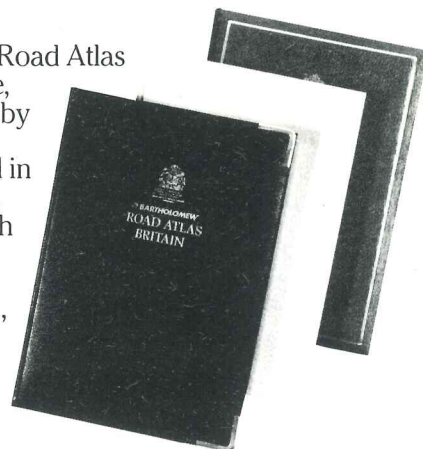


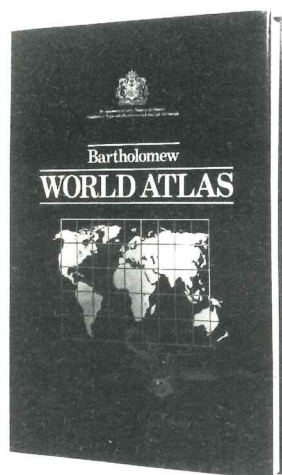
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Magazine typed and produced by Bill and Jo Sunderland.  
Printed by Magna Print from copy supplied.  
1 Victoria Street, Wigston Magna, Leicestershire, England.  
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# Turning Circle

October 1982 No. 3

Incorporating  
The Courier



## TRIUMPH VITESSE

### THE SMOOTH SIX



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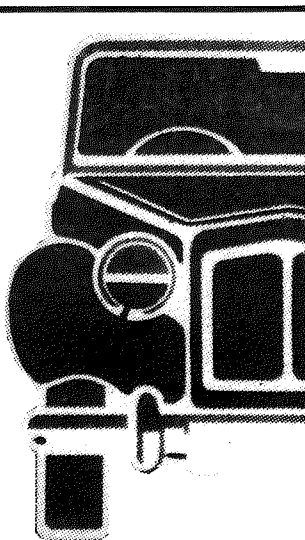
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Editor: W. E. SUNDERLAND



# CONTENTS

Editorial	...	...	...	...	...	...	...	...	...	...	2
Triumph Vitesse Six	...	...	...	...	...	Motor Magazine	...	...	...	...	3
Thumper's Restoration	...	...	...	...	...	Dawn Storton	...	...	...	...	7
Triumph Vitesse 2 Litre	...	...	...	...	...	Autocar	...	...	...	...	9
The Triumph Vitesse - Competition History	...	...	...	...	...	John Griffiths	...	...	...	...	13
The Annual Concourse - Donington	...	...	...	...	...	Dawn Storton	...	...	...	...	18
The Lombard RAC Golden Fifty Rally	...	...	...	...	...	Dave Clements	...	...	...	...	20
2.5 P.I. Vitesse	...	...	...	...	...	Tony Lambert	...	...	...	...	28
Impressions of Indy	...	...	...	...	...	Dave Bayliss	...	...	...	...	33
A Point of Interest	...	...	...	...	...	Nick Bradbury	...	...	...	...	34
5th TSSC Birthday Barbeque	...	...	...	...	...	Matt and Maggie Maudsley	...	...	...	...	36
Triumph Vitesse 2 Litre Mk. II	...	...	...	...	...	Autocar	...	...	...	...	38
An Odyssey of a Vitesse	...	...	...	...	...	John Lindsey	...	...	...	...	41
50th Le Mans, 1982	...	...	...	...	...	Bill and Jo Sunderland	...	...	...	...	42
Why a Vitesse ?	...	...	...	...	...	John Thorpe	...	...	...	...	46
Tuning of a 6 cylinder Vitesse engine	...	...	...	...	...	Gareth Thomas	...	...	...	...	48
The Triumph Vitesse Competition History Part 2	...	...	...	...	...	John Griffiths	...	...	...	...	52
Estate of the Art	...	...	...	...	...	Old Motor	...	...	...	...	54
Ode to Cagney	...	...	...	...	...	Jeff and Julie Baker	...	...	...	...	55
A Vitesse Tale	...	...	...	...	...	Brian	...	...	...	...	55
Triumph Vitesse Modified	...	...	...	...	...	Autocar	...	...	...	...	56
My Vitesse and I	...	...	...	...	...	G.K. Mountford	...	...	...	...	57
Town and Country	...	...	...	...	...	Bob Notley	...	...	...	...	60
Changing a Rotoflex Coupling	...	...	...	...	...	Eddie Evans	...	...	...	...	61
STIR	...	...	...	...	...	John Cudmore	...	...	...	...	65

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*Photographs within this Magazine were produced courtesy of Pete Williams, John Griffiths and Leon Guvot.*

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## EDITORIAL

Welcome to Turning Circle Number Three which features the one and only Triumph Vitesse.

The Vitesse was the car that started my obsession with Triumphs as I first purchased one in 1973 after looking for a 'sports car'. I tried MG Midgets and MGB's but when I can across the Vitesse, I found it had the power I liked. It was a 1968 MK1 Convertible, reg. no. MSM 141F in Signal Read with beige interior; what an eye-catcher. I carried out many repairs, including new outriggers, respray etc. and it had covered 168,000 miles, the car having been previously owned by an RAF technician and used all over the world. By a grave error of misjudgement, I sold it in 1974 to buy an Austin Cooper 'S'. One summer later and £600 worse off, I came back to my senses and found my present Vitesse, DLA 282J. Although when I bought her, she had a very low mileage, I have done many things to her, including removing the body to preserve for eternity. It is not used all the year round, although when it is, the roof is 99% always down as motoring in this fashion makes four-wheeled transport even more pleasurable. Jo has told me I am never to sell her - no chance of that as this Vitesse is an important part of our lives and has made us many friends.

Thanks to everyone who has contributed to this edition of Turning Circle, especially to my wife, Jo. Hope you all enjoy reading it.



GOOD LOOKERS

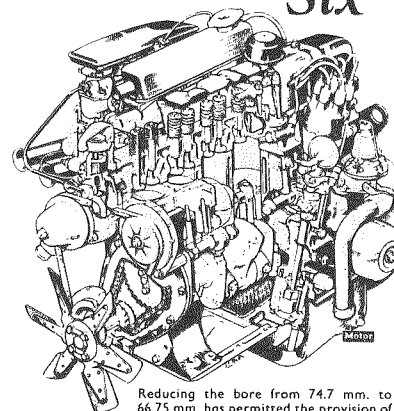


1962  
CARS

## New Triumph Vitesse Six

Toughened Herald with 1600 c.c. Vanguard Six engine

Closed—and open. The Vitesse comes as a saloon and also as a four-seater convertible. Both bodies are the work of Michelotti, the designer from Turin.



Reducing the bore from 74.7 mm. to 66.75 mm. has permitted the provision of water spaces between the cylinders, and the fan is now mounted on the nose of the crankshaft to match the low position of the radiator.

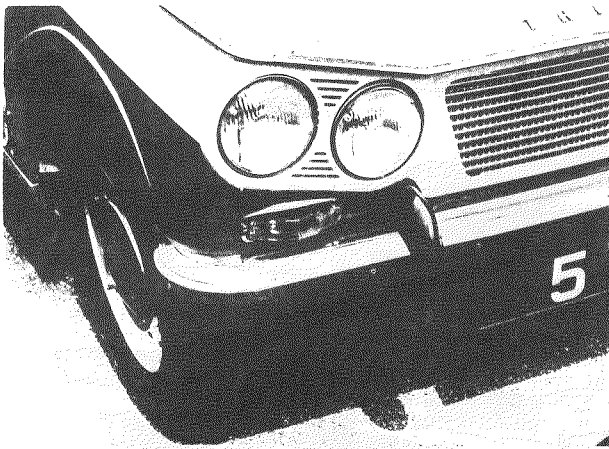
DESPITE the undeniable attractions of six cylinders, it is many years since a power unit of this type found a place in the specification of a light car. International Standard-Triumph has now filled this gap with a 1.6-litre which promises effortless high-speed cruising, good top-gear flexibility and all the advantages in rapid town and country travel that go with external measurements of 12 ft. 9 in. by 5 ft. and a turning circle of only 25 ft. Easy maintenance is also a feature.

The Vitesse Six is a direct development from the Herald and the Vanguard Six. The chassis is an improved version of the all-independently-sprung Herald, the engine has much in common with the Vanguard Six introduced at the 1960 Motor Show, and the body is similar to that of the Herald, but with an entirely new combined bonnet and grille assembly using twin headlamps disposed diagonally. The new model breaks entirely fresh ground, although both its principles and its components are already well known and well proved.

There are two body styles—a saloon at £837 0s. 3d. including purchase tax (basic price £608) and a convertible at £893 7s. 9d. (basic £649).

The manufacturers claim a maximum speed of 90 m.p.h., 0-50 m.p.h. through the gears in 12 sec., and top-gear acceleration times of 9.6 sec. for both 20-40 m.p.h. and 30-50 m.p.h. Fuel consumption is claimed to be 30-40 m.p.g. according to how the car is driven.

The separate chassis follows the general lines of the Herald, the basic structure comprising a central pair of backbone members swept outwards fore and aft to accommodate the engine at the front, and the final drive unit at the rear. To this main



The twin headlamp styling and flared wing treatment have given the Vitesse a business-like appearance, which is further enhanced by the new extruded aluminium bumpers and radiator grille. The material is also used for the wheel trims and the kick-strips on the doors.

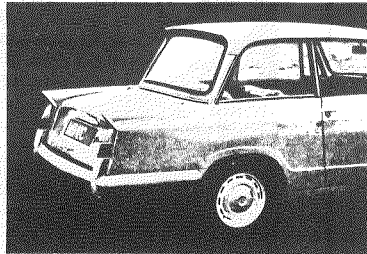
## Triumph Vitesse Six

backbone, outrigger members are extended to the full width over the centre portion and are linked by channel-section longerons which give good support for the body. The latter, as before, is built up from sub-assemblies, bolted together.

In the latest chassis, the two fully boxed backbone members have been deepened, and instead of being 3 in. square, are now 3½ in. deep and 2½ in. wide. This alteration gives increased beam strength and, at the same time, provides more room between them for the Laycock-de Normanville overdrive, which can be had as an extra. The backbone members are now double boxed where they meet the stiffened front suspension posts, and the outriggers are deeper and reinforced where they are welded to the centre members.

The rear of the chassis has also been reinforced. The main longerons are no longer reduced in section where they pass under the drive-shafts, and their rear extensions are fully boxed. In addition, the rear cross-member now has a second member superimposed above it, an alteration which provides an improved rear mounting for the final drive and new attachment points for the body above the axle. As before, the final-drive casing is mounted on rubber for quietness, and the front as well as the

Apart from the side flash and the Vitesse motifs on the boot lid and rear window pillar, the rear of the car is identical to the Herald.

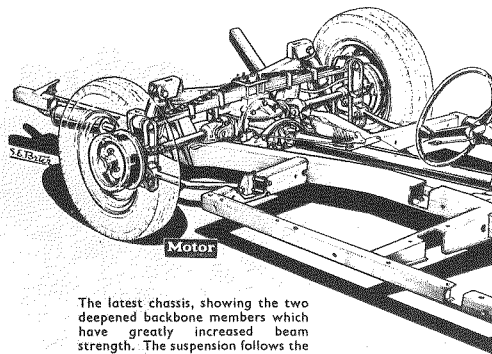


rear mountings have been reinforced. The exhaust pipe now passes under the rear cross-member instead of through it, thus eliminating a possible source of rattle.

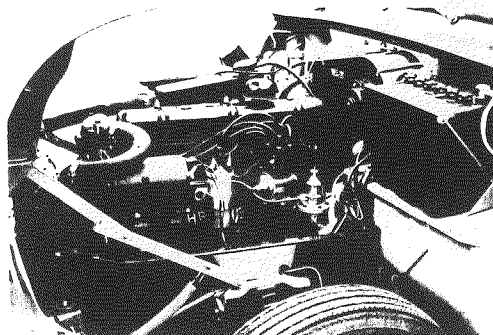
The all-independent suspension follows the Herald pattern, but with higher-rated springs and heavier damper settings at the front to take the greater weight of the six-cylinder engine. Rack-and-pinion steering is used as on the Herald, but the rack is now insulated from the frame by rubber. The column has 4 in. of adjustment, and as a safety precaution it is arranged to telescope on serious impact.

The Vitesse has Girling self-adjusting disc brakes at the front (as offered optionally on the Herald) and the brake drums at the rear have been increased from 7 in. to 8 in. diameter. The pedal ratio has been increased from 4/1 to 5/1 so that light operating pressures are retained without the use of a servo. The new Six also has larger Timken taper-roller bearings for the front hubs and bigger-section tyres (5.60—13 with nylon casings) on the same wheels as the Herald.

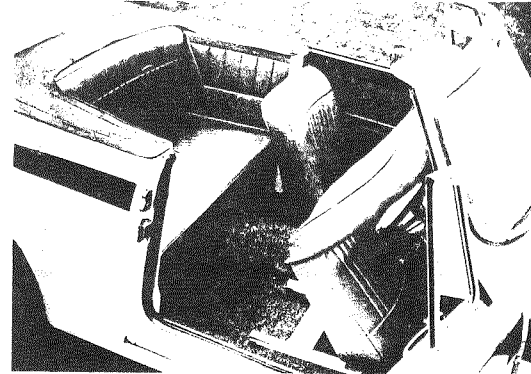
The two-carburettor engine follows very closely the design of the Vanguard Six, with push-rod-operated in-line overhead valves, a four-bearing crankshaft and lead-indium bearings. The stroke remains the same, but reducing the bore from 74.7 mm. to 66.75 mm. has brought the capacity down from 1,998 c.c. to



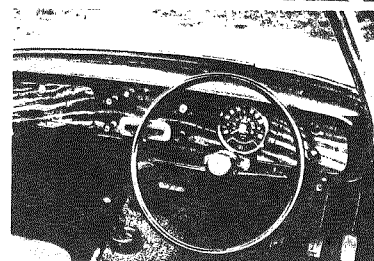
The latest chassis, showing the two deepened backbone members which have greatly increased beam strength. The suspension follows the Herald pattern but with stronger springs and heavier damper settings at the front to cope with the weight of the six-cylinder engine.



Accessibility par excellence... like the Herald, nearly everything on the engine is easy to reach, including the front suspension—a point which the man who does his own servicing will particularly appreciate.



The interior is nicely finished, the trim and seats now covered with a better quality P.V.C. The fully adjustable front seats are now more comfortable thanks to a new design, and there is more legroom.



The large single speedometer with petrol gauge is well placed in front of the driver, and a polished wood fascia is balanced by switches and a glove locker on the passenger's side.

1,596 c.c. and enabled water spaces to be provided between all cylinders. Owing to the low placing of the radiator on the Vitesse, a correspondingly low fan position has been called for, and in fact a six-bladed fan is mounted direct on the nose of the crankshaft. Air enters the engine compartment both through the normal front grille and also via a horizontal slot above the number plate.

On an 8.75/1 compression ratio, the net power output is 70 b.h.p. at 5,000 r.p.m. (measured on the bench with standard settings and auxiliaries, including fan, but with a test-bed exhaust system), which should give lively performance in a car whose kerb weight (including fuel) is 18½ cwt.

The Vitesse has a larger clutch than the Herald (8 in. instead of 7 in.) and closer gearbox ratios; also the layshaft is mounted on needle-roller bearings instead of plain bushes. With a rear axle ratio of 4.11/1, an engine speed of 1,000 r.p.m. in top gear gives 16.4 m.p.h. The optional Laycock-de Normanville overdrive (manually controlled by a steering-column switch) is applied to top and third and gives a high ratio of 3.3/1 for cruising. Another detail new to the transmission is a sliding joint at the front end of the propeller shaft—a feature which is not strictly necessary when the final drive is mounted on the chassis, but one which makes for smoother running at low speeds in top.

In size and general design, the bodywork is that of the Herald, but its frontal appearance is completely new, with a bonnet assembly and wing formations reshaped to accommodate twin headlamps set diagonally in what is described as "Chinese style." This design is the work of Michelotti, who styled the original body. The entire bonnet is front hinged and swings forward to give exceptional good access to the power unit and front suspension, but the grille (a fixture on the Herald) now opens with the bonnet.

The Vitesse is the first car to use bumpers of anodized extruded aluminium section, this new use of aluminium alloy being the work of the London Aluminium Co. Ltd., of Wombourne, Staffs, in conjunction with the British Aluminium Co. Ltd. The finish, which cannot, of course, rust or flake, is stated to be strongly resistant to corrosion, and its brilliant finish is in every way comparable to chromium. Indeed, the steel over-riders are chromium plated and it is difficult to tell at a glance one finish from the other.

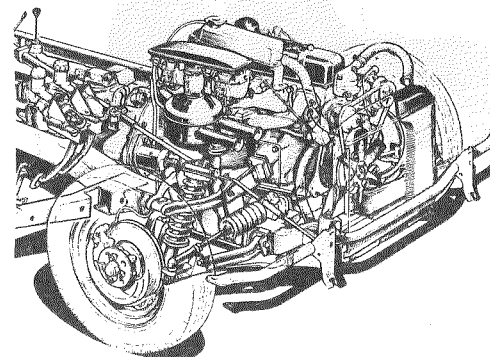
Anodized aluminium is also used for the grille, the attractive wheel trims (which are standard), the kick-strips on the door sills, and for screen and window mouldings. The Vitesse has a distinctive side flash.

Inside, the body reveals an excellent standard of finish and trim, with upholstery in P.V.C. of improved quality and moulded carpets in front and behind, except on export cars where rubber is preferred. The front seats are new, with recessed spring cases to make them more comfortable and give slightly more legroom; they retain the simple Herald adjustment for rake as well as the usual fore-and-aft adjustment.

Polished wood is used for the fascia and door fillets, and the instrument and switch layout follows the general lines of the Herald with a single large dial in front of the driver for the speedometer and fuel gauge. The smaller switches are marked to show what they do. On the passenger's side is a lockable glove compartment. The dash is padded and the frame round the windscreen is attractively trimmed on the Vitesse saloon, which also has a courtesy roof light switch on the door pillar and new safety visors with universal fitting. The twin visors are of the familiar pattern on the convertible. A welcome detail is a fingertip headlamp switch on the steering column which can also be used as a headlamp flasher for signalling in daytime. The tank now holds 8½ gallons instead of seven.

The car should be pleasantly quiet, because much sound-insulating material has been applied to the roof, dash and body panels, as well as more liberal use of sound deadening compounds elsewhere.

A short run on the road suggests that this new Triumph model will in every way live up to expectations. The engine is smooth







Thumpers Restoration cont'd .../

The whole of the interior has been taken out. A lot needed doing to the inside - my main and most concerning problem being new 1600 carpets that I fear are now totally unobtainable. The woodwork was poor - I need a new dashboard as dear brother-in-law had carved an amateur hole in the original to accommodate the oil pressure gauge. He had also put a dinner-plate size steering wheel on her but an original was not hard to locate. The varnish on the door cappings was so bad, most of it could be chipped off using a blunt knife. The glove compartment door of the new dash has yet to be stripped and this will be done with Nitromors.

The headlining had to be replaced. Attempts to remove seventeen years of nicotine from the vinyl, using such drastic methods as neat bleach as a last resort, made no impression what-so-ever, so there was no alternative but to get a new one. The new one (supplied by John Kipping, who assured me there was no difference), turned out to be for a Herald and lacked sections running down the rear window pillars, the 'A' posts and 'B' posts but this was overcome by machining in these pieces, using the vinyl left over from the sunroof cut out.

The main difficulty, now, is finding small items of trim that may seem insignificant but are all important details of total originality - items like the buttons on the original push-button radio that I 'rebuilt', using Araldite; and the markings on the steering column controls that I compiled (courtesy of my company's letraset) on 'Transpaseal'. Wheel trims still in their original packaging have been coming to light one by one and at Donington this year, I struck gold: The drivers side carpet - unopened and still in its original packing. One piece down, three to go!

With the interior and trim all off of her, Thumper is now ready for spraying - to be done by ourselves. Then its downhill all the way and a few months from now, Thumper will make her debut at a TSSC meeting - she's never been to one yet!

Six months has become two and a half years but we pride ourselves in that nothing at all has been done by anyone else. It has become an enjoyable project, though judging by the blue air in the garage, it may not always have appeared so.

To anyone who may be thinking about restoring their car but fear the job is too big or beyond them:- We thought that. For a problem that seems insurmountable one day - don't panic. Given time, a bit of thought and initiative, the solution is often easily and quickly found. For specialist operations, we have used e.g. arc welding, lead loading and spraying, the 'professionals' are not magicians - they've just had a bit more practise at it. With patience, you can master these but the key words are practise and patience. As someone once said - the difference between experience and inexperience is having done it.

## SMOOTH 6

### 6-cylinders and rarin' to go

A six-cylinder engine in a 17-cwt. car! That's the secret the Vitesse keeps under its bonnet. This engine, a new 1600 c.c. edition of the great Vanguard 6 engine, gives the Vitesse the heart and lungs of a gran turismo sports saloon with the smoothness and silence which only a 6-cylinder unit can achieve. The Vitesse reaches ninety

effortlessly, and will cruise all day long at eighty.

Even more important than m.p.h., the Vitesse has all the accomplishments of the Triumph Herald. Plus disc brakes on the front wheels. Plus 4-eye headlights with flasher switch for safe night driving. That's why the Vitesse is a delight to drive, and supremely safe.

AUTOCAR, 9 March 1967

35

## Autocar ROAD TEST NUMBER 2122



## Triumph Vitesse 2-litre 1,998 c.c.

**AT A GLANCE:** Triumph 2000 engine revitalizes established Vitesse to give sprint performance. Fuel consumption improved. Powerful brakes showed some fade. Radial tyres standard. Swing axle rear suspension needs to be respected. Choppy ride. Comfortable seats and high standard of finish. Good value.

**MANUFACTURER:**  
Standard-Triumph International Ltd., Coventry.

**PRICES:**  
Basic ... .. £681 0s 0d  
Purchase Tax ... .. £157 15s 7d  
Total (in G.B.) ... .. £838 15s 7d

**EXTRAS**  
Overdrive ... .. £58 7s 8d

**PERFORMANCE SUMMARY:**  
Mean maximum speed 95 m.p.h.  
Standing start 1/4-mile 18.6 sec  
0-60 m.p.h. 12.6 sec  
30-70 m.p.h. (through gears) 13.4 sec  
Fuel consumption 26 m.p.g.  
Miles per tankful 227

**T**HERE have been speculations about the Spitfire being fitted with a Vitesse 6 engine ever since it was announced with the figure "4" after its name. When both the Spitfire and the Vitesse received Triumph 2000 engines last autumn, everyone was a little surprised, especially as the compression was raised to increase power from 90 to 95 b.h.p. net. This step, in fact, is part of a rationalization programme and makes economic sense.

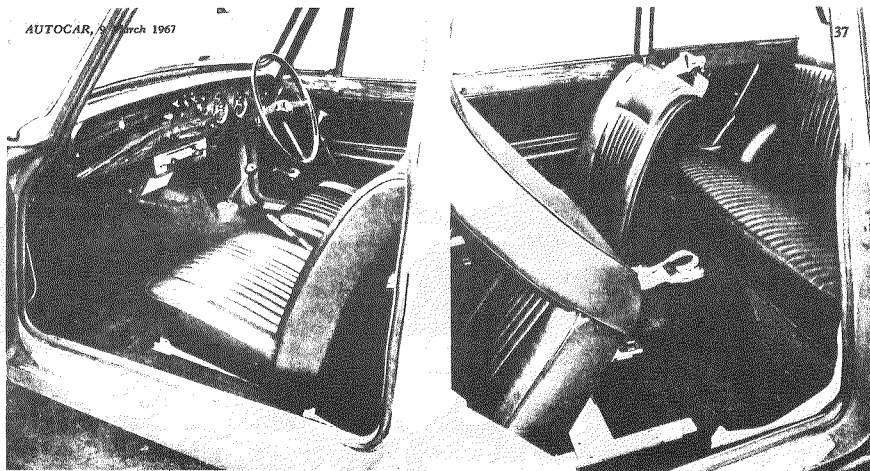
The effect of the change on the Vitesse is a 36 per cent power boost which improves acceleration dramatically and puts the top speed up a full 10 m.p.h. to 96 m.p.h. As we have often found in the past, big engines do not mean heavy fuel consumption and the Vitesse 2-litre returned a much better overall figure than the 1600 version. In terms of value for money, the Vitesse is now the cheapest 2-litre on the market and surprisingly costs only £4 more than the Triumph 1300. Being based on the Herald, which has been around now for eight years, the Vitesse feels cramped inside and is not nearly as spacious as the Triumph 1300, for example.

