AUTOSPORT

NOVEMBER 6, 1953

1/6

EVERY FRIDAY
Vol. 7 No. 19

BRITAIN'S MOTOR SPORTING WEEKLY



IN THIS ISSUE

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Jaguar sets new high-speed figure

During speed tests carried out by Jaguar Cars Ltd., on the Jabbeke highway in Belgium on October 20th, a Jaguar two-seater driven by Jaguar's chief test driver Norman Dewis covered a flying mile at a mean speed of

172.412 m.p.h.

The car was a Special Equipment XK120 model fitted with catalogued optional equipment with the addition of undershield and cockpit cover. Ordinary commercial grade petrol was used and this was placed in the fuel tank in England under the official observation of the R.A.C. who sealed the tank after taking a test sample for analysis. This speed was officially recorded by the Royal Automobile Club of Belgium and is the highest speed ever achieved by a production car fitted with optional equipment.

The test was carried out in order to demonstrate the performance of the Special Equipment XK120 in full-speed trim. A completely standard production model of this type achieved an officially recorded speed of 141.846 m.p.h. during tests carried out on the Jabbeke highway last April.

In the course of the tests on October 20th a Jaguar prototype competition model was timed over a flying mile and achieved a mean speed of

178.383 m.p.h.

This exceeds the speed of 148.435 m.p.h. officially recorded by a standard production XK120 'C' at Jabbeke in April this year, by 30 miles an hour.

AGUAR CARS LTD COVENT

AUTOSPORT

BRITAIN'S MOTOR SPORTING WEEKLY

Vol. 7 No. 19

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EDITORIAL

Having obtained a really comprehensive range of high-performance cars from British manufacturers, buyers now want this coupled with reasonable economy of fuel consumption. The truth of the matter is that users of sports cars are as interested in operating costs as are purchasers of small family saloons. A large percentage of them do a considerable amount of Continental touring, and are often appalled at the cost in fuel alone. Even in this country, the annual fuel bill is a matter of interest, if not concern, to every car user; anything that will help to reduce this cost will meet with approval. So insistent are these demands for reasonable economy that at least one manufacturer of largeengined sports cars may be forced to include a much smaller-engined car in his range. AUTOSPORT has frequently mentioned the rather remarkable absence of small-capacity sports cars in British makers' lists. There must be a quite considerable market for machines the equivalent of Austin Seven, true M.G. Midget and other small cars of a bygone age. The very flourishing condition of the 750 Club is proof of the continued popularity of this class of vehicle, and there is little doubt that, were a British sports car of similar capacity to Dyna-Panhard and Renault to be marketed at a reasonable figure, there would be no lack of eager purchasers. The move to raise the present Formula 3 engine size limitation from 500 c.c. to 750 c.c. is undoubtedly due to the increasing popularity of 750 c.c. sports-racing cars in Italy. Many of these Italian engines are highly developed units, built to racing standards-although the majority of them owe their existence to the introduction of the ultra-successful Fiat "Mouse"!

THE first of a series of articles of the Lampredi, Engineer of Ferrari, Ing. d. e. Aurelio Lampredi, THE first of a series of articles by the eminent Chief appears in this issue. Quite candidly, the average reader may feel that this is completely over his (or her) head, but AUTOSPORT has discovered that its readers include a large number of trained engineers who dislike anything in the form of a "popular" treatment of technical articles by distinguished engineers. Accordingly, this magazine will present all of Signor Lampredi's articles exactly as he has prepared them. Probably subsequent articles may not be quite so highly technical, and may be readily understood by readers who do not have training in engineering. We feel, however, that any subject about which Signor Lampredi undertakes to write will be of considerable interest to the many thousands of people who are directly interested in the technical side of motor racing.

OUR COVER PICTURE

ITALIAN "LE MANS": Forty-four sports cars, led by Mike Hawthorn's 4½-litre Ferrari, get under way at Pescara in the International 12 Hours race in August. Driving with Umberto Maglioli, Hawthorn won at 79.9 m.p.h.

URELIO LAMPREDI, who contributes Athe first of a series of technical articles in this week's issue, is Chief Engineer of the Ferrari concern. He was responsible for the design of



Aurelio Lam-predi, Chief Engineer, Auto-mobili Ferrari.

the first low-chassis Formula 2 car, which followed the quasi-two-Colombo's original V-12 seater. engine was considerably modified and improved by Signor Lampredi, who then turned his attention to designing a 4½-litre Grand Prix car which eventually humbled the proud Alfa Romeo. Lampredi was entirely responsible for the all-conquering four-cylinder cars, and a new range of very fast sports He recognized machines. is throughout the world as the foremost designer of racing cars, and a leading authority on unsuper-charged, high-output engines. He is at present engaged on the design of an entirely new Grand Prix Ferrari which will later replace the alreadydeveloped 2½-litre machine.

 $R_{\text{Greene's Formula}}^{\text{OY SALVADORI will drive Sid}} \stackrel{\text{order}}{=} 1 2\frac{1}{2}\text{-litre}$ Maserati in Grand Prix events next season, and the 2-litre machine in sports car events.

UESTION: Who was the humorist who pinned the badge of a certain Continental car manufacturer on the lapel of Dr. Crippen, in Madame Tussaud's Chamber of Horrors, during the Earls Court show?



BESTWISHES: To racing driver Ian Burgess and his wife, formerly Miss Ranberg of Gothenburg, here seen after their wedding at Reigate Parish Church.

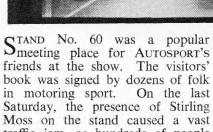
DOG IN A FOG: (Left) Fog lamp penetration, as de-monstrated on the ingenious and realistic 3-D models on the Lucas stand at Earls Court.

ONCE again AUTOSPORT would like to thank the delightful people who helped out on their stand. Especial plaudits go to Sir James On the last Scott-Douglas, Barclay Inglis, Bart Shaw-Kennedy and Reg Bate. traffic jam, as hundreds of people

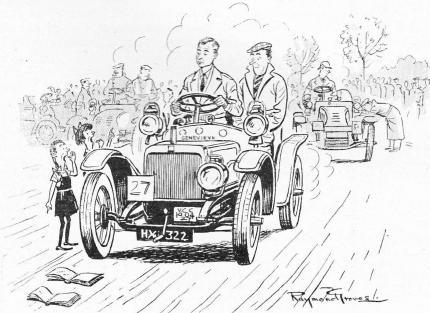
> J.A.P. s are developing a new 500 c.c. four-cylinder racing engine which should prove exciting for Formula 3. It has twin o.h.c. and water cooling. An aircooled vee-twin 500 is also being produced at Tottenham.

WILSON ROGERS, who has contributed to AUTOSPORT in the past, and did the Oulton Park press-work so efficiently this season, has been appointed Northern representative of the magazine.

Award for the worst report ever of a motoring event must be given to The Daily Mirror, for Noel Whitcomb's "Popsy Got There the Cranky Way"-a ghastly account of the R.A.C. Veteran Car Run.

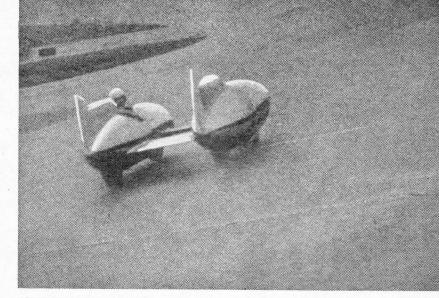


sought his autograph.



"Give us an autograph, mister."

SPORTS-NEWS



BISILURO: Piero Taruffi's twin-fuselage Tarf 500 at Montlhéry, setting up new Class I records which it lost a few days later to the Arnott illustrated below. (Left) A glimpse of the 4-cylinder Gilera engine, installed in the right-hand boom.

WHARTON (B.R.M.) FOR NEW ZEALAND

Ken wharton will drive one of the 16-cylinder 1½-litre B.R.M.s in the Auckland G.P. in New Zealand on 19th January. The car will be leaving by boat this month. Peter Whitehead is competing with his G.P. Ferrari, while Australian Tony Gaze is entered to drive an H.W.M., possibly with supercharged engine.

The race at Auckland is over 100 laps, a distance of just over 200 miles.

MONTE CARLO RALLY ENTRIES

A RECORD number of British applications (121) has been received for the Monte Carlo Rally, representing 21 different makes of British cars. The R.A.C.'s approved list is as follows:—

different makes of British cars. The R.A.C.'s approved list is as follows:—

Alvis: J. W. E. Banks. Armstrong Siddeley: Air Vice-Marshal D. C. T. Bennett, W. M. Couper. Austin: J. A. McLaughlin, W. T. Franklin, J. C. Nairn, G. D. C. Rose, J. A. H. Broadbent, R. C. Syms, J. D. Sleeman. Bentley: S. Harris. Daimler: T. G. Shanley, J. Eason Gibson, T. H. Wisdom, P. Worledge, C. Corbishley, Dr. C. R. Hardman, P. R. Bolton. Ford: D. S. West, T. C. Harrison, N. W. Kastner. J. G. Reece, J. W. Fleetwood, J. Kenyon, W. K. Blomfield, A. McCracken, J. Risk, C. F. Bartlett, R. W. Faulkner, R. S. Henson, R. Sleigh, G. Wood, S. Croft-Pearson, Mrs. N. Mitchell, J. Blumer, D. J. B. Brown, Mrs. A. Needham, D. G. Scott. Hillman: C. Wick, J. C. Trigg, M. B. Anderson, J. K. C. Bayes, A. H. Wilcox, A. R. Foster. Humber: C. W. Eyre-Maunsell, A. G. Imhof, G. Murray-Frame, G. R. Hartwell, J. R. Skeggs, Jaeuar: F. J. A. Vivian, E. N. London, C. B. Pilgrim, Maj. C. W. Lambton, R. B. Cade, E. A. Wrangham, J. A. D. Lucas, F. C. Merrill, L. S. Norman, J. Glasgow, F. P. Grounds, R. J. Adams, D. A. Kirk, K. E. Carter. Jowett: J. M. Iew, F. M. Baker, Dr. L. Taylor, G. A. Lewis, Mrs. J. A. Leavens, F. D. Dundas. Lagonda: W. Rosson, M.G.: G. R. Holt, R. E. Holt, J. L. Shaw, Morrist H. Sutcliffe, J. A. Duckworth, E. Lambert, K. D. Fraser. Panhard: L. Potter. Renault: E. N. Brinkman. Riley: L. Griffiths, A. V. Milton, A. Stross, G. F. Hayward, J. W. Bowdage, N. Buchanan, W. R. Sutherland, J. B. G. Campbell, L. O. Sims, T. W. Dargue, A. P. Warren, J. I. Bremner. Rover: K. S. Richardson, A. Meredith-Owens, Miss H. N. Dunham. Singer: F. C. Merrill. Standard: J. W. Bowdage, N. Buchanan, W. R. Sunderf, M. S. A. I. C. Neil, D. O'M. Taylor, R. Dickson, C. Edge. Sunbeam-Talbott N. H. Klichards, W. E. Humphries, Miss J. Slatter, C. Oddbury, E. R. Evans, R. J. Sanders, R. W. Merrick, Dr. D. Barker, Miss S. Van Damm, Stirling Moss, L. Johnson, H. L. Brooke, J. H. Kemsley, Miss M. Walker, Her Grace the Duchess of Newcastle. Triumph: P. L. Edwards, Vauxhall: L

ARNOTT ONSLAUGHT ON CLASS I

John Brise Takes Nine International Class I Figures from Taruffi, Bonnet and Cooper

The struggle for Class I (351-500 c.c.) International class records took a new turn last week, when John Brise, driving the new streamlined Arnott at Monthéry, set up nine new figures, ranging from the 50 kilometres at 117.17 m.p.h. to the three hours at 107.91 m.p.h. Six of the records broken had only recently been established by Piero Taruffi with his Gilera-engined bisiluro Tarf, two belonged to René Bonnet (D.B.) and one, the 200 miles, to John Cooper.

belonged to René Bonnet (D.B.) and one, the 200 miles, to John Cooper.

Wednesday, 28th October, was the day of the attempt, and the Arnott équipe, comprising Miss Daphne Arnott, George Thornton, John Brise and the car itself, with aerodynamic bodywork designed by Gerald Smith, were down at the Montlhéry track at 8 a.m. A heavy downpour of rain delayed the start until 11 a.m., and the track was still very wet when Brise set off in the bright red car, its "double-knocker" Norton engine

booming healthily.

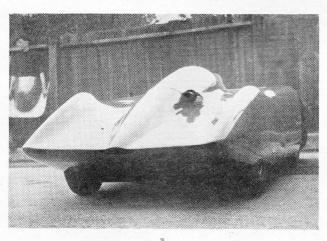
First record to fall was the 50 km., after 15 mins. 54.57 secs. running, at an average of 117.17 m.p.h., an improvement of over 2 m.p.h. on Taruffi's old figure. There followed in quick successions.

sion the 50 miles at 118.03 m.p.h., the 100 km. at 118.07 m.p.h., the 100 miles at 118.02 m.p.h., the 1 hour at 117.76 m.p.h., the 200 km. at 117.67 m.p.h., the 200 miles at 115.53 m.p.h., the 500 km. at 108.13 m.p.h. and the 3 hours at 107.91 m.p.h.

The run went through without a hitch, with a single refuel stop in the closing stages, and it seems John Brise's major preoccupation was with some rather unpleasant chewing gum with which he had fortified himself at the beginning. Owing to the wet track, both hands were occupied full-time at the steering wheel, and Brise had, willy nilly, to continue chewing at the distasteful and tenacious substance for some while before at last he could spare a hand to extract it! The Arnott chassis was of the standard Formula 3 type, and ran on Dunlop tyres, Castrol oil, Regent fuel, a K.L.G. plug, and Ferodo brake linings.

A.C. "ACE" DATA
ADDITIONAL data on the A.C. "Ace", specification of which was published recently, is: turning circle, 32 ft.; speed in top gear per 1,000 r.p.m., 21.9 m.p.h.

LOW DRAG: Tailview of the highly successful aero-dynamic Arnott 500, the body of which was designed by Gerald Smith. Another photograph of the car appeared in last week's issue.



THE USE OF ROLLER BEARINGS IN RACING ENGINES

By

ING. d. e. AURELIO LAMPREDI CHIEF ENGINEER, AUTOMOBILI FERRARI

The design of an engine for racing cars requires an enormous amount of work on the part of the designer, with a view to preparing all the data concerning output and the degree of resistance necessary to enable the engine to compete in races which are often exceedingly strenuous, without succumbing to the severe stresses

imposed.

Rule of thumb methods have no place in modern motor-racing, or in the design and development of any type of high-performance machine for that matter. Unquestionably, designers and constructors must work as a team; but it is the chief designer's job to present the craftsmen with drawings which can enable them to start work immediately, and then not be continually harrassed by frequent modification, after the design has been completed. One cannot rush a new engine, but it is certainly possible to design and develop one without untoward delay. Many promising units, however, have come to naught due to "too many cooks", which is a point well worth remembering.

Accordingly, the designer must investigate all the factors—both positive and negative—which influence output, and exploit the former to the full and diminish

the latter as much as possible.

One of these factors is friction: the higher the friction, the lower the mechanical efficiency of the engine.

In view of the heavy loads exerted on the crankshaft and crankpin bearings by the composition of the forces developed by the expansion of the gases and by the reciprocating and centrifugal stresses arising from the connecting rod movement, we feel compelled to ask ourselves how much power is thus absorbed and what can be done to reduce it.

Generally speaking, all the engines at present used in competitive racing are provided with bearings of the shell type on both the crankshaft journal and the crankpin. The journals and pins turn in them, floating on a thin but continuous film of oil without there being any actual contact between the respective metals (journal or pin and bearing), thanks to the state of pressure which is generated spontaneously in the lubricating film.

