

THE *Lagonda*

No. 56

Autumn 1966



THE MAGAZINE OF THE LAGONDA CLUB

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MAGAZINE

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Autumn 1966

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Contributions do not necessarily represent the views of the Committee nor of the Editor, and expressed opinions are personal to contributors.

FRONT COVER: Charles Elphinstone and 'Giralda' go for a spin in the Hertfordshire lanes.

Photo: Autocar

NOTES, NEWS AND COMMENTS

DINNER-DANCE. In the belief that the members should always have what they want the Committee have changed the character of the annual dinner dance and prize giving and the next one is going to be a much smoother and sophisticated affair but of course with the traditional chummy Lagonda atmosphere.

On the 4th February 1967 it will be held at the REMBRANDT HOTEL, THURLOE PLACE, S.W.7 (close by South Ken. museums) and there is plenty of room to park your car.

To come to such surroundings will cost more money but the Entertainments Committee are confident that you will consider it well spent. Drinks will include draught beer and the nosh will be good so the housekeeping you save on lunch that day can buy you another round.

Keep the date free and a special announcement will be made nearer the time.

★ ★ ★ ★ ★

BIG DEAL FOR 1967. Carrying the opening sentence of the announcement about the Dinner-Dance to absurdity your hard-worked competition staff have arranged a series of events to be run in conjunction with the Bentley Drivers' Club during 1967. Matching our cars together has always been good fun and these meetings will show how close in performance they are. The events will include the sprint at Curborough once again; an inter-club driving test meeting in the Silverstone or thereabouts area; and a standing $\frac{1}{4}$ mile sprint at Ford in Sussex. In addition there will be the Silverstone meeting and it is hoped Firlie as before. The Lagonda entry at Curborough and Silverstone this year impressed everyone and if this can be doubled next year James Woollard and Mike Wilby will consider all their diplomatic efforts worthwhile.

★ ★ ★ ★ ★

DEVOTION TO DUTY. Jimmy Longridge, one of our most active Northern Ireland members, arrived at the recent A.G.M. having made the journey by boat, train, motorbus, and finally by walking along an English country road. Our wild colonial boy had a better ride back to London after the meeting in the comfort of

Richard Hare's excellent LG.45 D.H.C. Jimmy, by the way, is trying to organise some meetings in Ireland and it is hoped that all who can enter will.

★ ★ ★ ★ ★

CHAIRMAN IN 1991. Congratulations to Marion and Mike Wilby on the birth of a son. At 8 lb. he is not stripped for racing but it is understood that James Crocker has already filled out his nomination form for Chairman. Can James hang on that long?

★ ★ ★ ★ ★

HURRY NOW! In the few remaining days for Christmas you just have time to get the last of the Club Christmas cards. Well produced as ever they are better value than you get in the shops, and they help a good cause.

★ ★ ★ ★ ★

A NEW TREASURER. Having completed three years in the unenviable job of collecting the subscriptions and administering with no little skill the Club's finances PETER DENSHAM hands over the job to CARL NOLTEN.

To Peter and his wife Lucy we extend our hearty thanks for a job well done, and when it is remembered that Peter founded the 2-litre Register more than 20 years ago and then came back to do another job of work one wonders if enthusiasm can run higher. Carl Noltén is a newcomer to the Club and to volunteer for this job so soon must show that he loves Lagondas too. The best of luck to him.

★ ★ ★ ★ ★

AND A NEW MIDLAND SECRETARY. At the same time CHARLES GREEN finds pressure of work makes him give up the job of Midland Secretary, a task he has carried out with much persistence in an area sparse with members for a good many years. He makes way for our old friend HARRY WAREHAM who is mad enough to take on the job for the second time running. Thanks to Charles for doing it so well and thanks to Harry for continuing the good work.

Still on new faces we welcome DAVID JOHNSON to the Committee. David, a 2-litre lover, has already worked behind the scenes and is responsible for the newly formed rescue squad in addition to the production of the current issue of instruction books.



"It's just a year today since he started out for the Lagonda Club A.G.M. and I haven't seen him since. I keep telling myself he may be having magneto trouble."

NORTHERN NOTES

from Herb Schofield

Northern Driving Tests 2nd July 1966

A disgraceful entry of only eleven cars annoyed the Northern Secretary who had spent much time and trouble organising this event, and a lot of money in hotel accommodation and petrol. I sometimes fail to understand the utterly apathetic attitude the members of this club have towards using their cars and meeting other members. The situation at present seems ridiculous when one considers that the Bentley Drivers Club can assemble 40 cars, and even small organisations like the Bean Car Club have far more entries for Driving Test and Social Meetings than we do. One is sadly driven to the conclusion that ninety-five per cent of people join the club for spares and technical advice to be used on cars we never see.

The overall winner of this year's meeting was David Hine in his M45 Tourer—a splendid

performance, he was followed by John Broadbank in his LG6 Saloon and Alan Brown in the 2-litre. Winner of class three was Peter Schofield in an E-type Jaguar. After the meeting was over a sprint was organised over a distance of about 775 yards, and the following interesting times were recorded by cars in full road trim:

P. B. SCHOFIELD	Jaguar E-type	16.6 secs.
HINE/SCHOFIELD	LG45	19.0 secs.
UNKNOWN DRIVER	3.4 Jaguar Special	20.0 secs.
" "	Austin-Healey	21.6 secs.
J. L. DAVENPORT	LG45 Rapide	21.8 secs.
D. R. HINE	M45 Tourer	21.8 secs.
R. PATERSON	4½ Special	22.2 secs.
J. BEARDON	M45 Tourer	23.0 secs.
K. PAINTER	3½-litre Tourer	23.6 secs.
B. GREEN	M45 Tourer	24.2 secs.
DR. J. RIDER	M45 Rapide	
	(Clutch slip)	24.4 secs.
K. PAPE	Jaguar 2.4	24.4 secs.
A. BROWN	2-litre	26.0 secs.
J. BROADBANK	Diesel LG6	29.0 secs.
A. CAWLEY	P.V.T. Rolls-Royce	35.0 secs.

The day concluded with an excellent dinner at the "Crown" in Bawtry.

Northern Alvis Day—Driving Tests

There were over thirty competitors at this Meeting, with a special class for Lagondas and Bentleys. The results in this class were as follows:

1st	ALAN BROWN	2-litre Special
2nd	K. WINDER	4½-litre Special
3rd	H. L. SCHOFIELD	LG45

Northern Autumn Social and Concours, Bramham Park, September

Firstly, many thanks to Mr. and Mrs. John Broadbank for organising the Meeting, the Rally part of which was supported by eight or nine stalwarts. A great pity but the competitive spirit within the Club seems to be dying—but maybe only this year.

The Rally was won by Ken Pape with Dearden-Briggs 2nd.

The Concours attracted about 14 cars, which with a further six attending brought the total to around 20, which I suppose is quite good

(although I remember 40 two years ago). Some members had travelled quite far to attend, these included DIDSBURY in a nice original 2-litre which is used daily, BOYLAN in a 16/80 Saloon, and TURNBULL-HARRISON in an M45 Tourer which had recently been enthusiastically rebuilt.

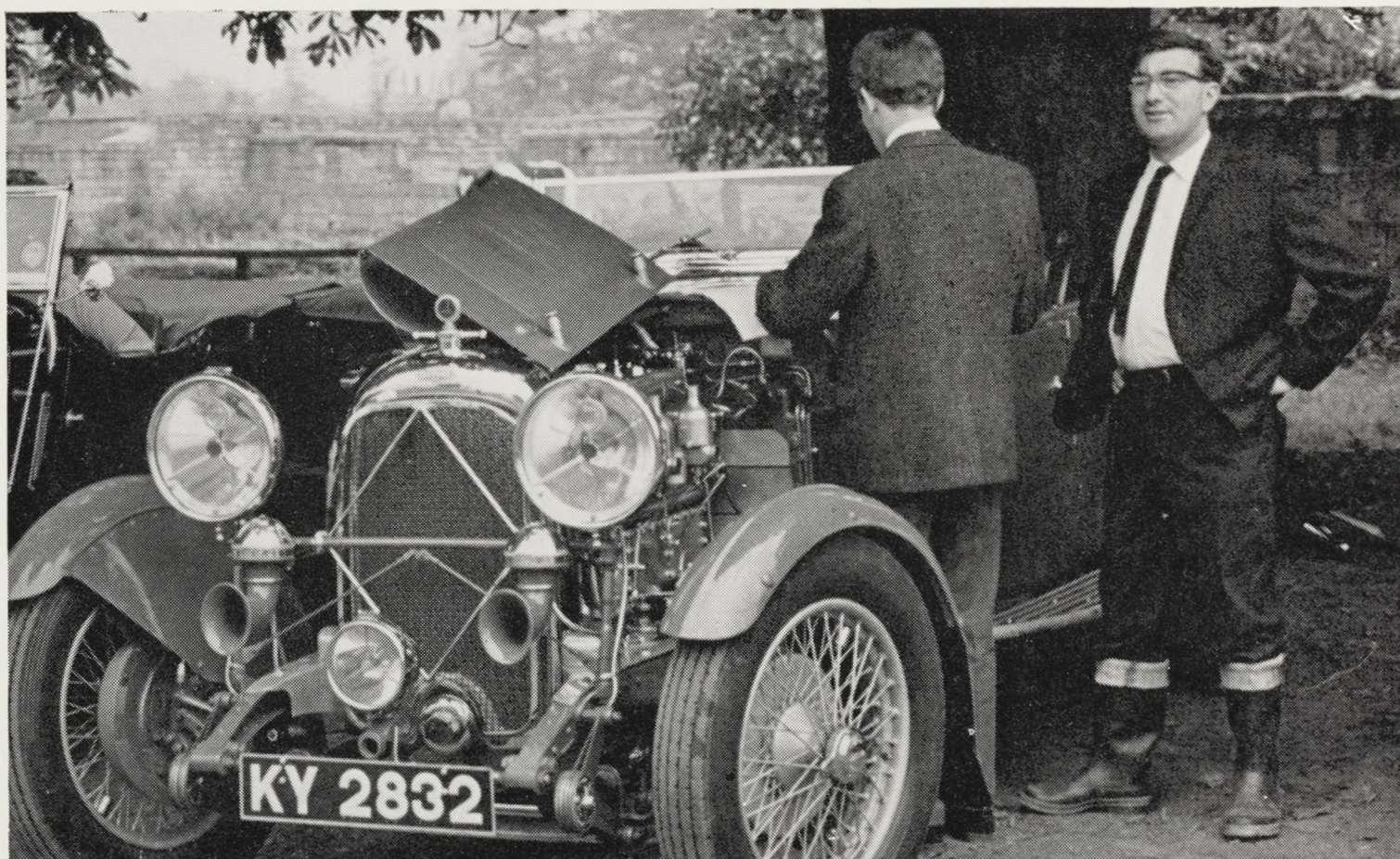
The Concours was judged by the Northern Secretary and Alan Brown, who picked the vintage 3-litre Tourer of Dearden-Briggs for 1st place (and *not* because of a party the previous evening at his house, with much drink and unusual sleeping arrangements!), 2nd was Thorneycroft's well-known 3½-litre, and 3rd David Hine's M45 Tourer. Only three marks separated the first three. Highly commended were Ted Townsley's lovely LG45 Tourer, who with a bit more cleaning effort could win next year and Stuart Ferber's M45 Tourer which was only spoilt by an ugly air intake hole in the bonnet side, and front wings which were possibly just a bit too much "competition". Another splendid motorcar was Brian Riggs' 2-litre which eighteen years ago belonged to Herb Schofield's father.

The Concours Cup donated by the Northern Secretary was presented at the end of the Meeting.



Part of the line-up at the Northern Social.

Photo: J. L. Davenport.



Alan Brown indulges in 'bird'-watching while the Northern Secretary judges a concours entry.

Photo: J. L. Davenport.

V.S.C.C. Oulton Park Meeting, June

Not this year held in the normal warm sunny weather, in fact it rained for most of the day.

