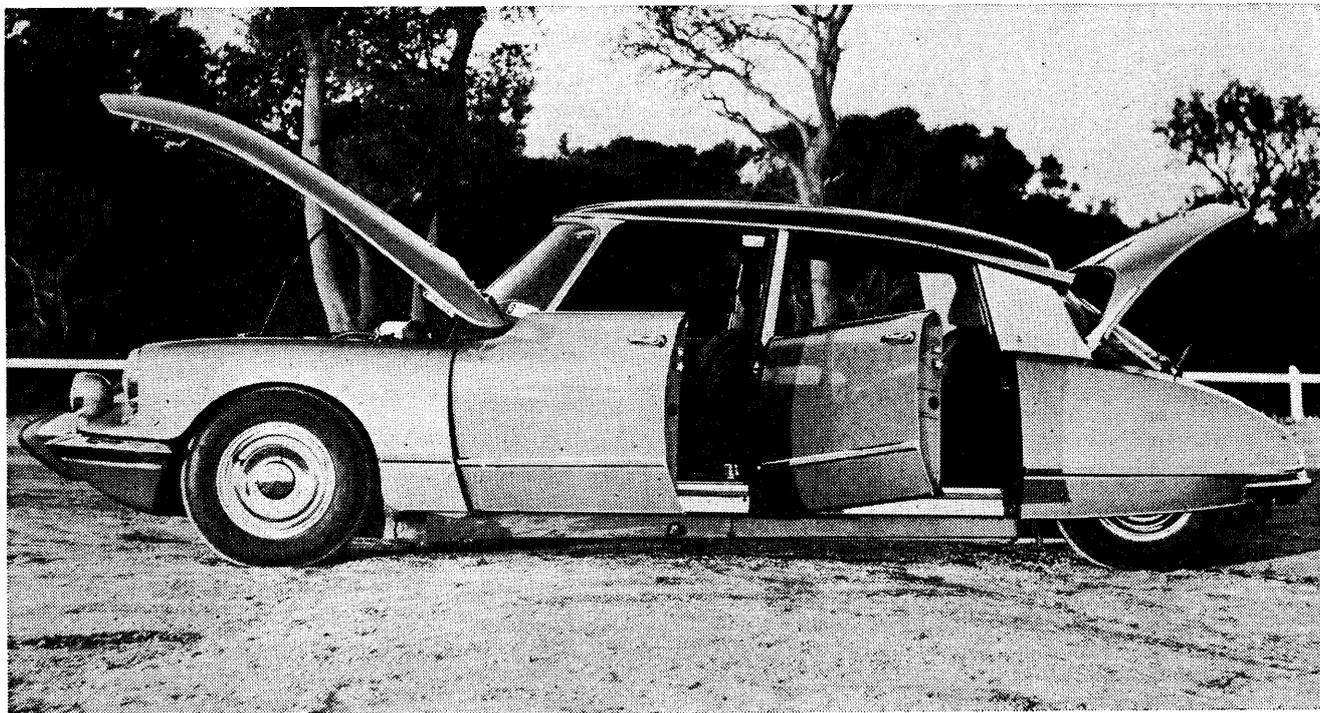


ROAD AND RESEARCH TEST

A FAST FRENCH LADY

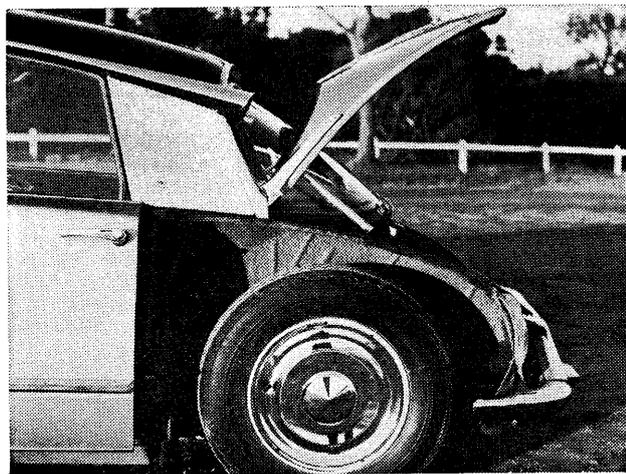
Citroen DS21 Pallas



With everything open the DS21 looks like a piece of modern sculpture. Note the pillarless doors. Price is \$6475.