Nevertheless, when turning they must consume some power in order to overcome the tangential resistance of

If we assume that in the same operational conditions this coefficient of tangential friction is greater than that which we have in a bearing with rolling contact (rollers or balls), then the use of roller bearings on the crankshaft and crankpins of an engine would modify the operational conditions of the journals and pins and the losses due to absorption of power would diminish. Granted the foregoing, we may deduce that the use of roller bearings will therefore improve the mechanical efficiency and increase the actual output of the engine.

To illustrate the amount of power lost in friction let

us calculate an example:-

The power absorbed by a journal turning in a plain bearing is represented by:-

$$HPr = \frac{fr \times Q \times Vp}{75}$$

whereas that absorbed by a journal turning on rollers or balls is represented by

$$HPv = \frac{fv \times Q \times Vp}{75}$$

in which

fr = coefficient of sliding friction; fv = coefficient of rolling friction; Q = load on the bearing in kilograms;

Vp= circumferential speed of journal.

If Q and Vp are the same, the two formulæ are equal, except for fr and fv.

Assuming that

Q = 3,000 kg. N = 5,000 r.p.m. Vp = 15.7 metres per second.

fr = 0.01

fv = according to Panetti $= 0.0011 \times (1 \div 0.0003 \times N) \times \sqrt[3]{\frac{Q1}{Q}}$

in which

Q1 = maximum radial load corresponding to the maximum stress on the rollers

Assuming, for simplicity, that

$$Q1 = Q$$
, then fy = 0.00275

HPr =
$$\frac{0.010 \times 3,000 \times 15.7}{75}$$
 = 6.8 HP

whilst

$$HPv = \frac{0.00275 \times 3,000 \times 15.7}{75} = 1.8 HP$$

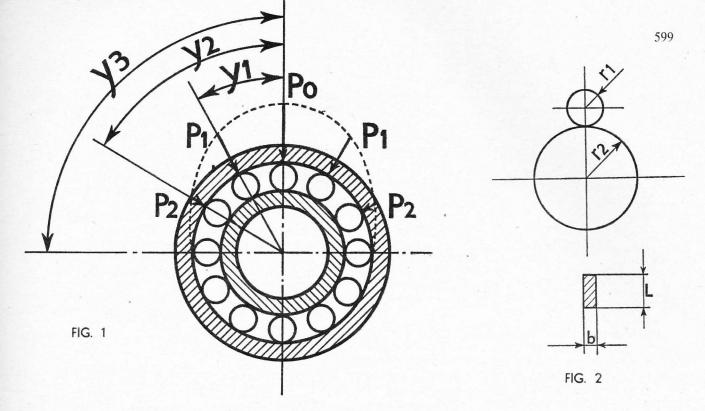
viz.: considerably less power.

It will therefore be preferable to assemble the connecting rods on the crankpins and the crankshafts in the crankcase by means of ball or roller bearings.

To reduce the overall dimensions and the weight of the moving parts it will be advisable to install the rollers in direct contact with the crankshaft journals and crankpins. The latter will thus function as the inner race, whilst as the outer race we can use the con.-rod itself. For the crankshaft a bush attached to the crankcase will be required.

Assuming that we have overcome the considerable difficulties of the actual construction, of lubrication and of the many other items which we shall not pause to mention here—leaving their solution to the designer—let us see now how we can solve the questions of dimensioning the rollers, the choice of their number and the diameter in or on which they should revolve.

The object of the present article is to illustrate a method which-although it may not be rigorously exact —is sufficiently so for laying down the design.



DISTRIBUTING THE LOADS OVER A BALL BEARING

According to Stribek, if we consider a complete ball bearing (the reasoning also applies to a roller bearing) and apply to it an external load Q-which, for the present, we will assume to be vertical—the pressure exerted on the balls diminishes proportionately as the latter approach the horizontal axis, i.e., the external load is distributed on the semi-circle of balls almost according to the sinusoidal law, so that the ball situated in the line of application of the external load is stressed

If we call Q the static radial load on a ball bearing, we have (fig. 1):

 $Q=P_0+2P_1\cos.y+2P_2\cos.2y+\dots 2P_n\cos.n$ y (1) in which n y $\leqslant\!90^\circ$

Expressed by Z the number of the balls is
$$y = \frac{360}{Z}$$
, therefore $n \le \frac{Z}{4}$

$$P_1 = P_0 \cos y \frac{3}{2}$$

 $P_2 = P_0 \cos 2 y \frac{3}{2}$

$$P_n = P_0 \cos n \ y \frac{3}{2} \tag{2}$$

Now: substituting for the values of the loads P₁, P₂, P₃, \dots P_n of formula (1), those given by formula (2), and considering the mean values of the number of balls to be included between 8 and 20, Stribek expresses the maximum load P₀ on the ball situated at the vertex of the bearing by the following formula

$$P_0 = \frac{5}{Z} \times Q \tag{3}$$

Working out the calculation, this value would be found to be 4.37, but in practice the value 5 has been adopted, to take into account the machining imperfections in the bearings.

The formula (3) has been obtained for a bearing when considered as a component loaded statically and it only takes into account the static resistance of the ball to fracture, whereas in practice the bearings are in motion and therefore this formula alone is not sufficient to determine the loading capacity of the bearing, precisely for the reason that it does not take into account the repeated loadings which the revolving components can withstand in any position whatever determined by the motion of the bearing.

In order to determine the loading capacity of a roller or ball bearing, it is first of all necessary to be acquainted with the pressures existing between the rotating components and the surface on which these components roll, i.e., we must know the life of the bearing carrying a certain load and made to work at a predetermined

The deterioration of a bearing with rolling contact is due to the fatigue of the material, such fatigue being caused by the successive stresses imposed by the pressures, which can recur millions of times.

We can, therefore, state that the number of repetitions possible, Rc, are a function of the pressure itself, and we deduce therefrom that, the higher the compression, the smaller will be the number of repetitions possible, and vice versa.

We will therefore state the formula

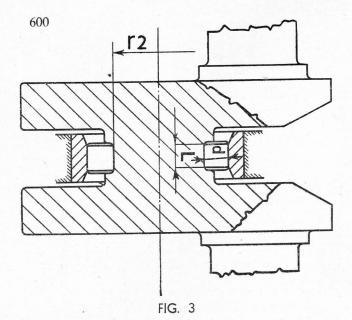
$$p max = f (Rc) (4$$

and we shall require to know the pressure p max between the rotating components and the surfaces.

Leaving aside all the mathematical reasoning, it will suffice to consult a manual dealing with the resistance of materials to convince oneself that, given the same dimensions (diameter of the balls or rollers and diameter of the inner race), the roller can withstand a heavier load than can the ball, and we shall therefore deal with roller bearings only.

Scientific design tells us that when one cylinder is pressed on another they enter into contact over an area the projection of which is a rectangle (fig. 2).

Prosecuting the inquiry, which can give us the pressure at every point and the tension in the two components in



contact, we assume, for simplicity, that the area of contact is extremely small in proportion to the radius and that the pressure is therefore perpendicular at every point; furthermore, it is implicit that the limit of elasticity of the material will never be exceeded, so much so that the equations of elasticity are used in the calculation. Let us assume, therefore, that two rollers, of radius r_1 and r_2 , are pressed against each other by a force P_0 in kilograms. Furthermore, let

L = Length of the area of contact (mm.)

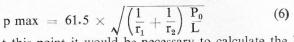
b = Width of the area of contact (mm.)

 $E_1 = E_2 =$ modulus of elasticity of the material of the two rollers = 21,500 kg./mm.².

The value of b is obtained from the formula

$$b = 0.3044 \frac{P_0}{L} \times \frac{r_1 \times r_2}{r_1 + r_2} \times \frac{1}{E_1}$$
 (5)

whilst the maximum specific pressure p max on the compressed area is given in kg./mm.² by the following formula of Hertz:



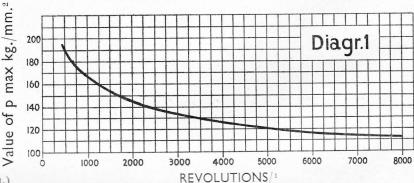
At this point it would be necessary to calculate the life of the bearing under a predetermined load and speed of rotation.

This calculation would be too long and we would risk making considerable errors, since it is only by means of numerous and very long experiments that it is possible to find the co-efficients of correction which must be inserted in the equations necessary for the calculation of the life of the bearing.

We shall, therefore, base our calculation on the results already obtained by the bearing manufacturers, who give this information in their catalogues. There will be found the necessary data for the selection, usage and life of the bearings in the most varied conditions of operation.

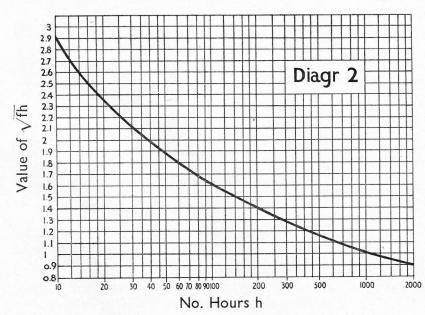
Having applied the formulæ (3) and (6) to various series of different types of roller bearings manufactured by various makers, after determining the following data r_1 ; L; Z; r_2 ,

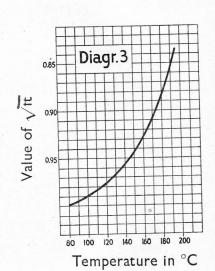
it was found that, given the same conditions, the p max is also the same.



These values of p max in the conditions in question are shown on diagram No. 1 and are only based on a life of 1,000 hours for a maximum temperature of 80°C and for unidirectional and constant loads.

To take into account the various life-hours "h" and maximum temperature-hours "t" for which the bearing has been made, the factors "fh" and "ft" have been added and their respective values are shown on the diagrams Nos. 2 and 3.





The addition of these values varies proportionally the loading capacity of the bearing, i.e., Q, Po, and of p max (square root), so that the values of p max shown on the diagram 1 should be multiplied by fh and ft obtained from the respective diagrams, and to simplify matters they have already been reduced to \sqrt{fh} and $\sqrt{\text{ft}}$; i.e., we shall have

$$p \max_{1} = p \max \sqrt{fh} \sqrt{ft}$$
 (7)

As, therefore, we know the actual working conditions Q, N, t, and h, and choosing tentatively \tilde{Z} , r_1 , L, r_2 , we can calculate by means of formula (6) the value of p max2, which may on no account exceed p max1 as given by formula (7). It may, however, happen that p max₂ exceeds p max₁ and that it may not be possible to increase Z or r₂; in this case it would be advisable to install two or three rows of rollers in the bearing in question; p max2 will then be reduced to

$$p \max_2 \sqrt{\frac{1}{2}} \text{ or } p \max_2 \sqrt{\frac{1}{3}}$$
.

We would add that in the case of internal combustion engines there also exist the following conditions:

(1) The direction of action of the load on the bearing is not a fixed one (one need only look at a polar diagram of the loads, to be convinced of this), i.e., the load is rotating with respect to the centre of the bearing.

(2) The outer race of the crankpin and crankshaft bearings does not rotate, whilst the inner one does.

In view of these conditions, it is advisable to assign as a value the safety factor fl 1.3, which will also contribute to the reduction of the value of p max in the diagram No. 1, with $\sqrt{1.3}$.

Furthermore, the load Q on the bearing is not constant and the bearing is not exempt from impact and vibrations; in view of this the bearing makers recommend the application of the value 1.2—1.5 to the safety factor fc. and the square root of said value will, therefore, also contribute to the reduction of the value of p max in the diagram No. 1.

To facilitate the application of the foregoing statements, let us calculate a few practical examples:

Example No. 1:—

Let us take the example of a roller bearing which has been designed for the following operational conditions and with the following main dimensions:

Q = 1,000 kg; N = 5,000 r.p.m.; $t = 120^{\circ} \text{ C}$; life h = 500hrs.; fixed data: Z=19; $\hat{d}=12$ mm., L=12 mm.

The diameter of the race will be

$$Dp = 2r_2 = \frac{2(d + 0.3d)}{3.14} - d;$$

in which it is assumed that the space between one roller and the following one, measured on the pitch circle, is equal to 0.3d.

substituting the values, we have
$$2r_2 = \frac{19(12+0.3\times12)}{3\cdot14} - 12 = \frac{19\times15\cdot6}{3\cdot14} - 12 = 82 \text{ mm.}$$
 from which
$$r_2 = \frac{82}{2} = 41 \text{ mm.}$$

from which
$$r_2 = \frac{82}{2} = 41 \text{ mm}.$$

The maximum load acting on one roller, according to

$$P_0 = \frac{5 \times Q}{Z} = \frac{5 \times 1000}{19} = 263 \text{ kg.}$$

From diagram No. 1 we shall find that the p max for

1,000 hours of operation at the required speed (5,000 r.p.m.) and for a temperature of 80°C., is as follows: $p \text{ max} = 121 \text{ kg/mm.}^2$.

As the operational conditions of our example differ in life and temperature, we shall take from diagrams Nos. 2 and 3 the coefficients of correction for p max.

on diagram No. 2 we find for 500 hrs. life: \sqrt{ft} .

on diagram No. 3 we find for 120°C. temp.: $\sqrt{\text{ft.}}$ = 0.975.

Accordingly, our permissible p max will be:

$$p \max_{1} = 121 \times 1.15 \times 0.975 = 137 \text{ kg/mm.}^{2}$$

Checking this with the formula (6), the p max acting between roller and race should be lower than or, at the most, equal to p max₁:

p max. =
$$61.5\sqrt{\left(\frac{1}{6} + \frac{1}{41}\right) \times \frac{263}{12}}$$
 = $126 \text{ kg/mm.}^9 < 137 \text{ kg/mm.}^2$.

In conclusion, the dimensions fixed for the bearing are entirely satisfactory, inasmuch as the actual p max is slightly lower than the permissible p max.

Example No. 2:—

Let us now examine a roller bearing assembled on the crankshaft or crankpin of an internal combustion

Differing from the foregoing example, we must also take into account the other two factors reducing the p max, viz.

- (1) the method of operation of the bearing: $fl = \frac{1}{1 \cdot 3}$;
- the positional variability of the load and the $fc = \frac{1}{1.2 \text{ to } 1.5}.$ vibrations:

Let us assume that the conditions of operation and the dimensions of this bearing are as follows

Q = 1,500 kg.; n = 7,000 r.p.m.; $t = 100 ^{\circ}\text{C}$; life h = 80

$$\sqrt{f1} = \sqrt{\frac{1}{1 \cdot 3}} = \frac{1}{1 \cdot 14};$$
 $\sqrt{fc} = \sqrt{\frac{1}{1 \cdot 5}} = \frac{1}{1 \cdot 22}$
 $Z = 17; d = 14 \text{ mm.}; L = 18 \text{ mm.}$

and we shall have

Inner diameter of the race on which the rollers are rotating:

$$2r_2 = \frac{17(14+0, 3\cdot14)}{3\cdot14} - 14 = 84 \text{ mm.},$$

hence;
$$r_2 = \frac{84}{2} = 42 \text{ mm}.$$

Maximum load acting on one roller (formula 3)

$$P_0 = \frac{5 \times Q}{Z} = \frac{5 \times 1500}{17} = 440 \text{ kg.}$$

From diagram No. 1 we find the p max for a life of 1,000 hours at 7,700 r.p.m. = $kg/mm.^2$.

From diagram No. 2 we find the coefficient of correction $\sqrt{\text{fh per h.}} = 80 \text{ hours, giving } = 1.68.$

From diagram No. 3 we find the coefficient of correction $\sqrt{\text{ft}}$ for the temperature, giving 0.99.

