

1/6 EVERY FRIDAY

Autosport

BRITAIN'S MOTOR SPORTING WEEKLY

IN THIS ISSUE

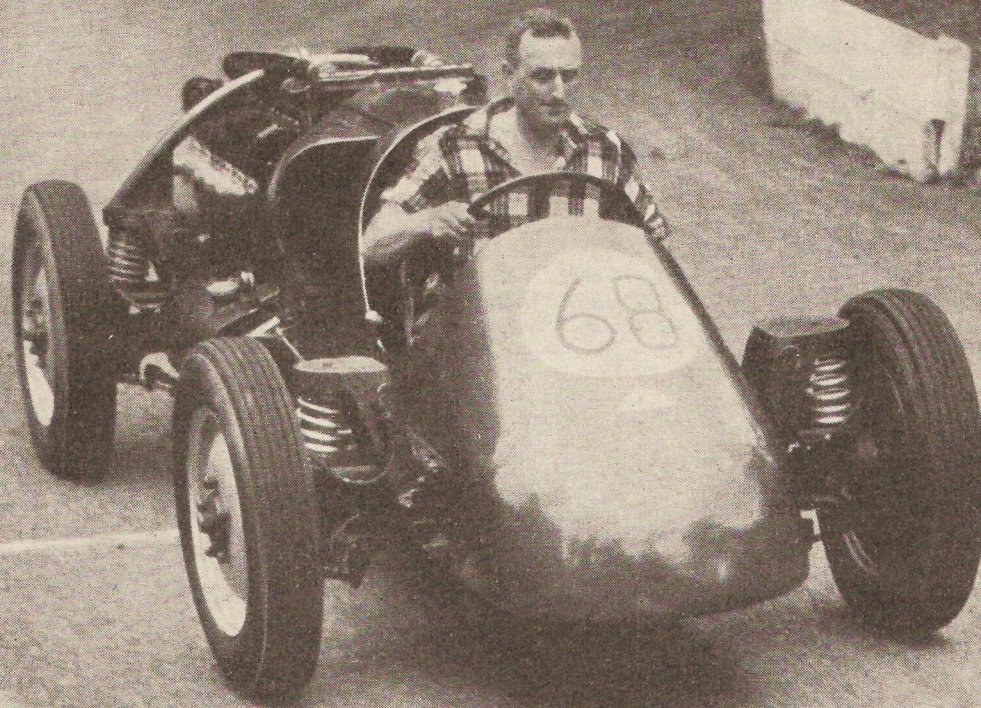
BATTLE OF THE GIANTS
Bentley versus Mercedes

Preparation for Racing
by John Bolster

Where the Power Goes
by Gordon Bedson

SEASONAL SURVEY
Part V.
The "Unclassified" Races

Vol. 2 No. 4
January 26, 1951



The 1st tyre in 1950 Car Racing



BY APPOINTMENT
MOTOR CAR TYRE
MANUFACTURERS
DUNLOP RUBBER
CO. LTD.

April 30	PARIS GRAND PRIX - - -	1st. — 3rd.
" "	" " " (Formula III) - - -	1st. 2nd. 3rd.
May 1	GRAND PRIX CINQUANTAIRE - - -	— 2nd. 3rd.
" 13	R.A.C. (Formula III)—Silverstone - - -	1st. 2nd. 3rd.
" 14	MONS (Formula III) - - -	1st. 2nd. 3rd.
" 21	PRIX de MONTE CARLO (Formula III) - - -	1st. 2nd. 3rd.
" 28	AIX les BAINS - - -	— 2nd. 3rd.
" "	" " " (Fo. mu'a III) - - -	1st. 2nd. 3rd.
June 4	SWISS GRAND PRIX - - -	— — 3rd.
" "	Prix de Berne - - -	— — 2nd. 3rd.
" 4-5	BOL D'OR 24 Hours FRANCE - - -	All Class win
" 11	CIRCUIT des RAMPARTS - - -	— 2nd. —
" "	" " " (Formula III) - - -	1st. 2nd. —
" 18	BELGIAN GRAND PRIX - - -	— — 3rd.
" 18	GRENOBLE (Formula III) - - -	— — —
" 22	BRITISH EMPIRE TROPHY - - -	1st. 2nd. —
" "	MANX CUP - - -	— 2nd. 3rd.
" 24-25	LE MANS 24 HOURS RACE - - -	1st. 2nd. 3rd.
" 25	PORTUGAL GRAND PRIX - - -	— — 3rd.
July 2	FRENCH GRAND PRIX - - -	— — 3rd.
" "	COUPE des PETIT CYLINDRES - - -	— 2nd. 3rd.
" "	COUPE des VOITURES (Formula III) - - -	1st. — 3rd.
" 8	LEINSTER TROPHY RACE - - -	1st. 2nd. 3rd.
" 13	JERSEY INTERNATIONAL RACE - - -	1st. 2nd. —
" 16	ALBI GRAND PRIX - - -	1st. — 3rd.
" 23	DUTCH GRAND PRIX - - -	1st. — —
" "	" " " (Formula III) - - -	1st. 2nd. 3rd.
" 23	NAPLES GRAND PRIX - - -	— 2nd. —
" 30	GRAND PRIX de GENEVA - - -	1st. 2nd. —
" 30	ROUEN SPORTS CAR RACE - - -	1st. — —
" "	ROUEN (Formula III) - - -	1st. 2nd. 3rd.
Aug. 6	JOHORE GRAND PRIX - - -	1st. 2nd. —
" 12	ULSTER TROPHY - - -	1st. 2nd. 3rd.
" "	" " HANDICAP - - -	1st. 2nd. 3rd.
" 20	GERMAN GRAND PRIX - - -	— 2nd. 3rd.
" 26	INTERNATIONAL TROPHY—Silverstone - - -	— — 3rd.
" "	PRODUCTION CAR RACE " - - -	— 2nd. 3rd.
" "	(Formula III) - - - " - - -	1st. 2nd. 3rd.
Sept. 3	SAN SEBASTIAN (Formula III) RACE - - -	1st. 2nd. 3rd.
" 9	WAKEFIELD TROPHY RACE - - -	1st. 2nd. 3rd.
" "	IRISH MOTOR RACING CLUB - - -	— — —
" "	JUNIOR RACE - - -	1st. 2nd. —
" 10	CIRCUIT de METTET - - -	1st. 2nd. 3rd.
" 10	CIRCUIT de CADOURS (Formula III) - - -	1st. 2nd. —
" 16	R.A.C. TOURIST TROPHY - - -	1st. 2nd. 3rd.
" 29	CIRCUIT de PERIGUEUX - - -	1st. 2nd. 3rd.
" 30	GOODWOOD TROPHY RACE - - -	1st. — 3rd.

INTERNATIONAL HILL CLIMBS

June 3	CRAIGANTLET	Fastest Time of the Day
" 10	SHELSLEY WALSH	Fastest Time of the Day
" 24	BO'NESS	Fastest Time of the Day
July 1	REST AND BE THANKFUL	Fastest Time of the Day
" 9	AU. MOUNT VENTOUX—France	Fastest Time of the Day
Aug. 3	BOULEY BAY	Fastest Time of the Day
Sept. 10	PRESCOTT	Fastest Time of the Day

BRITISH HILL CLIMB CHAMPIONSHIPS

won on Dunlop

International Class J Records	1 Kilo F.S.	120.394 m.p.h.
Lt. Col. A. T. Goldie Gardner (M.G.)	1 Mile F.S.	121.048 "
	5 Kilos F.S.	117.510 "

International Class F Records

Austin	5 days	65.52 m.p.h.
	15,000 Kilos	65.59 "
	6 days	65.62 "
	10,000 miles	60.00 "
	7 days	59.58 "



THE WORLD'S MASTER TYRE

Autosport

BRITAIN'S MOTOR SPORTING WEEKLY

Incorporating "THE MOTOR CLUB"

Managing Editor: GREGOR GRANT

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NOTICES

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EDITORIAL

THE proposed stock car race this year in the Isle of Man has had to be postponed, despite the efforts of the Manx Automobile Club to stage the event. Apparently the main snags were (a) the cost, (b) inconvenience of closing the roads, (c) modifications required to the motor cycle T.T. circuit, (d) doubt of the "interest" value. We should think that the chief obstacle to holding such an ambitious race would be the difficulty, if not impossibility of obtaining International status for the inaugural event. Quite obviously, the R.A.C. cannot establish a precedent by recommending the F.I.A. to grant an International permit to an event run for the first time, as was done for the Jersey road race. At the most, Pall Mall can give a first-ever race (or event) national status in which case the Manx Government would have to reconcile themselves to the fact that there could be no foreign entries for the first event.

We know that the absence of foreign entrants in the R.A.C. T.T. was a sore point with the Northern Ireland racing public—and that was an International event! It is only to be expected that the Isle of Man authorities, in considering the Manx A.C.'s proposition for a three-hours stock car race, have to think of the possibility of whether or not such an event would justify the inconvenience of the island's transport by closure of the roads. Already roads are closed for the motor cycle T.T. races in June, the Manx G.P. in September, the B.R.D.C. car race, and the bicycle T.T.

AUTOSPORT feels that in order to permit further closure of the roads and find the necessary finance, the Manx authorities would have to be convinced that the proposed race would be a major affair, and without possessing International status, or the right to have it, the Manx A.C. may have difficulty in stating a proper case.

Whichever way one looks at it, there appears to be an *impasse*. Short of bringing the car T.T. to the island circuit, which is most unlikely, the R.A.C. cannot help in giving I.o.M. stock car race an International permit. The Manx A.C. in all probability will have to prove to the authorities that the race would indeed be a major attraction.

A race round the gruelling T.T. circuit could be one of the most important events on the calendar, if it were for pukka sports cars, in addition to standard production vehicles. We have no event in Great Britain to compare with (say) the *Mille Miglia*, and an Isle of Man long-distance race which would include the incredibly tricky T.T. course may, in time, become one of the world's major road races.

It is to be hoped that the Isle of Man authorities will do all they can to assist the Manx A.C. in staging an event which could attract entries from all over Europe.

OUR COVER PICTURE

A.F.V.: Ted Lloyd-Jones at Shelsley in what is undoubtedly one of the most extraordinary sprint vehicles in existence. Based on a Daimler Armoured Fighting Vehicle chassis, it has a V-12 Rolls-Royce Kestrel aero engine.

Pit and Paddock

LIONEL LEONARD will do a spot of sports car racing with the M.G.-engined Cooper two-seater prototype. This should be a useful combination, and will bear watching.

* * *

BOB GERARD is said to have acquired a couple of Norton motors for his Cooper. Let us hope that the possession of a good, modern Formula Three car will enable this very fine driver to be seen more often on the Continent.

* * *

ALAN BROWN, of Belfast, who drove a Ford Pilot with success in last year's "Circuit of Ireland", offers his services as a navigator for the 1951 event. The presence of a "native" would certainly be a help to competitors from the mainland. Letters will be forwarded.

* * *

LES LESTON who diced a Kieft occasionally last season, will probably be seen at the wheel of one of Alf Bottoms's new series-built cars.

Curly Dryden will also be seen with a J.B.S. In all, we believe, there will be a dozen of these cars laid down plus one for Alf to make it a baker's dozen.

* * *

CONGRATULATIONS to Mr. and Mrs. Freddie Dixon, who celebrated their silver wedding at Reigate on 20th January. The toast was proposed by Kaye Don, and in his reply, Freddie remarked that possibly the 'flu epidemic had turned out for the best. If the number of guests invited had turned up, there would have been a grave risk of running out of refreshments!

* * *

BODACH, our Scottish contributor, has been seriously ill for many weeks, but we are glad to report that he is now on the mend. His feature, "Scotch Corner", will be resumed next week.

* * *

RENAULT have a real surprise in the "Monte", in the shape of the new 750 c.c., 35 b.h.p., 75 m.p.h. Grand Sport model. This has a special cylinder head, larger valves and ports, and body-work mainly of light alloys. Drivers were Louis Rosier, Henri Louveau and Charles Pozzi.

RIVAL to the Renault is Montremy's "Alpine" Dyna-Panhard, with twin carburettors and a maximum also in the 75 m.p.h. category. The struggle for supremacy between the 750 c.c. Renaults and Panhards during the coming season is reminiscent of the Austin-M.G. duels in this country in the early 'thirties.

* * *

THERE are still a few seats available from Tim Carson, Mellaha, Pack Lane, Kempshott, Basingstoke, for the Vintage S.C.C.'s big film show at the Hammersmith Town Hall on 13th February.

* * *

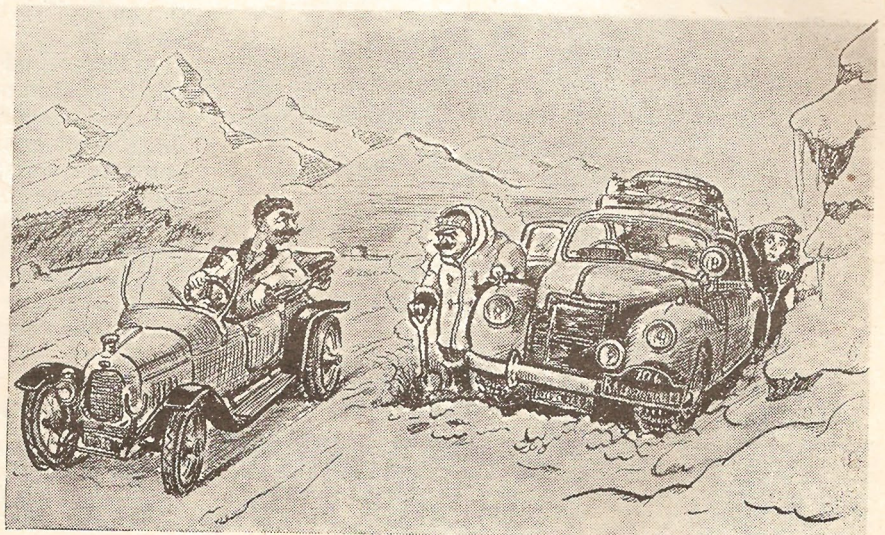
STIRLING MOSS's 1951 programme would appear to include a Kieft for Formula 3, H.W.M. for Formula 2, and Jaguar for sports car events. All he requires now is a Grand Prix bolide to keep him more than a trifle busy.

* * *

LESLIE BROOKE is another who is thinking seriously in terms of sports car racing. Living in Coventry, it isn't difficult to guess what sort of motor car he would handle. Plans for the two-stage Maserati remain somewhat uncertain.

* * *

GEORGE DUFF, who won the Norwich starting control Award in the M.C.C. *Daily Express* 1,000 Miles Rally with an S.M. 1,500, has acquired a Replica Frazer-Nash, which Eric Winterbottom will pilot in certain International events.

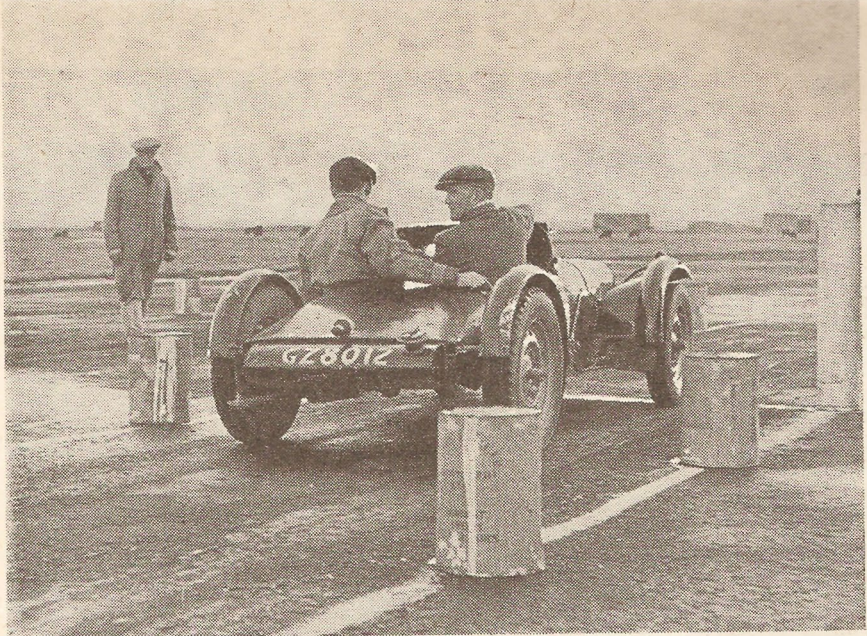


“ Ça va ? ”

BEST PERFORMER. Denis Boyd reversing in Test 2 of the Ulster Automobile Club's Officials Trial. He put up best performance in Lindsay's Ford Special.

ON Saturday, 20th January, the Ulster Automobile Club reversed the usual order of things by running a trial for its officials, the event being organized by regular competitors, and it was generally considered to be one of the most enjoyable afternoon's sport which the club had ever produced. The popular winner was Denis Boyd, who is a founder member of the club.

Among the twenty-one starters at Ards Airfield, the atmosphere was distinctly gay, while the cars varied from family saloons to borrowed "hot" specials. Eight manoeuvrability tests had been set out on the runway, most of them brand new and all of a complexity begging description, while the runway itself was just wet enough to make the surface extremely tricky. Hon. Sec. Gordon Neill (Healey) seemed to find the first test, involving a chicane and pylon, rather awkward, while J. E. Dowling, driving Wilbert Todd's Humber Special, put up best time, and Hugh Bryson (Morris Minor) is worthy of mention for the demoralizing effect of his false wig and whiskers on the attendant marshals. On the double semi-circle which comprised the second test, Hon. Solicitor Henry Catchpole (M.G.) seemed to be enjoying himself, and indeed made the best time, while his wife, accompanied by Mrs. Neill, in a Ford Prefect, was doubtless aided by shouts of encouragement from Wilbert (Fur Hat) Todd. Opinion was divided as to the best way of tackling the third test, an intricate



U.A.C. Officials' Trial

FOUNDER MEMBER WINS "COMPETITORS' CUP"

bit of garaging, but Hugo Wilson, in white driving helmet and goggles, solemnly pulled out f.t.d. with E. J. Wilkinson's Healey Silverstone.

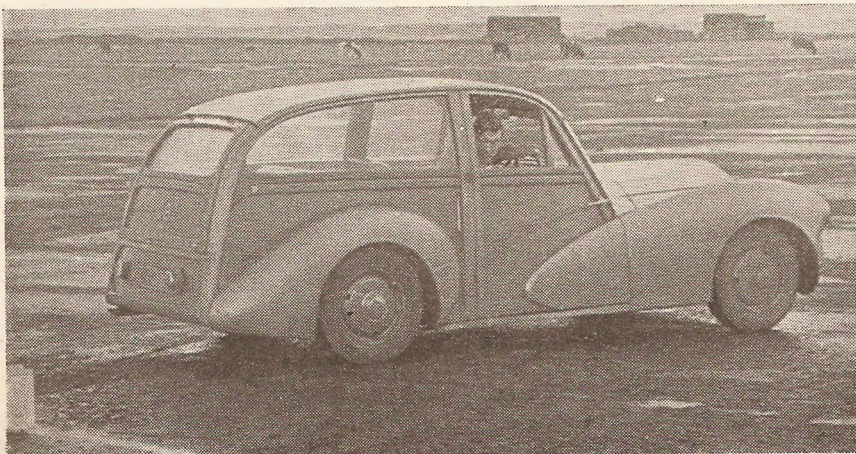
Everyone was glad to see Billy Chambers, apparently none the worse for his accident, in charge of the test involving stopping exactly on a white circle, where one who shall be nameless distinguished himself by treading hard on his accelerator instead of the brake. Hugo Wilson tied with R. Taylor (M.G.) for best time plus shortest distance. The next test was a lovely round-about of two circles, Vice-President Commodore C. A. R. Shillington being surprisingly neat with his 3½-litre Jaguar saloon, while J. L. (brother to J. E.) Dowling was fastest in C. E. Robb's H.R.G.

Honours went to L. B. Morton (M.G.) for that old favourite, the three channels, while Jacky Harrison (M.G.), as Chairman of the Competitions Committee, felt moved to produce a method involving more reversing than all the other competitors put together!