In brief

Price: \$6475 (leather trim)	Maximum speed: 106.1.
Engine capacity: 2175 cc.	Acceleration, 0-60 mph: 13.5 sec.
Brake horsepower: 109.	Insurance rating: 3.



One bolt unscrews to reveal the rear wheel for changing.

PETER ROBINSON tests the flagship of the Citroen fleet. It's fast and almost unbelievably comfortable, he says.

I HAVE always admired, unfortunately from afar, the Citroen Goddess. It has seemed to me to be the most advanced, up-to-the-minute car in the entire world. From the snooty, tear-drop nose to the cut-short, fastback tail, it seems more fashionable today than ever before. It is still, in many important ways, a car of the future, although it is now almost 12 years since it made its sensational debut at the 1955 Paris Motor Show.

Obviously only an inspired Frenchman could design such a car. Its single-minded purpose in life—high-speed touring in complete comfort—is refreshing in an age of compromise. Many's the Englishman who has taken his beloved Super Sports to the Continent and returned home with his car suffering from a blown head gasket or, worse still, left in some garage with a broken engine.

His troubles were brought about through sheer frustration because he could not cruise with, let alone pass, Monsieur and Mademoiselle and their four *enfants* as they



Although there is a marked understeer tendency on tight, slow corners, the Citroën handles remarkably well as speed increases.

floated, Citroën style, down to the Riviera, building up speed on the down grades and losing a little on the rises. Of course they are baulked occasionally by some stupid farmer on his way to market in that other piece of Frenchmanship—the agricultural 2CV, but that is another equally wonderful story. Why aren't these cars sold in Australia any more? Even at \$2200 some nut would buy one.

This cruising is what the Citroën does best, which is only right, for this is what it was designed to do in the first place. "S" type Jags and 250 Mercedes models may have more acceleration and slightly higher top speeds, but even they lack the insulated feel the Citroën provides, regardless of weather or road conditions. The Citroën is a long-distance runner, out front and alone. I have never driven a car so capable of transporting four or five adults and their luggage in speed and luxury over huge distances to arrive with both car and people fresh and eager for more.

In six fascinating days of testing, photographing, studying and just plain marvelling at the DS21 Pallas, we had still not discovered all the little devices and gadgets in the car's amazing repertoire. It would take many months of ownership before a lucky driver would be fully conversant with the Pallas.

Citroëns are no longer assembled in Australia and, because they are fully imported from France (they are not even assembled in England any more), prices have risen to the point where the car has moved up into a different class.

Prices start at \$4845 for the 19 Confort, go up to \$5445

for the 21 and \$6075 for the Pallas and Safari. Leather trim in the Pallas costs just over \$400 extra. These are only the basic model prices for a different engine, transmission and trim can be specified for each so a buyer can virtually build up a one-off Citroën.

There have been many major changes since the last local cars were sold here, the most important of which is the use of two new engines for all 19 and 21 models.