Getting the bigger engine into the

Vitesse has not been difficult, because the block is the same size as the 1600's, even though the internal construction is different. The bonnet looks no more congested than before, and with the unique lift-up-in-one-piece front body section the accessibility is still outstandingly good. Bigger brakes have been fitted to match the improved performance and our test car was fitted with Goodyear G-800 radial tyres which have now rightly been made standard equipment.

Compared with a Herald which we have been driving recently the Vitesse feels like a dragster. With all the extra engine torque very high gearing has been possible and the car squirts away from rest with tremendous liveliness to well over 30 m.p.h. in bottom. Second runs on to comfortably over 50 m.p.h. and third has a useful maximum of 80. Our car had the optional overdrive which gives almost three top gears to choose between, overdrive third and direct top being the same ratio with a 93 m.p.h. maximum, and overdrive top taking the speed on to 96 with 100 m.p.h. possible on down grades.

Maximum power is developed at 5,000 r.p.m., but the rev counter is ▶



Upholstery is soft and the seats are much wider than those in the Herald. The steering wheel has a neat leather cover stitched round its rim and there are little storage boxes in the rear quarter trim panels

marked with a 6,500 top limit which we found very hard to reach. For maximum performance 5,500 is plenty. Peak torque comes in at 3,000 r.p.m. so the needle is best kept at between 1,500 and 4,500 for ordinary use. Idling is a rather lumpy 700 r.p.m. and toward max revs there is a lot of fan whirr. Otherwise, the engine is remarkably smooth and quiet and gives the whole car a very refined nature.

Starting never presented us with any problems, but the choke control gave too rich a mixture and the engine hunted badly with it in use. The ignition lock came loose during the test but was easily retightened from behind the wooden fascia.

The Triumph 2000 gearbox is not used for the Vitesse and GT6, but an all-synchromesh adaptation of the old Herald box. On the test car this had just been replaced with a new unit and we started our mileage with very stiff movements between ratios, and some baulking of the selectors. After only about 500 miles it had begun to free off and by the 1,000-mile mark the gearbox had settled to the precise, light action we have come to expect in all Triumphs. Only the synchromesh seemed unable to take the 2000 engine torque well enough and we were easily able to beat it during performance testing and sometimes on the road. An automatic reversing lamp is standard, but ours stayed lit permanently so we unplugged the wiring.

No doubt with the help of the Goodyear radials, wheelspin in the dry is not common unless one deliberately stamps on the throttle making a turn in first or second. Getting the car away for our acceleration runs on dry concrete needed controlled clutch slip because the tyres gripped from rest. In the wet, a lot of adhesion is lost and the rev counter

needle flicks all over the dial if one is trying to accelerate hard in a low gear.

With all the power (84.8 b.h.p. per ton laden) the tail of the car can be made to slide wide on dry roads, and needs a lot of watching on wet ones. Even at 30 m.p.h. on quite gradual bends, too wide a throttle in second gear can flick the rear wheels sideways quite suddenly, and a full understanding of the car is essential for safety.

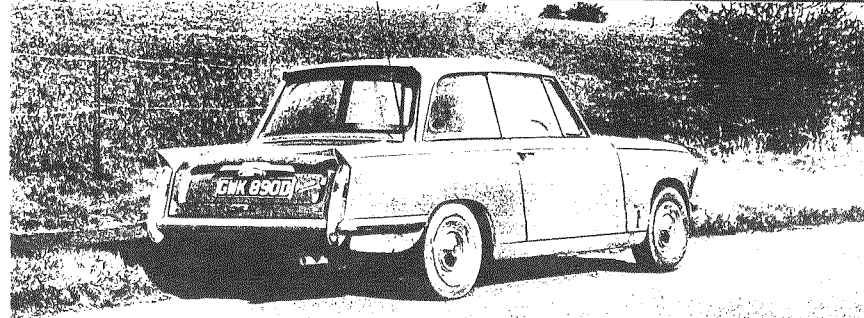
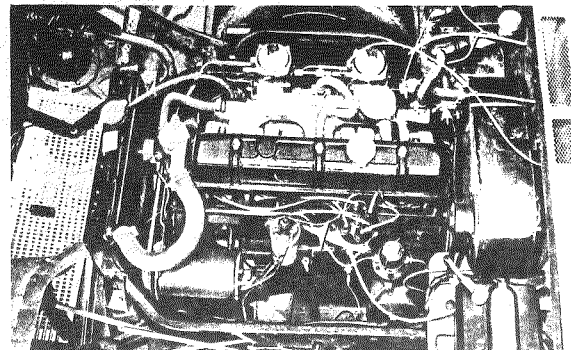
With the Herald-Vitesse rear suspension, simple swing axles are used, which change the wheel camber as they move up and down. When the engine is pulling hard there is weight transfer rearwards which gives both back wheels more negative camber and increases their cornering power. Conversely, if the driver lifts off the throttle on entering a bend, there is weight transfer forwards which suddenly reduces the rear wheel cornering power and can make the tail flick out alarmingly. One should therefore assess the corner early,

decide on the cornering speed and settle to it; any change of mind on the approach or in the bend makes the car unstable. Should there be an emergency while cornering fast, the best advice is to try steering round it or try to brake in a straight line.

All this does not mean the Vitesse is dangerous, because fortunately the high-gear rack and pinion steering makes correction quick and easy, and the car does seem to gather itself together again easily. But some degree of skill and experience is necessary, and this Triumph is not for the spirited novice.

The ride in the Vitesse is firm, almost harsh, with choppy movements over bumpy roads. Typical of radial tyres, the Goodyears run very quietly but transmit some thumps and vibrations on relatively small disturbances like cats' eyes and road joints. Sudden single bumps seem to catch the front suspension unawares and rebound movements

The 2-litre engine is a snug fit but still remarkably accessible because of the unique Triumph lift-up-in-one front body section



From the back only the Vitesse 2-litre badge distinguishes this car from the ordinary Herald. A reversing lamp is built into the number plate capping

## Triumph Vitesse 2-litre

generally do feel somewhat restricted.

Brakes for the new car are bigger than previously, and with only 110lb on the pedal we recorded over 1.0g from 30 m.p.h. The action is progressive up to this limit (we like the pedal load to be nearly equal to the percentage g recorded) which gives good feel of the responses. The handbrake failed to hold on a 1-in-4 hill. There was enough engine power for an easy restart on the steeper 1-in-3. Fade tests from 70 m.p.h. brought the effort for a 0.5g stop up from 55lb to 70lb in 10 stops, a 27 per cent deterioration. On the road we never noticed any fade, and the close gearbox ratios help a lot in bringing the speed down rapidly during fast driving on twisty lanes.

The clutch is both smooth and very light. With only 20lb effort over a 5in. movement of the pedal it is a great improvement over that fitted to the early Vitesse, which needed 30lb and 7in. Pedal positions are offset to the right in relation to the steering wheel and the seat, but the angles of the pads are correct and there is enough space between them. It is quite easy to heel and toe.

On the two 1600 Vitesse we have tested (saloon 1963, convertible 1965)

the overall fuel consumption was 24.6 and 25.8 m.p.g. respectively; both had overdrive, but the convertible is a slightly better shape. With the 2-litre we managed 26.1 m.p.g., allowing for 12 per cent flattery on the mileometer, which indicated 29 m.p.g. and obviously was not geared for the radial tyres. Comparing the steady-speed consumptions, it is interesting to find that most of the gain is below 60 m.p.h. with a full 10 m.p.g. improvement at 30 m.p.h. in direct top.

While making comparisons, it should be pointed out that the Vitesse 2-litre is exactly 5sec quicker from rest to 80 m.p.h. than the Triumph 2000 and about 3 m.p.h. faster on top speed. The standing-quarter time for the Vitesse of 18.6-sec is extremely fast and well into the sports car class.

Inside there is a considerable air of luxury with full-width veneer fascia and matching cappings along the doors and rear quarters. Seats are soft and very comfortable, with the cushions several inches wider than on the Herald or earlier Vitesse. Backrests are fixed, but the angle feels about right and the whole seat can be tipped up and down by means of rubber blocks under the back of the frame.

Legroom in the front is rather cramped and anyone taller than 5ft 8in. finds there is not enough

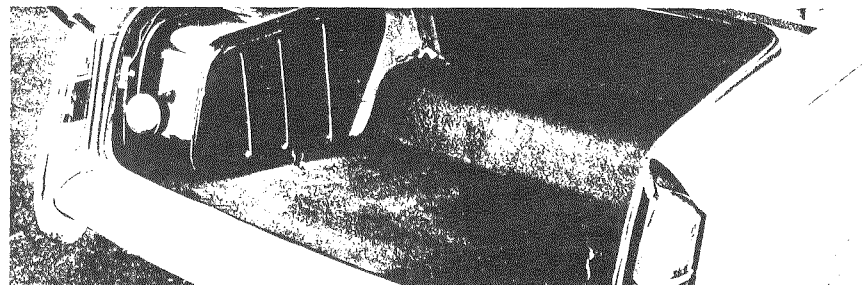
rearward adjustment on the runners. In the back there is enough width for two but, again, the legroom is at the minimum required by average people. There are no armrests anywhere in the car and in the front the doors can close enough to touch one's shoulders.

In front of the driver is a matching pair of large dials for the optimistic speedometer and rev counter, with a smaller, outer pair for the fuel gauge and water thermometer. Switches are scattered about on either side of this instrument cluster and all but the heater fan switch are the old-fashioned push-pull type. Wipers have only one speed and their switch is separate from the washers, but close to it.

The heater is worked by a notched knob that pulls out 1½in. for full heat and adjusts a simple water valve for temperature control. Despite this, we managed to regulate the temperature progressively, although there are not many other ways of conditioning the interior; no extractors, no rear quarterlights that open and no face-level ventilation. Fortunately the front quarterlights are draught-free when open and do not create a wind roar. Their catches have thief-proof locking pins.

A leather cover is now stitched round the steering wheel rim, and it feels very nice to touch, especially on cold mornings. Below this rim

The fuel tank takes up a large proportion of the boot space and the spare wheel is under the matting. A small petrol reserve can be brought into use by turning a cock on the tank top





are three stalks which can cause some confusion until one has lived with the car for several days. On the left is a short lever which selects the lamps once the master switch has been pulled on the fascia. On the right is a matching lever for the indicators, with a longer lever behind it for the overdrive. Engagement of this unit was always very smooth, almost regardless of whether the change was up or down, with the engine pulling or on over-run.

Window winders are mounted very low down where one must stretch to reach them. In each door there is a large map pocket and, each side of the rear bench, little open cubby holes are sunk into the trim panels. There is a tray ahead of the gear lever which is large enough for a packet of cigarettes.

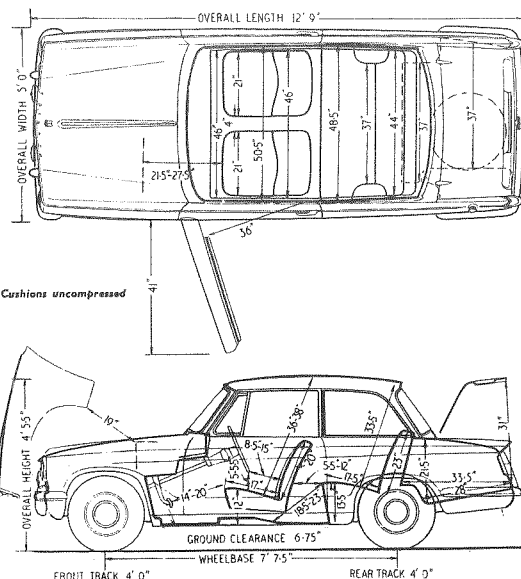
The boot has a good square shape with the spare wheel sunk in a well under its floor mat. The fuel tank takes up all the left-hand wing, and

that thoughtful two-way tap which gives nearly a gallon reserve is still fitted.

Now that all the development cost of the Herald-Vitesse range has been recovered, the price represents good value. The engine is very smooth and unobtrusive and the whole car has much in its favour for present-day traffic conditions. Only the rear suspension needs improving to make the handling better and to give a more comfortable ride.

SPECIFICATION: TRIUMPH VITESSE 2-LITRE (FRONT ENGINE, REAR-WHEEL DRIVE)

<b>ENGINE</b>		<b>Rear</b>	Independent, swing axles, transverse leaf spring, radius rods, telescopic dampers	<b>Interior trim</b>	Vynide seats, plastic headlining
Cooling system	6, in. line			Floor covering	Carpet
	Water: pump, fan and thermostat			Starting handle	No provision
<b>Bore</b>	74.7mm (2.94-in.)	<b>STEERING</b>		Jack	Screw scissor
<b>Stroke</b>	76mm (2.99-in.)	Type	Afford and Alder rack and pinion	Lacking points	Anywhere on chassis
<b>Displacement</b>	95 b.h.p. (at 2,200 c.m. in.)		Wheel dia. 16in.	Underbody protection	Zone toughened
<b>Valve gear</b>	Overhead, pushrods and rockers	<b>BRAKES</b>			Phosphate treatment under
<b>Compression ratio</b>	9.5-to-1	Make and type	Sliding disc front, drum rear	Other bodies	Convertible
<b>Carburetors</b>	2 Stromberg 175 CD	Size	F, 9.7in. dia.; R, 8.3in. dia.	<b>MAINTENANCE</b>	
<b>Fuel pump</b>	Self mechanical	Dimensions	F, 1.25in. wide shoes	Fuel tank	8.75 imp. gallons (6 pint 50 litres)
<b>Oil filter</b>	AC full flow, renewable element	Swept area	27 sq. in.; R, 6 sq. in. Total 260 sq. in. (232 sq. in.) per ton laden	Cooling system	11 pints (including heater) (6.2 litres)
<b>Max. power</b>	95 b.h.p. (net) at 5,000 r.p.m.			Engine pump	6 pints (4.5 litres) SAE 10W/30. Change oil every 6,000 miles; Change filter element every 12,000 miles
<b>Max. torque</b>	117 lb. ft. (net) at 3,000 r.p.m.	<b>WHEELS</b>			
		Type	Pressed steel disc, 4 stud fitting; 4.5in. wide rim	Gearbox and	2.4 pints SAE90; Change oil every 12,000 miles
<b>TRANSMISSION</b>		Tyres	Goodyear. Type G-800 radial-ply tubed. Size 5.60-15in.	Overdrive	2.4 pints SAE 90; Change oil every 12,000 miles
<b>Clutch</b>	Diaphragm spring, 8.5in. dia.			Final drive	1 pint SAE 90; Change oil every 12,000 miles
<b>Speed</b>	4-speed, all-synchronous				
<b>Gear ratios</b>	1st 3.81, 2nd 2.60, 3rd 1.80, 4th 1.35, 5th 1.00	<b>EQUIPMENT</b>		Grease	6 pints every 12,000 miles
<b>Reverse</b>	1st 3.81, 2nd 2.60, 3rd 1.80, 4th 1.35, 5th 1.00	Generator	Lucas 22 amp.	Tyre pressures	F, 22; R, 24 p.s.i. (normal driving); F, 22; R, 26 p.s.i. (full load)
<b>Final drive</b>	3.89	Headlamps	Lucas sealed beam 57/37 watt		
		Reversing lamp	Extra	<b>PERFORMANCE DATA</b>	
<b>CHASSIS AND BODY</b>		Electric fuses	None	Top gear m.p.h. per 1,000 r.p.m.	17.3
<b>Construction</b>	Separate, double backbone, steel body	Screen wipers	Electric, single speed, self-parking	Overdrive top m.p.h. per 1,000 r.p.m.	21.6
			Standard, manual planner	At 40 m.p.h. speed at max. power	27.8
<b>SUSPENSION</b>			Extra, anchorage built in	B.h.p. per ton laden	84.8
<b>Front</b>	Independent, wishbones, coil springs, telescopic dampers, anti-roll bar	Screen washer			
		Interior heater			
		Safety belts			



Scale: 0.3 in. to 1 ft. Cushions uncompressed

## THE TRIUMPH VITESSE COMPETITION HISTORY

By John M Griffiths - President

For this special Vitesse edition of the Turning Circle, how nice it would have been to catalogue a list of successes of Works competition Vitesse's such as achieved by the SPITFIRE. Regrettably, this is not possible as

- a) the cars were, as far as I am aware, only used officially twice and
- b) information concerning those two events is to say the least, sparse.

Consequently, the competition process of the Vitesse has slipped quietly into oblivion.

It is my considered opinion that this is not to be construed as a failure on the part of the Vitesse as a Racing/Rallying machine. Quite the contrary, as I shall try and explain as this article develops.

In view of the lack of documented history, it has been very difficult to glean the little bit of information I have, but of course, I am always thankful to Graham Robson for his support and it is through him that I am able to reproduce the two exciting photographs of Vitesse in competition seen here.

Graham was, as you will know, the Competition Secretary at Standard Triumph at this time (1961-1965) having as he said, been 'pitchforked' into the new job following the departure of Ken Richardson at the end of 1961. Harry Webster (Chief Engineer) was to oversee the new competition programme, which was severely limited in the ensuing two years, due to a very tight budget. Consequently, whilst it was being re-established and its financial benefit evaluated, Graham was left with no real alternative but to continue to use the tried and tested TR's. The Vitesse 1600 was introduced to the public in June 1962 smack in the middle of this strangled competition programme. (Reason One).

As Graham tells us in his new book, 'The Triumph Spitfire and GT6', Triumph were at this time considering which way to take the Competition Department forward. The TR4's were becoming uncompetitive and a new car and attack was required. The Spitfire and the Triumph 2000 were shortly to be launched and were to provide the ideal medium to take on the World's best in the two prongs of Competition, Triumphs wished to pursue i.e. (1) Le Mans and Tarmac Rallying and (2) Special stage rough Rallying. The Spitfire, being a lightweight small car, was highly suitable for Le Mans and equally the comparatively gentle smooth tarmac rallies such as the Tulip. The Triumph 2000, being a large, strong, heavy car, was ideal to tackle the toughest of rallies, such as the Liege, the Monte and the RAC. The poor, old Vitesse fell between two stools, being suitable for both but not specialised enough in either field to warrant it's use instead of the aforementioned cars. (Reason Two).

However, having said the above, in 1963 a set of new Vitesse Saloons were prepared for rallying (prior to the introduction of Spitfire/Triumph 2000). They competed in the January Monte Carlo Rally and the August Liege-Sofia-Liege.

The first event for the Vitesse to tackle was to be the 1963 Monte Carlo Rally. Preparation began in September 1962, deciding which of the many starting points offered the easiest route to the central meeting point in Chambéry. Eventually, Paris was decided upon. Next the Team had to concentrate on developing the Vitesse to provide performance coupled with reliability. Then reconnaissance cars were prepared and sent with chosen drivers to learn the speed sections by heart and return with suggestions regarding car specification, reports of weather conditions on all the speed sections and copious notes on the entire route from Chaméry to Monte Carlo. Travel arrangements for the team cars, service support cars, drivers navigators and mechanics were sorted out. The cars themselves, I believe, were in 1600cc form, fitted with triple SU's. At this time, many of the Specialists were voting the Vitesse as 'The Sports Saloon most likely to succeed' and

#### The Triumph Vitesse Competition History cont'd .../

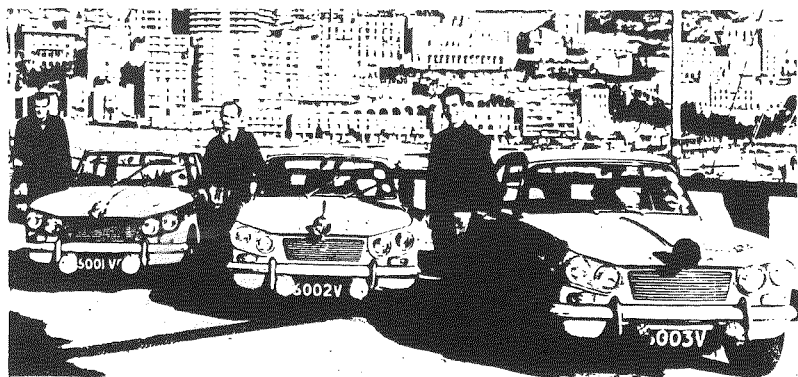
many firms were jumping on the band wagon, offering performance conversions. The triple SU set-up was the most favoured, giving vastly improved breathing over the standard Solex set-up. I believe the Works cars had special fabricated inlet manifolds and exhaust systems, which wrapped themselves around the chassis frame, apparently missing the starter by a hairs breadth. A highlift cam and modified head, plus oil cooler completed the bill. Incidentally, initially it had been proposed that the triple SU installation should be standardised for homologation purposes to keep the performance of the Vitesse superior to the Cortina GT but nothing came of this, mainly because of the short competition life span and, secondly because of the eventual factory policy to increase the capacity to two litres.

The 3 cars which took part were:-

6001 VC  
6002 VC  
6003 VC

The cars were driven by Vic Elford, accompanied by Mike Butler (I think 6003 VC), Mike Sutcliffe and John Sprinzel. All three cars finished. Vic Elford's car was one of only 10 British cars to be unpenalised on the road section and he was one of only 6 British drivers to be unpenalised. Both Elford and Sutcliffe's Vitesse proved faster than all the opposition in their class on the icy Special Stages, but had an unfavourable handicap, which dropped them slightly back in classification. A rather complex handicap system was used which applied performance factors to a car's time on the stages gauged on engine tune and size.

None of the Vitesse's had any serious trouble on the run, except Sutcliffe's car, which left the road on two occasions!!! In the Standard Triumph Review Number 3 March Vol 25 1963, Graham Robson reported 'A full programme is now planned for these cars, which will be improved and developed throughout the season. Their next foray will be in the Tulip Rally (late April), followed by the Alpine Rally in June'. As far as I am aware, this was regrettably not the case. For you, historians, the result of the 1963 Monte was as follows:- 1st Carlsson/Palm (SAAB), 2nd Toivonen/Jarvi (CITROEN), 3rd Aaltonen/Ambrose (MORRIS MINI COOPER).



*Against the impressive back drop of sunny Monte Carlo, the three factory Vitesse's rest happily after their 100% finishing performance in the 1963 rally.*

#### The Triumph Vitesse Competition History cont'd .../2

The next event was the Liege-Sofia-Liege. This event encompassed some of the most abominable road in Europe, coupled with a rally itinerary which covered 96 almost non-stop hours 94 days). This rally rivalled all others for severity. The principle of the event was to journey from Liege in Belgium to a far and distant city (the Bulgarian town of Sofia) and back again and, in the process, the organisers seemed to hope that no competitors would survive! In 1961 there were only 8 finishers; in 1962 only 18, (incidentally, the TR4 of Thuner was the only factory car that year to reach Liege). In 1963, 20 cars out of a total entry of 128 survived.

The event encompassed 3410 miles of some of the bumpiest, dustiest, most dangerous tracks imaginable, which had to be completed at breakneck speeds. The winning car was usually a 'tank', for example a 230 SL Mercedes Grand Tourer. The roads and climate varied from high mountain passes shrouded in cloud and covered in snow to hot dusty Adriatic tracks that concealed bottomless potholes. To try and service vehicles on such a rally was almost impossible, not to mention the often inferior low octane fuel, which was sold along route.

Was it not unfortunate that the Vitesse's 2nd and last rally outing should be in such a brutal event that claimed the most experienced and well-equipped international teams. However, having made clear the severity of the event, the outcome was in no way a disgrace to the Vitesse or the Team.