Further, taking into account the values assigned to fl and fc, the permissible p max will be:

$$\begin{array}{c} p \; max_1 = 144 \; \times \; 0.99 \; \times \; 1.68 \; \times \; \sqrt{\frac{1}{1 \cdot 3}} \; \times \; \sqrt{\frac{1}{1 \cdot 5}} = \\ \frac{114 \; \times \; 0, \; 9 \; \times \; 1.68}{1 \cdot 14 \; \times \; 1.22} = \frac{137}{\text{kg/mm.}^2} \cdot \end{array}$$

and checking our example with the formula (6) we should obtain a p max ≤ p max; hence

p max = $61.5 \times \sqrt{\left(\frac{1}{7} + \frac{1}{42}\right) \times \frac{440}{18}} = 125 \text{ kg/mm.}^2$

In conclusion, in this second example, too, the dimensions of the bearing are satisfactory, inasmuch as the actual p max on the roller is slightly less than the permissible p max, for the specific operational conditions fixed in the design.

For bearings assembled on the crankshaft or crankpins of an internal combustion engine, this method of calculation for finding p max, ensures a certain margin of safety from the point of view of the actual opera-

tional conditions of the bearing.

In fact, in respect of engines in general, and especially racing engines, the maximum speed and, therefore, the maximum loads are attained and maintained only for a few seconds or fractions of a second; from this it can be concluded that the conditions for which the bearing is calculated exist only periodically and for exceedingly short periods.

We may add that this calculation gives a fairly rational result when the races are manufactured from case-hardened or bearing steel.

With both of these steels the hardness of the races should be equal to or exceed 63 Rockwell.

For races made with case-hardened steel the depth of casing should not be less than one millimetre.

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CORRESPONDENC

The Italians and Formula 3

Lurani regarding Formula 3 racing in Italy.

I feel sure that the lack of engines is not really the cause of the lack of interest on this particular class. The difficulty of obtaining racing 500 c.c. engines from the manufacturers is just as difficult in England as in Italy or elsewhere on the Continent. The method of obtaining secondhand "Manx" Norton motor-cycles for the sake of the power unit is certainly not encouraged in Bracebridge Street, and I know this from personal experience.

I have for some considerable time been trying to obtain one of the Italian fours of Gilera, Guzzi, or M.V. manufacture, which are reputed to be giving considerably in excess of 60 b.h.p. on 88/90 octane for experimental purposes. I should not, then, have to worry about the stresses and strains imparted into the chassis by a single cylinder engine on such a high compression ratio. If one had to make additional cooling facilities, the extra b.h.p. to drive a four, and the weight of it plus the ducting, would still leave me a satisfactory margin.

plus the ducting, would still leave me a satisfactory margin. I quite ag ee that the suggestion of banning single-cylinder engines and motor-cycle type transmission can only have been made by some irresponsible person; I dismissed it myself without giving the matter further thought. The chain and sprocket method of transmission, used by the automobile industry over 50 years ago, might again become popular as an inexpensive means of transmission for a really cheap family car.

As Formula 1 and Formula 3 have been agreed for the coming year, surely a 1,500 or 1,100 c.c. class would be more

suitable for the intermediate Formula 2?

I endo se the suggestion of Count Lurani that a two-seater full-width sports car using 88/90 octane would be a most interesting proposition, and I think that most European countries could compete on more favourable terms, which is "good for International motor sport".

C. W. KIEFT.

WOLVERHAMPTON.

YOUR recent Editorial on Formula 3 racing is, in my opinion, unworthy of a magazine like yours, and I would like to point out a few facts to justify lack of Italian competition in Formula 3.

The Norton double o.h.c. single-cylinder racing engine has been produced in comparatively large numbers since some time before the war and, therefore, is relatively easy to obtain

in your country.

Gilera and M.V. fours are far superior to the Norton single in power, acceleration and maximum speed, and on top of this are just as reliable. They have proved this superiority during the past two years of motor-cycle racing, so much so that, if my memory is correct, a B-itish 500 has never finished first in events counting for the World's Championship, save

for the T.T. where they won only after the two leading Italian machines had crashed.

However, these four-cylinder engines are not yet available for other than factory machines; it would be just as difficult to try to purchase a 1954 Formula 1 Maserati engine. If they could be purchased, however, I am sure that Italy would again monopolize the victories as they have in the other formulæ.

The only power units which one can obtain in Italy come from touring machines. May I ask you what chance of success would a Formula 3 car have, powered by, say, a Triumph, A.J.S. or Norton touring twin, against a racing Norton or J.A.P. unit? None.

Let us all be just. I am not Italian, and I admire very much British cars. May I tell you that my dream is of an Aston Martin, and that is very British.

C. DUVIVIER.

PARIS.

First Aid at Speed Meetings

In Autosport of 18th September there was an excellent Editorial on the subject of first-aid arrangements at motoring events, saying they should receive top priority at meetings, and in this connection I feel there are two points which need stressing; ambulances and fire fighting.

At sprints, only one ambulance is called for by the R.A.C. (two are required at races), but if it leaves the meeting to take a casualty to hospital the R.A.C. steward must stop the meeting until it returns. Now this brings up the matter of shooting brakes, and some organizers are under the misapprent that if the one and only ambulance leaves the significant hension that if the one and only ambulance leaves the circuit, the meeting can continue because "Tom has brought his the meeting can continue because "Tom has brought his shooting brake and the R.A.C. accept them as suitable vehicles for use as ambulances". That is not correct; what the R.A.C. General Conditions of Permit say is that "... ambulances or suitable vehicles (such as shooting brakes) reserved to act as ambulances and each equipped with a stretcher and attendant first-aid staff (the italics are mine) must be on duty...", so "Tom's shooting brake" without a stretcher and first-aid staff does not fulfil these conditions and, personally, I should hate to be "Put in the back of a large car", as I have heard suggested before now, if I had internal injuries or a damaged spine. or a damaged spine.

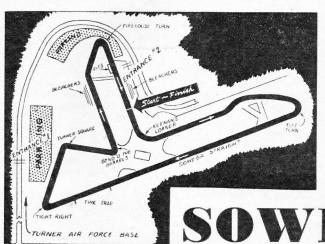
I have also known an R.A.C. steward get black looks because he would not allow practice to start before adequate fire fighting equipment arrived. On another occasion the fire extinguishers produced from "Jim's and Harry's cars" in the paddock for use as official fire fighting equipment proved to be empty! Fire fighting is not just a question of saving a blazing car-it can be a matter of life and death, with a driver trapped within it.

At closed to Club meetings, there is sometimes a risk that an attitude of "That's good enough, it's only a 'little' meeting" may creep in, but a driver or spectator can be as badly injured at a "little" event as at an International one, and there is even more danger at the "little" meetings through the inexperience of the drivers and officials.

"Motor Racing is Dangerous"—but don't let us make our

sport unnecessarily so, and please don't shoot the R.A.C. steward. He's doing his best! R. EMERSON TAVENER.

BOURNEMOUTH.



Sketch map of the $4\frac{1}{2}$ miles circuit at Turner Air Force Base used for the Sowega races. It was lapped at over 100 m.p.h. by Bill Spear (4.1 Ferrari).

The first race of the day, 75 miles, known as "The King George Cup", was for modified cars in all classes, and the 47 starters included three Cunninghams, six Allards, one Kurtis-Kıaft, seven Jaguars, four Ferraris, one Frazer-Nash, one Maserati, three Oscas, four Porsches, five Siatas, two Kieft-M.G.s, and other smaller cars. Scheduled for 8.30 a.m., the race started precisely on time with the front-row Allards of J. L. Brundage and Colonel Tilly and the Cunningham of Phil Walters making quick get-aways. The Nardi of Paul Gougelman stalled at the start but went on, ultimately to finish third in its class. Two Cunninghams could be seen hug-

WEGA RACES Bill Spear (4.1 Ferrari) Wins 252 Miles Race at

International Meeting—Cunninghams 2nd & 3rd

Report and Photographs by RUTH SANDS BENTLEY

The greatest sports car event ever to take place in the U.S.A. featured an exciting Ferrari-Cunningham battle in the 252-mile main race, with Phil Walters taking the lead in the Cunningham C-5 (known at Le Mans as "The Shark", and completely rebuilt since its Rheims crash), holding first place for two laps, being passed by Bill Spear's new Mille Miglia Ferrari, hanging on to the 4.1 Ferrari for four laps and then slipping past to regain first place. At times the two cars deadheated, with neither driver giving an inch. Walters was harried by Spear for many miles before he began widening the gap, finally securing a good lead. However, retribution stepped in. Two months ago at Floyd Bennett Field, Spear put Walters in the lead when the heat became too much for him and he was forced to stop in his pits to change drivers; this time tyre wear and carburation bothers brought Walters in, giving Spear and Fitch both a chance to go ahead, to finish 1-2 with Walters a gallant third.

THE races at Turner Air Force Base could not have been staged with more thoroughness and careful planning, and much credit is due to General Curtis LeMay, Brigadier-General Thayer S. Olds, Colonel David Schilling and Colonel Cy Wilson for "spark-plugging" the event. Called Sowega because of its location (South-west Georgia, the abbreviation for Georgia is Ga.), the 4.5-mile course on paved runways has eight interesting turns and one very fast back straight where Phil Walters clocked a record 156 m.p.h. in the timed section. An outstanding array of fine sports cars was there, and drivers from far-away corners of the country had come to drive them: San Francisco, California (2,620 miles); New York City (1,015 miles);

FOUR-ONE WINNER: Whilst Bill Spear takes his victorious 4.1 Ferrari to the line, Al Monro has a laugh at the antics of Briggs Cunningham.

Massachusetts (1,230 miles); Boston, Chicago, Illinois (900 miles); Omaha, Nebraska (1,185 miles), just to mention the home towns of a few of the 175

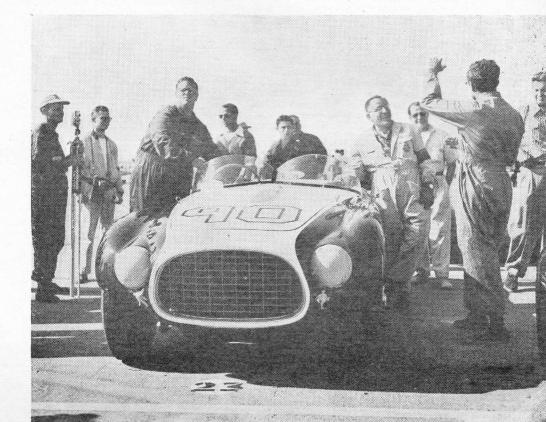
entrants.

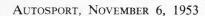
Cool, sunny weather inspired fast driving, and although Albany, Georgia, is remotely located, a very large crowd witnessed the Sports Car Club of America's first International event, with official sanction by A.A.A. and F.I.A. Two International drivers, Karl Kling and Baron von Hanstein, both from Stuttgart, Germany, were participating in the sleek little Type 555 Porsche road-sters they will drive in the Pan-American Road Race. Unfortunately, new fuel pumps, installed shortly before the races, did not function properly and neither car was able to finish.

ging each other all the way around the course, and when they neared the official stand it was John Fitch in front with Phil Walters close behind. Briggs Cunningham in a similar car was in third place. Dale Duncan's Ferrari had moved from 17th starting position to fourth place, and Roy Scott and Ernie Erickson—starting in 10th and 19th positions, respectively—were now running fifth and sixth in an Allard and a "C" Jaguar. (Erickson, of Chicago, Illinois, has fitted his Jaguar with Weber dual-throated carburetters à la Le Mans.)

Second time around, a little red car baulked Walters, letting Fitch increase his

lead, and by Lap 4 Fitch was making the 4.5-mile circuit in 2 mins. 57 secs., while Duncan, of Tulsa, Oklahoma, made a pit stop. Lap 6 saw Walters closing in on





FLAGGED: Russ Boss (Jaguar) gets the chequered flag from Col. Terry Field as he crosses the line to win the all-Jaguar race at 77.40 m.p.h.

race's end. Pit Browne (Porsche) was pressing Bentley (Porsche), passing him a lap later, and then shaking the onlookers by some hectic cornering at Keenan's. It was Thompson's race all the ways by less 14 he was 14 seconds the way; by lap 14 he was 14 seconds ahead of Goldman and next lap he clocked 114 m.p.h. through the timed section in his stock convertible Porsche,



Fitch again, building up more than a minute's lead over Briggs Cunningham. Rees Makins had a frustrating experience in this same lap. Pushing the wrong button on the Osca's dashboard, he released the bonnet, necessitating an 11-second pit stop to close it, ultimately finishing second in his class only 1.5 seconds behind the leader!

While Fitch and Walters were battling away, three cars were running neck-andneck for 10th position—Bill Lloyd's Ferrari, Charles Leighton's Jaguar, and Ed Lunken's Ferrari, with Bill Lloyd staying ahead until Lap 13 when Leighton dashed by and began closing on George Huntoon, whose Jaguar "C" was in eighth position. The popular Texan, Roy Scott, was giving Briggs Cunningham no peace, pressing him with the Allard. Von Hanstein's Porsche, which started in 41st position, had moved up to eighth place by lap 8, but his faulty fuel pump caused him to move slowly back, retiring a few laps later. The winner of that class, Bob Keller (son of K. T. Keller, chairman of the board of Chrysler Corporation), was driving Briggs Cunningham's new Osca for the first time, and handled it like a veteran.

Paul Ce esole, at the wheel of Sherwood Johnston's modified Jaguar, left the race when his fan belt broke and a blade went through his radiator. Part of the blade hit Briggs Cunningham's car, knocking a hole in it. Walt Hansgen, driving his usual faultless race, was sixth for many laps until a pit stop for Fitch-Walters duel continued, never decreasing in tempo. On lap 11 Walters moved into first place, but a lap later Fitch had regained first position with Walters pressing hard. They had lapped all but three cars, and by lap 14 only Cunningham and Scott remained on the same lap. Fitch came around alone as he completed lap 16, and the cry went up, "Where's Walters?" A tyre had blown on Firehouse Turn, but Walters changed it rapidly and got back in time to finish his 17th and final tour. Fitch's win caused a two-fold celebration, for not only had he had a popular win, but his wife, Elizabeth, had presented him with a new son, Christopher, the day he left for Georgia.

RESULTS

Overall Winners: 1, John Fitch (Cunningham), 90.80 m.p.h. 2, Briggs Cunningham (Cunningham). 3, Roy Scott (Allard).

3, Roy Scott (Allard).

Class "C" Modified: 1, Ernie Erickson (Jaguar "C"), 84,96 m.p.h. 2, George Huntoon (Jaguar "C"). 3, Walt Hansgen (Jaguar Special).

Class "D" Modified: 1, Bill Lloyd (Ferrari), 82,00 m.p.h. 2, L. J. Fageol (Fageol Special).

Class "E" Modified: 1, Ted Boynton (Frazer, Nash), 78,03 m.p.h. 2, Bob Blackwood (Siata V8).

Class "F" Modified: 1, Bob Keller (Osca), 80,11 m.p.h. 2, Rees Makins (Osca). 3, George Moffett (Osca).



OSCULATION: Dr. Richard Thompson (Porsche) is greeted by his wife in the time-honoured manner after winning the second race.

Class "H" Modified: 1, Candy Poole (PBX), 66.76 m.p.h. 2, George Schrafft (Palm Beach Crosley). 3, Paul Gougelman (Nardi).

The "Tift Pioneer Trophy" race, 75 miles for Class "F" production cars, had 29 starters, with Ensign Schillinger's green Porsche first away as the flag dropped. In tight formation, the dropped. In tight formation, the Porsches could be seen scrambling as Porsches could be seen scrambling as they neared the stands, and it was Dr. R. K. Thompson, the young man who drove so brilliantly at Bridgehampton, out in front, followed closely by the Porsches of Denny Cornett, M. Goldman, E. Jenkins and John Bentley. Back in the M.G. thicket, a green TC could be seen moving rapidly to the fore of its contingent, and by the second time around Bob Fergus. who has never around Bob Fergus, who has never finished lower than second in his class, was heading the M.G. race. His driving was outstanding and only one H.R.G. and the Porsches were able to stay ahead of him. The immaculate silver H.R.G. of Al Trager also went well.

