FRENCH GRAND PRIX

AUTOSPORT

AUTOSPORT

BRITAIN'S MOTOR SPORTING WEEKLY

JULY 5, 1963

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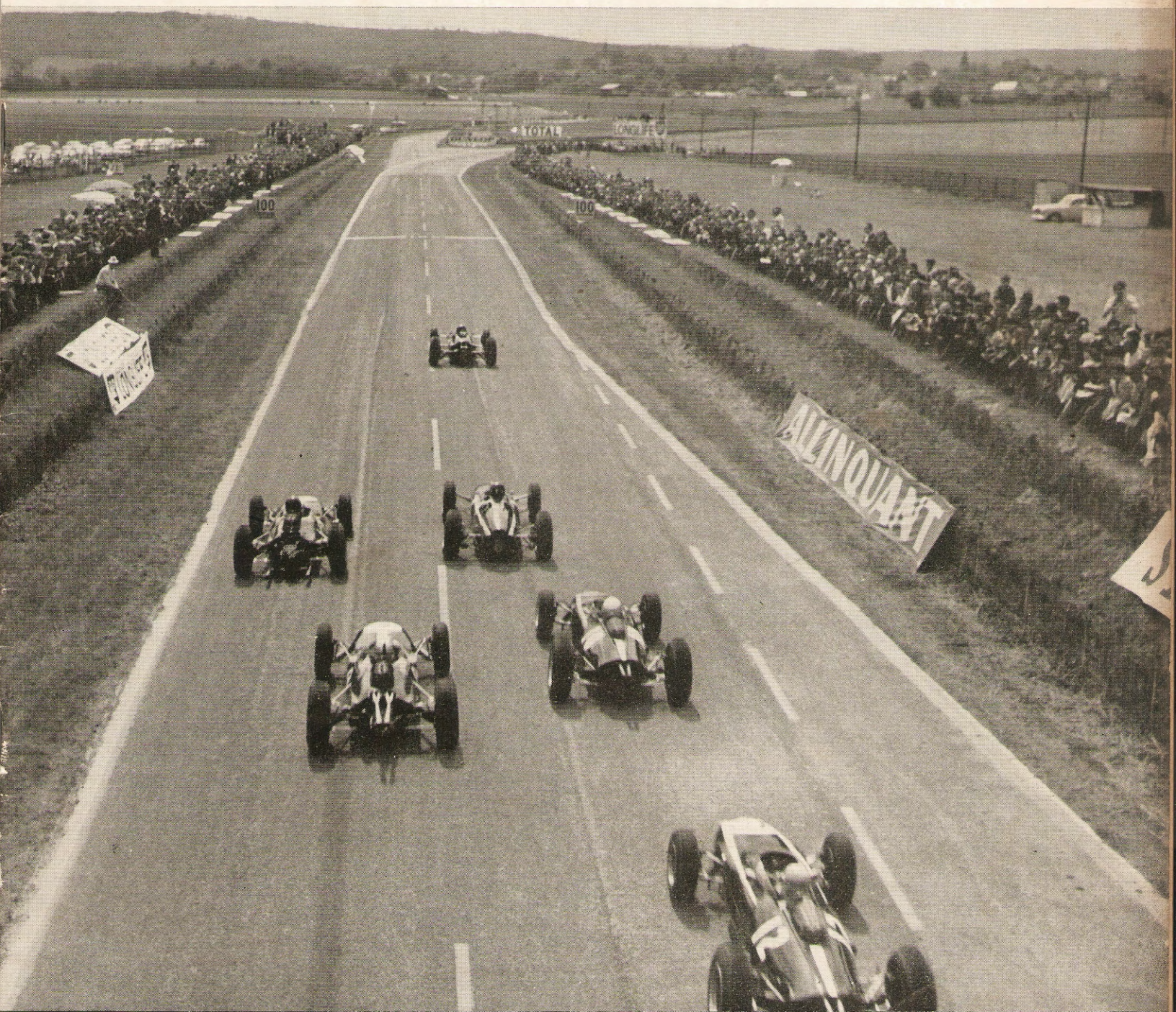

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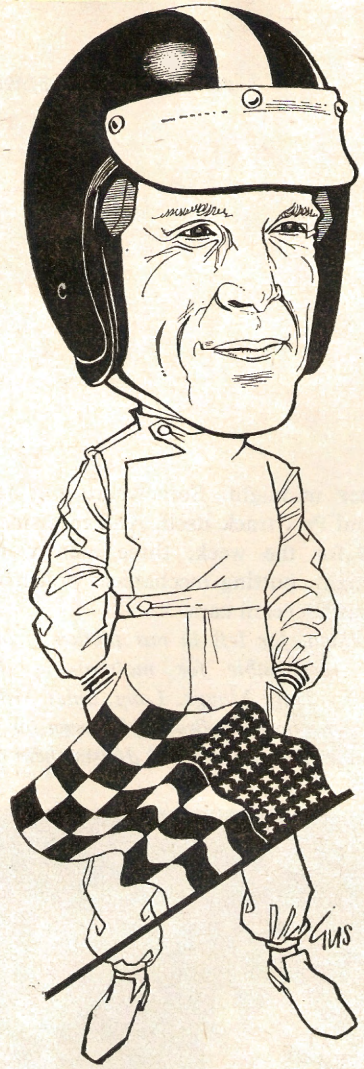
EDITORIAL

THE PUSH-START MUDDLE

THE arguments as to whether or not Graham Hill, Phil Hill and Masten Gregory should have immediately been black-flagged and disqualified at Rheims last Sunday will provide much material for future historians. Drivers were, of course, under starter's orders, and when the B.R.M.'s engine refused to start about a minute before flag-fall was due, M. Raymond (Toto) Roche gave the signal for the car to be push-started. Similarly, after the field had gone, Phil Hill and Gregory were both given manual assistance. Subsequently the judges imposed a one-minute penalty on each of the drivers, apparently quoting a supplementary regulation for this particular race which stated that a one-minute penalty would be imposed should a vehicle be push-started before the race began. Also in the same set of supplementary regulations was the bald statement that pushing a car on the circuit meant exclusion. The crux of the matter is that the Grand Prix of the Automobile Club of France, also referred to by the organizers as the Grand Prix of Rheims, was a World Championship event and must, of necessity, be run under the F.I.A. rules governing the Championships. It is therefore difficult to see how points can be awarded to a driver who has been guilty of an infraction, invariably regarded as leading to exclusion. It was no fault of Graham Hill who, being under starter's orders, had no option but to accept assistance, particularly as it was the starter who gave the signal to move the car. Naturally organizers are permitted to include certain supplementary regulations affecting the race itself, but there is no precedence for flouting F.I.A. rules as regards the Championship contests. As it stands at the moment, Graham Hill retains his placing in the race, but there is no certainty that he will receive the four points for third place. Other Championship contenders believe that unless the F.I.A. rules are strictly observed the whole thing becomes a farce. It will be interesting to see whether or not the C.S.I. of the F.I.A. stand by the published result of the 49th Grand Prix de l'A.C.F., and allow Hill and B.R.M. to count their points for third place. In any case, the matter of Gregory and Phil Hill is altogether confusing. Although neither driver affected the eventual result, they might well have. Their push-starts were given *after* the race had started and consequently the second rule had to be invoked, in that the offences were committed on the circuit. Possibly the whole chaotic decision was caused by these supplementary regulations being passed, without anyone fully realizing their implication when it came to Championship contests. Whilst on the subject of the organizers at Rheims, AUTOSPORT deplores the fact that Carel Godin de Beaufort was debarred from taking part in his Porsche. Reason given was that the organizers did not want any four-cylinder cars in the race, but perhaps they had forgotten that de Beaufort was the best of the "fours" last year, and that he is one of the last genuine amateur drivers left in Formula 1.

OUR COVER PICTURE

BRITISH RACING GREEN to the fore. Jim Clark (Lotus-Climax) leads World Champion Graham Hill (B.R.M.), Dan Gurney (Brabham-Climax), Bruce McLaren (Cooper-Climax), Jack Brabham (Brabham-Climax) and Tony Maggs (Cooper-Climax) just after the start in the French Grand Prix at Rheims last Sunday. Photo: George Phillips



AUTOSPORTSMAN by Gus

No. 9 : Dan Gurney

WORK has already started on improved facilities for both participants and spectators in next year's Indianapolis 500 race.

CHRIS CRAFT is reported to be selling his immensely fast Ford Anglia and is to race a Cortina instead.

HOCKENHEIM RACING

A SERIES of G.T. and Touring Car races on their 7.725-kilometre lap, high speed road circuit, organized by the Hockenheim Motor Sport Club, on Sunday, 23rd June registered record speeds and lap records in all classes.

The day was marred by a fatal accident resulting in the death of 31-year-old Heinz Schreiber, whose B.M.W. left the circuit at the east curve striking trees which line part of the road.

The overall winner, decided on a somewhat complicated formula, was Hermann Cordes (Ferrari GTO) at an average speed of 190.4 k.p.h. He lapped at 194.1 k.p.h., also a record. Second was another Ferrari driven by Löhstrater, who averaged 183.9 k.p.h., and in third place Herbert Linge (Porsche Carrera).

Class winners were: G.T. over 2,500 c.c. Cordes (Ferrari); G.T. up to 2,500 c.c., Löhstrater (Ferrari); G.T. up to 2,000 c.c., Linge (Porsche Carrera); G.T. up to 1,600 c.c., Weber (Porsche Carrera Abarth); G.T. up to 1,300 c.c., Pilette (Abarth-Simca); G.T. up to 1,000 c.c., Mahle, (Abarth-Fiat).

In the over 2,500 c.c. Touring Car class, Nöcker driving a Jaguar 3.8 was outstanding.

ALAN BRUCE.

EUROPEAN MOUNTAIN CHAMPIONSHIP

IT appears as though a Porsche driver will win this year's European Mountain Championship, although Abarth are trying their best to beat the German cars and Ferrari and de Tomaso may pull something out of the bag in later qualifying events.

Positions after the Mont Ventoux hill-climb, the second qualifying round of the championship, are as follows:

1.	Edgar Barth (Porsche Carrera)	9
	Heini Walter (Porsche RS)	9
	Sepp Greger (Porsche RS)	9
4.	Herbert Müller (Porsche Carrera)	6
5.	Giampietro Biscaldi (Abarth-Simca) ..	4
	Anton Fischhaber (Lotus-B.M.W. 23) ..	4
7.	Hermann Müller (Porsche RS)	3
8.	Eberharde Mahle (Fiat-Abarth)	2
	Edoardo Lualdi (Ferrari GTO)	2
10.	Michel Weber (Porsche Carrera)	1
	Régis Fraissinet (Lotus-Ford 23)	1

In case anyone needs reminding, we would point out that the Mountain Championship is open to 2-litre Appendix C sports cars and 3-litre Grand Touring cars. Although no British drivers take an interest, because of the cost of taking part in these events, the German Toni Fischhaber appears to be going very fast with his Lotus 23 fitted with a B.M.W. engine enlarged to 1.8 litres. The full results of the Mont Ventoux event are as follows:

B.T.D.: Heini Walter (Porsche RS), 11 m. 50.0 s.; 2, Sepp Greger (Porsche RS), 12 m. 2.6 s.; 3, André Wicky (F1 Cooper-Climax 4-cyl.), 12 m. 4.2 s.; 4, Anton Fischhaber (Lotus-B.M.W. 23), 12 m. 16.4 s; 5, Hermann Müller (Porsche RS), 12 m. 20.2 s.; 6, Edoardo Lualdi (Ferrari GTO), 12 m. 21.2 s.; 7, Charles Vögele (2.7 Brabham-Climax I.C.F.), 12 m. 30.4 s.; 8, Régis Fraissinet (Lotus-Ford 23), 12 m. 58.2 s.

CIRCUIT OF CASERTA

A SMALL Italian Formula Junior race held at Caserta on 23rd June resulted in another win for "Geki", who drove a 1963 de Sanctis-Ford and finished over half a minute ahead of Pino Babbini (Lotus 22) in the final. Third was Giancarlo Rigamonti (Wainer-Ford), fourth Robert Lippi (Cooper-Ford) and fifth Bruno Deserti, who has managed to get hold of a Lotus 27. Heat winners were "Geki" and Babbini.

SID FOX's extremely rapid 1,100 c.c. Lola-Climax, which is prepared and entered by Neal Davis Racing, broke its class lap record at the recent B.R.S.C.C. Cadwell Park meeting. Neal Davis Racing also prepare Lionel Brooke's Lotus 20, which is to be brought up to "Formula 1" standards with the installation of a 1½-litre Ford engine.

EXECUTIVES of David Ogle, Ltd., are now engaged in negotiations which may lead to the production of the Ogle Super SX1000 in South Africa, Australia and Italy.

PIT and PADDOCK

HELD on Le Mans weekend was the Sierre-Montana hill-climb, a small but well-supported European event. Best time of the day was recorded by the Swiss-built Maserati-engined Formula 1 Cegga of Georges Gachnang in 15 mins. 10 secs. Only 1.8 secs. behind came Swiss Charles Vögele in his 2.7-litre Inter-Continental Brabham-Climax. Best standard touring car was the Ford Cortina GT of Arthur Blank (whoever he may be), best modified one being Charles Raum-Caccia's Alfa Romeo Giulia. Engelbert Möll (Abarth-Simca) and Tommy Spychiger (Abarth 1000) won the G.T. and sports car classes respectively.

THE Montagu Motor Museum is sponsoring a Rally and *Concours d'Elegance* for pre-war American cars to be held at Beaulieu on 8th September. Among the eligible cars are the Brough Superior, Railton, Jensen and Lammas.

RUMOUR has it that the French Government is to sponsor a Grand Prix car.

1963 *WORLD CHAMPION? Jim Clark is caught in a happy mood by George Phillips when being interviewed in the Press Box at Rheims last Sunday.*

HARRY HEUER and Don Devine scored a 1-2 victory driving Chevrolet-engined Chaparrals at Elkhart Lake recently. Roger Penske, driving the much-famed Zerex Special, retired when well in front due to broken rings.

COPENHAGEN CUP MEETING AT THE ROSKILDE RING

THE Copenhagen Cup, held at the Roskilde Ring on 16th June, was run this year for sports-racing cars up to 1,600 c.c. and James Mackay made a successful trip from Scotland to win all three heats. Driving his Lotus 11 with all-round independent suspension he beat Jorgen Ellekaer, who was driving Tony Kilburn's Lotus 11, for the first time, with the Dane, Andreas Geil, third.

The main supporting event was for Formula Junior cars, which was run in three heats of 12 laps each over this tight left-handed circuit. On the first lap, Hartwig Conradsen, the Danish F.J. champion, led George Duneborn of Sweden and David Cole of England, all driving Cooper-B.M.C. Mark 3s, with Sven Andersson of Sweden (Cooper-Ford Mk. 3) lying fourth. On the third lap, Cole and Andersson touched at Everton, resulting in instant retirement for both.

Meanwhile Conradsen and Duneborn were having a ding-dong battle, taking each other on consecutive corners, with Conradsen eventually winning by two seconds. This form was repeated in the remaining two heats, with Conradsen just managing to pull it off on each occasion.

Three saloon car races completed the programme, of which the most interesting and unexpected sight was to see the way in which Roland Johansson of Sweden in his Volkswagen out-accelerated and apparently comfortably beat all the Group 3 Austin- and Morris-Coopers.

Altogether, this was a most enjoyable meeting with the Danes showing their customary hospitality.

JOHN GREENE.

RESULTS

Formula Junior: 1, H. Conradsen (Cooper-B.M.C.), 28 m. 34.9 s.; 2, G. Duneborn (Cooper-B.M.C.), 28 m. 42.1 s.; 3, J. C. Legarth (Lotus-Ford), 30 m. 7.4 s.

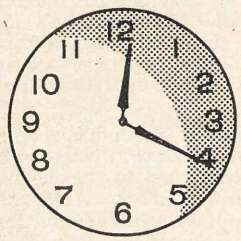
Sports-Racing Cars: 1, J. Mackay (Shannon Lotus-Climax 11), 30 m. 4.3 s.; 2, J. Elleker (Lotus-Climax 11), 30 m. 52.9 s.; 3, A. Geil (Lotus-Climax II), 31 m. 5.4 s.

Group 2 Touring Cars up to 850 c.c.: 1, A. Berglof (B.M.W.), 14 m. 38.3 s.; 2, S. E. Sorensen (Saab), 14 m. 39.0 s.; 3, K. Hansen (Mini), 14 m. 45.7 s.

Group 3 Touring Cars up to 1,300 c.c.: 1, R. Johansson (Volkswagen), 14 m. 20.3 s.; 2, J. Fog (Austin-Cooper), 14 m. 29.7 s.; 3, B. Nielsen (Austin-Cooper), 14 m. 34.0 s.

Group 3 Touring Cars 1,301-1,800 c.c.: 1, W. Willumsen (Hillman), 14 m. 16.2 s.; 2, T. Belso (Volvo), 14 m. 23.0 s.; 3, E. Jacobsen (Volvo), 14 m. 32.4 s.

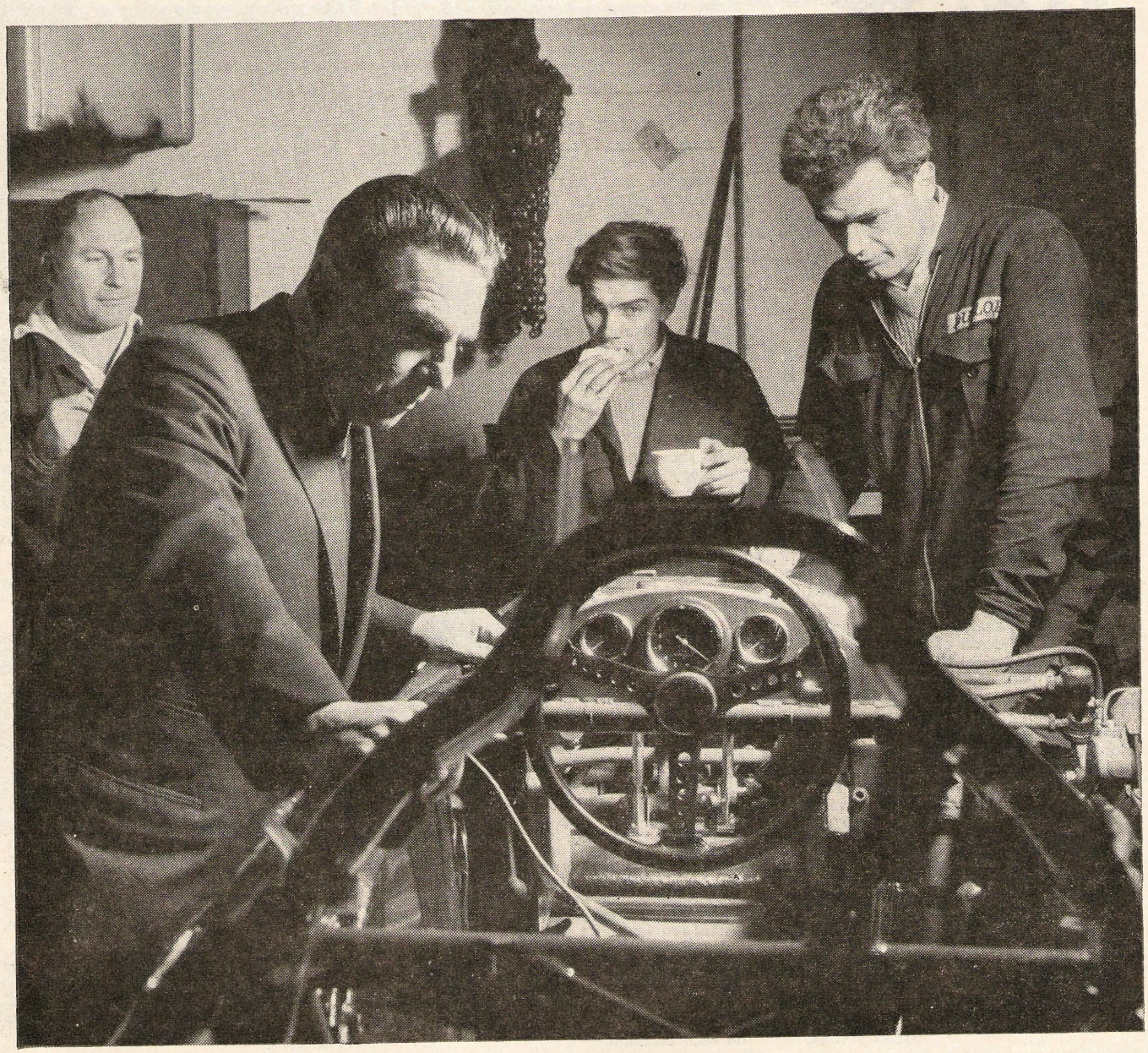
COLD COFFEE AND CONFIDENCE



Midnight work for Hugh, Mike, and Ray – the mechanical flank of John Cooper's Grand Prix team

Sometime after midnight. Somewhere not far from the Grand Prix track itself. And in a small garage, hired for the week, three men work through the night, putting mechanical polish to the Cooper Works Team cars.

Hugh Frankland, far left in our picture, from South Africa – responsible for maintaining the Cooper driven by Tony Maggs. Long, quiet Mike Barney – Cooper mechanic to Bruce McLaren for 3½ years. And young Ray Rowe, who assists them on



Bruce McLaren and Tony Maggs. Both drive works Coopers, and both on BP.

both cars. These three are part of the close-meshed team, ranging from designers to panel beater to administrators, all whirring under John Cooper's own fireball management. (There he is, foreground.)

Now, just before a race, tension is high. But confidence is high as well.

John Cooper bursts in with sandwiches and steaming coffee, which is likely to go cold as the four of them immediately fall to probing the job in hand. Check. Double check. Check again. By the time they wipe hands the coffee may be cold, but enthusiasm and spirit are hotter than ever under Cooper's fanatical spur.

THE ROAD TO RHEIMS

The three boys travel to a Grand Prix, like the French event, in a great van equipped to allow the mechanics to sleep inside when the cross-country push is really on. It carries the three Formula One cars – Bruce's, Tony's, and the spare that will be used (touch wood) only for the boys' trial runs. The van carries a work bench too, and enough spare parts to start a brisk little business – so many and so valuable, in fact, that the spares must be put in bond to travel through customs, like liquor or tobacco.

Hardly any of the parts (touch that wood again) will ever be needed. But on the other hand, this trio has in the past tackled jobs as complex as a gearbox switch the night before a race!

One more vital thing goes in the van. 25 gallons of BP Energol Motor Oil – "just to be sure". The BP Super-Plus petrol they'll get on the spot.

TAILORED COCKPITS

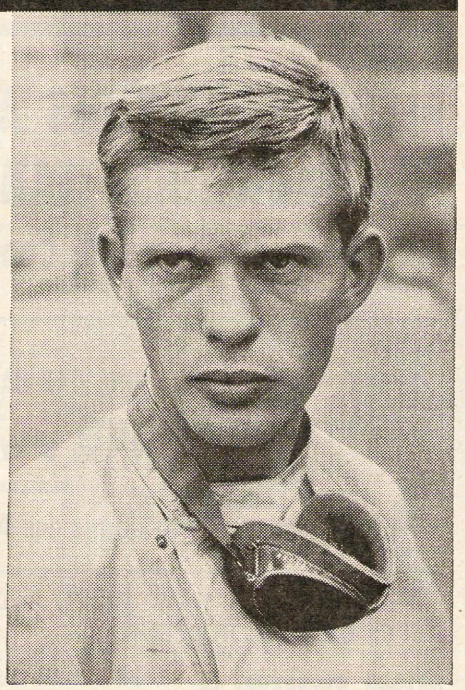
Mike and Hugh see the cars through all the way from the build, in Cooper's Surbiton works, to the track. In fact they in large part do build the cars themselves, tailoring the cockpits to suit their individual driver. Each mechanic is responsible for the well-being of his car 'right up to the moment when the flag goes down', as Hugh puts it. 'From there it's up to the driver alone.'

But the whole mammoth effort in fielding this works team is in fact up to a lot of different people. John Cooper pins it down: "It's a matter of having a *team* – the men building the car, the mechanics, the drivers, the team manager, all feeling they're in this thing *together!*"

COOPER'S SECRET?

And what, in a sentence, is Cooper's secret in Formula One racing? "Well, the first thing you have to do is finish the race. So, number one, design a car that will keep together! And then you just start tuning it up year by year to make it go faster."

If that is really all there is to it, we're surprised there aren't a lot more builders and managers as successful as John Cooper. But then, perhaps he isn't telling quite *all* . . .



THE COOPER TEAM CHOOSES BP FUEL AND LUBRICANTS

BP

BP IS THE KEY TO BETTER RACING

SPORTS NEWS

BRANDS HATCH SIX HOURS

ONE can only guess the probable tactics that will be employed by the contestants in tomorrow's Six-Hour saloon car race at Brands Hatch. The race, sponsored by *The Motor*, had a disappointing amount of spectators last year owing to the unreliability of October's weather, the newness of the event and the lack of "name" drivers (the American Grand Prix was on the following day). This time, however, the race has been brought forward in the calendar, there are several top-class drivers competing, and if the racing is as close as it was last year it will be well worth watching.

There is the prospect of a needle match between the Ford Galaxies and the Jaguar 3.8s, with the Ford Cortina GTs and Mini-Coopers ready to pounce if the big cars prove unreliable. The Galaxies, with their greater tyre wear, will probably make a pit stop or two more than the Jaguars—therefore they will try to build up a lead, although when Jaguars are "pushed" they also gobble up their tyres at an alarming rate. Perhaps long-distance experts Peter Lindner/Peter Nöcker will win if they drive their Jaguar fairly gently? But do not forget that Ford are taking this event seriously, and are out for more than class wins.

Will last year's wheel-shedding problems occur once more? How will the foreign entries fare against the British cars? The answers to these two questions can only be found out by visiting Brands Hatch tomorrow.

The Six-Hour race starts at 2 p.m., but at 11.15 a.m. there is a 20-lap sports car race for club drivers. Competing in this will be Alan Mann (Marina-Rolls-Royce), Roy Pierpoint (Attila-Climax), Doug Graham (Elva Mk. 7), Julian Sutton (Lotus 23B), Terry Bone (Lotus 23) and Jim Morley (Lola-Climax). At 12.30 there will also be a parade of British manufactured sports and G.T. cars, comprising 33 different cars.

Entry list for the Six-Hour race is as follows:

Over 3,000 c.c.: Jack Brabham/Dan Gurney (Ford Galaxie); Jack Sears/Bo Ljungfeldt (Ford Galaxie); Sir Gawaine Baillie/Peter Jopp (Ford Galaxie); John Sprinzel/Merton Lucia (Ford Galaxie); Roy Salvadori/Denis Hulme (Jaguar 3.8); Mike Salmon/Peter Sutcliffe (Jaguar 3.8); Peter Lindner/Peter Nöcker (Jaguar 3.8); Chris McLaren/John Coundley (Jaguar 3.8).

1,601-3,000 c.c.: Edward Harrison/John Manussis (Ford Zodiac); Roy Pierpoint/Alan Mann (Ford Zodiac); Luigi Cabella/"George von Baum" (Lancia Flaminia); Carlo Facetti/Ferdinando Frescobaldi (Lancia Flaminia); Peter Sargent/Peter Lumsden (Mercedes-Benz 220SE); J. Neerpasch/Peter Scherrer (Volvo 122S); Tom Trana/Carl-Magnus Skogh (Volvo 122S).

1,301-1,600 c.c.: Peter Harper/Chris Amon (Sunbeam Rapier); Alan Hutcheson/Bob Anderson (Riley 1.5); Piero Frescobaldi/Leo Cella (Lancia Flavia); Franco Patria/Romolo Rossi (Lancia Flavia); David Haynes/Les Leston (Ford Cortina GT); Jeff Uren/Peter Bolton (Ford Cortina GT); Jimmy Blumer/Henry Taylor (Ford Cortina Super); Ernst Furtmayr/Hans Dieter Dechent (Alfa Romeo Giulia TI); Billy Blydenstein/Chris Lawrence (Vauxhall VX4/90).

1,001-1,300 c.c.: Anita Taylor/Anne Hall (Ford Anglia 1200); Alan Foster/Andrew Hedges (M.G. 1100); John Whitmore/Paddy Hopkirk (Austin Mini-Cooper S); John Aley/X (Morris Mini-Cooper S); Christabel Carlisle/Denise McCluggage (Morris Mini-Cooper S); Mick Clare/Tony Rutt (Morris Mini-Cooper S).

851-1,000 c.c.: John Rhodes/Rob Slotemaker (Austin Mini-Cooper); Elizabeth Jones/Timo Makinen (Austin Mini-Cooper); Edward Lewis/Julien Vernaeve (Morris Mini-Cooper); L. A. Nerden/Sir Alexander Roell (Austin Mini-Cooper); Peter Clarke/John Anstead (Fiat-Abarth 1000).

Reserves: John Sparrow/Neil Dangerfield (Jaguar 3.8); Albert Powell/Ken Baker (Jaguar 3.8); X/X (Lancia Flavia); Alistair Crawford/Ellis Cuff Miller (Sunbeam Rapier).