Starting at the beginning of the Liege story, it is interesting to note that in Vol 25, Number 8, August of the 1963 Standard Triumph Review, that Graham Robson clearly indicates that the Team would be trying hard with the same TR4's as in 1962, yet in fact three Vitesse's were also entered. Perhaps the following sheds some light on this. John Sprinzel left the Team after the Monte, when it became clear that his talents did not suit the cars. Vic Elford became the un-stated number one driver and very capable he was too. He accordingly expressed his opinions forcefully and once it became clear that a much modified Vitesse could succeed on the Liege, he was determined to have one. Whilst the Triumph Management were not convinced, Elford would not be stopped and went straight to the top, contacting Sir Donald Stokes to talk him into the idea. As a result a car was built in double quick time. The car that was built was a very special one-off, 2 litre prototype. The Liege has a class for un-homologated cars and, therefore, lent itself to this exciting project. As far as I am aware, the car 6003 VC, driven by Vic Elford and Terry Hunter, had a 2 litre Triumph 2000 type engine with triple SU carbs, a TR4 gearbox and a 'fingers crossed' Vitesse final drive. Front features were 7 ins. inner headlamps, double dipping and standard outboard lights, plus extra air intakes. (These details can be seen in the photographs). They also had special anti-lock Lockheed brakes.

In spite of the toughness of the rally itself and the prototype nature of the car, Vic Elford was proved right, the Vitesse performing superbly and lying 4th overall during the third night! Unfortunately, this success never entered the history books because the car failed to finish the rally, burning out during the third night from a carburettor fire, following a broken petrol pipe. (Incidentally, of the accompanying TR4's, one was driven by Roger Clark, who Triumph foolishly dropped after the event!!).

It has been said that the original narrow-cylinder lead did not lend itself to tuning and consequently this was a reported reason why the Vitesse was not used. If the 2 litre had been developed at that stage, this, I am sure would have been overcome. As it was, Vic Elford left to earn more money from Fords and the Triumph 2000 took the place of the Vitesse in Triumph's conquest for rough rallying success.

# The Triumph Vitesse Competition History cont'd .../3

To summarise, the Vitesse's short competition history was attributable to the following unfortunate set of circumstances:-

1. Tight competition budget. Little new development money.
2. Introduction of Vitesse, whilst Competition Department was just being re-established.
3. Introduction of Spitfire and Triumph 2000, better suited to the type of events Triumphs wished to pursue.
4. Early head deficiencies.
5. Loss of Vic Elford, who realised the Vitesse's potential.



Mike Sutcliffe's works-entered  
Vitesse 1600 in the 1963  
Monte Carlo Rally



TERRY HUNTER DRIVING THE ONE-OFF 2-LITRE PROTOTYPE



VIC ELFORD DRIVING THE SAME CAR IN THE  
AUGUST LIEGE-SOFIA-LIEGE RALLY

## SUPPLE 6

## Each wheel independently sprung

This picture tells you two important things about the Triumph Vitesse. First, it shows you what a superbly engineered piece of machinery it is. This is what you would expect from a product of the Leyland Motor Corporation. There's no finer certificate of roadworthiness.

Next the picture shows you how each rear wheel on

the Vitesse has its own springing. This means that each wheel absorbs the shocks and stresses of the road without setting up similar stresses in its partner the other side of the car. No rock on bad roads. No roll on tight corners. Sporting note : Vitesse road-holding allows you to make the most of its love for a sprint!



## THE ANNUAL CONCOURSE – DONINGTON 1982

By Dawn Sorton

As last year, the annual concours was held at Donington on the Melbourne Loop on May 22nd and from the comments received, it appears the day was a great success. We had over 400 cars arriving throughout the day.

The West Midlands Area Committee decided after last year's comments to stage 'added attractions' to the event and introduced their Annual Challenge - a competition involving a team of 3 changing plugs and wheels on a Herald. The initial response from Area Organisers, who were invited to submit teams from their area, was slow but eventually we accumulated nine trios for the trophy's debut. 'We're in for an exciting competition!' we thought. However, on the day five of these teams hid themselves away and left four to battle it out. What could have been an exciting competition, was a little disappointing but still good and we hope that next year, now you've seen what's involved, we will have more entries and help this annual competition to be a success. Well done to Geoff Moore and colleagues who won this year's area prize of the engine hoist, along with the challenge shield.

As well as inviting the 'usual' trade stands like Spitfires UK and Triumph Clearance, we had other trade stands in the form of a crypton tuning service (Auto-tec), who for £5(a great saving!) tuned to maximum efficiency anything from a Herald to an E-Type. They were so impressed with the response, they've promised their presence for next year.

The concours standard was very high, although the numbers taking part were down on previous years entries. The judges were Eddie Evans, Matt Maudsley and Bob Notley (TSSC Committee Members), Paul Sanderson (Practical Classics), Tony Baird (Spitfires UK), Dave Marklew (Coach and Custom). Their results were as follows:-

<u>Elite:</u>		Roger Rowley	Spitfire MK111
<u>Original:</u>	1st	Guns Van Der Krogt	Spitfire MK111
	2nd	John Thorpe	GT6 MK111
	3rd	Bill Sunderland	Vitesse MK11
<u>Working:</u>	1st	Tony Spicer	GT6 MK111
	2nd	Geoff Snelling	Vitesse
	3rd	Alan Bishop	
<u>Modified:</u>	1st	Bev Waran	GT6 MK111
<u>Working</u>			
<u>Modified:</u>	1st	Bill Hewer	GT6 MK111
	2nd	Gary Pickering	Spitfire MK1V
	3rd	Rod Kirby	

Mike Long Trophy for best GT6: John Thorpe - GT6 MK111

Best Personal Choice: Bill Hewer - GT6 MK111

Best Convertible Trophy from Spitfires UK : Guns Van Der Krogt - Spitfire MK111

Guns Van Der Krogt and several of his Dutch colleagues made the trip from Holland purely for the event and I think that shows a great deal of dedication to the Club.

Essex Area once again organised the Autotest and had 31 entries. The winner was Rob Jenner and Best Lady was Alison Weedon. Well done!

The Crusader Disco ran a PA system throughout the day and was a great bonus to the smooth running of the event. They then did the disco at Red Gate Lodge in the evening and with the lovely spread of buffet, went down as a great success.

The West Midlands Area Committee, who helped to organise the day, wish to thank all the helpers, including Miller, Stone and Jonas for the concours trophies, the trade stands and judges but especially you, the members, for supporting the Club's Number One Event so well.



BILL HEWER RECEIVING HIS TROPHY FROM JOHN GRIFFITHS



GUNS VAN DER KROET – WINNING Mk.III SPITFIRE

## THE LOMBARD RAC GOLDEN FIFTY RALLY

15TH - 17TH APRIL, 1982

By Dave Clements

It all started, as most things do, with one of Liz's bright ideas. Seated at food one day, reading *Classix* (the magazine of the Classic and Historic cars), she noticed a comment about the RAC organising a commemorative rally for cars used on the RAC rally between 1932 and 1967. A phone call to Sue Owst confirmed the fact and we were advised to contact the RAC direct. The conversation that followed set the tone for the whole event. 'What car are you thinking of entering?', asked Sue. 'A Triumph Herald', Liz replied. 'Oh', was the answer. And so, a call to the RAC got a pre-entry form on its way to us. All we needed now was a car. We knew that Standard Triumph used the 948cc Coupes for the 1961 RAC and, therefore, our entry should be one of our 948cc Coupes. Unfortunately, one of them is neither complete nor roadworthy (nor known by Swansea) and the Green and White show car (Holly) was far too valuable for playing at rallying! Our 1147cc competition Herald was, and is still, bodyless, and the 1147cc Estate out of the question, both the 13/60 and 1147 Convertibles not eligible, which left us with a small Coupe needing lots of work existed for sale in Bristol. After confirming with the RAC that they would accept it, we decided to enter that one. All we had to do now was prepare it.

We also had to buy the car, of course. Having agreed a price over the phone without even seeing the car, we set off for Bristol in a Transit with A-frame tow bar. Pay the money and disappear before he changed his mind. Dire warnings of all the expensive work required for the MOT in mind, we first, eventually, started the car and packed it off to our local engineers for the test. All it needed was a trackrod end! (A point to bear in mind is that the only vital outrigger is the one that secures the rear suspension tie-rod, although if the under-boot rigger is unable to support the exhaust, that will need replacing!). All the usual parts on the engine were replaced - plus points, ignition leads etc., the carburettor was replaced because the engine would not idle, rockers adjusted, levels checked, spare everything bought, new brake shoes and pads (yes, discs on the front!), new tyres and the mechanics were ready. The car was thoroughly cleaned, filled bodwork sanded and sprayed and wheels repainted. Now we could fill in the main entry form, which by now had arrived. This was a six-page intelligence test, almost like a job application. Make, model, type of car, engine number, size, power, make and type of carburettor, gearbox number and type, rear axle type and number, size of wheel, make, type and size of tyres (second choice also available), type of bodywork, colour, year of manufacture etc. Then it was the drivers' turn! Name, age, sex, address, previous rally experience, colour of underwear, etc. Then again for all possible co-drivers (up to 3 - one per day) and the form was complete! Special competition licences were required (event was National Stage Rally status) at £8 each for the event, entry fee was £50, send it all off and await replies.

Lo and behold, back came a large envelope containing an acceptance letter, regulations, licences, information bulletins etc. Now we could see what modifications would have to be done to the car! No rollage was needed - good. No bulkhead between petrol tank and occupants - good. Laminated screen required - oh hell! These screens are not available (though if anyone has one or two, let me know!), so another phone call to the RAC evinces the information that as long as the screen is covered by plastic material during the race-track stages, all will be well. Fire extinguisher

The Lombard RAC Golden Fifty Rally cont'd .../1

was required - no trouble. Seats had to be fixed down to prevent tilting and this was duly done, using intuition and a couple of Jubilee clips. Crash helmets were also needed, as were seatbelts and here the standard Stanpart ones in the car were quite suitable, although most uncomfortable!

Thus, the car was complete. All we need now is a service crew. Here John Griffiths, having found out that service crews get free entry to all the stages, agreed to be our crew since he would be in Stow anyway for the Club Committee Meeting.

On the first test run of the car, a loud shriek from the clutch caused many a heart attack! The noise disappeared for about 10 days and 5 days before the start I decided that discretion being the better part of whatsit, I instructed our engineers to fit a new clutch. (Yes, I know I could have done it myself but I am basically lazy!). The fault turned out to be parts of a starter motor Bendix embedded in the clutch covers! A previous garage had replaced a damaged starter but not wondered where the missing Bendix had gone! So, all prepared, Hotel booked for four nights, cases packed, cat put out, piggy bank raided, we awaited the grand departure on Wednesday morning.

Wednesday arrived bright and early and we set off for a long and boring Motorway journey. There is not much to say about a long and boring motorway journey except that it is long and boring! Nothing fell off, broke or seized, so all must have been well. Eventually we arrived in Stratford-on-Avon in the early afternoon and could see very few signs of the impending onslaught. We found our hotel and freshened up and set off to discover the Rally Office. This was situated in a plush hotel next to the bar! The office was deserted, except for Graham Robson explaining to Roger Bell how to book. Of course, no one could find the books which caused no end of amusement until Graham, in despair, got one from his car! Ann, the RAC's chief press officer then wrote down our life story for the commentators and also made a note of my statement that 'I never go wrong in Autotests!'. This, she said, would be remembered and may be used against me later on! After making sure there were no bulletins posted, we thought we had better go up for scrutineering.

This was held at the amazing National Agricultural Centre at Stoneleigh, and on arrival there we were promptly directed to the wrong end of the shed. Helpful marshals then re-directed us to the entrance of cow shed number 2, or something similar! Here there were many signs of rally activity, with marshals, cars, drivers, trailers and odd assorted people busying themselves with something. We joined the line of cars waiting for their turn and went and surveyed the scrutineers at work. On the entry form you had to state any modifications made from the original and had to prove this had either been done by the factory, or had been done early in the life of the car using parts available at the time of manufacture! Obviously checking these took time and some cars we saw were being checked using the proverbial fine tooth comb! Consternation sets in, hoping the body filler doesn't fall out on the scrutineers foot or some similar disaster! Our turn comes and amongst crowds of spectators, the bonnet is opened, the battery checked to make sure it was not loose, carb. return spring checked, seats and belts checked, all electrics checked and the stock of safety aids in the boot also verified. To our amazement he declared the car fit and signed our sheet all in about five minutes! Rush off clutching car to get rally plates, numbers, final instructions etc. before he changes his mind! Fit numbers and plates, leap in and drive off, looking and feeling every inch a rally car and crew.

Back to Stratford, into the hotel to find we have missed dinner by 5 minutes! Cheek! Never mind, straight across the road to an amazing restaurant for a magnificent meal. Then back to the hotel, intent on finding our service crew and find that they had the same idea and were waiting for us! Load up the Triumph 2500 with all our spares and then back to the rally office for a drink (or two) and a check on proceedings. The so-called parc ferme disguised as the hotel car park, looked like the opening scene from 'CARRY ON RALLYING', with Whizzo William's Dad's A35 decided to sound it's horn without anyone being in the car! A sharp kick from Whizzo on the front bumper soon stopped that and he then told the car 'Never speak to me like that again!' Such was the attitude of all competitors that we never felt left out or inferior even with such aces as Paddy Hopkirk, Brian Culcheth, Donald Healey, Per Eklund to name but a few. The whole atmosphere was one of enjoyment, friendliness and bonhomie, a state that I have never met in any rally in which I have taken part.

So, back to our hotel and plan the route for the next day, then retire, happy in the knowledge that the worst part of the rally - the scrutineering - was safely over!

Thursday - the first day of the rally proper, dawned even brighter than Wednesday and the promise of a hot day was very welcome. After a good, British breakfast, with an air of anticipation, we set off for the Royal Shakespeare Theatre, where Jenny Agutter was going to start the first few cars. She had very sensibly gone home when we arrived on the scene and, after parading in front of several hundred spectators we were flagged away at 9.33am. Everywhere people were taking photographs of us (and everybody else) and the carnival feeling was evident. The Police held up all the traffic so the rally cars had an unobstructed run through the by then very crowded town centre. And so off towards Silverstone. All along the route cars were parked on verges, laybys, etc and people were waving, smiling and, of course taking more photographs. The road sections were timed to about 25mph so we settled for 40 to 50 and cruised along. The Minis and Tigers and Jaguars all got fed up with such a speed and so soon passed us. In all the small towns more people were waving and we soon saw our service team in the car park of a pub. No, not drinking but assisting (?) Graham Robson and Roser Bell whose Ford Zephyr had lost its brakes due to a fractured brake pipe. All after being MOT'd the day before by a Ford main dealership. Yes. (It had arrived at scrutineering on a Ford transporter - with no wind-screen).

After suitable jeering comments from me we escaped rapidly. Just before the entrance to Silverstone there is a nice roadside inn where our service gang joined us for light refreshment. This was what I call rallying - sat outside at a table watching the other entrants rushing past, with a cool drink in front of us. We then set off for the circuit, missed the entrance (there was a policeman of duty there, and we are always nervous of policemen) and eventually made the paddock, fitted the temporary screen and wandered out onto the circuit to do battle. Now, I have never driven on a race circuit before, so, closing my eyes and accelerating, I got to the first corner without incident. So, keeping speeds to between 60 and 70mph, I proceeded to complete the five laps required in 18 mins 40 secs. Work out the lap times and you will see it is far short of the lap record! At one stage Whizzo decided to overtake me on the chicane and the crowd by the straw bales didn't know whether to run or stand! He managed to get past without hitting anything and afterwards said his foot got stuck under the clutch pedal! Knowing Whizzo, I only half believe him! That incident gave rise to shouts of 'No overtaking on this section, Whizzo!' from various competitors on most of the stage starts. After the circuit section, there was an Autotest on the Club straight, which involved 2 gates, 2 bollards and a lot of luck. No, I didn't go wrong. Then clock out, off with the screen, change drivers and head off steadily for Blenheim Palace and lunch.

Blenheim Palace is, of course, at Woodstock - a place with many other memories, depending on how old you are (!) and is an ideal place to achieve that ambition to drive up the main entrance road to the Palace at speeds in excess of that which the chauffeur would have maintained! The autotest was another one which involved two gates (by gates I mean having to execute a sort of 'W' manoeuvre through three lines of bollards at right-angles to the direction of travel) with a reverse at the end to return through the gates to the start. Fast. About half a mile all told, we did it in 1 minute and 9 seconds! The fastest time was 58 seconds. The Tiger objected to the gates and went straight through with detrimental results to his score! After that ordeal we parked up for a display outside the main entrance and went in search of lunch.

That being over, we returned to the car, fought our way through the crowds of people that seemed to be wherever the rally was, and paraded off on the way to Prescott, something I had been looking forward to for a long time.

Each competitor had two runs at Prescott and competition was fierce - not for the fastest time but to actually get out of the Paddock onto the hill! Once you got to the top, you came straight down the loop and tried to get in for your second run to get away as soon as possible. But with 60 competitors, things looked a bit like Piccadilly Circus at Christmas. The actual runs were exhilarating, the combination of the course, the Herald's handling and our BF Goodrich-type tyres made each corner sound like the sound-track for 'Grand Prix'! Once again, 'crowds were everywhere which added no end to the feeling of excitement. The second run was slightly faster than the first but still nowhere near John Griffith's time! Being now about 5 o'clock, we headed off for Long Marston for the final autotest of the day.

We arrived, and queued for the test for what seemed like hours as nobody seemed to be able to understand the route. It involved a simple slalom round the ubiquitous bollards! In the course of waiting, the engine started to miss and run lumpily but as I was nearly on the line I did nothing about it. During the test, however, it was obvious that we were only running on three! Never mind, we finished the test, correctly of course, and since the finish of the first day was about 5 miles away, decided to carry on and sort things out at the hotel. 16 competitors managed to go the wrong way on this autotest! Must be a moral somewhere! Back at the finish we had a commentator who was chatting to all the drivers as they came in. The crowds were here as well, so we drove slowly in, revving the engine to keep it running and had to stop and answer his questions! He asked how the car was going, I said 'Fine!', and at that point it nearly stalled. Thankfully another car arrived behind and we scuttled off before it stopped altogether! Back at our hotel we found that one plug had oiled up completely and one plug lead was on the point of melting away, having rested on the cylinder head all day! Plugs cleaned, lead replaced from the stock on board our faithful service barge (!) we wandered into the hotel for the general clean up, dinner (on time tonight) and walk over to rally headquarters for news, views, booze and general end of first day euphoria!

Friday - dawned hot again, another decent English breakfast, a half-hour earlier start (having first despatched service crew to obtain a set of L92Y plugs in time for Donington), through the waving crowds en route for Donington Race Circuit. Again, everywhere people were taking photographs, children were cheering, it was a great way to go competing! On the boring motorway journey to Derby, the oldest car, a 1927 AC, broke it's driveshaft and surprisingly, no-one had a new part in stock! After our first days success in keeping to road times, most competitors were now cruising along steadily at about 50mph, so we saw fewer cars than the day before. However,



the articulated SAAB train, consisting of Per Ekland and his two service cars, repeatedly passed us, waving, flashing lights and generally showing that every competitor was treated as an equal. When the Minis got bored with 50mph, they would overtake in a line, stop off at services and repeat the process regularly. On arrival at Donington, we took the usual entrance and had to concentrate to avoid going left to the TSSC Concours field on the loop! Straight into the circuit, crowds again, locate service crew clutching valuable plugs, insert same, on with plastic screen and crash hat, check levels, despatch Liz with lap counter board to spot on pit road and wander in to do battle. A bit more confident this time, after Silverstone, we had to do 8 laps making about 16 miles in all. You really do need two pairs of eyes on circuits, one to see where you are going and one to watch the mirrors! Wing mirrors were vital, as cars would overtake whichever side they thought there was more room! If you have ever been overtaken on a corner at 80mph by two Minis one side and a Mercedes 300 on the other, you will know what I mean! On one lap the Tiger overtook before the corner, spun, drove round in a circle on the infield, rejoined the circuit behind me and overtook again with a broad grin across his face! Enjoyment has strange forms! Anyway, circuit time was 19 minutes, 45 seconds, again somewhat under the lap record!

Out of the circuit, having changed drivers and another long journey up to Belvoir Castle, near Grantham, Lincs. Here we lost our service crew, so we drove around to try to locate some petrol, gave up and parked the car on the Castle courtyard for a display to the public while we had so-called lunch! The Castle 'restaurant' is meagre to say the least! We had a cup of soup! Having decided to try to finish the stage without resorting to reserve fuel (a very useful fitting on Heralds) we saw John coming up the Castle drive. Pouncing on him, we sent him back for our can of petrol, stored in his car! He returned as we were in the line to start the stage, and to much amusement, we topped up the tank. Paddy Hopkirk wandered over as we were doing this and asked to look at the petrol can. I explained that it wasn't one of his but he was intrigued by the way the spout locked into the handle. Expect to see an improved version soon from a well-known accessory firm!

And so on to our first special stage. Much easier than other forms of rallying - all turnings are marked for you by arrows. All you have to do is follow them! Another very useful guide on stages is to judge the nasty bends by spectator counts! If there are hundreds of spectators at a particular place, it generally means that there is a nasty hazard there! Anyway, the road book stated that a corner was 'blind' and had two exclamation marks beside it! Sure enough, hundreds of people were lining the corner ahead and if taken too fast, would result in landing on their heads! Needless to say we didn't but, listening to other car's noises we gathered that some competitors nearly did! After that, it was a straight rush to the aptly named flying finish, a distance of 1.4 miles, which we did in 1 min. 51secs. The fastest was 1 min 18 secs. Now it was a quick run to Mallory Park for the next circuit stage. 6 laps were required here, a total of 8 miles using the full circuit complete with hairpin! Great fun was had here, the hairpin and downhill curve afterwards was the scene of much friendly jostling! Luckily we had fitted tubes in our tyres otherwise we would have rolled them off the rims of every bend! Second gear complete with howls from the tyres for the hairpin, then touching 80 mph past the pits - very enjoyable! Once again, no-one else wanted to give way at the bend, so it was often three-lane cornering and whoever got the inside first stuck there! Unfortunately, the paddock is on the inside of the track, so we had to wait about 20 minutes until we could leave, making us late for the road section. Not to worry, we did the circuit in 8 mins 49 secs, which was quite pleasing.

Then it was a road section to the Jaguar works, where we had the last autotest of the day. This was great fun, involving an 8-course through the bollards, then drive into and reverse out of a garage, back through the bollards and finish. Per Ekland decided to try to roll his SAAB into the spectators but failed, others went very wide, obviously to get a better

view of the crowds! Two cars got it wrong and one retired. The chap who got the most applause was the driver of a Mini, whose gearbox failed just after the start. He pushed his car all the way round in a time of 2 mins! We did it in 38 seconds, the fastest being 30 seconds.

That is it for the second day, drive back to Stratford Hotel, clean-up dinner over to rally HQ for news etc. After both days, we were lying 44th out of 60.

Saturday - again starting half an hour earlier, quicker breakfast today and off again from the Alveston Manor Hotel towards Oulton Park - more boring motorway miles! For information, Liz drove all the road sections, while I drove for the special stages. This was not male chauvinistic habits but licencing rules from the RAC. Oulton Park was my favourite circuit, never getting out of fourth gear! However, it was marred by the fact that a Mini decided to roll itself very thoroughly just in front of me! The resulting delay gave me a very bad time of 16 mins 29 secs for 8 laps of the 1.65 mile circuit, which was very nearly the slowest time. The Mini driver was alright though and eventually finished the rally. Scenes afterwards in the service area of bashing, bending and glueing were highly amusing, not least to his service crew! Eddie Evans, the TSSC Technical whastit, riding shotgun with our service gang, demonstrated his technical wizardry by topping up the oil - it was necessary! Champion L92Y plugs are recommended for all Herald competition work!

On now to the two special stages, Weston Park and Burwarton. Weston is near Telford, the route being run through some small villages, where children ran up to the car at road works demanding autographs! Luckily the lights changed and we were off before we could oblige! In the hilltop village we discovered a sheep in the road and slowed down, the farmer waving us on saying 'It's only a sheep lad, lad, git on, you're on a rally!'

Everywhere people were taking more photographs, waving, kids at a playing field stopped their game to wave and cheer and for the small villages it must have seemed like carnival day! Occasionally someone would react the opposite way - in one town a child out with his mother looked as if they had had this conversation:- 'Eh look mum, a rally car!'. 'Don't be silly, lad, that's not a rally car, that's a Triumph Herald!'. All good ethnic stuff!

Western Park. Driving up to the start - no servicing necessary - we are thrust a glass of champagne, free! Wish all rallying was like this! Then, as we are waiting to start the stage, the co-driver of a Porsche 911 wanders up and says: 'Pliss may ve go in front of you - ve are going to go balls-out on zis run!'. Seeing the difference in performance of the cars, we agree to let him go! This means Per Ekland is now to follow us! Out of the frying pan etc!

