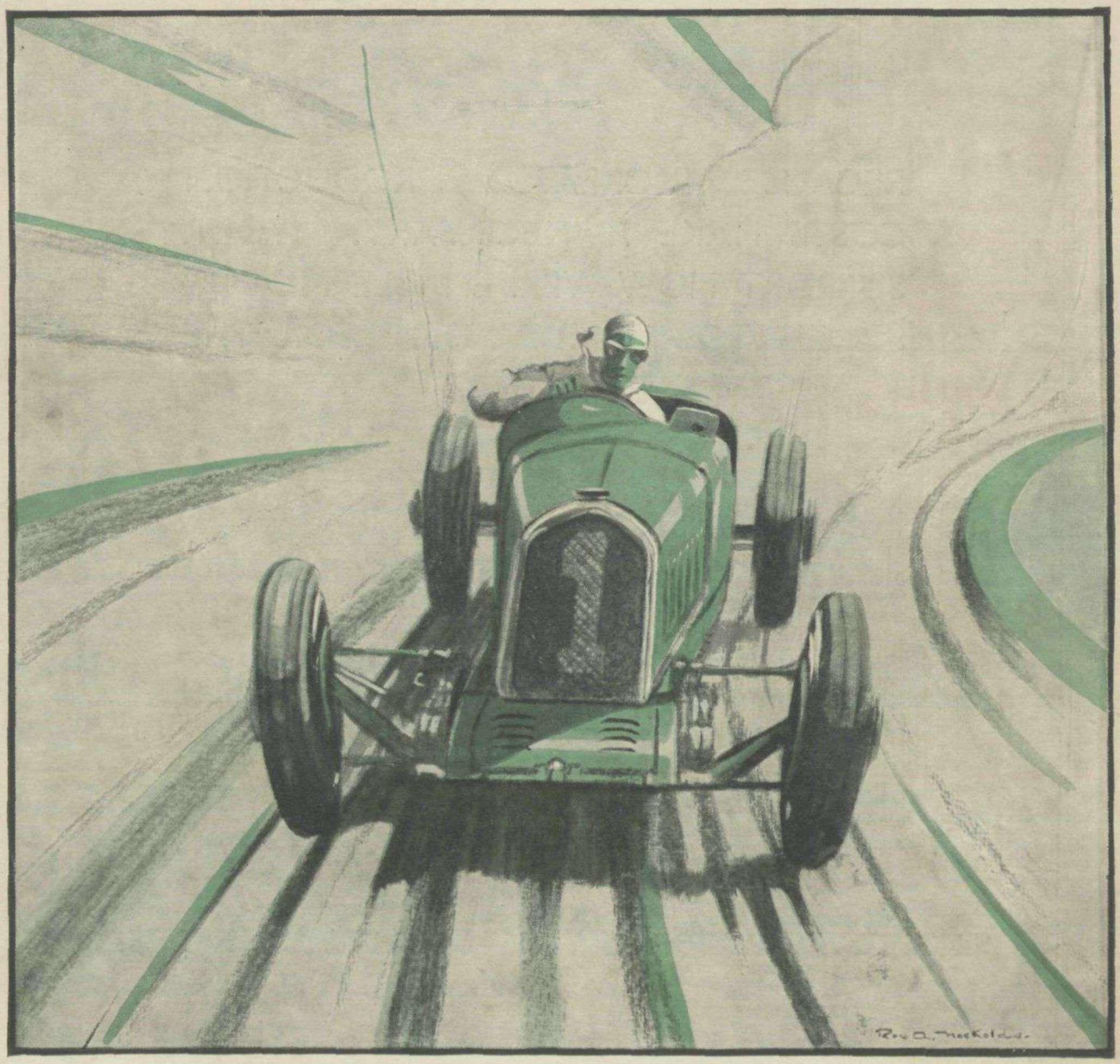
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MOTOR SPORT

OFFICIAL JOURNAL OF THE BRITISH RACING DRIVERS' CLUB

INCORPORATING **SPEED** AND
THE BROOKLANDS GAZETTE

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ABOUT OURSELVES

We are told that very few people bother to read an Editorial, so we propose to write about ourselves, having, with this issue, entered our sixteenth year and commenced another new volume. MOTOR SPORT first appeared in July 1924, as a 1/- journal called "The Brooklands Gazette," published by Radclyffe's and edited by Oscar E. Seyd, M.J.I. That first issue contained road-test reports of the 3-litre Speed Model Bentley and S.S.80 Brough-Superior, a biography of Count Louis Zborowski and articles by Capt. Frazer-Nash, C. F. Temple, Col. Lindsay Lloyd, Capt. Loughborough, George Reynolds, George Brown, Tommy Hann, Miss Ivy Cummings, Capt. W. G. Aston and Capt. Richard Twelvetrees. From the start, a specialist motor-racing paper. Richard Twelvetrees, A.M.I.Mech.E., M.S.A.E., M.Soc.ing. C.I.V., shortly took over the Editorship. After a year the title was changed to MOTOR SPORT because the paper was concerned with the Sport the world over and not merely with happenings at Brooklands. In 1927 L. A. Hutchings became Editor, and later Rodney Walkerley, now "Grande Vitesse" of "The Motor," was his assistant and R. B. Radclyffe conducted the paper. Circulation had now risen considerably and the price had been reduced to 6d., but towards the end of 1928 issues began to appear irregularly and it was put up to the original price. Hubert H. S. Keogh edited it in 1929 and early that year came a temporary lull. MOTOR SPORT then started off with a fresh lease of life in November 1929, published by a separate firm —Motor Sport (1929) Ltd.— and edited by W. S. Braidwood, B.A. Subsequently, Grenville G. O. Manton shared the Editorial chair with Braidwood, and the wealthy ex-Cambridge undergraduate T. G. Moore, owner of Frazer-Nash, 4½-litre blower Bentley, and 4½-litre Lagonda cars and a Monte Carlo Rally addict, took over, opening offices at 39, Victoria Street. For some five or six years T. G. Moore ran the paper in his own way and it went from strength to strength. Towards the close of 1936 he sailed for New Zealand, and his neglected "child" was in a sorry state. The present Acting Editor, W. Boddy, a 100 per cent. enthusiast with a flair for writing, had been allowed by Humphrey Symons to do important work for "Brooklands—Track & Air" without preliminary training or supervision. He has since become increasingly well established as a motoring writer, and at this period he helped to keep MOTOR SPORT going.

In March, 1937, the present publishers purchased the paper and from that time its popularity has risen by leaps and bounds, as it has become recognised as an outspoken and critical monthly review devoted to the Sport. A few months ago it absorbed the only other motor-sporting monthly, "Speed."

To-day, it is carrying on under war conditions. We intend to do our best in spite of limitations and, in offering Good Wishes for the New Year to all our friends, would hasten to apologise for the price increase to the original figure, which the cost of production in war-time renders quite unavoidable. We hope that the time will not be far distant when war is ended and motor sport is revived. Trials will probably get going almost at once and, as happened after the last big war, motor-racing will return in time, as the world settles down to normal conditions, or, perhaps, to a quite deadly Trade War. Then, as before this war, the Sport will serve as a field of stimulus and research to a Great Industry, and this journal will jealously guard its interests.

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TUNING THE 12/50 and 12/60 ALVIS

[The following informative article is contributed by an enthusiastic reader, J. A. Cooper of Leicester, who was until recently with Alvis Ltd., of Coventry. It follows on our series of tuning articles, which have dealt with Frazer-Nash, M.G., Talbot, Bentley, Riley, Austin, Delage and Hotchkiss cars. —Ed.].

THE Alvis 12/50 has been referred to in my hearing as a "grossly over-rated motor car," and, at that, by someone who should have known better. For a firm to manufacture successfully a relatively expensive sports-car, without altering a single major feature of the design, for eight whole years, is surely no mean achievement. I think nobody who has owned one of these cars in decent condition can deny their charm, specially on a long run; a satisfactory and all too rare feeling, similar, though in a lesser degree, to that engendered by the old type of Bentley.

I do not propose in this survey, to go back further than 1925; prior to that date, of course, came the well known side-valve 12/40 Alvis, and the first o.h.v. 12/50, with the dynamo belt-driven as on the s.v. model.

Therefore, the models directly referred to in this article are the TE and TF 12/50s, of 1925-6-7; the TG and TH 12/50s, of 1928-9; the sports SD 12/50 of all the above years, and the TJ 12/50 and TK-L 12/60s of 1931-2. Towards the end of 1929 the 12/50 went out of production, to be reintroduced early in 1931 in slightly redesigned form.

These cars have all the same general engine layout, the same camshaft (and valve timing), the same push-rod valve gear, and the same wheelbase, track and chassis arrangement.

Engines.—The engines of all the models mentioned above, except those of the TE, TH and SD 12/50 models, are of 69×110 mm. bore and stroke, giving a cubic capacity of 1,645 c.c. These engines are stamped with "L 200" on the timing case, following the engine number, except those of the TJ-TK-TL series, from which it was omitted. The engines of the TE, TH and SD cars are of 68×103 mm. bore and stroke (1,496 c.c.), and are similarly stamped "L 201."

All 12/50 engines have the parallel H-section steel connecting-rod, with the exception of those L 201 engines numbered 6875 and over, that is manufactured after February 1928. These engines have taper H-section duralumin con-rods: both types of rod have integral white-metal big-end bearings.

The steel connecting rods have a ¼ inch B.S.F. bolt, together with nut and split pin, locating the gudgeon pin, and all but those in a few early engines have also a sawcut down from the gudgeon pin boss to enable this bolt to clamp the gudgeon pin tightly, as well as to locate it endways. The duralumin rods can be substituted for the steel rods in any 12/50 engine, but end pads or circlips must be provided to locate the gudgeon pins, as there are no pinch bolts in these rods.

The breakage of these pinch bolts in the steel rods is one of the few troubles associated with these engines; mild steel bolts must never be used, the Alvis bolts having 5 per cent. nickel content.

The crankcase, sump, oil pump and drive, etc., are identical on all 12/50s. The timing gears vary in material, but all are interchangeable; the best combination is probably the original steel-bronze-steel, in spite of the claims to silence of fabroil.

The L 200 engines have the "long-throw" crankshaft, the L 201 engines the "short-throw" crankshaft; apart from 3½ mm. difference in the throw these are identical. The crankshaft in the TJ, TK, TL engines is similar to that in the L 200 engines, but is machined at the front end to accommodate a vibration damper. This combination can with advantage be fitted to the earlier engines, the only other part that is different being the timing gear cover, which must also be changed.

The cylinder blocks of all those engines with 110 mm. stroke are interchangeable, likewise the blocks of those engines with 103 mm. stroke, but not the one with the other, unless the crankshafts and pistons are also changed.

All the early engines, and those of the TJ series, have cylinder heads in which the combustion chambers are 19.5 mm. deep; 2 or 2.5 mm. can be removed from the face of these heads with impunity, this raising the compression ratio from 5.35 to around 6 to 1. A better plan, however, is to use a "big-port" cylinder head from a later SD or TH 12/50; this has combustion chambers 17 mm. deep, together with considerably enlarged ports. The TL 12/60 engines have a "small-port" head with combustion chambers 17.5 mm. deep; not much can be removed from these heads as the wall is rather thin, but their initial compression ratio is 5.8, and some can always be removed from the face of this block if it is desired to raise this figure. The TE and early SD cars, of 1925-6-7, have the touring cylinder head, and rely on h.c. pistons to make up for their shorter stroke. The later SD, and the TH, 12/50s have the "big-port" cylinder head, together with h.c. pistons and the duralumin con-rods; their compression ratio is initially 6.3 to 1, and need not be raised much for touring work; common sense must, as usual, be the limiting factor. These "big-port" heads have masked sparking-plug ports, providing an "explosion pocket"; these can with advantage be drilled and tapped straight through and long reach plugs used, as in the touring engines. The best plugs are probably K.L.G. L583, but these motors are not at all plug-conscious, and will run on any decent variety. All these cylinder heads repay port-polishing; the TJ-K-L heads, together with an indeterminate but small number of the earlier types, have machined combustion chambers, but the others will repay polishing and corner-removing in this department. It is permissible, also, to remove the boss and portion of valve guide which together break the symmetry of the port design, but it is doubtful whether the benefit accruing from this operation outweighs the added possibility of a bent valve.

Valves, guides, valve springs and cups, rocker shaft brackets and water pipes are identical on all 12/50s. Taking these in order:

Valves are adequate for all ordinary purposes. The valve guides should be treated with great care, and tapped into position with a drift or box spanner over the thin portion, as this will inevitably crack if hit. They should *not* be fitted too tight in the cylinder head, as hitting the drift too hard will neatly remove the apparently substantial shoulder from the middle of the guide.

Lightening the rockers is not worth the added risk of breakage. The standard valve springs are strong enough for anything up to around 4,800 revs., and more revs. are inadvisable in any case with standard assemblies.

If it is desired to fit a water thermometer, the best place for it is in the water transfer port at the rear of the engine; the TL engines have a port suitably adapted for the purpose. The TJ-K-L engines have a rocker shaft different from, but interchangeable with, that fitted to the earlier engines, with springs between the rockers instead of distance pieces; this helps to cure rattle but is unimportant. The metering pin in the rocker shaft opposite the oil feed pipe must be treated with respect; cutting the oil feed down may give valuable pounds of oil pressure, but if this is overdone an air lock is apt to develop, and by the time "mice" are audible to the driver much wear may have taken place. Starvation here also affects the centre and rear camshafts bearing, which are fed by the overflow from the valve gear.

The push rods, which are hollow, are supposedly the same length in all 12/50 engines, but some, at least, of the L 201 engines seem to have push rods about ¼ inch shorter than standard. The tappets are all the same, but whereas on the L 201 engines they run direct in the block, on the other engines they run in separate tappet guides, which are held in the crankcase by pressed steel bridge pieces. These last should be inspected occasionally, as they can work loose; split pins and castellated nuts do not effect a cure, because the studs can still work out of the crankcase.

