

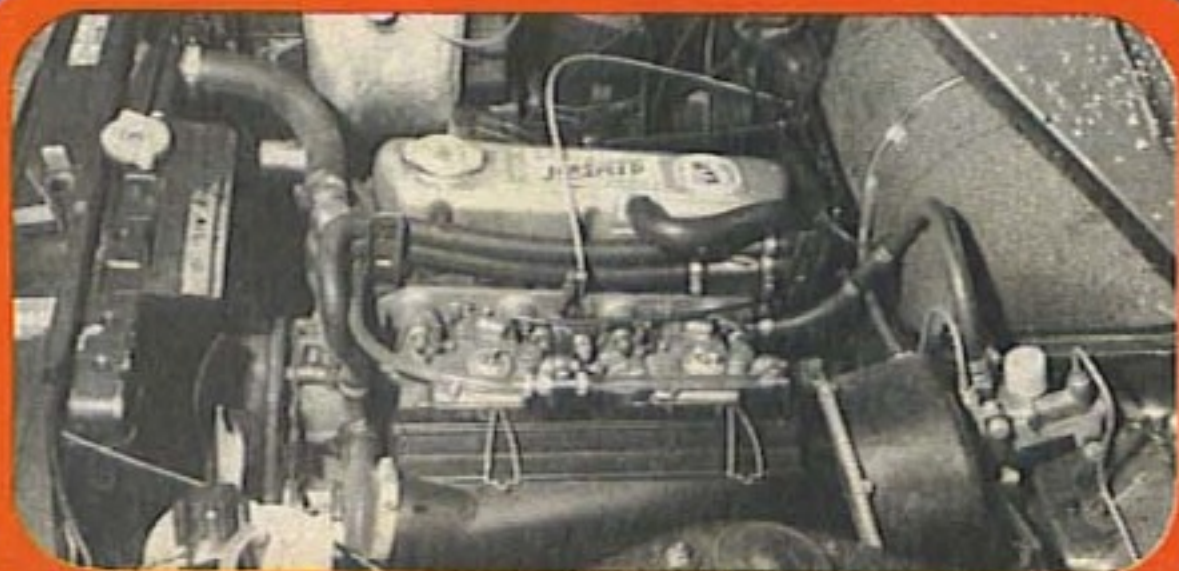
APRIL 1971

CARS

and CAR CONVERSIONS

17½p

SHEER TERROR!!! SEE INSIDE



HOT AVENGER TESTED In-Car Sound Scene

SQUEALEYSTONE SESSION

Like have you ever been terrified?

We mean really terrified.

Well folks, how does handling a real live and exceedingly

mighty Healey 3000 grab you? It certainly



grabbed RH-E, and he won't forget it in a hurry.

The object to be tamed was none other than SID 1, the infamous club Racing property of Hairy Healey

enthusiast extraordinaire Syd Segal

This car is no flash in the pan, as it's been around the Segal family for nearly eight years now, starting life as the ez-Liz Jones car. In fact the basic car is all of 11 years old, being a 3000 Mark II. Syd originally bought it for his wife Thelma to use as a shopping car. But Thelma also used to Rally the car at the weekends, whilst Syd Raced it whenever he could. It doubled up as a road, Rally, and Race car, until finally the decision was taken to transform the car into an out-and-out Racer. Due to pressure of business, Syd approached one Derek Spencer to do the preparation for him. Hitherto, he had done the work himself.

Anyway, Thelma Segal had by this time been given the keys of another mighty shopping car, the famous ex-works Healey SMO 744.

Derek Spencer, now operating under D & S Engineering, 245 Liverpool Road, Islington, London, N1 (01-607 1524), ably assisted by mechanic Norman Garner, has had fantastically varied competition motoring experience, starting off as a mechanic with the BRP Formula 1 racing team. He then worked for Peter Jopp, assisting in the preparation of various Volvos, as well as the famous Jopp Elite. Next, he did a stint for the Radio London Racing Team, keeping Keith St. John's various machines running well. Finally, before setting up in business on his own, he wrenched for the colourful Statesider Eric Hauser, who came over to this side of the water to see what club Racing was all about in that purple AC Cobra.

But first, let me tell you what this particular 'World of Action' was all about. Round the Silverstone Club Circuit, in the skilful hands of Syd, 1 minute 8 seconds per lap would be a good time. After a few laps, without taking any risks either (Syd and Derek were watching after all), I did a couple of 1 minute 10's.

