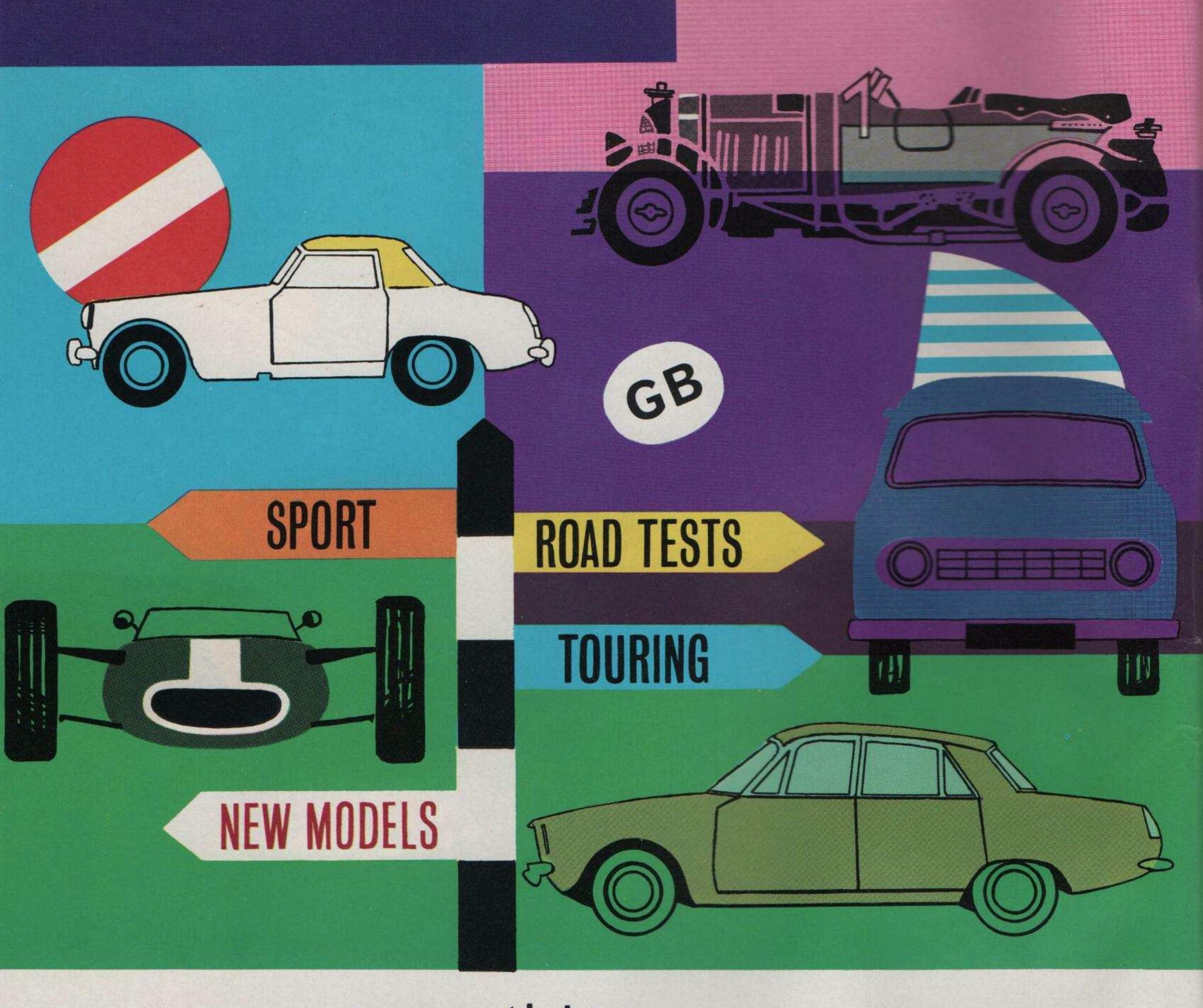


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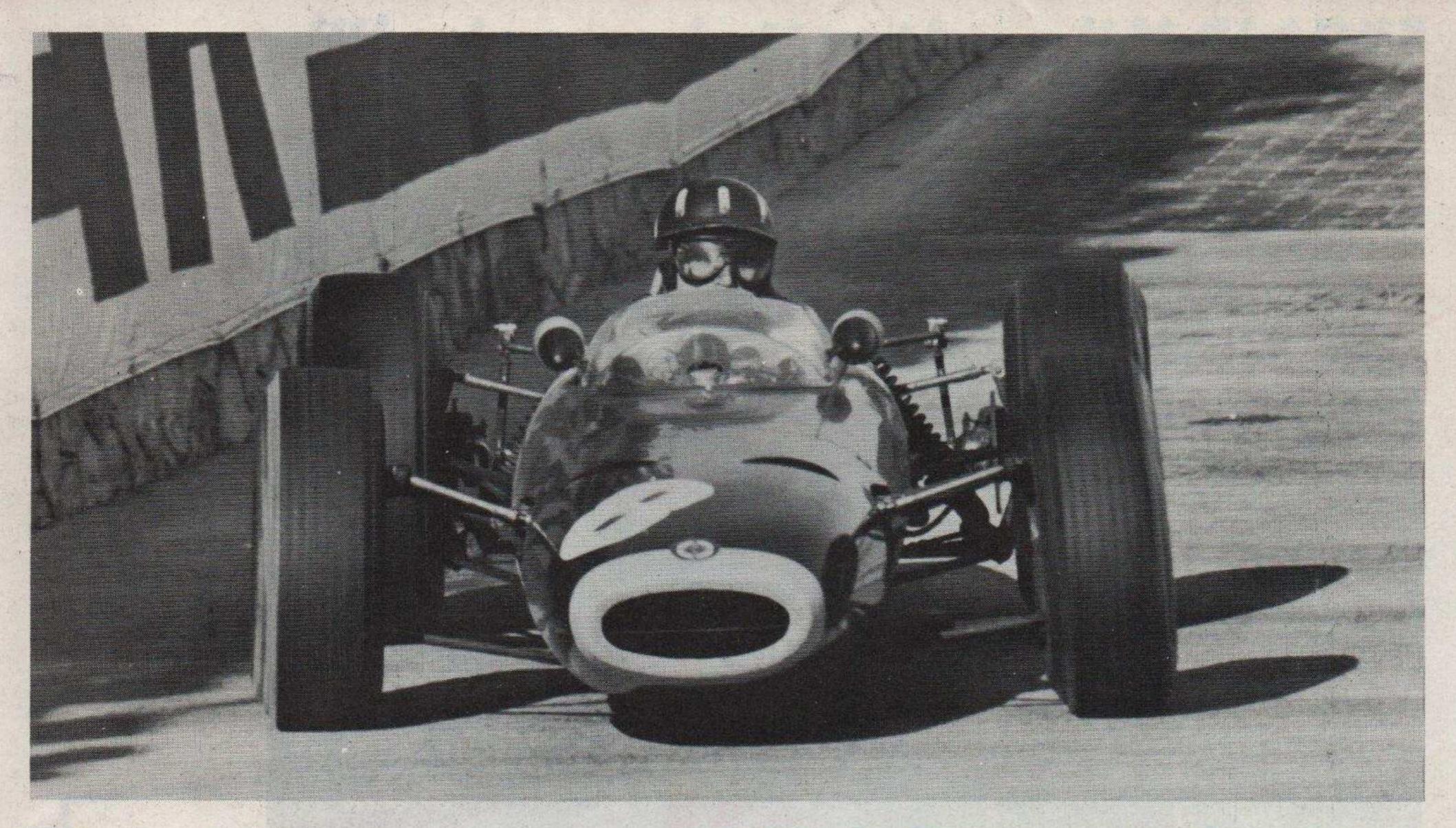
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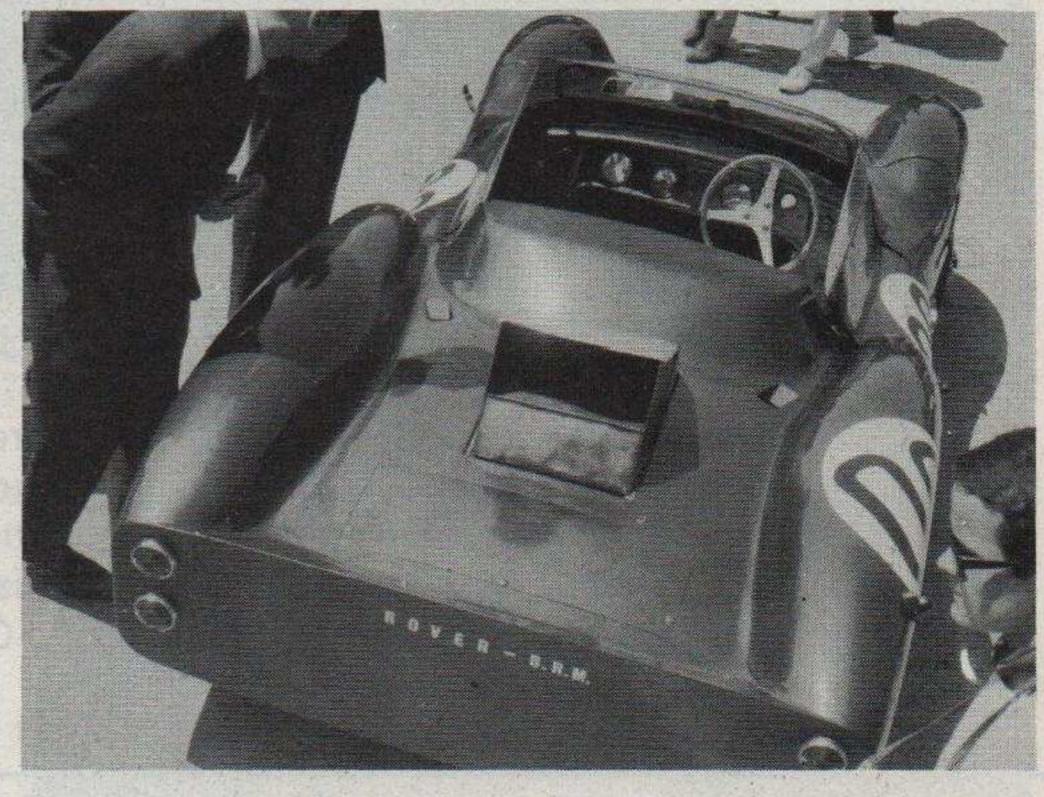
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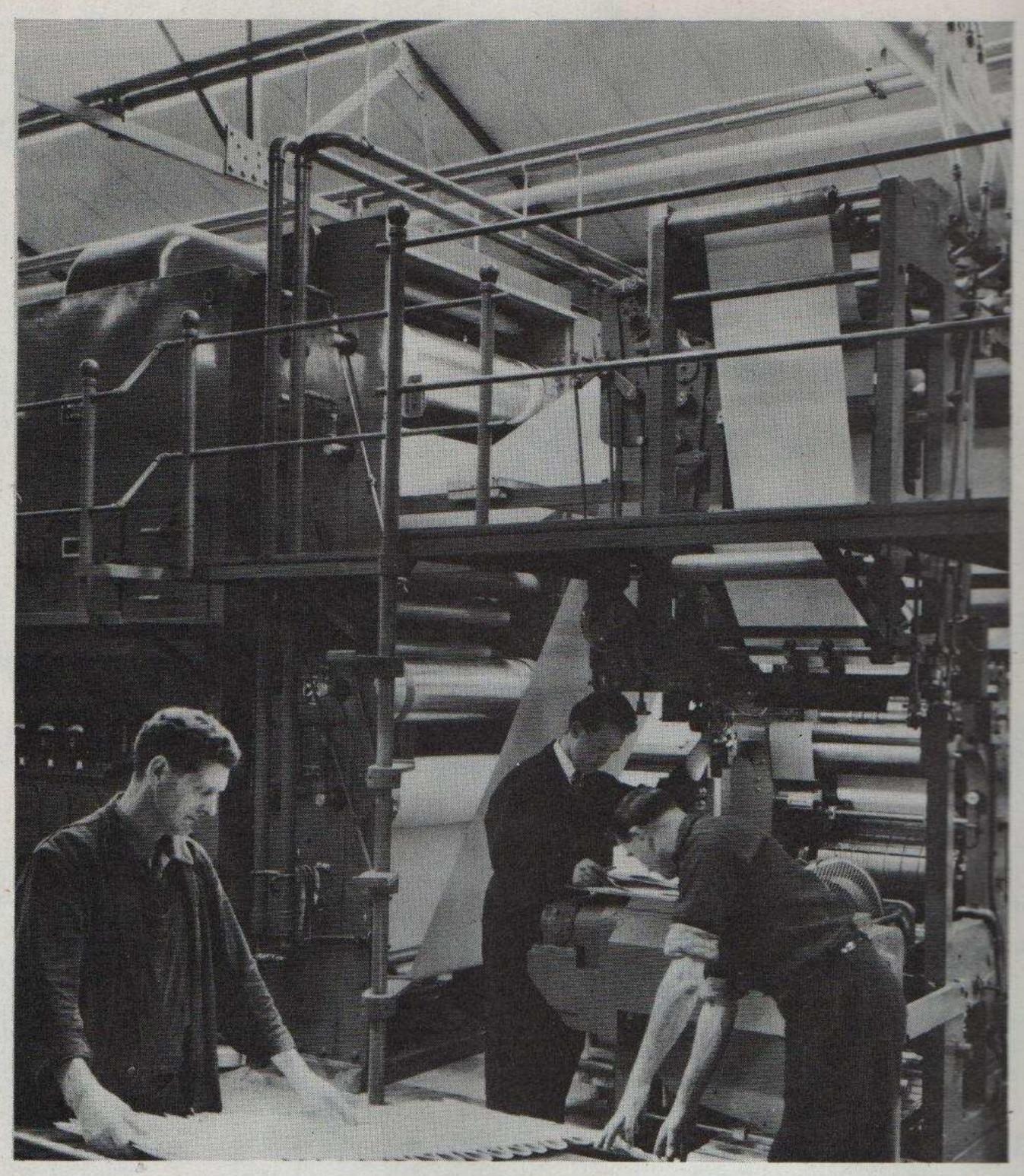
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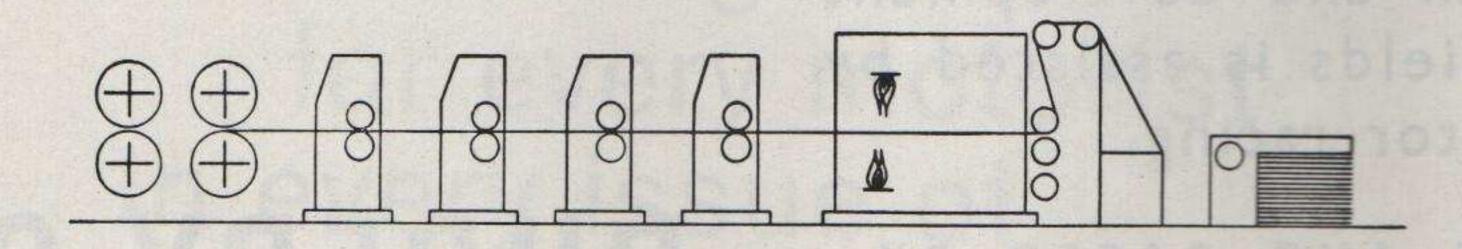
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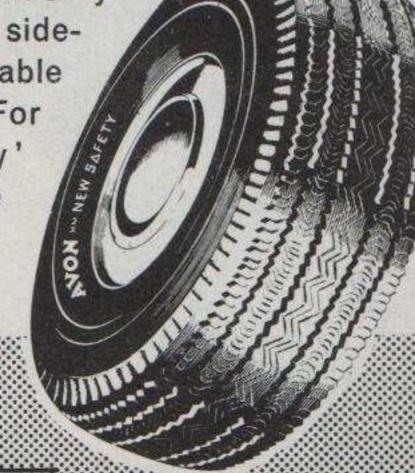
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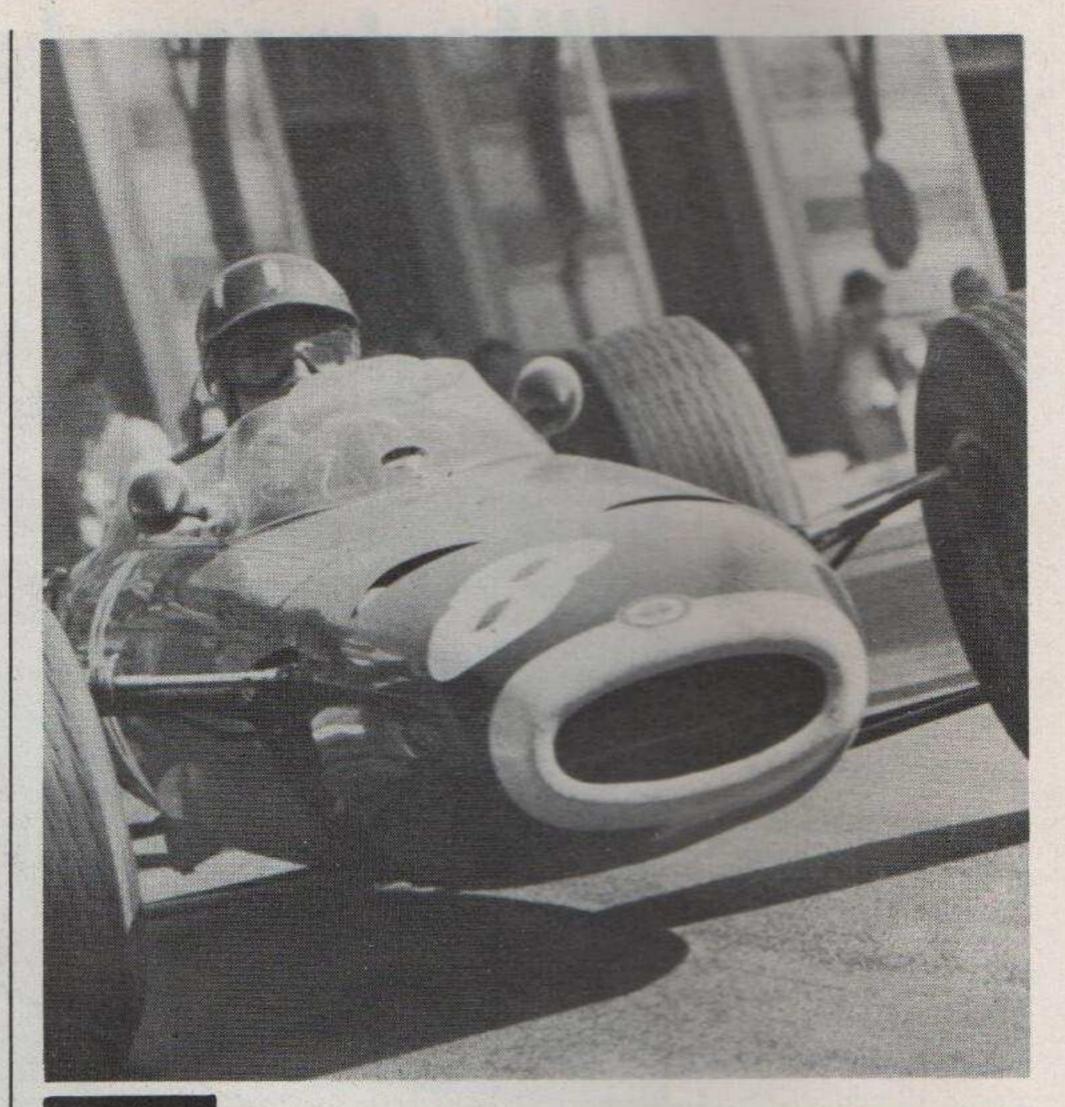
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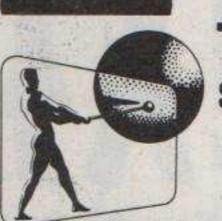
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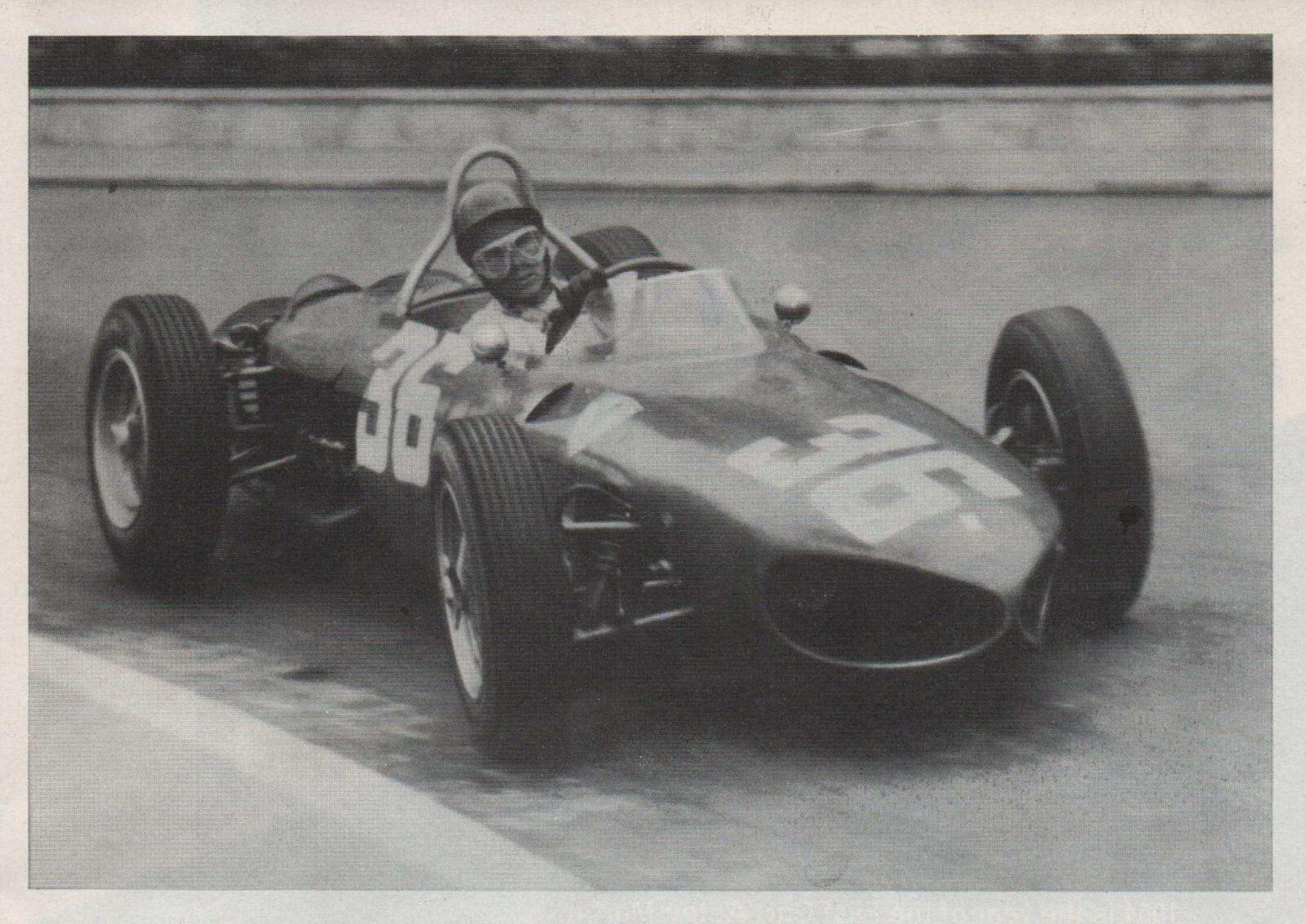
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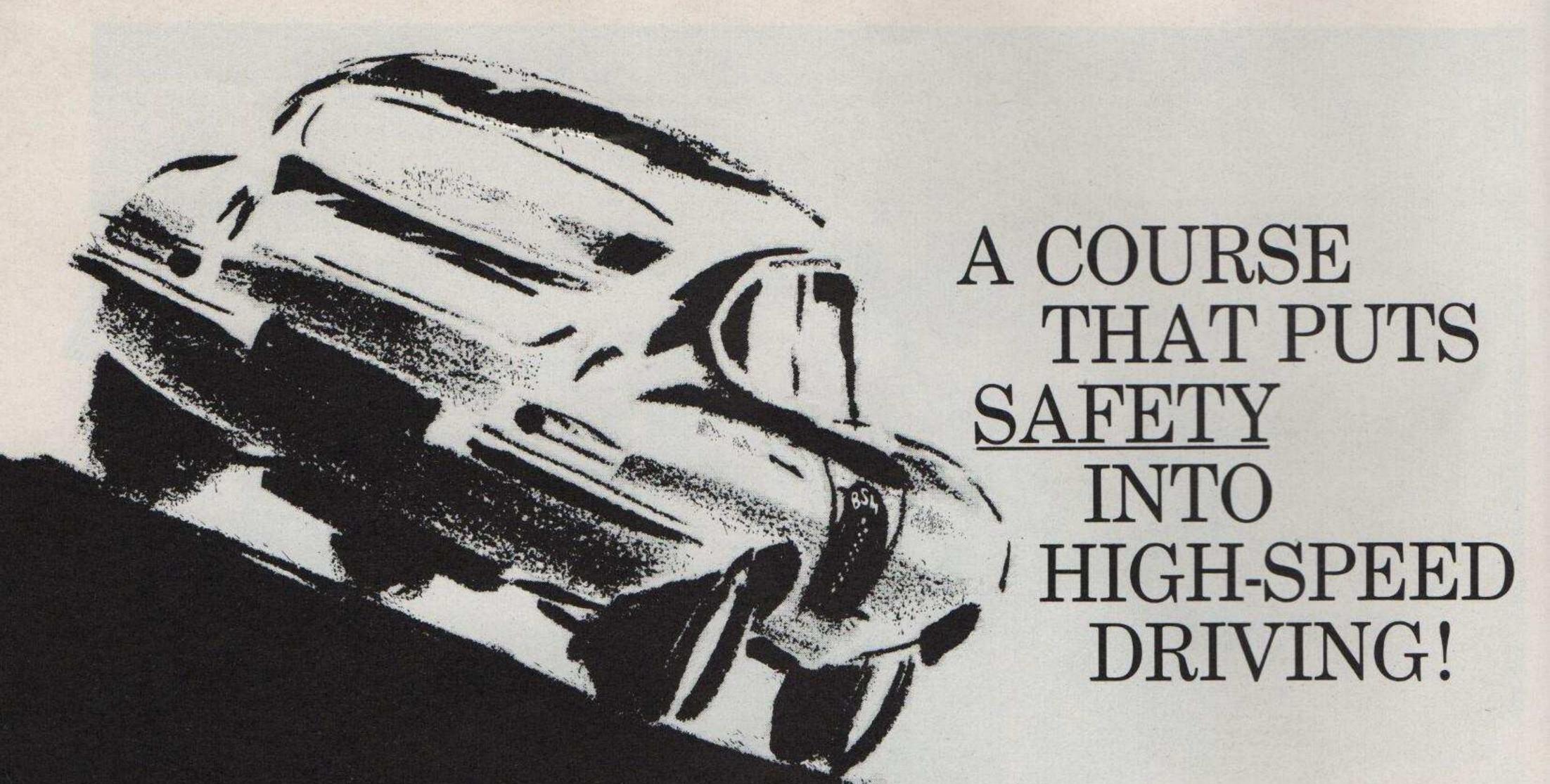
FOLLOW THESE EXPERT TIPS FOR THE BEST RESULTS

- SIDE VIEWS. 'Panning'-following the car with the camera. Needs plenty of practice. Use 1/300th or 1/250th sec with blade shutter to blur background for speed-effect. Minimum depth of field also useful to help blur background.
- THREE-QUARTER VIEWS. Best position to catch driver's expression, show angle of 'drift' of car, contortions of suspension with fast cornering. Shutter speed no less than 1/500th as car is travelling in two directions—across plane of film and towards it. Reasonable depth of field essential.
- GENERAL VIEWS. The start of a race, groups of cars cornering during opening laps (before they get too spaced out) make exciting photographs. Take them with any camera.
- PERSONALITIES & BACKGROUND. The paddock-of course! Lots of racing atmosphere. Drivers relaxing, mechanics tinkering, pretty girls-all the backstage of motor racing. Ideal for colour photography too.

