

SERENISSIMA F1 CAR

AUTOSPORT

# AUTOSPORT

DECEMBER 14, 1962

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Vol. 25 No. 24

BRITAIN'S MOTOR SPORTING WEEKLY

Registered at the G.P.O. as a Newspaper



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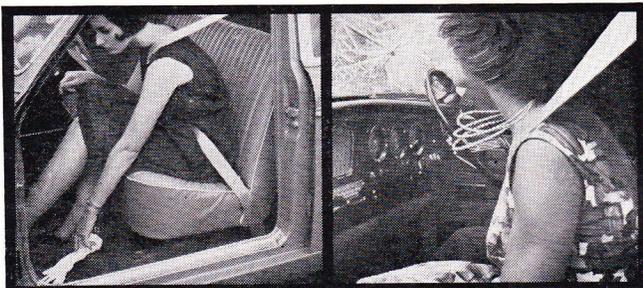


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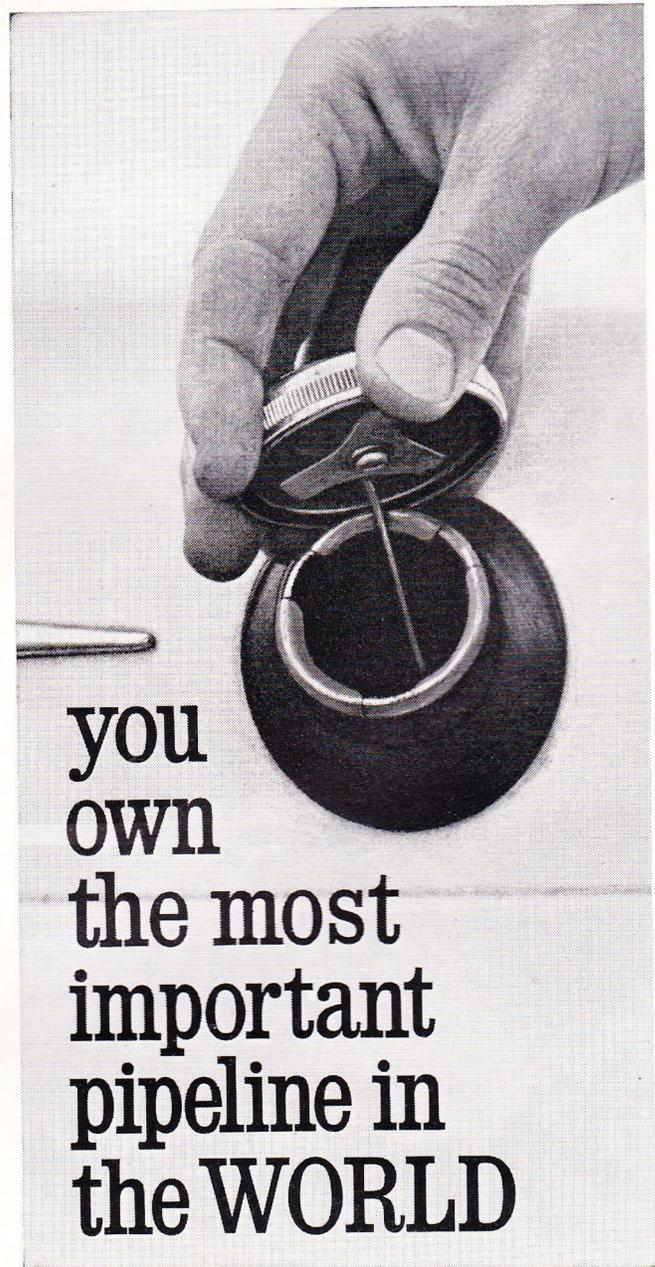


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Vol. 25 No. 24

December 14, 1962

Managing Editor GREGOR GRANT

Assistant Editor MARTYN WATKINS

Technical Editor

JOHN V. BOLSTER

Art Editor

THEO PAGE

Northern Editor FRANCIS N. PENN

## CORRESPONDENTS

Northern Ireland

BRIAN WADDELL

Eire

BRIAN FOLEY

Western Germany

ALAN BRUCE

Scandinavia

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U.S.A. Editor

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West Coast

GORDON H. MARTIN

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## PHOTOGRAPHIC SECTION

Chief Photographer

GEORGE PHILLIPS

Scotland

W. K. HENDERSON

U.S.A.

OZZIE LYONS

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General Manager PETER BAYLEY

Advertisement Manager NORMAN H. BIGSBY

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## EDITORIAL

### GRAHAM HILL'S TASK

ON 29th December the world will know which driver can be acclaimed as Champion, and which marque will gain the constructors' title—Graham Hill or Jim Clark: B.R.M. or Lotus-Climax. A quick glance at the points table would appear to indicate that Graham Hill has the best chance of winning the Championship, but a closer study shows that he has been set a most difficult task, and that is to prevent Jim Clark from winning. One must also take into account other drivers, eager to win South Africa's first *Grande Epreuve*, and the only support which Clark and Hill can expect will come from Trevor Taylor and Richie Ginther respectively. All in all, the race presents an intriguing problem. Should drivers of the calibre of Surtees, McLaren or Brabham, for example, take the initiative, as well they might, Graham Hill must still deal with Jim Clark, and cannot afford to risk holding a place, trusting to providence. He must ensure that Clark is not in a position to snatch victory. Ginther may well play a decisive role in the general strategy, for to the Owen organization it does not matter which driver or which car wins, as long as it is a B.R.M. Therefore, one can expect the Californian to go all out for a win, and thus make absolutely certain of the Championship "double". However, it will be no easy matter to defeat the "Flying Scotsman" and his monocoque Lotus-Climax "25", particularly if the circuit at East London is dry. Behind the coming dramatic struggle lies the vital preparation of the cars, and it is certain that the rivals will come to the starting grid with machines as perfect, or as near perfect, as their mechanics can make them. One cannot, of course, guard against mechanical failure, but the mechanics themselves realize that the slightest slip-up may prove to be disastrous for their drivers' chances. At Casablanca in 1959 Stirling Moss did the almost impossible, by winning the race and establishing fastest lap with his Vanwall. Yet Ferrari tactics won the Championship for the late Mike Hawthorn, for Phil Hill was able to establish himself in second place and let Hawthorn through and thus gain the vital points necessary to take the title. East London will be equally dependent on race strategy, but the difference is that Jim Clark knows full well that victory must give him the Championship, no matter in which position Graham Hill finishes. Trevor Taylor played a valuable supporting role at Spa-Francorchamps, and his battle with Willy Mairesse was a factor in securing Jim Clark's victory. The young Northerner may well find himself in a similar position in South Africa, on a circuit he knows well. He will have the same equipment as his team-mate, and undoubtedly he will be instructed to give Clark the strongest possible support, but on no account to try for victory unless the Scotsman has no chance of seeing the chequered flag first. The race is, of course, a duel between Clark and Hill, and no matter how the contest evolves in so far as Taylor and Ginther are concerned, the task facing the two B.R.M. drivers is to make absolutely certain that Jim Clark does not get there first!

## SERENISSIMA GRAND PRIX CAR

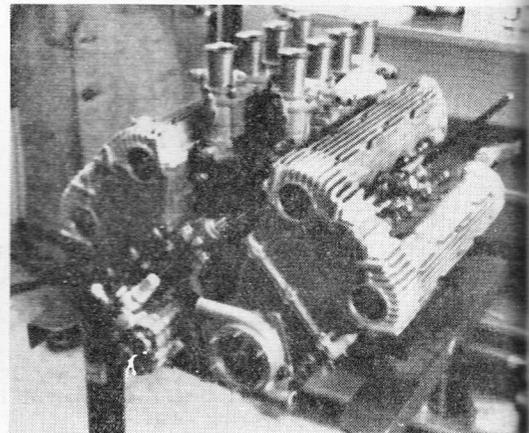
REVEALED for the first time last week, the new Serenissima F1 car is a straightforward design employing a space frame chassis and a V8 engine. Unfortunately, owing to the fog which visited us recently, technical details of the car have not yet arrived at AUTOSPORT's offices from Bologna. As soon as we are able we shall publish full technical specification together with more photographs.

Meanwhile, it is comforting to know that the car is nearing completion, and will soon be ready for testing. The team for next year is as yet unannounced, but Giancarlo Baghetti is almost a certainty, and Masten Gregory may also be seen in the red cars next season.

NOT, in fact, a piece of gymnasium equipment (left), but a mock-up of the Serenissima Formula 1 car. Note the "tear-drop" shape of the fairing which surmounts the engine compartment, and the dominant roll-bar.

★

THE NEW 1½-litre V8 power unit (below) developed by Serenissima for the new car.



OVER in America, Charlie Kolb, one of the best small-car drivers out there, has won six out of six races in his new Merlyn sports car.

GEORGE KENDRICK, a skilled competitor in Mobil Economy Runs, has returned 58.34 m.p.g. after almost 1,100 miles driving over difficult territory in England and Scotland at an overall average speed of over 30 m.p.h. The car?—a perfectly standard Austin A60 Cambridge Diesel Saloon, recently introduced by B.M.C.

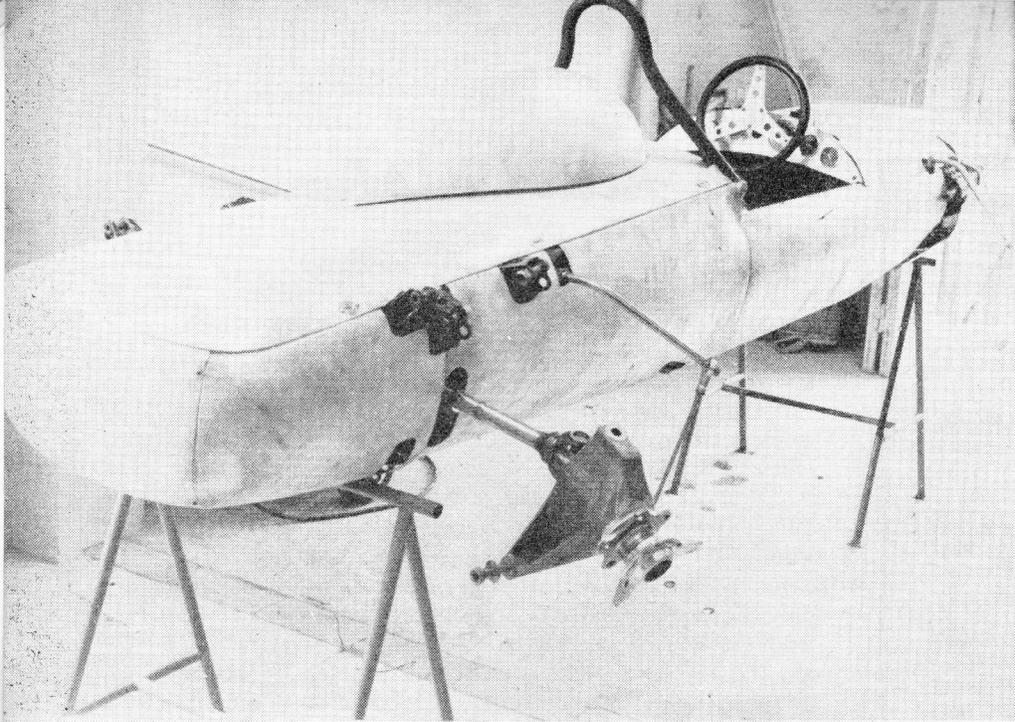
"LES LESTON PRESENTS" is the title of Les Leston's 1963 Equipment Catalogue, which is available free of charge from Les Leston, Ltd., 314 High Holborn, London, W.C.1.

KEN BAKER hopes to enter his E-type Jaguar for next year's Le Mans race.

GIANCARLO BAGHETTI and Lorenzo Bandini are to drive the A.S.A. 1000 (alias Ferrari Mille!) in competition next year, we hear, and it is also rumoured that a Formula 2 A.S.A. may appear.

DON SMITH is to drive a Jaguar 3.8 Mk. 2 next season, having sold his successful XK150S.

MIKE BECKWITH's mount for 1963 will probably be another Lotus 23.



### RHODESIAN GRAND PRIX

HELD on 1st December, the Rhodesian Grand Prix was won by ex-motorcycle racing champion Gary Hocking, who drove his ex-Tim Parnell Formula 1 Lotus-Climax. Second in the 50 lap, 107 mile race held at the Kumalo circuit, was South African Neville Lederle (Lotus-Climax). Mike Harris was third, in an Alfa Romeo-engined Cooper of unknown vintage. It seems that the race was run in terrific heat and Hocking broke the lap record no fewer than 36 times before a record crowd of his fellow countrymen.

### ANGOLA GRAND PRIX

LAST week we gave brief details of the Coupe de la Ville de Luanda race in Angola for African-resident drivers. After this, there was an event for sports and G.T. cars, the Angola Grand Prix, and the winner was Lucien Bianchi, who drove a Ferrari GTO of the Equipe Nationale Belge. Second was Hans Herrmann (Porsche RS61), one lap behind, third David Piper (Ferrari GTO), fourth Mario Araujo Cabral (Jaguar) and fifth Georges Berger (Ferrari).

Apparently, Belgian Robert Darville was allowed to compete in the "Africans" race as he has been having a long holiday in the Congo!

JEAN ROLLAND/Augias won the Criterium des Cevennes rally recently from the Ferrari GTO of Jean Guichet/Clement. Guichet is now the French G.T. champion.

FERRARI has, we hear, provisionally entered four, perhaps five, cars for Le Mans next year. John Surtees, Willy Mairesse and Mike Parkes are expected to drive, as well as some Italian drivers.

THE Brighton College Auto and Motor-Cycle Society arranged a racing car show in the College Hall last Tuesday. It was organized to stimulate interest in club racing at the teenage level, and many interesting racing cars were on show.

AUTOSPORT's Patrick McNally has sold his Lotus Elite, driven by himself and Roger Nathan last season, and is to conduct a Lotus Elan around the circuits next year.

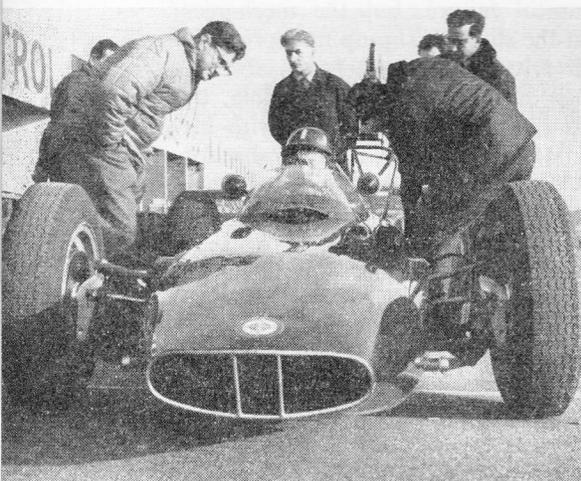
BELGIAN 1,100 c.c. Champion for 1962 is André Pilette, who drove a Holbay-engined Merlyn Mark 3 Formula Junior car.

JEFF UREN will manage the factory-entered team of U.S. Ford Falcons in the Monte Carlo Rally.

## PIT & PADDOCK

INNES IRELAND, driving a U.D.T.-Laysta Lotus-Climax 19, won the 252 miles Nassau Trophy for sports cars. He averaged 84.035 m.p.h., and led from start to finish.

KURT AHRENS, JNR., the German Formula Junior driver, has been suspended for six months by the O.N.S. (The German National Sporting Commission) on suspicion of having used a car of which the engine did not conform to regulations in the 1962 German Formula Junior Championship. Thus, his title of champion is not yet confirmed, and a decision is to be taken at the next meeting of the O.N.S. Gerhard Mitter is also suspended for a similar period.

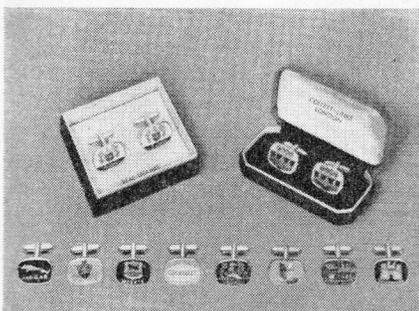


WE WOULD have thought that Graham Hill had had enough of T.V. cameras! Whilst testing the latest B.R.M. at Snetterton, before its shipment to South Africa, B.B.C. cameras and recording teams fitted their equipment to the B.R.M. and even to Graham's chest.

JONATHAN WILLIAMS, who last year surprised everyone by his rapid driving of an Austin A40, will be racing his Cosworth-engined, Hewland-gearred Merlyn Junior abroad next year and hopes to be based in Switzerland.

# SPORTS NEWS

UNDER R.A.C. officially observed conditions, John Sprinzel, driving a Mercedes-Benz 190 saloon, travelled 33.02 miles on a measured gallon last Friday. The journey was carried out in thick fog at an average speed of 29.14 m.p.h.



COLLETT MANUFACTURING CO., LTD., now manufacture a range of car motif cuff-links.

**MONTE CARLO RALLY NEWS:** The Citroën team for this event, comprising DS19s, is to be René Trautmann/J. Ogier; Olivier Gendebien/Alain Bertaut; Mmes. Bouchet/Laurent; Robert Neyret/Jacques Terramorsi; Jean Guichet/Clément; Roger de Lageneste/du Genestoux; Toivonen/X; Unnerud/X; Lucien Bianchi/X; Verrier/"Alec"; and Paul Coltelloni/Claude Bobrowski.

## MONTE CARLO RALLY

### The British Acceptances

#### From Glasgow.

A. R. Allard (Allardette); S. H. Allard (Allardette); D. C. Astle/P. Roberts (Reliant); A-V-M. Bennett (Fairthorpe); J. L. Boulden (Vauxhall); Eric Brinkman (Austin); J. E. Bullough (Sunbeam); S. Carruthers (Ford); A. E. Cleghorn (Herald); G. R. Cook (Sunbeam); H. C. Cooper (Sunbeam); R. Crawford (Morris Mini); John Cuff (M.G.); M. R. Davies (Lotus Elite); Tony Fisher/Dave Skeffington (Reliant); P. H. Fitzgerald (Ford); J. G. Foster (Morris-Cooper); C. Glenie (Vauxhall VX 4/90); A. W. Gorst (Triumph); A. H. Hill (M.G. 1100); E. Hodson (Ford); P. H. Howarth (1.5 Riley); E. Hunt (Sunbeam); C. P. James (Morris); Ken Jones (Ford); Rupert Jones/Philip Morgan (M.G.); R. Joss (Rover); E. W. Judge (M.G.); G. King (Ford); J. R. Lloyd (Triumph); Dan Margulies (Morris-Cooper); W. Marriott (Austin-Healey); R. D. Masters (Vauxhall); Andrew McCracken (Ford); K. McLennan (Morris); John Melvin (Sunbeam); Ray Merrick (Jaguar); H. G. S. Miller (M.G.); I. V. Miller (Austin-Cooper); Logan Morrison/Brian Culcheth (Morris); H. J. O'Connor-Rourke (Triumph); Pat Ozanne (Austin-Cooper); G. H. F. Parkes (T.V.R.); R. H. Pinder (Jaguar); C. J. Plummer (Triumph Vitesse); Jimmy Ray (Reliant); S. R. Skelly (Ford Zodiac); Peter Smith (Sprite); J. T. Spare (Sunbeam); J. W. Spiers (Morris); J. J. Syer (Austin-Healey); H. A. Thomas (Austin-Cooper); C. A. Twigdon (Austin-Healey); J. M. B. Wadsworth (Morris-Cooper); Phil Walton (Morris-Cooper); J. D. Wood (Sunbeam).

#### From Paris.

Christabel Carlisle/Timo Makinen (Austin-Healey); L. F. Chamberlain (Sunbeam); D. F. Davies (Austin-Cooper); Vic Eilford/Mike Butler (Triumph); Alan Fraser/Paul Steiner (Sunbeam); Gregor Grant/Tom Wisdom (Sunbeam Alpine); H. W. F. Hamblin (Triumph TR4); Paddy Hopkirk/Jack Scott (Morris-Cooper); Elizabeth Jones/Daphne Freeman (Austin); Geoff Mabbs (Austin-Cooper); F. T. Marchbank (Ford Anglia); Pauline Mayman/Valerie Domleo (Morris-Cooper); J. W. McAlister (Austin-Cooper); D. R. Milton (Morris 1100); Pat Moss (Ford Cortina); D. E. Pollard (Sunbeam); Peter Procter/Dave Mabbs (Sunbeam); Robin Richards/Geoff Davis (M.G.); Peter Riley (Ford Zodiac); David Seigle-Morris (Ford Cortina); Rosemary Smith/Rosemary Seers (Sunbeam) Eire; John Sprinzel/Willie Cave (Triumph Vitesse); Mike Sutcliffe/Roy Fidler (Triumph Vitesse); R. D. Tilley (Vauxhall VX 4/90); D. H. Wilson-Spratt (Sprite).

THE 1963 "Daytona Continental", scheduled for 17th February, will be for Grand Touring cars only, not for sports and G.T. as this year.

## BOXING DAY BATTLES

NO fewer than 26 British drivers have a chance of winning outright one of the three Championships to be decided at the B.R.S.C.C.'s Brands Hatch meeting on Boxing Day. Some, however, will be absent—Graham Hill and Innes Ireland, for instance, will be in South Africa practising for the Grand Prix that day. The fact that the South African Grand Prix is only three days away does not deter Roy Salvadori, however, for he hopes to compete at both Brands Hatch and East London! Roy stands a good chance of purloining the Peco Championship for G.T. cars.