The edge was taken off the Meeting by the sight of James Crocker's smashed Lagonda Rapier which had been crashed in practice by Julian Seddon. Organ's Rapier wasn't accepted by the scrutineers and the Elder/Abson Rapier once again had mechanical trouble after putting up some extremely fast times in practice. This left only Young's 3½-litre and the 4½-litre Lagondas to uphold the Club prestige. Brin Edwards had a tough handicap, and the car isn't yet quite as fast, despite a Sanction IV engine, as it has been. Iain McDonald in a standard LG45 Tourer and Roy Paterson in his Special, apparently with a tired engine had only reasonable handicaps, but very favourably placed was the LG45 of Hine and Schofield, which in the 1st 4-lap race, driven by Schofield, was beaten on the last corner by a 328 B.M.W. and came 2nd. The weather conditions for this race were terrible, most competitors returning to the paddock soaked through to the skin. In the final

race of the day Hine had a complete runaway victory winning by a good 25 secs., and making fastest lap. Peter Weir in his LG45 starting for some reason 10 seconds behind David was 4th. By this time the track was quite dry.

South Yorks. Sprint Championships 24th/25th Sept. Sandtoft Airfield

Very unfortunately this Meeting fell on the same weekend as the A.G.M., but nevertheless was supported by five Lagondas, Hine M45, Brown 2-litre, Rider M45R, Marsh Rapier and Schofield LG45.

Curborough Sprint course does not begin to compare with Sandtoft, for here we have a genuine circuit with chicanes and fast curves, the procedure being one standing lap and two flying, cars despatched in groups of three starting at 10 secs. intervals. This gives you something to drive against. Organisers of next years joint B.D.C./Lag. Club Sprint should bear this venue in mind which is not far off the A1 about 150 miles up from London.

NORTHERN NOTES CONT.

The South Yorks. Sprint Meeting attracts thousands of spectators who enjoy the added appeal of a class for vintage and P.V.T. cars.

The commentator at the Meeting was possibly not aware of the speeds that pre-war cars can go at and thought it "fantastic" as did the crowd, that an old Lagonda could, for example, catch up a tuned Imp on this tight and narrow track.

The class was won by Schofield from Barker in a Hudson engined Railton Special, and Hine in his M45 Tourer, which earlier in the day had been timed speeding round the track by a professional film unit—and this must have gone to his head for David was seen shortly afterwards heading for the 'Gents' with his camera at the ready!

At the end of the Meeting the winners of all the different classes (18) ran off against each other and the car most improving its time was awarded the "SNIPE TROPHY", one of the major awards of the Meeting, and surprise, surprise, this was won by Schofield in the Lagonda.

A truly splendid weekend and many thanks to the S.Y.C.E.C. for inviting us along.

Curborough Sprint Meeting

Some of the final times quoted in the last issue of the Magazine, for class J, would appear to conflict with the official times quoted in one Results Sheet. They are as follows:

1st	D. R. HINE	4½-litre Lagonda	45.55
2nd	P. N. WEIR	" "	45.87
3rd	H. L. SCHOFIELD	" "	46.78

The times were therefore beaten by two pre-war Bentleys, H. P. HINE (44.0) and MOUNTFORT (44.48).

Autumn

This brings the racing season to a close, a successful one for many Lagonda drivers—some new faces too. Keep an eye on Peter Weir who could do very well if he would spend more time preparing his Special. Alan Brown's 2-litre should be faster next year. Mel Riding is contemplating a V-12 Special, as is the Hine/Schofield partnership.

Vic Wiltshire should have a Special Rapier out next year, and over in Leeds Ted Townsley is working on another Special, so 1967 should be enlivened by many Lagondas—fast if not elegant.

H.L.S.

What a Week-end !

THIS IS THE STORY OF AN EXCEPTIONAL TWO days motoring as experienced by your reporter.

We are fortunate in West London in having our own weekly 'Noggin and Natter' and most of the group set out on Saturday 17th Sept. to Castle Combe for the V.S.C.C. Meeting. Yours truly was in the 2-litre Continental with Brian (Rebuild-em) Horwood and Steve Benson in the High Chassis 2-litre. We soon hit trouble in the shape of a big traffic hold up in Reading. After some three-quarters of an hour we pushed on to Marlborough where we stopped to buy some food. On again only to meet another hold-up in Chippenham. Our estimates of running time were now well adrift and we missed the first race.

This meeting is very pleasant and the atmosphere is rural and informal. I was surprised therefore to find that Lags. were very thin on the ground. We were all the more pleased to meet Mrs. De Salis in her blown 2-litre. Thank goodness some of our stalwarts were keeping the flag flying. J. R. Bolton was very steady in his very neat low chassis 2-litre. The Scottish contingent was there in the shape of Iain MacDonald in the LG45 and Johnathon Abson in the 1485 c.c. Rapier. Now that the Severn Bridge is open we would have been most surprised if Brin Edwards had not been there. We were not disappointed and were very intrigued to see him start on level terms with a Speed Six Bentley with all the fast boys. Sorry you did not win Brin. Anyway we did see the Rapier get 2nd place in Race 5.

By now we had joined up with the rest of our West London Group in the shape of Geof Clarke in the 3-litre Tourer and Tony Newell (blown 2-litre, under repair). We were due to set off to Beaulieu at 4 p.m. for the Museum Meeting. What with an attractive race to watch and passengers to rearrange it was 4.30 or more before the three cars set off. With the morning frustration in mind I took the trouble to work out a route avoiding anything in the shape of a big town. It paid off, the Continental was in the mood (2-litre owners will understand the remark), and I had one of the fastest traffic-free runs I can remember.

Late again, of course, but I did have time to count some 20 Lagondas in the park before

rushing into the Museum to join the others. In case you did not read the notice this was a private viewing arranged by Ivan Forshaw, after the public had departed. I tried to count the number of people present, all I can say is that there were fifty in sight at one moment. Well done, members. Full marks too, to Doc. Rider from Doncaster, Unsworth from Manchester, Martin from Coventry and Allsager from Stockport. If anyone else came from afar off, my apologies for having missed a trick.

It was soon nine o'clock; some went to the library, some went off home and six of us decided it was high time we found food and shelter. The last five beds in a hotel were booked which left No. 6, who had no cash anyway, also with no bed. The Continental was closed up, air cushions rearranged, the car parked in a quiet corner and No. 6 declared he was content with his lot. No meal was to be had, the food in the cars had been finished up hours ago but if we could not do anything about hunger, thirst was a different story.

Sleep came easily that night and the next thing I knew was the bedroom phone ringing. It was the hotel manager. "Did I own one of the Lagondas?—Yes—Would I come down and lock it away? strange characters were around." The last thing I wanted the manager to look at was the Continental and was exceedingly loth to get out of bed. So polite chit-chat followed. I replaced the receiver and went to sleep again.

There were six for breakfast the next morning. By the time we had eaten all that we could get from the kitchen there was just time to fill up with petrol, dash off to the nearest village for food and on to the third and last of the weekend's events, the New Forest Picnic.

It was a most pleasant venue, a clearing in the forest opposite an Inn, what more could one ask for, even the sun shone. Whilst I was there nineteen Lagondas turned up, all models apart from Rapier. First car to be mentioned must of course be GH1251, Seaton's 3-litre Tourer. WHAT A CAR! Adequate description is beyond me, it's just fantastic. Mention must be made of the blue LG6 of Martin and a similar white car of Doc. Gale. Phil Ridout had come down in his very desirable vintage High Chassis 2-litre. An interesting car which I had only seen once before was Clifford Rees's De Clifford Special. This started life as a 16-80 Tourer. I should imagine that very little of the original car remains apart from the body and chassis. It now boasts

a neatly fitted modern Austin engine which looks quite appropriate in its present surroundings. A later arrival was Lt.-Col. Bowden in his green M45 Tourer, complete with wheel discs. This car has been owned by him since new. Is there anyone else in the club who can match this record? or that of the De Salis blown 2-litre which has been in the family since it was 18 months old?

Your reporter begs forgiveness for not having noticed more cars, he seemed to be either eating or talking; when not thus occupied he was doing the other thing. An observant young modern Miss summed it all up. After being led round the cars by her parents, she exclaimed "Mummy, it must be a Lagonda Meeting".

After such a weekend the usual rat race up the main road to London would have soured the memories; so the Continental with its four occupants meandered along the South Downs to beyond Petersfield, then, still on the minor roads, turned north, eventually coming out onto a main road north of Woking.

Thank you Ivan! We all enjoyed it immensely.

CHOTA WALLAH.

The Georgian Restaurant

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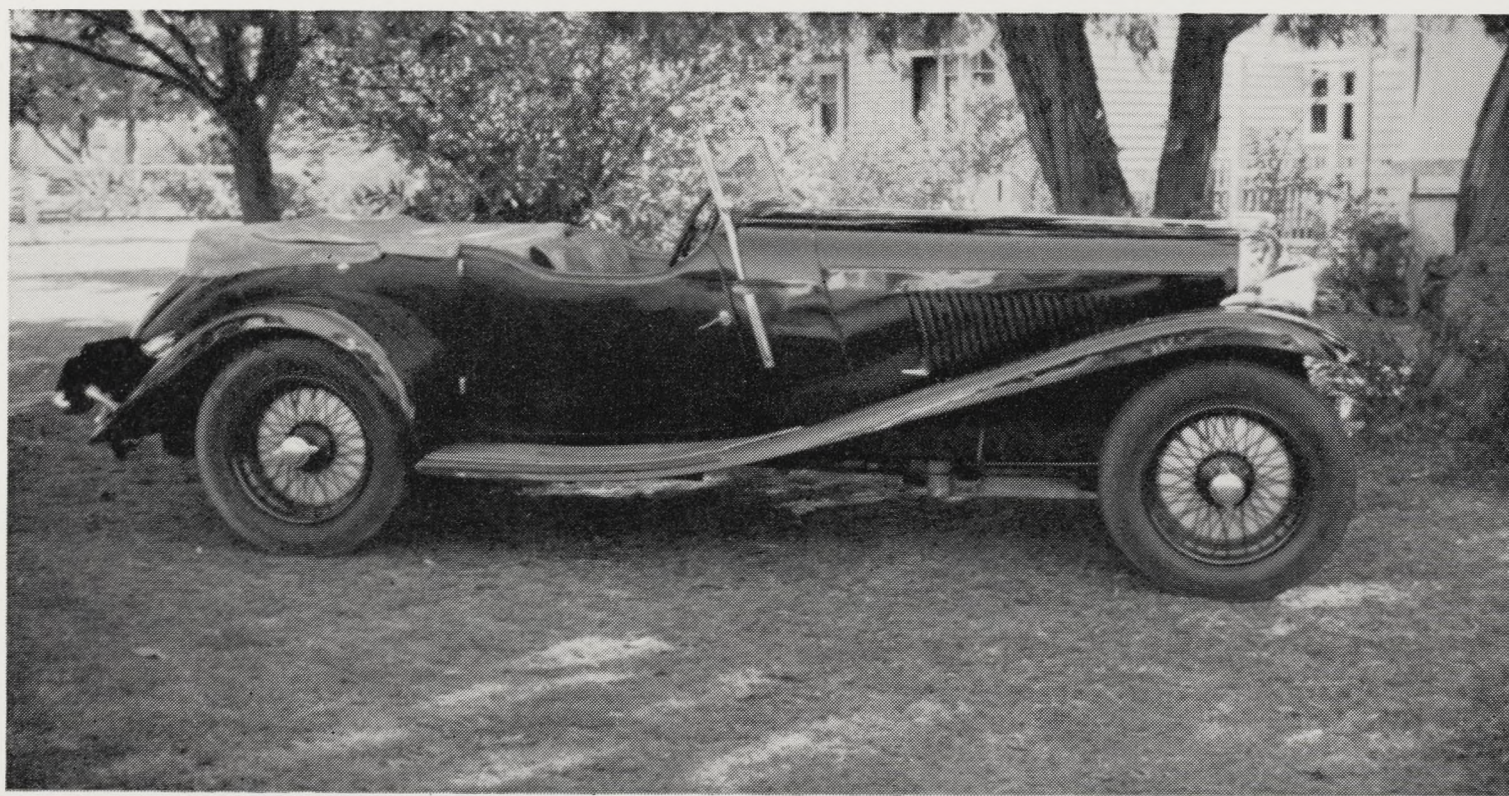
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THE FIRST M45 RAPIDE

This is the very first Rapide, presented on the Lagonda Stand at the 1934 Motor Show. The coachwork, though virtually identical with that fitted to all later M45 Rapides and to 3½-litre Lagonda Tourers, was made by Van den Plas, and carries that coachbuilder's plate. The car was bought at the Show by owner Claude Faye's grandfather. The car has been in the same family all its life and its condition is as new.



