

# SEASONAL SURVEY: 1

## FORMULA ONE

By GREGOR GRANT

FOR the second successive year, Brabham-Repco has taken the top honours in Formula 1 racing. With New Zealand's Denny Hulme winning the World Championship of Drivers, this has been a triumph for the Commonwealth. When one considers that Jack Brabham, Ron Tauranac, Phil Kerr and Roy Billing-ton are all Australians, and that the Repco engine comes from down under, the success in securing the Formula 1 Constructors' title emphasizes the very considerable Anglo-Australian contribution to modern Grand Prix racing.

What is the reason underlying the Brabham success story? By concentrating on comparative simplicity in general design, Jack and his aides have not experienced the mechanical problems which have beset their main competitors. Both Brabham and Tauranac agreed that the use of space-frame construction was one of which they have had considerable experience, and therefore it was decided to eschew monocoques and concentrate on getting the machines as light as possible, particularly as it was realized that the single-ohc V8 Repco engine would not have anything like the power of the Cosworth-Ford, Ferrari, Honda, BRM and Gurney-Weslake units.

However, such was the skilful engineering of Motor Racing Developments that both Jack and Denny were able to make full use of available power output, and to take advantage of excellent torque characteristics of the compact V8, aided by Lucas fuel injection and a power unit which seemed always to run "clean", all the way up to its maximum rpm range.

Superb roadholding and ultra-efficient braking have been noticeable features of the 1967 Brabham-Repcos, and one must not underestimate the contribution of Goodyear in making available a range of extremely efficient tyres which satisfied such severe critics of equipment as Brabham and Hulme. The latter has had a fantastic year, not only in Formula 1, but also in Group 7 races with Bruce McLaren's CanAm team. It says a great deal for the morale within the Brabham team that, despite knowing full well that Jack was after his fourth title, there was no friction between him and Denny. Some writers have attempted to make out that there was a feud going on within the camp, but this is absolute nonsense. As far as Jack was concerned, if Hulme wanted to win the title, then he would have to earn it. Denny used his loaf throughout the year, and made the maximum use of the excellent equipment supplied by the Brabham-Repco technicians.

Naturally Team Lotus were a trifle disappointed that neither of the titles should come to them in the initial year of the brilliant Cosworth-Ford V8 engine, and Colin Chapman's clever monocoque. This was the most rapid of the current Formula 1 machines, as both Jim Clark and Graham Hill proved conclusively. However, there were several unforeseen happenings and breakages which assailed both drivers. Hill

in particular had more than his share of mechanical failures, and I cannot recollect any one driver leading so many Grands Prix in a year and then falling out due to troubles beyond his control. Jim Clark, of course, was positively brilliant. Again, to win no fewer than four *grandes epreuves* and yet to finish only third in the final points table must have been galling, to say the least. Admittedly Team Lotus did not produce the Lotus-Ford 49 until the Dutch Grand Prix at Zandvoort, round 3 of the championship, but they had the satisfaction of seeing Clark win on the car's very first appearance. In the remaining races the Lotus-Ford was tipped to win, but such are the vagaries of motor-racing that the unexpected often occurred, and the all-round reliability of the Brabham-Repcos won out in the end.

Almost as quick as the Lotus-Ford was the Eagle-Gurney-Weslake, and after the *marque's* one-two at the Daily Mail Race of Champions at Brands Hatch Dan and his challenge looked to be very formidable. However, once again it was the old story of lack of reliability, without which no driver, however brilliant, can win a Grand Prix. Dan Gurney's skilful conducting ought to have produced richer rewards, but this was not to be. Time and time again the Eagle failed to survive the distance. Dan won handsomely at Spa-Francorchamps, and seemed a certain winner at the Nürburgring when his transmission let go.

Like Chapman, Gurney opted for a monocoque to house the splendidly conceived Weslake V12 engine. The combination of Gurney and Eagle-Weslake was highly efficient, yet Lady Luck was surely against the lanky Californian and his partner Bruce McLaren, who took the wheel of the second car at Le Mans, Silverstone and the Nürburgring.

Great things were also expected of John Surtees and the Honda, but it was not until the Japanese abandoned the existing chassis and substituted one of Eric Broadley origin that the V12 became really competitive, as evinced by Big John's victory at Monza—highly satisfying to the ex-Ferrari driver, and a real tonic for Honda. Although the engine was not lacking in sheer power output, the car suffered from too much weight, as well as a tendency to pick up badly out of slow corners, possibly due to fuel-injection problems connected with the Japanese-built equipment.

SEFAC Ferrari suffered a serious setback when Bandini lost his life at Monaco and Mike Parkes was grievously injured at Spa-Francorchamps. This put a tremendous burden on the shoulders of young Chris Amon, whose performances throughout the season won for him unstinted admiration. There is very little wrong with the latest lightweight V12 Ferrari, and with stronger backing Amon might well have won at least a couple of *grandes epreuves*.

BRM have had a poor year, the H16

**ZANDVOORT:** Formula 1 follow-my-leader as John Surtees crests a rise in the Honda, chased by Lodovico Scarfiotti's Ferrari 312 V12, Mike Spence's BRM P83 H16, Jo Siffert's Walker-Durlacher Cooper-Maserati T81 V12 and the late Bob Anderson's Brabham-Climax BT11 4 (opposite). **MONZA:** Battle of the year, not only for the tens of thousands of spectators at the Italian Grand Prix but also for the hundreds of thousands who saw it on TV, was the fantastic last lap do-or-die dice between John Surtees in the Broadly-inspired Honda and Jack Brabham's Brabham-Repco BT24. Here Jack dives inside John under braking from the Curvettas, but he had a big moment on the oil (barely covered with cement in the picture) put down by another car's blow-up, and John won the race by inches (below).