John Fenning looks all set to win the John Davy Formula Junior Championship and is arming himself with a Ron Harris Lola. Nearest rivals, Peter Arundell and Frank Gardner, have a slight chance if misfortune strikes Fenning.

Jonathan Williams has sold the Austin A40 with which he leads the Molyslip Saloon Car Championship from the Ford Anglias of Alan Peer and Mike Young. He hopes to borrow a works Cooper-Mini in a bid to clinch the title.

A special attraction at Brands on Boxing Day will be a "drive-it-yourself" Kart track (which will also be featured at 1963 meetings) and a "drive-your-own-car-on-the-skid-track" facility. Cost? Ten laps at 10s. for the former and 2s. 6d. a go in the latter.

#### From Frankfurt.

S. E. Aldersmith (Austin Mini); Peter Harper/Ian Hall (Sunbeam); John La Trobe/Julian Chitty (Sunbeam); Tiny Lewis (Sunbeam); T. L. Wylie (Morris-Cooper).

#### From Stockholm.

Ian Baillie (Vauxhall VX 4/90); Raymond Baxter/Ernie McMillen (M.G.); R. W. Holmes (Vauxhall VX 4/90); A. Wyndham (Vauxhall VX 4/90).

#### From Monte Carlo.

Gerry Burgess/Sam Croft-Pearson (Ford Zodiac); E. W. Cuff-Miller (Ford); Bill Meredith-Owens (M.G.); Henry Taylor/Brian Melia (Ford Cortina); J. Trigg (Ford).

#### From Warsaw.

S. Broomfield (Austin-Cooper).

#### From Lisbon.

D. H. Ray (Ford Allardette).

#### From Athens.

Karl Richardson/Mrs. Richardson (Ford). Reserves: J. B. G. Campbell (Morris 1100); D. B. Kinnon (Ford); E. Brett (Jaguar); R. Parker (Mercedes), all from Glasgow. H. D. Ellis (Ford), Stockholm.

The works teams of B.M.C., Rootes Group and Reliant Sabre have been announced as being composed of the following crews and cars: B.M.C.: Pauline Mayman/Valerie Domleo (Mini-Cooper Group 1); Paddy Hopkirk/Jack Scott (Mini Cooper Group 1); Rauno Aaltonen/Tony Ambrose (Mini-Cooper Group 1); Logan Morrison/Brian Culcheth (Mini-Cooper Group III); Raymond Baxter/Ernie McMillen (M.G. 1100); Christabel Carlisle/Timo Makinen (Austin-Healey 3000); Rupert Jones/Philip Morgan (M.G. Midget). Rootes: Peter Harper/Ian Hall (Rapier); Peter Procter/Dave Mabbs (Rapier); Rosemary Smith/Rosemary Seers (Rapier); Tiny Lewis/X (Rapier); Gregor Grant/Tom Wisdom (Alpine). Reliant: Derrick Astle/Peter Roberts (Sabre); Jimmy Ray/X (Sabre); Tony Fisher/Dave Skeffington (Sabre).

## GOOD RACING AT NASSAU

BY JOHN WHITMORE

THE Nassau Trophy Road Races held on Sunday, 2nd December, were the first of the series of races which form the ninth annual international Bahamas Speed Week. Oakes course is a 4.5 mile airfield circuit with 16 bends and a very rough tyre-wearing surface. The outright lap record at the moment stands at 90 m.p.h.

The Nassau Trophy races consisted of two five-lap heats for GT cars up to and over 2 litres and a 25-lap final with both classes combined.

The 2-litre, five-lapper was won by Chuck Cassel on a Porsche Abarth Carrera after a close race with Lin Coleman, also in a Porsche, who finished second. Third was Charlie Kolb in an Alfa Romeo Sprint Speciale; the two T.V.R.s which were prominent at the beginning of the race dropped back on the last lap as John Colgate in a Sprite closed a little on the Alfa to finish fourth.

GTO Ferraris dominated the second five-lapper after the first lap, which was led by Bill Krause in an A.C. Cobra. The Cobras were fantastically fast though unreliable but it is indeed creditable to lead a GTO at any time! The race was won by Roger Penske in a GTO from Innes Ireland in a similar car, who finished a close second in spite of a spin. Bandini and Grossman were third and fourth respectively.

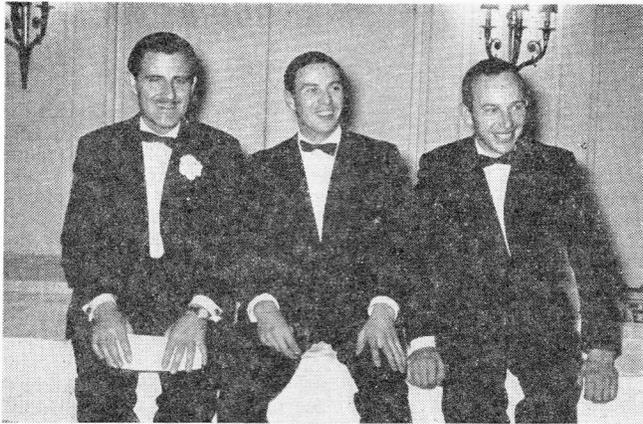
Perhaps the most exciting aspect of this race was the appearance of two American stock cars. One was Ford Falcon to the waistline with a very neat fastback making it a good looking GT car. It was fitted with a 260 h.p. V-8 engine and was driven by Marvin Panch of Daytona. The other was a colourful Ford Galaxie with a 385 h.p. 7-litre engine driven very well by Dariel Dieringer. This car had some measure of handling and Dieringer deserved much credit for holding third place for a lap in front of all but one GTO. Unfortunately, the loss of his oil filler caused a pit-stop though he appeared again for the last lap.

Innes Ireland led for the first lap of the 25-lap final after a rolling start but was overhauled first by Penske and then Bandini whose cars were obviously faster than Innes'. However, the Scotsman hung onto Bandini though Krause's Cobra separated them for a while. Penske, travelling very rapidly, steadily pulled out a second a lap for the whole race. Innes made a terrific effort in the last few laps which was much appreciated by the crowd. He actually passed Bandini three corners from the finish and led round the last bend but the superior speed of Bandini's GTO enabled him to catch Ireland in the last 25 yards and pass him before the line. Bob Grossman finished fourth.

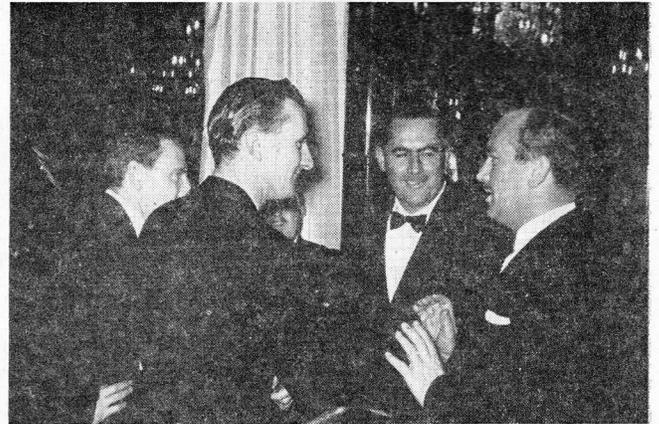
The 2-litre class showed a repeat of the duel between Cassel and Coleman who finished in that order. The 1,300-c.c. class was won by Kolb in his Alfa and second in that class was Donald Healey's Sebring Sprite, very well driven by John Colgate to beat an assortment of Elites, Elvas, Lotus Sevens and the like.

First of the local boys was Nassau's Peter Bethell in an E-type. Unfortunately, Porsche and Volkswagen agent John Body was unable to start due to trouble with his newly-fitted transistorized ignition system.

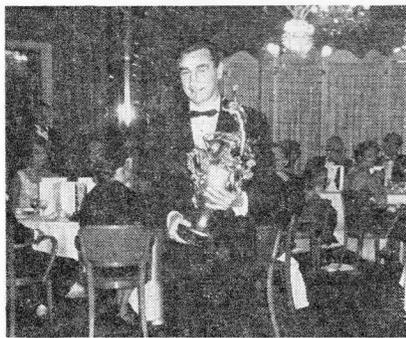
Sunday's racing was an excellent curtain raiser to a week of motor sport and other sports associated with a dreamy island in the sun.



*THREE SMILING FACES: Graham Hill, Jim Clark and John Surtees.*



*HATCHING A PLOT: Colin Chapman, Jack Brabham and Phil Kerr.*



*A HANDFUL for Roy Salvadori—the Woolf Barnato Trophy winner.*

# B.R.D.C.

## DINNER-DANCE

PHOTOGRAPHY BY  
PATRICK BENJAFIELD

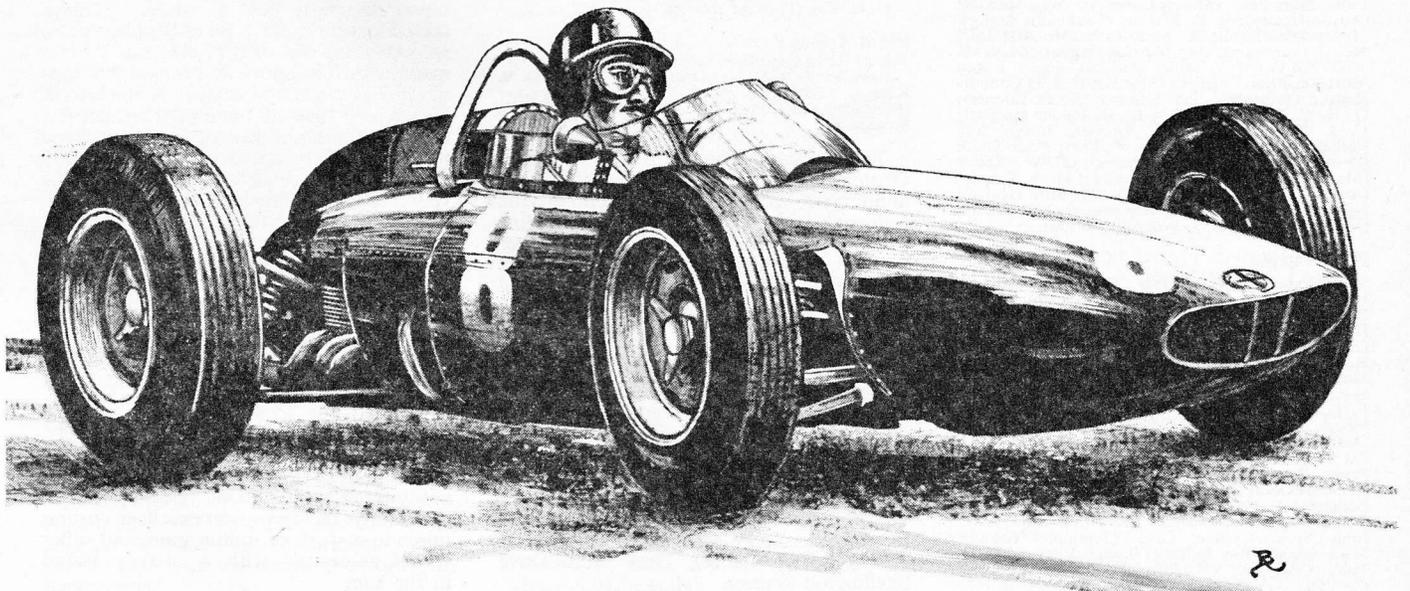


*AN ARMFUL for Graham Hill—a Gold Star and the John Cobb and Richard Seaman Memorial Trophies.*

# MOTOR PRINTS

Below is Graham Hill, driving the Formula One B.R.M. This is just one of a set of six, depicting the top Grand Prix cars of the 1962 season (Porsche, Lotus, Lola, B.R.M., Ferrari and Cooper). These are drawn from differing perspective angles, and printed by lithographic process, on best quality cartridge paper, size 12" x 18". They are unprecedented for value at 35s. per set, including postage, or individual prints are available at 7s. 6d. each. Framing and mounting to special order. These make excellent Christmas presents for all enthusiasts. Obtainable by post only from

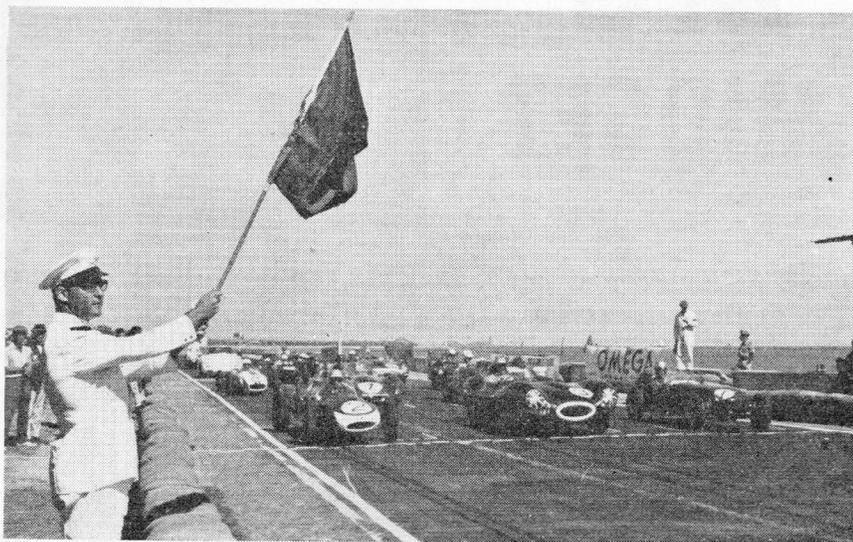
**Brian Roll Productions**  
9 Lawrie Park Road, Sydenham  
London, S.E.26.



*R*

# ORIENTAL MONACO

## THE 1962 MACAO GRAND PRIX



THE Portuguese colony of Macao shares with its neighbour, Hong Kong, the uneasiness of being vastly overshadowed by Red China. Both diminutive colonies project from the coastline of China into the South China Sea in lonely isolation. Yet the only time when the pulse of Macao quickens perceptibly is when the annual Grand Prix is held.

This event has taken place, usually in November, every year since 1954, and it is now the biggest motor sporting meeting in the whole of South-East Asia. The latest and biggest meeting in this series was held on the 17th and 18th November this year.

The soaring rise in popularity of this event is due to a number of factors which commend it as the premier circuit in this large area of the world. It is, in the geography of South-East Asia, reasonably central. It is only 40 miles from Hong Kong which is a nodal point of air and sea routes. It is clear of all congested overpopulated areas while still being accessible.

But above all it is an excellent circuit. It has almost everything. It is 3.8 miles long, and this includes a fast stretch about a mile and a half long which is almost straight. At the end of this fast section along the sea front the circuit turns sharply inland and climbs along the terraced edge of a hillside. The circuit twists and turns alarmingly between high stone walls and steep drops, and could almost be matched corner for corner with Monaco. The circuit includes one hairpin in particular which is probably sharper than anything in Europe. The circuit has a good surface and is generally wide enough to allow the stout-hearted to overtake anywhere. The fast straights are very wide. It is said that this circuit received hearty accolades from Stirling Moss who motored round it a few years ago.

Lap times are being hacked to shreds every year as the entrants come from farther and farther afield. The cars, too, get faster and more varied, and this year a very great deal of expensive and exotic machinery was being motored round the circuit. The bulk of entrants come from

### UNDER STARTER'S ORDERS

Hong Kong, but this year there were competitors from Bangkok, Singapore, and the Philippines, and one, Arthur Owen, of hill-climb fame, came all the way from England. Mitsubishi sent a team from Tokyo, and there were various commercially entered teams from Hong Kong. It is now true to say that motor sport people anywhere in South-Eastern Asia regard Macao as the Mecca of their sport.

The Macao meeting is a week-end affair with two races on Saturday and two on Sunday. The preceding Thursday and Friday are used as organized practice days. The first two events are allegedly for sports cars but the ugly old bone of contention over precise designations still sticks in the throats of organizers. The drivers' meeting on the eve of the Macao week-end is notoriously stormy, and this year the tropical storm was caused by the admission to a sports car race of cars which could scarcely justify that description. Naturally, the organizers want to accept sportier than sporting cars if only to embellish the spectacle, but the pure, thoroughbred sports car boys feel jilted at this slightly unfair competition.

This was the year of the Lotus. A Lotus Super 7 had been assembled in Hong Kong by A. D. Bennett and this "do it yourself" motor sportsman had the temerity to enter his own product against an extremely expensive field of very high grade sports cars. He won. In fact, he won twice. Both the Organizers Cup (57 miles) and the Automobile Club of Portugal Trophy (114 miles) were most convincingly dominated by Bennett who showed a very clean pair of rear wheels to most of the sports cars which one can think of.

The production car race was held on a sunny Sunday morning with a fresh wind coming in from a sea busy with great ponderous junks plodding across the harbour. Seven different classes of cars were represented in the same 114-mile race, ranging from the tiny Japanese Mitsubishi

up to the 3.4 Jaguar of George Baker. Both these extremes won their classes without too much competition but there were some close battles fought in the medium classes. An astonishing collection of wreckage lay scattered around the circuit as testimony to the enthusiasm of the drivers and the close matching of their cars. An Austin Cooper-Mini from Singapore clocked one of the most impressive times. Sixteen cars lined up on the grid for the start of the Grand Prix itself. For an event outside the big international league this was an impressive line-up. Arthur Owen's Cooper had clocked a time in practice which earned him "pole" position. Then came a Jaguar SS and then the Lotus Super 7 which had already won two races in this meeting. In the second row was Peter Heath from Bangkok in his much favoured Lotus XV, which had been circulating most effectively in practice. After this were two very well tuned TR4s, a Ford Special, two "E"-type Jaguars, an A.C. Bristol, and somewhere in the back a Lotus-Ford 22 from the Philippines.

The A.D.C. to the Governor of Macao gave the starting signal for this very tough 228-mile race, and the game was on. From the start, Bennett, who still had a power/weight ratio very much in his favour, was well up in his Lotus Super 7. Another Lotus, that of Peter Heath, soon led the pack while the Philippines' Lotus was still lying fifteenth. Arthur Owen's Cooper limped back to the pits after the first lap and made its long trip from England look a little extravagant. The tight bends round the back of the circuit sorted cars out like a series of filters, and before long the field was motoring along at well regulated intervals. Positions in this procession were changing, however, and one car in particular improved its position every lap. This was the Lotus-Ford 22 from the Philippines driven by Arsenio Laurel, and it was working its way forward from fifteenth until, just before halfway through the race, it got in front and stayed there. Laurel broke the lap record seven times with an average speed of about 70 m.p.h., and has since gone home with an impressive load of silverware. Bennett, still purring round happily, was clocking consistently fast times all the way through the race, despite a pit stop resulting from a bent wheel—and came in second hotly pursued by an "E"-type Jaguar. Only seven of the original 16 starters reached the end of the race. Heath, who in the early stages had seemed the likeliest contender, had dropped out as the result of a puncture—of all things. Others had been severely troubled by overheating, and a number of cars had run completely out of brakes. Others had just run out of road. The A.C. Bristol blew up impressively, and the Ford Special sprung a water leak which, despite pit stops every two laps, made it steam round the course in a cloud of vapour.

For those of us living in these far flung outposts, Macao is the big motoring event of the year. It is still a sufficiently local event to have something of the club atmosphere about it while also providing excitement and spectacle such as one rarely sees anywhere outside the big international meetings.

I. M. HORSLEY-CURRY.



## DICK JACOBS' M.G. MIDGET



The "dog fights" between **GEORGE PHILLIPS** and **DICK JACOBS**, when both were racing M.G.s, were legendary. Nowadays, "Phil" is one of the world's leading motor-racing photographers, and Dick is famous as an entrant—of racing M.G.s. George Phillips spent a few days in one of the latest of the line of Mill Garage cars, and below is his verdict. Guess who took the photographs!

To all enthusiasts attending various meetings this season, the two immaculate Dick Jacobs M.G. G.T. racers need no introduction. Although these cars had only half a season's racing, they have built for themselves a formidable record. Out of 10 starts they collected first and second in the class no fewer than four times, another first in class when only one car was entered, and in the remainder of the events they have been well placed in more than half the races; neither car has ever failed to finish and all this on less than 1,000 c.c. In an effort to demonstrate to our readers how this is done, I visited the Mill Garage at South Woodford, E.18, recently and borrowed half of the "Jacobs train" for a short time and really had some fun.

First let us find out more about these cars: basically, they are standard M.G. Midgets, so much so that wings, doors and side-panels are all normal body pressings and married to this is a delightful extended hard top and an equally attractive bonnet. This also has received the treatment, and as a result is considerably lowered—not only



THE GUV'NOR—Dick Jacobs.

does this make the car a real good-looker, but the result is very functional. The shape is no happy accident but the result of extensive wind-tunnel tests and, coupled with the M.G. know-how collected over many years in the record-breaking field, it can be said without any doubt that this car is the result of perfect co-operation between two people. On one hand Syd Enever of M.G. who, in my opinion, knows more about getting a quart out of a pint pot than anyone breathing (remember Goldie Gardner's fabulous record-breaking M.G.). On the other, Dick Jacobs, who has a wealth of experience in this type of post-war racing, and when a person with this amount of knowledge makes suggestions to someone like Enever, then the result is never in doubt—it can't be anything but good!