VAN DER VYVER WINS ROYAL SHOW CHAMPIONSHIP

by ROGER HOUGHTON

SYD VAN DER VYVER, South African champion driver in 1960 and 1961, came back into the reckoning for the 1963 crown, when he won the Royal Show Trophy race on the Roy Hesketh circuit, Pietermaritzburg, on 22nd June, in his V8 Lotus-Climax 24.

The nine points from this win put van der Vyver in third place in the national championship table, behind Ernest Pieterse, who came second in the Royal Show race, and Neville Lederle. Lederle, who still has a 16-point lead over second-placed Pieterse, withdrew from the Royal Show event after the death of his father on the Thursday before the race.

Syd van der Vyver roared into the lead at the drop of the flag, with Doug Serrurier in his L.D.S.-Alfa, Pieterse, John Love, the Rhodesian in his late model four-cylinder Cooper-Climax, and Trevor Blokdyk in his Formula Junior Cooper powered by a modified Alfa Romeo motor, close behind.

John Love, one of the most accomplished drivers in Southern Africa, settled down to some steady lapping behind the leading bunch of van der Vyver, Pieterse in his Lotus-Climax 21, and Serrurier for the first four of the 56 laps.

After his four "warming up" laps, Love got down to serious motoring, first nipping past Serrurier, and then taking Pieterse, on the short 1.8-mile twisty circuit. Just as he pushed the Cooper nose past the ex-Brabham Lotus 24, driven by van der Vyver, the Climax motor in the Cooper suffered a sudden loss of power, this on the 14th lap.

Love pulled into the pits, where a new set of plugs were hurriedly fitted, but this did not help matters very much and cost a precious lap. With power still down, Love made a second pit stop. The trouble was finally traced to a cracked distributor rotor, but by this time the leaders had gone past five times.

Although now six laps in arrears, Love did not retire, but got down to lapping extremely rapidly, despite there being patches of oil on the circuit. Love seems to thrive on adversity, and is at his most effective when trying to make up leeway. He had to race under the same circumstances only two weeks previously—at the Republic Trophy race at Kyalami on 8th June—when a broken steering tie-rod forced him into the pits and put him seven laps behind the ultimate winner, Neville Lederle.

With Love out of the running, Pieterse took his chance and led the race for a short time in the ex-Jim Clark Lotus-Climax 21, but the four-cylinder engine lacked the steam needed to hold off its younger V8 relative, and Pieterse dropped back into second spot. Van der Vyver was never headed after this, and took his Lotus past the chequered flag, having averaged over 80 m.p.h. for the 56 laps.

If it had not been for a misunderstanding arising from a pit signal, Pieterse could possibly have pipped van der Vyver at the post, Pieterse not having realized how close behind van der Vyver he really was.

Serrurier, who had driven very steadily, took third spot, followed by Brauch Niemann in the fantastically fast green Lotus-Ford 7 without mudguards, and Clive Trundle in an old model Cooper-Climax. John Love finally finished seventh—just out of the points.

The meeting, organized by the Maritzburg Motor Cycle and Car Club, also included some motor-cycle events. Nick Kingwill gave Les Ward's Lotus Cortina an impressive South African track debut, when he finished second overall to Peter Markham in the Volvo 122S B18 in the 15-lap Touring Car race.

RESULTS

Royal Show Trophy Race (56 laps—100.8 miles): 1, Syd van der Vyver (Lotus-Climax 24 V8), 1 h. 16 m. 80.6 m.p.h.; 2, Ernest Pieterse (Lotus-Climax 21); 3, Doug Serrurier (L.D.S.-Alfa); 4, Brauch Niemann (Lotus-Ford 7); 5, Clive Trundle (Cooper-Climax).

Drivers' Championship: 1, Neville Lederle, 43 points; 2, Ernest Pieterse, 27; 3, Syd van der Vyver 21; 4, Doug Serrurier, 19.

HENRY FORD CENTENNIAL, 1863-1963

Model T London to Brighton Run

WITH a splendid entry of 79 "Flivvers", "Tin Lizzies"—call them what you will—Fords celebrated the birth of the immortal Henry with yet another Brighton Run. The Model "T" was built continuously between 1908 and 1927, and just about every variation in body style was seen on 30th June. None of the cars appeared to give any trouble on the road, and the event concluded with a cocktail party, luncheon, and *concours*.

Deeply conscious that AUTOSPORT must be represented in this marathon, I borrowed the splendid "Tudor" saloon of Melville Watts and set off from Gloucester. An hour later, I was back at the remote town on a tow-rope, a big-end having got much too big. All the resources of the Watts workshops, plus the devoted work of a wizard called Charlie and his mate, put the "T" back on the road again. I was driving for most of the night, but reached the starting line in time. On the actual run, the Ford went perfectly, the new big-end being by now well run in!

Although the Model T Ford was an ultra-cheap car and strictly utilitarian, its brilliant and unconventional design endears it to the connoisseur, and it now has almost as fanatical a following as the Bugatti. Model T motoring is such fun, and almost any breakdown can be repaired with a hammer and a Stillson wrench.

JOHN V. BOLSTER.

LUIGI CHINETTI, jun., has become engaged to Mamie Reynolds, the owner of last year's Le Mans-winning Ferrari and a GTO Ferrari.

AMERICAN driver resident in Italy, Carroll Smith, won the 2-litre sports car race at a recent Vallelunga meeting in a Cooper-Maserati. Cesare Toppetti won the 1-litre race in his Lotus-Giannini 23.

SEVERAL ADDITIONS have been made to the Collett cuff link range: M.G., Riley, Citroën, Fiat and Austin-Healey. Details from Collett Links, 347 Goswell Road, London, E.C.1.

R.A.C HILL-CLIMB CHAMPIONSHIP

Positions after Rest-and-Be-Thankful

1.	Tony Marsh (Marsh-Climax and B.R.M.)	71
2.	Peter Westbury (Felday-Daimler and Cooper-Daimler)	50
3.	Phil Scragg (B.R.M.)	40
4.	Peter Boshier-Jones (Lotus-Climax)	37
5.	Ray Fielding (Lotus-Climax)	32
6.	Ian McLaughlin (Cooper-J.A.P.)	31
7.	David Good (Cooper-Climax and Cooper-Daimler)	24
8.	Bryan Eccles (Cooper-Chevrolet)	16
	Gray Mickel (Cooper-Climax)	16
10.	Agnes Mickel (Cooper-Climax)	6
11.	Keith Moore (Fairley-Climax)	5

VIC ELFORD is shortly to join City Assurance Consultants, Ltd., who specialize in motor racing and rally insurance.

BOB BURNARD will be competing in his first race in the "Miss Veedol" Lotus 27 at Silverstone on Saturday.

More **Sports News** *overleaf*

OUR BRUCE relaxing upside down on the trampoulines at Zandvoort, the scene of his shortest ever race.

BRUCE McLAREN:

From the Cockpit

THE Dutch Grand Prix was the shortest race I've ever had—it lasted just two laps before I came cruising down the pit lane with the Cooper jammed in fifth gear. My thoughts at that moment certainly defy printing, for on the opening lap I'd been shadowing Jimmy Clark's Lotus, and the Cooper felt as though it could have kept the pace. Then the gearbox dropped our hopes.

This was my fourth visit to Zandvoort and the fourth time I've had bad luck. In 1959, my first season with the Cooper team, I was refused a start because I wasn't a graded driver; in 1960 I came to Zandvoort leading the World Championship with the first of the low-line Coopers and a half-shaft broke when I was lying third; in 1961 we had troubles with the 1½-litre four-cylinder Climax which kept cutting out, and I ran a consistent 14th or 15th—that was the year when 15 cars finished! Last year with the new Cooper V8 I was second to Graham Hill's B.R.M. when the gearbox broke. And this time it was a problem with the selector mechanism —just bad luck.

Actually I had an inkling that the gearbox would be my downfall in the race as the selector mechanism began jamming on the warm-up lap, and the mechanics had to work frantically on the front row of the grid so that I could have a full set of six gears to set off with.

I can't complain, though, for I think most people would agree that Cooper preparation is usually the most reliable in the game. This made it even worse when after about 12 laps Tony Maggs dropped out of fourth place with the other works Cooper suffering from overheating that the cooling system could not quite cope with.

With Jack Brabham in the pits with a sticking throttle, and Graham's B.R.M. boiling, Jimmy Clark was left out in front for an absolute cakewalk. Thank goodness Rheims was only a week away—we didn't have time to brood on it. It certainly wasn't a very exciting result for John Cooper's return to racing for the first time since his accident. However, it was good to have him back livening up the racing scene.

Before Zandvoort we were reasonably confident that the Coopers would go well, because handling is one of the better points of the car, and in practice I was delighted with it. Zandvoort is the type of circuit where you have to get the car at a fairly considerable angle of drift on many corners, and you have to keep the throttle steady and the power to the rear wheels.

I was most impressed with the performance of my 19-year-old fellow countryman, Chris Amon. With last year's Lola and a carburetter-Climax he was right up with some of the established "pros"—Ireland, Bonnier, Ginther, Gurney—a remarkable effort for a young driver on his first visit to the European Grand Prix circuits. His driving continues to improve, and Reg Parnell and his team must be commended for keeping the Lola so raceworthy.

Jimmy and I nearly spent the night before the race in jail—or we would have if one particular Dutch police sergeant had had his way. We were watching the other boys taking the corner behind the pits when this nasty-minded gentleman in blue arrived to evict us. He seemed to lack some of the niceties of a London bobby, for without wasting words, he grabbed me by the lapels of my jacket and rushed me backwards through some low shrubbery.

Then he went back for Jimmy. I had been in no position to argue as I had lost my driver's pass, but Jimmy had his, and produced it. This had little effect on the Hitlerish disposition of our oppressor who immediately set upon Jimmy and tore his overalls in an attempt to throw him out. A big crowd had arrived by this time shouting encouragement to the struggling Scotsman, and officials rushed up to rescue Jimmy before a punch-up started.

That probably put Jimmy in a good "tigering" mood for the race the next day!

Sports News—*continued*

THE constabulary is well represented at this Sunday's London M.C. meeting at Snetterton. John Gott is driving his familiar Austin-Healey and Peter Garland, Chief Constable of Norfolk, is presenting the major awards.

AUSTIN 7s EVERYWHERE!

THIS Sunday will see the largest-ever rally of pre-war Austin 7s to be held at the Montagu Motor Museum at Beaulieu. Nearly 200 entries have been received for this Seven-Fifty Motor Club event and at least 300 Austin 7 owners are expected in the spectator capacity. As well as the road cars, there is to be a special display of single-seater Austin 7 racing cars, including the ex-Kay Petre twin cam, John Sutton's Maclachlan special and Jack Broadhead's "Dutch Clog".

"AUTOSPORT" NATIONAL SPRINT TROPHY

Positions after Long Marston

1.	Mike Eyre (Cooper-Buick)	12
2.	Sydney Allard (Allard-Dragster) ...	9
3.	Tony Marsh (Marsh-Climax and B.R.M.)	8
4.	Patsy Burt (Cooper-Climax)	6
5.	Ken Baker (Jaguar E)	4
	George Keylock (Cooper-Buick) ...	4
7.	Bill Camp (Cooper-Ford)	3
8.	Peter Gaskell (Kieft-Ford)	2
9.	Charles Sgonina (Aston Martin)... ...	1

ONE hears of the most peculiarly named racing cars these days. Latest is the 750 special of the Scuderia Skinflint called the Rolling Rapture. Driven by R. C. Savage at Brands Hatch last Sunday it did not roll—it was sixth.

MARTINI TROPHY RACE

THIS Saturday, the Aston Martin Owners' Club are holding their National Martini Trophy meeting at Silverstone, starting at 12 noon. Chief event over the 2.93-mile Grand Prix circuit is the 52-lap International Trophy race for sports-racing cars, sports cars and G.T. cars, which qualifies towards the AUTOSPORT Championship. Although the entry hardly justifies the title international (apart from Mike Parkes's GTO Ferrari, perhaps), a representative entry has been received, including Jim Diggory (Aston Martin DBR2), John Gott (Austin-Healey 3000), John Coundley/Bill de Selincourt (Lotus 19), Frank Gardner (Brabham), Tony Lanfranchi (Elva Mk. 7), Jack Pearce (Lotus 23B), Chris Williams (Lotus 23), Roger Nathan (Lotus Elite), Norman Surtees (Lotus Elite) and Jack Oliver (Marcos).

A *Formule Libre* race excluding Formula 1 and Junior cars has attracted a mixed bag, to say the least. Tony Marsh's hill-climbing 2½-litre B.R.M., Mike Eyre's 3½-litre Cooper-Buick, Chris Summers's 5.4-litre Cooper-Chevrolet and several other "modern" cars are to take on many of the Historic Racing Car brigade, including Peter Waller (E.R.A.), Morin Scott (Osca), Tony Charnock (Alvis) and 24 litres of Napier Railton, to be conducted by Pat Lindsay.

There are also races for Formula Junior and saloon cars.

DOUG GRAHAM'S Elva Mk. 7 was raced for the first time with a 1.6 litre Ford engine at Rheims last week.

IT is reported that yet another Japanese car manufacturer will be exhibiting a Wankel-powered model at the Frankfurt Show in the Autumn, this time the Toyo Kogya.

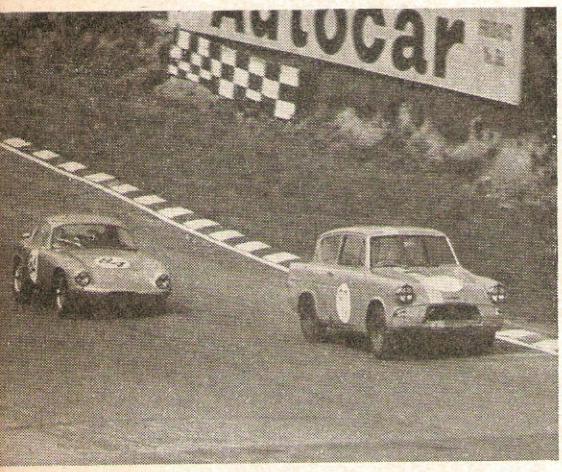
GRAHAM EDEN'S air-cooled, flat-four Arden-engined Formula 1 Cooper has been entered for the Archie Scott-Brown Memorial Trophy race for 1½-litre racing cars at Snetterton on 14th July. There are also races for saloon, G.T. and sports cars, and amongst the entries for the last-named category are Innes Ireland, Jimmy Blumer and Tom Dickson.

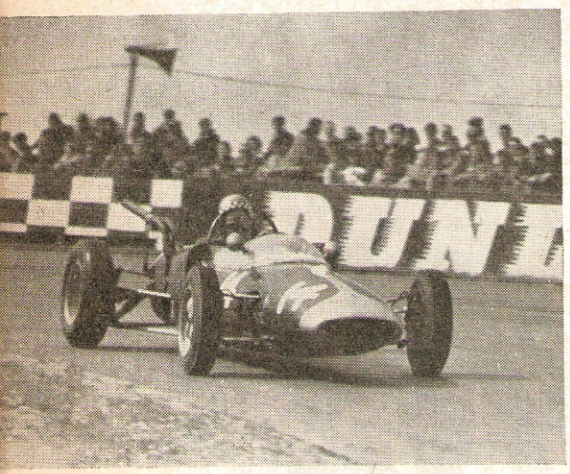
VASTA EXPEDITION 1963

ON 30th June, four Bristol University students driving a 1930 Austin 16/6 Burnham saloon set out for Cape Town. The car, called "Mugwump" (Montagu's University Group With Unlimited Means of Propulsion), is expected to complete the journey in three months. The trip is chiefly sponsored by Lord Montagu of Beaulieu, plus a substantial sum from individuals, firms and associations. The chosen route is through France, Spain, Morocco, Algeria, Tunisia, Libya, Egypt, Sudan, Uganda, Kenya, Tanganyika, N. and S. Rhodesia and the Republic of South Africa.

A group of Cape Town University students have undertaken to drive the car back to England next year.

MICHAEL CHRISTIE and T. E. Broom have both resigned from the board of directors of Alexander Motortune, Ltd. The company name is now Motortune, Ltd., and will be a distributor for Alexander conversions although it will no longer be an associate company.





CHASE OF THE DAY was that of Chris Craft by Roger Nathan during the saloon car race when, as the track dried, the Elite caught and passed the Anglia near the end (top). WINNER of the wet Formule Libre *race was John Mew in his Coventry Climax-powered Lotus* 20 *(above). REAR END VIEW of the* 750 *Final cars as they round Paddock Bend on their first lap (right). Jack Bishop just leads from R. Westcott.*

CLUBMAN'S DAY OUT

An Excellent Trio Brands Hatch Meeting

BY MICHAEL KETTLEWELL

THE Trio race meeting is over for another year, the Seven-Fifty Motor Club, Club Lotus and the Racing Car Club having organized a slickly run programme of 10 races for their members at Brands Hatch last Sunday. Thanks to some extremely efficient start line marshalling not one second was wasted, the racing taking only three and a half hours.

The meeting commenced promptly at 1.30 with the first of two five-lap heats for 750 Formula cars. Pole position man R. Westcott dropped his goggles on the warming-up lap, but clerk of the course Peter Dawe soon retrieved them and from the drop of the flag Westcott and Jack Bishop took their specials well away from the rest of the pack, finishing in that order 0.8 sec. apart and half a lap ahead of third man, P. F. Godfrey (Special).

The first 1172 heat, over a similar distance, provided a runaway victory for the marque Milmor: Roy Wheeler, driving Bryan Small's Milmor Mk. 5, kept Mike Paris, who in turn drove Arthur Mallock's U2, at bay, winning by 9.8 secs. A. C. Baillie and his Pegasus were third, despite a second lap spin at Druids.

Unhappily the 1,200 c.c. sports car race was spoilt by several non-starters, including Charles Lucas who, while practising, had spun his Merlyn into another car which had already departed into the ditch coming down from Druids. Peter Deal should have won in his blue Merlyn Mk. 6, but he was awarded a minute penalty for jumping the start—too severe a penalty, I maintain—and it was left to Clive Lacey to score in his 997 c.c. Merlyn Mk 4 from Tony Youlten (D.R.W.) and Natalie Goodwin (Lotus 7). However, John O'Sullivan would have been declared winner if his Rejo-Climax had not elected to fire on three cylinders after seven of the ten laps.

Second 750 heat was dominated by D. H. Abbott (Jerboa) and Cyril Lyford (Squeg); the two finished first and second, although third man, Robin Smyth, was seen to be closing up in the latter stages in his well-presented Ellira Mk. 2.

The second heat for 1172 Formula cars, thrilling though it was, sufficed only as an appetizer for the forthcoming final. The same two cars that finished 1-2 in the opening heat, this time driven by Bryan Small and Arthur Mallock, made a repeat performance. Ian Tollady (Aquila), Clive Garnham (Terrier Mk. 2) and Howard Milborrow (Milmor Mk. 3) chased the pair across the line.

The "Sixes and Sevens" Lotus race had none of the former category (a particularly fast Six was written-off in practice). The Climax-powered 7 of Mike Crabtree led throughout the 15 laps, hotly pursued by Bob Deverell's 105E-engined example, which never gave up trying and made the excellent fastest lap of 59.2 secs., 75.41 m.p.h.—the best of the day. Bob Bell caused some excitement by spinning off at Bottom Bend on his first lap and then working his way through to fourth place behind Hugh Balfour's Lotus Super 7.

It rained before the saloon car race, so it was all the more surprising to see Chris Craft forge ahead in his 1,650 c.c. Anglia since, for some reason, the Lotus Elites of Roger Nathan and Adrian Chambers had been admitted as "saloon cars". Nathan, who in the dry can lap two seconds quicker than Craft, was left by the Anglia in the opening stages; behind them Nick Abbott, also 1,650 c.c. Anglia mounted, kept Chambers at bay. As the track dried, Chambers caught and passed Abbott, while Nathan also got to grips with Craft and managed to get by on the 14th lap between Druids and Bottom Bend. Nevertheless, Craft glued the Anglia to the tail of the Elite for the remaining lap and finished only 0.2 sec. behind. Analysing the performance of the Elites and Anglias it seems that on a wet track the Anglias have the roadholding and the Elites the speed, which, surely, is ridiculous!

More rain in the *Formule Libre* race could not prevent John Mew from taking his now 1½-litre Coventry Climax-engined Lotus 20 into a good lead after sliding slightly sideways at the start. John just went fast enough to keep Charles Crichton-Stuart's Lotus 22 about 200 yards behind, not needing to extend his new motor. An excellent third was the Monoposto Register Project X of E. T. Ogilvie-Hardy, this 1,172 c.c. Ford-engined device beating Richard Peel (Elva-Alfa Romeo Mk. 6), F. N. Davis (Lotus 20) and H. M. Slater (Cheetah-Ford), all four a lap down.

Howard Bennett's Merlyn, which should have contested this event, lost a wheel in practice.

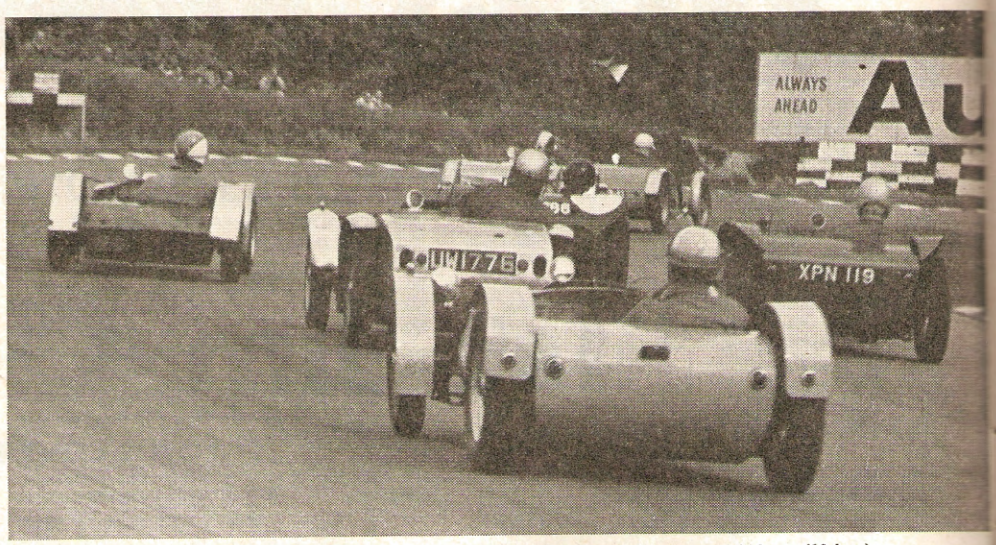
The 1172 Final was superb, places chopping and changing at practically every corner. Arthur Mallock, as determined as ever, soon forced his U2 ahead of the battling bunch, but Ian Tollady gained on him towards the finish and was classified only 0.6 sec. behind. Howard Milborrow, Clive Garnham and Bryan Small followed, the last-named after executing a spin at Clearways, where Dave Rees (Austin-Rees) came to grief on the second lap.

Racing was also close in the 750 Final, Jack Bishop snatching the initial lead, but having to concede victory to the irrepressible R. Westcott. The Squeg was third after the demise of the Jerboa when its suspension bust. Following countless spins during practice, his heat and even the final itself, E. D. Lettington was black flagged.

Another informal Trio meeting was over. It has now matured into one of the classics of the club racing calendar, catering as it does now for practically everyone. It is a pity, though, that there were not enough Monoposto Register cars for a separate race as before (one *is* too few), while the Racing Car Club could only muster one 500 c.c. car from their ranks. Also a pity, in the writer's opinion, was the lack of big, hairy cars—the largest-engined cars present were 1,650 c.c. Anglias!

RESULTS

750 Formula—Heat 1 (5 laps): 1, R. P. Westcott (Austin Special); 2, J. F. Bishop (Austin Special); 3, P. F. Godfrey (Austin Special). **Fastest lap:** Westcott and Bishop, 69.0 s., 64.70 m.p.h. **1172 Formula—Heat 1 (5 laps):** 1, R. E. Wheeler (Milmor Mk. 5); 2, M. R. Paris (U2 Mk. 3); 3. A. Baillie (Pegasus Mk. 3). **Fastest lap:** Wheeler, 63.2 s., 70.63 m.p.h. **Sports Cars up to 1,200 c.c. (10 laps):** 1, C. L. Lacey (Merlyn-Ford Mk. 4); 2, A. J. Youlten (D.R.W.-Ford); 3, Miss N. Goodwin (Lotus-Ford 7). **Fastest lap:** P. Deal (Merlyn-Ford Mk. 6), 60.2 s., 74.19 m.p.h. **750 Formula—Heat 2 (5 laps):** 1, D. H. Abbott (Jerboa); 2, C. J. Lyford (Squeg); 3, P. R. Smyth (Ellira Mk. 2). **Fastest lap:** Lyford, 70.2 s., 63.59 m.p.h. **1172 Formula—Heat 2 (5 laps):** 1, B. A. M. Small (Milmor Mk. 5); 2, A. M. R. Mallock (U2 Mk. 3); 3, I. Tollady (Aquila). **Fastest lap:** Small, 61.0 s., 73.18 m.p.h. **Lotus Sixes and Sevens (15 laps):** 1, M. J. Crabtree (Lotus-Climax 7); 2. R. S. Deverell (Lotus-Ford 7); 3, H. C. Balfour (Lotus-Ford 7). **Fastest lap:** Deverell, 59.2 s., 75.41 m.p.h **Saloon Cars (15 laps):** 1, R. D. Nathan (Lotus Elite); 2, C. Craft (Ford Anglia); 3, A. P. Chambers (Lotus Elite). **Fastest lap:** Nathan, 61.0 s., 73.18 m.p.h. **Formule Libre (15 laps):** 1, J. R. C. Mew (Lotus-Climax 20); 2, C. Crichton-Stuart (Lotus-Ford 22); 3, E. T. Ogilvie-Hardy (Project X-Ford). **Fastest lap:** Mew, 61.2 s., 72.94 m.p.h. **1172 Formula—Final (10 laps):** 1, A. M. R. Mallock (U2 Mk. 3); 2, I. Tollady (Aquila); 3, H. J. Milborrow (Milmor Mk. 3). **Fastest lap:** C. Garnham (Terrier Mk. 2) and Mallock, 61.0 s., 73.18 m.p.h. **750 Formula—Final (10 laps):** 1, R. P. Westcott (Austin Special); 2, J. F. Bishop (Austin Special); 3, C. J. Lyford (Squeg). **Fastest lap:** Westcott, 67.8 s., 65.84 m.p.h.



ENGINES FOR FORMULA 2

A Technical Article by TOM PRITCHARD

THE post-1963 International Formula 2 calls for cars weighing not less than 420 kilogrammes, with power units limited to 1,000 c.c. swept volume and four cylinders. The restriction on the number of cylinders, presumably aimed at limiting both cost and power output, has not met with universal acclaim, but no doubt British interests are well satisfied. In the current Formula Junior the British production car-based pushrod engines have become supreme, several being exported to racing-car manufacturers on the Continent, and in America and Australia. The development of the Ford 105E-based engines in particular, up to the 95 b.h.p./litre at 7,600 r.p.m. level—with remarkable reliability—is a creditable example of the capabilities of the handful of British engineers producing Formula Junior engines. Few men could have foreseen the high level of performance which their dogged persistence against the limitations of pushrod-operated valve gear, in-line valves, and a near-right-angled port bend, has achieved.

The Latin approach, less hampered perhaps by financial difficulties, has generally been biased towards the creative, numerous racing engine designs being the order, rather than the extensive development of simpler machines which, of necessity, has been the British approach. Perhaps this difference in temperament accounts for the relative lack of success of Italian Formula Junior engines, the engineers in question finding it difficult to take the pushrod engine seriously, and to foresee its possibilities. Our chassis have also been superior, however, and the apparent lack of performance from Italian Formula Junior engines, due to heavier and less efficient vehicles, must not be overlooked. By the same token, Britain's current indisputable lead in chassis design must, to some extent, have been born of the necessity to manage with less engine power from simpler designs in past Grand Prix seasons.

No doubt both Ferrari and Porsche would prefer to employ six-cylinder engines for Formula 2, and the imposition of a 250 c.c. cylinder size may be regarded by many as a serious limitation on potential power output. The performance of the new cars—bearing in mind that they will give away 100 c.c. and 20 kgs. to the current Formula Junior machines—would appear at first sight then to be firmly restricted. The extent to which four-cylinder 1-litre racing engines can be developed within the bounds of reliable operation thus becomes of particular interest.

In recent articles (AUTOSPORT, 14th December and 21st December, 1962), Jack Williams, the racing motor-cycle specialist, discussed engines having from one to eight cylinders. The individual cylinder capacities embraced varied from the 62.25 c.c. of the remarkable Honda 250 c.c. four-cylinder 16-valve engine, to the ten times larger swept volume of the 2½-litre Coventry Climax "four". As a corollary to the theory of "ceiling corrected mean piston speed for all racing engines", it was demonstrated that (for similar maximum stress), b.h.p./litre varies inversely as the swept volume of the cylinder, *e.g.*, Honda 168 b.h.p./litre, Coventry Climax (2½-litre four-cylinder), 96 b.h.p./litre. Against this indisputable information, one must set the very short time available for the design construction and development of engines for any new formula, and it is submitted that, in many cases, design policy has been to increase the number of mechanical elements in an engine, to permit higher crankshaft speeds without recourse to increased—and unexplored—levels of operating stress. Despite an apparently more complex engine, such an approach is calculated to show more freedom from mechanical failures in the development stages. Previous formulae having shown complete freedom as to engine design, it has not been necessary to employ all the most recent advances in materials, to secure mechanical reliability at ever-increasing specific power levels. Conservative stress values have been maintained by using smaller and smaller cylinders, with one or two exceptions which will be referred to in later paragraphs.