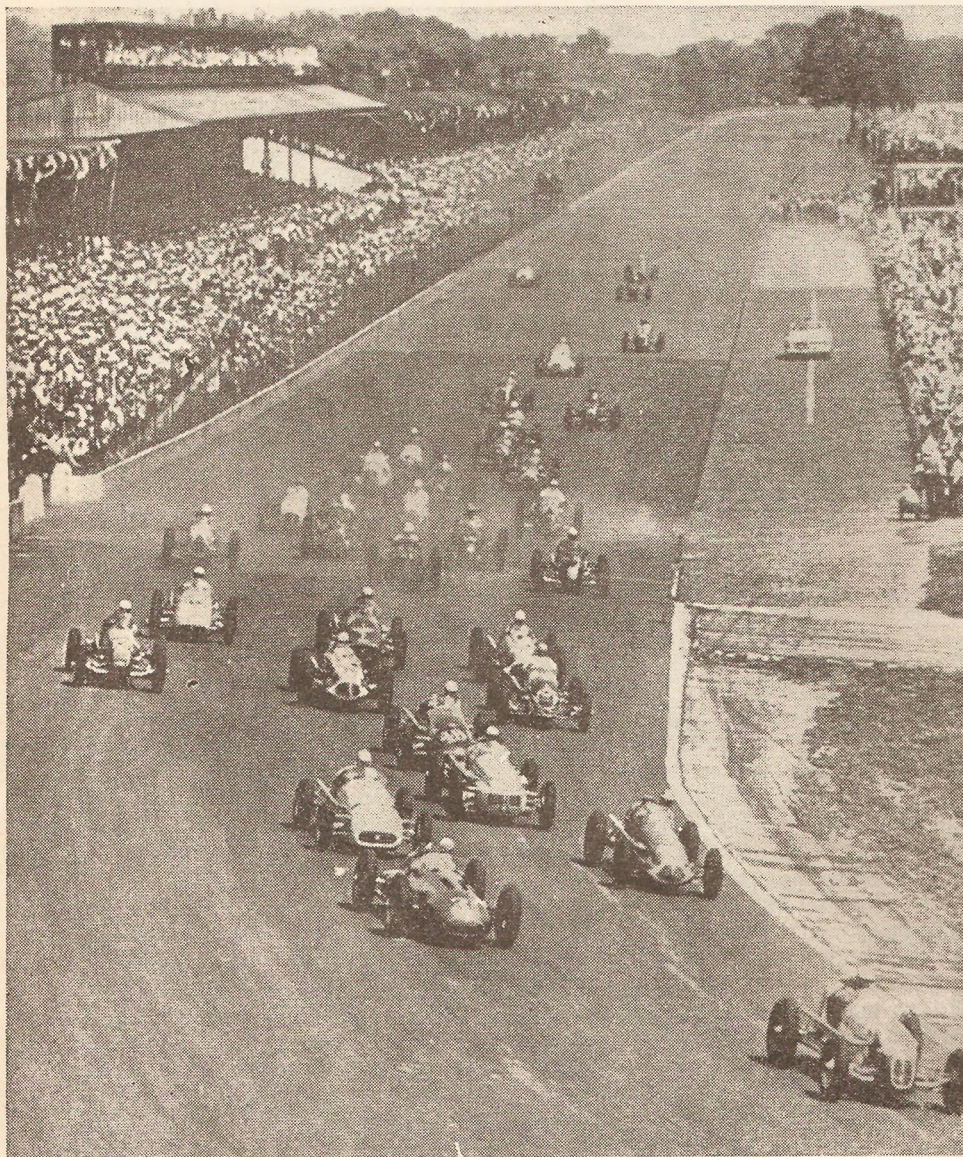
Shillington again put up a good performance at the seventh test, as did Denis Boyd, but the shortest time was shared between J. E. Dowling and H. J. Catchpole. At the final test, another version of the round-the-ypylon, one M.G. driver found himself lamentably short of stopping power, and the Healey Silverstone was impressive, but beaten by Denis Boyd.

Having exhausted the possibilities of the airfield, competitors were despatched via the Donaghadee road to Bangor, passing a check point en route. Apart from its being placed on an obscure side road, the snag about the check point was that it had to be passed whilst heading south. Arthur Fee, in Lance Jefferson's TD M.G., was caught with a faulty compass, but the rest of the field got through safely to the finish control at the Pickie Hotel, Bangor. The bar was soon crowded with competing officials, unaccustomed to leisure

(continued on page 103)



Another Test 2 shot—Gordon Neill (Healey) the Hon. Sec. of the Ulster A.C.



IN any racing season there are a number of events which do not fall readily into any one category. Some are run on handicap systems to suit local conditions, as in Ireland, some are *formule libre* to attract many entries and give spectacle, as in the South American winter races, and some are old established classics run to rulings which best suit them, as in the case with the famous Indianapolis 500 Miles Race in the U.S.A.

The "unclassified" season began in South America, and as the first 1950 event, which took place on 8th January was the 2nd Buenos Aires G.P., it is essential, first, to look back to the 1st Buenos Aires G.P. which was run a fortnight before

the New Year, on 18th December, 1949. This race really began the Argentine's annual winter season, and was interesting from a British point of view in that Peter Whitehead, who was running very close to Bob Gerard for the 1949 B.R.D.C. Road Star, journeyed out to the Argentine to settle the issue one way or the other. From Europe also went Rosier and Etancelin with Talbots, Bira, de Graffenried, Chiron and Parnell (Maseratis) and an Italian contingent including Ascari, Villoresi and Serafini (Ferraris), Farina, Biondetti, and Taruffi with Maseratis and Bonetto with a Milan. Principal home defenders were Fangio, Gonzales and Campos.

Officially called the President Peron

Seasonal Survey

The Unclassified

**FERRARIS WIN IN ARGENTINE
"FREE-FOR-ALLS"—A CURTAILED
INDIANAPOLIS "500"—GOOD
IRISH HANDICAP EVENTS**

Cup, the race was over thirty-five laps of the Palermo circuit, Buenos Aires, and as it was *formule libre* Ferraris used two-stage blown 2-litre engines in the long chassis type which had won the G.P. of Europe three months before. Maseratis, too, took advantage of their freedom and bored out several cars to 1,720 c.c.

The race proved a triumph for the 2-litre Ferraris, which filled first four places, and a personal one for 1949 Italian Champion Alberto Ascari, who beat Juan Manuel Fangio to the chequered flag by nearly half a minute with Villoresi third. Ascari, on top of his form, had the legs of everyone and Fangio couldn't get near him despite a record lap near the end. Whitehead drove a typically steady race to finish tenth, thus clinching the 1949 Road Star as his

Walt Faulkner's Grant Piston Ring Special jumps into the lead at the start of the 1950 Indianapolis 500 Miles Race.

for twelve months. Bira and de Graffenried (bored-out Maseratis) were sixth and seventh, but the Talbots, Parnell and Farina all retired.

Villoresi Wins

President Peron's Cup having been successfully competed for, it became his wife's turn, and on 8th January, 1950, the 2nd Buenos Aires G.P., for the Eva Peron Cup, took place over a slightly shorter distance on the Palermo course. The runners were much the same as in the December race, but Ascari spoilt his chances this time by hitting some straw bales. Villoresi scrapped with Fangio until the latter had a wheel collapse (did he hit something?) so the popular Luigi won from team mate Serafini, whose Ferrari only had 1,500 c.c.'s of engine. Fangio had to make do with fourth place, while in front of

Part V

Races

all the "Masers" came Bonetto with the Milan. Farina, sixth, drove his 1,720 c.c. Maserati with great gusto, getting up to third place at one stage; Parnell was eighth, Bira ninth, and Whitehead eleventh.

The next South American race was for the General San Martin Trophy at Mar del Plata, on 15th January, over ninety-five miles. The Ferrari stars inevitably had another set-to, in the heat of which Villorosi and Fangio collided, both cars being put out. That left Ascari securely leading, with Farina's and Taruffi's oversize Maseratis next astern. The two Talbots survived this time (eighth and eleventh) with Bira and Parnell (1,500 c.c. Maserati) between them. Peter Whitehead, not enthralled by the lackadaisical organization in the beef country, had gone home.



Who wouldn't be a winner! Johnny Parsons with his outsize in trophies, and a welcome from Barbara Stanwyck, after his victory in the rain-shortened "five-century grind".

Fourth and final of the Argentine winter races was the Coppa Accion de San Lorenzo—it's easier to say Rosario G.P. The weather was hot, so was the pace, and, subsequently, tempers. As usual, Fangio's blue and yellow Ferrari shot ahead at the start with Ascari and Villorosi in close attendance, but "the Argentine wonder" had wretched luck again, careering off the road when trying to pass another car, and finishing up against a tree marked "No parking"! Ascari, balked by slower men, perhaps overworked his gearbox—anyway, he retired with unspecified transmission bothers—so the race went to Villorosi's Ferrari, followed in by three "Masers".

America's Classic

The next event, the Indianapolis 500 Miles Race, came four whole months later, and was run, as usual, to the old (1938) Formula permitting blown cars up to 3 litres and unblown up to 4½ litres. Provisional foreign entries from Ferrari and Maserati failing to materialize, as is too often the case, the "500" was again very much an "isolationist" affair. It was notable, however (a) as a "500" not won by one of Lou Moore's Blue Crown Spark Plug Specials (the victors in 1947, 1948 and 1949), and (b) for being stopped sixty-three laps short of the full distance when a heavy downpour of rain rendered the track highly dangerous—a measure which only the Indianapolis organizers apparently dare to do.

Sensation began before the race started when the two very fast blown 3-litre Winfield-Novis V8s failed to qualify. This made the race a virtual "cert" for a 4½-litre Offenhauser-powered car, since the only other units in use were a new 3-litre centrifugally blown "Offie" and a six-cylinder Cummins-Diesel, both experimental. The fine looking Blue Crowns driven by Bill Holland, Tony Bettenhausen, Lee Wallard and George Connor were strongly favoured, but the pace was set by Johnny Parsons with a bright yellow Offenhauser-powered Kurtis-Kraft masquerading as the Wynn's Friction Proof Special, who sat behind "three-time" winner Mauri Rose's Howard Keck Special for nine laps, then ripped past and stayed there, barring pit stops, until "rain stopped play" for everybody. Fred Agabashian

in the 3-litre Offenhauser-engined Wynn's Friction... etc. (Indianapolis car names are as complex as South American race names!) was third for a while behind Mauri Rose, then dropped back and finally went out altogether with blower troubles. Bettenhausen then moved up to challenge Rose ("the little guy with the big mustache"), but soon went out with trouble. Wily pit managers kept Rose and Holland back to save tyres and engines for the big push at the end, but the rain and the abrupt termination of the race upset all their calculations. In any case Parsons would have taken some catching for his car was going beautifully, breaking track records all the way. When the rain came in earnest, cars spun in all directions on the brick-cum-asphalt surface, and the finishing flag ended the race when winner Parsons had covered 345 miles. Despite the weather the Kurtis's average speed was 124 m.p.h., whereas Bill Holland's last year's average was 121.327 for the full distance, suggesting the U.S. has a driver of outstanding talent in Johnny Parsons.

The Manx Cup

We now return to these shores for a race which, despite its ruling, bore a near resemblance to a Formula B event, the Manx Cup which accompanied the British Empire Trophy in the Douglas, I.o.M., meeting in June. Open to unblown cars up to 2,500 c.c. and blown ones of 1,100 c.c., it drew a variegated entry of twenty-three, among which were M.G.s old and young, H.R.G.s, Rileys, some rapid Cooper "1,100s", Spike Rhiando's Trimax, Tyrer's 328 BMW, Culpan's Frazer-Nash, an H.W.-Alta, an Alvis, a Lea-Francis and Oscar Moore's BMW-based Formula 2 O.B.M. From the start the Cooper "Thousands" made the running, Eric Brandon taking the lead and ever widening it until his mag. drive sheared on lap eleven and he was out, but not before having made fastest race lap. John Cooper was second until lap nine, when he retired (piston), whereupon Oscar Moore jumped up from third to second, and from second to first when Brandon's car failed. The O.B.M. now built up a nice lead from Shillito, who was trying hard with failing brakes and having his work cut out to stay off Norman Culpan's Frazer-Nash.

(continued overleaf)

Seasonal Survey Part V—continued

Moore won comfortably, but Shillito and Culpan shot over the line together, barely a length separating them. Dunham's ugly but reliable Alvis was fourth and Gillie Tyrer got a brakeless 328 home fifth.

Irish Special Wins

To the Emerald Isle now, for one of those pleasant Irish meetings which so often provide such excellent racing. The 1950 Leinster Trophy 100 Miles Handicap Race held over the eight-mile Wicklow circuit was a good example, for it resulted in a .6 second win for M. P. Cahill in the N Type Magnette-engined Iona Special from T. N. Large's TD M.G., after an exciting race-long duel. Another TD was third, and R. G. Shattock got his 1,496 c.c. Atalanta, on which he had lavished much care and attention, home fourth. Interesting entries were two Allards, Tom Cole's Le Mans car with Cadillac engine and Sidney Allard's Ardun-head V8 car, Anthony Powys-Lybbe's veteran "monoposto" Alfa-Romeo and W. R. Baird's Rapier-engined Meteorite, presumably a derivative of the Emeryson Special. Tom Cole lapped at 77.17 m.p.h., then at 77.57, but Baird got round at 78.58 m.p.h., then capped all by a magnificent lap at 80.28 m.p.h., easily the fastest of the day, which set the crowd humming and, alas, his car sulked, so that he retired a lap later. Cole also retired, so did Allard, a mere four miles from the end when lying fourth. Race leaders Cahill and Large scabbled wildly round the last turn, the former just winning. Sports car and *formule libre* scratch classes were run concurrently with the main event, Large's and Vard's TDs succeeding in the former category, followed by Moore's O.B.M., while Powys-Lybbe gained the *formule libre* class.

The New Dundrod Circuit

The Ulster Trophy meeting over the new Dundrod circuit on 12th August consisted of a Formula 1 race (won by Whitehead's Ferrari) and a 74.2-mile handicap for the Champion Trophy, for cars of all sizes, with and without superchargers. This race attracted a fine total of thirty-six entrants, and notable

amongst them were again Powys-Lybbe's grand old Alfa, Basil de Mattos's Lea-Francis-engined Cromard Special, two Scottish-built J.P.s, one with a 998 c.c. Vincent engine, the other a "500" J.A.P., Joe Kelly's Riley-engined I.R.A. and many hotted-up Irish-owned Fords, M.G.s, etc. Powys-Lybbe came right through from scratch to win in fine style, but poor Kelly, lying second, had last minute petrol pump trouble and dropped down to seventh place, the Leinster Trophy winner, Cahill's Iona, taking his place, with a TC M.G. behind.

Still in Ireland, the next "unclassified" event was the Irish Motor Racing Club's meeting on the Curragh circuit in County Kildare. There were two races, both handicaps, a seventy-four-mile "Junior" event for the O'Boyle Trophy and the Wakefield Trophy Race for blown and unblown cars over ninety-nine miles. The shorter race went to Flynn's M.G., and history repeated itself in that Cahill's Iona Special again finished second after Joe Kelly had more bad luck with the I.R.A., this time with a broken shackle.

A Victory Thrown Away

In the Wakefield Trophy, it was not bad luck which robbed Kelly of success but poor pit management. He raced his new 2-stage G.P. Alta, a handsome piece of work, against Graham Whitehead and Ken Wharton (E.R.A.s), Richardson's R.R.A., Gordon Watson (Alta), Powys-Lybbe (Alfa), Duncan Hamilton (6C Maserati) and others, and had got the better of them all, lapping at 81 m.p.h. Secure in the lead, and with Wharton, Whitehead, and Lybbe already retired, Kelly's pit staff waved the Alta down to lap speeds of around 75 m.p.h. This was Duncan Hamilton's opportunity, and he was not slow to take it, catching the cruising Alta on the last lap and beating him to the line by 3 secs.! But for the signalling errors—or misunderstanding—this might well have proved the first victory of the G.P. Alta; as it was, Kelly had the consolation of second place at the highest Curragh race average yet, 79.35 m.p.h., and of breaking Walker's E-Type E.R.A. lap record at 82.73 m.p.h. Third was Oscar Moore's O.B.M., which took the unblown class. Peter Clark followed

with his H.R.G. and fifth was Roy Salvadori, making a reappearance in racing with a Healey.

In 1949 the Czecho-Slovakian G.P. was a successful Formula 1 event won by Peter Whitehead's Ferrari. Last year it lost its International prefix at the decision of the organizers and with it all character, for the Czechs on their own have no cars to justify the title G.P. The result was what can only have been a dull race for Nationals, won by one Hovorka driving an oldish Maserati, following by Czech veteran driver Bruno Sojka, with a Tatra-plan rear-engined sports car with modernistic streamlined bodywork. Details of other placemen, if any, runners, times, speeds and distance remain obscure.

The final of 1950's unclassified races was back in South America where they began. The keenly awaited 500 Miles Race on the Rafaela circuit was twice postponed by bad weather before eventually taking place on 24th December. Three Lago-Talbots were sent over, two for Fangio and Gonzales and one for Louis Rosier, while "local boys" had a variety of machinery from Maseratis and Ferraris to souped-up Chevrolets, V8 Fords and Mercurys, none of them at all out of place on the very poor roads. Long straights and wide bends made it a very fast course, however, and Fangio, who managed a home-based 1950 win after all, averaged 109 m.p.h. to win by a minute from Rosier. Gonzales retired and third came Brosutti (Mercedes).

C. P.

* * *

CLEE HILL TRIAL

REGULATIONS and entry forms are now available from J. B. Barnsley, Belbroughton Road, Blakedown, nr. Kidderminster, for this Club's Clee Hill Trial on Sunday, 4th February. The start will be from the Plough Hotel, Wenlock Edge, at 10 a.m. and the course of some fifty miles will finish at the Falcon Hotel, Bridgnorth. The event is a Closed Invitation Trial, for which members of the Bristol M.C. and L.C., Sheffield and Hallamshire M.C., Sunbac Leicester C.C., Cheltenham M.C., Shenstone M.C. and the 750 C.C. are also eligible. There will be eight observed sections and two timed tests for use in the event of a tie.

1950 Unclassified Races

Date	Race	Circuit and Distance (Miles)	First	Second	Third	Winner's Speed (m.p.h.)
Jan. 8	2nd Buenos Aires G.P., Argentina	Palermo, B.A. 90.52	Villoresi (Ferrari)	Serafini (Ferrari)	Bucci (Alfa-Romeo)	68.82
Jan. 15	Mar Del Plata G.P., Argentina	Mar del Plata, 92.94	Ascari (Ferrari)	Farina (Maserati)	Taruffi (Maserati)	69.05
Jan. 22	Rosario G.P., Argentina	Rosario, 88	Villoresi (Ferrari)	Campos (Maserati)	Farina (Maserati)	57.68
May 30	Indianapolis 500 Miles Race, U.S.A.	Indianapolis, 345 (rain stopped race)	Parsons (Kurtis-Kraft Spl)	Holland (Blue Crown Spl.)	Rose (Howard Keck Spl.)	124.001
June 15	Manx Cup Race, I.O.M.	Douglas, 69.8	Moore (O.B.M.)	Shillito (Riley)	Culpan (Frazer-Nash)	66.66
July 8	Leinster Trophy, Ireland	Wicklow, 100 H'cap Racing Cars (scr.)	M.P. Cahill (Iona Spl)	Large (M.G.)	Vard (M.G.)	68.87
			Powys-Lybbe (Alfa-Romeo)	M. P. Cahill (Iona Spl.)	K. C. Cahill (Riley)	75.62
Aug. 12	Ulster H'cap, N. Ireland	Sports Cars (scr.) Dundrod, 74.2	Large (M.G.)	Vard (M.G.)	Moore (O.B.M.)	68.86
			Powys-Lybbe (Alfa-Romeo)	M. P. Cahill (Iona Spl.)	Sutherland (M.G.)	76.27
Sept. 9	Wakefield Trophy, Ireland	Curragh, 99 H'cap	Hamilton (Maserati)	Kelly (Alta)	Moore (O.B.M.)	78.35
	O'Boyle Trophy, Ireland	Curragh, 74 H'cap	Flynn (M.G.)	M. P. Cahill (Iona Spl.)	Coleman (M.G.)	61.62
Sept. 24	Czechoslovakian G.P.	Brno	Hovorka (Maserati)	Sojka (Tatraplan)		
Dec. 24	Argentine 500 Miles Race	Rafaela, 502.9m.	Fangio (Talbot)	Rosier (Talbot)	Brosutti (Mercedes-Benz)	110.68

“THE MONTE”

THIS WEEK'S GREAT WINTER CLASSIC

By the time this issue appears, survivors in the great Monte Carlo Rally will have checked in at the finish. As we wrote these words, weather reports were none too encouraging, and it may be that a large proportion of the entry will have been delayed in the mountainous region of the Massif Central. With heavy snowfalls, and sudden thaws, there is always a risk of avalanches and landslides to add to competitors' "joy". It wouldn't be the "Monte" if there weren't many obstacles supplied by Dame Nature, in addition to the tight time schedule imposed by the organizers.

Sunday's eliminating test sees the first fifty cars, irrespective of whether or not they have incurred road penalties, engaged in a dice round the famous Monaco Grand Prix circuit. Naturally, racing drivers will have a decided advantage in knowing that tricky little circuit, but experienced rally-dicers such as Becquart, Trevoux and others will not be dismayed by their lack of actual racing experience.

On the Round-the-Houses Circuit

No matter how one looks at it, the Regularity-Speed Test is as near as whasit a race as has ever been organized in a rally. Clued-up

people will naturally go ding-bat, even on the two preliminary laps, making their second tour act as a yardstick for the subsequent four timed laps. He (or she) is a poor racing driver who cannot lap within fractions of a m.p.h. on successive laps, and despite the formula, it is obvious that the very fast cars must have an advantage over their slower brethren, and can, in fact, afford to have a larger discrepancy in the various laps, and still score more marks.

Tricky Clause

As several competitors will be on the circuit at once, one of the clauses in the regulations assumes great importance. Apparently, if a driver finds himself impeded by a car (the fact of having to overtake a car, or even to approach it at less than 30 metres with a view to passing it shall be deemed an impediment), the time logged on the lap during which the incident has taken place, may be cancelled, albeit not automatically, but at competitors' request. If some of the fast folk become mixed up with the slower brigade, there *could* be quite an avalanche of "incidents", resulting in a number of re-runs. Anyway, all are agreed that this final Eliminating-Speed Test will provide

plenty of entertainment, for competitors and spectators alike.

On the following day, there is a cocktail party given by the municipality of Monaco in the forenoon, and in the evening comes the big Rally Ball. Tuesday sees the Comfort Competition, and the Rally closes on Wednesday with the parade of cars, distribution of prizes, and the International Sporting Club's dinner to competitors and crews.

U.A.C. Officials' Trial—continued

after a trial, while the lounge was filled with officiating competitors, sweating over the results. In a commendably short time the latter were ready, and the company adjourned to the dining hall.

After dinner, Mrs. J. L. Dowling, on behalf of the regular competitors, presented the club's Vice-Chairman, H. C. Reid, with the "Competitors' Cup", and it was announced that the event would take place each year, which news was received with enthusiasm. Expressing doubts as to their chances of finding officials in the future, now that they had tasted the joys of competing, Mr. Reid returned the trophy to Mrs. Dowling, who presented the awards.