The cars were delivered to Dick at the beginning of June this year and, although the factory had co-operated to the limit with Jacobs, they had still to be raced, which, let's face it, is the only test for a

racing car. As things turned out, the boys had not been far out in their calculations and it was found that only minor alterations to the suspension were necessary. These consisted of replacing the ordinary bump rubbers with Aeon rubbers, softening the rear road springs and substituting slightly stiffer Armstrong damper settings, thus improving road-holding enormously, and when a heavier anti-roll bar was fitted to the front end, the results were completely satisfactory and this has never been touched since.

The engine is, of course, the fantastic A-type B.M.C. unit, which is fitted to so many of the Corporation's products, with a bore of 66.9 m.m., plus the permissible .040 in. rebore, and a stroke of 76.2 m.m., the final capacity being 979 c.c. for which a modest b.h.p. of something in the region of 75 is claimed. Naturally, a special camshaft is used and a Weber type 45DCOE feeds fuel through a well-designed inlet manifold into the 10:1 compression head.



As readers well know, this formula adds up to fast, exciting and, what is more, reliable racing, and although this engine is very potent it is quite reasonable in its demands. For example, it will start and run from cold on Champion 63Rs, the plug on which it actually races, Esso Golden fuel will never produce a pink and Castrol R keeps everything whirring merrily round close to the 8,000 r.p.m. mark with no complaints.

Coupled to this by a very efficient Borg and Beck clutch (more of this later) is a delightful close-ratio four-speed gearbox, the ratios of which have been well-chosen. It is a beautiful box to use, and the only criticism one can offer is the same as ever: no synchromesh on bottom. Finally, to the back axle—and here we find a typical Jacobs touch. Ever since I can remember, Dick has always favoured a lower axle ratio than most, and this car is no exception, his choice being 4.875 to 1, that gives 14.4 miles per hour per 1,000 revs. in top—but what is more important, it gives very good acceleration out of bends, etc.

The spare wheel is carried in the rear compartment which, because of the eight-gallon petrol tank being fitted under the floor, gives quite an enormous amount of room behind the seats. The car is completely equipped, all the appropriate gauges, windscreen washers, trafficators, in fact the lot, with the exception of pile carpets. So much for the car, now let's see how it performs.

On taking over the car I must admit I had difficulty in "putting it on" the first time, but it made me appreciate the fabulous Le Mans-type starts Alan Foster made on many occasions. Anyway, in fairness to myself and the M.G., there is quite a bit more of me than of Alan! However, once inside the car the amount of room comes almost as a shock. There is sufficient for two people of my size! The driving seat, and position of steering wheel and pedals is faultless, the seat-back is raked just that right amount to allow the arms to be comfortably extended, visibility is perfect, the narrow screen pillars never encroaching, and the gear lever sticks up just where it should be, positively asking, nay, demanding to be used. Yes indeed, there is no doubt about it, this is a thoroughbred. And now for trial run.

My instructions were; "Don't use the coke at any time and when cold give the accelerator half-a-dozen jabs and start". This recipe was unailing, even with the racing plugs in. A few minutes in the seat blipping the throttle to warm up, and away: I had been warned that getting into bottom gear from a standing start sometimes presented difficulty; I am now in a position heartily to endorse this observation! However, once in everything was O.K.: a slight depression of the loud pedal, up went the revs. and away we went. I must admit it took me a couple of times to get used to it, but once in the groove the take-off was terrific. The needle of the tach. swung sharply up to "5,500" and I snatched second, the gear slipped in easily and I got a dig in the back. There was the needle again well on the way to 6,000 r.p.m. so I pushed it through to 3rd and this time came a real bang in the back. Because of the close-ratio and the magnificent manner in which the Borg and Beck clutch literally snatched up the drive without the slightest trace of slip, we found that in no time at all 6,000 was back on the clock and at 7,000 top was grabbed—and still there was that beautiful feeling in the back as the Midget was still accelerating. It was difficult to appreciate that a mere 17 seconds elapsed since take-

off and now 90 m.p.h. was just about coming up.

Cruising at 5,500 on the open road, it was possible to hold a conversation, admittedly not at the normal voice level, but the noise from the car was not all that high. However, what noise there was, was quite delightful; a nice busy buzz from the engine, plus another from the gearbox and to round-off, yet another, a pitch or so higher, from the rear-axle. Result: marvellous! O.K., so maybe Grandma might not approve, but not to worry. I don't suppose she'll do many miles in the Midget anyway!

In the short time I had the car, one of its most fascinating features was the top-gear performance. Cruising along the M1 at a steady 5,000 r.p.m. (72 m.p.h.) in top, to overtake another vehicle all that was necessary was to poke your foot down and in 12 seconds flat the car was doing 100 m.p.h. (7,000 r.p.m.).

In obtaining the maximum speed of the car, I let the engine rev. to 5,500 in first, 6,400 in second, and 7,100 in third. I then held it in top until within 50 revs. of my permitted maximum, which represented 111.9 m.p.h. Dick had told me not to exceed 7,800, but I felt that it would have been possible to have gone well over this. The speedometer fitted was geared to its original back-axle ratio and read in excess of 120 m.p.h.—not bad on 979 c.c.!

During my all-too-short ownership of the M.G., I covered many miles on twisty give-and-take roads and one in particular which is a good well-surfaced and, believe it or not, little-used road with plenty of fast bends in it. I really enjoyed myself; I found the handling characteristics just fine, the rack-and-pinion steering was light and very positive with only 2½ turns from lock to lock. It took me just a little time to get used to it.

Strangely enough, it was keeping the car dead straight that I found more difficult than throwing it around corners. The steering was of a neutral characteristic, road shock from the 13 ins. R.S.5 Dunlop-shod wire wheels was sufficiently slight as to say it was non-existent and if one indulged in really enterprising cornering, and hung the tail out as a result, just a flick of the steering wheel was sufficient to bring it under very firm control and make one appreciate how it was possible for Andrew Hedges and Alan Foster to put up such good lap times. Repeated use of the brakes, which, as on all Midgets, are Lockheed discs on the front and drums at the other end, failed to produce any fade, squeak, pull or what have you—and although it took quite a bit of pressure to produce the desired effect, one was never at any time worried that this would not be produced.

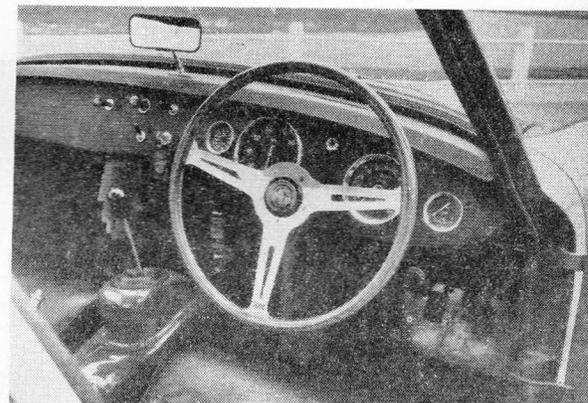
Taking the various standing times, it soon became obvious that, at the top end of the scale, the aerodynamic body helped considerably. 0—30 took just 2.2 seconds, 0—50 was 5.8 seconds, whilst 7.9 seconds was enough to reach 60. It was from there on, I think, that the body really started to help, as 70 m.p.h. from a standstill took a mere 10.2 seconds, and zero to 80 occupied 13.0 flat. An additional 5.3 seconds was required to reach 90 m.p.h. from standstill, and the standing ¼-mile worked out at 16.2 seconds. As a matter of interest, the car was handed over to me just as it finished in the "AUTOSPORT" three-hour race and the M.G. Car Club Sprint afterwards—so there was no question of special preparation.

Come with me now down to the Mill Garage, and find out just how Dick runs these two cars. Since the beginning of June,



THE JACOBS TRAIN—running to schedule at Zandvoort in the World Cup race.

when they were delivered, the sumps have been removed twice for inspection and new big-end bearings were fitted as a precaution. The heads have also been removed twice and on each occasion the valve springs were changed, not, you will notice, renewed, as Dick has a system to which he works; he uses three sets of valve springs for the two engines which means that there is always a set resting in the garage, as they are used in rotation. The pistons have been drawn once for inspection but replaced without any attention or replacement of rings. There it is then—nothing spectacular; in fact there isn't even a racing mechanic. The



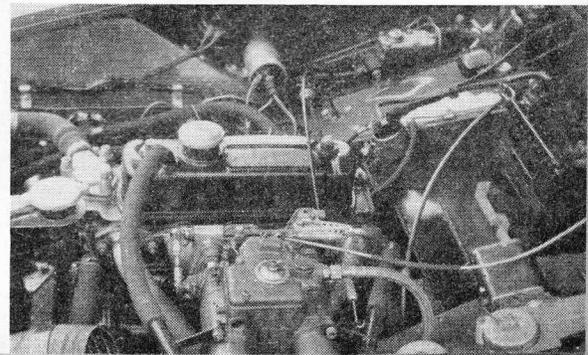
work is carried out by the normal fitters, who work the rest of the time on what the trade affectionately calls bread-and-butter motor cars. The success formula, then is just plain straightforward routine work, done at the right time and in the proper manner—it's as simple as that!

Readers will no doubt by this time have gathered that I am more than a little enthusiastic about the Midget, and some will no doubt think: "He isn't even going to find something wrong". Well, I have no intention of criticizing just for the sake of so doing and, whilst I appreciate the old saying which tells us "nothing is perfect", I'm not worried—this car was built for a purpose—G.T. racing—and it seems to have done its job pretty well.

#### Performance Figures

0—30	2.2 secs.
0—50	5.8 "
0—60	7.9 "
0—70	10.2 "
0—80	13.0 "
0—90	18.3 "

Standing quarter-mile 16.2 secs.  
Maximum speed 111.9 m.p.h.



# A RACING E-TYPE JAGUAR

Ken Baker's  
successful car  
is tested on road  
and track by  
PATRICK McNALLY



fore, with such a good power/weight ratio, and the excellent torque of the Jaguar engine, it might be argued that improvements to this part of the car were the least important. This is definitely not so. The standard E-Type block, pistons and con-rods are retained, after being balanced and crack-tested. A D-Type cylinder-head with a 10 : 1 compression ratio has been added, after seeing a lot of work in the hands of Messrs. Fred Warnell Motors Ltd., of Walthamstow. Fred Warnell's technique, when it comes to gas-flowing, needs no introduction. The head has enlarged ports, the valve-seats being cut down to one-eighth of an inch, and many other secrets, alone known to Fred, are to be found in the preparation of this "very special" cylinder-head. Fuel is supplied by three 45 DCOE Webers but a standard petrol pump, coil and distributor are retained.

Transmission improvements include a lightweight steel flywheel which mates to a Borg & Beck competition clutch, the union effected by courtesy of Ferodo. Close-ratio gears are to be found in the normal Jaguar box, but it is hoped that this will be replaced by a full D-Type unit by next season.

The suspension and brakes have undergone continuous development throughout the racing life of this car. The front suspension is standard except for Armstrong adjustable shock absorbers and altered torsion bars to allow for the difference in weight between the aluminium and steel bonnet, this having the effect of lowering the car. The back-end is where the work lies. The camber of the rear wheels has been increased from  $\frac{1}{4}$  degree to 2 degrees negative, this being made possible by removing all the shims and machining the disc flanges. Special Armstrong shockers have also been fitted to the rear. The springs and the anti-roll bar are standard, but the rubber mountings between the diff-carrier and the body have been removed and replaced by solid steel blocks to prevent axle twist and also to cut out rear wheel steering. The axle ratio used throughout the season, for all circuits other than Brands Hatch and Crystal Palace, was a 3.45 : 1, at these circuits, a 3.77 : 1 was found more suitable.

That E-Type bugbear, the brakes, seems

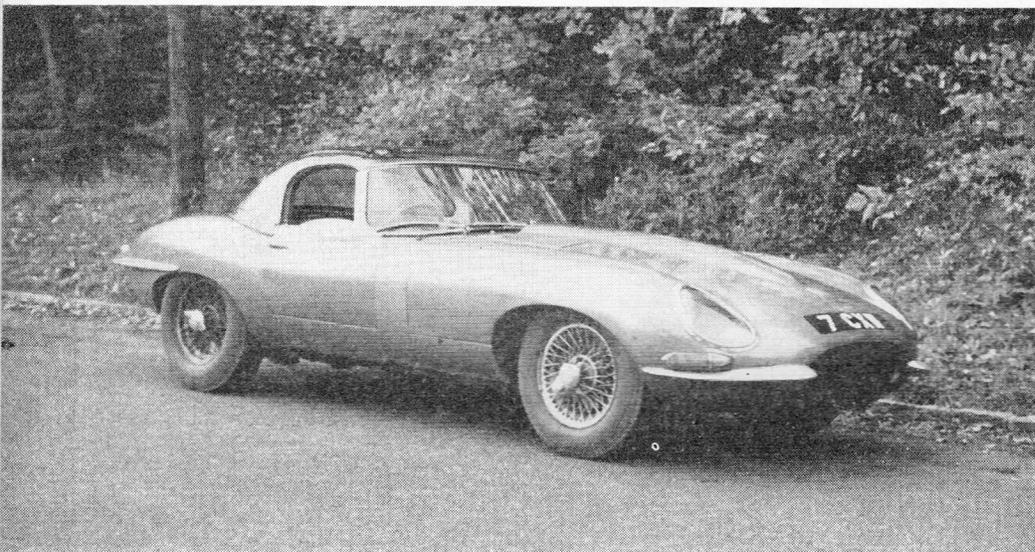
WHEN the E-Type was announced early in 1961, its specification was so advanced, people actually considered racing standard cars, and indeed early on several cars were successfully raced in an unmodified state. Since that time, however, much work has been done on this marque and the present racing E-Type bears little resemblance to its standard predecessor.

The subject of our test was Ken Baker's car which is, perhaps, one of the most modified of the racing E-Types seen around the circuits. The car was first used in competition with only 50 miles on the clock, when it won its class at the Thames Estuary A.C.'s Stapleford Sprint in September 1961. At this time it was running with radio, heater, and white-wall RS.5's. Since that date, the car has competed in no fewer than 24 meetings and has scored 19 wins, being placed in the remaining five races, and also holds records at Castle Combe and Brands Hatch. Ken has also won the 1962 B.R.S.C.C. "500" Trophy, and the West Essex Car Club President's Trophy and the Howarth Trophy.

Before going out to order your E-Type for the 1963 season, perhaps it would be a good idea to digest certain of the transformations this car has gone through until it was in race-winning form!

The bodywork has been extensively lightened by using aluminium for the bonnet and boot, as well as in the doors, the latter items being fitted with perspex windows without winding equipment. The steel bumpers, too, have been replaced by aluminium replicas. For all this, the car is outwardly a standard-bodied vehicle. Further weight has been lost by the use of seats fabricated in aluminium, which have deep seat wells to give extra height to the sloping back-rests; these are beautifully made, but as they are tailored for Ken Baker, they were of little benefit to the writer. All this has reduced the weight to just over one ton dry-weight. The interior has been attractively retrimmed in leather to give a business-like appearance.

The 3.8-litre power unit of this car, with its 9 : 1 compression ratio, is stated to produce 265 b.h.p. at 5,500 r.p.m. There-



to have been conquered. The front brakes are 10 ins. with  $\frac{1}{2}$  in. competition discs; the rear too are of 10 ins. diameter, again with  $\frac{1}{2}$  in. discs. Both front and rear are fitted with Ferodo DS.11 pads—2 $\frac{1}{2}$  ins. on the front and 1 $\frac{3}{4}$  ins. on the rear. The ordinary servo has been removed and replaced by a Mark III Ford system. Cooling ducts, fabricated in aluminium, blow on the rear discs, the front discs being kept cool by ducting in the front apron.

Prior to fitting the Ford servo system, it was found that all other servos produced braking too fierce or too inefficient. Fitted with the Ford servo the car completed 110 laps of Club Silverstone during the Six Hour Relay Race, finishing with the brakes as efficient at the end as they were at the start; this would seem to suggest that the very difficult braking problem has been solved.

Having described work done on the car, the resulting performance has proved that the E-Type really benefits from these detailed attentions.

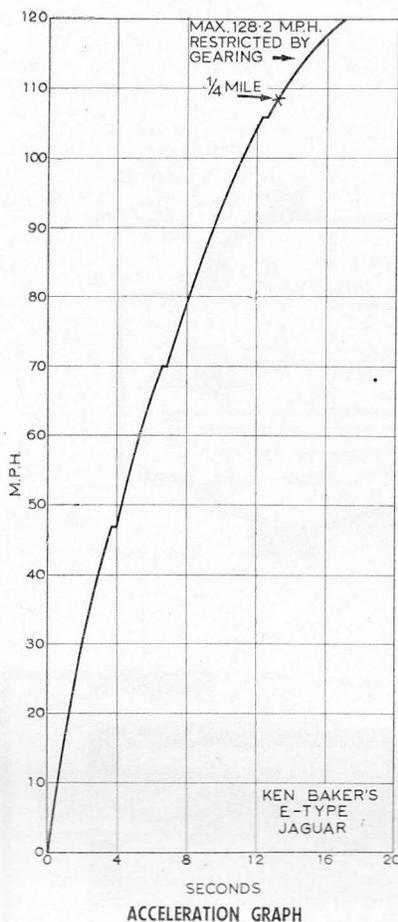
The acceleration must be described as almost incredible—100 m.p.h. is reached in 11.2 secs. and the rest of the acceleration figures are just as impressive: 0-30 m.p.h. in 2 secs., 0-50 m.p.h. in 4.2 secs., 0-60 m.p.h. in 5.2 secs., and 0-80 in 8 secs. These figures were taken in far from ideal conditions and great care was taken not to overstress engine or transmission as this was a privately owned car. There is no doubt that all these figures could be bettered under improved conditions.

The quarter-mile was covered, with very little fuss, in 13.3 seconds.

Gearing controlled the speeds through the gears and, of course, the maximum. First gear gave 47 m.p.h., second 70 m.p.h. and third 106 m.p.h., if one used 6,000 r.p.m., but in all cases, including acceleration tests, changes were made at 40 m.p.h., 60 m.p.h. and 100 m.p.h. Maximum speed using 6,000 r.p.m. in top was 128 m.p.h.

On the road, this car proved extremely tractable, the engine never being temperamental or oiling up—throughout the period of testing the plugs were never touched. The engine pulled well at all revs and didn't just have top-end performance. Maximum power was found between 3,000-5,500 r.p.m., and the close-ratio gearbox allowed the driver to keep within this rev-band. Fast take-offs were helped by a Powr-Lok differential and the fixed rear-carrier, these two coping with take-offs at 4,000 r.p.m., providing the driver was capable of holding the car in a straight line.

Not a cheap car to run, at 10 m.p.g., but it certainly gave value for money. The consumption was increased by the low axle



ACCELERATION GRAPH



ratio and the rich mixture setting of the carburettors. Oil consumption was quite low at one pint per 100 miles. Oil temperature and pressure never gave any worry, whilst the water temperature, if anything,

ran too low, despite the fact that the radiator was half blanked-off.

The brakes were very good indeed with medium pedal pressure, and never locked up, an amazing improvement over standard. The steering, although heavy at low speeds, was stable when really motoring, and the lock was as good as ever. In fact, for a car of this size the steering must be described as superlative.

The less said about the gearbox the better, for although the ratios were close and need no criticism, the gear change was as slow as ever, and the movement between gears just as great. The clutch was very heavy, but made up for this by its efficiency and its smooth take-up. As Ken Baker doesn't bother to "heel-toe", the controls were set to make this manoeuvre impossible, as one's knee was tight under the steering wheel. By adjusting the wheel, it was possible to lift the leg to encompass both accelerator and brake, but not without adopting a Nuvolari-type driving position.

The ride was firm, to the point of being hard, this resisting any attempt by the car to pitch or roll. As expected, the road-holding was of a very high order. The tendency to understeer, with such power available, was no problem, and power-induced oversteer could easily be brought about—ideal handling qualities indeed.

We took the opportunity of exercising 300 h.p. around Silverstone and the impressions we had already gained on the road were borne out in 40 or so laps of the circuit. Unfortunately, we could only use the short circuit but, surprisingly enough, it was possible to exceed maximum revs in top before braking for Woodcote. Through Becketts, the car could be made to do more or less anything, being extremely manageable and, needless to say, as with the other corners, the car was controlled on the throttle.