The aluminium plate bearing the name "Alvis," which conceals all this mystery, drums badly, and a bolt and nut through it, arranged to press on the

TUNING THE 12/50 and 12/60 ALVIS—continued.

side of the cylinder block, cuts out a surprising amount of mechanical noise.

The TE, TF and early TG engines have the induction and exhaust manifold cast together; the induction part of this manifold almost invariably cracks, but insulation tape and copper wire are perfectly satisfactory for preventing air leaks (if welded it usually cracks again). For this reason the later TG and the TJ engines have the manifold (otherwise similar) cast in two pieces and bolted together; this is more satisfactory. These engines have a single 30 mm. type MV Solex vertical carburetter.

It is much better, however, to obtain the manifold off a TK or TL 12/60 engine, with its attendant twin horizontal S.U. carbs., type HV3HC. This will fit without alteration, except to petrol pipes and controls, but will probably necessitate an autovac or petrol pump even with a front petrol tank to maintain a head of essence; the correct needle for these carburetters is AC. The SD and TH engines, with the "big-port" head, utilise a correspondingly enlarged manifold with a 40 mm. type MV Solex vertical carburetter, the best normal setting for which is: Choke 27, Pilot 55, Main 120/51. For sheer power this carb. is unbeatable, if you can put up with the Solex flat-spot, which seems inescapable. No other manifold is available, unless home-made; twin S.U.s seem to provide more even acceleration but no more speed. The original specifications provide the SD model with an outside (and outsize) exhaust pipe and the TH model with the inside version; however, many of the former model (including my own) were turned out with the inside pipe, which was standardised for 1929, and the difference in performance is very slight. The TJ-K-L engines have coil ignition (except for special orders) while the rest have magnetos; the latter is perhaps preferable, especially for enthusiasts with dud batteries and no money, but it is doubtful whether the performance gain is appreciable, especially if a high voltage coil is used.

The valve timing is: Inlet opens TDC, closes 50° after BDC; Exhaust opens 55° before BDC, closes 10° after TDC.

Ignition timing 28° before TDC, fully advanced; incidentally, each degree represents 2.7 mm. measured round the circumference of the clutch-body.

The oil-pressure should be 25-30 lbs./square inch at 3,000 r.p.m. when hot, but many engines have run for many miles with much less. However, this is not advised, and attention to the bearings and to side play in the oil pump gears will work wonders. Adjustment of the relief valve is by shims, and in the usual way.

Coming to the back of the engine, the flywheel cannot be lightened much. The clutch body is of cast iron, and while a certain amount can be removed from it, this procedure is fraught with danger, as these have been known to disintegrate at high revs. The makers once cast a small number of these clutch bodies in aluminium, for racing purposes; this is definitely worth while, if you can find one or afford to have one cast. These clutches all have nine springs, the remaining three spaces only being utilised on the six-cylinder models; nine are normally ample. The only alteration in design to this clutch from its introduction in mid-1924 to its demise with the 12/50 in 1932 was the fitment of a slightly different toggle arm and operating sleeve, at engine number 6903.

Rev. counters were only fitted when racing, and occasionally to order, until 1932, when the TL 12/60 was fitted as standard with this invaluable instrument. These are all driven by the somewhat barbarous method of a belt, the drive being taken from a split pulley clamped to the shaft running between engine and gearbox. Some time ago, however, the Speedometer Supply people made a very compact right-angle drive to the order of an Alvis owner, to enable the rev. counter to be driven from the rear end of the camshaft, and they would doubtless undertake repeat orders.

The clutch stop should *not* come into action until the clutch shaft is entirely free; the spring behind the arm, however, can be compressed as much as is compatible with the free movement of the arm, so that the full force of the left leg can, when necessary, be exerted on the clutch stop. A valuable fitment is a segment of a ring of ¼ inch flat metal, lined with Ferodo, and riveted in turn to the standard clutch stop arm, thus increasing the friction surface. Incidentally, if the undershield under this portion of the car has been removed, wet weather will render the clutch stop inoperative, as the next upward gear change will effectively demonstrate.

Up to 1927 the engine and gearbox were mounted in a subframe, while after that date this was replaced by the well known chassis frame with the extended lower flange. The engine and gearbox units were not affected by this alteration. Those cars produced in the earlier batch (i.e. up to late 1929) were fitted with gearboxes with 3-point mounting, and also with the large propeller shaft equipped with Timken taper roller bearings and nine grease nipples. Those made in the revival period, 1931-2, had 4-point mounted gearboxes and Hardy Spicer prop. shafts; the latter are well worth procuring, as the Timken prop. shaft, unless in perfect condition and adjustment, is definitely illegitimate. In this connection it is worth while noting that to change from the one to the other involves taking out the gearbox, not only because the front end of the prop. shaft is hidden inside a cross-member, but also because the speedometer drive pinion is carried on that portion of the prop. shaft driving flange which lies inside the gearbox, and to change this flange it is therefore necessary to remove the gearbox rear cover. Trouble will probably be experienced in removing the other prop. shaft flange from the bevel pinion, on which it is mounted on a long and shallow taper, and some form of puller will be found very useful here.

Axle ratios.—Concerning crown wheels and pinions; all the cars of TE, TF, TG, TH, TJ, TK, TL types have an axle ratio of 4.77 (9×43) except those fitted with high-pressure tyres; before chassis number 5126 "stub-tooth," and, after that number, "deep-tooth." The latter gears can be fitted to the earlier cars if the six holes in the diff. box to which the crown wheel is bolted are reamed out from 5/16th in. to ⅜ in. dia. The SD cars of 1925-6-7 are fitted with 4.33 (9×39) ratio, replaced after the above chassis number by the "deep-tooth" versions. Towards the end of 1927 these were supplanted by 4.55 (9×41) gears, which were fitted till this model went out of production. The mesh adjustments, laterally for the crown wheel and fore and aft for the pinion, are quite simply carried out by shims, while as the pinion is carried in taper roller bearings any end play can be taken up.

Gear Ratios.—All T series cars except the later TK and the TL models, have the following gear ratios: 4.77, 7.32, 11.04 and 18.54 to 1, giving at 4,000 r.p.m. the following speeds: 76.8, 50.1, 33.3 and 19.8 m.p.h.; let me say here that the standard 12/50 will *not* produce 4,000 r.p.m. in top gear except in very favourable circumstances. These speeds are calculated on the dimensions of new Dunlop racing covers; I am well aware that they do not agree with those given in the 12/50 instruction book, but you can check them if you like. These ratios are much too wide for comfort, and the S.D. cars were fitted with higher 1st and 2nd gears, which produced the following ratios: 4.33, 6.64, 9.22 and 14.05 (84.7, 55.2, 39.8 and 26.1 m.p.h. at 4,000 r.p.m.), later, of course, changed to 4.55, 6.98, 9.69 and 14.77 (80.6, 52.6, 37.9 and 24.9 m.p.h.). This is better, but third is still a long way from top, so nearly all the TK 12/60s, and all the TL 12/60s, were fitted with not only the high 1st and 2nd gears but also a higher third; this results in ratios for these models as follows: 4.77, 6.73, 10.17 and 15.49 (76.8, 54.5, 36.1 and 23.7 m.p.h.). These gears which are the closest fitted as standard to 12/50s, were first used in the 1930 sports "Silver Eagle" models, and can be fitted to any 12/50. Note, however, that the whole set must be obtained, for reverse gear is also different (meshing as it does with 1st and 3rd) and so is the upper constant mesh pinion, which is cut away in accordance with the requirements of the altered third gear wheel.

A better, but more expensive, plan is to obtain (or keep) the 1st, 2nd, 3rd and reverse gears of an SD type box, and to have made special constant mesh gears with 19 and 30 teeth, respectively, in place of the standard Alvis constants, which have 17 and 32 teeth. This results (supposing, say, a 4.55 axle) in ratios of: 4.55, 5.86, 8.13 and 12.39 (80.6, 62.7, 45.2 and 29.6 m.p.h.). Remember that these speeds are all calculated at 4,000 r.p.m., and are therefore not (necessarily) maxima. Special constants of this type were used by the Alvis Co. when they raced the four-cylinder FWD cars in the 1928 T.T. (the gears from which,

TUNING THE 12/50 and 12/60 ALVIS—continued.

however, do *not* fit 12/50s), and since then, *inter alia*, by Michael May, noted Alvis death-dicer, etc., to whom I am indebted for the idea.

This gear ratio problem was made considerably more complicated by the fact that the tooth form was changed, and not on all the gears at once, but in two steps. Thus, all TE, TF, and SD motors made up to mid-1927 have shallow "stud-tooth" gears throughout (first fitted case-hardened, incidentally, at chassis number 4427). All TF and SD motors made from then till near the end of 1927 have "stub-tooth" 1st and 2nd gears, but "deep-tooth" 3rd and constants, while the last few TF, all the TG and TH, those SD made after that date, and all TJ, TK and TL motors have "deep-tooth" gears throughout. Also, numbers of the earlier cars have been converted! Note, by the way, that each of these alterations, whether to tooth contour or ratio, affects the sliding reverse gear, as this meshes with 1st and 3rd, so that there are no fewer than seven different 12/50 reverse pinions in existence.

All those boxes with either high 1st and 2nd or high 1st, 2nd and 3rd gears, i.e. those out of SD, TK, TL and the sports "Silver Eagle" models, have an "S" stamped on the lid in addition to the box number. Of course, the gears may have been changed . . .

Chassis.—Essential points of the brake gear remained unchanged during 12/50 production, though the linkage was altered slightly on two occasions: 1926 and 1931. The only noticeable difference here is that in the revival batch (1931-2) the handbrake operates on all four wheels, as against the previous system of operation on the rear wheels only.

The hubs were unchanged until 1932, when the TL 12/60 was introduced with the Dunlop knock-off hubs, using corrugated driving plates. A variety of wheels will be found, all those used with low-pressure tyres, however, being of 20 inch dia., except those wire wheels fitted to the early SD models, which were of 21 inch dia. and possessed a peculiar and dastardly form of split rim. Low-pressure tyre sizes were at first 4.50″×21″, then 4.75″ or 4.95″×20″, and later 5.00″×20″, which latter size is convenient. Oversize tyres may interfere with standard wings.

Those cars built roughly before April 1928 were fitted with a steering box of Alvis manufacture: those after, with Marles units; the latter are lighter in operation but also lower geared (1½ turns lock-to-lock against 1⅛). Any wheel wobble can usually be cured by attending to the drag link ball joints; this means packing up or replacing the small but very strong spring used in these joints, and possibly replacing the *lignum vitae* inserts. If the inner insert at either end is damaged it can easily be drilled out, and a new one lightly tapped in. The track rod ball joints rarely give trouble; if wheel wobble still persists and the wheel alignment is correct, wedges between the axle and the springs if not already fitted, usually effect a cure.

The front springs are all interchangeable, though improved in 1926 by the extension of the second leaf to roll round the spring eye. The rear springs are also interchangeable, but vary in initial curvature according to the year and the type of body fitted; however, all the sports two-seaters have identical rear springs.

All 12/50s have double Hartford shock-absorbers front and rear, the latter mounted transversely. The 12/50 radiator was deepened somewhat in 1928; in the opinion of many this spoilt the frontal aspect, but in any case it was only a minor alteration. The 1931-2 cars have an entirely different radiator block with a separate, chromium plated, shell.

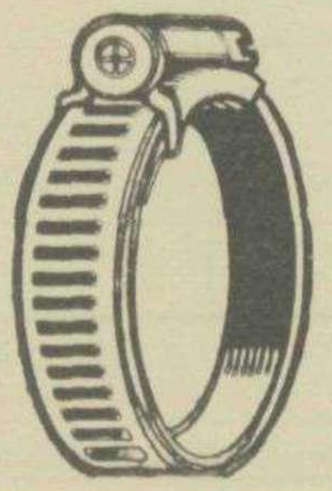
The touring motors have had a startling range of bodies which I am not going to attempt to review; the sports two-seaters, until the end of 1926, were the well known boat-shaped duck's-well, "duck's backed" body, usually of polished aluminium. The 1927 version was beetle-backed, still aluminium panelled, but usually painted; in 1928 the same body, but panelled in sheet metal, while in 1929 the hood was concealed beneath a miniature tonneau cover. In 1931-2, running-boards were dispensed with, bucket seats were used, and the disappearing hood was neatly concealed by panelling; this body was rather deeper, and also heavier, than the earlier versions. All these two-seater bodies were built by Carbodies Ltd., whose factory is practically opposite that of Alvis Ltd.

I hope these remarks will be of interest to some of those who read them; I have intentionally made no mention of radical alterations such as lowering or shortening chassis frames, or hotting-up engines to the point where they are no longer suitable for road work, because such doughty deeds must of necessity be to a great extent individual, and any attempt to reduce them to a formula is doomed to failure.

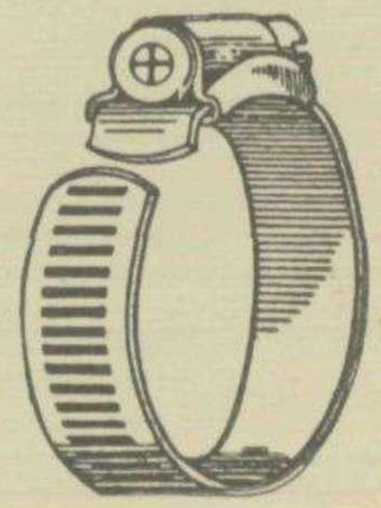
[If anyone would like further details, or part numbers, I shall be pleased to help them to the best of my ability.—Ed.].

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Club News

There is a little more activity to report this time in the way of socials, and we look forward to more such meetings, perhaps enlivened by short road events and film displays, in the near future.