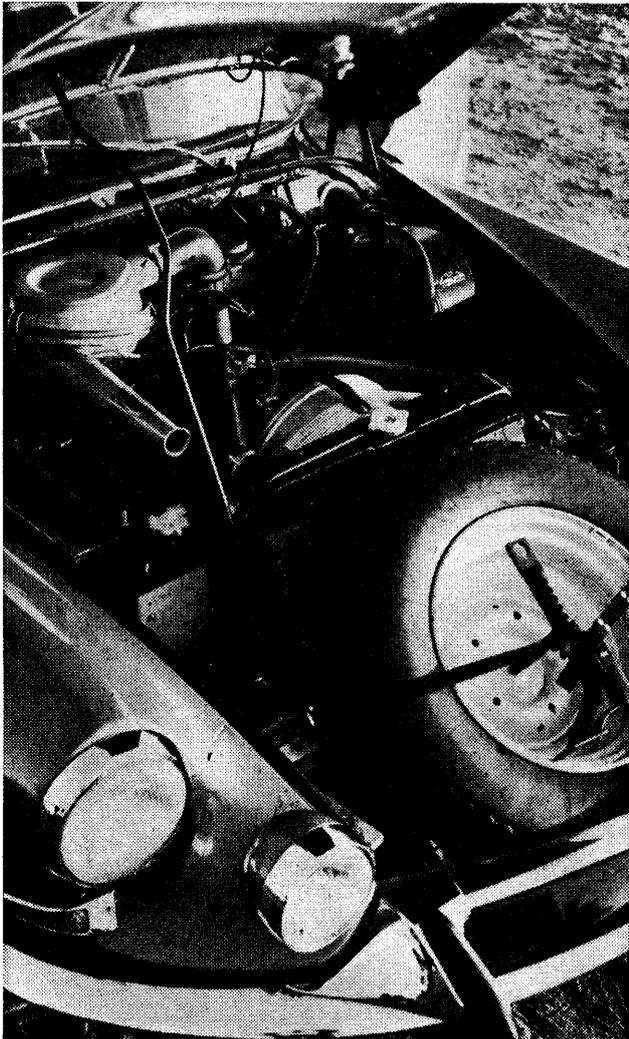
These all-new short-stroke engines replace the old long-stroke unit first used in the Light 15 some 30 years ago. Both new engines are practically the same, apart from bore size, which is 90 mm for the 21 (109 bhp) and 86 mm for the 19 (90 bhp). Capacities are 2175 cc and 1985 cc.

Other features common to both engines are four cylinders with removable wet linings, five main-bearing crankshaft, light alloy cylinder head with hemispherical combustion chambers, centre placing of the spark plugs, light alloy sump with cooling fins, built-in oil filter, and an arrangement for internal consumption of crankcase fumes.

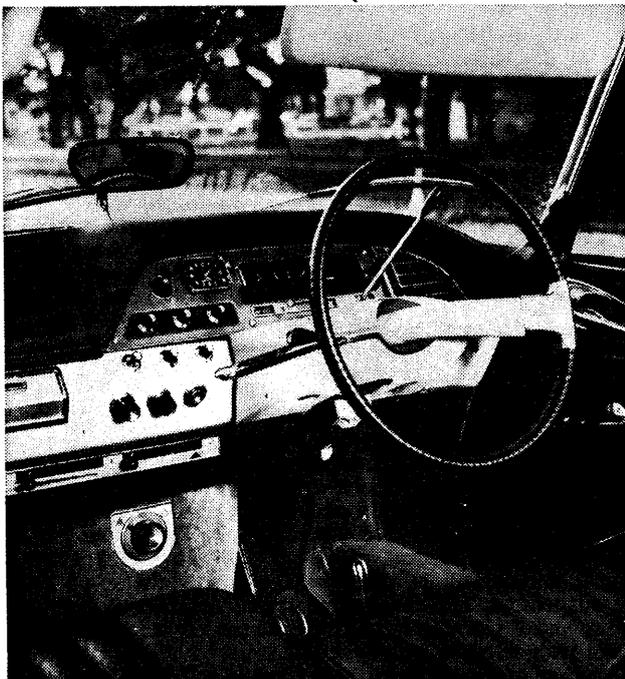
Other new features include slightly lower gearing so that full use can be made of the increased rev range of the new engines, five-stud wheels of the same size front and rear, asymmetrical radial-ply Michelin XAS tyres, special mineral oil in place of the old synthetic oil for the suspension, laminated windscreen, quartz-iodine spotlights, and a warning light which comes on when the disc brake pads need to be replaced.

Another intriguing point is the use of self-levelling headlamps. The angle of the headlamps is automatically

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The engine, with hydraulic pipes running in all directions, looks complicated but normal servicing is simple to carry out.



