

## CHAPTER XII

### 1928.—FRONT-WHEEL DRIVE AT LE MANS

**N**O sooner was the Six-Hour Race over than Le Mans loomed on the horizon, in which race I was to drive a  $1\frac{1}{2}$ -litre four-cylinder Alvis. This car was of an interesting new type with front-wheel drive, based on that used for the first British Grand Prix racing machines.

From the beginning it was obvious that only great efforts would get the cars ready in time, the chief difficulty naturally being that the design was so unusual, with the result that nobody really knew what difficulties were to be anticipated. Certainly I did not know where to apply such ideas as previous experience suggested; for the front wheels had no axle, each stub axle being held by four quarter-elliptic springs extending from the frame towards the wheels, each front wheel steered separately, there were no shock absorbers in the usual meaning of the words, while there was no rear axle either, the rear wheels having separate suspension. Added to this, front-wheel drive needed considerable study, as it altered the entire technique of cornering.

However, we fitted out the machines with good clip fillers, including the fuel tank, as that fed by gravity, but the side of the bonnet had to be raised to pour oil into the sump, as the only method of ascertaining the level was an oil gauge on the crank case. The windscreens were so made as to lie down flat on the scuttle to reduce head

## MOTOR RACING

resistance, everything likely to reflect the light from headlamps of cars behind was painted dull black, and the fabric bodies, which had to be three-seated, were contrived so that the third seat disappeared in the tail, the only difficulty being that the hood had to be external to cover all three seats, and formed a rather unpleasant bundle.

Over at Le Mans the team, two cars, with Harvey, Purdy, Dykes and myself, soon found plenty to do; my particular problem being to know what to do if I approached on a corner a shade too quickly, since the engine should *pull* a front-drive car round the corner, and cutting out meant unsteadiness, since there could be no castor action for the front wheels. Then it took a long time to get right down to the correct manner of adjusting the spring clips which took the place of shock absorbers by increasing the pressure between the blades of the springs, our first attempts resulting in the wheels jumping off the road, since the springs were prevented from acting as such.

Then the new type of steering proved far too rigid in one place and not flexible enough in another, while the quarter-elliptic springs were too weak for the load carried, including ballast equivalent in weight to two persons. That entailed a visit to the Morris-Bollée works—I do not know what most teams would do without this factory! Practically all ordinary works jobs are stopped there during the race week, and instead the whole "personnel" is engaged in repairing competing cars.

This year there were not only the three  $4\frac{1}{2}$ -litre Bentleys and ourselves, but three Lagonda two-litres under Kensington-Moir, and two Aston-Martins, both  $1\frac{1}{2}$ -litre machines.

We had to get longer bolts made to take more leaves in the front springs. Moir had to have quite a lot of work done, and Bertelli practically lived at Morris-Bollée's,

because a small error in the drawings of the Aston-Martin's rear axle sleeves had resulted in a weakness first disclosed when the awful pot-holes of the Alençon-Le Mans road broke the axle of one of the cars.

Now, the "personnel" of a racing team is pretty well on edge anyway during preparation, but when anything goes wrong temperatures go up like rockets; which being so, it is all the more wonderful that I have never known anybody at Morris-Bollée deviate a hair's-breadth from a civility which would be extraordinary in "peace" time!

Alterations having been effected to the springs, the cars were obviously better, if a little curious at times, and discussions as to front-wheel drive technique raged furiously during those early morning breakfasts at the Café de l'Hippodrome with the other teams. Breakfast, by the way, was enlivened this year by the discovery that Harvey had a weakness for sausages, real French sausages, pale, anæmic yellow, with green and blue spots! Getting him away from a string of these delicacies was a task only accomplished by force and the complete team. Some fun was caused, also, by Tattersall during night practice, when the route is closed to all save racing machines and their tenders. "Tat" had mastered the fact that the password for the driver of the tender, when confronted by the barrier police, was "équipe Alvis", but one night replied, for some unknown reason, "équipe Tracta" when challenged.

Le Mans police know quite a lot about cars, so were quite sure that an English saloon had nothing to do with a French team. Certain, therefore, that this was an unauthorized attempt to get on the course, they kept "Tat" quite a while, his English, plus the fact that the saloon was an Alvis, alone preventing serious results.