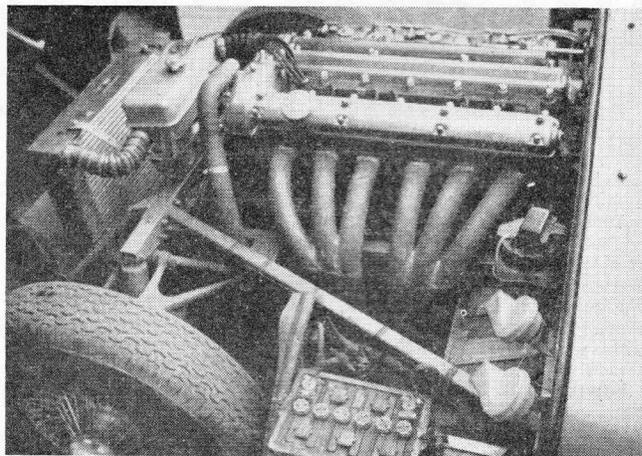
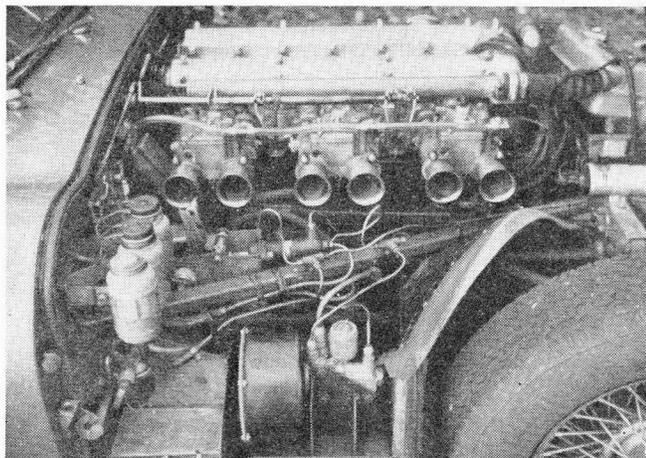
Once or twice it was a question of who was taking who for a ride as we were shod with half-worn D.9s. Together the combination proved very satisfactory, for the superb handling qualities took care of any over-enthusiasm on my part.

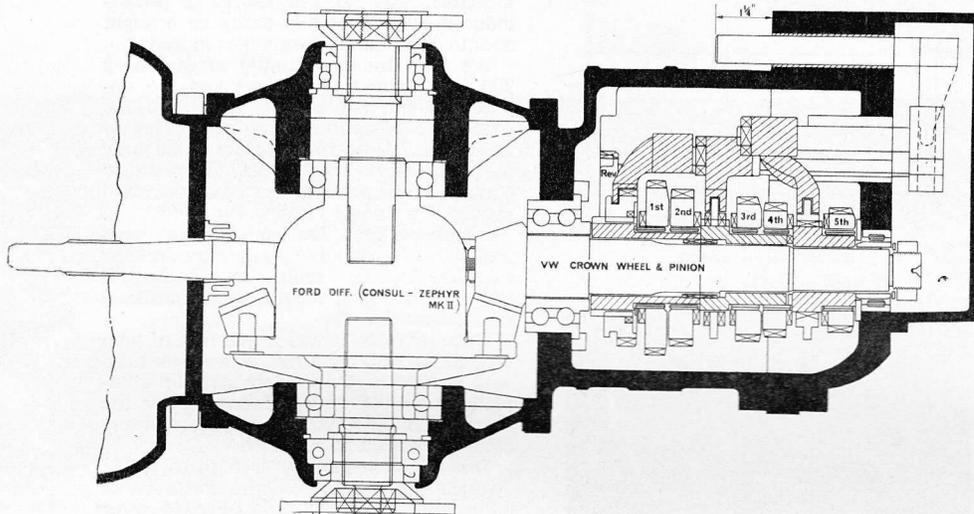
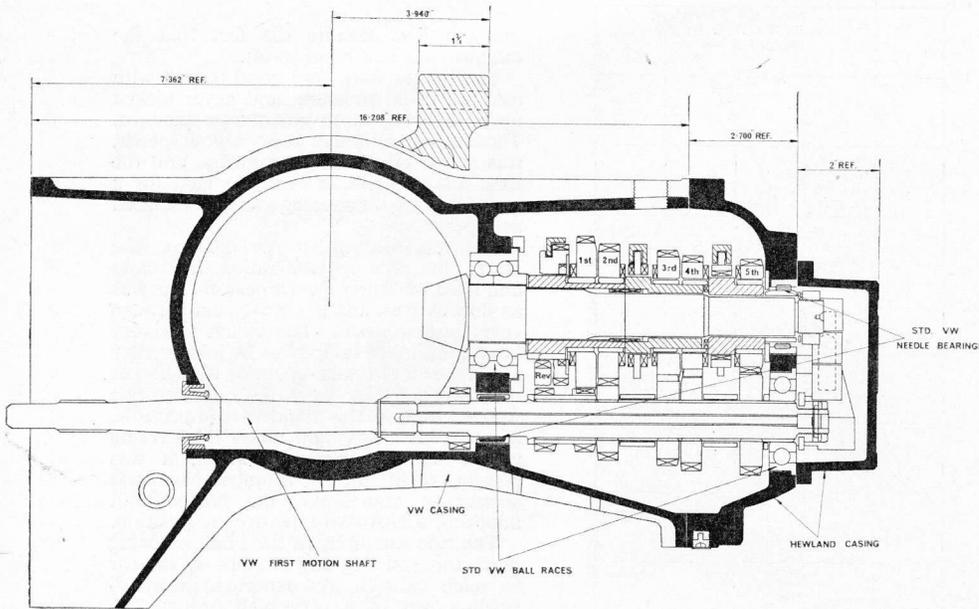
One of Ken Baker's own firms, D.R. Fabrications, Ltd., of Gidea Park, made all the alloy bodywork, whilst Fred Webster prepared the car throughout the season—the car is a credit to both.

	ACCELERATION (Modified)	(Standard)
0-30 m.p.h.	.. 2 secs.	— 2.6 secs.
0-50 m.p.h.	.. 4.2 "	— 5.6 "
0-60 m.p.h.	.. 5.2 "	— 6.8 "
0-80 m.p.h.	.. 8.0 "	— 10.8 "
0-100 m.p.h.	.. 11.2 "	— 15.8 "
Standing quarter-mile	13.3 "	— 14.8 "

SPEEDS IN THE GEARS

1st—47 m.p.h. 2nd—70 m.p.h. 3rd—106 m.p.h.





designated the Mk. IV. The main differences which will be found in the Mk. IV are the main VW bearing carrier which is to be replaced by a Hewland part, as are the VW side plates. The diff. housing is now a standard Ford Consul/Zephyr Mk. II part.

The VW bearing carrier is replaced by two Hewland castings which allow the gear-change rod to emerge towards the engine; this simplifies the linkage enormously as it does away with all the joints necessary to turn the change through 180 deg. as on the old box.

The side plates are now machined from forgings and incorporate main mounting lugs. The old type tended to flex under load and develop oil leaks. There is also an optional mounting lug positioned on the bottom of the bearing carrier.

A Ford Consul/Zephyr Mk. II diff. housing has been utilized because of the necessity for mechanical simplification. This new part reduces the number of components required by ten; however, the VW crown wheel and pinion is kept. A limited slip will be offered as an optional extra as this equipment was found desirable when using the 1.5-litre engine in Lotus 23s, etc.

The unit retains the same method of changing all the gear ratios by the removal of the back of the gearbox, thus removing the entire inners. Many mechanics can perform this operation in about 30 minutes oil drain to oil change.

As before, all the VW gears are replaced with the exception of the crown wheel and pinion. Eighteen different ratios are offered, and Hewland offers two c.w.p. ratios whilst Lotus offer two other alternative ratios. The standard VW ratios are 4.375 and 4.125, whilst those of Lotus are 3.875 and 3.625. This should provide gearing for even the most exotic tastes.

The selector mechanism has also undergone some radical changes. The selector forks are now nutted to the rods on the top four ratios for obvious reasons; however, No. 1 is still attached in the conventional manner as there is no room to nut the selector on this rod. The detent balls operate on both sides of the selector rod to make for more positive locking. This is possible by using the new carrier which affords more room. An adjustable first and reverse stop is incorporated in the new

# HEWLAND MARK IV FIVE-SPEED GEARBOX

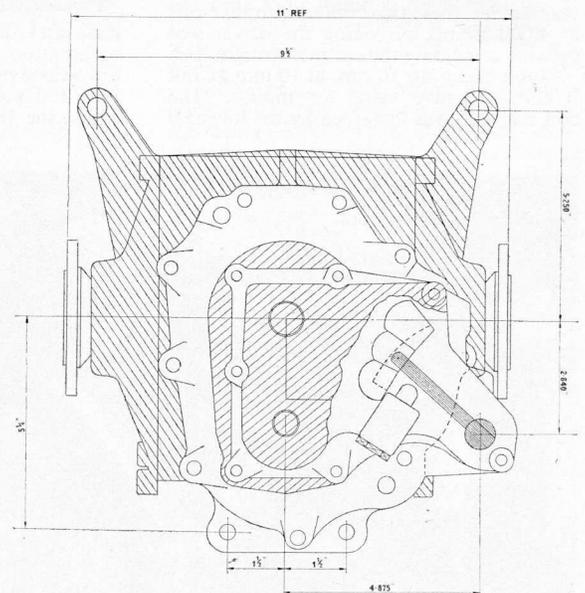
**Volkswagen Gearbox Modified by Mike Hewland  
Likely to be Used by Major Formula Junior Teams**

BY PATRICK McNALLY

**D**URING the past season practically every success in a Formula Junior car could be directly attributed to the combination of Cosworth's Ford engine and Hewland's VW gearbox. Lotus, Lola, Merlyn, Brabham and Elva fitted the Hewland Mk. III VW box as standard, and only Cooper's used Jack Knight's Citroën five- and six-speed boxes.

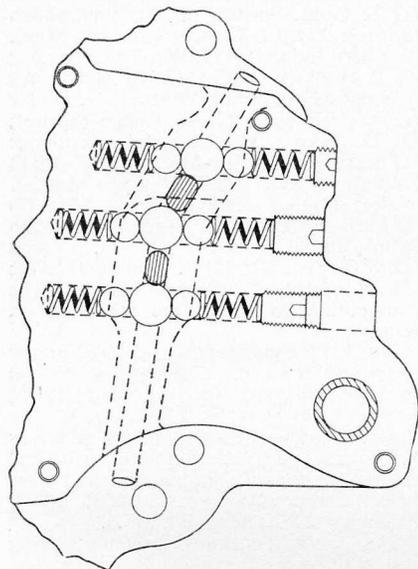
For the 1963 season Mike Hewland, the designer of these very successful VW five-speed gearboxes, has developed a new box

★  
*THREE Section Drawings, by Theo Page, of the Mark IV five-speed Hewland-converted Volkswagen gearbox.*



rear cover; this means that the amount of pressure needed to select either first or reverse can be altered for personal taste.

All the pinion gears are machined from forgings and the dog clutch rings which gave some trouble in the 1962 season are



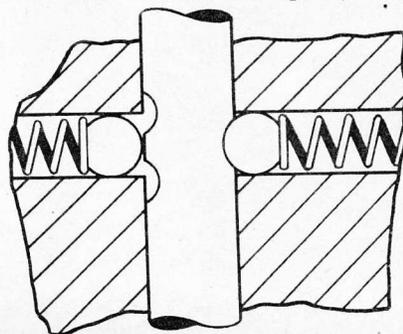
THE SELECTOR MECHANISM

now machined from EN39B material. Its tensile strength is 90 tons. A special bottom-fitting spline replaces the method previously used, and this obtains better location. Part of the dog clutch breakages could be put down to bad location due to the top-fitting spline.

The selector forks now pass the centre line on the dog clutches and this ensures the dog ring approaches square and not at a slight angle.

In this past season only one gear broke, this being first gear on Jim Clark's Lotus 23. The breakage was caused by the very high shock load transmitted by the type of diaphragm clutch fitted to this car. Clark raced for three hours with all the gears on the layshaft loose after first had broken, before the drive failed. Bottom gear has now been strengthened considerably.

On several occasions the Mk. III box was raced without any oil by accident, but in no cases did a seizure take place; instead,



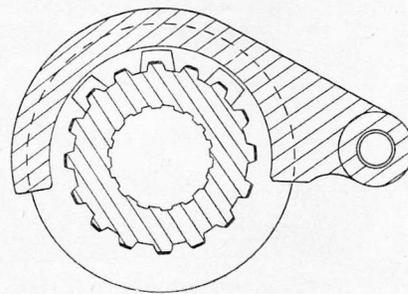
DETAILS SHOWING SELECTOR ROD IN NEUTRAL POSITION

the gears softened due to the heat developed, and transmission ceased.

The new limited slip diff. will be available for next season for the extra power produced by 1100s and the 1500s have made this really necessary. A VW limited slip is available, but as there are only two in the country and the work involved in making

them suitable is so great, they are not a practical proposition.

Hewland has developed a package unit for export. This is a five-speed conversion for ordinary four-speed boxes and can be fitted after certain elementary modifica-

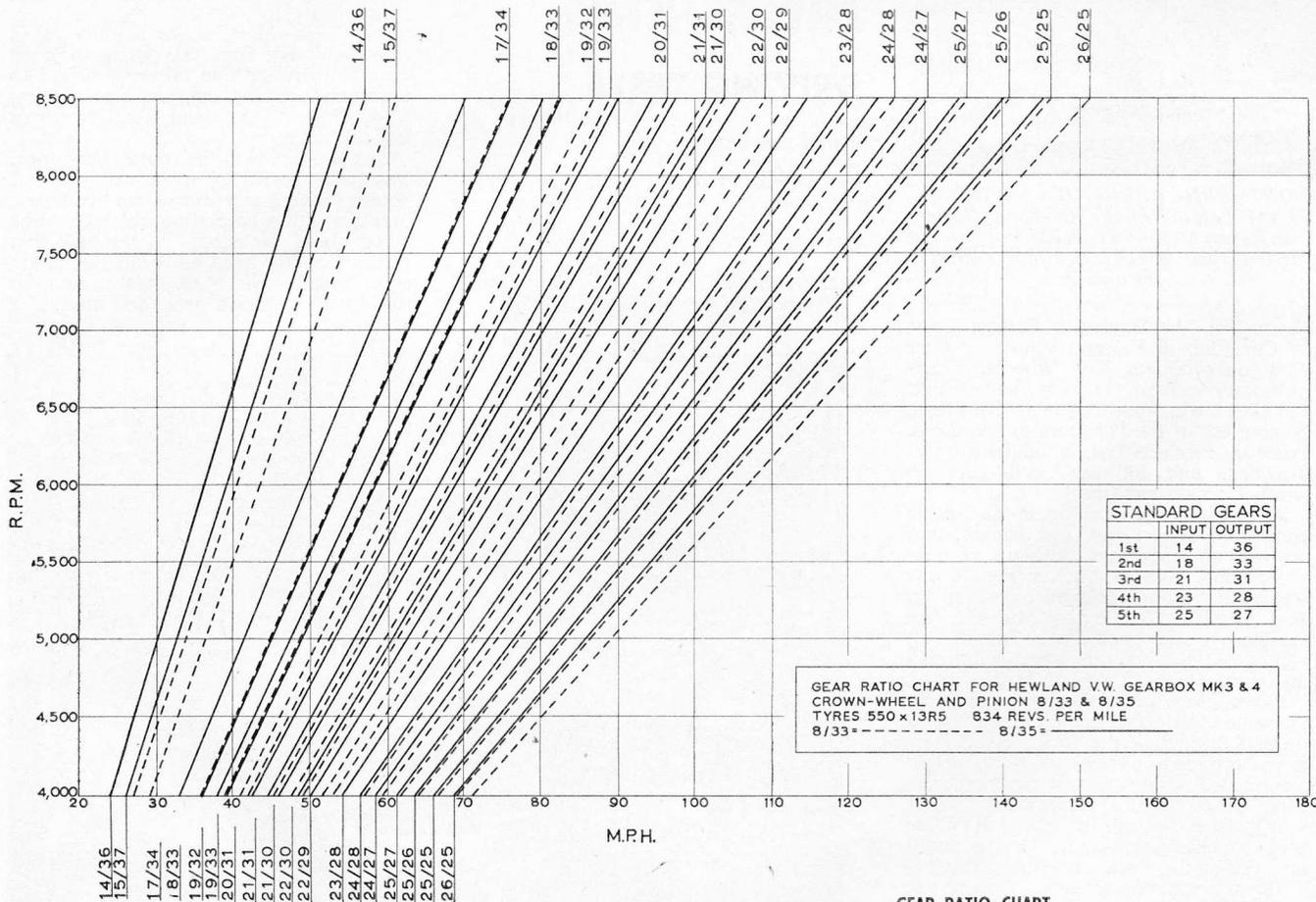


SELECTOR FORK AND DOG ARRANGEMENT FOR 2nd/3rd/4th/5th

tions to the pinion have been effected. This should prove very popular with owners of Lotus 18s and the like.

Last, but not least, of the advantages of the Mk. IV box, especially if you have to mechanic for yourself or look after the "gumnor's" car, is that it is now possible visibly to set the selector finger by removing the rear cover and making the adjustments with the linkage still connected.

These gearboxes will be available in the early part of 1963, and there is little doubt that they will be, again, in the winning formula, with Cosworth. For further information, Mike Hewland can be contacted at Hewland Engineering, Ltd., 9A North Town Road, Maidenhead, Berks. (Tel.: 20696).



GEAR RATIO CHART

*A CAMERA records the falling poles after Lynton Ridge (South-West) drops a clanger!*

were from Midlands: (1) M. Hazlewood (M.H. Special); (2) Dick Squire (Sprite); (3) H. Livingston (Mini Morris). North: (1) T. Gold (Sprite); (2) A. Whatmough (Sprite); (3) L. Gibson (Cooper Mini). Northern Ireland: (1) I. Woodside (Sprite); (2) P. Hopkirk (M.G.); (3) R. McCartney (Cooper Mini). South-West: (1) D. Holley (R.D.H. Special); (2) L. Rudge (Sprite); (3) D. Warren (Mini-Austin). Scotland: (1) J. Swore (Cooper-Mini); (2) F. Inglis (M.G.); (3) J. McCaig (Mini-Morris). Wales: (1) D. Atkinson (T.M.S.2); (2) B. Field (Lotus Super 7); (3) B. Meredith (Mini-Austin). South: (1) D. Harris (D.M.F. Special); (2) I. Mantle (M.G.); (3) B. Greaves (Cooper-Austin). The competition comprised the following six tests.

No. 1. Five garages to be entered in any order and from any direction, at the end of which the score stood at North, 121.0; Scotland, 125.1; Wales, 125.6.

No. 2 necessitated a spin turn in a very tight box, complete with forward and reverse manoeuvres in garages and over lines. Score: Northern Ireland, 282.8; Midlands, 289.2; Scotland, 291.0.

No. 3 was a memory teaser, involving just about everything in the driving test manual in which poor S.W.2 (Lynton Ridge) burst a tyre on his Sprite when contacting a kerb at speed and was out! Score: Midlands, 431.1; Scotland, 444.5; Northern Ireland, 447.8.

No. 4 was attempted by sports cars only, and again utilized a box. On this occasion, it had to be "spun" on entry and exit, once ahead and once astern. Again the lead showed: Midlands, 491.4; Scotland, 493.3; Northern Ireland, 496.2.

No. 5 was a scissors over two lines, then entry and exit into two garages placed back to back, with an offset baulk line to be crossed on the opposite side. Score: Midlands, 623.1; Scotland, 628.6; Northern Ireland, 629.2.

The last test, with the contest very open, was again tackled by sports cars only. A double forward and reverse into two boxes, together with a baulk line which could be taken ahead or astern, it was here that Paddy Hopkirk lived up to his reputation as a "great". His M.G. made a faultless run in 45.6, which was *too* much for

## HAGLEY & D.L.C.C.

# KEN WHARTON MEMORIAL

## DRIVING TESTS

Report and Pictures

by FRANCIS PENN

★

*HANDBRAKE TURN swings Don Harris round in the box for the South.*



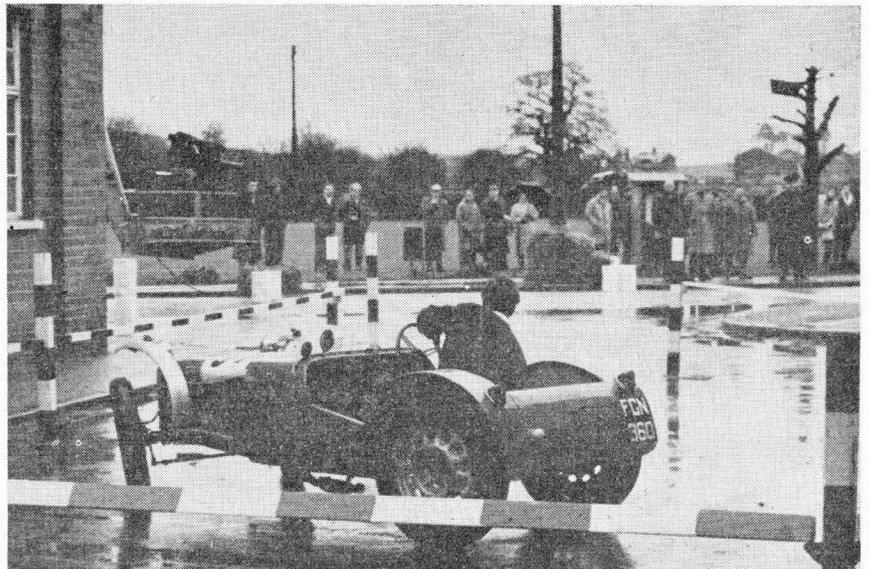
*NORTHERN IRELAND'S WINNING TEAM: Left to right are Ron Lowe (Hagley) with Ronnie McCartney, Paddy Hopkirk and Ian Woodside. Mrs. G. H. Halton presented the awards.*

EACH year the Hagley & District Light Car Club find a new venue for their now justly famous Ken Wharton Commemoration Team Driving Test Event. For 1962 it was Stourport-on-Severn where, by courtesy of the Directors of Steatite & Porcelain Products Ltd., a unique site was provided, and all was well—bar the weather, which was lousy!