U.A.C. RESULTS

1, Denis Boyd (Ford Sp.), 279.6 marks lost.
 2, Hugo Wilson (Healey Silverstone), 290.
 Best Saloon (and third in trial)—R. E. McClure (Riley) 302.6.
 Ladies' Prize—Mrs. H. J. Catchpole (Ford Prefect), 396.8.

Ulster Hybrids

by

F. Wilson McComb

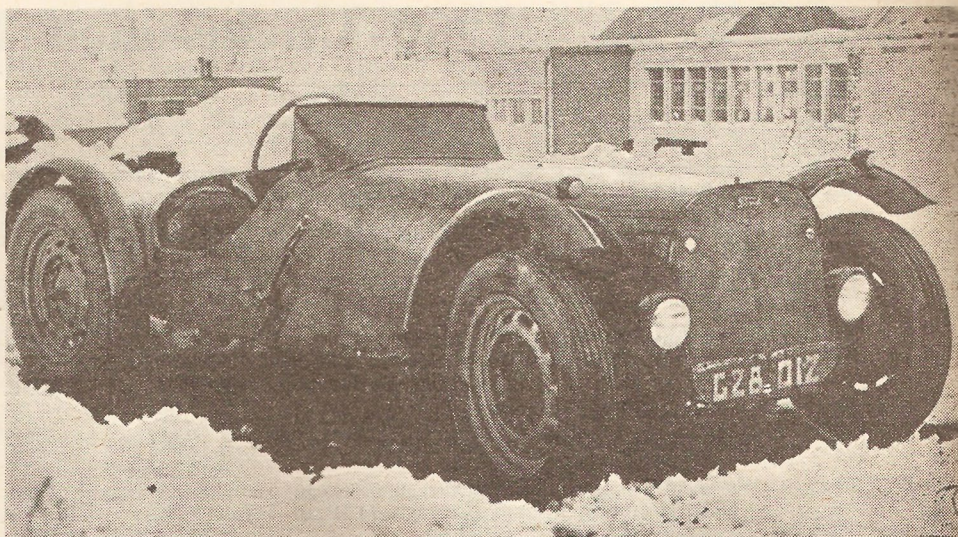
No. 2

CHRIS LINDSAY'S FORD SPECIAL

HAVING told you on 12th January something about Robin Scott's successful Ford Special, I shall now pass on to Chris Lindsay's present mount. Early in 1949, as their first Ford was proving a most capable little motor car, the Scott-Lindsay stable purchased another Smyth-built Ford Special, this time the 1,081 c.c. job which W. M. D. Montgomery had used at Knockagh hillclimb the previous September. His time of 1 min. 11 $\frac{3}{5}$ secs. was quite good, but he was outclassed at that particular meeting. The chassis was again a Y-type with standard front suspension, old-type rear suspension, Girling brakes, standard 5.5:1 back end, and lengthened drop arm, while the engine was a lined-down side-valve Ford 10 with gear-driven camshaft.

Engine Bore Increased

An extensive rebuild was then carried out by Leslie Innes and Bertie Brookes, who have looked after the car ever since. The engine was bored out to 61.5mm., giving a capacity of 1,099 c.c., Specialloid pistons were fitted to the standard rods and crank, and a Derrington o.h.v. head giving a 10:1 comp. ratio was fitted with Ford exhaust and Talbot inlet valves, and 24 h.p. Ford springs. The flywheel had been previously lightened, ignition was supplied by a Scintilla mag., and the standard clutch used. The chassis was considerably cut about and boxed in, the front radius rods were split as on Scott's car, and a little pruning done to the rear spring, while Rotoflo shock absorbers were fitted at the rear. The body frame was built up of 1 in. \times $\frac{1}{8}$ in. perforated steel strip



with Dural bulkhead, and a special radiator block made. The stark but functional two-seater body in 22 gauge Dural provided a Dunlopillo cushion on the floor and very little else in the way of mod. cons. A pressure fuel feed was installed, and, later on, the special indirect gears which Scott was using. The total weight turned out at the very comforting figure of 7 $\frac{1}{2}$ cwt.

The first event for the Ford (revised version) was the U.A.C.'s Knockagh hillclimb in March, 1949, when the car more than justified the work put into it by collecting second F.T.D. at 1 min. 3 secs., being beaten only by Kyle in Graham's K.3 Magnette, and that by only $\frac{2}{5}$ secs. This performance also gave Lindsay second place in the handicap, and first in the 1,300 sports class. Scott, driving as a secondary entry, took second place in the same class with the same car. An 8 h.p. Ford engine with o.h.v. engine was then installed for the 1,000 miles Circuit of Ireland, together with mere apologies for guards and screen, and Chris Lindsay drove single-handed through every sort of weather and road conditions to win the premier award, and the class award for open cars, irrespective of capacity.

The sprint engine being replaced after this sweeping victory, Lindsay went to the I.M.R.C.'s Enniskerry hillclimb in May, and proceeded to put up F.T.D. with a climb of 45.49 secs. which still stands to-day as the record for this hill. Scott, it will be remembered, borrowed the

engine for the 500 M.R.C.I. Downhill hillclimb in July, so Lindsay fitted his (Robin's) side-valve engine, and solemnly beat him with his own engine! Just to make a real job of it, in fact, he set up third F.T.D. Reverting to their own engines for the U.A.C.'s handicap races over the Ards airfield circuit in August, they had a grand duel in the semi-final, Lindsay having been second in his heat and second in the quarter-final. Scott's presence in the semi-final spurred him on to producing the fastest lap of the day, 1 min. 24 secs., and the fastest heat, at an average of 57.88 m.p.h., but he was beaten on handicap, and unplaced.

Success at Craigantlet

At Craigantlet two weeks later Lindsay won the 1,100 c.c. sports class, and took second place in the open 1,500 c.c. class, with a first climb of 1 min. 24 $\frac{3}{5}$ secs., although his engine went groggy for his second run. One month later he again hit the headlines at Knockagh by climbing the hill in 1 min. 1 $\frac{1}{5}$ secs., a clear $\frac{2}{5}$ secs. better than W. R. Baird's 1948 record. Baird, however, in his blown Baird-Meteorite, retrieved his record with a 1 min. 0 $\frac{3}{5}$ secs. climb, but that did not deprive Lindsay of second F.T.D. and second place in his class. Altogether, it was an amazing performance for an unblown engine, and a very successful season.

The sprint engine was removed at the end of the season, and the car used in 8 h.p. form for the winter

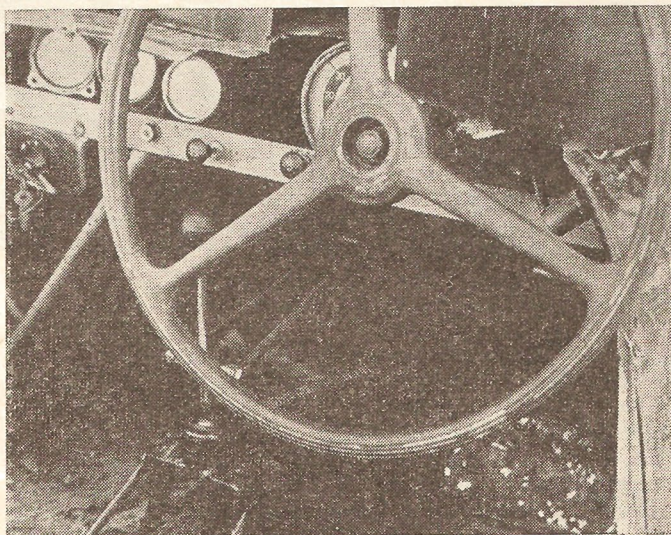
trials, without, however, any notable success. For the 1950 season a change was made which Chris Lindsay now considers unwise—twin Solex carburetters were fitted, and the comp. ratio raised to the astronomical figure of 12.5 : 1. This, of course, necessitated the use of methanol fuel, and took the Ford out of the sports car class for speed events. Returning to Enniskerry in April, Lindsay put up second F.T.D., but was unable to approach his record climb of the previous year. A time of 1 min. 24 secs. at Craigantlet in June again gave him second F.T.D., tying with C. E. Robb's Mercury Special, together with first place in the open 1,500 c.c. class and a tied second on handicap. A visit to the wet Bo'ness climb later in the month proved abortive owing to an outburst of temperament from the engine-room, but another second F.T.D. was collected at the Con-naught M.C.'s Curlew hillclimb. Yet another second F.T.D. was registered at Knockagh in September, wet conditions bringing his climb down to the not-so-very-low figure of 1 min. 5 secs.

Rather disappointed with a season's racing which did not bear comparison with the results of 1949,

although still good enough to raise the eyebrows of simple souls like me, Lindsay returned to touring form, this time with a 10 h.p. engine. So far he has taken third place in two trials and, it will be remembered, won the Newry and District M.C.'s recent trial without the aid of his clutch, finishing off the year with second place in the U.A.C. Boxing Day Trial. The sprint engine revs up to 6,500 before valve bounce sets

in, so in the light of past successes, we are likely to see little change in the Lindsay mode of transport next season, apart from a return to single carb. form. Whether he will revert to a lower compression ratio or remain in the methanol class remains to be seen, but it is safe to assume that his doings will be watched closely by anyone else who is anxious to appear in Ulster awards lists.

Spartan is the word for the "office" of the Lindsay Ford. The absence of unnecessary frills perhaps explains why the weight of the car is only 7½ cwt.



The "Highland Three Days"

Ambitious Scottish S.C.C. Event

THE 1951 "Highland Three Days" at Easter, organized by the Scottish Sporting C.C. promises to be one of the most important of all week-end events. H.Q. will be the Ben Wyvis Hotel, Strathpeffer, and a large-scale Rally will be run concurrently with the three-day trial.

The trial itself will start somewhere on the road north on the Saturday morning, and then on to H.Q. Sunday will be spent hill-bashing in the Strathpeffer area, and on Monday competitors will return south, finishing at Glen Devon. "Tam" Watson has found some really good sections.

Rally entrants start from either Glasgow or Edinburgh on Saturday morning and will reach H.Q. the same evening. Sunday will be given over to driving tests, whilst Easter

Monday sees the return route to R.V. with the mud-pluggers at Glen Devon.

The Scottish Tourist Board are co-operating to the full, and have laid on a reception and Highland Ball (with pipers and Highland cabaret) for the Saturday night.

Cost of the complete "do", apart from entry fees, will be £3 3s. 0d. per skull, which includes accommodation for Saturday and Sunday nights, dinner and the Ball, Sunday breakfast (naturally optional), lunch, dinner on the Sunday, Monday breakfast and a packed lunch specially provided and flown up by B.E.A.

The "Highland" is a National event and regs. will be sent out to all major clubs in due course. As an opportunity of seeing the matchless

scenery of Scotland, with plenty of sporting motoring thrown in, this event is to be recommended to everyone.

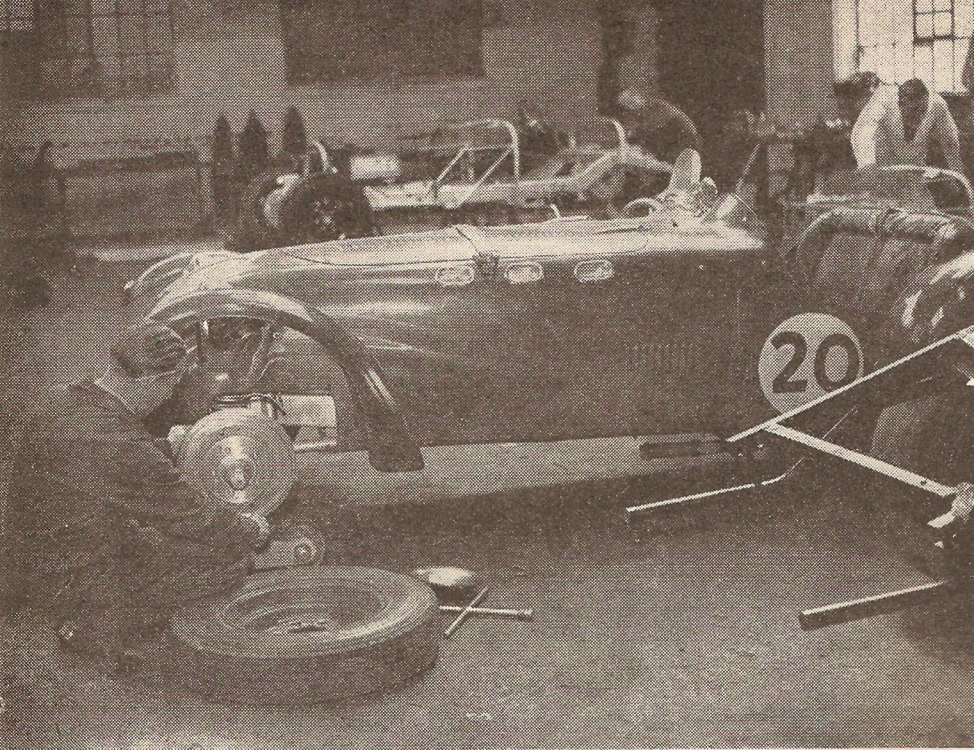
The secretary of the Scottish Sporting Car Club is W. L. B. Callander, 100 West Regent Street, Glasgow.

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WELSH RALLY REVIVED

South Wales A.C. Plans

THE South Wales A.C. has formed a Sports Committee which promises action. Three main events are planned for 1951, the first being a club rally on 5th May, starting from Neath and Cardiff. The Welsh Rally, a most popular pre-Hitler War event, is to be revived on 13th and 14th July. This will be a C.I. event, with a road section through the Welsh mountains, including an all-night drive and various tests. All interested parties should get in touch with P. J. Collins, Hon. Sports Secretary, 12 Tyrwhitt Crescent, Cardiff.



Technical and Otherwise
by

John Bolster

Preparation for Racing

Part I

Gudgeon pins want watching too, particularly if your motor has a large bore, and when a gudgeon gives way it usually breaks the rod as well as the piston. Anything that could possibly cause a connecting rod to be thrown

should be checked and double checked. A valve dropping in could do the trick, and if the timing slipped, a piston and valve could come into intimate contact, with the same result. That is why it is best to replace timing chains fairly frequently, and if the drive is by gears, these should go on the crack detector too. Without wishing to labour the point, I must remark that I have seen more than one engine cut clean in halves by a rod going adrift, and indeed the disaster can be so great that practically no usable part remains.

If the bearings are plain, they will presumably be renewed, and if the firm entrusted with the work are told that they are for racing, they will allow a suitable clearance. It may be necessary to touch the radii at the ends of the bearings with a scraper, but apart from that, all hand fitting should be strictly taboo. If you have not got a Nitalloy crankshaft, it is necessary to warn the people who are doing the job, for some bearing metals can only be employed against a hardened journal. Roller bearings should be tried for excessive clearance, and in addition the surfaces should be scrutinized with a magnifying glass.

Checking Pistons for Clearance

Pistons should be carefully checked for clearance, if you are not having new ones, but in any case new piston rings should always be fitted whenever the engine is taken down. Some valves in racing engines have Stellited faces, and these must only be re-faced against a special wheel, supplied for the purpose, as the normal one used in the valve tool would probably ruin them. It is as well to replace the studs that hold detachable heads or blocks, for they have a hard task, and it may mean stripping the engine down again if one gives way, probably when the time cannot be spared. The studs will in any case have to be drawn, so that the faces can be checked for truth.

If the head is a light alloy one, it is almost certain that it will have to be trued up, and it should be checked

THIS series is intended for those amateurs who have done little or no racing before, and is far too elementary to be of any interest to the "Wilkie" Wilkinsons, Jack Playfords, or George Boyles of this world. The skill of those gentlemen, and one or two more like them, is something that few of us will ever approach, and to them the preparation of a racing car is nothing less than an art. Nevertheless, the general standard of maintenance has dropped considerably since before the war, and many races have been thrown away for this reason. If these few notes prevent other people from making the same mistakes as I have made in the past, my object will have been achieved.

The Complete Winter Overhaul

Dealing first with the engine, there are two phases of preparation. The most important one is the complete winter overhaul, and this is backed up by the work necessary between events to keep the motor up to scratch. Operations should be started immediately the season is over, for although hurried work is sometimes unavoidable in racing, it is most undesirable, and a higher standard will be achieved if proper time can be given to the job.

It goes without saying that the engine will be stripped right down, and all worn parts replaced. What I would implore you to do, though, is to send the more highly stressed components to be crack tested. It is amazing how often one can save a car's life by catching a crack in time, and this applies particularly to the connecting rods. It is a sad thing when a man spends a lot of time and money on his pet engine, and then, in his first race, a rod lets go and damages the unit almost beyond repair. I have known as many as seven cracks to be detected in an apparently perfectly sound rod, and that would certainly have wrecked the machinery if it had been used again. I would replace all the big-end bolts as a matter of course, and I do not admire the practice of drilling a hole down the centre of them for lightness.

on a really good surface plate and hand scraped. If it has "gone" too far, it can be machined with a fly cutter, but it will then be necessary to ensure that the compression is not raised unduly, nor must vital clearances be jeopardized. The induction manifold should also be tried on the surface plate, as this will avoid trouble with joints.

The magneto must certainly go back to the makers for servicing, and the carburetter should be examined for wear and thoroughly cleaned. All copper pipes should be softened by annealing, and light alloy and flexible pipes renewed. The exhaust system may be starting to crack, too, or it could be almost burnt through.

Routine Maintenance

An engine that has been gone over in the manner described, and then carefully assembled, should do several races with only routine maintenance work in between, or a whole season of sprints and short races. After each event, however well the car has gone, the compression pressure should be tested in each "pot". This highly scientific process may be carried out by bunting your thumb over the plug hole and getting a chum to wind. Anyway, if one cylinder is short of breath, the head must be whipped off straight away, for although there may be no loss of compression at racing speeds, it means that something has started to go wrong; it

could be a very slightly warped valve, but whatever it is, it must be cured.

Any work carried out on the engine should be noted in a book, for it is astonishingly easy to forget what one has done. All settings should be taken down, and once the machine has gone really well, nothing should be altered without very good reason.

If the car is a sports model, which is normally driven fast on the road, there is a temptation to imagine that racing cannot be so very different. Take it from me that the stresses are enormously much greater, and it would be a pity to flog a favourite motor without first making sure that it was up to scratch. Many road cars suffer from fuel starvation when subjected to prolonged full throttle work, and it may be necessary to fit bigger fuel lines, quite apart from double pumps or higher pressure. Trouble may be experienced at the start of a hillclimb, for the column of fuel in the pipe tends to surge back towards the tank.

In this article, I have tried to show how careful and leisured preparation in the winter may save much money, and even a ruined engine, during the racing season. My emphasis on electrical crack detection might make the drivers of rare vintage machines pause, for by such a course of examination they could avoid wrecking their old but beloved cars.

My space runs out, but I hope to return to this subject in my next effusion.

RUSSELL LOWRY'S

Northern Lights

VOYAGE OF DISCOVERY—"SPHERES OF INFLUENCE"—TRIALS HILL,
TO USE OF, 2/6d.—ENTER THE ODOMETER—TROPHY FOR REVOLVERS

At long intervals in the course of a lifetime, the connoisseur comes across a forgotten bit of Imperial Tokay, a first edition of some choice work, or maybe a Silver Ghost in orig. cond. one owner, wks. mtd. "Northern Lights" experienced a similar thrill the other evening on finding himself in the company of the Furness District Motor Club, which flourishes in that inaccessible corner of England tucked away behind the Lake District. From a total of less than fifty, two or three years ago, membership of the Club has grown to nearly four hundred at the present time. Their calendar includes twenty-two major events for 1951, divided in a reasonable proportion between motor cycles and cars, the latter being mainly standard vehicles. Scrambles or "Motocross" (if you want to be all modern), are enormously popular in the Lake District, where fifteen thousand spectators are liable to turn up, even on desolate moorland and in bad weather. The sport is followed with real enthusiasm and understanding. The real pleasure of the whole thing, to me, however, is that the motor cycle members run trials for the cars, and the four-wheeled branch replies by running them for the motor cycles, so everybody gets lots of fun. The first car trial of the present

season will be held on 18th February, and will cater for ordinary cars as opposed to Specials.

The occasion of my visit was a film show featuring the Club's events plus some very good racing pictures of Silverstone and elsewhere. The gem of the collection was undoubtedly a complete view in colour of the famous pile-up in last year's Monaco Grand Prix, taken by a leading member whose name is only withheld because he obviously couldn't lend the film to all the clubs who would want it.

* * *

All clubs will agree that the possession of a sprint course is more precious than rubies or than much fine gold. This being so, it is particularly galling to lose such a course, having once got it and established good relations with the owners. Yet the thing can easily happen, and, in at least one case, has recently done so, because so many people lined up with requests that the owner felt the only thing to do was to withhold permission altogether since everybody could not have it.

(continued overleaf)

Northern Lights—continued

Most of the eligible airfields and similar grounds have, for years, had club committees feverishly negotiating for them, sometimes jointly, and sometimes in acute rivalry. While this phase lasts, I suppose everyone is entitled to play his hand to the best advantage, although co-operation would probably give better results. Once the die is cast, and a club has actually held a meeting on a given field, that club should surely be entitled to consider it as a "sphere of influence", and further applications should not be made without the knowledge of the club or of some impartial body. In the North, the Association of Northern Car Clubs exists partly to iron out difficulties of this sort. It is particularly tragic that a track should have been lost, as we in the North, although providing a large proportion of the competitors in sporting events, have never possessed the amenities and privileges enjoyed by the South.