THE LAGONDA-MAYBACH PRE-SELECTIVE GEARBOX

ONE OF THE MOST INTERESTING OF THE MANY NEW chassis exhibited at Olympia last October was the three-litre Lagonda Special Selector model equipped with an entirely new gearbox made under Maybach licence. Quite a number of these cars has now been used for some time by the public, and the gearbox is giving uniformly excellent results. It is beautifully made with wide helical gears very firmly supported by adjacent bearings, and to enable this form of construction to be used the casing is split vertically into halves, on a longitudinal plane, is bolted together and is provided with end covers.

The four forward speeds normally employed are pre-selected by two small levers located above the steering wheel and come into action automatically when the accelerator is momentarily released; these four speeds are all very quiet. Additionally there is a gear lever on the box by means of which auxiliary reduction gears can be brought into action. The main object of this is to provide an emergency bottom gear, but all four speeds can be used with the auxiliary reduction superimposed if desired. The gear lever also controls the reverse gears, and has, therefore, four positions—centralised for neutral, pulled back for direct drive, pushed forward for the emergency low gear and placed in a separate slot for reverse.

Procedure when Driving

Upon first getting into the car the driver normally sets the two small levers above the steering wheel—one of which is longer than the other—to the positions necessary for the engagement of bottom gear. He then declutches, moves the central gear lever into the “direct-drive” position and re-engages the clutch in order to cause the car to move off. Thereafter, any gear can be pre-selected by shifting the small levers to the positions shown in diagrams reproduced, the

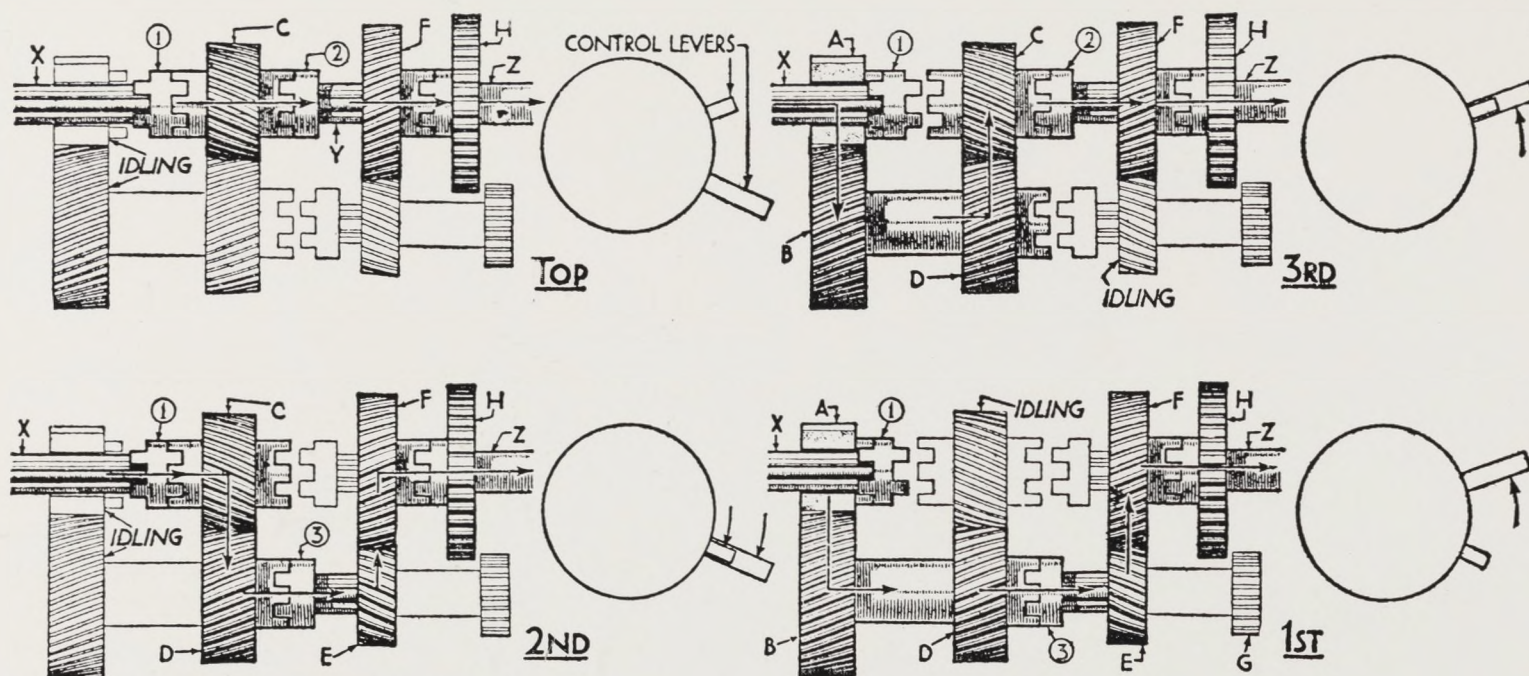
change actually taking place when next the accelerator is momentarily released. Incidentally, for a very quick change up, the clutch pedal can be depressed to bring a clutch stop into action, but this is not strictly necessary. The change down is extremely rapid and does not necessitate declutching.

Each of the two small gear levers is connected to an independent rotary valve which controls the way in which the inlet pipe of the engine is coupled to a pair of servo cylinders on the gearbox. In these cylinders are double-acting pistons connected by rods and springs to dog clutches within the box. Suppose, for example, that a certain dog clutch has to be caused to slide out of mesh with one set of dogs, and into mesh with another set, in order to change the gear. By moving the appropriate lever the piping connected to the corresponding servo cylinder is changed over, so permitting the engine to exhaust air from one end of the cylinder and also permitting air to flow to the other end, which was previously subjected to a partial vacuum.

The piston then moves, under atmospheric pressure, and in so doing it compresses a spring which applies a powerful force tending to shift the dog clutch. So long as the engine is conveying power, however, the dogs cannot be pulled out of mesh. The change, therefore, awaits the momentary release of the accelerator which relieves the load and enables the spring to “snap” the dog clutch across into its new pre-selected position.

A receiver, or cylinder, is connected to the system in which a partial vacuum is maintained by the engine, and this enables no fewer than three gear changes to be carried out should the engine be inadvertently stopped in neutral. This is an important safeguard should the engine be required as an emergency brake on a hill. Another point to be mentioned before leaving this part of the description is that there is a third servo cylinder, with a single-acting piston, which is solely used to engage a little cone clutch; this synchronises the speeds of just one of the dog clutches before engagement. The others engage without this refinement, as their speeds are not markedly dissimilar.

Turning now to the general arrangement of the gearbox itself, this is most ingeniously contrived to provide a large number of speed ratios with a relatively small number of gearwheels. Actually, the four silent speeds necessitate the use of only six gears; these run in pairs, in constant mesh,



Four diagrams in which the shafts, dogs and gears actually employed for the four silent-speeds are in each case picked out by heavy lines and shading. The auxiliary central gear lever is in each case in the direct-drive position, with the dogs of the sliding gear (H) engaged to couple the shafts Y and Z.

and are provided with helical teeth to ensure silence. At the back of the box there are additional gearwheels used for reverse and for the indirect low gear previously mentioned.

We will commence by assuming that the central gear lever is placed in the direct-drive position and then, referring to the diagrams reproduced, a gear (H) will have been caused to slide forward, engaging dogs which couple it to another gear (F). This means that for all normal running the short shaft (Y) is permanently coupled with the tail shaft (Z) which drives the propeller shaft.

We will now suppose that the small gear levers on the steering column are set with the shorter one at the top and the longer one at the bottom, as shown in the first of the series of diagrams reproduced. It will be understood that each small lever has only two operative positions—up or down.

The longer lever controls a dog clutch (1) and when in this position, causes this clutch to move to the right; the shorter lever controls two dog clutches in unison (2 and 3) and when set in the position shown causes the clutch (2) to be engaged and the other clutch (3) to be disengaged. It will, of course, be understood that the control is indirectly effected by the servo cylinders, as already explained.

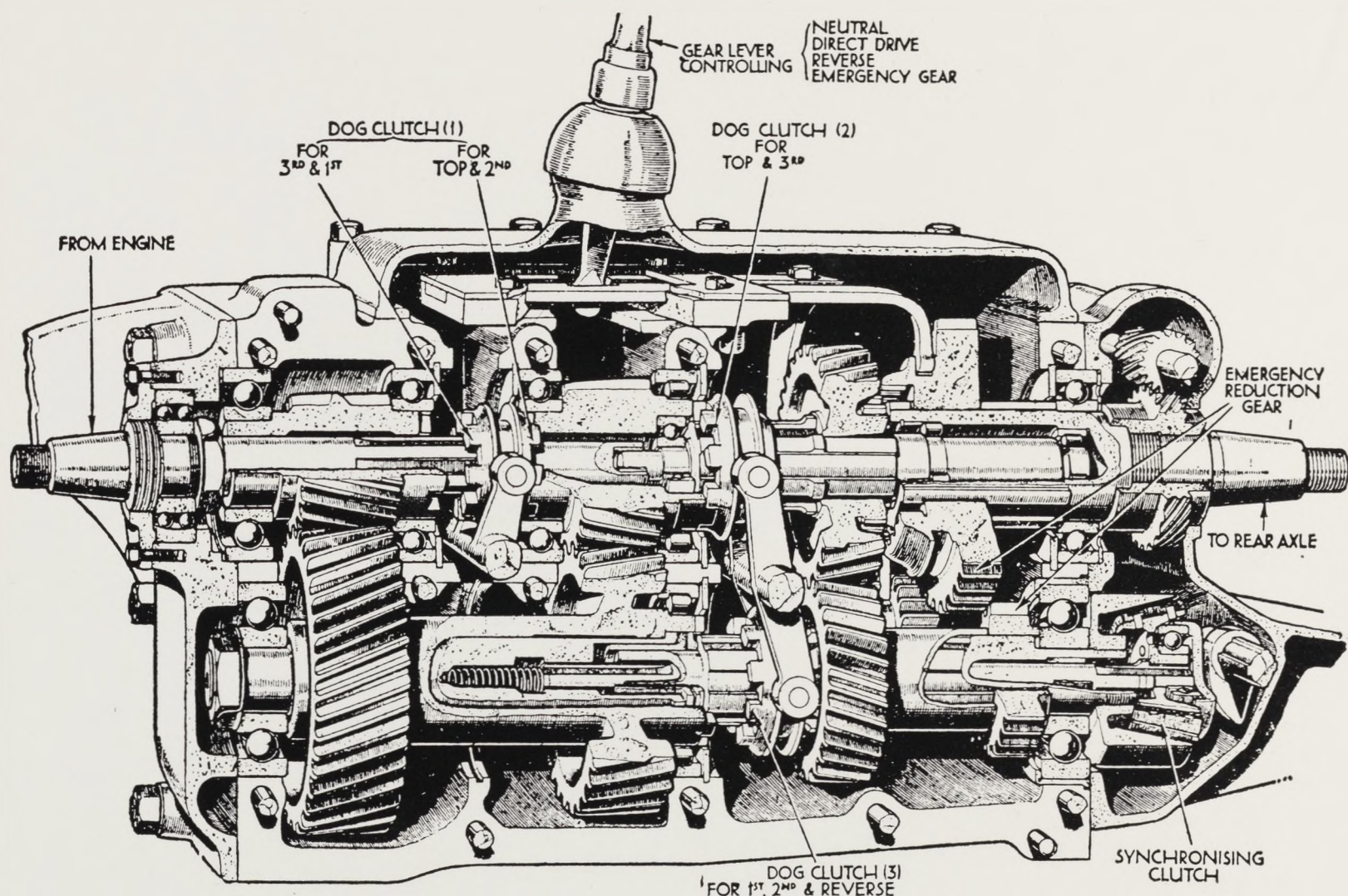
Tracing out the results of these movements, it will be found that the primary shaft (X), driven

by the engine, is directly connected through the gear (C) to the intermediate shaft (Y), and, as already explained, this shaft (Y) is already coupled to the tail shaft. A direct drive, right through the box, is therefore obtained.