## WORLD CHAMPIONSHIP OF DRIVERS 1967

Pos.	Driver	Car	Kyalami	Monte Carlo	Zandvoort	Spa-Francorchamps	Le Mans	Silverstone	Nurburgring	Mosport Park	Monza	Watkins Glen	Mexico City	Points
1	Denny Hulme	3.0 Brabham-Repco BT20 V8/3.0 Brabham-Repco BT19 V8/3.0 Brabham-Repco BT24 V8	4	1	3	R	2	2	1	2	R	3	3	51
2	Jack Brabham	3.0 Brabham-Repco BT20 V8/3.0 Brabham-Repco BT19 V8/3.0 Brabham-Repco BT24 V8	6	R	2	R	1	4	2	1	2	5	2	46
3	Jim Clark	3.0 Lotus-BRM 43 H16/2.0 Lotus-CC 33 V8/3.0 Lotus-Ford 49 V8	R	R	1	6	R	1	R	R	3	1	1	41
4	Chris Amon	3.0 Ferrari 312 V12	—	3	4	3	R	3	3	6	7	R	9	20
6	John Surtees	3.0 Honda V12	3	R	R	R	—	6	4	—	1	R	4	20
6	Graham Hill	3.0 Lotus-BRM 43 H16/2.0 Lotus-BRM 33 V8/3.0 Lotus-Ford 49 V8	R	2	R	R	R	R	R	4	R	2	R	15
8	Pedro Rodriguez	3.0 Cooper-Maserati T81 V12/3.0 Cooper-Maserati T81B V12	1	5	R	9	6	5	8	—	—	—	6	15
8	Dan Gurney	2.7 Eagle-CC 4/3.0 Eagle-Gurney-Weslake V12	R	R	R	1	R	R	R	3	R	R	R	13
9	Jackie Stewart	3.0 BRM P83 H16/2.1 BRM P261 V8/3.0 BRM P115 H16	R	R	R	2	3	R	R	R	R	R	R	10
10	Mike Spence	3.0 BRM P83 H16	R	6	8	5	R	R	R	5	5	R	5	9
11	Jochen Rindt	3.0 Cooper-Maserati T81 V12/3.0 Cooper-Maserati T81B V12/3.0 Cooper-Maserati T86 V12	R	R	R	4	R	R	R	R	4	R	—	6
14	Jo Siffert	3.0 Cooper-Maserati T81 V12	R	R	10	7	4	R	R	R	R	4	12	6
14	John Love	2.7 Cooper-CC T75 4	2	—	—	—	—	—	—	—	—	—	—	6
14	Bruce McLaren	2.0 McLaren-BRM M4B V8/3.0 Eagle-Gurney-Weslake V12/3.0 McLaren-BRM M5A V12	—	4	R	—	R	R	5	7	R	R	13	3
16	Jo Bonnier	3.0 Cooper-Maserati T81 V12	R	—	—	—	—	R	—	—	—	R	6	10
16	Mike Parkes	3.0 Ferrari 312 V12	—	—	5	R	—	R	—	—	—	—	—	2
16	Chris Irwin	2.0 Lotus-BRM 25B V8/2.1 BRM P261 V8/3.0 BRM P83 H16	—	—	7	R	5	7	7	R	R	R	R	2
19	Bob Anderson*	2.7 Brabham-CC BT11 4	5	—	9	8	R	—	—	—	—	—	—	1
19	Lodovico Scarfiotti	3.0 Ferrari 312 V12/3.0 Eagle-Gurney-Weslake V12	—	—	6	NC	—	—	—	—	R	—	—	1
19	Guy Ligier	3.0 Cooper-Maserati T81 V12/3.0 Brabham-Repco BT20 V8	—	—	—	10	7	10	6	—	—	R	11	1
—	Jacky Ickx	3.0 Cooper-Maserati T81B V12/3.0 Cooper-Maserati T81 V12	—	—	—	—	—	—	—	—	6	R	—	1
—	Dave Charlton	2.7 Brabham-CC BT11 4	NC	—	—	—	—	—	—	—	—	—	—	0
—	Luki Botha	2.7 Brabham-CC BT11 4	NC	—	—	—	—	—	—	—	—	—	—	0
—	Piers Courage	2.0 Lotus-BRM 25B V8/2.1 BRM P261 V8	R	R	—	—	—	—	—	—	—	—	—	0
—	Sam Tingle	2.7 LDS-CC 4	R	—	—	—	—	—	—	—	—	—	—	0
—	Johnny Servoz-Gavin	1.6 Matra-Cosworth-Ford MS5 FVA	—	R	—	—	—	—	—	—	—	—	—	0
—	Lorenzo Bandini*	3.0 Ferrari 312 V12	—	R	—	—	—	—	—	—	—	—	—	0
—	David Hobbs	2.1 BRM P261 V8	—	—	—	—	—	—	—	—	—	—	—	0
—	Alan Rees	3.0 Cooper-Maserati T81 V12	—	—	—	—	—	8	—	9	—	—	—	0
—	Silvio Moser	3.0 Cooper-ATS T77 V8	—	—	—	—	—	R	—	—	—	—	—	0
—	Hubert Hahne	2.0 BMW T100 4	—	—	—	—	—	—	R	—	—	—	—	0
—	Richard Attwood	3.0 Cooper-Maserati T81 V12	—	—	—	—	—	—	—	10	—	—	—	0
—	Mike Fisher	2.0 Lotus-BRM 33 V8	—	—	—	—	—	—	—	11	—	R	—	0
—	Al Pease	2.7 Eagle-CC 4	—	—	—	—	—	—	—	12	—	—	—	0
—	Eppie Wietzes	3.0 Lotus-Ford 49 V8	—	—	—	—	—	—	R	—	—	—	—	0
—	Giancarlo Baghetti	3.0 Lotus-Ford 49 V8	—	—	—	—	—	—	—	—	R	—	—	0
—	Moises Solana	3.0 Lotus-Ford 49 V8	—	—	—	—	—	—	—	—	R	R	—	0
—	Jean-Pierre Beltoise	1.6 Matra-Cosworth-Ford MS7 FVA	—	—	—	—	—	—	—	—	—	7	7	0
—	Jonathan Williams	3.0 Ferrari 312 V12	—	—	—	—	—	—	—	—	—	—	8	0

\*Deceased.

R=Retired; NC=Not Classified

never living up to expectations, a fact which obviously affected Jackie Stewart's driving, and eventually persuaded him to throw in his lot with Ken Tyrrell for 1968. No one can possibly criticize the engineering which went into the 16-cylinder unit but once it was installed in a chassis, the power-weight ratio was against utilizing the undoubted power of the engine. It must have been heart-breaking for Tony Rudd to realize that Jackie Stewart and Mike Spence had not the equipment capable of staying up with the leading group in any of the races. The decision to persevere with the H16 may have been commendable enough, but surely it was more a question of attempting to justify beliefs in its capabilities which led to such a late decision to construct a V12, based on the highly successful V8.

As for Cooper-Maserati, it is now quite plain that the Modena-built V12 failed to achieve the results promised by Ing Alfieri. Here we had a well-designed chassis, probably one of the best roadholders during 1967, but Jochen Rindt and Pedro Rodriguez were always fighting a losing battle against lack of reliability in the engine department and mysterious and sudden losses in power. Even the 36-valve was no improvement, and as for the 24-plug head, this was the most makeshift attempt to overcome poor cylinder head design that has been seen for many years. The Rodriguez victory in South Africa should have encouraged Maserati to evolve a more competitive unit, but instead their technicians struggled to modify what is now recognized as a completely out of date design. Nevertheless, Jo Siffert obtained some good results with the privately entered Walker-Durlacher car, but Guy Ligier switched to Brabham-Repco rather than persevere with his Cooper-Maserati, and Jo Bonnier never knew whether or not his car would last more than a few laps.