By lap 4, Thompson was lapping in 3 mins. 38.7 secs., and Goldman had moved very close to him; Cornett and Curtiss were also tussling, exchanging third and fourth places twice before the a car not intended for competition! Ironically, the doctor arrived at the race almost too late to enter.

RESULTS
Overall Winners, Class "F" Production: 1, Dr. Richard Thompson (Porsche), 74.07 m.p.h. 2, Max Goldman (Porsche), 3, Denver B. Cornett

Product'on M.G. Race, Special Awards: 1, Robert Fergus (TC), 64.62 m.p.h. 2, Ralph Durbin (TD). 3, Paul Bailey (TD).

The third race was known as the "Keenan Sowega Trophy". This was a 75-mile race for Class "C" cars, and included both Jaguar XK 120s and XK 120Ms. Thirteen of the 22 cars were factory-modified. L. C. Hawes's "M" was first away but another white first away, but another white one, driven by Lt. J. J. W. H. Saunders, of Houston, Texas, had a good lead at the end of the first lap, with the "Ms" of Phil Stewart and Harry Grey running second and third. Jack Ensley's stock Jaguar was fourth and Russ Boss's "M" fifth. Stewart moved into first place next time around when Saunders pulled into his pits for the first of several stops caused by overheating troubles. Boss moved to be second spot, and the two leaders began a race-long duel for first place, running together into turns but with Boss gaining

coming out, apparently having better acceleration. The stock XK 120 of Ensley was holding third place ahead of many modified models and Bob Blackwood in another stock car had gained fifth place behind Grey. Kaplan was pressing Blackwood and eventually shot past both Blackwood and Grey. Boss gained first position, in spectacular fashion—passing Stewart right in front of the reviewing stands. Boss and Stewart moved quickly, and by lap 16 had a 43-second lead over the third car.

Meanwhile Kaplan and Grey were putting on a show of their own, passing and repassing with Blackwood making a trio of it on various laps. Some of the immaculate cars that started in this race now had battle scars from a three-way mix-up occurring near Tift Turn. The map of Missouri, so neatly painted on one of the Jaguars from the "You've Got To Show Me" State, was now an unrecognish. nizable smear, and the right side of George Constantine's pastel green Jaguar was so badly smashed that his wife didn't know where she'd sit during her 1,200mile run back to Massachusetts!

Boss and Stewart were never further than a few seconds apart, and they continued to pull away from the field, but, oddly enough, the fastest Jaguar recorded in the time section was thirdplace Jack Ensley's stock XK 120. He was clocked at 128 m.p.h.

RESULTS

Overall Winners: 1, Russ Boss (XK 120M), 77.40 m.p.h. 2, Phil Stewart (XK 120M), 3, Jack Ensley (XK 120).

Category XK 120M (Factory modified): 1, Russ Boss (XK 120M), 77.40 m.p.h. 2, Phil Stewart (XK 120M), 3, Harry Grey (XK 120M).

Category XK 120 Production: 1, Jack Ensley (XK 120), 75.41 m.p.h. 2, Bob Blackwood (XK 120). 3, Jim Hendricks (XK 120).

Now the cars lined up for the start of the 252-mile race, the "Strategic Air Power Trophy". The race was open to production and modified cars of all classes, and all were represented amongst the 43 starters. Unhappily one of the entrants lost his life in practice the day before the race. John Negley, of New Cumberland, Pennsylvania, left the road at great speed in his Le Mans Allard, rolling over several times. He was a true enthusiast, driving great distances to participate in races and hill-climbs. The regrettable accident saddened his many friends, and sympathy is expressed to Mrs. Negley.

Captain George Eyston and General Thayer S. Olds—in a new-type M.G. paced the first lap at rather crisp speed, and, as they pulled off the course, the thunder of revving engines was deafening. John Fitch shot into the lead, while George Huntoon had the shortest race of the day, clouting a marker barrel with his Type "C" Jaguar within 400 feet of the starting line. Walters was in the lead when they came into sight at the end of the main straight, with Spear (Ferrari), Fitch (Cunningham) and Phil Hill (Ferrari) in close pursuit. A short space separated them from Roy Scott at the wheel of General Curtis LeMay's (The General drove his car to the starting line and looked longingly at his bolide as he turned it over to Scott to drive. The General was considered too important to his country to be allowed to race.) Behind Scott were Briggs Cunningham (Cunningham), Jim Kimberly (Ferrari), and Jack Ensley (Kurtis-Kraft) This was the Kurtis-Kraft's first appearance in the East and

it made a creditable showing, running eighth for many laps.

Spear passed Walters on Bend o' the Barrels turn and completed his second lap in 2 mins. 58 secs. By lap 3 the two cars passed absolutely level, no one being able to tell which was in the lead. An Army officer, standing near the Press Box, exclaimed, "Gee, whizz! This sport really separates the men from the boys!" On lap 7 the struggle for first On lap 7 the struggle for first place changed, with Walters capturing it and gaining a three-second lead by lap 8, clocking 155 m.p.h. on the measured strip.

Scott retired the General's car on this same lap with rear-end trouble. On lap 10, Tilly's clutch went on his JR Allard, and Walters continued to increase his lead; his 14th lap was completed in 2 mins. 52 secs. and by that time he had lapped all but four cars. Despite his fuel pump trouble, Karl Kling (Porsche) Despite his was lapping in 3 mins. 18 secs. and driving really well. By lap 21, Walters had built up a 34-second lead over Spear, and more than a minute's lead over Fitch (Cunningham). Hal Ullrich was moving his Excalibur at a fair clip and it appeared to handle exceedingly well; and John Gordon Benett behind the wheel of Fritz Koster's Maserati was smiling as he drove this fast car expertly. Charlie Moran's Cunningham coupé was so silent it passed unnoticed. On lap 26, Zorra Duntov (JR Allard) left the race when a flying stone cut his oil sump, and by lap 27 Walters had built up a 42-second lead over Spear, who was 2 mins. 10 secs. ahead of Fitch, who, in turn, was 3 mins. 50 secs. ahead of Kimberly.

Next lap, Baron von Cridner got the shock of his life when Lieutenant Ben Sands, driving Ensley's stock Jaguar, passed him going backwards! The Baron, minding his own business at the wheel of George Schrafft's Le Mans Crosley, was tootling along peacefully when the fast-moving Jaguar, approaching the Crosley, went into a half spin but continued in the same direction at 90 miles per hour! Karl Kling (Porsche) came into his pits at this time, and the other special Porsche, driven by von Hanstein, was being harried by Sherwood Johnston (Osca', with Johnston over-taking von Hanstein at Keenan's Corner to go into the lead for Class F Modified.

After building up a very good lead, Walters pulled into his pits on lap 32 to change tyres (remembering his blowout of the first race!) and to adjust his carburetter. A costly stop indeed, letting both Spear and Fitch go by. Spear truly moved after that, and, no matter how hard Fitch tried, he could not catch the Ferrari. The Italian car crackled around the many-cornered course, completing one lap at the record speed of 100.49 m.p.h. The little Multiplex of Harry Fanelli went out on lap 36 when its timing chain broke. (The Multiplex is a special chassis with stock 1½-litre Singer engine.) Von Hanstein came in for fuel while the leaders were on their 37th lap, and Sherwood Johnston made a speedy fuel stop two laps later, as did Dr. John Urbas who was driving Ed Trego's Glockler Porsche skilfully. Gleb Derujinsky made more pit stops than anyone else in the race, his Kieft being usually on its way in or out.

By lap 51 Spear had 1 min. 57 secs. lead over Fitch. In his eagerness to catch up, Fitch spun on the last-but-one corner. correcting the spin immediately and con-

tinuing. The order remained the same through the 57th and final lap: Spear (Ferrari), Fitch (Cunningham), Walters (Cunningham), Kimberly (Ferrari), Cunningham ningham (Cunningham). But Ernie Erickson, who had kept his Jaguar "C in sixth place right up to the last few minutes, had the heartbreaking experience of losing oil pressure on the very last lap! A tough break for a grand guy and an excellent driver.

RESULTS

Overall Winners: 1, William C. Spear (Ferrari 4.1), 93.48 m.p.h. 2, John Fitch (Cunningham). 3, Phil Walters (Cunningham).

Class "B" Modified: 1, John Fitch (Cunningham), 92.40 m.p.h. 2, Phil Walters (Cunningham), 8, Briggs Cunningham (Cunningham).
Class "C" Modified: 1, William C. Spear (Ferrari), 93.48 m.p.h. 2, James Kimberly (Ferrari), 3, Walter Hansgen (Jaguar Special).

Class 'C" Production: 1, D. C. Wilson (Jaguar). Class "D" Modified: 1, Hal Ullrich (Excalibur), 84.24 m.p.h. 2, J. E. Fageol (Fageol Special). 3, Ham Reidy (Excalibur).

Class "E" Modified: 1, John Gordon Benett (Maserati), 85.86 m.p.h.

Class "F" Production: 1, G. Schillinger (Porsche), 72.90 m.p.h. 2, Howard Hanna (Porsche). 3, Ralph Durbin (M.G. TD).

Class "F" Modified: 1, Sherwood Johnston (Osca), 83.97 m.p.h. 2, George Moffet (Osca). 3, John Urbas (Porsche).

Class "H" Modified: 1, George Schrafft (Palm Beach Crosley). 2, Jack Connolly (Siata). 3, Dolph Vilardi (PBX).

LE MANS JAGUARS FOR ECURIE **ECOSSE**

DAVID MURRAY announces that the entire team of Le Mans 1953 Jaguars has been acquired by Ecurie Ecosse, and will be raced in International events in Great Britain and abroad. These are, of course, equipped with disc brakes.

Drivers up to the present include Ian Stewart and Jimmy Stewart; Sir James Scott-Douglas will concentrate on long-distance Continental events. It is hoped to send the cars to Argentina for the 1,000 kilometres sports car race, and also to Sebring.

The team may also include a very prominent driver-not necessarily a Scotsman.

THE "DAILY EXPRESS" RALLY

ONCE again the time for the ever popular Daily Express/M.C.C. National Rally has come round. This year's event, the fourth to be held, begins on Wednesday next, 11th November, and concludes, after a pretty adequate coverage of the roads in this island, on Saturday, 14th November, at Hastings.

Again a record entry of well over 400 sports and touring cars has been received for this event, which constitutes the final qualifying round in the B.T.D.A. Rally Star competition of 1953. Starting points are Plymouth, Manchester, Kenilworth, Norwich, London, Cardiff and Glasgow, and all runners will converge on Harrogate, thereafter following a common route through Yorkshire, Westmorland and Northumberland, to the Scottish lowlands, then south-west to Wales, and south to the finish at Hastings. First arrivals there are expected at about 8 a.m. on Friday, 13th November.

The event concludes Concours d'Elégance, on Saturday, 14th, beginning at 10.30 a.m. Numerous British Rally experts are competing, whilst other notable drivers include George Wicken (Zephyr), Reg Bicknell (Austin), and Cliff Davis at the wheel of a new A.C. Ace.



AUTOSPORT, NOVEMBER 6, 1953

HYDE PARK—and very wet. R. S. Miles (1899 Benz) followed by K. H. Baker in a similar dog-cart, leaving the Battery near the Serpentine.

had a most healthy exhaust note, but almost complete silence was enjoyed by K. N. Rudd, who was driving the tiny single-scater S.-B. Electric. Then along came Leslie Johnson, driving, as one would expect, in true Grand Prix style, and I had a wonderful race with him, which was somewhat exciting on the slippery roads. Unfortunately, Leslie's engine suddenly became temperamental again in Streatham, and he was not seen thereafter. About then, the rain started once more, to continue non-stop for the rest of the day.

Some of the earlier veterans are allergic to continuous wet weather. For one thing, it affects their trembler-coil ignition, and for another, it prevents their belts from gripping the pulleys. Thus, we passed a great number of

JOHN BOLSTER GOES ON -

It is traditional that the annual Veteran Car Run to Brighton should take place in foul weather. Among those of us who compete regularly in this classic event, the thing is taken for granted, and our only subject of conversation, for weeks beforehand, is how to keep reasonably warm and dry when taking part in this aquatic sport. There have been many wet "Brightons", but last Sunday broke all records for absolute frightfulness.

I attended the run this year in a dual capacity. In the first place I was a journalist, reporting for AUTOSPORT on the fortunes of the various competitors. Secondly, I was a driver, conducting the same fifty-year-old Panhard et Levassor that I first handled, as a mere boy, some twenty years ago. As my own experiences were fairly typical, I make no excuse for the personal nature of this narrative.

Having previously parked the Panhard in a London garage, I was able to make the early morning journey from Kent in a closed car, and already the roads were flooded in places, with torrential rain falling. I passed Les Briggs going to the start on his Humber Olympia Tandem, and he and his passenger looked thoroughly soaked on this 500 c.c. three-wheeler. On arrival in Hyde Park, the weather showed a temporary improvement, and one met many friends from the racing sphere. Mike Hawthorn and "Jabby" Crombac were going in Roy Clarkson's big Panhard, Reg Parnell was sharing a Renault with Mrs. Georgie Fotheringham - Parker, and Tommy Wisdom was also in a competing car. Leslie Johnson was having trouble in starting the 1903 Humberette which he had borrowed from J. H. Woodin, and Philip Fotheringham-Parker was receiving manual assistance before he even got to the end of the Park, a bad omen with the long journey to Brighton ahead. He was driving an 1895 Lutzmann, a solid-tyred horseless carriage with a very large single-cylinder engine which, if pressed,

A SOAKING "BRIGHTON"

"Marine" Photography by George Phillips

could approach 400 r.p.m. The other 1895 Lutzmann, driven by E. S. Berry, was later passed at about half distance, going great guns.

The 1899 Schutzwerke tricycle of A. W. Johns was another early casualty, and L. T. Norton was examining one of the wheels of his De Dion Bouton. Benbough's Leon Bollée was backfiring loudly on Westminster Bridge, and Sir Clive Edwards had the bonnet off his twin-cylinder New Orleans, the trouble appearing to be serious. Leslie Allard seemed to be having rather a bumpy ride in his 1901 solid-tyred Napier, but brother Sydney looked happy and unperturbed in the back seat. Southon's 1901 Decauville had independent front suspension, but quite early in the run it demanded a change of plugs. A. E. Steeper's 4 h.p. Pick stopped, and the crew were hard at work winding the handle.

Jim Allday's 1903 18/22 h.p. Mercédès

suffering mortals working, pushing, or "winding," and still the downpour increased. Among these were the young men from the City and Guilds Motor Club, who were working underneath their 1901 James and Browne, J. E. Ford, whose 1895 Benz was the oldest car in the run, and F. E. Davis, who stopped his Benz in a cloud of steam. The wonderful old Benz cars, with their flat belt transmission and trembler ignition, did not seem to enjoy the weather at all, and nor did I!

T. W. Lightfoot had a most luxurious canopy and side curtains on his 1901 Renault, which were much envied. G. W. Goodall had a Royal Enfield Quad of only 2½ h.p., but at least the energetic pedalling that was necessary on hills must have kept him warm. Lawson struggled miserably in the rain with his 1896 Leon Bollée, but Commander Woollard's similar car was going beautifully.



BRIGHTON—and still very wet. L. P. Hunt's 1902 Century Tandem arriving at the finish, his brave passenger thankfully removing her sodden helmet. In spite of the wet and cold, the crowd was as huge as always. The road was under repair in many places, but the police handled the consequent traffic blocks with speed and efficiency. All the way, the police were of the greatest possible help to the veterans, and no praise is too high for the way they did their job. A few drivers of modern cars gave us no consideration at all, and in trying to spectate and drive at the same time, nearly caused many accidents. In particular, some unpleasant youths in an old Austin almost brought me to disaster several times, and only laughed when I shouted at them. However, I have their number.