The stage has three cattle grids, one narrow gate and the road book says potholes for half a mile! Potholes! More like trying to drive over Port Stanley airport! We're off! Bouncing along, mostly in mid-air, trying to slow down for the grids, Liz vainly trying to tell me there is a nasty bend ahead - unnecessarily, because as before crowds of spectators bravely hiding behind straw bales give the position away! The dust is amazing so as always, playing to the paying public, we head for the bend at 60mph, slide sideways in a partly controlled four-wheel drift, thunder off down the straight covering everyone in dust, stones, straw and other very unsavoury things! There must have been some very dirty faces and clothes after nearly 60 cars had done the same! Thunder up to the flying finish and find that a bend exists which the road book hadn't mentioned! Sideways round this and we manage to reach the finish before the dust cloud behind us signified the arrival of Per Ekland!

# The Lombard RAC Golden Fifty Rally cont'd .../6

We heard later that one of the cars went off at the last corner and did interesting things to one of his wheels and tyres! Total stage length was 2 miles, we did it in 2 mins 39 secs, the fastest being 1 min 44 secs - yes, the Porsche!!!

Right, now off to Burwarton - we had lunch at Oulton Park, by the way, this is a special stage actually owned by Viscount Boyne, who entered the rally in a E-type! On the approach to the start, Ray Morley, the driver of the retired 1927 AC Montlhery Sports, looks in the window and asked how it's going! We answer that we are not sure about this stage and all he says is 'Just close your eyes and keep the boot in!' So much for professional advice!

Burwarton was a lovely stage, all loose surfaces, narrow gates, hairpins and Rhododendron bushes! The Porsche goes 'balls-out' again and ploughs through the straw bales scattering spectators everywhere. Whizzo misses a corner altogether and disappears through a rhododendron bush and stops in front of a stone trough, bending his front number plate! Having no seat belts in the car, they end up in a heap and his co-driver says he will never ride with him again! We shoot off and complete the stage with no trouble, missing all bales, gates etc. - the only complaint I could think of was that it was too short! The length was 1.6 miles, completed by us in 2 mins 21secs, the fastest time being 1 min 46 secs, by a Mini Cooper S.

Now a short road run to Shelsey Walsh for the last stage of the rally. This hill looks easy but it is steep - I couldn't get out of second gear until the final straight! Euhren Bohringer in the massive Mercedes-Benz 300SE managed to avoid being timed for his run and, not speaking much English, was giving the marshal difficulty in trying to explain that he needed a re-run! On hearing the word 're-run', apparently his eyes lit up and he gripped the steering wheel in wild anticipation! Such are the joys of rallying! We cleared the hill in 1 min 6 secs., a Lotus Cortina making FTD in 41 secs.

The last thing to do was a short road run to Ragley Hall, where the grand finish was situated. We stopped, as did practically everybody else, in one of the many lay-bys on the route to polish and generally tidy up the car ready for the finish. At Ragley Hall, a fine display of car clubs had turned out and we cruised proudly through the lines of cars and spectators to be presented with two inscribed glass paperweights as a reward for finishing. A final sheet of instructions handed in through the window, instructed us to join the promoters for wine and buffet in the Hall after we had parked the car. We, of course, needed no second telling. Unfortunately, most of the food and wine seemed to have gone when we arrived but as always being in the right place at the right time, more appeared and we had a good end-of-rally social swapping ruderies with the commentators, press officials and various alcoholic drivers! No names, you can guess which! After Liz and another girl had been presented with daffodils stolen from a display by an unnamed person, we joined the parade down the drive (in some cases across the grass!) back to Stratford to park the car in the parc ferme. This park was full of official cars and service cars so we hid the Herald behind the hotel sign board! Back to the hotel for the usual smartening-up offices, dinner and over to another hotel in which John Girffiths was having a TSSC 'competition meeting'. This took the form of a beer-tasting ceremony, so we dragged them screaming over to the Swan's Nest hotel (rally HQ) for a celebration drink. It should be noted that I had refrained from alcoholic beverages for the duration of the rally! When results were posted, those who could still read, found that we had come 47th, beating 2 Cooper S's, a Jaguar SS100, Aston Martin DB2/4 and various other venerable cars such as a 1934 Singer LeMans, a 1936 Wolseley 10, a 1939 Morris 8 (!), a 1953 MG YB, a 1953 Lancia Aurelia and a SAAB 96 Sport.

# The Lombard RAC Golden Fifty Rally cont'd .../7

When you realise there were only 8.5 points between us and the car that came 37th, you can see just how close it was. Two cars had retired, the 1927 AC and Bengt Soderstrom's Lotus Cortina which expired on the first day. Bengt spent the rest of the rally in the hotel bar, the reason he gave was that so he could follow the progress of the rally seeing as how the press office was next door!

The whole event had been professionally recorded on video, parts of it had been televised, thousands of photographs had been taken by thousands of people, every motoring magazine had been represented and the extent of press coverage may be judged by the fact that our local paper, the Sidmouth Herald had obtained a copy of the programme and were preparing a story before we had got home!

After an evening of drinking, watching the video, looking at the exhibition and more drinking, we staggered off back to the hotel for sleep.

Sunday- dawned as you might have guessed. After breakfast it was over to the Alveston Manor Hotel for the prizegiving. Speeches galore, the biggest cheer going to the chairman of the RAC who announced that every rule in the blue book had been bent to allow the event to run. If you have ever tried to get round the GCR's you will understand the cheer! They intend to hold another event in ten year's time, Euhren Bohringer has said that he will come over from Germany for it and I think that everyone who had taken part will do likewise. We certainly shall, in the same car as well, hopefully! After the prizes, more wine and food, provided by Lombard, was served on the hotel lawn. This was very well received, as usual! Naturally, our party managed to end up with two bottles of wine, as the waiter couldn't be bothered to keep coming back! Goodbyes were said, plenty of 'See you in 10 years!' exchanged and most people had drifted off by midday.

We departed for home, calling at The Fosse Manor Hotel near Stow-on-the-Wold, collected our spares from John, had lunch and cruised off homewards, still in high spirits!

So that was it. A unique event and one that had restored my faith in the RAC! The car used 2 pints of water, half a gallon of oil and one spark plug. If we added up the cost it would frighten us but suffice it to say that it was worth every penny! It also restored my faith in competitions, every rally I had previously taken part in had ended in petty bickering and heavy arguments about trivialities. The rules for the event had stated that complaints were counted as being outside the scope of the regulations but no-one had wanted to complain anyway! Hopefully, the idea is infectious. Roll on 1992!



## 2.5 P.I. VITESSE

By Tony Lambert

It was in July 1976 that an advert appeared in a local paper for a 1971 Triumph Vitesse 2.5 P.I. engine. I thought it might fit nicely in my Vitesse, so I set off to view the said engine. An inspection showed the engine was generally in good condition; the head had been removed and the bores and valves seemed OK. It was complete except for starter motor and alternator and all the injection gear was there in a box. So, I parted with £60 and three of us struggled with what seemed like several tons, to manhandle the brute into the back of a borrowed van.

I asked the chap selling the engine why he had removed it from the smart 2.5 Saloon that was standing in his drive? He said he was only getting 17 miles to the gallon out of it and so had replaced it with a 2000 unit instead. It's funny how people are always more informative when they have your cash! Anyhow, with the prospect of a lifetime of crippling debt feeding a 17mpg Vitesse, I set off home.

Over the next few months, the engine was completely stripped and rebuilt with new parts where necessary but I could find no reason for it's alleged thirst. The engine itself is physically the same size as the 2000 unit, even the bores are the same, only the crank and pistons are changed to give a longer stroke and provide the extra half litre. The other internal differences are the camshaft and the timing chain, which is a duplex one on the 2.5 engine. The only external item that was obviously different was the front engine plate which has two legs that carry the engine mountings on the 2.5P.I., these were simply cut off the normal Vitesse mounts, bolted to the side of the block. In a quest for information, I wrote to the Triumph factory and they kindly sent me the sections of the 2.5 manual pertaining to the engine and fuel injection system. At this point I turned my attention to the rest of the car in an attempt to uprate brakes and suspension to cope with the extra 40 or so horsepower. Ferodo DS11 pads and VC95 shoes took care of the brakes with a servo in lieu of extra leg muscles.

The suspension was checked over and any dubious parts renewed. The dampers were replaced with uprated levers on the back and Spax adjustables on the front. Wheels and tyres were changed to 5½J with 185/70 Goodyears, slight flaring of the arches was required front and rear.

The car was in daily use for work at the time so all work had to be completed at weekends. I didn't even have a garage, so the work was carried out in the street. I intended to borrow a garage for the time of the actual engine swap so it was a case of trying to foresee any problems and co-ordinate the project so everything was ready for when the engines were to be changed.

The next thing to come under scrutiny was the injection system. The fuel pump was stripped and checked and seemed OK. A certain amount of wear was found in the linkage of the metering/distributor unit so new parts were bought or made where necessary. Then a breakthrough occurred when checking the pressure relief valve. The unit was seized solid, this obviously accounted for the high fuel consumption. Instead of limiting the fuel line pressure to 110p.s.i., the line was running at the 300p.s.i. of the pump. So, with the relief valve freed and reset to it's correct opening pressure, I set about the injectors. According to the manual these are non-user servicable but you can't believe all you read. I had tested the injectors on a knocked-up test rig, using compressed air and found some of them leaked or did not open at the correct pressure (50p.s.i.). I replaced the 'O' rings and ground the conical seats on the leaking injectors using jewellers rouge, just like grinding normal cylinder head valves but much smaller.

## 2.5 P.I. Vitesse cont'd .../

The opening pressure is adjusted by a socket head screw tensioning a spring within the injector. After making sure everything was scrupulously clean, all components were reassembled and put to one side.

Next problem was to find somewhere to put the fuel pump and a few yards of extra plumbing. I decided to mount the pump and filter on the bulkhead at the back of the boot, behind the fuel tank. This was later to prove to be a bad idea but, knowing no better, it was bolted in place. The fuel tank also required modification to accept the two extra fuel lines, one from the pressure relief valve and one from the metering unit. So the tank was emptied and removed. The two return pipes are fitted alongside the original fuel outlet at the front of the tank. I decided to braze the pipes in place, which can prove a fatal operation if your tank is not completely devoid of petrol vapour. To ensure this was the case, first I washed the tank out several times with soapy water, then the tank was drilled to accept the short lengths of pipe, about ¼" dia., that were to be the return connections. Then an old cylinder vacuum cleaner was connected up to blow air through the tank and purge it while the brazing operation was carried out. A vacuum cleaner was then repainted and installed in the car.

Next job was the plumbing. The original petrol pipe was to become the return pipe from the metering unit. Another low pressure pipe was coupled up from pressure relief valve to where the metering unit would be. The high pressure pipe was a problem at first as I couldn't find a supplier until I discovered the flexible plastic pipes used on the injection equipped cars is the same stuff as used in trucks and buses for diesel and air brake lines. (You can obtain it from motor factors you don't need to hi-jack a truck).

A supply cable was run from the ignition to the pump, via an inertia switch. This switch is designed to break the circuit if the car is subjected to an impact above 5G. This minimises the risk of fire from leaking high pressure fuel in the event of an accident. (It also shuts everything down if you hit a bad pothole at speed).

This more or less completed the preliminaries so arrangements were made to swap the engines the next weekend. This was just before Easter 1977. I hired an engine hoist from the works motor club and on the Friday night, rolled the car into the garage. The bonnet, radiator and other ancillaries were removed and the engine was lifted out, complete with gearbox. I find it easier to do it this way than to work in a confined area to remove all the bellhousing bolts. Also with an engine of this size and weight, it is easier to fit a gearbox to the engine rather than the engine to the gearbox.

With the engine out of the car and the gearbox removed, I began to notice subtle differences in the two engines. The back plates are different i.e. the holes don't line up with the gearbox and the 2.5 flywheel is about an inch thicker than the Vitesse item. So to get the Vitesse box to fit, I swapped the backplate and flywheel for the Vitesse items. The lighter flywheel actually turned out to be an advantage as it give the engine quicker response.

I intended to use the Vitesse sump as it has a connection for an oil temperature gauge and, anyway, I thought they were identical - wrong! The 2.5 sump is about ½" deeper at the front. I found this out when I bolted the Vitesse sump in place and found I couldn't turn the engine over. The crank webs were fouling the shallow part of the sump. This was something of a setback as I intended to use the car for work on the Monday. I always was optimistic. Never mind, the sump was removed and channels were welded into it the clear the crank webs. I tried the 2.5 sump on and it fouled the steering rack, so there wasn't a simple way round it. No further problems were encountered and the engine was installed and I started to reconnect



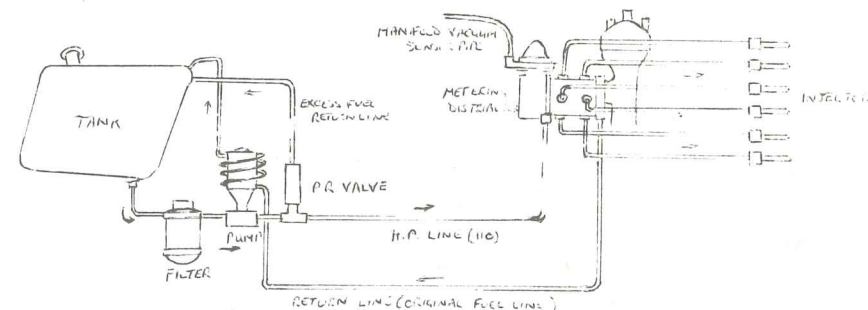
## 2.5 P.I. Vitesse cont'd .../

the ancillary equipment. It was found the metering unit, (which sits on the distributor pedestal and occupies the space to the rear) fouled the inner edge of the bulkhead but only by a small amount and it was easy to remove the offending bodywork. When I got round to fitting the inlet tracts and throttle linkage, I found this also fouled the bulkhead. By this time I had run out of weekend and had to resort to other means of transport for work and continue working on the car at night.

The throttle linkage itself required extensive modifications to clear the bulkhead and the SAH manifold. The throttle consists of three pairs of butterfly valves connected through adjustable linkage to a common bar mounted beneath the inlet tracts. The throttle cable and choke linkage connects to this bar. Before everything could be persuaded to fit, rods had to be shortened, holes redrilled and brackets bent to different angles. In the end most parts had to be distorted or otherwise customised in order to fit the limited space. The starter solenoid had to be moved to a new site atop the heater as this also fouled the aforementioned gubbins. I wanted to retain the Vitesse mechanical tach and the 2.5 internals were transferred to the Vitesse Distributor and that installed instead. The choke cable was replaced with the 2.5 item, this has two cables, one goes to the metering unit and the other goes to the throttle linkage. Eventually everything was connected up and an attempt made to start the engine. At this point it became obvious that my aging battery was not up to turning over a newly rebuilt stiff engine. After arranging a set of jumper cables we eventually got the engine turning over but after considerable cranking the engine still wouldn't fire. With an engine in which ignition, fuel system and valve events have all just been set up, it's difficult to decide which bit is wrong, especially when you have an injection system that you've never even seen working before. Slowly piece by piece, everything was checked and nothing seemed to be amiss. Eventually after splitting the pipe joints to the injectors, it became apparent the system was not full of fuel. I had simply underestimated how much fuel is required to fill all those pipes and the pipes from the metering unit to the injectors are only filled by cranking the engine. Again, everything was bundled back together and, after another lengthy period of cranking on full choke, fuel began to appear at the injector nozzles. Unfortunately, in my haste to get everything going again, I succeeded in setting the distributor up 180° out and again it wouldn't start but we all make mistakes, as the Darlek said climbing off the dustbin. At this point, I called it a day and left the problem for the morning. Next day the fault was easily found and again an attempt made to start. This time the engine burst into life. After 8 days of blood, sweat and hair-tearing, I again had a mobile Vitesse.

With the car running ; now came the time of sorting out the inevitable teething troubles and other minor details like an engineering inspection for the benefit of the insurance company. One of the first things I noticed was that the fuel pump got hot, not warm, HOT. One day after a run of approx. 25 miles, it got hot enough to partially seize, with the result I had to stop every few miles and let it cool down in order to get home. The time it had run with a siezed pressure relief valve had taken it's toll on the armature and damaged the windings. A replacement armature was obtained from Lucas, price £12, yes, you can get spares, you don't have to replace complete units. The other problem I encountered was due to my positioning of the pump on the bulkhead. These pumps are supposed to be gravity fed. I found when the tank level was getting low, fuel moving away from the pickup pipe during hard acceleration, would starve the pump, causing the engine to hesitate and this in turn caused the fuel to surge forward again. The engine would pick up with avengence and catapult the car forward. Exciting as this was, it tended to leave large quantities of expensive tyre on the road. The problem was solved by moving the pump beneath the boot floor. This has the added advantage of putting the pump out of earshot. That constant whine really got on my wick. At the same time I made up a cooling coil for the pump, this uses the fuel returning to the tank to cool the pump and prevent any tendency to overheat. the accompanying diagram shows the present fuel system. The fuel tank take off is now from the tank drain plug.

## 2.5 P.I. Vitesse cont'd .../



The ailing battery was quickly disposed of in favour of a 55A.H. one, as in the Stag, with a 45 amp alternator to keep it topped up. The Vitesse starter motor is still in use and has no difficulty cranking the bigger engine. The Vitesse radiator proved adequate in cooling the engine, an electric fan is fitted but only runs when idling for long periods. An oil cooler takes care of the lubricating medium.

Alterations have been made to the fuel system calibrations in the light of running experience, adjustments were made using an exhaust gas analyser and colour tune as reference. An excellent article on adjusting the injection system appeared a couple of years ago in the TR Register's TR Action magazine.

The car is used almost daily and returns approx 25 mpg, although I have had over 29 mpg on a run. The injection system has been utterly reliable and apart from routine lubrication, has required no attention since installation. One tip worth mentioning; Redex in the fuel is good lubrication for the pump and metering system.

Various other items have been replaced or added both before and in the years since the engine transplant but time dulls the memory and I can't remember exactly when items were fitted. The following gives an indication of the cars present specification:

ENGINE - Ex 71 2.5 PI producing approx 140 BHP in present tune  
 GEARBOX - Standard Vitesse Overdrive fitted 1979  
 DIFF. - Standard Vitesse 3.89:1 ratio  
 EXHAUST - SAH six branch manifold and dual silencer system  
 OIL COOLER - SAH  
 SUSPENSION - Standard apart from SAH additional anti-rollbar, front dampers Spax, Rear dampers, Uprated levers  
 WHEELS - Dunlop formula 'D' 5½J  
 TYRES - 185/70HR13 Goodyear Grand Prix 70  
 BRAKES - Ferodo DS11 Pads. VG95 Shoes. Girling servo.  
 ELECTRICAL SYSTEM - Uprated cables fitted where necessary, 17 fused circuits, relays on heavy current circuits, Lucas 11AC alternator 45amp operating with home made regulator. 55AH battery with battery isolating switch  
 IGNITION - Mobelec E20 electronic system NGK BP6ES plugs



2.5 P.I. Vitesse cont'd .../

FAN - Wood Jeffries fitted 1974. Control unit replaced with homemade circuit  
HEADLIGHTS - Hella Quartz Halogen 120 Watts Dip. 350 Watts Main Beam.

Alarm on lights operates when ign. sw. turned off.

WIPERS - Standard Vitesse motor with homemade control unit giving normal, fast and variable intermittent wipe plus automatic operation with electric washers.

ELECTRIC WINDOWS - with motors within door cavity operated by Stag switches on centre consol.

ELECTRIC ARIEL - operates automatically on radio and CB

HORNS - Air horns and standard horns wired to switch to air horns with O/D engaged

ALARM - details not available

INSTRUMENTATION - comprises standard instruments plus amps, volts, oil pressure, oil temperature, fuel pressure, engine vacuum, brake servo vacuum.

PAINT - Triumph Saffron with Metalflake Silver Glowble side stripes and boot panel. Covered with up to 40 coats of Acrilic lacquer, the name 'SHADOWFAX' airbrushed on bonnet sides.

All maintenance and modifications carried out by myself with the exception of chrome plating, the wife won't let me use the bath.

The car is not finished yet as there are still several alterations and improvements I want to make. When I find the time!

That's really about it, in the world of engine transplants a simple operation, easier than putting a 454 cu.ins Chevy in a Mini, but I found it interesting just the same.



## IMPRESSIONS OF INDY

THE SIXTY-SIXTH INDIANAPOLIS 500, MAY 30TH, 1982

Indianapolis Motor Speedway, Racing Capital of the World. The greatest spectacle in sports. So runs the advertising copy for the Indy 500. When you read that and some of the facts and figures that accompany it, you know you're in for a big, brash, all American show as only they can do it!

Consider the amazing amounts of prize money to be won, the winners - \$300,000, the mechanics - \$30,000, for winning the pit lane competition for changing two wheels! The total winnings in excess of \$1.5 million. Each lap, and there are two hundred of them, is sponsored, plus large winnings for leading at certain distances throughout the race. The speeds in excess of 200mph around a 2½ mile oval, watched by a crowd of some 400,000. The bands and parades, stars and celebrities the whole razzamatazz of the world's richest motor race.

Qualifying for the race begins on the first weekend of May and continues on and off until the race day. Also, during the pre-race week, various other social events take place. These range from a marathon to a Race Ball with parades and beauty competitions for the Race Queen and attendants in between. Local TV and radio is full of news about the forthcoming race.

Race day starts with a bang, literally, at 5AM. A bomb is let off which signifies the track is open to the thousands who have either camped out for anything up to a week, or like Sue and me, the people who got up early and drove to the circuit. Not that we were there that early! We arrived a little after eight and the place was jumping. We only saw a very small part of it, but the snake pit has to be seen to be believed. All manner of weird costumes and hairdos. The real race fans trying to get the latest news and buying buttons and badges which support their favourite driver. Overhead any number of helicopters, some private, some belonging to the traffic police and much of the time one of the Goodyear Airships droning about like a great silver whale. Out on the track itself the college bands with their majorettes march by in a seemingly endless parade, while the race cars are positioned in front of their respective pits. Later, they are moved to the starting grid. At 10.0'clock, a whole series of presentations and introductions to the crowd is made, including interviews with some of the drivers. During this part of the proceedings, the Race Queen and her attendants drive up and down the main straight, followed by various dignitaries, film and TV stars and sharing one car, Grizzly Adams and the woman who is world famous as Miss Gasoline Alley, I believe. Now there is a chassis I would love to inspect!

With half an hour to go the excitement intensifies, the Chief Steward makes his final track inspection, the National Anthem is played, followed by prayers and then, as this is Memorial Day weekend, Taps is played. Following this, the Indiana Anthem, 'Back Home in Indiana' is sung, during which many hundreds of balloons are released and some manage to get stuck in the rigging of the airship. I now know where the saying, 'made the Anthem but missed the race', comes from. (It's a reference to the vast amounts of beer and booze which are consumed).

Finally, the famous words are uttered by Mary Hulman, 'Gentlemen, Start Your Engines'. The cars are then led off on the warm-up and parade laps, while the pace is gradually increased and when everything is in order the pace car pulls off, the cars accelerate to the starter, the green for GO is given, and the race is on. No! Not this year. A crash seconds before the start eliminates Mario Andretti, Roger Mears, Dale Whittington and the cause of the mayhem, Kevin Cogan. No doubt the accusations and excuses will rumble on for some time and speaking as a novice observer of this type of race, we and people around us, thought the pole position driver, Rick Mears, kept the pace down prior to the start. Incidentally, the Mears brothers and Cogan are all teammates and there are theories about with regard to the slow pace lap!

Eventually the track is cleared, the cars refuelled and some forty minutes or so later, the race finally gets under way. What a race! To see these cars lapping



Cont'd .../Impressions of Indy

at 195mph+ only inches away from each other, is an incredible sight. Inevitably, of course, there are incidents, luckily without serious injury, and while the yellow flags and lights are shown, tactics come into force. Whilst drivers may not pass anyone under a yellow flag, they may close up on the car in front. Others take advantage of the slower speed to make a quick pit stop. When the all clear is given, racing speeds are resumed and the whole pack zooms off. The closing stages of the race were probably the best finish I've ever seen. Any members who saw the coverage of the race on ITV's World of Sport, will know how close it was. The cheering was genuine, no need to dub that! For the last fifteen laps the air was electric. The crowd stood and cheered and yelled and those two cars went round like they were tied together on the last two laps. The finish, the closest ever in the history of the Indianapolis 500, resulted in a win for Gordon Johncock over Rick Mears by sixteen hundredths of a second, after five hundred miles. Yes that's right, 0.16 secs!

