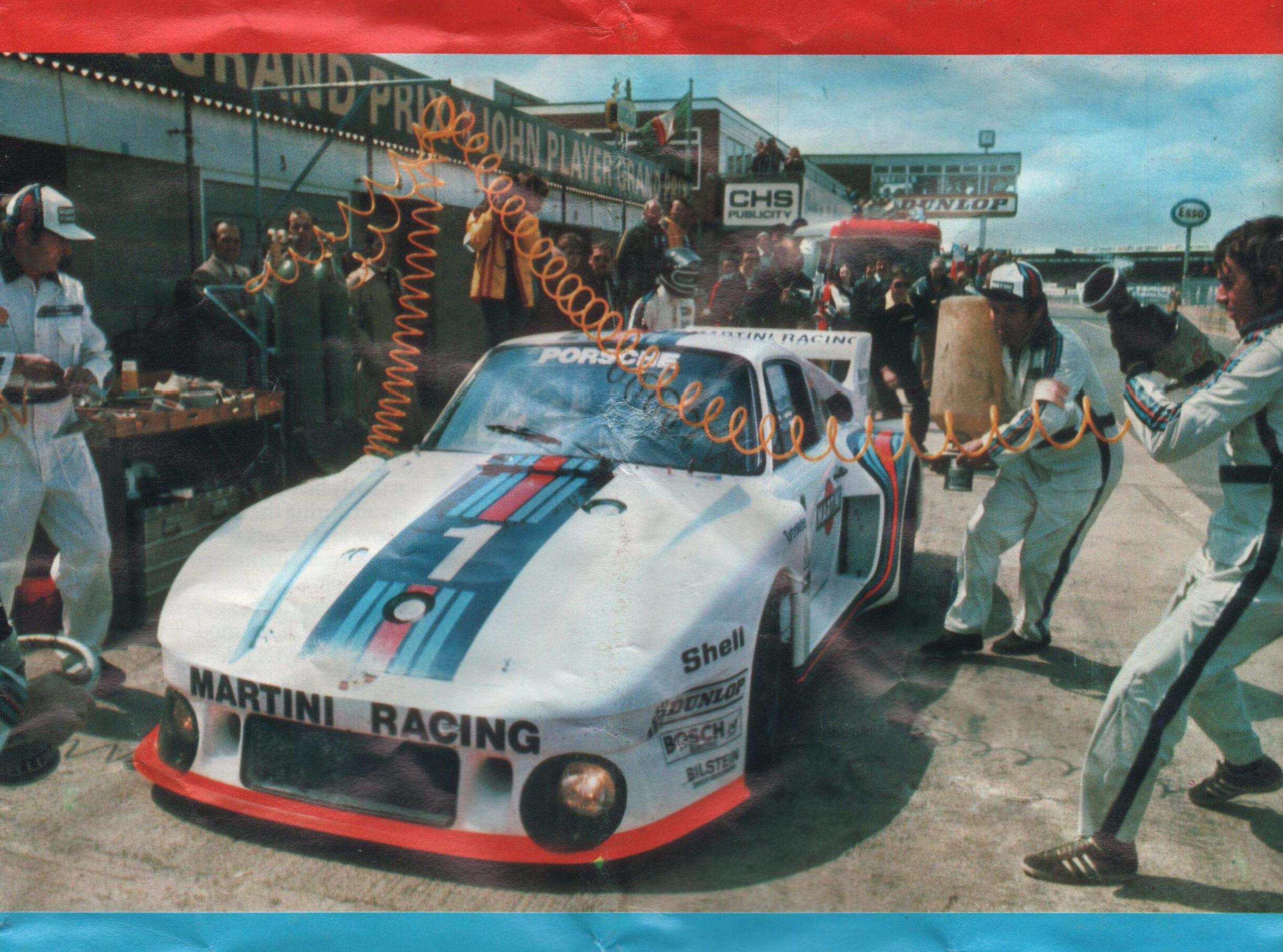
# WORLD CHAMPIONSHIP

OF MAKES

SIX-HOUR ENDURANCE RACE



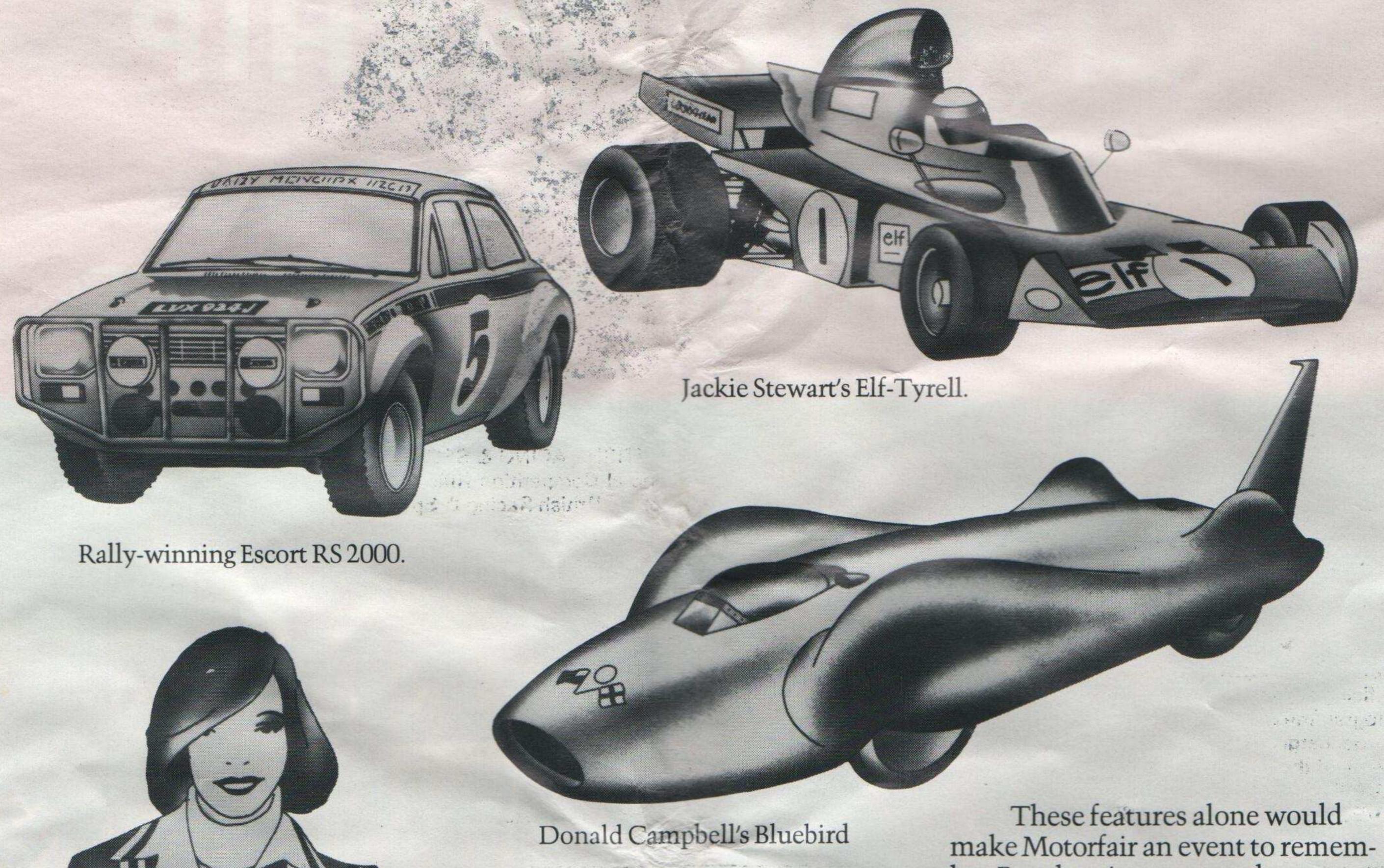
# Brands Hatch

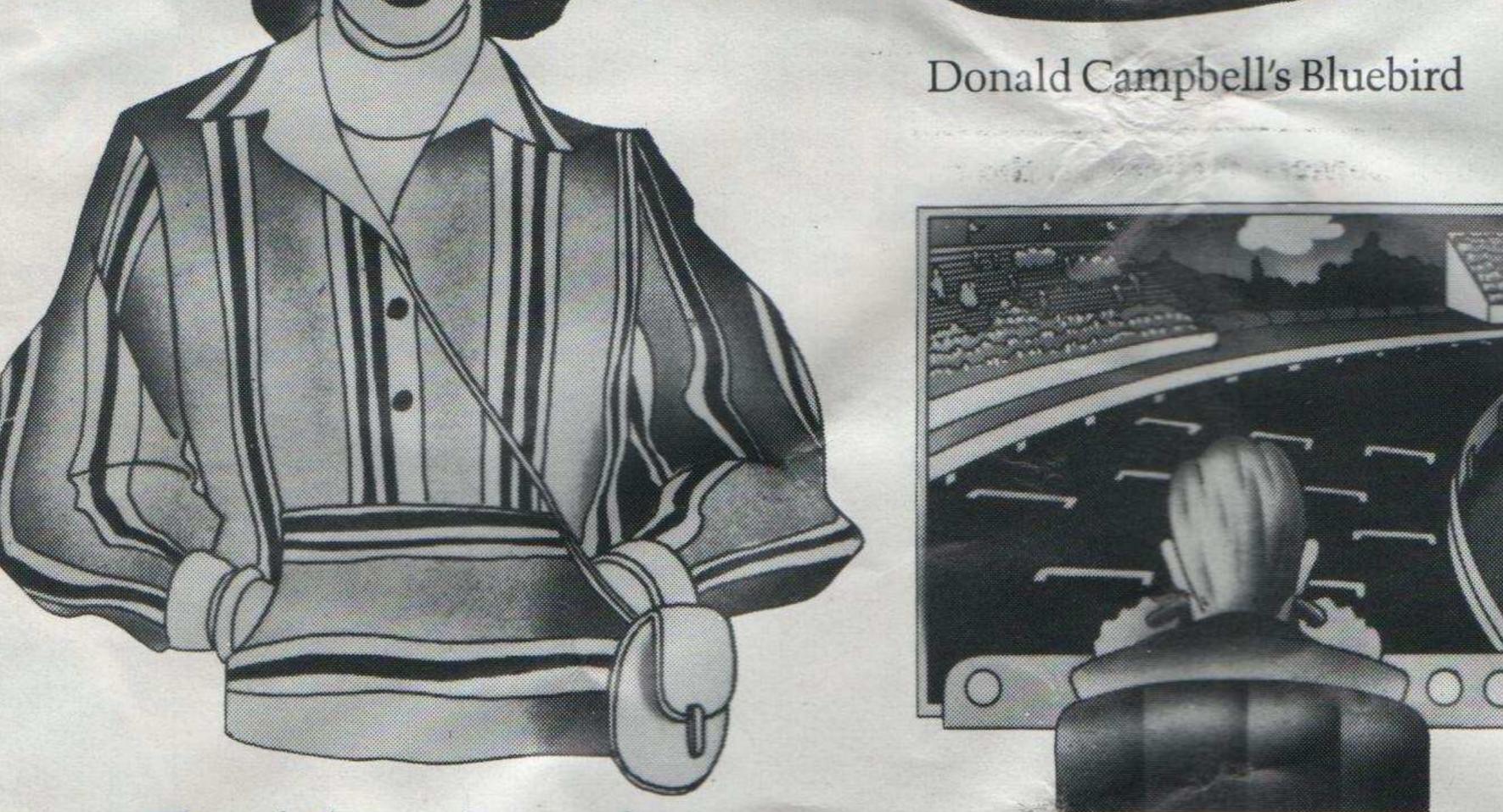
Sunday, September 25, 1977

Organised by the British Racing & Sports Car Club

Programme 50p

# Much, much more than just another motor show.





Three fashion cabarets a day.

Racing car simulators.

ber. But there's more, much more: vintage and veteran cars, some actually being restored on the stand during the course of the show, and others waiting for the auctioneer's hammer on the final day: a 'pit-stop' competition, with heats three times a day; new cars and second-hand models you can actually buy; DIY demonstrations. Bring the whole family. There are fashion shows three times a day and a large playground area to keep the youngsters happy. All this and much, much more to do, to see and enjoy; and all centred round the exciting and colourful setting of Monte Carlo, right here in Earls Court. That's Motorfair-make it a date.