## CONSTRUCTORS' CHAMPIONSHIP

1, Brabham-Repco	67
2, Lotus-Ford	44
3, Cooper-Maserati	28
4, Ferrari	20
5, Honda	20
6, BRM	17
7, Eagle-Gurney-Weslake	13
8, Lotus-BRM	6
9, Cooper-Coventry Climax	6
10, McLaren-BRM	3
11, Brabham-Coventry Climax	2

Everyone regretted the fatal accident to Bob Anderson during tests at Silverstone. It seemed at long last that a breakthrough was on its way, and that this gallant privateer was on the threshold of being given a works drive.

Bruce McLaren was the first to have a V12 BRM engine, which he installed in his well-constructed M5A chassis. This car showed itself to be highly competitive, but not unexpectedly teething troubles were experienced in the three races in which Bruce took part. Tim Parnell acted as an adjunct to BRM and, like the Owen Organization, suffered from somewhat out-paced equipment, with which both Chris Irwin and Piers Courage persevered, with little or no hope of finding themselves in a challenging position to the leaders.

Now let us see what happened in the championship races. For the first time a title race went to the splendid Kyalami circuit outside Johannesburg, where the organization was generally first-class. The entry was extremely representative, with full teams from Brabham-Repco, Cooper-Maserati, BRM and Team Lotus, the last-named having H16 BRM-powered cars for Clark and Hill and a 2-litre Lotus-BRM for Piers Courage. John Surtees had the very exciting V12 Honda, and both Brabham and Hulme had 3-litre Repco V8s. The grid was completed by Bob Anderson (2.7

Brabham-CC), John Love (2.7 Cooper-CC), Dave Charlton (2.7 Brabham-CC), Luki Botha (2.7 Brabham-CC), Sam Tingle (2.7 LDS-CC) and Jo Siffert (Cooper-Maserati). The South Africans turned up to the tune of 90,000 strong to watch what promised to be an exciting race.

As it turned out it was packed with drama, and right up until near the end it looked likely that John Love from Rhodesia would win with his admittedly obsolescent Cooper. Denny Hulme made the running, chased by Surtees, Brabham, Rodriguez and Rindt. Stewart's engine blew up almost immediately, and not long afterwards Hill retired with a broken wishbone. Clark was in trouble with overheating and fuel starvation. Hulme continued to dominate the race, and at half-distance (40 laps) was about 18 secs ahead of second man Brabham. Both Love and Gurney had overtaken Surtees, whose engine was spluttering badly. Then Brabham coasted in, his engine having mysteriously stopped, lifting John Love into second place to the huge delight of the crowd. Denny Hulme looked like having a walk-over, for at 50 laps he led Love by 66 secs, but nine laps later Hulme stopped, went out again, and then returned to have brake fluid added and crushed ice put in the cooling system. Meanwhile Love took the lead, some 20 secs ahead of Rodriguez. Surtees soldiered on in third place, followed by the unlucky Hulme.

With only seven laps to go Love ran out of fuel, and Rodriguez took the lead he was not to lose. Love's mechanics quickly added petrol, and he finished second on the same lap as the Cooper-Maserati. Behind came Surtees, Hulme, Anderson and Brabham.

The championships series was resumed on May 7 at Monaco—100 laps of the unique round-the-houses circuit. The ACO, wishing to promote something French, invited Matra who presented a couple of

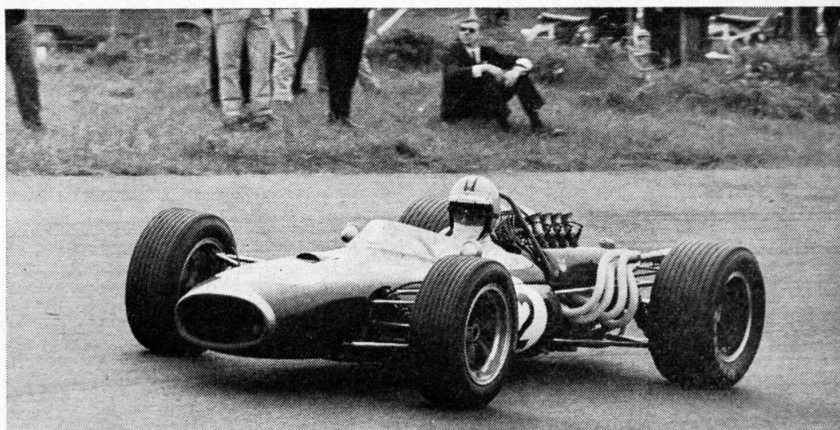
"ballasted" F2 Cosworth-powered MS5s. Actually Johnny Servoz-Gavin managed to qualify one in the 16-car grid. Unlucky were Ginther (Eagle-Weslake), Beltoise (Matra) and Anderson (Brabham-CC). The front row of the grid comprised Brabham (Brabham-Repco), 1 m 27.6 s, and Bandini (Ferrari), 1 m 28.3 s. Jim Clark (third row) was in a 2.0 Lotus-CC, and Graham Hill had a 2.1-litre Lotus-BRM. Stewart decided to use the 2.1-litre V8 BRM, Spence having the H16. Brabham had a brand-new Repco engine installed, but this was fated to last just one lap: it burst at the chicane, Jack revolved on his own oil, and Clark had to take avoiding action which dropped him to the back of the field.

Bandini, Hulme, Stewart and Surtees tussled for the lead, which Hulme took on lap 2. Dan Gurney abandoned his Eagle with alternator belt failure after five laps. On lap 7 Stewart took the lead but, after stretching out a useful distance over Hulme, had to retire when the diff packed up. Hulme then regained his leadership over Bandini, and continued to move further ahead. McLaren (McLaren-BRM) was threatening the Italian. Clark had fairly whistled through the field, and by lap 36, after taking Surtees in a misfiring Honda, was closing on McLaren. Then something happened to the front suspension, the Lotus walloped the wall at the Tabac, and Clark was out after 43 laps. Hill's Lotus-BRM seemed to be very much out of puff, and Amon (Ferrari) was pulling away all the time. Surtees had retired with gasket and piston failures.

Bandini suddenly began to close on Hulme, but the New Zealander eventually woke up to the threat, and held a steady 8 to 10 secs advantage. With 80 laps gone the Brabham-Repco was 20 secs ahead, but two laps later came the much-publicized and horrifying accident to the Italian. Losing control into the chicane, Bandini crashed into the retaining poles and straw bales, and the Ferrari overturned and threw a wheel. Car and bales caught fire, and poor Bandini was eventually extricated mortally injured.