For third speed the short lever is left where it was and the positions of two of the dog clutches (2 and 3) therefore remain unaltered. The longer lever, however, is shifted upwards, with the result that the dog clutch (1) is caused to move from right to left. The direct connection between the shaft (X) and the gear (C) is thereby broken and the gear (A), which was formerly riding loosely on its shaft, becomes coupled thereto by the dogs. The result is that an indirect and silent third speed is obtained from the shaft (X) through the gears A, B, C, D to the intermediate shaft (Y), and thence to the tail shaft (Z) as before.

To obtain second speed the driver takes hold of both the levers and moves them simultaneously downwards. As a result, the dog clutch (1) moves again to the right while the movement of the shorter lever causes the upper dog clutch (2) to disengage and the lower dog clutch (3) to engage. The gears (A and B) then run idly and the drive is conveyed from the shaft (X) through the gears C, D, E and F to the tail shaft (Z). As the gearwheel sizes employed are different from those formerly in use a lower ratio is obtained.

For first speed the shorter lever is left in its



The Lagonda-Maybach gearbox with one half of the casing removed. Six helical-toothed gears provide three silent indirect speeds, these, and a direct drive on top being pre-selected and controlled by dogs. The action is elucidated by diagrams on the following page.

lower position and the longer lever is pushed upwards; their positions are therefore interchanged as compared with those required for top gear. The result of this is that while the lower dog clutch (3) remains engaged and the upper clutch (2) remains disengaged, the dog clutch (1), controlled by the longer lever, couples gear A once again to shaft X. The gear (C) then runs idly and the drive is conveyed through gears A, B, E and F, to the tail shaft (Z), an altered ratio being once again obtained.

The small cone clutch to which we have already referred comes into action whenever the lower dog clutch (3) is about to engage. If the foregoing remarks have been carefully followed the need for this will be obvious, because it will

be realised that this clutch may be called upon to connect a rapidly rotating part to one which is idling, or even stationary. The cones are brought into contact to synchronise the parts of the dog clutch by the auxiliary servo cylinder already mentioned, the piston of which takes effect through a cam and ball race.

An Emergency Low Gear

If the central gear lever be placed in the neutral position the gear (H) slides to the right, thus breaking the connection between shafts Y and Z; no power can then be conveyed through the box. Moving the lever into the low-gear position shifts this sliding gear (H) still farther to the right, thus causing it to mesh with a gear

below (G). Normally, this position is used only in conjunction with first speed, the drive being then conveyed by gears A, B, G and H to the tailshaft. However, if the central gear lever is left in this position, the three other speeds can be obtained by the following combinations, the action of the dog clutches remaining exactly as before: top, F, E, G, H; third, A, B, D, C, F, E, G, H; and second, C, D, G, H.

To obtain reverse the central lever is moved through a gate and is then pushed forwards, this having the effect of leaving the sliding gear (H) in neutral and bringing a pair of reverse gears into mesh with this sliding gear and with the gear (G) beneath. If the small gear levers above the steering wheel are then in their first-speed position a low-gear drive will be obtained through A and B and thence back to the tailshaft, with a reversal of motion, through gear G and the two reverse gearwheels to gear H.

In conclusion, it seems necessary to remark that although the action of this gearbox may seem complicated, its control on the road presents no difficulties and the parts of the box itself are very sturdy. The whole conception is most ingenious and every credit is due to the Lagonda Co. for their enterprise in developing the system.

As this is the concluding instalment of a series of six articles on transmission developments it would seem opportune to devote a little space to a survey of current trends; the subjects covered

in the previous instalments, incidentally, will be found listed on this page.

For many years the engine received more attention from designers than did all the other chassis components put together; only in recent years have the clutch and gearbox obtained the careful consideration which they deserve. The development of the free wheel, fostered by *The Motor*, did much to concentrate the attention of car manufacturers and users upon the deficiencies of the ordinary gearbox, and although free wheels never became the fashion in Europe, they have scored an overwhelming success in the U.S., where they are now in general use.

Free Wheel Accelerated Progress

Whatever its deficiencies may be—and they are much less serious than many designers suppose—the free wheel showed what could be done in the direction of making the gear change easy. As a result, the past few years have witnessed a phenomenal increase in the number of special gearboxes available, designed to give silence in operation as well as ease of control. Simultaneously, automatic clutches are rapidly advancing in popularity, so that it would be a bold prophet who would venture to lay down the form that a motor car transmission will assume, say, three years hence.

(Reprinted by kind permission from "The Motor" of 26th April, 1932.)

3-LITRE "SELECTOR" SPECIAL TESTED

82 m.p.h. on Top and 72 m.p.h. on Third

ON THE ROAD THE NEW LAGONDA PROVED TO BE capable of fine all-round performance, although there is scarcely any doubt that the figures obtained could be improved upon when the engine is properly run-in and given a better day, for there was an exceptionally strong adverse wind during our test at Brooklands.

First of all it may be said that the Maybach gearbox, which is dead silent on four of the five normal ratios, improves the performance. All changes can also be made without the slightest shock, judder or noise. Even a novice should not have difficulty in effecting changes, while if one does happen to pre-select the wrong ratio no damage can result.

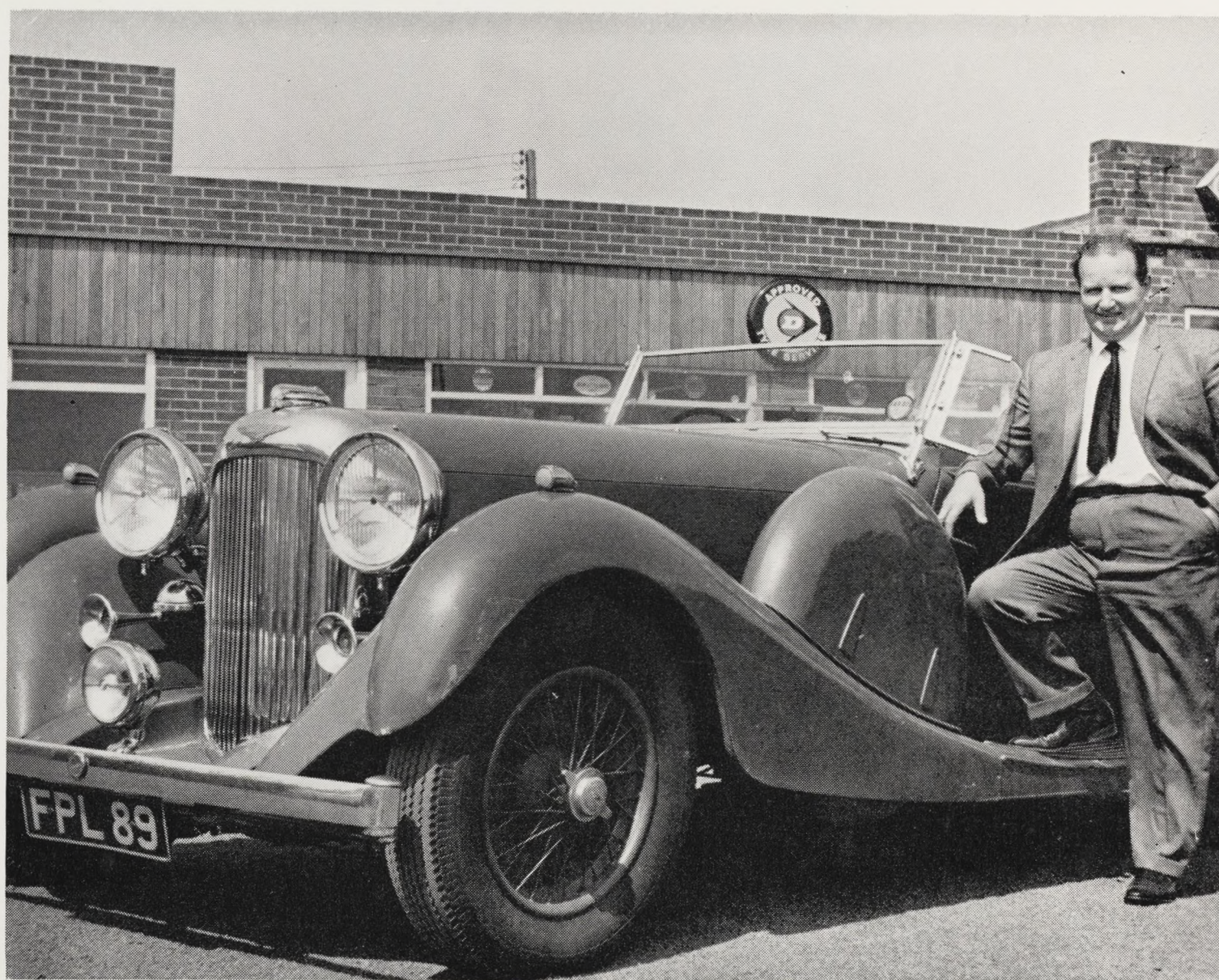
The engine is very refined throughout its range

and the car cruises in delightful fashion at 60 m.p.h. on the 3.6-to-1 gear. An actual maximum of 82 m.p.h. was attained and over 70 m.p.h. on third. Despite the high gearing top flexibility is exceptionally good, and for ordinary running very little gear-changing is necessary, although the Maybach gearbox tempts one to do so freely.

The suspension is really excellent at all speeds and road-holding is an outstanding feature. Steering is light, self-centring, and accurate. Brake operation, too, is light, all the cross shafts being mounted on self-aligning ball bearings. The efficiency of the brakes is well above the average, and they can be applied harshly without causing the car to depart from a straight line.

In short, this new Lagonda performs like a thoroughbred and is a most fascinating vehicle to handle.

Reprinted with acknowledgement from "The Motor" 6th October, 1931.



NORTHERN CARS & FACES

No. 8

TED TOWNSLEY

A name very familiar to Club Members. Has owned dozens of Lagondas. Ted is active in competition and has organised many Meetings for the Club. The lovely LG45 Tourer, his latest love, photographed above, has only had one previous owner who was a friend of Alan Good, the then Chairman of Lagonda's.

Photo: Jack Hickes.

TUNING THE 4½-LITRE LAGONDA AND INVICTA

By L. S. Michael, O.B.E.

PART THREE

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of *Motor Sport*

It is evident from the correspondence between the works and Fox & Nicholl in the period 1934 to 1937, that originally the compression-ratio of those engines was limited by the fuel, which produced severe pinking if high (by the standard of time) ratios were used. The works recommended the use of 30% Benzol with premium fuel, even for normal touring.

Today, 100-octane spirit will permit the use of very high ratios without pinking and mechanical considerations alone limit what can be used.