# Daily Express

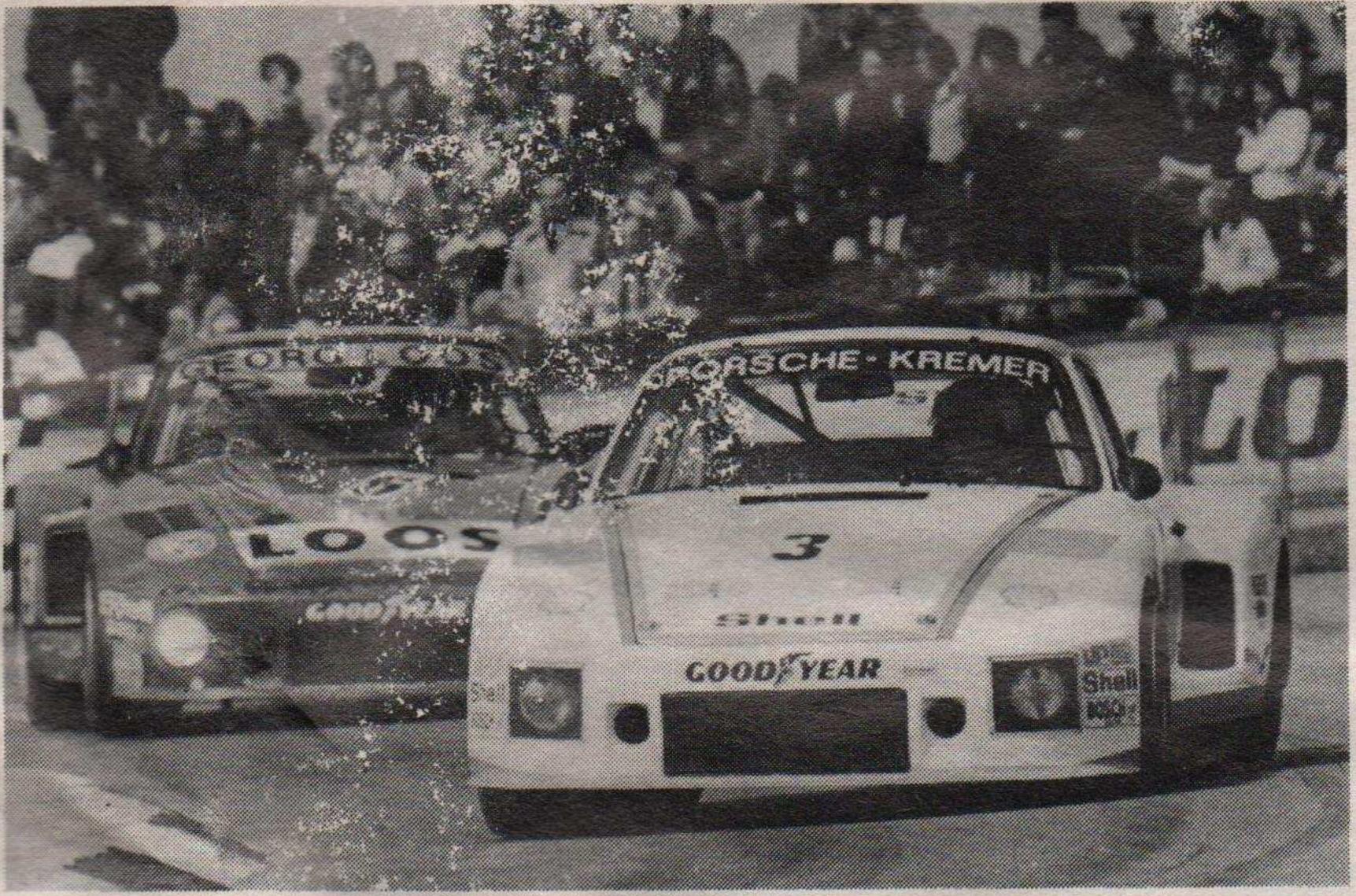




Earls Court. October 19-30

10.00am-9.00pm weekdays, 10.00am-7.00pm Saturdays and Sundays. Admission: adults £1.20, children and senior citizens 50p, except 19th and 26th £3 and £1.50 respectively.

# World Championship of Makes Six Hour Endurance Race Brands Hatch Sunday 25th Sept., 1977



Photograph: Autosport

# THIS MEETING IS ORGANISED BY THE BRITISH RACING & SPORTS CAR CLUB

This meeting is held under the International Sporting Code of the FIA, General Competition Rules of the Royal Automobile Club, the Standing Supplementary Regulations of the RAC and the Supplementary Regulations of the British Racing & Sports Car Club Ltd.

Permit No. RS 2409/2

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Photographic enthusiasts should note that the Kodak Camera Gallery on the inside of the circuit at Druids Hill Bend, is open at this meeting for a supplementary charge of 50p.

# Timetable

# SATURDAY, 23rd SEPTEMBER

09.00-09.30	Qualifying for Formula Ford Cars
10.00-11.30	Qualifying for Makes Cars
11.30-13.30	PIT WALKABOUT
14.00-14.30	Qualifying for Special Saloon Cars
14.45	10 LAPS BRSCC FORMULA FORD CHALLENGE RACE
15.30-17.00	Qualifying for Makes Cars

# SUNDAY, 24th SEPTEMBER

09.00-09.30	Makes Cars untimed practice
09.45-10.00	Qualifying for ShellSPORT Escorts (Short Circuit)
10.00-11.00	PIT WALKABOUT
11.05	10 LAPS ShellSPORT ESCORT CELEBRITY RACE (Short Circuit)
11.30	8 LAPS CENTURY SUPREME SPECIAL SALOON CAR CHAMPIONSHIP RACE
	PLUS: BRSCC SPECIAL SALOON CAR CHALLENGE RACE
12.00	Refuelling in Pits
12.15	Warrning up lap
12.30	Grid driver presentation
12.45-18.45	WORLD CHAMPIONSHIP OF MAKES SIX HOUR RACE

Acknowledgements Breakdown Vehicles: Auto Removations, Strood; Bristol Street Motors, Bromley; Buckley Evans Ltd (Difficult Load Specialists); Dutton-Forshaw, Maidstone; K. J. Motors, Bromley; Maidstone Service Station.

Brookside Nurseries, East Peckham, are presenting a Jubilee Mug to all car race winners at Brands Hatch during 1977.

This meeting is promoted by

MOTOR CIRCUIT DEVELOPMENTS LTD. For BRANDS HATCH CIRCUIT LTD.

Managing Director: JOHN WEBB Executive Directors: DAVID ISAAC ANGELA WEBB

Brands Hatch Circuit Ltd., Fawkham, Nr. Dartford, Kent, DA3 8NG. Ash Green (STD 0474) 872331

# Conditions of Admission

# NOTICE: WARNING TO THE PUBLIC, MOTOR RACING IS DANGEROUS.

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

# Postponement of the Meeting

The Club reserves the right to postpone or cancel the meeting.

# For the Attention of Spectators

Please do not leave litter about the grounds—take it with you. If an accident occurs, leave it to the marshals, the doctors and St John Ambulance men who are in attendance.

Remember to drive with care and caution when leaving the ground. To safeguard both competitors and public-animals are not admitted. This is most important.

Prohibited Area Notices: The public are not admitted in the areas where these notices are displayed. The fences are there for protection, and any person or persons found trespassing, or wilfully damaging trees, fences, etc., will be prosecuted by Brands Hatch Circuit Ltd.

# PROGRAMME CONTENT

The promoters reserve the right without notice to make any alteration to the race programme.

# Flag Signals

# **Union Jack**

Used to start all races in the United Kingdom.

# Yellow Flag

Signifies danger. Drivers must slow down and not overtake. When waved, signifies even greater danger and drivers must be prepared to stop.

# **Green Flag**

Danger area passed, overtaking permitted.

# Yellow and Red Flag.

Oil on course. When waved, signifies oil slick is particularly hazardous.

# Black Flag

Accompanied by competition number of car concerned, instructs driver to call at his pit at the end of the lap.

# **Black Flag with Orange Spot**

Indicates to driver whose number is shown that there is a mechanical defect with his car. He must visit his pit.

### Black and White Diagonal Flag

Last warning to the driver whose number is shown that, for reasons of unsportsmanlike behaviour, he will be "black flagged" for further misbehaviour.

# **Blue Flag**

Driver warned he is being followed closely. When waved, indicates driver behind is trying to overtake.

# White Flag

Signifies service vehicle is on course.

# **Red Flag**

Used under instructions from the Clerk of the Course, warns all drivers to stop immediately.

# **Chequered Flag**

Signifies end of race.

# Officials of the Meeting

# STEWARDS:

P. M. Smith Esq. (RAC) Peter Morley (BRSCC) Eddie Goodman (BRSCC) **CLERK OF THE COURSE:** 

Peter Browning

SECRETARY OF THE MEETING:

Miss Jane Partington CHIEF OBSERVER:

Reg Sinclair

ASSISTANT CHIEF OBSERVER:

Dave Gilbert

CHIEF MARSHAL:

Jim Keenan ASSISTANT CHIEF MARSHAL:

Dave Fulcher

Colin Holdom

ASSISTANT CHIEF FLAG MARSHAL:

CHIEF STARTLINE MARSHAL:

Graham Wrangles

CHIEF FLAG MARSHAL:

Carl Galvin

Les Smith ASSISTANT CHIEF STARTLINE MARSHAL:

Derek Helmore

STARTER: Gerald Gordon Webb CHIEF PIT MARSHAL: Tony Peers-Jones

CHIEF FIRE MARSHAL:

Bert Hyder

ASSISTANT CHIEF FIRE MARSHAL:

Harold Sage

JUDGES: John Norris Sidney Edwards

Henry Clarke Lionel Clarke

CHIEF PADDOCK MARSHAL:

Doug Backhouse PADDOCK OFFICE AND

RESULTS SERVICE: Peter Copper Ros Farrow Julie Canarelli

Di Backhouse Ruth Lockwood Linda Bembridge

# CHIEF MEDICAL OFFICERS:

Mike King Dave Nancievill TIMEKEEPERS:

Les Needham (I/C)

J. Harvey B. Irving

P. Kempthorne

T. Walker R. Jones

R. Darlington

R. Ricketts George Hall

M. Eyre

M. Gillespie

RACE RECORDERS:

Miss P. Wallis

Mrs. Y. Needham Mrs C. Jones

SCRUTINEERS:

Fred Harrison (I/C)

R. Croucher

B. Wood G. Viola

**COMMENTATORS:** 

Brian Jones Mike Smith Neville Hay

PRESS OFFICER: Graham MacBeth

**MEDICAL OFFICERS:** 

Dr D. Austwick

Dr C. Cleary Dr D. Robinson

Dr A. Watts

Dr K. Holley

Dr M. Downes

Dr J. Parry Dr J. Krapez

MARSHALS:

Members of the BRSCC

RACE CONTROL: Mike Bateman

Alan Hayward

Chris Paterson

Dave Trumper

Tara Roberts INTERPRETER: Paul Jantet

# Programme of Events and Awards

# SATURDAY, 24th SEPTEMBER

EVENT1:	BRSCC CHALLENGE RACE. For Formula Ford 1600 single seater racing cars	14.45	10 Laps
	1st £50; 2nd £30; 3rd £20; 4th £10		

# SUNDAY, 25th SEPTEMBER

EVENT 2:	ShellSPORT ESCORT CELEBRITY RACE	11.05	10 Laps
	For invited motor accessory manufacturers.		(Short
	To the winner an Hitachi product.		Circuit)

### EVENT3: 11.30 8 Laps

For three classes (A) Over 2500cc, (B) 1300cc to 2500cc, and (C) 1000cc to 1300cc.

In each class: 1st £35; 2nd £20; 3rd £12.

PLUS: BRSCC SPECIAL SALOON CHALLENGE RACE

For special saloons in two classes (D) 850cc to 1000cc, (E) Up to 850cc.

In each class: 1st £25; 2nd £15; 3rd £10.

EVENT4: 12.45

Eligible cars Group 2 to 5. Six Hour Race.

Overall: 1st £1,000; 2nd £600; 3rd £400; 4th £300; 5th £200; 6th £180; 7th £160;

8th £140; 9th £120; 10th £100.

In each class: 1st £150; 2nd £100; 3rd £75; 4th £50.

# "Move over."



This week you have the opportunity of experiencing-personally-one of the greatest sporting sensations of the decade. The BMW 633 CSi.

The power and ease of speed are so very exceptional that one finds oneself driving in a completely new way. Frustrations never arise because one can pass them by virtually whenever one wishes to.

The six cylinder, fuel injected engine produces 200bhp and a considerable amount of torque. It makes the speeds in the gears nothing if not dramatic-1st gear

is 37mph, 2nd 65mph, 3rd 102mph and 4th is 131mph\*.

Standing 1/4 mile is achieved in a mere 16 seconds.

All in all it means one can drive as one pleases, not as

the road, or other drivers', demand.

SPECIFICATION RESUME.

BMW 633 CSi. Engine 3210cc, six cylinder, fuel injected producing 200bhp.

Performance: 0-60mph 7.8 secs, 0-100mph 21.7 secs\*. Price: £14,799 manual or automatic. (Price of special Coupé shown on application).