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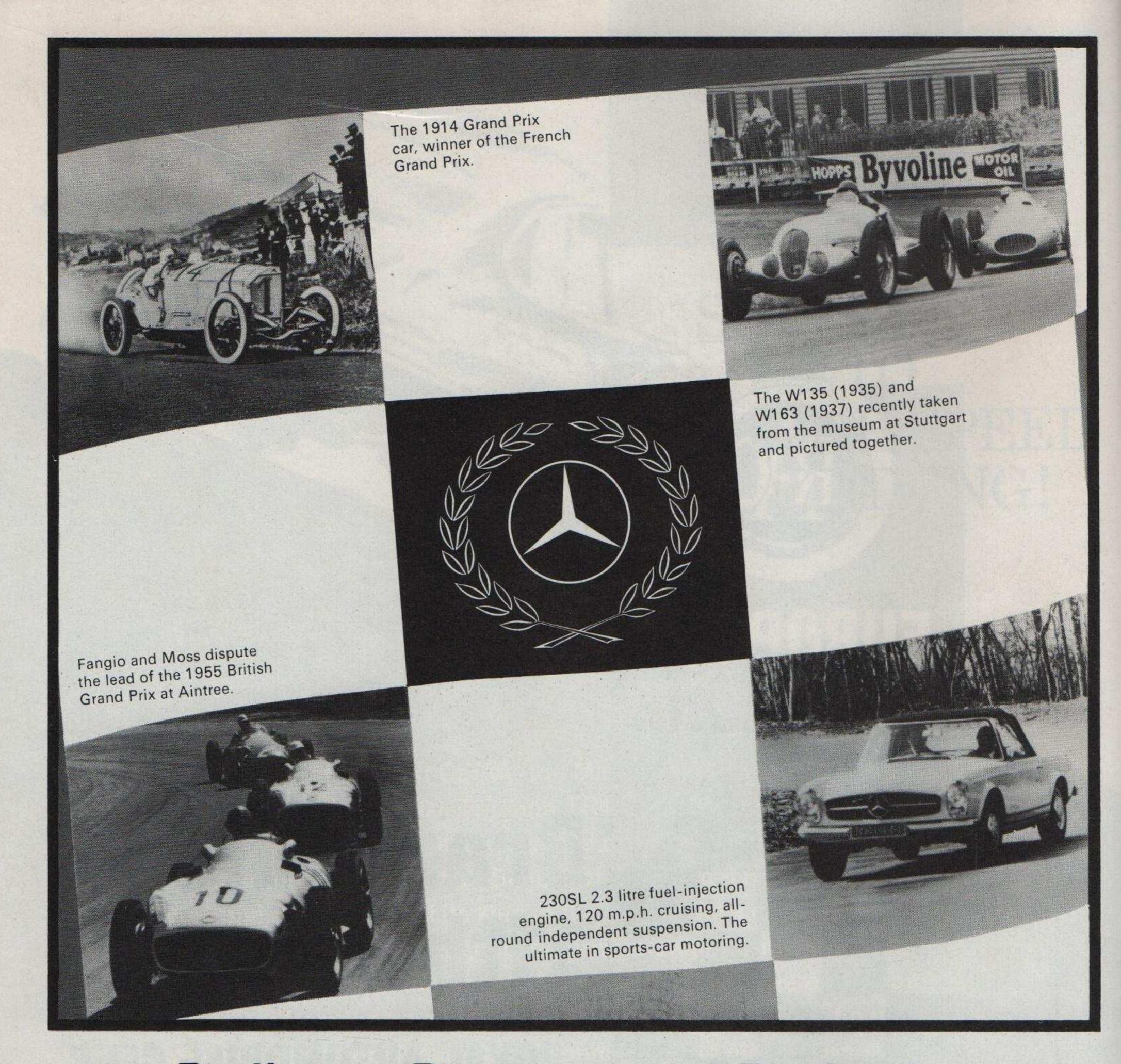
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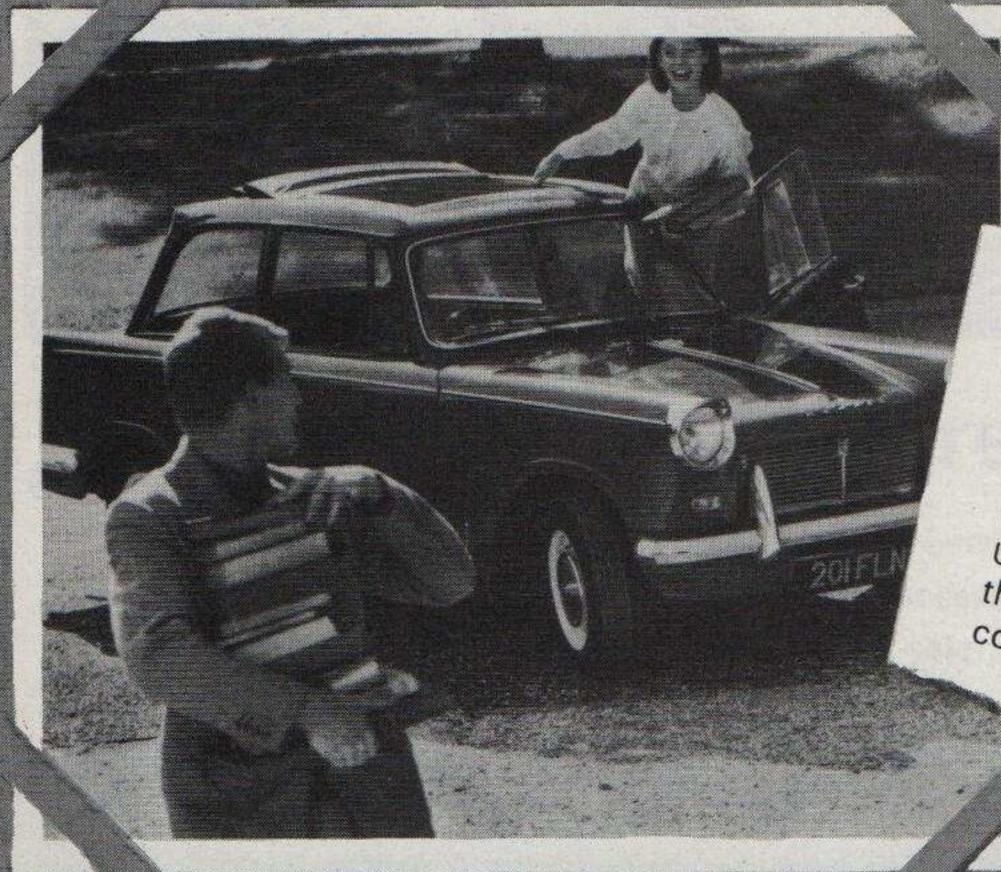
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They said it wouldn't MOTORING CORRESPON	wor	k D	ENIS HO	OLMES ·	, DAII	Y MA	JL •	. 19,	21
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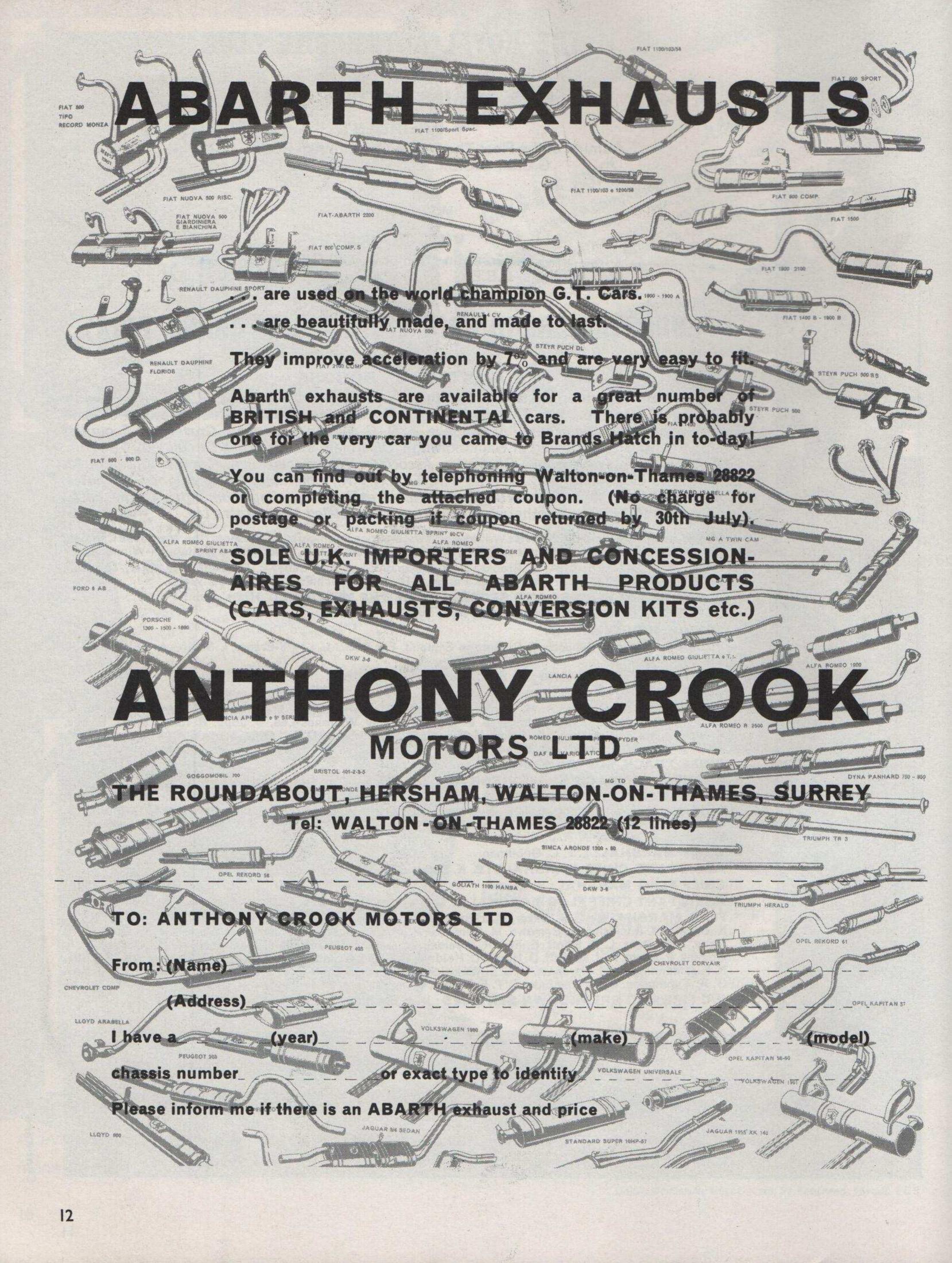
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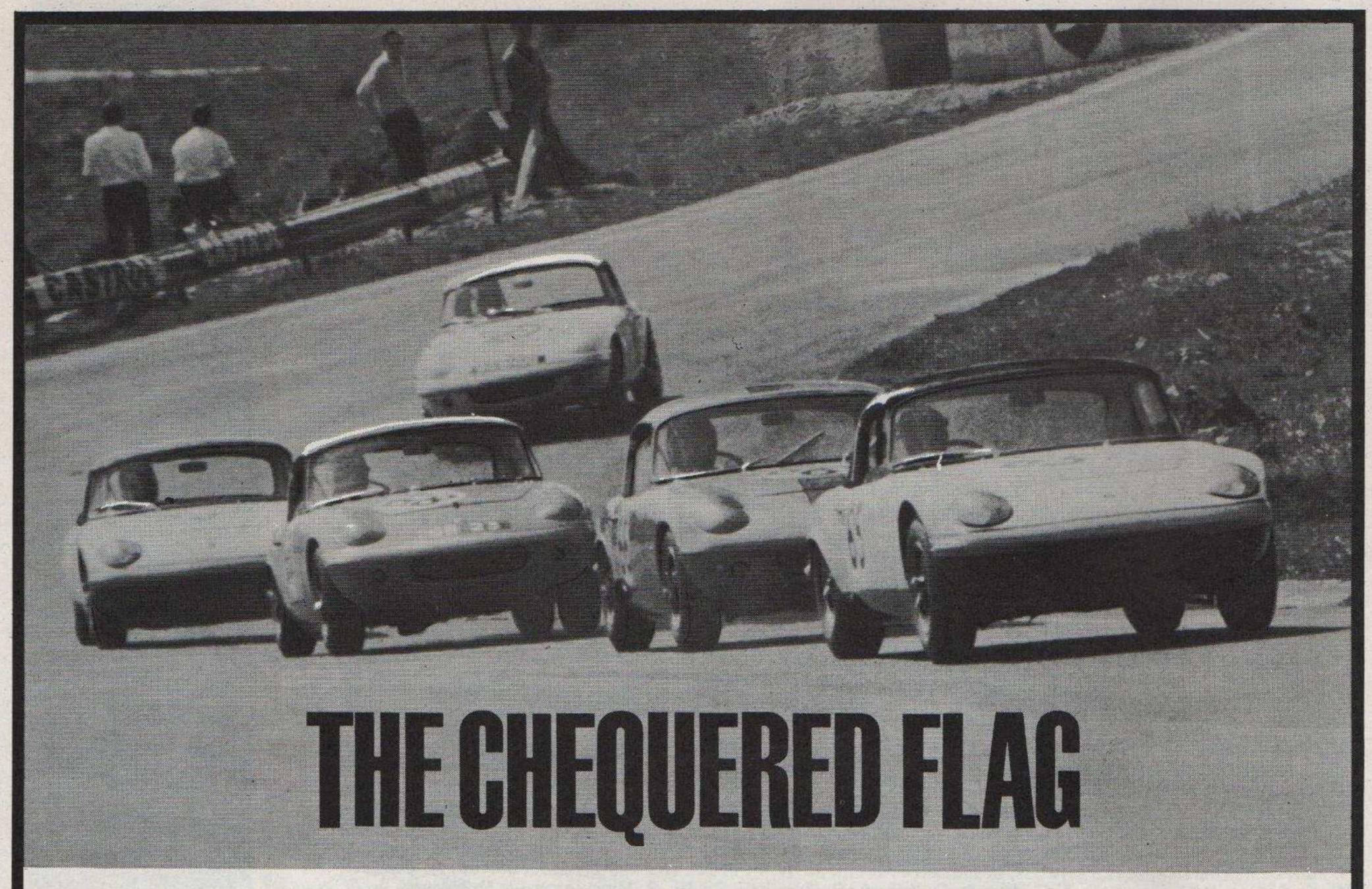
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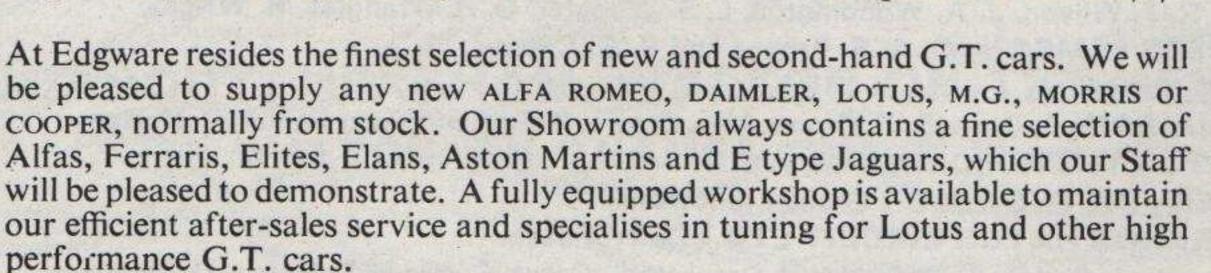
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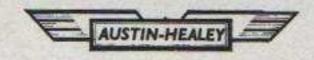


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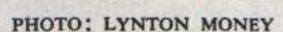


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Awards

#### 11.00 a.m. MOLYSLIP TROPHY RACE FOR TOURING CARS

20 laps - 53 miles

Separate classes for cars up to 1,300 cc. and 1,301 to 2,000 cc.

AWARDS: In each class, 1st-£100; 2nd-£70; 3rd-£30.

Overall winner, irrespective of class - an additional £50.

All cash awards will go to the entrant.

#### 12.00 noon ILFORD TROPHY RACE FOR GRAND TOURING CARS

20 laps - 53 miles

Separate classes for cars up to and over 2,000 cc.

**AWARDS:** In each class, 1st - £100; 2nd - £70; 3rd - £30. Overall winner, irrespective of class — an additional £50. All cash awards will go to the entrant.

12.45 p.m. EVENING NEWS express delivery of a Grand Prix edition flown in by helicopter to sales points around the Brands Hatch circuit.

FOR FURTHER DETAILS, TURN TO PAGE 54

1.00 p.m. A spectacular display by Military Forces of Eastern Command, including a mock attack on defended positions.

1.50 p.m. FOR FURTHER DETAILS, TURN TO PAGE 65

1.55 p.m. Drivers taking part in the R.A.C. European Grand Prix presented to the President of the R.A.C.

2.05 p.m. Drivers and cars tour the circuit.

2.15 p.m. Grand Prix cars assemble on the starting grid.

#### 2.30 p.m. R.A.C. EUROPEAN GRAND PRIX FOR FORMULA 1 CARS

80 laps - 212 miles

AWARDS: 1st - The Mervyn O'Gorman Trophy and £1,000; 2nd - £500; 3rd - £300; 4th - £200; 5th - £150; 6th - £100. The Fred Craner Memorial Trophy for The Highest Placed British Driver.

All cash awards will go to the entrant.

#### 5.30 p.m. GUARDS TROPHY RACE FOR SPORTS CARS

20 laps - 53 miles

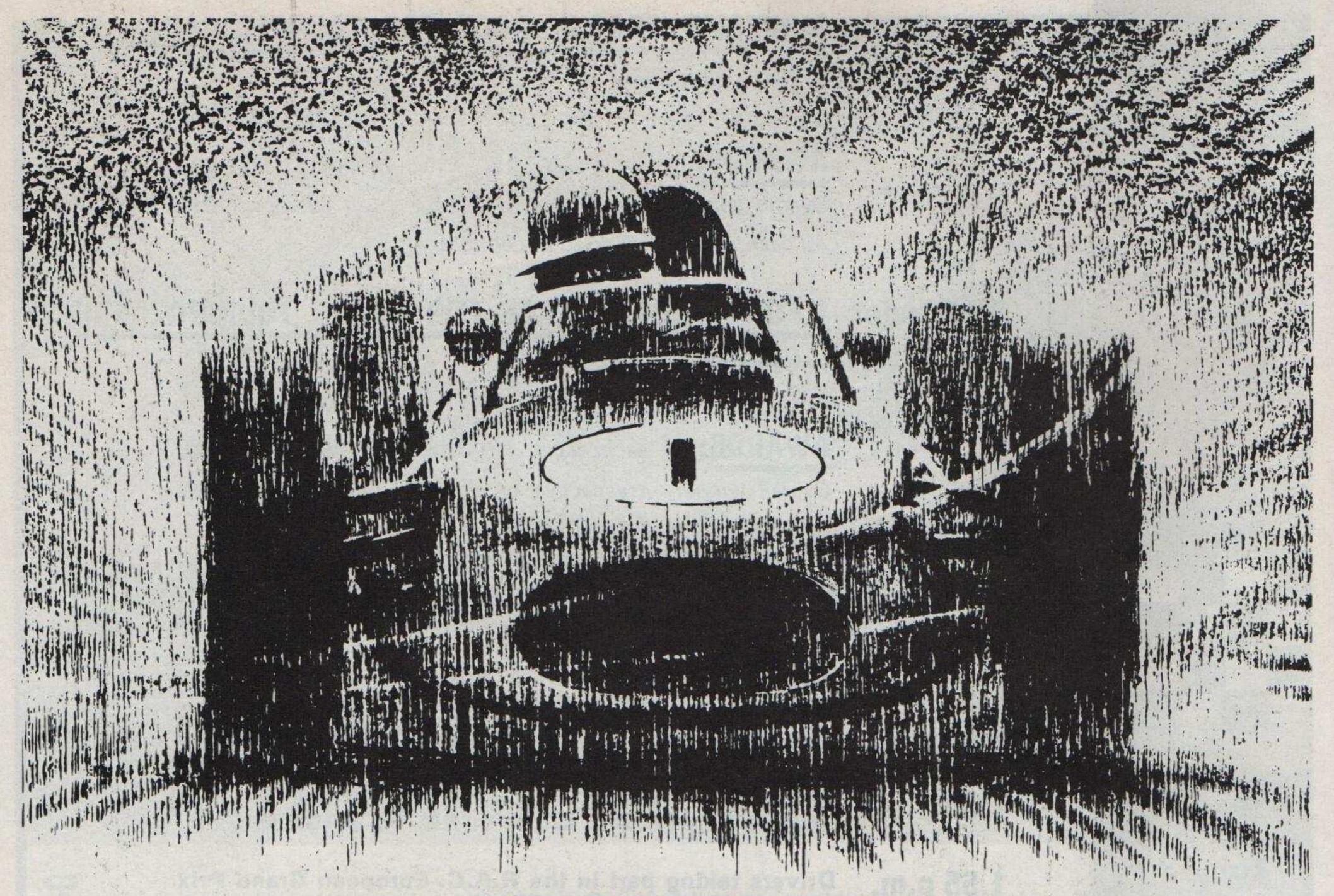
Separate classes for cars up to and over 2,000 cc.

AWARDS: In each class, 1st - £100; 2nd - £70; 3rd - £30.

Overall winner, irrespective of class - an additional £50.

All cash awards will go to the entrant.

6.30 p.m. Jazz Concert by the Chris Barber Band, with Ottilie Patterson and guest star Humphrey Lyttleton. FOR FURTHER DETAILS, TURN TO PAGE 54



# OUT IN FRONT

We're not telling you anything you don't know-just reminding you how often British racing drivers rely on revolution indicators and sparking plugs (either KLG or Lodge) supplied by Smiths.

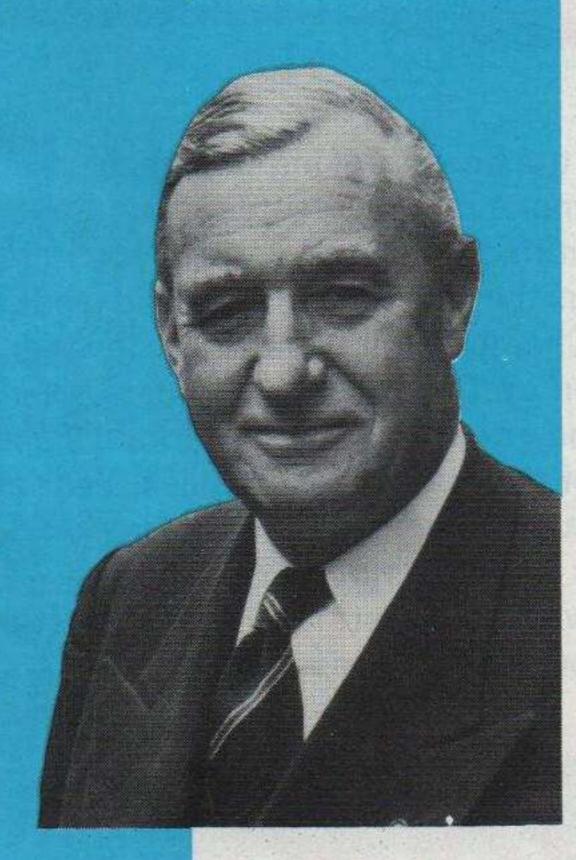
And when British drivers are out in front, Smiths are usually there with them. That's where Smiths have been, in their own sphere of activity, ever since motoring began—out in front.

KIG

NIIIN LODGE

S. SMITH & SONS (ENGLAND) LIMITED, CRICKLEWOOD, LONDON N.W.2





## A Little Bit of History

WHEN the Brands Hatch car race circuit was first opened in 1950, I doubt if any of the spectators watching those eager little 500s buzzing around the circuit ever dreamed that one day, a Grand Prix, and a European Grand Prix at that, would be staged there.

Today, with the 17th RAC British Grand Prix, it comes to pass. Brands Hatch itself has changed in the intervening years and, more particularly, during the past 12 months. New grandstands, restaurants and other facilities have transformed it into a circuit worthy to stage Britain's most important motor race.

One thing remains unchanged. It is still the circuit which provides the best view of the racing for the great majority of those whose hard-earned cash supports this

great sport.

We are seeing a little bit of history made at this meeting. It is the first time since the early 1950s at Silverstone that the RAC has itself directly organised its own Grand Prix; the first time that the Grand Prix has been held in the South; and the first time ever that a European Grand Prix has been held in this country with a British driver as reigning world champion.

Indeed, we are likely to see at least four world champions with us today-Jim Clark, Graham Hill, Jack Brabham and Phil Hill. And there may be a fifth-if the champion of 1964 is not to come from within the ranks of these four who have already won the title. Whatever the outcome, today's race is likely to play an important part, not only in the drivers' championship,

by WILFRID ANDREWS

but in the battle to decide the outstanding car of the season.

Good luck to all of them. In the vernacular know they will come out

Royal Automobile Club of boxing, we

Chairman

fighting, and we hope to see the best man win.

Finally, on behalf of the Royal Automobile Club, I would like to express thanks to the directors of Brands Hatch Circuit Ltd., the DAILY MAIL, and Headquarters Eastern Command, whose splendid co-operation has helped so much to make today's meeting possible.

#### the men who know choose Dunlop



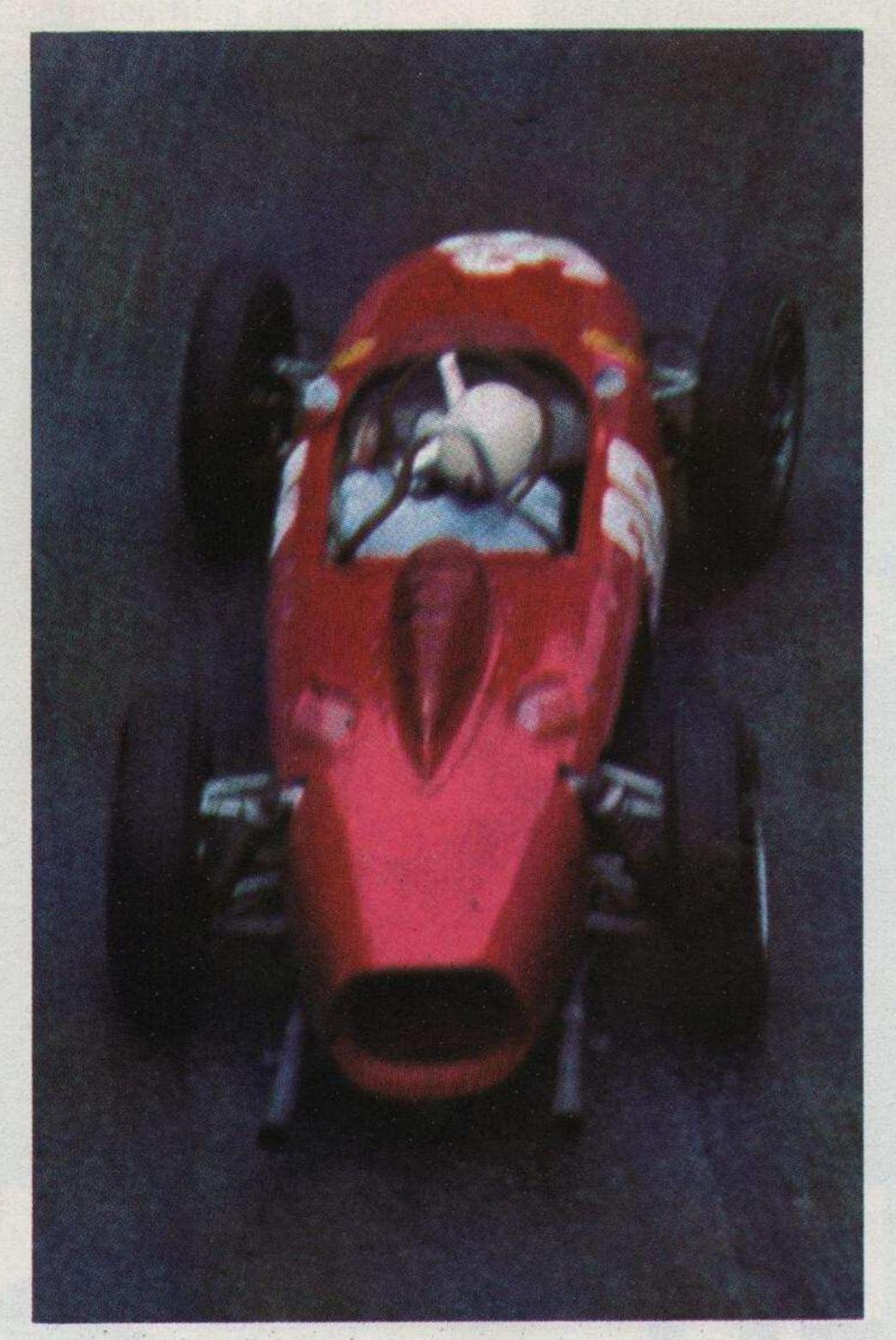
The fantastic speeds, the fierce braking and acceleration in motor racing today, make unprecedented demands on tyres. That's why most manufacturers and most drivers choose Dunlop—the best in the world for safety and endurance. Proof? All World Championship Grand Prix events since 1959 have been won on Dunlop. So have the Driver's World Championships and Formula I Constructors' Championships, as well as most of the international rallies. Year after year the knowledge gained from this tough, tyre-searing experience helps Dunlop to build better, more advanced tyres for the private motorist. They're the most in use. Look around you . . . and see.



## DUNEOF

first on the track — first on the road!

CFH/H64/ 118



# They said it wouldn't work!

Left: 1961, the first year of the current grand prix formula, became a Ferrari benefit, the red cars of Maranello taking all but three of the world championship races, and team driver Phil Hill winning the drivers' crown.

Below: Stirling Moss's epic victory in the 1961 German Grand Prix at the Nurburgring with Rob Walker's underpowered four-cylinder Lotus-Climax ranks with his similar success at Monaco the same year as the highspot of his brilliant racing career.

HERE we are at Brands Hatch for the European Grand Prix, the first time that a world championship event has been held at this fine circuit. It won't be the last time either, I am certain!

But although this is the most important world race of 1964 in its own right, today's event has even more significance. It is virtually the climax of the formula that everyone said would not work.

From now on all motor racing is looking ahead, and planning for the next Formula 1 which starts in 1966. So let me take this big day at Brands as the opportunity to review the past and forecast the future.

The present Formula 1, with its 1½ litre engines, came in with a mighty row. It began in 1961 in the face of serious opposition, and almost a boycott from everyone concerned in Britain.

One of the main reasons for introducing it—apart from the fact that it suited the development plans of our foreign rivals—was to improve safety by cutting the high speeds of the then existing formula.

The  $2\frac{1}{2}$  litre cars running in this championship class, which had lasted for seven years, were doing 180 mph on four-cylinder engines. But the plan to cut the engine size by so great a margin as 1 litre was attacked by both manufacturers and drivers in this country.

Out of all the storm of protests that it would not work and would kill grand prix racing, I believe the drivers had the most valid point. They feared that it would level out all skill to a common denominator governed by power

Continued on page 21





Denis Holmes, DAILY MAIL Motoring Correspondent, has built up a tremendous international following for his grand prix motor racing reports. Here he reviews a racing formula which was born under a cloud but which has produced some of the most exciting grand prix races of all time



WANDERVELL

LEAD INDIUM BEARINGS

98 Grand Prix 13 Le Mans

9 World Championships

7 World Championships of Manufacturers







#### Continued from page 19

(or lack of it), and that although the cars would be less difficult to handle, this shortage of power in reserve would prevent them from 'driving out' of serious trouble. Despite the fuss, the new formula began and Britain was totally unprepared in 1961. While we had wasted time in arguing to try to defeat the

controversial plan, Enzo Ferrari had developed a brilliant new engine in his Italian stronghold at Maranello. We entered the new formula with outdated four-cylinder 1½ litre engines that were hopelessly underpowered, their 160 horsepower giving our cars a top speed of little more than 150 mph. Meanwhile, the scarlet Ferraris had their brand new V6 unit in both narrow-angle and wide-angle form.

These engines helped to give Ferrari the manufacturers' world championship in the first year of the formula, and enabled their Californian team driver, Phil Hill, to become world champion.

Only one man could beat the triumphant Ferraris that year—Stirling Moss, driving an underpowered and outdated Lotus in what I consider to be his two greatest races, the Monaco and German Grands Prix. He proved on two of the toughest circuits in the world that human spirit and sheer skill can overcome mechanical deficiency.