* * *

IN days gone by, clubs used occasionally to give farmers fifty cigarettes (price half-a-crown in the Bad Old Days) for the use of some particularly choice hill in a trial. Then the "consideration" crept up to a pound. Then to two pounds. But if the thing goes on at its present rate, I am beginning to wonder how some of these farmers will reconcile their revenue with that horrible man Mr. P.A.Y.E.! On the other hand, the goose that lays the golden eggs is getting rather weary in some cases, and there are indications that the precious bird will fly away and make his roost upon other less frequented crags.

* * *

UNTIL a few weeks ago, I had never heard of such a thing as an odometer. Then my daily literature began to sprout such items as "Odometers will be sealed . . .", "Odometers will be deemed accurate for the purpose of this event . . .", "The odometer was adequately illuminated". Odometers had evidently become very popular, and one could not help wondering what they might be. Reference to one of our more enlightened schoolboy readers produced the fact that a noise sounding like *hōdos* was the Greek for a roadway or track, so it seemed that the mysterious instrument was neither more nor less than the little panel of miles which features on most speedometers. In future, we shall refer to our watch as an horolog.

* * *

THE tests in a recent Northern event included jacking up the car and removing a wheel. The only competitor whose car was not carrying a jack, proved to be the local garage proprietor! A second test involved finding the starting handle, inserting same, and getting the engine started. Some of the contortions witnessed were really quite astounding, especially amongst owners of the more modern cars which keep their starting handles buried underneath the spare wheel in the "capacious boot".

Competitors didn't know what these tests were going to be until they arrived on the scene, so theoretically, at least, they were quite unprepared. One wise citizen was, however, observed to pull up on the line with his door open, and his starting handle carried smartly at the ready . . . but perhaps he normally keeps it under the seat.

* * *

ONE of our Northern friends had built up a good and popular business designing, creating and tuning Specials. We have just learned that he has given it up, and is returning to . . . agricultural machinery. The change is not as drastic as it sounds, if you really think about it.

* * *

NOT the least prized among northern trophies is one known as the Revolver's Cup, which circulates by private arrangement among our more eminent revolutionaries. Whoever spins round oftenest at any given race meeting, holds the cup until another claimant arises. At the end of the season, it remains the property of the highest scorer. A new cup has been procured for 1951, and awaits its first holder.

* * *

IT seems that the B.A.R.C.'s popular Scarborough Week-End is in jeopardy, as the two major political parties have conferences scheduled for that resort, straddling the B.A.R.C.'s dates. The possibility of various political personages of either or both persuasions getting mixed up in a motoring event, calls up pictures worthy of our most biting cartoonists. It is hoped that another venue may be found, but comparatively few can offer the amenities previously enjoyed on Scarborough's Marine Drive.

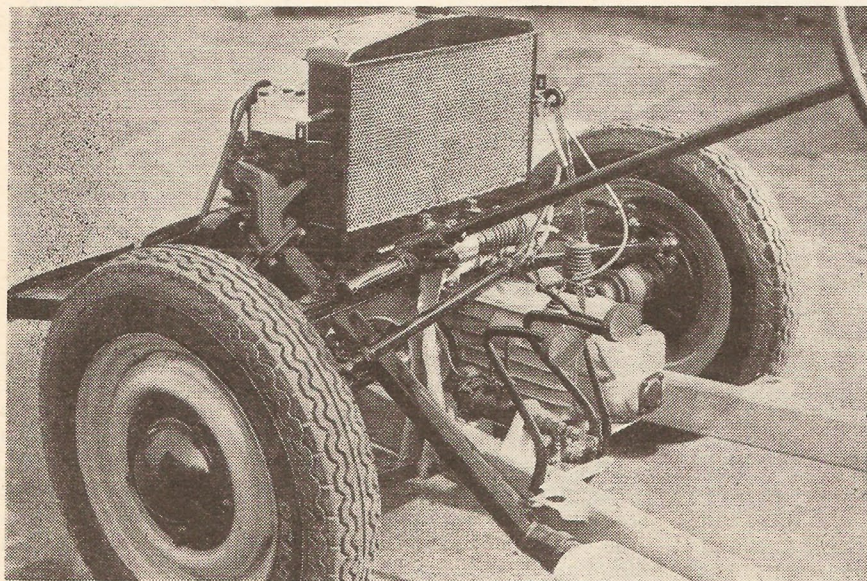


Yes, it is really meant to go on the road! Designer-constructor George Wolf in his "Little Wolf" (referred to on the opposite page). Weighing 418 lb., it is powered by a 200 c.c. air-cooled four-stroke motor and maximum speed is said to exceed 45 m.p.h. Fuel consumption is stated to be about 100 m.p.g.

The Three-cylinder DKW

IN-LINE, FRONT-DRIVE, TWO-STROKE NOW IN PRODUCTION IN EASTERN ZONE OF GERMANY

THE German motor industry situated in the Eastern Zone was in July, 1948, combined into a single organization known as the *I.F.A. Vereinigung Volkseigener Fahrzeugwerke* which includes such marques as Audi, DKW, and Horch, of the

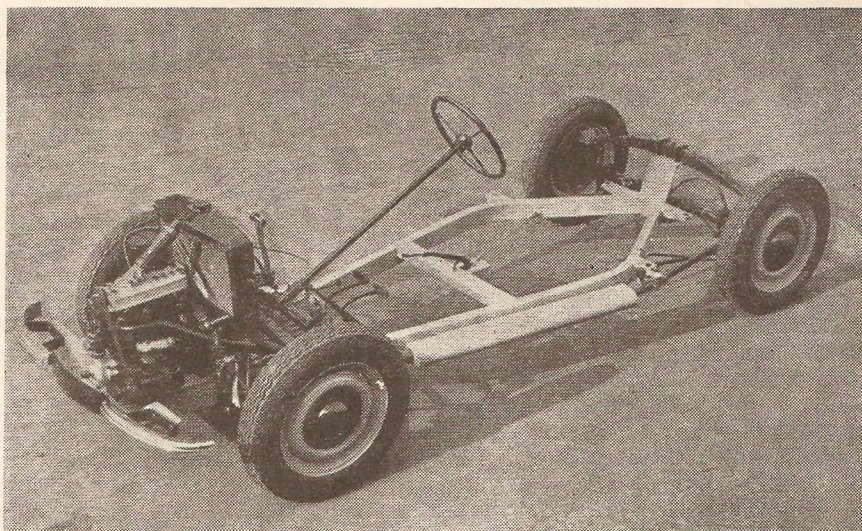


old Auto-Union combine, Framo, Phaenomen and others of lesser importance, whose plants are in the areas under Russian jurisdiction. Activities are concentrated on the production of utilitarian type cars and commercial vehicles, and the 3-cylinder 2-stroke DKW car of somewhat "austerity" design is an interesting example of the combine's products.

Both the DKW F8 and F9 cars are now being produced in the Audi works, the production of the latter model having been commenced in 1950. This interesting design incorporates front wheel drive, and is powered by a 70 mm. x 78 mm. 3-cylinder in-line engine of 900 c.c., which develops 28 b.h.p. at 3,600 r.p.m. Compression ratio is 6.25-1,

and ignition is by battery and 6 v. 130 w. dynamo. Thermo-syphon water cooling is employed, the system having a water capacity of 2.6 gallons. The unit is three-point suspended in rubber, and like the Dyna Panhard described in *AUTOSPORT*, 5th January, is mounted ahead of the front wheels.

The engine drives through a single plate clutch and 4-speed gearbox aft of the front wheels, third and fourth speeds being particularly quiet. Transverse leaf and wishbone i.f.s. is employed in conjunction with telescopic shock absorbers. The frame is of welded rectangular tube, the rear portion of which tapers inward to a central structure supporting the rear suspension.



(Above). Simple chassis layout of the F9 DKW. It has independent suspension to all wheels by transverse leaf springs. (Left). Close-up of the gearbox assembly. Rack-and-pinion steering is featured.

I.F.A. hydraulic 4-wheel brakes are fitted, plus a mechanical hand brake to the rear wheels. Front track is 47 in. and rear 50 in. Total weight of the car with bodywork is 17 cwt., permitting a maximum speed of 68 m.p.h., with average fuel consumption of approximately 33 m.p.g.

* * *

THE LITTLE WOLF New German Lightweight

BUILT and designed by George Wolf of Niebüll, Germany, the "Little Wolf" is the latest in lightweight open cars. It weighs 418 lb., and is powered by a 200 c.c. air-cooled four-stroke engine. Maximum speed is said to exceed 45 m.p.h., and petrol consumption is around 100 m.p.g.

The body is one-piece and can be removed by unscrewing a few screws. Independent springing to all wheels is a feature. The car has been tested and found satisfactory by the Braunschweig Technical College, and the designer intends to go into series production of the "Little Wolf" at a price of about 1,800 marks (approximately £150).

HANS WILHELM BOJE.

(Illustration on opposite page)

The Overhead Camshaft M.G.s

by Philip H. Smith, A.M.I.Mech.E.

WHEN re-fitting the oil sump, a paper washer of the type already described should be used between the flanges, together with jointing compound. If the washer is manufactured, make sure that all the necessary holes are cut, in particular those for the oil-drains. Do not use undue force when tightening up the nuts on the same studs, as they are only $\frac{1}{4}$ -inch diameter threads, and see that the spring washers have been replaced thereon.

Lining up the Clutch-shaft

It may be considered advisable at this stage of assembly to replace the engine in the chassis, particularly if lifting tackle or a few extra pairs of hands are available to cope with the extra weight of the complete unit. The main thing to watch is in connection with reassembly of the clutch. It is obviously necessary for the clutch plate splined bore to be co-axial with the flywheel spigot bearing, so that the clutch-shaft will enter without trouble when the housing flanges are lined up. For this purpose it is necessary to use a mandril of a diameter which will just fit nicely through the clutch-plate bore, with one end reduced in diameter to enter the inner diameter of the ball-race in the flywheel centre. If the mandril is fitted into the ball-race, and the clutch-plate passed over it, the pressure-plate can be bolted up with the assurance that the parts are in correct relative positions. The mandril can then be withdrawn.

If the above procedure has been carried out, there will be no difficulty in fitting the engine back in the chassis, in more or less the reverse order to that in which it was removed. Put a spot of oil on the clutch-shaft splines and the end which engages the spigot-bearing, and see that the engine is level on its underneath support. There is no washer between the clutch-housing flanges, and these can be pulled together very carefully by two suitable nuts and bolts, after first ensuring that the clutch-shaft has properly entered the centre of the plate. (Incidentally, re-assembly is invariably much easier than dis-assembly). When the flange has pulled up properly, the flange bolts can be fitted. The front nose-piece is fitted to the front housing with a paper washer and jointing compound. It will in all probability be advisable to use a new rubber sleeve on the clamp to the front cross member.

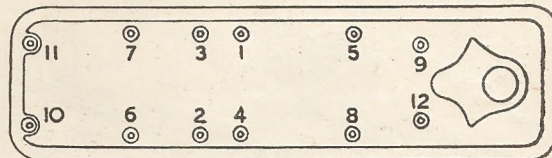
The above procedure is, of course, the same whether the engine is only partially or completely assembled. We will now consider the other work necessary to complete the job of engine assembly.

Unless the cylinder head gasket is damaged, it should not be discarded. There is no virtue in using a new gasket for any other reason. Also, unless the reader possesses uncommonly comprehensive facilities for ensuring absolutely "super" faces on head and block, no attempt should be made to use any form of thin gasket to raise the compression. The proper way to do this is to machine the head as already described. In short, there is nothing to beat a well-seasoned standard gasket. Before fitting the head, apply high-melting-point grease to both faces of the gasket; this will give a 100 per cent. tight

joint, with the head perfectly easy to remove next time.

Before finally tightening down the head, examine the camshaft-drive coupling above the dynamo. With No. 1 piston at firing t.d.c., and the dynamo coupling fork pointing fore and aft, the camshaft-drive coupling fork should naturally point left-and-right with both valves on No. 1 cylinder closed. The coupling disc should be perfectly flat, and not distorted in any way. If there is any discrepancy, modification of one or both coupling forks is essential to ensure that there is no end-thrust on the shafts. This condition usually arises if the head has been planed, thus lowering it in relation to the dynamo.

Assuming that all is well in regard to the coupling, the head can be tightened down. The correct order of attack on the holding-down nuts has already been given, but for quick reference, no doubt the Editor can be prevailed upon to reproduce the original diagram.



Correct sequence of tightening cylinder head nuts on the P-type.

When tightening, use the normal ring-spanner, having about a six-inch length of lever. Use plenty of force on this, and the tension will be right. If the job is done once and for all in the correct manner, there will be no need to "go round the nuts again" in the time-honoured manner. This procedure usually boils down to over-tightening the relatively few nuts that can be conveniently got at when the engine is assembled, and probably does more harm than good. Anyway, it is not necessary.

The camshaft drive having been permanently coupled up, a final check can be carried out on the valve timing, which is as follows:

- Inlet opens 15 deg. before t.d.c.
- Inlet closes 55 deg. after b.d.c.
- Exhaust opens 50 deg. before b.d.c.
- Exhaust closes 20 deg. after t.d.c.
- Overlap 35 deg.

A rough check can readily be made by using a circular protractor or "timing disc" attached to a wooden shaft driven into the starting-handle dog centre and protruding through the nose-piece so that it can be seen without difficulty. The check need be no more than rough, as the number of teeth on the bevels ensures that one tooth error makes a lot of difference in timing, although it might be mentioned that the engine can be made to run in this condition! Arrange a pointer attached to the front cross-member in a position that at t.d.c. of No. 1 cylinder the pointer zeros on the protractor. Then check the readings by watching the cam action on No. 1.

(To be continued)

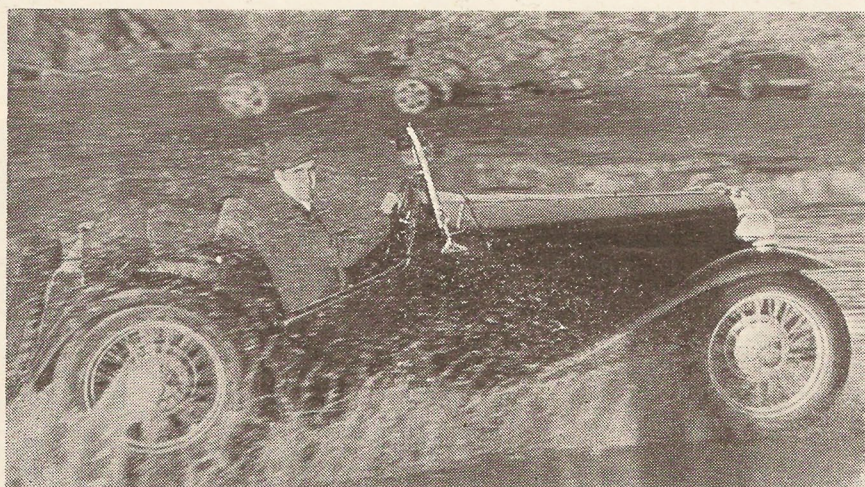
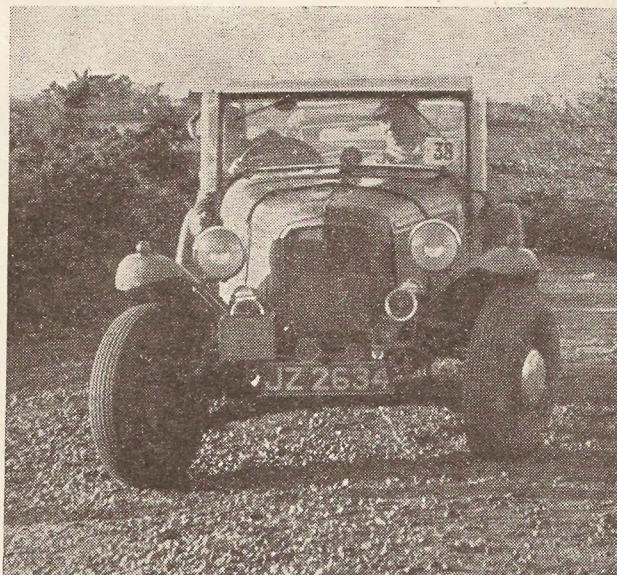
The Knock M.C.C. Trial

W. R. CHAMBERS'S LUCKY ESCAPE—
WILBERT TODD WINS WITH HUMBER
—ERNE ROBB TAKES SALOON CLASS

THE 13th January proved an unlucky day for Billy Chambers at the Knock M.C.C.'s Driveability Trial. Negotiating one of the special tests held in a quarry at Carrowdore, Co. Down, he drove his TD M.G. over a 30 ft. cliff, the car turning over twice and finally coming to rest on top of him. Friendly spectators succeeded in lifting the M.G. sufficiently for Chambers to crawl out, who we understand has suffered no serious injury. The car's wind-

(Right). Wilbert Todd (Humber) doing his "goldfish in a bowl" act in one of the special tests.

(Below). Amphibian M.G.: Harvey McWhir motors his TC through a water-splash in one of the quarry tests.



18 4/5 secs., and Ernie Robb again put up the best performance in the saloon class with 22 1/5 secs. The participants then left for the Mervue Hotel, Bangor, where they heard the comforting news that W. R. Chambers had been allowed home from hospital, albeit minus a tooth, after having one cut stitched.

RESULTS

Open Car Class—1, W. T. Todd (Humber Sp.); 2, C. E. J. Atkinson (Ford Sp.).

Closed Car Class—1, R. J. Adams (Sunbeam Talbot); 2, D. P. Johnston (Allard).

(We regret these results were inadvertently published with the report of the U.A.C. Trial in last week's issue.)

* * *

screen was shattered and the wings crumpled, but it also seems to have escaped lightly.

It was a pity that this accident to a popular driver marred the event, for it was a day of bright sunshine and high spirits. Thirty-one starters left Massey Avenue, Belfast, following a dyed route to the first test, a timed round-the-pylon at a Y junction. C. E. Robb manhandled a Humber Hawk saloon round in fine style, his time of 18 3/5 secs. being best in the closed car class. Fastest open was W. T. Todd (Humber Sp.) with 16 3/5 secs.

From here the dye led to the quarry, where three tests were laid out. In the first, competitors were timed from one of three starting lines—according to horsepower—round a hairpin and up a hill surfaced with loose gravel, around a

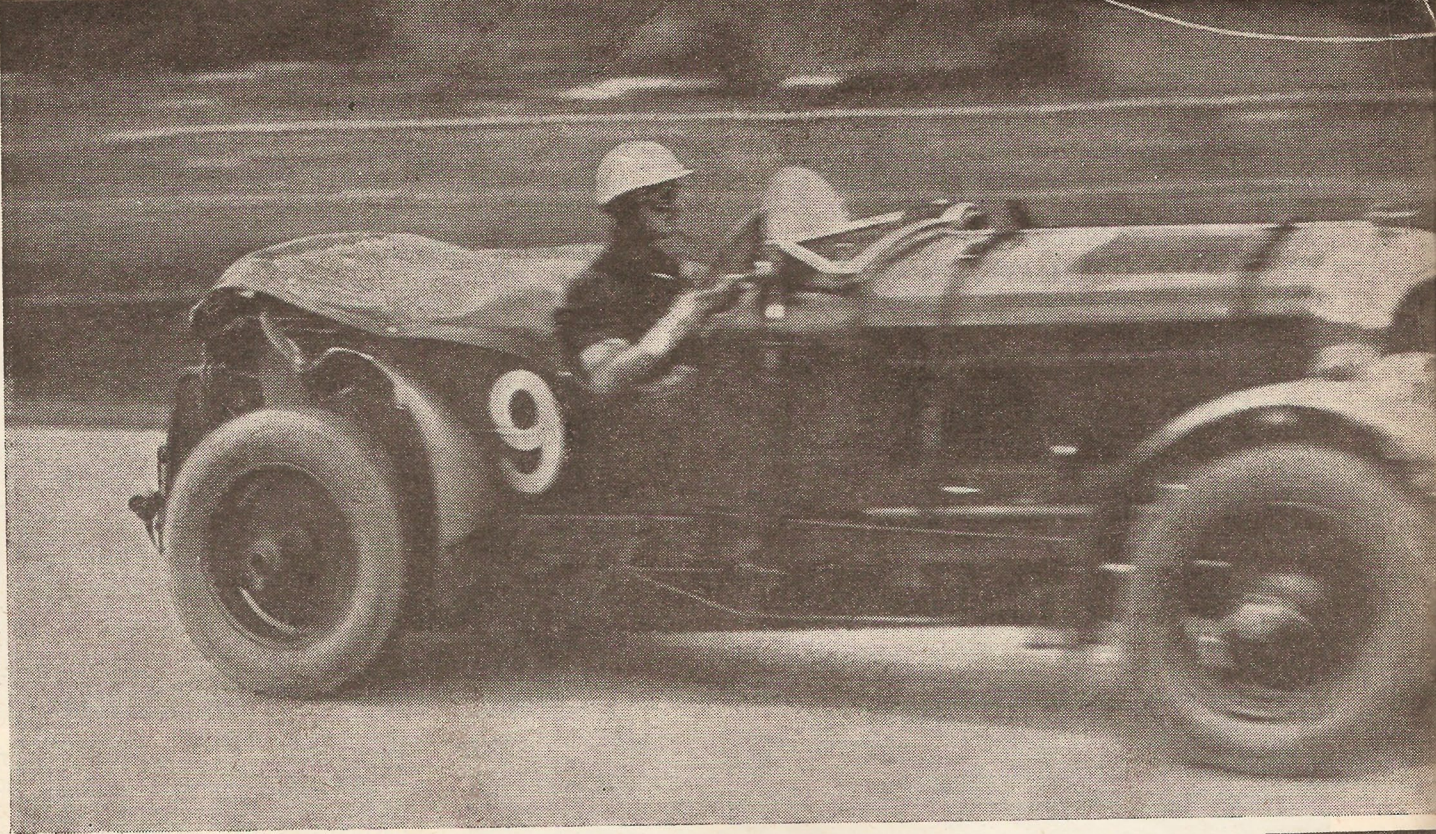
marker and down again. The space round the marker was so restricted that few could manage it on one lock, although many tried—it was here that Chambers went over the edge. Wilbert Todd drifted round on the handbrake, emulating, in the words of Secretary W. B. Michael, a goldfish in a bowl, and again putting up best time of the day with 23 2/5 secs. The fastest closed car was D. P. Johnston's Allard (28 4/5 secs.).