If it were unconditionally true that specific power increases with decreasing cylinder swept volume, one could expect engines built to the new Formula 2 to yield lower specific power outputs than current Grand Prix units having 187 c.c. cylinders. Furthermore, the gap could be expected to widen with the advent of 12-cylinder G.P. engines. In other words, it would appear at first sight that Formula 2 cars will have substantially less than two-thirds the power of their G.P. contemporaries. In this case, car performance little above that of the possibly 5 per cent lighter Formula Junior cars of 1963 can be expected, not that the "Juniors" are appreciably quicker than hitherto in this their final season.

The final outcome—in terms of developed racing machines—will, of course, depend entirely upon the interest shown by manufacturers and race promoters in the new formula, and thus the financial resources and resulting engineering effort brought to bear, but the writer believes that the restriction to four cylinders will not prove a barrier to previously unseen engine speeds and power outputs from 1,000 c.c.

From a physical rather than mechanical point of view, specific power output varies as crankshaft r.p.m. irrespective of cylinder size. Other factors being equal, the performance realized by Formula 2 engines will be dependent upon the highest crankshaft speed at which they operate reliably. Small cylinders are associated with higher power per litre only because they permit higher crankshaft speeds at established levels of operating stress. In assessing future possibilities, it is helpful to examine valid existing indications of progress as regards reliable functioning at above average stresses. These are evident in the 1959-60 Vanwall and B.R.M. 2½-litre "fours", and the current Ferrari 1½-litre 120-degree V6. 1½-litre four- and eight-cylinder engines of recent design have been operated at somewhat lower stress levels, and the, at first sight unexpected, failures exhibited appear to have been due to the use of reciprocating components employed or designed for simplicity rather than high safety factors.

As considerations of engine performance are so closely linked with those of maximum permissible stress, it is perhaps advisable, before examining the limiting effect of the four-cylinder formula, to establish clearly what is implied by the general term "stress" in this context. In a reciprocating internal combustion engine, the principal stresses are produced by the combustion pressure acting on the area of the piston, and by the inertia of the piston assembly as it is constrained to change direction at the ends of its stroke. The loads causing these stresses are, of course, transferred to the crankshaft via the piston structure, the small end and big end bearings, and the connecting rod between them. They are reacted by the crankcase structure, through the main bearings. There is also a centrifugal component due to the mass of the connecting rod, the main effect of which is to produce bending stresses in the rod itself. Particularly in racing engines, where it is usual to operate several hundred r.p.m. above peak power speed, the inertia stresses far exceed those set up by combustion pressure on the piston. Furthermore, the top dead centre condition, where the piston "bridge" and connecting rod and its bolts are in tension, is the most destructive one. Although the combustion load tends to neutralize the piston inertia, the former becomes insignificant for this purpose as peak power speed is approached, particularly because all the mechanically induced loads increase as r.p.m. squared. The latter statement is of paramount importance in the understanding of the basic limitations of the reciprocating engine as we know it. 9,000 r.p.m. to 9,500 is not just another 500 r.p.m. representing 5.5 per cent. higher stresses, but $9{,}500^2/9{,}000^2$ times the stress—a 10 per cent. increase in fact.

Because of the square-law crankshaft speed/inertia stress relationship, it is felt that, sound though it is, the Lanchester Theory of comparative stress can be misleading to the less academic student. Having previously been taken to task for producing unsound comparisons of stress in engines, the writer has considered this aspect most carefully. The Lanchester Theory provides what it sets out to do, a correct basis for comparison. The values produced, however (of mean piston speed divided by the square root of the stroke/bore ratio), do not bear a direct relationship to the actual ratio of stress between examples. For instance, from the comparative stress factors quoted by Mr. Williams for a variety of engines, one might be led to believe that a stress range represented by 3,860 to 4,110 units—the lowest value being some 94 per cent. of the highest—pertains. Such a narrow band, covering racing engine designs from many different sources, lends credence to some limiting or barrier effect at values little above

(*Continued on page* 15)

JOHN BOLSTER tests

The FORD ZODIAC Mark Three

AMONG racing drivers and those associated with the sport, the Ford Zodiac has for long been a popular car. It gives the easy stride of a big car while being just small enough not to be clumsy. It is fast, lively, and has lots of room inside, while it scarcely notices the weight of a trailer.

The latest Zodiac has a 2½-litre engine which has been developed from the previous power unit, and though it gives a useful 114 b.h.p. it is by no means highly tuned. A new twin exhaust system has been adopted, but a single downdraught carburetter is still employed.

Quite the most important feature is the adoption of a 4-speed all-synchromesh gearbox, and in the case of the test car this was allied with the optional overdrive for easy cruising and economy. The chassis design follows normal Ford practice, the well-known front suspension, in which telescopic dampers form extended king pins in effect, being again featured. A hypoid axle on semi-elliptic springs is also found, but disc front brakes and a vacuum servo have now been added to the standard specification.

The new body shape embraces a curiously bulging waist line, a concave grille, and four headlamps. The test car had the optional separate front seats with backs which can be adjusted right down to a sleeping position. This is a wide car, and the rear seat can accommodate three big people easily, though a little more knee room would not come amiss. The interior furnishing of the body gives a greater impression of quality than has previously been found in Ford cars. The boot can carry a vast quantity of luggage, and a large locker, built into the facia, drops downwards for easy access. An ingenious system of counterbalancing makes it light to close. The minor controls are well arranged, and the efficient heating system may be set for any desired temperature.

As one takes one's seat and drives away, the first impression is that the gearchange is absolute bliss. This impression persists throughout the longest journey, and though the lever is on the steering column, it is as smooth and sensitive in action as the best central change. It is so pleasant to be able to slip into first speed on the move without any fear of making a sound. On a typical cross-country journey this gearbox must appreciably increase the average speed of the Zodiac. The clutch complements the gearbox and, rather unexpectedly, the pedals are arranged for "heel and toe".

Although the steering seems rather "twirly" on sharp bends, it gives a good sense of control during most of a day's drive. I would rate this as a very easy car to drive fast, for one seems to get the knack of it almost at once. Corners may be taken in a spirited fashion, the handling inviting such rapid manoeuvres, though a fairly pronounced rear-end breakaway is the result of really overdoing it. The big Ford is by no means clumsy and handles like a smaller machine than it is, while the degree of roll is not excessive for a saloon. The Zodiac is a fast car, with a cruising speed close to its maximum, while the accurate steering and dependable roadholding make it easy and enjoyable to exploit these qualities.

Personally—and I emphasize that this is my personal opinion—I was disappointed with the ride. I feel that a car as large as this one should travel over varying surfaces with less up and down movement. I am aware that to obtain both roadholding and comfort at the same time is difficult with a rigid rear axle and I am glad that Fords have chosen to underline the former quality. Nevertheless, it should be possible to achieve a better compromise for a car that is, in all other respects, ideal for fast Continental journeys.

The new Zodiac is considerably faster than its predecessor, comfortably exceeding 100 m.p.h. as the mean of runs in both directions. Its best "one way" timed speed was at 105 m.p.h., and, incidentally, the speedometer was notably accurate. A cruising speed of 90 m.p.h. can be kept up with ease for hours, and the fuel consumption is quite reasonable at such high speeds. The high third gear is ideal for fast overtaking, and second gives rapid acceleration out of sharp corners.

The overdrive gives no real increase in performance, but it permits fast and economical cruising on the very high gear of 2.75 to 1. A kick-down to direct drive is provided on the accelerator. As freewheeling takes place on the lower gears when the overdrive is engaged, one normally locks it out of action except on the motorway, where it really comes into its own. The car is stable at high speeds, but it also responds at once to the steering when sudden avoiding action must be taken. There is considerable self-centring effect, which causes the wheel to spin back to the straight ahead position when released after a corner.

The brakes are very good indeed, coping easily with the weight of the big machine, which is not, however, quite so heavy as it looks. These brakes, added to the safe roadholding and the good visibility from a fairly high seating position, make the driver feel master of the situation and well able to take full advantage of the considerable performance. Many new owners will be surprised at the average speeds they can put up without apparent effort.

The Ford Zodiac Mark 3 is a big, impressive car which runs quietly at high cruising speeds. The excellent 4-speed gearbox has added greatly to the attraction of this latest model, as well as contributing to its safety by permitting more rapid overtaking. The attractively furnished interior gives the passengers a sense of well being, and one feels that Fords supply a lot of car, and plenty of performance, for less than £1,000.

SPECIFICATION AND PERFORMANCE DATA

Car Tested: Ford Zodiac Mark 3 saloon. Price £970 17*s.* 1*d.* Overdrive £51 7*s.* 1*d.* Reclining seats £55 11*s.* 8*d.* Radio £27 4*s.* All including P.T.

Engine: Six-cylinders 82.5 mm. × 79.5 mm. (2,553 c.c.). Pushrod-operated overhead valves. Compression ratio 8.3 to 1. 114 b.h.p. at 4,800 r.p.m. Zenith downdraught carburetter. Lucas coil and distributor.

Transmission: Single dry plate clutch. Four-speed all-synchromesh gearbox with steering column change, ratios 2.754 (O/D), 3.55, 5.01, 7.97 and 11.23 to 1. Open propeller shaft. Hypoid rear axle.

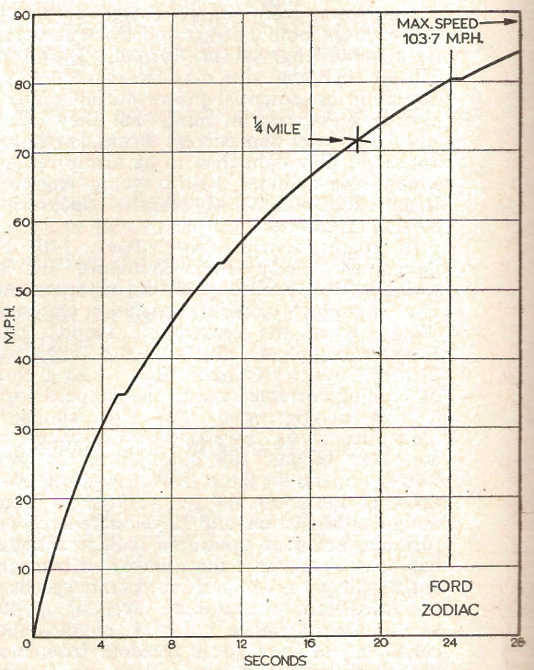
Chassis: Combined steel body and chassis. Independent front suspension by telescopic dampers forming extended king pins, helical springs, bottom wishbones, and anti-roll bar. Recirculating ball steering. Rear axle on rubber-interleaved semi-elliptic springs with lever-type dampers. Disc front and drum rear brakes with hydraulic operation and vacuum servo assistance. Bolt-on disc wheels fitted 6.40 × 13 ins. tubeless tyres.

Equipment: 12 volt lighting and starting. Speedometer. Fuel and temperature gauges. Clock. Heating and demisting. Two-speed windscreen wipers and washers. Flashing direction indicators. Radio.

Dimensions: Wheelbase 8 ft. 11 ins. Track (front) 4 ft. 5 ins. (rear) 4 ft. 5½ ins. Overall length 15 ft. 1⅛ in. Width 5 ft. 9 ins. Turning circle 36 ft. Weight 1 ton 5 cwt. 1 qr.

Performance: Maximum speed 103.7 m.p.h. Speeds in gears: 3rd 80.2 m.p.h.; 2nd 54 m.p.h.; 1st 35 m.p.h. Standing quarter-mile 18.5 s. Acceleration: 0-30 m.p.h. 3.9 s. 0-50 m.p.h. 9.5 s. 0-60 m.p.h. 12.8 s. 0-80 m.p.h. 24.0 s.

Fuel Consumption: 28 m.p.g.



ACCELERATION GRAPH

Engines for Formula 2—*continued*

4,000 ft./min. (mean corrected piston speed). In actual fact, the spread is in the order of 13 per cent. rather than the 6 per cent. indicated by unintentionally invalid consideration of the Lanchester values—that is in terms representing stress in lbs./sq. in.

For the foregoing reasons, the writer has used factors directly representative of unit stresses in the table of comparison accompanying this discussion. Maximum piston acceleration is quoted in view of its apparent importance, *per se*, as a factor limiting satisfactory ring operation, and it can be shown that the aforementioned inertia stresses are proportional to piston acceleration multiplied by the cylinder bore diameter. The stress in any section (due to the inertia of the reciprocating parts) is proportional to the product of piston acceleration and the appropriate inertia mass, divided by the area of the section. The weights of the components will vary (if they are of like proportions), as the cylinder bore diameter cubed. The area of any cross-section, similarly, will vary as the bore squared.

$$\text{Hence,} \quad f \propto \underset{\text{Max.}}{A} \times \frac{B^3}{B^2} = \underset{\text{Max.}}{A} \times B$$

$$\text{but} \quad \underset{\text{Max.}}{A} \propto S \times n^2$$

$$\therefore \quad f \propto B \times S \times n^2$$

where A = piston acceleration.
B = cylinder bore diameter.
S = piston stroke.
n = engine speed (crankshaft r.p.m.).
f = stress.

Previous comparisons by the writer, involving the product of piston acceleration and the cylinder bore diameter *squared*, do not therefore give an accurate stress picture, the change of cross-sectional and bearing areas with piston area not having been taken fully into account.

From examination of the table comparing engine data and in particular stress and piston acceleration values, it can be seen that a range of inertia stress from .60 to 1.14 units obtains—the 2½-litre Climax "four" being adopted as a datum engine with a stress factor of unity. Piston acceleration varies from the 63,000 ft./sec.² of the 1,100 c.c. Ford-based Formula Junior engine to the unprecedented 132,000 ft./sec.² of the 1963 Ferrari V6 of similar cylinder volume.

Looking at current G.P. engines, it is interesting to note that Coventry Climax having now adopted virtually the same bore and stroke as B.R.M.; and operating at 10,000 r.p.m. against the 9,000 r.p.m. ceiling of the 1962 engines, have not increased piston acceleration at all but, due to the increased piston size, have raised the inertia stress by 12 per cent. Obviously the 1963 Climax engine must be on a par with the B.R.M. unit as regards reliability at a given crankshaft speed—if equally effective piston designs and ring equipment are employed. Ultimately both of these engines should be capable of functioning at the stress levels which the Vanwall and Ferrari designs have shown to be usable. The inertia stress of the former would be equalled at approximately 11,400 r.p.m. and the Ferrari piston acceleration value would be realized at approximately 10,700 r.p.m. on the V8s. Let it be firmly emphasized however, that there is no merit in operating at high stresses any more than there is in a power curve peaking at a higher than necessary crankshaft speed. The reverse is the case in both instances, but the data table does show that the engine speeds currently in use on G.P. engines can be employed for Formula 2 units without recourse to hitherto prohibitive levels of operating stress.

Consideration of the current V6 Ferrari engine shows an obvious example of Formula 2 possibilities, and indeed it seems ironical that Signor Ferrari should decry the four-cylinder stipulation when a four-cylinder engine employing most of the components of his well-tried G.P. unit could so easily be produced. Using the reciprocating components of the latter, and a four-cylinder crankshaft of the same stroke, the stresses would of course be identical, as would be the specific power output. This exercise then, could produce, say, a flat-4 1-litre engine capable of a reliable 10,000 r.p.m. at which speed some 125 b.h.p. could be expected.

Even 10,000 r.p.m. need not be the limiting power peak speed for the obligatory 250 c.c. cylinders. If, for instance, an engine having the proportions of the Ford 105E unit is considered—and the recently introduced Holbay-Tomaso flat-4 falls right into this category—the datum plus 14 per cent inertia stress occurs at 10,700 r.p.m. and 132,000 ft./sec.² piston acceleration is realized at approximately 11,000 r.p.m.

The limitations on engine speed of both valve inertia and crankshaft torsional vibrations, have been ignored up to this point. These factors are unimportant only in that their effects can be reduced to acceptable proportions by using less conventional mechanical layouts. In the case of valve gear, both desmodromic operation and the use of 3 or 4 valves per cylinder have been shown to be feasible, the latter being the most promising approach where cost is in any way limited. Referring again to the 2½-litre B.R.M. power unit, here a 2¼ in. diameter intake valve was run at 7,500 r.p.m.—an undesirable state of affairs, but an indication that a 1.5 in. diameter valve, adequate for the Formula 2 cylinder size, *could* be made to operate up to 13,700 r.p.m. At 11,000 r.p.m. the valve inertia force would be reduced to 65 per cent of that encountered at 13,700 r.p.m., and in the face of this there would appear to be little cause for any mechanical complication.

When crankshaft speeds are reached at which torsional vibrations assume unacceptable proportions, the time will have come to take the drive off between the inner pair of cylinders, as is common practice in four-cylinder racing motorcycle engines. Judging by the fact that there has not yet been any need to drive the camshafts of modern racing engines from the flywheel end of the crankshaft—to lessen the effects of the front end's torsional oscillation upon valve timing—it would seem that the central drive take off is as yet unnecessary.

Perhaps a more immediate snag arises from the use of the rather extreme stroke/bore ratios which permit high safe operating speeds. Whilst providing for generous valve sizes, a large cylinder bore with respect to stroke makes the provision of a satisfactory combustion chamber shape together with a high geometrical compression ratio a difficult task. Broadly, the problem is usually tackled by maintaining the open end of the combustion chamber at an area appreciably smaller than that of the piston, and making the latter of stepped configuration; a flat-topped piston in fact with a small dome about its centre. If the combustion chamber is in the form of a part-sphere "undersize" relative to the piston diameter—as on the Lotus Cortina cylinder head—any advantage in valve size made possible by a large cylinder bore is nullified. In the Holbay-Tomaso engine, advantage of the large bore has been taken to employ very large valves, and a reasonable combustion chamber depth has been achieved by "squashing" the conventional part-spherical shape about a line through the valve axes. The combustion chamber thus appears part-spherical through the valve axial section but in fact forms a narrow slot or trough across the valve stems. In the latter view only the central third of the piston top is domed.

Two sparking plugs are provided in each combustion chamber, which may well be an indication that combustion is less easy than in the symmetrical layout. There is no good reason why dual ignition should not be employed, but whether or not it is found necessary to retain this feature, there would seem to be little doubt that considerable development effort will be required fully to exploit the large valve sizes possible, without incurring either throttling around part of the valve head, or less effective combustion of the charge. Because of these combustion space problems, it is possible that the engines employing conservative valve sizes and conventional combustion chambers will show an initial lead in performance. Their potential power will, however, be limited by their restricted air handling capability at high speeds. It is unlikely that inferior combustion will prove anything but a temporary disadvantage on the very short stroke engines designed to make use of their advantage in valve head accommodation.

So much for the purely theoretical aspects of Formula 2 engines. A question now arises as to what we are likely to see "in the metal" during the first season. Apart from the afore-

(*Continued on page* 28)

ENGINE DETAILS AND REPRESENTATIVE UNIT STRESS LEVELS

Make	*Swept Volume Litres*	*Cylinders*	*Bore and Stroke mm.*	*R.P.M. (Peak power)*	*Piston Accn. max.*	*Stress Level V/S datum*
Coventry Climax ...	2.5	4	95 x 90	6,800	94,000	Datum
B.R.M.	2.5	4	102.8 x 74.95	7,500	94 500	+ 9.0%
Vanwall	2.5	4	96 x 86	7,400	105,500	+ 14.0%
Ferrari 1961	1.5	V6	72 x 58.8	9,500	119 000	— 4.0%
Ferrari 1963	1.5	V6	72 x 58 8	10,000	132,000	+ 7.0%
Coventry Climax 1962	1.5	V8	63 x 60	9,000	112,000	— 23.0%
Coventry Climax 1963	1.5	V8	67.8 x 51.6	10,000	111,200	— 11.0%
B.R.M.	1.5	V8	68.4 x 50.8	10,500	125,900	— 3.0%
Ford-based F.J. ...	1.1	4	85 x 48.4	7,600	62.700	— 40.0%
Ford-based F.2* ...	1.0	4	81 x 48.4	9,000	88,300	— 20.0%
Ford-based F.2 ...	1.0	4	81 x 48.4	10,100	110,800	= Datum
Ford-based F.2 ...	1.0	4	81 x 48.4	10,700	124 800	+ 14.0%

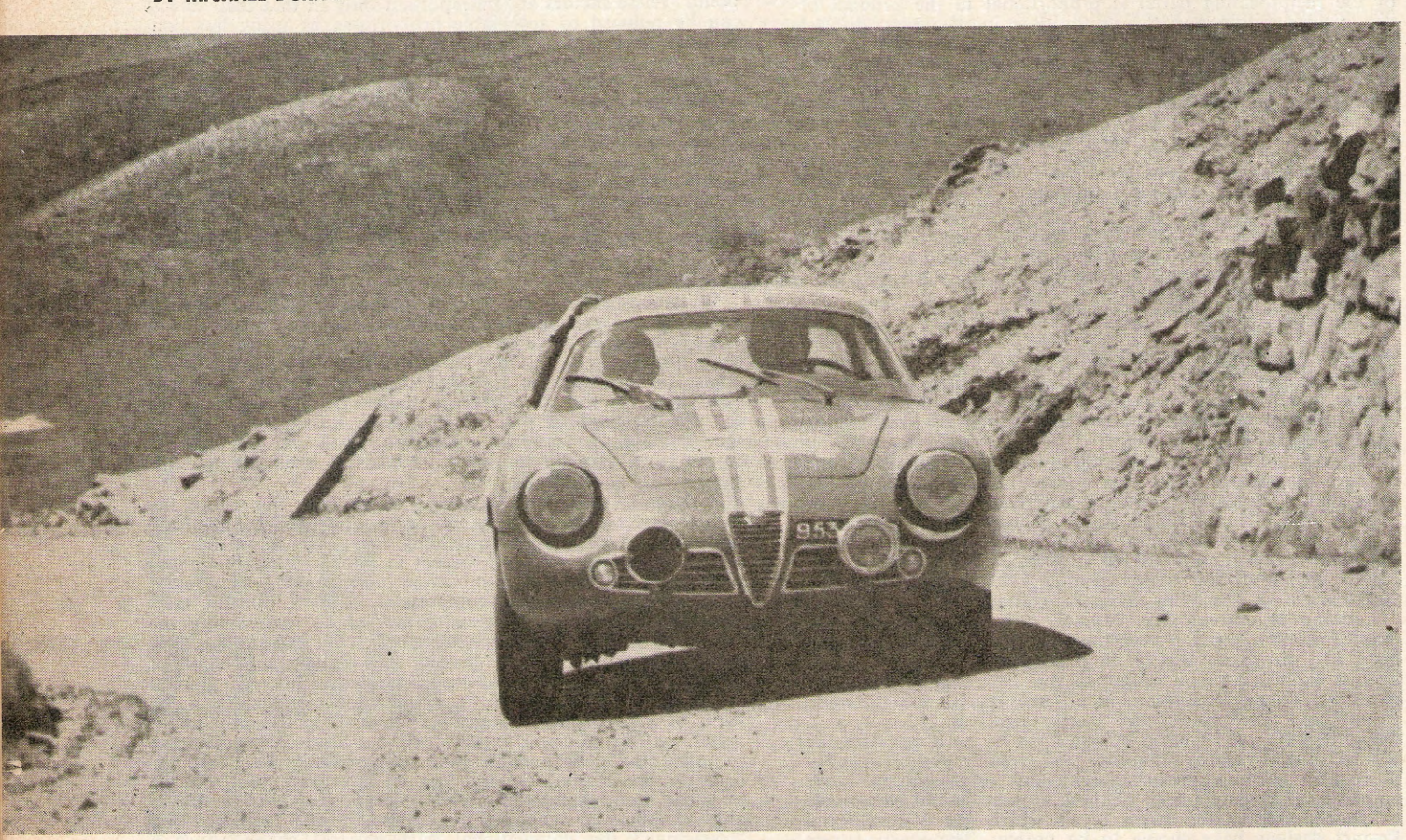
*Hypothetical Formula 2 engine based on "Junior" bottom-end assembly—shown at various operating speeds. These values also apply to Holbay-Tomaso flat-4.

A GRUELLING ALPINE RALLY

Four out of Six Coupes for British Cars : Outright Victory and G.T. Class to Rolland/Augias (Alfa Romeo) : Touring Class to Aaltonen/Ambrose (Mini-Cooper "S") Silver Coupe for Rene Trautmann (Citroen)

BY MICHAEL DURNIN

PHOTOGRAPHY BY JACQUELINE AND MICHAEL DURNIN



WINNING CAR, the Alfa Romeo GSZ of Jean Rolland/Gabriel Augias, on the Col d'Allos. This Conrero-tuned French-crewed Italian car was the only Grand Touring car to complete the 3,700 km. route without penalty—a wonderful achievement in such a tough rally.

ALTHOUGH the high retirement rate of the first two stages of the Alpine Rally was not maintained during the third and last stage there can be no doubt whatsoever that it was an extremely tough event. Great credit is therefore due to Jean Rolland and Gabriel Augias who won the event outright and whose Conrero-tuned Alfa Romeo GSZ was the only Grand Touring car to complete the 3,700 km. route (which traversed 70 cols in the process) without penalty. In all, six crews finished without penalty to win coupes and it is a tribute to the British motor industry that four of these crews were in British cars. The six were: Rauno Aaltonen/Tony Ambrose (Mini-Cooper "S"); Henry Taylor/Brian Melia (Ford Cortina GT); David Seigle-Morris/Barry Hercock (Cortina GT); René Trautmann/Andre Cherel (Citroën DS19); Pauline Mayman/Valerie Domleo (who also won the Coupe des Dames) (Mini-Cooper "S") and Jean Rolland/Gabriel Augias (Alfa Romeo GSZ). René Trautmann is to be congratulated on winning a silver coupe for having completed three Alpines without penalty, but the Morley twins, winners in 1961 and 1962, had cruel luck, having to retire late in the event when it seemed that a coupe d'or for completing three consecutive events without penalty was within their grasp.

THE first two étapes, from the start at Marseille to Briancon and from Briancon to Chamonix, had proved to be very severe and reduced the field to a mere 34 runners. There were many grim prognostications as to the effect which the difficulties to come would have on these survivors. None of the leading cars could afford to ease up on the forthcoming 100 km. test over 17 laps of the circuit of the Autodrome of Monza and (as the weather forecast prophesied that the rain which had fallen as the weary crews arrived at Chamonix for their Sunday of rest would give way to very hot sunshine) more retirements were expected in Italy.

As the rally left Chamonix at 5.30 a.m. on the Monday the positions were: Rolland/Augias (Alfa Romeo), 0 route penalties and 16.776 épreuve penalties, had a slender lead in the Grand Touring category from the Morleys (Austin-Healey), 0 route penalties, 16.800, who were followed by 3, Laurent/Hanrioud (Renault 1093), 0, 18.924; 4, Delalande/Campuzan (Alfa Romeo), 60, 17.488; 5, Sprinzel/Cave (Morris-Cooper), 60, 18.089; 6, Sir Peter Moon/Culcheth (Austin-Cooper), 360; 7, Delliere/Cyr (Alfa Romeo), 360; 8, Parkes/Cooper (Reliant Sabre), 900; 9, Clark/Aston (Reliant Sabre), 2,500. Still firmly in the lead in the touring category were Aaltonen/Ambrose in the fantastically fast Cooper" S", 0 route penalties, 17.274 épreuve penalties, ahead of Taylor/Melia (Ford Cortina GT), 0 and 17.726, and the almost identical brothers Henri and Jacques Greder (Ford Falcon Sprint), 0 and 17.957, and 4, Seigle-Morris/Hercock (Ford Cortina), 0, 18.000; 5, Riley/Nash (Ford Cortina), 0, 18.074; 6, Trautmann/Cherel (Citroën DS19), 0, 18.135; 7, Verrier/Jourdain (Citroën DS19), 0, 18.973; 8, Wadsworth/ Cooke (Morris-Cooper), 0, 18.985; 9, Fisher/ Harper (Austin-Cooper), 0, 19.073; 10, Mayman/Domleo (Morris-Cooper), 0, 20.969.

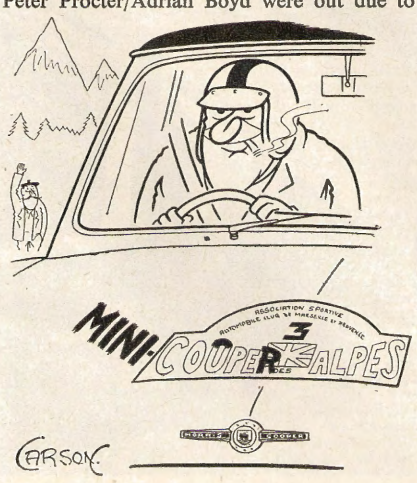
Among those who failed to finish the first two stages which finished at Chamonix were some of the cream of the works' entries. A brief roll-call of these unfortunates shows that the entire Mercedes-Benz team had been eliminated—Böhringer/Kaiser with engine trouble just after the Sainte Beaume; Glemser/Wencher as a result of a collision with a non-competing car on the Quatre Chemins section (luckily without injury) and Ewy Rosqvist/Ursula Wirth with electrical failure shortly before Chamonix. The three TR4 team cars were out of it—Mike Sutcliffe/Roy Fidler as a result of a crash in a village on the side of Mount Ventoux; Thuner/Gretener with no clutch and, most unfortunately of all, Vic Elford/David Stone who had been driving their TR faster than one has ever been driven before until they slid off the road on gravel and bent the suspension when trying to pass the Morleys (going slowly on a punctured tyre) who they had caught on a *selectif*. The

WINNERS of the Coupe des Dames and a coveted coupe. Pauline Mayman/Val Domleo (Mini-Cooper) drove splendidly and richly deserved their honours. They are seen on the Col d'Allos (top, left).