First of all, Derek warmed the mighty monster up for a few laps, before coming in to open the door for yours truly. Both he and Norman smiled nervously. Once perched in the inner sanctum, the start procedure went like this. I wound away on the key, following the D & S instructions most carefully to apply half throttle with the right foot. After various mechanical chunterings, six cylinders started to burble, followed by more burble, followed by calico barkings from the side exhaust. The monster was alive — and I was to find out how well alive the jet car was to be, once given the all clear to venture out onto the great wide open spaces of the track itself.

There was an old type rev counter confronting me. It seemed to be fairly nervous as well. Trying not to be put off by its twitchings, I opted to change gear at something like 5000 rpm or so. In Races, Syd-in-a-hurry uses up to 6000!

The water temperature soon levelled off at 70, whilst the oil pressure stayed at 55. Though, according to the temperature of the day, it apparently is quite normal for it to fall down to 40, without anything being amiss.

My gawd — the gearlever was positive, or rather very stiff. It seemed to become stiffer, or my left arm was beginning to fall off. After a couple of laps of holding the beast on course, my right arm became quite seized up too!

It took me quite a while to get used to the overdrive. But this was necessary, for anybody to get the best out of the car and gearing. In fact, so flexible was the engine, that I often forgot to change gear completely. The technique, I later found out from Syd, who arrived to observe my progress halfway through the test session, was to keep overdrive applied on third and top all the way round the circuit except for the very fast right hander (if you dare!) after the pits.

I found that the brakes needed warm-

ing up before any real confidence could be mustered. If I became too brusque with them, they would retaliate by setting up much pattering and juddering on the gearing. I also found the clutch engagement a trifle woolly, perhaps some bleeding was necessary.

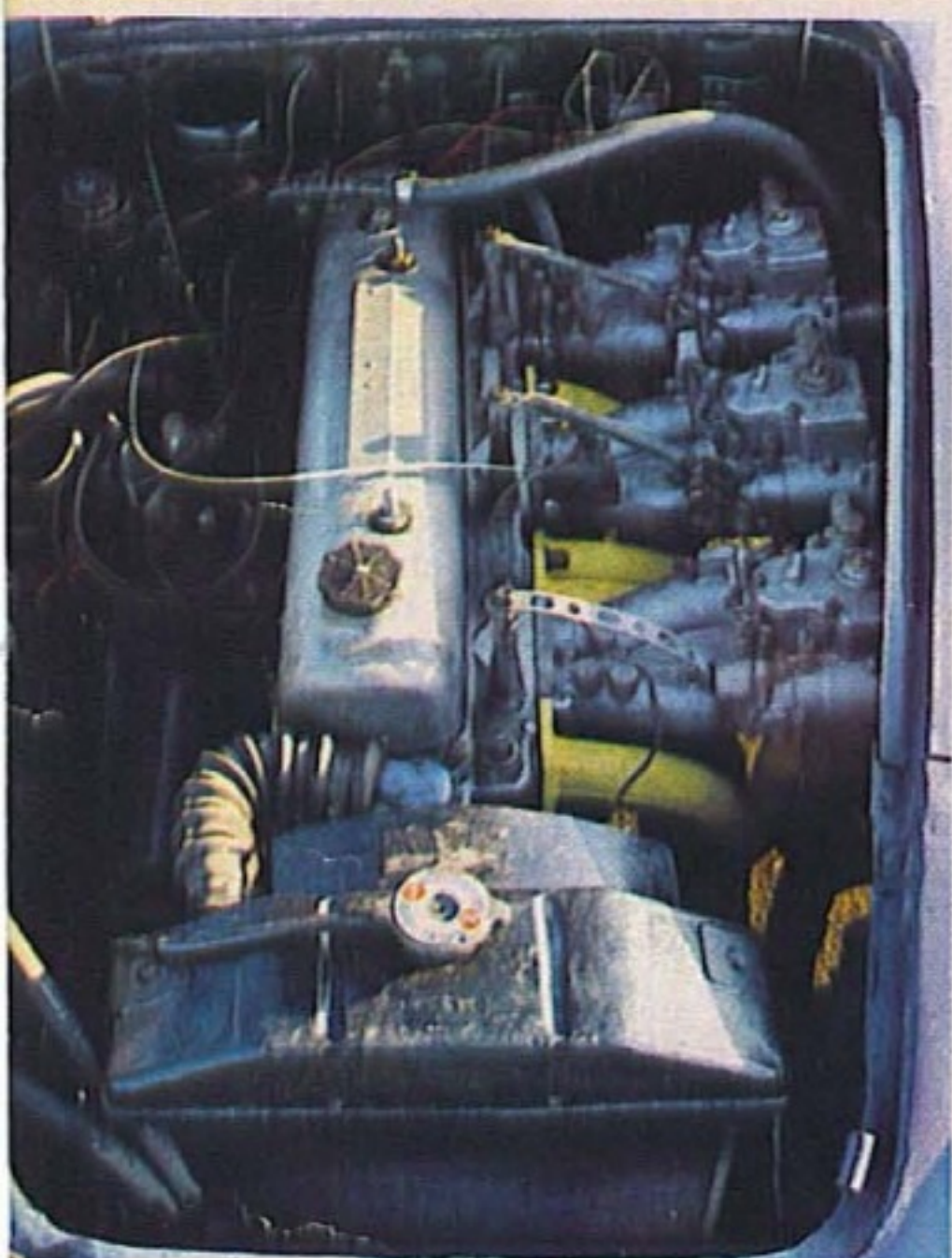
The combination of noise and smell of the beast, pulling all the revs it could in overdrive top, coming down the straight into Woodcote is difficult to describe. Suffice it to say, as you might imagine, it was very very exciting.