Todd repeated his performance at the next test, another spot of reversing, with 15 2/5 secs., and R. J. Adams was not far behind in his Sunbeam-Talbot saloon with 16 1/5 secs. Two attempts were allowed at the final test, a timed negotiation of markers, the inevitable winner being Todd, whose fur headgear seems in some strange manner to add weight to his right foot. His time was

THE BENTLEY OWNERS' CLUB

A NEW club has been formed for Bentley enthusiasts, and is to be known as the Bentley Owners' Club. Open to present and past owners of Bentley cars, it is to be an independent body having no connection with any other club, and caters for members wherever they may live. A special effort will be made to establish a depot (not a spares register which may be out of date) holding spares which will be immediately available to members.

Entrance fee is 10s., membership subscription is £1, and wives or husbands of full Members are admitted as Associate Members at 10s. without an entrance fee. Those interested should contact the Hon. Secretary, "Puck" Llewellyn-Evans, De Montfort Chambers, 18 Hammet Street, Taunton, Somerset.



THE photographs on these pages surely justify this account of the great but all too rare Bentley-Mercedes duels which enriched sports car racing twenty years ago. To modern lay eyes, these vast cars may appear dated and primitive, but to the aesthetes, among whom are many engineers and technicians, they are the very epitome of functional beauty. No garish "gew-gaws" or chromed falsities taint their honest lines, their balance and proportions are unexcelled. Giants they were, and heavy forsooth, yet in their very "animal" perfections they remain as classic examples of sports car design.

The Bentley-Mercedes rivalry was never, in point of fact, as extensive as some legend would have it, being confined to but three major events, the 1929 Ulster "T.T." and the Le Mans 24 Hours race and Irish G.P. of 1930. Invariably, however, a number of milder "brushes" between the British and German makes occurred during the years 1928 to 1930, when the Bentleys were raced extensively and Mercedes on a more limited but highly formidable scale.

First Clashes

The first time the two marques contacted was at Brooklands in the 1928 Essex Six Hours Race, but it was inconclusive as neither won. The one Mercedes, Capt. A. G. Miller's 6,379 c.c. blown model, retired, and the best Bentley, Birkin's, was third. Journeying into the very lion's den for the German G.P., the colourful Sir Henry Birkin pitted his unblown "4½" against an entry teeming with great white Mercs., all of around 6½ to 7 litres' capacity, having blowers which could be cut in or out at will. He was the very first Englishman to race on the lengthy and difficult Nurburg Ring, and the seemingly modest eighth place he gained was recognized by the Germans as a very fine showing—his was the first unblown car home, behind four big Mercedes and three works Bugattis.

The first Ulster Tourist Trophy race brought little luck to either marque, but for the "greens" Birkin got fifth place, a class win, and fastest race average, while "Scrap" Thistlethwayte took the record lap in stirring style on behalf of the "whites". At Brooklands for the 1929 Six Hours Race things were all in Bentleys' favour and the works cars duly won, whereas two British-owned Mercs. retired. Then at Ulster in the second "T.T." came the first meeting of works cars of both makes on a rainy circuit, resulting in a rather humiliating defeat for the Bentleys by one poker-faced German wizard in one large, seemingly unwieldy, but extremely fast 7-litre Mercedes-Benz. As Norman Smith has recounted in a recent issue of AUTOSPORT, it was Rudolf Caracciola's day, and on the wet Ards course he was unbeatable, the speed and noise of his mighty car with its shrieking blower awe-inspiring. One Bentley (Rubin's) overturned on to its crew, who were extracted only with difficulty; another, Glen Kidston's "Speed Six", battled bravely with the Merc., then skidded off the road (the driver said he'd "never seen a telegraph pole get out of the way so quickly!"); while a third Bentley went out with engine trouble, yet all the time Caracciola climbed steadily up the leader board and scored a resounding triumph for Germany. Birkin's Bentley came eleventh after a grand fight with the second Mercedes driven by "strong man" Otto Merz, who was excluded for removing part of his car's equipment, namely one wing. (He tore it off by hand!)

The Big Fight

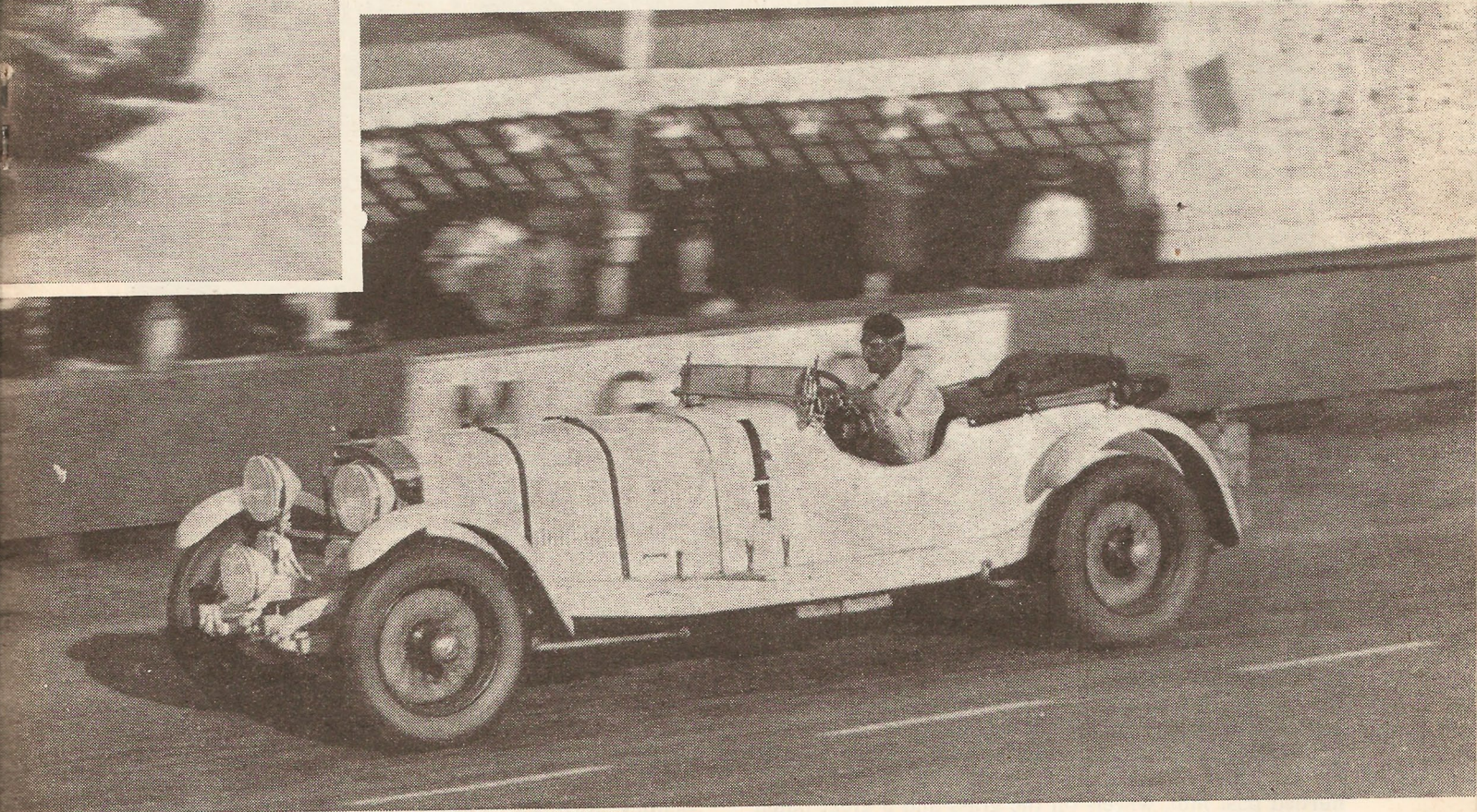
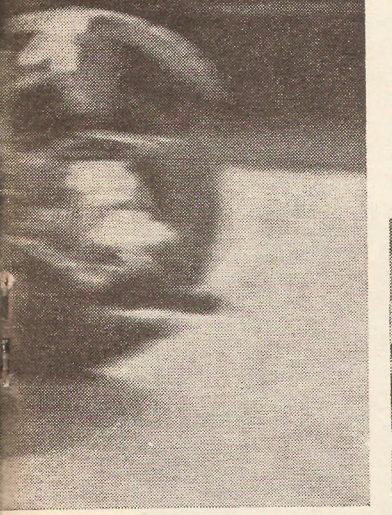
So we reach the 1930 Le Mans 24 Hours Race, in which sheer performance and doggedness came up against shrewd team tactics and weight of numbers,

BATTLE of the GIANTS

HOW THE MIGHTY MERCEDES AND BENTLEYS STRUGGLED FOR SPORTS CAR SUPREMACY TWENTY YEARS AGO

BENTLEY: (left). One of the great names of motor racing, the late Sir Henry (Tim) Birkin in the Hon. Dorothy Paget's 4½-litre "Blower Bentley" at Le Mans in 1930, during his thrilling "pacemaking" run. The rear wing was battered by flying treads.

MERCEDES: (below). Christian Werner in Caracciola's white car which put up a grand fight against the Bentleys in the 1930 Le Mans race. It was eliminated by electrical trouble.

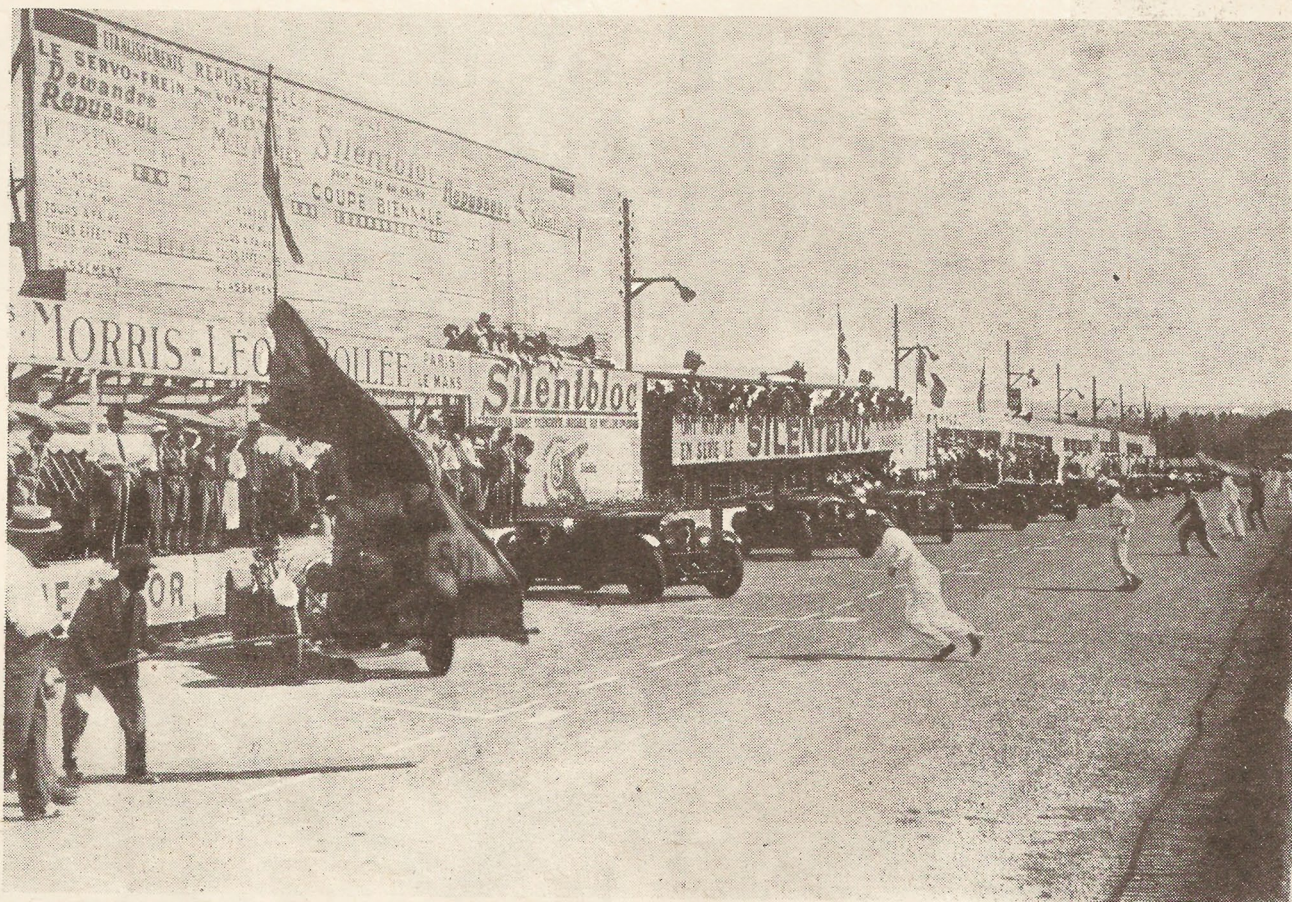


(Photographs kindly loaned by the Bentley Drivers' Club)

resulting in as grim and heart-stopping a battle as was ever witnessed on the historic Sarthe circuit. The Germans had never raced at Le Mans before, whereas Bentleys were highly successful veterans of the great G.P. de l'Endurance. It says much, therefore, for the reputation of Caracciola and Mercedes-Benz, that their entry of a single car was from the very outset looked upon as a serious threat, this despite the fact that *five* Bentleys would be running—three of them the magnificent "Speed Sixes" and two the supercharged 4½-litre cars evolved by Birkin and Amherst Villiers under the patronage of Miss Dorothy Paget. There were also two 5-litre straight-eight Stutz "Bearcats" to be reckoned with among the big cars, so Bentley plans were carefully laid. By temperament and skill Capt. Birkin was an obvious choice for "pacemaker", his mission being to lure the Germans to

too high a pace and thus overstress the machinery, while behind, in waiting, would be Sammy Davis and Clive Dunfee with the first "Six" followed by Woolf Barnato and Glen Kidston on the second. With but one car, the Germans were almost bound to try to hold the leading Bentley rather than let it establish a lead. . . . But Robbie Burns was right about the best laid plans "ganging aft alee", and although the end was achieved, it came about in a different manner than anticipated.

As No. 1, Caracciola's Mercedes was at the head of the long file of cars at the start, and when the flag dropped "Rudi" sprinted across into his imposing white machine and was away with a roar and a rising shriek from the blower, with Kidston and Davis heading the pursuit. Pacemaker Birkin's car, No. 9, was forced forward, how-



LE MANS: Start of the 1930 Le Mans race, with Caracciola's white Mercedes partially obscured by the starter's flag. Birkin's No. 9 heads the strong Bentley line-up.

Battle of the Giants—continued

ever, and by the end of lap one lay second. Caracciola put in lap two at 86.48 m.p.h., but "Tim" countered on his third round with 88 m.p.h., drawing nearer to the Merc. Then, while the weighty Bentley was travelling at well over 120 m.p.h., a rear tyre flung a tread with a resounding crack, smashing the mudguard under the impact. His quarry in sight, Birkin would not slacken speed, however, and Caracciola, occupying the crown of the road, was astounded when the green Bentley suddenly hurtled past him, wheels on the grass and a great patch of bare canvas showing on one. The two great cars roared past the stands together, the crowd agog at the "great but crazy Sir Birkin's" battered rear wing and tell-tale white on the tyre. Caracciola had been saving his supercharger, but now, his foot hard down, it wailed constantly as he strove to match Birkin's pace. Another wild lap, the Bentley still ahead, and then the inevitable happened, the tyre burst and Birkin crawled round to his pit. His car's weight and pace had halted the pace-maker, and the Merc. still led!

No Respite

But the German car was to have no rest, S. C. H. Davis increasing the pace of his "Six", the other Bentleys in wake. Always a green car was there to harry the white, though Caracciola drove magnificently to lengthen his

lead. Then the big Bentley drew in for a model refuelling stop and co-driver Clive Dunfee eagerly joined the fray. Alas, on his first lap he approached Pontlieue Corner too fast, slid wide on the bend and embedded his car in the sand bank. Frantic digging proved of no avail and the first Bentley's race was over! Birkin, rejoining the race, was now well behind, so Capt. Woolf Barnato, in Kidston's refuelled car, took over the stern task of retrieving Bentley fortunes. The Mercedes had stopped too, forfeiting some of its hard-won lead by a spot of un-Mercedes-like pitwork. The veteran Christian Werner (he began racing in 1901!) took over, still holding the lead, but he could not equal his partner's lightning pace and Barnato drew closer.

When Caracciola resumed driving, the time loss was such that, with the race five hours' old, the Bentley passed into the lead. "Rudi" repassed, only to lose his place again four laps later. "Babe" Barnato then stayed ahead for nearly two hours, when again the Mercedes wrested back the lead, only to lose it once more, shortly after midnight. The Le Mans night was fine and full of gaiety for spectators, but in the Bentley and Mercedes pits team managers Kensington Moir and Neubauer concentrated grimly on the struggle. Still the Bentley led, and still the great Merc. hung on for lap after lap. But just as "Rudi" dogged Barnato like a shadow, so Nemesis followed the

German's tail—and struck! The Mercedes fell back and presently drew into its pit, its headlights fading as it stopped. After a wonderful ten-hour running fight at odds of five to one, the batteries and dynamo had failed and the car, deprived of lights and means of starting, was out of the race.

Bentley Works Team Disbanded

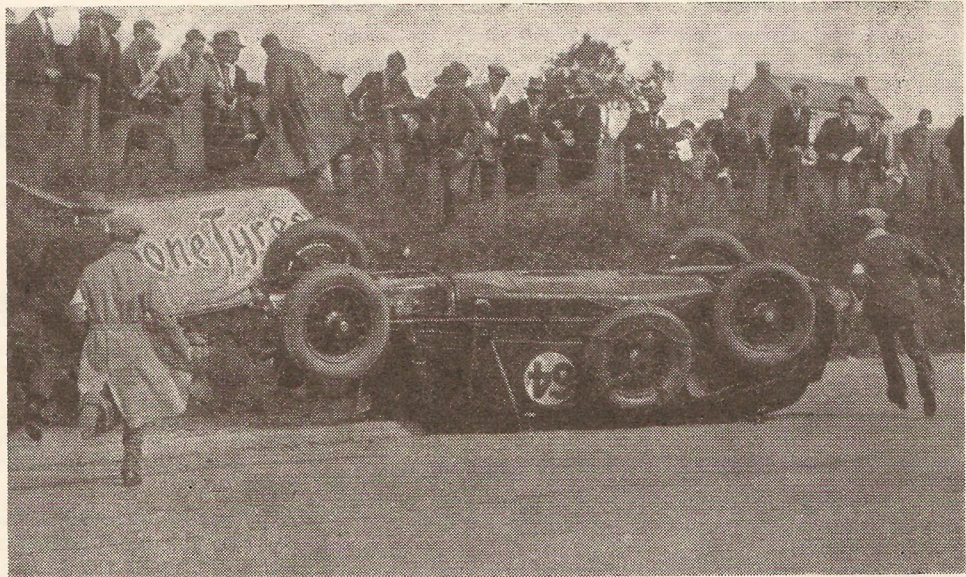
Thereafter it was Bentley all the way and the "Winged B" scored its fourth successive Le Mans victory. Then came a bombshell, the Bentley Company announcing its withdrawal from racing forthwith, two "Speed Six" entries for the Irish G.P. at Phoenix Park being cancelled. This was a tragic blow, alleviated only by Miss Dorothy Paget, who continued to support the blown cars for that year, and the full trio raced at Dublin, manned by "Tim" Birkin, Chassagne and Beris Wood.

This time there was no single Mercedes to challenge the Bentleys but three! One, Caracciola's, was a short chassis SSK, and two were SS models in the hands of Earl Howe and Malcolm Campbell. It poured with rain both before and during the race, leaving the course wet and slippery, so with *regenmeister* Caracciola a runner, need one say more? He had to contend with Birkin and two other Bentleys, Alfa-Romeos driven by aces Varzi and Campari, and other fast stuff, but he led all the way, made the record lap and won by eight minutes at an average speed of 85.88 m.p.h. His Le Mans rival, Birkin, drove tigerishly, holding the SSK off (on handicap) for nearly twenty laps, but had wretched luck with failing oil pressure, as did the other

"blower" cars—a reversal of the Le Mans situation indeed. Campari's Alfa came second, Howe's Mercedes third and "Tim" Birkin struggled home a gallant fourth, at 78.85 m.p.h., an average which included many infuriating stops.

Ulster Honours Even

In the 1930 "T.T.", Caracciola's car was excluded for having a non-standard supercharger, but Campbell and Howe ran their cars, taking first and second in their class. As Bertie Moir (blower 4½) and E. R. Hall with his own Bentley also took first two places in their class, honours were about 50-50 at Ulster. But with Bentley works support withdrawn, the spine of the inter-marque struggle had gone. Mercedes went right ahead in 1931, winning the Italian *Mille Miglia* and the Belgian 24 Hours Race, and taking a second at Le Mans, but it must be recorded that the fine old Speed Six Bentley which had finally got the better of the Merc. at Le Mans in 1930, scored another success at the close of 1931 in the Brooklands 500 Miles Race. Among the retirements was a white 7-litre SSK Mercedes-Benz, driven by Goffredo Zehender. . . . C.P.