As usual, the organization, in the capable control of Ron Lowe, was superb, and showed an enormous amount of preparation. Not a hitch occurred, the whole event running to split-second timing. *But*—and it's a big but—it was too, too much a television spectacle for many of us, and tended to lose out as a premier motoring event, which, let's face it, it is!

Please, please can't we consider televising the same as a normal event, i.e. running *all* the cars through *all* the classes to regain its origin as a team competition of the highest magnitude. Above all, can we bring back Mrs. Lowe's famous scoreboard for next year? Then we can at least follow the progress, test by test! O.K. Having placed my head on the block, on with the story.

Teams competing were made up of one each, Special, Sports and Saloon cars, and





Midlands' Dick Squire, whose Sprite time of 53.7 meant the Trophy crossing the water for the third time, by reason of two little marks!

**Final Scores**

Northern Ireland, 674.8; Midlands, 676.8; Scotland, 678.7; North, 702.2; S. West, 755.1; Wales, 781.6; South, 791.1.

*PADDY HOPKIRK (above) virtually won the trophy for Northern Ireland single-handed by his magnificent performance in the final test. Here he flings his M.G. into reverse in the course of the test, which involved some extremely rapid forwards-and-backwards motoring.*

*CLOUD OF SPRAY as Malcolm Hazlewood, representing the Midlands with his special, employs trials-type bouncing tactics to lessen wheelspin as he takes off from the line at the start of a test (below). BELOW LEFT: Len Gibson, of the Northern team, locks over his Cooper-Mini to clear the straw bale.*



In Part One of a series of two articles, JACK WILLIAMS, the gas flow and port design expert, discusses the question:

# WHERE DOES THE ADVANTAGE LIE?

## BIOGRAPHICAL

### NOTE

*Jack Williams would be furious if he knew that I was writing this! I asked him to fill in a few blanks for me, but he was so incurably modest that I found it necessary to "cheat". So I got down to it with Jock West—who could ride a racing motor cycle in his sleep and probably has—and this potted biography is the result.*

*C. J. Williams began riding motor cycles in competition when he was still an engineering apprentice. He had two New Henley-J.A.P.s (both on the H.P., he remarks), one for trials and one for sprints and road racing. His performances on these machines got him a place in the Raleigh team, and he was then spotted by D. R. O'Donovan of Brooklands fame. A ride in the T.T. on a "works" bike resulted and, as Jack says, he would not have changed places with the Shah of Persia. From then on, he was a willing slave of the racing motor cycle, of which the only rivals were horses and aeroplanes.*

*In parenthesis, one might remark that he was friendly with a horse-breeding farmer, and hunted in the winter when there were no motor cycles to race. What a perfect life!*

*During the early 1930's, he became racing manager to Douglas and rode in the team himself. He then set up in business in Nottingham in partnership with T. F. Bullus, but managed to find the time to ride "works" Vincent-H.R.D.s. Then came the war, in which his flying experience was valuable, and he became a Squadron-Leader.*

*After the war, Williams went to the Vincent-H.R.D. works and had much to do with the development of the big-twin as well as working on a pilotless aircraft for target work. In 1954 he became development engineer and racing manager to Associated Motor Cycles, and it was under his aegis that A.J.S. won the Junior T.T. with the 3-valve version of the F.R. in that year. Since then, work has been confined to the 2-valve model as sold to the public, and the 500 c.c. G.50 has been produced. He is one of the world's greatest experts on gas flow and port design and, size for size, he has probably achieved greater volumetric efficiency than any other designer.*

JOHN V. BOLSTER.

parison with other high performance engines. The principal features of this engine and some of the methods employed in its development will be described in the first part of this article.

In the second part, our "datum" engine will be compared in respect of specific power output, with the known or claimed performances of certain other engines. The basis on which these comparisons are made takes due account of the fundamental differences involved in engines which, while possessing approximately equal merit in their general design and construction, nevertheless vary considerably in volumetric capacity and numbers of cylinders.

The 7R A.J.S. racing motor cycle engine, which has been developed over a lengthy period to a high level of efficiency, has been taken to represent our "datum" engine. This choice has been made since the writer has been closely concerned in its development and is, therefore, in a position to refer with accuracy to its salient features and performance.

This engine is an air cooled, single cylinder of 349.5 c.c. with a bore and stroke of 75.5 by 78 mm. The cylinder head is of aluminium with shrunk-in valve seat inserts, while the aluminium cylinder barrel has a pressed-in iron liner. Crankcase, rocker-box and covers are of magnesium alloy. Inlet and exhaust valves lie at an inclined angle of 74° 20' and are operated by a single, chain-driven overhead camshaft. The flywheel assembly incorporates a steel connecting rod having a single row, caged roller big-end bearing and the mainshaft is carried in roller bearings on both timing and driving sides. The gearbox is a separate unit.

Performance curves at Fig. 1 show the lowest limit for acceptance of the engine

which powers a racing motor cycle produced for sale in limited quantity.

In an engine of these dimensions, acceptable stress in the valve springs and connecting rod fixes the upper limit of crank speed at 8,200 r.p.m., but this, in practice, is intended to cover emergency conditions only, so that the selection of gear ratio for actual racing is aimed at achieving 7,800 r.p.m. To some extent, the disadvantage of this limitation in crank speed is offset by the correspondingly low friction horse power (f.h.p.) and by the superior breathing efficiency inherent in the relatively low speed engine.

Development of the maximum attainable breathing efficiency has been a main object towards which efforts have been directed and which eventually provided a major contribution to the satisfactory level of performance of this "production racer".

Facilities for air-flowing the ports play an important part and enable modifications suggested by the air-flow test-rig to be incorporated, with confidence, in the actual engine cylinder head. This air-flowing apparatus passes air at an appropriate velocity through the port-valve combination under investigation and provides the means for observing the effect on air-flow efficiency of experimental changes in port shapes and entry angles. Even more important is the ability to observe the pattern of fuel droplets through the valve throat and the tendency to rotational swirl within the cylinder.

In practice, development in this respect

SOME years ago it might have been possible to justify a claim that racing motor cycle engines developed higher specific power than did their contemporary racing car engines. Any difference that then existed has certainly been reduced and even, in some cases, reversed in favour of the car engine. This ebb and flow of advantage creates a fascinating subject for study when it is considered that no really major technical changes in the reciprocating engine have taken place for many years. It is true that in fuel technology some notable improvements have been obtained; but this has given no more advantage to one than to the other and leaves us still to explain quite large differences in the performance of more or less similar engines. The reasons are not always immediately apparent.

In suggesting reasons to explain these variations it will be convenient to take the established performance of some well-known engine as a "datum" for com-

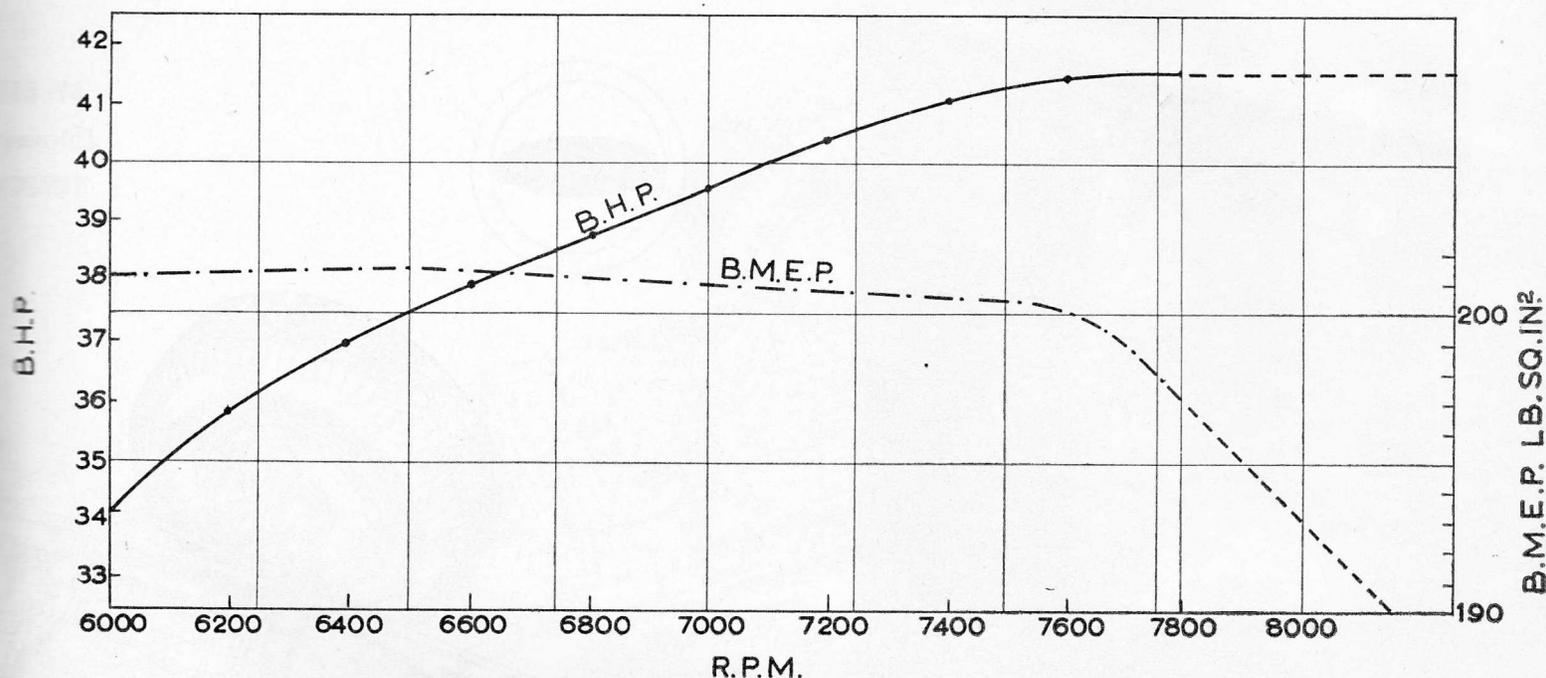


FIG. ONE: B.H.P. and B.M.E.P. curves for the 350 c.c. single "datum" engine.

has enabled the use of higher ratios of compression (with commercially obtainable petrol, as specified in regulations governing International racing) and produced both improved power output and thermal efficiency without introducing any detrimental effects.

Space will not permit anything like a comprehensive review of the controversial question of what should be the most advantageous bore and stroke proportions. Nevertheless, it seems that a few words are desirable on this subject if only to indicate the reason for retaining the bore to stroke relationship which has been used in our "datum" engine for some years. The stroke/bore ratio is  $78/75.5=1.033$  or, in popular parlance, the engine is "oversquare". At its maximum rated power the mean piston speed is 4,000 ft. min. at 7,800 r.p.m. But, to enable this information to bear a true relationship between engines having different bore and stroke proportions, the calculated mean piston speed (in this instance 4,000 ft. min.) should be divided by the square root of the stroke/bore ratio. Thus:

$$\frac{4,000}{\sqrt{S:B}} = 3,937$$

This expression is derived from the dimensional analysis of Dr. F. W. Lanchester<sup>1</sup>, who proposed a basis to provide a convenient representation of relative stress in reciprocating engines of differing bore and stroke proportions.

As an example of its use, suppose our "datum" engine were to be altered from its present bore and stroke dimensions ( $75.5 \times 78$ ) to  $78 \times 73$  mm. In this case  $\sqrt{S:B} = \sqrt{78/73} = 0.968$  and  $3800/0.968 = 3,937$ . Thus, the "stress factor" remains at 3,937, but at a calculated mean piston speed of 3,800 ft. min. with a stroke of 73 mm. (2.87 in.) the crank speed increases by 150 r.p.m. to 7,950 r.p.m.

In fact, on this basis, it can be shown that by increasing the bore to 90 mm. with a stroke of 55 mm. crank speed might be increased, for the same "stress factor" to 8,500 r.p.m. This, of course, is an extreme

example for the purpose of illustrating the point which is, that in a single cylinder engine of this size, power output is not limited, primarily by inability to obtain a higher crank speed with the same "stress factor", but by valve spring overstress at the higher operating speeds. It appears, therefore, that there is little or nothing to gain in an engine of this cylinder capacity by reducing the stroke/bore ratio below about 0.9.

To substantiate this conclusion by other practical considerations, it may be pointed out that the relatively small bore provides some easement to the very real difficulty of achieving a compact and therefore efficient combustion space in conjunction with a high compression piston of uncomplicated crown shape. Thermal losses, also, are reduced by the consequently lower surface to volume ratio; and provided the cylinder head has sufficient sphere area to accommodate valves of adequate size, no penalty is incurred on this score. These are compensating advantages to set against the somewhat lower limit to permissible crank speed.

On the other hand, the centrifugal component of inertia in the big-end of the connecting rod becomes appreciably lower (at the same crank speed) as the crank radius is reduced. Consequently, when a relatively heavy plain-bearing big-end is used (as compared with the lighter caged roller type) the choice may be swayed in favour of the shorter stroke engine. In other words, within limits, the selection of bore and stroke proportions is a compromise, sometimes influenced not only by dynamic considerations but by those associated with engine installation requirements. For example, when engine height is a critical dimension (as it usually is) an appreciable reduction can be achieved since the connecting rod length reduces in proportion to the stroke (assuming the same L/r ratio, or proportion of rod length to crank radius).

This description of the "datum" engine and its development would be incomplete without some reference to the utilization of

sonic pressure waves in the inlet and exhaust systems which, in this engine, has had much attention and prolonged development.

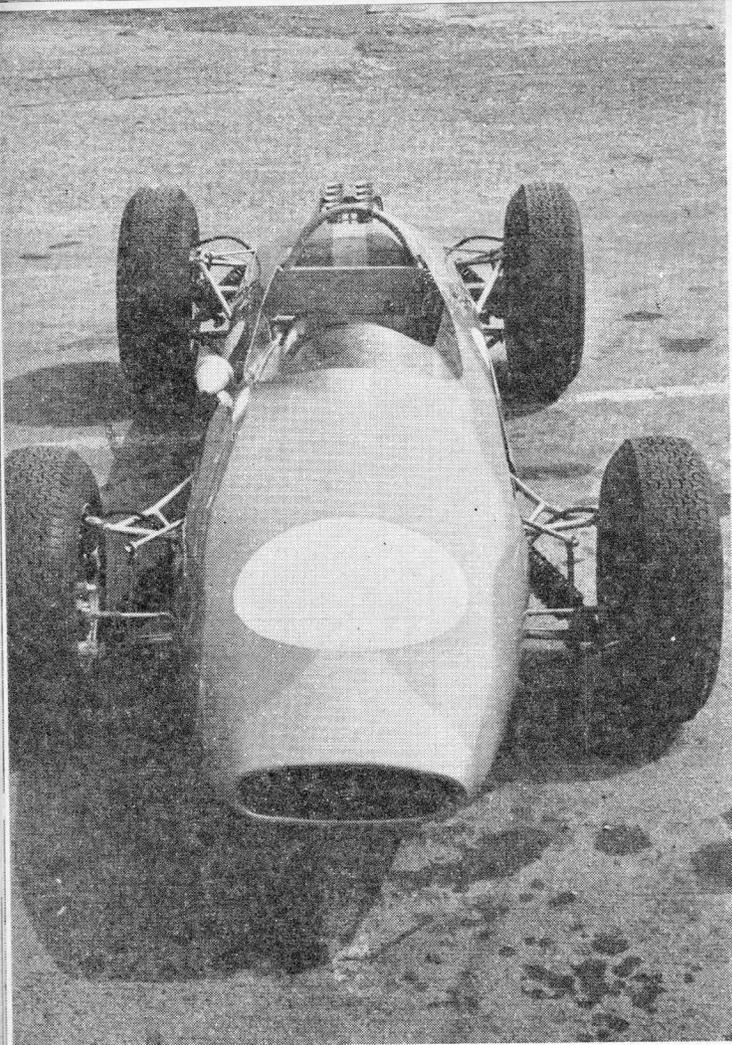
Successful results obtained in this direction together with those achieved in the close study of inlet and exhaust ports (to which reference has already been made) were jointly responsible for volumetric efficiency in excess of 100 per cent.

It appears that an effective exhaust system is rather more easily attained with a motor cycle than with a car, since individual pipes, with their megaphones, are more readily accommodated, at least when the number of cylinders does not exceed four. In a car, the problem of obtaining a reasonably neat and convenient lay-out of numerous individual pipes and megaphones is clearly more difficult. Some relief to this problem is offered by employing "siamesed" instead of separate pipes and megaphones. "Siamesing" is usually very effective at the higher speed end of the power band, but often imposes a penalty on throttle control in the middle and lower speed registers. However, separate pipes and megaphones are not without their own problems in this respect and in the 350 Single, two "out-of-phase" periods, one at 4,200 r.p.m. and another at 5,300 r.p.m. proved very troublesome for some time. These were eventually reduced to a negligible extent by developments in the inlet port and cylinder head, together with the addition of a small "reverse cone" on the megaphone; indeed, riders can now only detect a tendency to "megaphone" when the throttle is clumsily handled.

This account of some features and considerations involved in the design and development of our "datum" engine has been given by way of introducing it to the reader so that its use as a representative example of a developed racing engine may be considered justifiable. In the concluding section of this article it is proposed to discuss the comparative aspect of this theme and show that the actual realisation of some desired level of performance, in terms of b.h.p. per litre, from engines of approximately similar type, is dependent, not only on the "stress factor" but, more particularly on the individual cylinder dimensions.

<sup>1</sup> Dr. F. W. Lanchester "The Horse Power of the Petrol Motor in its Relation to Bore, Stroke and Weight."—I.A.E. Proceedings, Vol. I.

BY DAVID  
Cut-away  
JAMES

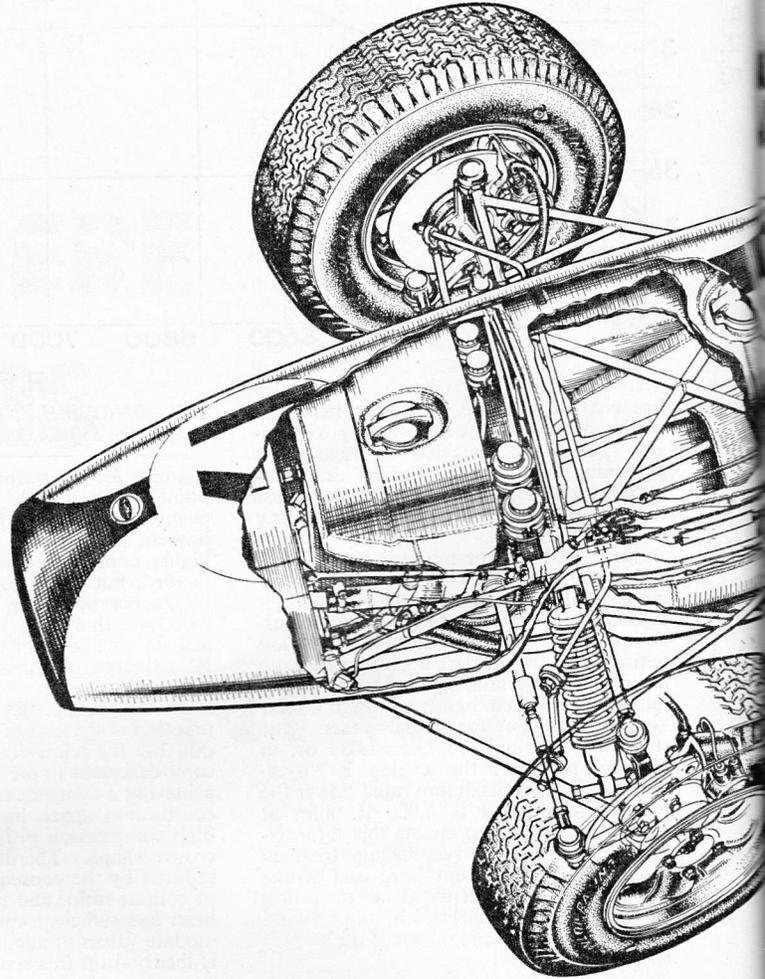


WHEN Jack Brabham finished fourth in the 1962 United States Grand Prix he became the first driver ever to score World Championship points in a car of his own design. He was over a lap behind Jim Clark's winning Lotus—due in part to chronic gearbox trouble—but it was nevertheless a very good performance for a car running in only its third race!

The Brabham had its baptism (literally!) in the German Grand Prix, but after being plagued throughout practice by engine trouble (largely the fault of a mechanic who is no longer with the Organization), it was forced to retire in the race by a broken throttle linkage. Its next outing was the Oulton Park Gold Cup race, where it finished a brakeless third after most of the opposition had fallen by the wayside. Jack gave the Italian Grand Prix a miss, and concentrated instead on getting the car right for Watkins Glen—to such good effect that he was fourth fastest in practice as well as fourth in the race. He then went on to Mexico, and finished second (again to Clark), having

once more been slowed a little by gearbox trouble.