The Coupé shown is one of a very select ten. Features include specially gradated coachwork, Alpina air dam, leather upholstery, 7J Mahler wheels, progressive suspension and up-rated engine.

All performance figures quoted are for manual versions. \*Source of figures: 'Motor' magazine.



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# Turbocharged for Victory

# Porsche power for Brands Hatch

# **By Michael Cotton**

PORSCHE's preparation for the World Championship of Makes began early in 1974, all of two years before the "Silhouette" formula for Group 5 cars came into existence. For years the campaign for a production-based formula had been gaining in strength and, when its introduction was announced, the Stuttgart company set to with a turbocharged version of the 911 Carrera model. Hopefully the other protagonists of Group 5, BMW and Ford, would also be preparing major campaigns for the 1976 season.

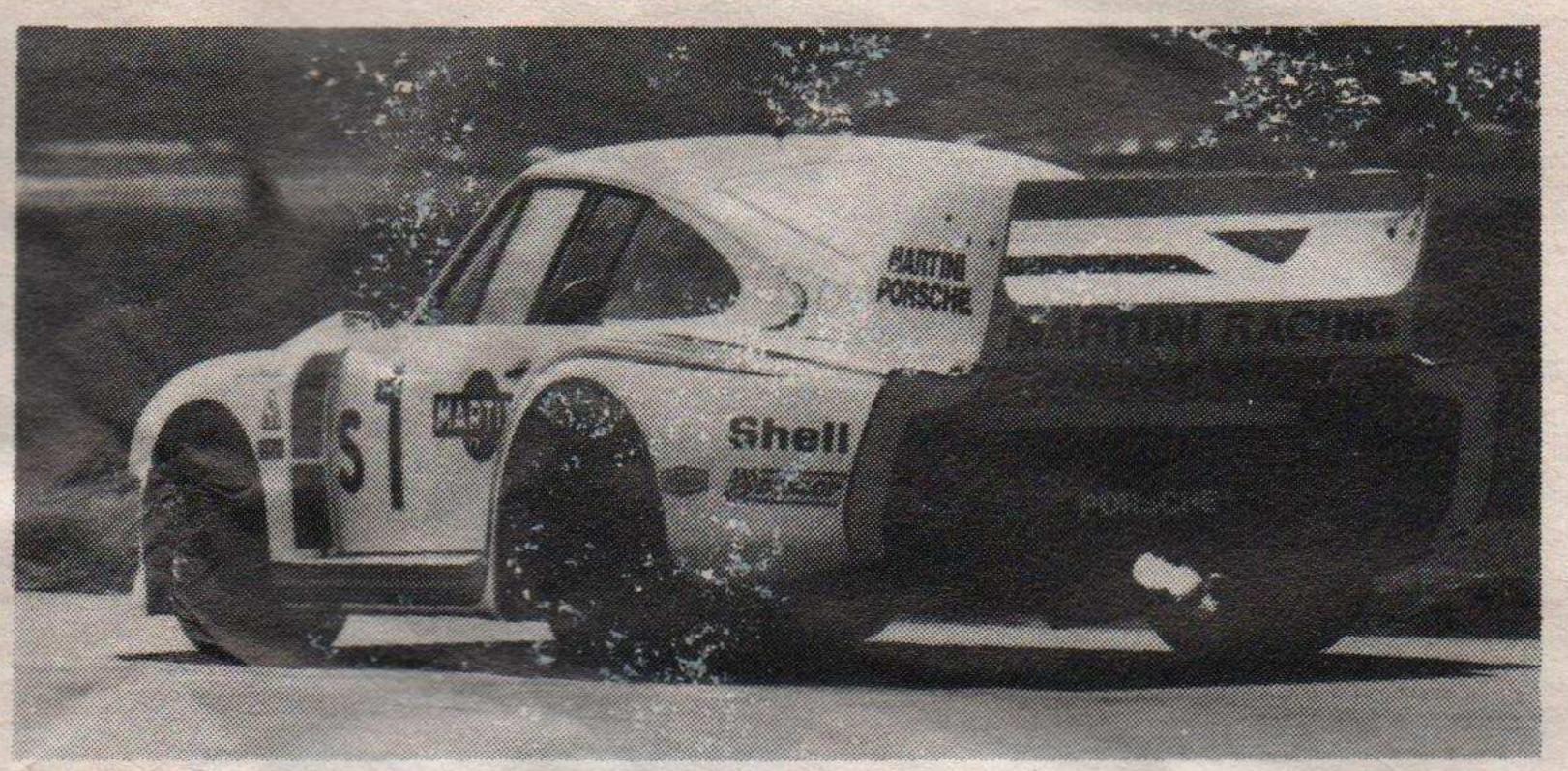
In fact BMW pioneered the turbocharging technology on the 2002 model back in 1968 for the European Touring Car Championship but then appeared to lose interest. Porsche saw all the possibilities, however, and first applied exhaust driven turbocharging to the flat-12 engine of the 917 for Can-Am racing, resulting in two straight championships for George Follmer (1972) and Mark Donohue (1973).

These "Panzer Porsches", as the American Press quickly dubbed them, were the first racing cars ever to develop over 1000 horsepower, and were absolutely unbeatable once properly developed. The fuel crisis, of course, virtually finished off Can-Am racing for the time being and it was during that bleak, cheerless winter of 1973/74 that the Porsche factory had to decide their racing programme for the coming year.

Since Porsche's withdrawal from Grand Prix racing in 1962, the German company had been firmly wedded to the idea of racing either production cars, or at least sports-racing cars like the 917 which could be identified with production concepts. Rather than get mixed up in a power race that developed with the 3-litre prototype formula of 1972–75, when a good Formula 1 engine was needed to produce results, Porsche kept going with the 911 Carrera model and did surprisingly well; wins at Daytona and in the Targa Florio in 1973 amply justified the effort.

For 1974, the 3-litre engine was downrated to 2.2 litres, because the FIA's super/turbo charging equivalent of 1.4 was applied and the engine had to remain at under 3000 c.c. It was still basically a production engine with six horizontally-opposed cylinders and air cooling, but despite the reduction in engine capacity the turbocharged power increased from 310 to 480 horsepower. This power output was at least as much as the 12-cylinder rival Ferrari, Matra and Alfa Rorneo engines were producing, but there was a severe weight handicap for the Porsche, its production four-seat body turning the scales at some 800 kilogrammes.

In the 1000-kilometre "sprint" races the Porsche relied heavily upon reliability, normally finishing somewhere in the top half-dozen, but at Le Mans the car was in its element and finished in second place, not far behind the winning Matra V12. Here at Brands Hatch, in



On its way to victory earlier in the year—the Martini Racing Porsche System 935/77.

Photograph: John Overton

September 1974, when the British Airways 1000 was last held, the Porsche Carrera turbo had its last outing and finished in fifth place. The Porsche factory then withdrew from racing to prepare for the 1976 season, and announced the 3-litre Turbo road car which was homologated in 1975.

For 1976 the regulations were extensively redrawn and cars were no longer limited to 3-litres, though weights and wheel widths were related to engine capacity. Porsche's engineers chose to run the 935, as the Group 5 Turbo was designated, at 4-litres, requiring the engine to be 2.8-litres nominally with a 1.4 multiplication added on. Still basically a production engine, with a single overhead camshaft on each bank and just two valves per cylinder, the power increased to no less than 590 horsepower.

The rival BMW company was working on an even more sensational development, a turbocharged 3.3-litre Coupe producing in excess of 700 horsepower, but this wasn't ready early in the season and, when it did race, the power was usually too much for the transmission. The year began well for the Porsche factory with wins for Jochen Mass and Jacky Ickx at Mugello and Vallelunga, but at Silverstone in May, when the turbo BMW made its debut, Ickx burnt the Porsche's clutch in the standing start and put the car way out of contention. After gearbox failure sidelined the exciting BMW, a narrow win was snatched by the normally aspirated BMW Coupe driven by Fitzpatrick and Walkinshaw.

At this point in the season the CSI objected to Porsche's engine cover, a non-standard item incorporating an air cooler for the induction system. On a dull day the turbocharger, which spins at 90,000 rpm, can be seen glowing hot, and the cooler the air going in, the more efficient the engine becomes. At short notice the induction system had to be altered and the Porsche engine ran into a bout of unreliability, BMW winning at the Nurburgring and at the Osterreichring.

Now the 1976 Championship was close, Porsche leading BMW by 82 points to 78, but Porsche victories at Watkins Glen and Dijon ensured that the title went to Stuttgart.

A major Porsche team development last winter was to fit *twin* turbochargers, one on each bank, to improve efficiency and raise the power output again, to a minimum of 630 horsepower. A built-in jacking system was incorporated to save valuable seconds during pit stops, the steering was modified to make it lighter for the drivers, and a servo was fitted to the brake system.

In this guise the 935/77 must be among the most powerful racing cars ever to run at Brands Hatch, and the Martini-Porsche driven by Jacky Ickx and Jochen Mass should easily top 180 mph at the fastest parts of the circuit. This year's championship has been dominated by

Continued over

Porsche, since BMW have not had a really competitive car in opposition, but everyone is looking forward keenly to the first European outing of BMW's IMSA (American category) 320i Turbo in the hands of Ronnie Peterson and Hans Stuck. This car is said to produce 560 horsepower and, being lighter than the Porsches, should be really competitive on the twisty and undulating Brands Hatch Grand Prix circuit.

# What is turbocharging?

Turbocharging, to put it simply, is another form of supercharging. But whereas all the fastest road cars of the 1920's and 1930's had crankshaft driven "blowers" which absorbed power, turbocharging is "free" in that exhaust pipe waste gases are used to drive a turbine, which in turn compresses air and rams it into the cylinders. Back pressure in the exhaust system must cause a certain power absorption, but it is nominal compared with the tremendous increases in power which are available.

Turbocharging is not merely a way of making a racing car go faster, but it has very practical benefits for road use too. More power can be obtained from any engine, thus the engine can be made smaller and may use less petrol. The exhaust is more efficient, and therefore quieter. Thirdly, the emission of noxious gases against which the Americans and Japanese (in particular) are legislating, is reduced. So practical is turbocharging that the Swedish Saab company has produced a turbocharged 99 EMS family car especially for the Californian market, finding that turbocharging does indeed clean the exhaust, and

restores the power that is constantly being reduced by emission legislation.

Naturally, if extra performance is derived the fuel consumption will be worse, but a turbocharged engine is more efficient so at the same *level* of performance it is more economical. In all probability other car manufacturers will follow the lead set by Porsche, BMW and Saab in the near future.

It's racing cars that we are interested in today, and the majority of cars racing at Brands Hatch are turbocharged. It is freely admitted by Porsche that the equivalency formula of 1.4 is too lenient, in other words the engines are much too powerful for normally aspirated rivals. This tends to frighten off manufacturers who don't have a production commitment to turbocharging, though Ford now have a turbocharged Group 5 Escort in Germany, and Toyota appear to be interested in this line of development. On the other hand the 2.0 equivalency for Formula 1 (which assumes that supercharging or turbocharging will double the power) is rather too strict, though Renault have done well to qualify their car for the Grand Prix at which it has appeared. An equivalency of 1.8 or 1.9 seems to be about right, in the light of experience, and it will be interesting to see if the CSI is persuaded to change the equivalency rating.

Certainly turbocharging is changing the face of motor racing, and to an extent Keith Duckworth is correct in calling it "screwdriver tuning" because the power can be raised substantially merely by increasing the boost. The penalty for turning the boost up too far will be an expensive engine blow-up, and the art of endurance racing is to get the right combination of power and reliability.