After the race we walked back to the car and within thirty minutes, we were on Interstate 465 cruise control engaged headed for home. Major British circuits please note! Anyone thinking of attending the race on May 29th next year, I would say just one thing, GO!

Racing's Capital of the World? No. The greatest spectacle in Sports? Debatable but certainly one of the greatest.

DAVE BAYLISS

## A POINT OF INTEREST

By Nick Bradbury

Recently, I came across a problem which may affect other owners of the Vitesse 2L MK11, of approximately mid-1969 vintage, concerning the renewal or replacement of the front brake caliper dust covers.

On my Vitesse, the front calipers appeared to be both the same type, one LH and one RH, as one would expect. There the similarity ends. Although they are both TYPE 16P, they require different types of rubber dust covers between the caliper body and the pistons.

Apparently, in late 1968 or early 1969, Girling made slight alterations in the design and manufacture of these front brake calipers, with the result that some cars may have two of the early Type 16P or two of the later Type 16P, or a mixture, as on my car. This, unfortunately, requires the purchase of two separate caliper replacement kits; the only consolation being that you have a complete spare set for future use! Which is probably just as well, because one type is virtually unobtainable! (see below).

According to Girling parts list, the MK11 Vitesse requires part no. SP 2589 ONLY. Nothing else is listed. Also, while trying to find cross references for the other kit required, a complete blank resulted. It was by sheer good luck that I acquired the dust cover kit for the rogue caliper. I happened to have one of the old dust covers with me on a trip round Taunton's various autofactors etc. At one the Sales Assistant checked the parts list, came up with the answer I already knew (part no. SP 2589) and said nothing else was listed. After a couple of seconds, and a rummage round the shelves, he returned with another box, somewhat dusty from a lengthy stay on the shelves! Lo and behold, the ones I required! The assistant thought they might have been fitted to a Vauxhall's brakes at one time but a subsequent check revealed nothing. After a bit of haggling, they changed hands at half price!

Anyway, the part no. for this other kit is SP 2501, from the diagrams below, the differences can be seen quite clearly.

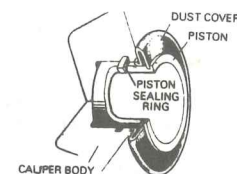


Fig.1



Fig. 2

Fig. 1 is of the 'Early Type'

Fig. 2 is of the 'Later Type'

1. Piston sealing ring
2. Dust cover
3. Piston
4. Dust cover retaining ring (Later Type only)

Unfortunately, the two types of dust covers are NOT interchangeable. The type number can be found on the inner face of the caliper (engine side) i.e. TYPE 16P. The other numbers to be found are probably manufacturers part numbers. On my car, these are as follows:- (with the relevant cover kit part numbers).

RHS or O/Side

64327814 C8 0B

SP 2589 (as in Fig 2)

LHS or N/Side

B10 64327813 0F

SP 2501 (as in Fig. 1)

I hope the above information may be of some use to anyone else with the same problem!

P.S. Since obtaining the first box of 'unobtainable' dust covers, I have acquired a second lot - for spares!



By Matt & Maggie Maudsley

The Driving Tests were followed by a superb Barbeque supper with chicken, pork, sausage, salad and gateaux with ice cream. The food was cooked to perfection and after collecting our portions, we retired to various straw bales to consume it with relish. To cook 200 meals on a barbeque is no mean feat and to do it so well, a real achievement. Thank you.

# Autotest

AUTOCAR 7 August 1969

## TRIUMPH VITESSE 2-LITRE MARK 2 (1,998 c.c.)

**AT-A-GLANCE:** Latest version of Britain's cheapest 6-cylinder saloon. Excellent performance, thirsty if hurried. Much better handling and roadholding. Poor ride and ventilation. Heavy brakes. Good value.

### MANUFACTURER

British Leyland Motor Corporation Ltd.,  
Standard-Triumph Division, Coventry, War-  
wickshire.

### PRICES

Basic	£743	0	0
Purchase Tax	£229	6	5
Seat belts (approx.)	£6	10	0
Total (in G.B.)	£978	16	5

### EXTRAS (inc. P.T.)

*Overdrive	£62	0	3
*Radio (approx.)	£25	0	0

\*Fitted to test car

PRICE AS TESTED £1,065 16 8

### PERFORMANCE SUMMARY

Mean maximum speed	101 mph
Standing start $\frac{1}{4}$ -mile	18.4 sec
0-60 mph	11.9 sec
30-70 mph through gears	12.3 sec
Typical fuel consumption	26 mpg
Miles per tankful	220

INSTALLING 2-litres of 6-cylinder engine in a small saloon originally designed for half that capacity makes a particularly pleasant and rewarding car to drive, provided that braking, stability and control are a match for the increased performance. The Triumph Vitesse 6 was basically a Herald with a 1600 6-cylinder engine until the autumn of 1966 when a slightly more powerful version of the 1,998 c.c. unit from the Triumph 2000 was adopted, the model being named the Vitesse 2-litre. In *Autocar's* Road Test of the car (9 March 1967), we said how enjoyable the car was with its greatly increased urge, but added that the very tail-happy nature of the swing-axle rear end needed to be respected. At last year's Earls Court Motor Show Triumph introduced the Mark 2 Vitesse 2-litre, the main feature of which (with its more sporting stablemate the GT6 Mark 2 coupé) was the ingenious change of the rear suspension to near-wishbone geometry, greatly reducing wheel-camber changes.

Perhaps the first thing that we should say therefore is how much better the car is in its handling. Being quite markedly front-end heavy it understeers appreciably on any well-surfaced dry road as before with power on, and on such surfaces will only break away at the back with really brutal acceleration in the lower gears. Traction of the radial-ply Goodyear G800 tyres is good; unlike its predecessor it was impossible to make wheelspin starts for our MIRA acceleration runs: the clutch had to be slipped

instead. Returning to cornering characteristics slight forward weight-transfer caused by decelerating abruptly will naturally make the tail move outward when turning very fast, but not with anything like the suddenness or length of slide awaiting the unwary with the previous arrangement. Experiments on a track demonstrate that the combination of a laden power-to-weight ratio of over 90 bhp per ton and a roughly 54/46 weight distribution makes press-on driving through a smooth S-bend still a little untidy when balancing basic understeer with power oversteer; also, slippery roads demand as much care as you'd expect, but no more so than with other similar cars. Steering is precise, a bit heavy, quite quick (that is, high-g geared), slightly over-damped—almost sticky—and therefore slow to self-centre; straight-ahead stability is good and there is plenty of grip, not much roll and delightfully little lost motion in the rack and pinion or its links. Considered overall, the controllability and behaviour of the Mark 2 is a very great improvement.

### More Performance

The other notable change embodied in this model is a claimed 10 per cent increase in power, which has been put up from 95 bhp (net) at 5,000 rpm to 104 bhp (net) at 5,300 rpm. Maximum torque stays the same, 117 lb ft at 3,000 rpm. The car is required to be run on 100-octane fuel, although the pleasingly informative handbook gives the right ignition timing setting for use with 97-octane petrol which is usually all you can find abroad. The Vitesse weighs very little more than before, and there has been no change in gearing which remains at 17.1 mph per 1,000 rpm in direct top, and 21.3 mph per 1,000 rpm in the optional overdrive top. The increases we measured in acceleration and speed are therefore quite impressive. The Vitesse 2-litre Mark 2 is now a genuine 100-mph car, mean top speed having gone up 6 mph to 101 mph. From a standing start 50 mph comes up in 7.7sec (formerly 8.8sec), 60 in 11.9 (was 12.6), and perhaps most remarkable of all, 90mph in 31.8sec, nearly 10sec quicker. Similar improvements are found in each gear. Comparisons aside, it is the character of the acceleration which is so pleasing. As you start the engine, there is an imposing "woomph" from under the pointy-eared bonnet, mainly fan noise which grows a little excessive though not unpleasant at high revs; here is surely yet another good case for a thermostatically coupled fan of some sort. Except for a slightly irregular tick-over, the engine is delightfully smooth throughout its wide range. There is excellent torque from low rpm, evenly and steplessly delivered; this unit is a very good argument for devotees of the refinement of in-line sixes.

The car cruises happily at up to 90 mph. Fuel consumption has increased slightly, mainly at the bottom end of the speed range; overall consumption for the 1,158 test miles was 23.5 mpg against the previous 26.1 figure. It is time that a larger fuel tank was fitted—8½

gallons are not enough. Though the throttle linkage is very responsive and has no lost motion at all, the Vitesse is very easy to drive extremely smoothly, something often difficult in relatively light cars with big engines. The clutch is very light to work and almost "soft" in the way it engages, yet is certainly man enough for the job.

The gearchange gets only average marks. The travel of the stubby lever is fairly short and not rubbery, rubbery and unpleasantly sticky certainly describes the gearlever knob which any sensitive owner will throw away and replace. Not so easily improved is the quality of the change, which has beatable synchromesh, and can be pushed inadvertently into the beginning of the reverse slot when on the way to first. A lift-up instead of push-down reverse guard would be better. Overdrive engages smoothly and both gearbox and final drive are quiet.

The ride is distinctly old-fashioned—rather hard, jerky over bumps of limited travel especially as the front wheels drop when they can "top" abruptly and audibly; if this happens on a poorly surfaced bend taken fairly quickly, the front jumps momentarily outwards. Its biggest fault in this respect are the high levels of bump-thump and body boom which are disappointing. The seats make up for the ride to some extent as they are comfortable, fitting one snugly and giving reasonable sideways support, though they are hot in warm weather. Some of our drivers would have preferred a less erect seat back and a steering wheel mounted farther away from them.

Whilst British Leyland were improving the Vitesse, it seems surprising that they didn't fit a vacuum servo to the brakes. Pedal effort is abnormally high—a 140lb shove was needed to record the 1g maximum retardation, which is around 40 per cent more than is normal nowadays, and 30lb more than on the previous model. As the car went through the same fade test with no increase in pedal effort where before it went up noticeably it seems that harder pads and linings may be now fitted. The handbrake just held on the 1-in-3 test slope.

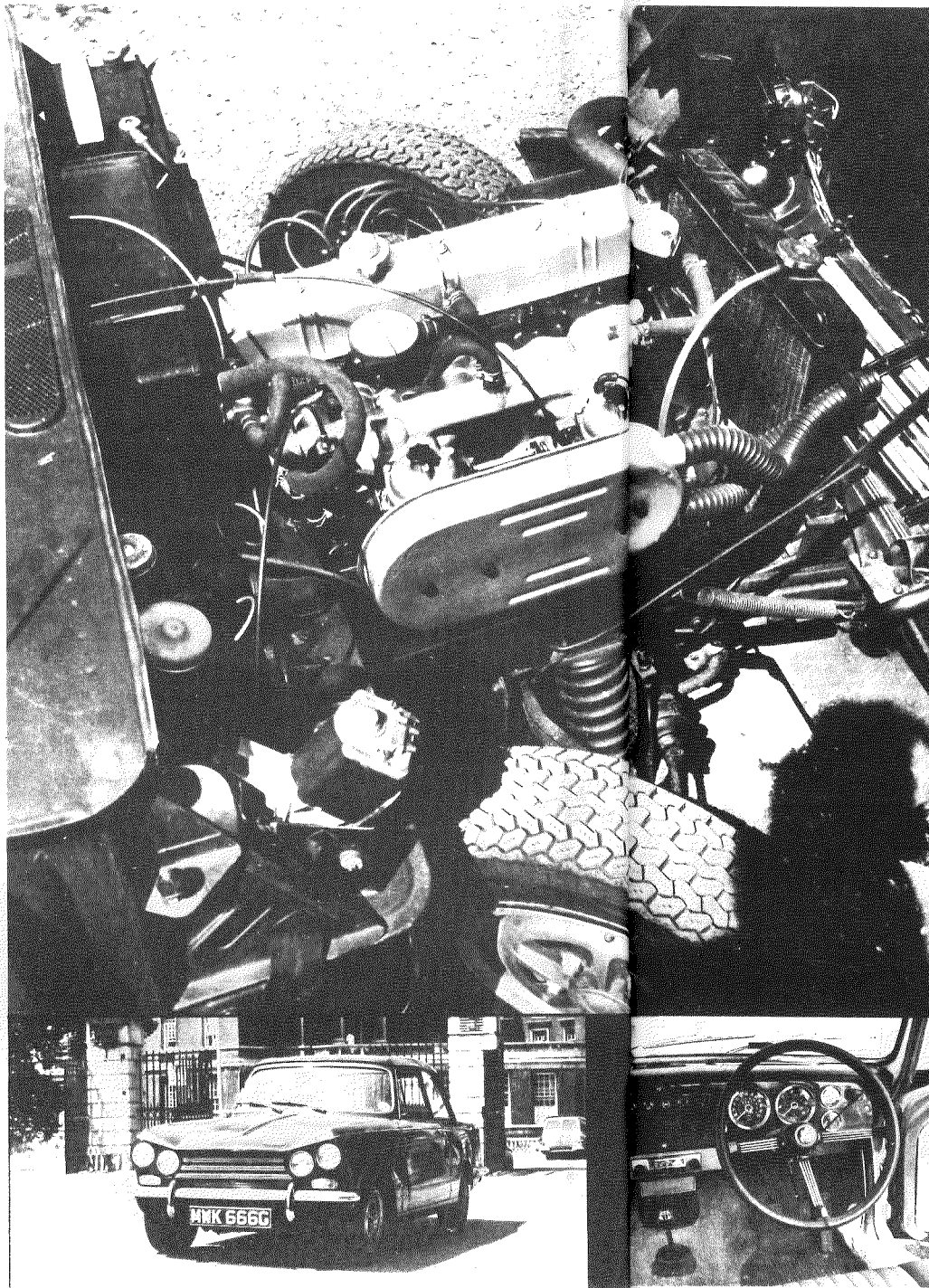
### Interior Details

Most of us continue to agree that the Herald/Vitesse driving position is good. The pedals are offset to the outside but you soon forget that. The horn makes the right sort of noise for this class of car and is sounded by pushing the steering wheel boss, which still seems the most natural place to find your hooter in a hurry. There is something of a confusion of stalks sprouting around the steering column: winker and overdrive are on the right and the lamp control is on the left. Strangers to the car tend to plunge themselves into darkness if they switch to highbeam headlights clumsily, pushing the stalk upwards past "dip" into "side" only. Other switches are recessed in a small panel in the middle, all that is except the neat combined washer and wiper control. The car has only single-speed wipers.

*Thanks to the unusual separate-chassis type of construction, the Vitesse is a very easy car for maintenance by the owner-driver who prefers to do things himself; it is a pity that this view-point is not apparently considered by other manufacturers*

*Extreme left: Different grille, four headlamps and wheel trims that imitate Ro style wheels are some of the distinguishing external features*

*Left: Dashboard layout is quite tidy and the woodwork suits the car*





## AUTOTEST TRIUMPH VITESSE...



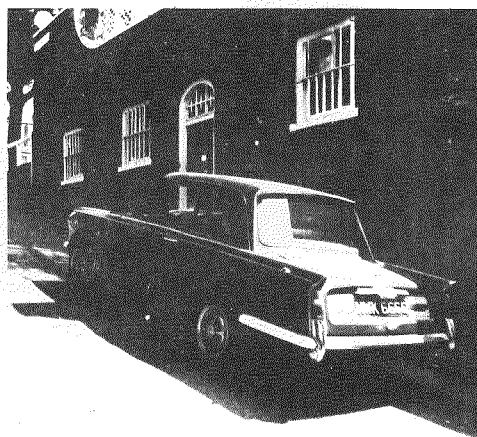
Seats are remarkably comfortable in both front and back, but much more leg-room would be welcome in the rear. There are no locks on the front seats to prevent them tipping forward inadvertently

Below left: The boot is fairly roomy, has a low sill and loses some space to the fuel tank. The rear bumper is in fact part of the body. Below right: The body may not be the most up-to-date but its unfashionably clear three-quarter rear view out is a very good thing

The heater is a simple water-valve type which gives some degree of control, but could be better; you pull a notched rod up to 1 in. out of the dash according to how much heat you want. This is very stiff and looks untidy. For ventilation you must open at least the front quarter-lights which fortunately are not too noisy; despite these the car becomes very hot in warm weather, much of this apparently being engine- and transmission heat transmitted to the interior; the gearlever is hot after a run and the transmission tunnel feels warm even through its carpet. The heater fan has only one speed and is not powerful enough.

The Herald body may not please those who would like something more fashionable, and it certainly isn't roomy, especially in the back. But it has few rivals for ease of view out. There is little excuse for failing to see anything when driving this car. The thin-pillared construction and high extreme corners of bonnet and boot make it exceptionally easy to manoeuvre in tight places, coupled of course with the famous "taxi-lock" turning circles. We wonder whether such a very tight lock is really a good thing in the hands of the inexperienced when it is achieved by such patently bad steering geometry. The power needed to overcome the large amounts of tyre scrub on full lock is most off-putting to anyone with any feeling for things mechanical.

The Triumph Vitesse Mark 2 is a considerably better car than its predecessor. At £970 (which doesn't include the overdrive), it is remarkably good value for money. In some respects it could and most certainly should be refined considerably further, but in other ways it is already a very pleasant car. The owner-driver who prefers to carry out his own maintenance will appreciate the car's unrivalled accessibility, and assuming that he likes smooth effortless performance will definitely enjoy driving it.



## AN ODYSSEY OF A TRIUMPH VITESSE

By John M Lindsey

This is a story about the times and trials of being the owner of a car, not any car, but a 1968 Triumph Vitesse Convertible.

The car was purchased in the initial year of its life, when a directors wife had been the one proud owner. A keen eye had spotted the vehicle, looking lean and hungry, resplendent in its Cherry/Black regalia. A look over, test drive and the changing hands of money saw the desired vehicle with its new owner. A search that had lasted several months was over and a new phase of motoring for its owner was 'hearaled' in.

The car was lovingly kept, worked upon and used with great reverence over the next three years. This attention was repaid by faithful, loyal and reliable service throughout the length and breadth of the land, never putting a wheel wrong in the service of its owner.

Suddenly it seemed, the engine developed a knocking vibrant noise, that became more strident as the revs increased. Consternation - what could it be? The engine had completed a mere 60,000 miles. the usual sounds attributed to big ends, main and little end bearings were compared and likened to with great attention, each 'expert' convinced it was something else to the opinion given by his colleague. The 'trade' experts were called in, each one of the three diagnosing a different malady - little ends, big ends, camshaft. The result was rather frustrating. A new engine cost £150 - yet replacement would not solve the question of the knocking! What could it be?

Decision time - a weekend saw the engine out and strip down complete, apart from the camshaft, which could only be freed from the block by hammering it through from the rear of the engine block. What a mess - it seemed to have seized at sometime past of the second bearing journal.

Without more ado - the engine was loaded onto a trusty Herald and taken to the reborer. There it was left for inspection, prior to rebore, new pistons and all the necessities to turn it into a 'flyer' once more.

Day 2 revealed that the camshaft had indeed cracked the block and a new one was called for. A two-week scouting of the countryside around could not turn up the necessary replacement - a phone call to J & G of Dorking revealed such a block was available - so into the Herald and down to Dorking! Block located, paid for, loaded into boot of Herald and returned home smartly!

Consternation once more when it was realised that the main bearing caps were required with the particular engine, as these were line bored to the block! This problem was overcome by line boring the caps of the old block to the new block and so the careful rebuild was commenced.

The local 'experts' had already motivated oneself by remarking ? 'don't bring the b..... thing round in a box when you realise you can't build it!'

The Workshop Manual was followed to a 'T' (and all the omissions noted) and the day came to fire the engine after the careful re-build. The ignition key was turned, plenty of battery and starter motor life but not ignition! A local expert was quickly consulted when out rudimentary checks proved fruitless - our timing was 180° out (or was it 360°?). Anyway, No. 6 piston was trying to act as No. 1 should have been! A quick adjustment to the distributor and we had ignition!

Power, yes, oil pressure, no! The problem was not solved until the sump had been dropped and the oil pump (new) placed along side the one previously occupying that position. Examination revealed the newcomer to be 1/4" starter on the drive to the camshaft spigot. Returning to the supplier revealed Herald oil pumps carrying the Vitesse oil pump part number!

The correct oil pump in the situ (no hand priming of oil from the main gallery now), saw the last problem overcome.

Was it worth it? Well, the engine is still running as sweet as a nut and the experience gained from the project was phenomenal - only one view. What would you say?



## 50th LE MANS, JUNE 1982

By Bill and Jo Sunderland

We had just spent two amazing weeks touring France, making our way to Le Mans, the 50th, 24 hour race. We knew we were getting nearer when sports cars started to appear. As many of you know, French drivers buy French cars - hence no sports cars (well, very few), so Jo and myself had the feeling of good company as we entered the zone around Le Mans. The fact of the matter was, it was pouring with rain, so just as I felt a little inclined to work the GT6 a little, my head ruled my heart and told me to 'cool it'.

Well, we camped just outside Le Mans on the Thursday night but were kept awake by the most aggressive thunderstorm we have every witnessed. 'What's the race going to be like?', Jo muttered. 'Hell!', I muttered, 'I wish we had brought some sailing gear'.

Luck was with us race day goes because in the morning we awoke to a damp but sunny day. First things first, we shot off to see the Le Mans track. As we arrived it rained again, no, it downpoured and I got drenched finding out the cost of entry. Well, Le Mans is expensive but read on: After cashing our runaway travellers cheques, we obtained tickets to go anywhere (within reason) and a parking ticket, which we later found to be very valuable. Unless you want to walk from Le Mans to the track and remember it is a 24 hour plus race and the car, being fairly accessible, is a real bonus, especially as you can't be sure what the weather will do. Walking around the track on the Friday morning with relatively few people, left one with a lasting impression of the vastness of the circuit (13.6km/8.46 miles). We both decided the pits were the place to be and believe me, its a must. After the drivers final practice on the Thursday night it is all go. Most of the teams had pieces of engines, suspension and gearboxes, all in different modes of completion and all trying to get that 'little extra' or repairing parts which weren't right in practise. It surprised me just how interested Jo was, she seemed to know more about what they were doing than myself! (I'm a good bluffer! - JO). I found it an ideal time for pictures because, as with all big races, on the day you either can't get near the cars or you rush your shots. By chance or by a process of elimination, we found the Rothmans Porsche team of Ickx and Bell. As I was looking starry-eyed at the Porsches, Jo said, 'Look, Jackie Ickx!' Well, the camera never moved so fast! I admire Porsches but, being British, I felt I had to back my local car builder, Aston Martin with their two works Nimrod Astons, looking ultra mean, low and engineered with the best of British.

That night, after Le Mans quietened down a little, it was time to get some sleep. As I said, we camped just north of Le Mans, in a beautiful, French hamlet. When we returned, we found more good company in the form of a Bentley, a 1927 Talbot Roadster, a Lotus and an immaculate TVR Tasmin Convertible, whose occupants had set up camp close by. With all the excitement it was hard to sleep, especially as through the night, one could hear cars travelling past on their way to the circuit. As with most sports cars, the sound in the still of the night was pretty amazing.