Some interesting calculations were published by E. G. Higham in *The Automobile Engineer* of August 1955. For a typical long-stroke engine with a bore and stroke ratios of 1.35-to-1 peaking at 4,000 r.p.m., the maximum bearing load is on the *compression stroke* at t.d.c., and this amounted to 3,379 lb./sq. in., assuming a compression-ratio of 7.5-to-1. These figures must be close to those arising in the Meadows engine, which has a bore/stroke ratio of 1.36-to-1. Calculations for many other engines were made. For comparison an engine peaking at 6,000 r.p.m. with a bore/stroke ratio of 1.25-to-1 had a maximum bearing load of 7,860 lb./sq. in. The XK.150 engine has a bore/stroke ratio of 1.28-to-1, the figure for the Coventry-Climax FPF 1,100 c.c. unit were bore/stroke 0.88-to-1, maximum load 4,580 lb./sq. in. Thus, even allowing for the inferior bearing material and the date of the design, the loads in the Meadows engine cannot be regarded as excessively high, being about 4,000 lb./sq. in. *less* than the Jaguar and 1,000 lb./sq. in. *less* than the Climax, which was considered one of the most *lightly stressed* modern high-performance designs, having a lower bearing load than all the other 6,000 r.p.m. engines considered by Higham. Nevertheless, when a Meadows engine is stripped down after a season's hard competition it is common to see signs of cracking of the bearing

metal, unaccompanied by any suggestion of incipient seizure or oil starvation. This is more noticeable in the earlier engines with smaller rods, smaller crank pins, and separate brass bearing shells instead of the metal being run direct into the eye of the rod itself. Therefore, it must be accepted that since the bearing loads are not higher than is theoretically acceptable by the bearing material, the trouble is due to other factors. These are mainly: con.-rod design, lack of rigidity of the crankcase (a matter that always worried Fox & Nicholl, who repeatedly tried to get the design of this component modified), and torsional vibration of the crankshaft. The vibration damper limits the latter to some extent, and the stronger rods of the LG-type engines, together with their more massive main bearing caps, help to overcome the former trouble, but both factors become more critical as engine speed rises.

A conclusion can be drawn that, provided engine revs. are kept below 3,800, a compression-ratio of 7.5-to-1 with modern fuel will not sensibly impair engine life, and will give a much better performance than standard. If the same engine speed limit is observed, and racing metal used for the bearings, 7.75-to-1 is equally satisfactory, while if reduced bearing life is acceptable 8.0-to-1 can be employed without disaster. It should be remembered that with the two higher compression-ratios these engines will readily exceed 3,800 r.p.m. in the gears, so attention should be paid to that point if a reasonably long engine life is desired.

CAUTIONARY TALES

TRAFFIC LIGHTS

Red changes to amber,
and green light appears—
A snarl of exhausts
and a whining of gears.
It is then, I contend,
that it's not very kind
To remark with such relish
"You are lagging behind".

LADY PASSENGER

That foolish female's disappeared;
I can't say I regret her.
Perhaps the tiger in the tank
Or else the carburet - her.

M.H.



G. D. H. HAMMOND

G. D. H. Hammond died on the 26th August at the age of 78.

I do not think anyone ever called him anything else but "Bert" and now there is severed the strongest link we had with the old Lagonda Company.

Bert joined the firm in 1904 as a 16-year-old boy and quickly graduated to be Wilbur Gunn's personal mechanic. Thus he was really in at the beginning and worked on every model of motor-cycle, tri-car, and motor car to be made until the demise of the original Company in 1935. In fact he had connections with Gunn and Lagondas even before getting to the works as he started in 1902 with a firm that made the wheels for the motor cycles which first bore the magic name Lagonda. Bert spent most of his time in the car testing and competitions department and it is safe to say that no one could have driven so many different models as he. He of course took part in the famous Russian trials with the 20 h.p. model and later raced a special version of the 11.9 at Brooklands.

Bert loved motor cars and all things mechanical and many will recall with pleasure hearing him discuss with a current owner a particular Lagonda that he had tested or delivered somewhere as long ago as the late 20's or early 30's. He belonged to an age that took pride in their work, who lavished skill and time on a job not for monetary gain but in the knowledge that it would produce a fine article. In these modern times we can ill afford to lose such people and the world in general and the Lagonda Club in particular is the sadder for his passing.

Right to the end Bert retained his interest in Lagondas and was always ready to draw on his fantastic memory to help identify some particular car or answer some technical query. Quite recently he assisted the Veteran Car Club in establishing the date of manufacture of an 11.1 made 45 years ago!

The Club will miss him very much as will all the people in Staines who watched him grow up, live there and finally die in a town that he loved so much and held so many happy memories for him.

To his family we extend our deepest sympathy.

M.H.W.

The Winter Magazine is now in hand. In response to my appeal for copy, several stalwarts have put pen to paper and I am grateful for their efforts. Looking ahead to the Spring issue, may I ask all would-be contributors to let me have their copy and/or photographs by January 30th at the latest.

Thank you, THE EDITOR.

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LAGONDA HEYDAY

Start of the heavy metal in the 500 mile race at Brooklands. As the flag falls the Pacey-Hassan, No. 22, just beats away the Arthur Fox LG45 R. On the right George Duller in the Whitney Straight Deussenburg doesn't seem to be paying attention.

The Pacey-Hassan was built round a $4\frac{1}{2}$ -litre Bentley but never quite had the success of its famous compatriot the Barnato-Hassan, the scratch car (it was a handicap race) seen in the background. Behind the Lagonda on the right hand of the tall bald-

headed mechanic stands Earl Howe who seems to be in his morning suit. Quite proper for the time of day but as he was the co-driver with Brian Lewis of No. 21 presumably he changed before his turn came!

On the left hand of the same mechanic stands the entrant and our President, Arthur Fox.

As the rest of the entry had been dashing round the track for some time before these cars were started one imagines the chap holding the warning flag in the background must have strong arm muscles!

The Lagonda was a near standard LG45 R and had been prepared for that year's Le Mans. For the 500 mile race the road equipment and front brakes were removed, and a 3:1 rear axle ratio fitted. Aided by 7.00 x 21 rear tyres this car lapped steadily at 118 m.p.h. and finished in third place having averaged over 113 m.p.h.

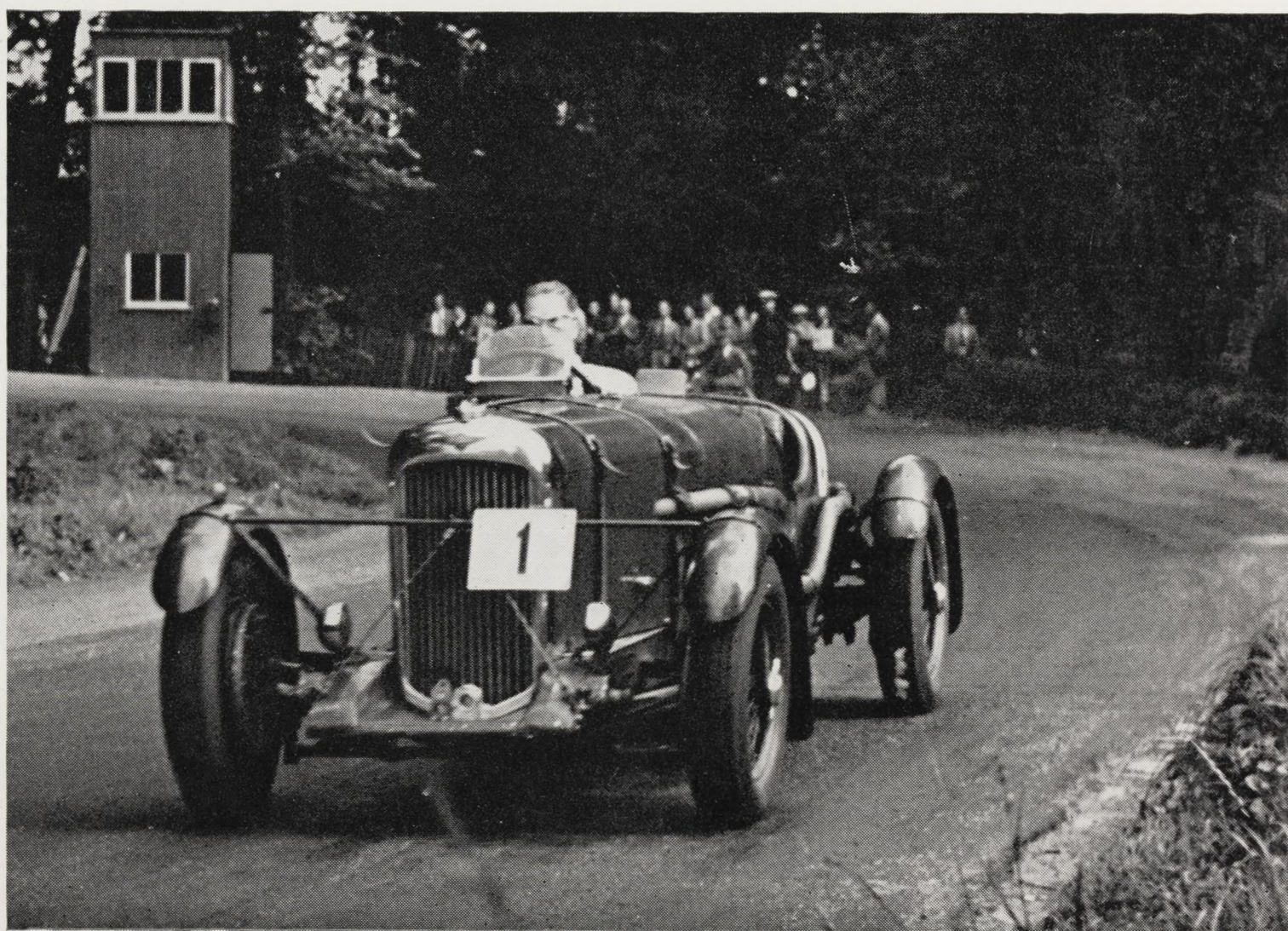
This car is the famous EPE.97 today owned by Bill Michael.

Below: Charles Brackenbury at Donington Park during the 1937 T.T. EPE.97. He shared the car in this race with Charlie Martin but they had not completed many laps before the offside front hub sheared and the car converted to a three wheeler.

Donington Park was another circuit that did not survive the war and after long occupation by the Army seems now to be lost for ever. A course not unlike Oulton Park it dived up hill and down, through a wood and past farm buildings. It was here that the English public first saw the powerful all-conquering German Mercedes and Auto Unions. The sight of seven cars producing a total of something like 3,500 b.h.p. leaping clear of the ground as they came over the brow of a hill lives long in the memory!

Note the driver was not obliged to wear a crash helmet and see what passed for a large crowd in those days!

M.H.W.



EXPRESS BUS TO PUERTO DE LA CRUZ

The island of Tenerife is linked with the old Greek myths. Today, its economy depends on bananas and its communications upon its tortuous roads. On these highways, a piratical atmosphere mixes with happy-go-lucky charm and in this article the author describes a spirited journey from Santa Cruz to a fishing village on the Atlantic coast.

An explosive start characterised the whole journey by express bus from Santa Cruz. At the sound of a gong the old vehicle immediately simulated an aircraft at take-off. Full throttle in low gear was held relentlessly as we accelerated across the quiet square and rushed at the long rise to La Laguna. With the lift of the hill, the roar of the engine and the steady climb towards the low clouds the illusion of take-off was complete.

This, according to Herodotus, is the island 'whose cloud-wrapped peak supports the sky: where the daughters Hesperides guard the golden apples, and Hercules fought the dragon Ladon.' Hebe, however, was never more alluring than the worldly brunette in the front seat of the bus, and the driver determined to show his prowess with all the verve of the mythical Hercules. He negotiated the narrow streets of La Laguna with gay abandon. The ancient capital of Tenerife lies in the saddle of volcanic hills overlooking the bay of modern Santa Cruz. There in the distance the spars of a full-rigged ship merged with the masts of steamers and banana wagons jostling on the wharves. On the skyline the Grand Canary showed dark in the

evening sun: 'mystic islands at the edge of the world, where winters never come'.