In fact the KKK turbocharging system on the Porsches has proved inherently reliable, as was proved by

# Some of the drivers in today's



Jacky Ickx



**Jochen Mass** 



**Ronnie Peterson** 



Hans Stuck



Claude Ballot-Lena



Tom Walkinshaw



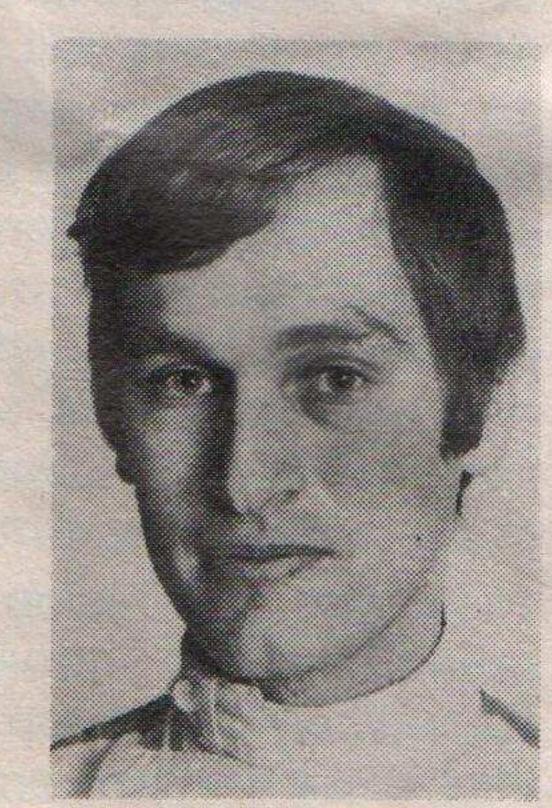
**Edgar Doren** 



**Manfred Schurti** 



Kenneth Leim



Tim Goss

Porsche's second straight victory at Le Mans this year with the 936. Both Renault and Porsche had a crop of engine failures in this year's 24-hour race, but subsequent investigation has shown that the turbochargers were not to blame. The drivers, all anxious to save their engines, were feathering their throttles on the long Mulsanne straight but this was starving the fuel system, causing the pistons to overheat. The winning Porsche had been delayed early in the race with fuel pump trouble, and only suffered piston trouble in the final hour, when in a winning position, because it was driven flat-out all night to catch the Renaults! It is very unlikely that this problem will be allowed to occur again, especially since all the cars will be driven hard throughout today's endurance race at Brands Hatch.



Typical "flame out" on the over-run of a turbocharged Porsche 935.

Photograph: Peter Tempest

# six hour race



Lella Lombardi



Wendy Markey



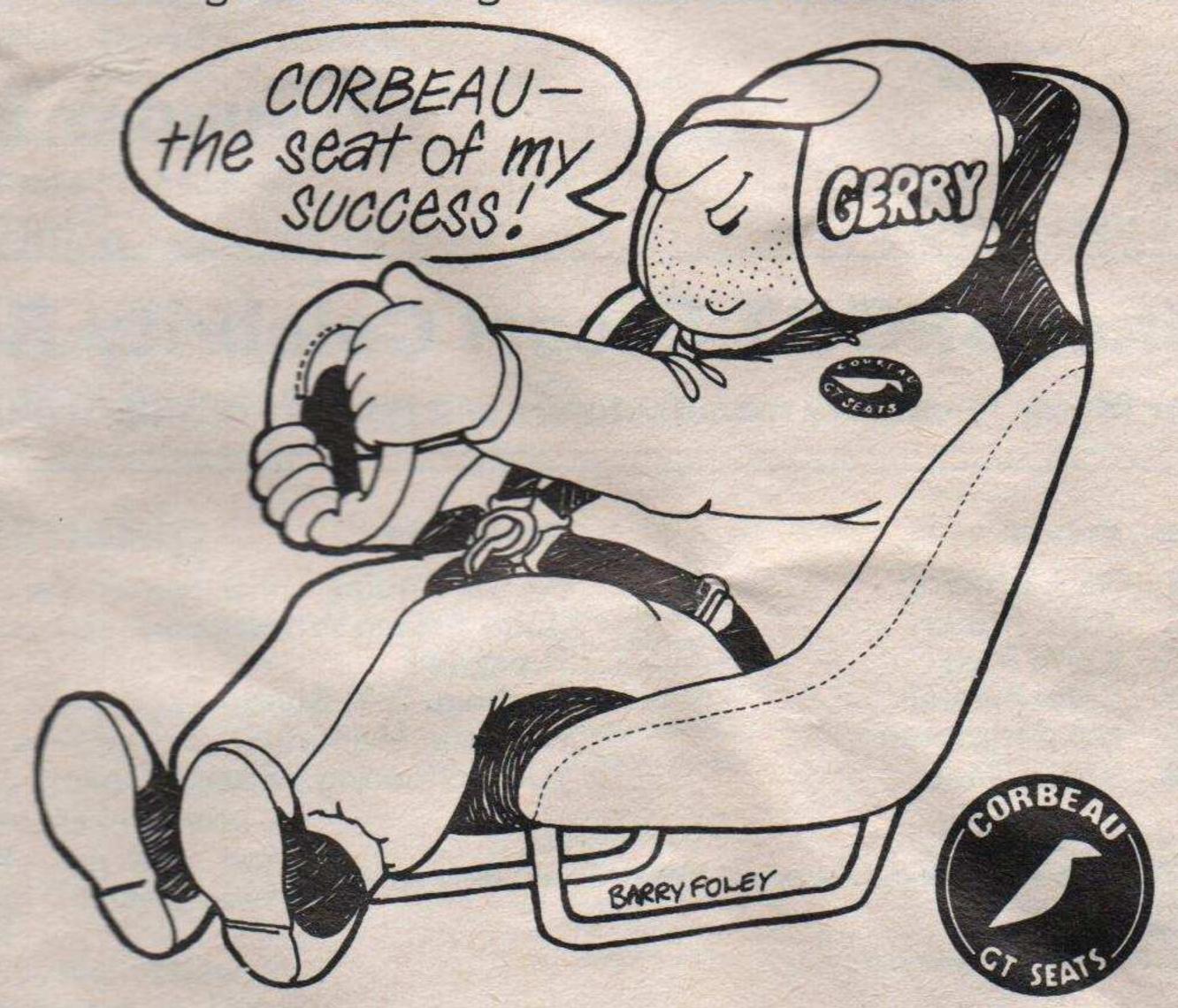
Win Percy

Drivers' photographs on these pages are by courtesy of Peter Tempest, Helda and Peter Nicot, Per Elfstrom and Keith Randall.

# 'Cheers!'

Colin Folwell and Gerry Marshall—both legends in their own lunchtimes—celebrate their successful partnership.

Colin is the mastermind behind the Corbeau GT seat range which is gaining a world-wide reputation for its durability, and eye-catching design. Gerry is one of the quickest men around the circuits these days, and he knows that he can rely on a Corbeau GT seat to hold his ample frame in position until he crosses the winning line. Take a tip from Gerry, and send for a leaflet showing the full range of Corbeau GT seats.



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TEL: (0424) 435480 Telex: 95181

Start: 14.45 hrs

# BRSCC Formula Ford Challenge Race

For Formula Ford 1600 single-seater racing cars

0.	Driver	Entrant	Tovn	Car	
	Frank Bayes		Haywards Heath	Image Minister FF3	15
	Michael Hills		Henfield, Sussex	image ASD FF2B/3	15
	Derek Trotman		Basildon, Essex	Hawke Scholar DL11	15
	Keith Sayer		Crawley, Sussex	Hawke Ford DL2A	15
	Roger Pedrick		Tunbridge Wells	Hawke Auriga DL15/19	15
	Andy Ackerley		Tunbridge Wells	Hawke Auriga DL11	15
	Brian Sims	Sodastream Team Racing		- Hawke Auriga DL17	15
	Kim Perry		Enfield, Middx	Hawke Minister DL19	15
	Robert Schmitt		London	Hawke Auriga DL12	15
	James Weaver		Matching Green	Hawke Scholar DL19	15
	Wil Arif		Tunbridge Wells	Crossle Piper 30F	15
	Ted Whitbourn		Burgess Heath	Crossle Minister 30F	15
	Peter Argetsinger		Watkins Glen USA	Crossle Auriga 32F	15
	Bill Shepherd	Uniclip with JIP Racing	Weybridge	Crossle Minister 30F	15
	Paul Sleeman	Vickerys Fine Arts Ltd, Folkestone Gallerie		Crossle Minister 25F	15
	Mel Hill	Violed: you mile raite Ltd, i directione delicine	Fulham, London	Crossle Minister 16/20F	
	Mike Blanchet				15
	Chris Gilbert		Jersey, Cl Maidatana	Lola Minister T440E	15
	George Burda		Maidstone	Merlyn Rowland Mk 11/17	15
	Peter Lawrence	Toom Mangall Paging 1+d	Lancashire	Royale Alan Smith RP21	15
	Tom Whiter	Team Mansell Racing Ltd	Old Coulsdon, Surrey	Royale Rowland RP3A	15
		Team Mansell Racing Ltd	Banstead, Surrey	Royale Rowland RP3A	15
	Mike Taylor Tony Hollingell	Fulmar Colour Printing Co Ltd	Salfords, Surrey	Royale Minister RP24	15
	Tony Halliwell	Fairview Estates Factory & House Builders		Van Diemen Minister RF77	15
	Rhett Parker		Melbourne, Australia	Van Diemen Minister RF77	15
	Gary Pepper		Upminster	Van Diemen Ford RF74/75	15
	Lee Brandt		Woodbridge	Van Diemen Auriga RF76	15
	Gareth Lloyd		Corsham, Wilts	Dulon Rowland MP15	15
	Terry Pudwell		Wallingford	Dulon Oselli MP15/17	15
	Paul Tickner		Lightwater	Dulon Ford MP15	15
	Peter Bell	Team Esso Uniflo/Piercys Electronics			
		Ltd, TV-Hi Fi	Richmond, Surrey	Elden Scholar Mk 8	15
	Michael Pilgrim		Bishops Stortford	Elden Piper Mk 10C	15
	Norman Clarke		Crawley	Lotus Ford 61M	15
	David Jones		Borough Green	Rostron Minister	15
	John Ayres		Ashford, Kent	Rostron Minister CT3	15
	Paul Pierce		Croydon, Surrey	Dastle Minister Mk 16	15
	Cliff Griffin		Aldershot	Huron Holbay FP2	15
	Tony Coales		London	Ray Minister 73F	15
	Charles Martel	J-P Racing	London	Tiga CES	15
	Sean Walker	Wessex Kentreds	Barnet	Tiga Scholar FF76	15
	David Dickson	Goodmayers Motors Ltd	Stanford Rivers	Royale Minister RP24	
	Mike Thompson	Sample Surveys Ltd	Sittingbourne	Rostron ASD CT77	15 15
				TIOSTION ADD CT77	
	CORD: Ford 1600 Racing Cars	min/secs	mph date		
	rra (1598cc Van Diemen Scholar I	RF77) 1 40.0 9	4.09 29.8.77		
e Rec	ord: Chico Serra (1598cc Van Diemer	n Scholar RF77)	29.8.77		
t	2nd 3	rd 4th 5th 6th	7th	8th 9th 1	Oth
			The Third I was a second to the second to th	Collination of the collins of the co	

# SUNDAY, 25th SEPTEMBER

EVENT TWO

Start: 11.05 hrs

10 LAPS (Short Circuit)

# ShellSPORT Escort Celebrity Race

For Motor Accessory manufacturers and retailers driving ShellSPORT Ford Escorts

No.	Driver	Company		No	. Driver	Company
1	Nick Whiting	All Car Equipe		7	Barry Treacy	Wolfrace Wheels Limited
2	John Brown	John Brown Wheels		8	Richard Grant	Richard Grant Spoilers
3	Keith Ripp	Ripspeed		9	Brian Martin	Formula One Racewear
4	Colin Folwell	Corbeau G.T. Seats		10	Rob Potter	Mocal Oil Coolers
5	Mike Kimpton	Kimpton Marketing		11	Gordon Miles	Export Intercontinental
6	Steve Neal	100+ Steering Wheels		12	Tony Lanfranchi	Monorep
	ECORD: SPORT Escort Saloons on Dunlo	n "'Morldbooter" redial tures	secs	mph	date	
	Lanfranchi	P VVOIRUDGATOR FAURAL LYTUS	62.8	69.00	17.10.76	
	Williams		62.8	69.00	17.10.76	
Race P	lecord: Tony Lanfranchi			67.94	17.10.76	