TRIUMPH TR4 of Vic Elford/David Stone on the Col d'Allos (left). Unfortunately none of the TR4s finished the course, the Austin-Healey 3000s also falling by the wayside.

ALSO ON the Col d'Allos is the Alfa Romeo of Dellière/Cyr, which finished fourth in the G.T. category (below).

Morleys' Healey was the sole survivor of the marque, the other three works cars having retired: Hopkirk/Scott and Morrison/Finlay having gone off the road early in the first étape and the Makinen/Wood car having broken a hub while lying well up near the end of the second étape. When leading the rally, Robert Buchet crashed his Porsche on the Col de la Colle de St. Michel. Two of the Rapiers, those of Peter Harper/Ian Hall and Peter Procter/Adrian Boyd were out due to crashes as was the Cortina GT of Anne Hall/Margaret Mackenzie, which had been shunted no fewer than three separate times and Jimmy Ray/Peter Roberts's Sabre had been retired after the rear suspension had suffered damage on a wall.



All this carnage among works cars meant that only two teams were left in the hunt for the important Manufacturers' Team Prize: the Cooper-Minis of Rauno Aaltonen/Tony Ambrose; John Sprinzel/Willie Cave; Pauline Mayman/Valerie Domleo and Terry Hunter/Henry Liddon versus the Ford Cortina GTs of David Seigle-Morris/Barry Hercock; Henry Taylor/Brian Melia and Peter Riley/Tony Nash—and this last car was off colour as the result of a fan-pulley breaking up and puncturing the radiator near Chamonix, causing the car to overheat before it could be repaired.

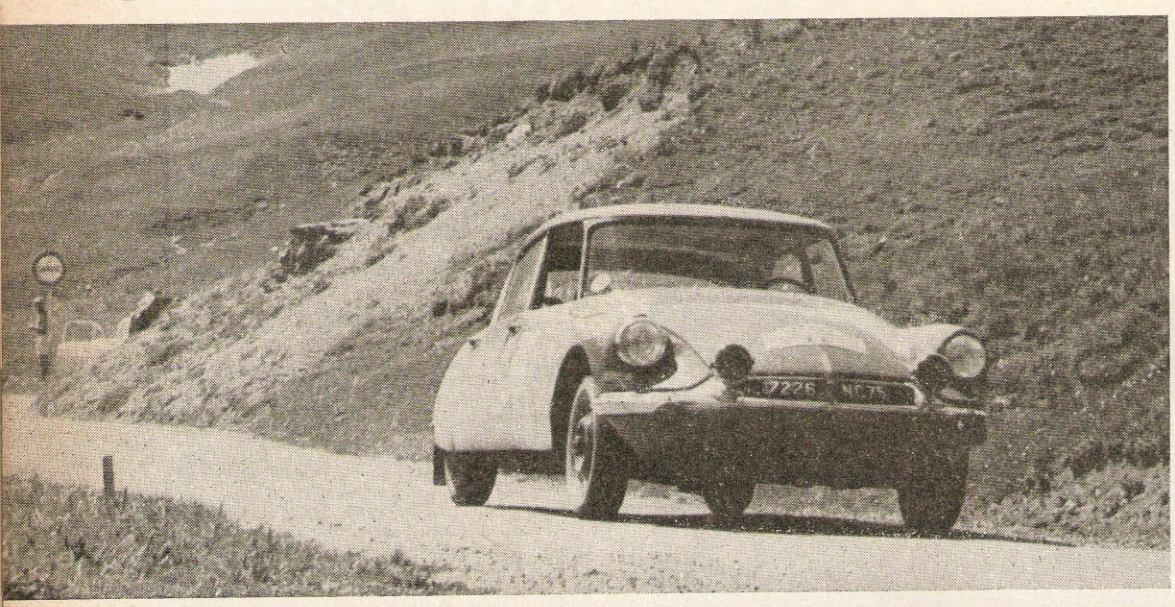
Less than an hour from the control came the Col de la Forclaz where heavy rain fell and the descent on the Swiss side was further complicated by thick fog and where a deviation routed competitors onto the old road, the loose pitted surface of which was treacherous with mud. Engine troubles here caused the retirement of the Peter Riley/Tony Nash Cortina GT (perhaps due to earlier overheating) which had been clean on the road and which had been lying fifth in the touring category. This ruined Ford's chances in the manufacturers' team prize and meant that the Cooper-Minis had it sewn up if only they could finish.

The fog had made the Col du Grand Saint-Bernard something to be dreaded by those still cherishing clean sheets but in the event the weather proved to be fine and sunny and the run to the end of the selectif at Aosta caused little worry and was, comparatively, as simple as the remainder of the ten-hour run from Chamonix to Monza Autodrome.

It was hot as the G.T. cars left the start for their race on the famous track and the Morleys were obviously out to reduce the lead of the Rolland/Augias Alfa. The big Healey was well in the lead at the end of the first lap and went on gaining until it lapped the Alfa at the end of the 100 km., 17 lap épreuve. On the second lap the Renault 1093 of Laurent/Hanrioud (which had been lying third in the G.T. category) blew up and retired, letting the Campuzan/Delalande Alfa GSZ move up a place for the time being, although extensive damage to its bodywork was obviously going to penalize it heavily later to the advantage of the John Sprinzel/Willie Cave and Sir Peter Moon/Brian Culcheth Coopers which were occupying the two next places.

There were two races for the touring category, the bigger cars being run off first and then, after a considerable delay, the smaller touring cars—a delay which, when the smaller cars failed to reach later controls on schedule, caused much speculation and many rumours of shunts and retirements to circulate. This last race saw the retirement of Eric Carlsson's Saab (which had already collected road penalties due to a navigational error) when a piston broke and Schaeffer's B.M.W. which threw a rod.

After Monza the Col St. Giovanni and the Col de Mont Genevre were the first of a series of 12 during the hours of darkness which brought the rally back to the Quatre Chemins loop, which had to be gone over twice as it had been during the first étape. This time there were two épreuves in rain and wishy fog over the Col d'Allos, which drastically changed the leadership. Yards after the start, the back axle of the Morleys' Healey broke

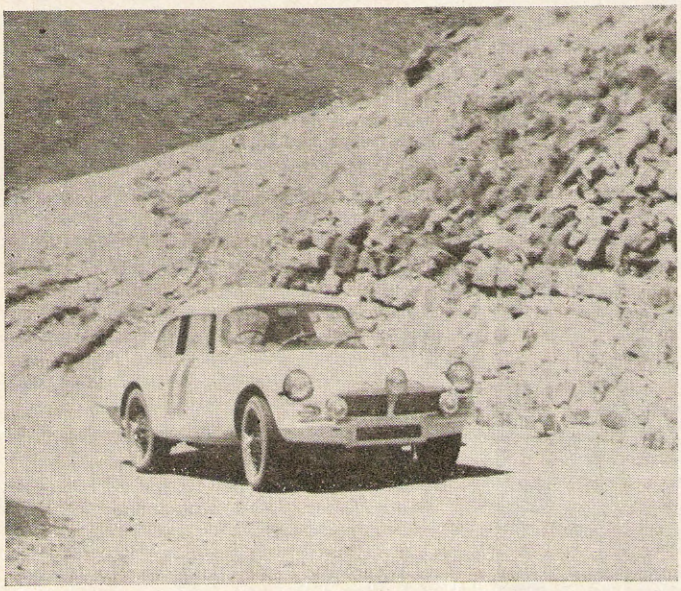


STRIKING SHOT of Verrier's Citroen DS19 on the Col d'Allos (left). Verrier, together with Jourdain, were sixth in the Touring category, first in their class, and only missed gaining a Coupe by 60 penalty points.

EXCELLENT PERFORMANCE was that of the Reliant Sabres in the G.T. category, two of the three cars finishing the course. The one that didn't—that of Jimmy Ray/Peter Roberts—is seen on the Luittel (below, left).

NOT THIS RALLY. Little Saab of big Eric Carlsson and his co-driver Gunnar Palm is seen on a typical Alpine road (below, right).

DESCENDING the Col de Luittel is the Alfa Romeo of J. Ripoteau / J. M. Ellien (bottom). They did not finish the gruelling event.



and, despite heroic efforts by the B.M.C. mechanics who made repairs in 1 hr. and 7 mins their rally was over and their brilliant run for a "gold" was unfortunately over. With the G.T. category virtually in their pockets, Rolland and Augias drove their Alfa steadily but swiftly and with no other thought than to finish. Things were not so gentle in the touring category and on the two runs Henry Taylor and Rauno Aaltonen both had a go, Taylor being quickest on the first with 16 mins. 47 secs., to Aaltonen's 16 mins. 52 secs. and on the second run the Mini-Cooper recording best time at 16 mins. 23 secs. to the Ford's 17 mins. 4 secs. The second Allos also dropped the Ford Falcon "out of the money" when the Greders lost 20 minutes regaining the road after an excursion into the scenery.

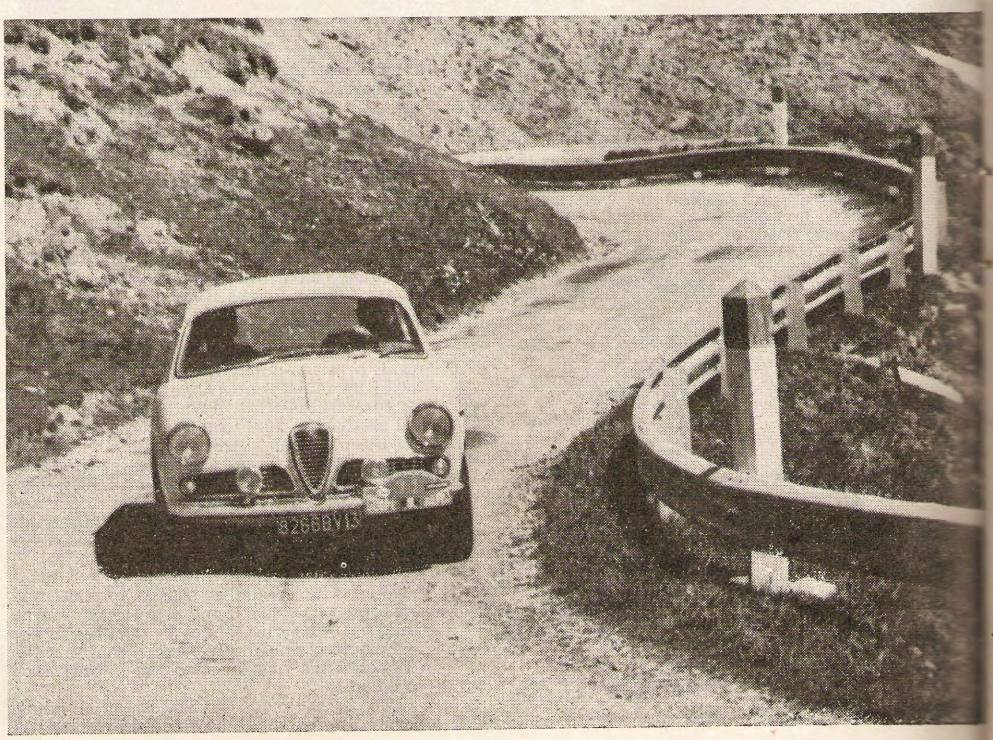
First Time

1, Taylor, 16 m. 47.3 s.; 2, Aaltonen, 16 m. 52.2 s.; 3, Rolland, 16 m. 55.0 s.; 4, Seigle-Morris, 17 m. 15.4 s.; 5, Trautmann, 17 m. 17.2 s.; 6, Lewis, 17 m. 53.0 s.; 7, Delalande, 17 m. 48.0 s.; 8, Verrier, 17 m. 48.0 s.

Second Time

1, Aaltonen, 16 m. 23.2 s.; 2, Rolland, 16 m. 44.3 s.; 3, Taylor, 17 m. 4.3 s.; 4, Seigle-Morris, 17 m. 19.0 s.; 5, Lewis, 17 m. 21.2 s.; 6, Trautmann, 17 m. 26.0 s.; 7, Greder, 17 m. 39.0 s.; 8, Nicholas, 17 m. 45.0 s.

After the last *épreuve* it seemed to be all over, but even now there were surprises to come. With but four hours to the finish and after about 3,500 trouble-free kilometres the steering of the John Sprinzel/Willie Cave Cooper-Mini broke on a sharply climbing right-hander, causing them to crash and write



SHOWING SIGNS of an earlier contact with something solid is the Alfa Romeo of Campuzan/Delalande, seen here on the Col d'Allos (left).

Cooper); 1,001-1,300 c.c.: R. Aaltonen/Ambrose (Mini-Cooper S); 1,301-1,600 c.c.: H. Taylor/Melia (Ford Cortina); 1,601-2,000 c.c.: R. Trautmann/Ogier (Citroën); 2,001-3,000 c.c.: no finishers; Over 3,000 c.c.: H. Greder/J. Greder (Falcon Futura).

Team Prize: B.M.C. Coopers: Aaltonen, Mayman, T. Hunter, also won a Coupe des Manufacturer.

FORD SERVICE

FORD Rally Service on the Alpine reached a new peak of efficiency, the service crews, under the direction of Bill Barnett and Jack Welch, being in attendance at over 50 different points. At one stage they removed a radiator and a crankshaft pulley in the record time of seven minutes. It was particularly noticeable that the Ford boys in their few free moments also found time to help private entrants of other marques who were in difficulties.

TRAUTMANN AGAIN

AFTER winning his Silver Coupe for winning three non-consecutive Coupes des Alpes, René Trautmann celebrated by winning the touring class in last weekend's Rallye Mont Blanc in a Citroën DS19. Overall and G.T. class winner was Maublanc/Dreyfus (Porsche). *See below.*

PROUD WINNERS of a coupe were David Seigle-Morris/Barry Hercock, who drove their Ford Cortina into fourth place overall (above). They were also second in their class behind the sister car of Henry Taylor/Brian Melia.

★

REALLY TRYING—note the front tyre!—is the Cooper-Mini of Neil Harvey/David Jones on the Col de Blaine (left).

★

FORD CORTINA of Peter Riley/Tony Nash seen in the early stages of the Alpine Rally (below). The car eventually retired with engine troubles, possibly caused from overheating experienced earlier when a fan-pulley broke up and punctured the radiator near Chamonix.

off their car while running in second place in the G.T. category. Equally unfortunate were Mlles. Mahieuw/Martino, whose B.M.W. succumbed to mechanical troubles on this last road section when lying second to the Mayman/Domleo Mini in the Coupe des Dames.

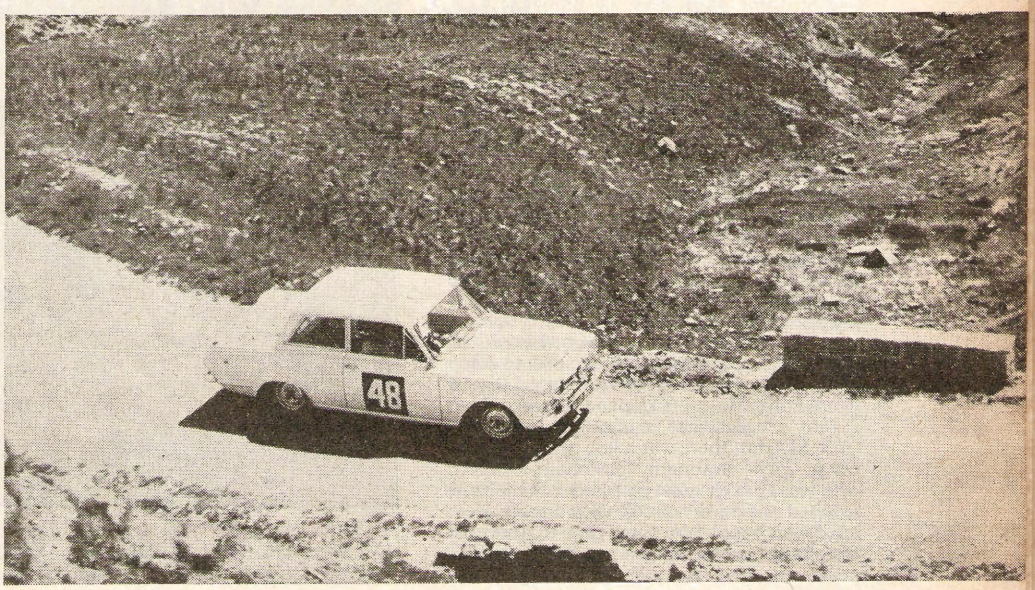
From Aix-en-Provence the road led to Marseilles and at last it was all over; an extremely tough event which had provided surprise after surprise. To use an unavoidable but significant cliché, to finish this gruelling event was an achievement in itself—but to finish penalty free was magnificent.

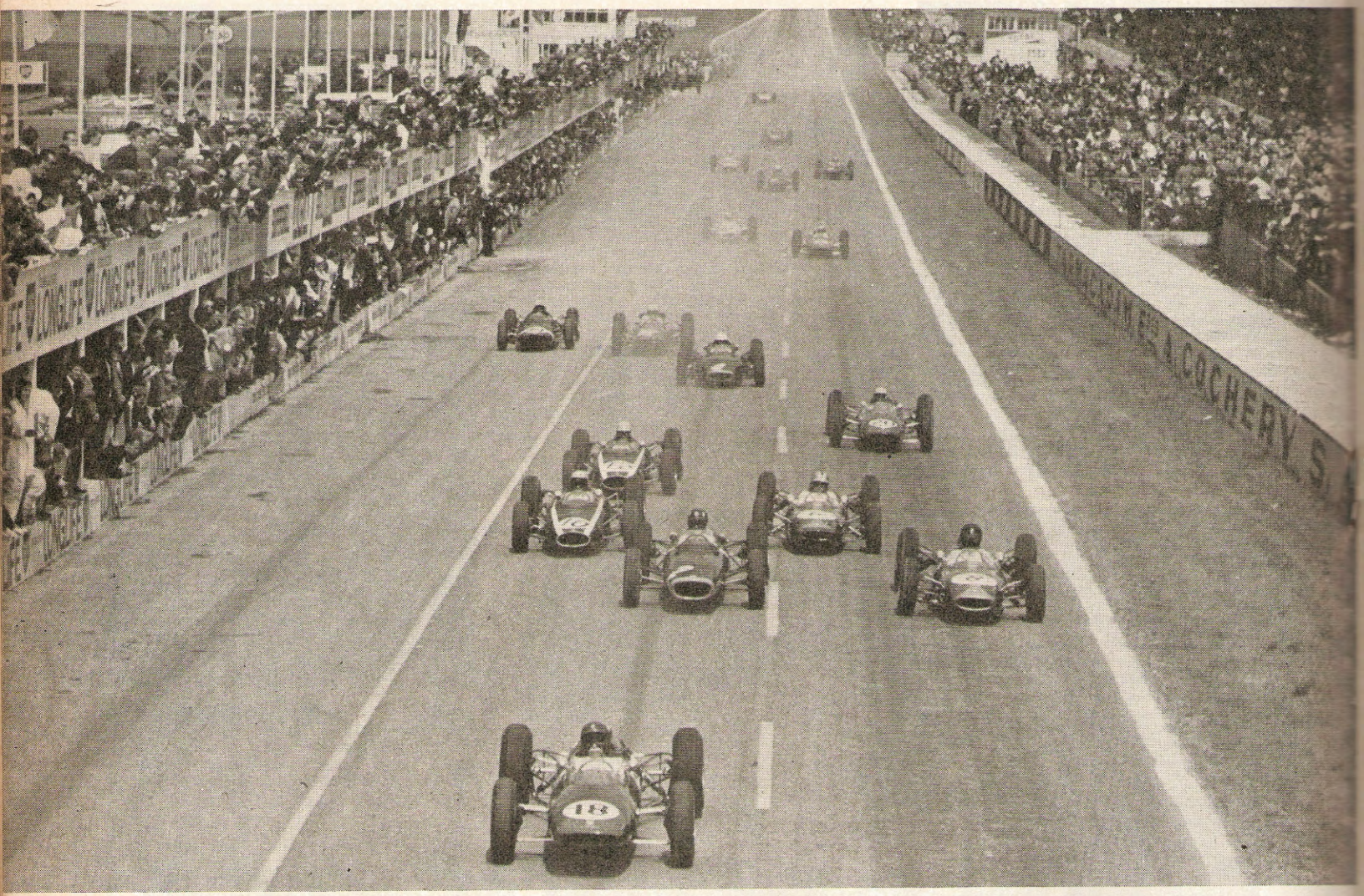
Although in many ways the organization was chaotic the event itself was superb—a true classic.

RESULTS

General Classification: 1, Aaltonen/Ambrose (Mini-Cooper S); 2, Rolland/Augais (Alfa Romeo GSZ); 3, Taylor/Melia (Ford Cortina); 4, Seigle-Morris/Hercock (Ford Cortina); 5, Trautmann/Ogier (Citroën); 6, Mrs. Mayman/Miss Domleo (Mini-Cooper), all the above won Coupe des Alpes. Silver Coupe (3 non consec. Coupes) won by Trautmann (1960-62-63).

Classes. G.T.: Up to 1,000 c.c.: Sir Peter Moon/B. Culcheth (Mini-Cooper); **1,001-1,300 c.c.:** Rolland/Augais (Alfa Romeo); **1,301-1,600 c.c.:** no finishers; **1,601-2,500 c.c.:** no finishers; **Over 2,500 c.c.:** G. H. F. Parkes/G. Cooper (Reliant Sabre 6). **Touring. Up to 700 c.c.:** no finishers; **701-850 c.c.:** Nicholas/Cauquil (Renault 1093); **851-1,000 c.c.:** Mrs. P. Mayman/Miss Domleo (Mini-





THREE ON THE TROT FOR JIM

Clark Wins French Grand Prix with Lotus-Climax—Second Place to Tony Maggs (Cooper-Climax)—Jack Brabham in Drama with Penalized Graham Hill (B.R.M.) —Remarkable Performance by Dick Protheroe (Jaguar E) in Sports Car Race— Hulme's Brabham Wins Formula Junior Race

BY GREGOR GRANT **PHOTOGRAPHY BY GEORGE PHILLIPS**

To lead, and win a French Grand Prix from start to finish has rarely been achieved, but this is exactly what Jim Clark (Lotus-Climax) did in last Sunday's Grand Prix de l'A.C.F. at Rheims—his third *grande épreuve* victory in succession. Clark was in irresistible form, but, as he admitted afterwards, it was touch and go whether or not he could keep going. A chronic misfire developed, which, on several occasions dropped the engine revs. so much, that he seriously thought of stopping at his pits to investigate. However, he decided to keep going, and went on to win by 1 min. 4.9 secs. from Tony Maggs (Cooper-Climax).

Into third place came Graham Hill (B.R.M.), but there was a last-minute drama when Jack Brabham (Brabham-Climax), who was Clark's most consistent challenger, stopped out on the circuit with a loose H.T. lead, which took him some time to discover. Brabham did not know that Hill had been penalized one minute for being push-started, but even so, he just failed to snatch third place by 1.2 sec. Had he known, it is possible that the extremely rapid Brabham could have retrieved several seconds during the closing laps from the new monocoque B.R.M.

HAPPY VICTOR, Jimmy Clark after his third successive Grande Epreuve *win and a 13 point lead in the World Championship*

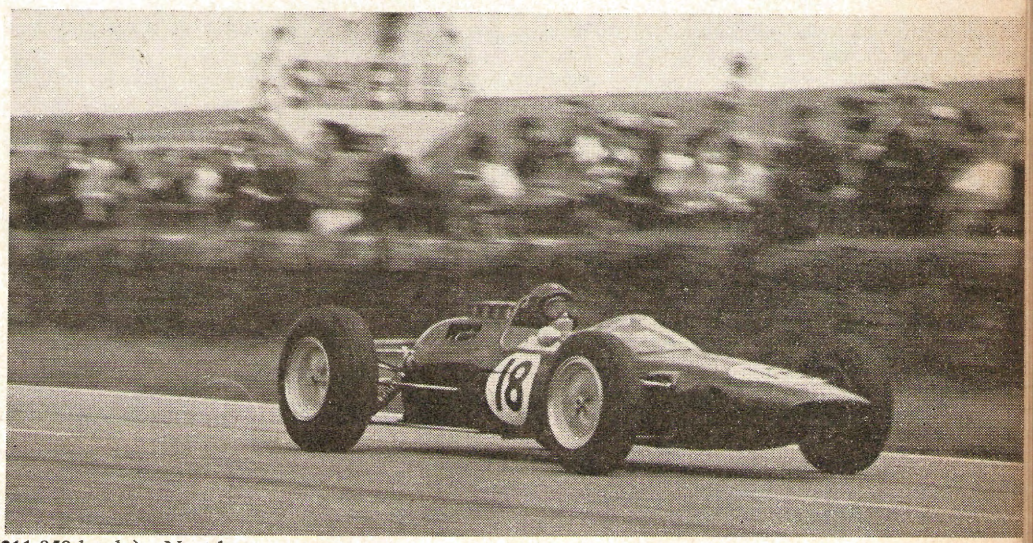
It appears that Hill should have been black-flagged and disqualified for receiving a push-start, but supplementary regulations issued by the organizers, permitted the imposition of a penalty. Nevertheless, according to the A.C.I. rules, Hill should not qualify for World Championship points, so, if this is so, Brabham, Gurney, Siffert and Amon all move up a place.

Bruce McLaren (Cooper-Climax) was also out of luck, when he abandoned near Muizon, 11 laps from the finish, with transistor failure. Another early challenger, John Surtees (Ferrari), retired after 12 laps with petrol pump trouble.

Also penalized one minute for an assisted start were Phil Hill (Lotus-B.R.M.), and

THE START (opposite page). Jimmy Clark (Lotus-Climax) has already taken the lead, a lead which he never lost. He is followed by Graham Hill (monocoque B.R.M.), Dan Gurney (Brabham-Climax), Bruce McLaren (Cooper-Climax), Jack Brabham (Brabham-Climax), Tony Maggs (Cooper-Climax) and Trevor Taylor (Lotus-Climax).

A RELAXED Jimmy Clark hurtles down the main straight (right). Not even engine trouble could stop the Flying Scotsman from winning at Rheims.



Masten Gregory (Lotus-B.R.M.). Of the 19 starters, 11 were classified as finishers, and Jim Clark was credited with a new 1,500 c.c. lap record in 2 mins. 21.6 secs., 211.061 k.p.h. (131.147 m.p.h.).

Although Carlo Abate (3-litre Ferrari prototype) won the Sports and G.T. prototype race, chief honours went to Dick Protheroe in his E-type Jaguar, who averaged 197.399 k.p.h. to take second place overall, and defeat all the GTO Ferraris. The 2-litre class was won by Paul Hawkins (Ian Walker Lotus-Ford 23) at 197.399 k.p.h., and José Rosinski (Alpine) took the smallest category at 169.519 k.p.h. Mike Parkes (4-litre Ferrari) set up a new lap record of 2 mins. 22.5 secs. (209.728 k.p.h.), after being delayed for many laps with clutch trouble.

Denis Hulme, in the works Brabham-Ford, easily won the Formula Junior event at 182.258 k.p.h., with Peter Arundell (Lotus-Ford) in second place, after a tremendous battle with the Lolas of Attwood and Hobbs, and the Lotuses of Fenning and Spence.

It is a reflection on modern racing car and tyre design, that the Dunlop R6s on Jim Clark's Lotus, have now completed four Grands Prix! Not so long ago, four sets could have been used in one G.P.

* * *

AFTER their troubles at Zandvoort, A.T.S. decided that one week between Grands Prix was not sufficient to get their cars ready for Rheims, so both were withdrawn. Phil Hill was offered, and accepted, a drive in the Lotus-B.R.M. of Scuderia Filipinetti. For Wednesday's first training session, 10 Formula 1 cars were produced, and Jim Clark (Lotus-Climax) broke the official 1½-litre record with 2 mins. 21 secs. (211.959 k.p.h.). Next best was team-mate Trevor Taylor with 2 mins. 23.7 secs. B.R.M. ran into trouble with failure of the cylinder liner-retaining rings, and the new monocoque only did a few slowish laps.

The Formula Junior record also took a beating when Denis Hulme (Brabham-Ford) returned 2 mins. 35.6 secs. (192.134 k.p.h.). Hulme bust the 1962 figures no fewer than four times, and Clark did it seven times, so the former won 200 bottles of champagne, and Jim, 350 bottles.

Thursday's practice was attempted under frightful weather conditions, with the paddock area a veritable quagmire. Normally Rheims weather is ideal, but it is rather odd that a permanent circuit should have no hard standings whatsoever, leading to complete and utter chaos should the rains come—as they did!