Meanwhile shocked drivers drove slowly through the smoke and flames, with Hulme having an immense lead over second man Amon, who had inherited that position after a pit-stop by McLaren. Ten laps from the end Amon punctured a tyre, and lost his place to Graham Hill before the wheel was replaced. Hulme went on to win, the first-ever victory for him in Formula 1. Next up were Hill, Amon, McLaren, Rodriguez and Spence. Clark's meteoric progress resulted in a new Monaco circuit record of 1 m 29.5 s (126.502 kph). In the title race, Denny Hulme now had 12 points to the 11 of Pedro Rodriguez.

Round 3 at Zandvoort produced the exciting Cosworth-engined Lotus-Ford 49s for



**WORLD CHAMP:** Reward for a really consistent season in the BT24 Brabham-Repco was 51 championship points and the title for Denny Hulme (top). **OFTEN A LEADER,** never a winner, was Graham Hill's season-long story. Time and again he had the Lotus-Ford 49 at the front of the field, only to retire with mechanical failures (above).

Jim Clark and Graham Hill. Hill did a shattering 1 m 24.6 s in practice, no less than 6.2 secs below the existing circuit record. He was joined on the front row of the grid by Dan Gurney and Jack Brabham. Clark was in row 3, having had wheel bearing troubles in training. Ferrari mounted a three-man offensive, comprising Amon, Parkes and Scarfiotti.

Hill quickly took command, chased by Brabham, Gurney, Rindt and Amon. Gurney's race ended on lap 7 with fuel injection pump failure. On lap 11 Hill abandoned with a broken camshaft drive, and Brabham took the lead from a Rindt-Clark-Amon-Hulme dogfight. Clark went ahead on lap 16, and two laps later Hulme took Rindt to make Brabhams two-three. At 30 laps Clark had 5 secs over Brabham,

and Stewart now came into the picture, gradually closing on Rindt. Rodriguez abandoned with gearbox failure, and Stewart stopped to attend to dodgy brakes. Surtees was not having a good race with the weighty Honda. With Clark well ahead, and Brabham seemingly content to take second place, interest switched to a tremendous Hulme versus Amon duel.

Clark eventually took the chequered flag, with Brabham in second spot, and Hulme just managing to hold off the eager Amon. Jim Clark's average of 104.492 mph was above that of the old lap record, and he set new figures of 1 m 28.8 s, 106.492 mph. Hulme now had amassed 16 points to lead the Championship tables, followed by Rodriguez (11), Clark (9), Brabham and Amon (each 7), Hill and Love (each 6).

COMPARISON OF LAP AND RACE SPEEDS 1966/1967

Event	Venue	Date	1967		1966	
			Race average	Fastest lap	Race average	Fastest lap
South African Grand Prix	Kyalami	January 2	Rodriguez/97.095 mph	Hulme/101.876 mph	—	—
Monaco Grand Prix	Monte Carlo	May 7	Hulme/75.899 mph	Clark/78.608 mph	Stewart/76.50 mph	Bandini/78.35 mph
Dutch Grand Prix	Zandvoort	June 4	Clark/104.492 mph	Clark/106.492 mph	Brabham/100.10 mph	Hulme/103.53 mph
Belgian Grand Prix	Soa-	June 18	Gurney/145.74 mph	Gurney/148.85 mph	Surtees/113.40 mph	Surtees/121.92 mph
French Grand Prix	Francorchamps	July 2	Brabham/98.9 mph	Hill/102.297 mph	—	—
British Grand Prix	Le Mans	July 15	Clark/117.64 mph	Hulme/121.12 mph	—	—
German Grand Prix	Nürburgring	August 6	Hulme/101.47 mph	Gurney/103.15 mph	Brabham/86.75 mph	Surtees/96.45 mph
Canadian Grand Prix	Mosport Park	August 26	Brabham/82.65 mph	Clark/106.53 mph	—	—
European Grand Prix	Monza	September 10	Surtees/140.498 mph	Clark/145.345 mph	Scarfiotti/135.93 mph	Scarfiotti/139.19 mph
United States Grand Prix	Watkins Glen	October 1	Clark/120.95 mph	Hill/125.455 mph	Clark/114.94 mph	Surtees/118.85 mph
Mexican Grand Prix	Mexico City	October 22	Clark/101.42 mph	Clark/103.44 mph	Surtees/95.72 mph	Ginther/98.33 mph
Daily Mail Race of Champions	Brands Hatch	March 12	Gurney/98.66 mph	Brabham/101.06 mph	Brabham/95.48 mph	Brabham/98.35 mph
Oulton Park Spring Cup	Oulton Park	April 15	Brabham/104.94 mph	Brabham and Hulme/106.42 mph	—	—
International Daily Express Trophy	Silverstone	April 29	Parkes/114.65 mph	Hill/117.08 mph	Brabham/116.06 mph	Brabham/117.34 mph
Syracuse Grand Prix	Syracuse	May 21	Parkes and Scarfiotti/113.727 mph	Scarfiotti/121.819 mph	Surtees/114.66 mph	Surtees/118.99 mph
Guards International Gold Cup	Oulton Park	September 16	Brabham/106.37 mph	Brabham/108.51 mph	Brabham/100.04 mph	Brabham and Hulme/102.89 mph
Spanish Grand Prix	Jarama	November 11	Clark/83.596 mph	Clark/85.091 mph	—	—



For Round 4 the circus moved to the Ardennes for the Belgian GP at Spa-Francorchamps, Europe's fastest road circuit. In practice a milestone was reached, in that Jim Clark (Lotus-Ford 49) became the first man ever to achieve a 150 mph lap on a road course—a speed which he exceeded with the incredible figures of 3 m 28.1 s. It was now pretty evident that the V8 Cosworth engine was giving its full quota of 400 bhp—plus!

Ginther had now definitely quit Eagle, so Dan Gurney's was a lone effort. The big Californian was sandwiched on the front row of the grid between the Lotus-Fords of Clark and Hill. The last-named, however, lost almost two minutes at the start with a clutch that wouldn't free, and shot off very much the last man. Meanwhile team-mate Jim Clark was in front, pursued by Rindt, Stewart and Amon. Mike Parkes crashed his Ferrari at Blanchimont on that very first lap, and rapid action by the GPDA medical unit enabled the seriously injured driver to be taken to hospital by helicopter.

Clark continued to dominate the race, with Stewart in second place, followed by Gurney and Amon. Hill, continually in trouble, abandoned his Lotus with gearbox problems. Dan Gurney closed inexorably on Jackie Stewart; then after 12 laps Clark stopped with the centre electrode blown out of a sparking plug. This put Stewart ahead, still shadowed by Gurney, while behind him Rodriguez, Amon and Rindt were having a private battle. Both Brabhams had succumbed to scavenge pump troubles after 15 laps.