750 CLUB

On Saturday, December 9th, the 750 Club met to discuss motoring in the Dive Bar at the "Horseshoes" at Tottenham Court Road, most of those who attended coming in public service vehicles, although Secretary P. H. Hunter dedicated a coupon to the cause. Those present were:—Hunter and his lady, Frost and his lady, Head, Brown, Kipps, Giddings, Slade, Ambrose, Brymer, Boddy and friend, Birkett and Adams. The possibility of holding a future competitive event was discussed and motoring photographs were inspected. Incidentally, only Head was in uniform. Surely, if such a social, announced more or less in haste, could attract fifteen persons, a motoring film show put over by one of our larger clubs could be sure of attracting at least five times that number, which would make the thing entirely worth while? And just a muster of sportsmen in general at some convenient place would give enthusiasts an object for burning their Pool, instead of wandering about with isolated bursts of acceleration, rather like Lost Souls, as not a few intriguing motors seem to have been doing since September 3rd. So, once more, what about it?

C.U.A.C.

The Club dinner took place on December 2nd at the Red Lion Hotel, Cambridge. Kenneth Evans, Mic Pringle, Brian Twist, Reggie Tongue, Raymond Mays and Gordon Brettel were amongst the prominent speech makers.

ASTRA M.C.

This Club is going right ahead with social events, and had its Christmas feed on December 10th at the Salisbury Hotel, Barnet.

Hon. Secretary: S. Richardson, "Merrill," Mount Pleasant, Cockfosters, Herts.

HORSHAM & D. M.C. & L.C.C.

Club meetings are to take place every Tuesday evening from 7 p.m. to 10 p.m. at the Bell Inn, Park Street, Horsham, which is indeed good news. Short runs are also under consideration. We feel sure that Secretary E. G. Smith, who drives the twin-gearbox Austin Seven so effectively in trials, will welcome outside visitors. Horsham is 36 miles from London and the Secretary's address is "Merlewood," Guildford Road, Horsham.

LEAMINGTON & D. M.C.

This is another club which has short organised runs in mind and which holds socials every Wednesday and Sunday evening at Binswood Garage, Trinity Street, Leamington. Motorists serving in any of H.M. Forces will be especially welcome.

Hon. Secretary: W. S. Willis, 40, Clarence Street, Leamington Spa.

WEST CORNWALL M.C.

Apparently Film Shows are in mind, as the Club appeals for the loan of good motoring films. Please communicate with E. A. Radbourne, 111a, Market Jew Street, Penzance, if you can assist.

B.A.R.C.

The Club room is still very much in action and it is hoped that at least a section of the Track can be kept open as a rallying place or for limited competitive events. The annual subscription is now £1 1*s*. 0*d*, and it is guaranteed that to both new and existing members the sub. will not exceed that of last year, when war is over. Ladies badges are defunct under this scheme.

LANCASHIRE A.C.

The clubroom will remain open at County Bank Chambers, New Market Street, Blackburn during business hours.

BENTLEY DRIVERS' CLUB

An informal lunch was held at the Rembrandt Rooms on Sunday, December 10th, in lieu of the annual dinner.

WAKEFIELD & D. M.C.

Club headquarters are now the White Horse Hotel, Westgate, Wakefield, where a social evening happens every Wednesday.

WEST MIDDLESEX A.M.C.

Every Sunday morning enthusiasts will find a "get together" at "The Myllet," Western Avenue, thirty members attending the very first.

GENERAL NOTES

Motoring has been transformed by the War from specialised dicing in unusual cars for almost entirely motoring ends, into common or garden driving from here to there for almost all of us, and not very much driving at that, with fuel rationed as it is, so that only very brief runs are possible if one still contrives to motor almost every day, adventure or unexpected happenings being rare in consequence. Nevertheless, there was that entirely soul satisfying run one bleak winter's day in Peter Clark's Le Mans H.R.G., when the joy of real motoring returned in full measure, albeit the emptiness of the road to Southend, together with the frequent meeting of army vehicles and camps, reminded us that the world has gone insane. Curiously, on another day we confirmed the very intense fascination of the vintage motor-car and our belief that motoring to-day is not a patch on what it was in earlier times, quite as soundly as we have done in the spacious conditions prior to the outbreak of War. We left home early in a Fiat "Mouse," which proved as willing to convey us to our destination at Beaconsfield as other examples of this breed have been to take us on other urgent errands, the little car riding, too, very well indeed over some of London's more notorious surfaces.

Arrived at Baylin's Farm we found Anthony Heal's 1919 5-litre racing Ballot (which he described for us last month) and his well known "30/98" OE Vauxhall tourer, drawn up outside the door. Barely had we warmed ourselves within than Peter Clark arrived with his wife in the Le Mans H.R.G., and our party for the day was complete.

Heal went aboard the Ballot, accompanied by his faithful mechanician Len, and after oil pressure had been pumped up by hand and the air pump operated, and the two carburetters flooded, the old car was vigorously pushed until she fired, departing down the drive with a delightful exhaust note reminiscent of an Alfa-Romeo or Maserati, amid the scent of P.M.S. 1. The Clarks got into their H.R.G. and we scrambled with Sam Clutton into the "30/98." Unhappily, Walter Norton, we learned, was detained by business preparatory to sailing for America, and could not accompany us in his newly-acquired, ex-Hunter 328 B.M.W., as he had hoped to do. A brief stop at the local garage, where the 1910 Fiat is recovering from its recent inversion, even to a new and shorter tail, and we were all hounding down the road to Burford. The Ballot led, and so effectively that we never got very close to it, although Sam drives fast, and Peter's exhaust note showed that the "Herg." too, was in a hurry. Our photographs last month do not completely emphasise the stark charm of the old car. Heal has turned her out really beautifully, in matt blue finish, with the compact Ballot radiator painted to match and the steering connections highly polished. A better example of

CLUB NEWS—continued

the fierce, built-absolutely-for-business racing-car of the period does not exist. The car now has a new short tail in place of the original bolster tank, an f.w.b axle and a radiator badge taken from a 2-litre radiator—otherwise she is as Guyot and René Thomas knew her. Meanwhile, as Heal experimented with her as a road motor, we were able to explore the appeal of his "30/98," which tows his racing-cars to so many speed events and is his own, everyday hack. Sam told us it is very different from a normal "30/98," having been built up of various vintages of the marque and, feeling front-heavy, takes quite a lot of practice to handle safely, which Peter later confirmed. It is a 1925 tourer with the distinctive sloping "V" scuttle and very high seats, so that it seems a quite short car from within. It has the Munday engine, now with single carburetter and touring camshaft, the deep instrument panel is well stocked with dials and a pressure pump, Ashby aero screens supplement the main screen, and the minor controls on the wheel centre are original Vauxhall.

We followed the others mostly at 70, bends included, to the typical "30/98" exhaust note and the sound of real machinery beneath the bonnet. An occasional drop to sixty felt as if we were stopping and frequently we had an effortless 80, equal to 2,600 r.p.m. on the huge, finely graduated Jaeger rev.-counter. When additional acceleration was needed for passing obstructive vehicles, third would go in and the urge came well and truly, accompanied by truly tremendous gearbox noise, until 60 m.p.h. was reached and top regained. Along the Oxford By Pass we held 90 m.p.h., in spite of having the big screen erect and on what they now serve us out as fuel. Yet I doubt if we exceeded about 2,900 r.p.m. all day. The oil pressure sat at 20 lbs. as soon as the engine was warm, at 70°-75° C. water temperature, and the brakes, squeaky but very powerful, and the entire absence of rolling and sliding when cornering really fast, made the run a rapid one in a pleasantly fierce manner. From the rear compartment one discovered that, although the big car rides in a lively manner, bumps and undulations are smoothed out very effectively. The "30/98" was ever an astonishing car and defies the moderns as much by its undisguised potency as by its accompanying performance, true as it is that engine and gearbox make more of their presence than those of most present-day lorries. Later, in congested High Wycombe, docility was seen to be another aspect of the car, and the accuracy of the steering was appreciated in negotiating the crowded roads.

After a pause for plug inspection (she had ordinary plugs in) and the addition of water to the radiator, the Ballot resumed with Clutton now wedged in beside Heal. At the next stop we were all elated to hear that she had reached 3,200 r.p.m. along the Oxford By Pass, equal to 106 m.p.h.—I hasten to mention that she has new tyres all round. There was still a suspicion that No. 1 plug was out. After a halt for the inevitable "bitters" I went as passenger beside Heal.

Pressure was pumped up on the two pumps by the passenger's left leg, the pushers fell too, and after some clutch judder, she accelerated with a high-pitched howl of the indirects. Sitting right over the rear axle, with definitely racing suspension, the floor boards far from the seat cushion and no "grabs" on scuttle or tail, it was not easy to keep clear of the driver. The central mirror confronted one, both occupants' tense faces reflected therein, and the bonnet, terminating in the compact radiator, seemed very long, and the flapping near-side front wheel far away. Almost at once we were above 80 m.p.h., the wind coming unbroken by a screen, so that the exhaust was inaudible, though on occasion one could hear the whine of gears. The instruments, which are small and few, are set well under the scuttle as a separate, polished panel, not easy to see, but when I could see the rev. counter it appeared to be at between 2,400-2,800 r.p.m., and I believe our maximum was 92 m.p.h. Along the narrow winding road to Burford the Ballot was most exhilarating, very definitely "alive" and seemingly quite a handful. The front end feels curiously isolated and vague, perhaps because the engine is mounted on a sub-frame, while the brakes are powerful but not exactly all-square. As other cars approached Heal would ease up momentarily, the Ballot would sway, be held, we would pass, and another burst of speed could be indulged in. She cornered well, albeit the near side kerb came uncomfortably close on one occasion, so that the proximity of the flying telegraph poles became of some interest for a while after. But Heal is the master, as he is master of the even older Fiat. This Ballot is the "real thing" with no reservations and when you consider that it has done 125-130 m.p.h. and has acceleration to equal 328 B.M.W.s and the like, you must write it down as a most desirable property.

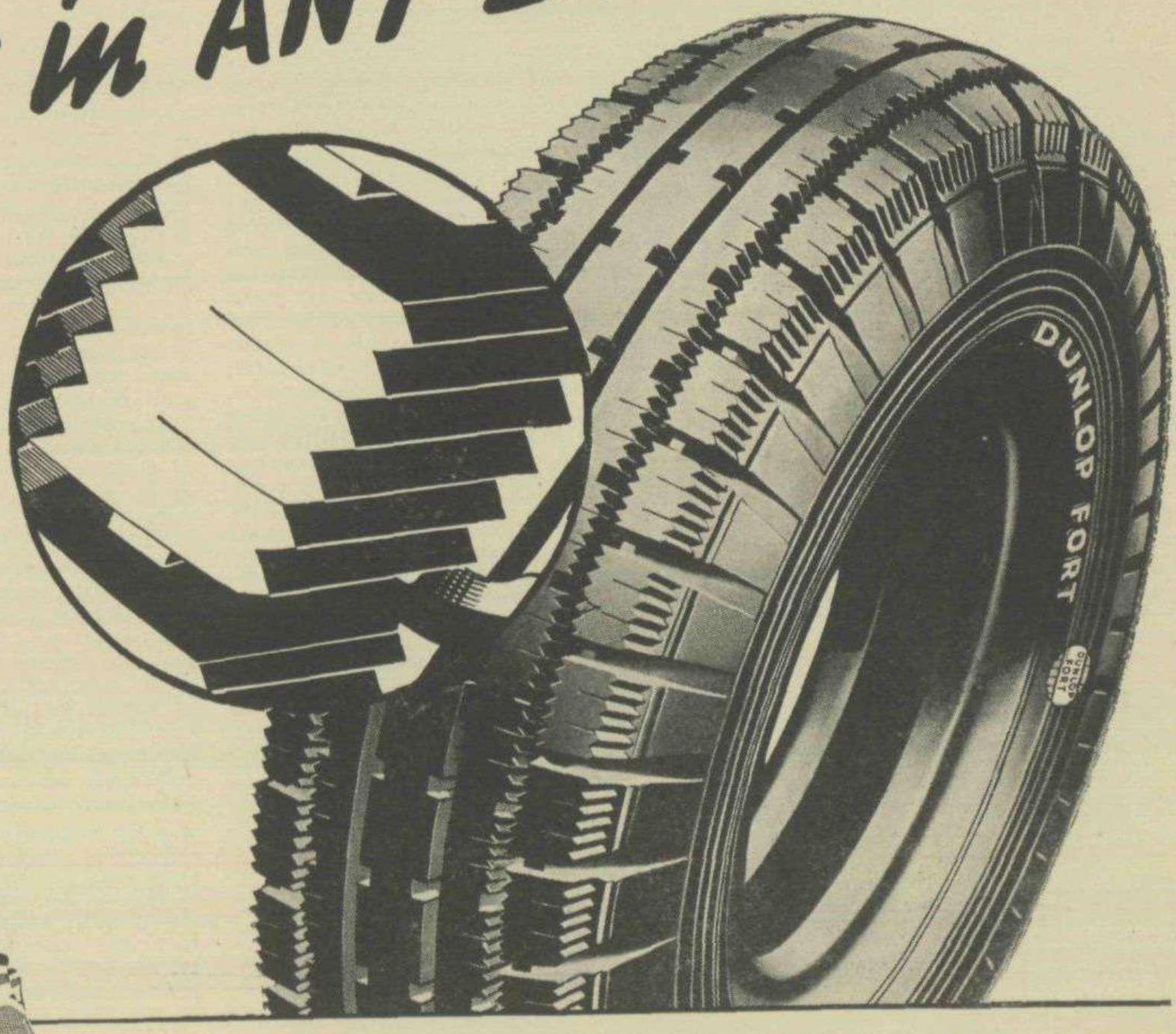
This brief run ranks as one of my most exciting experiences, and one can well imagine the fatigue that a long-distance race in such cars could bring about and admire Sammy Davis's very real enthusiasm when he claimed that 117 m.p.h. along the straight at Lyon in the Miller in '24 was an experience he would have willingly prolonged for ever . . . This Ballot, of course, is the father, as it were, of all American racing-cars, and as we ran over the deserted road to the Cotswolds in the wintry sunshine we might well have been back in 1919, testing the car for a forthcoming race, instead of burning a little hard-come by racing fuel in the most soul-satisfying manner imaginable. After lunch at Burford, the Ballot sent out a truly immense smoke-screen, the oil having been inadvertently left on, and the disgust of the locals was very evident. Mrs. Clark was in the passenger's seat at the time and it is greatly to her credit that she showed no concern at all, and not at all to her discredit that much later, at tea, she admitted to the assembled company that a ride in the Ballot is just a wee bit frightening . . . Another stop beyond Witney, where assorted aircraft were busy overhead, while plugs were changed and photographs taken, and Sam took over, but soon had to stop hastily so that a front wing could be re-secured. Heal, in the passenger's seat, wore his beret and the back view reminded one very much of that classic picture which appears in "Motor Racing," showing "S.C.H.D." wedged in the Miller's cockpit beside Zborowski. One observed, too, the curious sort of bunched up hop of the Ballot as it passed a slower vehicle and swung back to its own side of the highway. Later, the wing trouble overtook Peter while he was having his initiation in handling the car. As Heal prepared to take over again a friend came past at speed in a curiously-bodied Anzani Frazer-Nash, but it was quickly disposed of after a spell at what Sam would term a "moderate ninety," the Ballot getting up to 95 on one occasion and being home nicely before black out time and, indeed, stored away ere the "30/98" arrived, preceded by the H.R.G., which Sam took up to 86 m.p.h. on the Oxford By Pass. Thus concluded a very great day's motoring which shouts a mile that for real fun you *must* motor in vintage machinery. After tea, conversation touched many aspects of the game, from Marcus Chambers's masterful appearance in Naval uniform and Gordini's driving skill, to the splendid performance and organization of Bugatti at Le Mans. Peter's intention to entirely strip Mrs. Clark's 1914 Mercédès car before using it (to which Sam responded that the Sixty Itala has long had a cracked frame and still has, for he believes that a car will always throw away anything it doesn't really want . . .) and the excellence of the modern Balilla Fiat and the little Simcas. So that it was dark when we emerged and, finding the "Mouse's" battery flat, gladly accepted a lift to London in the tonneau of the "30/98" which did not seem unduly hampered by limited illumination. Next day, much valuable "Pool" had to be sacrificed in the Austin in recovering the Fiat and it seemed that our luck had changed, for soon *this* car needed more fuel, which we had not bargained for. A leather-clad driver of a well-kept Morris Eight tourer kindly towed us into Amersham and while the necessary attachment was being done we were enthralled by seeing a Cluley two-seater go by. Often have we mentioned this marque in attempting to name makes unknown even to enthusiasts, but we must confess to knowing little about it.