By the time cars emerged from the paddock, they looked as if they had been in a sporting trial. Mechanics squelched after their charges, pushing and shoving to get them on to the circuit. During the worst of the rainstorms, Mike Parkes in the rear-engined Ferrari prototype, 4-litre, achieved the astonishing time of 2 mins. 31.2 secs., faster than any of the Grand Prix cars, as Surtees's best in the monoplace Ferrari was 2 mins. 33.3 secs.—and he headed the F1 brigade. It was, however, a bad day for Maranello, as Scarfiotti wrote his car off when he lost it coming out of the "Fangio Bend" past the pits, and demolished three telegraph poles. Fortunately, the young Italian escaped with bruises and the loss of a few teeth, but this brought Ferrari representation down to one car for the Grand Prix. Jo Bonnier (Cooper-Climax) had a terrible moment, when he came over the brow of a hill at over 140 m.p.h, and found Graham Hill's B.R.M. stationary in the middle of the road. As Jo remarked, "I couldn't have hit it, for I didn't feel anything!" Anyway, it goes down as one of the classical avoidances.

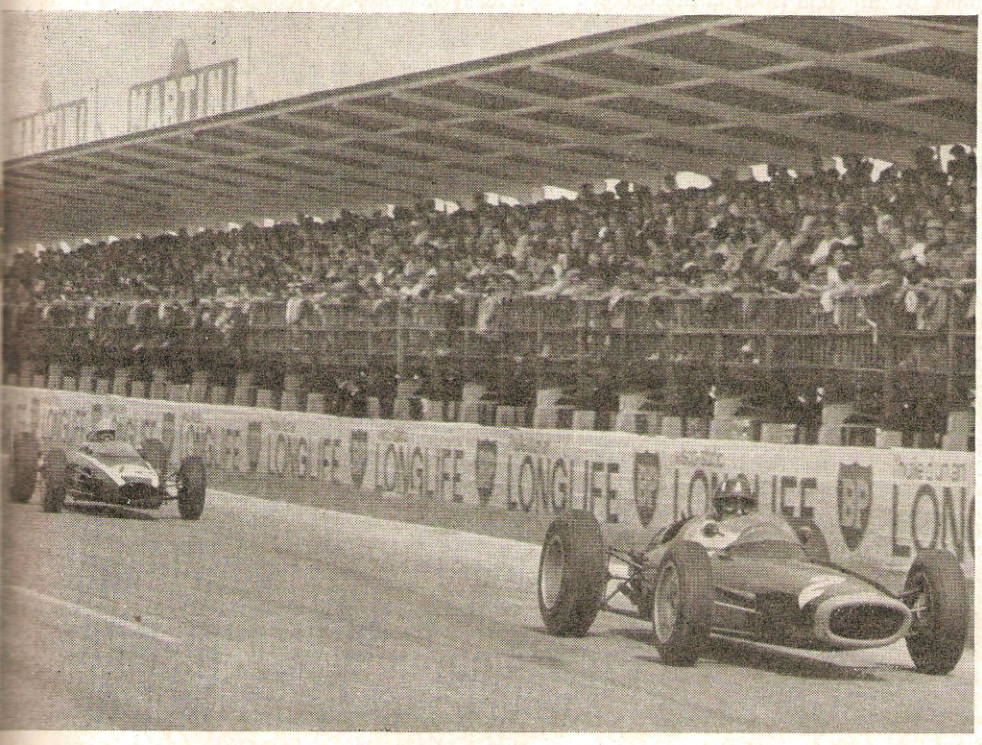
Apart from Parkes's incredible show, the training produced little else other than even more rain, and trouble in the car parks when people tried to extricate their bogged-down motor-cars.

Although it was drier for Friday's final session, the paddock was still something like a quagmire. Centro-Sud's B.R.M. (now painted green) was difficult to start, but owing to the mud, it was impossible to find more than a few yards of towable space. Whilst Bandini looked on, the car was tugged amongst the bogged-down transporters and vehicles, and it was only 10 minutes or so from the end of the training that the Italian managed to put in his necessary qualifying laps.

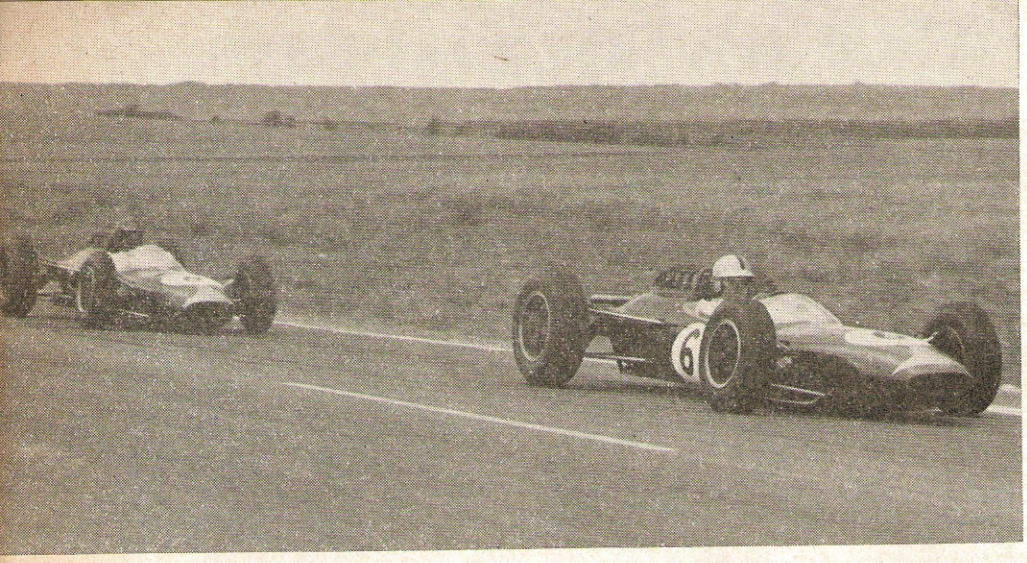
Parkes was simply meteoric in the 4-litre Ferrari, registering the fantastic time of 2 mins. 20.2 secs. (213.869 k.p.h.). This was to stand as best time until it was equalled later by Jim Clark in his G.P. car. Spirits rose in the B.R.M. camp when Graham Hill took the monocoque round in 2 mins. 20.9 secs. Third fastest was Dan Gurney (Brabham-Climax) with 2 mins. 21.7 secs., whilst Surtees improved to 2 mins. 21.9 secs., which was equalled by Jack Brabham (Brabham-Climax), after fuel-pump trouble was traced.

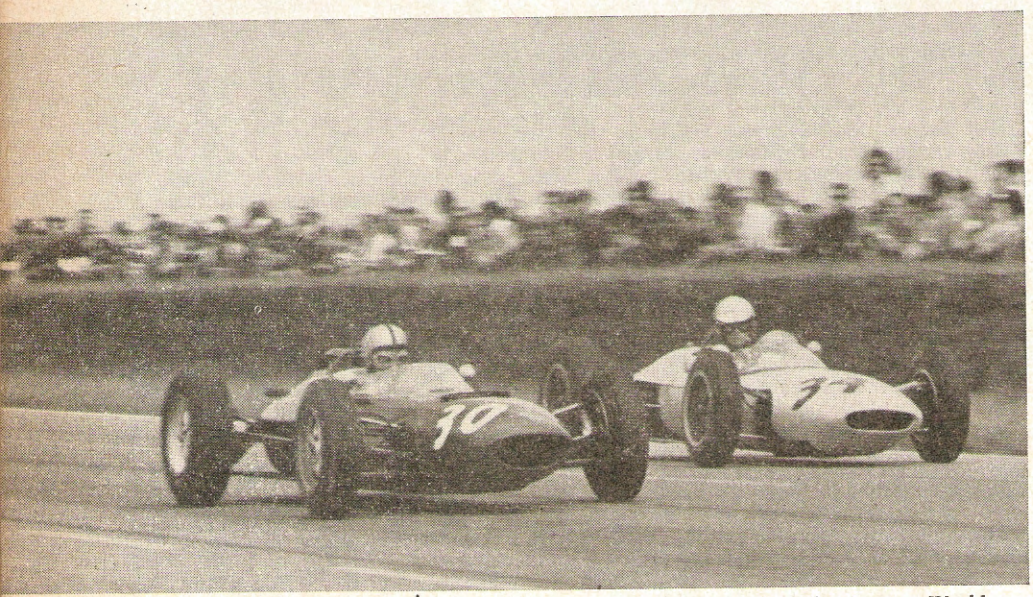
Frank Gardner (Brabham-Ford) took the honours in Formula Junior with 2 mins. 25.2 secs. (192.442 k.p.h.), followed by Jo Schlesser in the Ford France Lotus with 2 mins. 36.4 secs., and then a gentleman referred to in the hand-outs as Richard Attowogod (Lola), with 2 mins. 36.9 secs.

During the G.P. training, Jim Hall tried to tow Innes Ireland back to the pits, using the former's shirt as a tow-rope; it didn't work, and Ireland lost his shirt!



GRIM LOOKING Graham Hill in the new monocoque B.R.M. leads Tony Maggs (Cooper-Climax) past the new stands at Thillois. Hill seemed to slow towards the end of the race.





JACK BRABHAM'S EQUIPE well to the fore (top). The former World Champion leads team-mate Dan Gurney, who now lies second to Jim Clark in the World Championship, the two eventually finishing fourth and fifth. IN THEIR FIRST SEASON of European racing are Chris Amon (Lola-Climax) and Jim Hall (Lotus-B.R.M.), who finished seventh and eleventh respectively (above).

STARTING GRID

8 Gurney (Brabham-Cl.) 2 m. 21.7 secs.	2 G. Hill (B.R.M.) 2 m. 20.9 s.	18 Clark (Lotus-Cl.) 2 m. 20.2 s.
6 Brabham (Brabham-Cl.) 2 m. 21.9 s.	16 Surtees (Ferrari) 2 m. 21.9 s.	
12 Maggs (Cooper-Cl.) 2 m. 24.4 s.	20 Taylor (Lotus-Cl.) 2 m. 23.7 s.	10 McLaren (Cooper-Cl.) 2 m. 22.5 s.
36 Siffert (Lotus-B.R.M.) 2 m. 25.2 s.	32 Ireland (B.R.P.-B.R.M.) 2 m. 25.1 s.	
42 P. Hill (Lotus-B.R.M.) 2 m. 27.7 s.	4 Ginther (B.R.M.) 2 m. 25.9 s.	44 Bonnier (Cooper-Cl.) 2 m. 25.7 s.
30 Amon (Lola-Cl.) 2 m. 30.5 s.	28 Trintignant (Lotus-Cl.) 2 m. 28.3 s.	
38 Settember (Scirocco-B.R.M.) 2 m. 36.7 s.	48 Gregory (Lotus-B.R.M.) 2 m. 33.2 s.	34 Hall (Lotus-B.R.M.) 2 m. 30.9 s.
46 Bandini (B.R.M.) 2 m. 37.8 s.		

The 49th Grand Prix de l'A.C.F. started after the sports-G.T. prototype race which is described elsewhere. Rheims's usual pageantry was well to the fore, with scouts carrying the colours of the competing nations. However, none were as eye-catching as the brilliant orange overalls of the B.R.M. equipe, which reminded one of the marker dye used for air-sea rescue work.

Nineteen cars made up the grid, which was as shown in the third column.

About a minute before the start of the Grand Prix, Graham Hill stalled the engine of the monocoque B.R.M., and Toto Roche signalled for the car to be push-started. Mechanics quickly rolled the car forward, the engine fired, and Hill was speedily popped back on the grid, just in time for the flag to fall. For some curious reason, this was a red flag!

The front row moved off as one, but Jim Clark pushed the nose of his Lotus in front as they reached the end of the pits, and as the field roared under the Dunlop Bridge, Clark had pulled out from Gurney, Hill and McLaren. Left behind were Phil Hill and Masten Gregory in their Lotus-B.R.Ms., and once again, in apparent defiance of F.I.A. regulations, both were push-started.

It was apparent that Jim Clark was determined to stay in front, and as the cars screamed down the fantastically quick Soissons straight, the green Lotus-Climax had opened up several yards on its pursuers. Out of Thillois came Clark, chased by a jumble of cars, and as he streaked down past the pits, the jumble was seen to comprise Gurney, Hill, Brabham, Surtees, Ginther and McLaren, sort them out as you will!

Lap 2, and Clark had further increased the distance between the Lotus and its pursuers, and over the timing strip, some 5 secs. elapsed before Gurney, Ginther, Brabham, Hill, Surtees and McLaren rocketed past. Ginther took Gurney for second place, and Clark's lead was still the same at the end of lap 3. Both Clark and Ginther broke Hill's 1962 lap record with 2 mins. 21.9 secs. (210.615 k.p.h). Now it seemed that the little Californian was closing up rapidly on Clark, and they appeared to be very close together as they swooped down to Thillois, and braked hard for the notorious hairpin. Alas for B.R.M. hopes, down the home straight came Clark, followed by Surtees, Gurney, Brabham, McLaren, Hill and Maggs in that order, and the unfortunate Ginther drove straight into the pits with an ominous trail of water behind. One quick look under the bonnet by Tony Rudd was enough, a stone had gone clean through the radiator grill!

Now Surtees relinquished his second place to the much faster Brabhams of Dan and Jack, whilst McLaren now had Trevor Taylor's Lotus in his mirrors, and Graham Hill also had a good view of the nose of Maggs's Cooper. Clark had pulled his lead out to 8 secs. on lap 6, whilst Brabham had replaced Gurney in second place, with Surtees trying hard to split the two Brabhams; Taylor had moved up ahead of McLaren, and Innes Ireland (B.R.P.-B.R.M.) had come closer to Hill and Maggs. Settember's Scirocco-B.R.M. had stopped near Muizon, and the American set out to walk back to the pits. Phil Hill glided in with a dead engine and mechanics set to work to get him back into the race.

On the seventh tour, Surtees wrested second place from Brabham and came past the tribunes 10 secs. behind Clark, with Taylor and McLaren slipstreaming Jack Brabham. Hill and Maggs went through, and Gurney went straight to the pits where mechanics refitted a broken gear-lever in record time; this put Dan back down the field to 16th place, a lap behind Clark. Jim really was travelling and took his lead over Surtees and Co. to 13½ secs., just as Jo Bonnier (Cooper-Climax) made the first of many pit stops.

With 10 laps on the scoreboard, the race order was:—

1. Clark (Lotus-C.), 23 m. 51.8 s., 208.732 k.p.h.
2. Surtees (Ferrari), 24 m. 06.8 s.
3. Brabham (Brabham-C.), 24 m. 07 s.
4. Taylor (Lotus-C.), 24 m. 07.4 s.
5. McLaren (Cooper-C.), 24 m. 07.6 s.; 6, G. Hill (B.R.M.); 7, Maggs (Cooper-C.); 8, Ireland (B.R.P.-B.R.M.); 9, Siffert (Lotus-B.R.M.); 10, Trintignant (Lotus-C.); 11, Amon (Lola-C.); 12, Hall (Lotus-B.R.M.); 13, Bandini (B.R.M.); 14, Gregory (Lotus-B.R.M.); 15, Gurney (Brabham-C); 16, P. Hill (Lotus-B.R.M.); 17, Bonnier (Cooper-C.).

Clark increased his lead to 17 secs., but it was Brabham who came past in second place, followed by Taylor and McLaren; into the pits went Surtees, with petrol pump bothers, losing over a lap before he restarted, stopped again and was seen no more. Thus the only non-British car left was out of the race.

Jim Clark built his lead up to 19 secs. on the 13th lap, with Brabham, Taylor and McLaren strung out behind. Maggs was slipstreaming Graham Hill's monocoque, whilst behind Ireland and Siffert, a monumental dice had developed featuring Amon, Trintignant and Bandini. Hall stopped for attention to his Lotus-B.R.M., just as Gregory was doubled by the leader.

Yet all was not well in the Lotus camp, for Clark's engine began to splutter and Taylor's car was smoking around the gearbox. Sure enough, Jim's lead started to dwindle, and by 16½ laps was down to

12 secs. Immediately the motor began to pick up again, but for lap after lap Brabham held him down to around 12 secs. At 20 laps it was still 12 secs., the race average was 208.506 k.p.h., and Clark had doubled the struggling Amon-Trintignant-Bandini trio.

Rain began to fall, but not sufficient to reduce speeds. Dan Gurney, travelling at a great rate of knots, had closed up on Amon and Co., and on the 21st lap overtook the trio to take ninth place and come up with his team-mate Jack, still holding on tenaciously to second place.

Clark's engine was playing up and his lead over Brabham would sometimes drop, and then increase again—all very puzzling! Innes Ireland dropped back with the tail-enders following a pit stop with gearbox troubles, and Trevor Taylor began to close rapidly on Brabham. Phil Hill made yet another stop; Bandini assumed leadership over the two Lolas, and Gurney closed on Siffert, who was putting up a splendid show. For one lap (the 26th) Taylor held second place, but Brabham was soon back in his position, some 12 secs. behind Clark's Lotus. Graham Hill was threatening McLaren, but could not shake off Tony Maggs.

At 30 laps, Siffert was doubled by Clark, and Hill edged in front of McLaren. The order of the half-dozen who had completed 30 tours was:—

1. Clark, 1 h. 11 m. 45.8 s., 208.228 k.p.h.
2. Brabham, 1 h. 12 m. 00.2 s.
3. Taylor, 1 h. 12 m. 01.2 s.; 4, G. Hill; 5, McLaren; 6, Maggs.

Clark's lead still fluctuated, but the nearest Brabham could get was 14 secs. on the 35th tour. Two laps earlier, Trevor Taylor stopped for attention, and re-started in 10th position. Gurney moved into sixth place when he shot past Siffert. Heavy rain fell, and with it Clark's lead over Brabham began to stretch out to over 25 secs. Trintignant had made a brief stop, and then Chris Amon was left on his own when Bandini's fine run came to an end on lap 37. Jim Clark's engine commenced faltering again, and Brabham gained over 6 secs. on one lap. It was then that we heard, for the first time, that Graham Hill had been penalized one minute, and that he was therefore well behind both McLaren and Maggs. Race order at 40 laps for the leaders was:—

1. Clark, 1 h. 36 m. 43.1 s., 206.002 k.p.h.
2. Brabham, 1 h. 37 m. 2.3 s.
3. G. Hill, 1 h. 37 m. 40.9 s. (plus 60 s. penalty).
4. Maggs, 1 h. 37 m. 53.8 s.

News then came through that Jack Brabham had stopped at Muizon and had removed his seat to examine the fuel-injection pump. It seemed to be O.K., and when it appeared that he would never get mobile again, he spotted that an H.T. lead had come adrift. This delay dropped Clark's hottest rival to 6th place, behind Gurney and a whole lap in arrears. Next, we learned that Taylor had abandoned with a stripped crown wheel and pinion, and was walking back to the pits from Thillois.

More was to come, for on his 42nd lap, Bruce McLaren coasted to a standstill on the road down to Muizon. Desperately he pressed the starter, and the engine fired. Off he went, but the car travelled a few yards, and the motor cut out completely—the transistor unit had apparently given up the ghost.

Jim Clark, his engine giving ominous splutters, still kept going and even pulling away from Graham Hill, who was about one minute behind, and two with the added penalty. Brabham, unaware of Hill's one minute deduction, hared on, and eventually passed Gurney, and then Clark, to keep on the same lap. Gurney also moved up over the leader, so the first five were now all on the same tour.

It was an anxious time for Lotus, as Jim's engine sounded very peculiar at times, although he still splashed on through the rain, with a big lead over his nearest rival on the road, Tony Maggs.

The latter, driving a superb and calculated race, took Hill on the penultimate lap, and B.R.M. displayed signs to their Champion, showing that Brabham was catching up at a tremendous pace. One lap to go, and 80 secs. separated them, which meant that Jack was actually 20 secs. behind, and Hill was travelling comparatively slowly.

Out came Roche with his flag, and, as usual, dropped it as Clark was half-way down the pits line. Over a minute passed, and then came the gallant Maggs, followed 10 secs. later by Graham Hill. The clocks ticked away, and then Brabham came hurtling down from Thillois in a cloud of spray, and crossed the line just 61.3 secs. behind the B.R.M. Brabham had just failed, by 1.3 secs., to pinch third place. Fifth man was Gurney, and then came Siffert, Amon and Trintignant in that order—both of Parnell's cars having finished.

Crowds hustled round a jubilant Clark, and an unfortunate gendarme was carried off having apparently suffered an epileptic fit. Afterwards, Colin Chapman brought Jim Clark up to the Tribune de la Presse, where he was interviewed by journalists.

Jack Brabham was most disappointed, both at losing an almost certain second place (and even possible victory through that loose lead) and by not being informed that Hill had been penalized one minute.

Jim Clark's victory, of course, puts him well in the lead for the Championship, with a total of 27 points, and gives Lotus-Climax a strong position in the constructors' contest.

RESULTS

(53 laps=439.992 kiloms.)

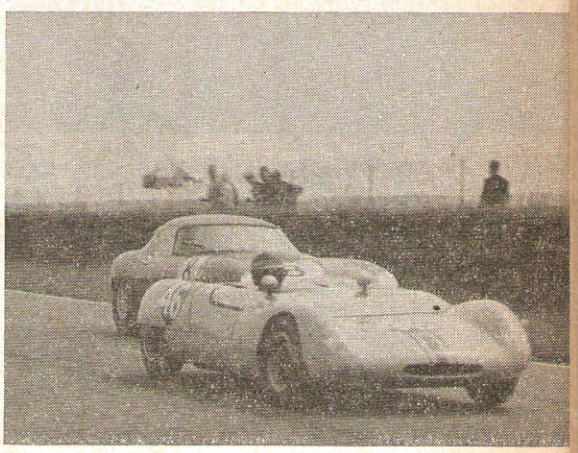
1. **Jim Clark (Lotus-Climax), 2 h. 10 m. 54.30 s., 201.669 k.p.h. (125.3 m.p.h.).**
2. **Tony Maggs (Cooper-Climax), 2 h. 11 m. 59.2 s.**
3. **Graham Hill (B.R.M.), 2 h. 12 m. 08.2 s. (plus 60 s. penalty).**
4. **Jack Brabham (Brabham-Climax), 2 h. 13 m. 09.5 s.**
5. **Dan Gurney (Brabham-Climax), 2 h. 13 m. 27.7 s.**
6. **Joseph Siffert (Lotus-B.R.M.), 52 laps.**
7. **Chris Amon (Lola-Climax), 51.**
8. **Maurice Trintignant (Lotus-Climax), 50.**
9. **Innes Ireland (B.R.P.-B.R.M.), 49.**
10. **Lorenzo Bandini (B.R.M.), 45.**
11. **Jim Hall (Lotus-B.R.M.), 45.**
12. **Bruce McLaren (Cooper-Climax), 42*.**
13. **Trevor Taylor (Lotus-Climax), 41*.**

*Abandoned, but classified.

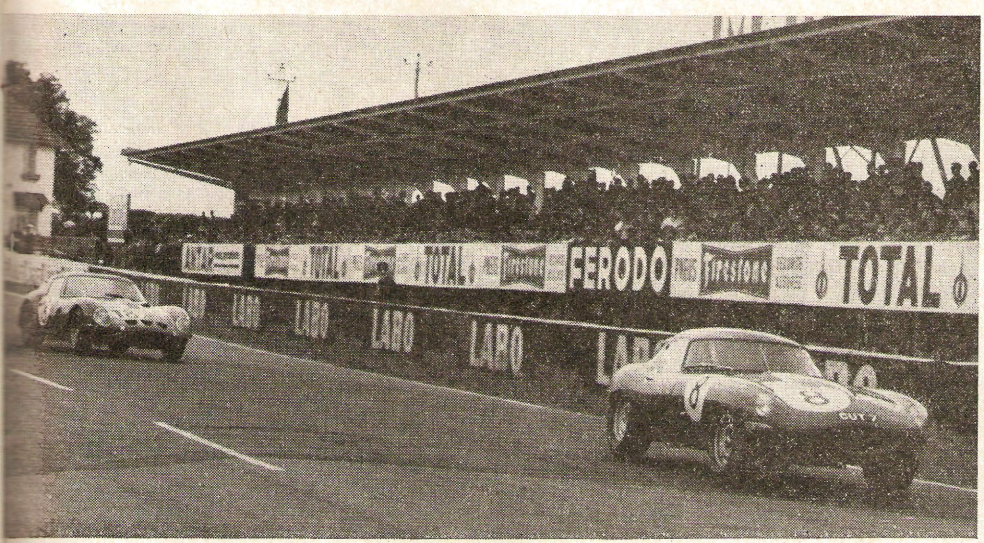
Fastest lap: Clark (lap 12), 2 m. 21.6 s., 211.061 k.p.h. (131.147 m.p.h.), 1,500 c.c. record.

Retirements

Settember (Sicrocco-B.R.M.), Transmission.
Ginther (B.R.M.), Holed radiator.
Surtees (Ferrari), Petrol pump.
Bonnier (Cooper-Climax), Gearbox.
Gregory (Lotus-B.R.M.), Transmission.
P. Hill (Lotus-B.R.M.), Clutch.



DAVID AND GOLIATH. Paul Hawkins (Lotus 23B) in front of Dick Protheroe's E-type in the sports-prototype event (above). DICK PROTHEROE in his latest E-type scored a magnificent second place (below, left). He is seen leading the best GTO Ferrari, that of Lucien Bianchi, out of Garenne.



WORLD CHAMPIONSHIP OF DRIVERS

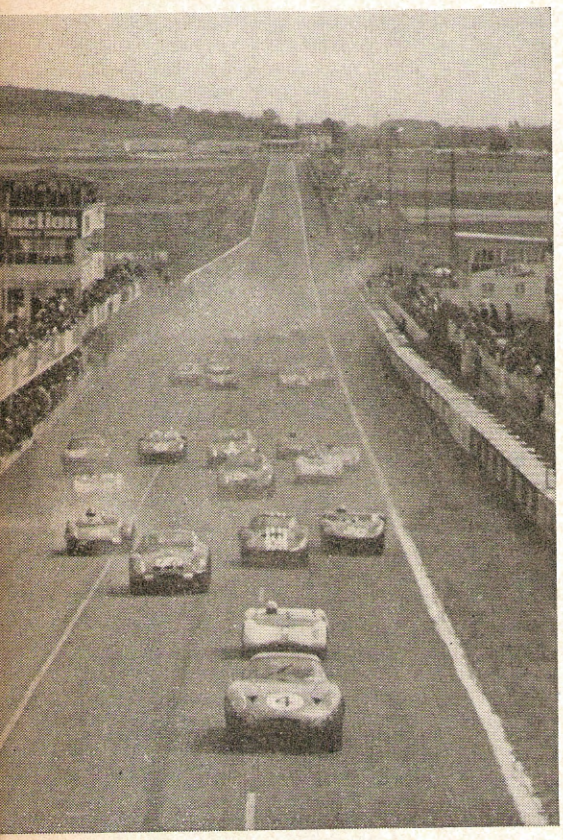
Provisional, showing no score for G. Hill at Rheims.

1.	Jim Clark	27 pts.
2.	Dan Gurney	13
3.	Richie Ginther	11
4.	Bruce McLaren	10
5.	Graham Hill	9
6.	Tony Maggs	8
7.	John Surtees	7
8.	Jack Brabham	4
9.	Innes Ireland	3
10.	Jo Bonnier	2
	Jo Siffert	2
12.	Carel Godin de Beaufort	1
	Lodovico Scarfiotti	1
	Chris Amon	1
	Trevor Taylor	1

CONSTRUCTORS' CHAMPIONSHIP

Provisional—as above

1.	Lotus Climax	28
2.	Cooper-Climax	16
3.	Brabham-Climax	14
	B.R.M.	14
5.	Ferrari	7
6.	B.R.P.-B.R.M.	3
7.	Lotus-B.R.M.	2
8.	Lola-Climax	1
	Porsche	1



THE PROTOTYPE-SPORTS CAR RACE

THIS was supposed to be something of a walk-over for Mike Parkes and his ridiculously rapid Ferrari. Alas, the "best schemes of mice, etc."—the 4-litre's clutch faded at the start, and Parkes was left behind. Into an initial lead swept Jo Schlesser (4.0 Aston Martin), and he was still in front at the end of lap 1, chased by Roy Salvadori (Cooper-Climax), Mike Beckwith (Lotus-Ford 23), Carlo Abate (3.0 Ferrari), Dick Protheroe (Jaguar) and Paul Hawkins (Lotus-Ford 23).

André Simon landed amongst sugar-beet when he shot off-course with the big 5-litre Maserati, and the unhappy Parkes began to push his Ferrari from Thillois, jumping on the bank with the engine still running—but no drive!

Salvadori, Schlesser and Abate began mixing it, and Beckwith dropped back following a slight incident. Behind Protheroe, there was a furious battle featuring Bianchi (GTO), Hawkins, Casner (3.0 Maserati) and Frank Gardner (Brabham-Ford).

Schlesser went out with gearbox failure, and Simon rejoined the fray a lap in arrears. The duel for the lead was between Salvadori and Abate, the two swapping places on numerous occasions. Gardner then hurtled past Protheroe, whose Jaguar was holding all the GTO Ferraris, but was eventually taken, first, by Hawkins, and then Casner.