ULSTER: Rubin's Bentley immediately after overturning in the 1929 T.T. race, which proved a triumph for Caracciola's Mercedes.

PETERBOROUGH M.C. NIGHT TRIAL

Change of Date

OWING to clashing of dates with other club fixtures, Peterborough M.C. have brought forward their C.I. Night Trial to 17th-18th February. This event will be run on the "Holland Birkett" six figure map reference system; distance will be around 120 miles. The start and finish will be at the "Fountain", on the A5 road some three miles north of Bletchley. Event begins at 10.30 p.m. Invited clubs are Vintage S.C., Hants and Berks, Sporting Owners,

Leicestershire, Nottingham S.C., Northampton and Sunbac. Incidentally the Dunlop film *Endurance* will be shown at the "Cock Inn", Warrington on 29th January. This film will also be shown by Sporting O.C. at the "Chequers", Whipsnade tonight (26th January) at 7.30 p.m.

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SOUTHERN JOWETT C.C.

THE Southern Jowett Car Club announces that its Annual Luncheon and General Meeting will be held at the South Kensington Hotel, Queens Gate Terrace, S.W.7, at

1 p.m., on Sunday, 28th January. A film show of road events will follow the formal proceedings.

The provisional programme for 1951 has been arranged as follows: 25th March, Mystery Run; 29th April, Rally, Petworth; 29th May, Treasure Hunt; 24th June, Rally, Pirbright; 29th July, Rally, Herts; 26th August, Rally, Amersham; 30th September, Tests, Redhill; 28th October, Point-to-point. The club will be pleased to hear from all Jowett owners concerning membership for the current year—subscription £1. Hon. Secretary: R. Knight, 390 Hoe Street, Walthamstow, E.17.

Where the Power Goes

AERODYNAMICS AND 500 c.c. RACING CARS—TRANSMISSION, ROLLING RESISTANCE AND TYRE SLIP LOSSES—THE EFFECT OF GEAR RATIOS

by Gordon Bedson, A.R.Ae.S.

I BELIEVE that most 500 c.c. racing men are as horse-power conscious as anyone in the game, mostly because they have so few to deal with, and each and everyone is worth fighting for. On the assumption that this premise is correct, then no doubt all concerned will be interested in the breakdown of the way in which the total available power is used. The intention of this article is to give a reasonably accurate assessment of the power losses throughout the transmission, and also the power required to push the car through the air. The logical sequence after this is to show how it would be possible to increase speed by correct body design.

In the past, car manufacturers have made a point of stating that streamlining is not worth while. No doubt their business instincts have been more to the fore than their technical reasoning when making such statements, because tests both in this country, and in the United States, show that between 20 and 27 b.h.p. are used up in air drag when moving a passenger car at 60 m.p.h. Now

this is a lot of power, and whilst it is very much in excess of the power required to move a 500 c.c. racing car at the same speed, it can readily be shown that the power absorbed by wind drag is appreciable at 60 m.p.h. and above, and it would be very interesting to see just how much the performance of a $\frac{1}{2}$ -litre car could be improved by correct car body styling, perhaps along the lines of the "Simca". There are, of course, other factors which may override any desirability to enclose a chassis, such as brake cooling, accessibility, and ease and cost of repairs, but it is thought that if ultimate performance is to be obtained from these small horse-power cars, then wheels, springs, and suspension points, will have to be hidden away.

The power losses can be divided into three parts; transmission losses, rolling resistance losses (which include air drag) and tyre slip losses. These are to be dealt with separately. The final results shown graphically, appear as in FIG. 1. The lines A B give for any speed the

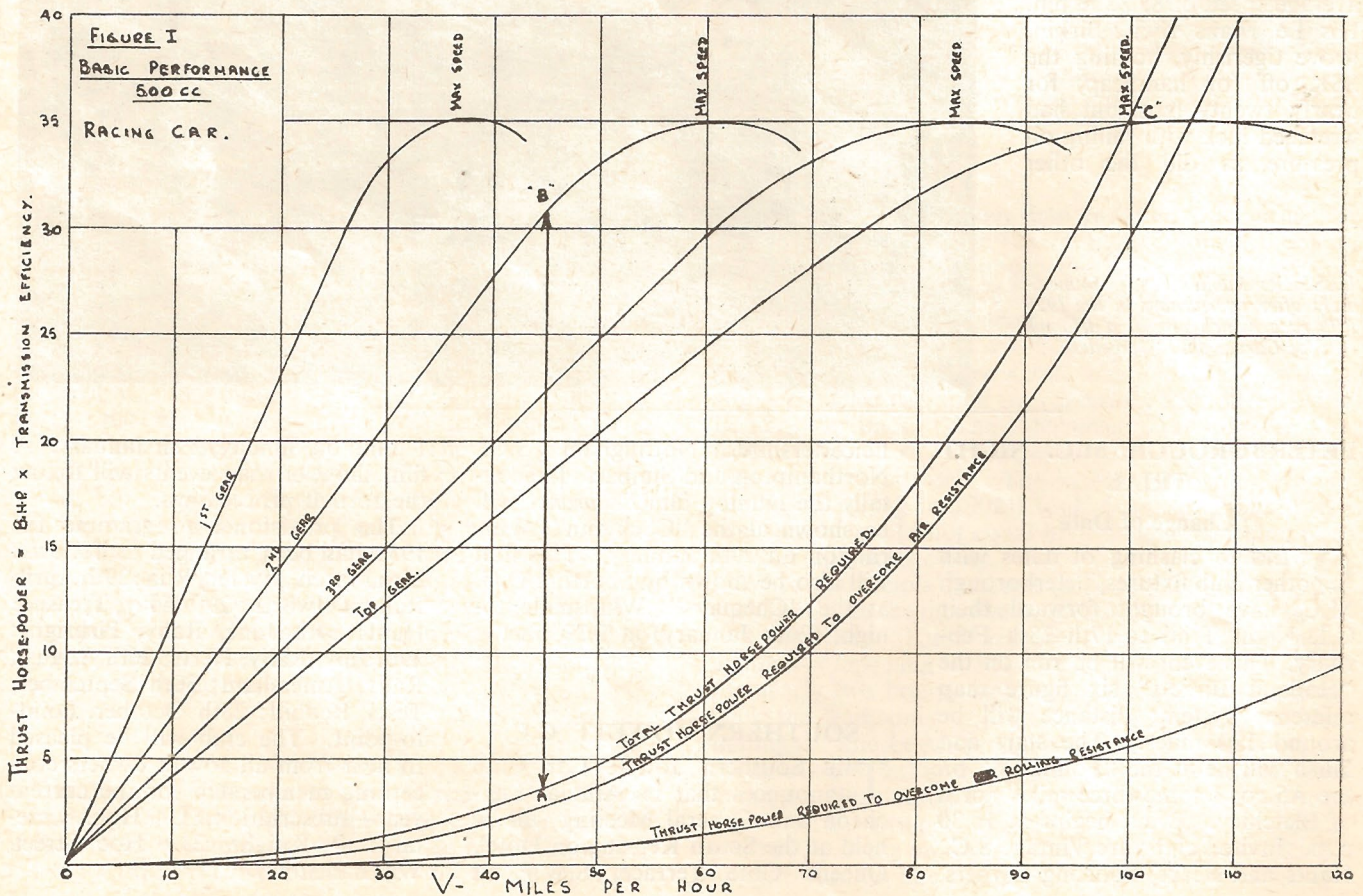
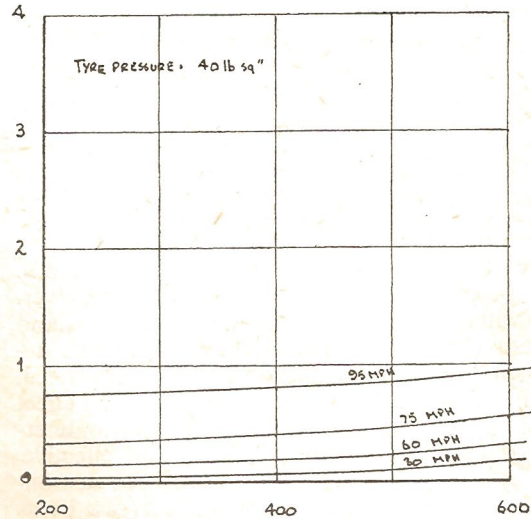
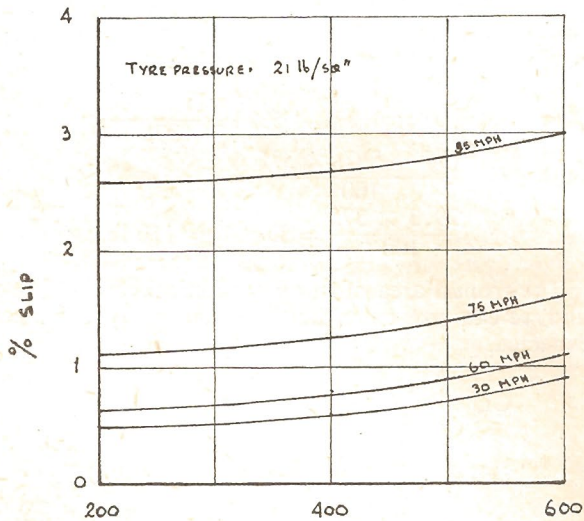


FIGURE 2 % SLIP VS WEIGHT .
AT VARIOUS SPEEDS

$$\text{SLIP} = \frac{V_L - V_R}{V_L}$$

V_L = ACTUAL LINEAR VELOCITY OF CAR
 V_R = LINEAR VELOCITY CORRESPONDING TO
DEFLECTED RADIUS OF TYRE



N.B SLIP MUST NOT BE CONFUSED WITH WHEEL SPIN, BUT IS THE REDUCTION IN SPEED FOR A GIVEN R.P.M. DUE TO CHANGE IN EFFECTIVE TYRE DIAMETER UNDER DISTORTION.

power available for acceleration, and the intersect C, gives the maximum speed.

By plotting various lines of power available, the effect of gear ratios can clearly be seen in relation to accelerating power available, and top speed.

Analysis of Power Losses

The data for efficiencies of various types of drives are obtainable from a number of sources, and may be found in any engineering manual.

However the road performance of pneumatic tyres is a subject which has not yet been published in any readily useable form. A recent publication of the Ministry of Supply entitled *The Mechanical Characteristics of Pneumatic Tyres* attempts to present, in concise form, the results of tests carried out in Europe and America, and data from this publication has been used in this survey.

Calculations of air drags are based on wind tunnel and free air tests of twenty cars, carried out by the University of Wichita in the United States.

Transmission Losses

The losses between the engine and the rear wheels, may be split up into three—chain efficiency, gearbox efficiency and back axle efficiency and losses, due to bearings and universals.

Roller chain efficiencies depend largely upon the condition of the chain and the sprocket. Bearing in mind the wear on a racing car chain, the maximum efficiency would not exceed 97 per cent. The gearbox efficiency will not be more than 96 per cent., and the back axle bearings and universals will lose another 2 per cent.

These are rather optimistic figures, and will most probably not be achieved in a car that has been used for continued racing.

Summing up then, our overall efficiency will be primary chain efficiency × gearbox efficiency × final chain efficiency × back axle efficiency,

$$= 0.97 \times 0.96 \times 0.97 \times 0.97 = 87 \text{ per cent.}$$

This means in effect that we have a 13 per cent. power loss—and on the assumption that our engine develops 40 b.h.p. in its installed condition, our power available to overcome rolling resistance and air drag is now 35 b.h.p., at the maximum r.p.m. of 6,200 at the point of contact between wheel and road.

Rolling Resistance Losses

The power required to overcome tyre drag and slip, has been the subject of many theories and experiments. For the purpose of this article, it will be of sufficient accuracy to accept two empirical formulas.

These deal with tyre rolling resistance, and have been developed by the Goodyear Tyre and Rubber Company. This data gives the resistance as being proportional to weight and car speed, as follows:—

- i. Velocities up to 30 m.p.h., Resistance = 0.0165W.
- ii. Velocities over 30 m.p.h., Resistance = $0.0165 \times 0.01 \times (V-30) \times 0.0165W$.

V = Velocity in m.p.h.
W = Car weight in lb.

(continued overleaf)

Where the Power Goes—continued

In terms of our hypothetical car we can obtain the following power losses.

TABLE I.

V.M.P.H.	10	20	30	40	50	60	70	80	90	100	110
R. lb.	1.15	1.15	1.15	3.08	6.15	9.2	12.2	15.3	18.4	21.4	24.3

The horse-power required to overcome the resistance is given by

$$HP = \frac{R \times V}{375} =$$

TABLE II.

V.M.P.H.	10	20	30	40	50	60	70	80	90	100	110
HP.	0.03	0.061	0.092	0.33	0.32	1.47	2.28	3.3	4.4	5.7	7.2

This shows that at our maximum speed of 100 m.p.h. we are losing 16 per cent. or our available 35 horse-power.

Tyre slip will again vary with speed, tyre pressure, and weight. Tests have shown that as the tyre pressure decreases the slip increases. The change of slip with speed, weight, and tyre pressure is plotted in FIG. 2. The effect on actual car performance is extremely difficult to determine because, due to centrifugal force, the effective rolling radius increases with speed. It has been demonstrated that a tyre diameter of 2.0 ft. will increase by as much as 0.5 in. at 20 lb./sq. in. pressure at 100 m.p.h., and it is not proposed to include any slip factors in determining this break-down of powers absorbed.

The effect of wheel spin which is given as approximately 4 per cent. at 100 m.p.h., will be reduced to 2 per cent., due to a change in tyre diameter of 0.5 in. under centrifugal loads.

The change in gear ratio necessary to produce the assumed maximum speed of 100 m.p.h. at 6,200 r.p.m. would be from 4.5 to 4.58.

Wind Resistance Losses

Fundamentally the power required to overcome wind resistance will depend upon the following factors. Frontal area, body shape, air density, and speed, whilst the horse-power required will vary as the cube of the speed. From this it clearly can be shown that our greatest losses are from air drag, and it is a fact that a badly shaped body will result in unpleasant handling characteristics at high speeds.

The basic equations we shall use in this analysis of air drag are as follows:—

$$HP = \frac{D \times V}{375} \text{ where } V = \text{Velocity in m.p.h.}$$

$$HP = \text{Actual available driving HP} \\ = (\text{b.h.p.} \times \text{transmission efficiency}), \text{ minus} \\ \text{rolling resistance horse-power.}$$

$$D = \text{Air Drag.}$$

$$D = CD \times \frac{\rho}{2} \times A \times V^2 \text{ where}$$

$$CD = \text{Drag coefficient which depends upon body} \\ \text{and chassis layout.}$$

$$\rho = \text{Air density} = 0.00237 \text{ slugs per cubic} \\ \text{foot (standard atmosphere).}$$

$$A = \text{Projected frontal area in sq. ft.}$$

$$V = \text{Velocity in feet per second.}$$

Tests in the United States have shown that a well streamlined car—for example the 1950 Nash, can have a value of C_D as low as 0.43, whilst some cars have a value as high as 0.60. It should be borne in mind, however, that resistance is proportional to $C_D \times$ frontal area, so whilst a car may have a low value of C_D its actual drag may be high, due to a large body giving a high frontal area.

Taking these expressions we can now estimate the drag and from that the horse-power required to pull our car through the air at 100 m.p.h., which is approximately the maximum speed for the car under discussion.

$$(40 \times 0.87) - 5.7 = \frac{D \times 100}{375} \\ = \frac{(35 - 5.7) \times 375}{100} = D \\ \frac{29.3 \times 375}{100} = D = 110 \text{ lb.}$$

The frontal area of our hypothetical car is 5.5 sq. ft. and we can now calculate the value of C_D which can be expected.

$$CD \times \frac{D \times 2}{\rho \times A \times V^2} \\ = \frac{110 \times 2}{0.00237 \times 5.5 \times 146^2} = 0.79$$

This clearly shows how bad the present type of 500 c.c. car body lay-out is; in fact if we assumed a value of 0.45 which tests have shown to be possible, and also that our frontal area has increased to 8.5 sq. ft. in obtaining this low C_D , then the change of drag would be:—

$$110 \times \frac{0.45}{0.79} \times \frac{8.5}{5.5} = 97 \text{ lb. or a saving of} \\ 13 \text{ lb. of drag.}$$

The whole point of the foregoing is an endeavour to prove that the present 500 c.c. racing car will have to be completely enclosed to reach the streamlined perfection as exemplified by the 1950 "Nash" and the Grand Sport "Simca".

TABLE III.

Summary of Results

M.p.h. v	F.p.s. v	D air drag	HP (air)	HP rolling resist'ce.	Total Thrust h.p. re'qu'd	Total b.h.p. re'qu'd =THP/ efficiency
10	14.6	1.10	0.02	0.03	0.05	0.057
20	29.2	4.4	0.235	0.061	0.295	0.34
30	44.0	10.0	0.795	0.092	0.787	0.88
40	58.5	17.6	1.88	0.33	2.21	2.5
50	70.3	26.0	3.46	0.82	4.28	5.1
60	88.0	40.0	6.40	1.47	7.89	8.8
70	103	55.0	10.30	2.28	12.58	14.5
80	117	71.5	15.10	3.30	18.40	21.0
90	132	90	21.80	4.40	26.20	30.0
100	146	110	29.30	5.70	35.00	40.0
110	161	135	39.50	7.20	46.70	53.0

In terms of h.p. this means that 3.5 h.p. less would be required to drive our car at 100 m.p.h. Now, 3.5 h.p. on

an engine already highly tuned will take a lot of finding, and if the ultimate performance is to be achieved, then it is apparent that we will have to go to better body styling to increase our top speed. It most certainly deserves rather more thought than has been given to this subject in the past, and it is foreseen that within the next two years, providing the 500 c.c. formula is not changed, a different-looking car will appear on the tracks, because we have reached the ultimate with regard to engine development on the engines obtainable at the present time.

The analysis of Table III. clearly demonstrates that speeds of approximately 110 m.p.h. are the maximum speeds which can be expected from 500 c.c. cars for a few years to come, and it is thought that the speeds of 115 m.p.h. quoted are an unusually optimistic assessment.

At 110 m.p.h. the change in h.p. required if a streamlined body layout is used would be 5 h.p., which is a saving of 10.5 per cent. of the total thrust h.p. required—a really worthwhile saving.

Correspondence

WE are delighted to receive letters intended for publication. We do not insist on typewritten copy, but please write in a hand we can decipher, and on one side of the note-paper. The Editor is not, of course, bound to be in agreement with opinions expressed by readers, but this does not mean that subjects will be excluded on these grounds.

* * *

Formula III, 200 Miles Race

WHILE I agree in principle with the proposal I feel a limiting factor presents itself in there not being a really suitable course available in this country. I think such a race on one of our perimeter track courses would produce one of very doubtful interest to the average spectator and of negligible value to drivers and designers.

To my mind a road circuit is essential for a race of this character. As this year's Jersey Road Race is in the balance at the moment I see here the opportunity of substituting it for the first Formula III Grand Prix.

JACK ASHBY.

HENLEAZE, BRISTOL.

(There is a possibility of the Blandford Road Circuit being available for such an event as reported in last week's issue.—Ed.)

* * *

Why Not British Formula 2 Races?

THE recent articles and letters regarding the possibility or otherwise of a 200 Miles Race for Formula 3 cars I have read with great interest. Most spectators will doubtless agree that "500" events which have preceded the big races in this country since the R.A.C. Grand Prix of 1948 have been far more interesting than the major contests themselves. Interest was increased with the victory of Frank Aikens's Iota-Triumph over the Cooper hordes last May, and the significant fact that Stirling Moss will be seen with Kiefts in the coming season should prove additional inter-marque rivalry, to the betterment of the half-litres.

But why the apparent lack of interest in Formula 2, with the exception of club meetings, which in any case but a limited public from the clubs may witness? We saw the fine performance of the two H.W.M.s, against Formula 1 opposition, at the "International Trophy" last August, but surely a more entertaining day's sport would have resulted by putting on a full-scale Formula 2 race, say over 100 miles? By all means retain the Formula 1 and 3 events, but rather than two one-hour, and rather boring production car races, let us either have two half-hour races, or group the production cars into one lot, and use the time saved for Formula 2.

This is particularly apparent for the new season, as we are promised new single-seater H.W.M.s and Connaughts, in addition to the O.B.M., and H.R.G.-Vanguard, the Cooper and Kieft "1,100s" and other machines. Continental opposition is there in plenty, with Ferrari, O.S.C.A., Simca, etc., plus the probability of more German 2-litre cars. Surely a "200" for Formula 2, either at Silverstone or Goodwood, would provide a most interesting race, and a far more varied and evenly matched field than is at present possible with either of the remaining two formulae.

Will 1951 allow the British racing public to witness a Formula 2 "Grand Prix", or at least see the H.W.M.s and others competing in their natural habitat, not merely as "also rans" in Formula 1? If the idea appeals, how about it, organizers?

KENNETH N. TEASDALE.

BIRMINGHAM, 20.

* * *

Case History of the 1½-litre Delage

I SHOULD like to say how much I enjoyed the very excellent and most interesting article on the 1½-litre G.P. Delage, but I beg to offer one or two corrections on the rather confusing change of ownership recently.