Meanwhile, desperate efforts were being made by our two grand prix engine makers, Coventry Climax and BRM, to produce new  $1\frac{1}{2}$  litre V8-cylinder units to challenge the Italian domination.

The opening of the 1962 season saw a different story from the start, and the V8 cars from Britain roared through all opposition to a series of magnificent victories, failing to win only one championship race—the French Grand Prix.

Graham Hill and BRM seized the world drivers' and manufacturers' championships in 1962 with this new power, and Jim Clark and Lotus (using Climax engines) took the titles in 1963. The new V8s lifted speeds to over 160 mph, and now, with ever-increasing reliability, the power output of our V8s has edged over the 200 horse-power mark.

The  $1\frac{1}{2}$  litre formula has given us some of the finest close motor racing ever. Seeing the championship battles on the world circuits is a job of work for me, but it has also been a thrilling experience. I have enjoyed the countless dogfights which have developed behind the leaders as much as the tense duelling for outright victory.

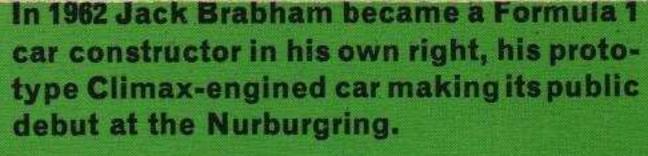
On many circuits the  $2\frac{1}{2}$  litre lap records have tumbled to the smaller-engined cars. Why? There have been fantastic improvements in chassis, suspension and tyre design. The result has been better handling and much faster cornering which has more than offset the reduced power. So even the toughest critics—and I too had my doubts about this formula—must agree that it has been a great success. But what of the future?

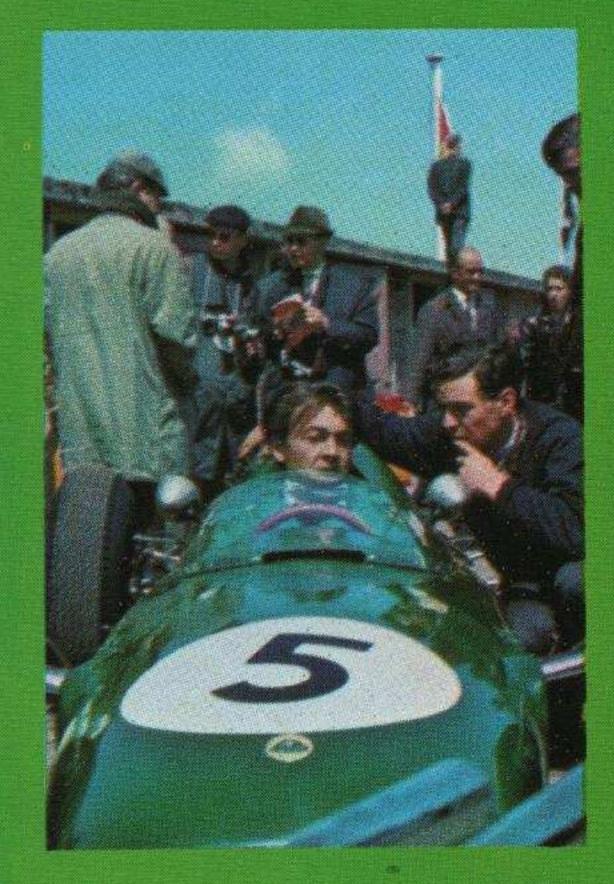
In 1966 the F1 engine size leaps to 3 litres unsupercharged or 1½ litres 'blown'. This means that 1965, as



Winning a grand prix calls for teamwork and a close bond between entrant, driver and mechanic. Lotus chief mechanic Jim Endruweit warms up Jim Clark's Lotus-Climax.

1962 was BRM's year at last, although Graham Hill, driving a car with shortened nose cowling, was unable to repeat his Zandvoort victory when the grand prix circus moved to Monaco.







the last year of the present formula, will not be the 'dead' season that might have been expected.

Instead of writing-off the 1½ litre engines, manufacturers will be developing them. They will either become the new grand prix power units with superchargers, or else they will be used in this form as stop-gap units while brand-new multi-cylinder 3 litre engines are developed.

So next year the cars you are watching today will be mobile test beds for the championship racing of the coming years, Looking into this now not-so-distant future I can already predict:

The start of the climb of grand prix speeds to 200 mph. Even more spectator thrills from bigger engines and cars that are more difficult to handle—although racing will not be so close.

Cars that will have four-wheel-drive and automatic gearboxes. Fatter cars with bigger tyres—although overall car size will not be much bigger than now, the new grand prix models will 'bulge' behind the drivers as more space is needed for the larger engines at the rear.

It is a wonderful prospect ahead for motor racing as new cars and new champions emerge. And here today at Brands Hatch we are all on the thrilling threshold of this new grand prix era.



#### He got the sack from Leston's

And not only the track sack but the gloves, the boots, the jacket, the watches, the helmet, the turbo visor—in fact all his gear. He bought them at Leston's because its the best place to go. They've got everything. Beautifully made woodrim steering wheels, strident continental air horns, jazzy motor racing umbrellas, rally equipment, and all the go-faster gadgets you could dream of to make

your car superior. Even if it isn't a Ferrari. There is absolutely no doubt that Les Leston Limited is the greatest motor sports shop. That's why all the top race drivers buy there. And not only famous individuals but famous international companies. Leston's make those crisp blue flameproof overalls for Dunlop that just about everybody wears. They supply wind cheating rear view mirrors for Lotus,

Ferrari, BRM, Cooper, Brabham. They make woodrim wheels for Porsche, B.M.C., B.M.W., Morgan. So come and mingle with the mighty at the shop on the paddock road just behind the grandstand. You can't miss it—it's the one with the crowd round it. Remember—the man who has got everything got a lot of it at Leston's. Les Leston Limited, 314 High Holborn, London, W.C.1.



Flag

Signals

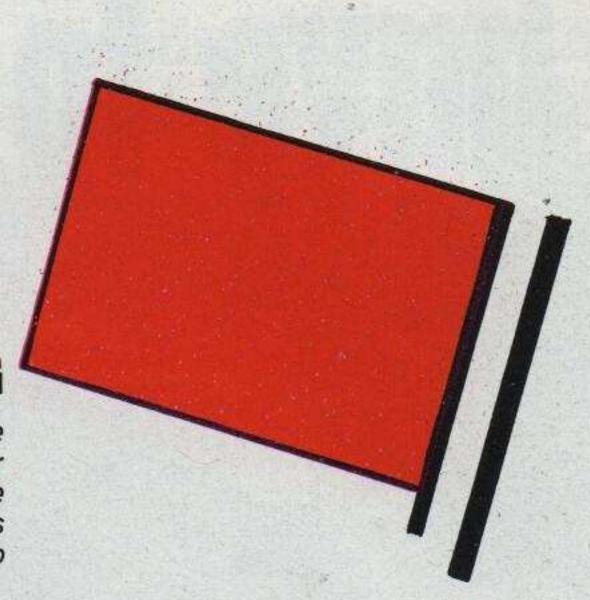
The flag marshals you see at this meeting are members of the British Racing and Sports Car Club, and the standard they set is, in the opinion of many drivers, the highest to be found anywhere in the world. They play a vital role in achieving the highest possible safety factor in what is inevitably a dangerous sport.

#### UNION JACK

This flag is used to start all races in the United Kingdom. (It is normal procedure overseas to use the national flag of the country concerned.)

#### RED FLAG

Like the black flag, the red can only be used under the instructions of the Clerk of the Course. It is a warning to all drivers to stop immediately.

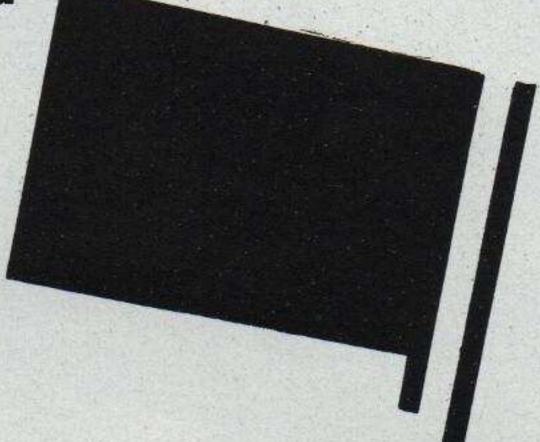


#### YELLOW & RED FLAG

Oil on the course warning is given by a yellow-andred flag held stationary. Should the oil slick appear particularly hazardous the flag will be waved.



A black flag, accompanied by the competition number of the car concerned, is an order for the driver to slow and call at his pit at the end of the lap.

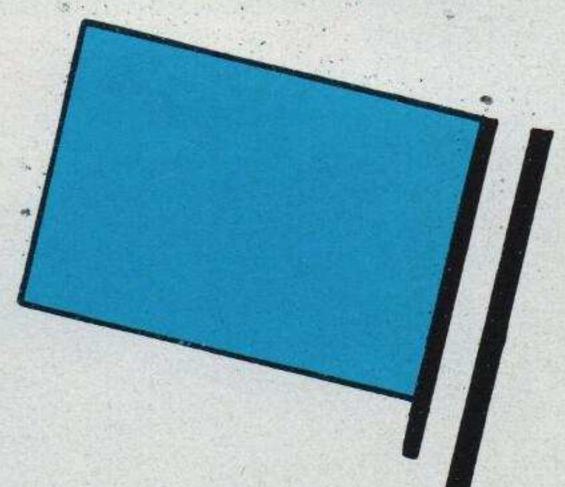


#### YELLOW FLAG

A yellow flag is shown to signify an obstruction on the course. Drivers seeing a yellow flag must slow down and be prepared to stop if necessary.

#### BLUE FLAG

A blue flag held stationary warns a driver he is being closely followed. Waved, it means the driver behind is trying to overtake.

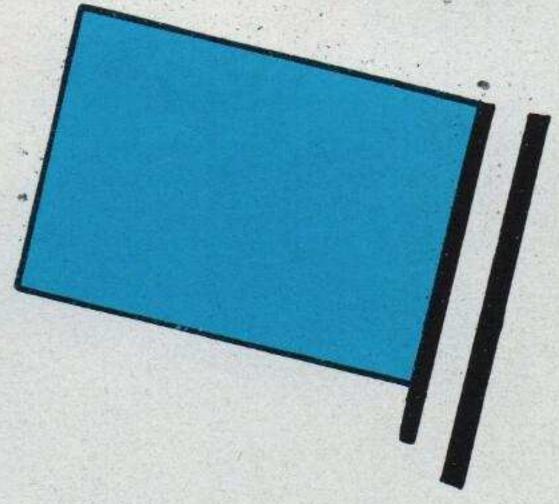


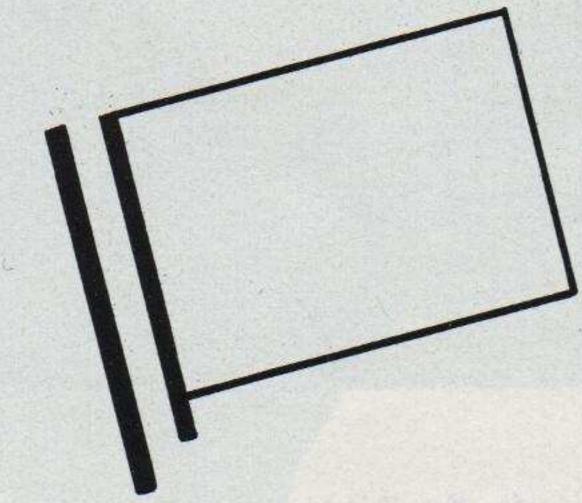
#### WHITE FLAG

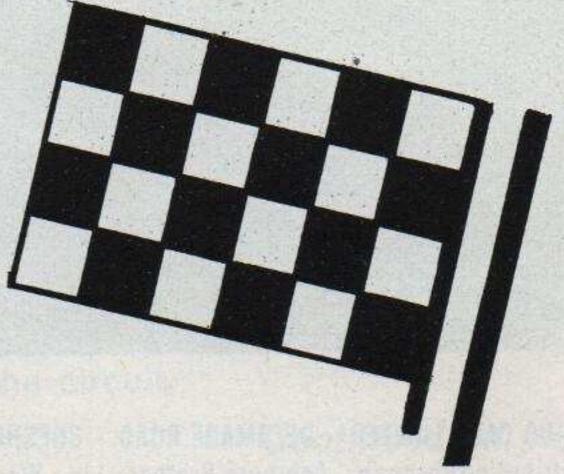
When a white flag is shown it appears simultaneously at various points around the circuit to signify that a service vehicle is actually on the course.

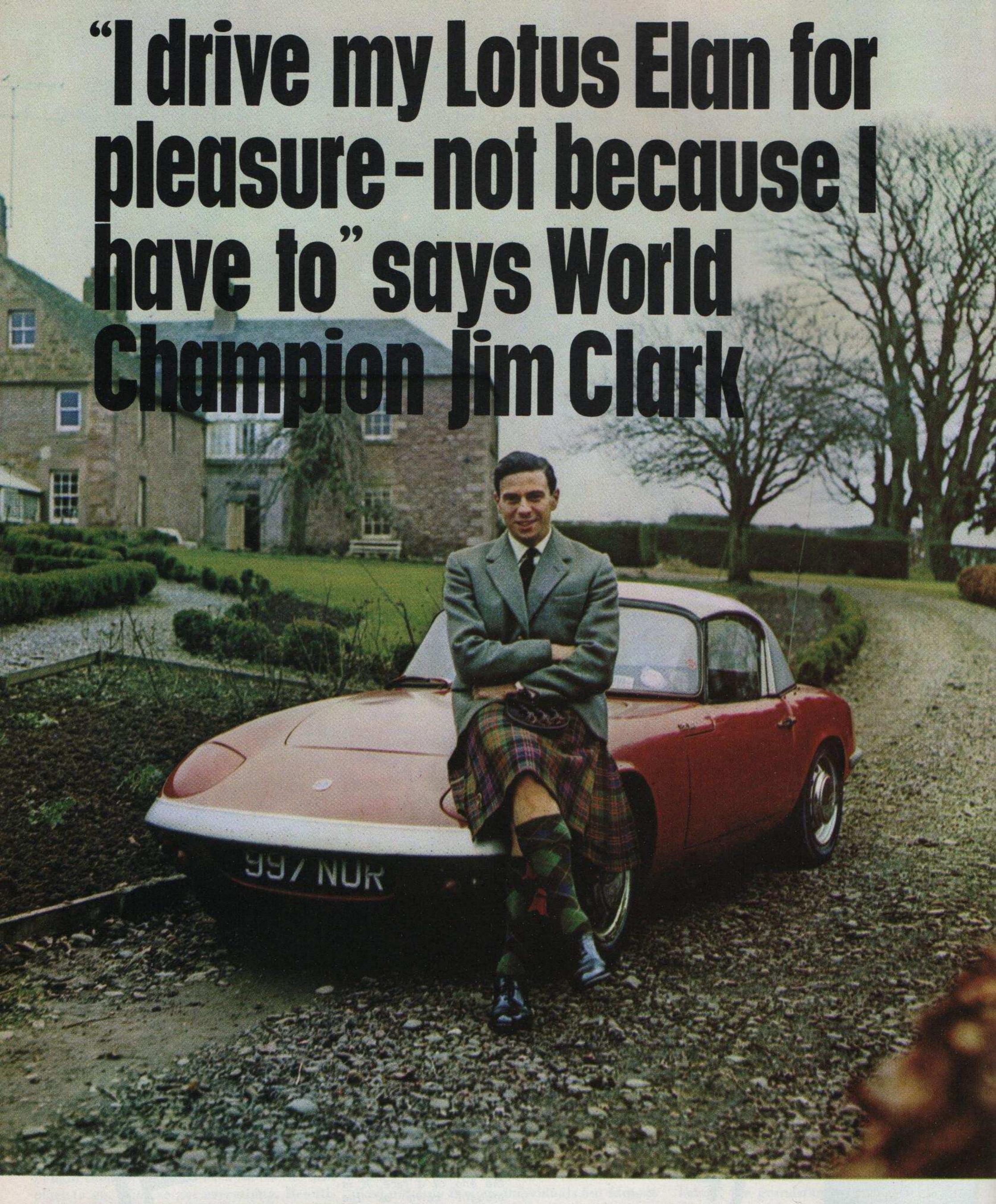
#### CHEQUERED FLAG

The black and white chequered flag signifies the end of a race. It is brought down as the winning car crosses the finishing line.









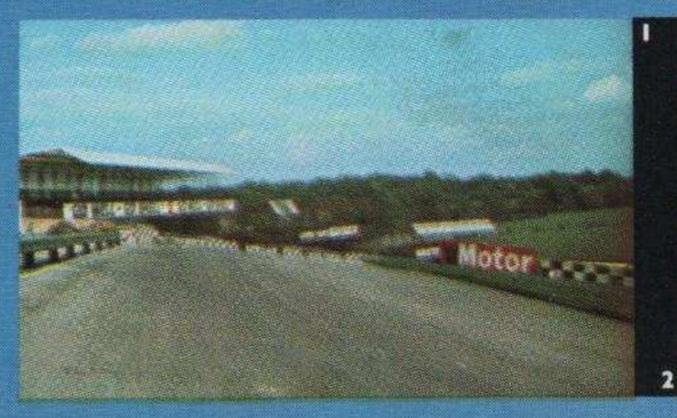
LOTUS CARS LIMITED . DELAMARE ROAD . CHESHUNT . HERTS.

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# COME FOR A LAP WITH JIM CLARK

The World Champion describes his view of the Brands Hatch Grand Prix circuit from the cockpit of his Coventry Climax-powered Lotus 33







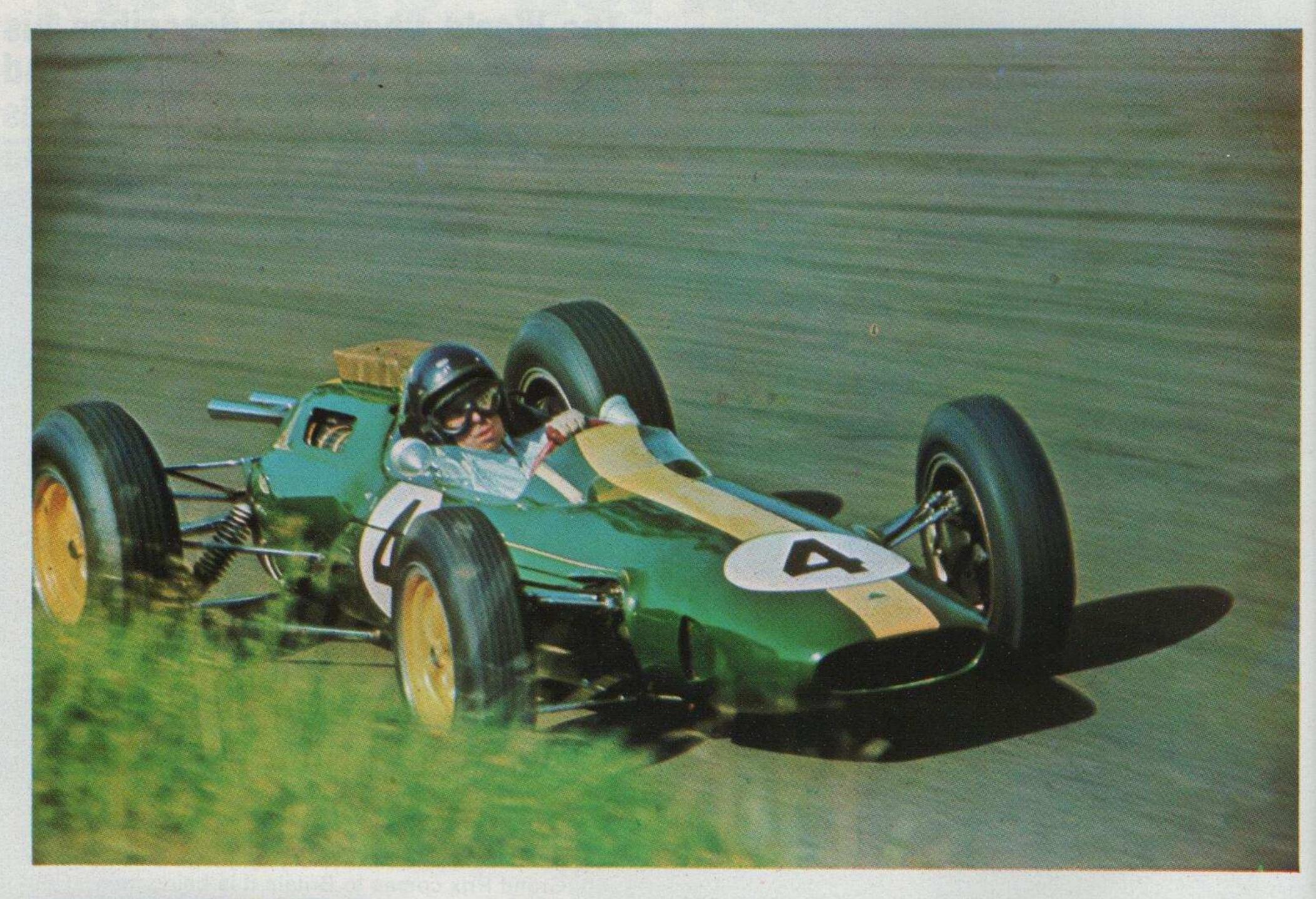
Grand Prix comes to Britain it is being held at Brands Hatch. I say this not only because the topography of the circuit provides such magnificent viewing facilities for so many spectators, but also because of its considerable challenge to drivers. It is, in fact, a real drivers' circuit, with a combination of curves, gradients and cambers which means that we shall get little enough respite throughout the 80 gruelling laps. I only hope the weather is good to us, because I need hardly add that a wet track surface is an extra hazard which we all can do without!

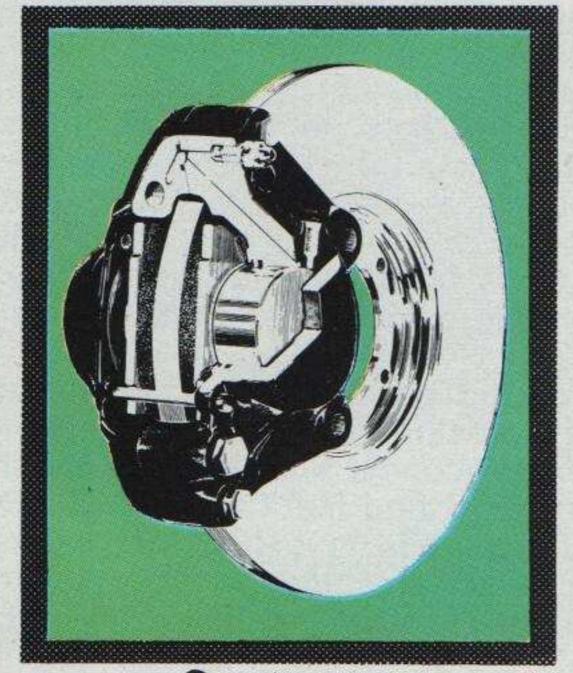
A complete lap of the grand prix circuit measures 2.65 miles, and in dry weather we should be lapping at well under 1 minute 40 seconds. Now as I run my finger over a map of the circuit I find that there are 20 places where something interesting is happening, and where for a driver the difference between doing everything just right and not-so-well can mean that fraction of a second which loses places on the starting grid, or even positions in the race. Let me try to take you through a typical flying lap with my Lotus, with its five-speed transmission ideally geared to the circuit.

Continued on page 27



# GIRLING DISC BRAKES





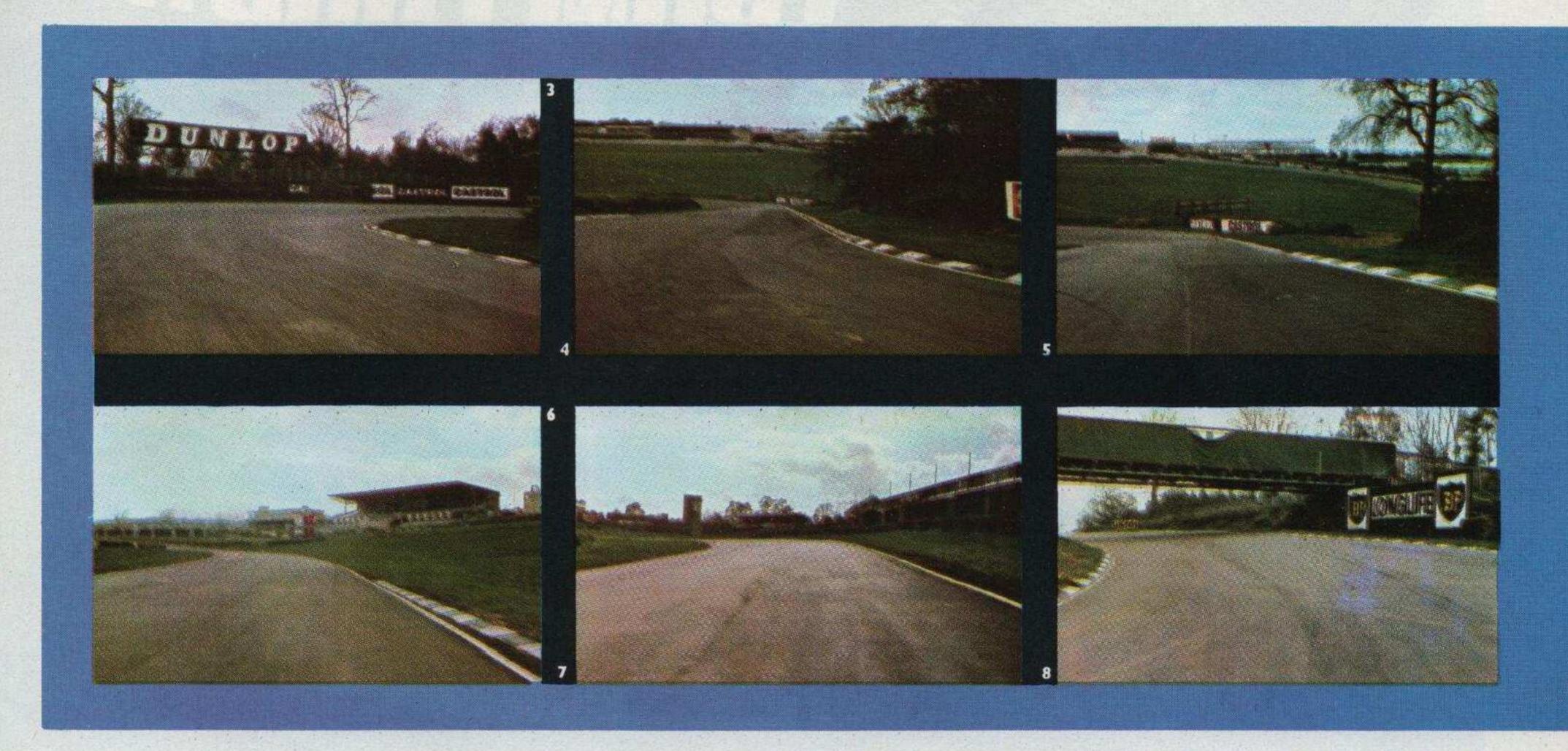
Girling and G are registered trade marks

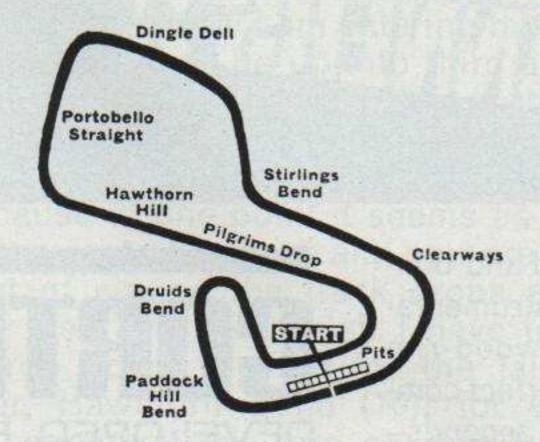
Chosen by the champions for complete control at record speeds and fitted to over 60 current production models

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Brands Hatch being what we call a medium-speed circuit, we shall probably be using only four of our five speeds, and on that basis this is how it will go:

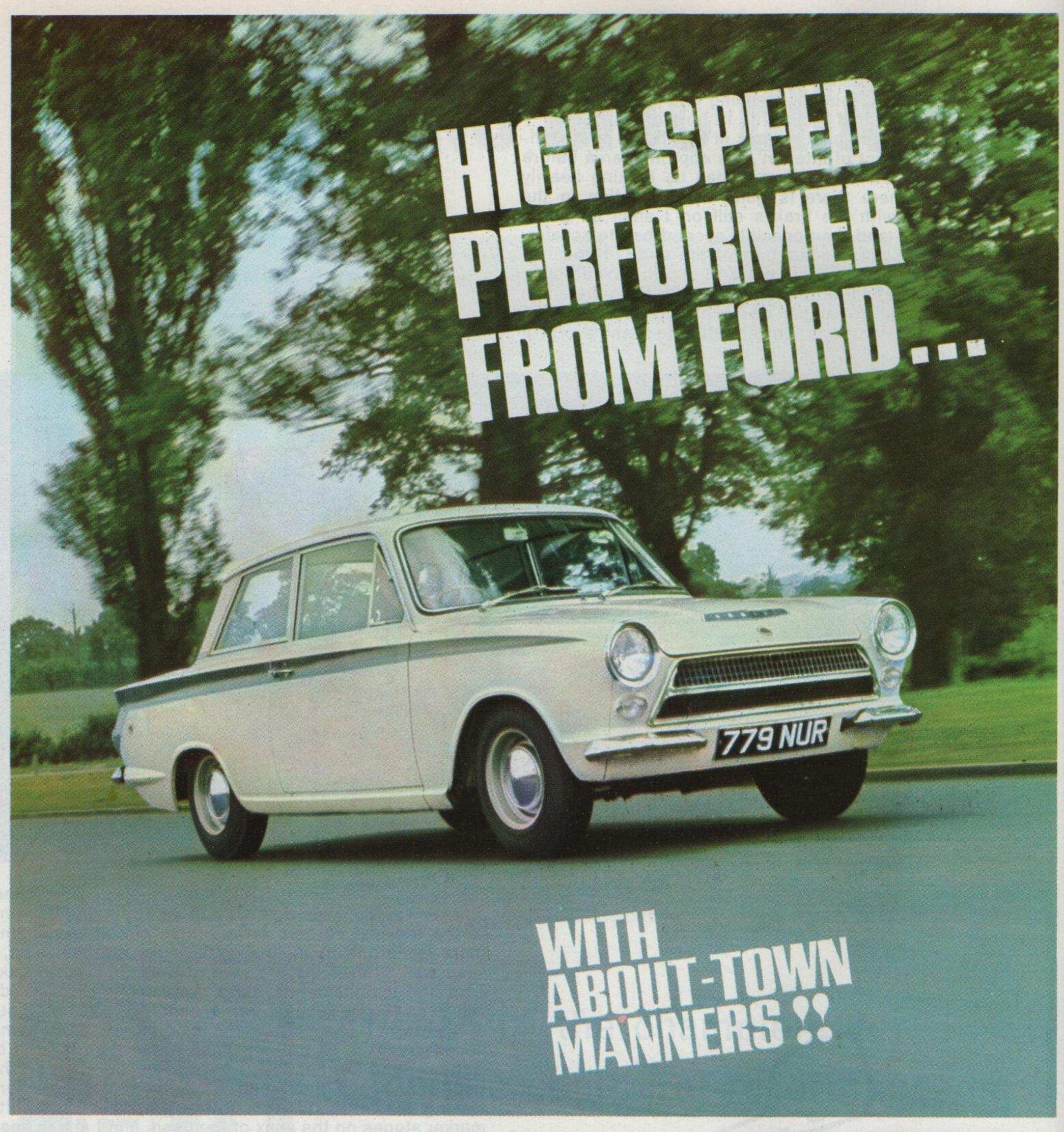
I shall be coming past the pits in fourth and approaching our first 'point of interest', the approach area before Paddock Hill Bend (1). Here I shall be braking heavily at a point where there is quite an undulation in the surface, and with the brakes still on I shall be going down to third and then possibly second before accelerating through the second part of the bend. I come in from perhaps a bit left of centre to clip the inside edge just before the final drop into the dip (2). Here there is a sudden change in camber which has to be watched if the car is not to 'grass' on the left side coming out of





the bend. When going really fast at Paddock you feel quite a bit of G loading at the bottom of the dip. It is one of the trickiest corners on a British circuit. Assuming there is no-one trying to come up on my right side, I keep well over to the left going up the hill, then brake hard and simultaneously drop down to first for Druids Hill Bend (3). By keeping in reasonably tight coming out of the turn I can reduce the amount of 'S' bending necessary (4) to be properly lined up for the first part of Bottom Bend (5). For this, I have to be well over to the right side of the track, and I take second gear before making the left-hand turn. There are black and white marker stones on the apex of the bend, and I aim to keep close to these, giving me plenty of track to the right for accelerating on to the Bottom Straight (6). This part of the course is badly named for, as any Brands Hatch driver will confirm, it is really a long left-hand curve, and you cannot see the first part of South Bank Bend (7) until you are about half-way along it. I should get third briefly here before going down to second again when braking for South Bank. The line here is quite different from that used for racing on the short club circuit. We have to keep over to the right much later so as to flatten out as much as possible the second half of the bend as

Continued on page 29



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Crisp, thoroughbred performance in the Lotus idiom. With Cortina's stamina and 5-seat comfort, trimmed for high-speed luxury. Twin overhead camshafts, 105 bhp at 5,500 rpm. Chapman suspension, close-ratio gears. A lower, lighter body

with aluminium doors, boot-lid and bonnet top. Full performance instrumentation. Special seats and a wood-rim wheel for maximum control, perfect comfort. 0 to 100 mph in under 30 seconds—with power brakes to match. Maximum speed 108 mph. And you get Ford's 12 months/12,000 miles warranty. Book a demonstration today!