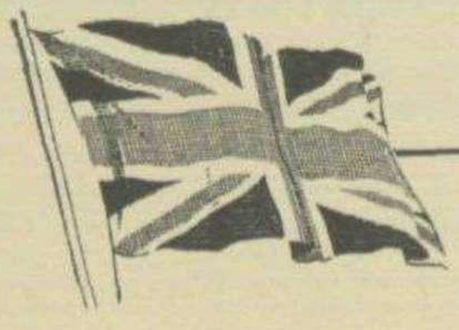
"Fletcher's" gives the later specimens as 2-litre "14/30" and 2.1-litre "14/50," both with cone clutches, but this particular example was apparently a 1924 model, sold by a local garage in 1935 to someone who wished to learn on it, the price being about £4. So sound did it prove that it has been in regular use ever since, and it does some long-distance early motoring business runs very successfully, all of which rather bears out the vintage-light-cars enthusiasm which we have several times expressed in MOTOR SPORT.

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9H/183

HAS RACING HELPED?

BRITAIN'S AIRCRAFT HIGHLY DEVELOPED DESPITE LACK OF GRAND PRIX EXPERIENCE

AMONGST the many arguments, some practical and some otherwise, which have from time to time been advanced in favour of Great Britain building Grand Prix racing-cars, is that of technical development. How, was it asked, could our engineers keep abreast of all the latest improvements in design of the internal combustion engine, in competition with foreign designers who were always experimenting, regardless of cost?

One could almost have introduced the situation into the recent propaganda film, "The Lion Has Wings," where British love of the arts of peace is contrasted with goose-stepping Germans, Hitler's raucous utterances with the genial bellows of bookies on the race-course, etc. Where Britain turned out family cars for peaceful touring, German technicians might have been depicted striving might and main to develop their engines for bombers and fighters. Perhaps it is as well that such a comparison was not drawn, or public opinion of the value of motor-racing would at any rate not have been improved.

That Grand Prix racing does produce a highly developed form of the internal combustion engine is undoubted. An output of 100 b.h.p. per litre is now scarcely enough to enable one to hold one's own even in a long-distance race, and on the smaller cars 150 b.h.p. per litre is being realised—alas, alter all verbs to the past tense. Yet a touring or sports-car which develops even 40 b.h.p. per litre is something of a phenomenon (one can still refer, if only just, to sports-cars in the present tense).

What, then, of the British internal combustion engine, a term applying equally to both car and aircraft power units? Has it lagged so far behind? Happily for our peace of mind, and for the peace of the world, it is now certain that British aircraft are more than a match for their German rivals, even without the stimulus to design gained from Grand Prix racing.

Although the writer would deprecate any statement which could be construed as contrary to Grand Prix racing, the most spectacular sport on earth, the fact of the matter is that a Grand Prix engine is so highly specialised and so costly to build that lessons learnt from it can only be applied indirectly and very gradually. Such engines propel an extraordinarily small and light car at an amazing velocity, and in view of the resultant spectacle are well worth while, in the opinion of most enthusiasts, at any rate. Also they do breed a feeling of respect for the engineers who built them, and hence have a considerable prestige value.

The same applies to the chassis, but to a lesser extent. Front wheel brakes, for instance, though not actually first used on racing cars, as many believe, owed their development almost entirely to racing, and it was a simple matter thereafter to apply the principle almost direct to touring cars. In modern times independent suspension has received a similar fillip.

Chassis development, however, as not applicable to aircraft, is beside the point here. It is the engine which we are considering, and the use which may be made of Grand Prix lessons. The first great limiting factor is the nature of the fuel used. Many have used this argument against Grand Prix racing-cars in general, as built under the last two formulas. The French, in particular, have for years advocated a restriction on the type of fuel allowed, on the ground that development was being led on the wrong path, with engines drinking up methylated alcohol and nitro-benzole.

Such an objection is justifiable, if one is looking solely for quick and direct application of racing lessons to engines for other types of work. Supercharger pressures and compression ratios, to mention only two factors, have risen much too high for any comparable results with ordinary fuel, even such as is used for aircraft. The whole of the Grand Prix engine, as built by the Germans with such success, has been based upon ability to use the fuel which produces that marvellous "boot-polish" smell.

With such fuel, however, the 3-litre Mercédès-Benz was only capable of about 2 m.p.g., and the French at one time hoped to offset the inferior speed of their 4½-litre unsupercharged cars by the fact that they would have to fill up less frequently. That such a hope was not realised was illustrated in the French Grand Prix last July, when two of the Talbot-Darracqs ran non-stop throughout the entire race, and yet were three laps behind the winning Auto-Union.

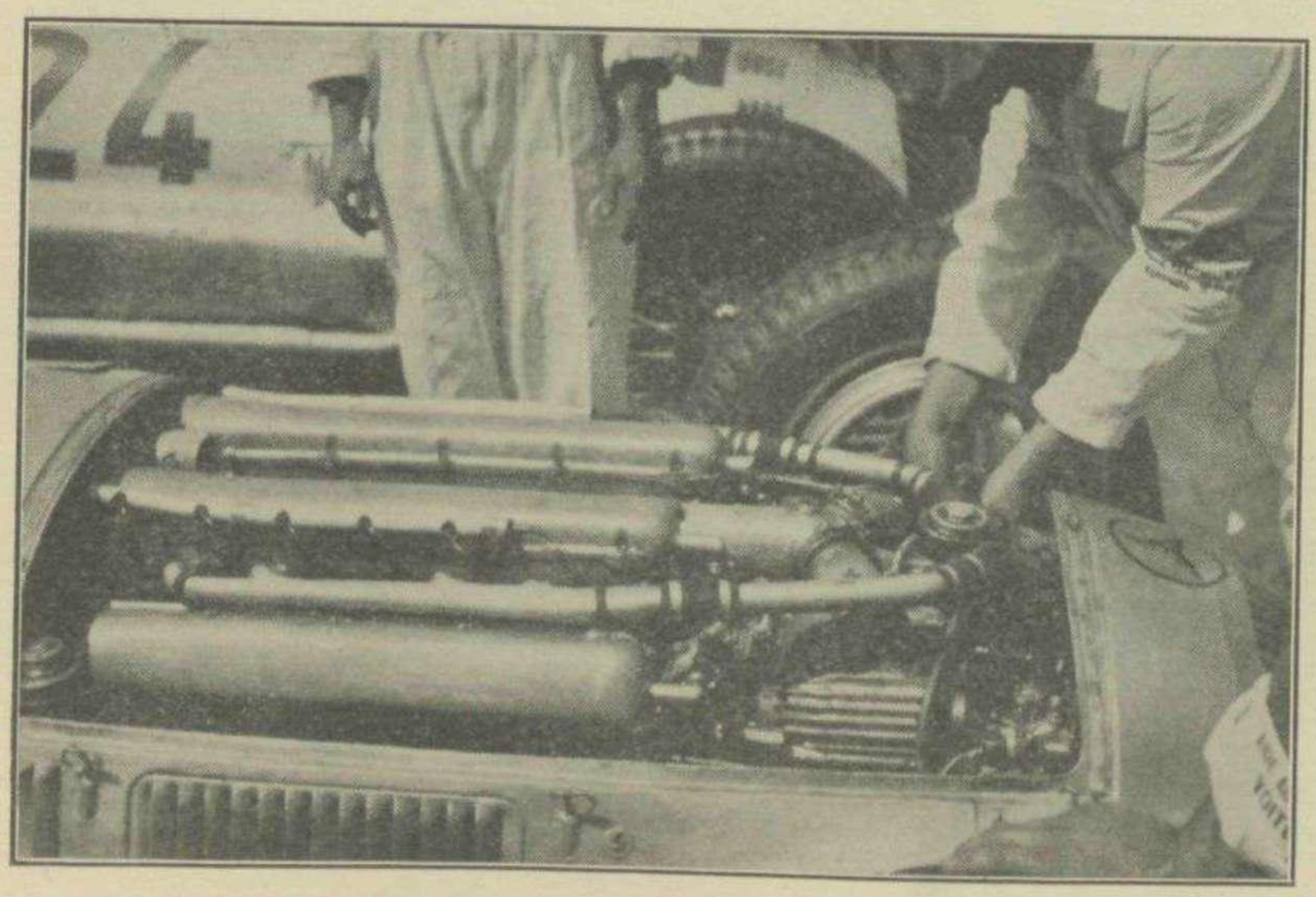
Aircraft cannot call at the pits during a bombing raid to refuel, and even the short range fighters already suffer a handicap through having to return to their base for more fuel after a limited time in the air.

Fuel consumption is thus of even greater importance for aircraft engines than in a long distance race, and it may readily be seen that direct application of the principles which produced so much speed and power for the Mercédès-Benz and Auto-Unions is hardly possible, even when one realises that the same firm, the Daimler-Benz is responsible for one of these cars, the Mercédès, and for a great number of the German aircraft engines.

This is not to say that the Daimler-Benz engineers have not benefited from their racing experience, for they must have learnt under the last two G.P. formulas how to build their engines light, and the science of light alloys has certainly been much advanced. Reduction of weight for aircraft is of vital significance, even it if only enables one to carry more fuel (or bombs).

Indeed, for aircraft development a G.P. Formula which included the weight of the fuel with that of the car in its restricting limit would be excellent. Neither of the last two formulas has had such a clause, cars coming to the weighing-in with empty tanks, and, during the 1935-1937 formula, without tyres on the wheels.

One might have said before the 1939 season that the German designers had also learnt to build their racing engines strong and reliable. The results of the French and German Grand Prix, however, in both of which races only two German cars finished, rather dispelled that idea. While one would hesitate to dub the 1939 Grand Prix cars as definitely unreliable, one must certainly allow a greater factor of safety for an aeroplane



The Mercedes-Benz V12 Grand Prix Engine, whose Manufacturers build the majority of German aircraft.

engine, than for a racing car, and thus again the direct application of racing practice is limited. On a racing car reliability is desirable. In an aeroplane it is essential.