Salvadori abandoned on lap 11 with suspected piston-ring breakage, leaving Abate out on his own. Then Casner passed both Gardner and Hawkins, but the former abandoned on lap 14 with serious overheating. The Maserati survived one more lap, leaving Hawkins in second place behind Abate's grey Ferrari prototype. Dick Protheroe, whose engine was prone to vibration at 6,000 r.p.m., drove magnificently behind a mud-spattered windscreen. Bianchi also suffered from this complaint.

Beckwith kept plugging on, just behind the three GTOs of Bianchi, Noblet and Dumay, who, despite desperate measures, could not get near the tantalizing E-type Jaguar. Rosinski had the small class all to himself, in his Alpine, outpacing all his rivals with ease. Parkes returned to the race, but merely to set up a new sports-cum-prototype lap record of 2 mins. 22.5 secs. (209.728 k.p.h.).

On lap 19, Protheroe surged past Hawkins to take second place, which he held till the end, which was a magnificent show to defeat the strong GTO challenge. Bianchi and Noblet eventually managed to pass Hawkins, but Dumay didn't. Into the next two places came the Normand Lotus 23s of Beckwith and Hegbourne, followed by Rosinski's class-winning Alpine.

RESULTS

(25 laps)

1. Carlo Abate (3.0 Ferrari P), 1 h. 02 m. 59.5 s., 197.686 k.p.h.
2. Dick Protheroe (3.8 Jaguar GT), 1 h. 04 m. 13.1 s. 193.910 k.p.h.
3. Lucien Bianchi (Ferrari GTO), 1 h. 04 m. 14.6 s., 193.835 k.p.h.
4. Pierre Noblet (Ferrari GTO), 1 h. 04 m. 15.2 s., 193.805 k.p.h.
5. Paul Hawkins (1.6 Lotus 23), 1 h. 04 m. 44.4 s., 192.348 k.p.h.
6. Pierre Dumay (Ferrari GTO), 1 h. 05 m. 14 s., 190.893 k.p.h.

Fastest lap: Mike Parkes (4.0 Ferrari P), 2 m. 22.5 s. 209.728 k.p.h.

24 starters. 14 classified.

START of the prototype-sports car race (left) with Jo Schlesser taking the 4-litre Aston Martin into the lead. LUCIEN BIANCHI (Ferrari GTO), who finished third in this race, passes Roland Charriere's René Bonnet (bottom). HARD FOUGHT battle for second place in the Junior race is fought between Peter Arundell (Lotus 27), Dick Attwood (Lola) and David Hobbs (Lola) past the pits (below).

THE FORMULA JUNIOR RACE

FROM start to finish, Denis Hulme (Brabham-Ford) dominated the Formula Junior event, pulling out a big lead from the following pack. The desperate struggle for second place was a splendid advertisement for the coming Formula 2 category. Hobbs (Lola), Attwood (Lola), Fenning (Lotus), Arundell (Lotus), Schlesser (Lotus) and Prophet (Brabham) all went at it hammer and tongs, with the lead changing so frequently, that lap-scorers threw up their hands in bewilderment.

Schlesser abandoned, but still the battle went on. A wettish track did nothing to deter the gladiators, as they weaved in and out of each other's slipstream.

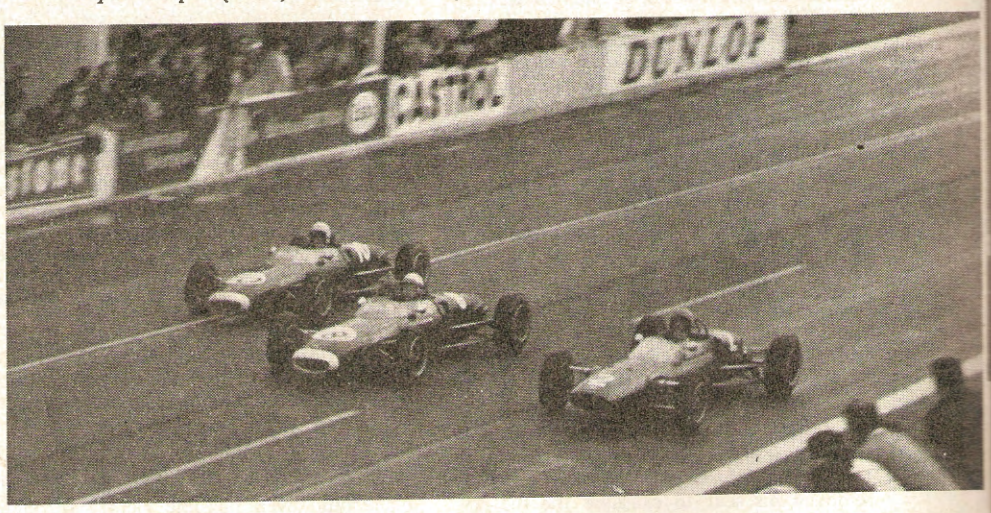
As Hulme went on his immaculate way, this tremendous contest was the cynosure of all eyes. Right up until the last lap, the issue was in doubt, but as the pack howled down from Thillois, Arundell managed to get something extra from his motor, to finish 0.3 sec. ahead of Attwood who, in turn, was half a second in front of Spence. Fenning and Hobbs had been rather left behind.

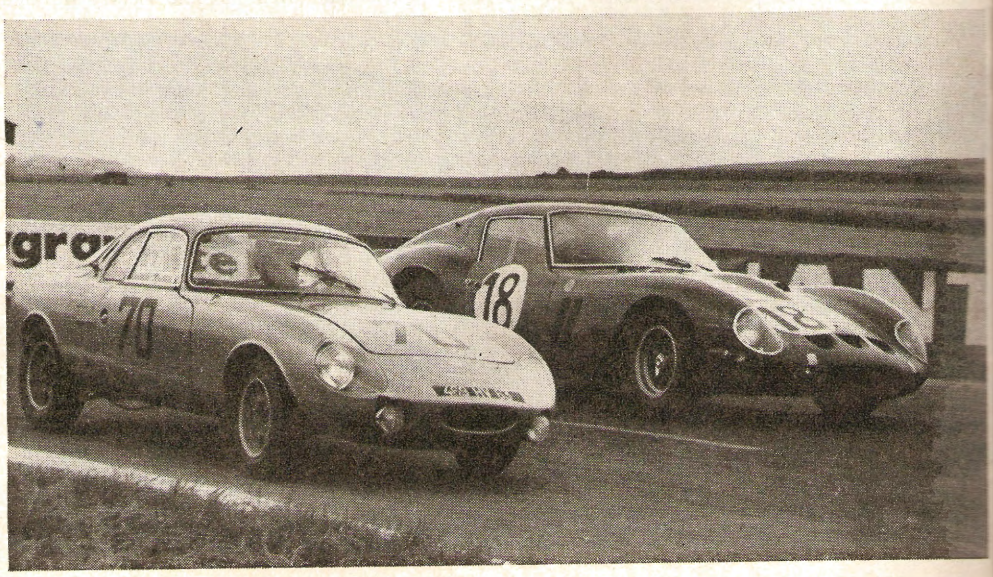
RESULTS

(20 laps)

1. Denis Hulme (Repco Brabham-Ford), 54 m. 27.0 s., 182.255 k.p.h. (113.25 m.p.h.).
2. Peter Arundell (Lotus-Ford), 55 m. 5.5 s.
3. Dick Attwood (Lola-Ford), 55 m. 5.8 s.
4. Mike Spence (Lotus-Ford), 55 m. 6.3 s.
5. John Fenning (Lotus-Ford), 55 m. 24.9 s.
6. David Hobbs (Lola-Ford), 55 m. 41.8 s.
7. David Prophet (Brabham-Ford), 56 m. 10.2 s.
8. Tim Mayer (Cooper-B.M.C.), 56 m. 21.3 s.
9. Peter Procter (Cooper-B.M.C.), 56 m. 21.7 s.
10. Alan Rees (Lola-Ford), 56 m. 44.7 s.

Fastest lap: Hulme, 2 m. 41.8 s., 184.711 k.p.h. (114.78 m.p.h.).





CLUB NEWS

By MICHAEL DURNIN

THE **Liverpool M.C., Mid-Cheshire M.C.** and the **North Staffs M.C.** are holding a closed sprint meeting at Prees Heath, Whitchurch, on 14th July. Entries, which close on 6th July, should be sent to Dennis Cox, 44 Mill Lane, Heatley, Lymm, Cheshire. . . . The **West Hants and Dorset C.C.** are holding a restricted autocross meeting at Abbotts Court Farm, Winterbourne Kingston. It is a qualifying event for the Association of South Western Motor Clubs and the B.T.R.D.A. Autocross Championship, with invitations open to the Seven-Fifty M.C., Bristol M.C. and L.C.C., M.G.C.C. (S.W. Centre), B.A.R.C. (S.W. Centre), Vickers-Armstrongs (Hurn) C.C. and bona fide entrants of the B.T.R.D.A. Autocross Championships. Closing date for entries is 8th July, which are obtainable from H. H. White, Coopers Garage (New Milton), Ltd., Fernhill Lane, New Milton, Hampshire. . . . The **West Hants and Dorset C.C.** are also promoting a closed hill-climb at Wiscombe on 28th July. There are 13 classes catered for, including vintage cars and specials. Entry forms are obtainable from H. Hughes, 114 Sheringham Road, Branksome, Poole, Dorset, and the closing date is 22nd July. . . . The **Sevenoaks and D.M.C.** are holding a restricted hill-climb at Valence School, Westerham, on 27th July. Invited clubs are the B.R.S.C.C., B.A.R.C., Austin-Healey C., Club Lotus, Hastings and St. Leonards C.C., London M.C., M.G.C.C., and the Sporting VW.C. Entries close on 20th July and D. R. Stevens, Beverley, The Park, Sidcup, Kent, is Secretary of the meeting. . . . The **B.A.R.C.** (S.E. Centre) are holding a closed driving tests meeting at Goodwood on 13th July. Entries should be sent to David Peck, 6 Queens Gate Place Mews, London, S.W.7, and must arrive not later than 8th July. . . . The **Jaguar D.C.** (London and Home Counties Branch) are holding a sprint meeting of restricted status at Goodwood on 20th July. The event is open to the B.A.R.C. (Surrey and S.W. and S.E. branches), Polish M.C., M.G.C.C., Austin-Healey C., Southsea M.C., Chichester M.C., and the Brighton and Hove M.C. There are no fewer than 20 classes. Entries close on 12th July, and are obtainable from R. D. Were, Fairwater, Orchard Gate, Esher, Surrey. . . . The **Hants and Berks M.C.'s** hill-climb at Great Auclum on 10th August is a National Event and also a qualifying round for the R.A.C. Hill-Climb Championship. There are nine classes, including one for gas turbines. Entries close on 29th July, and A. Fountain, 51 Matlock Road, Caversham, Reading, Berks, has the entry forms. . . . Prior to the Guards Trophy on 5th August the **B.R.S.C.C.** are organizing a Slip Molyslip Club Saloon Car Championship Race on the full Brands Hatch Circuit. This is a closed event and all entries should be sent to Nick Syrett, B.R.S.C.C., 6 Buckingham Street, London, W.C.2, not later than 15th July. . . . The same closing date applies to the **B.R.S.C.C.'s** closed race meeting at Mallory Park on the same day. Regs. for this meeting are obtainable from B.R.S.C.C., 22 Redfern Road, Walton, Stone, Staffs. . . . The **Seven-Fifty M.C.** and the **Chester M.C.** are holding their annual co-promoted restricted race meeting at Oulton Park on 24th August. Invited clubs are Aintree Circuit C., Club Lotus, Aston Martin O.C., SUNBAC, Jaguar D.C., B.A.R.C., B.R.S.C.C., Mid-Cheshire M.C., Lancashire and Cheshire C.C. and M.G.C.C. Programme includes half-hour speed trials, 750 and 1172 races, open and closed car events and a *Formule Libre* race with a class for Monoposto Register cars. Regs. from B. Wallace, 34 Thornway, Bramhall, Cheshire.

COMING ATTRACTIONS

FOREIGN EVENTS

7th July. *AUVERGNE TROPHIES, Clermont-Ferrand, France (G.T. 1-2-3, F.J.).*
BENELUX CUP MEETING, Belgium (F.J., S., G.T., T.).
14th July. *NÜRBURGRING 12-HOURS, Germany (T).*
TRENTO-BONDONE HILL-CLIMB, Italy (S., G.T., T., F.J.).
CIDONIO GRAND PRIX, Italy (F.J.).
SCHLEIZER-DREIECK, Eastern Germany (F.J.).

BRITISH EVENTS

6th July. *B.R.S.C.C. INTERNATIONAL SIX-HOUR SALOON CAR RACE, Brands Hatch, near Farningham, Kent (also sports car event). Starts 11.15 a.m.*
Aston Martin O.C. National Race Meeting, Silverstone, near Towcester, Northants. Starts 12 noon.
Mid-Cheshire M.C. Race Meeting, Oulton Park, near Tarporley, Cheshire. Starts 1 p.m.
B.A.R.C. (West Midlands Group) Sprint, Wellesbourne, near Stratford-on-Avon, Warwickshire.
Sussex C.C. Driving Tests. Starts Goodwood Race Circuit, near Chichester, Sussex, at 12 noon.
Bristol M.C. and L.C.C. Veteran Car Trial. Starts Bristol and finishes Weston-super-Mare.
6th-7th July. *Seven-Fifty M.C. (Cumberland Centre) John Peel Rally. Starts M.R. 76/390665, at 10 p.m.*
7th July. *London M.C. Race Meeting, Snetterton, near Thetford, Norfolk. Starts 1.30 p.m.*
B.R.S.C.C. (Northern Centre) Race Meeting, Elvington, near York. Starts 2 p.m.
Sporting Owner D.C. Hill-Climb, Woburn Park, Beds. Starts 1.30 p.m.
Mini-Seven C. Sprint, Staverton Aerodrome, near Cheltenham, Glos. Starts 1.30 p.m.
Romford E.C.C. and R.A.F.M.S.A. (Eastern Region) Sprint, Debden, near Saffron Walden, Essex. Starts 2.30 p.m.
B.A.R.C. (Surrey Centre) Sprint, Brands Hatch, near Farningham, Kent. Starts 1 p.m.
Airedale and Pennine M.C.C., B.A.R.C. (Yorks Centre) and Yorkshire S.C.C. Driving Tests. Starts Marston Moor Airfield, near Tockwith, Yorkshire, at 2.30 p.m.
Winchester and D.C.C. Driving Tests. Starts Barton Stacey Camp, Hants, at 2.30 p.m.
Falcon M.C. Driving Tests. Starts Podington Airfield, near Wellingborough, Northants, at 12 noon.
Dowty M.C. Driving Tests. Starts Arle Court, Cheltenham, Glos.
Coventry and Warwickshire M.C. Driving Tests. Starts Church Lawford, near Rugby, Warwickshire, at 2 p.m.
N.A.L.G.O. M.C. Driving Tests. Starts Town Hall, Hornsey, London, N.8, at 10.30 a.m.
Chiltern M.C. Autocross. Starts near Great Missenden, Bucks.
Seven-Fifty M.C. Pre-War Austin 7 Rally. Starts near Montagu Motor Museum, Beaulieu, Hants.

Sevenoaks and D.M.C.'s KENT RALLY

SEVENOAKS and District Motor Club have not, in the past, enjoyed the best of fortune with their Kent Rally. In 1961 the results were delayed for months through a series of protests and counter-protests and the 1962 version was similarly marred by some confusion over timing. In each case a first-class route was used and the entry was worthy of the event's B.T.R.D.A. Silver Star status. Profiting from their experiences, Sevenoaks this year were able to pronounce the results as final at the end of the protest period. It was a near thing, however, for the jinx threatened again and the organizers found it necessary to reverse a decision, already taken, to scrub a section through outside interference with a direction arrow. The circumstances were unfortunate, particularly as, once again, the route was excellent. When Reg McBride and Don Barrow, hustling even more than usual to make up for a rare and costly wrong-slot, were confronted by a direction arrow, it had been wilfully reversed by an unfriendly native and the Allardette crew added a further 3 mins. penalty to the 10 already lost between controls 8 and 9. Other less well-placed crews were also misled and the organizers at first announced that they had scrubbed the section concerned, resulting in a win for McBride and Barrow, for, despite their earlier reverses, this crew had pressed on to such good effect that they only dropped 1 min. in the entire second half—a fantastic performance. However, it was pointed out that the organizers had been unnecessarily accommodating in the final instructions, to the extent of decreeing direction arrows as being non-mandatory, whereupon they had no option but to reinstate the penalties. Consequently, Phil Simister and Graham Robson, Cortina-mounted, moved up into first place, having lost a total of 14 mins. progressively all night in a fine drive through the mist and the rain.

From the start at Hereford, at 9.30 p.m. on 29th June, the Kent ran-in rather smartly to Llandrindod Wells, where rallying began in earnest with a deliciously cooked "meat" of some 180 miles, using 128, 129, 141 and 142. The route had, of course, been handed out in advance and timing was on the E. and S. system, using "Straker" cards. With marshalling thus efficiently organized, Phil Simister/Graham Robson, Brian Harper/Ron Crellin (last year's winners) Peter Gilbert/Julian Chitty and Brian Stevens/Mike Bryant contrived to remain unpenalized until control 7, while the last clean sheet, that of Reg McBride and Don Barrow, exploded to the tune of 10 mins. on the long section from 8 to 9. An early casualty was the David Seigle-Morris/Mike Butler Lotus-Cortina. The crew had eaten something which violently disagreed with them and David was forced to retire in some pain. Mike Butler persevered to the petrol halt, taking over the wheel, navigation being assumed by Valerie Hale who had gone along for the ride. Despite Valerie's fine efforts on this, her first experience of Wales, the gallant crew were later forced to abandon completely as the food poisoning became worse.

The two Johns, Stentiford and Trott, were having an interesting night—first there was a mild excursion, then the Cooper crew decided to try the deep ford in 2178 in preference to the new road which had not found its way onto Trott's otherwise well-marked 128. However, the men from Essex pressed on joyously and were rewarded with a fine 8th place overall.

Brian Harper and Ron Crellin were not so fortunate—after a very fine run indeed, well in the running for the outright win again, they lost their watch as they approached control 47, found it after a frantic search, but were so put out of their stride that they wrong-approached control 48, a clanger also dropped by Pete Astbury. Ted Cowell was one of those who undershot the slot at 352726—he went exploring Stanage Wood and was delighted to find the marshal deputed for control 53, who had fallen into the same trap. They spent an interesting few minutes sorting this little lot out, but pressed on undeterred, being the only car to return a card from control 53. Another marshal was in more serious trouble—his motor-car was discovered tightly wedged in a deep ditch half a mile short of his control. This enthusiast was dissuaded from setting up shop there and then only by the fact that he had chosen a particularly dangerous bend upon which to perform.

Towards the end of the rally, Denis Thorne's Anglia shed vital parts of its exhaust system, but was allowed to continue after promising to tour round the last few miles in top.

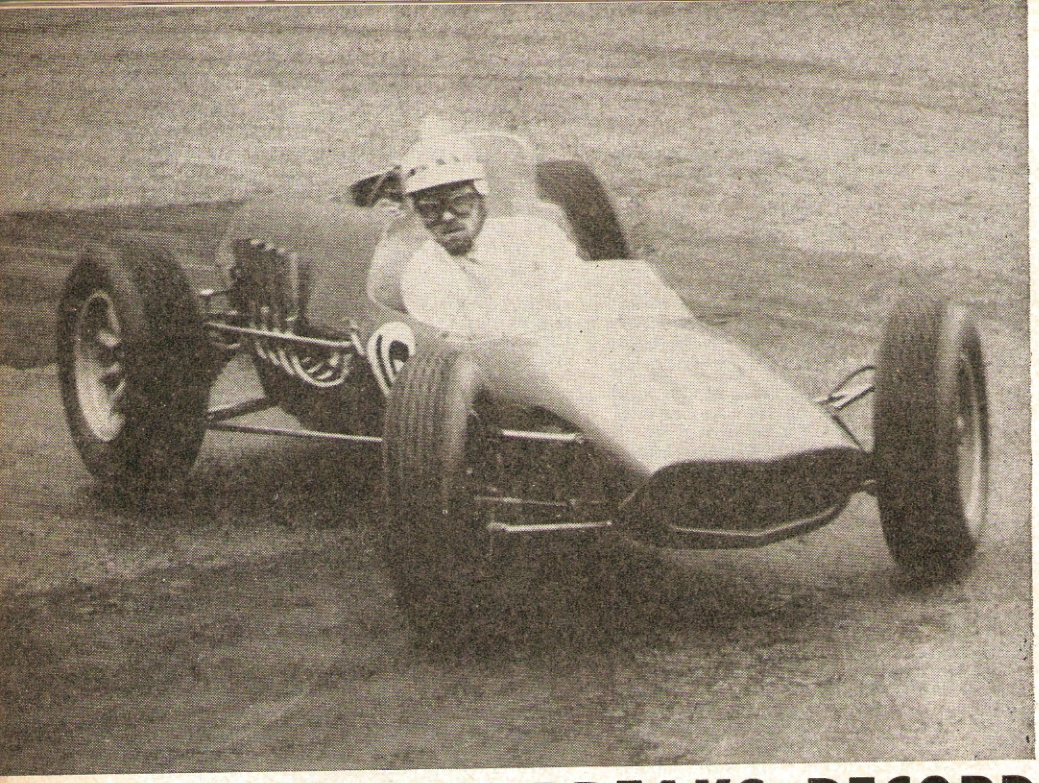
And so to the tie-decider, 200 yards of muddy, but not rough, track at a strict 30 m.p.h. average, after which crews returned to Hereford for breakfast. Of the 64 entries, exactly half finished, although there was a regrettably high number of non-starters—11.

General impressions were most complimentary, for the organizers found a route which was most exacting without being rough. With 75 controls, nearly all of which were manned, there was no real danger of multiple clean sheets, although one brave conductor reckoned it to be just "on" had the weather been dry. There were one or two neat little twists to known devices and a few new white roads for even the most avid collector of "goers". The inevitable road out of Llandrindod was used, and the route then headed north-east through the Llanbister area. The ford south of Clun was lengthy but not deep, but served to keep some hundred or so spectators amused (it was well after midnight!). The Long Mynd was naturally included and there was a particularly tricky loop around Llangunllo. The gate across the obscure slot in Clunbury was open and the decoy road was therefore less inviting than it might have been.

Taken all round, this was the best Kent Rally yet, and the southern club can be well satisfied that its excursion into top territory has come up to the high standards demanded by the "regulars". RON AMBROSE.

RESULTS

1, P. Simister/G. Robson (Cortina), 14; 2, R. McBride/D. Barrow (Allardette), 16; 3, J. Williams/D. Cardell (Austin-Cooper), 16; 4, D. Bache/R. Binns (Morris 1100), 17; 5, R. Tilley/R. Morgan (Cooper-Mini "S"), 17; 6, A. M. Reed-Gibbs/K. Eustice (Anglia), 20; 7, P. Gilbert/J. Chitty (Mini), 21; 8, J. Stentiford/J. Trott (Mini-Cooper), 25; 9, B. I. Stevens/M. J. Bryant (Mini), 32; 10, A. Brick/A. Davies (Saab), 36.



BEARDED Peter Westbury swings his Felday-Daimler round the final hairpin at Rest-and-Be-Thankful last Saturday, where he won his class and set up a new record of 51.33 secs. for this tricky Scottish hill-climb.

WESTBURY BREAKS RECORD

Felday-Daimler Driver Records 51.33 secs. at Rest-and-Be-Thankful

BY W. K. HENDERSON

LAST weekend the hill-climb circus, with Phil Scragg a notable absentee, moved west from Bo'ness to the longer and more awesome climb of Rest-and-Be-Thankful in Argyll. This 1,425-yard climb on Forestry Commission land was, as usual, run impeccably by the Royal Scottish Automobile Club and had a maximum entry of 60 cars, but with several non-starters two reserves were allowed to compete.

Luck was once more with the competitors, as at Bo'ness the previous weekend, when a chill breeze swept up Glen Coe during the first runs to dispel the dampness which hung around the hills and gave place to occasional sunny spells later in the afternoon. It was during one such spell that Peter Westbury in his thundering Felday-Daimler, on his first Championship climb, clinched his B.T.D. of 51.33 secs., to establish a new course record, beating that of David Boshier-Jones, who did 52.05 secs. in his Cooper in 1960.

The climb itself started with a rush as Peter Bannell stormed the heights, in a continuous slide it seemed, on the 197 c.c. Fastakart, in 64.66 secs., improving on the dry road to 62.95 secs. In Class Two, Tom Adair tried kart tactics but his Cooper-J.A.P. took charge at Stone Bridge, spun, and shot back to the start, but his second run time of 58.35 secs. was best in the class until Ian McLaughlin cut this to 55.95 secs. in his 1,100 c.c. Cooper-J.A.P.

Peter Boshier-Jones was well ahead in Class Three with a polished second climb of 53.34 secs., but J. D. H. McCartney-Filgate's blown Cooper clattered the bridgework and popped to the finish with deranged front suspension. Keith Moore was getting more used to the Fairley, which hosed the road with coolant at the hairpin on each run, but took only 57.84 secs., while Tom Norton fought his Lotus to the top for 58.64 secs.

Agnes Mickel led off the over 2,000 c.c. Racing class but the prevailing dampness caused her a slight slide at the hairpin much to her anguish, which was increased a hundred fold when her husband, Gray Mickel, going like the proverbial bat, lost it on the humpy lower slopes; the beautiful ex-Owen, 2½-litre Cooper fortunately cleared a rocky gully, but landed heavily on a grass bank. The driver was bruised and shaken and the car was damaged at the front and was out of action. Tony Marsh next entered the fray, but took the final hairpin gingerly and seemed to pour on the power a little late on his first climb (55.96 secs.) and was narrowly beaten by Peter Westbury in 55.52 secs. David Good shook them both with 54.6 secs. to which Marsh replied with 53.49 secs. on the drying road, harried by Ray Fielding (Lotus) in 53.84 secs., but Westbury, with the Felday-Daimler, its eight stacks bellowing mightily, assaulted the hill in 52.36 secs., forcing David Good to give best, in 52.48 secs.

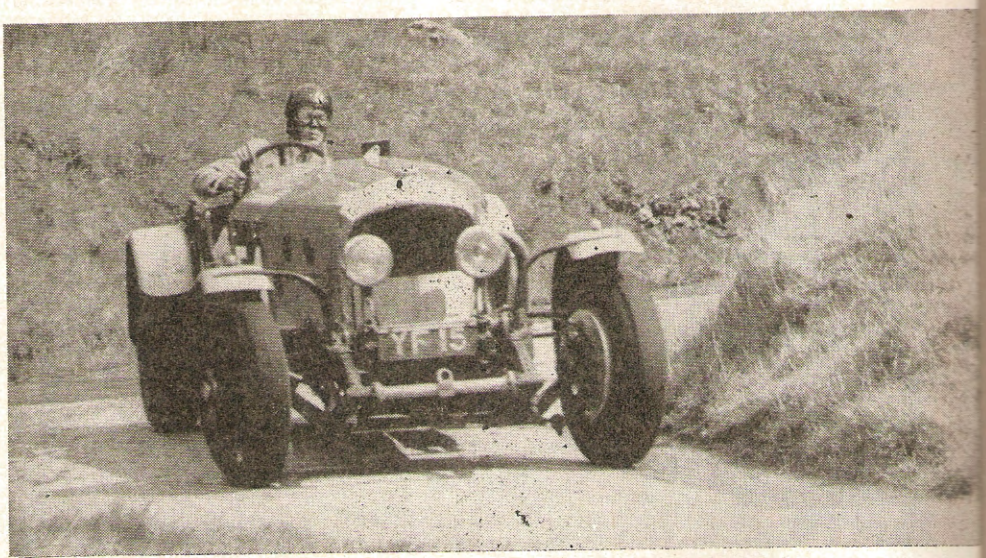
By far the largest entry was for Sports cars up to 1,500 c.c., with 24 runners, the most popular make being Lotus variants. The battle for honours was between Tom Clapham's Climax-engined Lotus 7, Peter Meldrum (Lotus 7) and Graeme Austin (Emeryson). Clapham, however, made no mistakes and took both climbs, his 55.40 secs. being unchallenged by the Emeryson in 57.50 secs.

The battle of the bored-out Mini-Coopers of C. R. M. Boote and John Wales, the latter in the Alexander Engineering entered model, was continued from Bo'ness, with Wales turning the tables with a fantastic 59.68 secs., against 62.89. John Milne arrived in his supercharged Sprite in place of his M.G. Midget and showed a clean set of wheels in Class Seven in 64.6 secs. in two climbs only 0.1 sec. apart.

Once more Phil Chapman (Mercury) took the large sports class with his special, with A. K. McCosh next in 65.15 secs. in the vintage 4½-Bentley, which has lapped Montlhéry at 111 m.p.h. in recent years. E. M. Gray almost overcooked on Stone Bridge in his blown, red H.W.M.-Jaguar, as did I. McAlister in his 3 carburetter Zephyr.