"Genevieve" Goes By

On Croydon Hill I was passed by "Gatso," in the film-star Darracq "Genevieve." I, for my part, overtook some of the older cars, including the 1901 Benz of Wilfrid Andrews. I thought it was a very fine gesture indeed for the chairman of the R.A.C. to compete in this tough event, and I was glad to see his car going well. After Redhill and Reigate, the rain in the open country became horizontal stair rods. In spite of the vast amount of waterproof clothing I had put on, I was literally soaked to the skin, and I could feel the cold water running down my chest. My boots were quite full, I had to abandon my gloves, and in the end even my goggles had to be taken off, for I could not see.

It was under these conditions that the Panhard slowed down, knocking omin-ously, amidst a horrid smell of hot metal. Absurd as it may seem, the water cooling had failed! One must explain that the old Panhards, like many other cars of similar date, have frictiondriven water impellers. A small fibre wheel is pressed against the flywheel, which drives it at a great pace and the unwanted lubrication that the flooded roads provided was preventing a proper grip from being obtained. Although we cleaned and dried the surfaces, this only effected a temporary cure. necessary to lie in the road and dismantle the thing, in order to increase the spring pressure. As the road had become quite a deep river, James Tilling and I literally had a bath during this work, and while we struggled, we were sprayed by the wheels of many passing veterans.

Having done the job, we set off in pursuit of Lord Charnwood's beautiful Lanchester, but over-heating soon reared its ugly head, and once more we had to get out and get under. By the time the water impeller had been conquered, water had got into the ignition, and it was only with the greatest difficulty that we restored the power to both cylinders. By now we were in a pitiful state, and we decided that death was inevitable if we could not get warm. At a nearby hotel, we joined some fellow competitors in a similar plight, and were able to thaw out our frozen limbs.

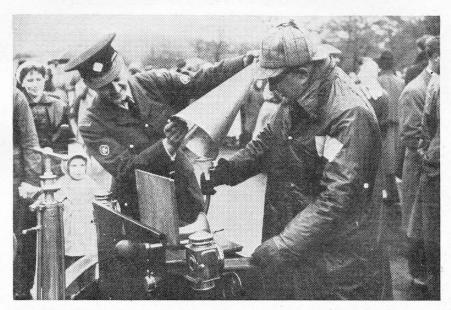
Hard Going

For a low-powered, heavily laden veteran car the Brighton road contains many mountains, and for the remainder

FULL HOUSE: Roy Clarkson and Stanley Kay in the former's 1902 Panhard at Brighton. Behind are Donald Heywood, racing driver Mike Hawthorn, and AUTOSPORT'S Gerard Crombac.



PRANG: Denis Flather's 1897 Daimler tonneau is shunted at Thornton Heath by G. A. Upton's 1902 Lanchester—without damage to either!



INGENIOUS: Dr. W. H. Glynne Jones makes use of an R.A.C. scout's megaphone, to top up his 1901 De Dion from the nearby Serpentine, in Hyde Park. The smaller filler may, or may not, have come from his surgery!



A SOAKING "BRI



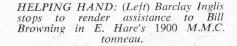
GRANDSTAND: Crowds line Pyeologing stages. The car

of the journey the gear lever was in constant use. There were gusts of wind of gale force, too, to slow the toiling vehicles or swing them off their course. Sir Hugh Dawson's Benz swayed wildly when struck by such a blast, and even my very stable Panhard felt the buffeting. It is generally said that the first half of the run is the worst, and that if a car will get as far as Crawley, it is likely to reach Brighton without further trouble.

This year, the majority of the break-downs did seem to take place in London, but one was sorry to see "Beelzebub," that famous old Bollée that Sammy Davis has been driving for a quarter of a century, hopelessly broken down near Brighton. Whatever the trouble was, it entailed towing the machine away, with the back wheel in the air, which was a sad way to finish the journey.

Easier for the "Fours"

If the 1953 Brighton run was harder than usual on the early single-cylinder 12 m.p.h. brigade, it was, as always, a simple little tour for the elaborate four-cylinder machines that were coming into fashion in 1904. Many of these had quite useful weather protection, and their occupants can have had no idea of the rigours that we were enduring. The two-cylinder Panhard that I was driving could do its 30 m.p.h., but compared with such flyers as Jack Scars's Mercédès it was a very slow vehicle. The speed of R. F. Pierpoint's huge Mors seemed almost incredible when he passed me, but

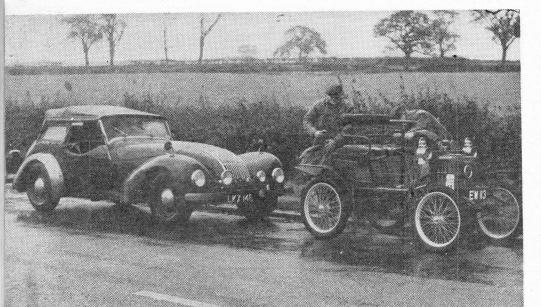




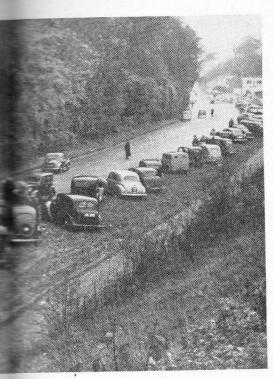
THORNTON HEATH: (Above) W. Pilmore-Bedford's 1901 De Dion Bouton voiturette on its way to the Purley By-Pass. His passenger is more than fully equipped for the rigours of a "nearest to the accident" seat.



"EE BY GOOM, who says it rains only in Manchester," says comedian George Formby to Fred Bennett. They travelled in the latter's famous 1903 Cadillac, which recently completed a 1,000 miles tour.



-continued



Hill, near Brighton, to watch the Allday's 1904 Lanchester.

as two loud bangs were heard shortly afterwards, one presumes that he penetrated the sound barrier successfully.

At last we entered Brighton, and five minutes before "closing time" too! The seas were mountainous, the gale howled and, yes, it was still raining. Normally, the cars are parked in the Madeira Drive, and one can spend a happy hour exchanging experiences with the other drivers. On this occasion, most people wisely hurried their cars away to shelter, and tried to find warmth and dry clothes for themselves. At first, it seemed as though many of the earlier machines were not going to finish, but they gradually came trickling in, hours behind schedule, though in time to qualify for an award. Finally, 146 cars arrived out of 169 starters, an incredibly good figure under the prevailing conditions.

Many entertainments had been arranged for the evening, including a Mayoral cocktail party and a Veteran Car Club dinner. For some of us, though, it was essential to return home, and our old machines set off into the dusk with long weary miles before them. In my own case, there were hours of motoring by the light of oil lamps, a desperate struggle with waterlogged ignition coils, and even a spot of pushing up a steep hill; and it rained and it rained and it rained. "Give me some dry clothes and I'll do it all over again tomorrow," said James. That is the spirit behind "the Brighton," and if we are all completely mad, well, then, I have no wish to be sane.

SERVICE: (Right) J. E. Ford's 1902 M.M.C. outside Brittain's Garage near Brighton.



HOLD-UP: (Above) Round-up at Coulsdon caused considerable delay. Here is E. H. Jarvis's 1899 Panhard-Levassor passing a long line of stationary vehicles.



NEW ROLE: Ken Smith, winner of Autosport's Non-Series Award in the 500 c.c. Championship, has to push-start the 1899 Century Dog-cart.



SINGAPORE "SHELSLEY"

Gap Hill-Climb Record Falls to J. N. K. Moncrieff (1,096 Cooper)—Seven Class Records Fall

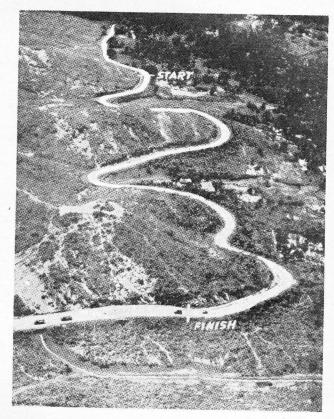
MALAYA'S major hill-climb of the year, the Singapore M.C.'s recent meeting at Gap Hill, saw six reco.ds broken, including the absolute figure for the course. This fell to the Australian J. N. K. Moncrieff, driving a 1.096 c.c. Cooper-J.A.P., with a time of 47.08 secs, an improvement of just over 1 sec. on C. P. Vaughan's best with the ex-Fane Frazer-Nash in 48.20 secs.

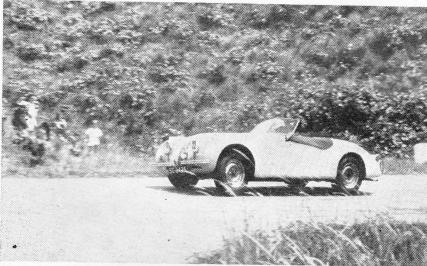
The meeting opened with good weather, but at midday the heavens opened. As the course is one which is almost impossible in the wet, competitors were much relieved when the downpour ceased and the sun reappeared, quickly drying the hill.

The Cooper twins of Moncrieff, the Chan brothers L. H. and L. C., and J. A. Milne, and Lim Peng Han's Kieft with blown twin cylinder J.A.P. engine provided the day's major excitements, although B. de Vaure (XK 120) also brought entertainment in his opening run with a very hectic broadside; he

WINDING: (Right)
The course at Gap
Hill contains
numerous tricky
bends where good
cornering abilities of
both car and driver
are at a premium.

(Below) C. F. Pope's XK 120 Jaguar at Gap, where it broke the unlimited sports car record. In more naked form, this machine won the Johore Grand Prix.





came to rest with no damage—save for a time of 75.16 secs.

Lim Peng Han (M.G. TC) broke the under 1,500 c.c. sports car record, while F. C. B. Marshall with a blown M.G. TD broke Lim Peng Han's BMW record in the up to 3-litre class. Han compensated for this by taking the blown Kieft up in 48.72 secs., which bettered his own former record with a K.K. Spl.

C. F. Pope drove his Johore G.P.-winning Jaguar, now with standard body refitted, and took .62 sec. off du Vaure's old XK 120 unlimited sports record with a climb in 53.08 secs. Saw Kim Thiat took a Mark VII Jaguar saloon up to win the unlimited saloons class, but could not improve on K. J. Saunders's class record with a front-drive Citroën, a wieldier machine through the many corners at Gap. In this class a Rolls-Royce climbed in 71.93 secs.

Results

B.T.D.: J. N. K. Moncrieff (1,096 Cooper-J.A.P.), 47.08 secs. New course record.

Saloons and Tourers—Up to 950 c.c.: 1, B. U. Chua (Renault), 69.42.* Up to 1,100 c.c.: 1, Miss Evant (Standard), 74.16. Up to 1,500 c.c.: 1, P. Chong (Austin), 74.06. Up to 2,000 c.c.: 1, L. C. Chan (Citroën), 59.21. Up to 3,000 c.c.: 1, K. Smedley (Ford Zephyr), 62.00. Unlimited: 1, Saw Kim Thiat (Jaguar), 59.34.

Sports Cars—Under 1,500 c.c.: 1, Lin Peng Han (M.G. TC), 55.38.* Under 3,000 c.c.: 1, F. C. B. Marshall (M.G. TD S), 55.91.* Unlimited: 1, C. F. Pope (Jaguar) 53.08.*

Racing Cars—Up to 1,100 c.c.: 1, J. N. K. Moncrieff (Cooper), 48,02.* Up to 1,500 c.c.: 1, Lim Peng Han (Kieft S), 48.72.* Up to 3,000 c.c.: 1, C. F. Pope (M.G. TD S), 55.09. (J. N. K. Moncrieff (Cooper) returned 47.08 secs., but not eligible for award). Unlimited: J. A. Milne (Cooper), 48,32.

* New Class Record.

THE ROY NOCKOLDS EXHIBITION

The exhibition of Roy Nockolds's paintings at the Kensington Art Galleries, which closes tomorrow (7th November) has been an outstanding success. In general, it has impressed everyone with the fact that Mr. Nockolds is not only a faithful depicter of speed on land and in the air, but is one of this country's most gifted painters.

In the collection are several very well-known canvases, including Dick Seaman—Mercedes-Benz, Jean-Pierre Wimille—Alfa Romeo, Sir Henry Birkin—Bentley, Old Number Seven at Le Mans, and so on. Placed side by side with the artist's later works, one is conscious of the gradual improvement in technique, particularly in the treatment of landscape.

ticularly in the treatment of landscape. "Over the Mont Cenis Pass" is a graphic representation of a competing car at night in an International Rally; "Jaguar Leads, Le Mans" is another brilliant piece of work, especially in the treatment of the brightly illuminated tr. bunes, and the tenseness tempered with confidence of an immediately recognizable Mr. W. Lyons as he watches Duncan Hamilton speed past in No. 18, Paintings such as these emphasize the limitations of the camera.

Together with over 30 examples of motoring subjects are exhibited many beautifully executed studies of aircraft in action, some exquisite landscapes and six excellent impressionist capyages.

six excellent impressionist canvases.

One feels that an enterprising organization which had the foresight to send this matchless collection on tour, to every centre where there is motoring sport, would earn the gra itude of countless enthusiasts whose only opportunity to study them is when they occasionally appear in reproduction form—satisfying enough, but not to be compared with views of the actual originals.

G.

TARRANT RUSHTON

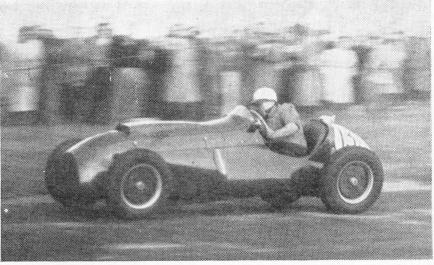
Gould Breaks Course Record

On Sunday, 25th October, the 750 Motor Club, with the West Hants and Dorset Car Club, held a speed trial meeting at Tarrant Rushton airfield, near Blandford, in Dorset. The weather held fine, though a keen wind made itself felt by the end of the meeting; early rain had made the course wet during practice, but everything dried out per-fectly for the actual runs in the afternoon.

A fine entry was received, over 100 cars coming to the line. A stroll round the paddock revealed some interesting machinery. Everyday motors were catered for in the first classes, while an impressive row of 750 Formula cars was lined up, proud owners putting the last minute touches to their cars. Stand-bridge's immaculate Sunbeam Alpine stood next to the equally pleasant Austin-Healey, driven by J. G. Jackson. John Shutler's enthusiasm brought together no less than nine 4½-litre Invictas, which looked extremely impressive, all side by side. Among the racing car drivers, Fenning and Bicknell had Starides, "Pathfinder" Bennett a somewhat restyled Cooper, Richmond the earsplitting Rapier, and Horace Gould his very potent Cooper-Bristol.

Class 1 produced a close battle between Mr. and Mrs. J. B. Jesty, sharing a Morris Minor, with honours finally going to the male member of the family. ledgar Wadsworth took Class 3, his Healey spinning its rear wheel away from the line. Shutler (Invicta) made a tremendous run in 23.21 secs., getting down to 23.14 on his second run, and thus becoming festest in the saloon class. thus becoming fastest in the saloon class. Of the Sunbeam-Talbots, F. Downs's blue car was fastest, but André Loens, unfamiliar at the wheel of a Ford Zephyr, cornered at the limit, the car heeling over in spectacular fashion.

Macklin's attractive Austin took the 750 Formula class, thus winning the cup followed the donated by himself; much humoured leg-pulling followe Hazel announcement of this result. Hazel Williams won the 1,172 Formula with Chapman's Lotus, the same car winning the next class with the owner at the Tojeiros took first and second wheel. places in the next category, Reg



"GONZALEZ" GOULD: Horace Gould, the "Gonzalez of the West Country," broke the Tarrant Rushton course record three times on 25th
October, with his Cooper-Bristol.

Bicknell's streamlined car winning and Fiander, a newcomer to sprint work, being second with the more stark ex-Threlfall car.