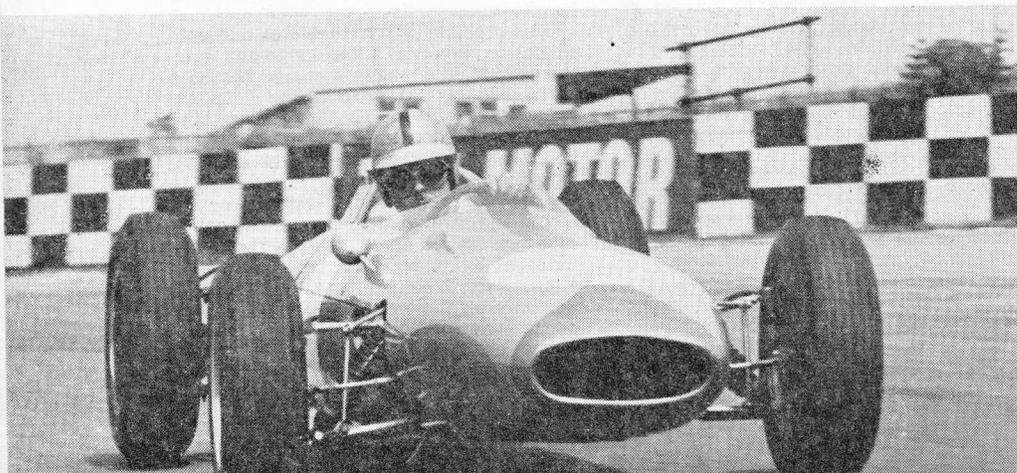
Returning home, Jack just had time to test his new Inter-Continental car—basically similar to the F1 machine but fitted with a 2.75-litre Coventry Climax engine—before putting it on a Boeing 707



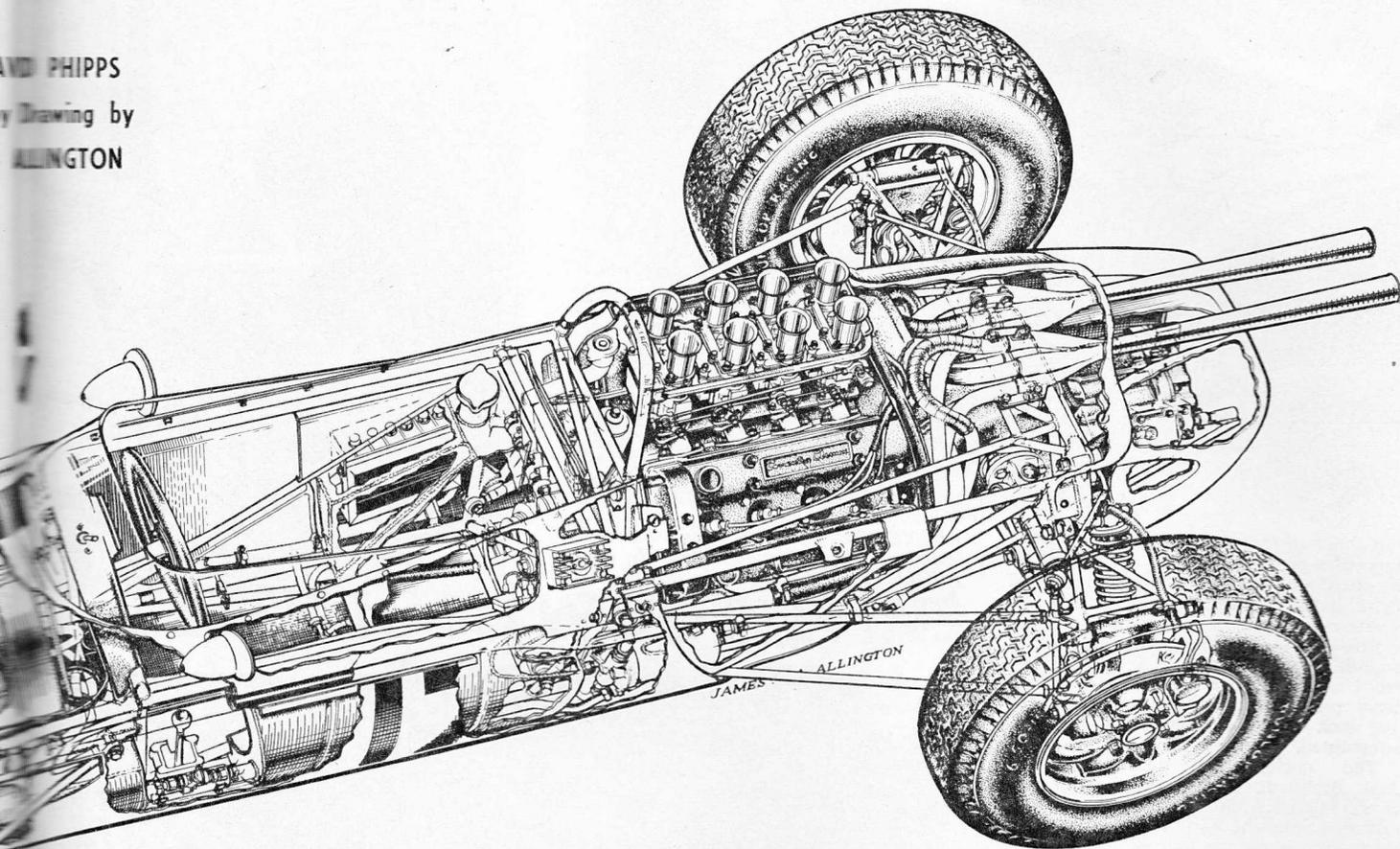
*en route* for Perth and the Australian Grand Prix. The engine blew in practice, so Jack borrowed a 2.5-litre sports car engine from Bruce McLaren and proceeded to tail Bruce's 2.75-litre Cooper until nine laps from the end of the race, when a slower car which they were lapping let Bruce through but pushed Jack off the road; fortunately, he was not hurt, and the car was only slightly damaged.

The F1 Brabham is a relatively straightforward car by current standards. Basically it consists of a Coventry Climax V8 engine mounted at the rear in a multi-tubular chassis suspended on double wishbones and coil springs. There is far more to it than this, however, and the car is by no means a copy of other current designs, even though it may appear to be in some respects.

Jack Brabham's ideas on design are translated into metal by fellow-Australian Ron Tauranac and a team of willing helpers—mostly Australians—in a quiet cut-de-sac at Byfleet in Surrey. The Brabham empire also includes a modern Esso service station (with Rootes and



AND PHIPPS  
 Drawing by  
 ALLINGTON



# THE FORMULA ONE BRABHAM

Standard-Triumph dealerships) and a conversions business which specializes in fitting Climax engines (single-cam, not F1) in small saloons.

The Brabham/Tauranac design philosophy includes a stiff chassis, relatively high roll centres, low spring rates and minimum frontal area, but first and foremost come safety and reliability. Everything on the car is well made, well finished, and more than strong enough for the job it has to do. The chassis members round the top of the cockpit are duplicated, to reduce the risk of injury to the driver in the event of an accident; the same can be said of the strong front bulkhead and the X-bracing over the top of the front bay. Chassis tubes are *not* used to convey water between engine and radiator, as is now common practice; separate water pipes are used, running outside the bodywork over much of their length to help reduce the temperature of both coolant and driver. This and many other detail points are all aimed at making this car a finisher; Jack knows from experience that to win you have to finish, and he likes to do both.

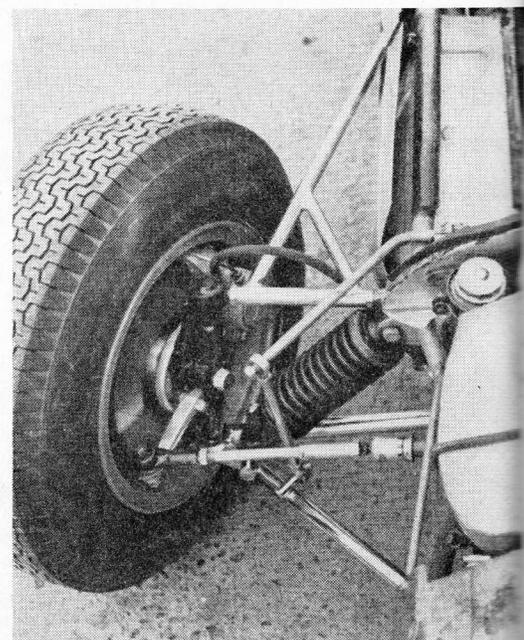
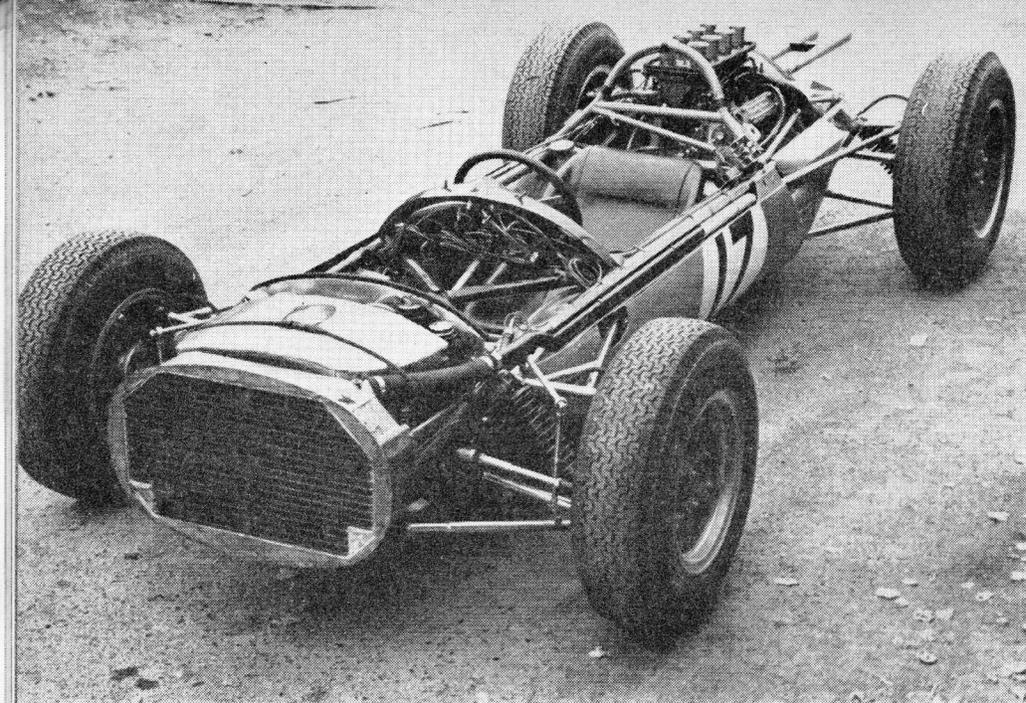
The chassis is made up largely of 1 inch (and some  $\frac{3}{4}$  inch) 18 gauge mild steel tube. The general layout, including the removable top frame in the engine bay, is clearly shown in James Allington's cutaway drawing. Ron Tauranac will not divulge any figures on chassis stiffness, but feels that he has done a good job with the means at his disposal. The chassis is not particularly elegant from a structural viewpoint, but it seems to be efficient.

Front suspension loads are taken out over a wide base by leading top wishbones and trailing bottom wishbones, which provide extremely positive location of the modified Standard-Triumph uprights (ball-jointed at both top and bottom) on which the 13 inch front wheels (fitted with 5.50 tyres on 6 inch rims) are mounted. (A feature which is open to criticism is the mounting of the front suspension units and the anti-roll bar pick-ups part way along the lower wishbones; however, no ill-effects have resulted so far.) There are double, wide-based wishbones at the rear,

too, with the upper one providing stiffness against toe-in loads. The rear wheels are 15 inch, of course, to cope with the power of the Coventry Climax engine, and are fitted with 6.50 tyres on 7 inch rims.

The coil spring/damper units are mounted in the airstream in both cases, as is the upright for the front anti-roll bar. Experiments have been carried out with rear anti-roll bars, but in general Jack finds the handling (about which he is extremely enthusiastic) best with just a  $\frac{1}{2}$  inch front bar—as would be expected with front and rear roll centres of 4 inches and  $4\frac{1}{2}$  inches respectively. Another significant feature from the handling viewpoint is that the front wheels have 1 degree of negative camber, to counteract camber change due to body roll.

The power unit is exactly as in other Coventry Climax-engined cars, except that the twin tail pipes for the exhaust system were made in Australia and bear the inscription "Lukey Muffler". Power output is 174 b.h.p. at 8,300 r.p.m. Trans-



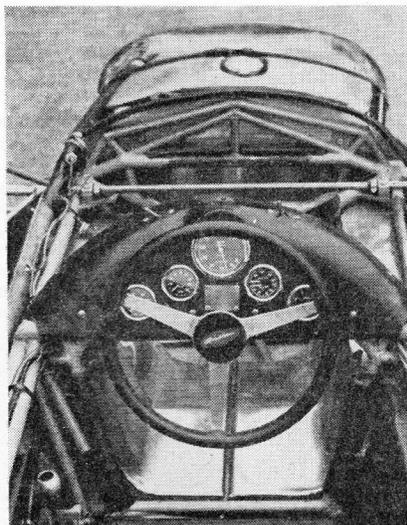
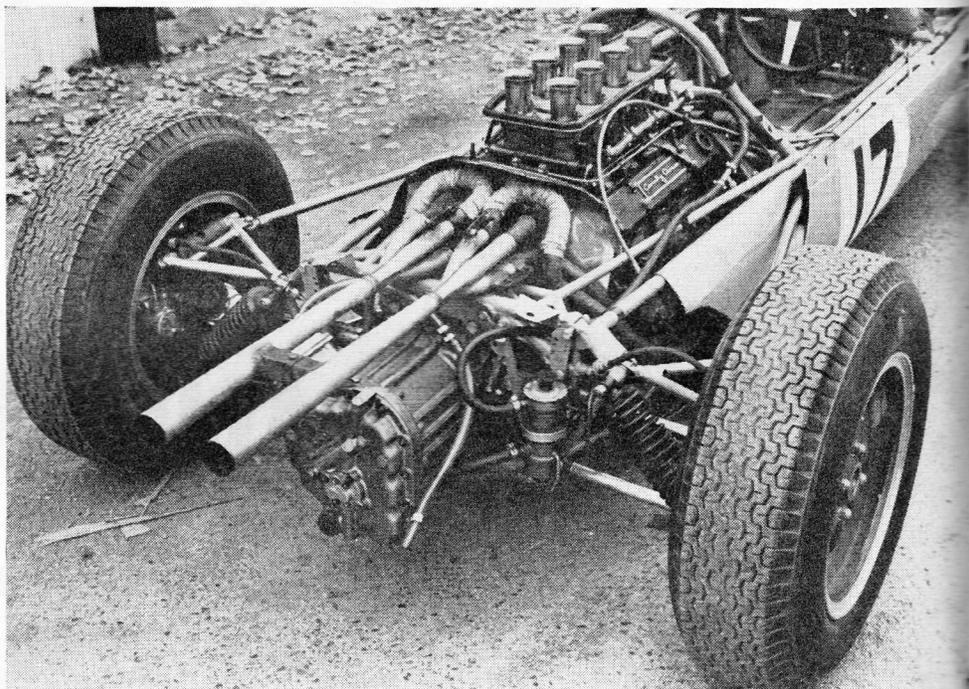
mission is by a 7½ inch diaphragm spring type twin-plate clutch and Colotti type 34 six-speed gearbox/final drive unit. Splined drive shafts are used, but there is very little spline movement.

The disc brakes (mounted outboard all round) originally had 9½ inch discs at both front and rear, but the pad area at the front proved to be inadequate and thus 10½ inch discs with larger calipers were substituted.

The cockpit is tailor-made for Jack Brabham, who is on the tall side (5 ft. 11½ ins.), and does not like to be cramped when he is at work. The gear-shift lever is on the left, so the left side fuel tank is scalloped to provide room for Jack's left elbow. The surfaces of all the fuel tanks are leather-covered (to provide insulation against heat) wherever they are likely to touch Jack's anatomy, and the pedals (with a brace for the left foot beside the clutch) are appropriately spaced for large feet. Instruments comprise tachometer, oil pressure gauge, oil and water temperature gauges, a fuel pressure gauge and—a new departure on F1 cars—a water pressure gauge; the great advantage of this is that it gives immediate indication of any fault in the cooling system.

Fuel tanks are fitted behind the reclining seat and on both sides of it, the two side tanks being joined beneath the driver's legs; there is also a small tank over the

*ABOVE: Stripped of its body panels, the layout of the Brabham is clearly seen. RIGHT: Plenty of lock is available. BELOW: Rear suspension and engine installation. BELOW, LEFT: Cockpit layout is conventional.*



driver's knees, giving a total capacity of 27 gallons. The oil tank is mounted just behind the combined oil and water radiators and is shaped to duct warm air from the radiators out through the bodysides. The battery is mounted to the right of the seat and the spark box for the transistorised ignition system is fitted in the airstream above the driver's left shoulder. A Stewart Warner electric fuel pump is mounted at the rear of the car, alongside the gearbox.

Wheelbase is 91 inches. Track is 53 inches at the front (it was increased by 1 inch in order to accommodate the larger brakes) and 50½ inches at the rear. "It couldn't be any wider or it wouldn't go on our trailer with 6.50 tyres!" The bodywork is relatively slim and low (the car is smaller than the Cooper and B.R.M., but larger than the Lotus 25 and the Lola), and

is painted an unusual shade of turquoise.

It is too early to attempt to rate the Brabham among current Grand Prix machinery, particularly as the car under discussion is only a prototype, but already it has become an established part of the racing scene. Next year's car will be a "cleaned-up" version—fitted, it is hoped, with the latest in Coventry Climax engines—and if the power unit situation is favourable there may be even a two-car works team (even with only one car the Brabham Racing Organization is very much a works team). A new Brabham transmission is on the way, and there is also talk of a Formula Two car and a sports car. With all this activity Jack is clearly paving the way for the day when he retires from race driving to devote all his energies to design and construction, although he plans to continue driving for another two seasons at least.

THE London Motor Club's 44th Gloucester Trial was held on Sunday, 2nd December. The site was a large wood near Duntis-thorne Abbots, Cirencester.

The entry seemed disappointing for an event of this status, only 33 competitors facing the starter, and in the absence of the reigning champion Rex Chappell, the Harrisons, "Stonewall" Jackson, Mitchell, etc., picking the winner was anybody's guess! The writer elected to follow the progress of the only two drivers eligible for Gloucester Goblets, i.e. Bernard Dees and Peter Highwood, but they were both tail-enders. Luckily it was quite definitely a late number event, so all was well, both drivers putting up magnificent performances.

The course consisted of 13 sections all on leaf mould, which after a night's hard frost held firm and did not cut down to mud. No lunch break was held, thus allowing three tours to be made, i.e. 39 sections in all. Brief descriptions of the hills and an account of the first round follow.

Hill No. 1 was steep and dodged two large trees *en route*, only one clean: Kemp, with Rawlings, Dees and Lindsay into section one. The second was similar, but

turned right round a large tree. Section four was reached by Dees.

Hill No. 3 was straight and very steep, Kemp being the only clean, while the fourth was similar, but quite a lot longer. Eaves and Barden made section one.

Hill No. 5 moved farther afield and, in a maze of undergrowth, a taped zig-zag climb appeared (much easier than it looked), thus allowing about 50 per cent. cleans.

Hill Six found the water, went through a splash, left round a tree and up and over an earth mound; all clean bar perhaps four. The seventh was a half loop in the trees with a nasty adverse camber; 10 late numbers were clean!

Hill No. 8 turned right-left-right in a taped tree-strewn ascent (rather tough this one) and only Dees and Barden were clean.

Hill No. 9 dodged a load of trees in a very steep sweep, Cannon and Francis making section one. Hill No. 10 started in a river bed, took a sharp right-hand turn on to a muddy bank, then left to another. Five cleans: Kemp, Highwood, Hurt, Dees and Eaves. Here poor Charles Pollard broke a Panhard rod, and that was his lot!

The eleventh hill was on wet clay and



BERNARD DEES, in natty headgear, applies a touch of dexterous fiddle-brake on a wet section.

# PETER HIGHWOOD WINS THE GLOUCESTER TRIAL

Report and Photography by FRANCIS PENN



DEERSTALKER furlled, Stephen Clipston (above, left) charges his once immaculate Cannon through a swamp of soggy leafmould. HARD-STARBOARD for car, driver and passenger as the winner, Peter Highwood (above, right) struggles to hold his car in a tight corner round a tree. THE EXPRESSION on the face of Geoff Lindsay (below) seems to indicate a poor opinion of trials organizers who find hills like this one!



ran up in rough cart tracks, being much easier than it looked.

Hill No. 12 was on beech leaves, straight and steep, but caused little trouble. The thirteenth ran right-left-right, round a tree, then down and in and out of bushes, finally rejoining the main track back to No. 1. It was fairly easy and did not disturb many.

To sum up, a grand event with really top line organization. Oh, I nearly forgot the day's sensation: Lady Dees's new trials "titfer", a model by "Feor" entirely composed of the skin of the very rare and fabulously expensive Mongolian Mouse Hound!