Conditions for the 10 Championship contenders could not have been better, as the sun hovered between clouds, and the road was dry. Meldrum, Norton and Moore all improved on their earlier class best, but Meldrum spun his Lotus completely round at the narrow Stone Bridge entrance, amazingly did not contact anything solid, drove over the Bridge in reverse, turned the car and continued the climb. Ian McLaughlin, despite a wiggle at the same spot, took 55.35 secs., but Ray Fielding, immaculate as ever, set the target with 52.25 secs., to which Tony Marsh replied in 52.29 secs. After Boshier-Jones's 53.45 secs., everyone waited for Good and Westbury. David Good settled things with a first climb which ended when he took to the grass at Cobbler and twisted his chassis, to be followed by a very determined Peter Westbury whose Felday-Daimler seemed longer in the air over the humps of the lower slopes than on the ground. He hurled the blue car at the steeper higher slopes, muttering unprintable things at the hairpin and, as the thunder of his exhausts died, we heard that he had made a new course record in 51.33 secs.

On the second climb, Ray Fielding nudged the bank at the hairpin with his Lotus, but improved to 51.88 secs.—also better than the old record but just not fast enough. Tony Marsh followed with the B.R.M. and, despite a misfire, got down to 51.83 secs. to pip Ray Fielding for second. Peter Westbury, at the end of the event, sensibly did not have to hurry, if 54.64 secs. can be called not hurrying.



VINTAGE AWARD went to A. K. McCosh, seen here on Stone Bridge in his 4½-litre Bentley.

RESULTS

B.T.D.: Peter Westbury (Felday-Daimler), 51.33 s. **Racing Cars up to 500 c.c.:** 1, P. J. Bannell (197 c.c. Fastakart), 62.95 s.; 2, L. A. Stone (Cooper-Norton), 64.65 s. **501-1,100 c.c.:** 1, I. B. McLaughlin (Cooper-J.A.P.), 55.95 s.; 2, T. J. Adair (Cooper-J.A.P.), 58.35 s.; 3, A. B. Griffiths (Lotus-Ford), 58.63 s. **1,101-1,500 c.c.:** 1, P. Boshier-Jones (Lotus-Climax 22), 53.34 s.; 2, K. J. Moore (Fairley-Climax), 57.84 s.; 3, A. T. Norton (Lotus-Climax 18), 58.64 s. **Over 2,000 c.c.:** 1, P. Westbury (Felday-Daimler), 52.36 s.; 2, D. R. Good (Cooper-Felday-Daimler), 52.48 s.; 3, A. E. Marsh (B.R.M.), 53.49 s. **Sports Cars up to 1,500 c.c.:** 1, T. R. Clapham (Lotus-Climax 7), 55.40 s.; 2, G. Austin (Emeryson-Climax), 57.50 s.; 3, P. H. Meldrum (Lotus-Ford), 58.75 s. **1,501-2,000 c.c.:** 1, J. E. Milne (A.-H. Sprite), 64.6 s.; 2, T. J. Henderson (T.V.R. Grantura), 66.18 s.; 3, D. J. M. Fisher (TR3), 67.77 s. **Over 2,000 c.c.:** 1, J. P. Chapman (Chapman-Mercury), 57.93 s.; 2, A. K. McCosh (4½ Bentley), 65.16 s. (Vintage Award). **R.A.C. Championship Runs:** 1, P. Westbury (Felday-Daimler), 51.33 s.; 2, A. E. Marsh (B.R.M.), 51.83 s.; 3, R. Fielding (Lotus-Climax 21), 51.88 s.; 4, P. Boshier-Jones (Lotus-Climax 22), 52.36 s.; 5, I. B. McLaughlin (Cooper-J.A.P.), 55.35 s.; 6, K. J. Moore (Fairley-Climax), 56.29s.

BRIAN FOLEY'S

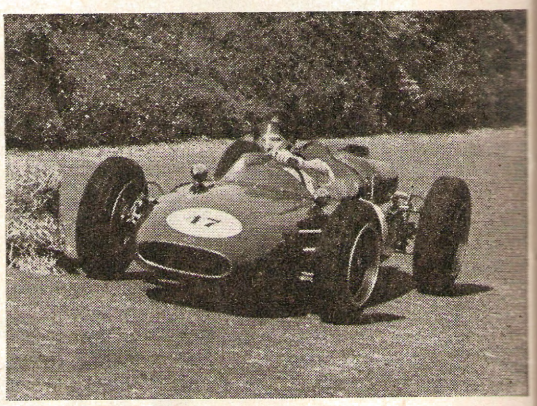
Report from Eire

THE Dublin University M.C. and L.C.C. had a good entry, large crowds, and glorious sunshine for their Mount Venus Hill-Climb on 1st June. Very regrettably this year's event may well be the last at Mount Venus. The residents of this area are now rather hostile towards the sport, mainly due to unauthorized practising on the hill. Maurice Bryan, the D.U. Hon. Secretary, was telephoned at his home in nearby Rathfarnham at 7.10 on the morning of the event by an irate citizen as a well-known competitor had been practising since 6.30 a.m.! Further annoyance was created by spectators damaging property, fences, littering fields, etc. With events held on public roads, this type of conduct only places the sport in jeopardy, and it is hoped that the sad lesson of Mount Venus will be heeded by all and sundry.

Johnny duMoulin was not driving his 1,652 c.c. Ford Anglia as he has sold this car and his new Alfa Romeo is not yet run-in. In his absence, the best saloon time was set up by Dickie Barrett who had two fantastic runs at 61.92 secs. and 61.02 secs. in his blown, 848 c.c. Austin Seven, which sounded as if it was being blown at about 20 p.s.i. Maybe it is too! Dickie won two classes and was second to a Formula Junior Lotus 18 in a scratch class. Tommy Reid clocked 52.65 secs. on his first timed run in his larger-engined, 1½-litre Lotus 18. Dan McAlister took his 1½-litre, Shorrock-blown, Cooper-Climax up in 51.48 secs. on his first run, and John Pringle only equalled this time with his 1963, low-line, 2½-litre Cooper-Climax. As Reid's first run was untimed he immediately returned down the hill after his second run to do his second timed run, all drivers getting two timed runs each. While he was turning, John Keane and Dan McAlister got in their second runs. John is having the peculiar phenomenon of getting the methanol into the oil of the vee-twin J.A.P. engine of the ex-Brian Bleakley 1,098 c.c. Kieft. He is still feeling his way with this car but his second run was a respectable 65.55 secs. McAlister really had the tail hanging out as he swept around the right-hander before the chicane on his second run. His time of 50.04 secs. was rather surprisingly 0.02 sec. slower than his best run last year in his older, unblown, 1½-litre Cooper-Climax. Tommy Reid swept around the right-hander very tidily on his second timed run, but he entered the chicane too fast and had to slow right down. His time for this run was subsequently slower than for his first timed run, at 54.20 secs. On his last run, Pringle appeared to be experiencing excessive understeer on the right-hander. From the chicane to the top he raised the dust as the Cooper clipped the grass and on the very dicey dip just before the finish he was reported to be on the limit. His time of 49.76 secs. was B.T.D., but was outside his record of 48.85 secs. which he set up last year in his older 2½-litre Cooper-Climax.

RESULTS

B.T.D.: John Pringle (Cooper-Climax), 49.76 s. **250-1,000 c.c. Handicap:** 1, Dickie Barrett (Austin Seven s/c), 46.02 s. (H'cap 15 s.); 2, J. N. Tansey (Auto Union), 46.68 s. (23 s.); 3, M. M. Thompson (Austin Seven), 46.75 s. (26 s.) **Over 1,000 c.c Handicap:** 1, George Windrum (Sunbeam Rapier), 47.56 s. (H'cap 19 s.); 2, E. G. Pugh (Morgan), 47.65 s. (16 s.); 3, Capt. J. A. Burke (Cordini), 48.45 s. (10 s.). **Saloons Scratch:** 1, Dickie Barrett, 61.02 s.; 2, Ronnie Noble (Austin-Cooper), 63.11 s.; 3, Michael Ivis (Austin-Cooper), 63.79. **250-1,000 c.c. Scratch:** 1, Frank Keane (Lotus 18), 52.75 s. 2, Dickie Barrett, 61.02 s.; 3, Jim Cooney (M.G. Midget), 64.07 s. **Over 1,000 c.c. Scratch:** 1, John Pringle, 49.76 s.; 2, Dan McAlister (Cooper-Climax s/c), 50.04 s.; 3, Tommy Reid (Lotus 18), 52.65 s. **Visitors Award (Handicap):** George Windrum. **D.U. Club Members' Award:** Henry O'Cleary (1,588 M.G. Twin-Cam), 62.70 s.



JOHN PRINGLE looks determined as he takes his Cooper-Climax through the chicane. He set B.T.D. of 49.76 secs. on his second run.

CORRESPONDENCE

Motor Racing is Expensive

As a pupil of a very well recognized and successful racing drivers' school, I would like to point out to the two gentlemen who are eager to see an official school opened due to the high cost of present instruction, that motor racing, whichever way one looks at it, is an expensive activity, whether you have the use of a good school Formula Junior car, or have your own car.

Secondly, works drivers are of a very high standard, and if only a small percentage of "aspiring works drivers" were fortunate enough to be "spotted" at this official school, the chances of them having a regular drive during a season would be very sparse indeed!

Finally, have these two gentlemen ever attempted to drive a proper racing machine? Somehow I feel that up to now they have been keen spectators, and feel that their capabilities would soon equal those of the front of the grid brigade. I would suggest that they save up a few quid and find the best school, which from the results of certain well-supported club events, should not be too difficult, and learn and progress from there. There is an old saying that if you want to do anything badly enough, then you will—I am a family man of 31 but am eagerly looking forward to my first club race!

NUNEATON, WARWICKSHIRE. JOHN C. CURTIS.

The "Souped-up" Brigade

An Official Racing Drivers' School is an excellent idea. Perhaps we should then be spared the ordeal of "spotting" the "latent talent" and "burning ambition" of so many young drivers on the public highway.

The top racing men are known to be safe and considerate road users. I assume, therefore, that all "budding stars" have passed the I.A.M. driving test, and have profited from the B.S.M. high performance course? Surely a skilled road user has a greater potential as a racing driver, than has an untrained member of the "souped-up" brigade.

LLANDAFF, CARDIFF. ROBERT ANDREWS.

Stop Moaning, Chaps!

As a motor racing starved enthusiast who is at present living and working in Japan, I would like to thank AUTOSPORT for keeping me in touch through the pages of an excellent magazine which, although it takes between eight and 10 weeks to reach me by seamail, is undoubtedly very well worth waiting for.

One thing, however, which has become more and more apparent to me reading your correspondence column is the large number of complaints that are put forward week by week with monotonous regularity by a certain group of readers. Either the Racing Car Show is the wrong size and the cars shown are not really " racing cars " or the television does not transmit the correct part of some race or other, and again I seem to remember even the B.R.M.'s exhausts were argued over whilst the R.A.C. continue to be dubbed the villain of the piece.

Those gentlemen concerned should be truly grateful that there is in fact any motor sport on the television to watch at all, and that someone takes the immense trouble to stage a Racing Car Show and so on. Surely motoring in all its forms should be enjoyed rather than criticised, in which case why do these people complain when they are in a far more advantageous position in the United Kingdom than they would be in any other country in the world?

OSAKA, JAPAN. J. B. WILLIAMS.

The Editor is not bound to be in agreement with opinions expressed by readers.

Engines for Formula 2—*continued*

mentioned Holbay-Tomaso power unit of flat-4 configuration —which will be one of the lightest—Messrs. Cosworth are known to be working on a 1-litre version of the Lotus-Ford 2-o.h.c. engine. Bearing in mind their large accumulation of operating experience with Ford 105E-based racing engines, Cosworth must be considered as favourites in the field initially. Most of the components they will use have already been developed for Formula Junior engines, and it would seem likely that many existing Juniors will be converted to the 2-o.h.c. specification, at which the development staff have arrived, when the new formula comes into use.

It is understood that Messrs. Coventry Climax are to produce a Formula 2 design, and this would seem to be no great task following the 750 c.c. FWMV engine and its G.P. derivatives. A little slide rule work shows that, retaining the 60 mm. stroke of last year's V8 engine, a cylinder bore of 72.7 mm. (a 5 mm. larger bore than that of the 1963 V8) is required for a 250 c.c. cylinder volume.

It is just possible that the current cylinder head could be adapted to suit this bore increase, but more likely that the cylinder centres would have to be increased. It is certainly unlikely that the stroke will be increased above 60 mm. Leaving aside conjecture, however, one can be sure that if their G.P. engine commitments permit the diversion of effort, Coventry Climax can be relied upon to enliven the engine field.

On the continent A.S.A. have announced their intention to support Formula 2 and the Abarth concern already have racing engines of the right size. Osca and Stanguellini must be rated as possibilities, and surely there is scope for Conrero or some like-minded engineer to develop de-stroked Giulietta engines for the new formula. Apart from the certainty of large scale British participation, it is to be hoped that both Italy and France will be able to mount a more effective challenge than in the latter years of Formula Junior. Italy in particular are well placed as regards basic engine material, and the resulting technical struggles should prove of great interest.

DUDLEY & D.C.C.
BEWDLEY A.C.
QUINTON M.C.

DRIVING TESTS

A COMBINATION of varying types of surface and drizzling rain made for very tricky driving conditions at the tests held at Hailstone Quarries, Rowley Regis. The entry of 38 cars performed six tests during the afternoon, and the organizers, Mike Barber and Roger Wilkinson, themselves regular competitors, made a good job of keeping the cars flowing smoothly.

B.T.D. went to Phil Darbyshire, driving an unmodified Mini, who demonstrated skill sufficient to beat a collection of faster cars such as Sprites, Midgets, TRs and Mini-Coopers. A. R. PARKIN.

RESULTS

Class 1: 1, A. M. Belcher (Sprite); 2, B. J. Ainge (Sprite). **Class 2:** 1, P. J. Darbyshire (Mini); 2, P. Hawthorne (Cooper-Mini). **Class 3:** 1, B. Stanton (Fiat 500); 2, P. Stanton (Herald). **Class 4:** 1, J. Dudley (Wolseley 1500); 2, I. Dudley (Wolseley 1500). **Class 5:** 1, D. Ward (TR3A); 2, P. Thompson (TR2).

LIVERPOOL M.C.

AUTOCROSS

THE Liverpool Motor Club held its closed Sun Valley Autocross at its permanent site at Thurstaston, Wirral, on Sunday, 16th June.

The best times were made on the third run and the unusual situation arose with a tie for B.T.D. between Ken James (Cooper-Mini) and Graham Richards (Lotus 7) with a time of 2 mins. 6.4 secs. The "furthest cleanest" rule was applied and Ken then got the decision, due to his earlier runs being faster. JOHN CRAIG.

RESULTS

B.T.D.: Ken James (Cooper-Mini). **Class 1:** 1, M. Hughes (M.G. Midget); 2, W. W. Waller (Sprite). **Class 2 and 3:** 1, J. K. K. Barlow (Lotus Mk. 6); 2, J. Akers (T.V.R.). **Class 4:** 1, P. B. Woods (VW); 2, T. J. Walsh (VW). **Class 5:** 1, N. C. Reynolds (Cooper-Mini); 2, G. Woods (Mini). **Class 6:** 1, J. G. Henderson (A35); 2, D. A. Aspinall (A35). **Class 7:** 1, S. Reakes (Anglia); 2, Mrs. M. Reakes (Anglia). **Best Lady:** Mrs. M. James (Cooper-Mini). **Novice Award:** J. G. Lawrenson (Cooper-Mini).

VICKERS-ARMSTRONGS (HURN) C.C.

AUTOCROSS

THE South Molton Round Table, in conjunction with the Vickers-Armstrongs (Hurn) Car Club, organized an Autocross on Saturday, 15th June, as part of the town's festivities which had been taking place all week. The track was a trifle narrow, due to the small size of the field, fairly smooth but far from flat. David Jackson-Smith deserves a big vote of thanks as he organized the whole event with help from various other Vickers members.

Class 1, front-wheel-drive up to 850 c.c., was the usual Mini benefit with Charlie Bock's Saab thrown in for good measure. Ted Crocker won the class, closely followed by John Grist, both indulging in some fairly hectic motoring.

The 1,150 c.c. f.w.d. class produced the real excitement of the meeting for the locals. Peter Vann had announced after practice that if anyone else had anything more derogatory to say about the Vickers Club he would organize an accident for them. Unfortunately for him, he organized it for himself! On the third lap of his first run he put his Mini-Cooper end over end. The car finished up on all four wheels again and he continued to a well-earned class third. Ralph Wilding won this class and also made B.T.D. after two very fast and polished runs. His wife, Angela, used the same car to annex the Ladies' Award on her first run.

Class 6, Sports Cars up to 1,300 c.c., was all Midget, five of them in fact, resulting in a win for Keith Ross in his ex-Jed Noble car. Class 7, Sports Cars over 1,300 c.c., brought forth a very varied assortment of machinery, with examples of E-type Jaguar, Alpine, M.G.A, Porsche, Allard and Triumph TR. Bill Westlake took the E-type round in a series of large squirts just to hold off a very forceful Bob Knapman in his Alpine.

RICHARD SPEAKMAN.

RESULTS

B.T.D.: R. Wilding (Cooper-Mini). **Class Winners:** E. Crocker (Mini); R. Wilding (Cooper-Mini); F. Burton (VW); G. Snow (Vitesse); K. Ross (M.G. Midget); W. Westlake (Jaguar E); S. Davey (Lotus). **B.T.D. Ladies:** Mrs. A. Wilding (Cooper-Mini).

B.A.R.C. (EAST MIDLANDS GROUP)

CHURCH LAWFORD SPRINT

ALTHOUGH practice started just after torrential rain at Church Lawford on 22nd June, the rest of the day was pleasantly dry and competitors were able to have three practice runs and three timed runs.

Practice saw a few spins, especially among the Minis at the chicane exit. Combine corner was fairly tricky on the most used line through it, mainly due to rubber, but competitors were suitably wary though some used it to advantage.

B. L. Ryder in an Austin-Cooper won the Mini class for the second time with a time of 55 secs., 1 sec. better than his previous best, being followed by H. M. Hunt and B. E. Lawson, also in Cooper-Minis.

J. D. Butler again won Class B for saloon cars in his Singer Gazelle, doing 57 secs. This car has an Alpine head, twin carbs and automatic transmission, a combination which proves very effective. J. V. Morrison came second in a modified Morris 1100, with a time of 60.5 secs., equal with J. K. Wileman's Rapier.

The Marque Sports Car class was won by R. B. Sparkes in his supercharged Spitfire in 57.3 secs., being followed by J. B. Cott (Mk. 1 Sprite) and B. Taylor (M.G. Midget).

Two of the competitors in the racing car class, Paul Ivey and Alan Eccles, shared a Formula 1 Cooper-Climax, previously one of Jack Brabham's mounts. Eccles did a shattering 46.3 secs. (B.T.D.) and Ivey, with 48.4, was second.

CHRIS MITCHELL.

RESULTS

B.T.D.: A. Eccles (Cooper-Climax), 46.3 s. **Class A:** 1, B. L. Ryder (Cooper-Mini), 55.0 s.; 2, H. M. Hunt (Cooper-Mini), 56.3 s.; 3, B. E. Lawson (Cooper-Mini), 58.9 s. **Class B:** 1, J. D. Butler (Singer Gazelle), 57.0 s.; 2, J. V. Morrison (Morris 1100) and J. K. Wileman (Sunbeam Rapier), 60.5 s. **Class C:** 1, R. B. Sparkes (Triumph Spitfire s/c), 57.3 s.; 2, J. B. Cott (Sprite), 58.4 s.; 3, B. Taylor (M.G. Midget), 60.7 s. **Class D:** 1, R. W. Fleetwood (Allardette), 56.5 s.; 2, T. M. Greer (Turner), 57.7 s. **Class E:** 1, A. Eccles (Cooper-Climax), 46.3 s.; 2, P. D. Ivey (Cooper-Climax), 48.4 s.

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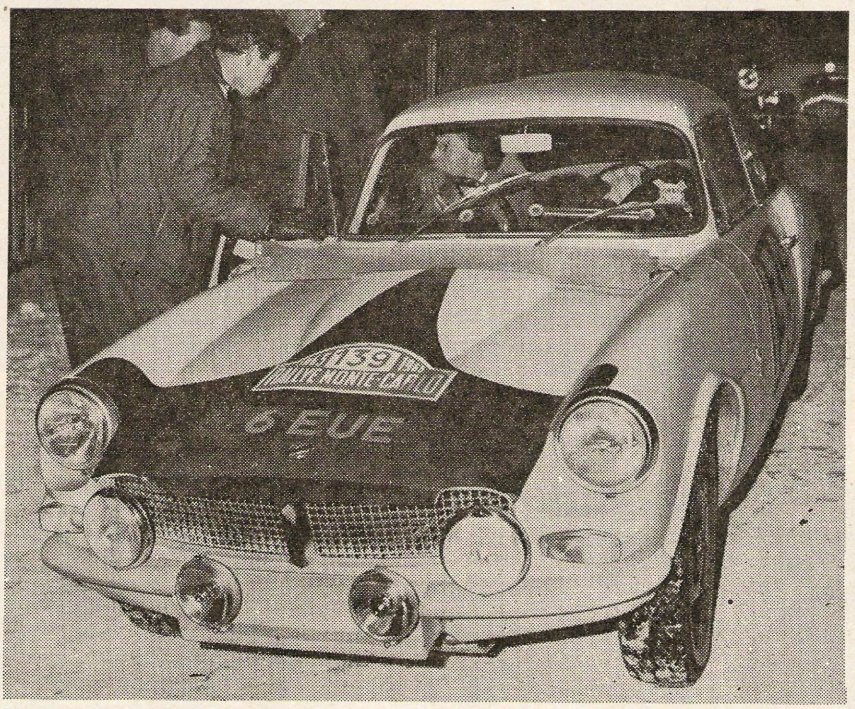

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Cadwell Park

Very Fine Racing at B.R.S.C.C. Meeting

BY JOHN HIGHAM

FOR the first time the B.R.S.C.C. (Northern Centre) organized a race meeting for Charles Wilkinson at Cadwell Park. Cadwell has always been known as a "drivers' track", and its reputation was well maintained on the 23rd June. The 155 competitors enjoyed a fine day's racing on a lovely sunny day, the large crowd of spectators being treated to some very fine racing.

The B.R.S.C.C. are well known for their slick and efficient organization, and their reputation was proved to be well earned. Due to competitors arriving late, scrutineers were not able to "flow" the cars through in their usual way and as a result the meeting started 18 minutes late. By event 8, however, the race was started dead on time (5.55) and by 6.30 the whole track was completely cleared of spectators, litter, straw bales and all the essentials of race organization.

Race 1 for Grand Touring cars up to 1,150 c.c. gave a well deserved victory to John Bloomfield in his Diva G.T.; second, 16.8 secs. behind, came Chris McLaren in his Marcos—he had driven a very good race and moved up from fifth in the early stages. Third was Dave Rees, also in a Marcos, who was only 3 secs. behind McLaren. Warwick Banks, who led the race initially, spun off and resumed in last place, but he drove to such effect he finished fourth. Mendham did a nonsense at Hall Bends in his T.V.R. and the car looked like a complete write-off, while Pimm in his Sprite had two punctures at the same time!

Event 2, the *Sheffield Telegraph* Trophy Race for Formula Junior cars brought a mixed bag of cars to the grid. Roy James in his Brabham and D. K. Fletcher in his Lola gave the crowd a display of really polished driving, James taking the chequered flag five secs. in front of Fletcher and breaking the track record in the process. Third was D. Wragg (Cooper) a further 10 secs. behind.

In Event 3 for sports cars, four drivers (who shall be nameless) spun off at various parts of the circuit and retired. D. L. Wragg won the race, and his class, just as he liked, the second man, 26 secs. behind, being T. Moore in his Lotus 7.

The long awaited dice between Surtees and Nathan didn't take place on account of the latter being a non-starter. However, Surtees, in the Elite, didn't have things all his own way for a couple of laps. Cecil Booth in his "old faithful" Le Mans Frazer-Nash really had the bit between his teeth and left the grid like a rocket to lead the pack until he had to visit the pits on lap 2. Surtees then took the lead and kept it to the end, second man home being Jennings in another Elite who was followed home by Stiller in yet another Elite. Fourth was Sanger in his A.C. Ace-Bristol.

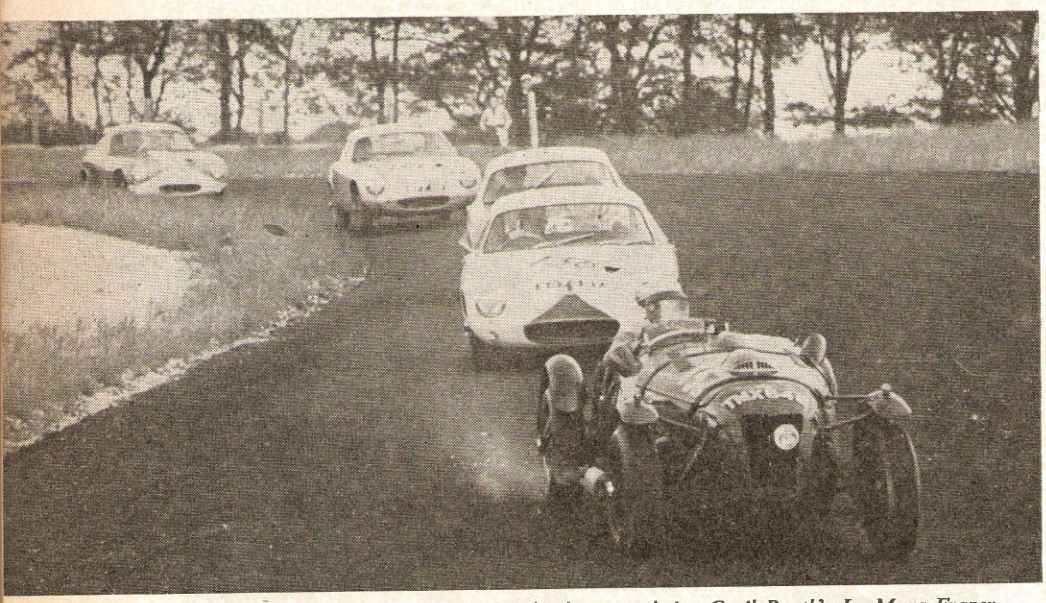
Race 5 was simply monopolized by Pierpoint and his Attila-Climax: they won by almost a minute from Pat Hovendon in his Elva Mk. 6. Third man home and winner of the 1,150 c.c. class was R. A. H. White in his Lotus-Climax 11.

Saloon cars up to 850 c.c. race had an entry of 17 B.M.C. Mini cars and one Saab. Everyone had been looking forward to a tremendous battle between the Minis and everyone was very, very disappointed. From the second lap the race was a funeral procession with absolutely no excitement for the spectators at all. John Fitzpatrick showed his skill by walking away from the opposition and winning the race by the fantastic margin of 1 min. 9 secs from Ken Costello.

Race 7 was in absolute contrast to its predecessor, this being the *Formule Libre* race for the fastest 18 cars in practice (if they wished to compete). I thought it a pity that Pierpoint declined to compete, while Greg Wood was unable to, having been shunted by McArthur in Race 5. However, the line up consisted of 15 cars and James in his Brabham again showed his superiority over Fletcher by beating him again—this time by 23 secs.; it must be borne in mind, however, that James had been in front from the drop of the flag while Fletcher had to work his way through from sixth place to his eventual second. Third man home was Sid Fox in his well-driven Lola-Climax sports-racing car, the first two, of course, being Formula Junior cars. James again broke his own track record in this race, leaving it at 1 min. 45.2 secs. 77 m.p.h. exactly.

The last race was excellent, this being for saloon cars 851 c.c. to 2,000 c.c. Mike Poole in his Anglia and Mike Clarke in his A40 joined battle from the drop of the flag—and what a battle it was, each driver giving his utmost and treating the crowd to a really grand dice. The number of times the lead changed hands I really couldn't tell you! The winner was eventually Poole in his Anglia with Clarke a very worthy second; however, behind these two another great battle was in progress: Cole, Brown, Pearson, McDougall and Fulton were all at it. One really didn't know what to expect next from this battling quintette; they were cornering three abreast and passing the start/finish line four abreast, going on the grass in their efforts to overtake, spinning off and rejoining the scrap undismayed. This really was the race of the day, and it had the crowd on its feet throughout the whole length. The battle between the Minis resulted in Cole winning their own private battle and finishing third overall, Brown was fourth, Pearson fifth, McDougall sixth and Fulton seventh, the difference between third and seventh drivers being 2.8 secs. overall.

Thus ended a very fine meeting enjoyed by competitors, drivers, officials and organizers alike.



BLUSHING LOTUSES (above), the cause being Cecil Booth's Le Mans Frazer-Nash which stayed in front until a pit stop intervened. AN UNSCHEDULED grass cutting manoeuvre executed by Dennis O'Sullivan's Brabham (below).