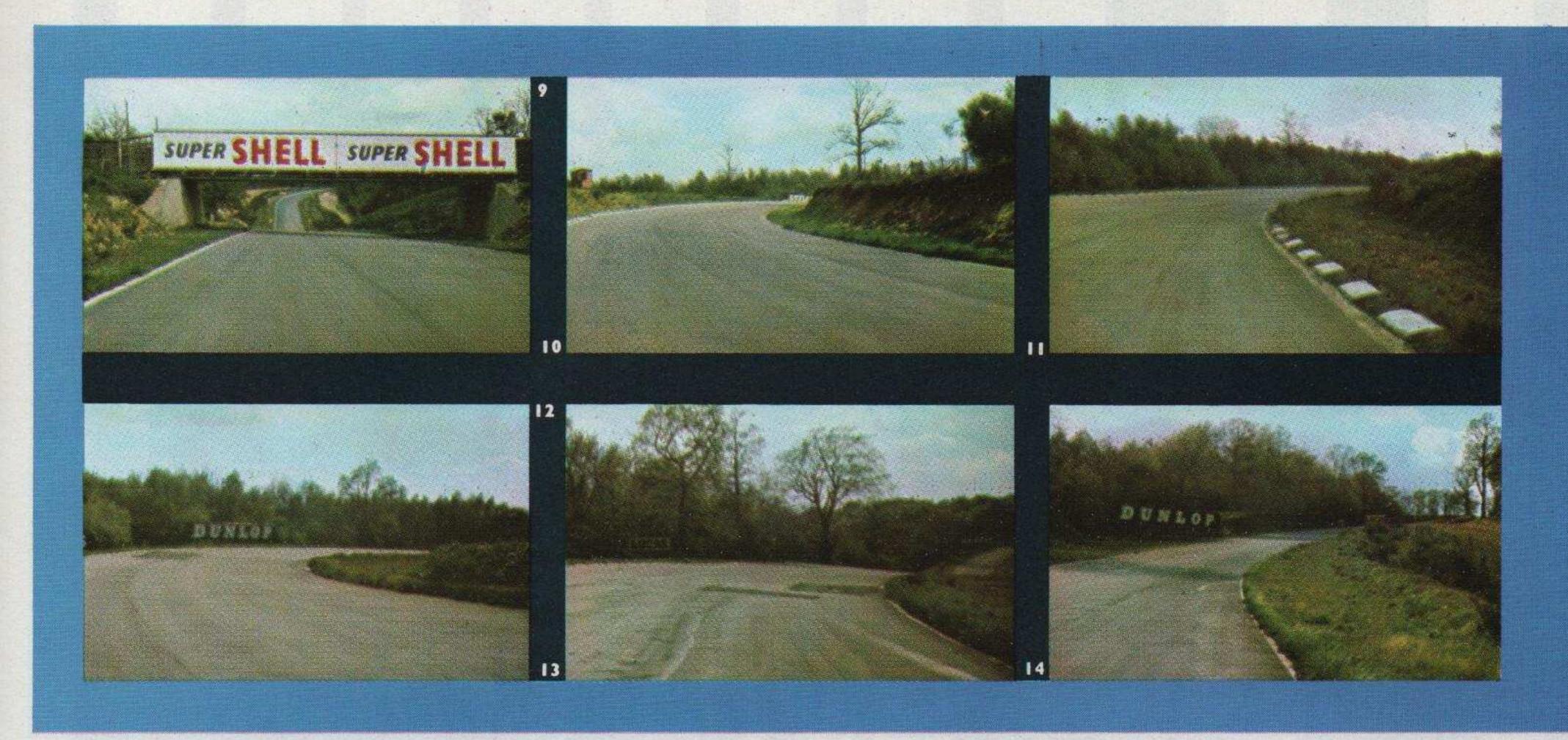
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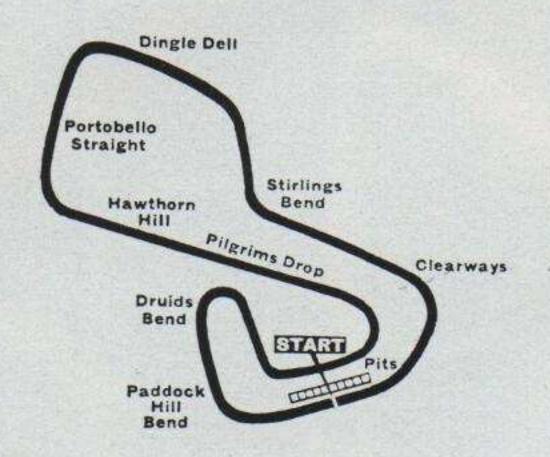
cut across to go through quite fast, remembering that there is a rough patch coming out which needs watching when accelerating hard (13). Speed builds up quickly now as the gradient is sharply downhill, and I am back in third before I clip the right-hand edge of the track in the dip at Dingle Dell (14). By holding my line here, the Lotus automatically comes back on to the left side of the track as we go uphill again towards Dingle Dell Corner (15). This needs a lot of concentration, first because you approach it blind, second because you have to brake heavily, and third because the track suddenly flattens out as you are still braking and the back end tends to become a bit light. I drop down to second for this one, and the short straight from here to Stirling's Bend

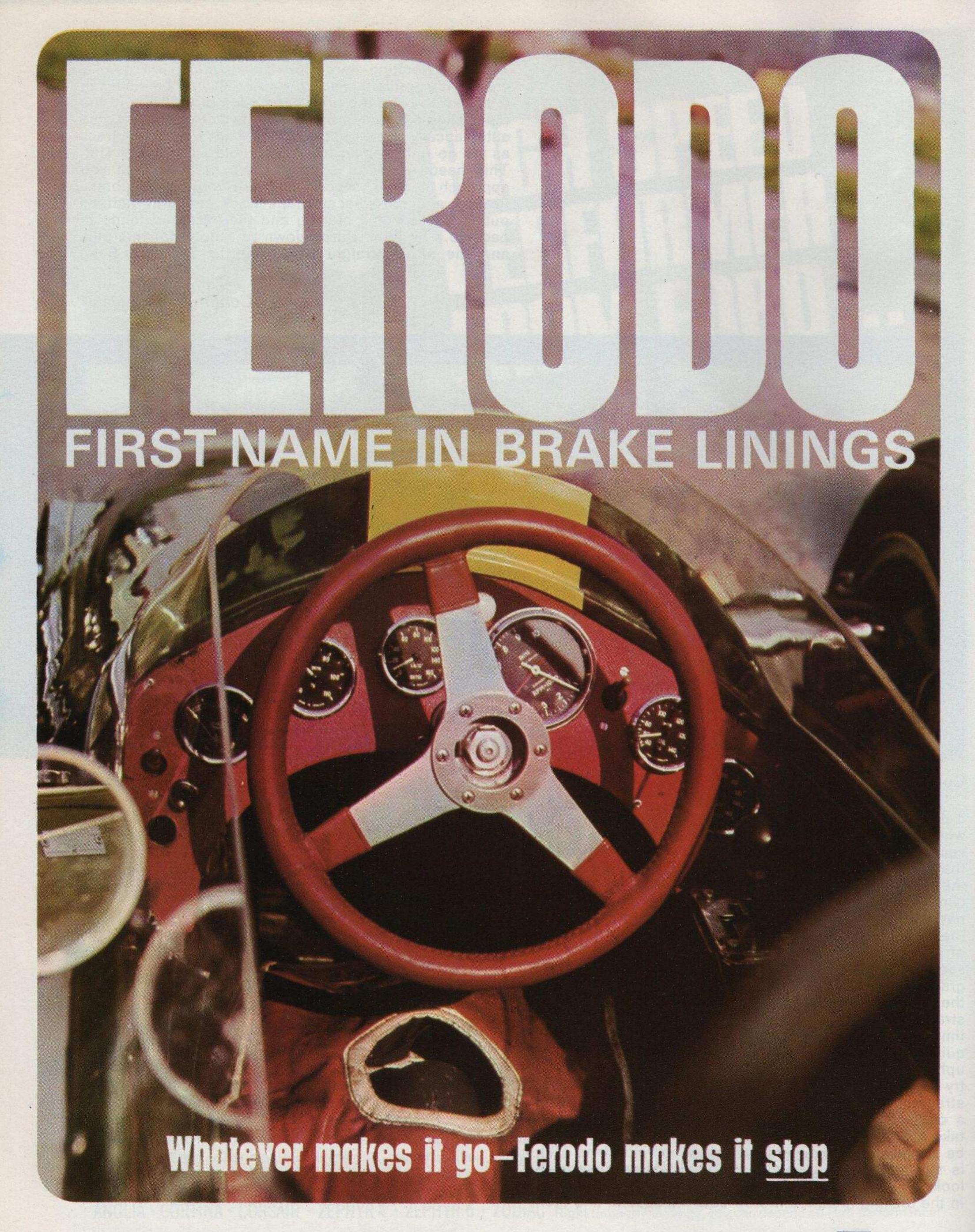
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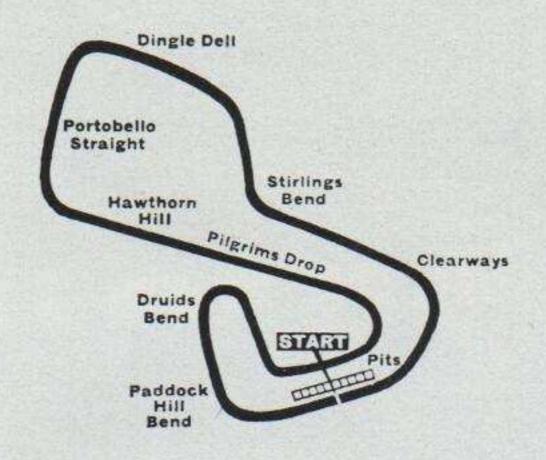


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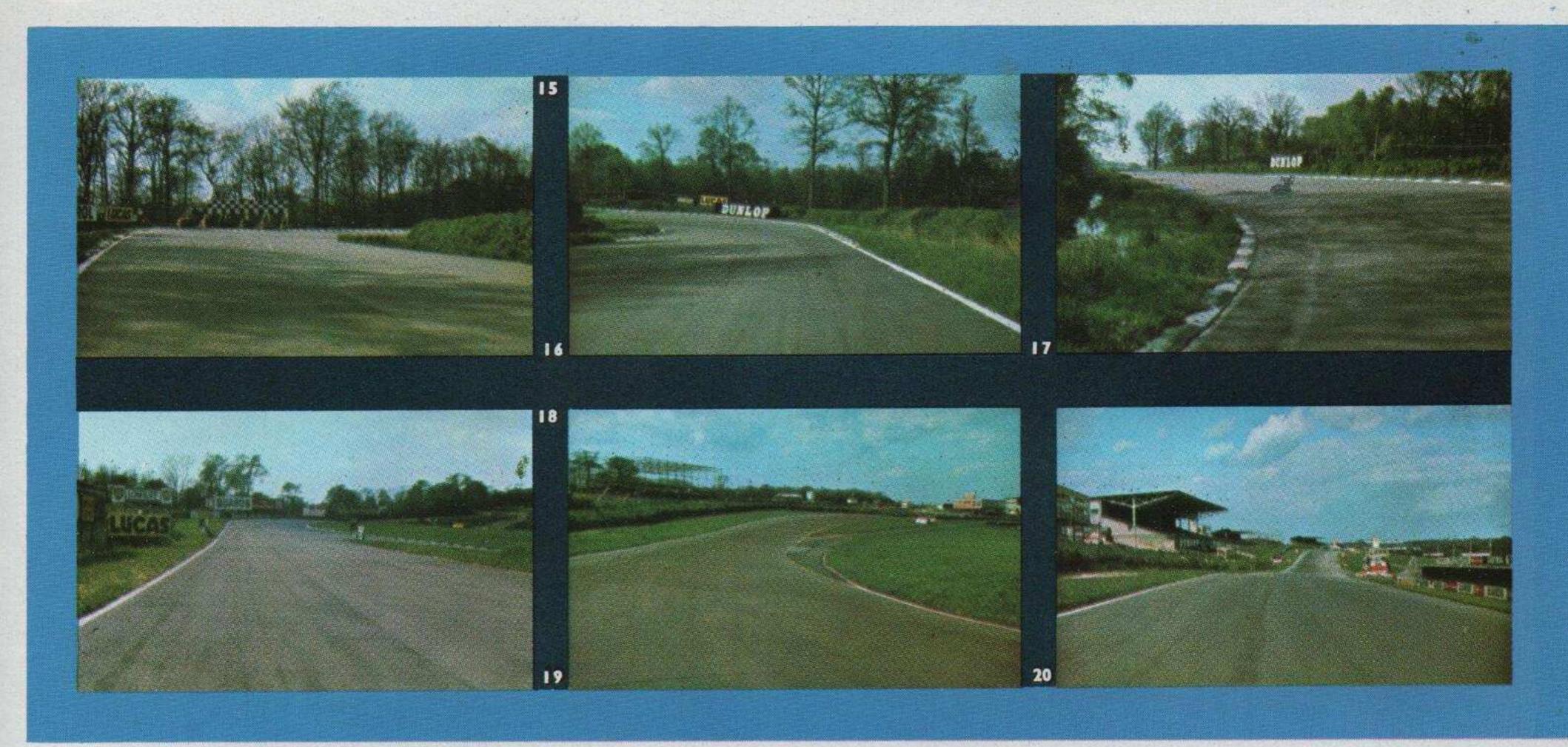
it doubles back uphill under the foot bridge (8). Anyone who fails to cut right back across to the left side for the second apex usually finds that they have to back off under the bridge to prevent themselves running out of road on the right, and of course this loses valuable time on the climb up into the new loop. Now I am entering the fastest part of the course, and I shall be up into third again by the time I take the right-hand kink just before the brow of the hill, and fourth as I drop down again under the second bridge (9). You get a curious sensation here on a grand prix car because at one point it seems as though the bridge has fallen on to the track and you are driving straight for it, but of course the track drops away in time! With the car well over to the left I have to brake quite hard and drop down to third for the fairly fast uphill right-hander, Hawthorn Bend (10), for which I try to cut across comparatively late so that I do not stray out too far as I come out of the bend (11). This is a corner which gives me a lot of satisfaction when I take it well, and where valuable tenths of a second can be saved. The next right-hander, Westfield Bend (12), is slower than Hawthorn's, although not as slow as it looks as you approach it. By keeping well over to the left in the braking area, I can drop down to second and then







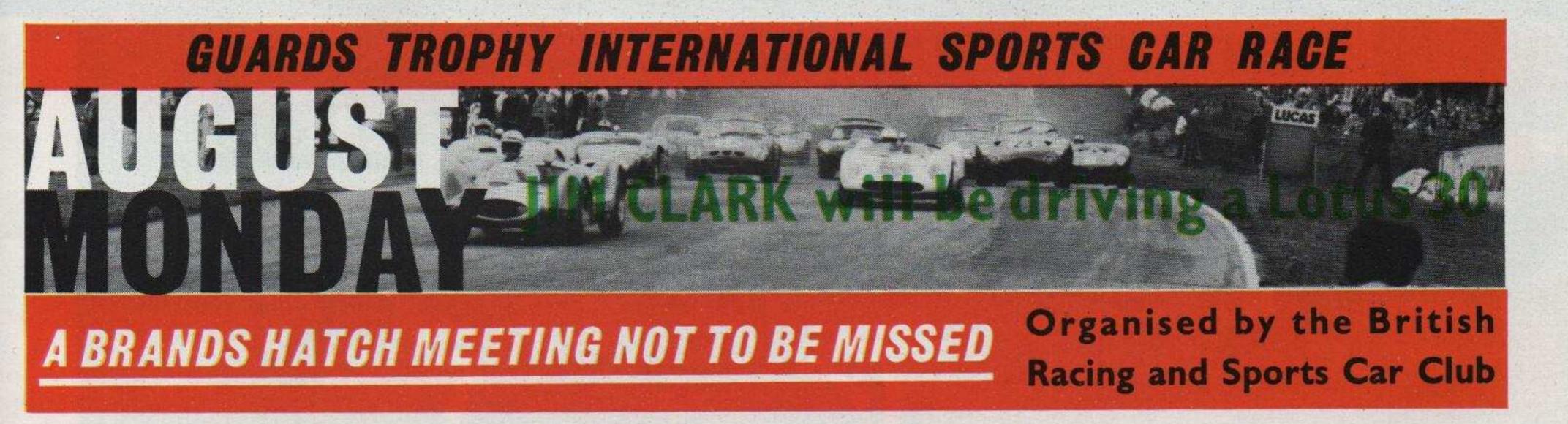
first I need second again immediately I am out of the turn (17) and heading slightly downhill towards the third foot bridge just before rejoining the short circuit at Clearways (18). This is another tricky point, because on the GP circuit Clearways becomes a fast corner, for which I hold the car in third, and if you run too wide on the entry you have to fight to keep the car from taking to the grass on the outside. The big problem here comes in matching your speed and braking as you emerge from under the bridge to the precise moment when you have to lock over from the left to the right side of the track. I aim to be pretty close in going over the 'hump', then let the car come out again towards the centre for the next part of the bend (19) where I am back on full throttle. Even on the final run-in to the startfinish line there is no time for relaxation because there is quite a pronounced dip just at the start of the pit area



Continued from page 29

becomes in effect an 'S' bend (16) as I pull the car back from the left to the right side of the track before braking heavily again. Stirling's Bend is one of those tight left-handers that seem to go on for ever, and it is essential to turn in late for this one if you are hoping to come out at any speed and still stay on the track. It is a borderline case between first and second gear, and even if I use

(where I get fourth), which can unsettle a car if it is not correctly placed (20). Finally, just to let me know that one more lap has been completed, I get another 'dip' just across the line as I accelerate through another undulation. Well, there it is. About 100 seconds' worth of concentrated driving during which 20 different sets of circumstances have arisen on average one every five seconds, each demanding something different from the chap in the cockpit. I hope you have enjoyed this lap as much as I hope to enjoy my 80 today!



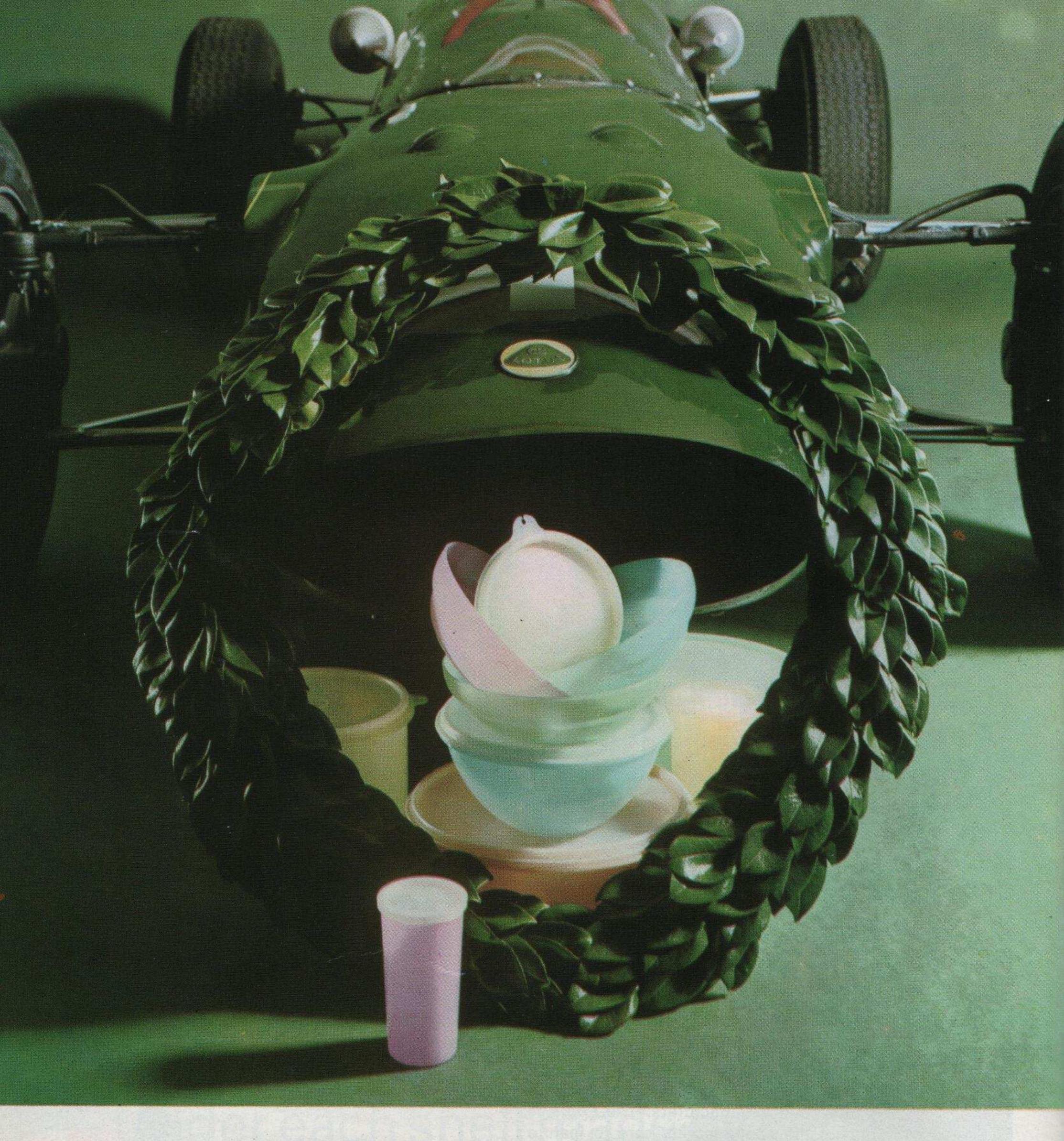


On the cobbles outside Ferrari's factory at Maranello, a Ferrari 2+2 GT and a Formula I Ferrari.

Under each shell made by Ferrari you will always find Shell

GO WELL -





#### GRAND PRIX de la CUISINE

Maybe half a dozen times a year you pack a picnic for a meeting. Then and every kitchen day you'll be glad of Tupperware. Glad to save time by fixing things the day or night before—knowing they'll stay just-made fresh and tasty. Glad to save money by not wasting leftovers. Glad

to serve salads and cut fruit and snacks and cooked meats, tasting

fresher and nicer than stored in any other containers. Happy to know they'll all travel safely and simply. Because the Tupperware Seal (so special it's patented) absolutely locks freshness in as it locks air out. Lots of choice—go to a Tupperware party. Write to us about it now. THE TUPPER-

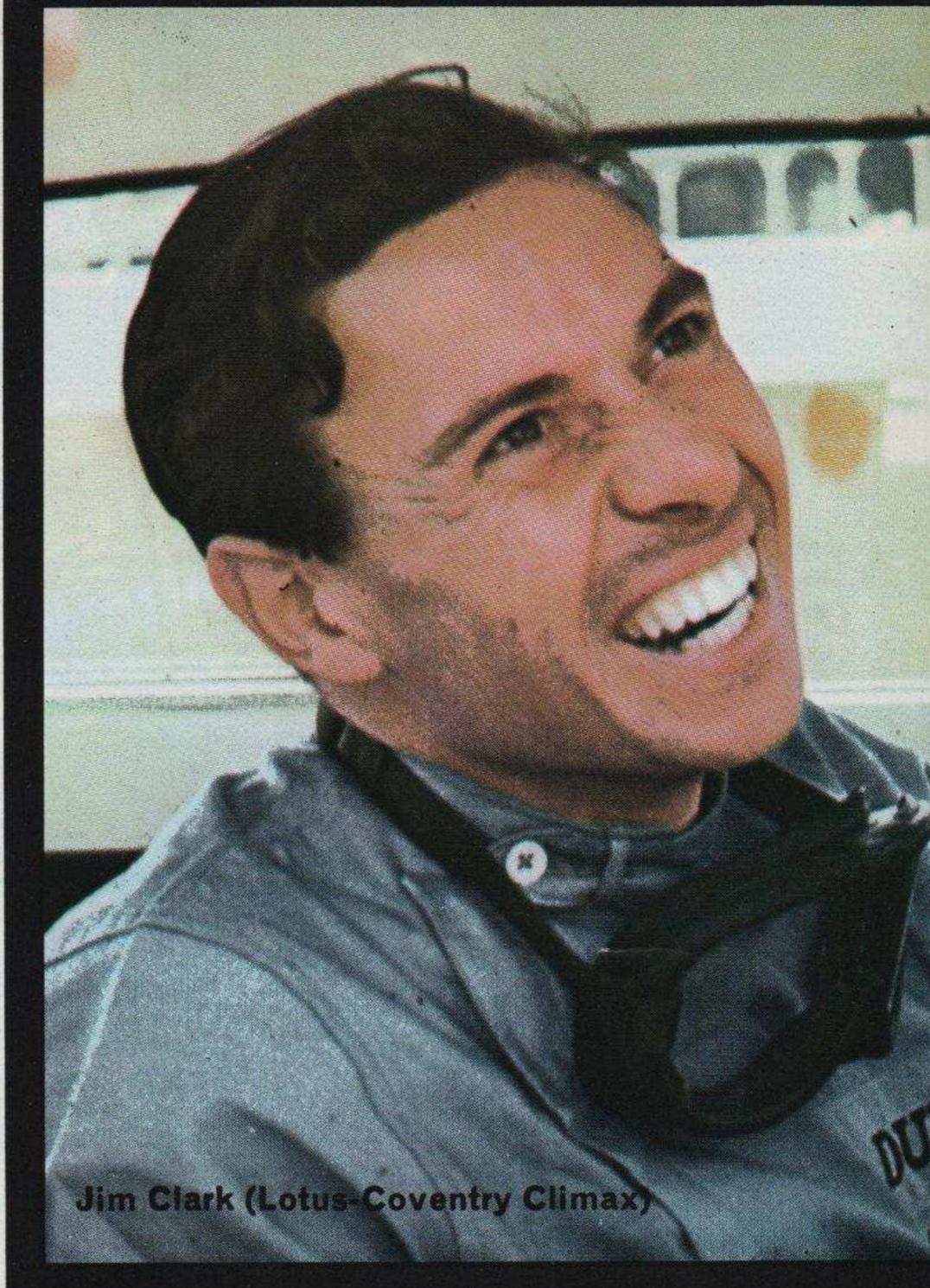
WARE COMPANY, TUPPERWARE HOUSE, 43 UPPER GROSVENOR ST., LONDON, W.1.

of the airstream, and operated by streamlined rocking arms.