## MOTOR RACING

Refilling with the new ten-litre circular tins, the only ones allowed this year, we practised in the garage, rigging up a pit with the work benches, and flooding the place with fuel as a result; but the man who acted as "plombeur", that is, cut the wires sealing the clip fillers, as men do at the pit during the actual race, found at once that the holes left for the wires were much too small, and we saved at least a minute's delay by enlarging them forthwith.

Meantime, the other teams were going well, the Bentleys particularly so, though the Aston-Martins were still being modified at Morris-Bollée, which led Cyril Paul and George Eyston of that team to practise on the circuit with a very secondhand ex-American army sidecar outfit borrowed for the occasion, and notable for its diabolical habit of falling to pieces as far from "home" as possible.

After inspection, just before the race, it was obvious that the Grand Prix d'Endurance side of the thing lay between the new  $4\frac{1}{2}$ -litre four-cylinder Bentleys and Brisson's straight-eight Stutz; all that the  $1\frac{1}{2}$ -litres, like the Alvis, could hope to do was to finish, thus qualifying to run next year for the Rudge-Whitworth Cup, to beat the 1,500 c.c. class record if possible, and to put up a good show generally.

Accordingly, it was arranged that Harvey, as team leader, should run to schedule with the other car just behind. At the start there were thirty-three cars, a line so long that our cars were well away down the course, almost out of sight of the flag. As a matter of fact that didn't matter so much because the hoods had not got to be raised this year, and starting, therefore, was far easier.

Off we went, the engines starting immediately, there was a mile or so of scuffling and jockeying for position, car not a yard from car, then down, accelerating fast, in a

bunch through the narrow street between the houses to Pontlieue. After we rounded the corner Bertelli's Aston-Martin went by. Harvey was already ahead. Still in mass formation, we all flew down the straight, a glance back after Mulsanne corner showing a whole line of pursuing cars hard at it; then, as the differences in drivers or acceleration told on the many curves beyond, the field spread out considerably.

Five rounds after the start I saw in the car's mirror what looked like the whole of Piccadilly Circus traffic bearing down really fast, hauled to the side of the road, and waved them on. Instantly a mass of cars hurtled by, three fierce green  $4\frac{1}{2}$ -litre Bentleys and the lone five-litre straight-eight Stutz, in so compact a group that the possibilities of White House turn must have been forgotten. The crash of their exhausts deafened, the whirlwind astern sucked the Alvis along 200 revs. faster than usual. With a shrill yelping of accelerated engines, the whole mass, Birkin leading, changed down, swung round Mulsanne and went away, the American Stutz looking odd because Brisson sat on the left instead of on the right, a handicap on this circuit.

Every fifty-two miles, punctual as a clock, this composite tornado hurtled down from behind, less sensational after the first meeting because the Bentley signals had opened the distance between the team's cars until Birkin was well away from Clement, and Clement from Barnato.

Round after round those four cars broke the lap record, Birkin at 72.7 m.p.h., then Barnato at 74, whereupon Brisson went up to 75.4 m.p.h., which Birkin eclipsed with 79.73. The pace was terrific and it told; Laly's Aries which had gone so well last year ran a big-end, and then Birkin, taking the curve above the downhill stretch at Le

## MOTOR RACING

Tertre Rouge, burst a tyre, the "4½" swinging right across to the outer edge of the road. Round after round, as the Alvis accelerated down the hill, I saw Tim frantically working to cut away the tangled mass of cordage which had wound round his brake gear—the Bentleys that year did not carry jacks—then I came across the "4½" travelling at well over 70 along the straight to the appalling clatter of one bare rear rim. Next round the car, with a heavy list to starboard, was on the grass at Arnage, the bare wheel twisted all to pieces.

I attempted to signal the machine's whereabouts to the anxious Bentley pit. Tim, unable to move the car, then ran all the way to the pit, arriving exhausted. At that Jean Chassagne, who had been given a wheel in the English team as a direct result of 1927, cried, "Maintenant, c'est à moi," and pattered off down the road, a jack under each arm, to dig and jack and push and heave until he got the spare wheel on the "4½" at last and drove it triumphantly to the pit, not forgetting to carry the battered remains of the old wheel, which nine people out of ten would have neglected, thereby ensuring disqualification.