So high was the cornering speed in the turns, especially considering the not inconsiderable weight of the car, that the considerable power available had to be fed most carefully through the right foot to avoid anything untoward occurring. Contrary to popular belief, such a car does not oversteer violently. And, even without a limited slip differential, at no time did I have to make available excessive room for wild movements of the rear end.

Incidentally, at such high cornering speeds, despite the excellent location of the glassfibre bucket seat, I could certainly have done with some safety belts to restrain myself from the sideways G forces. As a personal decision Syd prefers not to wear safety belts. Everyone to their own thing, I suppose. But I reckon, I could have had a more confident control of the throttle by being tightly strapped into the seat.

Looking through the fairly vintage flat windscreen, the bonnet fluttered with the vibrations of activity, despite being well strapped down. I became aware of the speed that the projectile was blasting through the air by gusts of wind blowing through holes in the floor where the drain plugs once were. The cockpit was certainly very functional, there being no trim, nothing but black paint in fact.

The technique I found was to hold the



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steering wheel firmly but loosely, if you see what I mean. There was some play, so there was no point in trying to keep this at bay by moving the steering wheel side to side furiously, all this did was to tire the wrists out, and make for a twitchy ride.

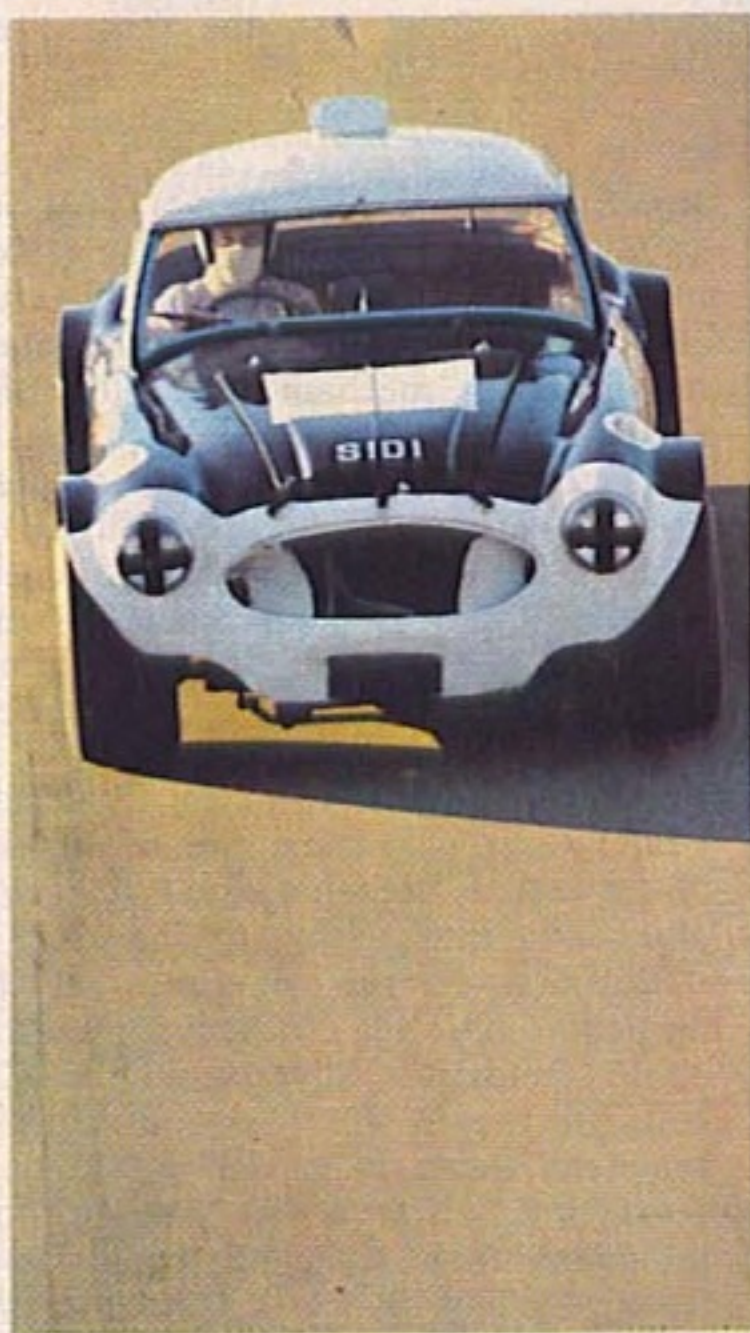
During the '70 season, this famous car started in twenty Races and so reliable was it that it finished seventeen of them. It won outright three times, had seven class wins, five second in class placings, a third and fourth in class. The most enjoyable trip of the year was when Syd took the car over to Zandvoort, in Holland. He was the first British driver to finish, being fifth in class amongst a pack of Porsches; all this, despite a major engine rebuild overnight by the team. As a matter of interest, the three retirements during the year were due to piston failures, too much metal having been taken off the skirts. For the '71 season standard pistons have now been selected, though plus 40, and without their bottom rings.