Entered under the banner of Team Lotus, the works cars are immediately identifiable on the circuit by the broad yellow band running down the centre of their green glass-fibre bodies. And their regular drivers are equally conspicuous, champion Clark having a dark blue, and Peter Arundell a brilliant red helmet.

This season, the world champion has received tremendous support from Arundell, who made such a fine start to his first grand prix season that he found himself in third place in the world championship table after the first two races; like Clark, he is a graduate of the very tough Formula Junior school, and although he can never emulate his partner by becoming a world champion at 27 (he is already 31!) he has been showing a combination of talent and dedication this season which could ultimately take him right to the top.

Continued on page 37





### THE HISTORY OF MOTOR SPORT IS THE HISTORY OF CASTROL

From the beginning of motor sport Castrol has been one of the great names in the colourful scene. Great cars, great drivers, great successes... and Castrol. They are the very essence of racing talk... like the highlights mentioned here, which are just a few of the triumphs which have been achieved on Castrol.

## CASTROL CASTROL

"Bluebird". In this Rolls-Royce engined car,

in 1933. In all Sir Malcolm broke the

land speed record no less than nine

times using Castrol

on every occasion.

Sir Malcolm Campbell reached a speed of 272.46 m.p.h.



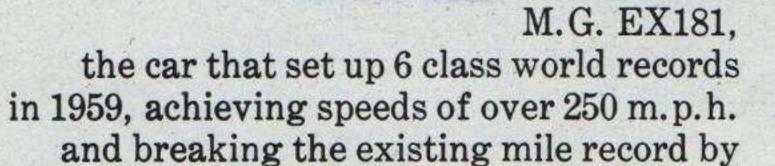
of the type driven by Campari, which won the European Grand Prix in 1924. All cars that finished the race used Castrol.

Aston Martin enjoyed three phenomenal years of success in 1955/6/7 winning the 3 litre class at Le Mans in 1955, and in 1956,

together with many more scintillating wins in other events, all on Castrol.

Mercedes-Benz, returning to racing after the war, swept clear the Grand Prix board, winning event after event, all on Castrol. These successes

won them the Manufacturers' championship in 1954 and 1955.



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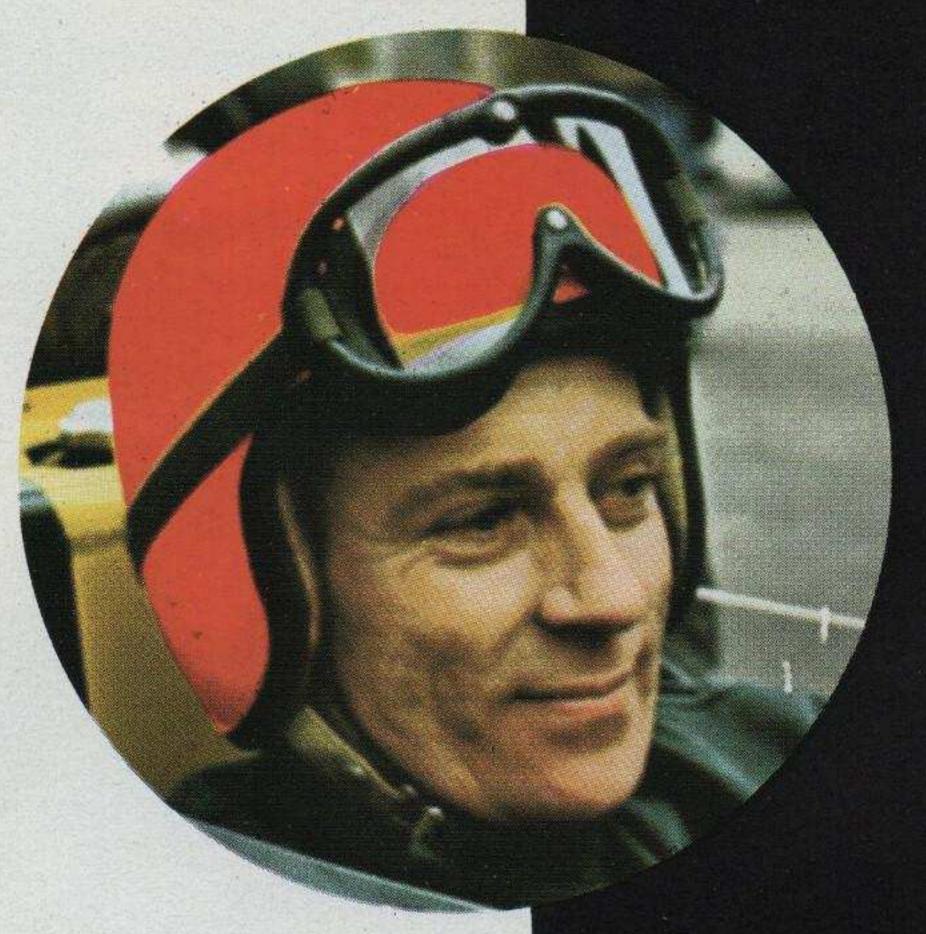
Castrol

MINI-COOPER 'S'. Starting from Minsk, this was the outright winner of the 1964 Monte Carlo Rally.

The Manufacturers' Team Prize and 4 Class Wins were all achieved on Castrol.



ALWAYS ASK FOR CASTROL BY NAME



Peter Arundell (Lotus-Coventry Climax)

### Continued from page 35

For BRM drivers Graham Hill and Richie Ginther, the 1964 season started on a high note with first two places in the Monaco Grand Prix—an encouraging performance after a considerable run of bad luck in the 'warm-up' races which preceded the start of the championship series.

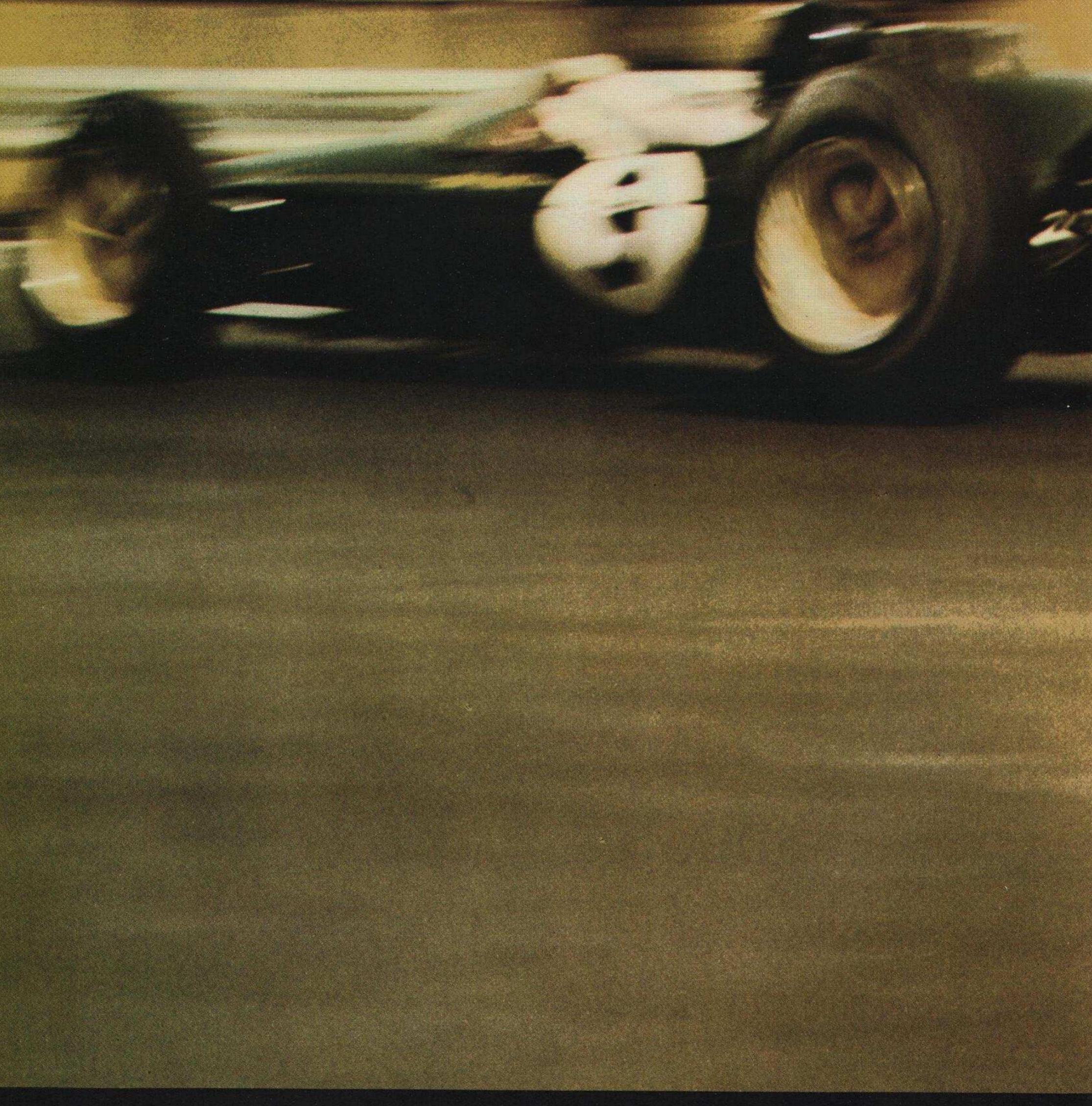
The new BRM monocoques look a lot more purposeful, and indeed are technically a considerable improvement on the prototype car which Graham Hill occasionally used last year. The complicated inboard mounting of the rear suspension has been dispensed with in favour of the simpler conventional outboard layout, and the front suspension linkage has also been simplified, although the spring units are still located within the body profile.

The BRM monocoque unit is built of electron on stressed-skin aircraft principles, and has an almost tubular profile with a low frontal area to combat wind drag. The deep-throated exhaust roar comes from a V8 engine which is probably producing as many horsepower as any GP unit racing today.

Continued on page 39



Rear-end adjustments for Arundell's Lotus 25B



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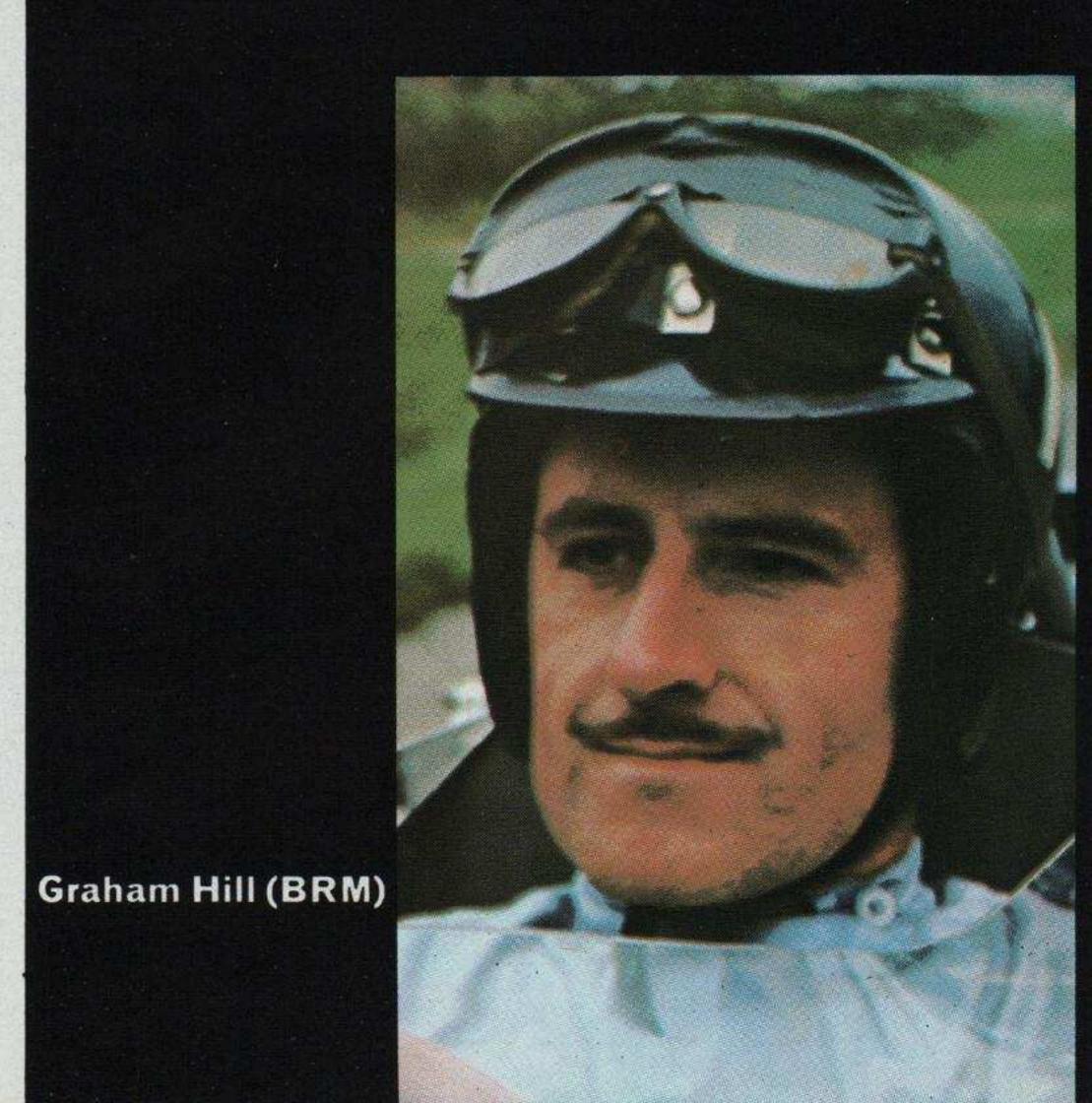


Coloured in a green so dark that it looks almost black, and with orange nose band, the BRM has a curiously 'chopped off' appearance behind its Bourne-built six-speed gearbox.

Graham Hill's dark helmet, with its London Rowing Club white stripes, is a familiar sight in GP racing, while Richie Ginther, that likeable and wiry little Californian who never gives up trying, no matter the odds, sports a light helmet, and has been experimenting with an all-over vizor this season. Hill and Ginther make a friendly team, and they have the stamina and determination to make BRM formidable rivals on any circuit.

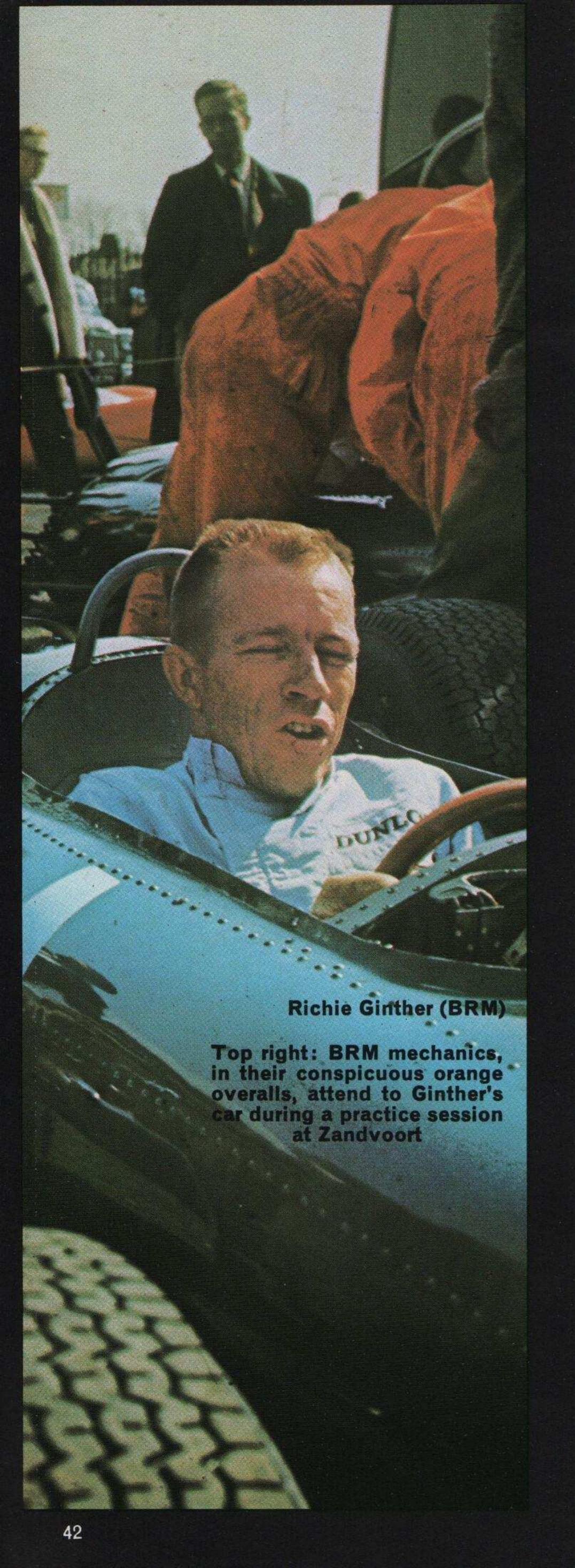
Jack Brabham is in the unique position of being both driver and manufacturer, and with the talent of fellow-Australian Ron Tauranac on the design side, and that of Dan Gurney, the giant Californian, in the other works cockpit, the Byfleet-based team have made a tremendous impact on the GP scene to which they are still relative newcomers.

Continued on page 42





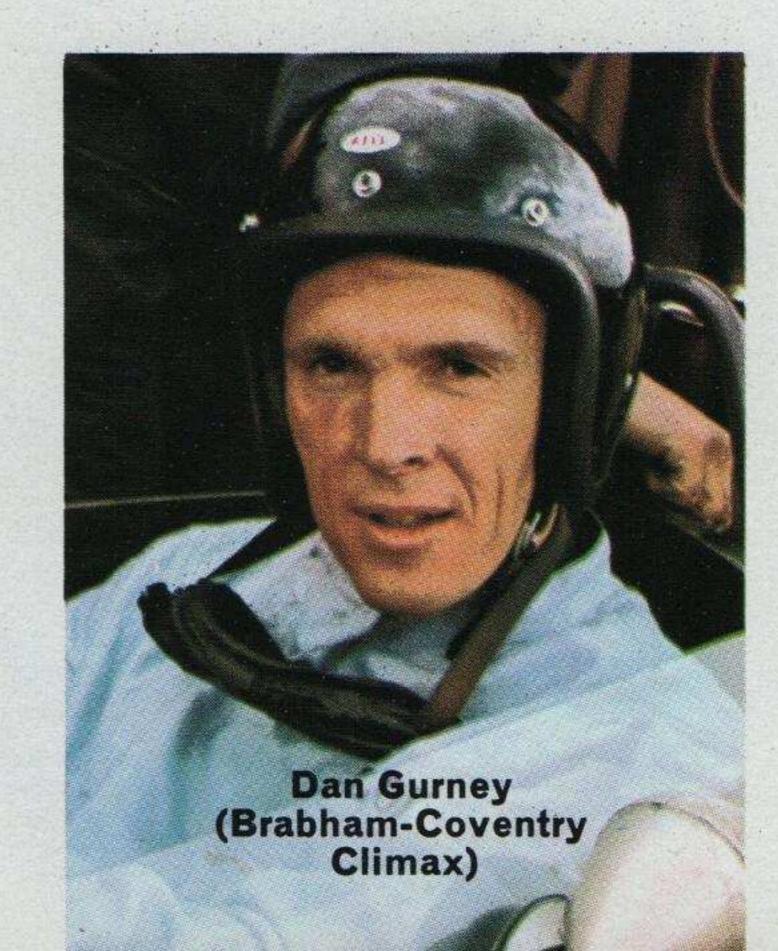






The works Brabhams, powered by the latest version of the Coventry Climax V8 engine, and featuring a Hewland six-speed gearbox, still adhere to a multi-tubular chassis frame with a separate glass-fibre body. This year, as in 1963, the cars have achieved a reputation for being as fast as any through the corners, and the latest models (painted green with a gold stripe) tip the scales very close to the minimum weight limit for Formula 1 machines.

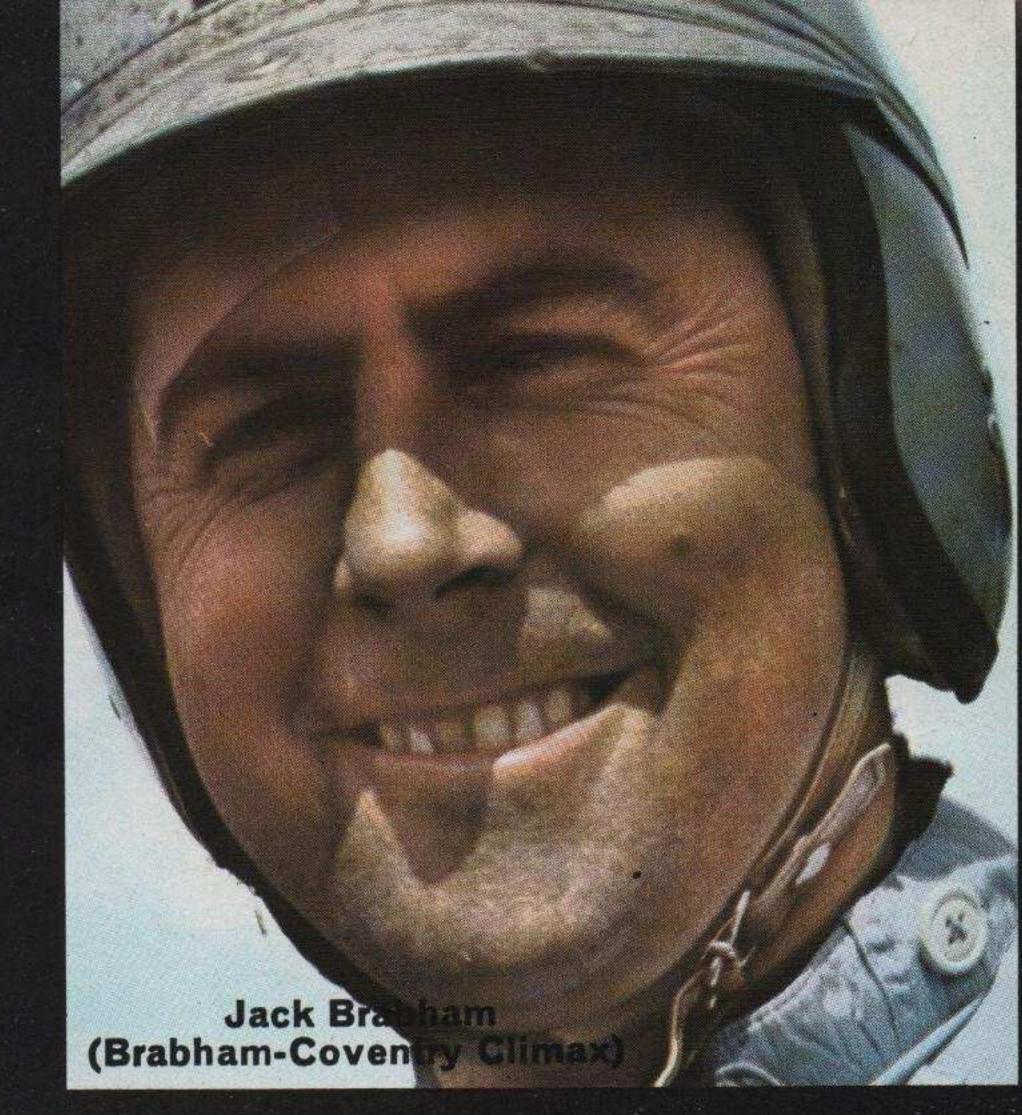
Jack Brabham is one of the world's finest development drivers, and his ability to diagnose suspension problems and solve them quickly is envied by rival teams. He is also a tremendously tough opponent on the circuit, and currently driving at the peak of his form. Dan Gurney, the tough man of the GP circus (he's been known to snap gear levers and steering wheels!) as well as one of the most genial, is rated by popular opinion as among the finest drivers of all, so that the Brabham team is certainly not lacking in talent. Spot Brabham by his silver helmet with black stripe, and Gurney by his black helmet.

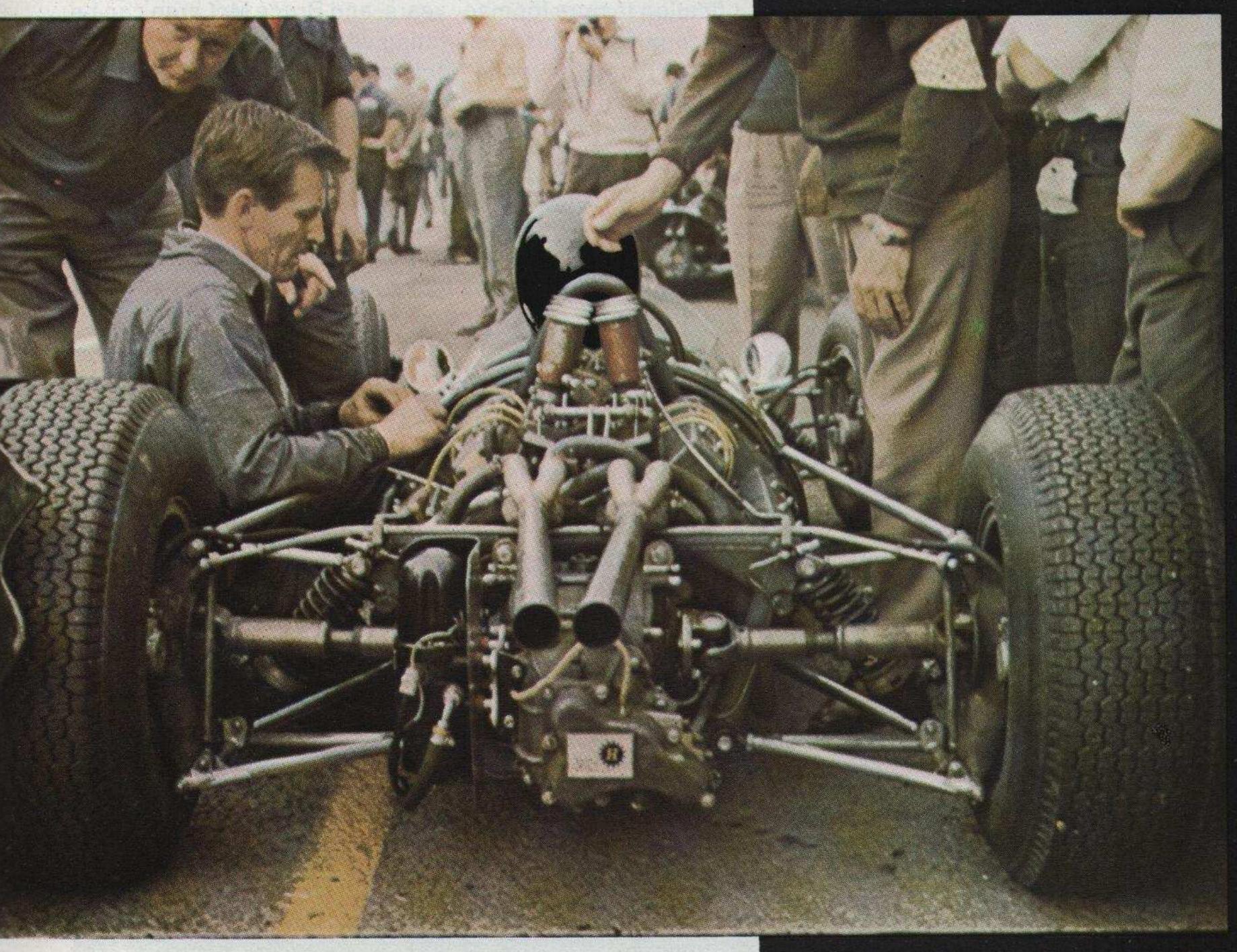


After a few seasons battling away with cars which were tough, but too heavy to be completely competitive, the Cooper team have produced much lighter machines this year for their drivers Bruce McLaren, from New Zealand, and Phil Hill, yet another native of California.

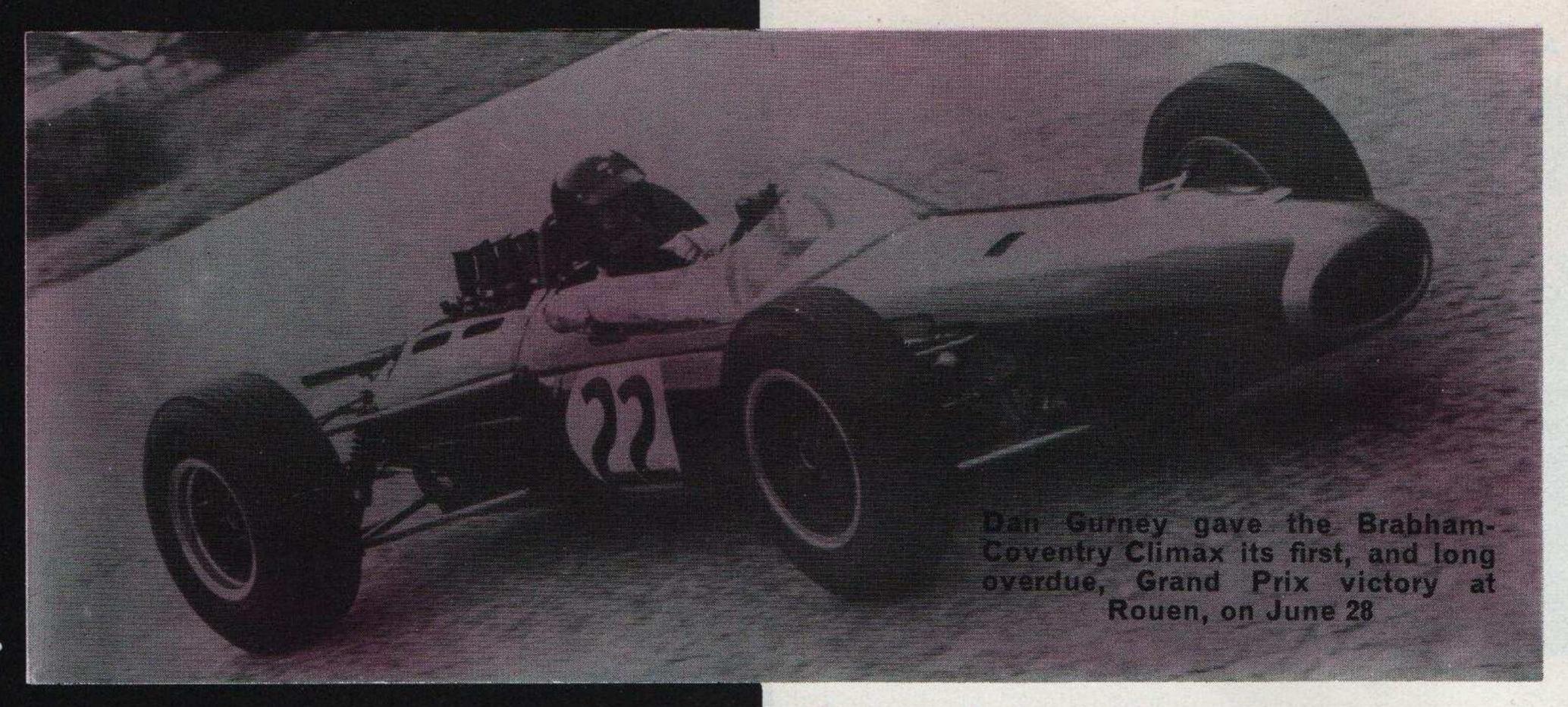
Like the Lotus and Brabham works cars, the Coopers use the Coventry Climax V8 engine, which they mate to a six-speed gearbox of their own design. Still using a multitube chassis, although this is reinforced amidships by stressed-metal body panels, the Cooper follows the current trend with inboard front suspension units, and has an interesting weight-saving feature in that the driver's seat also doubles as a fuel tank. Apart from being considerably slimmer than all previous Cooper Formula 1 cars, the latest GP contenders from Surbiton also have a smoothness of line which has been missing for some time.