As dawn broke, with cars going past at an ever increasing rate, we knew it was time to grab some breakfast and make for the track. We had gained the experience that at most race meetings food and drink is very costly, so our first port of call was a supermarket to get provisions for the day - French bread, salad, pate, cheese, wine and German beer. As it was already 75°F at 9am we suspected that the liquid refreshment would be very welcome during the day. Thank God we got into the car park early as cars were coming in in droves from every direction, what a selection. At first we were instructed to park in a line which I found to be most unacceptable - not only were cars door to door but some English 'cowbody' were cooking breakfast between two cars and one guy could be heard shouting, 'Do you remember last year, when the stove fell over and set the place alight?' I had heard enough, I drove off and was fortunate in finding a

## Le Mans .../2

place where security and parking were much more to my taste, that is to say the cars had a little more space between each other and the Security Guards were keeping an eye on the cars. Quite a few British car clubs were there, The TR Register, Austin Healey Club, the Aston Martin Owners Club and, I think by the amount of 1600E's, the 1600E Club. Inside we decided we would have another look around the pits but to no avail, as on race day that costs another £6 and we were nearly out of money. The heat was increasing and so was the population. The place was buzzing with atmosphere. Side shows were starting, including the massive fun fair. Then, just after 11am, loud noises could be heard. No it was not the race day competitors but cars that had raced at Le Mans over the previous 50 years. These were not only posing but some drivers who now owned the cars were able to fulfill their life-long ambitions. Many of the said drivers were wearing full racing gear and in the case of the D-Types and Lagonders, flying hats! As Jo was leaping about, waving and cheering furiously, an inspiring Bentley driver turned round and blew her a kiss - GB rules, OK! Midday arrived and we were determined to be at the start of the race. We went back to the car for a quick bite of lunch and then hot foot to the stands to secure a place on the start line. Standing under the main stand, opposite the pits and with only 2 hours to go, with an estimated 230,000 people - just a sea of faces, we were really caught up in the atmosphere. The heat was incredible and, as the cars lined up in the traditional Le Mans start, we had the usual National Anthems. After a rousing 'God Save Our Queen', there was a deafening cheer and we realised just how many of us had made the journey across the Channel to support the British lads. Well, with the Argentinian victory under our belts and our recent win over France in the World Cup, British moral was understandably high. Out of the 110 or so drivers, 79 spoke English: 36 American, 29 British, 2 Australian and not forgetting the 3 or 4 Irish. Only half an hour to go and the cars lined up in the traditional formula 1 grid formation, with Ickx and Wollek on the front row, the Aston Martin Nimrods of Mallock and Lees on the 11th and 12th respectively. Seeing 55 'power houses' vibrating on the grid really made a colourful picture. Sky Divers were being dropped a few hundred feet above the circuit to land a few minutes later with great precision, just in front of the cars on the track. Then engines started and at 3.55pm the cars started to roll on their warm up lap. By this time the atmosphere was now at breaking point and the heat, excitement and anticipation was about to explode - the 50th Le Mans was just about to start as they disappeared around the first bend. There was an uncanny silence as spectators waited expectantly for the first signs of the cars. As the French TV helicopters heralded their imminent arrival, the crowds surged again and moments later the 24 hour marathon was under way. 55 super cars sprint past the stands, leaving a barrage of smoke and dust and jubilant race goes in their wake. We watched the first few laps from this vantage point as the cars settled down to their individual tearing paces. We had agreed to meet Dave and Sue Bayliss, the Competition Secretaries, at the Dunlop Bridge at 5.00pm. With the crowds it was quite a battle to move. After waiting nearly half an hour, it transpired that they were waiting for us on the other side - a fact that Sue had anticipated and, luckily, she came over to check. Dave was most helpful in showing us to the best viewing points and joined us in cheering for the Aston Nimrods, who were going well. After several hours we decided to go to the bottom of the Mulsanne Straight, some 4 miles by car. We left Sue and Dave and agreed to meet there around 10pm.

The fairground was buzzing and we could not believe some of the side shows, (quite exotic to say the least!). We met up with two, young Spitfire owners who we had met at the ticket office the day before the race. They seemed to be enjoying the different experience and we wonder if they have joined the 'clan' yet - it was a French windscreen leaflet we gave them, as we hadn't any English ones left. The evening was humming with noises from the fair, people singing and the cars relentlessly pounding their way around the circuit.

# Le Mans .../3

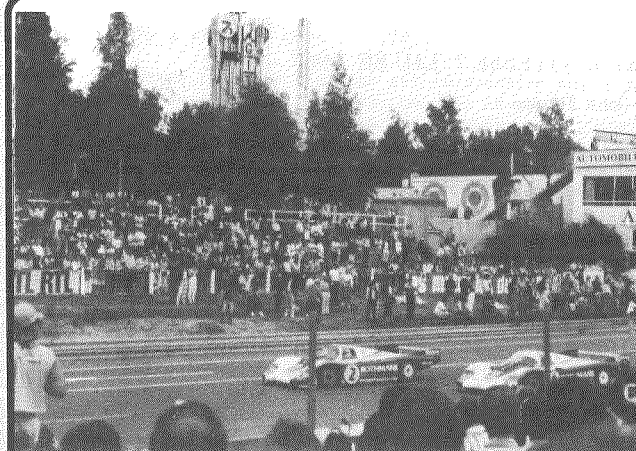
The drive around the outside of the circuit was an eventful one, the police had made it near on impossible but after quite a few stops, we eventually arrived (or, in my ignorance of the area, thought we had!). It turned out that we were in a car park some 20 minutes walk from the Mulsanne Straight. Still, the night was appealing for a walk. Jo decided she needed to 'powder her nose' and she soon found out that you have to pay for their less than desirable facilities. I had the money so, on her way to find me, she happened to bump into Sue, who by pure chance was just on her way out! Amazing, we were in the wrong place but we met on time 2 miles west of our agreed site - that's TSSC luck for you! Walking through the forest, with the smell of racing oil in our nostrils (to keep us on the right track), I realised why folk find the Le Mans so memorable. It certainly was the race of a lifetime. Little bars all along our route and weary, happy visitors in various states of consciousness were strewn around the banks. The engines rapidly rising in crescendo as they went through the gears in their haste to accelerate away from the bottom of the Mulsanne Straight. We stood right on the corner, a prime spot to witness the braking cars (some approaching at approx. 220 mph) as they steered their vehicles through the bend, flames from their red hot turbo chargers following in their wake. Endurance is now the name of the game, it is now dark and just the cars lights and lights from the various bars illuminated the track. The field is now down to 33 cars, only one Aston Martin Nimrod is still in the running in 4th place, the other crashing after 4 hours. Support for the drivers now becomes more and more important as mistakes take place and mechanical and electrical failures take place. As you will appreciate the commentary is in French with an English summary every half hour. Dave got reports and things were looking good for Great Britain, even though the 3 works Porsches were in 1st, 2nd and 3rd place and were now establishing a firm lead. Hot chocolate, larger and frites kept us going. While watching, we witnessed a couple of cars over shoot the corner, taking the road to 4ours and this made the event even more exciting as they power turned the cars round at an incredible speed to re-join the race. Most of the track is purpose-built but not the Mulsanne Straight, so you can imagine what it must be like to hold a car in a straight line at these breathtaking speeds on a French road!

At approx. 2 am we walked back through the forest to our cars for a few hours shut eye. This in itself was quite a task with only a small hand light to show us to way. I could not sleep so contented myself in standing on a 90° corner, witnessing a multiple crash, involving 3 cars. The field was getting smaller by the hour and this included loosing most of the Rondeau team. As dawn broke it became obvious that if you made it through the night and your car was still going well, chances of finishing became a reality because to finish is one hell of an achievement for both man and machine.

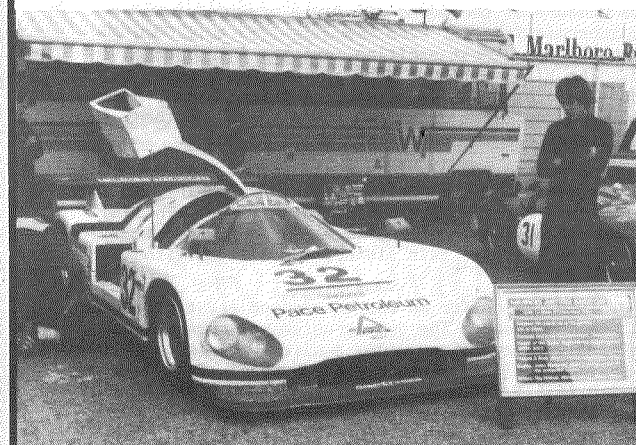
1982 turned out to be a formality as the 3 works Porsches took first, second and third places, coming over the line in tight sequence - what ingenious planning! In fact, Porsche took the first five places. Some performance but the remaining Aston Martin, although only firing on four of its eight cylinders in the last hours, took seventh place - after 25 years away from Le Mans, it was nothing less than a remarkable result.

We left Le Mans and camped north of Rouen with a lot of Le Mans race goers and in the bar we agreed that it was an experience we would not have missed for the world. Anyway, for Jo and myself it was a marvellous end to a super holiday. I apologise if I have gone on too long but hope it has given you an insight of the said 'race of races'.

P.S. Dave Bayliss is hoping to arrange a TSSC trip to Le Mans next year - I hope it comes off.



**THE START OF THE  
50th 24-HOUR  
LE MANS**



**NIMROD ASTON MARTIN  
SHOWN AT ASTON MARTIN  
DAY, SILVERSTONE, NOT  
TOUCHED AFTER ITS 7th  
PLACE AT LE MANS,  
including FRENCH FLIES!**



**JO AND OUR LITTLE  
'FRANCE BEATER' GT6,  
3,000 MILES IN VERY  
HOT CONDITIONS -  
NO PROBLEMS!**

## WHY A VITESSE ? LJU 8E 1967 - 1982

By John Thorpe

One fine day in the 1950's, I in my late teens and that's as near to admitting my age as I intend to go, passed that first great milestone in every-motoring career, the Driving Test, first time of course.

Then followed a succession of old bangers, most of them pre-war (1939-45) which I bought for anything from £.00 and £50.00 and could usually persuade a friendly scrap dealer to take off my hands for 10/-. Heavens, I wish I'd kept them, they are fetching thousands today.

In 1962 I bought a 1953 Model Rover 75 'Sports' Saloon, a real smoothie with its big straight, 6 cylinder twin carbs 1998cc engine, but even with ally boot, bonnet and doors to lighten its load, I had to stretch my imagination to the limit to think I was getting sports performance but I was sold forever on straight six engines and ran it for the next 5 years.

During this period, I had watched with interest, the introduction of the Herald range by Standard-Triumph with its unique chassis construction and low preferential insurance rates because of the added safety it provided (whatever happened to them?). To its increase in power from 948cc in 1959 to 1200cc in 1961 to 1296cc in 1967 but what I found most exciting, was the introduction in 1962 of a straight 6 Herald. The Vitesse 1600. Here at last was a motor manufacturer thinking my way, by putting a 6 into a small car. A friend bought a new one (envy, envy) in 1964 and I had my first drive and vowed there and then, if ever I could afford a new car, that was the one it was going to be.

As with all young men (and not so young), I have always had that secret hankering for a fast sports car, so imagine my delight when Standard-Triumph did for the Spitfire what they had done for the Herald with the Vitesse. In 1966 the GT6 was born and almost unnoticed (by me at any rate) the same 6 engine together with a newly designed gearbox, its twin sister, the 2 litre Vitesse arrived.

At least the day had arrived, which for me was the second great milestone, when I could afford a brand new motor car. The only problem was by now I had acquired a wife and a young family. Try as you will, a wife, baby (with full accoutrements) and a moter-in-law, won't fit into a GT6 - NO WAY! So I took the only course open to me and with £835.9.6d in my pocket, went to H A Browetts & Sons, Triumph Dealers, Granby Street, Leicester and bought LJU 8E, a brand new Vitesse 2 litre (MK1) Saloon, in Wedgewood Blue - FANTASTIC!!!

It was June 1967 and motoring was a new, exciting pastime once more. With G 800 Radials giving vast improvement in roadholding, compared with cross-ply tyres, which were the norm in those days, a top speed of 100 mph, acceleration of 0-60 in 12 secs., 5 star petrol for around 5/- (25p) a gallon, it was a real pleasure to drive.

One of the great delights was the Grand Prix Traffic Light starts. In those days, apart from the occasional E-Type, there weren't many cars that could match the acceleration and I always remember one friend who was travelling with me on one such occasion, as we were approaching 60 mph, looking behind and saying, 'He's just got out to see why he's not moving and gone apex over elbow into the ditch'. A slight exaggeration I think but he made his point.

It never ceased to amaze me, how many motorists thought the Triumph only made the Herald and had no idea what a Vitesse was, after all, unless you knew the only give-away when you were alongside waiting for the lights to change, was the small 2 litre badge on the side of the bonnet.

Another little thing that used to amuse me, when in a filling station buying 5 star petrol, (sigh) was to get the attendant to check the oil and then wait for the 'bloody hell' as the size of the engine was revealed as we lifted the bonnet.

Why a Vitesse? cont'd .../2

I never realised the rear axle/suspension was a problem until the MK11 was introduced in 1968 and then only because of what I was told and read on the subject. I still don't find it a problem, my mispent youth on pre-war bangers with longitudinal 'cart' springs and indifferent shockers had paid a dividend. I had reverted, subconsciously, to the old cornering methods of before entering a corner, a touch on the brakes to equalise the speed of the rear wheels, then, on entering the bend, accelerating to transfer the weight of the car from front to rear, this puts the rear wheels firmly on the ground and allows the differential to drive the outside wheel harder and faster, thus turning the car through the bend. Using this technique, I have never experienced oversteer or the dreaded 'tuck-under' one hears so much about.

So the years passed, I fitted a tow-bar in 1970 in order to pull a caravan, what a great power unit for such a purpose. Over the next few years we went from one end of this island to the other. In 1972 she was beginning to look a bit jaded, so I had her resprayed Electric Blue (Rootes) Metallic with a light blue flash. Ugh! I hear some of you purists say but she looked absolutely superb and had numerous offers from would-be buyers, I resisted the temptation to sell her. Thank goodness. I think the main reason for hanging on to her was, that by now (1974-76) it was impossible to obtain a reasonably priced stright 6 to replace her. They had gone out of fashion.

In 1977 due to changes in business and personal circumstances, LJU 8E became redundant. As I could not bear to part with her, I laid her up and now, now folks, she is being resprayed in her original colour (from bare metal) and restored to her former glory, ready for Luxembourg and 21st birthday celebrations, next year. I'm really looking forward to that and the opportunity to show her to you.

That's the story of a ONE OWNER FROM NEW Club car. I'd be Very interested to hear of any other ONE OWNER Club cars.

## The tough with the smooth

First thing one notices about the Triumph Vitesse is its striking good looks. Taut and elegant, it is an essay in how to be beautiful without trying too hard. No chrome curlicues. No over-stated 'styling'. Just pure lines, every contour modelled with a purpose. (Triumph design wins international prizes).

Beneath a beautiful skin, the Vitesse has a real chassis made from deep-channel steel girders. There's no stronger way of building a car. Usually, only very expensive cars are built round a chassis. The modest-priced Vitesse is an outstanding exception. But then it's exceptional on every count.





## TUNING OF A 6 CYLINDER VITESSE ENGINE

By Gareth Thomas

Some time ago I intended to publish the results of many months of research into tuning six cylinder Triumph engines, together with some suggested improvements. It needs a small book to enlarge on many of the points, therefore I will try to be as brief as possible. Most of my remarks are confined to the MK11 engine, 2000cc and 2500cc because the MK1 and 1600 engines are regarded as being somewhat weaker and have less tuning potential, having as they do a rather poor camber shape and port layout. Nevertheless, the standard MK1 2L engine has remarkably good performance and bottom end torque as the 0 - 60 figures show.

The MK11 engine has a much improved head configuration and a reasonably strong bottom end. The camber design although old-fashioned, is a great improvement on the MK1 but still has a lot of 'Squish'. This refers to the method of bringing part of the head very close to the piston ejecting mixture forcibly towards the plug. 'Squish' is necessary to create the turbulence vital for a rapid burning and good volumetric efficiency. It is necessary for tuning purposes to flow the ports and chamber, which both reduces surface area and decreases the risk of detonation, a problem with which we are all becoming more and more familiar. It is possible to raise the CR but having said all this, the head does tend to suffer from local hot spots, quite rapid valve and guide wear and overheating. Valve area is reckoned to be sufficient to 8,000 RPM.

As regards the bottom end, the 2.5L unit attracts quite a large following owing to its ease of installation, greatly enhanced torque and slightly greater efficiency. Because of its 90mm stroke, it is not as strong an engine as the 2L, as the much higher piston accelerations and velocities require greater damping. The large, balancing weights on the crank tend to cause lateral flex, causing reduced life on the centre main bearings. Both engines do in any case tend to suffer from piston slap. I assume that anyone tuning an engine will first start with a reconditioned unit, fully balanced with new pistons. I feel the subject of modifying the top end is adequately dealt with by D Vizard.

My own opinion is that tuning is a remarkably haphazard business as far as standard conversions go. Settings are usually a mile out especially with Webers. I am not surprised by some people's belief that for the unwary, modified camshafts mean bumpy idle, flat spots, poor economy and generally no fun. The Triumph six is inherently balanced and is regarded as being one of the smoother sixes in the world. I see no real reason why the level of tuning of the Le Mans engines cannot be repeated on the six. The principle inadequacy, I believe, is the exhaust system.

Consider the following firing order table:

TDC	ign	153624	ignition	(ign)
	pow	415362	power stroke	(pow)
	ex	241536	exhaust stroke	(ex)
TDC	o	624153	overlap period	(o)
	ind	362415	induction	(ind)
	com	536241	compression	(com)

The SAH manifold, which is the only one available, links ports 123, 456. With a TR6 camshaft with number 5 piston overlap at TDC, number 6 is 120° away on its power stroke. Exhaust valve number six is set to open at 65° before bottom dead centre and therefore will be 5° into opening or 0.006" at 10° ATDC on 5 the exhaust valve will be 0.015 open. This state of affairs might not look too bad but it affects the bottom end where gas velocities are not as high; and where wilder timings are used. Existing gas from an opening exhaust valve has a residual pressure around 90PSI and moves at around 1300 - 1900ft/sec. The problem happens between 30 - 1p; 20 - 1p; 10 - 3p; 50 - 6p; 40 - 5p; 60 - 4p. Another problem is that of the branches are different lengths, so the problems arrive at different times. Valve overlap is the technique used, of holding both inlet and exhaust

Tuning of a 6 Cylinder Vitesse Engine cont'd .../2

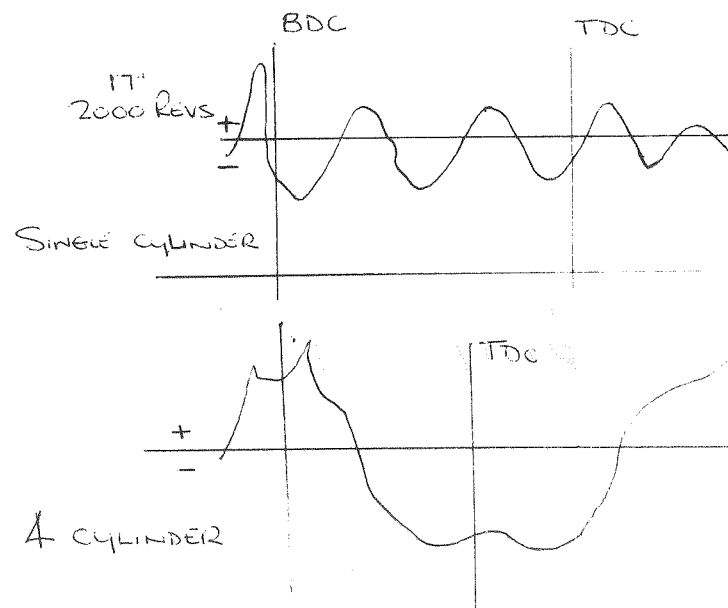
valves open at TDC. It is designed to assist scavenging of the area above the piston, clearing residuals and assisting movement of gas in the inlet tract.

Primary	Secondary	Total
12	33	45
8	33	41
8	33	41
7	25	32
7	25	32
10½	2	35½

For ideal breathing, the exhaust port must present the chamber with a small depression as the inlet opens. This greatly assists the clearing of residual gases and assists the movement of the inlet charge as it starts from the carb. On a single cylinder the exhaust pipe resonates very much as an organ pipe, the frequency depending on its length, giving a pressure graph similar to that shown. It has been known for a long time that multi-cylinder manifolds can, in theory, assist the breathing of another cylinder in the bank, hence some of the Formula 1 began as. The problem with the Vitesse exists partly in limitations of space but the problem with the SAH primary is it's both too short and unequal in treatment to each cylinder.

It is commonly believed that this system extracts gas from the engine. It is supposed that gas passing the end of one primary from an exhausting cylinder causes a depression at that port. There is absolutely no evidence to support this assumption, because gas does not behave like a liquid and is just as likely to go round the corner.

The Spitfire MK1/11 manifold is a good example of what really happens. As with all 4's, the manifold joins the 2 middles and the 2 outers, 1 - 4, 2 - 3. Exit of gas from number 4 port causes resonance in its own branch and in the one it joins. Both of these interact, causing damping and a higher depression @ TDC on 4 (see diagram).



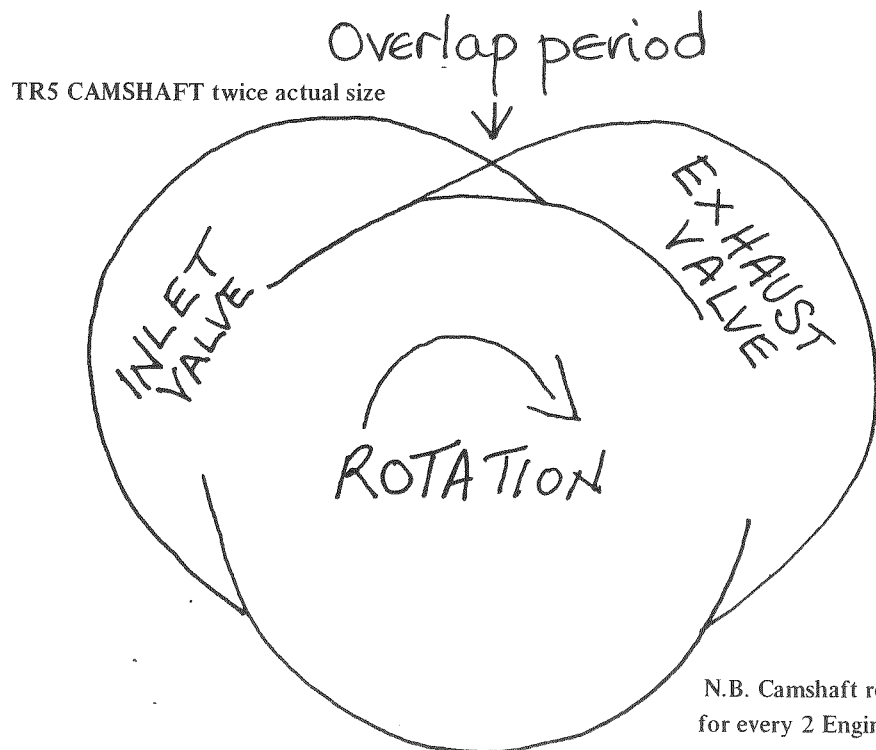
On the six manifold, it is by no means as simple. Interference as this phenomenon is called, is hampered by irregular pipe lengths and resources in 2 other pipes, one of which is partially open. 120° firing intervals are not sufficient for hot cams. My solution is to design a manifold with equal length primaries and 180° firing intervals like the Spitfire. This is just possible on the Vitesse.

The following camshafts are commonly available. Use of more than 60° overlap encourages the use of a Weber/injection set-up.

	Timing	Lift	Carburation	Overlap in Degrees
1600 and MK1	1858		2x150CD	36
GT6 MK111 (late)	1858	.315	2x150CD	36
MK11 Vitesse	2555		2x150CD	50
Piper Yellow	3060	.370	2x175CD	60
SAH 306	3060		2x175CD	60
SS Spares Stage 1 605	3070		2x175CD	60

TR6 early /TR5	3565	.330	PI (Weber & 175CD)	70
SAH 357	3575	.356	Weber/Dellorto	70
Piper TY TR5	3874	.416	PI/Weber	76
Piper Green	3878	.382	Weber	76
SS Spares Stage 11 615	3878	.370	Weber /PI	76
D Newman	4080		Weber	80
Piper Red	4585	.400	Weber	90
SS Spares	4585	.330	Weber/PI	90

Unfortunately, the above figures tell one nothing about the quality or characteristics of these cams. The most critical measurements; lift at overlap, how extended are the lifts both at maximum piston velocity and at BDC and the speed of lift on inlet and exhaust are not known. Measuring these up on polar graph paper using a dial gauge caused some surprises.



#### Tuning of a 6 Cylinder Vitesse Engine cont'd .../3

The TR5 is obviously for injection because of an unusual inlet profile and early close. It is both difficult to modify successfully and run on Webers. It has an excellent bottom end and good top end.

'SAH 357': A poorly modified TR5 has poor exhaust valve close/inlet open, therefore, poor overlap. It has too early an inlet close not compensated by a high lift. Lift is rapid on exhaust giving quite good top end but tends to be lumpy and thirsty with a poor bottom end.