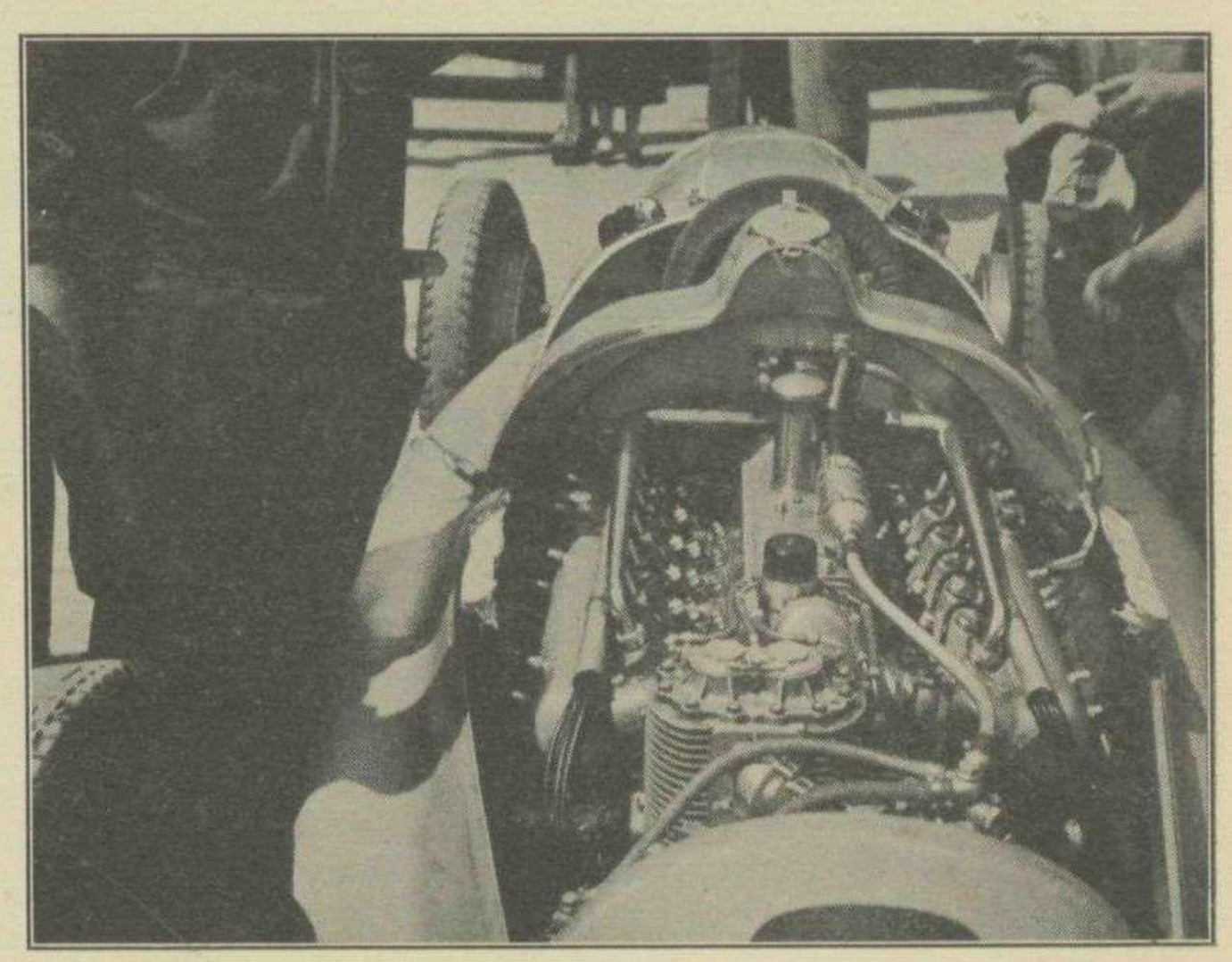
Many have scoffed at the huge cars produced by British designers for attacks on the land speed record. Why should over 36,000 c.c. be necessary for 300 m.p.h., they asked, when others reached 270 m.p.h. with engines one-sixth of the size? One answer is immediately apparent, that in Great Britain we already had large aeroplane engines capable of delivering the necessary power, whereas the smaller, highly-efficient types of power unit had not been developed.

Capt. G. E. T. Eyston, however, told the writer that for his part he definitely preferred the big machine, as possessing an infinitely greater factor of safety. The Rolls-Royce engines in "Thunderbolt" were similar to those in the fighters and bombers that we hear roaring overhead. Can it be denied that Sir Malcolm Campbell and Capt. Eyston have played their part in developing exactly that type of engine which is most useful to British aircraft at the present time?

There again, the engines in "Blue Bird" and "Thunderbolt" were of racing type, and, again, special fuel was used. It was estimated that "Thunderbolt's" two engines burnt fuel at the rate of eight gallons per minute! But the engines were not entirely different productions, like those of Mercédès and Auto-Union, and were merely developments of the service type of Rolls-Royce aircraft engine.

This engine owed much, indeed, to racing, but not to Grand Prix. It was the Schneider Trophy series which enabled British engineers to demonstrate their mastery in this element. At a time when Italian racing-cars were at the top of the tree, Britain took the Schneider Trophy with her seaplanes at Venice in 1928, retained it against formidable opposition over Southampton Water in 1930, and won the Trophy outright in 1932, when none dared to appear to contend it.

If the Air Ministry had really instructed British designers to get down to work for a fresh Schneider Trophy series in the last few years, in the same way that the Fiat factory was turned from racing-cars to racing aircraft in 1928 by order of the Italian Government, few would fear the result of a contest against the Messerschmitts and Heinkels, despite the racing prowess of the Daimler-Benz.



The Auto-Union Grand Prix Engine. In this article it is questioned whether prowess in this field has value for aircraft work.

SACRILEGE

We knew it would happen one day, and it has. In "The Light Car" of December 9th, "The Blower" thinks that it's rather odd that while the Right Crowd refuses to regard midget car racing and cinder-track racing with any degree of seriousness, the same Crowd will go to Shelsley or Prescott and watch the uncertain prowess of Shelsley-Specials with every mark of respect. What "The Blower" loses sight of is that midgets are freak machines constructed solely to provide a spectacle for the less-well-informed section of the public. They do not motor at real racing speeds and, from what we have seen of them, they are not so consistently reliable as Shelsley-Specials, taken in general. They attract only because showers of dirt emanating from noisy machines all of identical performance and calling for a specialised skill in handling, does represent a rather thrilling spectacle. Our quarrel with such racing is that it does not serve to better the breed and that if a fatality occurs through careless staging, as has nearly happened so often at Lea Bridge, that accident will be broadcast in the sensational Press to the detriment of motor-racing in general. The Shelsley Special may be equally far removed from conventional practice and teach equally few progressive lessons, but it is built to motor under natural conditions, at speeds which the better cars attain on the road. Enthusiasts are interested to see how these specials run under natural road conditions and how they respond to ordinary driving methods. Most of them are a thought more potent than the Austin Seven wheelbase, 12-inch wheeled midgets built under American midget-speedway rules, nor have we seen one crash so horribly as the midget pictured in the heading to this article in "The Light Car." Let us have midget car cinder track racing by all means, if there is a demand for it and it can be had without wholesale slaughter and injury. It might provide a pleasant fill up during the war. But do not let us commit the sacrilege of comparing midgets with real V-twin, chain-driven sprint racing cars.

READERS

YOUR ENTHUSIASM

YOUR ENCOURAGEMENT

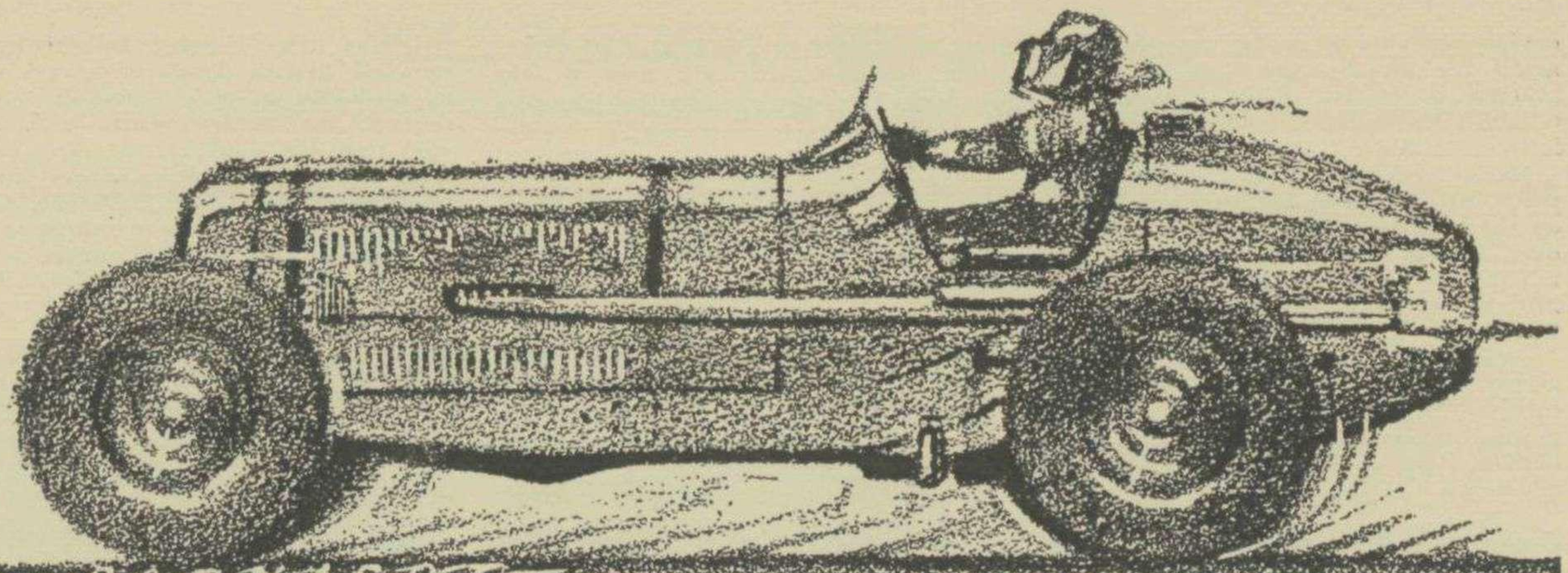
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RUMBLINGS

THE coming of war found all manner of plans abandoned while only partially under way. H. L. Biggs, the Austin exponent of Putney, who in the past has been closely associated with well known racing examples of the Salmson, Amilcar, O.M., Maserati and other marques, was rather luckier. He just completed a modified Railton to the order of John Cumming, the Australian racing man, as hostilities got going and delivered the car to Tilbury for shipment on his first rations of " Pool." Even in this instance, plans have been changed, because Cumming is now in the Army and apparently will not race the Railton in Australian dices as was intended, so his wife has the benefit of the new car as a hack. Seeking something new in the quick-motor line Cumming came to Europe with his eye on Alfas and 540 Mercs. and the like, but shying at the spares problem, decided to keep faith with American motors. Accordingly, Biggs heated up an open sports Railton for him. The Hudson straight-eight engine had its dynamic crankshaft, rods and flywheel balanced by Laystall, who also checked the truth of the propeller shaft. The block was bored out to some $4\frac{1}{4}$-litres, and special thick-crown Aerolite pistons were fitted. The Hudson solid aluminium head replaced the standard composite head, resulting in a useful compression-ratio of 7.5 to 1. Ignition is looked after by a Scintilla Vertex magneto, and a 35 mm. down-draught Solex carburetter, fed both by S.U. and mechanical pumps, is used. On arrival in Australia it is proposed to fit a 40 mm. carburetter, probably a Carter, on its own special manifold. The ports occupied some 100 hours not very light labour and are now really nicely smoothed out.

To get over the difficulty of accurately taking up the Hudson big-ends, Biggs replaced the aluminium shims with bronze packing pieces. We believe that on the L ght Sports Railton, which we once road-tested to 110 m.p.h. and which now reposes at Charles Follett's, the big-ends were bolted-up solid and the bearings fitted by careful scraping. Biggs has found that K.L.G. L.B. 2 long-reach plugs are entirely satisfactory, in spite of advice to the contrary. As to the chassis, the rear axle ratio was raised from 4.1 to 1 to 3.8 to 1. As the original " Axleflex " suspension quickly wore out a pair of Dunlop racing tyres, and rendered things more than a little vague at around 95 along the Byfleet, it was scrapped in favour of a solid axle and the latest externally adjustable Andre Telecontrol shock-absorbers. A special spare wheel carrier was built up at the rear of the body to bring more weight over the rear wheels, and the best results were obtained by using $16'' \times 6.50''$ covers on the back, and $16'' \times 6.00''$ covers on the front wheels. As to the body, the running boards were scrapped and the original wings replaced by light alloy cycle-type, and a certain amount of cutting away was performed. Actually, it is doubtful whether the ultimate avoir-dupois came much below the standard scale of approximate 22 cwt.

Cumming had a very pleasant Continental tour with the Railton, visiting several factories where famous fast stuff has its being, and climbing most of the Passes in top cog, thanks very much. After modification some 300 gentle miles were completed at Brooklands, running in and testing, and a speed of 97 m.p.h. was reached on the final test. Biggs drove the car at Lewes before having the motor down. All of which is stimulating news at a time when we must try to forget the charm of very potent urge on $4\frac{1}{4}$ woolley litres and concentrate rather more on cars like the Fiat " Mouse " which is Biggs's present, personal transport and of which he speaks very highly.

What Did You Do, Daddy . . . ?

In the 1914-18 affair men who were later to become prominent in racing were serving their country ably in various important capacities, just as our present racing and competition men are responding to the call to-day. Picking at random, Woolfe Barnato joined up with the Royal Field Artillery as a first Lieut., later serving in the Ypres Salient and in Palestine from Gaza to the Jordan Valley.

Segrave left the Royal Military College, Sandhurst, to become a second Lieut. in the Royal Warwickshire, and took part in the battle of Ypres, Neuve Chapelle,

RUMBLINGS—continued

Somme, Festubert, twice being wounded in action. He was seconded to the R.F.C. in 1915, promoted to Flight Commander, shot down, and invalided home. He resumed as Staff Captain, R.F.C. at the G.H.Q. of the B.E.F. Later he was appointed private secretary to Sir Henry Norman, Bt., of the Air Council and to Major-General Sykes, Chief of Air Staff. Segrave did important work under the British Ambassador when the Air Force Mission went over to the U.S.A.

Glen Kidston left the Royal Naval College, Dartmouth, and was involved in the battle of Heligoland Bight and was one of the few survivors when H.M.S. "Hogue" was torpedoed off the Dutch coast. Kidston applied for a transfer to the submarine service and ended the war a fully qualified submarine officer, and he served aboard H.M.S. "Orion" at Jutland. In 1919 he served in the Baltic and the Far East and was appointed to H.M.S. "Dauntless" for the Imperial World Cruise.

Capt. G. E. T. Eyston joined up in the ranks of the Public School Battalion of the Royal Fusiliers and was commissioned in the Dorset Regiment, being appointed Machine Gun Officer. He gained a transfer to the Royal Field Artillery and went overseas with the 21st Division, being wounded after the battle of Loos. He came out of the war with the military Cross and was twice mentioned in dispatches. He was on the Headquarters Staff, 94th Brigade, R.F.A., A.D.C. to the G.O.C., R.A. 21st Divisional Artillery and served temporarily with the Artillery Staff, G.H.Q.