# Century Supreme Special Saloon Car Championship Race

	Driver	Entrant	Town		Car	C
Class	A: Over 2500cc					
1	Nick Whiting	Team Kent Messenger All Car Equipe	West Kingsd	own -	Ford Escort	340
2	Brian Evans		Sandy, Beds		Cheurolet Camaro Z28	570
3	Barry Holdsworth		Sevenoaks		Ford Capri supercharged	300
4	Geon Clement		Bexley		Mazda Chevrolet RX3	500
5	Dave Wilson		Stanmore		Ford Escort	300
6	Colin Hawker	The Toleman Group	Stapleford Ai	obotts	DF VW Cosworth	299
Class	B: 1300cc to 2500cc	r want - water				
12	Edward Punt	* Park Avenue Motors	Deal, Kent		Ford Escort BDG	198
14	Tony Dickinson	<ul> <li>Richard Pearsons Ltd</li> </ul>	Boston, Lines	3° 3.3	Ford Escort BDA	199
15	Rob Mason	George Bevan	Orpington, K	ent	Sunbeam Bevan Stiletto Imp	193
6	Graham Goode		Desford		Ford Escort	200
	Barry Barnes	BVB Racing with Ottermill Group	St Mary Cray		Ford Escort Abbott	197
18	John Jones	Jones Brothers (Pressings) Ltd	Sutton Coldfi	eld	Ford Cosworth RS 1600	197
20	Brian Davis		Canterbury		Ford Cosworth BDG Escort	200
	Brian Wray		Hurst Green		Riley MGB	185
Class	C: 1000cc to 1300cc					
32	Alan Humberstone		Canterbury		Hillman Imp	129
33	Malcolm Long		Gravesend		Leyland Mini	129
34	Marcus Beeching		Lydd, Kent		Mini Cooper "S"	129
35	Terry Harmer		Wallington		Mini Cooper "S"	129
36	Peter Baldwin		Crapbrook	to the second	Marshall Allen Mini	129
37 38	Glenys Atkins Micki Chittenden	Le Cheminot Restaurant	Orpington -		Austin Mini Ford Anglia BDA	130
39	David Smith	Le Cheminot nestaurant	Birmingham		Mini Cooper "S"	129
40	Vic Lee		Dartford		Mini Cooper "S"	129
		I Calana Challana Bassa OFOss 4s 40			Willin Cooper C	
		I Saloon Challenge Race: 850cc to 10				
51	Mike Chapple		Southboroug		Hillman Imp	99
52	Roger Horne		Tunbridge W	ells	Carter Hillman Imp	99
53	Bryan Harvey		Sandgate		Hartwell Hillman Imp	99
54 56	Angus Smith		Minster, Ken Orpington		BMC Mini BMC Mini	99
57	Alan Pearce Fred Game		Bromley, Ker	nt	Swaymar Leyland Mini	91
58	John Homewood	Godfrey Hill Integral	Charing, Ken		Sunbeam Chrysler Imp	99
59	Phil Clarke	Goding, miningran	Norwich		Knifton Chrysler Imp	99
61	Michael Tickner (1st Reser	ve)	Bagshot		Oselli Austin Mini	85
62	Peter Day		Cambridge		Allen Austin Mini	85
63	Pete Northover	Grand Service Station, Gillingham	Chatham		Longman Leyland Mini	83
64	Simon Lee		Weybridge		Simini Longstoke Mini	84
65	John Tait	Robert Hazell	London		Longstroke Mini	85
66	Peter Burrell (2nd Reserve)		Cambridge		Austin Mini	85
67	Eddie McLurg (3rd Reserve	9)	Brighton		Chrysler Imp	85
		LAB DECORDS.	min secs	mnh		
		LAP RECORDS: Special Saloons Over 2500cc Fred Hall	man secs	mph	date	
		(3100cc Ford Capri)	1 43.2	91.17	30.8.76	
		Race Record: Fred Hall (3100cc Ford Capri)		88.93	30.8.76	
		Special Saloons—1300–2500cc  Lap Record to be established				
		Special Saloons—1001-1300cc				
		D. Hall (1212cc Hallspeed Imp)	1 44.2	90.30	30.8.76	
		Race Record: D. Hall (1212cc Hallspeed Imp)		88.25	30.8.76	
		Special Saloons—851-1000cc  Lap Record to be established				

# Century Supreme Special Saloon Car Championship

Some of the most powerful and highly modified types of racing machinery in existence are competing in the 1977 championship for special saloons over 1000cc being sponsored by the Century Oils Group, the largest independent lubricant manufacturer in the UK.

The championship marks the first time that Century has sponsored a race series and represents a logical progression for a company that has based almost its entire promotional activity on motorsport as a means of publicising its new Century Supreme 20W/50 motor oil. During 1976, Century sponsored motor sport in production saloon racing with a Capri driven by Ivan Dutton and with Ford Escorts in rallying—gaining both the Welsh Stages and BTRDA Stages Championships. Century also ran their own RAC-observed marathon of 10,000 miles in 10 days through 23 countries with a Ford Granada, which used less than 1-litre of Century Supreme 20W/50 on the trip.

The championship caters for cars in three classes—Over 2500cc, 1301cc to 2500cc and 1001cc to 1300cc. In each class, the first four will score points of 4–3–2–1, with an extra point for fastest lap. There is prize money in each of £35, £20 and £12 for the first three in each class and end of season awards of £200 to the outright winner and £50 each for the winners of the other two classes. Second in each class will receive £30 and third £20.

Final round: October 23, Brands Hatch.

Po	ints Positions:	
10	01-1300cc	
1	Peter Baldwin	54 pts
2	David Smith	33 pts
3	Richard Oliver	11 pts
4	Freddie Heaney	7 pts
13	01-2500cc	
1	Rob Mason	36 pts
2	Tony Dickinson	20 pts
3	Tony Sugden	18 pts
4	Derek Walker	9 pts
O	ver 2500cc	
1	Nick Whiting	32 pts
2	Tony Strawson	15 pts
3	Colin Hawker	7 pts
4	Brian Evans	5 pt

# World Championship of Makes Endurance Race

No.	Drivers	Nat.	Entrant	Car	Gro	oup cc
Class	A: 3001cc to 6000cc					
1	Jacky Ickx/Jochen Mass	B/D	Martini Racing Porsche System	Martini Porsche 935/77	5	2800t/c
2	Bob Wollek/Nick Faure	F/GB	Porsche Kremer Racing	Porsche 935	5	2800t/c
3	Dieter Schornstein/Alain Peltier	D/B	Porsche Kremer Racing	Porsche 935	5	2800t/c
4	Franz Konrad/Bob Wollek	D/F	Porsche Kremer Racing	Porsche 935	5	2800t/c
5	Peter Hahnlein/Volker Merl	D/D	Porsche Kremer Racing	Porsche 935	5	2800t/c
7	Manfred Schurti/Edgar Doren	FL/D	Jagermeister Max Mortiz GmbH	Porsche 935	5	2800t/c
9	Claude Haldi/Michelo Pillavicini	CH/CH	Porsche Club Romand GVEA	Porsche 934	4	2800t/c
10	Gabrielli Gottifredi/Givolamo Capra	1/1	Scuderia Cita dei Mille	Porsche 934	4	2800t/c
11	Carlo Rebai/Rebai	1/1	Scuderia Cita dei Mille	Porsche 934	4	2800t/c
14	Eberhard Sindel/Gunter Steckkonig	D/D	Valvoline Racing	Porsche 935	5	2800t/c
15	Tim Goss/Bob Neville	GB/GB	Stratstone Ltd	MGB GT V8	5	3528
16	Hans Christian Jurgensen/	D/D	(Entrant is Driver)	Porsche 934	4	2993
	Wolfgang Sell					
17	Maurizio Micangeli/Carlo Pietroma	1/1	(Entrant is Driver)	Pantera	5	5700
Class	B: 2001cc to 3000cc					
20	Ronnie Peterson/Hans Stuck	S/D	BMW Motorsport GmbH	BMW 320 Turbo	5	1999t/c
21	Kenneith Leim/Kurt Simonsen/					
	Lella Lombardi	S/S/I	Kenneith Leim	Porsche Carrera	5	2992
22	Klaus Utz/Armin Jahn	D/D	Hahn SportWagen GmbH	Porsche Carrera	5	2806
23	John Cooper/Peter Lovett	GB/GB	Charles Ivey Engineering	Porsche Carrera	5	2993
24	Mike Fisher/Brian Classic/	GB/GB/	Charles IVOY Engineering	1 Orserie Carrera		2000
	Danny Sullivan	USA	Casbah Racing Organisation	Porsche Carrera	4	2800
25	Mike Franey/Barrie Williams	GB/GB	Bucks International Hauliers	Porsche Carrera	4	2992
26	Jan Lundgardh/Preben Kristoffersen	S/DK	Wrangler Racing Team	Porsche Carrera	5	2992
27	Clive Richardson/Win Percy	GB/GB	Samuri Conversions with Bradburn Bros Ltd	Datsun 240Z	4	2393
28	John Markey/David Palmer	GB/GB	Smith Kendon Travel Sweets	Mazda RX5 Cosmo	2	2600
	/ David Fairier	00/00	Offitti Kondon Haver Ovvects	Widzda II/X3 COSIIIO	-	2000
Class	s C: Up to 2000cc					
31	David Mercer/Mike Chittenden/	GB/GB/	La Chambra Barra Chialabarra Karra			1000
22	F. Taylor	GB CP/NII	Le Chaminot Restaurant, Chislehurst, Kent	Lotus Elan	_	1600
32	Alec Poole/Tom Coronel	GB/NL	Datsun Nederlands	Datsun Sunny	5	1430
33	Tom Walkinshaw/Manfred Winklehock	GR/INT	BMW Faltz Team	BMW 320	5	1990
34	Richard Cresswell/Brian Muir/	CD/CD/ALIC	Calt Car Campan	Calalana	0	1507
	Mike Ostroumoff	GB/GB/AUS	Colt Car Company	Colt Lancer	2	1597
					THE PERSON NAMED IN	

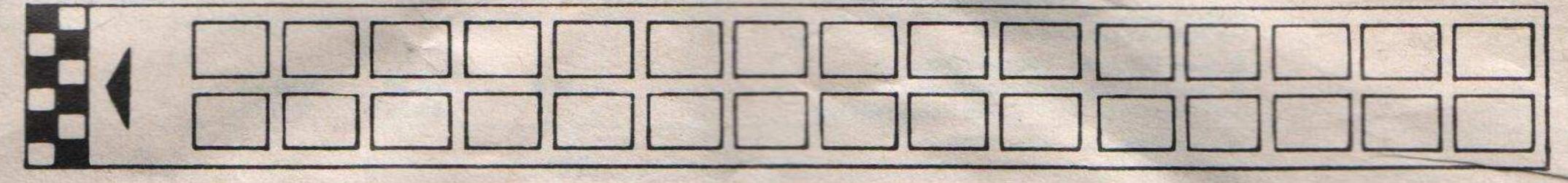
Code: 5 = Group 5; 4 = Group 4

Nationalities:

B = Belgium; D = Germany; F = France; GB = Great Britain; CH = Switzerland; NL = Holland;

FL = Lichtenstein; I = Italy; S = Sweden; USA = United States of America; DK = Denmark; AUS = Australia

# GRID POSITIONS



# Final Race Positions:

	Car No.	Laps	Hr.	Time Min.	Speed		Car No.	Laps	Hr.	Time Min.	Sec.	Speed
1					 	6					******	
2					 	7						
3					 	8						
4					 	9		*******				
5					 	10						

Class Positions Class A (3001-6000cc)		Class B (2001-3000cc)	Class C (Up to 2000cc)	Class C (Up to 2000cc)				
Car No. Laps Hr.	Time Speed Min. Sec. mph	Car Time No. Laps Hr. Min. Sec	Speed Car Time . mph No. Laps Hr. Min.	Speed Sec. mph				
1		1						
2		2	2					
3		3	3					
4		4	4					

# Hourly race positions

	10 10 10 10 10 10 10 10 10 10 10 10 10 1					以				
One hour (1.45 pm): 1st: Car No					mph. Laps					
2nd	3rd	4th	5th	6th.	7th	8th 9th	10th			
The second secon	THE RESERVE THE PARTY OF THE PA			FINE DESCRIPTION OF THE PARTY O						
		原的大型型。		The state of the s		Class C. 1st a				
				A THE RESERVE OF THE PARTY OF T	MET LESS TO LE	2nd 3rd.				
						Laps				
							10th			
			TO SELECT THE PROPERTY OF THE PERSON OF THE		(1) 10 10 10 10 10 10 10 10 10 10 10 10 10		t mph. Laps			
	PROTEIN AND THE RESIDENCE AS A SECOND OF THE	(C) 医一种 (C)			A SECOND PROPERTY OF THE PROPE	2nd 3rd.				
						Laps				
	Three hours (3.45 pm): 1st: Car No									
					<b>可以</b>	国际2017年中央中国2018年间最高的中华的100° 1217年至100° 12	10th			
Class A. 1st	at	mph. Laps	Class B. 1st	at	mph. Laps	Class C. 1st a	t mph. Laps			
				TANK TO SEE SEE SEE SEE SEE		2nd 3rd.				
是一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个					mph. Laps					
Class A. 1st	at	mph. Laps	Class B. 1st	at	mph. Laps	Class C. 1st a	t mph. Laps			
	STANDED VERMINE ALTON						4th			
Laps			Laps			Laps				
Five hours (5.45 pm): 1st: Car No										
2nd	3rd	4th	5th	6th	7th	8th 9th				
Laps										
Class A. 1st	at	mph. Laps	Class B. 1st	at	mph. Laps	Class C. 1st a	tmph. Laps			
2nd	. 3rd	4th	2nd	3rd	4th	2nd 3rd				
Laps			Laps			Laps				