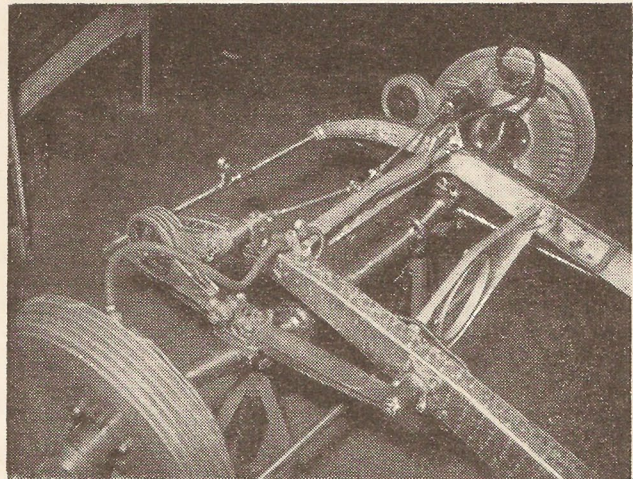
John Rowley's Delage is the Barry Woodall car, not the Habershon one, and it spent about a year at Monaco's being rebuilt, and I believe it has now been sold abroad.

The Habershon car I bought, and is indeed the beige one that Tony Rolt drove last year, and will, I hope, drive again this year after some alterations are completed.

The Hampshire or Richard Seaman chassis, I also bought, and last year it was stripped down completely. It is now being rebuilt at my garage as near as possible to the original Richard Seaman design, except for the gearbox and brakes.

It has now been proved conclusively that this chassis is the original Seaman one, as it has a block of wood in between each front dumb-iron, identified by George Monkhouse. I believe also it is the only non-i.f.s. chassis left.

(continued overleaf)



The ex-Hampshire Delage, now owned by Mr. R. R. C. Walker in addition to the ex-Habershon car, is indeed the Seaman car as proved by a block of wood between each dumb-iron. This is believed to be the only non-i.f.s. chassis in existence.

Correspondence—continued

In conclusion, I sincerely hope the last paragraph of Mr. Smith's article is proved incorrect and that the curtain has not been rung down on this fascinating chapter of a truly superb racing car.

Tony Rolt's practice time with the ex-Habershon Delage at Silverstone on 26th August, 1950, was faster than most of the more modern cars, including of course Sommer in the B.R.M.

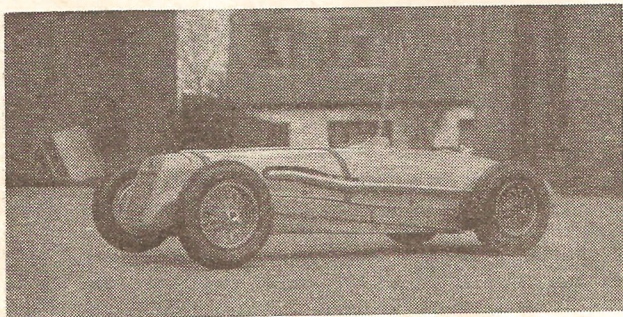
R. R. C. WALKER.

FROME, SOMERSET.

* * *

I READ with much interest your article on the history of the G.P. Delage—a truly wonderful old car, and still is.

This is of particular interest to me as I have made a working model of it for the present owner.



The scale model of the Walker-Rolt 1½-litre Delage referred to by Mr. Henri C. Baigent.

The model in the photo is painted in the same colour in which she now races.

I am just building a Type 158 Alfa-Romeo, about 2½ in. to 1 ft. scale with a fully operational straight eight, twin-o.h.c. supercharger engine, total length of engine is 6½ in., and capacity 16 c.c.

HENRI C. BAIGENT.

ENSBURY PARK, BOURNEMOUTH.

* * *

M.G. TC and TD

JUST to start a tiresome argument, may I take up "Alpine Widow" on point two of her summing up, that "Whatever the pint-pot pundits may affirm, on record, the TC is no match for the TD"? I have driven both these cars quite a lot, and, in my opinion, a good TC, similarly driven could always go through the Alpine Trial faster than the TD Mark II. The TC was already a bit on the heavy side for the Alpine, but this remarkable engine, with its ability to withstand almost constant peak power output for hours on end, managed to cope with it pretty well. A higher first gear ratio would have resulted in even better times in the timed climbs. However, no legitimate tuning of the same engine could enable it to pull yet another 2 cwt. up an Alp at a faster, or at even equal speed. The TD might certainly show better times over the timed Autostrada kilometre—unless the TC were similarly geared on final ratio—but not in the mountains! As a point of interest, and "on record", the times of my TC in the 1949 Alpine Trial for the Stelvio and Col du Var were 9.13 and 7.31, as against the 10.29 and 7.51 1/5, of the TD Mark IIs for the same climbs in the 1950 event. With regard to the matter of handling, this is always a question of personal opinion, up to a point. I am, on the whole, an enthusiast for i.f.s. cars, having owned one since 1938, but if I had to try and make up time to an Alpine control on a slippery road, I think I would prefer to slide my headlong way there on the TC! In 1949 I had the misfortune to break a front shock absorber bracket twenty miles from the starting control, and was forced to cover the entire "Alpine", with the exception of the last day, with only one front shock absorber. (The Col du Var was on the last day, but the Stelvio was not.) The fact that it was possible to handle the car at very high speeds in the mountains under these conditions, does much to prove that the handling of the TC, if not perfect in

some respects, does not merit some of the criticism that I have seen levelled at it recently. The fact that our necks are still in one piece, proves that, though a trifle bumpy, the TC was certainly safe! Moreover, the TDs have still to beat its times in the Alps.

BETTY HAIG.

NUTBOURNE COMMON, PULBOROUGH.

* * *

Plea for Ford Ten Sports Cars

THE three things uppermost in the minds of most of my competitive motoring friends and continually discussed in your excellent magazine are: (1) The trials special; (2) rallies; (3) poor man's racing.

In your 12th January issue the article on the Ulster-built Ford Ten racing car has surely given us a complete answer. Let us have sports cars; cars capable of competing in racing, rallying and mud-larking, based on the Ford 1,172 c.c. engine. This engine can be worked upon to push out 40 or so h.p. unblown, is fairly easily obtainable and doesn't easily bust. It has long been a favourite in the trials world and its successes are innumerable. The drivers one saw at club events bashing round Silverstone were certainly having fun, going quite quickly and, I don't care what anyone says, had spectator appeal. Remember Lotus beating a "1½" Bug?

There would have to be some incentive, of course, so one wouldn't be bashing one's head against a brick wall as it were by entering a racing effort against 100 per cent. trials jobs. So what about a "1,172" club, with a cup awarded annually for the best all round performance in each field in the same car!

This would stop the freaks and have a very practicable purpose in life. Regs. would have to be drawn up, so to start things rolling I suggest Ford 1,172 c.c. unblown engine, any chassis, body in compliance with R.A.C. regs.

What do other readers think? If we get cracking now we could be in time for the '51 season.

J. D. BRYANT.

BUSHEY, HERTS.

* * *

Alta and H.W.M.

IT is pleasing to learn of the activity going on in the H.W.M. shops, and of the new Formula B Alta, but is not there some duplication of effort here? I am for as many types as possible, but modern history of British racing cars tends to show that we have a job to send even one car abroad that can meet the Continentals with success, and in these days of restrictions, one would think a united effort might be better, especially as these two makes must be closely allied. O. is there some collusion going on between them, and it is a case proving between alternative designs?

K. J. BLYTHE.

Hemel Hempstead, Herts.

* * *

Col. Archdale Defends His Theories

I CAN assure Mr. Longton that I have known Newton's laws of motion for many years. He, on the other hand, appears to be unaware of their application to rotational motion.

Discussing my statement on the jacked-up car he states: "If this is so then forces are equal, in which case the wheels are travelling with constant angular velocity, i.e. not being accelerated, and there is no movement of the axle." With the last few words, of course, I agree, as it is precisely what I sought to show. The first part of the statement appears to be a new "Longton hypothesis" which states that a couple acting on a body cannot cause an angular acceleration, but only maintain a constant angular velocity. He goes on: "According to Newton's second law, acceleration requires excess pull in the chain. . . ." Such an excess pull would in fact cause a movement of the axle in a direction parallel to the force, which in this case is impossible. The rest of his final paragraph is a restatement without proof of the "Bolster theory", and appears to be based on treating the wheels and radius rods as a single rigid body, which is not permissible.

To avoid possible misunderstanding I will restate my case more precisely. The motion of a rigid body acted upon by a system of

forces can be completely determined by the following propositions:

(1) The centre of mass of the body moves as though all the mass were concentrated there and *all the forces acted at that point*.

(2) The rate of change of angular momentum about the centre of mass is equal to the sum of the moments of the forces about the centre of mass.

These propositions can be found in text-books on dynamics, so I hope they will not be disputed, though, of course, they conflict with the "Longton hypothesis". The theorem I quoted previously can clearly be derived directly from them. We can use these propositions to study the motion of the wheels of the jacked-up car. As before, a 1 : 1 chain ratio is assumed and friction is neglected.

The only external forces acting on a wheel are the pull of the chain and the reaction of the radius rod. Whatever the magnitude of these forces, their resultant must be a force parallel to them. This resultant acting at the centre of mass of the wheel would move the axle in the same direction. Such movement is prevented by the radius rod so that the forces must be equal and their resultant zero. There will clearly be an angular acceleration of the wheel about its centre caused by the moment of the chain pull.

A. ARCHDALE, LT.-COL.

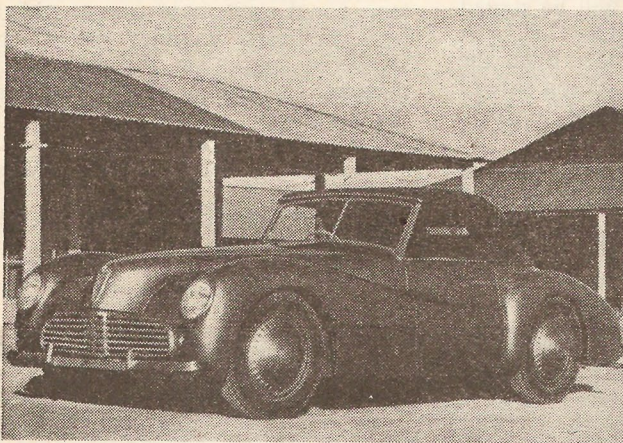
MANORBIER, PEMBS.

* * *

Mystery Alfa Romeo

I WONDER if anyone can help to identify my Alfa Romeo car with the aid of the photograph herewith? I have been unable to find the year of the car and am in doubt as to whether it is a type 6c 2500 or 6c 2300. I have sent the chassis and engine numbers to the Alfa Romeo concern and they say the chassis number (815001) is that of a 1937 6c 2300 Pescara model. Examination of maintenance notes they sent show that my car is certainly not a 6c 2300, for its wheel-base is 2.7 metres whereas the 6c 2300 is 3 metres.

I have compared my Alfa chassis with the short chassis 1949/51 models for sale in Cairo, and find mine is exactly the same in every respect. The engine number (256/27) Alfas disclaim, but the engine



Squadron-Leader A. H. Piper's "mystery" Alfa Romeo, which the Milan concern insist is a 1937 6c 2300 Pescara model, whereas the owner believes it to be a 1947 6c 2500 car.

is exactly the same as the 1951 super sports 6c 2500, save that mine has a lovely six-branch manifold and no fan, or provision for one. The Pinin Farina body is of light alloy, not pressed steel as are the latest ones, and I am wondering if my Alfa could be one of the 1940 Mille Miglia cars, and whether it could have been stranded in Tripoli when war began and later sold by some enterprising type for a large bag of gold in Cairo.

Messrs. Thomson and Taylor say the car is 1947 and the spares they have sent me are O.K. Engine and chassis numbers are not only stamped on the engine, bulkhead and crankcase but also appear on genuine Alfa brass plates together with the words 6c 2500 Super Sports.

S/LDR. A. H. PIPER, R.A.F.

M.E.A.F. 15.

Trials Cars

LATELY there has been considerable controversy over the unroad-worthy condition of certain trials specials, the vehicles in question being definitely impracticable for general road use. Surely, the special should be equally as capable of competing over a road course as it is for cross-country trials. In order to ensure this, would it not be possible to include, in the event, an observed road section, with observers situated at such points as sharp bends, roundabouts, pump bridges, etc., these observers being capable of detecting the slightest indication of the improper performance of the vehicles.

The answer to the problem appears to be given by John Bolster in his article on four-wheel drive trials cars, but is it a solution, or just an easy way out? I consider that there is more interest in building a car of the conventional type, and studying how to concentrate the masses in their relative positions on the chassis, so that maximum traction, coupled with maximum controllability is obtained. Certainly the front wheels should "learn to do a job of work", but is not their sole job one of steering the vehicle? Also, I should imagine that the number of amateur constructors would fall considerably, even though the front drive units from army vehicles would be available from a car-breaker's yard.

If four-wheel drive specials do appear, they ought to be restricted to trials which have been specially selected for their use, and not be allowed to compete in the "normal" events. Their coming would undoubtedly cause an increase in severity of observed sections, which might easily lead to the inclusion of dangerous ones, this being regrettable as far as this excellent sport is concerned.

J. ROWLING.

LONDON, N.W.11.

* * *

The Cooper and Formula III

I WOULD like the opportunity of making a few observations arising out of the letter which appeared in your 5th January issue, under the heading "A 200 Miles Race for '500s'".

As British supremacy in International Formula III Racing is synonymous with the Cooper "500", I have a personal stake in its continuance and maintenance. In my opinion, the acid test of whether or not the design and manufacture of a racing car is satisfactory, is the results achieved by such a car in competition with other cars of the same class, under the same conditions, and I submit that this fact must carry weight if foreign champions, who presumably are well acquainted with the latest developments in their particular field at home, do not feel bound by any narrow nationalism in their selection of a racing car with which to uphold and enhance their reputations.

I have never doubted the ability and capacity of my cars to stand up to the strain of competitive racing over the distances envisaged, provided a suitably tuned and maintained power unit is installed, and I view with the utmost equanimity the proposals for increasing the distances of future Formula III events. It has never been necessary for me to boast or make exaggerated claims, as I have always relied on a solid achievement to substantiate any I might make, and I have no doubt that these proven qualities have earned for my "500" the signal honour of being chosen by The Council of Industrial Design to be a permanent exhibit in the Transport Section at the Forthcoming Festival of Britain.

The manufacture of my cars being primarily a commercial undertaking, I am pleased to be able to state that the sales slogan "Buy Proved Performance" has entirely justified its use, and has secured sensational orders from every part of the world. Beyond this, the cars shipped have on all occasions justified their high reputation, and have added numerous records and successes to an already formidable list, so that by their own intrinsic qualities my cars have obliged me to enlarge my horizon, seeking fresh fields to conquer.

I think Mr. Kieft is unduly and unnecessarily perturbed by the prospect of an early eclipse by Continental manufacturers of British supremacy in International Formula III racing, but I would like to assure him and others that we still have adequate reserves to meet the challenge from whichever quarter it may come. After all it is only good strategy to deploy just sufficient force to achieve one's object, in this case to win races held under International Formula III regulations.

C. N. COOPER.

SURBITON, SURREY.

News from the Clubs

THE B.O.C. PARTY ANNUAL PRIZE-GIVING AT KING'S LANGLEY

THIS affair was held at the Commonwood House Country Club near King's Langley on 14th January, and a large number of prize-winners and guests arrived in an impressive selection of motor cars. After lunch there were photographs taken and the prize-giving ceremony held, a fabulous display of precious metals being guarded over by a private detective. A number of consistently successful competitors found themselves weighed down with trophies, and were then required graciously to present a similar collection to the next one on the list; an entertaining spectacle. Peter Stubberfield by reason of his successes with a Bugatti car (single cam, too) collected three of the Club's principal Challenge Trophies, but had not quite deprived Sidney Allard of the so coveted *Victor Ludorum*. Dennis Poore, as befitting the Hillclimb Champion, staggered back to his table so bedecked with f.t.d. cups that strong men had to rush to his assistance. It was pleasing to see that so many of the prize-winners had managed to be present, and the business went with a swing.

This was followed by a talk on Grand Prix racing in the measured and sardonic style we know so well, from John Eason-Gibson, aided by the equally famous collection of slides belonging to Rodney Walkerley. The room was a shade low-ceilinged for the length of time it had to be deprived of ventilation, but not a soul moved, so fascinating was the discourse.

The majority of guests left after tea because the weather had been somewhat forbidding, so that the dancing and dinner were not well supported. But it had become a fine evening after all; where is the spirit of winter rallies?

Tête à Tête: John Eason-Gibson and party chat with Geoffrey Battersby during the Bugatti O.C. Annual Prize-giving Party.

COMING ATTRACTIONS

- January 23-31. Monte Carlo Rally.
 January 27. Manchester U.M.C. Rally, Manchester.
 January 27-28. Leeds U.U.M.C. Night Navigation Rally.
 January 28. North Devon M.C. Trial, Devon. M.G. Car Club (S.E. Group) Trial, Chilterns. Circuit of Agadir (Touring Cars) France.
 February 4. Hagley and Dist. M.C. Trial, Clee Hills.
 February 4. Herts County A. and A.C. Spring Trial, Chilterns.
 February 4. Kentish Border C.C. Trial, Kent.
 February 4. Yorkshire S.C.C. Trial, Lothersdale.
 February 4. Plymouth M.C. Trial, Devon.

THE "BEST" CUP TRIAL

Kentish Border's Closed Event

ON Sunday, 4th February, the "Best" Cup Trial will be staged by the Kentish Border C.C. A closed event, it will start from the Bull Hotel, one mile London side of Swanley on the main road, at 10.30 a.m.

Friday, 9th February, is the date for the club's annual dinner and dance at Chiesmans' Restaurant, Lewisham. Another closed trial is due on 18th March.

SCOTTISH SPORTING CAR CLUB

THIS Club is running an evening Rally on the 9th of February, starting from Blythswood Square, Glasgow, at 7.31 p.m., and finishing at the Brabloch Hotel, Paisley. The event will be largely based on map reading, but there will be a driving test at the conclusion.

* * *

MAYES BRINGS HOME THE "BACON"

THE Bacon Trophy Trial was run by the Leicestershire C.C. over a semi-sporting course on the 14th of January, and attracted an entry of eighteen cars ranging from a Standard Twelve saloon to dyed-in-the-wool Specials. The observed sections, three in number, proved fairly easy, although a muddy stretch at Smeeton proved too much for some. Proceedings were enlivened by a Timed Hillclimb, and everyone reached the finish at Saddington for tea. Final excitement was provided by a first-class chimney fire which showered sparks on the assembled vehicles, fortunately without serious damage.

RESULTS

Bacon Trophy—H. H. Mayes (Mayes Special).

First Class Awards—I. Williams (Dellow), K. Law (Singer).

Second Class Awards—K. Root (Singer), A. E. Creasey (Special).



Parkes and Ward on Top

WELL-SUPPORTED M.G. MIDLAND CENTRE MAIN ROAD TRIAL

THE M.G. Midland Centre has been going like a bomb ever since its successful Welsh Rally last summer, so it was no surprise when thirty-seven entries were received for the Main Road event staged on 14th January. The start from the Old Barn, Hockley Heath, was duly reinforced by bacon and eggs, after which competitors faced a time-keeping test at an average speed of 26 m.p.h., followed by driving tests on an airfield. The first of these was of the usual "stop astride" type, with the difference that there were three separate lines on which one had to stop in succession. The star performers here were A. L. Yarranton and J. F. Ward, the only people to come through without penalty. Then came the forward and backward wiggle-woggle, which would have been a piece of cake for Len Shaw, who had entered but unfortunately couldn't turn up to defend his reputation as a pylon dicer. Yarranton shone again with his open M.G., and W. W. Wallace with an Austin saloon, also put up a faultless performance, as did R. G. Hughes (M.G.). Everyone else lost marks.

By the time test three was accomplished, it seemed that Yarranton was certain for the headlines as he was once again clean. Only A. Joseph (Alvis) rivalled his performance, although G. Cope with another Alvis saloon, came pretty near. The tension, however, proved too much, and the leader dropped five marks on the multiple garage test, which was performed in cleanliness by A. J. Brown and, once more, J. F. Ward. The regularity test proved the downfall of many, and the result sheet shows debits of fifty marks against a large number of names, including Yarranton. A short circuit had to be negotiated twice in identical times, and some people had very strange ideas of what they had averaged on the initial run. D. P. Baker was best, losing only a single mark, while Collins-Jones gave up only two.

The titbit of the trial had been kept to the end. Entrants had been warned to provide themselves with one-inch maps for the navigation test, and indeed they needed them, for the last twenty miles or so of the route consisted of finding the shortest

DUBLIN UNIVERSITY MOTOR CLUB

Grafton Cup Trial

THIS classic Irish event was once again well supported and well organized. The premier award was won by K. P. Murray driving his Mercury-engined M.M. special and the runner-up was T. Ohle driving the Dellow which he recently assembled himself in Ireland and with which he won the I.M.R.C.'s Boxing Day Trial. The latter car is now running supercharged.

The course, which was approximately seven miles in length, included six observed sections and one special test. Three complete circuits were made over the same course so that competitors had to cover a total of eighteen observed sections and three special tests. The special test consisted of an uphill acceleration

test of about 300 yards including a hairpin bend in the centre and marks were based on the aggregate times of each competitor's three climbs. Fastest in this test was Murray's M.M.

The weather was kind to the organizers; it rained very heavily the previous night and during the morning but ceased before the start of the trial. The observed sections were in very fine condition—thoroughly sticky! One section failed the whole entry, another section was climbed only by Murray (M.M.) and a third failed everyone except Murray and Ohle (Dellow S/c).

RESULTS

Premier Award—K. P. Murray (4,000 M.M.).