### Results

- 1, P. F. Highwood (Canhi), 39; 2, P. A. Barden (P.A.B.), 43; 3, M. Eaves (Cannon), 49; 4, G. Simpson (Nonnac), 58; 5, M. R. B. Cannon (Cannon), 62; 6, R. Kemp (Cannon), 63; 7, B. H. Dees (Cannon), 65; 8, G. R. Lindsay (Cannon), 65; 9, A. W. Francis (Alexis), 65; 10, G. Holdrup (Cannon), 66; 11, C. Taylor (Cannonball), 68; 12, F. T. Lewis (Cannon), 70; 13, D. J. Rawlings (Cannon), 79; 14, G. Langdon (Cannon), 87; 15, L. Hurt (Ford Spl.), 90.

# Club News

By MICHAEL DURIN

THIS is the time of year when news material for "Club News" becomes scarce, for we are rapidly approaching the season of goodwill and cheer.

The year 1963 will soon be upon us (wonders will never cease), but first let me give details of a motor sporting event that still has to take place this year. The North-West Centre of the B.A.R.C. are to hold their Festive Frolics Driving Tests meeting on Boxing Day at No. 1 Car Park, New Brighton, Cheshire. Invited clubs comprise Aintree Circuit C., Chester M.C., Knowlton C.C., Lancs and Cheshire C.C., Liverpool M.C., North Staffs M.C., North Wales C.C., Wallasey M.C. and Rhyl and D.M.C. Classes are to be as follows: Mini-Minors and Austin 7s; Closed Cars up to 1,300 c.c.; 1,301-1,600 c.c.; over 1,600 c.c.; Open up to 1,300 c.c.; 1,301-1,600 c.c.; over 1,600 c.c.; and specials. There is a maximum of 50 entries and regs. may be obtained from the Secretary of the Meeting, Dr. D. Lehane, 213 Rake Lane, Wallasey, Cheshire; he must receive all entries by Wednesday, 19th December. On to 1963... the Airedale and Pennine C.C. announce that their Snowdrop Rally is to be held on 2nd-3rd February. It is a restricted event and the following clubs have been invited to enter: B.A.R.C., Cavendish C.C., De Lacy M.C. of Pontefract, East Yorkshire C.C., Elland M.C., Halifax M.C., Huddersfield M.C., Ilkley and D.M.C., Sheffield and Hallamshire M.C. and

York M.C. It is promised that this is to be a straightforward, tough and no-nonsense rally, with no daylight dicing or rough stuff, and the course will be over 180 miles, starting and finishing at Bradford. Regs. are available from A. J. de L. Taylor, Harbour Lodge, Harbeck Drive, Harden, Bingley, Yorks.

## Coming Attractions

- 15th December. Rand Grand Prix, South Africa (F1).  
 15th-16th December. Lancs and Cheshire C.C. Lakeland Rally. Starts Northways Filling Station, Heath Road, Whitechurch, Salop.  
 22nd December. Natal Grand Prix, South Africa (F1).  
 26th December. B.R.S.C.C. Race Meeting, Brands Hatch, near Farningham, Kent. Starts 12 noon.  
 West Lancashire M.C., B.R.S.C.C., Liverpool M.C. and Severn Valley M.C. Southport Speed Trials, Marine Drive, Southport, Lancs. Starts 1 p.m.  
 M.G.C.C. Kimber Trophy Trial.  
 B.A.R.C. (N.W. Centre) Driving Tests, No. 1 Car Park, New Brighton, Cheshire. Starts 12.30 p.m.  
 29th December. South African Grand Prix, East London (F1).  
 4th-6th January. South Wales A.C. International Welsh Rally. Starts Loton Park, Shrewsbury, Shropshire, and finishes Cardiff, Glamorganshire.  
 5th January. New Zealand Grand Prix, Pukekohe (F.L.).  
 12th January. Vic Hudson Memorial Trophy Race, Levin, New Zealand (F.L.).  
 19th January. Lady Wigram Trophy Race, Christchurch, New Zealand (F.L.).  
 19th-26th January. Monte Carlo Rally. Starts Athens (Greece), Frankfurt (Germany), Glasgow (U.K.), Lisbon (Portugal), Monte Carlo (Monaco), Paris (France), Stockholm (Sweden) and Warsaw (Poland).

## SOUTHPORT M.C. TOBIAS TROPHY RALLY

THE 1962 Tobias Trophy Rally, held last weekend over the meatiest parts of the Lake District, was a first-class event and Southport Motor Club are to be congratulated on producing a rally designed for drivers, but with navigators very much in mind. The latter statement might give the impression that navigators had a rather easier time than usual—not at all! Most of the short sections called for accurate white road work and extremely quick booking in at controls, leaving all concerned breathless on several occasions. There were 60 entries to grace the occasion.

Harkness navigated by Iles (Mini Speedwell) were declared provisional outright winners. Watson and Clegg (Herald) brought their car into second place, whilst Wadsworth and Cooke (Mini-Cooper) finished third.

Route cards were issued at the Riverside Cafe, Preston 94/578301 and there was a run-in section of 11 miles to Time Control 1 at 527407 (app. E), this being calculated to give competitors time to plot the first half of the route.

Business then commenced with an undulating white road to T.C.3, 525430 (app. N.E.). T.C.5 to T.C.6 was a tight two-minute dash around Beacon Fell, 574427 to 561435½ (app. S.W.), then followed the only bit of local knowledge on the whole route; T.C.7, 550447 (app. S.E.), could be approached through the ford at 553442 if one was equipped with an amphibian; however navigators who were "with it" gathered, from the time allowed for the section, that the intention was to use the yellow road over Jack Anderton Bridge at 566452; however, several crews were caught out here and dropped vital minutes. All was then straightforward and "on" until T.C.14 when things were warmed up with a two-minute dash to T.C.15, 531614 (app. S.). T.C.15 to T.C.16 was "on" at three minutes, but three gates on the way messed it up for a number of competitors. Gates were the main drawback to rallying in the Lakes area. T.C.17 saw the end of the first quarter 551463½ (app. S.E.), at which point Hanson/Hough, Ackers/Gill and Wadsworth/Cooke were all clean. T.C.17 to T.C.18, 89/420½ 785½ (app. N.E.), was a 54-minute "Plot and run" section, but all was not quite straightforward here; at 432813, 2½-miles prior to T.C.18, the organizers had slipped in a secret time control

to penalize those exceeding 40 m.p.h. average speed over a distance of 20 miles or more. Several crews fell into the trap.

The second section of the rally got off to a calm start, but things became white hot on the run from T.C.20 to T.C.21, 408½ 868½ (app. S.W.). Apart from a few gates, all was well until 407868, when, despite an unfenced white road being marked on the map, the whole thing, in fact, disappeared into a field; however, if one kept straight on, the T.C. came into sight over the brow of a mole hill. Needless to say, many crews were very familiar with the four walls surrounding that field. Next came a really tight section into T.C.22, 415834½ (app. S.W.); downhill very steeply with a number of real hairpins, the marshal's nerves were tested to the utmost and there must have been enough rubber on that hill to do an all-round retreat job. Then on to T.C.25, 436895 (app. N.W.). This was a teaser. Along the yellow road from the north, very sharp left-hander into the white road and immediately up a steep slope, followed at once by a 90 deg. right turn; everyone and everything suffered from overstrain here. There then followed 10 time controls all on white roads and all very tight, the last five being of 3-, 2-, 3-, 7- and 3-minute duration. This brought competitors to the half-way halt, T.C.35 at 451987 (app. N.). Petrol was taken on nearby, quick cups of tea were drunk and the cars moved off to the start of the third part of the event, commencing at T.C.36, 82/296064 (app. E.). There was a slow average to allow passage through Ambleside, plotting time and a very quick natter. The leading crews at this point were Harkness/Iles and Ackers/Gill.

The mountains came next, with an immediate switch from Sheet 82 to Sheet 88, T.C.37 being at 295049 (app. N.). Then a three-minute dash along the unfenced track to T.C.38, 301033 (app. N.E.). This was followed by Wrynose and Hard Knott, T.C.39 being on the top of Wrynose; four minutes were allowed for the descent to the bridge on the western side, this being T.C.40, 246017 (app. E.). Five minutes were allowed for the ascent and descent of Hard Knott, to T.C.41, 212011 (app. S.E.).

The route then followed the River Esk, two time controls being placed on the white road through Cripple How, at 131977 (app. S.E.) and 114963 (app. N.E.). Things cooled off until T.C.46 was reached on Bootle Fell,

146897 (app. N.W.); thence followed two four-minute sections over very twisty white roads to T.C.48 at 180865 (app. N.). Three-quarters of the event was now over and the leading positions were held by Harkness/Iles, Watson/Clegg and Doble/Watkinson.

Another run-in section, the last, took competitors through Broughton-in-Furness to T.C. 49, 88/276836 (app. S.W.). Here there commenced a frantic dash to six time controls, all on white roads, time allowance being 3-, 2-, 2-, 3-, 1- and 1-minute duration. This brought the cars to T.C.55, 320844 (app. N.). T.C.56 to T.C.57, 326870 to 329882 (app. S), was a 2-minute run over an interesting white road. Then on to the Graythwaite Old Hall white road section, divided into two by T.C.59, 357906 (app. S.W.) and T.C.60, 372½ 911½ (app. W.). The rally was virtually over now, but the organizers slung in three tight hairpins to add a sting to the tail, at 373855, 375845 and 376845½, all being on a white road leading to the final time control, No. 62 at 380833 (app. N.W.). And so to breakfast at the Derby Arms, Witherslack 89/442829, where the usual post-mortem took place.

There is no doubt that it had been an excellent rally, incorporating a first-rate route and excellent marshalling, fully justifying the great distance the competitors from Southend-on-Sea and Glasgow had motored to the start. On this formula, the "Tobias" is assured of an equally large entry next year, more than likely a full complement of starters.

N. F. MURGATROYD.

### Results

- 1, Harkness/Iles (Mini Speedwell), 190 penalties;
- 2, Watson/Clegg (Herald), 280; 3, Wadsworth/Cooke (Mini-Cooper), 310; 4, Doble/Watkinson (Classic), 370; 5, Eaves/Sparks (Anglia), 390; 6, Bateson/Hindle (Sprite), 430; 7, Ackers/Gill (Herald), 450; 8, Oldham/Davies (Rapier), 740.

Team Award: Ackers/Norman.  
 Novice Award: McCombe/Craig.

## CAMBRIDGE C.C. PRODUCTION CAR TRIAL

THE Cambridge Car Club recently held a very successful production car trial near Caxton. Thirty-five entries braved the sunny but icy morning to carry out 12 different sections. There were many steep slopes and sharp bends to catch even the best, one downward slope in particular looking so bad that some competitors refused at first to attempt the section. Another interesting section involved a downward slope bearing sharp right at the bottom around a hedge and up again. This would have been fair enough had it not been for a stream on the left-hand side making it impossible to get a good run up the other side of the hedge. Those who didn't get up had to back down very gingerly to avoid a wet finish. The same section was also taken in the opposite direction.

One particularly interesting entry was a Trojan, which chugged its way round to take first place in its class.

### Results

- Class winners: J. Starsmore (Austin 850), 20 marks lost; J. Sheldrick (Austin 1600), 96; D. M. Croome (Trojan 1488), 36; D. Frost (Dellow 1172), 22.

## M.G.C.C. (N.E. CENTRE) GOATHLAND RALLY

MAIN daylight rally of the Yorkshire winter rally season, the Goathland Rally, organized by the North Eastern Centre of the M.G. Car Club, was won by R. A. Riall.

The event consisted of five driving tests during the morning between the start at Pickering and the Yorkshire Moors village of Rosedale, which was the lunch halt. Then came an afternoon run of some 60 miles via nine passage controls. PETER CRAVEN.

### Results

- Paragon Trophy (best performance): R. A. Riall (Mini), 2 marks lost. Nuffield Trophy (best M.G.C.C. member driving an M.G. car): W. G. Oliver (Magnet), 59. Novice Award: G. B. Ellis (Sprite), 40. Sports Cars: 1, P. Cooper (Sprite), 24; 2, J. Clegg (Sprite), 40. Saloons: Up to 1,100 c.c. modified: 1, G. Gardner (Mini), 20; 2, K. Deacon (Mini), 26. Unmodified: 1, D. Rudd (Mini), 43; 2, B. Newton (A35), 62. Over 1,100 c.c.: 1, J. Little (Anglia), -13; 2, D. Gray (Rapier), 15. Paragon Team Trophy: K. Deacon, G. B. Ellis and H. W. Last (Volvo).

## HANTS AND BERKS M.C. U.H.U.L.M.C.

### NIGHT NAVIGATION RALLY

KEEPING up the tradition of the Hants and Berks type Night Navigation events, incidents from which were recalled in AUTOSPORT the other week, this year's "UHU" was run on an ideally crisp cold night, that of 1st-2nd December.

Each crew had to imagine themselves to be Hasten and his Juggernauts seeking the *Silver Wrath*, which was revealed in the 8 Clubs manner by building up its grid reference from figures on signposts, etc., at route checkpoints between the six circuit controls.

These were named after characters from mythology—somewhat freely adapted. "Delphi" where the Oracle had to be consulted to obtain the route card, could only be found after solving the starting problem, which was a letter sum—PLIRLE plus ORACLE equals DELPHI, given RAC equals 290. The record time for this isn't known, but someone motored away within four minutes—"to shatter the opposition" so they said afterwards.

"Calypso the God of Pop" was described as "Square pond at 200 ft. altitude and a distance of 7 km. from the Start" and caused a lot of delay because the dot on the map was so small and easily confused, in poor light, with the grey of a building.

"Ajax the God of Kitchen Sinks" occupied an empty house kite on its own in the middle of a forest. Here competitors were not only grateful to be signed in with no fuss, but also for the soup and coffee which was dispensed by brother "Blow you Jax" and sister "What the Hecuba". The plot for this was 7 km. from three points—one LIMBO some

folks just didn't believe—but there it was, Limbo Farm.

"Vesta the Goddess of the Underwear" was simply "The most Southerly of 3 Tumuli in N.T. area of 270,000 square metres"—easy to plot, but those four noughts caused some head scratching.

The marshals at "Pegasus the God of . . . gas" had an elaborate system of decoy lights and notices, but were easily found by careful map reading.

"Zeus the Mountain God" was near the highest point on the South Downs, and although concealed was right beside an ancient earthwork clearly marked on the map.

"Vulcan the God of Punctures" was a roadside control, but proved very difficult because it had to be plotted from where the course of a Roman road crossed the *lowest* of several belts of trees. Almost the whole entry took "lowest" to mean most southerly, whereas it really did mean lowest—in altitude. A true, if tricky navigational problem. Many tales of woe were heard from those who tried to motor along an impossibly muddy track and even over fields in search of the wrong plot.

These events deserve more support than the 23 entrants who were attracted on this occasion. Much harm has been done in the past by placing control marshals in positions which were nothing more than "hide and seek" when once away from the car—and indeed have earned them the name "hunt the marshal" in some circles—a great pity.

There is much to commend the practice of scattering the entrants all around the circuit to alleviate annoyance to the general public—a most important point these days when the word "rally" is almost a rude one in their ears.

GORDON MADGWICK.

Premier Award: J. A. Ambrose. Best Non-Expert: R. G. Scotchmer. First Class Awards: D. Chesterton, M. Keevill.

## WELSH COUNTIES C.C. ECONOMY RALLY

FOR the recent second annual economy rally, staged by the Welsh Counties Car Club, it had been intended to calculate the results on the basis of miles per gallon, with two important concessions in the interest of economy; a comparatively low average speed and a straightforward route, details of which were made available well in advance. Unfortunately, what the organizers could not have reasonably foreseen at this time of year was that the weather conditions should have been so adverse, with freak snowstorms which rendered substantial sections of the route completely impassable. In consequence, since the results were to have been calculated solely on route mileages, Clerk of the Course John Williams was unable to assess the event in its original form, and it was therefore abandoned. Nonetheless, the 36 entrants who took part had such an exciting night out that discretionary awards were made, under S.S.R. A.5 (c), to those competitors visiting the greatest number of controls which, in the circumstances, seemed to be the most equitable arrangement.

The 120-mile route led from the Cardiff start, where petrol tanks had been filled and sealed, through St. Mellons and then towards Pontypridd and a section of forest and mountain roads which brought the field to the environs of the Brecon Beacons and some not unfamiliar rally roads around Penderyn and then Ystradfelte. Then on through Vaynor and towards Talybont, but by this stage in the proceedings the weather was taking a hand; some controls were deleted, and many cars turned back with the intention of picking up the route at the end of this loop, at Fochriw. Those few cars that got over (including the Keith Bennett/Tony Hooper Austin-Healey 3000 and the Geoff Chick/John Owen Victor, the only two cars to visit more than 18 of the 28 controls) had a great deal of difficulty in getting back, and Des Tilley, navigated by John Griffiths from the boot, hit on the expedient of opening the doors and boot-lid of his Simca, which was then literally blown uphill by the gale-force winds!

At Fochriw the route turned south over

Gelligare Common towards Hengoed, where 3-ft. drifts eventually brought everyone, competitors and officials alike, to a standstill. Only three of the starters passed through the last two controls at Ystrad Mynach and Michaelstone-y-Vedw, and, even if the event turned out a little differently from original intentions, nobody seemed to mind!

HOWARD BILEY.

Results

Class One: 1, W. J. Lewis (Wolseley Hornet), 18 controls, 3.03 galls.; 2, V. Corbin (Austin Mini), 17 controls, 2.58 galls. Class Two: 1, H. Griffiths (Austin A40), 17 controls, 3.33 galls.; 2, D. F. Davies (Austin-Cooper), 17 controls, 3.83 galls.; 3, D. Williams (Austin A40), 16 controls, 4.53 galls. Class Three: 1, G. Chick (Vauxhall Victor), 19 controls, 5.53 galls.; 2, A. Openshaw (Austin A50), 11 controls, 3.13 galls. Class Four: 1, A. K. Bennett (Austin-Healey 3000), 19 controls, 7.60 galls.

## OCTAGON M.C.

### R.A.F.A.M.C.

### METROVICK M.C.

## INTER-CLUB TROPHY RALLY

THE Inter-Club Trophy Rally, co-promoted by the Octagon Motor Club, the R.A.F.A. Motor Club and the Metrovick Motor Club, was run on 2nd December over a route of 120 miles. Competitors rallied within the boundaries of Cheshire over good "yellow" roads in the main with occasional excursions into somewhat rougher territory.

Of the four sections, two were by map reference, one by conventional route card, and one by "Tulip"-type diagrams. Route check symbols augmented the manned controls. Regularity was imposed throughout for safety's sake, the event being run in daylight on a Sunday. In the rally, virtually no other traffic was encountered, probably due to the cold weather!

Results

1, K. G. Fraser/M. J. McGrory (Mini), 0 points; 2, A. J. Lewis/P. Barlow (Alpine), 20; 3, A. J. Bill/B. J. Looker (Riley 1.5), 430; 4, G. A. Swords/D. Dixon (Herald "S"), 530; 5, J. N. Sawley/J. S. Lee (Magnetite), 600. Mousell Trophy: Fraser/McGrory; Revenge Trophy: Lewis/Barlow; Octagon Trophy: Swords/Dixon; Novice Award: McKinnon/Hills (Morris Minor); Inter-Club Trophy: 1, Metrovick; 2, R.A.F.A.

## THETFORD AND D.M.C. AND L.C.C. BRECKLAND CHALLENGE TROPHY RALLY

SATURDAY, 1st December saw the year's toughest rally in the Thetford and D.M.C. and L.C.C.'s calendar. Run over 70 miles of extremely remote and at times unmetalled roads of Norfolk, it proved to be a first class test of both driver and navigator. The Clerk of the Course used a number of methods to plot the route, but one had to keep a sharp eye on the maps or much time could be lost in finding exactly where to turn off a hard road to reach controls situated along rough tracks.

There were no route check questions to answer, a point much appreciated by hard-worked navigators and obviously an admirable thing if a testing enough route can be devised.

There were in all 24 sections, starting at Brandon Market, and the first one of 8 mins. resulted in the complete entry losing time. This section was a tracing of the route duplicated on a piece of paper and entrants had to match it with tracks through a forest. Most crews had not settled down quickly enough and consequently wrong tracks were explored before the correct one was found.

This was followed by a section in which one had to find spot heights on the map and proceeded via these to a control just outside Thetford. A section of Tulip diagrams not in order and unnumbered caused a few headaches but by now crews were keyed-up to the pace of the event and problems were soon ironed out.

Another tracing took entrants to the Hepworth area and from then on the remainder of the rally consisted of sections varying from 2 to 12 mins.

The general route was via Kenningham and Old Buckenham to the A11 at Eccles. In all cases villages were avoided by using white roads so as to cause the least possible trouble to inhabitants. After crossing the A11, the route then headed towards Croxton via Snetterton, Shropham and Hockham.

By now competitors had lost varying amounts of time, but one and all were thankful that fog that had threatened had indeed held off, or it would certainly have meant more minutes lost. The last few miles were almost entirely on unmetalled roads, but by now drivers had perfected the technique of missing the many pot-holes.

At the finish just outside Brandon all finishers agreed that the Clerk of the Course had devised an event worthy of the Breckland Trophy.

H. B. ELMER.

Results

1, D. Panberry/R. Stamper; 2, R. Evan/A. Frost and H. Elmer/Mrs. C. Elmer; 4, D. Claydon/Jean Claydon.

## VINTAGE S.C.C.

### DRIVING TESTS

THE Vintage Sports Car Club held their Driving Tests meeting at Silverstone last Saturday. An excellent array of cars presented themselves, and results are appended below.