On lap 21 Gurney shot ahead of Stewart, and Amon had drawn away from the two Cooper-Maseratis. Jackie Stewart was in serious gearbox difficulties, having to hold the lever in manually. Rodriguez, after a splendid race, holed a piston and retired in a cloud of smoke. Dan Gurney eventually took the chequered flag in the fastest road race ever run in Europe (145.7 mph), and also established a new Spa record of 3 m 31.9 s (148.85 mph). Stewart, with bruised and swollen left hand, took a thoroughly deserved second place, with Amon, Rindt, Spence (H16) and Clark in the next four places.

Dan's victory meant that a different make had won each of the four championship races. Hulme still led the table with 16 points, but was being closely challenged by Rodriguez (11), Amon (11), Clark (10) and Gurney (9).

The Bugatti circuit at Le Mans was a disappointing venue for such a classic as the French Grand Prix. Attendance was poor by any standards, and Le Mans itself failed dismally to catch any sort of Grand Prix atmosphere. Surtees did not enter the Honda, and Ferrari had only one car in the hands of Chris Amon. There was a lighter and slimmer version of the H16 BRM for Jackie Stewart, but even so it was too heavy for the "Micky Mouse" circuit. Dan Gurney had a second Eagle-Weslake for Bruce McLaren.

Hill, Brabham and Gurney occupied the front row of the grid. Graham shot into the lead at the drop of the flag, chased by Gurney, Clark and Brabham. Lap 2 and Brabham was in front, and on lap 7 Jim Clark went ahead, followed by team-mate Hill. The latter, however, abandoned on lap 14 with a broken gearbox.

On lap 24 Team Lotus hopes vanished when Clark's final drive disintegrated. Brabham held the lead, pursued by Gurney; then came the duelling Amon and Hulme. By lap 38 Brabham and Gurney had pulled out some 47 secs over their pursuers, but several laps after Gurney retired with a broken fuel line. The race became a somewhat dreary procession, with Brabham winning at a canter, followed by Hulme, Stewart, Siffert, Irwin and Rodriguez, all spaced out at intervals. Altogether a most uneventful and disappointing *grande epreuve*, but a triumph for Brabham-Repco.

In the title race Hulme (22 points) had six more than Brabham, the nearest challengers being Rodriguez (12), Amon (11), Stewart and Clark (10 each).

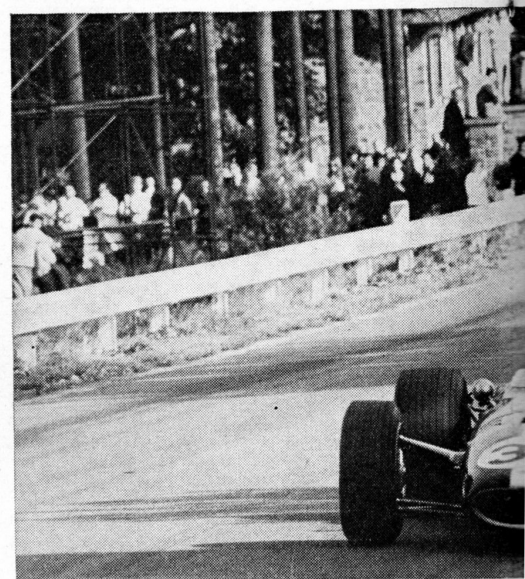
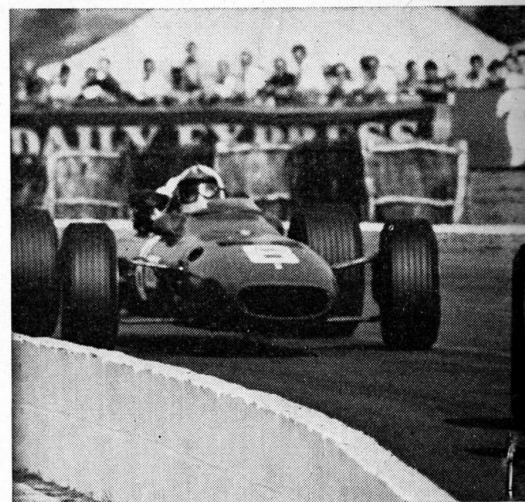
The British Grand Prix at Silverstone ended the first series in the Championship. Surtees reappeared for Honda, McLaren had a second Eagle-Weslake, and in all 21 cars occupied the grid, with Clark—in his only British race appearance in 1967—Hill, Brabham and Hulme in the front row. A truly enormous crowd turned up. All-night work by Team Lotus mechanics produced a rebuilt Lotus 49 for Graham Hill following an inexplicable accident in practice, which tore off a wheel and considerably damaged the machine. Hill outstripped the field at the start, but was almost immediately overtaken by Clark, who was later passed by Brabham. Rindt was in trouble with the new 36-valve Cooper-Maserati, chucking oil all over the place. Gradually the race developed into two main groups, with Clark, Brabham, Hill, Amon and Hulme setting the pace. After 14 laps McLaren's Weslake engine broke something and he abandoned with oil everywhere. Lotus-Ford were running one-two, with Hulme, Brabham, Amon and Gurney fighting it out behind. Stewart abandoned his H16 with incurable vibrations from the transmission. On lap 26 the enterprising Hill snatched the lead from Clark, and the two cars began to leave their rivals. Behind Hulme, Brabham and Amon were battling it out, Jack having shed his rear-view mirrors. Rodriguez was rapidly overhauling Gurney's Eagle, which seemed to be slowing.

On lap 54 Hill came wobbling into the pits with his nearside rear wheel at a non-standard angle. A missing suspension bolt was quickly replaced, but Graham restarted down in ninth place. He began to move up at an astonishing rate, but just as he was about to take sixth man Surtees the engine cried "enough". So Jim Clark sailed home to his second GP victory, and Amon, after disposing of Brabham, just failed to take second place from Denny Hulme. This completed the first leg of the championship series.

The German GP at the Nürburgring initiated the second leg. From a look at the completed first series table, it was obvious that Hulme with 28 points was in a very strong position. Both Brabham and Clarke had 19, Amon 15 and Rodriguez 14. In the constructors' contest Brabham-Repco had 33 pts against the 19 each of Cooper-Maserati and Lotus-Ford. For the five remaining events the best four would count, the total being added to the results of the first series.

A Formula 2 event was run in conjunction with the GP, the smaller cars, of course, not being eligible for championship points. As it so happened Jacky Ickx in a Ken Tyrrell Matra-Cosworth provided the sensation of practice by returning third fastest figures overall. His 8 m 14 s actually stood as best until Jim Clark astonished everyone with an incredible 8 m 4.1 s, and then Denny Hulme managed 8 m 13.5 s. Dan Gurney's 8 m 16.9 s put him in the front row of the grid along with Stewart (8 m 15.2 s), Hulme and Clark. Ickx, of course, was further back in the F2 section—20.9 secs quicker than the next man, Jackie Oliver (Lotus-Cosworth).