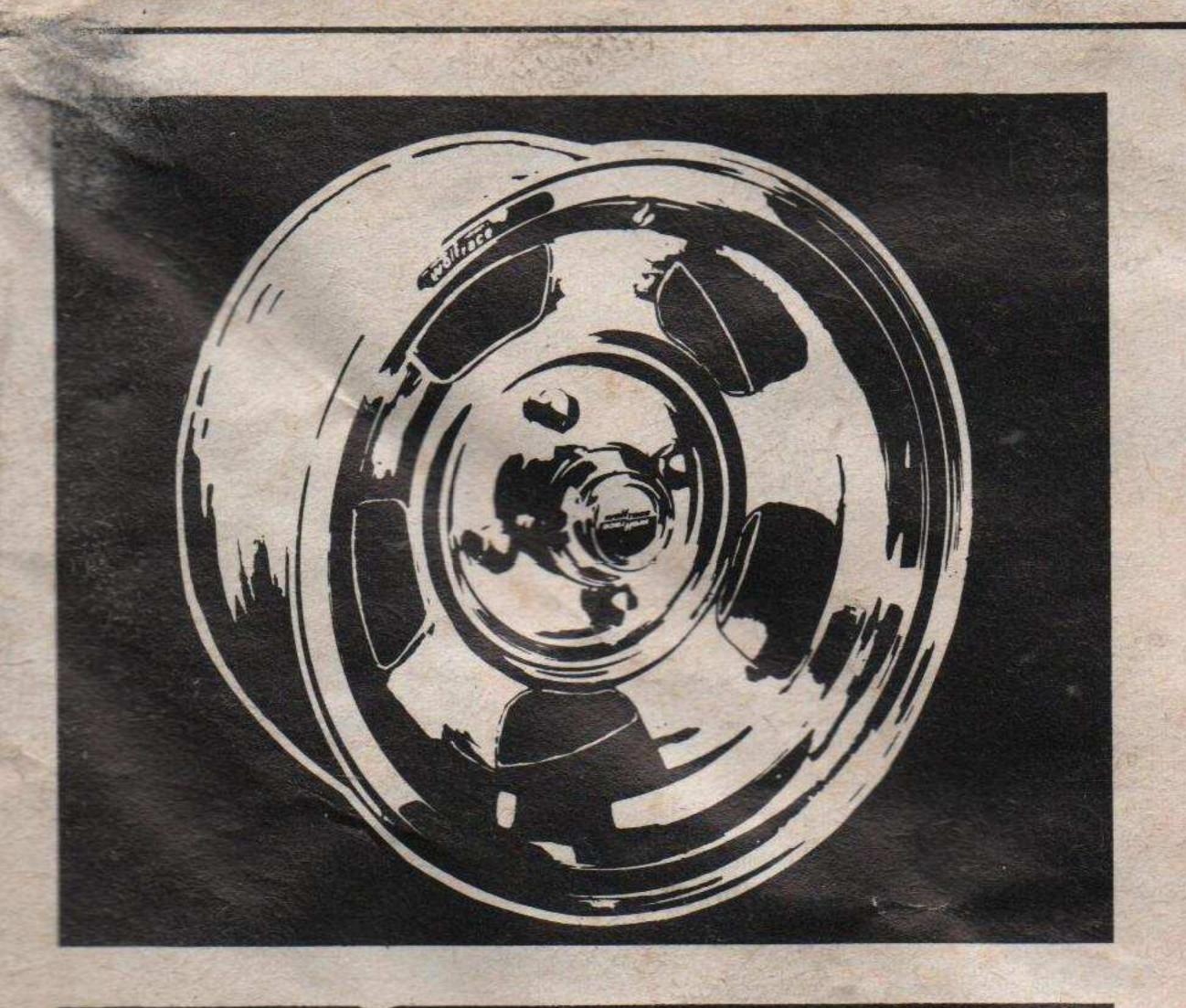


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# Don't blink or you might miss it!

# Bob Constanduros writes about pit stops

JUST OVER an hour after the start of this six-hour race, the first of the scheduled pit stops will take place. With six hours of racing, you could be forgiven for thinking that the seconds involved won't make that much difference, but one can never tell how close the finish will be. The purpose of these stops is to refuel, and later, to check oil, change wheels and tyres, and possibly brake pads. To complete these tasks in as short a time as possible is essential, those vital seconds can make all the difference to the final result. The Kremer Porsche team blame their loss of the Silverstone Six-Hour race last year on a blocked fuel valve in the pits, just a couple of seconds, but then the winning margin at that race was only 1.18 s!

A pit stop then can be a moment of intense activity, as you'll see from the top teams here at Brands Hatch. The experts of pit stops are always said to be the American NASCAR teams—their work is akin to a ballet. The skill



Above: Manfred Schurti drives the Martini Porsche into the pits at Mugello. The refueller is ready with the Relumix hose as the team manager stretches to open the door. Right: The drivers have already changed over as the Dunlop man checks the tyres and a mechanic cleans the screen.

Photographs: Bob Constanduros

of the crewman flicking the airline to loosen the wheelnuts is likened to that of a flyfisherman casting his line. At the other end of the scale, I remember watching a privateer at Spa during the 24 Hours race whose wife cleaned the Alfa Romeo's windscreen with as much speed as your local petrol pump attendant while his mechanic/friend checked the wheel nuts, filled it up with petrol, checked the oil etc. The driver sat by with a drink for the full five minutes that this leisurely pit stop took.

The stops you see from the top teams today will be somewhat more fraught. How exactly they are planned is partially researched in practice. It is then that tyre wear, fuel consumption and brake pad wear are all measured.

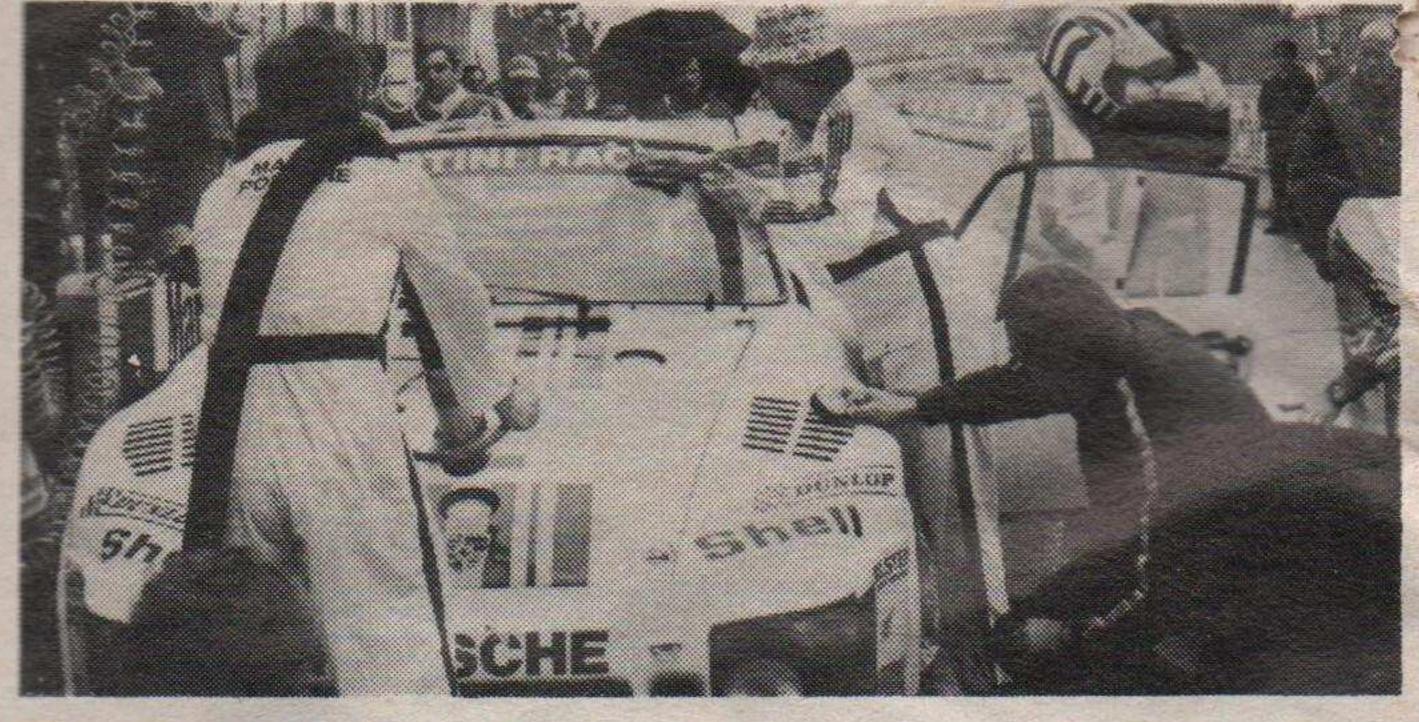


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Then it's up to the team manager to decide on how he's going to run his cars, when he's going to change which tyres and when he'll change the brake pads. A maximum of four mechanics are allowed to work on each car at one time, so he must also decide as to how these men are going to be used most effectively.

The most certain fact is that each team, at each stop (providing it isn't too early in the race) will refuel. The top Porsches and BMWs for instance, have a tank capacity of just over  $26\frac{1}{2}$  gallons, 120 litres. They'll use around  $24\frac{1}{4}$  gallons before pitting, which Porsche reckon will be just over the hour mark. For refuelling, it is laid down in the regulations that the Relumix system should be used. This involves two non-return valves set into the bodywork of the car, nothing to open and close, a simple sprung valve which is air tight. You'll see two mechanics involved in refuelling, one with a hose, and the other with a very large plastic bottle.

The man with the hose is the guy with the petrol, it's being delivered at over a gallon a second, while the other man is releasing the air through the other valve, and equally traps the petrol in his bottle when the tank is full and comes up through his valve. It's all over in 20 seconds, a quick swish with a bucket of water to wash the overflow petrol away, the team manager gives the nod and the car's back in the race. Perhaps a loss in time of 40s in total including slowing down and speeding up before and after the pits.

While refuelling is the main aim, there are other factors. At some stage, a tyre or tyres are going to have to be changed as they wear and lose their adhesion. During that first stop, and indeed, during practice, a Dunlop (in Martini Porsche's case) or Goodyear (in BMW and Kremer's case) tyre technician will be measuring the tread depth on each tyre. He notes this down and communicates with the team manager after the car has left. Equally, the driver will have told the team manager how it is handling, whether, for instance, he has flat spotted a tyre under braking which in turn has set up a vibration and a tyre needs to be changed.

Changing one tyre takes about the same time as it does to refuel. You'll know when a tyre is being changed by the rattle of the air wrenches that whirr off that centre hub nut. Off comes one wheel and on goes the next, fitted with a tyre which is already scrubbed in. The rattle of the air wrench again, slowing as the nut tightens and the wheel and tyre change is complete.

The actual raising of the cars is also of interest when talking of tyre changes. The Martini Porsche, Loos and Kremer Porsche teams and the works BMW all have built-in air jacks, operated within the car, that raise it hydraulically. There's none of the struggling with quick lift jacks, one mechanic trying to lift the car on his own. For the more sophisticated teams, this is the modern method. The system, incidentally, is based on a Bilstein shock absorber. By using this system, just one mechanic is necessary for each wheel.

pits, the tyre changes are spread about with the fuel stops. The Kremer Porsche, on theoretic calculation, will have to change three tyres twice, and the front right tyre just once. Thus there are seven wheel changes in total to be spread among five pit stops, and the team will try to avoid changing more than two tyres in one stop, and then they'll be at the same end of the car.

Probably on the third stop, depending on how the brake pads wear during practice, the Kremer team will also change the pads, and this should be fairly easy. The system they use is ATE which involves simply throwing a clip and out falls the hot pad and the mechanic simply slots in a new one, tightening it with the clip again.

These jobs and a check of oil, are the basic tasks. Of course, things can go wrong. Cars have been known to fall off their jack (injuring the mechanic in cases), the brake pad becomes welded to the disc because it's worn out quicker than at first thought, the wheel nut is replaced cross threaded and the whole hub has to be changed, or the car goes out with the petrol bottle still in the filler. All these have happened and could well happen again!

So watch the pit stops, watch the team manager and the way he's organised it. Watch the job of each of the mechanics, the way the poor tyre technician has to do his job and keep out of the mechanics' way. Watch the well-organised and the disorganised, the chaos that can ensue. But watch carefully. Pit stops are planned to be rapid, and it's easy to miss the action. For instance, the fastest Kremer pit stop at the Nurburgring took just 17 seconds, so don't blink or you might miss it....