RESULTS

Grand Touring Cars up to 1,150 c.c.; 1, J. Bloomfield (Diva-Ford); 2, C. McLaren (Marcos-Ford); 3, D. A. T. Rees (Marcos-Ford). **Formula Junior Cars**; 1, R. James (Brabham-Ford); 2, D. K. Fletcher (Lola-Ford); 3, D. Wragg (Cooper-Ford). **Sports Cars up to 1,000 c.c. and 1,201-1,500 c.c.**; **Overall Winner**; D. L. Wragg (U2-Ford). **Up to 1,000 c.c. Class**; 1, D. L. Wragg (U2-Ford); 2, T. Moore (Lotus-B.M.C. 7); 3, H. E. B. Mayes (Opus-Auto Union). **1,201-1,500 c.c. Class**; 1, D. Haydon (Lotus-Ford 7); 2, R. P. Cook (Riley Special). **Grand Touring Cars 1,151-2,000 c.c.**; 1, N. Surtees (Lotus Elite); 2, R. D. Jennings (Lotus Elite); 3, H. Stiller (Lotus Elite). **Sports-Racing Cars. Overall Winner**; R. F. Pierpoint (Attila-Climax Mk. 2). **Up to 1,150 c.c. Class**; 1, R. A. H. White (Lotus-Climax 11); 2, J. N. O'Sullivan (Rejo-Climax Mk. 4); 3, R. L. Bertorelli (Lotus-Climax 11). **1,151-2,000 c.c Class**; 1, R. F. Pierpoint (Attila-Climax Mk.2); 2, P. L. Hovenden (Elva-Climax Mk. 6); 3, M. Perry (Attila-Climax Mk. 1). **Saloon Cars up to 850 c.c.**; 1, J. Fitzpatrick (Austin Mini); 2, K. Costello (Morris Mini); 3, E. F. Smith (Morris Mini). **Formule Libre up to 2,000 c.c.**; 1, R. James (Brabham-Ford); 2, D. K. Fletcher (Lola-Ford); 3, S. Fox (Lola-Climax). **Saloon Cars 851-2,000 c.c.**; 1, M. Poole (Ford Anglia); 2, M. R. B. Clarke (Austin A40); 3, M. Cole (Mini-Cooper).

SCAMPTON M.C.

GRANVILLE TROPHY RALLY

THE Granville Trophy Rally, which was organized by the Scampton Motor Club on 22nd-23rd June, attracted a high-quality entry of 49 crews. The event was "not more than 200 miles of roads having acceptable motoring surfaces" on O.S. 7th series sheets Nos. 104, 105, 113 and 114. Within these sheets the organizers had placed 111 controls and one special section through a chalk quarry.

The competitors assembled at Scampton R.A.F. station at 9 p.m. having previously been scrutineered at a local garage a quarter-mile down the road. The seeded entry list was neatly assembled ready for the depart of No. 1 (winner of last year's event), Baker/Scoffin in their A40. At 9.45 p.m. exactly, No. 1 was on its way followed at one-minute intervals by the remainder of the field. The route card for the first stage was handed to the navigator of each competing car the second he departed; this system was followed at each of the seven stages. The rally throughout was on the "plot and bash" system and this made it into a very rapid event for navigator and driver alike.

The heat was on right from the start and throughout the night airfield sections, rustic sections, rough sections (one sometimes wonders what organizers consider "acceptable motoring surfaces" are) came in rapid succession. However, the rally was generally considered to have been a most enjoyable one; certainly from the writer's point of view it was. The anti-climax came at the finish, when the organizers published the provisional results. Competitors were still complaining 2½ hours afterwards over what were considered to be silly, petty restrictions.

JOHN HIGHAM.

RESULTS

1, H. Cooper/F. Radford (Sunbeam Rapier); 2, T. Dabbs/A. Pears (Mini); 3, J. Lambert/J. S. Keedy (Cooper-Mini); 4, J. J. Blackburn/D. W. Thornally (Sunbeam Rapier). **Team Award:** Dabbs and Whitton. **Scampton Award:** Mann/Goodhead (Rapier).

B.A.R.C. (N.W. CENTRE)

AINTREE SPRINT

VERY wet weather certainly curtailed the entry of over 50 competitors who made up the programme of the British Automobile Racing Club's (North Western Centre) Sprint at Aintree on Saturday, 29th June.

Likewise, times were down. Only one driver, Don Hill in a Lotus Junior, broke 50 secs.; with a run in 49.79 he took B.T.D.

FRANCIS PENN.

RESULTS

B.T.D.: G. D. Hill (Lotus 1500), 49.79 s. **Production Saloon Cars up to 1,000 c.c.:** A. Staniforth (Morris-Cooper), 1 m. 00s. **Modified 1,000 c.c. Saloons and Cooper Minis:** B. Gillibrand (Morris 1000), 1 m. 1.31 s. **1,001 c.c.-1,300 c.c.:** D. Martland (Morris-Cooper), 56.27 s. **1,301 c.c.-2,000 c.c.:** C. H. Wild (Volvo), 1 m. 1.15 s. **2,001 c.c.-3,000 c.c.:** R. A. Fleetwood (Ford Anglia), 1 m. 0.26 s. **Over 3,000 c.c.:** H. S. Shepherd (Jaguar 3.8), 55.66 s. **Sports Cars up to 1,000 c.c.:** F. W. Smith (Lotus 7), 52.86 s. **1,001 c.c.-1,500 c.c.:** 1, J. L. Charnock (Lotus 7), 54.18 s.; 2, J. E. Hutchinson (Lotus Super 7), 54.43 s. **1,501 c.c.-2,500 c.c.:** 1, J. L. Charnock (Elva Courier), 54.25 s.; 2, J. G. Park (Morgan Plus 4), 55.61 s. **Over 2,500 c.c.:** 1, F. de F. C. Pycroft (Jaguar E), 51.24 s.; 2, T. H. Warburton (Jaguar E), 52.93 s. **Sports-Racing Cars up to 1,500 c.c.:** J. E. Hutchinson (Lotus 7), 52.67 s. **Formule Libre:** G. D. Hill (Lotus 1500), 49.79 s.

ADVERTISING M.C.
EAST SURREY M.C.

DRIVING TESTS

BRENTFORD Market Square was again the chosen venue for the co-promoted driving tests meeting organized by the Advertising M.C. and the East Surrey M.C. on 30th June. In showery weather 25 drivers attempted six varied and generally well-conceived tests, with two tries at each with the better time to count.

From the start the battle lay between Don Harris and Doug Worgan, both of East Surrey and both driving their Sprites. The contest was even all the way through, with B.T.D. finally going to Harris by less than four seconds.

Another ding-dong was fought between D. Thompson and T. Wilks, both Mini-mounted. Here, competition was even fiercer, the fact that they were representing rival clubs possibly accounting for the closeness of the final result between them—0.8 seconds. D. Morgan once again shone in his blown Cortina—his times were only fractionally behind those of the Minis and were sufficient for him to collect his class handsomely.

Results were announced promptly (indeed, there is no possible reason why this should not occur in a driving tests meeting), and the silver ware was appropriately dispersed. With no possible offence to Messrs. Harris & Worgan, how nice it would be, and how interesting for all concerned, if some new Sprite drivers could come along and give them at least a run for their money.

RON AMBROSE.

RESULTS

B.T.D.: D. Harris (Sprite), 142.8 s. **Best A.M.C.:** D. Thompson (Mini), 179.3 s. **Class Winners:** D. Worgan (Sprite), 146.6 s.; T. Wilks (Mini), 178.5 s.; D. Morgan (Cortina), 180.2 s.

MID-SURREY A.C. BRANDS HATCH SPRINT, 16th JUNE

RESULTS

B.T.D.: M. J. Crabtree (Lotus-Climax 7), 2 m. 7.0 s. **Closed Cars up to 1,100 c.c.:** 1, M. P. Bate (Austin Mini-Cooper), 2 m. 21.8 s.; 2, R. Henderson (Minnow Mini), 2 m. 30.6 s.; 3, A. W. Franklin (Austin Mini-Cooper), 2 m. 31.6 s. **1,101-1,600 c.c.:** 1, J. W. Dunster (Austin Mini-Cooper), 2 m. 23.0 s.; 2, M. A. Sargeant (Riley 1.5), 2 m. 25.6 s.; 3, B. T. Davison (Minivan), 2 m. 28.8 s. **1,601-2,200 c.c.:** 1, A. Peer (Ford Anglia), 2 m. 11.0 s.; 2, S. Peer (Ford Anglia), 2 m. 21.2 s. **Open Cars up to 1,100 c.c.:** 1, J. R. Button (Austin-Healey Sprite), 2 m. 21.8 s.; 2, L. G. Higginson (Austin-Healey Sprite) and E. L. Reece (Austin-Healey Sprite), 2 m. 33.8 s. **1,101-1,600 c.c.:** 1, B. White (M.G. Midget-Climax), 2 m. 15.4 s.; 2, R. A. Carter (Lotus Elan), 2 m. 17.6 s.; 3, G. White (M.G. Midget-Climax), 2 m. 19.6 s. **1,601-2,200 c.c.:** 1, M. Hall (M.G.B), 2 m. 26.0 s.; 2, D. J. Barnes (Triumph TR2), 2 m. 32.8 s.; 3, R. A. E. Clough (Triumph TR2), 2 m. 41.2 s. **Over 2,200 c.c.:** 1, D. Howard (Jaguar E), 2 m. 11.0 s.; 2, W. Pearce (Jaguar XK150), 2 m. 14.8 s. **Sports-Racing and Specials up to 1,500 c.c.:** 1, M. J. Crabtree (Lotus-Climax 7), 2 m. 7.0 s.; 2, E. C. Crocker (Lotus-Ford 7), 2 m. 9.8 s.; 3, R. C. Rye (Lotus-M.G. Mk. 6) and R. H. Bell (Lotus-Ford 7), 2 m. 10.6 s. **Over 1,500 c.c.:** 1, D. E. Bridges (Lotus-Ford 7), 2 m. 13.6 s.; 2, Mrs. V. J. Bridges (Lotus-Ford 7), 2 m. 22.8 s.

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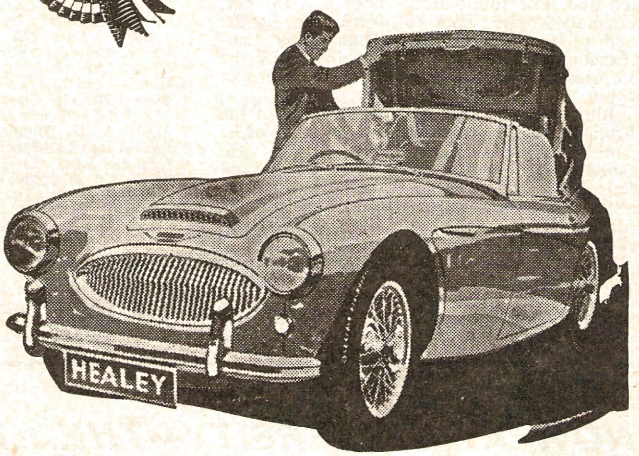

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Newcastle and D.M.C.

Ouston Racing

Popular Northern Meeting

BY ROGER McGLYNN

THE growing popularity of the annual Ouston race meeting promoted by the Newcastle and D.M.C. is effectively proving the need for a permanent centrally based circuit in the North-East.

By 9.30 a.m. the crowds were already pouring into the car parks and spreading out into vantage positions round the 1.5-mile airfield circuit to watch the practising cars and motor bikes. Fastest man round in practice was Rodney Bloor in his Lotus 23 with 1,594 c.c. Cosworth-Ford twin-cam engine. The little car was showing Jimmy Blumer the way round for most of the time, even though the Middlesbrough driver was mounted in a 2.5-litre Cooper Monaco, entered by Ecurie Ecosse.

But Blumer didn't seem to be too happy with the Monaco's handling and the mechanics looking after the car were soon at work on the anti-roll bar with a gas torch. Later he also had trouble with the back axle of the 3.8 Jaguar entered in the Capstan Trophy. A complete unit was borrowed from another car owned by Cliff Jones.

The big 3.5-litre rear-engined Ecurie Ecosse Tojeiro G.T. piloted by Tommy Dickson was not living up to its litres and, although it seemed pretty fast down the straights, was not really up with the leaders. The bulbous front and the very flat rear window make it look very much like an out-of-shape Lola G.T.!

In the first event for the Journal Trophy, run over 12 laps for sports cars up to 1,200 c.c. (Class C) and Class D over 1,200 c.c., Julian Sutton in a Lotus 23B made a terrific start and led first time round from Bloor and Blumer, but had dropped back to fourth place by the end of the second lap. Then Tony Lanfranchi pushed his Elva Mk. 7 in among the Lotuses and took the lead, which he never lost again.

Blumer didn't seem to have sorted out the Monaco handling and was snaking a bit as he came out of the Cheeseburn hairpin. He failed to get past the Lotus of Bloor and finished third. The Tojeiro managed a creditable fourth, and seemed far better than in practice. Lanfranchi drove an immaculate race and never put a foot wrong.

The next race was the 15-lapper for saloon cars competing for the new Capstan Trophy. Blumer made no mistake about this race and galloped away in the Jaguar. The only car that was anywhere near him was the 1.5-litre A40 driven by J. F. Normanton, which stayed in second place until Stewart's Jaguar 3.8 spun in front of him at Cheeseburn. The car was then retired with a badly dented nearside.

Normanton's shunt let George Percival by into second place with the S-type Austin-Cooper third, driven by Harry Ratcliffe.

The VX4/90 driven by John Adams was also put out of the race at Cheeseburn when some oil drums got stuck under his front suspension. During the last two laps slight rain began to fall but had stopped by the time the Ouston Gold Cup Race for Formula Junior and sports cars up to 1,600 c.c. was due to begin.

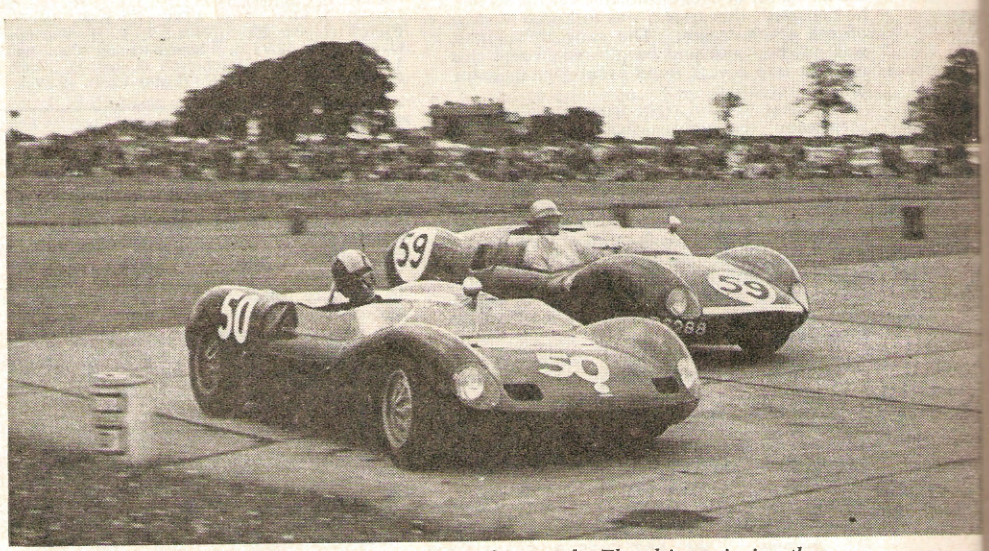
It turned out to be another runaway victory for Tony Lanfranchi and the Elva. He took the lead on the second lap and stayed there to the end. Sutton spun at the esses and removed the main threat to the Elva's supremacy. He dropped five places and left Bloor to chase Lanfranchi as best he could.

But the best race of the day was the race for G.T. cars up to and over 1,600 c.c. At first, it looked like an E-type walkover. Jackie Stewart led the first time round in his red car, but was passed on the second lap by Blumer in the Tojeiro. On the next lap the Tojeiro was missing and it seemed to be all over.

Then the Jaguar came coasting past the finishing line on the third lap with a dead engine and the battle for first place was between Phil Walton in an E-type and G. Durham in a Porsche fitted with an RSK engine. Walton seemed to have the edge on the straights, but on the last two laps Durham forced his way ahead.

Meanwhile Stewart was going again and thrashing his way through the field, driving superbly. It seemed impossible for him to catch the Porsche on the last lap, but he squeezed past some backmarkers at Cheeseburn and passed the line inches ahead of Durham, who had driven extremely well in the potent Porsche. Stewart's halt to rectify the electrical trouble on the E-type had cost him 36 seconds and he drove incredibly fast to make up the time.

Last race of the day was Sports cars and G.T. cars up to 1,000 c.c. which was a Lotus benefit.



IT WAS TONY LANFRANCHI'S DAY at Ouston, the Elva driver winning the Journal Trophy Race and the Ouston Gold Cup Race, despite the presence of Jimmy Blumer's 2½-litre Ecurie Ecosse Cooper Monaco, which is being overtaken in the former event.

RESULTS

Sports Cars (12 laps). Overall Winner: A. Lanfranchi (Elva-Ford Mk. 7). **Up to 1,200 c.c. Class:** 1, W. J. Stein (Lotus-Ford 23); 2, A. Welch (Lotus-Ford 23); 3, G. Robinson (Lotus-Climax 11). **Over 1,200 c.c. Class:** 1, A. Lanfranchi (Elva-Ford Mk. 7), 89.32 m.p.h.; 2, R. J. Bloor (Lotus-Ford 23B); 3, J. Blumer (Cooper-Climax Monaco). **Fastest lap:** Lanfranchi, 55.4 s., 92.92 m.p.h. **Saloon Cars (15 laps). Overall Winner:** J. Blumer (Jaguar 3.8). **Up to 1,200 c.c. Class:** 1, H. W. Ratcliffe (Austin-Cooper S); 2, W. Borrowman (Austin-Cooper); 3, R. D. McCutcheon (Austin-Cooper). **Over 1,200 c.c. Class:** 1, J. Blumer (Jaguar 3.8), 77.52 m.p.h.; 2, G. A. Percival (Ford Anglia); 3, R. Forrester-Smith (Jaguar 3.4). **Fastest lap:** Blumer, 64 s., 80.43 m.p.h. **Formula Junior and Sports Cars up to 1,600 c.c. (15 laps). Overall Winner:** A. Lanfranchi (Elva-Ford Mk. 7). **Formula Junior Class:** 1, A. R. Wyllie (Lotus-Ford 27); 2, E. Dawson (Lotus-Ford 22); 3, J. McLachlan (Elva). **Sports Cars up to 1,600 c.c. Class:** 1, A. Lanfranchi (Elva-Ford Mk. 7), 89.15 m.p.h.; 2, R. J. Bloor (Lotus-Ford 23B); 3, J. Sutton (Lotus-Ford 23B). **Fastest lap:** Lanfranchi, 56.2 s., 91.60 m.p.h. **Grand Touring Cars (12 laps). Overall Winner:** J. Y. Stewart (Jaguar E). **Up to 1,600 c.c. Class:** 1, G. Durham (Porsche Carrera); 2, J. R. Normanton (Austin A40); 3, M. Peel (Turner-Ford). **Over 1,600 c.c. Class:** 1, J. Y. Stewart (Jaguar E); 2, P. G. Walton (Jaguar E); 3, R. M. A. Moseley (Morgan Plus 4). **Fastest lap:** J. Blumer (Tojeiro-Buick), 59.4 s., 86.66 m.p.h. **Sports and G.T. Cars up to 1,000 c.c. (10 laps). Overall Winner:** D. B. Porter (Lotus-Ford 7). **Sports Car Class:** 1, D. B. Porter (Lotus-Ford 7), 79.08 m.p.h.; 2, F. W. Smith (Lotus-Ford 7); 3, D. C. Thompson (Lotus-B.M.C. 7). **Fastest lap:** Porter and Smith, 63.2 s., 81.45 m.p.h. **G.T. Car Class:** 1, J. E. Milne (M.G. Midget); 2, R. G. McCutcheon (Austin-Cooper); 3, B. Gillibrand (Morris-Cooper).

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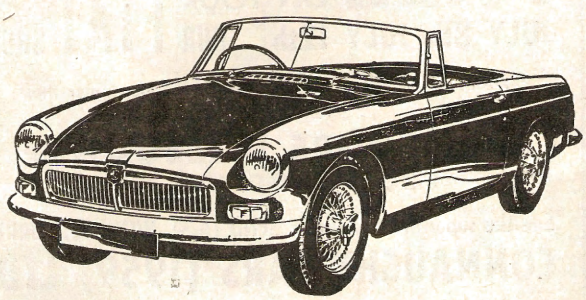

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PRIESTLY TROPHY RALLY

ORGANIZED by the Chelmsford M.C. in co-promotion with the Four Ways C.C., Gaynes C.C. and the West Essex C.C., this event was intended primarily for less experienced crews. The organizers had requested that expert crews should split up and crew for novices to encourage the latter to enter. It is therefore disappointing to relate that from a probable total membership of nearly 1,000 only 27 crews started away from Chelmsford—a sign of the times perhaps?

The first section comprised straightforward route checks in order given, which caused little trouble, although the choice of hydrant numbers when the verge grass is at least 2 ft. high is questionable, to say the least. Section 2 involved the terror of novice navigators, a straight-line route card, which proved to be the downfall of many, including Utteridge/Porter (Mini-Cooper), who mistook the two junctions at 647½157½ for one and soon got hopelessly lost!

Next an Eight Clubs section slightly misfired due to an organizational error and only eight crews found the elusive T.C.5. After a break for petrol, the second half of the rally commenced at T.C.7 with a tulip card interspersed with R.C.s and M.R.s, which took the route across onto the corner of 147. Here, once again, the inactivity of the R.A.C. Competitions Department comes sharply into focus. At 290211 competitors found a Cambridge C.C. control, and the Chelmsford marshal at R.C.32 had a variety of unexpected competitors calling. Surely, when the clubs diligently submit their correct paperwork and 10 km. squares to the R.A.C. they are entitled to expect an efficient service for the fees they pay to this organization. The frequent occurrence of these clerical lapses is hardly likely to encourage the so-called pirate clubs to join the fold.

From T.C.8 an any-order section involving ten R.C.s and one intermediate control lost some of its spice when the intermediate marshal failed to turn up. At the end of this section the rally had covered 142 miles and used only ten controls, but had well and truly sorted out the entry. However, the organizers had planned the rally for the less experienced, and had included as much variety as possible, so there followed a sample of the plot-and-go sections so popular nowadays, 13 controls in all.

And so the rally finished at Braintree with a welcome cup of coffee for all crews. Two-thirds of the entry finished within their time limit and all with their cars intact, which the organizers hope will encourage them to come back next year. N. A. PORTER.

A.C.O.C.
LAGONDA C.

BRANDS HATCH SPRINT

THE Annual Sprint Meeting of the A.C. Owners' Club and the Lagonda Club was held, in good weather, at Brands Hatch on Sunday, 23rd June. This sprint meeting, which originated in 1955 as a closed sprint of the A.C.O.C. and to which Lagonda Club joined in 1958, is a popular "kick-off" for many would-be racing drivers. Competitors were timed over two laps, one standing and one flying, and the gross time counted for the event. All drivers were allowed two runs, and the best time counted.

Among the invited clubs were the B.A.R.C., the Jaguar D.C., the Bentley D.C., the Porsche Club, the V.S.C.C., the Morgan 4/4 C., the Rapier Register and the Combined One Make C.C.

Some good times were recorded, B.T.D. being made by R. J. Connel in his 1956 Lotus 11. Not far behind him was M. L. A. Sharp in a Jaguar 3.4. E. C. MARTIN.

RESULTS

B.T.D.: R. J. Connel (Lotus 11), 2 m. 15.2 s., Fastest lap: 1 m. 3.8 s. **Class Winners:** R. J. Connel (Lotus 11), 2 m. 15.2 s., 1 m. 3.8 s.; M. L. A. Sharp (Jaguar 3.4), 2 m. 18.4 s., 1 m. 6.4 s.; J. F. Brown (Morgan 4/4), 2 m. 22.6 s., 1 m. 8.8 s.; J. E. Marsh (1930 Invicta), 2 m. 31.8 s., 1 m. 12.4 s.; J. D. Abson (1934 Rapier), 2 m. 39.4 s., 1 m. 15.8 s.; T. Pinguey (1934 Lagonda), 2 m. 46.6 s., 1 m. 19.4 s.; C. E. Marchant (Simca), 2 m. 44.4 s., 1 m. 17.6 s.; M. A. Sargeant (Riley 1.5), 2 m. 24.4 s., 1 m. 9 s.

CAERNARVONSHIRE & ANGLESEY M.C.

DRIVING TESTS

THE Caernarvonshire and Anglesey Motor Club held a Driving Tests meeting at Ty-Croes Camp, Anglesey, on Sunday, 23rd June. There were 16 entrants, who found the tests wide and open. The surface was almost ball-bearing, very slippery and really found the "feather-footed" fast drivers. Being very "open", there was no fear of knocking the pylons down—it was more a case of being able to stop or turn where necessary. The club was very grateful for the loan of the Parade Ground, which proved to be an ideal venue, if, as stated, a little slippery. The Mini-Sprite class was by far the strongest.

HELEN NICHOLSON.

RESULTS

B.T.D.: Frank Campbell (Mini-Cooper). **Best opposite class:** D. G. Jones (Volkswagen). **1st Class award:** T. Parry (Downton Mini). **2nd Class award:** Edwin Evans (Mini). **Ladies' award:** Mrs. G. Campbell (Cooper-Mini). **Novice:** B. C. Parry (Mini).

A.W.R.E. M.C.

WARLOCK RALLY

THE A.W.R.E. Motor Club's Warlock Rally took place on Saturday, 22nd June, and this year was confined to novices. Twenty-six competitors left the start at the Falcon Garage, Tadley, on a short regularity section which took them near Pangbourne. A circuitous route near Marlow and High Wycombe was enjoyed by all, including a singing drunk riding an unlit bicycle who joined the route near T.C.10. Nicol/Pantet were unfortunate, not only did they lose a fan belt, but they were shot at too!

The half-way point was followed by two Tulip sections, a straight-line plot and then a short "plot and bash" to complete the 110 miles of rallying. There were now serious complaints about the marshalling—after all, the experts were doing it! G. S. PERRY.

RESULTS

1, M. Sowdon/D. Street; 2, H. Fleischmann/C. Fleischmann; 3, J. H. Eldridge/J. Rhodes.

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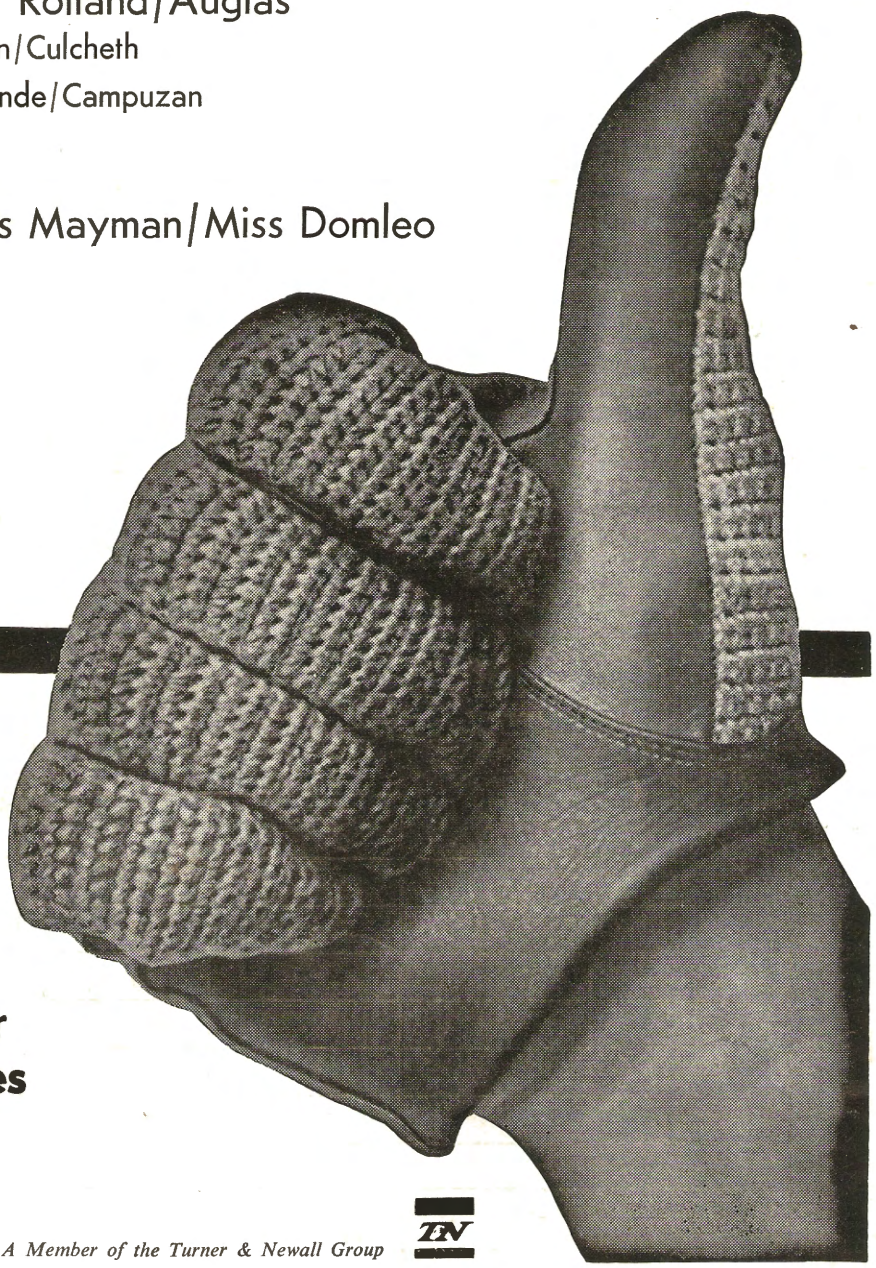

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