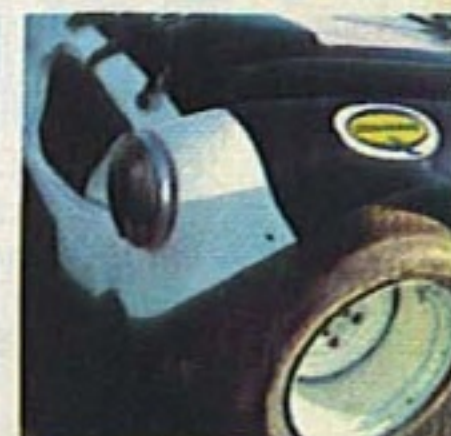
Like any Racing car it would seem,

Segal and his merry men would like to say thank you to some of the firms who have supported them during their endeavours, namely VHT (whose engine and exhaust paint has been used), Wynn's (for their additives) and Duckhams (for their well known 20-50 oil, like the same as you can buy).

Amazingly the engine of such a fearsome brute isn't all that wild. If you've got a Healey, you could have your motor similarly modified without too much trouble. SID 1 uses a standard block, though under the exhaust valves the metal has been relieved to a depth of $2\frac{1}{2}$ mm. They tell me that the cam bearings, when using a Race cam, are particularly critical on the standard block though, and should be regularly replaced.

The car uses one of the very rare alloy cylinder heads, an ex-works tweak, though the valves are standard Healey 3000 ones. Valve springs are heavy duty specification, which will bounce, says Derek, at 6500 rpm. Standard rocker gear as per C series BL has been retained, whilst pushrods and base tappets are also standard. I have already





discussed the piston modifications.

The crankshaft on the car is also fairly rare, though dimensionally the same as a standard one, being nitrided. On a standard car, the flywheel has a four stud fixing, on this car it's been modified to eight stud. Of course a competition clutch has proven to be essential.

D & S use their own Race camshaft. The maximum power is thus produced at 5800 rpm, although things mechanical will hum happily up to 6500. But Syd reckons to limit his revolutionary excesses to 6000, the power being available in abundance from 3500. Talking of power, on the car there is known to be 204 bhp at the wheels, which would be a reading of 270 bhp at the flywheel. The best figures that the Abingdon crowd achieved with a Healey 3000 engine in their heyday were 214 at the wheels and 285 at the flywheel!