While all this drama was unfolding—and every move was obvious to me—another tragedy was being enacted at Mulsanne, where Samuelson's Lagonda had crashed into the sandbank and palisade. Baron d'Erlanger, making a frantic but unavailing effort to clear the car's projecting stern, had then rammed his team mate, fracturing the dumb iron of the second Lagonda. Legend has it that the unexpected report of a 9·2 howitzer could not cause the Baron to change countenance, and when, in response to much flapping of blue flags, I slowly came round the corner, the Baron, as dignified as ever, was having it out with poor Samuelson.

After hours of work Samuelson freed his car, only to find it was too badly damaged to continue. Then Bertelli, swerving on to the grass to clear a competitor who seemed to imagine he was zig-zagging to avoid submarines, hit the same hidden gully that bent my Sunbeam's axle two years before, the Aston-Martin's axle being so seriously damaged that it had to be withdrawn.

Bertelli came in to the pits knowing it was hopeless to proceed, but his partner, George Eyston, begged so fervently to be allowed to continue that the car was sent off with the latter driving, on the distinct understanding that if Bertelli noticed that the wobbling of the rear wheels was worse, Eyston was to come in. The wobbling became quite certainly worse; but no amount of waving the stop signal had the least effect, the driver emulating Nelson at Copenhagen with immense success! Bertelli shrugged his shoulders, Eyston continued, until the axle broke up utterly just after Pontlieue. Even at that news Skelton, a really wild Canadian, begged and prayed to be allowed to go and see whether he could get the car any further.

With the second Aston-Martin we had a great duel; Paul, who was driving, making effective use of his car's high third, kept passing me on the way to the grandstand from Arnage, which is slightly uphill most of the way, a compliment which I returned by passing him on the long straight past the Café de l'Hippodrome by virtue of the Alvis' high top, a battle that lasted for at least six rounds, to our mutual joy.

Just on 214 miles, a lap or two short in fact, I got a bad shock, for the engine showed unmistakable signs of fuel starvation, the more unexpected because careful tests had proved the Alvis should easily cover the twenty-lap 214-mile spell on a tankful. Much worried, I could

## MOTOR RACING

do nothing but continue, though the engine cut off at intervals down the straight, searching as far as I could for any evidence of a leak, and vigorously thumping the fuel tank scuttle filler while passing the pit to show there was trouble. It was an immense relief to pass the line with the lap scorer at "twenty", again signalling that I was coming in at once instead of continuing for another two rounds as planned.

That, of course, completely staggered the pit "personnel", so when I did arrive the filling cans were not ready, causing quite a delay, though, fortunately, no panic. The beastly little ten-litre (two-gallon) cylindrical tins were difficult to handle, and the seals used to make sure that ordinary fuel was being supplied took quite a time to cut. Then Dykes, whipping off the headlamp covers, went away with a rush.

In the pit I met Harvey, who, it seemed, had had symptoms of the same trouble, and had also come in early, and, after discussing the thing thoroughly, and calculating the amount of fuel put in as against the known contents of the tanks, we came to the conclusion that, for some reason, the final gallon or so could not feed out of the tank properly. Actually, the tank was saddle-shaped, with two feeds, one from each side, coming in to a union for the single carburetter pipe, and what had happened was that the fuel fed weakly when confined to the two sides of the saddle. Anyhow, we rearranged the routine to allow a stop to refill immediately after twenty laps, making sure each time that the tank was really filled.

As a change from the usual restaurants, *The Autocar* this year organized a tea and breakfast room, which was immensely appreciated by the English teams, eggs innumerable, bacon by the yard, and tea by the gallon being

consumed amid some beautiful caricatures which Mr. F. Gordon Crosby had perpetrated as decoration ; in fact, the thing became a general rendezvous and club. Myself, I thoroughly enjoyed English tea, in the making of which some diplomacy was necessary, for the cook at first refused to believe that we actually wanted the tea-leaves put in the pot, an action which seemed to him to border on madness, since tea could easily be made by dipping muslin bags full of leaves in the water until it went yellow, and using one bag over and over again !