Stylish interior has no protrusions which could cause injury in an accident. Complicated heater has 11 controls.

adjusted so that the beam is always at the same angle. This is obtained by mechanical linkage between the front and rear anti-roll bars and headlamps which pivot on their mounts.

Heart of all big Citroens, and perhaps their biggest feature, is still the interconnected hydro-pneumatic system introduced in 1954 for the back wheels of the Big Six and later used on all four wheels of the DS. This does not mean it is in any way out of date, for it is still the most advanced suspension design to be found on a production car. It is also the most complicated.

Ride characteristics of the Citroen are astonishing. It allows small bumps and joins in a concrete road to be felt and heard, but turns freakishly severe bumps into trivial ones. The suspension prefers hitting bumps at a reasonably high speed when it really comes into its own and no surface is then beyond its fantastic capabilities. When cruising on a smooth highway there is an almost imperceptible tendency towards vertical movement from the rear suspension, but this disappears with familiarity.

The ground clearance of the car can be controlled by the driver. There are five settings altogether, the two extremes are for jacking and the other three to suit road conditions and the firmness of ride required. Automatic self-levelling is built-in, the car pumps itself up to compensate for passengers and luggage. After being parked, the car slowly sinks down, making strange gurgling noises as it goes.

This height adjustment still startles, amuses and astounds all who see it. There is a slight sigh and the tail sinks slowly, then the nose sinks, until the car's belly seems to be touching the ground.

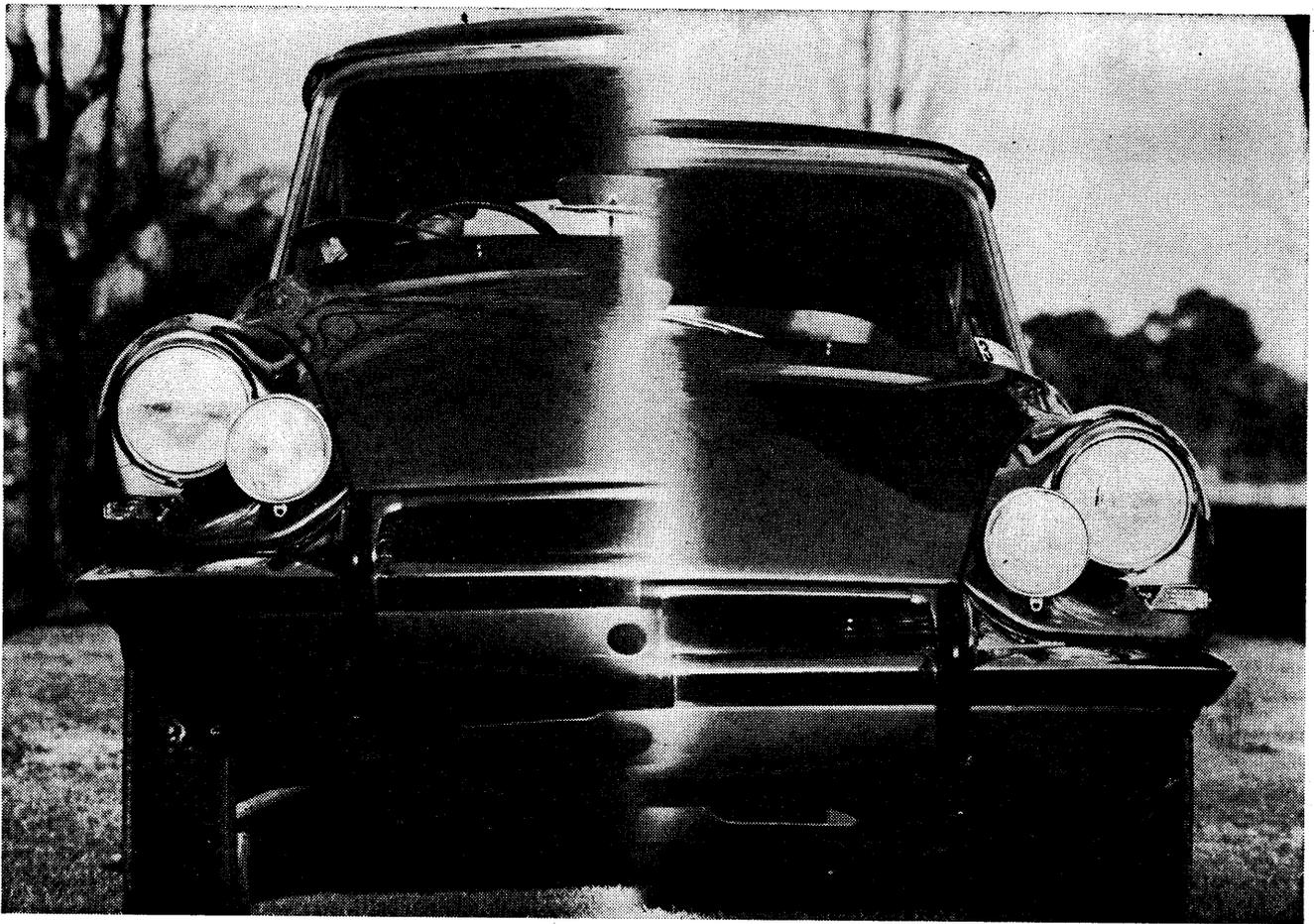
During heavy braking I could feel the tail being dragged down by the suspension so there would be no nose dipping.