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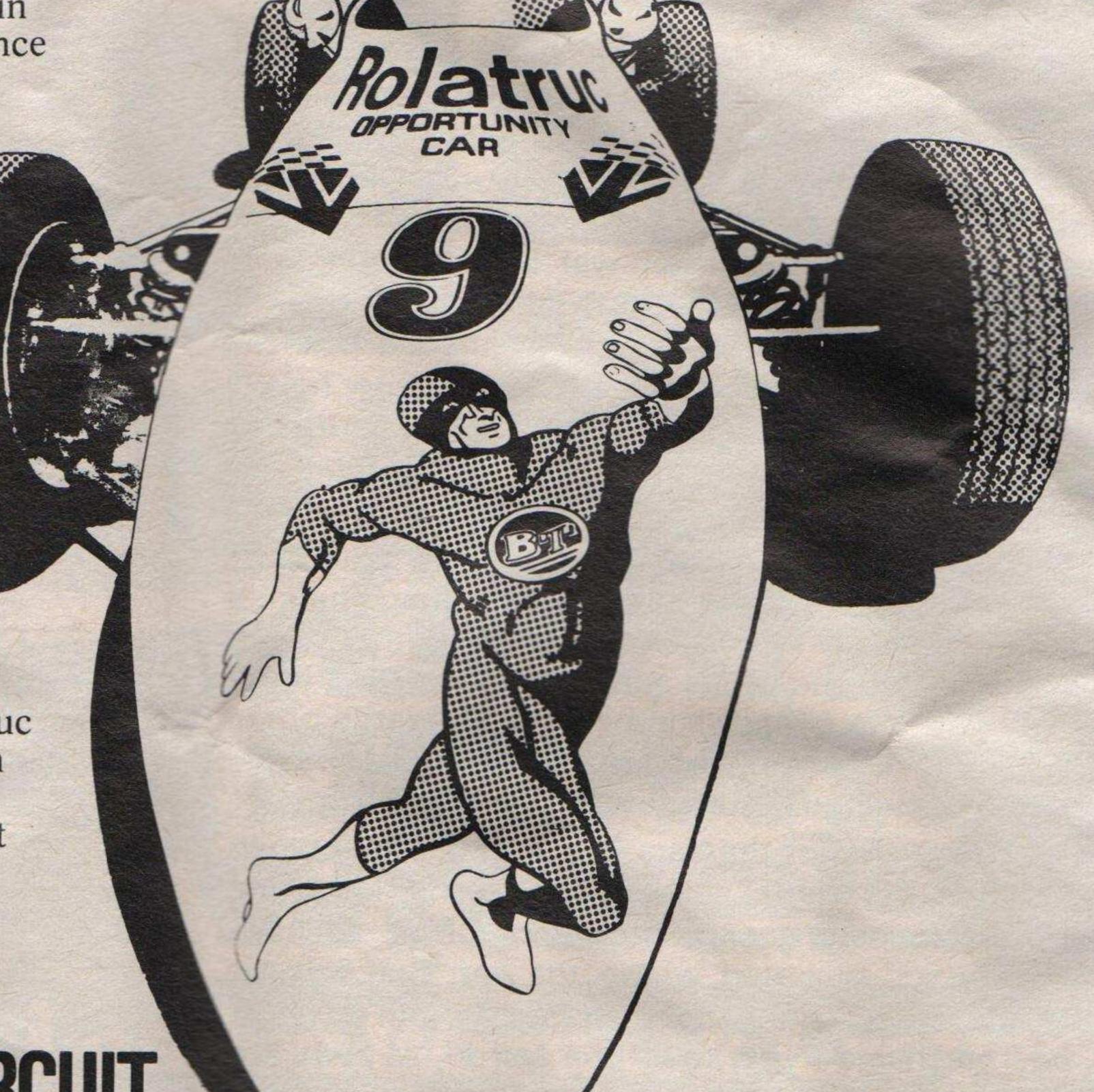
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INTERVIEWS WILL BE CONDUCTED AT THIS CIRCUIT



# Porsche, Porsche, Porsche—the 'Makes' series to date

TODAY'S SIX HOUR race is the seventh round of the World Championship for Makes, the fourth to be held in Europe for the other three have been at North American circuits.

It all started at Daytona in Florida for the classic 24hour event in February and here the pattern of the season was set—57 cars, nearly half of them Porsches. The opposition to the Martini Porsche and the 935s of the Kremer team and the Martino Finotto owned and driven model, were a BMW 320i from the American McLaren operation, a CSL and two of the French owned Inalteras. However, the lead never changed from Porsche. The Martini car of Jacky Ickx and Jochen Mass led initially, but was delayed with one tyre failure. After an hour's delay, it was charging back through the field when another put the car out for good. The Kremer car led too, but drivers Rheinhold Jost, Bob Wollek and Albrecht Krebs were delayed by both clutch and wheel bearing problems, so it was the two-year-old Porsche RSR of Hurley Haywood, John Graves and Dave Helmick which took victory, ten miles ahead of the steady 935 of Finotto, Carlo Facetti and Romeo Camathias.

At Mugello, Italy, in March, the entry was even more Porsche dominated with nothing likely to upset the balance. Martini Porsche brought along two cars, the older 1976 version for Manfred Schurti and Rolf Stommelen and the latest twin-turbocharged car for Mass and Jurgen Barth, the latter substituting for an unwell lckx It was this latter car that led initially, but shadowed by the Kremer car of Wollek and John Fitzpatrick. When rain came, the works car pitted while Fitz soldiered on and, at  $2\frac{1}{4}$  hours, the Kremer car led by just over a lap. But Barth came out of the pits and immediately had brake failure, taking off the Kremer car in his accident. That left the older Martini car in the lead and it cruised home to victory.

The championship came to Silverstone in mid-May where Ickx rejoined Mass to drive the lone Martini Porsche 935/77, repaired from its Mugello accident. They were definitely the dominators of the weekend, although towards the end of the event, when rain fell, it looked as though Fitzpatrick and Wollek in Kremer's Porsche 935 were also in with a chance. But everything went fine for Martini, and they took a convincing victory. For the Kremer team, it was another second place at Silverstone, just under two laps down on the Martini Porsche. George Loos brought his two Porsche 935s to the English race, and while that of Tim Schenken and Derek Bell ran out of oil, Rolf Stommelen and Toine

Hezemans went well to finish third, despite two long pitstops. Injecting a note of relief from Porsches into the order was the rapid BMW 320i driven by Ronnie Peterson with Helmut Kelleners with which Peterson thrilled the crowd and took to fourth place.

With Germany being the home of Group Five, "Formula Porsche" was expected at the next round, the Nurburgring 1000 kilometres in early June. The Martini Porsche of Ickx and Mass, the Loos Porsche of Stommelen and Hezemans and the Jagermeister 935 of Schurti and Kelleners were all leaders, but they were all to retire or fall back with misfiring, gearbox trouble and a puncture respectively. Stommelen and Hezemans then took over George Loos' second car driven by Tim Schenken until then, and they proceeded to have an excellent battle with the Kremer brothers' version of Fitzpatrick and Wollek, delayed early on by a puncture. But a broken throttle linkage for the latter gave the Loos car victory and Kremer had to make do with another second place. The BMW Junior team 320i of Manfred Winkelhock and Marc Surer finished third.

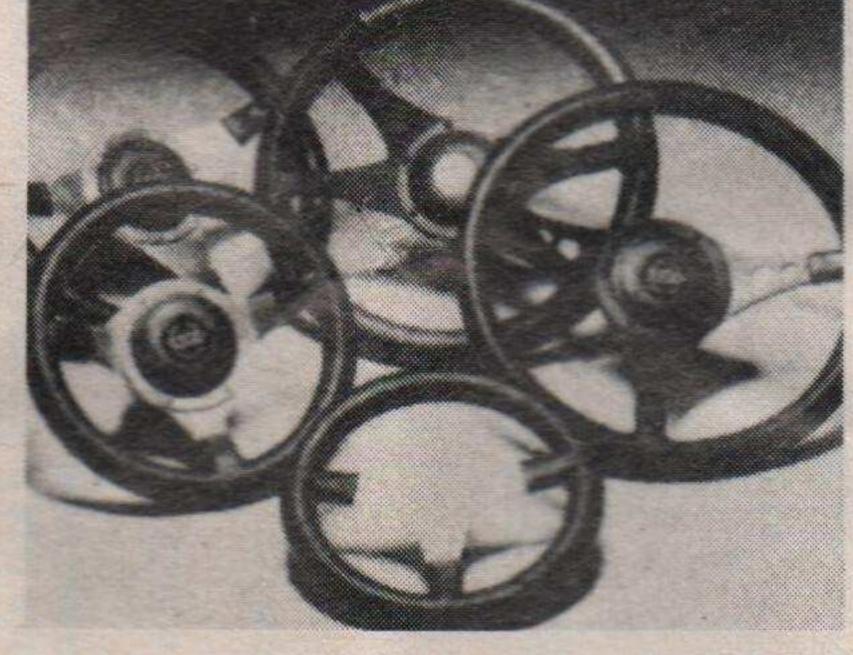
It was back across the Atlantic in July to Watkins Glen for the fifth round of the series and apart from the Martini Porsche of Ickx and Mass, all the cars came from North America. However, it was the McLaren-built BMW 320i Turbo of Peterson and David Hobbs that provided the excitement, qualifying less than half a second slower than Martini's Porsche. The race itself was fraught with drama. Everyone had some sort of problem. The BMW diced hard for second with the 935 of George Follmer and Brett Lunger but the brakes failed and the ensuing accident damaged the steering. Despite an oil leak, a broken alternator belt and failing turbo manifolding, Martini's Porsche won from the 935 which had also had its problems.

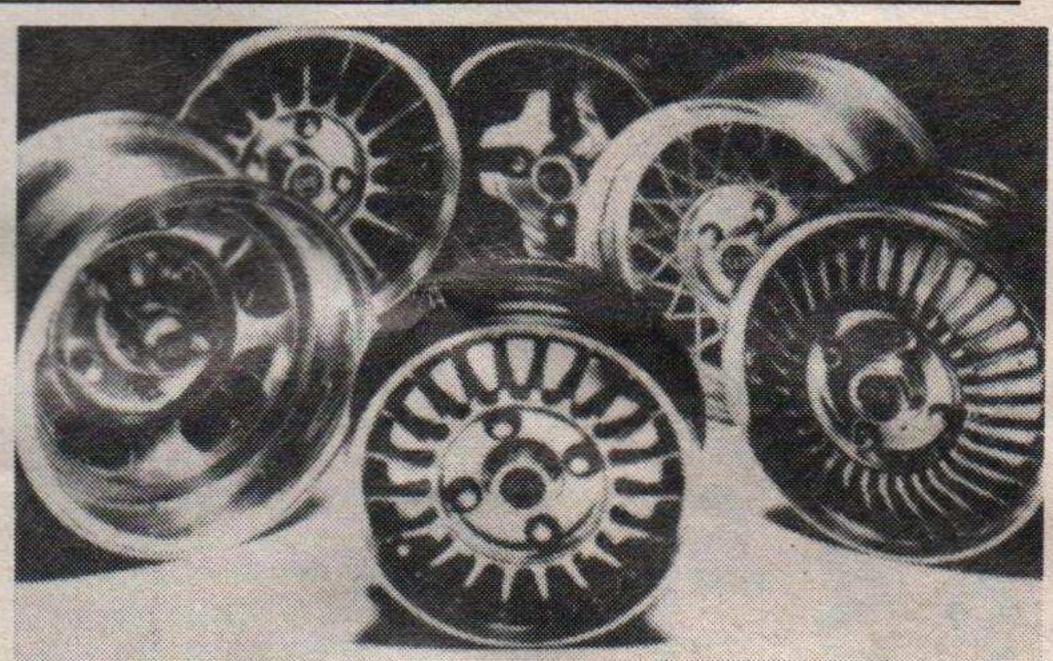
It was north to Canada for the sixth round towards the end of last month. This time lckx was teamed with Schurti in the Martini Porsche but after setting fastest time in practice, their run came to an end before two hours with a broken piston. Bob Wollek, teamed up with Peter Gregg in a Porsche 934/5 and took a comfortable victory. Follmer and Lunger were there again and took over from the Martini pair for about ten minutes in the lead, but the throttle linkage broke, and then a rocker arm broke which excluded them finally. BMW provided more excitement. There was a new turbo 320i for Hobbs and Peterson, and the older one was entrusted to Gilles Villeneuve and Eddie Cheever. The new car had a new engine that had never been run and spouted so much oil that it would finish no higher than ninth, but the "Juniors" soldiered on really well to finish third.

And at Brands Hatch? . . . now you know the form, try and predict a result!

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- \* You could win an actual F1 driving experience in Divina's 460 h.p. ShellSPORT Surtees TS19 PLUS two works races in an Elden Formula Ford 2000.