Gordon Parker tore up the course in the Jaguara, making a grand run in 19.92 secs, and thus keeping his title of fastest sports car driver. The Cripps Special sounded extremely "Allard-ish" and fairly streaked away to the accompany and fairly streaked away, to the accompaniment of a strange smell which re-minded one more of fried onions than fuel. Silverthorne was most enterprising in the black XK 120, getting into a fine drift, while C. A. Leavans shared the Frazer-Nash with his wife.

The Invicta class was a fine sight, as the big cars thundered down the course, with Hamilton, Shutler and Peter Moore finishing in that order. Moore kept up a spirited running commentary over the P.A., broken only at intervals for him to run the Invicta.

The staccato bark of 500s heralded the appearance of racing cars. Bicknell, the appearance of racing cars. Bickneil, Loens and Fenning made the running, their times all being very close. In Class 12, "Pathfinder" Bennett broke a chain on the line on one run, but clocked a class-winning 19.41 secs. later on. Mrs. Bennett came into abrupt contact with the care of the taxing London. tact with the rear of the towing Land Rover, and slightly modified the pointed nose of the Cooper.

Then Horace Gould appeared with the Cooper-Bristol. A perfect start, a magnificent power slide through the bend, the inside rear tyre smoking furiously, then the dark green car fairly screamed up to the finishing line, revs. mounting higher and higher. A pause, then the time was given out—19.44 secs., the best so far, and the new course record. Not content with this, Gould then lowered his time to 18.92, and finally 18.51, returning to the paddock to the accompaniment of enthusiastic cheers from the spectators.

The meeting drew to a close with the larger classes again, and during his second run J. G. Jackson overslid on the corner, spinning off on the inside. Still travelling very fast, the Austin-Healey crossed the infield in a wide circle, then suddenly, and quite unexpectedly, over-turned. When it was lifted off the driver, he was found to have sustained nothing worse than a bad cut over one eye, bruises, and a considerable shaking.

PROVISIONAL RESULTS

Class 1a (Saloon/Tourers up to 1,100 c.c.): 1, J. B. Jesty (Morris), 31.76 secs.; 2, Mrs. P. Jesty (Morris), 31.86: 3, J. B. Byfield (Morris), 32.54. Class 1b (1,100-1,300 c.c.): 1, R. C. Palmer (Austin), 29.25. Class 2 (1,301-1,800 c.c.): 1, W. B. Ihresher (Riley), 28.53. Class 3 (1,801-3,000 c.c.): 1, E. B. Wadsworth (Healey), 23.76; 2, F. Downs (Sunbeam-Talbot), 25.71; 3, A. Loens (Ford), 25.95. Class 4 (Over 3,000 c.c.): 1, J. H. Shutler (Invicta), 23.14; 2, E. B. Wadsworth (Healey), 23.57; 3, P. Moore (Invicta), 23.75. Class 5 (750 Formula): 1, J. J. Macklin (Special), 26.26; 2, W. E. Wilks (Special), 27.33; 3, K. P. D. Stanton (Special), 27.59. Class 6 (1,172 Formula): 1, Miss H. Williams

D. Stanton (Special), 27.59.

Class 6 (1,172 Formula): 1, Miss H. Williams (Lotus), 22.89; 2, A. M. R. Mallock (Austin), 24.77; 3, D. H. Small (D.H.S.), 25.06.

Class 7a (Sports cars up to 1,100 c.c.): 1, A. C. B. Chapman (Lotus), 22.89; 2, "A. N. Other" (Lotus), 23.44; 3, W. H. Arklay (Arklay), 23.74.

Class 7b (1,101-1,500 c.c.): 1, R. G. Bicknell (Tojeiro), 22.16; 2, J. Fiander (Tojeiro), 23.00; 3, G. N. Dear (M.G.), 25.85. Class 8 (1,501-2,000 c.c.): 1, C. A. Leavans (Frazer-Nash), 22.01.

Class 9 (2,001-3,000 c.c.): 1, C. A. Leavans (Frazer-Nash), 21.70. Class 10 (Unlimited): 1, G. D. Parker (Jaguara S), 19.92; 2, W. L. Cripps (Cripps S), 20.95; 3, J. A. F. Cripps (Cripps S), 21.66.

Class 10 (43)-litre Invictas): 1, C. J. Hamilton,

S), 20.95; 3, J. A. F. Cripps (Cripps S), 21.66.

Class 10 (4!-litre Invictas): 1, C. J. Hamilton, 22.82; 2, J. A. Shutler, 23.16; 3, P. Moore, 23.20.

Class 11 (Racing cars up to 500 c.c.): 1, R. G. Bicknell (Staride), 20.22; 2, A. Loens (Kieft), 21 00; 3, E. Fenning (Staride), 21.16. Class 12 (501-1,100 c.c.): 1, D. C. T. Bennett (Cooper), 19.41.

Class 13 (1,101-2,000 c.c.): 1, H. H. Gould (Cooper-Bristol), 18.92; 2, D. Richmond (Rapier S), 20.24; 3, W. C. Cuff (Cooper), 20.59. Class 13 (Unlimited) three starters: 1, H. H. Gould (Cooper-Bristol), 18.51. B.T.D.

IN TOJ .: REG 500 c.c. driver R. G. Bicknell leaves the line in his Tojeiro, with which he won the 1½-litre sports car class.



SUNBAC'S VESEY TRIAL

Win for Ron Lowe (Dellow) in Severe Event

A MORNING of non-stop rain made even more difficult the long and severe Shropshire course of Sunbac's Vesey Trial, held on Sunday, 25th October. Some 35 entrants took part in the event, which featured no fewer than 11 hills, two driving tests and a 60-mile road two driving tests and craven Arms, instead of Moreville as announced (a fact which caused panic to the unmitiated including your reporter!), the trial wound its way through little-known but delightful scenery, finishing at Church

In view of the large number of hills used, space will allow only a brief mention of each. "Horderley" was a long and narrow lane with a fair gradient and a surface of greasy fallen leaves, but was climbed easily by most of the entry. "Marshbrook", an old favourite, was a much steeper lane with grass ruts, made more unpleasant by overhanging foliage which whipped the faces of these with which whipped the faces of those who were intrepid enough to climb at speed. Of the early numbers, those who failed included B. Baxter (Rovan), G. R. Baird (H.F.B.) and M. Davis (Dellow); J. D. Hollingworth (Oliver) was seen making a first-rate climb.

No one managed the whole of "Landslide", a short climb over two steep bumps in liquid mud. Hollingworth and Ron Lowe (Dellow) got close to the summit, but C. H. Bailey (Ford) damaged his axle at the start. A rope gang was needed to lower failures to safety on "Minslow", another short climb which took competitors through a slate quarry and up a sharp rise to the final section. and up a sharp rise to the final section. Good climbs were observed from Hollingworth, E. J. Reynolds, N. V. Terry and E. V. Woodall; late numbers found the start area very sticky.

A wet grass surface defeated most people on "Timber", a long climb through a field with a right-hand bend at the top, but meritorious performances.

at the top, but meritorious performances were made by W. J. Ridley (Ridluc) and Ron Lowe. Another grass climb, "Lland-





PURSLOW PROBLEM: With the tyres of his supercharged Dellow almost flat, B. J. Bodenham tackles a Purslow Wood section which defeated the entire entry in Sunbac's Vesey Trial.

brook Mill", saw many entrants spinning helplessly at the starting line. Hollingworth made a magnificent climb all the way, as did E. J. Reynolds, but the unfortunate Davis failed just two feet from the top. "Purslow Wood 1" looked exciting but proved nothing; consisting of a virtually impossible right-hand turn in mud, on a 1 in 3 gradient, it was quite unclimbable. "Purslow" 2 and 3 were spoilt by too much rain, for in kinder weather conditions they would have been excellent hills. "Plowden" was another narrow lane and proved difficult only for the later numbers. the later numbers.

Last of all came "Allez Oop", an old favourite which is always a good section; it starts on the road, and leads competitors up a steep, winding track through bracken. Good attempts were made by Woodall, Hollingworth, Reynolds and Lowe, the latter emerging as best performer of the day and winner of the Vesey Trophy. FRANCIS PENN.

Results

Vesey Trophy: R. B. Lowe (Dellow), 32 mks. lost.

Watson-Gwynne Trophy: J. D. Hollingworth (Oliver), 33. Carliss Trophy

(Opposite class):

J. Deeley (Cranford), 55.

First Class Awards: E. V. Woodall (Ford) and R. Merrick (Atkinson).

Second Class Awards: E. J. Reynolds (Dellow), B. J. Bodenham (Dellow Spl.), P. L. Cracknell (Cranford), A. E. Marsh (Dellow) and R. Kemp (Kemp).

OLD MERCHANT TAYLORS' M.C.

R.C., recognition has now been granted to the Old Merchant Taylors' M.C., whose next event will be a Firework Rally on 7th November, open to members of any motor club. Details from G. Connelly, 98 St. Martin's Lane, London W.C. London, W.C.2, or entries will be accepted at the start, "Durrants", Croxley Green, nr. Rickmansworth, at 6 p.m.

(Left) Ron Lowe, winner of the Vesey Tr.ophy, watches W. J. Ridley's attempt at "Landslide", another sec-tion which stopped the field.

(Right) At "Marsh-brook", runner-up J. D. Hollingworth (O'iver) does some unintentional sideways motoring.



172-412 M.P.H. BY JAJUAN

The Jaguar Special Equipment

XK 120 model fitted with

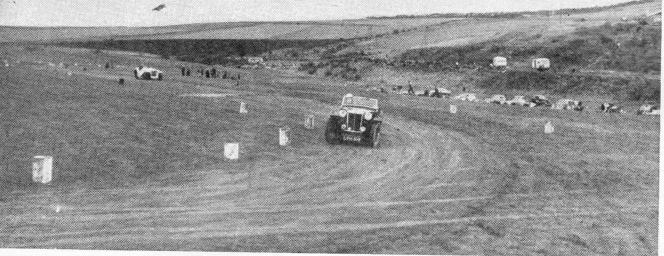
catalogued optional equipment

with the addition of undershield

and cockpit cover relied on

TYRES, WHEELS AND DUNLOPILLO SEATING

BY DUNLOP



SMOOTH The grass course at Dunstable favoured by the S.O.D.C. for Autocross events.

AUTOCROSS ON GRASS

Another Successful Meeting at Dunstable —Peter Harper (Scarlet Runner) Sets B.T.D.

THE London Gliding Club's headquarters at Dunstable was the scene of another highly successful Autocross meeting, organized by the Sporting Owner D. ivers' Club, on Sunday, 25th October, the S.O.D.C.'s efforts being rewarded by an entry of more than 40. Competing vehicles included such differing types as Ford Anglia, Standard Vanguard and Aston Martin DB2 in the saloon classes, and 1,172 c.c. trials specials, Austin-Healey "Hundred" and Le Mans Frazer-Nash in the open.

Competitors, running in pairs, covered one lap of the P-shaped smooth grass course, which is half a mile in length and includes both left- and right-hand and includes both left- and light-hand bends, with a long, plunging downhill leg and a short, steep climb back to the finishing straight. Each had five timed runs, and competition was intense, especially among drivers of evenly matched cars.

After the compulsory practice period during the morning, the rain which had been falling clea ed away, and the event commenced with the open car classes. Immediately there began a three-cornered battle for B.T.D. between Peter Harper and John Tucker-Peake, both driving the latter's Scarlet Runner, and Norman Overton's Overton Special. A final verdict was not reached until the last run of the day, when Harper snatched the laurels with a fantastic run in 49.2 secs.; this gave him a lead of a sec. over Tucker-Peake, and constituted an improvement of almost two clear seconds on the previous meeting's

The saloon car honours fell to G. H. Grace and his fast 2½-litre Riley (53.6

secs.), after a day-long duel with the secs.), after a day-long duet with the writer's class-winning Volkswagen. Equally close and very hair-raising were the scraps between Neil Alexander and S. A. Hiscock in 10 h.p. Fords, and R. Blake (Ford V.8) and W. M. B. Smith (Aston Martin DB2), while the 80-yard, downhill drifts of G. R. Lindsay's Sunbeam-Talbot had to be seen to be believed. believed.

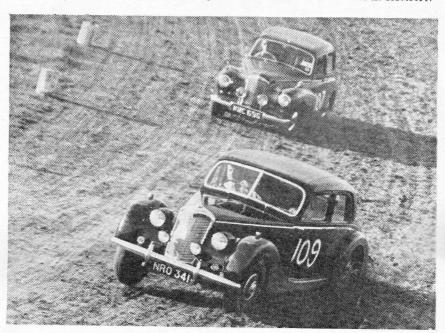
Amongst the open cars, keen rivalry

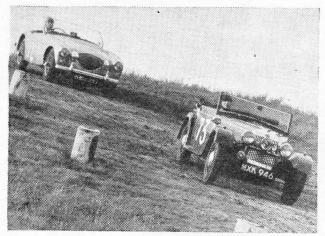
existed between the many M.G. drivers, and it was sheer driving ability (helped, perhaps, by the cheers of M.G.C.C. per-

perhaps, by the cheers of M.G.C.C. personality Mary Harris) which won the special award for M. J. Lawrence, whose run occupied a nicely-judged 53 secs.

This superb day's sport closed with a special handicap event for 1,172 c.c. cars. Clerk of the Course Bill Lockhart and the other S.O.D.C. officials are to be congratulated on the way the meeting was run, and a big hand should go to the Competitions Department of the R.A.C. for the assistance given to Autocross-organizing clubs in pioneering this cross-organizing clubs in pioneering this grand new branch of motor sport.

A. E. RUMFITT.





DUNSTABLE DRIFT (Above): G. H. Grace (Riley) and G. R. Lindsay (Sunbeam - Talbot) slide gaily round a corner during the S.O.D.C. Autocross meeting.

(Left) Over the hill come class-winner P. J. Issaacs (Morgan P'us 4) and D. L. Franks (Austin-Healey "100").

Results

B.T.D.: P. C. Harper (Scarlet Runner), 49.2 secs. Best Time by M.G.: M. J. Lawrence (M.G.),

Best Time by Lady Driver: Miss J. Ritch (M.G.), 57.2 secs.

Open, up to 1,100 c.c.: 1, J. F. Crawley (H.R.G.), 53.6 secs.; 2, A. E. Rumfitt (H.R.G.), (H.R.G.), 53.6 secs.; 2, A. E. Rumfitt (H.R.G.), 54 secs. 1,101-1,500 c.c.: 1, P. C. Harper (Scarlet Runner), 49.2 secs.; 2, J. Tucker-Peake (Scarlet Runner), 49.4 secs. 1,501-2,000 c.c.: 1, A. F. Bray (T.E.S.T. 1), 50 secs.; 2, M. R. G. Mostyn (Frazer-Nash), 51.8 secs. Over 2,000 c.c.: 1, P. J. Issaacs (Morgan Plus 4), 53.8 secs.; 2, P. Norgard (Morgan Plus 4), 54.4 secs.

Closed, up to 1,100 c.c.: 1, M. Brettell (Ford 8), 61.4 secs.; 2, H. C. Taylor (Morris), 61.8 secs. 51.4 secs.; 2, 11. C. Taylor (MOTTS), 51.8 secs. 1,101-1,500 c.c.: 1, A. E. Rumfitt (Volkswagen), 56.2 secs. Unlimited: 1, G. H. Grace (Riley 2½-litre), 53.6 secs.; 2, J. C. Smith (Standard Vanguard).

BY JAGUAR!

THAT'S SHELL THAT WAS!

Fast Car — Fast Petrol. On October 20th a special equipment production Jaguar XK120 fitted with catalogued optional equipment driven by N. Dewis attained a speed of 172.412 m.p.h. on the Autoroute Gand-Ostende, Belgium. The Shell X-100 SAE 30 Motor Oil and Shell Premium

Petrol used were purchased from a garage in England under the supervision of the R.A.C.