Results

1st Class Awards: C. Franklin (1929 Rover); C. P. Marsh (1925 Austin); P. J. E. Binns (1927 O.M.); J. V. Skirrow (1930 Frazer-Nash); B. M. Clarke (1924/9 Austin); B. Sismey (1934 Alvis); A. M. Westmacott (1934 Lagonda Rapier).  
2nd Class Awards: E. Riddle (1921 G.N.); D. L. Franklin (1929 Rover); B. B. D. Kain (1926 Bugatti); D. S. Bennett (1930 Alvis); P. Bevis (1930 Alvis); P. A. C. Kneller (1932 Alvis).  
3rd Class Awards: D. R. Marsh (1928 M.G.); J. D. Rogers (1923 Jowett); M. Leo (1930 Lagonda); W. S. May (1926 Frazer-Nash); R. C. J. Wood (1932 Invicta); R. A. Hutchings (1936 B.M.W.).  
Ladies Award: Mrs. G. C. Cardy (1925 Austin).

ROBIN MCARTHUR, who raced a Lotus 7 last season, has acquired the ex-Mike Beckwith Lotus 23 for use next year.

PEARCE COURAGE will drive a Merlyn sports car in races next season.

LOTUS 7 driver David Cole hopes to drive a Formula Junior car in 1963.



*QUICK SERVICE to a competing Saab at a control on the first Tour of Nigeria. Support was given by accessory suppliers and petroleum companies.*

LAGOS—Kano—Lagos, 2,100 miles in 44 hours' running time, first Schudlach and Bruner in an ID Citroën, and winners of Class "D". Second were Stirling and Hamnett (Saab 96), also Class "A" winners and third Quinn and Rand (Morris 1100) and Class "B" award winners. Fourth overall was another Morris 1100, fifth another Saab 96 and sixth a Ford Taunus 17M Super. Class "E" was won by a Ford Zodiac Mk. III, and Saabs ran away with the Manufacturer's Team Prize.

# FIRST TOUR OF NIGERIA INTERNATIONAL RALLY

Only two years after achieving Independence, Nigeria has taken a big step forward in the world of motor sport, and 9th-11th November this year saw the culmination of much hard work on the part of the Lagos Motor Club, supported by friends in Clubs in other centres of Nigeria. In previous years events run by the Club, while ambitious enough in themselves, were of a navigational nature and limited to 24 hours within a modest range of Lagos. This year, however, the Club decided that the time had come for a bold advance, and applied for, and were granted, recognition for the first time in the list of International events under F.I.A. registration. The aim was to test drivers and vehicles over 48 hours of hard driving for more than 2,000 miles, day and night, over tarmac and laterite roads, some of the latter in poor condition after the seasonal rains. High average speeds were to be maintained, 49 m.p.h. overall, but according to conditions this figure would be higher or lower over various sections of the route, which included a six-hour halt at Kano for rest and refreshment.

The Rally started from Lagos on the coast and led north, through thick tropical bush, to cross the Niger, and through the savannah and rolling plains of the Northern Region, calling at its capital, Kaduna and reaching Kano, on the desert fringes, as the half-way stage. Back south, up on to the

Plateau, via Bauchi and Jos, down across the middle belt by Keffi to the main north-south artery at Kontagora, recross the Niger and back to Lagos with a call at Ibadan, capital of the Western Region. A long, grinding dusty drive, designed to bring out the best of skill in driving and reliability in the vehicles. From the hot humidity of the south, to the dry, burning heat of the northern day and, surprisingly perhaps, the nip of the northern night air.

The event excited much enthusiasm throughout the country, and teams were entered, with serious preparation, by the country's motor distributors and, for the hell of it, by keen private motor sport competitors. Cars ranged in size from Zodiacs and Holdens to Morris 1100s, an N.S.U. Prinz and, facing a tough physical challenge, an Austin Seven. Well-known names were represented in the teams—Ford, Mercedes, Taunus, Peugeot, Saab, Volvo, Holden, Volkswagen; the total number of cars competing was 47, and the pressure of events can be judged from the fact that 30 arrived back in Lagos, having completed the course requirements, not all unscathed. There was much missing glass, some scratches, weary bodies, unshaven chins and many tales of high-speed adventure. The winning Citroën crew had a busy time, following over-exuberance at a bend which deformed the bodywork considerably, but by seizing all spare moments en route, straightening here, beating out there, they managed to finish, if not in mint condition, at least satisfactorily in shape to pass the rally's conditions.

Support for the event was given by accessory suppliers, petroleum companies and many other friends of the club. The distances involved and the areas covered

meant that special refuelling facilities had to be set up.

In a country where the marketing companies' distribution networks vary considerably, loyalty to one brand in an event of this kind was difficult to sustain, and one Kano station at times looked like the Motor Show, so popular was it with different competitors.

The event gained much publicity in Lagos, where cars were flagged away from the International Trade Fair site by the Hon. J. M. Johnson, Minister of Labour in the Federal Government, with well chosen words of encouragement to the drivers and congratulations to the Lagos Motor Club. The Rally ended at the Racecourse, in Lagos, where there were many anxious representatives and friends to count the heads as they arrived, and count the toll of the missing.

Next year the second Tour of Nigeria will start from Lagos on 28th November, and will be run over a period of four to five days covering 3,000 miles of testing West African roads.

There is an ever-increasing market in the country and indeed in West Africa as a whole, buyers are becoming more discerning, and this first International Rally has opened the eyes of the vast motoring public to the reliability of certain makes and models.

Of interest were the design and layout of the first five cars, Citroën, Saab, and Morris 1100, all modern in conception, all front wheel drive, and not a cartwheel spring amongst them.

The Lagos Motor Club look forward to welcoming International drivers and teams next year, the Supplementary Rules and Regulations will be published early in the new year, before 31st March, sunshine, some hard driving, a warm welcome and keen local competition is offered.

### Results

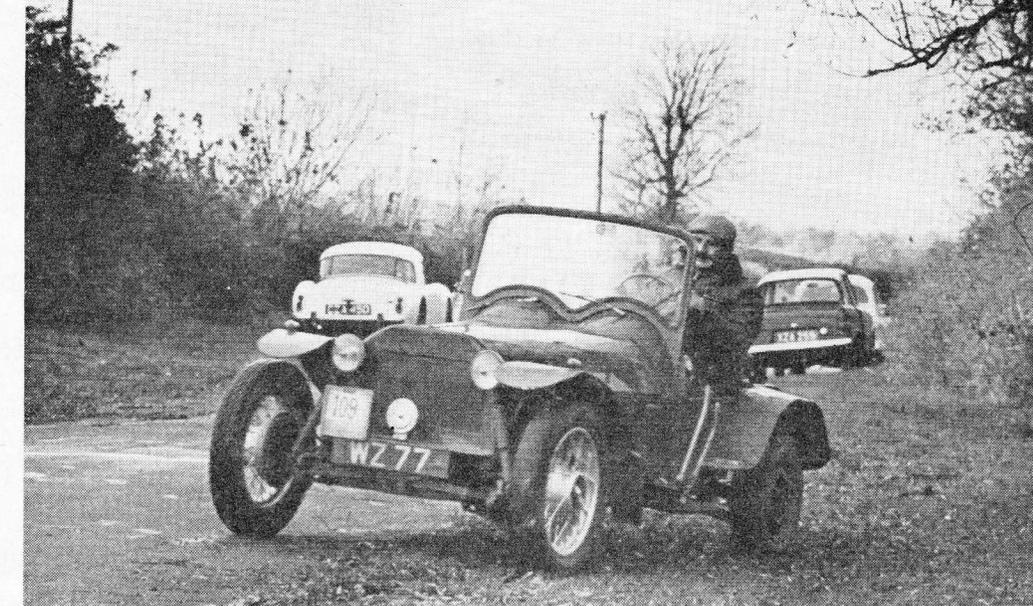
- 1, Schudlach/Bruner (Citroën ID.19), 2 penalties;
- 2, Stirling/Hamnett (Saab 96), 3; 3, Quinn/Rand (Morris 1100), 8; 4, Fettiplace/Roe (Morris 1100), 21;
- 5, Beaton/Warner (Saab 96), 59; 6, O'Nians/Rickards (Ford Taunus 17M Super), 61; 7, Fullford/Cattell (Renault Gordini), 468; 8, Andersen/Thomas (Volvo 121), 752; 9, Cross/Lunnon (Saab 96), 1,614;
- 10, Chandler/Willard (N.S.U. Sport Prinz), 1,925;
- 11, Easton/Lockley (Mercedes-Benz 190D), 2,035;
- 12, Schoening/Homann (Volkswagen), 3,172;
- 13, Kenyon/Jordan (Ford Zodiac Mk. III), 3,453;
- 14, Eckhardt/Knuesli (Holden), 3,687; 15, Dugdale/Herbert (Ford Taunus 17M Super), 4,050; 16, Schlaefli/Bhend (Holden), 4,730; 17, Hadjiannakis/Jude (Volkswagen), 5,896; 18, Hager/Angove (Peugeot 404), 6,486; 19, Philippe/Siegenthaler (Peugeot 404), 7,618; 20, McPherson/Wade Evans (Peugeot 404), 10,999.



STAN WILSON'S curious left-hand drive, 1172 c.c. Winkler Special in The Lincoln and Nolan Cup Trial.

# BRIAN FOLEY'S REPORT FROM EIRE

STEPHEN GRIFFIN won the Leinster Motor Club's Lincoln and Nolan Cup Trial, which was held in absolutely arctic conditions on Saturday, 17th November. Young Stee now becomes the third member of the Griffin Family to bring home a Premier Award from a driving tests event. Dave Griffin won a number of P.A.s in his blown Dellow, before he more or less retired from active competition last season. Seamus Griffin has won countless premier awards, including, of course, winning the Hewison Trophy three times in succession. With Seamus acting as "bouncer", Stee won the Ascot Cup mudlark last December in his 1,172 c.c. G.T.S. Several times he has come within an ace of repeating this feat in driving tests events, only to be "bounced" out of the running by big brother Shay. He reversed this position in the L. & N. Trial by beating Shay by 1.5 marks. The results list the first nine in this Hewison qualifying trial. The tenth man was John Hayes in his Austin-Cooper. Johnny Moore finished seventh on his first



outing in an Austin-Cooper. Moore has finished in the first ten in three Hewison events, and he thus becomes the first man to qualify for the Hewison Final next spring.

Moore is driving particularly well these days, and on the Sunday after the L. & N. Trial, he won the Kilkenny M.C.'s Byrne Cup Trial. Seamus Griffin was having a close battle with Moore when the c.w. & p. of his 1,172 c.c. Griffin-Ford packed up, with but two of the nine tests to go. Leslie Vard was second in his Austin Seven, and third was Des Cullen in his "Scut-Sprite".

### Lincoln and Nolan Cup Trial

#### Results

Premier Award: Stephen Griffin (G.T.S.), 249.5 marks.

#### First-Class Awards

Seamus Griffin (Griffin-Ford), 251 marks.  
Charlie Gunn (Sprite Mk. 2), 258.4 marks.  
Cecil Vard (Austin-Cooper), 262.5 marks.  
Leslie Fitzpatrick (Midget), 265.2 marks.

#### Second-Class Awards

Peter Jenkins (G.T.S.), 265.8 marks.  
Johnny Moore (Austin-Cooper), 268.6 marks.  
Jack Fildes (M.G. 1,100), 269.8 marks.  
Noel Smith (NSU Prinz 4), 270.1.

#### Byrne Cup Trial

##### Results

Premier Award: Johnny Moore (Austin-Cooper), 302.8 marks.

#### 1,000 c.c. Saloons

1. Leslie Vard (Austin Seven), 309.2 marks.  
2. Noel Smith (NSU Prinz 4), 319.6 marks.  
3. Terry Power (Morris Mini), 322.0 marks.

#### Over 1,000 c.c. Saloons

1. Brian Kehoe (Volkswagen), 331.8 marks.  
2. Larry Mooney (Volkswagen), 332.2 marks.  
3. Pat O'Callaghan (Volkswagen), 333.8 marks.

#### Sports Specials

1. Des Cullen (Sprite Mk. 1), 310.6 marks.  
2. Irwin Catherwood (Sprite Mk. 2), 329.6 marks.  
3. Tommy Horan (Sprite Mk. 1), 344.0 marks.

#### Kilkenny Trials Championship (based on results of Six, 1962 Kilkenny Trials)

1. Des Cullen (NSU Prinz 30 and Austin-Healey Sprite, Mk. 1), 120 points.  
2. Johnny Moore (Austin Seven and Austin-Cooper), 118 points.  
3. Terry Power (Austin Seven, Sprite Mk. 2 and Morris Mini), 108 points.



REALLY MOTORING: Jack Fildes (M.G. 1,100) at Kilkenny.



WINNER of the Byrne Cup Trial—Johnny Moore (Cooper-Austin).



REVERSING his new Simca 1000—Noel Brooks, in the Lincoln and Nolan Cup Trial.

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SOME OF THE models of Edoardo Masucci of Turin, one of the world's most enthusiastic collectors of die-cast miniatures.

Photograph—Publifoto.

# Collecting Miniatures

by F. BRIAN JEWELL

"Do you mean to say you collect those things?" I had just brought out of my pocket a Tootsietoy Graham Paige Blue Streak convertible, made in 1932, and set it proudly on the bar counter, murmuring something about it being quite a prize to add to my collection. My drinking companion looked at it disdainfully and grunted, obviously thinking that some people never grow up.

That was two years ago when the collecting of model cars was a Cinderella hobby, with a mere hundred or so serious followers. Die-cast and plastic miniatures were on the whole left to the schoolboys, even if there was a sneaking longing and a few sly looks in the toy shop windows.

The faith of the small hard-core of enthusiasts was justified. There are now about 180,000 known collectors throughout the world, buying, selling and exchanging rare pieces as do the stamp and coin people. Some of the items priced at a few pence in the '30s are now changing hands at the £7 mark.

Much of the credit for this increase in popularity must go to the clubs and societies: C.I.A.M. and Mini-Auto-Club in France; Club delle Quattoroutine and Associazione Auto Modellisti 1/43rd. in Italy; J.M.M.C. in Japan; I.A.A.M. in the U.S.A.; and the Miniature Auto Society in this country. But it is the manufacturers who have done the most by setting their sights high in standards of accuracy, detail, finish and subject matter. A considerable collection of antique car models can be built up from the products of Lesney Models of Yester-year, RAMI and Safir of France, Tootsietoy Classics of the U.S.A. and this year DUGU of Italy with their models of cars from the Museo dell'Automobile Carlo Biscaretti di Ruffia (probably the finest miniatures ever to come off a production line). Fifty ready-made models quite apart from the many plastic and metal kits on the market from firms such as Revell, Hubley and A.M.T. of the U.S.A., Vieux-Tacots and Precisia in France, Airfix in Britain and several out-of-production series like Scamold, Graphic Designers and Gowland & Gowland (most of the latter have since been made under the Revell label).

Probably the most neglected subject is modern sporting and racing machinery. It is a strange fact that only one 1961 Formula 1 car has been made as a die-cast miniature—the Ferrari by Solido of France.



This manufacturer is the only company to specialize to any extent in competition cars with the 1960 Lotus F1, Cooper, Porsche, D.B.-Panhard, Ferraris (there are now three), Aston Martins, with a Vanwall and Maserati to remind us of the hairier days. Mercury of Italy made some good models a few years back, Ferraris, Lancias, Cisitalia and Gordinis, but there have not been any sporting models from this stable for some time. One trouble is when a manufacturer decides to make a racing or sports car model they tend to think alike and this sort of duplication must be very off-putting to these companies after spending huge sums on tooling only to find their competitors have brought out precisely the same car probably with extra features. There have been eight versions of the "E"-type Jaguar in less than six months and not one Berlinetta except for the charming little 3 mm. to 1 ft. scale hand-made Roadace Replica.

A recent development in model car collecting has been the art of "chopping"—that is to say taking a production die-cast model and by dexterous use of hacksaw, files, plastic metal and paint, modifying it into a replica of an actual car. The "Spot-On" "E"-type can be "chopped" into a fairly close representation of the Lumsden/Sargent hybrid of this year's Le Mans. The "Tekno" (Denmark) Saab 93 can be made into Carlsson's car by filing the rear window and adding a couple of spot-lights. Other favourites on the "chopping list" are the Mini (Corgi), Aston Martin DB4 (Corgi and Solido), Volvo PV544 (Tekno), Ferrari TRC500 and 1961 F1 (Solido) and the Cooper 1960 F2 (Solido). The new Corgi Volvo P1800 and the Solido Ferrari 250GT Farina should offer considerable scope, but these are yet to be tried.

What of the other aspects of the hobby?

There are the kit builders and the "one-off" boys who draw up their own working plans from photographs. The latter of course are the black belts of the hobby and those who super-detail the kits must also be highly skilled. There is a great deal which could be written about these folk—they are the lone walkers; each model they turn out taking hours and sometimes weeks of painstaking work, the results always a tribute to their skill—but they are the "doers" rather than the "collectors" and there is very little in common between the miniature collector and the model maker.

Then there are the racers using model electric circuits and here I must put in a personal opinion without wishing to be rude to anyone. I just cannot see the fun or realism of a car race when all the control one has over the model is speed and in many cases just stop and go. If it were possible to choose a line at a corner I would start to get enthusiastic. Perhaps a solution would be to use the available equipment in such a way as to call for more skill in the use of the "throttle". A hill-climb might be the answer where just the right speed would be needed at certain points. Overcook it and instead of just spinning off there would be a drop over the edge, not enough and the car would not make it. It should not be beyond human talent to devise a controller coupled to a stop-watch for accurate timing. Of course we should need a model of Tony Marsh's B.R.M. and, darn it, I've forgotten the colour of his crash-hat.

This then is how things stand at the moment. It is certain, whatever the future brings in the development of production techniques, electronics and other boffin brainwaves, it can only result in more following for this, one of the newest of hobbies.

# AUTOSPORT

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# CHRISTMAS PRESS TIMES

ALL CLASSIFIED ADVERTISEMENTS FOR

## DECEMBER 28th ISSUE

MUST REACH THIS OFFICE NOT LATER THAN

## 12 NOON THURSDAY DECEMBER 20th

To ADVTS. DEPT. • 159 PRAED STREET  
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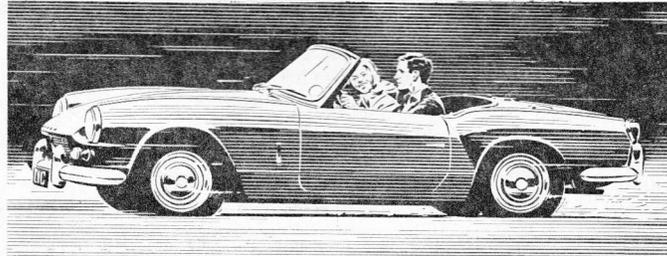
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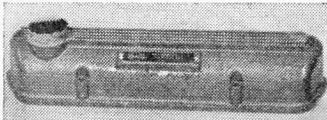
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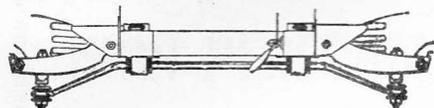
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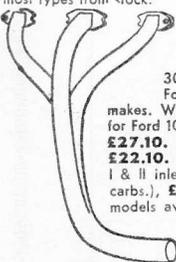


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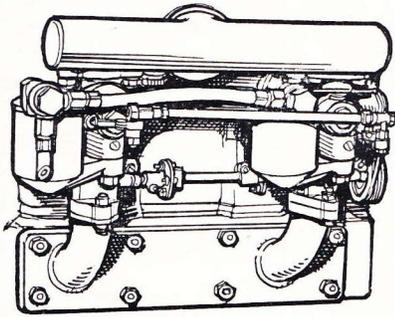
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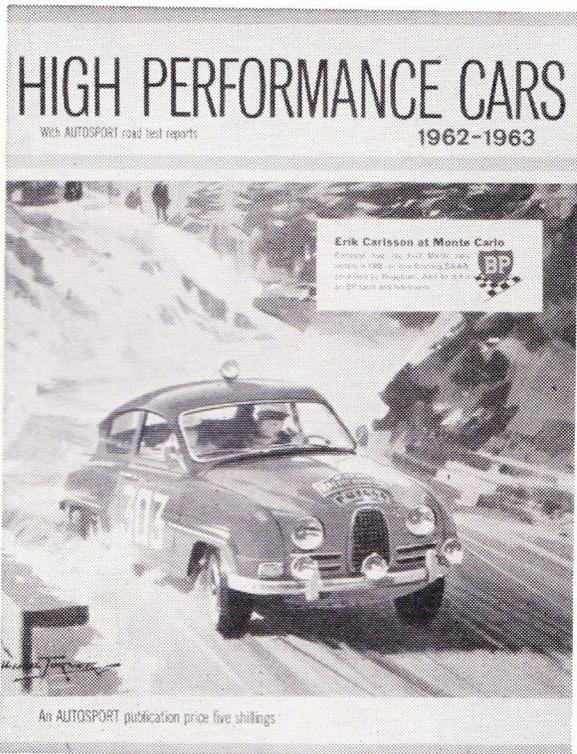
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Lotus Cars Ltd chose Ferodo disc brake linings for their successful 1962 teams of Formula 1 and Formula Junior cars.



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