The road was congested with local buses, ancient lorries, modern automobiles, the occasional mule and a lonely camel. But the express bus schedule is tight and the driver's honour clearly at stake. A second Fangio, he settled down to weave through the field. I have travelled in Indian buses, Italian rapido buses, and in assorted airport buses (whose drivers are surely a race apart) but never before had I seen sports car driving technique applied to a middle-aged Commer. The gearbox was played with delightful virtuosity: one loud horn was used on bends, one penetrating horn was used perpetually and the accelerator was normally maintained steady upon the floor by a heavy rubber-soled boot. The horn technique is really a primitive radar. Approaching a blind corner one blows. If an echoing hoot is returned, someone else must be there. If not, then over with the wheel, down with the foot: the road is yours.'

Over the hilltops judgement was superb. Had a hair laid on the side of the bus, it would have been split a hundred times. We thundered through villages with horns blaring, whisking the petticoats of the children playing in the gutters and sending the stray dogs shooting for cover. The driver searched his voluminous pockets and produced a crumpled cigarette, but no matches. Leaning across to catch a proffered light, he did



a racing change, had a long long look at the brunette, overtook two cars and rushed on into the twilight. An occasional would-be passenger gesticulated wildly in the middle of the road. The heavy right foot never wavered: the passenger leapt for safety . . . a dangerous error to mistake the express for a local bus.

As darkness fell, the headlight technique replaced the horn. This felt safer as to collision, but now the road was an ill-defined ledge zig-zagging down the hillside with hairpin bends over old lava streams and glimpses of twinkling lights on the dark sea coast a thousand feet below. Here judgement was replaced by experience. There is no other basis for hurtling into a completely blind reverse bend, a racing change down, treading firmly on the throttle to swing a heavily loaded old bus round onto a practiced line and to emerge with two inches to spare from the edge of a hill-cut road.

Suddenly we swung off left, uphill again into Oratavo for a stop. For the first time in an hour the racket ceased—but not activity. The conductor leapt out, the driver sidestepped, jumped down and weaved across the crowded pavement into a corner cafe. The bus remained parked on a precipitous hill, the engine running: there was momentary peace. But only momentary. Within seconds the crew reappeared each with a linen covered basket. The firm hands from the steering wheel laid the baskets on the floor with the loving care of a mother's touch. Was it eggs or a modern Moses so delicately handled?

But sentiment on the express bus is short-lived. We were away again rushing headlong down the slopes towards the coast. Occasionally a passenger alighted. That is not to say the bus stopped. Clearly it is not the thing to bring an express bus to a standstill. An easing of the accelerator foot, and the passenger jumps into the blackness of the night, for all the world like an experienced parachutist on a practice drop. The right foot clumps solidly back onto the floor. An elderly couple wishing to dismount at the English Club had obviously no parachute training. With swift appreciation, a neighbour raised the right hand in the manner of a small boy wishing to be excused: the driver grasped the situation and his brake: the bus halted and the old gentleman and his lady descended to terra firma midst a chorus of 'buenos' and 'gracias'. Only once more did we actually pull up. The conductor lovingly gathered up the two

baskets, lightly stepped down, pushed open a cottage door and deposited the mysterious parcels within. I shall never know what those snowy covers hid. And so to Puerto De la Cruz, the Port of the Cross, on an Easter eve. From the heights and the clouds which sailors called 'the pillar of the sky', to the fishing village by the same sea sailed by those ancient mariners. Forty-nine kilometres in seventy-five minutes: an average speed of twenty-five miles an hour over roads on which the rally experts would be hard-pressed to maintain thirty.

The narrow streets resounded to music, the church bells were pealing and the way was blocked by a procession. But the express bus is not easily delayed. The tight schedule and the driver's honour had yet to be satisfied. A quick appraisal, a hurried conference, and the long vehicle squeezed up backstreets and down cobbled alleyways to emerge triumphant in the piazza, dead on time. I had a queer feeling of having travelled in mystic company that night, across an island strong in mythical associations. Perhaps the driver's name was Hercules: those baskets could have contained golden apples: we had traversed the Garden of Hesperides. D.J.W.

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BOOK REVIEW

CAR PROFILES

THE "PROFILE" SERIES OF MONTHLY publications has now reached 30 and includes a bewildering variety of cars from T-model Ford via Lanchester 30, V12 Hispano-Suiza to Ford Mustang.

These handy size 2/- books are published four (soon to be six) at a time and will eventually cover every car one can think of. The standard of production on glossy paper is very high and the photographs clear and excellent. A good number of these are seen for the first time and in the view of many are well worth the money alone. In addition there are accurate and detailed coloured drawings on the inside of the covers, and the text ranges over the good and bad points of each car, and technical specification is given.

Just as this issue of the Magazine goes to press the 4½-litre Lagonda appears in this series.

Gracing the cover is an excellent exhaust-side view of the LG45R and on the inside cover is a first-class five view colour drawing of Herb Schofield's immaculate example of this model. To match this, on the inside back cover are coloured illustrations of seven different body styles of M45, LG45 and LG6. The text by George Oliver briefly reviews the history of the Lagonda Company up to the introduction of the M45 and then reviews the 4½-litre in its various forms in some detail. Whilst obviously the facts will not be new to members it is interesting to get an "outsider's" view of this model and the good and bad points he highlights are perhaps in proper perspective and the comparison drawn with the contemporary Bentley should provide plenty of argument in the bars.

A good selection of photographs, many seen for the first time fill in the spaces in the text and apart from one or two errors in captions (no doubt Freddie Clifford is delighted to be promoted to be Duke of Richmond!) the whole presentation is first class and well up to Profile Publication standards. A pity all the same that the standard M45 Tourer is not shown as many feel it has more grace than any other open bodied 4½-litre.

Incidentally the first 24 Car Profiles are now available as a beautifully bound de luxe edition at £3 3s. 0d. from the publishers at P.O. Box 26, 1A, North Street, Leatherhead, Surrey.

COMPETITION NOTES

IT IS GETTING TOWARDS PRIZE-GIVING TIME, AND those of us who have not won a pot, are taking a hard look at our past performances to see where they can be improved. There is no doubt that the cars are getting faster. Some of the younger enthusiasts are now replacing raw enthusiasm with experience and skill, while the old hands at the job are finding ways of coaxing even more b.h.p. out of their engines. More specials are appearing at sprints and race meetings, mainly based on M45 and LG6 chassis. These cars are proving to be ideal for conversion, as they are very robust and reliable, and with light 2-seater bodies, can move very fast indeed. In events with the B.D.C., Lagondas have shown up very well indeed this year, many of their sprint times equalling, and even beating comparable Bentley machinery, much to the surprise and pleasure of both clubs. With a closer liaison building up between the two clubs, it is a good thing that our cars can, generally speaking, compete on the same level. It is certain that we can look forward to some very spirited and friendly rivalry in the events to be held in the coming year.

Which brings us to consider briefly what is new for next year: the BDC/LC sprint at Carborough, will be held on a Sunday, on about the same date as 1966. The B.D.C. Inter-regional Driving Tests and the Lagonda Club Southern Driving Tests are to be run concurrently, somewhere in the South Midlands, probably in July. An additional sprint meeting will be run at Ford, in Sussex, early in the season, possibly April. Our usual Spring Socials will be run, pending the O.K. from the R.A.C. The Border Rally and Northern Driving Tests will take place as before. Ivan Forshaw's New Forest Picnic and visit to Beaulieu will no doubt be again well supported, as it was this year. Other outdoor social events will be arranged if we have a decent summer. Anybody wishing to run such an event please contact the committee, who will give them every assistance.

Thanks to all those who did compete this year and for their support during the season; thanks especially to the Rapier Register who have given the Club quite extraordinary support at every event. If you all turn out again next year, the job of organising these events will be well worthwhile.

J.C.W.

ROAD IMPRESSIONS OF THE 3-LITRE LAGONDA SALOON

A High-Grade British Car Featuring a Twin-Overhead Camshaft, High-Compression Engine and All-Round Independent Suspension in a Luxury Saloon Possessing Unusually Complete and Luxurious Equipment.

MR. DAVID BROWN DESERVES THE APPRECIATION of enthusiasts for having catered for the continuity of two famous British makes, Aston Martin and Lagonda. The present-day Lagonda is an interesting proposition, combining as it does the sports-type twin o.h.c. Aston Martin engine in a car of luxurious styling and appointments and one, moreover, endowed with that rarity amongst British chassis—independent suspension of the driving wheels.

Although the 3-litre power unit installed in the present-day Lagonda is better known as the engine used successfully in Aston Martin cars, it is nevertheless an engine entirely appropriate to the modern Lagonda, having been designed by no less a personality than W. O. Bentley, expressly for the post-war Lagonda model which superseded the V12, the new engine being then of 2.6 litres capacity.

In its 1956 form this six-cylinder engine has a bore and stroke of 83 by 90 mm. (2,922 c.c.) and, on a compression-ratio of 8.2 to 1, develops 140 b.h.p. at 5,000 r.p.m., and a b.m.e.p. of 150 lb./sq. in. at 3,100 r.p.m. Two horizontal S.U. H6 carburettors are used and ignition is by Lucas coil with automatic advance and retard and K.L.G. P/10/L80 plugs. The twin o.h. camshafts are driven by duplex-chain and cooling is by a chain-driven water pump supplemented by a belt-driven five-bladed fan. The coolant capacity is three gallons and flow through the radiator is controlled thermostatically. The lubrication system is conventional, the sump holding 12 pints of oil. The crankshaft runs in four plain bearings.

The drive goes *via* a single-plate clutch and four-speed and reverse gearbox to a hypoid-bevel final-drive unit mounted on the frame, universally-jointed shafts conveying the drive to the back wheels. The final-drive unit holds two pints, the gearbox $2\frac{1}{2}$ pints of lubricant. The chassis is an X-form box-section structure, with wishbone and coil spring i.f.s. and torsion-bar i.r.s. The electrical system uses two Lucas 6-volt STXW 11E

batteries. The brakes are Lockheed hydraulic, 2LS at the front and with inboard drums at the back, the lining area being 122 sq. in. per ton. A vacuum-servo is employed. Fuel is fed from a 19-gallon tank with reserve trap by an electric pump. The gear-change incorporates baulk-ring synchromesh on second, third and top gears and steering is rack-and-pinion. The front wheels pivot on two balls in sockets attached to the suspension links, grease-gun lubricated on the latest cars, the reservoir oil-supply having been deleted.

In the Garage

Before taking a car of the calibre of the Lagonda out on the road we naturally examined it in detail, finding much to satisfy a person who has just spent over £3,900 on his motor car.

A sense of quality is imparted by the veneered dashboard, deep carpets and beautiful leather upholstery. The arrangement of the controls and the very complete equipment are noteworthy. The front bucket seats are roomy, soft and comfortable, although a trifle more lateral support would be welcome. Small arm-rests, adjustable for height, are fitted to the front doors, which have leather "pulls" and ventilator windows with easy-to-operate catches. The main windows have conveniently high-gear handles—just over $2\frac{1}{2}$ turns, up-to-down. Well-type pockets are fitted and both front doors have locks. The back doors trail (whereas the front doors hinge at the back) and have elastic-topped pockets and main windows, the handles calling for under $2\frac{3}{4}$ turns up-to-down, supplemented by openable ventilator windows with good toggle-type catches. A feature which suggests that practical men had a hand in the design is a thick panel let into the base of the front ventilator windows to cut down whistle when these windows are partially open. Two other equally-sensible features are apparent—a radio aerial which can be extended through the driver's window without leaving the seat and aircraft-style adjustable cold-air ventilators, with cut-off controls, set at the base of the scuttle on each side, to provide for cold feet in hot weather. Although this is a four-door saloon, the front seat squabs fold for access to the back compartment, the squab angle being altered by turning screws at the base of each squab. Incidentally, the front door handles push downwards to open the doors. The back compartment is, perhaps, slightly cramped, but it is luxuriously upholstered,

the seat having a folding centre arm-rest and fixed side arm-rests. There is a rather shallow parcels-shelf, usefully recessed, behind it. Ash-trays are provided in the backs of the front-seats.