YOU CAN BE SURE OF SHELL

NEWS FROM

By Wilson Mc Comb

A RETIRED trials enthusiast might have felt rather puzzled, I fancy, if he had turned up in Liverpool last Saturday evening and found himself at the start of the Liverpool M.C.'s Jeans Gold Cup Rally. But it seems that there are more surprises to come; the Cemian M.C. have announced that their annual Knowland Trophy Trial, an R.A.C. Trials Championship and B.T.D.A. Star event, is to be discontinued, and its date (15th November) will be used for a members-only driving test meeting.

The statement continues: "... so-called 'reliability trials', as they are understood today, are no longer popular with the majority of motor club members. . . . The Cemian Motor Club feels that the future of the sport lies in rallies of the calibre of the London Rally and the Eight Clubs' Eastbourne Rally, which today bear a marked resemblance to the great classic triels resemblance to the great, classic trials of the nineteen-twenties and early 'thirties. .

Perhaps trials are less popular than they were, but can one say that rallies "bear a marked resemblance" to the trials of old? Does our salvation lie in road rallies such as the "London" and "Eastbourne"? I wonder....

LYDSTEP HILL-CLIMB

To conclude a remarkably successful season in hill-climbs, Ken Wharton took three cars to Lydstep, near Tenby, on Saturday, 17th October, for the Pembrokeshire M.C.'s event. With his blown Cooper, he succeeded in climbing the hill in 29.8 secs., thus improving his own record for the course by .07 sec.

An excellent entry was received, and the meeting was held in perfect weather, while Murray Austin and George Tranter added to the success of the event with their graphic commentary. During practice, Ecurie Galwa members Caleb Griffiths and Colin Davies both experienced trouble, leaving Peter Price as the only starter in their team. In the sports car classes N. Haig (M.G. TC) made an excellent showing, taking more than one second off the previous record for the class.

Results

Results

Sports cars up to 1,100 c.c. U/s: 1, H. Murray (Murray) 42.4 secs.; 2, L. H. Day (Singer), 42.7; 3, N. Lawrence (Singer), 46.7, 1,101-1,500 c.c. U/s and 501-1,100 c.c. S: 1, N. Haig (M.G.), 38.9; 2, P. Price (M.G.), 41.1; 3, G. G. L. Thomas (Fiat), 49.1. 1,501-2,000 c.c. U/s and 1,101-1,500 c.c. S: 1, A. E. Marsh (Dellow), 36 2; 2, N. Haig (M.G.), 38.3; 3, F. E. Wall (Dellow), 39.9, 2,001-3,000 c.c. U/s and 1,501-2,000 c.c. S: 1, J. More (Morgan), 37.4; 2, G. Twentyman (Aston Martin), 38.5; 3, H. J. Hunter (Healey), 38.6. Over 3,000 c.c.; 1, J. McKie (Mercury), 38.7; 2, H. R. Bond (Jaguar), 39.2; 3, G. E. Davies (Jaguar), 40. Production Open Sports Cars up to 1,500 c.c.; 1, N. Haig (M.G.), 37.5 (class record); 2, G. F. Reason Jones (M.G.), 41.2; 3, J. Thomas (M.G.), 42.1.

42.1.

Production Saloon Cars (Handicap): 1, J. More (Morgan); 2, G. Twentyman (Aston Martin); 3, Owen Davies (Morris Minor).

Racing cars up to 500 c.c.: 1, C. A. N. May (Cooper), 32.7; 2, C. Boshier Jones (Kieft), 33.8.

Racing cars 501-1,100 c.c.: 1, K. Wharton (Cooper 1,000 c.c. S), 29.8 (new record for the hill); 2, T. Marsh (Cooper 1,100 c.c.), 32.8.



CAREFREE SMILE—in a cloud of dust. Mike Kineen grins happily after demolishing five cans in a garage test, during the Limerick M.C.'s Circuit of Clare on 11th October. Nevertheless, he took second place in his class.

F. G. SMITH FILM SHOW

THE directors of F. G. Smith (Motors) Ltd., of Ilford, invite members and friends of the West Essex C.C. to a film show at High Road, Goodmayes, Ilford, starting at 7.45 p.m. on Wednesday, 11th November. "Mille Miglia, 1953" and November. "Mille Miglia, 1953" and "Moving Spirit" will be shown, together with a unique collection of humorous films devoted to motoring. Prior to the film show, a number of well-known racing and sports cars will be on view.

Other West Essex C.C. activities this winter include a film show by A. Rivers Fletcher, entitled "B.R.M. at Albi", to be shown at the Three Jolly Wheelers, Woodford Bridge, Essex, on Wednesday, 25th Navarnhar, The club's approach 25th November. The club's annual Dinner and Dance will take place at the Assembly Rooms, Walthamstow, E.17, on Thursday, 3rd December; tickets from W. Burgess, 14 Brook Road, Loughton, Essex.

LEA-FRANCIS O.C. EVENT

Owing to the petrol strike, the Lea-Francis O.C.'s social run which was to be held last Sunday, 25th October, has been postponed until Sunday, 15th November, and further entries will be accepted up to Tuesday, 10th November. Hon. secretary of the club is P. G. Tompson, 29 Meadow Hill, New Malden, Surrey.

NORTH DEVON AUTOCROSS

THE first Autocross in the West of England will be held on Sunday, 15th November, at Whitefield Hill, near Barnstaple, on the Muddiford/Coombe Martin road. It will be organized by the North Devon M.C., and is open to members of the Taunton M.C., Plymouth M.C., West Cornwall M.C., Exmoor M.C., Bristol M.C. and L.C.C. and West Hants and Dorset C.C., driving unsuper-charged cars to 1953 R.A.C. regulations. Entries, which are strictly limited, close next Wednesday, 11th November, and the Secretary of the Meeting is S. J. Guard, 32 Vicarage Lawn, Barnstaple.

SHEFFIELD AND HALLAMSHIRE M.C. EIGHTH HIGH PEAK TRIAL

(31st October/1st November)

Results

High Peak Trophy: C. Corbishley. Beeston Trophy: A. Alldred. Needham Trophy: M. R. Cannon.

Special Awards (in order of merit): R. W. Phillips, M. H. Lawson, H. Illingworth, J. Hollingworth, B. H. Dees, R. F. Chappell, A. J. Lilley, T. C. Harrison and N. H. Coates.

Best Performance (First Day): M. R. Cannon. (Second Day): C. Corbishley. Best S. & H. Member: C. Corbishley. Team Award: S. & H. No. 2 (A. Alldred, C. Corbishley and R. Phillips).

(Report and pictures in our next issue.) *

750 M.C. MEETINGS

THE Western Centre of the 750 M.C. will in future be known as the Bristol Centre, and will hold meetings in this area. Their next meeting will be at the Railway Inn, Patchway, Bristol, at 8 p.m. next Tuesday, 10th November.

SOUTHSEA M.C. TRIAL

H. SINCLAIR-SWEENEY took fourth place in the Southsea M.C.'s President's Trophy Trial on 18th October, not D. W. Price, as announced in our last issue. He also made best time in the special test, his time being .02 sec. better than that of Wally Waring.

M.G.C.C. DINNER-DANCE

JOHN BOLSTER, S. C. H. Davis, F. J. Findon and Gregor Grant were among the many motoring personalities who attended the M.G. Car Club's Showtime Dinner-Dance at the Hyde Park Hotel, London, on Friday, 30th October. Toasts were proposed by John Thornley and Wilson McComb, and replied to by Russell Lowry and Harold Hastings; dancing and cabaret brought the party

More News from the Clubs on page 618

The mixture as before

THE NEW HIGH SPEED RECORD BREAKING

J A G U A R fitted with



CARBURETTERS AND PETROL PUMPS

[★] Special equipment Jaguar XK120 achieved mean speed of 172 m.p.h. over flying mile on Jabbeke Highway, Belgium — the highest speed ever recorded by a production car in full speed trim.

(Subject to official confirmation.)





NEWRY CLUB ACTIVITIES

THE Newry and D.M.C.'s annual "Highest Up" competition takes place tomorrow, 7th November. This event will consist of an attempt to climb a hill at Ballyedmond, near Rostrevor, Co. Down. The surface is Rostrevor, Co. Down. The surface is muddy, with plenty of sharp bends, the hill climbs 600 feet in 1,100 yards, and the winner will be the driver who gets farthest up.

With the 1953 season drawing to a close, the Newry M.C. will be holding their last trial of the season on the following Saturday, 14th November, starting from Edentrumly, near Newry. In addition to the McMullan Cup, premier award for this trial, the perpetual trophies will also be decided by the results. At the moment the competition is extremely keen. In the Aggregate Shield contest, D. G. McNally and W. T. Todd are tieing with 18 points each, with M. Glover (16) and W. McDonagh (14) close behind. Among saloon car drivers contesting the President's Cup there is another tie for lead between J. L. Dowling and J. D. Walker, each 16, with M. Glover (14) and J. Peile (14) within striking distance.

It will be recalled that the club's recent Irish Experts' Trial brought two entries from England and that the title was won by Doctor Hardman. Now the club are considering a suggestion by Denis Flather of the B.T.D.A. that some steps be taken to further the idea of an interchange of teams, with Irish teams taking part in English trials by special invitation.

A SPORTING MOORFOOT

THE Moorfoot Rally, held by the M.G. Car Club's Scottish Centre on 24th October, provided an interesting day's sport graced by an Indian summer day which made conditions very pleasant. There was real thought given to the design of the driving tests, and their location resulted in a variety of surfaces which made demands on all-round ability. The inclusion of one of the milder trials hills seemed to whet the appetite of newcomers, and brought a gleam to the eyes of such former trials

types as Jimmy Murray (M.G.), Nigel Kennedy (Burdmonk) and Peter Hughes (Allard).

The road sections were not particularly difficult, but newcomers R. W. Dalglish (Austin) and J. T. Rabie (M.G.) were somewhat disconcerted by the regularity section, when they found sundry motor cars going in what looked like the wrong direction. This, of course, was part of organizers' cunning, for the route was so arranged as to include a small road circuit, where organizers could route odd numbers differently from even ones.

On a test which included the ascent of a grass hill, Jack Hally (Jaguar coupé) and David Jack (2½-litre Riley) found that power isn't everything, and had a difficult job in controlling wheelspin, while Agnes Balfour in her little M.G. saloon went toddling up with the minimum of fuss.

A feature of the event was the capable driving of Jimmy Mitchell and Norman Lithgow with H.R.G.s. Among the M.G. exponents, Ninian Paterson was at the peak of his form, while young Boyd Tunnock continues to improve with nis every appearance and is obviously going to be a real threat to more experienced drivers when next season comes around. After doing well in the rest of the event, Peter Hughes (Allard) was particularly unlucky to lose his place in the last test, which demanded a good memory and good driving ability in about equal proportion, and included the circumnavigation of a tight circle around a pylon, which was difficult for big cars.

The rally finished at Peebles Hydro. where dinner and dancing concluded an enjoyable day, and a smartly-produced results sheet read as follows:

M.G. Trophy (Best Open Car): J. Mitchell (H.R.G.), 135 marks. Runnersup: N. T. Lithgow (H.R.G.), 130; J. L. Murray (M.G.), 115

up: N. T. Lithgow (H.R.G.), 130; J. L. Murray (M.G.), 115.

Stuart Trophy (Best Closed Car): Miss A. M. Balfour (M.G.), 75. Runner-up: R. D. McPherson (Ford), 70.

S.M.T. Trophy (Best Performance by an M.G.): N. L. Paterson (M.G.), 127.

"Motor World" Trophy (Best Performance by a Novice): A. B. Tunnock (M.G.), 91.

A. N. FORD.

KNEES BEND—by R. Mackenzie's Zephyr, in the M.G.C.C.'s Moorfoot Rally reported on this page.

SOUTH CAERNARVONSHIRE BIRTHDAY RALLY

On the occasion of their third Birthday Rally on 24th/25th October, the South Caernaryonshire M.C. upheld their tradition of tough events; although the course was more concentrated this year, it was none the less difficult. Thirtythree cars started on the Saturday night from Rhyl and Criccieth, and 22 vehicles, some of them rather bent, reached the

The first and second sections, from Rhyl or Criccieth to Conway Falls and thence to Black Rock Sands, were easy enough, as was the reversing test at Black Rock Sands. Then came a stiffer section in the Lleyn Peninsula, a vast area of well-surfaced but badly signposted roads, most of them flanked by high, earthen banks, all looking similar in the beam of a headlight. Not only the visiting, non-Welsh-speaking entrants found the unpronounceable names of the villages a sticky problem; it was just as difficult for the local clubmen, although wild games of follow-my-leader were played by Anglo-Saxons who hoped that the native Celts might lead them safely through the maze. There was an hour's break at Pwllheli, followed by more in terminable country lanes, with the rain now pouring down, and a stop-andrestart on Mynnd Rhiw.

Those who thought that a change in direction to North Caernaryonshire would bring peace, were sadly mistaken. First there was a narrow bridge at Pontllfni which modified a few front ends, then a crossing of Mynydd Cilgwyn -in mist, a plunge down Waenfawr, and another climb over the slate-strewn, watery waste of Bwlch-y-Groes. This was the toughest section of all, with an "impossible" set average of 21 m.p.h. An innocent-looking map reference, hidden in the middle of a sentence on the route card, proved to be the location of an all important secret check. It was disregarded by all but H. W. Whitehouse (the eventual winner), Ivor Lewis, W.

Gunson and N. J. Waterhouse.
Retirements and misfortunes were many; Stan Kennedy's nice new XK 120 suffered in a skid near Llanberis, in the shadow of Snowdon; Dr. Kiff lost a wing on his special, and had to drill helps to let the rain out of the cocknit. holes to let the rain out of the cockpit; Robinson's Citroën damaged its front, J. D. Hodgson's M.G. was ditched, and Mike Hind's Chrysler proved too large for the bridge at Partillar. for the bridge at Pontllfni.

Provisional Results

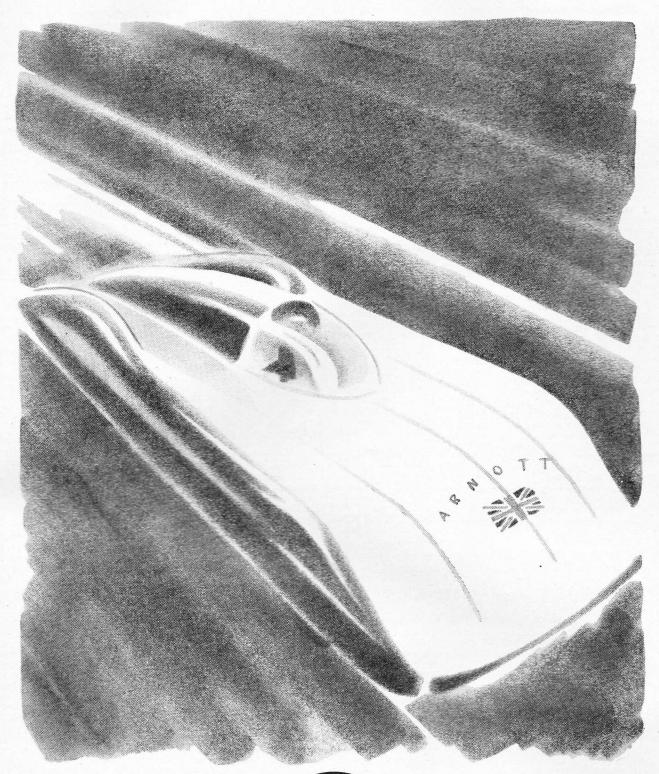
Red Garage Cup (Visitors): H. W. Whitehouse (Austin A.40 Sports), 26

Myers Cup (Members): D. Beer (Standard Vanguard), 607.

Frank Hibbs Trophy (Special test): D. Beer.