George Reynolds, who looks after much of our time-keeping, served with the City of London R.A.S.C. (M.T.), driving W.D. lorries on military duty.

The great French "ace" Boillot was given a very responsible job driving Staff cars.

Lots of enthusiasts will soon be entering the Services. Not a few will wonder whether in this war there will be anything equivalent to the dispatch and transport service operated by Germany last time. Using ex-racing cars like the '07 G.P. Renault, 1913 G.P. Peugeot and 1914 G.P. Mercédès, this service is said to have operated from Berlin to G.H.Q. in the front line, and to have beaten by four hours the fastest train, a certain section of the run being scheduled at 60 m.p.h. for some 600 miles in the dark. "The Autocar" referred to this interesting means of communication some weeks ago but information about it seems very scarce. Can any reader throw more light on the matter?

* * *

Tail-Enders

The latest Bugatti, it seems, is *sans* a rev.-counter. Asked why this is so, the works is reputed to say that such an instrument is far too noisy to install. Verily, times have changed, for until recently who worried about noise where a Bugatti was concerned?

* * *

H. L. Benn reports that business is not too bad up at Mold and that he actually sold a Bugatti last month.

WHY NOT MODELS?

IN the past, motor-cars have attracted the model maker less than boats, locomotives and aircraft, presumably because while few of us can play with full-size boats and aeroplanes and fewer still have access to real locomotives, the motor-car is a quite common toy. We recall a well known engineer, famous for his locomotive models, remarking to us that each one of them cost more than he had paid for his car—which at the time was a four-seater, air-cooled Rover Eight. Now that real motoring is curtailed, the model car might surely come into its own. Toy cars are far more numerous and a little more like cars than was the case when we were youngsters but, being youngsters no longer, they fail to intrigue. We have attended race meetings of the Model Car Racing Association on an upper floor of "Bunny" Dyer's big garage, and have been mainly impressed by the unpleasant things that might happen if one failed to jump clear of the swerving, clockwork trucks which compete . . .

Nevertheless, we do not dismiss the appeal of the model car entirely. Indeed, we confess that the prospect of racing *petrol driven* model cars appeals very strongly. In America they are already doing it. Cars of about $\frac{1}{8}$ h.p. and 20 inches wheelbase are timed "round-the-pole," usually in heats of half a mile, with a quarter-mile final, over a 105 ft. diameter (1/16th mile) course. Last March we described an American two-stroke model sold by Hamley's of Regent Street, for which 50 m.p.h. was claimed. A recent newsreel showed a group of these cars raced together round an oval track, each car running in a separate channel—at, it was said, 70 m.p.h., which is doubtless a considerable exaggeration. There seems no reason why record attacking "round-the-pole" should not be a most fascinating pastime, calling for expert tuning and correct gear-ratios, etc. Last June, an American journal published full drawings for a $\frac{1}{8}$ h.p. model bearing a resemblance to the 1922 Indianapolis Bugatti. We shall be interested to learn of any i.c.-engined model cars built in this country. So far we seem to keep to clockwork toys; which reminds us that, if the Shucko Mercédès was out of scale, the little Schuko B.M.W. is rather clever . . .

CONGRATULATIONS

On December 14th the British Submarine "Ursula" sank a German cruiser at . . . One of the three officers responsible for a very daring manœuvre was Lieut. R. B. Lakin, R.N. We offer our warm congratulations. While at Portsmouth Naval College Lakin several times took part in motoring events. We passengered with him in the 1935 "Exeter" when his blown Ford Ten blew a gasket before the hills were reached, and rode with him when he drove a supercharged Ford V8 very successfully in the following "Edinburgh" trial, in spite of a run big-end near the finish. At this time Lakin ran another Ford V8 and a Jensen Ford Ten as personal cars and had acquired the Cholmondeley-Tapper Bugatti with a view to racing. His increasing Service duties never permitted him to drive the Bugatti; but Seaman deputised for him at the 1936 B.A.R.C. Whitsun meeting. He now found that a Naval career seriously interfered with racing, but he continued to run fast cars, in the form of an A.C. "Ace" and a very fine, late-type "2.3" supercharged Alfa-Romeo.

ON THE POST-WAR TRADE BOOM AND OUR MOTOR INDUSTRY

THIS miserable war must end sometime. Being a mere motoring enthusiast and not a political journalist I am spared the task of endeavouring to prophesy when an armistice will eventually be declared. What seems of more moment is that, as those who study trade journals know, a big boom in International trading, amounting to a quite deadly Trade War, is predicted fairly soon after we have finished with barbarian fighting. At the moment we seek to cripple Germany's exports and she seeks to hamper British trade through the medium of submarines, mines, military aircraft and naval vessels. When all this sort of thing is finished with, the world looks like fighting with materials and goods, trading and production weapons. Neutral countries look like getting a nicely catapulted start. So, with the Government doing all it knows how to stifle what is in peacetime our third largest industry, it behoves those who have sufficient foresight, to consider what will be the position of this great British Motor Industry when peace breaks out.

I do not think there is much doubt that, if a trade boom comes at all, motoring will boom very loudly indeed. Cars are still plentiful on our roads now—I write before December 31st and shudder to think of 1940—which is ample proof of the essential motor-mindedness of all classes of our community. The two worst dampers on pleasure driving in war-time are the black-out and fuel rationing, the former because it so seriously curtails driving hours in winter if eye-strain, nerve-strain and frayed temper are to be avoided, and the latter because it cuts out all idea of frequent long drives and presents to all, save a few abnormally irresponsible folk, horrible mental tussles as to how the "pool" can be used in the most fitting and proper manner—a tussle which haunts one whenever the garage doors are opened. Remove these two heavy restrictions and motoring comes into its own again, so that not even fuel at 1/9½d. a gallon or maybe 2/- or 2/6 a gallon, and the h.p. tax at 25/- per horse-power, can seriously interfere with it. You must remember that when peace breaks out people will seek relaxation and hang the expense—for a time. Under this temporary lust for pleasure what better medium than a good car? Sick with walking, driving, visiting and riding close to home and office, we shall discover, more than ever we did before, that distance lends enchantment. Driving shields the mind from pressing problems and worries and 300 or even 400 miles a day will be balm for many a troubled brain. Family reunions and meetings with old friends will entail extensive travel. The war will have rendered cinemas, variety halls, football fields, and dog tracks stale to the mass of bread-winners, who will be eager to follow another family man's tail-lamp down the smoky trail leading from the home town to the very nearest seaside resort, every summer Sunday. Men, back from an exciting and exacting life on Active Service, will seek to quell a new restlessness by participating in motor racing and trials driving. It seems likely that some, at least, of those attractive young things who are entering this war in slacks and tin hats will, by the time that hostilities cease, have learnt a little more of what real motoring implies than they know at present and will be anxious to experience the new Sport—I only hope at some war profiteer's expense, if not at their own . . . And, writing of the war profiteer, he and she will want to deck out in new finery at war's end and such display must include one or more very fine automobiles. So, however depressed the Industry and Trade is now, it can at least dream rosily of a better time to come.

In dreaming, let us hope it is also scheming. After the last international dispute (1914-18) America built cheap automobiles of the right sort and got a nice slice of world trade, notably in our own colonies. Only of recent times have we looked to this virile market and, if we are not careful, history will repeat its nasty habit of repeating itself, and we shall lose similar desirable markets during and after this war. Fortunately, motor export business is to be encouraged while the nations seek to destroy, and, in particular, I am very glad to see that Rootes Brothers have had the courage to put over the new Humber-Hillman range, as these cars suit colonial markets so well.

What of other markets? It seems common-sense to assume that after the war lots of us at home and in other war-distressed countries, will have to motor as economically as possible. So a car able to command the very lowest tax and capable of a really good fuel consumption should surely be carefully exploited when our designers again think in terms of gearboxes and not of variable props. I know someone is sure to write to City Road to say that the difference between a reasonable year's driving in a 6 h.p. car as against like recreation in an 8 h.p. baby is a matter of approximately £6 only and, damn it, sir, if a man cannot afford that he should not be allowed a car.

That's a really beautiful argument until you remember that most car owners are fairly civilised mortals who keep, as often as not, a home and a wife and other luxuries, besides the baby car. To such people, if they have to balance the annual budget with considerable care, a matter of pounds saved in a year's motoring permits of quite a few pleasures while they have a car as well, and who can prove that a 6 h.p. economy car, skilfully designed and produced, may not save a further £30-£40 or so on first cost, as opposed to the price of an Eight, into the bargain? Even a rabid motoring bachelor must see that such annual saving on running costs presents him with an extra mileage of 3,000 a year. The "secondhand argument" similarly leaves the 6 h.p. car high and dry. It may seem just as easy to save this £60 or so which is likely to be accumulated on the credit side in the lifetime of running a "Six" as against an "Eight," simply by buying second hand. Yet we know that, in practice, far from the New Car Industry fearing the second-hand market, agents have a devil of a time disposing of used cars given in part exchange for new. Austin, Morris and Ford, etc., go on happily selling "Eights" in spite of never ending bargains in the Ten and Twelve horse-power groups.

So, when big output factories have to start tooling up for car production again, a real economy job should be an attractive thought. Austin did it a few years after the last war and had the monopoly of this market for a very pleasantly long time, notwithstanding lots of other babies which followed from divers hopeful sources, and a "Seven" which could show hydraulic anchors and a three-bearing crank amongst its selling points.

Turning to exactly the other end of things, when our directors of armament factories and aircraft factories come ashore again off their yachts, we should be certain to have nice, expensive motor-cars, with lots of room for growing figures and silk hats, for them to occupy, for it would be a crime if some off-spring of the Golden Bugatti came up and collared the market. Not that anyone in his right senses could want anything better than the modern, independently-sprung, V12 90 m.p.h. Rolls-Royce, nor is any better car available than the "Phantom III." But in the early nineteen twenties there was healthy competition in this luxury car market, between the "Silver Ghost" Rolls-Royce, the big sleeve-valve Daimlers, the overhead-camshaft 40/50 Napier, the Wolseleys, Armstrongs, and other stately carriages. Then the newly-poor should be catered for by new lines in high grade cars of low-horse-power, such as that instanced by the Rover Ten of to-day.

Another market I think we should exploit, and one of particular interest to enthusiasts, is that of the high-performance car costing between £700 and £1,000. France, with her Delage, Darracq, Bugatti, Delahaye and Hotchkiss, offers remarkable performance and appeal in this category. Such cars are likely to be in considerable demand, as offering excellent value in high-speed luxury transport, when we motor normally again. I am not easily led away by performance figures alone. I know that reliability, and ability to obtain spares, counts for a lot with the majority of buyers. I know that a car which is docile, displays excellent acceleration, and which goes up to around 100 m.p.h. on a test run, may tend to assume a false value in the eyes of one who is not able to extend his impressions over a couple of year's hard driving. At present I am using my fuel ration in a 7 h.p. saloon, which, when we bought it, worried us because it steered and braked curiously and had what seemed a very funny driving position indeed, which made us feel we should never be able to hurry with it. Yet we now sling it around corners and slide it through traffic-gaps in a manner which horrifies our passengers

Continued on page 14

CAREER OF AN AMATEUR

[Although his status is that of an amateur, K. N. Hutchison has a nice list of successes to his credit and has owned a variety of motors many professionals would envy. Here he reviews them, from his first G.N. to his well known V12 Lincoln-motored Allard-Special.—Ed.]

WHAT a beauty she was, with the narrow, sveldt body and up-turned wings of an angel on earth—metaphorically speaking of course—and her two lusty cylinders peeping coyly and invitingly through her polished aluminium bonnet. Yes, she was a G.N. and in common with countless others she represented my first, and very own mount for making an entry into the world of motoring. Obviously the first thing to do with her was to pull off her wings, then her bonnet, then her lights, then even her body itself; still she bore up well and gave infinite pleasure, but perhaps the greatest thing about her was the fact that she was my FIRST CAR.