On very tight corners taken at speed the car understeers too much, the body rolls and the rear-seat passengers begin to wonder if they should have taken sea-sickness tablets, but in all other conditions it behaves superbly. Fast, open bends can be taken flat out with the front wheels pulling the car through and never deviating from the chosen line. There is never any thought of the tail wanting to come round even if the right foot is lifted suddenly.

The driver is only conscious that the Citroen has front-wheel-drive when the steering is at full lock, for there is some jerking through the steering wheel. The hydraulic power assistance for the steering does not begin to work until the wheel is turned. This can result in some lurching until the driver remembers to treat it with a feather touch. The famous mushroom-shaped brake pedal works the same way, only a very slight push is necessary to slow down, but progressive retardation is easy. There is far more feel than in the large majority of power-assisted systems. Fade is non-existent, even with brutal use.

There will be people who despise the Citroen because it lacks the vast power outputs and effortless acceleration provided by the huge American V8 engines. But it can be moved along at a surprisingly quick rate, much more so than it feels, even though to achieve this the engine becomes noisy and rather out of character with the rest of what is a very quiet car. Because it is powered by a large four-cylinder engine it has reasonable flexibility, but the gears must be used frequently to keep up with the traffic.

This brings us to another unique feature of this almost scientific car, the automatic clutch. Known as Citromatic drive, it combines with an all-synchromesh four-speed gearbox. The gear change lever, which comes out of the dashboard behind the steering wheel, is also hydraulically



Composite photograph shows the difference between the highest and lowest suspension levels which are adjusted by a lever.

assisted and takes some getting used to before jerk-free changes can be made.

The shift quadrant is unusual—it's shaped like a tuning fork. Reverse is forward through first and away to the right, to make up one end of the fork. Neutral is between first and second, with third and top running parallel to reverse on the other fork. The starter is also activated by the shift lever when it is moved over to the left of neutral to form the handle of our tuning fork.

Smoothest changes are made if the lever is flicked by the fingertips while at the same time lifting the accelerator foot so the revs do not soar. This technique takes some getting used to, if the throttle is left wide open the change is automatically delayed and there is no gain in acceleration. As changes are made, the rear of the car rises, only to fall again when it is completed. City driving, especially in stop-start conditions, can become a series of lurches and lunges. Under normal driving there is only a gentle rocking at each shift.