First Class Awards. Under 1,000 c.c. Open: No finishers. Closed: R. D. McNair (Morris Minor), 676. 1,000 1,450 c.c. Open: G. Edwards (M.G.), 642. Closed: J. E. Thomas (Standard), 628. Over 1,450 cc. Open: A. B. H. Robinson (Citroën), 1,999. Closed: M. Hind (Chrysler), 630. Team Award: M.M.E.C.

More News from the Clubs on page 620



ARNOTT CHOSE



to break world records

At Montlhéry a streamlined Arnott car fitted with a 500 c.c. NORTON engine broke 9 International Class I records ranging from 50 to 500 kilometres using Castrol (26/28-10-'53).

TUNBRIDGE WELLS NIGHT TRIAL

As the mighty roar of London's traffic became slowly replaced by a weak mixture burble and hoarse cries of "Psst—Want a couple o' gallons?", the Tunbridge Wells Motor Club must have become a trifle anxious about the number of starters for their third annual Night Navigation Trial, on 24th October. But they need not have worried. It takes more than a petrol strike to stop the night triallists, and over 80 per cent. of the 63 crews duly clocked in at Ye (floodlit) Olde Felbridge Hotel, at East Grinstead.

Two Ordnance Survey maps were involved, 171 and 182, and the event was divided into two parts, one on each map. This was something of a relief to the navigators, who had had visions of crossbearings from one map on to the other.

The first point on the North Sector was a straightforward cross-bearing, and "Mullis the Miller" was found sitting in his car on the edge of Mill Wood; judging by the number of torches rushing about in the wood, this old dodge worked well. "The Maze" was well named, as it consisted of a point set in a large wood, riddled with tracks which seemed to bear little resemblance to those on the map. Here was held a special test which involved a highly non-standard bicycle and a muddy track

bicycle and a muddy track.

A longitude and latitude intersected near Yalding, where a small stream met the upper reaches of the Medway; here was moored a launch with the marshal on board, and those who found themselves on the wrong side of the stream had a long walk or a hazardous jump. "Below the Clay" was difficult to find if one did not have confidence in one's intersection of bearings. If one had, the marshal was to be found in a wood at the foot of Clay Hill, near Lamberhurst. After this point came a rather long drive back to the starting point, for thirty minutes' break before the issue of the second route card.

The first point in the South Sector was

another cross bearing, and in fact brought one to nearly the same place as "Mullis the Miller" on the North Sector. But to make life more difficult, "Walker the Baker" was a little further down the road, and again sitting in a car on the edge of Baker Wood. "Avalanche" was set in a great gash in the hills north of Ockley, and referred to on the map as The Landslip. Here one had to ascend what felt like an almost vertical muddy cliff with the almost vertical, muddy cliff, with the assistance of a rope dangling from the heights. After signing on with a very cold marshal at the top of the rope, the only way to get down was the quick way, as the rope was for climbers only; this high-speed slither down was quite the highlight of the event. Incidentally. the marshal presented each competitor with a piece of plywood, and at the bottom it was necessary to carve one's club's initials against the stop watch on a temperamental fretsaw affair. Only then could one be signed out, and presented with a piece of paper which caused a good deal of alarm and despondency. This gave the route from the next point to the start, which seemed fair enough. Unfortunately it was completely unpunctuated. This was a cleverly contrived test and quite possible to work out, but it caused a bit of mental anguish to one navigator at least.

At "Unseasoned" was held a special test, which involved the rapid plotting of a distance and bearing, and the equally rapid ascent of the Devil's Dyke, above Brighton, to find a Latin tag on a monument. Then, back to East Grinstead to sign off and have an exceedingly early breakfast.

The placings were as follows: 1, J. Lowrey (H. and B.M.C.), 66 marks lost; 2, G. B. Whiteaway (H. and B.M.C.), 71; 3, K. Strudwick (H. and B.M.C.), 84; 4, G. Hicks (T.W.M.C.), 89; 5, Mrs. J. Johns (H. and B.M.C.), 91; 6, J. Higginson (H. and B.M.C.), 91; 7, C. P. Tooley (V.S.C.), 91.

C. P. T.

MAIDSTONE and MID-KENT'S "BOSSOM"

Cannon Wins by One Mark from Chappell

THIRTY entries were received for the Maidstone and Mid-Kent M.C.'s Bossom Trophy Trial on Sunday, 25th October, which was held on the North Downs near Maidstone. The weather was ideal, but enough rain had fallen the previous night to make the going tricky.

The first section gave a taste of what was to come, for only B. H. Dees, R. F. Chappell and M. R. B. Cannon got through. After a short, uphill run in a leaf-strewn gully, drivers had to negotiate a sharp right-hand turn on a decidedly steep bank. At least a dozen were pulled up short in a few yards with wheelspin, while R. W. Faulkner ascended well, only to have his engine cut out within a yard of the summit

only to have his engine as a yard of the summit.

The remainder of the sections were set out on the beautifully wooded slopes of the hill, and proved far more difficult than they appeared to be. One, in particular, was a gentle downward curve with a slight rise at the end; many tried to rush it, only to find themselves in an uncontrollable broadside. Rex Chappell gave a display of masterly driving at this

point, nosing his Cotton slowly round the slope and then using all the power he had at exactly the right moment.

After lunch on Boxley Green, the special test was held, followed by the afternoon sections, which were those of the morning, redesigned to make them more difficult. P. A. Barden performed in spectacular manner to make up for marks already lost, but it was now apparent that Cannon was quietly and efficiently outdriving the others, and a cfean sheet on the last two sections ensured his victory.

R. H. P.

Results

Bossom Trophy: M. R. B. Cannon, 13 marks lost.

Kenneth Riley Trophy: R. F. Chappell, 14. Anstey Trophy: P. A. Barden, 26. Founders Trophy: B. H. Dees, 56. Class "B" Awards: R. W. Faulkner, 43, and P. F. Highwood, 77. Souvenir Awards: M. H. Lawson, 39, J. H. Appleton, 46, C. H. Harris, 46, and W. H. Durling, 49. Team Award: B. H. Dees, R. F. Chappell and P. A. Barden, 96.

DUBLIN UNIVERSITY NIGHT TRIAL

A RATHER disappointing entry was received for the Dublin University M.C. and L.C.C.'s first night trial of the season, on Friday, 23rd October, for only 17 competitors came to the starting point. The 50-mile course seemed to fall naturally into two parts; the first, from the start near Rathcoole, Co. Dublin, to Naas, was well suited to navigational problems, being country seldom used for trials; the second part, some 30 miles in length, included four of the six driving tests, and was contained in the familiar territory of the Wicklow mountains.

The competitors all found their way through on time, with only one exception. The tests were of the usual type, but the one at Blessington Bridge caused something of a furore when Kevin Murray went straight through this deadengine manœuvre without switching off; this slip cost him the premier award.

Provisional Results

Glencree Cup: J. Gibney (Ford Spl.).

First Class Awards: K. P. Murray (Ford Spl.), Miss A. Newell (M.G.), R. Laird (Dellow) and E. Connell (Ford Spl.).

Second Class Awards: N. Gleeson (M.G. TD), P. Hopkirk (Volkswagen) and R. B. Lefanu (Ford Spl.).

Saloon Car Award: P. Hopkirk (Volkswagen).

SCARBOROUGH NIGHT TRIAL

THIRTY-TWO entries were received for the Scarborough and D.M.C.'s "Two Ridings" Night Trial on 17th-18th October, most of the vehicles being the ordinary saloons for which this event is intended. Speeds were allotted according to age, type and size of car, and ranged from 23 m.p.h. for a 1932 Riley 9 to 28 m.p.h. for post-war cars such as a Jowett Javelin. There were to have been 20 check-points, about 10 miles apart, with "tight" time allowances and penalties for excessive speed, but plans had to be changed during the course of the event.

The majority started from Scarborough, and proceeded by way of the Yorkshire Wolds to Thixendale, where they met the Thirsk starters and started on some short, tricky sections leading to York Station for a one-hour break. Here it was found that all but two of the competitors had lost marks, partly owing to fog. For the same reason, marshals had been unable to reach some of the points before the competitors arrived, and so these check-points had to be excluded.

From York the route led to the hilly country around Helmsley and Osmotherley, where two ingenious loops in the course gave entrants some difficult motoring, while there were many checks arranged, with comparatively few marshals stationed where the loops converged. A fairly easy run led from Helmsley to Farndale; here a climb up Blakey Bank extracted penalties from all but the best. Another easy run followed to the outskirts of Whitby, and thence to the finish, where results were announced within 10 minutes of the last competitor's arrival.

Results

Premier Award: D. P. Wittering (1939 SS Jaguar 1½-litre), 1 point lost; 2, G. H. Gardner (1936 Ford 10), 2; 3, S. H. Newton (1953 Austin A30), 4.

HERTS COUNTY NIGHT TRIAL

On the night of 21st/22nd November, the Herts County A. & A.C. will hold their fifth Nocturne, a test of map reading, navigation and driving during the hours of darkness. The first car will hours of darkness. The first car will leave Panshanger Aerodrome, near Hatfield, at 8 p.m., and the event will be over by 2 a.m. The length of the course is about 80 miles and the map involved is Sheet 147 of the Ordnance Survey. Invited clubs are the A.C. Owners Club, Berkhamsted M.C. & C.C., Falcon M.C., Hants & Berks M.C., Peterborough M.C., Sporting Owner Drivers Club, and 750 Sporting Owner Drivers Club, and 750 M.C. Details from D. A. Wilcocks, The Cottage, Faircross Way, St. Albans, Herts; entries close on Wednesday, 18th November.

TARRANT RUSHTON SPEED TRIALS

THE West Hants and Dorset C.C.'s Tarrant Rushton meeting having been cancelled and combined with that of the 750 M.C. (reported elsewhere in this issue), trophies which should have been awarded at the club's own meeting been awarded at the club's own meeting have been made available as follows: Jollife Cup (Best time by W.H. and D.C.C. Member): G. D. Parker (Jaguara S), 19.92 secs. Butler Cup (Best time by sports car): W. L. Cripps (Cripps Spl. S), 20.95. Club Cup (Best time by saloon): J. A. Shutler (Invicta), 23.14. Hartwell Cup (Best member in racing classes): D. Cup (Best member in racing classes): D. Richmond (Rapier S.), 20.24. Deakin Cup (Best time by lady driver): Mrs. Leavans (Frazer-Nash), 22.05. Hollister Cup (Best novice member): J. Fiander (Training) 22 (Tojeiro), 23.

COMING ATTRACTIONS

November 6th/7th. Bedford A.E.C. Rally.

November 7th. Scottish S.C.C.

Anniversary Run.
Newry and D.M.C. "Highest Up"
Competition. Start, Ballyedmond, Co. Down, 2 p.m.

November 7th/8th. Peterborough M.C. Night Trial.

November 8th. S.C.C.A. Race Meeting, Riverside, California, U.S.A. Cheltenham M.C. Eighth Annual

Cheltenham Trial. Start, Speech. House Hotel, Forest of Dean, nr. Coleford, Glos, 10 a.m.

D.C.C.Chase Shenstone and Trial. Start, King's Trophy Bramley, 10 a.m.

Oxford M.C. and Oxford U.M.D.C. Cotswold Autumn Rally. Start, Evenlode House Hotel, Eynsham By-pass, 1 p.m.

November 11th. King's College M.C. Night Trial. Start 6 p.m.

November 11th/14th. M.C.C. Daily Express National Motor Rally.

RHYL STANDARD CAR TRIAL

In place of their Regal Car Trial, which was cancelled, the Rhyl and D.M.C. was cancelled, the Rhyl and D.M.C. are organizing a Standard Car Trial which will take place on Sunday, 22nd November. Regs. are available from M. P. Rutt, Basingwerk, Greenfield, Holywell, and the invited clubs are the Liverpool M.C., Chester M.C., Lancs and Cheshire C.C., M.G.C.C. (N.W.) and Mid-Cheshire C.C.

BRISTOL ROY FEDDON TRIAL

REGULATIONS are now available for the REGULATIONS are now available for the Bristol M.C. and L.C.C.'s Roy Feddon Trial on 21st November, from K. B. White, 30 Chandos Road, Keynsham, Bristol. Members of the Cheltenham M.C., London M.C., North Devon M.C., Southsea M.C., Sunbac, Taunton M.C. and West Hants and Dorset C.C. are also invited to take part. are also invited to take part.

CLUB FIXTURES

A.M.O.C .- Meeting, 6th November, Anchor Hotel,

Mid-Surrey A.C.—Quiz, 6th November, Queen Adelaide Hotel, Kingston Road, Ewell.

Cornwall V.C.C.—Meeting, 6th November, Red Lion, Newquay, 8 p.m.

B.A.R.C.—Annual Dinner and Dance, Grosvenor House, Park Lane, W.I., 7 p.m.

Old Merchant Taylors' M.C.—Firework Rally, 7th November. Start, "Durrants", Croxley Green, nr. Rickmansworth, 6 p.m.

Thames Estuary A.C.—Meeting, 7th November, Smack Inn, Old Leigh, 8 p.m.

Bentley D.C.—Meetings: 9th November, Sun Hotel, Dedham, Essex, 8 p.m. 10th November, Angel Hotel, Cardiff, Glam., 7 p.m. 11th November, King's Head Hotel, Old Bexley, Kent. 12th November, White Lion, Edgware, Middx., 6.30 p.m., and George Hotel, Amesbury, Wilts. 7 p.m.

Welsh Counties C.C.—Social Evening, 9th November, Fox and Hounds, Llancarfan.

750 M.C. (Bristol Centre).—Meeting, 10th November, Railway Inn, Patchway, Bristol, 8 p.m.

Allard O.C.—Quiz, 10th November, Abbey Hotel, Neasden, 7.30 p.m.

Citroën C.C.—Meeting, 10th November, Marquis of Granby, Esher, 7.30 p.m.

West Essex C.C.—Film Show, 11th November, High Road, Goodmayes, Ilford, 7.45 p.m.

Sunbac.—Talk by Harry Sutcliffe, 12th November, Mason's Arms, Solihull.

Southsea M.C.—Meeting, 12th November, Portsmouth Aero Club, 8 p.m.

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c.c. 4-cylinder with twin Solex, Cotal box, just rebuilt by makers, lightweight wheels with Dunlop racing tyres, i.f.s., full weather equipment including sidescreens. Finished in original white. A distinctive car with over 90 m.p.h. top, and 20 m.p.g. "T.O.S.C." 90, 359 gms. or £126 deposit, balance on H.P. terms. Hire purchase on the spot. No references, no formalities or guarantors.
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1937 RAILTON 8-cylinder, 2/3-seater d/h. coupé, 3-position hood, recently reconditioned throughout. £250.—Mayford Motors, Mayford Motors

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29.5 H.P. Straight 8 1935 4-seater tourer. Most exceptional condition throughout. Usual fantastic performance. £175. Terms exchange.—Rudds, opposite Central Station, Worthing 4635.

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MASERATI 6C with peculiar history in that it has very rarely been raced and is in original condition as turned out from the factory. It is in first-class order and ready to race. Demonstration arranged for genuine enquiry. £525.—Marshall's Garage, Shepperton-on-Thames. Walton-on-Thames 1829 and 4393.

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1953 C TYPE JAGUAR in British Racing absolutely new condition, price £2,350 to genuine enquirers. No offers.—Box 1283.

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RILEY "9" Special Sports-Racing two-seater. Completed August, 1953. Photograph and specification supplied, £260 o.n.o.—Axel-Berg, The Grange, Bitton. B-istol.

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ALLARD K Type two-seater, 1946-7-8. Must be in good body condition, Mechanical con-dition immaterial, Full particulars and lowest cash price to Maghull Motor Co., Ltd., Wynnstay Garage, Northway, Maghull, nr, Liverpool, Phone: Maghull 2085.

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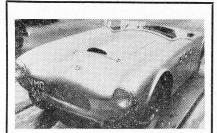
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