The plus 40 pistons fitted into the standard block result in a capacity of 2998 cc, very important, so that it does not exceed the 3000 cc class limit.

On the feed side of things there's a

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trio of thirsty 45 DCOE Webers, fitted on to a set of ex-works cast alloy long inlet manifolds. The exhaust system is a highly efficient looking device, fabricated by D & S, which goes into a twin system under the door.

Only the bare essentials of the electrics have been retained, all the Rally trappings having been discarded a long time ago. The electrical units are standard, whilst even the loom is a lightweight affair with only wires running to the basic equipment.

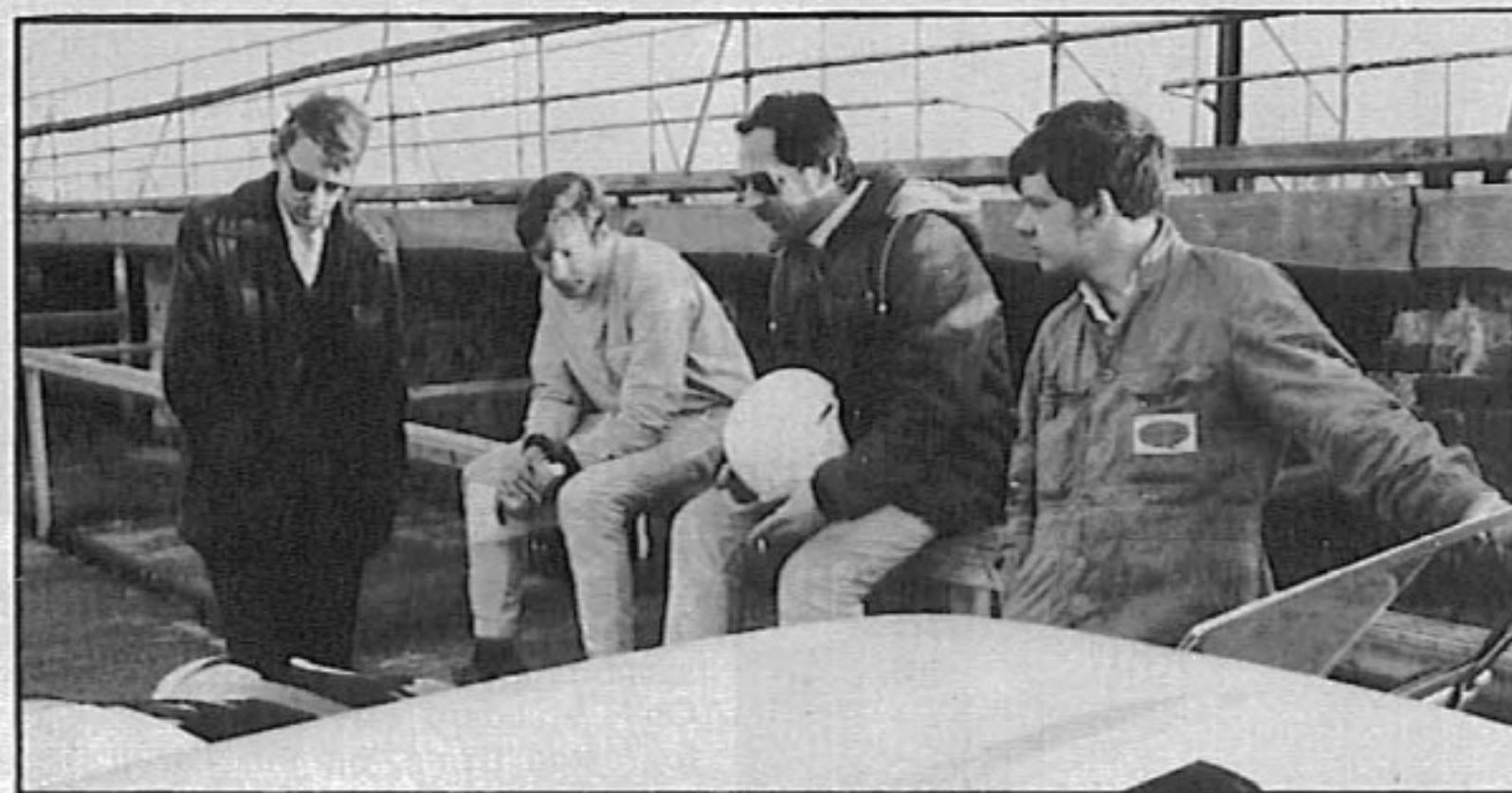
Like the special alloy head and nitrided crank, the gearbox is also very rare being a straight cut ex-works unit, fitted with genuine Tulip Rally ratios.