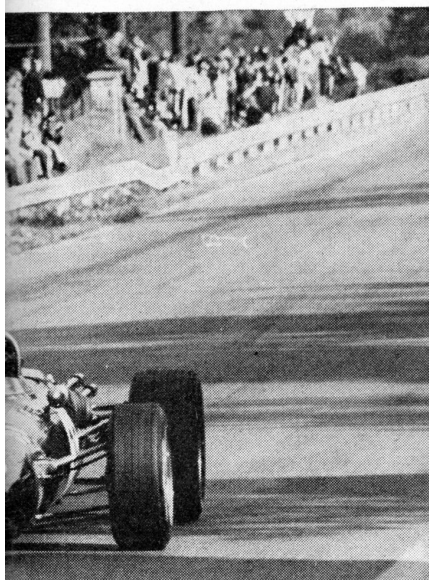
The two Lotus 49s immediately took the lead, but Hill managed to revolve at the South Bend, without hitting anything or anybody, but relegating himself to the back of the pack. Clark, Hulme and Gurney were bunched together; McLaren, in the second Eagle-Weslake, surged past Brabham for fourth spot, and Amon took Surtees's Honda. Clark was being chased relentlessly by Hulme and Gurney, and Ickx was so far in front of the other F2 cars that he was actually closing on Surtees, Brabham and Amon. Then Clark slowed with a punctured front tyre, and eventually appeared at the pits, only to abandon with deranged



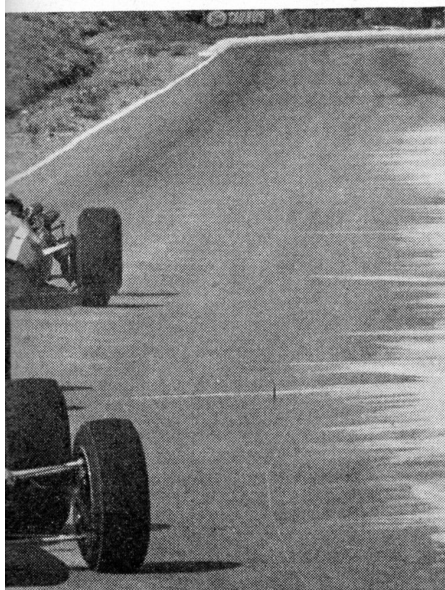
SILVERSTONE: Jack Brabham had a particularly hard off and he had to fight off a very determined Chris Amon and almost caught Denny Hulme for second place (top); the Eagle-Weslake home to a fine victory in the fastest V8 filling in a V12 sandwich as Jack Brabham, his mirror harries John Surtees in







the British GP when his rear-view mirrors vibrated Ferrari got by at Copse three laps from the end, was Dan Gurney's finest hour, for he brought home the first ever run in Europe (above). KYALAMI: A 1 of winner Pedro Rodriguez' Cooper-Maserati, Honda (below).



suspension. Hulme was now in front, but Gurney was giving him no peace. The Eagle flew ahead, and gradually drew away from the Brabham-Repco. The incredible Jacky Ickx had moved into fourth place overall, behind Stewart and Brabham, but ahead of Amon, Surtees and Hahne (BMW). Cooper-Maserati were having a sorry day: Rindt blew his engine at North Curve, and Rodriguez was in the pits to repair a loose rear wishbone. Hill had also been in to have a suspension nut tightened, so Lotus-Ford were also in the doldrums.

Dan Gurney's majestic progress continued, and by lap 9 he was 34 secs ahead of Hulme. Stewart's H16 broke its final drive, and McLaren had suffered a broken oil-cooler pipe. Lap 12 and Gurney was 45 secs in front, but Ickx's brilliant drive came to an end when a front suspension post collapsed. Hill had also abandoned with suspension failure. Lap 13 was unlucky for Dan Gurney (and Castrol) for, with the race seemingly in its pocket, the Eagle coasted to a standstill at Hohe Acht with a fractured drive shaft. This left Denny Hulme with a commanding lead over team-mate Jack Brabham, and that was the order at the end, with the next places occupied by Amon, Surtees, Bonnier and Ligier. This was Guy Ligier's first-ever championship point, which he gained with his recently acquired Repco-Brabham.

Next date for the championship contenders was at Mosport, where the Canadians were to stage their very first Formula 1 race on the 2.45-mile circuit. Rain played a major part in the result of the race, for Jack Brabham, looking at the threatening heavy grey clouds, elected to use rain tyres (Goodyear), whereas many of his rivals decided to run on dry-road equipment. As at Watkins Glen, the organizers opted for a large prize fund in place of starting money, and there was a sum of \$100,000 in the kitty, over \$10,000 going to the victor.

Clark was quickest in practice with a new unofficial record of 1 m 22.4 s (107.0 mph); the existing record was held by Gurney's Lola-Chevrolet T70 with 1 m 23.1 s. Alongside him on row 1 were Graham Hill (Lotus-Ford) and Denny Hulme (Brabham-Repco), with Amon (Ferrari) and Gurney (Eagle) in the second row.

Soon after the start, down came the rain in torrents, with Hulme in the lead pursued by Clark, Brabham, Hill, McLaren, Stewart and Spence (H16s) and Hobbs (2.0 BRM). Conditions were appalling, but McLaren began to go faster than anyone else, working his way through the spray from fifth place to second spot by lap 22. Then the rain eased off and stopped altogether. The track dried rapidly, and Jim Clark began to make his presence felt. On lap 27 he whistled past McLaren for second spot, and by half-distance was within 14 secs of leader Hulme, and gaining at about a second a lap. He took the lead on lap 57. However, the rain began to fall again, and the track became even more slippery. Stewart spun his BRM, and then retired with throttle linkage bothers. Clark's engine started to splutter, and finally stopped altogether on the 68th lap, Jim trying frantically to coax a water-logged ignition system to work. He did manage to restart, did one very slow lap, and then abandoned altogether.

Hulme had to stop to replace mud-bespattered goggles with a visor, and lost his lead to Jack Brabham. With the rain really pelting down, Brabham cantered home to an easy victory by over a minute from his team-mate. In third place came Gurney, a lap adrift, then Hill, Spence and Amon in that order. During the brief dry spell Jim Clark equalled Gurney's Group 7 lap record. The organizers staged a speed trap and Clark was clocked as quickest of all, at 182 mph.

Brabham's sagacity in his choice of tyres undoubtedly gave him a decided advantage, particularly in the closing stages when oil was also present on the soaking track. Any-

way, Brabham-Repco were assured of the 1967 Constructors' Championship and, as for the drivers' title, Hulme had 43 points to the 34 of Brabham, the 20 of Amon, and the 19 of Clark.