First Class Awards—T. Ohle (Dellow S/c), L. Collen (M.G. TD), J. Bell (Ford 8 Special), W. J. Fitzsimmons (Ford 8 Special), A. Knowle (M.G. TD).

RESULTS

Best Open (Class A)—H. Parkes (M.G.), 43 marks lost.

Best Closed (Class B)—J. F. Ward (M.G.), 24.

First Class Awards—A. L. Yarranton (M.G.), 57; W. W. Wallace (Austin), 60; D. P. Baker (M.G.), 68.

Second Class Awards—C. R. Jordan (M.G.), 66; R. F. Collins-Jones (M.G.), 74; H. F. Hamilton (M.G.), 74.

way to the finish at Chipping Norton. As the cars arrived, to be parked under the friendly supervision of the Police, it was obvious that many had strayed far from the main road in their endeavours to economize on distance. Rushes, grass and mud were sprouting from quite unorthodox places. One competitor, who shall remain nameless, arrived with a plump pullet nestling coyly on the front of his car. The bird was duly "taken in charge" by the Police. The main stumbling block seemed to have been a section marked Traitor's Gate on the map. In endeavouring to follow this obscure track, competitors had found themselves motor-ing along nothing more substantial than the parish boundary!

Ken Teasdale and St. John Mitchell toiled away at the results in an upper room to such purpose that before tea was really over, each competitor was handed a duplicated result sheet.

I.o.M. STOCK CAR RACE POSTPONED

Difficulties of Proposed T.T. Circuit Event

THE Manx A.C. regret that the proposed production car race on the motor cycle T.T. circuit cannot be staged in 1951. Reasons given by the Manx Government committee are (1) inconvenience caused by additional closing of roads; (2) cost involved, which is estimated at £5,350; (3) alterations to circuit recommended by the Competitions Committee of the R.A.C.; (4) difficulty of marshalling such a long circuit; (5) doubt concerning "interest value" of such an event.

However, the Manx club will continue to press on in their efforts to stage a car race on the pukka T.T. circuit, and are firmly determined to overcome these difficulties in the future.

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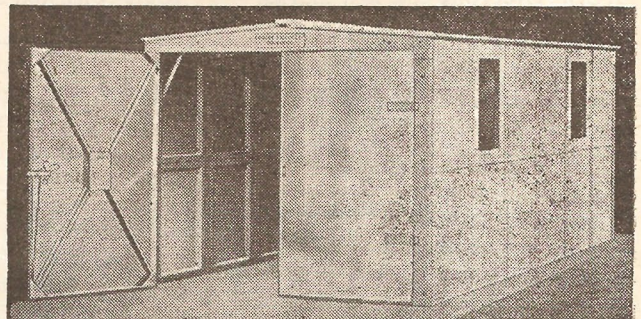
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Bentley 4-seater 4½-litre actual team car, full particulars of this car upon application in writing only.

1940 Series Austin 8 2-door saloon. £325.

1939 Morris 12/4 Series III saloon. £398.

1938 Vauxhall 10 saloon, very sound. £355.

1938 Ford 8 2-door saloon. £288.

1935 SSII 12 saloon, fair order. £155.

1938 Standard 8 4-seater, less hood. £265.

1935 Standard 9 saloons (choice of two) at £168 each.

1949 B.S.A. 500 c.c. o.h.v. with Busmar 2-seater side-car, 5,000 miles only. £218.

1948/9 B.S.A. Bantam 125. Just reconditioned. Not yet run in. £68.

Also 2 Rudge Specials 500s. 1 Rudge Radial 250 c.c.

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(continued overleaf)

CLASSIFIED ADVERTISEMENTS—continued

MISCELLANEOUS—continued

DUNLOPILLO seat cushions, size 33 in. x 16 in. x approx. 4 in., £1 each. Few slightly substandard, 15s. Carriage, 1s. 6d. Cash with order. Twitten Orchard, Nutbourne, Pulborough, Sussex.

HUGHES of Bournemouth offer: 1947 Alvis 14 h.p. Special Sports Saloon. 10,000 miles. Grey with brown leather upholstery, £1,150. 1948 (December) Jaguar 1½-litre Saloon. Special equipment. 16,000 miles. Black with grey leather upholstery, £1,085. 1949 (October) M.G. TC 2-seater. 9,000 miles. Black with red leather upholstery, £745. 34 Poole Hill, Bournemouth. Tel. 4569.

SELF DRIVE CAR HIRE. Pre-war and post-war cars maintained in first-class order. From £1 per day. Insurance included. Also chauffeur-driven cars at 1s. per mile. Purkess. FIN 2920.

SOMETHING SPECIAL

ONLY one in England. Brought over for Motor Show and now financially released by Customs. It's stupendous, it's magnificent, it's unique, it's dynamic. Studebaker 1950 Land Cruiser Saloon; 5-90 m.p.h. in absolute silence; 25 m.p.g.; jet-propelled frontal appearance; electric get-away; overdrive; flashing indicator; ultra-violet internal lighting; terrific boot; wipers wash screen automatically; airplane instruments; white wall tyres; finished black with black/grey nylon yarn upholstery; radio. Hundreds stare at it when it is parked. Whole car is as brand new. You must see it even if you don't buy it. Of course, as usual, it is at

HAINES OF KIDDERMINSTER
Tel. Kidderminster 4041/2/3.

MERCURY Engine, Martlett pistons, small mileage, Lucas distributor, with or without Marshall blower. Also gearbox. Tel. Bath 7420.

SPRITE-KESTREL 1½-litre Riley, 1937. New bearings, etc., September, 1950, 55,000 miles approximately. Good reliable motor. Seen Hatton's Ltd., Lord Street, Southampton. £525. Humber Super Snipe saloon, ex-W.D., £10 tax. Good condition, body rough. Ideal towing trailers, caravans, etc. Seen Cut-Mill Garage, Portsmouth Main Road, Bosham, Sussex (between Chichester and Emsworth). £175. Owner getting new car. Unique 20 ft. by 6 ft. beam centre-board sailing boat, designed and built by Uffa Fox. Unsinkable, self-draining. Very fast canoe type for four/five persons. Lying Burnes Yard, Bosham, as above. £500. Owner wishes to race Swordfish dinghy. John K. Maw, Aldersgate House, New Barnet, Herts. Tel.: Barnet 5555 Monday-Friday, 9 a.m.-5 p.m.

WE supply light alloy components for all types of racing and competition vehicles. Let us have your inquiries. Trade supplies. L.A.C. Co., Keighley Green Works, 11 Bank Parade, Burnley.

10 in. All Chrome Hub Caps. Fit Ford wheels. 59s. 6d. set of four. C.W.O. or C.O.D. Post 1s. Warren Eng. Co., Worthing Road, Storrington, Sussex.

BEVERLEY MOTORS (N. H. Mann, Proprietor) undertake special coachwork designs, primarily on Alfa-Romeo chassis, but also on any other good quality sports car chassis. Inquiries to Alric House, Alric Avenue, New Malden. Phone Malden 4403.

SOLID drawn steel tubes, bright and H.T. steel bars, light alloys, etc., from stockists. C. S. Harbour, Syon Hill Garage, Great West Road, Isleworth, Middx.

1932 RILEY 9 Sports Engine with remote gear control. In excellent condition. £25. Underslung S.S.I. chassis frame and front axle, £12 10s. 0d. S.S. 16-h.p. gearbox parts and almost complete 20 h.p. engine and gearbox. New radiator £12. Two-seater aluminium sports body with bonnet and four cycle tube wings, hood, tonneau cover and fold-flat screen. In very good condition, £45. 9 h.p. Amilcar gearboxes, cylinder blocks, heads, chassis frame only. 1932/3 Wolseley Hornet blocks, gearbox. "M" type M.G. engine parts, prices on request.

Single-seater racing aluminium long-tailed body with bonnet and straps, bucket seat, aero screen, mirror. Suitable M.G. £25. M.G. Magette racing radiator with alloy quick release filler with vent pipe £8 10s. 0d. Hillman Aero Minx or Talbot 10 aluminium cylinder head. Brand new £6 10s. 0d.

COMPETITION CARS LTD., THE OLD MALTINGS, NAYLAND, NR. COLCHESTER, ESSEX.

CONNELL BROS. Specialists in Hoods, Tonneau Covers. Envelopes and sidescreens for all makes. Hoods, etc., made to customers' own specifications. 667 High Road, Leyton, E.10. Leytonstone 7223. Also at 7 Highfield Road, Winchmore Hill, N.21.

£40 ARROL-JOHNSTON 20 h.p. saloon in excellent running order, also rebuilt Amilcar chassis fitted 2-litre A.C. engine and type 75 E.N.V. gearbox. Special 100 ton steel axle shafts, £75. C. Arnold, 8 Homestead Way, Northampton. Tel. 5001.

FORD Ten Engine and Gearbox. Dynamo starter, etc. Good condition. £65. Greenwood, Dawson Road, Newsome, Huddersfield.

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EXCHANGE 1934 Horne Special for Saloon Fiat 1100, or similar. 1 Dent Street, Tindale Crescent, Bishop Auckland.

PHILCO Radio, 6v., remote control, £7. Ford Eight Engine, with carb and manifolds, £10. Ford Eight Gearbox, renewed, £7 10s. Marshal Cabin Blower, £5. Assorted Austin Seven parts. Manchester: Altrincham 0422.

CENTRIC 260AH 1½-litre Blower with S.U. carburetter, oil tank, pump, etc., pipes and mounting brackets. £30. Box 316.

SPRINGBOK MOTORS

Singer Le Mans, November, 1935. Slab tank, twin spares, exceptional condition throughout, having been recently recellulosed polychromatic Austin green, all plated parts heavily re-chromed, new tyres all round, a pleasure to look at, a dream to drive. £235.

★

3-litre Invicta, rebuilt in 1946 with super streamlined body. Recent new rear axle assembly, perfect condition, full weather equipment. £245.

★

Standard Avon 2-seater, 1932, just recellulosed, new hood, reconditioned engine. £145.

★

Alvis F.W.D. Scintilla, new hood, tonneau, believed actual T.T. model, 1928. £195.

SPRINGBOK MOTORS

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News from the Clubs—continued

MID-CHESHIRE CAR CLUB

TONIGHT (26th Jan.), Mr. R. J. Ginn of the Anglo-American Oil Company, will be giving a film show at the White Barn Hotel, Cuddington. Mr. Ginn has a well-deserved reputation as an amusing and informative speaker, so it should be a good evening. All members and friends are invited to turn up.

* * *

VINTAGE S.C.C.
(NORTHERN SECTION)

THE A.G.M. and annual dinner of the Vintage S.C.C. (Northern Section) takes place on 3rd February, at the Crescent Hotel, Ilkley, Yorks. The meeting starts at 6.30 p.m. and dinner is at 7.30. Tickets (7s. 6d. each) can be obtained from W. G. S. Wike, Vineyard Close, Greenmount, Bury, Lancs.

HORSHAM AND DISTRICT M.C.
CLUB DINNER

THE Horsham and District M.C. and L.C. Club's 23rd Annual Dinner and Presentation of Awards took place at the Black Horse Hotel, Horsham, on 11th January, approximately 100 members and friends attending. After an excellent meal, the speeches were very short and to the point. The club's President, A. Ellis Kent, assisted Mrs. P. H. Johnson to distribute the awards won during the year. Dancing continued till midnight, the whole event being rated a great success.

During the evening it was announced that the Spring Cup Trial will be held on Sunday, 1st April. Invited clubs are Brighton and Hove, Bognor Regis, Cemian, Hants and Berks, North-West London, Southsea and "750".

A.G.M.-CUM-FILM SHOW

THE Midland Motoring Enthusiasts' Club will hold their annual general meeting on Wednesday, 7th February (7.30 p.m.) at the White Swan, Edmund Street, Birmingham. Formal proceedings will be followed by a film show featuring "Endurance", the Dunlop film.

* * *

THE BLACKPOOL AND FYLDE
M.C. WELSH TRIAL

THE Welsh Trial staged last weekend by the Blackpool and Fylde M.C. proved a very well run and successful event. A full report will appear in next week's issue. Results were as follows:

Winter Garden Trophy—Vernon Pilkington (Healey).

Sports Class—J. Towers Leck (Jowett).

Touring Class—J. Ashton (Vauxhall).

400 USED CARS READY FOR INSPECTION AND IMMEDIATE PURCHASE

M.G. MIDGET 8 h.p. J Type four-seater Roadster, 1931/2, British Racing Green, remote control, etc., goes like a bomb. £145
 M.G. 1½-litre 12 h.p. four-seater Roadster, 1939, Series V.A. maroon and black, complete all-weather equipment, exceptionally fast, new Dunlop tyres, radiomobile, etc. £485
 M.G. 2-litre Sportsman's Saloon, 1939, maintained regardless of cost, nearly £100 spent on engine last year, including rebore, reground crankshaft, new timing mechanism, new clutch plates, etc., 100 per cent. order. £545
 SUNBEAM TALBOT 10 h.p. four-seater Sports Roadster, 1939, black, red leather, fast but economical, Runbaken coil, Bosch spot. £475
 SUNBEAM TALBOT 10 h.p. Sports Saloon, 1938/9, original throughout, sound order. £375
 ROVER 14 h.p. Sports Saloon, 1936, popular type model with external rear boot, smart lines, modern instruments, excellent performance. £295
 ROVER 14 h.p. Sportsman's Saloon, 1937, attractive maroon finish, extensive mechanical reconditioning last year, opportunity. £375
 ALVIS Speed 25 Special foursome D/H Coupé, 1937, scarce and highly prized model, host of special features, extensive mechanical overhaul recently, history known. £475
 ALVIS Crested Eagle 17 h.p. Sports Saloon, 1934, original cellulose, fine runner. £215
 ALVIS 12/70 Sports Saloon, late pre-war model, registered 1950 (£10 tax), very smart appearance, big car performance, coupled with exceptional economy, 5 new Dunlop tyres. £595

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TRIUMPH 1½-litre 14 h.p. four-door Dolomite Sports Saloon, 1937, duo cellulose, red leather interior, knock-on wheels, rev. counter and all the usual features. £295
 TRIUMPH Dolomite 14/65 Special Coupé Roaster, 1939, fitted radio, twin passlights, twin trumpet horns, outstanding appearance, recent major overhaul, rebore, reground crankshaft, new bearings, etc., bills available. £495
 RILEY 9 h.p. four-door Saloon, 1937, popular de-luxe model, with sunshine roof, rear boot and leather upholstery, extras. £345
 JAGUAR 1½-litre 12 h.p. Sports Saloon, 1937 smart and economical motor, good performance, just fitted three new tyres. £295
 JAGUAR 2½-litre Sports Saloon, 1936/7, blue with blue leather, very fast. £325
 B.S.A. 10 h.p. F.W.D. Sports Roadster, 1937, attractive condition, complete all-weather equipment, British Racing green, exceptional order mechanically, uses no oil, very fast little motor, over 32 m.p.g. £295
 HILLMAN 10 h.p. foursome D/H Coupé, 1939, very popular model, pretty little car with clean lines, very lively engine. £395
 LANCHESTER 10 Sportsman's four-light Saloon, 1934, in good condition for year. £175
 FRAZER-NASH BMW 2-litre Cabriolet Type, 326, 1938, one titled owner, superb condition, finished pearl grey with blue wings. £675
 DAIMLER 15 Special Sportsman's four-light Saloon, 1937, most desirable car, typical smooth Daimler performance, but quite a fast job, all new tyres. £395

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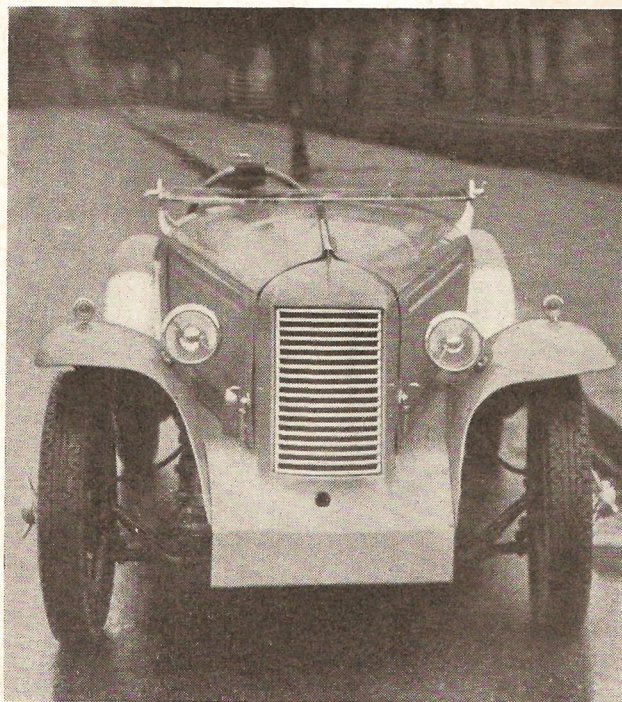
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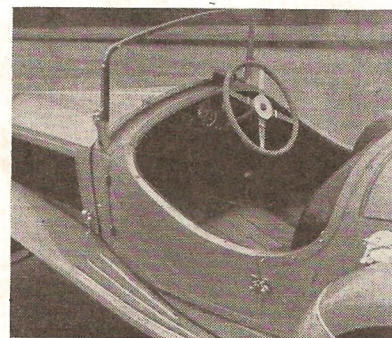
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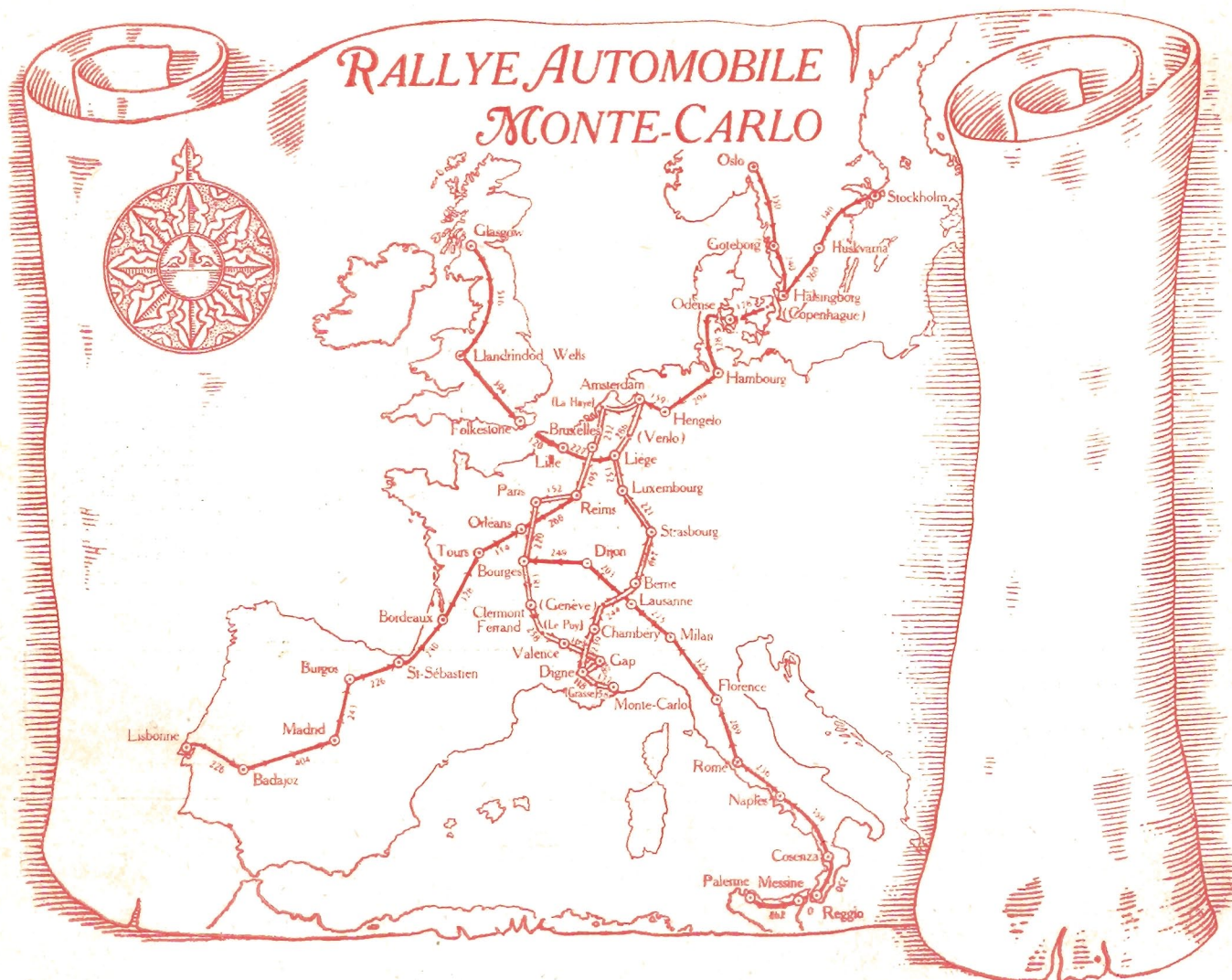
This is a private sale.

Ford Ten Special £485

Cruciform chassis frame, Lockheed brakes. Knock-on wheels, remote control gear lever, easily detachable back and front wings. All-weather equipment. Tyres sizes 4.50 × 17 front, 5.25 × 16 rear. Quick release filler cap on petrol tank. Built to owner's specification. First registered in 1951 (£10 tax).

This is a genuine car, built to production car standards by professionals having the correct materials and components at their disposal.





The 6 Routes taken by Competitors in the 1951 Event

THE GREAT ADVENTURE

Fully Illustrated Report of the 21st
International Monte Carlo Rally
in the 2nd February issue of

Autosport

More pictures, together with a detailed summing-up will appear
in the 9th February issue.