Visibility through the wide screen is good, the side pillars being thin and both front wings being visible across the very broad expanse of bonnet. Twin anti-dazzle visors are provided, but they do not swivel to combat side glare.

There is a big, lidded, lockable cubby-hole before the front passenger, the press-button lid catch being rather difficult to use, as it is necessary to press the button in while pulling the knob outwards. A mirror and cigarette-case are fitted to the interior of the cubby-hole lid. The central rear-view mirror is mounted on the dash sill, but the view therein is somewhat cut-off by the roof-line.

The handsome dashboard has three large, slightly hooded, dials on the driver's side. That on the left is a combined oil gauge, ammeter, fuel gauge and radiator thermometer, oil pressure varying with engine speed up to about 65 lb./sq. in., the water temperature being normally 80 deg. C. The left-hand of the two remaining dials is a 120 m.p.h. Smiths speedometer incorporating clock and total and trip mileometers. The speedometer needle and mileage readings are rather blanked by a steering-wheel spoke and on the car tested the total mileage recorded seemed to imagine it was a speedometer, as its reading reverted to "30" every ten miles! The instrument immediately before the driver is a Smiths rev.-counter reading to 6,000 r.p.m.—unfortunately, speedometer and rev.-counter needles move in opposition; it is much nicer when they travel in the same direction.

A pleasing feature is the location of the control-quadrants for heating/ventilation and demisting/defrosting on the instrument board, with a separate switch for the fan, which isn't unduly noisy. Above these quadrants is the control-panel for the H.M.V. radio, and above that a lidded, matching ash-tray. A grab-handle is provided above the cubby-hole. On the extreme right is a circular panel incorporating an inexpensive-type Lucas lamps-switch-cum-ignition key, starter button, a button recording sump oil-level on the fuel gauge, the fuel-reserve switch, a socket for an inspection-lamp and switches for off and near-side fog-lamps.

Other turn-switches, appropriately lettered, are provided for the map light under the scuttle and

interior lamp (which otherwise functions as the doors are opened), turn-knobs looking after the two-speed, self-parking wipers and the rheostat-graded instrument lighting. A tiny button brings in the screen-washers, there is a cigar-lighter and a choke-knob. The instrumentation is completed by a small switch for the self-cancelling direction-flashers, set for operation by the right hand but a trifle too far to the left, its indicator-light flashing in sympathy with the exterior indicators, and indicator windows for dynamo-charge and fuel-reserve-in-use, a non-dazzling lamps-full-beam window being incorporated in the rev.-counter. Under the scuttle on the right is a small button for releasing the main catch of the alligator-bonnet and an electrical master-switch which was inoperative on the car tested.

The bonnet has a heavy lid which needs propping open. It reveals the polished engine with the dip-stick rather buried, the reservoir for the Jackall inbuilt-jacks fluid, accessible plugs, and oil and water fillers, and the two batteries, one on each side of the scuttle bulkhead. There is an under-bonnet lamp and the oil-filler has a small breather-pipe. The luggage boot provides an enormous area of flat floor and the lid, which locks, has spring-loaded hinges which obviate the need for a prop, while the interior is lit automatically while the lid is raised. Twin petrol fillers, one in each back wing, are provided, these taking the form of locked flaps which lift to reveal the filler pipes, the caps for which are incorporated in the flaps. This is an excellent arrangement, especially as filling from a can is possible, and it would be better still if the locks were easier to use.

A neat three-spring black steering wheel is used, with matching horn-push in the centre, the column adjustable to individual requirements. The pedals are of sensible size, with a treadle accelerator. Very generous leg-room is a feature of the front compartment.

The Tickford body has handsome yet unobtrusive lines. There is notable overhang to provide for the very large-capacity luggage boot. The rear bumper carries a "David Brown Lagonda" badge and the lamp which illuminates the back number-plate is rather ugly. The car tested was finished in a particularly pleasing two-tone colour scheme.

At the Wheel

To drive the 3-litre Lagonda is a worthwhile experience, for here is a luxury saloon powered by

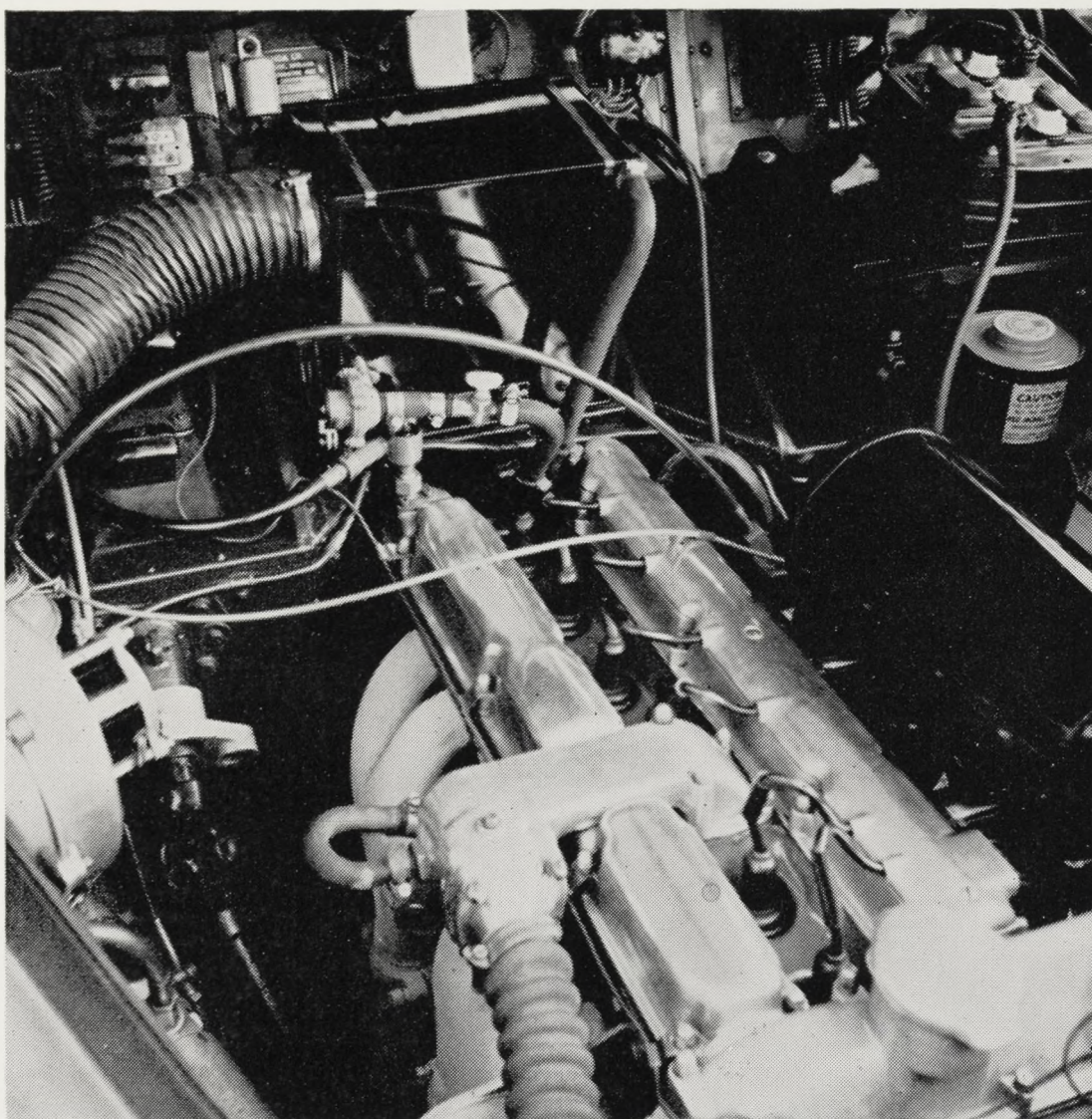


SIDE ELEVATION.—A view showing the elegant lines of the 3-litre Lagonda saloon

an engine of outstanding life and power. The power comes in from about 2,500 r.p.m. onwards in a hard, smooth flow and the engine will run far beyond its peak speed of 5,000 r.p.m. At 70 m.p.h. it is turning lazily at under 4,000 r.p.m. and speeds of over 90 m.p.h. are easily attained on normal British roads, with a maximum of over 100 m.p.h. in reserve—the speedometer several times showed 110 m.p.h. during the test. Rapid acceleration is achieved so easily as to be taken almost for granted, yet it plays a large part in the very high average speeds of which this Lagonda is capable in spite of the inadequacy of our main roads. There is some considerable noise from the valve gear, pleasant reminder to the still-youthful businessman that he is sitting behind the Bentley-designed engine employed in the successful sports/racing Aston Martin cars, yet this remarkable high-compression power unit is so docile that his wife is able to drive at 1,000 r.p.m. in top gear without distress. Naturally, as the throttles are opened it is desirable to drop into a low gear but the only penalty of letting the

revs. fall too low is slight “pinking” until crankshaft speed is regained and there seems no call for fuels of higher than 80-octane. On these no vices are apparent, and in a test-mileage of 760 no oil or water was added. Starting is easy, with a minimum of choke.

In the indirect ratios the engine runs smoothly to beyond 5,000 r.p.m., reaching an indicated 30 m.p.h. at 5,300 in bottom gear and 5,500 in second and third, equivalent to indicated speeds, respectively, of 50 and 80 m.p.h. However, the maker’s instruction book (which, if you lose it, costs 2½ guineas to replace!) recommends maxima of 25, 42 and 70 m.p.h. in the indirect ratios. On the car tested a short, rigid central gear-lever was used, although the 2.6-litre Lagonda which we road-tested in September, 1951, had the steering-column lever which is offered as an alternative. The floor-type lever is delightful to operate. It could not be more conveniently placed for the left hand and the changes go through with a precise, rather heavy action, with extreme rapidity. There is only one snag—the



Engine of D.B. 3-litre drophead PLH 424
Class winner Southern Concours 1964

lever is spring-loaded towards the first and second gear positions and sometimes springs across the gate as changes between third and top are being made, leaving the driver momentarily in possession of neutral! Occasionally a vibratory rattle emanated from the lever. Reverse is safely located beyond the top-gear position. The clutch action is rather heavy.

Because it is almost unique amongst British cars in having independent suspension front and back, the roadholding and suspension characteristics of the 3-litre Lagonda are of particular interest. The suspension is soft, allowing some roll when cornering, slight nose-dipping under the brakes and some up-and-down movement, the wheels being heard having a busy time over bad surfaces. Yet there is a very commendable balance between comfort and good road-holding, for the car can be taken round corners with confidence, the roll never suddenly increasing, the oversteer not over pronounced, and rear-end

breakaway occurring only under extreme provocation on exceedingly slippery surfaces. The i.r.s. provides the back-seat occupants with a comfortable ride, and a passenger occupying the centre of the seat finds no unpleasant ridge where the seat has been reduced in thickness to accommodate a dancing back axle!

The steering is complementary to the excellent and safe road-holding. Geared $2\frac{1}{2}$ turns lock-to-lock (the lock isn't unduly generous, providing a 38 ft. turning circle) this is heavy but very accurate, non-spongy steering. The wheel vibrates a good deal in sympathy with scuttlefloat over rough road surfaces and some front-wheel motion is returned. There is excellent castor action and the Firestone tyres protested only

occasionally, and mildly, under conditions of acceleration applied out of tight corners.

For normal motoring the brakes are amply powerful and do not call for heavy pedal pressures. On wet surfaces they tended to deflect the car from a straight line in emergency stops and the front drums became hot, leading to some fade in very fast driving. There was some squeak under heavy applications. The hand brake is an umbrella-handle affair set under the scuttle convenient to the driver's right hand; it worked well and held the car securely.

The body is immune from fumes or rattles but under conditions of tropical rain a little water entered the front compartment at the centre of the scuttle. The screen wipers are excellent in action but it was irritating that on several occasions, after self-parking, they would not function again until freed by the driver.