Continued on page 44





A quick plug change for Dan Gurney's Brabham during practice at Zandvoort, where the Californian secured pole position on the grid



Twin white lines running backwards from the nose of the bottle green-finished cars has been a Cooper identification feature for many years, and Bruce McLaren can be recognised by his close-fitting silver helmet, whereas Phil Hill's helmet is white. McLaren, like Brabham, is a fine engineer, and has a natural instinct for circuit testing and chassis development, and though still only 28, he is one of the most experienced Grand Prix drivers.

It is gratifying to see the talented Phil Hill back in a competitive GP car after his year in the ATS wilderness, and it is significant that this introspective Californian has lost much of his tenseness which used to characterise most of his waking hours around race time.

Ferrari, who followed their world championship successes in 1961 with two years dogged with disappointment, are making a supreme effort to break the British domination of GP racing this year. In John Surtees and Lorenzo Bandini, they have one of the finest (and certainly the most dedi-

Continued on page 46

### Bruce McLaren (Cooper-Coventry Climax)

A works Cooper at rest, sleekest and lightest of a long line of Formula 1 cars from Surbiton

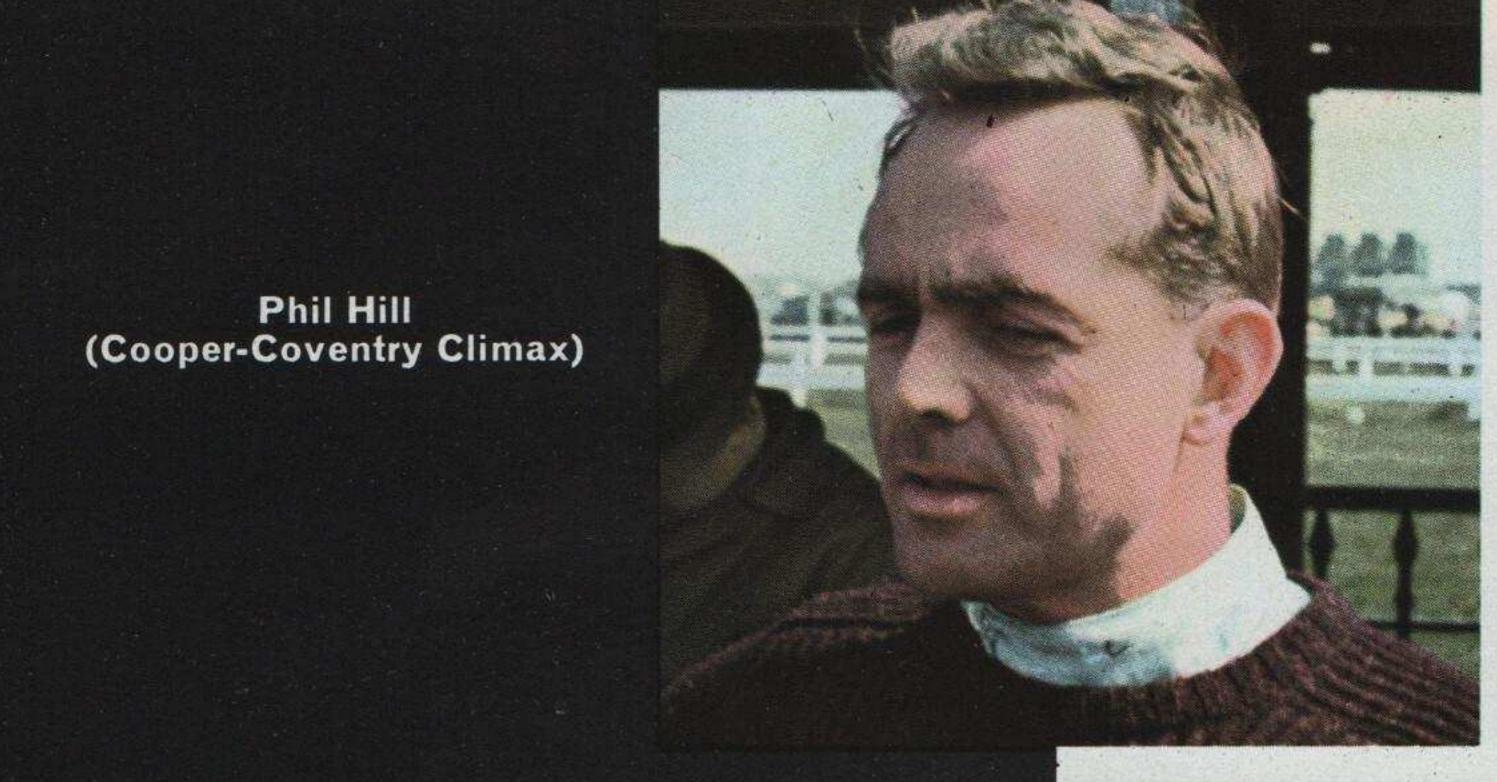
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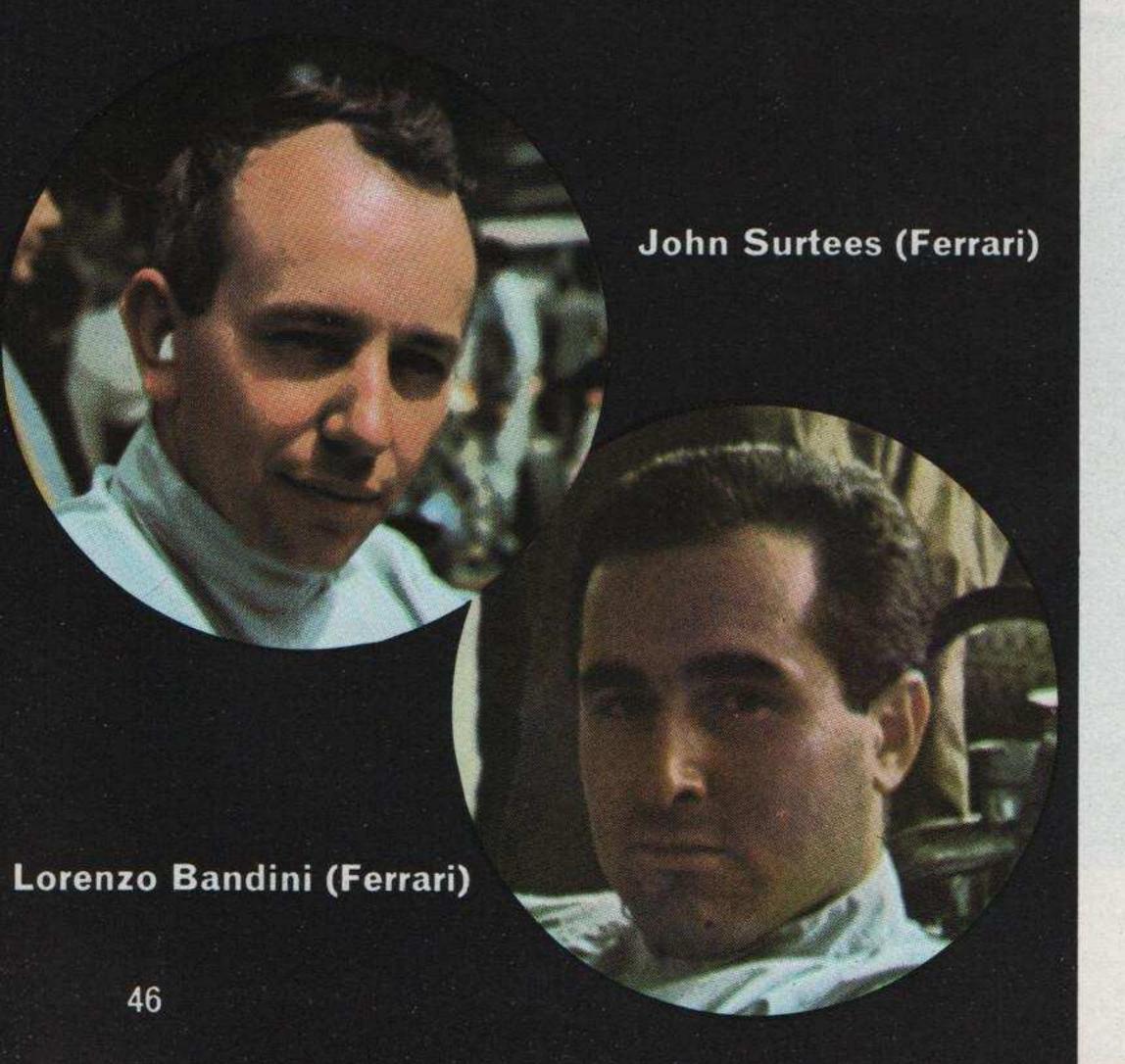


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cated) drivers in the world, and the greatest talent in Italy. Following the lead given by Britain, Ferrari has produced a monocoque Formula 1 car, based on last year's prototypes, and powered by a new V8 engine, which has already appeared in two versions. The chassis, 70 per cent of the torsional strength of which comes from stressed panels (the remainder comes from the tubular-steel reinforcement), is light but immensely strong, and the car has been developed into a most formidable contender. Early power outputs from the V8 engines were disappointing, but Ferrari is an engine specialist, and we can expect progressively more horsepower from this healthy-sounding V8 as the season continues. The re-emergence of Ferrari as a power in racing has brought new life to the Grand Prix scene.

The British Racing Partnership last year took the bold step of graduating from entrants of 'production' Formula 1

Continued on page 48



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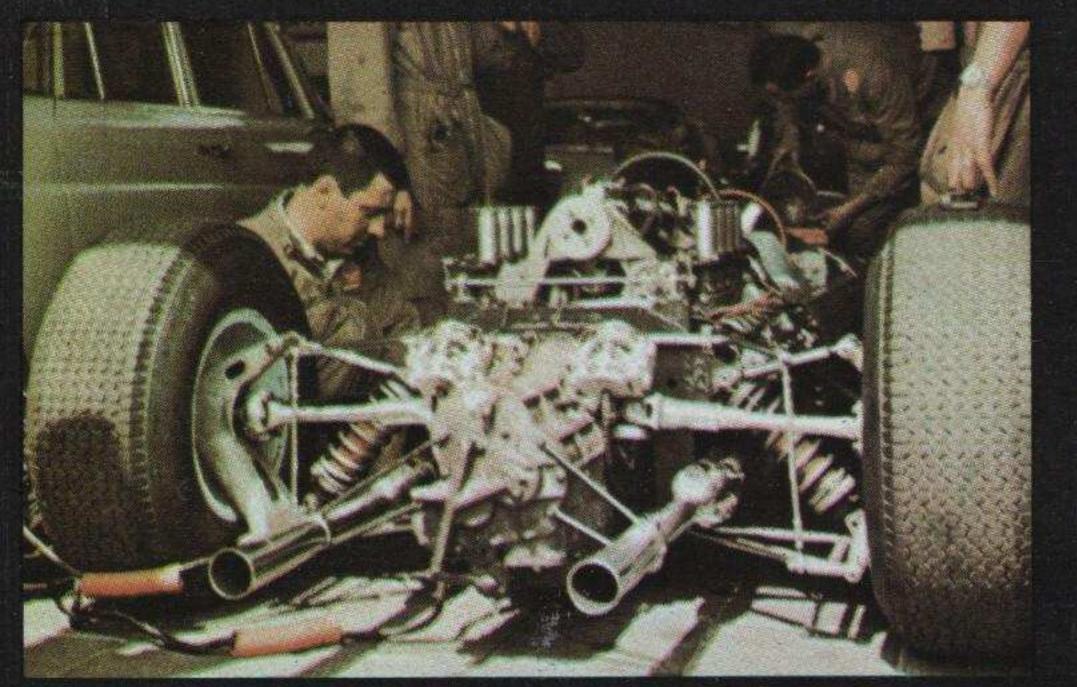
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V8 Ferrari, with the starter cables connected for a first-time start-up in a garage at Zandvoort

cars to manufacturers in their own right, and this season are fielding BRP monocoques based on the prototype driven last year by Innes Ireland. Originally designed around Lotus 24 suspension, the BRPs have a professional finish which would do credit to any racing car constructor of many years' standing.

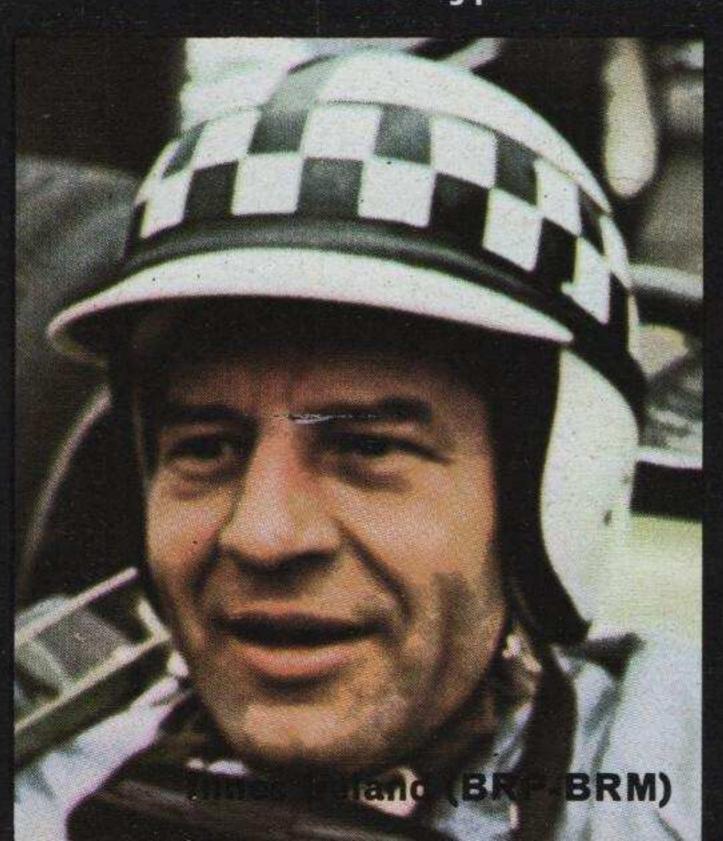
Equipped with BRM V8 engines and six-speed gear-boxes, these light green cars are driven this year by the irrepressible Ireland with the chequered flag helmet, and Trevor Taylor, whose yellow helmet and overalls were last season seen in the second of the Team Lotuses.

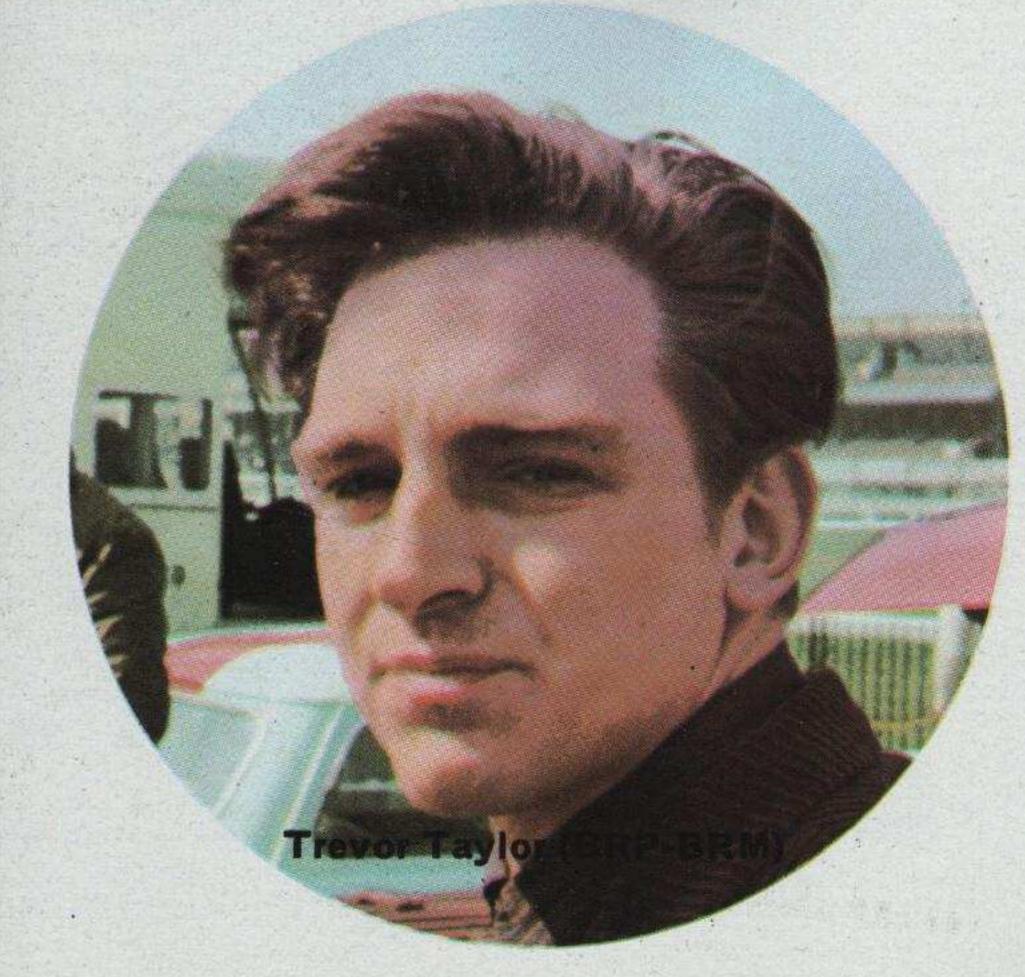
No Grand Prix field would be complete without the independents, who frequently finish a GP ahead of some of the works cars. Rob Walker, since Stirling Moss's retirement, has provided cars for the bearded Jo Bonnier—a Swede who now lives in Switzerland, and is President of the Grand Prix Drivers' Association. The blue and white

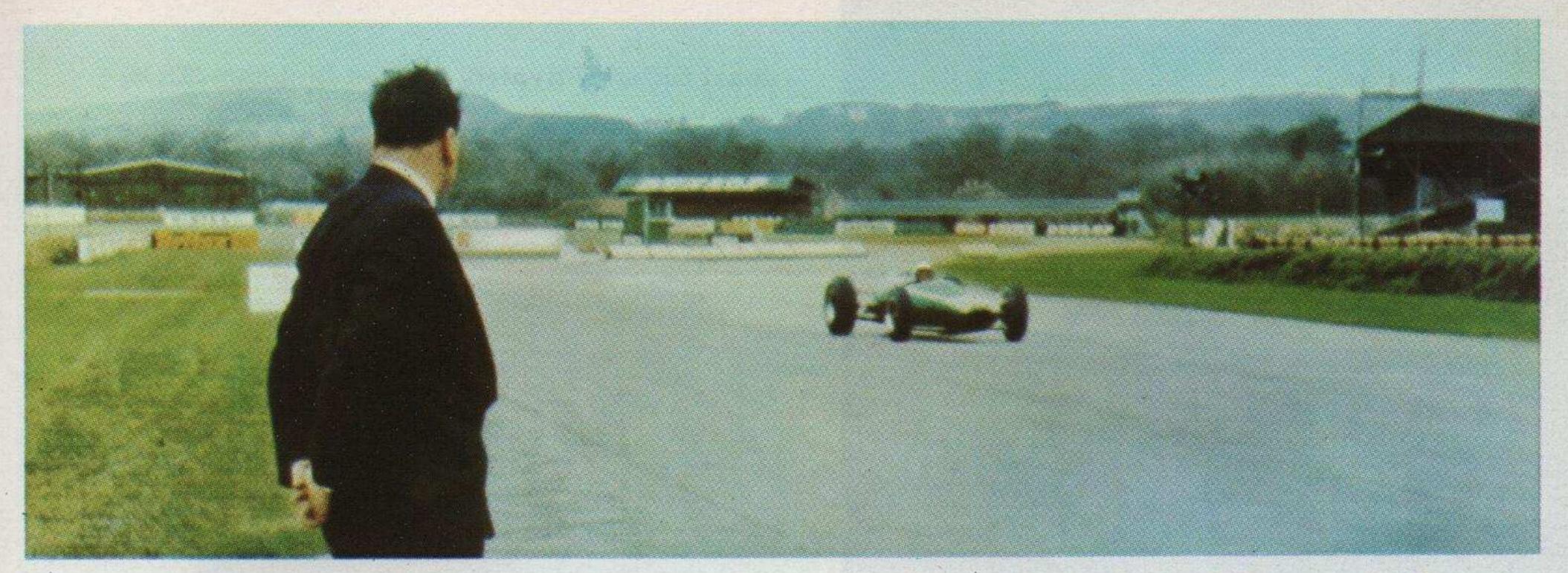
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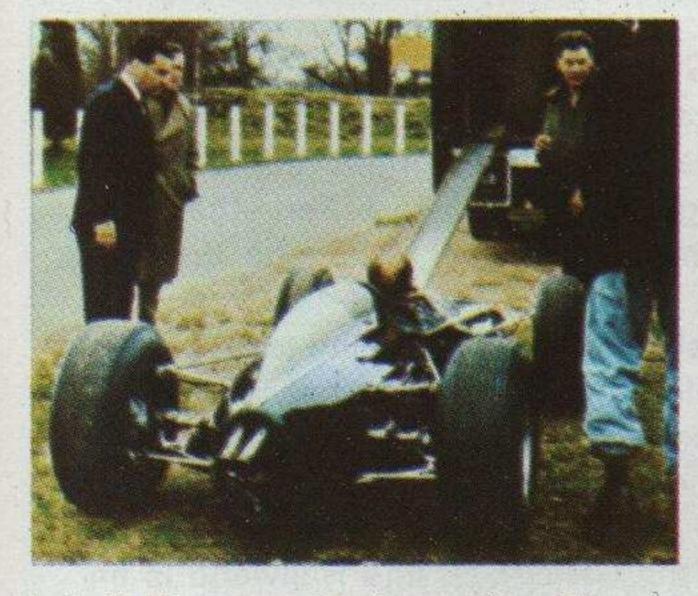
The BRP, a monocoque racing car designed and constructed by the London-based British Racing Partnership to replace the team's 'production type' Lotus 24s



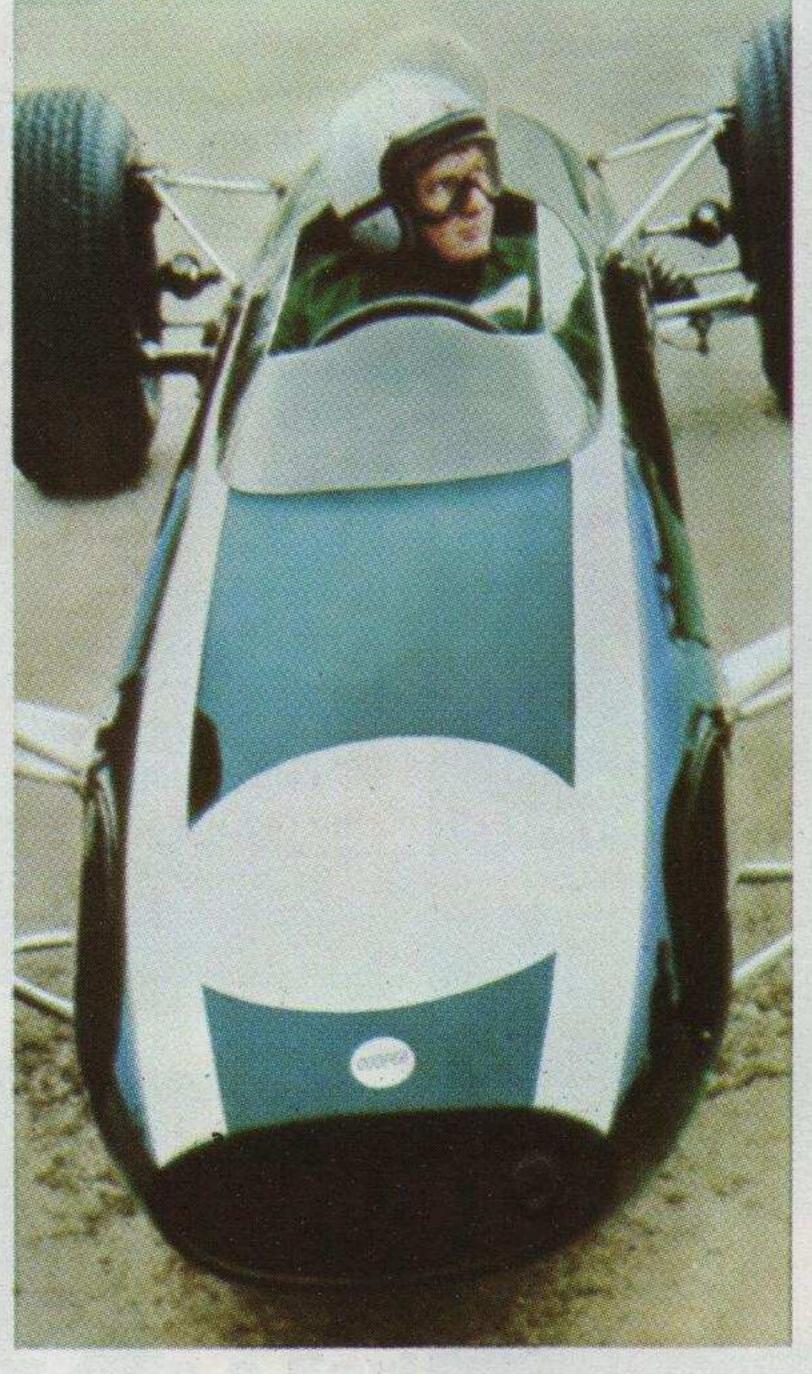


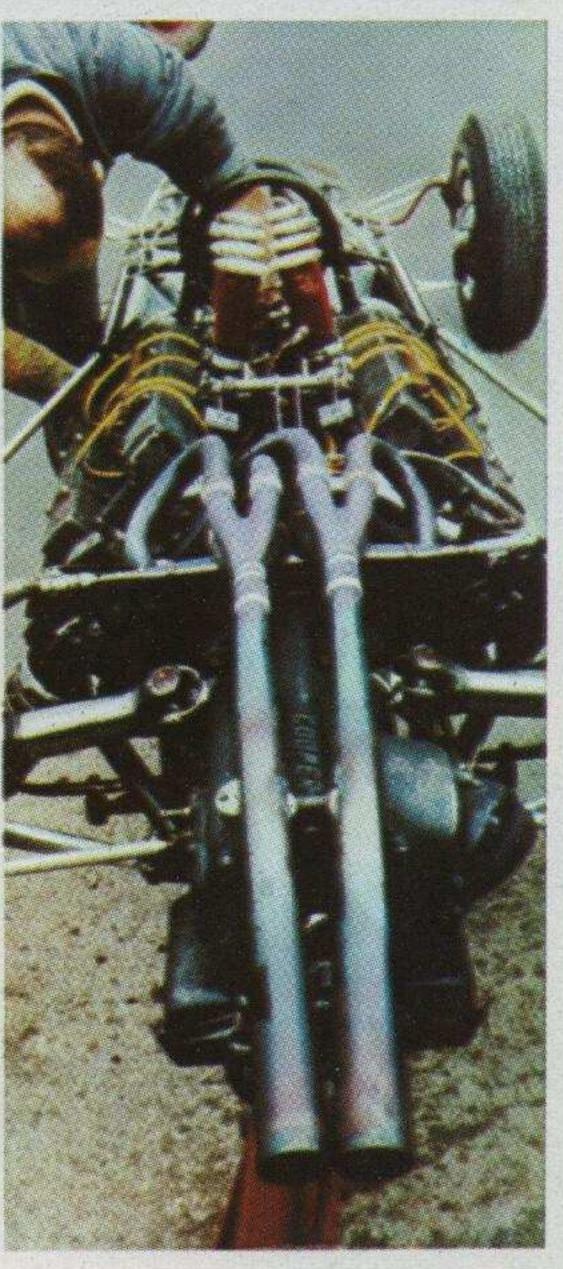


An enthusiastic crowd of one watches the debut of a possible world beater

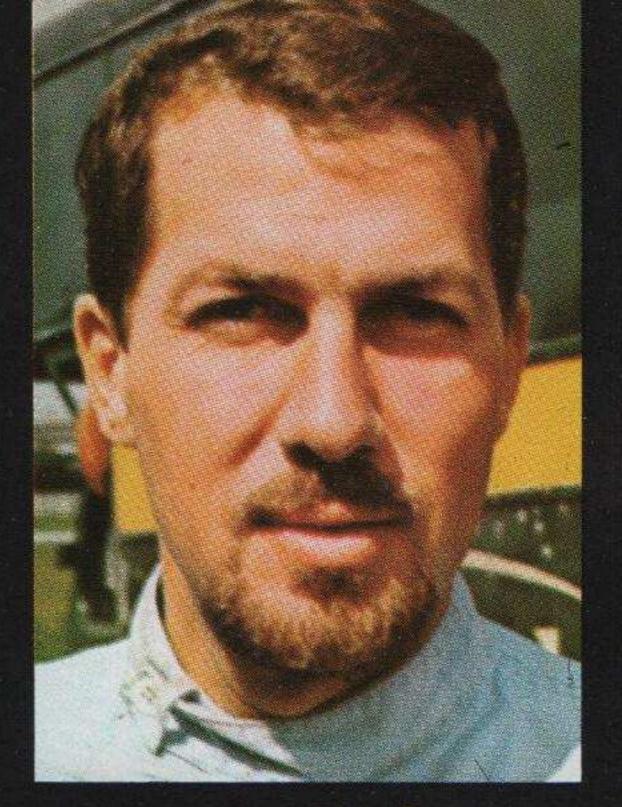


It is 7.45 on an April morning. The car is carefully unloaded. Adjustments are made. And Bruce McLaren takes the new 1964 Cooper Formula One around the circuit on its first trial run. John Cooper, designer and builder, watches. Watches anxiously yet enthusiastically. Will this one be as good as planned? At 10.40 a.m. McLaren wheels over to Cooper, looks up and says simply, 'We've got a good one here.' This first test is over. Now, it's what is ahead. Success? No one can say. John Cooper has left little to chance, though, with his superb new car. And BP is proud to be working with him.