As mentioned previously, the engine does become noisy if taken over about 4000 rpm when accelerating, it is not really necessary to go beyond this, and those who want a completely silent car will change up even earlier. By changing at 15 mph, 30 mph and 50 mph, acceleration is sufficient for everything except traffic light grands prix and the engine is subdued.

Strangely, it does not seem to matter what speed the car does in top gear, for the engine remains unobtrusive.

Any cars which may have passed the Pallas around town are, almost without exception, left far behind on the open road. Engine noise fades away and the driver's foot can be held almost flat with the car cruising anywhere between 90 mph and 110 mph, depending on the gradient. The Citroën is completely stable at all speeds — there is

no chance that a sudden gust of wind will blow it off course.

Complementing these desirable attributes is the roomy interior, made possible by the longest wheelbase of any front-wheel-drive car in production. At 123in., the Citroën wheelbase is 3in. longer than the Cadillac Eldorado, yet its overall length is an incredible 31in. less. Overhang accounts for the difference, and many overseas motoring journals regard the Caddy as an occasional four-seater, because of a lack of both head and knee room in the rear. The same cannot be said of the French car, for it has limousine-like space, indeed there is sufficient for a 6ft. 6in. Charles de Gaulle to stretch his legs in the back.

Once inside you are almost overwhelmed by the feeling of complete luxury the car extrudes. It comes from the deep pile carpets with an amazing 2in. of foam underlay, the rich black leather upholstery, the soft armrests, the padded pillars, and a real leather aroma that adds a finishing touch to a real lounge-room.

The front seats are something magnificent — they must be the most comfortable in the world. Soft, all-supporting, huge in size and adjustable to perfection, they carry the two front occupants on a cushion of restfulness.

Rear passengers are almost as well off, and they have the added advantage of being able to sleep with their heads against the pillars without any vibration or jarring coming up from the road. Positioning of the armrests on all four doors is good, and there is a wide central pull-down armrest in the rear squab. The fully reclining front seats can be made up into a double bed. Because the floors are completely flat, there is plenty of leg room. Only intrusion into the passenger compartment is the engine bulkhead,

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but use has been made of this to take the heater temperature control dials and an almost bottomless map pocket.

All told, there are 11 dials, levers and switches to operate the heating and ventilation system. Of course, it takes much experimentation and fiddling before a driver and his passenger have completely mastered the system. Once fully worked out, all the occupants can be as warm or cold (or both at the same time) as they wish. Fans are provided for the left and right hand sides; there are heater outlets for back-seat passengers and vents to direct air on to the side windows so that they will be demisted.

Instruments are limited to speedometer, odometer, trip meter, petrol and temperature gauges and a clock. Warning lights provide information on generator charge, oil pressure, high beam, turn indicators, brake pressure reserve and disc brake pad wear.

Braking for parking is provided by a pedal which looks just like a normal foot brake, but is only used when stationary. It is released by a large knob under the fascia. A steering lock is also fitted.

Minor luggage should fit in either a small glovebox with magnetic catch or in the reasonably sized bins fixed to each front door. There is also a lot of room on the shelf behind the rear seat. Front-wheel-drive has permitted a deep boot with flat floor, shaped to take normal sized suitcases. The sloping rear window limits the size of a lift-up lid.

Vision is excellent, although the wide rear pillars and a poorly positioned rear-vision mirror do make for some blind spots. Two speed wipers and washers do a good job of keeping the windscreen clean. The headlamps, with quartz-iodine spotlights working on high beam if necessary, are easily able to cope with any speed the Citroen can do. With the quartz-iodine lamps on I seemed to be carrying my own daylight with me.

Padded sun visors, with a vanity mirror for the passenger, swivel and also slide on their bars so they will touch if necessary. Finish inside is very good. There is little plastic, which has tended to spoil the luxury effect in previous Citroens.

Home mechanics will take one look under the bonnet and be half-scared to death by the number of hydraulic pipes running everywhere. Surprisingly, all the normal routine servicing operations can be carried out easily at home.