The Italian GP at Monza will be remembered for two things: Jim Clark's remarkable drive with his Lotus-Ford, and the sensational finish when John Surtees (Honda) won by a few feet from Jack Brabham (Repco-Brabham) after leader Clark had slowed with petrol starvation.

Clark was quickest in practice (1 m 28.5 s), and the front row was made up with Jack Brabham (1 m 28.8 s) and, a splendid achievement, Bruce McLaren in his new V12 McLaren-BRM M5A (1 m 29.31 s). Behind were Amon and Gurney. Ferrari had only one entry, unusual at Monza; this had a new 48-valve engine, while Scarfiotti drove Gurney's second Eagle. Jacky Ickx took the place of Rodriguez, injured in an F2 race, in the Cooper-Maserati team. Stewart, Spence and Irwin were all in H16 BRMs. Surtees had a revised Honda, with decidedly Broadley chassis.

Following a confused start when the officials apparently forgot about the dummy grid, Gurney led the pack into the Curva Grande ahead of Brabham, Amon and Hill. Clark, caught unawares by the start box-up, simply flew past several cars to take second place behind Gurney, just as Hill passed Brabham. Gurney was soon out with a rod through the side, to be followed by Scarfiotti with timing gears stripped. The leaders were indulging in the familiar Monza towing, and by 10 laps Hulme had stormed ahead of both Clark and Hill, with Brabham next up and Rindt in fifth place. Clark regained his lead, then lost a whole lap after puncturing a tyre. Hulme, Brabham and Hill passed and repassed each other, and the same thing was happening in the second group comprising Surtees, Amon, McLaren and Rindt. As Hill took the lead, up came Clark to join him (a lap adrift). Stewart had fallen far back with sticking throttle bothers.

Irwin retired his H16, and still Hulme, Hill and Brabham battled for the lead, and Clark, trying hard to break away from the group, set about retrieving that lost lap. Graham Hill, driving brilliantly, was giving no quarter to the Brabhams, while Surtees was commanding his group, comprising Amon, McLaren and Rindt. It was Grand Prix racing at its best, and how the crowd loved it!

At 31 laps Hulme abandoned with all the symptoms of a blown head gasket, and Hill now began to pull away from Brabham, after receiving a tow from Clark which swept them both past Hulme before he stopped. Meanwhile Jim Clark had broken away with a vengeance, and was rapidly disappearing into the distance, after lapping in 1 m 28.5 s. At 40 laps he was less than 30 secs behind sixth man Rindt, who had again bunched up with McLaren, Amon and Surtees. This group were now closing up on Brabham, and became a trio when McLaren threw a rod on the V12 McLaren. Stewart's engine had also burst, so Spence was the sole survivor of the Bourne brigade. Amon dropped to sixth place after a suspension check; then Clark simply tore past Rindt into fourth place, with Surtees his next target. Graham Hill was about a minute ahead, going like an express train—but not so fast as the irrepressible Jim Clark, who was soon on the tail of the Honda.

Alas, Hill's engine virtually exploded, and on lap 60 Brabham came through, with Clark now second and Surtees third. However, Big John had the bit between his teeth and with five laps to go had overtaken Brabham to sit on the tail of the Lotus. That last lap was heart-stopping. The three cars seemed to be tied together with string. All eyes were on the Curvetta. Surtees took the inside, leaving Brabham no alternative



## WINNERS' EQUIPMENT

Chassis	Wins	Engine	Gearbox	Petrol	Oil	Tyres	Plugs	Injection	Ignition	Brakes	Linings	Dampers
Brabham	6	Repsco V8	Hewland	Esso	Esso	Goodyear	Champion	Lucas	Lucas	Girling	Ferodo	Armstrong
Lotus	5	Ford V8	ZF	Esso	Esso	Firestone	Autolite	Lucas	Lucas	Girling	Ferodo	Armstrong
Eagle	2	Weslake V12	Hewland	—	Castrol	Goodyear	Champion	Lucas	Lucas	Girling	Ferodo	Armstrong
Ferrari	2	Ferrari V12	Hewland	Shell	Shell	Firestone	Champion	Bendix-Lucas	Marelli	Girling	Ferodo	Koni
Cooper	1	Maserati V12	Hewland	BP	BP	Firestone	Champion	Lucas	Lucas	Girling	Ferodo	Armstrong
Honda	1	Honda V12	Honda	BP	BP	Firestone	Champion	Lucas	Lucas	Girling	Ferodo	Armstrong

but to run wide, where he all but lost it on spilled oil. There was no sign of Clark. Surtees, very close to the pit walls, scrambled towards the finish, as Brabham, foot almost in the front suspension, tried his utmost to catch the Honda on the line, after almost crossing Surtees's bows in a spectacular broadside. It was a near photo-finish, but the verdict went to the Honda, although both drivers were given identical times. John's speed was a record 140.408 mph, and new circuit figures were set up by Jim Clark with 1 m 28.5 s, 145.345 mph. Failure of Jim's fuel pump to pick up the remaining three gallons or so in the tank had caused the Lotus 49's engine to cut out.

Monza completed the European championship season, so across the Atlantic went the circus for Watkins Glen and Mexico. The championship now lay between Hulme (43 pts) and Brabham (40 pts). The presence of the Lotus-Fords created tremendous interest, and while the final practice session crowd would have been satisfactory, race-day's attendance was stupendous—some 85,000, possibly the biggest number ever to attend a road race in the USA. As was now usual, Row 1 on the grid was occupied by Clark and Hill in their Lotus-Fords, along with the inevitable Dan Gurney. Fractionally behind were Chris Amon and Jack Brabham. Ickx again replaced the injured Rodriguez, while Beltoise was there with the F2 Matra (ballasted). Solana drove a third Lotus-Ford, the Mexican doing well to record seventh best time, his 1 m 7.88 s comparing favourably with "recordman" Hill's 1 m 5.48 s, which gave him the Lenthertic Trophy and \$1000.

The opening laps saw an epic struggle for the lead featuring eight drivers—Hill, Gurney, Clark, Brabham, Amon, Hulme, McLaren and Surtees. Hill led the way, and was eventually joined by Clark. Brabham was in trouble, for he gradually fell away from the battling group and dropped to seventh place. Surtees lost over three laps with injection problems, and three laps later McLaren abandoned with a split water-hose. The original octet had become a quartet, with Hill, Clark, Gurney and Amon gradually drawing away from Hulme and Brabham. Amon took Gurney, whose engine, rebuilt overnight, was sounding a trifle rattly, and the roadholding had gone haywire. On lap 25 Gurney was out with broken suspension, so Hulme and Brabham moved up to fourth and fifth respectively. Next casualties were Rindt (engine) and Spence (gearbox). Chris Amon was showing his mettle, trying all he knew to take Clark for second place. Down came his lap time to 1 m 7.15 s for a new circuit record. On lap 41 Clark took the lead from Hill, who now had the problem of staving off the Ferrari.