Joachim Bonnier (Rob Walker-entered Brabham-BRM)

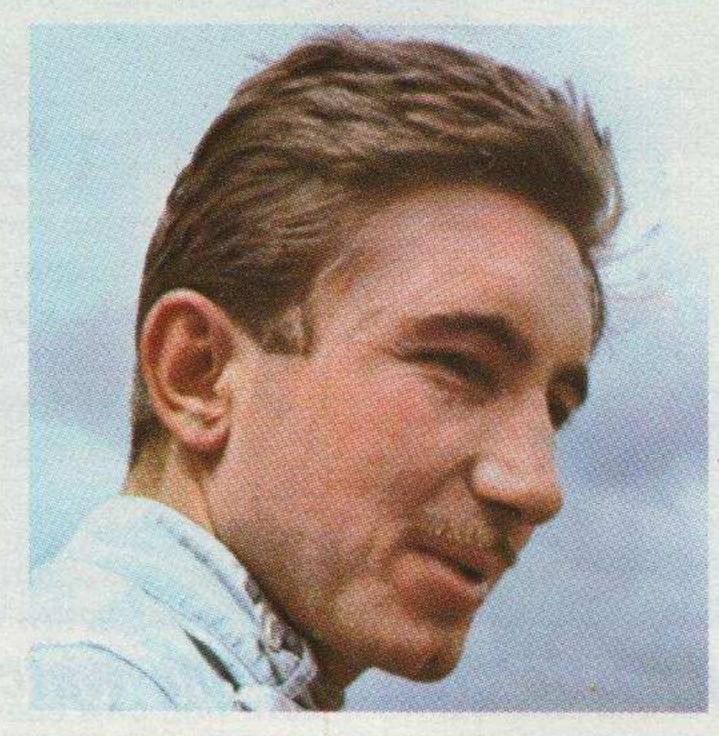


Last year's works Lotus 25s, now run under the Reg Parnell banner, have been fitted with BRM engines. Chris Amon at Zandvoort, where he finished fifth



Mike Hailwood (Reg Parnell Racing Team Lotus-BRM)

### Josef Siffert (Privately entered Brabham-BRM)



### Continued from page 48

Walker colours are carried this year on a BRM-engined Brabham, and a similar car, painted bright red, is fielded by the up-and-coming Swiss driver Jo Siffert—the most successful private entrant last year, when he drove a BRM-engined Lotus.

Reg Parnell died last winter, but his racing team carries on (in red and blue colours) with two extremely promising young drivers, Chris Amon and Mike Hailwood in the cockpits of the ex-works Lotus 25s, now fitted with BRM engines and Hewland gearboxes. Amon, barely 21, is the youngest member of the GP circus, and Hailwood is an ex-motorcycle champion who is showing real promise on four wheels. A BRM-engined Lotus 24 is also maintained at the Parnell headquarters for the American private entrant, Peter Revson.

Two of last year's spaceframe BRMs are now painted in the red Italian colour of the Centro-Sud team, for whom they are driven by Giancarlo Baghetti and South African Tony Maggs, who switched from the ATS and Cooper

Continued on page 52

Chris Amon (Reg Parnell Racing Team Lotus-BRM)



### 



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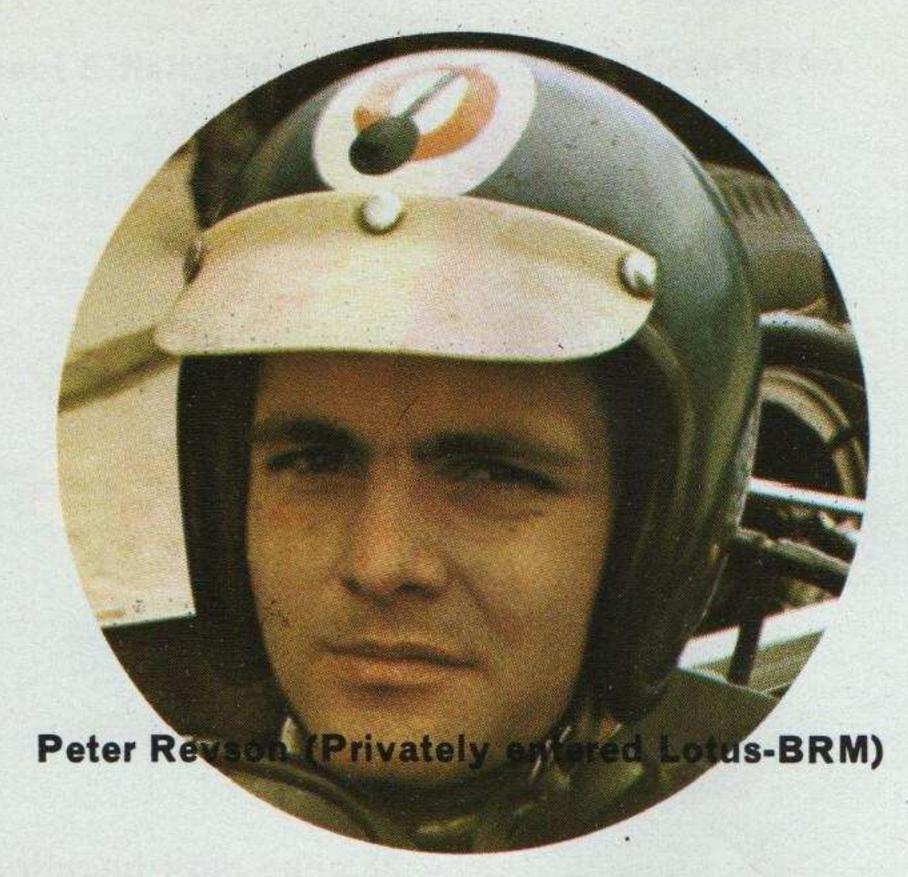




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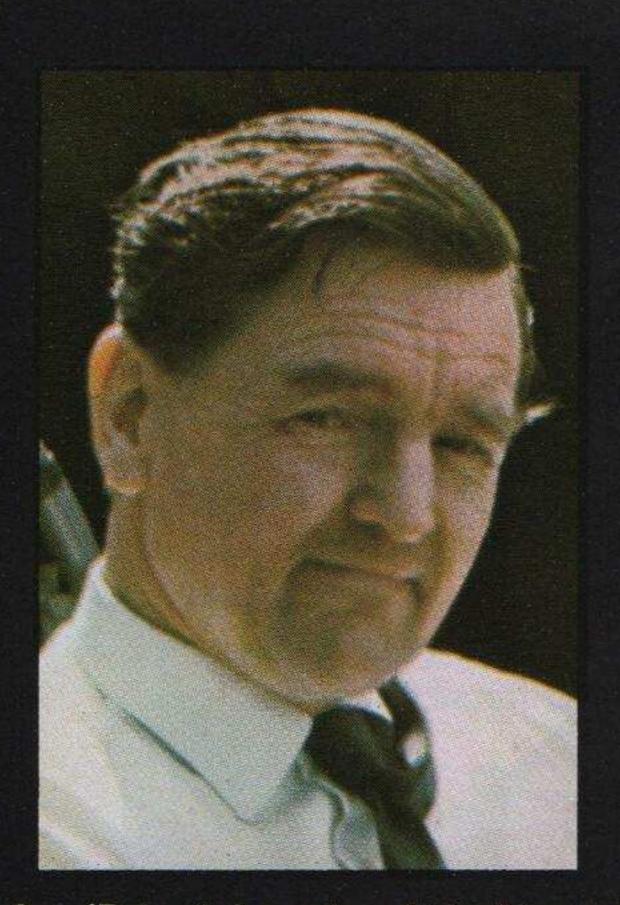
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French veterar Maurice Trintignant never drives of ter than at Monaco, where he has twice been the victor, and where he gave his ex-works BRM its first outing this year

Bob Anderson (Privately entered Brabham-Coventry Climax)



Ian Raby (Privately entered Brabham-BRM)

teams, respectively. A third BRM, painted blue (France's racing colour), is being driven this year by veteran Maurice Trintignant.

Brabhams have become numerically one of the strongest marques in Formula 1, a regular contender being the pale green Climax-powered car of Bob Anderson, another ex-motorcyclist who has successfully made the transition to top-league motor racing. Ian Raby, who has probably supported more races at Brands Hatch than any other driver, has Jack Brabham's very first GP car, now equipped with a BRM engine and sprayed dark blue, and as with all Raby's cars, carrying the 'lucky charm' insignia 'Puddlejumper'. Ian Raby has not taken part in the first four championship events of the 1964 series, but if he qualifies for a start in today's European Grand Prix he will have realised one of his greatest ambitions.

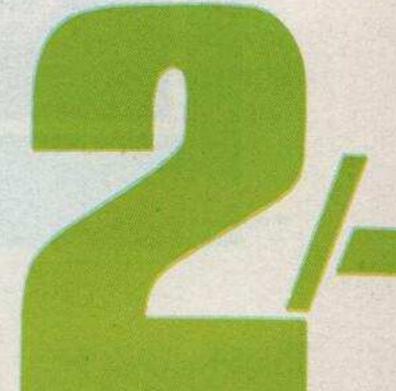
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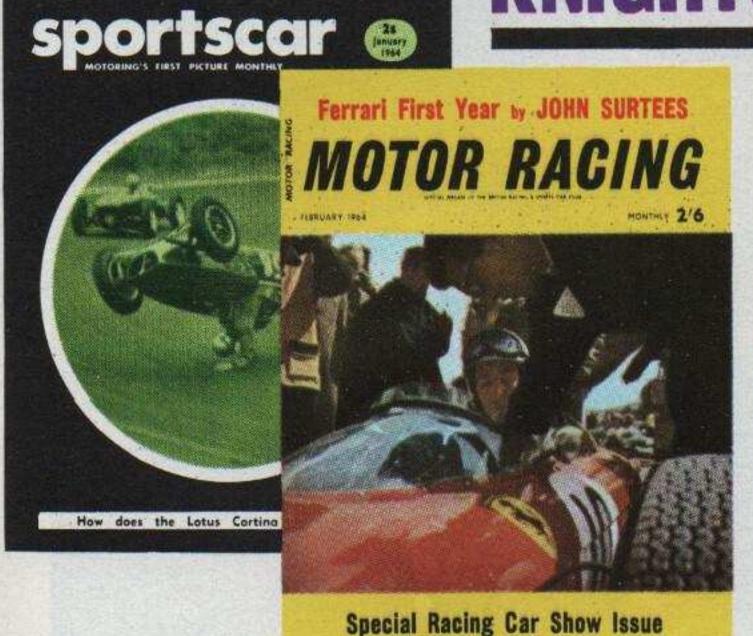
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It is in Touring car events that the impact of Ford's participation in British racing has been felt most strongly. The 1963 BRSCC National Saloon Car Champion, Jack Sears, won his title as a result of victories in no less than three types of Ford—Galaxie, Cortina GT and Lotus Cortina—and this year a similar pattern is emerging, with cars from Dagenham and Dearborn figuring prominently in most results lists.

Needle-matches between Galaxies and Jaguar 3.8s (especially in long-distance events) and between BMC Minis, Cortinas and Anglias have been to a large extent responsible for the tremendous enthusiasm which this class of racing attracts. In Touring car racing anything can happen, and nothing is more likely to bring the most hardened racegoer to his feet. Today's first race will most certainly be the setting for one of these thrilling saloon car battles.





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The Mini, however, isn't the only BMC car to lead a double life. The MGs and Austin-Healeys are equally at home on a circuit or a trunk road. The dash and road-holding of the 1100 makes it a natural competition-cumfamily car. The same goes for those powerful BMC twins, the Riley One-Point-Five and the Wolseley 1500.

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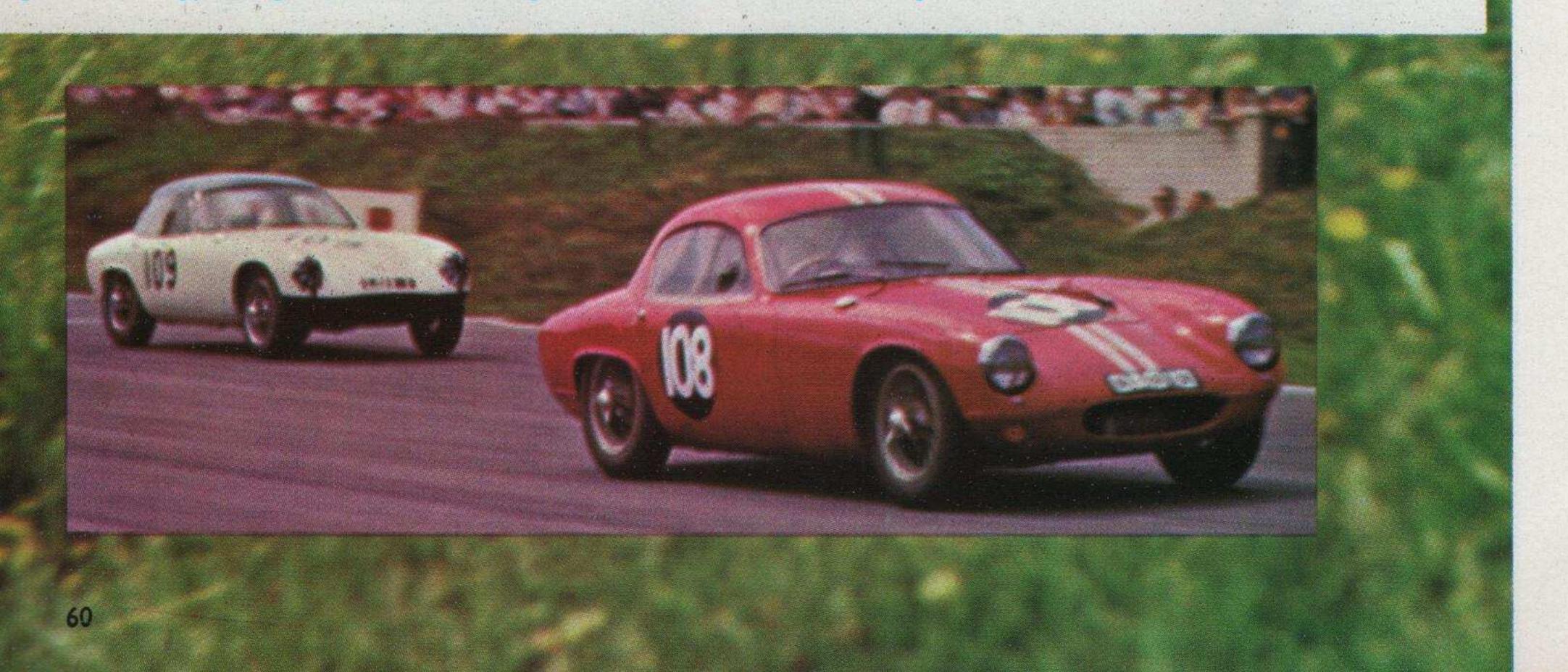




A GRAND TOURING car suggests the ultimate form of transport for a fast and comfortable drive from London to the Riviera. Whether many of the cars competing in today's GT race would fit such a bill is debatable, but there is no doubt that they provide their drivers with some closed-car racing in the grand manner.

This is a class of racing in which Ferrari GTO is pitted against 'E' Type Jaguar, Lotus Elan against Turner

and Marcos GT. Inevitably, the very nature of a GT car means that its chassis is likely to be more adaptable to race-tuning than that of the average saloon car. On the full Brands Hatch circuit, GT lap speeds are impressive, and today we may well see the outright record for this class of car fall to under 1 minute 45 seconds, and the fastest 2 litre car complete a lap in 1 minute 50 seconds. Grand touring!





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# DON'T MISS THE MILITARY DISPLAYS TODAY!



Sky-diving exhibition by the Parachute Regiment's Free Fall Parachute Team begins over Brands Hatch at 1.20 p.m.

Four members of the Parachute Regiment will drop from 12,000 feet and fall for 60 seconds before opening their parachutes. On leaving the aircraft the parachutists will start smoke grenades attached to their ankles so that their progress in free fall can be easily followed.

They will drop in formation and will carry out manoeuvres leaving an interwoven pattern of smoke trails behind them.

### OTHER DISPLAYS

- \* Bands of The Royal Dragoons and the 1st Battalion Royal Scots. (From 1.00 pm). (By kind permission of their Commanding Officers and Officers.)
- \* Motor-cade of Army vehicles old and new, to mark 50 years of co-operation between the British Motor Industry and the Services, (1.05 pm.)
- \* Demonstration of an assault by heliborne troops. (1.30 pm.)

  Herald Trumpeters of the Royal Regiment of Artillery will announce
  the major events, and each display will be covered by loudspeaker
  commentary.

Look at the Army's most modern equipment on show at the main gate and meet the men and women who have taken part in today's displays in their marshalling area behind the paddock.



### For the attention of Spectators

ANIMALS. Dogs and other pets will only be admitted to the enclosures if they are kept on a leash. This rule will be enforced rigorously to safeguard both competitors and the public.

LITTER. Please do not leave litter about the grounds. If you cannot see a proper receptacle, take any rubbish home with you.

ACCIDENTS. Should there be an accident, do not interfere. The situation will be handled by the marshals, the doctor, and the St John Ambulance staff who are in attendance.

PROHIBITED AREAS. Prohibited area notices identify sections of the grounds where the public are not permitted. The fences are there for protection, and any person found trespassing, or wilfully damaging trees, fences, etc, will be prosecuted by Brands Hatch Circuit Ltd.

DRIVING HOME. Drive with care and caution when leaving Brands Hatch. Remember, your conduct on the road before and after a race meeting can either raise or lower the prestige of motor racing generally, and of Brands Hatch Circuit in particular. We could not cater for such a large crowd here today without the friendly co-operation of the Police, so co-operate with them in return, and reach home safely.

### Acknowledgments -

The Royal Automobile Club thank the following for their valuable co-operation in the organisation of the European Grand Prix, and supporting programme of events.

THE DAILY MAIL, THE MINISTRY OF DEFENCE AND HEADQUARTERS, EASTERN COMMAND. THE EVENING NEWS, THE DAILY SKETCH, KENT COUNTY CONSTABULARY AND THE METROPOLITAN POLICE, ST JOHN AMBULANCE BRIGADE AND THE KENT COUNTY COUNCIL AMBULANCE SERVICE, TROOPS OF THE BOY SCOUTS, KENT FIRE BRIGADE, ROLLS-ROYCE LIMITED, BRITISH MOTOR CORPORATION, JENSEN MOTORS LIMITED, KENT COUNTY COUNCIL AND DARTFORD RURAL COUNCIL, AMALGAMATED ASPHALT COMPANY LIMITED, ACROW (ENGINEERS) LIMITED, EPPS BROTHERS LIMITED, FAWKHAM GREEN GARAGE, CRIPPS BROTHERS AUTOMOBILE ENGINEERS LIMITED, DRAKE AND FLETCHER LIMITED, MAIDSTONE, APPLIED POWER INDUSTRIES, JOSEPH LUCAS LIMITED, DUNLOP RUBBER COMPANY LIMITED, ILFORD LIMITED, SLIP GROUP OF COMPANIES, CARRERAS LIMITED, KNIGHTSBRIDGE PUBLICATIONS (1962) LIMITED, MOTOR NEWS AND FEATURES, MARCONI COMPANY LIMITED, THE BRITISH RACING AND SPORTS CAR CLUB, AND ALL THE INDIVIDUAL OFFICIALS.

### R.A.C. EUROPEAN GRAND PRIX PROGRAMME

Cover design: BERNARD BULL Programme design: MICHAEL ROGERS

Editorial: JOHN BLUNSDEN . ALAN BRINTON

Photographs: GEOFFREY GODDARD . MICHAEL HEWETT . PETER HULBERT

### COME AGAIN!

Brands Hatch Circuit Ltd wish you all a most enjoyable day's entertainment at this R.A.C. European Grand Prix meeting, and hope that you will want to return to Brands Hatch for some of the forthcoming events in the 1964 competitions calendar.

August 3: BRSCC International Guards Trophy car races for Sports, Formula 2, Formula 3, Grand Touring and Touring cars. Admission 12s 6d, car park free.

August 9: BARC Members' car races. Admission 10s per car, including occupants.

August 23: Lagonda and AC Owners' sprint.
Admission 5s per car, including occupants.

August 30: BRSCC car races. Admission 10s, including access to grandstands and paddock, car park free.

September 6: BARC (Surrey) high speed trials.
Admission 5s per car, including occupants.

September 13: BRSCC Members' car races.
Admission 10s per car, including occupants.
September 27: BARC Members' car races.

Admission 10s per car, including occupants.

October 4: BRSCC car races (long circuit).

Admission 10s, including access to grandstands and paddock, car park free.

October 18: Sevenoaks and DMC sprint. Admission 5s per car, including occupants.

October 25: MG Car Club sprint. Admission 5s per car, including occupants.

November 1: East Surrey MC sprint. Admission 5s per car, including occupants.

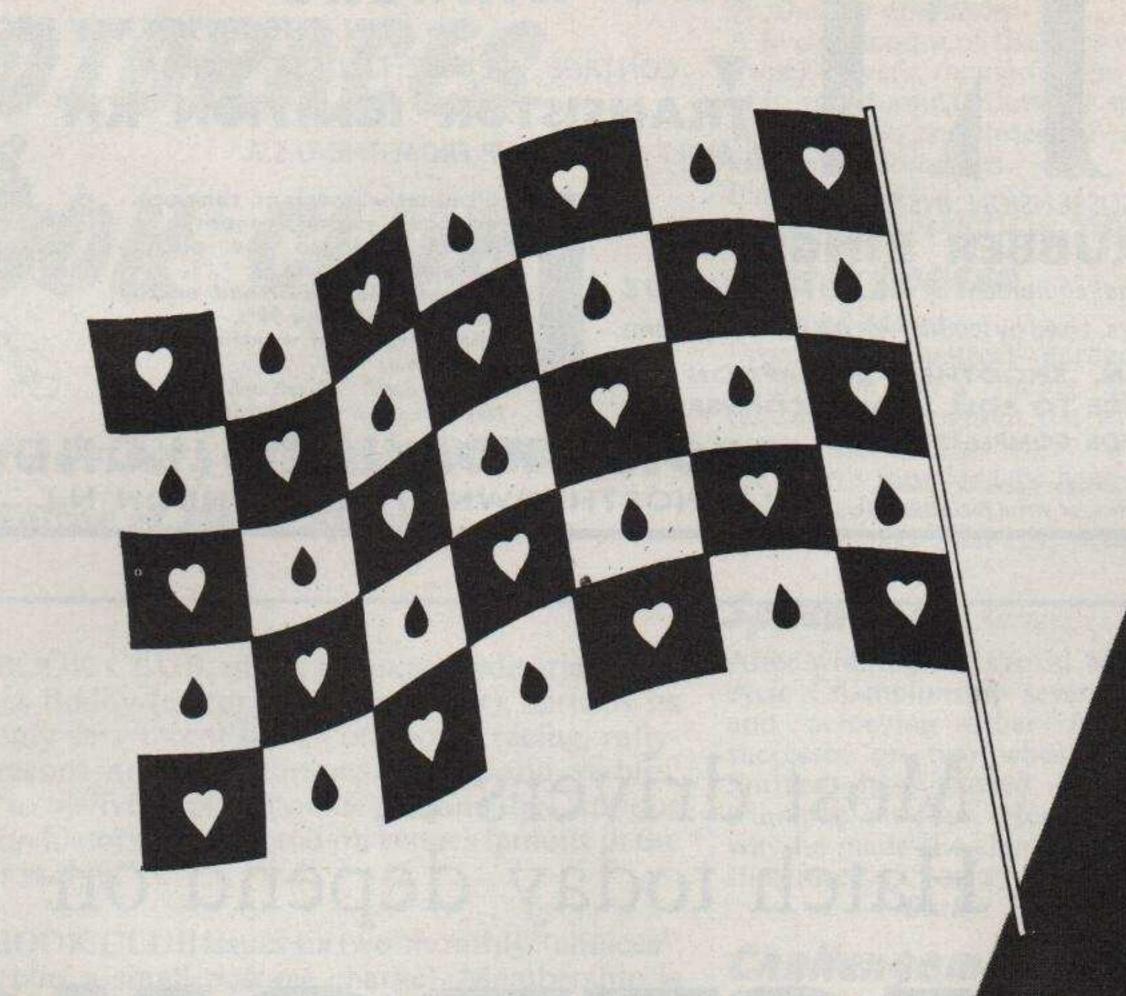
November 8: BARC (SE Centre) sprint. Admission 5s per car, including occupants.

November 22: VW/Singer/Met. Police sprint. Admission 5s per car, including occupants.

December 26: BRSCC Boxing Day car races.
Admission 10s, car park free.

### **Condition of Admission**

Spectators attending the track do so entirely at their own risk. It is a condition of admission that the Royal Automobile Club, Brands Hatch Circuit Limited and all persons having any connection with the promotion and/or organisation and/or conduct of the meeting (including the drivers and owners of vehicles and passengers in vehicles) are absolved from all responsibility and liability whatsoever from negligence, or by accident causing loss, damage or personal injury to spectators or ticket holders, or to their goods or vehicles.