The virtues of the Pallas are obvious. It has been built for the long super highways of Europe and is equally at home on the not so super highways of Australia. It can become a bit frustrating around town, but all is forgiven on the open road.

MALLALA, SA

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Into the curving "straight" it was still McEwin, with Hurd hot on his tail. McEwin held off the Elfin and made up distance through the hairpin at the end of the straight and through the esses. Hurd was not giving in easily and was using the power of the Elfin to good effect and the two stayed close together during the first two laps, clearing away from the tussling Monos of Walker, Millis and Cooper.

Don Fraser's Cicada-BRM locked a brake while traveling around 100 mph, spun off the track and collided with track official Ray Block, who was whipped into the nearby Mallala Hospital by ambulance. Block suffered a broken ankle and a severe shaking.

John Walker dropped out of the vicious Elfin duel during lap four, leaving Cooper to deal with Clive Millis. At the chequered flag it was McEwin with a comfortable 10sec. lead over Hurd, with Millis and Cooper in close order,

followed by a limping John Walker and Deane Clough.

During this race Hurd lowered the outright sports car record (previously held by Stillwell in his Cooper-Buick) by 0.1sec. to 1:19.1, and later during the sports car handicap he reduced this to 1:19.

WE WIN AGAIN!

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piece of metal when the knob has disappeared. Since I was making about 19 gear changes every lap it wasn't surprising that by the end of the race my right hand was decorated with a few bruises and blisters.

Apart from that, though, the car went perfectly through-out, with temperatures and pressures all according to the book. And Jack's car was the same. We had had modifications made to the sumps after the Spa debacle, and there was no repetition of that trouble.

For quite a bit of the race I had a pleasant tussle with Chris Amon's Ferrari. I got past him and he just stuck on my tail. So I let him get in front again and allowed him to do the work. Then I timed it just right and retook him for the second time as we lapped another car and got about a second ahead of him. Once I had made the break he could not see where I was braking for the corners and this was the important thing. I was then able to pull away, because my car was certainly quicker on acceleration and also had better braking into some of the corners.

I suppose it was fortunate for us that the Lotuses both broke down, because they go like the wind when the throttle goes down. Anyway, Jack sailed home a comfortable first, and I was second. This enabled me to increase my lead in the championship and brought Jack up into second place. I don't know whether this is enough advantage to see us through—probably not—but at least for the moment we are keeping it in the "family".

WARWICK FARM

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slipped back behind the battling Barnes and French. Stewart inherited third place on Jane's retirement, and Cusack's superior power on the straight soon pushed him past Barnes and French, so that he occupied fourth place on lap four. Meehan, Manticas, Millwood and Jaekson were putting on an entertaining scrap in their identical Coopers, with Manticas eventually getting the upper hand. But the crowd's interest was switched on the tremendous battle up front, as there seemed to be absolutely nothing between the Alfa and Mini.

Foley was driving at his impeccable best and keeping Bartlett really busy, so much so that Bartlett came out wide into the straight on the eighth lap and left a gap big enough for Foley to squeeze past.

Foley was quick to seize the initiative and kept the Alfa at bay to run out the winner at 74.72 mph and also collect fastest lap of the race at 1:46.9, a new class record. Barnes touched Cusack and sent him spinning off at the Causeway on lap 10, dropping the Mustang from fourth to eighth place. French was able to get round Barnes and moved right up on Stewart, who had been troubled with failing brakes over the last few laps, but still tossed off each of the last five in 1:49.9. French took a new class record at 1:48.4 and Brauer, driving stylishly, took his Lotus-Cortina to sixth place, just ahead of Bob Holden.

In the supporting races, Frank Match effortlessly won the 10-lap event for sports cars from Bob Jane (Elfin-Repco) and Bill Brown (LM250 Ferrari), Match equalling Cusack's earlier time of 1:31.9 to share the new residential lap record. Don Holland had a great day out in his new 1275 lightweight Mini, fashioned on similar lines to BMC's own lightweight, which Holland downed in their two encounters, and got in a very quick lap at 1:46.3 in the second last race of the day.