There was no letup among the three leaders. On lap 65 Amon snatched second place from Hill, but Hill, with a record 1 m 6.27 s, was back behind Clark. Hulme was a long way behind in fourth place, and Brabham dropped still farther back when he had to change a couple of wheels. Towards the end Clark began to slow with deranged suspension. Amon had retired when in second place with shot engine bearings, and Hill was having gearbox problems, as well as falling oil pressure. Slower and slower went Clark, but Hill could do nothing about it. With Hulme having been lapped by both, the race ran out with Clark averaging a

record 120.95 mph, and Hill (in second place) collecting another Lenthertic trophy and \$1000 for fastest lap. Third, fourth, fifth and sixth places were filled by Hulme, Siffert, Brabham and Bonnier respectively.

There remained only Mexico, and Brabham had an outside chance of winning his fourth World Championship. To do so he would have to win, and Denny would have to finish below fourth place. Although the issue lay between two members of the same team, it was something at any rate that the title should not be decided until the very last race.

The mixture was very much as before, but Rodriguez had made a welcome return to the Cooper-Maserati team, and Williams had a Ferrari to support Amon. The latter was showing brilliant form, and shared the front row of the grid with Jim Clark, recording 1 m 48.04 s to Clark's 1 m 47.56 s. A record crowd, said to be over 120,000, made its way to the well-equipped circuit in glorious, sunny weather. The start took everyone by surprise, so much so that Jim Clark stood stock still and was rammed from behind by Dan Gurney. The Eagle came out second-best, for one of the Ford exhaust pipes went through Dan's radiator.

It was the old, old story: Graham Hill was out in front, but this time he was pursued by Amon, and then Clark, who went up to second place behind his teammate. Then into the lead went the Flying Scotsman, pulling away by around a second a lap from Hill and Amon. Solana, going strongly in fifth place behind Brabham, exited abruptly when his front suspension collapsed on the Lotus-Ford. Poor Gurney had managed to complete just four laps before all his water was gone.

Then, to the consternation of Team Lotus, Hill pulled off the course with a broken drive-shaft UJ. However Clark was circulating effortlessly, building up a huge lead over Amon and Co. Brabham was third, and Hulme, realizing what was at stake, was content to hold his fourth place. Surtees suffered loss of power in the Honda, and had lost much ground to Hulme: McLaren lost oil pressure and retired, and farther back Rodriguez was jousting with Spence and Williams. Both Stewart and Irwin had abandoned. Clark eventually doubled both Surtees and "safety-first" Denny Hulme. The unfortunate Chris Amon ran out of petrol just three laps from the end, dropping from what looked like a certain second place to tenth. Jim Clark had an almost walkover victory from Brabham, and Hulme's careful tactics rewarded him with third place and, most important of all, the World Championship of Drivers.

Clark's fourth GP victory brought him up to third place in the final table, with 41 points to the 46 gained by Jack, and Hulme's winning total of 51. It had been an intriguing year, with more than its share of interesting developments. BP had already announced that they were pulling out of international motoring sport: Firestone announced that they would do likewise, but would continue to supply racing tyres to those prepared to purchase them, but would carry on their existing contracts with Team Lotus and SEFAC Ferrari. Then Esso, supporters of both Brabham and Lotus, dropped their bombshell; they quit on the weekend the Mexican race was taking place. Naturally these announcements

changed the picture somewhat. Shell, Castrol, Goodyear and Dunlop opted to continue, as did Lucas, Champion, Autolite, Girling and Ferodo. They were joined by Elf (France).

In addition to the championship events, several other important Formula 1 races took place. At Brands Hatch the BRSCC staged the Race of Champions, sponsored by the *Daily Mail*. This proved to be a resounding triumph for Dan Gurney and Richie Ginther, whose Eagle-Weslakes finished one-two. The latter battled with Surtees for many laps until the Honda delayed with a stuck throttle. Brabham duelled with Gurney, but dropped back when a transistor pick-up lead came adrift for the second time. The finish was dramatic: Bandini (Ferrari) all but caught Gurney on the line, with Siffert and Rodriguez (Cooper-Maserati) close behind. Gurney had won both qualifying heats; Team Lotus were not represented.

Next came the BRDC *Daily Express* meeting at Silverstone, won by Mike Parkes (Ferrari) at 114.65 mph. In his long-chassis 36-valver, Parkes completely dominated the race—a pretty dull affair enlivened by a duel between Jo Siffert (Cooper-Maserati) and Jack Brabham (Brabham-Repsco). Graham Hill went like a scalded cat in a 2.1-litre Lotus-BRM 33, and actually set up fastest lap with 1 m 30.0 s (117.08 mph). Jackie Stewart (H16 BRM) was the first single-seater driver to achieve an 120 mph lap in practice. He abandoned with final drive trouble.

The Syracuse GP had only seven runners, and resulted in an arranged dead-heat by Mike Parkes and Lodovico Scarfiotti in their Ferraris—a lap ahead of third man Jo Siffert (Cooper-Maserati). However Scarfiotti did set up a new lap record of 1 m 41.0 s, 196.039 kph.

Oulton Park's Spring Cup meeting was in aid of the GPDA medical unit and other organizations, all drivers giving their services *gratis*. This was won by Jack Brabham (Brabham-Repsco) from team-mate Denny Hulme, at the record average of 104.9 mph, with John Surtees (Honda) third. Both Brabham and Hulme pulverized the existing lap record with laps in 1 m 33.4 s (106.42 mph)—but this time was also achieved by Graham Hill in an F2 Lotus-Cosworth!

The Gold Cup at Oulton Park in September was mainly F2, the sole 3-litre machinery being in the hands of Jack Brabham and Frank Gardner (Brabham-Repsco), and George Pitt's BT23 Brabham-Climax 4. In a demonstration of superb driving, Brabham won at the record speed of 106.37 mph by just 5.4 secs from Jackie Stewart's 1.6 Matra-Cosworth. Both established new Oulton circuit records, the former with 1 m 31.6 s, 108.51 mph, and Stewart with 1 m 32.8 s, 107.11 mph.

The Formula 1 year ended with a rehearsal for the 1968 Spanish GP on the Jarama circuit near Madrid. Jim Clark and Graham Hill had a convincing one-two victory from a heterogeneous collection of ballasted F2 machines, Jack Brabham's Brabham-Repsco, de Adamich's Ferrari and a couple of 2.1-litre BMWs driven by Jo Siffert and Hubert Hahne. Loose stones and badly-sited marker cones made it a hazardous race altogether, and one hopes that the Spaniards have learned a lesson, otherwise next year's *grande epreuve* may be equally perilous.