My next spell, of course, was in darkness, but none the less enjoyable for that, and it was immediately apparent that there was plenty of free-gratis-and-for-nothing trouble about. Benjy, on taking over from Clement, had to come in with smoke pouring from the Bentley's bonnet, Clement then working on the car to repair a broken oil lead to the camshaft before continuing. This stop put the Stutz in the lead with Rubin on Barnato's Bentley just behind.

At one time a single fierce shower of rain considerably upset everyone, making it difficult for those who had no vizors to see at all, while even for those who had it was deuced unpleasant. Moreover, just after we turned Mulsanne, a rear tyre punctured and the car behaved in so extraordinary a manner that I nearly collected several trees, and stopped, believing at least two tyres had gone. Scratching round in the dark showed, however, only one flat cover, so I crawled to the pit and changed a wheel, where more fun ensued when the jack slipped three times because we had had no time to widen the base.

Every now and then a terrific blaze of light heralded the exciting passage of a Bentley, either Barnato or Chasagne, who was driving for all he was worth to get back to position, the glare of the lights as they came up making

## MOTOR RACING

it quite impossible to see anything clearly ahead. Once I saw a Lagonda stationary in the wood near Arnage, its radiator leaking, steaming furiously, and later, a thick mist descended on the straight through which one had to drive, praying to whatever gods there be that no other car was just ahead, deadly afraid of losing direction and winding up in a tree all-out. The mental effect of this mist was worse because the grandstand stretch was clear, and the pit control, therefore, could not make out why we were so slow. This eventually led to the evolution of a special signal for mist.

Before dawn the supercharged Salmson stopped with trouble beyond Mulsanne; an Itala, driven by the terrifically excitable individual "Sabipa", broke a valve rocker, which the driver had to change, burning himself considerably in the process; a Chrysler went out, and then, on the road just beyond Pontlieue, I saw Clement balefully regarding a huge column of steam spurting from the Bentley's radiator; a water joint had given and repairs were hopeless.

But not for a moment did the pace of the race relax. Barnato forced the veteran "4½"—the car that had figured in the crash in 1927—past the Stutz to the lead, a Chrysler coming third, Benoist and d'Auvergne's Itala fourth, while Harvey and Purdy had got up to seventh, with our car just behind, both the Alvis running regularly, though the feed trouble persisted on the last two rounds before we could fill up. I was, moreover, getting a bit of my own back on an old friend, Benoist, who, still as satanically cheery as ever, was not much faster with the Itala than the Alvis, and who was having great fun with brakes into the bargain, so that, when we both roared down to Pontlieue hairpin together, it would be my turn to grin while Benoist, unable to stop, went on towards Le Mans. †

At midday on the Sunday, with four hours to go, the old Bentley was still maintaining its terrific pace, but the Stutz was falling behind because neither Brisson nor Bloch could keep top gear from slipping out at odd intervals; the Chrysler was ninety miles behind the Bentley, then came our two Alvis and Benoist's Itala, a B.N.C. "1,100", which was running marvellously, and the second Bentley going flat out, with Chassagne or Tim, as the case might be, while an 1,100 c.c. Salmson, handled by the tall but melancholy Casse and his friend Rousseau, was leading the Rudge-Cup contingent. The remainder were all more or less in trouble, including a weird and wonderful machine with separately sprung wheels, which bounced about so queerly as to give one the impression that it was flapping its ears.

One car, though, was being made to finish in the face of fearful difficulties by d'Erlanger and Douglas Hawkes, who, in spite of the fact that the stricken Lagonda's front dumb iron had now broken right away, continued at a speed which would have been remarkable had the car been sound, d'Erlanger's face as wooden as ever and Douglas more like a gnome every round.

Le Mans races are always full of surprises, pleasant or unpleasant according to the point of view, especially near the finish, when least wanted. Certainly they are exciting for spectators, who, as in previous years, crowded thick against every barrier to watch the final rounds, thoroughly appreciating a really good piece of work at a corner as no other nationality in the world can, and knowing, as if by instinct, the positions of the cars.

This year, when the Bentley win seemed assured, the nut holding one radiator trunnion came adrift and the loose radiator, further irritated by frame movement, lost water apace, an agonizing experience for the driver watching

the thermometer dial and knowing that no water could be obtained in those last rounds, knowing also that Brisson, cursing the gear change and still holding top in by hand, was doing all he could to catch up.