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# Brands Hatch 1977 Fixture List

DATE	EVENT	ORGANISE	MAIN RACES	CHARGES (Inc. VAT)
1 Oct	Clubmans Motor Cycle Races	Southern 67	All Classes	£1.00-A, CF, Rovers
2 Oct	AMOC Historic Race Meeting	AMOC	Historic Racing & Sports Cars, FF1600*	£1.50-A, 50p-C, 50p-P, 50p-S/OS
8 Oct 9 Oct	Clubmans Motor Cycle Races Championship Car Races	BMCRC	All Classes FA*, FF1600*, R5*, Esc*, SS*, Mini 850*, Mini 1900*	£1.00-A, CF, Rovers £1.50-A, 50p-C, Rovers
†16 OCT	SHELLSPORT INTERNATIONAL CAR RACES	BARC	F1-2-5000, 1*, PS*, Sp2000*, FF1600*, Cel	£2.00-A, 50p-C, £1.00-P, £1.00-S/OS
23 Oct	Championship Car Races	RMC		£1.50-A, CF, 50p-P,
29 Oct	Practice and Qualifying for 30 October	BRC	Superbikes, etc	£1.20-A, 30p-C, 50p-P, SF
†30 OCT	GAULOISES POWERBIKE INTERNATIONAL Supported by the EVENING NEWS	BRC	SUPERBIKES, etc	£1.50-A, 50p-C, £1.50-P, £1.00-5/05
5-6 Nov	Formula Ford Festival	BRSCC	FF2000, FF1600, Cel	£1.20-A, 30p-C, Rovers (each day)
13 Nov 20 Nov	Clubmans Car Races Clubmans Car Races	BARC Sevenoaks DMC	SSF, SS, Sp SSF, SS, Sp	£1.20-A, 30p-C, Rovers £1.20-A, 30p-C, Rovers
27 Nov	Clubmans Car Races		SSF, SS, Sp	£1.20-A, 30p-C, Rovers
4 Dec 11 Dec 27 Dec	Clubmans Car Races Clubmans Races Christmas Car Races	MGCC TEAC BARC	MGs SSF, SS, Sp SSF, SS, Sp, Cel	£1.20-A, 30p-C, Rovers £1.20-A, 30p-C, Rovers £1.50-A, CF, 50p-P, £1.00-S, 50p-OS
1 Jan '78	New Year Motor Cycle Races	BRC	All Classes	£1.20-A, CF, 50p-P, £1.00-S, 50p-OS
2 Jan '78 New Year Car Races † Grand Prix Circuit		BRSCC	SSF, SS, Sp	£1.50-A, CF, 50p-P, £1.00-S, 50p-OS

### KEY

Types: Events listed in block capitals are fully international or other important meetings.

Events in normal black type are championship meetings involving prize money and are planned as public entertainments.

Events in lightweight type are clubman's meetings intended primarily for the benefit of competitors. Supporters are welcomed, at the published charges, on the understanding that these are not professional promotions.

Races: F1—Formula 1. F2—Formula 2 5000—5000cc single-seaters. F3—Formula 3. FA—Formula Atlantic. FF1600—Formula Ford 1600. FF2000—Formula Ford 2000. OS—Open single-seater Formula. Sp—Sports Cars. Sp2000—Sports 2000. PSp—Production sports Cars. MSp—Modified Sports Cars. C—ClubSports. T—RAC Championship Saloons. PS—Production Saloons. SS—Special Saloons. Esc—Ford Escort Saloons. Cel—Celebrity Races. R5—Renault 5s. Mini 850, 1000, 1275—BL. Mini Formulae. Historic—Historic Racing and Sports Cars. SSF—Single-seater Formulae. GT—Grand Touring Cars. S5—Group 5 Saloons.

At car meetings when an abbreviation is followed by an asterisk (\*) this indicates that this particular event is a car championship round.

Charges: A—Adults. C—Children (under 16). CF—Children Free. S—Covered Stands. OS—Open Seating. SF—Stands Free. S/OS—Stands or Open Seating. P—Paddock. PF—Paddock Free. Inc—Included in basic charge. PS—Stands and Paddock combined. Pits/S—Pits and Stands combined. Rovers—Stands and Paddock Free.

ALL PARKING FREE-ANIMALS NOT ADMITTED.

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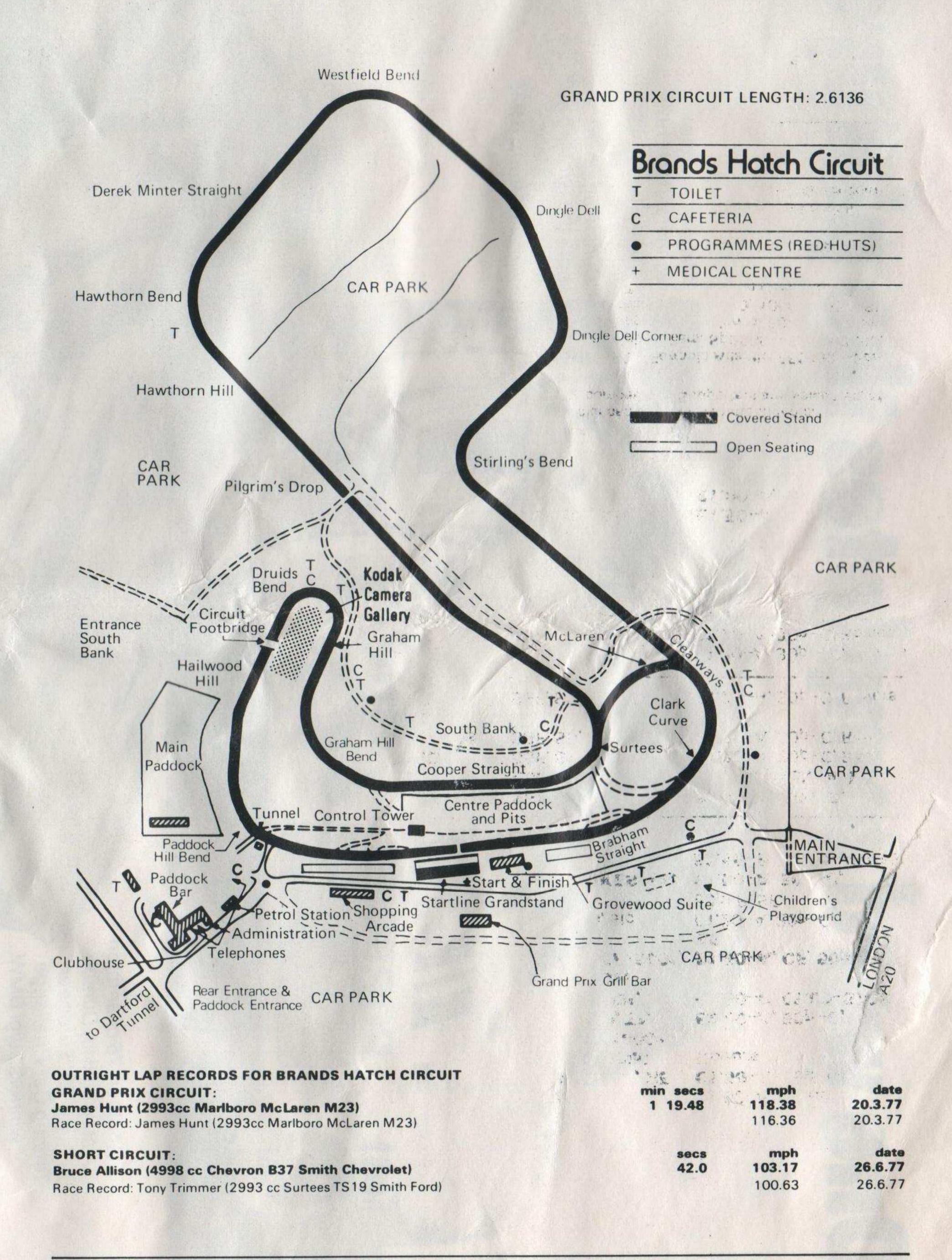
# LAP SPEED TABLE

Time	Speed	Time	Speed	Time	Speed	Time	Speed
secs	mph	secs	mph	secs	mph	secs	mph
1.18.0	120.63	1.28.0	106.92	1.38.0	96.01	1.48.0	87.12
1.18.2	120.32	1.28.2	106.68	1.38.2	95.81	1.48.2	86.96
1.18.4	120.01	1.28.4	106.44	1.38.4	95.62	1.48.4	86.80
1.18.6	119.71	1.28.6	106.20	1.38.6	95.43	1.48.6	86.64
1.18.8	119.40	1.28.8	105.96	1.38.8	95.23	1.48.8	86.48
1.19.0	119.10	1.29.0	105.72	1.39.0	95.04	1.49.0	86.32
1.19.2	118.80	1.29.2	105.48	1.39.2	94.85	1.49.2	86.16
1.19.4	118.50	1.29.4	105.25	1.39.4	94.66	1.49.4	86.01
1.19.6	118.20	1.29.6	105.01	1.39.6	94.47	1.49.6	85.85
1.19.8	117.91	1.29.8	104.78	1.39.8	94.28	1.49.8	85.69
1.20.0	117.61	1.30.0	104.54	1.40.0	94.09	1.50.0	85.54
1.20.2	117.32	1.30.2	104.31	1.40.2	93.90	1.50.2	85.38
1.20.4	117.03	1.30.4	104.08	1.40.4	93.71	1.50.4	85.23
1.20.6	116.74	1.30.6	103.85	1.40.6	93.53	1.50.6	85.07
1.20.8	116.45	1.30.8	103.62	1.40.8	93.34	1.50.8	84.92
1.21.0	116.16	1.31.0	103.40	1.41.0	93.16	1.51.0	84.77
1.21.2	115.87	1.31.2	103.17	1.41.2	92.97	1.51.2	84.61
1.21.4	115.59	1.31.4	102.94	1.41.4	92.79	1.51.4	84.46
1.21.6	115.31	1.31.6	102.72	1.41.6	92.61	1.51.6	84.31
1.21.8	115.02	1.31.8	102.49	1.41.8	92.43	1.51.8	84.16
1.22.0	114.74	1.32.0	102.27	1.42.0	92.24	1.52.0	84.01
1.22.2	114.46	1.32.2	102.05	1.42.2	92.06	1.52.2	83.86
1.22.4	114.19	1.32.4	101.83	1.42.4	91.88	1.52.4	83.71
1.22.6	113.91	1.32.6	101.61	1.42.6	91.71	1.52.6	83.56
1.22.8	113.63	1.32.8	101.39	1.42.8	91.53	1.52.8	83.41
1.23.0	113.36	1.33.0	101.17	1.43.0	91.35	1.53.0	83.27
1.23.2	113.09	1.33.2	100.95	1.43.2	91.17	1.53.2	83.12
1.23.4	112.82	1.33.4	100.74	1.43.4	91.00	1.53.4	82.97
1.23.6	112.55	1.33.6	100.52	1.43.6	90.82	1.53.6	82.83
1.23.8	112.28	1.33.8	100.31	1.43.8	90.65	1.53.8	82.68
1.24.0	112.01	1.34.0	100.10	1.44.0	90.47	1.54.0	82.53
1.24.2	111.75	1.34.2	99.88	1.44.2	90.30	1.54.2	82.39
1.24.4	111.48	1.34.4	99.67	1.44.4	90.12	1.54.4	82.25
1.24.6	111.22	1.34.6	99.46	1.44.6	89.95	1.54.6	82.10
1.24.8	110.95	1.34.8	99.25	1.44.8	89.78	1.54.8	81.96
1.25.0	110.69	1.35.0	99.04	1.45.0	89.61	1.55.0	81.82
1.25.2	110.43	1.35.2	98.83	1.45.2	89.44	1.55.2	81.68
1.25.4	110.18	1.35.4	98.63	1.45.4	89.27	1.55.4	81.53
1.25.6	109.92	1.35.6	98.42	1.45.6	89.10	1.55.6	81.39
1.25.8	109.66	1.35.8	98.21	1.45.8	88.93	1.55.8	81.25
1.26.0	109.41	1.36.0	98.01	1.46.0	88.76	1.56.0	81.11
1.26.2	109.15	1.36.2	97.81	1.46.2	88.60	1.56.2	80.97
1.26.4	108.90	1.36.4	97.60	1.46.4	88.43	1.56.4	80.83
1.26.6	108.65	1.36.6	97.40	1.46.6	88.26	1.56.6	80.69
1.26.8	108.40	1.36.8	97.20	1.46.8	88.10	1.56.8	80.56
1.27.0	108.15	1.37.0	97.00	1.47.0	87.93	1.57.0	80.42
1.27.2	107.90	1.37.2	96.80	1.47.2	87.77	1.57.2	80.28
1.27.4	107.65	1.37.4	96.60	1.47.4	87.61	1.57.4	80.14
1.27.6	107.41	1.37.6	96.40	1.47.6	87.44	1.57.6	80.01
1.27.8	107.16	1.37.8	96.21	1.47.8	87.28	1.57.8	79.87

BRANDS HATCH GRAND PRIX SPEED TABLE: 1 LAP = 2.6136 MILES

2.6136 × 3600 × No. of laps

SPEED (in mph) = TIME in seconds



# One word completes the picture.



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