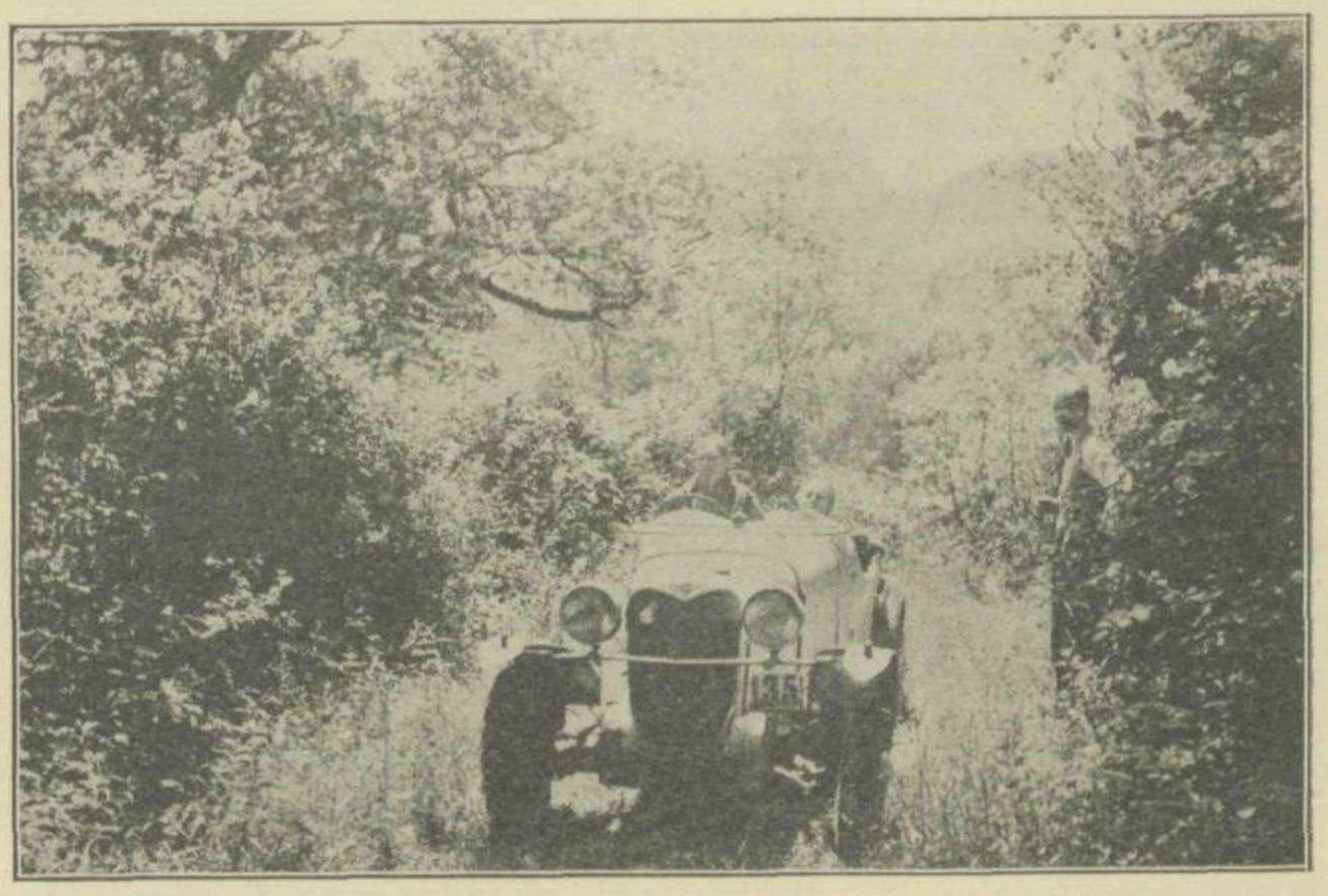
Having made the plunge, a number of more ambitious and exciting models were acquired, amongst them being a finely preserved side-valve 30/28, supercharged 1½-litre Lea-Francis saloon, a 12/50 Alvis, front wheel drive Alvis—one of the supercharged models—and then a Frazer-Nash. I can honestly say that it was being the owner of this Frazer-Nash that first turned my thoughts to "Competition Motoring" and to this day the sport has never ceased to be a source of joy and delight to me.

The Frazer-Nash and I did our first trial together, and though the result was not at all brilliant the joys of skidding round hairpin bends and being confronted with what at first sight seemed impossible gradients, will live long in my memory. I don't think any trials quite take the place of those early ones, which were undertaken in a much greater spirit of adventure than is the case to-day. This early Frazer was soon replaced by one of the T.T. Replica jobs, and thousands of trouble-free miles were covered on this new car. I did not take it in any trials but went to a few speed events with it, notably an early Bugatti Club meeting at Chalfont, and some of the Berkhamsted Club's events. By this time I must confess that I was well and truly bitten by the "competition" bug, to the everlasting horror of my family, but to me it was a most welcome disease.

About this time two things happened, both of which had a direct bearing on my future competitive efforts. One was the opening of the Donington Park road-racing circuit, and the other was the introduction, by the Ford Motor Co., of the famous V8 unit. The first of these can be quickly disposed of. We paid a few visits to Donington with an unblown four-cylinder Bugatti which had been pretty thoroughly doctored by Papworth, the Bugatti specialist; this was a most reliable little car—for a Bugatti—but even it paid the supreme penalty by eventually going up in flames at Starkey's Corner. A blown 1½-litre took its place, and although this car was one of the nicest and most compact looking racing-cars ever built, it was also one of the most unreliable. Further acquaintance with this car made me reluctantly decide that racing was only worth doing if one could afford the time and money to do the job properly. The money spent in running a racing-car properly for a very few meetings would be sufficient to go in for trials and rallies, etc., in a very thorough way with good equipment, and the pleasure derived from the latter branch of the sport is, to my mind, far greater than the average of the ups and downs of actual racing. Apart from a glancing acquaintance with Dick Nash's single-seater Frazer-Nash—"The Spook"—and a single-seater blown Ford Ten devised in collaboration with that genial Scots crack—John Eason Gibson—I have only used sports and utility type cars in competition work since that fateful day long ago, when my lovely Bugatti vomited its internal workings all over the Donington circuit.

The introduction of the V8 Ford laid the foundation of future sporting activities being mainly carried out with the help of Ford cars and specials built out of standard Ford components. I have always had a "Flivver" of some sort for personal use, and nearly every one of these purely utility vehicles has appeared in some sort of competition or other—mainly trials. Curiously enough—and this is rather a contradiction of what I have just said—my first V8 Special was built, not for trials, but for an early road race over in County Down, North Ireland. The car started life as a cabriolet of the same type and model as the famous "Jabberwock" team organised by Walter Norton. A light aluminium two-seater body replaced the standard coupé and the sole non-standard part was a Vertex magneto. This car had a maximum of 90-95 m.p.h. and was hopelessly unstable at anything over about 60, but it was as reliable as it was wobbly and provided Eason Gibson and myself with great pleasure and entertainment for the race in question. We finished intact but last, and within a few minutes of the course being opened again to the public we were on our way to the Belfast Docks under our own power, which is more than some of the participants in that particular race could say they had done.

Trials and rallies and the peculiar type of car needed for such now took up 100 per cent. of my competition efforts and the development of the Ford Special became an important part of such participation. The earlier attempts were most crude—almost bare chassis being used with great weight concentrated on the rear end for maximum wheel adhesion. Competition tyres were, of course, the vogue then, and sometimes as many as four "comp-shod" wheels graced or disgraced the carrier of some of my trials V8s. The success of this type of machine, together with its reliability and low running costs made me feel that a rather more professional outfit was deserved, and this led to the inevitable—an Allard Special. Just



Hutchison's First V12 Allard-Special Competing in a "Colmore."

CAREER OF AN AMATEUR—continued

at this time Sidney Allard and myself were experimenting with, and using, Ford-component Specials for trials and when he sold his original car and decided to go into limited production with the Allard, I also sold my Special and decided to join him as a private owner. The outcome of hours of discussion and designing and scheming, etc., was my taking delivery of the first of the twelve-cylinder Allard Specials. This car, which was well reviewed in the motoring Press, was almost a revolutionary type for use in trials. At the same time it combined a high degree of comfort and refinement with an uncanny trials performance. The car was not particularly fast "flat-out" but such was the power developed low down in the rev. ranges that hardly any trials obstacle would stop the machine. At the same time as I took over this machine Allard and I joined forces with Warburton, and in that way the Tailwagger team came into being.

I can truthfully say that the formation of the team gave me, personally, a far greater interest in trials than I believed possible, and it formed the basic foundation of a delightful and lasting friendship between three groups of people. We all cursed each other heartily at times but throughout the life of our team we did, at any rate, try to work and act collectively rather than individually, and because of that I think we all came out of the team better people and drivers than we went into it.

The organisation of a proper season's programme and the rigid adherence to original arrangements was very strictly carried out by all three of us—although at some time or another, both my teammates cursed me for dragging them off to some trial they had not previously heard of—and this working to a set programme was to my mind a deciding factor in the team's success, as it spelt consistency. I must not use this article as an account of the Tailwaggers Trials' efforts, but like all other enthusiasts I find considerable pleasure in slacker moments in living again the many happy hours and incidents of the past few years . . . The early morning runs to the start of local trials, the Friday night trips to trials that started in some village anywhere between Devonshire and Derbyshire, the winter trials in Wales when one nearly got drowned and the summer one in the West Country when it was so hot and dry that the motors boiled continuously and the entire entry got through without any failures; those lovely Colmore week-ends with the Sunbac's main event on Saturday and the inevitable gathering at "The Plough" after the trial, the discussions, the drinking, the babble of voices, the oft-repeated "did you climb so and so?" and finally the late night dashes across country with the three team cars running smoothly to the hum of "comps" to another trial perhaps 100 or more miles away. Here again one found different company but the same good spirit and enthusiasm prevailed; anyway, who needs a formal introduction when the other chap's car also carries two spare wheels and a competition number plate? Rallies, too, have their happy memories and incidents so dear to enthusiasts, but which might well surprise or shock the black hatted Mrs. Grundy of our time. Curious passengers come to mind also, notably one who turned up at the start of the Rally with a case of whisky as his sole luggage for a week, another who slept for the entire 1,000 miles of an R.A.C. Rally and, on arriving at the finish, immediately took the first train home without a single word, another who ate continuously throughout the Rally, and yet another that never ate at all.

Any competition driver could go on indefinitely recalling pleasant incidents from his experiences, but I think that one and all will agree that this much maligned sport that is so dear to us, has given us freely both of joyous entertainment and lasting friendships between our Fellow competitors—and what more could one ask from a sport?

ON THE POST-WAR TRADE BOOM—continued from page 12

—simply because we have grown thoroughly accustomed to the vehicle's characteristics. Similarly, the owner of a car which is able to cruise at 80 m.p.h., becoming familiar with sustained high-speed, will invariably hold this speed every day he uses the car, whereas the tester is likely to achieve the 80, feel charmed, and proceed at a far more sober gait. I know only too well that regular high-speed puts a great strain on the car and its engine and I say here and now that for complete reliability and satisfaction under such conditions no car has anything on our own 4¼-litre Bentley and V12 Lagonda—a statement both these magnificent cars have themselves proved. But in a slightly lower price-category I advise British designers to watch their step. Likewise in certain economy car directions, where cars like the 8 h.p. Renault on the one hand and the f.w.d. Hotchkiss Ten on another, seem to offer a little something others perhaps haven't got.

Here those who have the interests of our Motor Industry at heart may ask why I advocate the introduction of lots of new models after the war, when we have the engineers, technicians and production-experts fully capable of building cars which, category by category, can lead the world, and, by leading the world, must gain a monopoly of each market in any case. Such persons must remember that while they only have the interests of the Industry as a whole at heart, other folk, such as designers who get their bread and butter by planning new cars and editors of motor-papers who seek the support of as many advertisers as possible, also have their own interests to consider. Fortunately, we in this country have a happy knack of making individualistic cars, so that even in similar price and power categories there is usually room for more than one make to exist. Actually, it goes deeper than that. Remember, that lots of people who own more than one car, or who change their make every so often, would not do so if, when making a choice, they had not found other cars in a similar category almost as attractive as the ultimate purchase, resulting in a desire to experience the alternative later; or if new models were not being frequently introduced to stimulate their desire to purchase.

So I sincerely hope that, while designers are planning destructively and factories are producing destructively, some people will give more than passing thought to what their company will produce when sanity returns to Europe and of how the British Motor Industry can cover every market of the International motor business. A few plans put on paper in the form of working drawings or a modification carried out as and when possible to the designer's personal car while the war proceeds may sow a useful seed which will be profitably productive later on, when everyone has to steel himself to face a bitter Trade War, and to endeavour to make enough during this boom period to enable him to carry on through the depression that will follow.

OBITUARY

In company with many other motoring writers we find it impossible in mere words to convey our regret at the death, on December 11th, of A. V. Ebblewhite. Mr. Ebblewhite needs no introduction. He was the world's most famous handicapper and time-keeper of motoring events, he had figured at every Brooklands meeting of importance since the Track opened and, more than that, he was a very definite character and a charming personality, without whom no gathering of great drivers, whether for action or relaxation, seemed complete. No one can ever replace him and we shall all miss him very much indeed.

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BLOODY MARY I.

[In the following article, at our request, John Bolster tells how " Bloody Mary," one of the most sensational sprint specials of recent times, was developed from twin-engined to four-engined form. As usual, John writes with extreme modesty, chiefly of his set-backs, and it is only fair to say that the 4-litre " Mary" is a very remarkable machine, the weight distribution and the independent, torsional front suspension having occasioned much thought and ingenuity.—Ed.]

"BLOODY MARY I" appeared at her first speed event in 1929, and year after year, with gradual improvement and development, she ran in nearly all the sprint events in the country. Eventually, she became a very reliable little car, and I had some very good luck with her, making a large number of "fastest times," and several course records. However, she was unsuitable for Brooklands racing, and I got a little tired of being confined almost entirely to sprint motoring, so work was started on the present "Mary," the 4-litre, four-engined machine. [The car originated as a wood-framed, chain-driven single J.A.P.-engined racing cyclecar, involving G.N. and Bleriot-Whippet bits and was even licensed for road use. It appeared in twin J.A.P.-engined form before being largely rebuilt, as recounted hereafter, to take four 1,000 c.c. V-twin J.A.P. engines.—Ed.].

Had I known what this job entailed, I would never have attempted it, as, except for the engines, every single part of the car was specially designed and built, no orthodox car parts being suitable for this unusual layout. At one time it seemed as though it would never be finished, and it was only because my friend, Taffy Jones, who owns a small garage, worked frequently till after midnight on the car, that it was ever completed.

At last the car was almost finished, and I foolishly entered it for the first Shelsley in 1938. To get it ready entailed working night after night till the small hours, but at last, more dead than alive, we arrived at Shelsley with our completely untried car. The sensation of allowing 200 h.p. to play with 11 cwts. of car for the first time, will never be forgotten, but alas, our machinery was found to have the father and mother of all vibration periods, and on our first practice run the vibration was so severe that the engines and various other important bits were literally torn out of the chassis. One could have had quite a bad crash without doing so much damage! We worked practically all night, greatly helped by Mr. McKenzie, but the first run on the actual day was even more disastrous, so we took our lovely new car home in a deplorable state.

With a bare fortnight to the Lewes meeting, things looked bad, but we stripped the car completely to bits and, on the assumption that an ounce of rubber is worth a ton of theory, that useful material was applied to strategic points. The usual all night work took place, and the car was finally finished late on the morning of the meeting, some of the assembly actually taking place in the paddock. At last the time for the "unlimited racing" class approached, and with great trepidation we started our engines, finding to our unutterable relief that the vibration trouble was cured. The first run, however, presented us with a much worse problem, for it was found that the car skidded about wildly at speed, and took very little interest in what the driver did with the steering wheel. On the second run, by engaging top gear in the first ten yards and opening the throttle with the greatest care, fastest time of the day was secured, though it was obvious that something was very far wrong with the road-holding.