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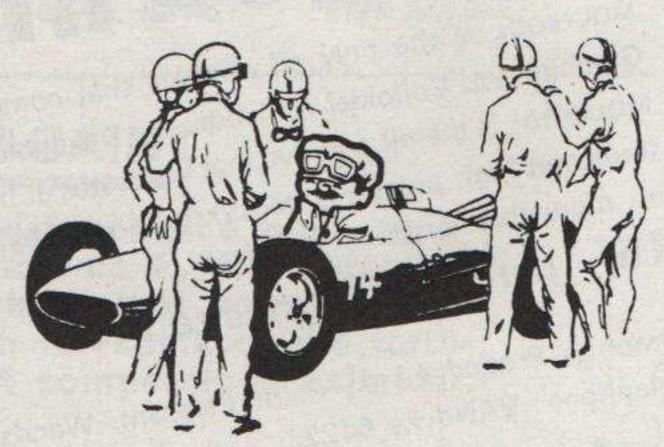
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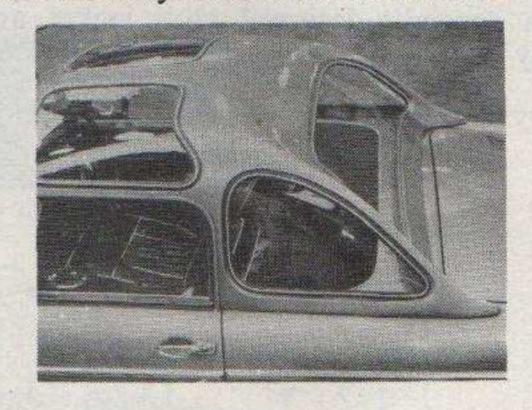
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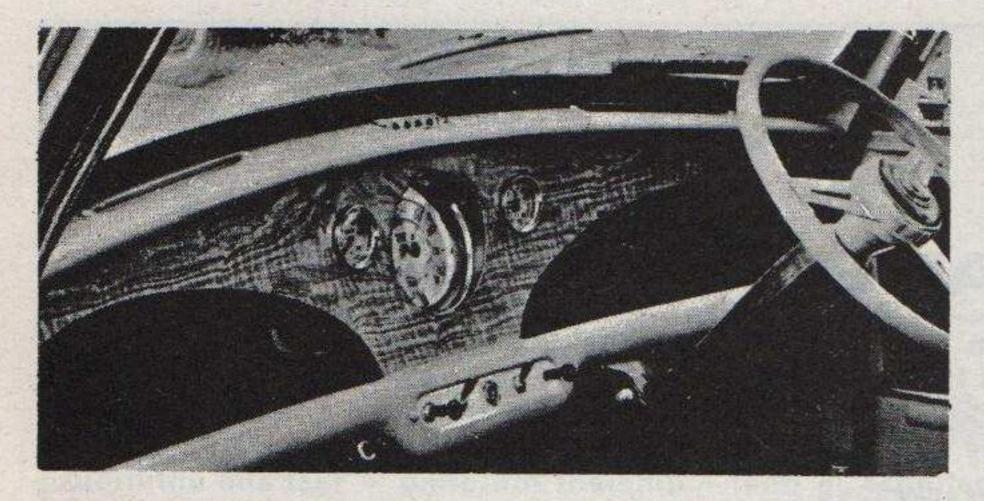




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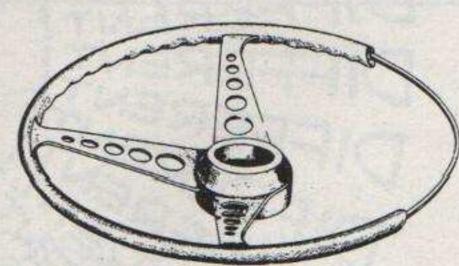


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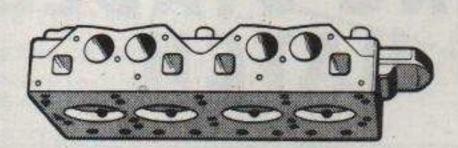
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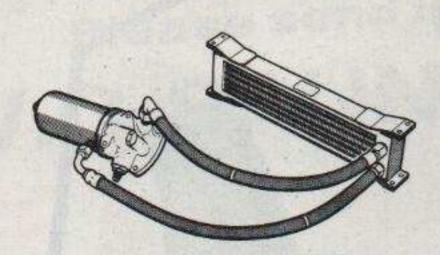
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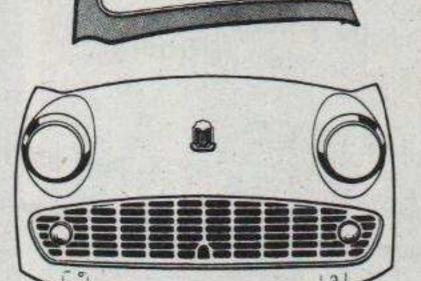
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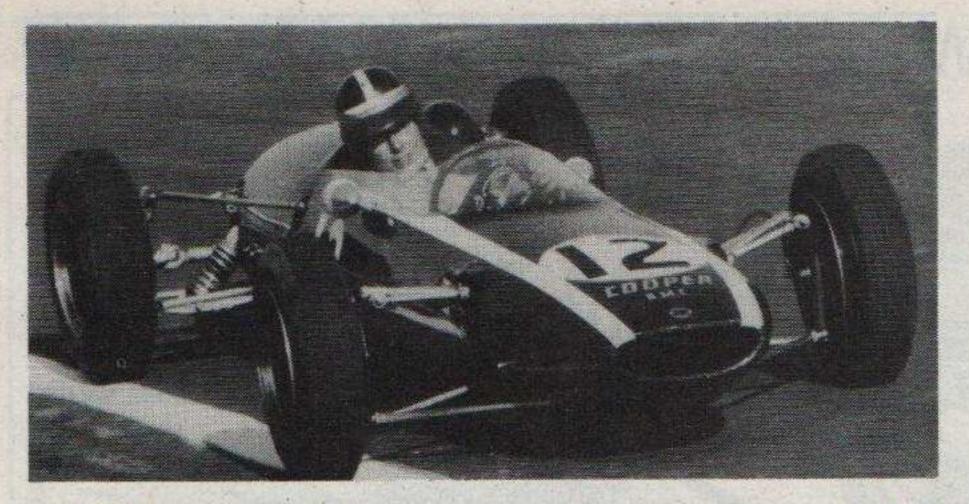
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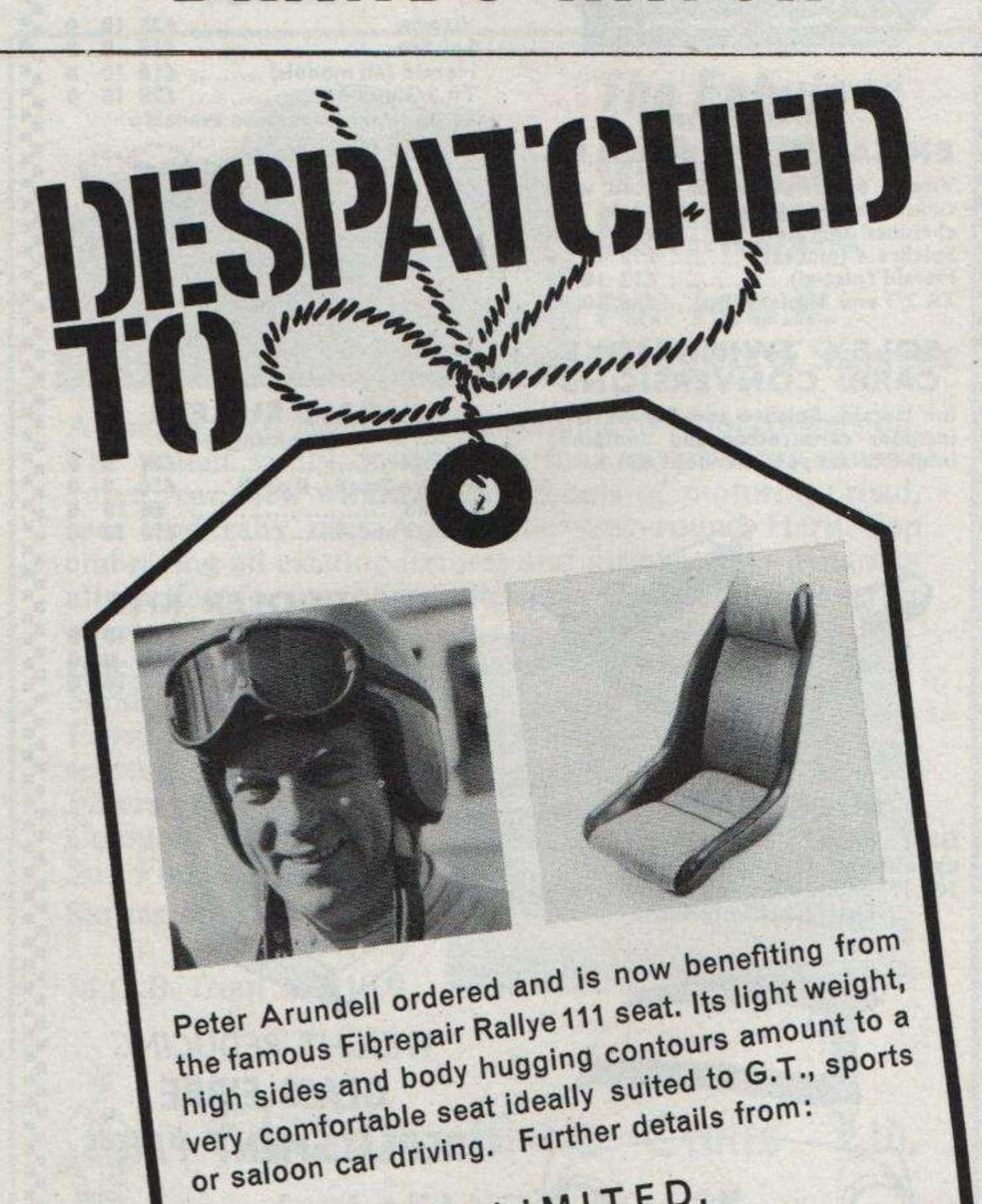
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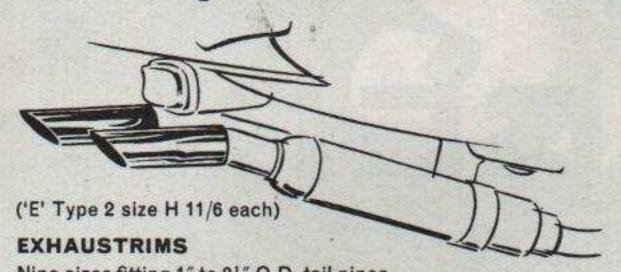
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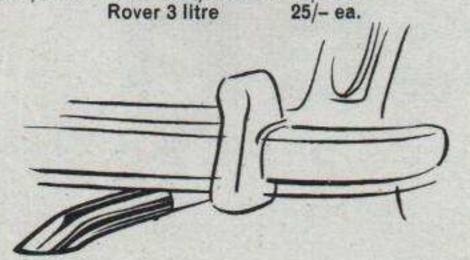
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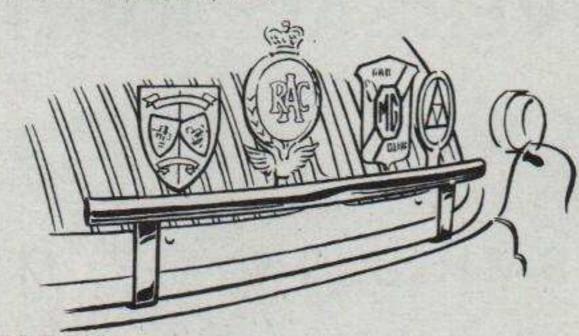


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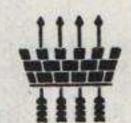
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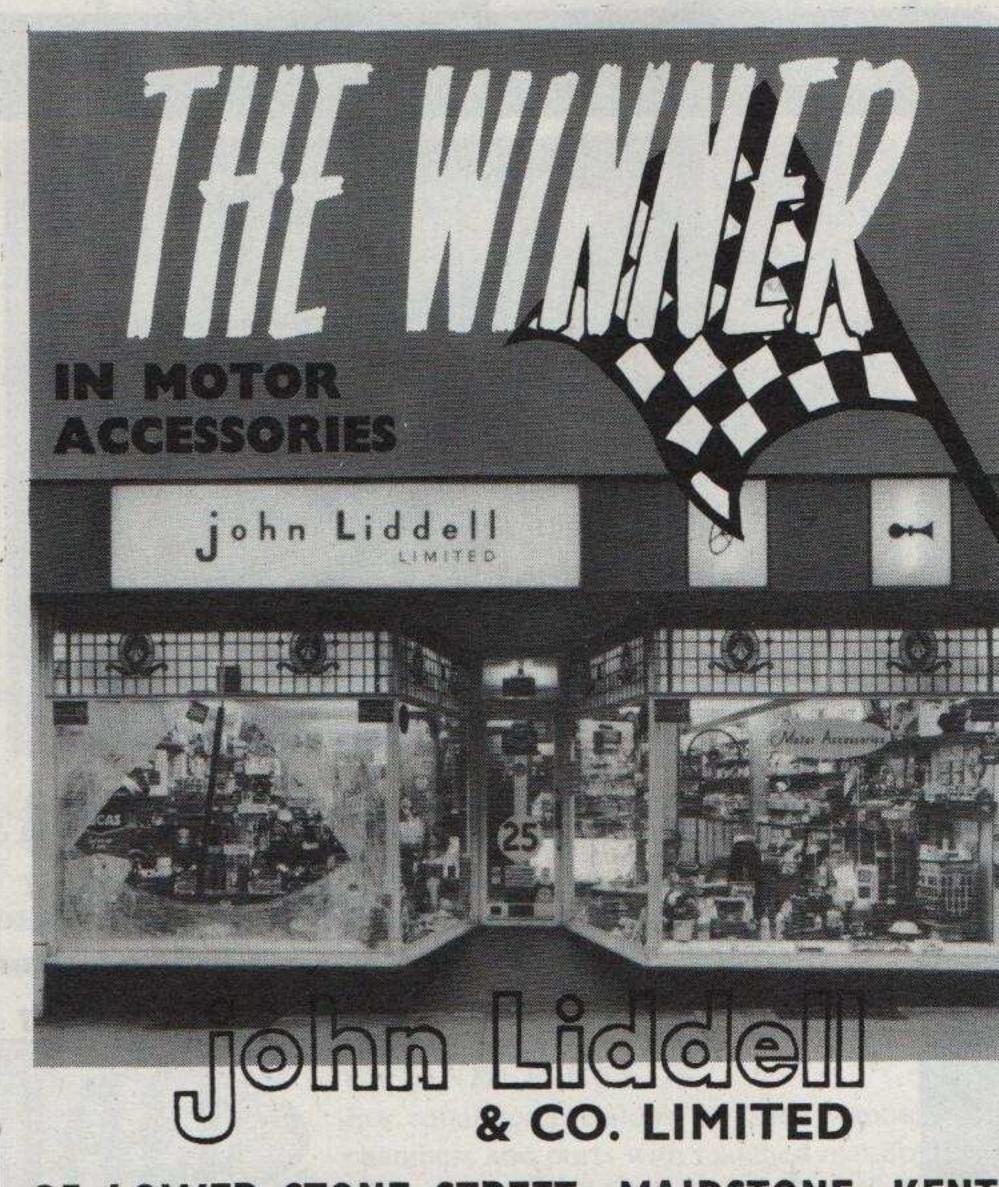
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have over 25 years of experience in manufacturing soft-faced hammers for the automobile, aircraft, engineering and metal-working industries. The types mentioned above have been produced for motorists, householders, motor-cyclists, do-it-yourselfers and handicraft workers, TO PREVENT DAMAGE AND PROTECT THE FINISH.

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#### THOR HAMMER COMPANY

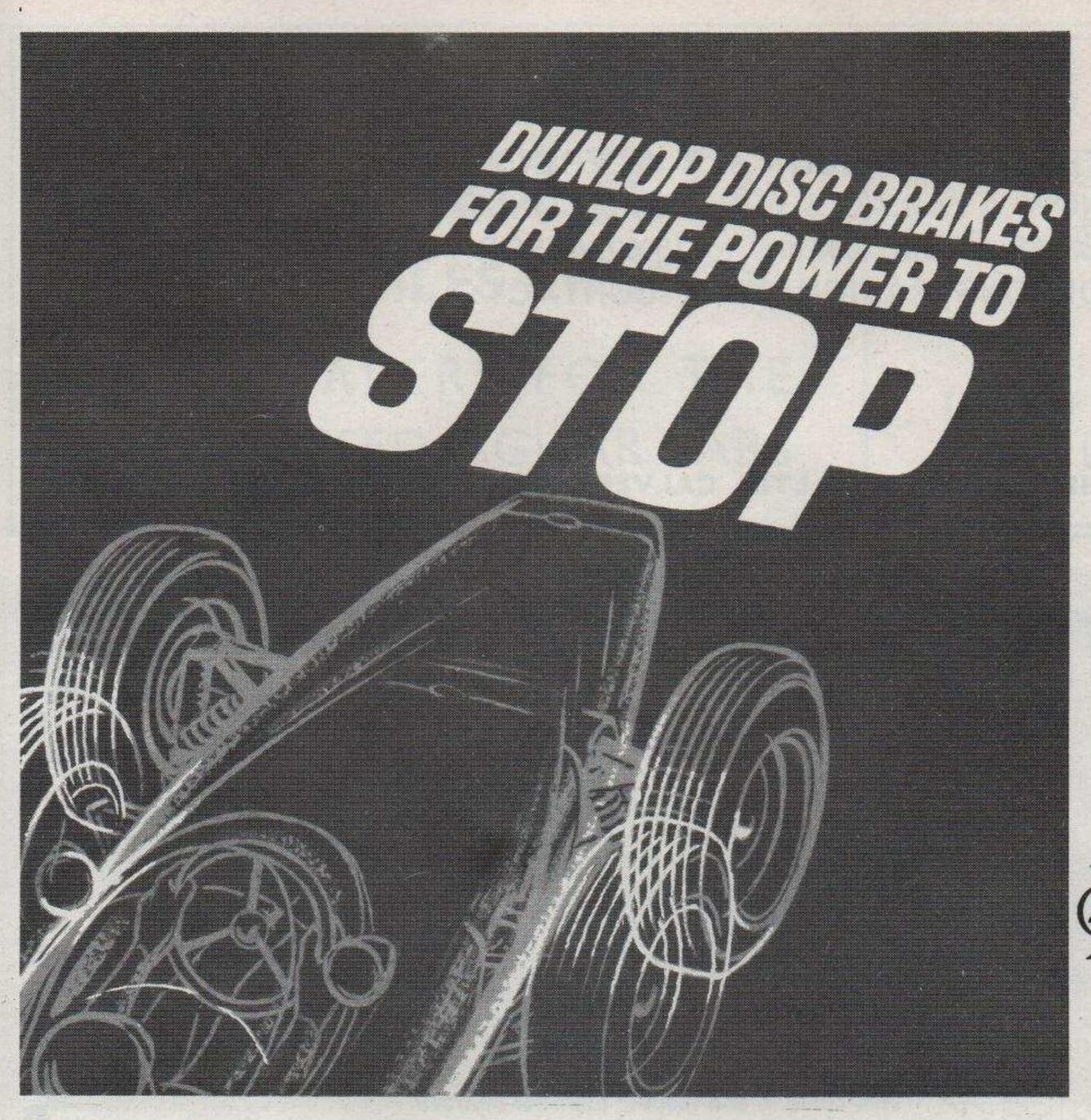
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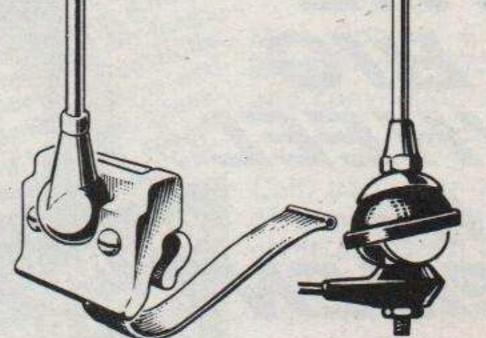
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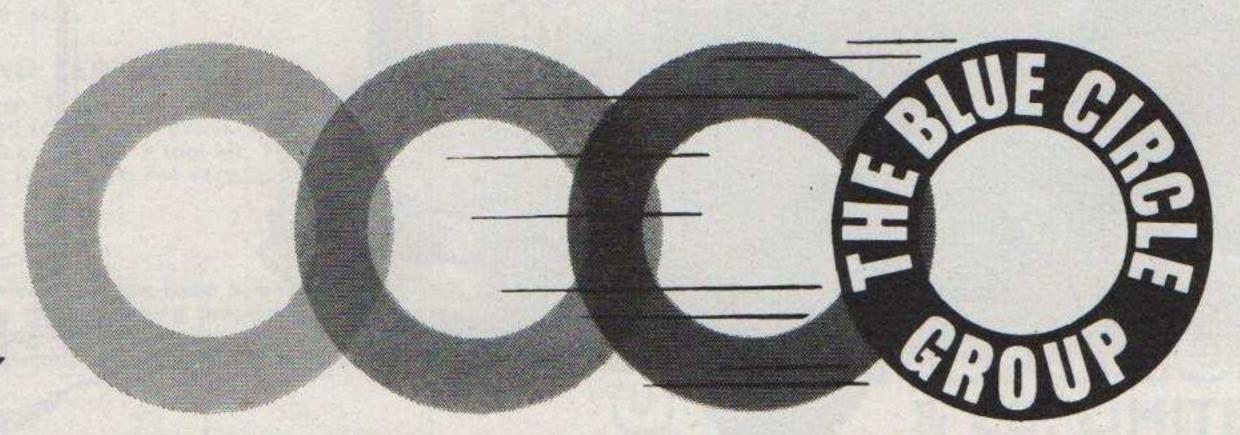
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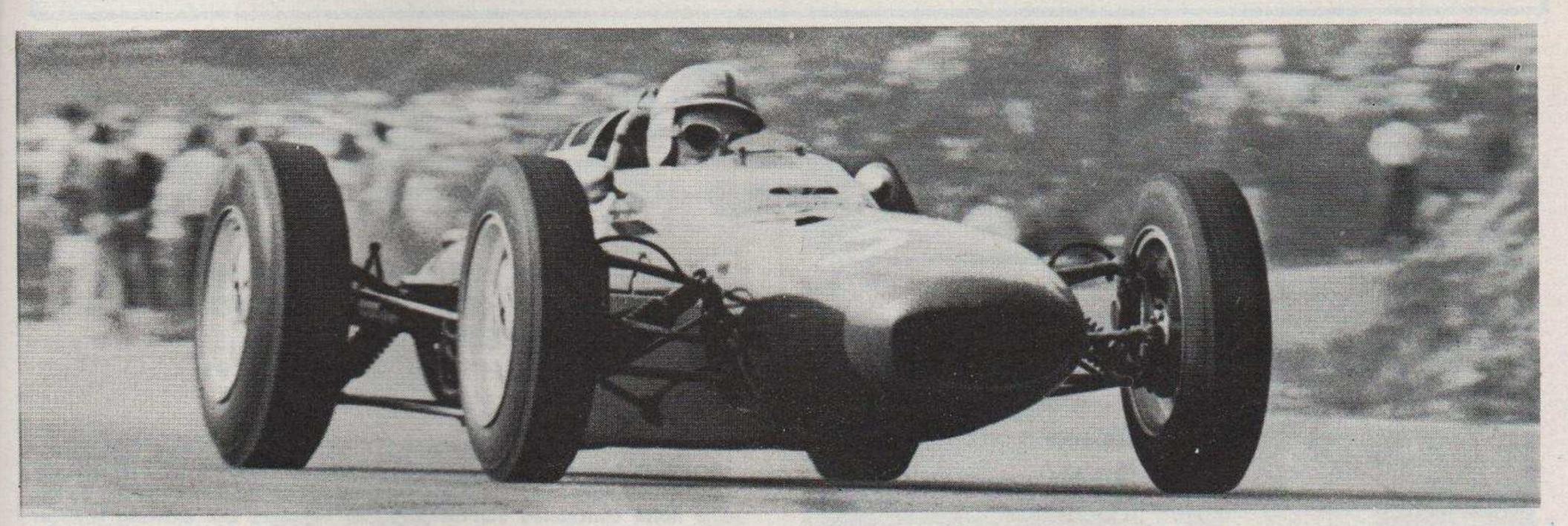
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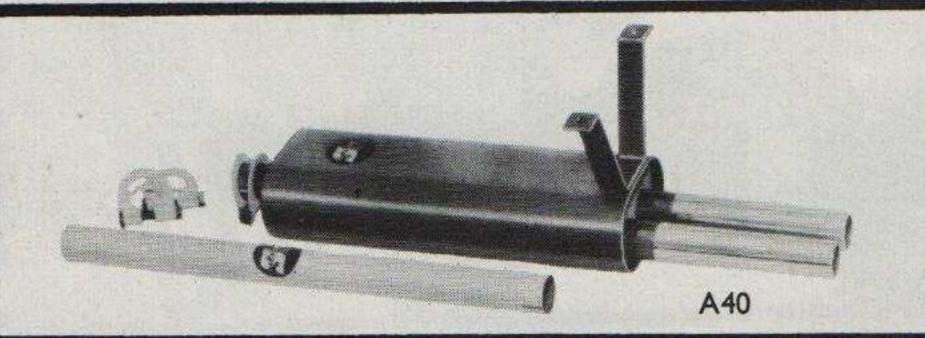
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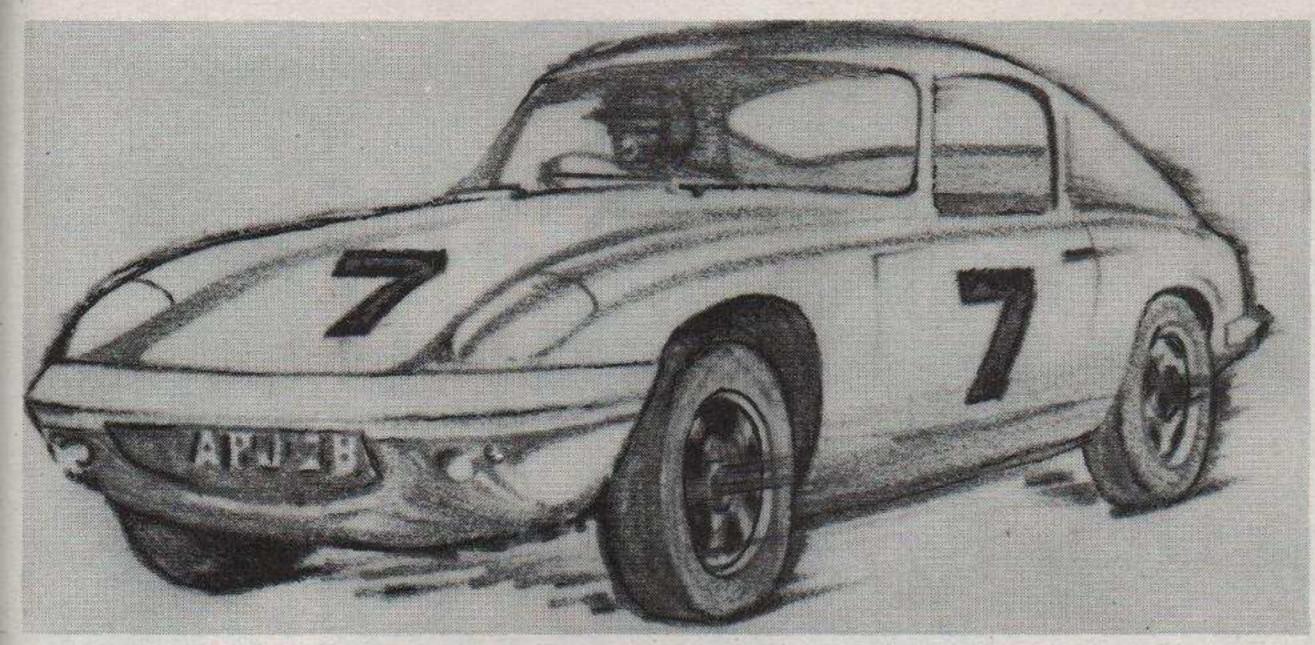
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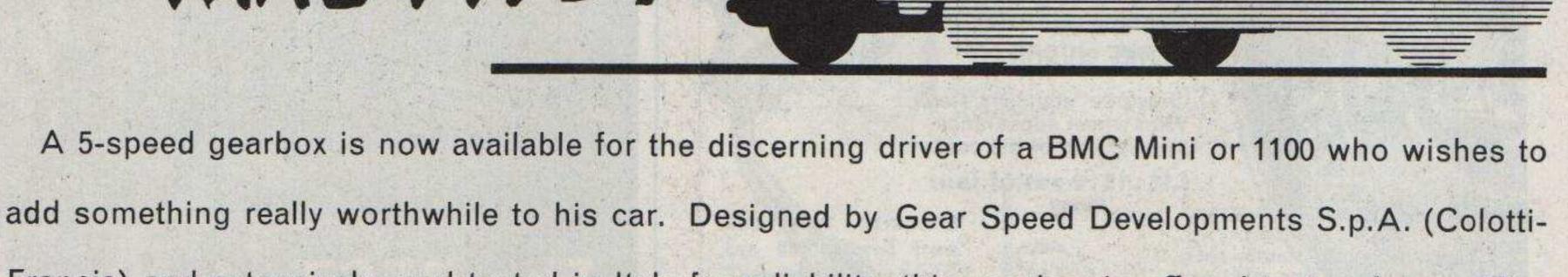
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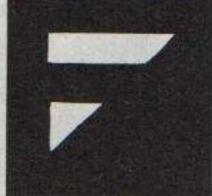
2nd 1.702

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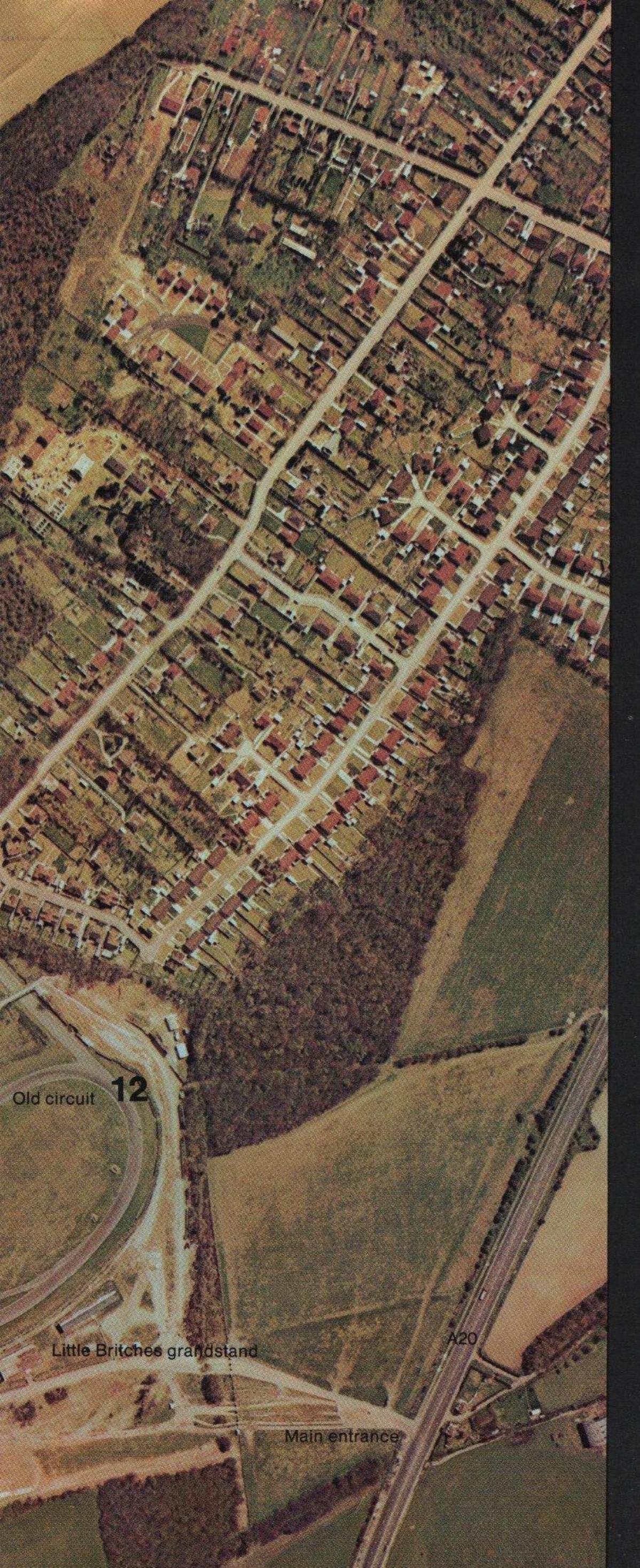
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souvenir colour photograph to celebrate the first European Grand Prix to be held at Brands Hatch: open up this page and you'll see a detailed aerial view showing you exactly what the Grand Prix racing circuit looks like with all its new facilities.







- 1 Paddock Hill Bend downhill corner which is unsighted for the drivers GP cars 90 mph, Touring cars 80-85 mph.
- Pilgrims' Rise
  GP cars 115 mph.
- 3 Druid's Bend open hairpin, very wide Saloons 40 mph, GP 50 mph.
- A deceptive corner at the foot of the hill Saloons 70 mph, GP 90 mph.
- 5 Bottom Straight Saloons 95 mph, GP 120 mph.
- 6 Long left hand bend under bridge with camber variations Saloons 70 mph. GP 90 mph.
- 7 Straight Saloons 110 mph, GP 150 mph.
- 8 Hawthorn Bend fast bend with even radius Saloons 90 mph, GP 110 mph.
- Westfield Bend a sharp but fast bend Saloons 75 mph, GP 110 mph
- 10 Dingle Dell
  a steep descent and climb
  into a sharp tightening corner
  Saloons 65 mph, GP 75 mph.
- 11 Stirling's Bend tricky left-hander with little width for error Saloons 50 mph, GP 70 mph.
- 12 The double bend at Clearways is approached by GP cars at around 120 mph and taken at nearly 100 mph.
- 13 Top Straight
  GP cars 135 mph,
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