

our opinion, falls short of the ideal—except in terms of performance and handling, which are both of the great fun order—in several respects. The driving position of 5 NOB presented one or two problems to us personally—obviously we aren't the same size or shape as Mr. Perrey—but as far as it went we felt that we could have sorted it out to be extremely comfortable. Certainly the seats were real seats, rather than perches. The engine was always easy to start whether it was hot or cold, and the tickover was steady and reliable at only a few hundred r.p.m. above normal—about eleven hundred revs, in fact. Flexibility was extremely good: driving in traffic could be approached without the need for lower gears or clutch slipping, and if the mood took you, you could potter along at under 30 m.p.h. in top gear—below two thousand revs—and accelerate up to a more appropriate lick without judder, snatch or any of the other road-test words which mean unpleasantness. The power real starts to arrive at about 3,000 r.p.m. and from there on

up it just keeps on coming. The standard car has markings on its speedometer to remind you to change gear at about 6,000 r.p.m., and one of the nasty features is the way everything roughens up for the last five m.p.h. or so in every case. But with the Broadspeed version this just wasn't so—when the rev-counter needle passes six thousand there's still a long way for it to go, and in fact you can go up to eight without any fuss. Obviously the engine is turning over pretty rapidly at that point, and it's only fair to allow it to feel like it—but it's still all properly smooth—you can cruise at over six thousand without any qualms at all, and a motorway speed of around the ton simply makes the water temperature go up a couple of degrees—nothing else happens at all, except that the motorway gets a lot shorter!

This is one of those cars where one is impressed less by what it does than in the way it does it. Top gear performance is all you could expect of a much larger engine, and the acceleration—in top—from around 70 up to three-figure speeds is pretty startling the first time you try it.

It goes without saying that good old Mini roadholding is well up to the extra performance. Quite how much the Cooper wheels and racing tyres contribute isn't easy to say—let's just agree that the thing handles beautifully under all conditions, with excellent steering, brakes and cornering. The only thing is that the racing tyres, although wizard for racing, as you might say, aren't entirely a good thing on greasy November road surfaces. And we have never realised until we drove this "dry" Mini what an improvement in ride with Hydrolastic bit gives you—although there again some of the bad riding habits are probably due to the racing tyres, which weren't constructed with riding comfort in mind!

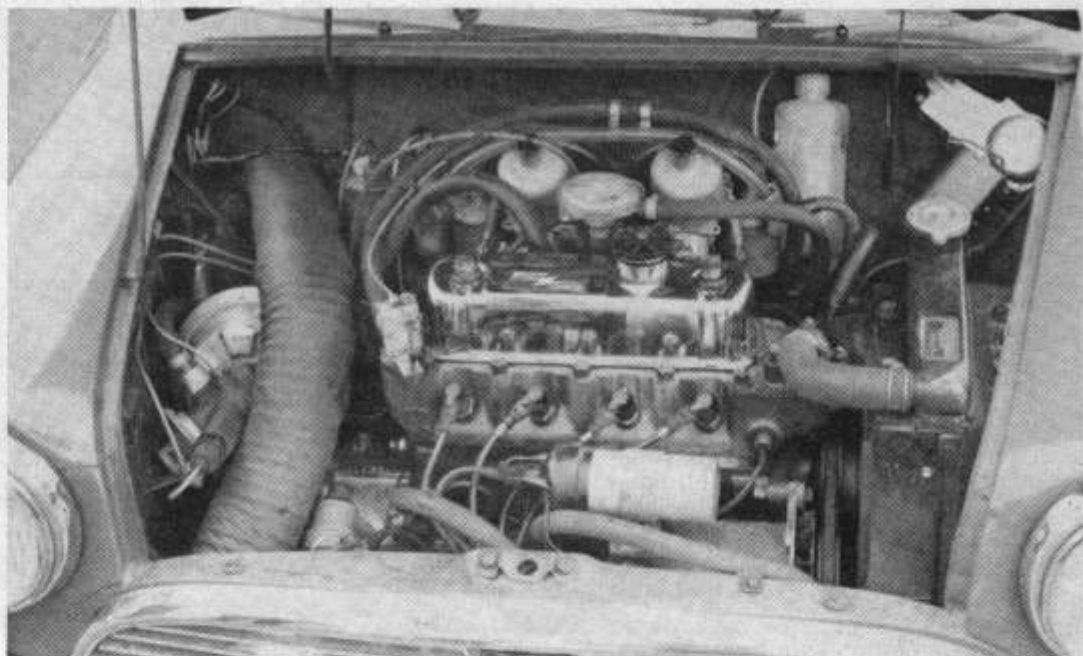
There is, as we said, power from 3,000 r.p.m. upwards, and the real urge reports for duty at about five thousand. If you can keep the speedo needle above this you're really going places, and under these conditions the Broadspeed 1275 is not a car for watching birds—of any sort—in. With the sort of average speeds you can put up in this little projectile it is a Good Thing to stay on the ball, or disaster may well threaten. Which would be nasty.