To cure the uncontrollability, we fitted higher geared steering, and tried the car out at the Prescott hillclimb. Though still inclined to wave its tail about, the car was much better, and won the "fastest unblown" prize, in spite of some sideways motoring. After more detail alterations, we went to Bristol for the Backwell hillclimb, which course seemed to suit the car, and a new record for the hill resulted.

The second Shelsley was the next event, and that most tricky hill, with its myriad bumps and changes of camber, showed up "Mary's" road-holding at its worst, the sensation being similar to driving on ice. This was maddening, as the car was going splendidly, and I was silly enough to yield to the immoral temptation to keep the throttle fully open on the final straight, while the machine became more and more unsteady. The inevitable happened, and the finishing line was crossed fully broadside, the subsequent motoring o'er banks and braes luckily breaking nothing. The result of all this was that the climb took exactly 42 seconds, which the older "Mary" could do with exactly half the horsepower.

Something drastic had to be done, so we decided to alter the weight distribution and also the rate of the rear suspension. We got this done in time for the final Brooklands meeting, and it was immediately apparent that the car was now beautifully steady on the Campbell Circuit. In the actual race, the drive to one of the magnetos failed, and we finished a bad last. That concluded our season, so we sent the poor old engines back to J.A.P.'s for a winter overhaul.

The first event of 1939 was another Brooklands fixture, and I decided to have a crack at the Mountain circuit this time. In practice, the car went like a flash, and held the track splendidly, though work on the brakes necessitated the usual last minute struggle. In the actual race, the gear lever came away in my hand, so that was that. As it was only a few days to the Crystal Palace event of the Vintage and Frazer-Nash Clubs, the car was rapidly prepared, and went extremely well in the 15 lap race, though by the end of the race there were no brakes left, which ruined any chance of a place.

New drums were immediately designed and put in hand, and I lengthened the wheelbase two inches to give myself a bit more room, the car then being taken down to Lewes for the speed trials. After a few preliminary bothers, we got her going really well, but just as the finishing line was approaching at a most satisfactory speed, there was a most indecent noise, and the air became filled with machinery. Two cross members had broken, with catastrophic results, and as the car had been entered for the forthcoming Crystal Palace meeting, it seemed impossible to repair it in time. The fact that we had motored quickly enough to win the cup for the fastest invited club member was a very slight consolation.

Then began the most hectic work imaginable, and such things as sleeping and shaving were seldom attempted. Somehow we got over our troubles in time for the practice day, whereupon I proceeded to indulge in a shocking accident. We got two or three hours' sleep before the race, and brought the car to the line in one piece, though we had to use the wrong sized back wheels owing to the proper ones being spoilt in the crash. The very slow corners of the Palace circuit do not suit this car at all well, but she finished the heat, though slowing latterly through one magneto coming adrift, and got into the Final. We mended this, and had some fun in the Final, but the front shock-absorbers passed out completely, rendering the car very spectacular when braking, so I retired in case of getting in anybody's way. We then found that one of the crankcases was cracked, and the orgy of overwork, necessary to get ready in time for Shelsley, was quite indescribable.

At Shelsley the car was slowed by an irritating and mysterious misfire, but it won the prize for the fastest "Special." Then I realised that I was spending far too much money on racing; and my wife pointed out that not only had I got so thin that my clothes were dropping off, but that she'd also like to see something of me occasionally. "Mary" was therefore put away for a few months, though she would have made her comeback by now if Adolf hadn't misbehaved. As soon as he's been dealt with, though, the next job is to persuade "Mary" to corner faster, and I have already started on the drawings for the necessary modifications. Of course, the impecunious amateur's "Special" can never hope to beat the "real racers," but with any luck "Bloody Mary II" may develop into a reasonably satisfactory motor-car.

Continental Notes and News

By

AUSLANDER

The most interesting piece of news I have heard this month, I think, is the fact that a certain German racing driver, known to most of you almost exclusively by his performances at the wheel of a B.M.W., is now a prisoner of war in England. It appears that he was serving on a U-boat at the time of his capture. My informant could not, however, state at which camp the driver in question is spending the rest of the war.

CENSORED

Donington Hall was the prison of a well known German motor-cyclist twenty years ago. His name was Gunther Plüschow, and he set up some long-distance records on the Avus during the winter before 1914, having to cope with an ice-bound surface throughout. Plüschow was the sole German airman at Tsingtao at the outbreak of the Great War, but he managed to escape when that place fell before the combined onslaught of Britain and Japan. He was eventually discovered on a cargo boat at Gibraltar, and brought to England. One Monday evening he and another prisoner, an officer named Lieutenant Treppitz, took advantage of a violent thunderstorm to hide in the outer circle of barbed wire entanglements round the Hall when the roll-call was taken. Their names were answered by other prisoners, and with the aid of a long plank they succeeded in climbing across the barbed wire. Treppitz was caught within twenty-four hours at Millwall Docks, and there followed a nation-wide search for Plüschow. Here is a newspaper cutting I have come across which shows the interest taken in his escape :

MUCH ESCAPED FUGITIVE

Plüschow's Aeroplane Flight from Tsing-Tao

"By the Chinese Dragon clue the authorities still hope to trace Lieutenant Gunther Plüschow, of the German Navy, who escaped from Donington Hall on Monday. The dragon is tattooed on the fugitive's left arm in Oriental colours. It was probably worked by a native artist, for although but twenty-nine years of age, Plüschow has had an adventurous career in the Kaiser's Navy.

"He was in Tsing-Tao when the British and Japanese besieged that German fortress. Shortly before it fell Plüschow escaped in an aeroplane, and some weeks later he was found on board a Japanese trading ship at Gibraltar.

"He will probably endeavour to sign on as a seaman in a neutral ship sailing from a British port, and, with this in view, a very careful watch is being kept at all ports throughout the country. Plüschow is a typical sailor, about 5 ft. 6 in. in height, with fair hair and fresh complexion. He would pass for a Dutchman with his broken English. Nothing he can do can remove the Chinese Dragon from his left arm, and his recapture should be but a matter of time."

Well, it wasn't quite as easy as all that, and Chinese Dragon or no Chinese Dragon, the fact remains that Plüschow actually did escape from England and returned to Germany via Holland. He survived the war, and later achieved considerable fame as an airman.

The New Year being as good a time as any to look back at the past twelve months, I have been going over the results of the big races of 1939—and very nostalgic reading they make. It started, you may remember, with the Pau Grand Prix, in which Lang wiped out the previous year's defeat by Delahaye in winning for Mercédès-Benz at 54.99 m.p.h. Then came Tripoli, that never-to-be-forgotten race in which two brand new, untried 1,500 c.c. Vee-Eight Mercédès-Benz defied the cream of Italy's 1½-litre racers and drivers by finishing first and second at over 120 m.p.h. That race was a classic, if ever there was one, and in better times would have been a portent. As it is, we can only hope to see those miraculous cars in action again, without any degree of certainty.

The Targa Florio was purely an Italian national race—a mere shadow of its former glory—and was won by Luigi Villoresi on a Maserati. The Antwerp race, for sports-cars, attracted two very hot-stuff twelve-cylinder Alfa-Romeos, which in the hands of Farina and Sommer walked off with all the honours. Third place, however, was taken by Monneret's Delage, a new 3-litre unblown model which was to show its true worth in the Le Mans 24-Hour Race the following month.

Meanwhile, Lang had scored his third successive victory of the year by winning the Eifel Race, at Nurburg Ring, with Nuvolari second for Auto-Union and Caracciola third. The Grand Prix des Frontieres was a race for independents rather than teams, going to Trintignant with a fairly old Bugatti. Then J. P. Wakefield went out to Italy to look at the latest sixteen-valve 1,500 c.c. Maserati, had a trial run in the Naples Grand Prix, and walked off with the race before the nose of Italy's best.

The 24-Hour Bol D'Or in Paris was an Anglo-French victory, Contet winning with an Aston-Martin, and then Wimille won his only race of the year in the Luxembourg Grand Prix, staving off the challenge of Biondetti's Alfa-Corse Alfa-Romeo. Wakefield followed up his Italian success by winning the Picardie Grand exactly as he pleased, the opposition being admittedly weak, and the next week-end came the Le Mans affair, in which Wimille played a waiting game for twenty hours, at the end of which the dashing Louis Gérard encountered trouble with the leading Delage—an astonishing car, incidentally—and ran home a good winner in partnership with Veyron. The Delage was second, and the twelve-cylinder Lagonda driven by Dobson and Brackenbury third. The big green British cars showed splendid promise, and it is one of the more regrettable features of the war that we shall not see this promise fulfilled for some time.

So far the races of the year had been fortunately free from accidents, but now came a catastrophe which will for ever stain the history of the year 1939. Richard Seaman met his death in the Belgian Grand Prix at Spa in circumstances which are too vividly remembered to bear recalling. He was leading the race at the time, and he would have undoubtedly won it, and the European Driving Championship as well—had he not crashed. In saying this I am expressing not my own opinion, but that of the leading Grand Prix drivers and team officials of the day. The result—not that it mattered or matters to this day—was a victory for Lang, his fourth of the season.

In the French Grand Prix the Auto-Union people were determined to make a big effort to turn the tables on their national rivals, and in this they succeeded when the Mercédès-Benz all went out with engine trouble—with the exception of Caracciola's, which skidded into a wall on the first lap—and Hermann Muller ran home a deserving winner at the tremendous speed of 105 m.p.h. The 1,500 c.c. race on the same day and circuit went to the Swiss driver, Armand Hug, who beat Wakefield without difficulty. The latter, however, returned to his winning form the next week-end at Albi, where the new E.R.A. appeared for the first time and retired with engine trouble after leading for some distance. In this race Hug had a serious crash in practice, but I am glad to say that he is now almost completely recovered. Tongue was second on a new Maserati like Wakefield's, and "Bira," who had crashed heavily at Reims, was a plucky third.

The German Grand Prix gave Caracciola a wonderful victory over Muller's Auto-Union, and was remarkable for a number of accidents, all without serious consequences. Down in Italy, Farina won the Coppa Ciano on a 1,500 c.c. Alfa-Romeo, and in France Lebégue won an exciting Comminges Grand Prix on his Talbot-Darracq from Wimille's Bugatti. The 1,500 c.c. Alfa-Romeos made a clean sweep of the Coppa Acerbo, Biondetti being the actual winner, and so we come to the last race of a curtailed season, the Swiss Grand Prix, which gave Lang a magnificent win and finish to his 1939 year. Auto-Unions were quite eclipsed, for Caracciola and Von Brauchitsch were second and third for Mercédès-Benz. Two Alfa-Romeos, driven by Farina and Biondetti, ran away with the 1,500 c.c. race on the same circuit.

And then it was September—and War.

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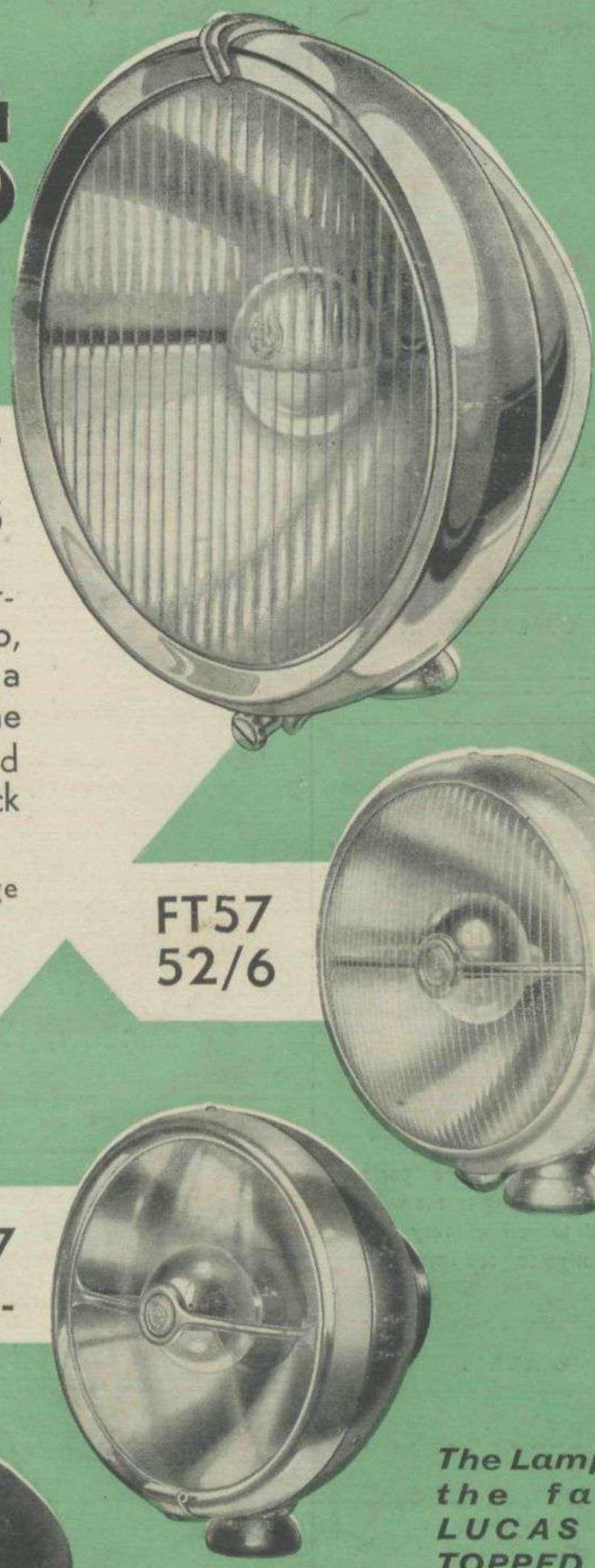
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