Piper Green and 615: These tend to have similar characteristics including rather poor bottom end and thirst. Quite a large number of these are used in various events because of their good top end from 3,800 RPM. There is a lively kick in the back from here onwards. Rather poor inlet opening is followed by high lift and a late inlet close. The exhaust opening is sufficient and closes quite late giving good overlap. 4080 tends to be similar to the 615 but has little torque below 4,000 RPM. 4585 I suggest you bring your car on a trailer if you have to go near any towns! The profile is similar to the Le Mans engine.

In this article I have tried to deal with some of the problems faced in tuning these engines. I have been concerned for some time with the loss of bottom end torque and only marginally increased top end, when using the SAH manifold with a standard camshaft. Economy was adversely affected coming down to 18MPG in town, bottom end torque is greatly improved and motorway driving produces results in the upper thirties. The engine also runs smoothly, starts on the first piston and most interestingly, the 0 - 60 time is now under 10 secs.

Injection has some noticeable advantages over a carb set-up. It guarantees stratification of the charge. Starting mixture is always rich and arrives virtually in the inlet port without have to face a long length of cold manifold. It is timed after TDC, therefore, wasting very little fuel down the exhaust valve and can be timed later. The amount of underbonnet space is greater also.

I believe that a tractable full race injection camshaft is possible but can only be produced by asymmetric timing. The bottom end is bored + 0.040, giving an oversquare engine. DFV valves are used, giving greatly improved breathing and a higher valve. Finally, all the PI butterflies are scrapped in favour of a large plenum chamber and a single large butterfly. A silencer under the gearbox follows the manifold and leads to a straight through silencer at the rear. The appearance is innocuous and the result is quiet. Some improvements involving bearings in the rear, lower wishbones were made and the gearbox has been strengthened.

The Le Mans Spitfire produced around 110 BHP/litre. It should be possible to achieve this on the Vitesse.

## THE TRIUMPH VITESSE COMPETITION HISTORY

By John M Griffiths, President

### PART 2

I got it wrong; the Vitesse officially competed in FOUR not TWO events! Mind you, this is a most pleasing discovery over which I am not sorry to be proved wrong.

Graham Robson has just written to me further providing the following additional information:

Starting back at the beginning in June, 1962, one week after the Vitesse had been officially announced to the public, Graham Robson and Mick Moore (Standard-Triumph Competition Mechanic) chose a Vitesse Saloon to act as a Service car to follow the Factory TR4's on the Alpine Rally. It was chosen a) Because it was fast and nimble and b) To Assess it's possible future use as a Rally Car. Graham reported in the Standard Triumph Review No.9, Vol. 24, 1962 that they were delighted with its performance over the tour which encompassed 3,700 miles in two weeks. To quote Graham, 'We had become so used to the high performance of the Vitesse by now that some almost unbelievable averages were achieved, allowing us a lot of time for just sitting and waiting, (Not drinking, Graham?). Graham summarised by saying, 'As a small, six cylinder car, it can have few equals and is now certainly one person's idea of a perfect long distance transport.'

The first event the Vitesse officially took part in was the 1962 RAC RALLY, no less. Vic Elford and Mike Butler were hired to drive it. The car was very under-developed at this stage, running in Class 5, which was for up to 16,000cc Group 3 GT cars. The car, 407 VC, was certainly given triple SU's but it would have had the Vitesse 1600 gearbox and standard 1600 differential. The car ran well but eventually devoured its gearbox in the Lake District after 18 special stages. It is interesting to note that even at this stage, it would have had twin 9 gallon fuel tanks (either side of the boot), and for you historians, was finished in White with a black side stripe. The car was the same one as used by Graham Robson to follow the Alpine Rally. Where is it now?

The 1962 RAC RALLY had been an eventful one for many with the excitement of the start at Blackpool turning into relief by the time Bournemouth, the finish, was reached. The No. 1 seed, Eugen Bohringer, went out early after his works Mercedes, smashed into a tree and Peter Harper smashed his Rapier into a pile of rocks! The Morley's Healey performed a double somersault at more than 90mph and Anne Hall stopped after her second crash, when her Anglia went down a bank and got stuck. Incidentally, Standard-Triumph (Thuner, Sprinzel and Sutcliffe - TR's) carried off the Manufacturers second place award.

#### RAC RALLY 1962 RESULTS:

1st	Eric Carlsson	Saab
2nd	Paddy Hopkirk	Austin Healey 3000
3rd	Pat Moss	Austin Healey 3000
4th	Tiny Lewis	Sunbeam Rapier
5th	Rauno Altonen	Morris Mini Cooper
6th	Henry Taylor	Ford Anglia

The next event was as I originally stated; that is the 1963 Monte Carlo Rally. Graham confirms that the new team of powder blue Vitesse were as follows:

6001 VC	John Spinzel
6002 VC	Mike Sutcliffe
6003 VC	Vic Elford

Apparently there was also a fourth car, 6004 VC, which was the 'Spare Car' and which Graham Robson used as the Service Chase Vehicle. In addition to the mods I mentioned earlier, they also had experimental Lockheed anti-lock braking systems with sensors actuated by belt drive from the rear of the propeller shaft!

### The Triumph Vitesse Competition History

Part 2 cont'd .../

At this stage the cars were felt to have insufficient performance, although all three finished and Elford finished 3rd in class behind Peter Harper's Sunbeam Rapier and a private Cortina.

The second event they took part in which I did not originally realise, was the 1963 first ever Manx Rally. This was in May and Vic Elford was given a much modified Vitesse (6003 VC). It proved to be very fast, but broke its back axle. This was proving the weak point at this stage, (still is, I hear you say!).

Graham confirms the position regarding the Leige-Sofia-Leige, stating that Vic Elford's specially produced last minute car, was producing about 110 bhp. He does say that a TR4A prototype final drive was used and not the 'fingers crossed' Vitesse one. Obviously there is a bit of confusion here, which I shall have to try and sort out with Graham. In addition, he says the car had a beefed up propshaft and driveshafts, plus 5 auxiliary lamps.

He confirms that the car was quick and Elford determined. It reached Sofia without problems but, whilst racing back over the appalling roads towards the Adriatic coast, caught fire as previously stated. The exact reason seems unknown but the broken petrol pipe spraying petrol onto the engine seems the most logical explanation. It was lying 3rd or 4th at this time behind one or two Healey 3000's and Bohringer's Mercedes-Benz 230 SL. The wreckage was brought back to the UK for HM Customs purposes.

That was the end of what could have been a successful career.

Apparently the Competition Department doubted that it would have ever been able to beat the Lotus-Cortina. Oh you of little faith!

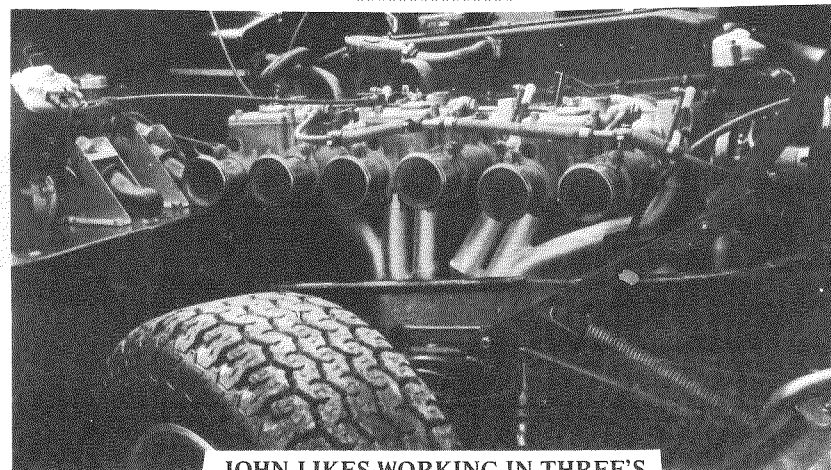
Well, that is all the information I have to date on the four official works events. I have enjoyed researching this and hope you find it as interesting to read.

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Whilst on the subject of Competition, some of you may be interested to read the article I did for SPORTS CAR MECHANICS number 5.

The article deals with the modifications I have carried out on my own Vitesse (DVT 784J) and how one can take up Hillclimbing/Sprinting.

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JOHN LIKES WORKING IN THREE'S

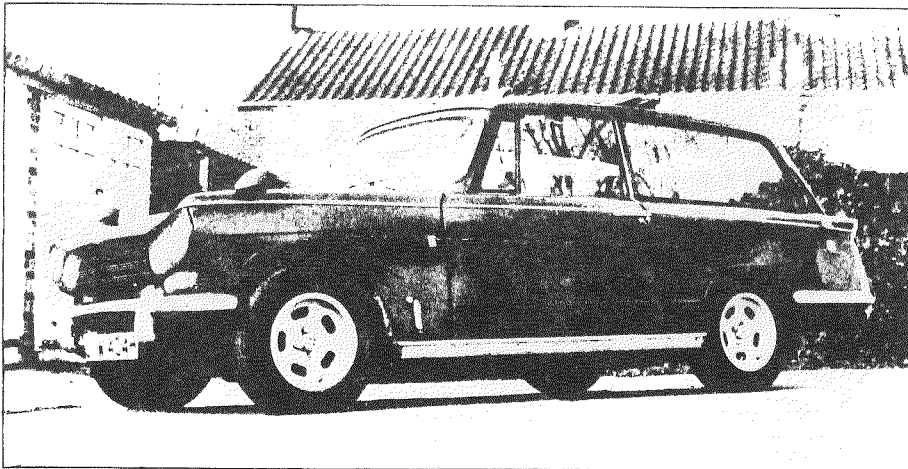
# Estate of the art

Did Triumph ever make an official Vitesse edition of the Herald estate? Mike Taylor provides the answers

Our introduction to the Triumph Vitesse *marque* was a 1966 Mk I 1600 which we bought some seven years ago. After many thousands of miles, it was eventually sold and replaced by another saloon, this time a Mk II 2 litre. During the time we had the Mk I there was of course the necessary routine maintenance, but, apart from replacing a worn gearbox and clutch, it needed very little else and more than paid for itself.

However, with the purchase of the Mk II, I was disappointed. All the shortcomings of the old car — which I had tended to overlook because of its age — are still there. Admittedly, the seats are better, giving more support, but they are not reclining, and at speed, that dreadful wind noise of the earlier car, with windows rattling, is still very noticeable. Also, the archaic heating system of the 1600, on off, face or feet, still remains, a situation aggravated by a huge transmission housing which makes the car's interior like a furnace during warm weather. On the credit side, though, performance and handling is much improved and, luxury or luxury, there is synchronism on first gear.

Meanwhile, the demands of carrying super Afghan hound, and the seemingly endless sacks of garden refuse, had set my mind to thinking that maybe a Vitesse estate — if such a thing existed — would provide the space the saloon lacked, while still giving the performance which made driving interesting. So, when an advertisement for a 1970 Vitesse appeared in another classic car motoring journal, it seemed an opportunity too good to miss, and after a perfunctory test drive, I decided to buy it there and then.



Contrast a Taylor's own Vitesse estate — not, unfortunately, one of the 17 — made by Triumph's Service Division in London. Originally a convertible, this particular car was 'rescued' during 1973/4 in the previous owner's back garden! The light alloy wheels and sunroof are not standard either.

At this point, my interest in the whole concept of Vitesse estates was aroused. Did Standard Triumph themselves ever make any? And, if so, was mine one of them? A telephone call to BL Heritage, and to John Lloyd, one time Engineering Director of ST, confirmed my worst suspicions. Not one estate ever left the ST production line. "Why did Standard Triumph never make any?" I asked. "And why was the Vitesse so under-developed?" The answer, it seemed, was simple. At the time, ST were marketing the Herald estate, and the larger Triumph 2000 estate for those who wanted it. It was felt that demand would not justify a separate estate version of the Vitesse. Moreover, ST were quite happy for the Vitesse to run its course without too much money being spent on development engineering. In fact, I was told, the whole Vitesse project was due to the foresight and enthusiasm of two men — Harry Webster and George Turbill, for without them the Vitesse would never have been.

But what of the Vitesse estates which were made? After all, as well as my own, several have been spotted on the road. Well, it seems some — possibly as many as 17 — were built at Standard Triumph's Service Division on the Great West Road, London. This had been the old Hooper factory and when ST took it over, Jack Brown, the engineer in charge, decided to offer the Vitesse in estate form as a conversion. Owners could bring their new Vitesse to the works where the modification was made, ready-trimmed Herald estate bodies being fitted from the windscreen pillar backwards. While this was going on, some customers had other extras added, such as brake servo, and

sunroofs. In fact, one of the first people to have her Vitesse converted in this way was the model Barbara Golen.

So how can you tell if it is a genuine Service Division conversion? Simple. The body plate was specially altered to show that the work had been carried out by ST engineers. Also, the veneer door cappings were extended rearwards into the estate portion and Triumph 2000 rim embellishers added. The cost of the conversion? About £1000, depending upon the specification.

Having established all this, I was intrigued to know whether my car was a 'proper' estate or not. Unfortunately, further investigation proved that it was not. It seemed that a previous owner had carried out the work during 1973/4 in his back garden! The car had originally been a convertible and he had bought the Herald back-end from a nearby breakers yard. However, having changed the hindquarters, he then went on to fit a sunroof, alloy wheels, a brake servo, windm glass, and special reclining seats.

Whether an estate version of the Vitesse would have been popular is a matter for conjecture. Personally, I would like to think it would. But considering objectively, ST were probably better not taking the chance. For, while the 2 litre six cylinder engine is undoubtedly smooth and provides good performance (maximum speed 102mph, 0-60 in 11.9sec in saloon form), even by the late 1960s the model was falling far short of the standards set by its competitors.

Meanwhile, I have learnt to live with all that heat and noise and enjoy the car's virtues while, at the same time, drawing admiring glances from those enthusiasts who wonder, "Is it really a Vitesse estate?"

Maintenance is made simple by the front-tipping bonnet and Triumph's straight-forward engineering, and reliability is a celebrated feature. To drive, the Vitesse is responsive and satisfying. Perhaps we'll keep both saloon and estate.

'ODE TO CAGNEY' - By Jeff and Julie Baker

Cagney our car, was found by a mate,  
What type? A MkII Vitesse Estate.  
A rarity, factory original and true,  
First Triumph White, now Valencia Blue.

'Nonsense', say the cynics, there's no such car,  
Well come round and see us - we'll settle the score!  
How do we prove it? Well, we've got the wood cappings,  
Even though the varnish is lacking!

We went down to London, 4 months ago, post haste,  
To purchase our car - she's quite to our taste,  
Back through the rush our on the North Circular Road,  
Home to Coventry, with a sticking throttle, we drove.

With apologies to Steve, a lot needed doing,  
Rear shocks and rear spring, they were both going.  
Door handles dropping off - the screws are missing,  
'What's that noise Julie? You listen!'

Slowly but surely we're putting her to rights,  
We seem to take her out most nights.  
So wave if you see CGY 460H  
Come and talk, we'd like some new mates!

But don't expect us ever to sell her,  
She's the Rolls Royce of the future.  
And look out for us in the year 2001,  
We'll be entering the Concours at Donington!

'A VITESSE TALE'

By Brian Walters

Please don't stop and stare,  
To see me thus is just not fair,  
Rescued from a scrapyard pile,  
These wheels have covered many a mile.

Not too much work my owner thought,  
Little did he know what he had bought!  
Out came the hammer, chisel, wet 'n' dry;  
Soon I shall be looking rather spry.

I thought on my laurels I could rest,  
But no: To Cambridge and Norfolk Autotest,  
To many a TSSC meeting I have been,  
My owner is really rather keen.

To our local dealer he has trotted,  
Frightening when all the bills are totted,  
Searching for parts high and low,  
Restricted only by poor cash flow.

Some way to go I hear you mock,  
Before he quells the tinworms knock.  
The day will come when this Vitesse  
Will find engaging gear a success.

So, as you contemplate this sorry mess  
My poor body treated without finesse,  
Consider well that one day soon  
I could win more than the wooden spoon.

But I stand here just day-dreaming,  
Thinking of my body gleaming,  
Returned at last to my former glory,  
A Triumphant way to end this story.



**ADOPTION** of latest GT6-type rear suspension and engine improvements to Vitesse saloon and convertible for 1969. Minor styling changes and new facia, along with revised trim details. Radial ply tyres now standard.

**F**OLLOWING closely along the development lines of the new Triumph GT6, the Triumph Vitesse has been modified for 1969. It has a slightly different form of the new rear suspension (which is now virtually a double wishbone system) and the more powerful 104 bhp engine unit. Apart from minor styling recognition and a new facia, the rest of the car is virtually unchanged. Saloon and convertible bodies are available, and there has been a considerable price increase.

To replace the former swing-axle i.r.s., the new system used on the GT6 has been fitted almost in toto. However, for reasons of space, it has been necessary to graft brackets to the rear of the cross member that doubles as a differential casing support and body mounting, so that lever type dampers can be linked to the bottom of the latest hub carrier. It will be recalled that the new suspension retains the transverse leaf spring, damped to the top of the differential casing, from the old car, and that a reversed lower wishbone, with only a single pivot at its inboard end, acts conjointly with a radius arm running forward to a pivot point much nearer the centre of the car than hitherto. The transverse leaf spring doubles as an "upper wishbone" and the new geometry is therefore similar, if not as strictly accurate, as a double wishbone layout. The drive shafts have to accommodate some plunge, so a bulky "doughnut" joint in the middle of the shaft looks after this and also cushions drive shaft torque changes. Maximum camber change is now limited to 7 deg., compared with 21 deg. in the old car, and handling will be all the more predictable for that. To complete the picture in the handling department, the previously optional radial ply tyres are now standardized, on the Vitesse these being 155-13in. Goodyear GB800s.

The new Vitesse's engine is identical with that of the GT6. Its capacity remains at 1,998 c.c., but by fitting the full-width TR5 cylinder head, and camshaft profiles identical with the Spitfire 3 engine, maximum power is up from 95 bhp to 104 bhp at 5,000 rpm. Compression ratio is slightly down from 9.5 to 9.25-to-1. There have been no transmission changes; top gear ratio is still 3.89-to-1, the gearbox is Triumph's latest all-synchromesh design, and Laycock overdrive is an optional extra.

Inside the car there is a new facia panel. Instruments are grouped as before, but switches and minor controls have been regrouped with safety and better styling in mind. Some of the space-giving details introduced last year for the Herald 13/60 are also included, such as the elbow cut-outs for rear seat passengers.

Outside the car there is a new grille design with a horizontal emphasis, aluminium decoration in the recessed boot panel which looks singularly out of place, and the same sort of simulated "Rostyle" wheel covers that are already on the GT6 and the 2.5 P1; there is no wire wheel option. Saloon and convertible bodies are available as before; the convertible does not have the extra space in the rear compartment.

There has been a considerable price increase over the original Vitesse 2-litre. The saloon model now costs £951 instead of £872, the convertible £999 instead of £918. Deliveries begin at once as the car has been in volume production for some weeks.

# PRICES

<b>Saloon</b>			
Basic	£743	0s.	0d.
Purchase Tax (in GB)	£208	9s.	5d.
<b>Total (in GB)</b>	<b>£951</b>	<b>9s.</b>	<b>5d.</b>

<b>Convertible</b>			
Basic	£780	0s.	0d.
Purchase Tax (in GB)	£218	15s.	0d.
<b>Total (in GB)</b>	<b>£998</b>	<b>15s.</b>	<b>0d.</b>

<b>EXTRAS (inc PT)</b>			
Laycock Overdrive	£60	13s.	11d.

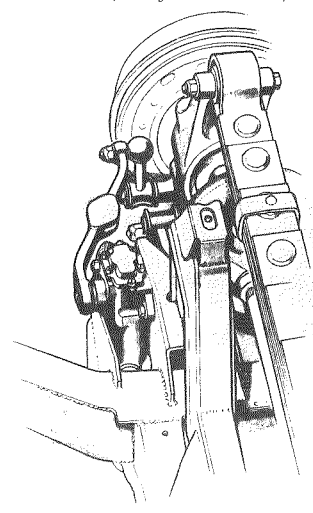
## TRIUMPH VITESSE MODIFIED

*New rear suspension and more power*



*Slight changes to the grille, false "Rostyle" wheel covers, and radial ply tyres are recognition points, but there are no styling changes to metal pressings*

*Garish aluminium panelling around the number plate is the only obvious change from the rear*



*The rear suspension is like that of the new GT6 except for damping arrangements. On the latest Vitesse, lever arm dampers have been grafted on to the rear of the chassis crossmember, with a link acting from the base of the hub carrier. There is a rebound stop rubber to limit wheel travel, which abuts on the lever arm pad*



## MY VITESSE AND I

By G K Mountford

On 9th September, 1970, a White Triumph Vitesse 2L MK1, O/D Convertible, was first registered, spending the first year or so with a garage in East Molesey.

Ten years and two owners later, in October 1980, I went to view DPD 946J. The bonnet wasn't the original and didn't quite line up but apart from a slight dent in the nearside wing and holes on the inner wheelarch upper areas, it was in good condition. The previous bonnet was, presumably, having been written off, caused the second defect - the offside engine bulkhead was devoid of paint and had a dent in it where the wheel had been shunted in to it. The sills and rear valances were covered in underseal and one of the rear quarter valances was a modified Herald section and was welded in place.

Although not quite what I wanted (I did want a black MK11), it was my second colour choice, he did have a J registration and looked somewhat cute. I kinda sensed he wanted me to be his new owner and get registered in the TSSC ... so I bought him. I soon got a new set of radials to replace the horrible worn remoulds and mounted them on a new set of Spitfire MK1V bolt-on wire wheels.

Come April, a Citroen recontoured the rear valance and the nearside rear quarter valance which were replaced and resprayed in matt black paint - not underseal.

Moving on to the 9th September, 1981, (11 years after the date of first registration) in picturesque Little Reading in Stanmore, Middlesex, the 100,000 miles was clocked. As soon as all the zeros lined up, a lengthy photo session took place. Just 10 days later an Allegro attempted to write off the rear end but the now buckled overrider absorbed all the impact.

After inflicting a dent in the boot (very minor) while reversing on the ice of last winter, I decided to get that re-spray done at long last. Inspired by what 'Sports Six Spares' wrote in the December Courier, I went to get a quote for a full trim-off re-spray, correcting any faults in the bodywork and fully treating any rust all too a high quality on all of the exterior panes; the engine bulkhead and the inner boot faces. Eventually, I was quoted £300 for the exterior, £400 to include the boot and bulkhead and £450 was the most that it would be. They sounded very proficient, scoffing at a piece of welding already in the boot floor and telling me that there was filler in the doors that they wouldn't replace - as it would only blister up in no time - but would weld in new lower sections.

After God knows how many phonecalls, I eventually got booked in for 19th April. So I took DPD along, handed over the keys with the list of what was to be done, as quoted and also my new pair of bonnet locks (original Willmot Breedon ones - key number 945, if anyone gained some at around this time), to be put on in place of the broken ones. I was told the respray would be completed in just over a week.

In just over a week, after not hearing anything, I 'phoned up and after asking if DPD was ready, I was told, 'We've done the outside for you but we lost your list and couldn't remember what was wanted'. Firstly, anyone with any sense would start on the interior faces and secondly, you do not guess what to do on a car, you get in touch for confirmation (they had my 'phone numbers (home and work) written down. Being a forgiving person, I told them what else to do and eventually collected DPD on 5th May.

A few faults blinded me - all sills and valances (including three quarters of the front valance) were covered in underseal, the bonnet was not realigned, the new bonnet locks were not on ('Oh, we've lost them!'), underseal was sprayed all over the bulkhead, the inner bootlid wasn't touched and on the boot floor was the ugliest bit of welding imaginable, alongside the near invisible weld they had scoffed at previously.