Apart from the owners 19,000 miles, we added another few



**Cooper wheels and Dunlop racing tyres.**

YOU OPEN THE BONNET EXPECTING TO FIND SOMETHING PRETTY SPECIAL, WHAT YOU DO FIND LOOKS ALMOST STANDARD BUT IS INDEED VERY SPECIAL.



hundred in the three days we had the car, and the thing never missed a beat.

We worked out a few figures just for laughs, and the overall average speed for the time the car was actually being used is something over 45 m.p.h.—including every kind of traffic condition and stops for fuel. Which means that it was going quite quickly for quite a lot of the time. Despite this we got an overall oil consumption of 200 miles per pint, as we said, and a fuel consumption of, overall, 24 m.p.g.—including the performance testing and whatnot. In other words, the converted car uses a lot less oil and only fractionally more fuel than the standard version, despite the fact that it chops more than three seconds off the 0-60 acceleration time, and adds about twelve per cent to the maximum speed. In slightly less than ideal conditions, we managed to get the car to accelerate from rest to 60 in 8.5 seconds, to 70 in 10.4, to 80 in 14.4 and to 90 in 21 dead: that sort of thing ain't peanuts, and it is clearly obvious that your hundred pounds is buying you a considerable increase in horse-

power over the 75 which the big Mini offers in standard form. The new maximum speed, taken as a mean of two ways, comes to 112.5 m.p.h., which is a lot of revs but, on the other hand, the power unit seems perfectly happy. Certainly it is perfectly satisfied with life at around the ton, which you can regard as a pretty rapid cruising speed on give and take roads—it seems to be asking a bit much of any small engine to sustain this sort of thing for sixty or seventy miles on a motorway. But for bursts of ten miles at a time it didn't bother it at all.

One way and another, it seems that the hundred quid asked by Broadspeed is well worth spending. You get a car which is faster than standard and, at the same time, is a damn sight more pleasant to drive or ride in. The Cooper "S" is no more a "mini" car, in the sense that this is a cheap economical runabout, than is a real live sports car (whatever that may be). After all, it costs the better part of eight hundred in basic form, so why spoil the ship for a ha'porth of power?



## Cars on Test

### BROADSPEED MINI-COOPER "S" 1275

**Engine:** Modified cylinder head, with larger inlet valves, ports and tracts; polished ports, recontoured combustion chambers; compression ratio 10.5 to 1. Modified inlet manifold and 1½ in. S.U. H4 carburettors; "road/race" camshaft; special exhaust manifold.

**Transmission:** As standard Cooper S.

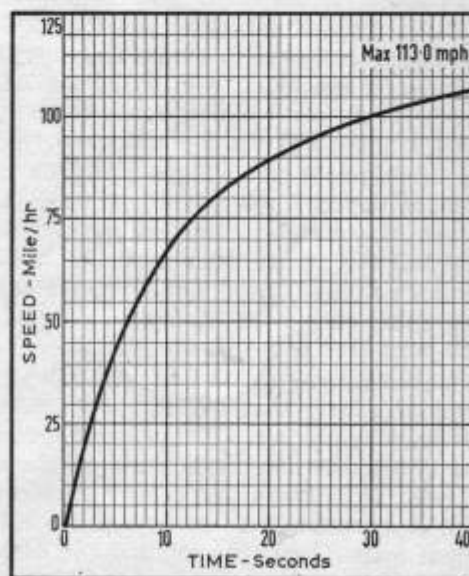
**Suspension:** As standard Cooper S, with Cooper mag. alloy wheels and Dunlop racing tyres.

**Brakes:** As standard Cooper S.

**Dimensions:** As standard Cooper S.

#### PERFORMANCE

	m.p.h.		secs.
MAXIMUM SPEED	113.0	ACCELERATION	0-30—3.5
Mean of two ways	112.5		0-40—4.8
			0-50—6.1
			0-60—8.5
			0-70—10.4
			0-80—14.4
			0-90—21.0



Car Converted by: Broadspeed Engineering Ltd.,  
101 Stratford Road, Birmingham 11.  
Cost of Conversion: £100.