Most of the transmission is surprisingly standard. The back axle uses a Mark III casing, so that take-offs for the Mark III's radius arms are at least existent. A non-slip differential was tried for a while, but due to trouble, a standard differential is now fitted, the crown wheel and pinion ratio being 4.3:1. The overdrive is a competition unit running on third and fourth gear only.

The radiator is standard. And,



Above, the office can be observed. Fill this chair if you dare! Below, taming a 3 litre classic 'Monster' can be hard work. Left to right, Derek Spencer, our man, Syd Segal and Norman Garner pause for a reflective breather.



although an oil cooler is fitted up front, a standard oil pump has been retained, D & S not approving of the habit amongst many Healey owners of periodically adjusting the relief valve to up pressure.

Other specification points of possible interest to 3-litre fans are that Vandervell bearings have been fitted, as have AE pistons. Plugs are Autolite AG 22, set at 20 thou. The ignition has been set at 60 degrees before TDC, with the points at 15 thou.

The steering on the beast is standard, apart from the substitution of the lorry sized standard steering wheel for a fourteen inch one.

Front suspension consists of competition front dampers, Armstrong being fitted all round. The coils at the front have been lowered professionally by D & S.

At the back, there are fourteen leaf heavy duty springs, damped by adjust-

table competition dampers. For the other end of the radius arm runs on each side, body pickups have been fabricated. D & S intend to try a 'Panhard Rod' for better axle location in the future, as used to be fitted to the Sebring team cars in the past.

The very important, in my opinion anyway, braking aspects of such a car have been taken care of by a combination of Healey discs and Jaguar calipers, the same being fitted all round. In fact, the braking system was originally developed by the late Paul Hawkins for Liz Jones. In addition, there's a Jaguar 3.8 servo and, rather surprisingly, standard Jaguar pads have been retained!

Wheels are fifteen inch diameter all round, being ten inch width, the work of 'George The Wheel', from Shepherd's Bush, being professionally widened steel ones. Rubber wear has been taken care

of by Firestone Intermediates for the dry, and a further set of wheels fitted with wet weather tyres for 'pee' time.

At least you can still recognise the Healey body, despite the usual wild looking wheel arches. The basis is a standard works-type Healey alloy centre shroud. The doors are standard steel, though lightened. The outer wings are D & S glassfibre ones front and rear, specially widened to cover all that rubber. By the way, the hardtop is an ex-works one, quite a difficult item to obtain too. Both boot and bonnet are glassfibre D & S units.

And there gentlemen, you jolly well have it. A car of considerable character, and one in which Syd Segal will no doubt continue to entertain club Racing fans yet again during '71. Long may he continue to do so. **RH-E**

D & S goodies which might come in useful for Healey owners.

Road/Race cylinder heads,	
on exchange	£35.00
Full Race heads on exchange ...	£55.00
Road/Race cam	£22.00
Race cam	£22.00
Competition valve springs,	
per set	£5.50
Cam followers, per set	£4.80
Competition clutch, complete ..	£20.50
Standard reconditioned crankshaft	
(with Vandervell Bearings) ...	£15.75
Lowered front springs, on exchange	
(per pair)	£6.00
Works Rally pattern rear leaf springs	
(per pair)	£24.00
Race pattern leaf springs	
(per pair)	£25.00
Standard rear leaf springs	
(per pair)	£14.00
(Note:— £2.00 allowance per pair on	
old springs returned to D & S).	
Competition front anti-roll bar .	£7.50
Standard front shock absorbers	
per pair	£16.00
Competition front shock absorbers	
per pair	£21.00
Standard rear shock absorbers	
per pair	£14.00
Competition rear shock absorbers	
per pair	£18.00
Kingpin sets	£5.50
Body parts — all in glassfibre:	
Front Wing (standard shape,	
wider ones for Racing application to	
special order)	£9.50
Rear wing (same as above)	£8.00
Front shroud	£25.00
Rear shroud	£15.00
Boot lid	£7.00
Door	£13.00
Door sill	£2.50
Seat, with runners and glass-	
fibre trimmed	£13.00

Car prepared by D & S Engineering,
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