My Vitesse and I cont'd .../2

I got DPD booked in again for the 17th May to be corrected and, foolishly paid the £400 demanded in good faith that it would be put right. So, off I drove to work but I only got as far as Ealing when I noticed the temperature gauge soaring into the red. After stopping, I discovered that the Kenlowe Fans thermostat had been tampered with and the fan hadn't come on. I re-set it and let the engine cool, then continued on my way. I got as far as Neasden before realising that the white smoke was not coming from the lorry alongside me. I had to catch a train into work and that night, managed to slowly get the car back home. Well, the radiator had blown and on the 12th we put in a new one (£70) which was filled with boiled water (i.e. lime removed) in order to ensure a long life. While up the drive, I made a full list of all the faults which Linda at work kindly typed out for me (2½ sides of A4 paper), including at random; old flaking white paint sprayed over, tonneau studs not removed and sprayed white; rubber grommets not removed and sprayed over, some areas were not sprayed at all, there was over-spray all over the radiator grille, the spare wheel was stuck to the boot floor; the bonnet catch screws were painted in place and the previously cracked paintwork had just been painted over, the paint was coming away in areas, rust blisters had just been sprayed over etc., all of which seems to add up to zero preparation.

So, back to DPD went on the 17th and again I was told he would be ready in just over a week. More expensive tube fares into work (approaching £3 per day) were incurred as well as the cost of hiring a Talbot Sunbeam 1.6CLS to get to Donington.

I believe I gave it two weeks before 'phoning, only to be told there were a couple of faults still to be corrected and it would take a couple of days. And so it went on time after time, never once did I receive the courtesy of a 'phonecall to inform me what was happening. Eventually they 'discovered' why the bonnet didn't line up (the front chassis crossbar offside was slightly misaligned) which was something I had pointed out all along - I even stated this as the reason on the list of faults.

Eventually I was told that I could collect my car and the next day I went along, only to find my car not there - 'Oh, we found a couple more faults ... but as you've come here for nothing, we'll deliver the car'. Come June the 19th DPD really was receiving finishing touches - having the rear hood finishing rail pop-riveted back (the rivet hitting the rear deck paintwork and chipping it) and having the side tonneau studs screwed in place (unfortunately fixing the hood in place under them!). The car was covered in white dust and the next day I gave him a wash and discovered the following:- paint on rubber window seals, paint on brightwork which had not been removed, paint on interior trim, the paint on the boot floor was turning orange in places, scratch marks under the paint on the front wing, cheap bonnet locks (one locked open and the other closed) which were ineffective, blisters forming around the bottom of the doors (appears to have been bodged up with filler after all!), one front tyre had 34 psi air pressure and there were other faults too numerous to mention. Well, except for this one:- Horror of horrors, I discovered some black gunge stuffed in the core my new radiator and the water inside was a milky white which indicates the use of a radiator sealant. Closer inspection revealed the front number plate held on with very large Hex self tapping screws (presumably a drill was used to enlarge the holes too enthusiastically). When complaining to Sport Six Spares, their reply was 'We wouldn't have done anything like that'. Well, you can draw your own conclusions as that radiator was brand new and installed 5 days before going back to them.

I've since had the AA inspect the car and they agreed that for the money there had been hardly any preparation work (this surely represents the majority of the cost of the re-spray) and said that it probably would not ever be done any better by them as they had had it back once and was probably done to the extent of their capabilities. These AA boys know what they are talking about and this one in particular liked Vitesse and had owned a couple previously.

My Vitesse and I cont'd .../3

So, what happened in all the time DPD was having the respray? Now the blistering on the doors is getting worse and recently I removed a bit of the black gunge on the lower bulkhead only to discover road dirt sealed underneath which could have seriously rotted the panel. Incidentally, they refuse to remove the underseal applied to the lower panels and sprayed over it instead.

A couple of members in the North London area have decided where not to have their re-sprays done and just to say, I have some colour photos of first time around faults and a copy of the list of faults for anyone to see.

I'm writing this on my day off work, you see its the 9th of September once again.



## FUN 6

### For the open-minded

If you're open-minded where cars are concerned, you want a convertible. The Triumph Vitesse convertible gives you the freedom of the air. The hood disappears almost without a trace into a well behind the rear seat, preserving the smooth, unbroken lines that make any Vitesse the prettiest

car on the road. And if you have to put the hood up at short notice, you can do it single-handed in seconds.

With the hood closed, the Vitesse convertible is as air- and water-tight as its saloon sisters. Rain and wind stay where they belong, on the outside.

## TOWN AND COUNTRY FESTIVAL 1982 STONELEIGH 27/28/29 AUGUST

By Bob Notley

I hope that those of you who came to see our stand at this years event were satisfied with our efforts. Personally, I think it was our best yet and this was confirmed by our 8th position in the Inter-Club Competition - last year we were 14th.

Thanks to those members who came from all over the country to bring their cars for the stand and spent a good portion of their time at the event, polishing and fettling them. Thanks must also go to everyone who helped on the stand during the event and particularly to Jim Westwell, who came down specially to bring the Clubs new display tent and help erect it.

Finally, I will not be able to organise this event next year, so volunteers are required - for 2 years I have done it on my own but it is better if it can be shared. I will be happy to help in an advisory capacity for next years event, so if you fancy having a go - contact me.



A VERY BUSY TSSC STAND

## VITESSE Mk.II ROTOFLEX RENEWAL

By Eddie Evans

When the MK11 Vitesse and GT6 were launched, their revised rear suspension, incorporating a lower wishbone and flexible drive shaft, seemed to put the cap on all previous handling problems. The Spitfire's rear end was also sorted out but, as the Vitesse/GT6 system was thought too expensive for this car, it was given the 'pivoting spring' system instead with excellent results. In fact this system was so satisfactory, that it was used on later GT6's in favour of the Vitesse system; possibly, had the Vitesse continued in production, it too may have inherited a pivoting spring system. People who have driven both types of suspension, generally agree that the Vitesse system is best, but one thing for certain is that the wishbone system is far more cumbersome to work on, as is often necessary when rotoflex couplings need renewing.

When assembled, the rubber segments of the Rotoflex are in tension and, therefore, eventually pull away from their bond with the metal plates sandwiched between them. You only need to remove the road wheel to check and see the rubber lifting from the plates. Renewal of the Rotoflex calls for removal of the axle assembly from the vehicle and the hub needs to be split. This calls for a spring lifting tool (fig. 1), a local garage or machine shop with hydraulic press, up to a day and a half spare time (depending on the state of the car), plus the following bits and pieces:-

- Torque wrench (not essential)
- Axle stands
- Jack
- Anti-seize grease (for re-assembly)
- A/F socket set
- A/F ring spanners and open ended (as text)
- Strong screwdriver
- Pliers
- Hammer
- Brass drift brake hose clamp
- Brake hose clamp (or see text)
- And probably lots more!

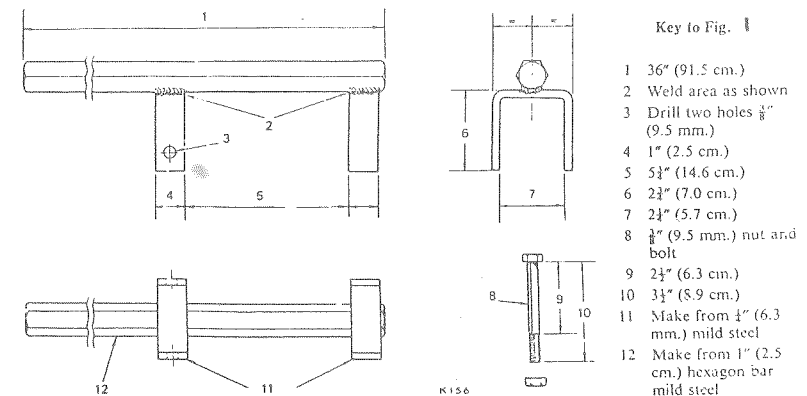


Fig. 1 SPRING LIFTING TOOL

Before starting, I would explain that the figures in brackets are the A/F spanner sizes required for particular operations. Where two sizes are given, it is for the bolt head and nut respectively.



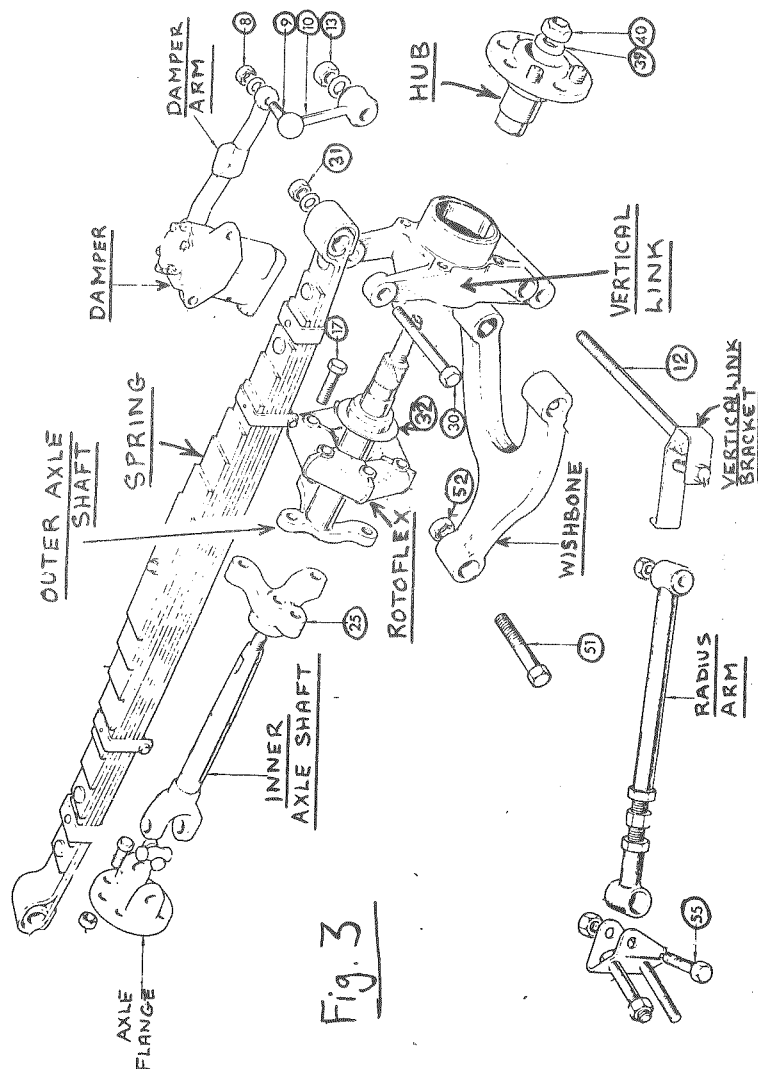


Fig. 3

To start with the rear of the car should be supported firmly on good axle stands, as there's going to be a lot of pulling and pushing from underneath.

Use two ring spanners (9/16") to remove the four bolts attaching the axle flange to the differential flange. You'll need to rotate the axle to get at the nuts properly and if they're tight, put the car in gear. Leave the flange in position.

Disconnect the handbrake cable from the backplate lever by removing the clevis pin and unhooking the return spring. Disconnect the hydraulic brake pipe at either end of the hose (whichever comes easier), after fitting a hose clamp. If you don't have a clamp, then use an old, steel brake pipe connection with a short length of pipe fitted and crimped over at the end. This can be screwed on to the disconnected pipe to reduce loss of fluid.

Fit the spring lifting tool over the spring and lift the spring as high as possible before placing an axle stand under the bar to support the spring in that position, (fig. 2).

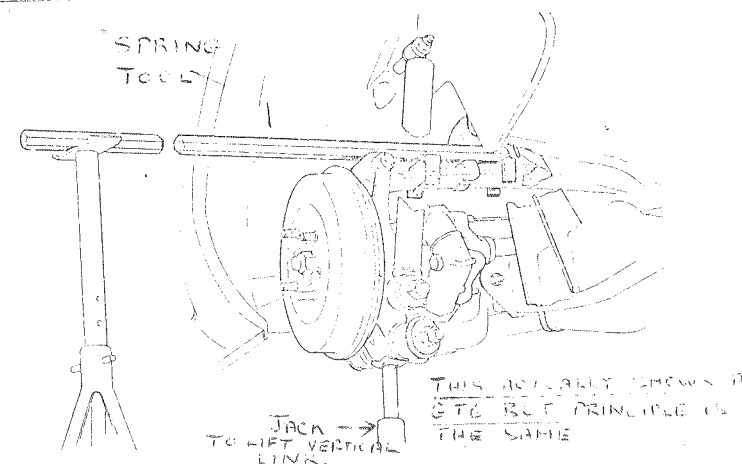


Fig. 2 Hexagon bar fitted in position on road spring

Don't try this without the tool as it's rather dangerous and almost impossible to reassemble the axle without it. With the spring in this position, remove the bolt attaching the radius arm to the vertical link bracket in fig. 3 (11/16" and 3/4"), and swing the radius arm down out of the way. You may have to slacken the bolt at the other end of the radius arm to do this (item 55).

Remove the nut and washer (item 13), securing the damper linkage (item 10) to the vertical link (1/2"), then, using a brass drift, carefully tap the end of the bolt (12) into the vertical link, thus releasing the damper linkage. If this bolt is seized, then remove the nut and washer attaching the damper linkage to the damper arm (8) and tap the link off the taper (item 9). The link can then be lifted off.

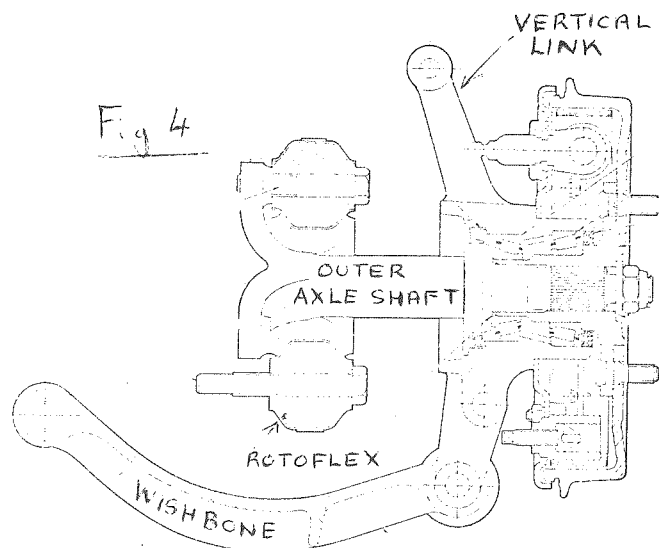
Next remove the nut and bolt (item 51 and 52) securing the wishbone to the chassis (11/16" and 3/4") and push the wishbone down clear of the chassis brackets. Remove the nut and bolt (item 30 and 31) holding the top of the vertical link to the transverse spring (11/16" and 3/4") and the axle assembly can now be withdrawn from the car for dismantling on the bench.

First remove the six bolts (item 17) securing the Rotoflex to the two drive shafts (starting by using a 3/4" ring spanner). They're tight so be careful not to damage the hexagons, a little heat on the 'spider' arms may help, (25). You don't need a compression tool for this and it won't fly apart. We now have an inner half axle and what looks like a Chinese puzzle. I say that because you would swear the Rotoflex can be prised over the arms of the outer axle shaft but it can't, so the axle has to be pressed out of the vertical link and hub. Take off the brake drum and brake shoes, remove the hub nut and washer, (item 39 and 40) and the axle is ready to be pressed out. Note: pressed out, a three legged puller will not do, it needs a hydraulic press. This is available at most BL agents and small engineering firms but make sure it is done properly otherwise the axle thread may be damaged. When this is taken care not to loose the shims and spacer inside the hub. Have a look at the hub bearings whilst there is an opportunity and it's as well to replace the oil seal at this time. Carefully remove the stone gaurd and spacer (item 32) from the axle. The Rotoflex can now be removed and the new one slipped on and secured to the axle 'spider' with three of the six bolts before re-fitting the stone gaurd and spacer. Slide the spacer and shims onto

the outer axle shaft and carefully press the shaft back into the vertical link/hub assembly, ensuring the splines are correctly lined up. When sufficient threads protrude, replace the washer and hub nut, tightening carefully as the shaft is pulled into the hub and finishing off to a torque of 90-120lbs ft. Assemble the brake shoes and drum.

Connect the inner axle shaft spider to the Totoflex by fitting the remaining three bolts and tighten all six bolts to 60-80 lbs ft. Now the metal band around the Rotoflex can be removed with a hacksaw or snips.

Place the axle assembly in position on the car (the spring should still be jacked up using the lifting tool) and loosely fit the bolt securing the wishbone to the chassis. Fit a jack under the vertical link and raise the link until the holes at the top of the link line up with that of the road spring. You may need to pivot the link in or out a little and final centering



can be helped by using a thin screwdriver etc., to lever the holes into line before fitting the bolt to secure the spring to the wishbone bolts, tightening to 35-48 lbs ft, ensuring that the radius arm bracket (welded to the other end of this bolt) is properly lined up. Fit the radius arm to the vertical link - you can't get a torque wrench in - just make sure it's tight.

Fit the four bolts and (preferably) new nyloc nuts attaching the axle shaft to the differential flange, don't overtighten or they will be difficult to remove again. The jack can now be removed from under the vertical link and the spring can be lowered and the spring lifter removed. The remaining parts are assembled in reverse order of removal - don't forget to bleed both rear brakes on completion.

Note: Since compiling this article, I note that spring listing tools of the type described, are now advertised in the Courier.

## 7th STANDARD-TRIUMPH INTERNATIONAL RALLY

12th SEPT., 1982 at ROUSHAM PARK, OXFORD

By John Cudmore

What a 'stir' we caused at STIR VII! May I thank you, yes, you the members for the support given at this very important event. Right from the start, the number of entries surprised everyone and our first win came right away on the Road Run from the Triumph Factory at Tile Hill Lane, Coventry. John and Mary Thorpe from Leicester in a GT6 won the Touring Run Questionnaire. One out of one. Then the Distance Awards, which were calculated by TSSC for all competing Clubs, had an overall winner from our ranks - Liz Clements from Devon, via Coventry for the Road Run. Even if they thought we fixed it, Richard Cunningham from Cornwall would have been second! Two out of two.

The Stag Owners Club ran a Photo Competition on a well-prepared and professional looking stand with marquee to keep the rain off the entries (no one told them it doesn't rain on STIR!). It was a well-supported event and a colour photo of a red Herald 1200, taken outside 'The Herald', Coventry, with the car reflected in a puddle, taken by Leon Guyot from Wimbledon, looked and was a worthy winner. Nice one Leon! Three out of three.

Next, the Driving Tests, organised by Club Triumph, who are experts at such things but guess who won? Yes, there we were again:-

1st	Neil Williamson	1966 Spitfire
1st OPEN	D Bridle	1970 Herald 13/60
1st CLOSED	Mr Bowditch	Herald 13/60

As commentator, Michael Sedgwick said, 'Perhaps their good turning circle played some part'. Well that made it four out of four events. The big one and the little ones to come.

The Concours was quite frightening due to our large Club entry of 63 cars to all events and the Organisers not being able to tell us how many were Concours participants. At very short notice, the Judges were increased to 4 and my thanks go to them for their work - they were Brian Pollard of Land B Motors, Deptford, SE8, Keith Gould of Amphicar fame, Dr Basil Crowley and John Reed of Oxford and East Berks Areas. They did a good job without much time allowed or assistance from me and they placed the cars as follows:?

	Entry No		Points (Max 50)
1st	95	Collins	68 Spit. MK3 47 PAE 565F
2nd	122	Thorpe	74 GT6 MK3 43 PPN 123M
2nd	123	Warren	74 GT6 MK3 43 XJH 291M
4th	105	Sunderland	71 Vit MK2 Conv. 42.5 DLA 282J
4th	140F	Willmot	79 Spit. 1500 42.5 WHT 895T
6th	109	Carter	70 Herald 13/60 Est 40 OHR 309M
6th	140H	Webster	71 Vit. MK2 Conv. 40 RJL 350J
8th	137	Grant	65 Spartan/Vit 2500S 39 MEV 80C
9th	100	Shorney	71 Vit MK2 Conv. 33.5 VKX 440J
10th	1366	Jensen	69 Vit MK2 32 VHV 814G
11th	140J	Fairchild	67 Spit. MK3 29 SWP 618F
11th	106	Guyot	67 Her. 1200 Conv. 29 RGT 543E
13th	92	Clements	60 Her. 948 Coupe 28 707 JYB
13th	140G	?	70 GT6 MK2 28 CJN 28H
15th	90	Bailey	71 Her. 13/60 Conv. 27 GLL 670J
16th	112	Rowse	65 Her. 12/50 24.5 DPM 368C
17th	110	Lawrence	64 Vit 1600 24 BKK 883B

These results are printed 'in full' at the request of some of the entrants and why not, after all their hard work. Roger Collins went forward to the final judging with his magnificent 68 Spitfire MK111 and it also impressed the judges enough to win STIR Trophy for the 'Best Car on Show'. Roger holds the trophy until STIR VIII which will be held in Arnhem, Holland over Bank Holiday weekend at the end of May 1983 - you only have 8 months polishing Roger - but you will go to Arnhem to defend it of course! This is the first time we have won at this prestigious event - another milestone in TSSC history. Five out of five.

Stir '82 cont'd .../

No, we were not able to manage event number six, although from comments made by various members who brought Dinky Toys but arrived too late to enter, or forgot to bring them, we could have won that 'mini' concours as well.

Nice of Peter Donnelly to bring the Le Mans engined Spitfire of 1964. ADU 7B, (I only wish I could afford to buy it) and Keith Gould for the Amphicar which brightened up our day and added even more interest to the stand.

It now only remains for me to thank my assistants, the judges, Tony Newman and Paul Newton-Smith for marshalling, Anna Crowley for Distance Award, Jim and Val Carter for the tent and Kevin from Yorkshire and Bob Heath for their 'dirty work'. Must not forget my wife Pam for putting up with it all!

THANKS EVERYONE!



AN INTERESTING PAIR –  
Peter Donnelly's Le Mans Spitfire and  
Keith Gould's Famous Amphicar.



Leon Guyot's Award Winning Photograph  
At STIR VII



September 1982

# BL launching two new models at Motor Show

by  
**CARSON BLACK,**  
Mail Industrial Reporter

BL's winter sales drive will be spearheaded by the launch of two new cars at next month's Motor Show.

The highlight of the BL stand will be a super luxurious Rover 3.5 derivative called the Vitesse. Alongside it will be the high-powered Metro Turbo.

The company's marketing managers revealed their plans to BL's 1,500 dealers at a major conference in London yesterday.

Also in the package was some bad news for dealers who will have the discount BL allow them cut by 1.5 per cent to 17 per cent.

That will mean less profit for dealers in what promises to be four very depressed months in the car



WHEN the old Triumph Vitesse was first launched in 1962, it was the only car of its kind fitted with a six-cylinder engine. Twin carburetors and 70 brake horse power gave the sporty version of the Triumph Herald what was then a highly respectable top speed of 90 mph.

Basically with the same body outline as the Herald, the car had

trade.

The new Rover Vitesse will be a high performance car that will have a top speed of 135 m.p.h. and is likely to retail at over £20,000. But BL are keeping the price top secret

been modified by Giovanni Michelotti, the Italian stylist.

Within six years, the Vitesse outsold Standard-Triumph's expectations and eventually emerged in a Mark II form with a top speed of 103 mph.

A car for the discriminating motorist was how Standard-Triumph's managing director, Mr. Stanley Markland, described the Vitesse at the time.

even to their dealers.

The Metro Turbo will have a top speed of 110 m.p.h. and is likely to retail at around £8,500.

But car prices are not expected to be cut before the New Year.

## Vitesse was a Herald success

The Vitesse name is being rejuvenated by BL for its new look sporty Rover. The Rover Vitesse will be made at BL's giant plant at Cowley near Oxford while the Metro Turbo will be produced at Longbridge.

The reduction in dealer discounts will not be welcomed by the BL dealer network.

BL's move follows Ford's reduction of dealer discounts to 17 per cent in April and a similar move by Vauxhall last week.

The news of BL's intentions comes one week after a record month for car sales with almost 302,000 new registrations.

The marketing move is intended to keep that initiative going.

The two new cars are likely to be accepted warmly by buyers. Last month BL sold more Metros than in any previous month since its launch three years ago, with the sporty MG version proving very popular capturing 0.9 per cent of the total market.

The Metro took 8.56 per cent of the market and leapt to No. 2 best seller in Britain with 25,859 sold. The previous best monthly total was in March, 1981, when 14,600 were sold.

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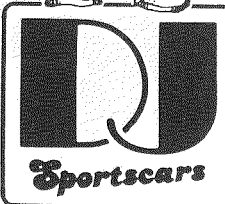
Spitfire I-IV GT6 I-III sill	7.85
Spitfire I-V GT6 I-III door skin	14.50

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