Meanwhile, the Alvis had another puncture, with Dykes driving, a thing the more irritating because there was even more fun with the jack, which so annoyed the driver, who was tired, that for a moment he forgot to change the wheel, a combination of circumstances that lost us a place just behind Harvey at the very end of the race.

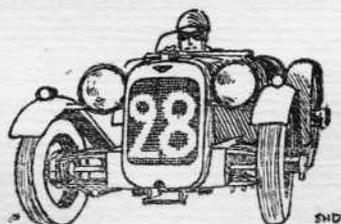
Many eyes were now glued on watch hands, which seemed unable to move over those few remaining minutes, minutes heavily fraught with possible disaster, as the leading Bentley was now without any water at all, and the thermometer had given up all hope of recording after its hand, as its driver alleged, had completed two revolutions! It was win or burst with a vengeance, since the Stutz control realized the circumstances, and a faster signal hung permanently from their pit. In addition, Tim and Chassagne had driven with such abandon that the second Bentley lay fifth, a position one would never have imagined possible after its long delay in the early stages of a terrific race.

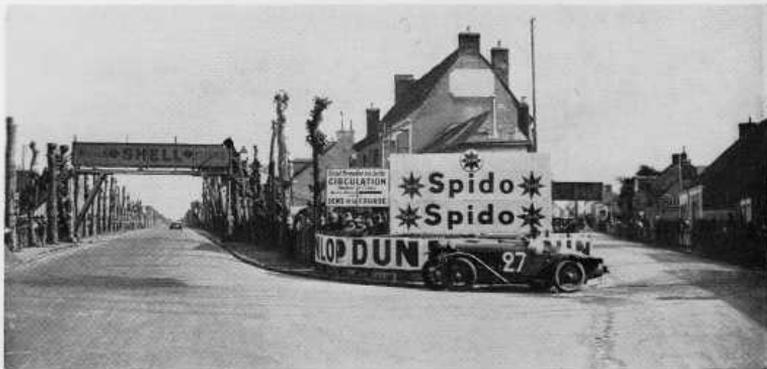
But, as things turned out, the English luck held, the watch hands at last reached four p.m., the mighty Faroux himself unfurled the yellow flag, and the old car which had crashed first of the team in 1927 came over the line, air-cooled, a winner with the great average of 69·11 miles an hour, followed by the Stutz with 66·42, Stoffel and Rossignol's Chrysler with 64·56, the Chicas' Chrysler with 62·45, and then the second Bentley with an average of 60·46 m.p.h. Sixteen cars finished of the thirty-three, Harvey's Alvis being sixth, averaging 59·19, and ours ninth, averaging 58·29 m.p.h., so both qualified, both

beat the previous 1,500 c.c. record, Harvey won the class, and we had done exactly what we wanted to do without a single sign of mechanical trouble. The remaining finishers were Benoit's Itala, the B.N.C., three front-drive Tractas, a Lombard, a S.A.R.A., and an E.H.P., together with Casse and Rousseau's Salmson, which won the Rudge-Whitworth Cup, and, in eleventh place, the much battered Lagonda with the broken frame, which was triumphantly brought across the line by d'Erlanger and Hawkes.

As usual, the aftermath of victory was worth having, the people of Le Mans one and all being unaffectedly delighted that Bentley's had won, while every car that finished was smothered in flowers during the subsequent procession round the town. It was all very delightful, and quite unlike England.

From that race a whole host of interesting modifications were evolved for the Alvis; the steering was altered, normal type shock absorbers were fitted; the frame was stiffened in front, as well as the main side members, and the rear suspension was altered, a number of these changes being actually introduced after a close study of photographs of the cars on corners during the race.





Harvey's Alvis taking Pontlieue corner in the 1928 Le Mans race. The acute bend, one of the sharpest on any course, is well shown.



The front-drive Alvis on Arnage turn at Le Mans. In this photograph the headlamp covers are in position.



The two Alvis at the finish. Number Twenty-seven has dropped a headlamp, a not unusual occurrence in this race.



Head, with the control chart, and Major A. J. Palmer, on the pit counter at Le Mans.