The Lagonda met very bad weather in the course of our test and was obliged to negotiate one very deep section of flooded road. This it accomplished without falter where most cars

would have floundered. It seems probable, however, that this immersion affected the electrical circuits, because for a time it proved impossible to extinguish the roof lamp with the dashboard switch and switching on one fog-lamp brought in the map lamp. These shortcomings, were only of a temporary nature, but more distressing was a reserve petrol supply, alleged to be $3\frac{1}{2}$ gallons, which took us a distance of six miles on the first occasion when it was brought into use and eight miles on the second occasion. This does not imply a fuel consumption of 2 m.p.g.! The true figure was $16\frac{3}{4}$ m.p.g. of National Benzole, at average speeds in the region of 45 m.p.h. This represents the not-unreasonable range of 328 miles, although in view of the unreliability of the fuel-reserve arrangements, a larger fuel tank might well be provided.

The headlamps, being reasonably high set, provide an excellent light for fast driving at night and the Lucas paired fog-lamps throw a wide-spread beam from kerb to kerb.

The 3-litre Lagonda is an excellent car for those who require a dignified saloon yet who, even if at an age when the purchase price can be found, still wish to enjoy responsive performance from

a pedigree engine with racing ancestry. This famous British vehicle, with its twin-overhead-camshaft engine and independent rear suspension, is the choice of H.R.H. the Duke of Edinburgh and although one of our more costly productions the basic price of £2,600 is increased by p.t. to (£3,901 7s., the convertible costing £4,501 7s.), the high performance, excellent finish and sensibly-planned controls and equipment render the David Brown-built Lagonda a desirable motor car.—W.B. (Reproduced by courtesy of 'Motor Sport').

LETTER TO THE EDITOR

The Magazine

Dear Sir—I for one would hate to see the Magazine reduced to three pages of advertisements, and a cover picture showing Our Ivan being hauled off by Kremlin Guards for enquiring too deeply into the whereabouts of the Romanoff Lagondas. This, by the way is going to be a long letter, but no matter, as you may have plenty of space to spare, until some of the suggestions I offer come into effect.

Firstly, I think we should open the net wider. For my part, interest in the sporting side declines with age. My folk did not come over with William the Conqueror—I did, and it was my second visit. I liked it so much that I've been here ever since, but it was some years, 1936 to be precise, before I bought my first and last Lagonda.

However, to resume, I think you should encourage the members to write about activities connected perhaps but tenuously, with the marque.

There must be a wealth of experience, memory and anecdote. Surely, whilst Lagonding, they have done other things as well.

Some suggestions for articles:

I was stuck in a crevasse, and rescued by Hennessy hounds—The meal I never finished—Inns and Outs—When the traffic lights turned blue—Big game hunting at Longleat—all sorts of things. You would of course debar certain subjects, bigamy, bee-keeping, grave-robbing, politics and pop art, to mention a few.

What about a competition for a story commencing say with a convent break-out and proceeding logically to its final conclusion where Our Harold wins the Mille Miglia? You could even offer a prize—six months membership for a year's subscription, or the opportunity to copy out the 2-litre Instruction Book ten times by hand.

There are also possibilities on an intimate advice column:

"Dear Aunt Valerie,

My engine used to be warm and passionate, but now I feel sometimes that there is a cooling off. . . ."

"Dear Aunt Valerie,

Can you advise me, last night when I came in from the garage my wife said, 'What's this, black-male?'"

Welcome all contributions that will keep the pages full. It might even encourage our wives to read them as well.

Of course, if all the members responded you would not only need space, but outer space in addition. So who's going to be first to report on traffic conditions on Neptune?

MARTIN HUTCHINSON,
Oxshott, Surrey.

THE 3-LITRE TYPE LB290/1 LAGONDA SALOON

Engine: Six cylinders, 83 by 90 mm. (2,922 c.c.); o.h. valves operated by twin overhead camshafts; 8.2 to 1 compression-ratio; 140 b.h.p. at 5,000 r.p.m.

Gear ratios: First, 13.3 to 1; second, 9.02 to 1; third, 6.06 to 1; top, 4.56 to 1.

Tyres: 6.00 by 16 Firestone De Luxe four-ply rating on bolt-on steel disc wheels.

Weight: 1 ton 12 cwt. 3 qtr. 14 lb. (without occupants, but ready for the road, with approx. 3 gallons of petrol).

Fuel capacity: 19 gallons (approx. $3\frac{1}{2}$ gallons in reserve). Range approx. 328 miles.

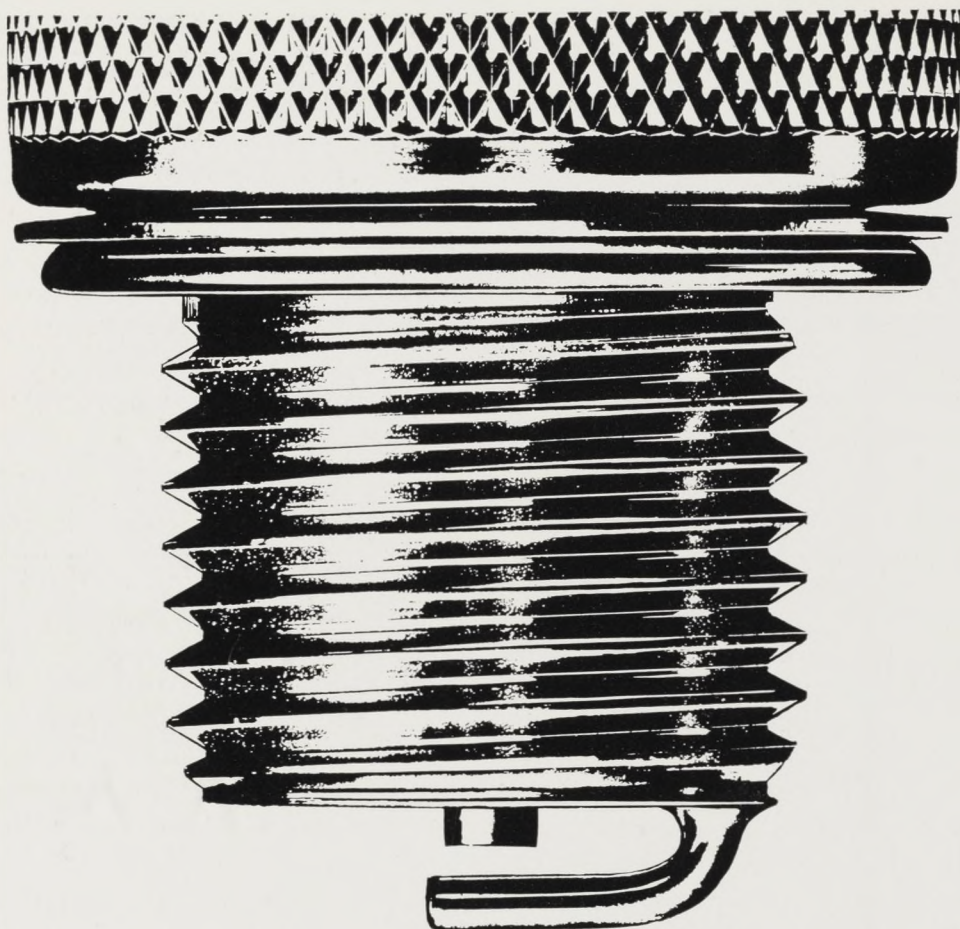
Wheelbase: 9 ft. $5\frac{1}{2}$ in.

Track: Front, 4 ft. $8\frac{3}{8}$ in.; rear, 4 ft. $8\frac{3}{4}$ in.

Dimensions: 16 ft. 4 in. by 5 ft. $9\frac{1}{2}$ in. by 5 ft. 2 in. (high).

Price: £2,600 (£3,901 7s. inclusive of p.t.).

Makers: Lagonda Ltd., Hanworth Park Works, Feltham, Middlesex, England.



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The development of the LAGONDA LIGHT CAR

Investigated by
ALAN K. AUDSLEY

PART ONE - Technical Survey

"LIGHT CAR" IS NOT A TERM HEARD MUCH TODAY. This is probably not so much because any decline in light cars is apparent but rather that mass produced cars are so similar in concept, large, medium or small. If any definable limits were to be laid down today for a "Light car" they would start much controversy over cars in the border line class. In the days of the light car; which brings to most peoples' minds the early twenties, these cars were in a class of their own: they were not glorified quadricycles, but very definite motor cars in their general design and construction. They were however, a new conception in their small size, lower price and running costs, yet in general having reliability comparable to the bigger cars.

Wilbur Gunn was one of the first to see the possibilities of the light car and he dropped all

other designs in order to develop the 11.1 horse power Lagonda. It was as big a change from the cars which preceded it as it was to the 14/60 and 16/65 and other models which followed. Like the 14/60 it had a Lagonda designed engine. Lagondas seemed to alternate between designing their own engines and borrowing others. Crossley and Meadows engines were two popular ones in the thirties. Prior to the 11.1 model, Lagondas had been fitting the Coventry Simplex.

The car which appeared on the market in 1913 had a four cylinder engine of 67 mm. bore and 78 mm. stroke. The side exhaust valves and overhead inlet valves were operated by a single camshaft from which a skew drive worked a plunger oil pump working vertically on the outside of the sump. This pump ejected oil from open discharge pipes over the two main bearings. From then on the lubrication was by splash. Long push rods projected above the block and operated the inlet valves through short rockers. The proximity of the vertical valves to their push rods meant that the very short rockers had a

considerable arc of travel. This was one of the first modifications to the design; to alter the camshaft layout so that by fitting longer rockers the valves could be operated by push rods spaced further away. This modification was successful in eliminating the unhappy habit of the rockers getting hooked up with the push rods and most of the cars already sold were returned to have this modification carried out. Access to the exhaust valves was achieved by removing the inlet manifold and then unscrewing the four inlet valve cages from the top of the block. These inlet valve assemblies consist of the valve inside a cast cage containing the valve seat, valve guide and radial porting through which the gasses pass. Inlet valve grinding is therefore done away from the engine.

A belt driven fan assisted the thermo syphon cooling and the fan was driven from a pulley running at half engine speed mounted on a shaft which provided the magneto drive.

The engine, clutch and gearbox were in one unit and the whole mounted in the frame by two bolts located close together at the front of the engine and four bolts on the rear flange of the gearbox and secured to a main cross member. Contrary to normal practice the sump did not unbolt and remove from the base of the engine to leave the engine secured in the frame but the engine lifted off the sump, it being the sump which carried the front mounting lugs and the flanged joint at the clutch housing. The engine could be lifted off by breaking the drive at the clutch and freeing the sump flange bolts. There was no need to drain the sump and the engine could be lifted single handed without lifting tackle being necessary.

The leather cone clutch drove via a fabric coupling to the three speed gearbox. The gear-change was by a short remote control lever working in a gate. The handbrake lever was mounted beside the gate and this was of the fly off type. The handbrake operated on the rear wheels by cable with pulley compensation. The rear brakes were internal expanding; each brake consisting of one cast iron shoe of "C" shape, anchored at one end and with the other end pulled by a short lever. The cast iron shoe acted directly on the drum and no form of removable brake lining was used.

The footbrake was of the partly self wrapping type, operating on a drum which also formed the front member of the universal joint at the rear

of the gearbox. This brake was quite effective in locking the prop shaft but in the intermediate stages of pedal pressure displayed its very poor ability to disperse heat.

The rear half of the universal joint carried a flat belt pulley to drive the speedometer. The universal joint which was similar to the Hardy Spicer design had a somewhat arduous task. This joint not only transmitted the torque from the engine but supported the weight of the torque tube, and all the forward and backward thrust of the back axle which was otherwise only located by being slid on to the tail ends of the quarter elliptic springs. The back axle was worm driven and had a rigid torque tube and tubular radius rods. The differential gears were cut on the ends of the half shafts and to remove a half shaft necessitated splitting the banjo casing, opening up the differential cage and removing the half shafts inwards.

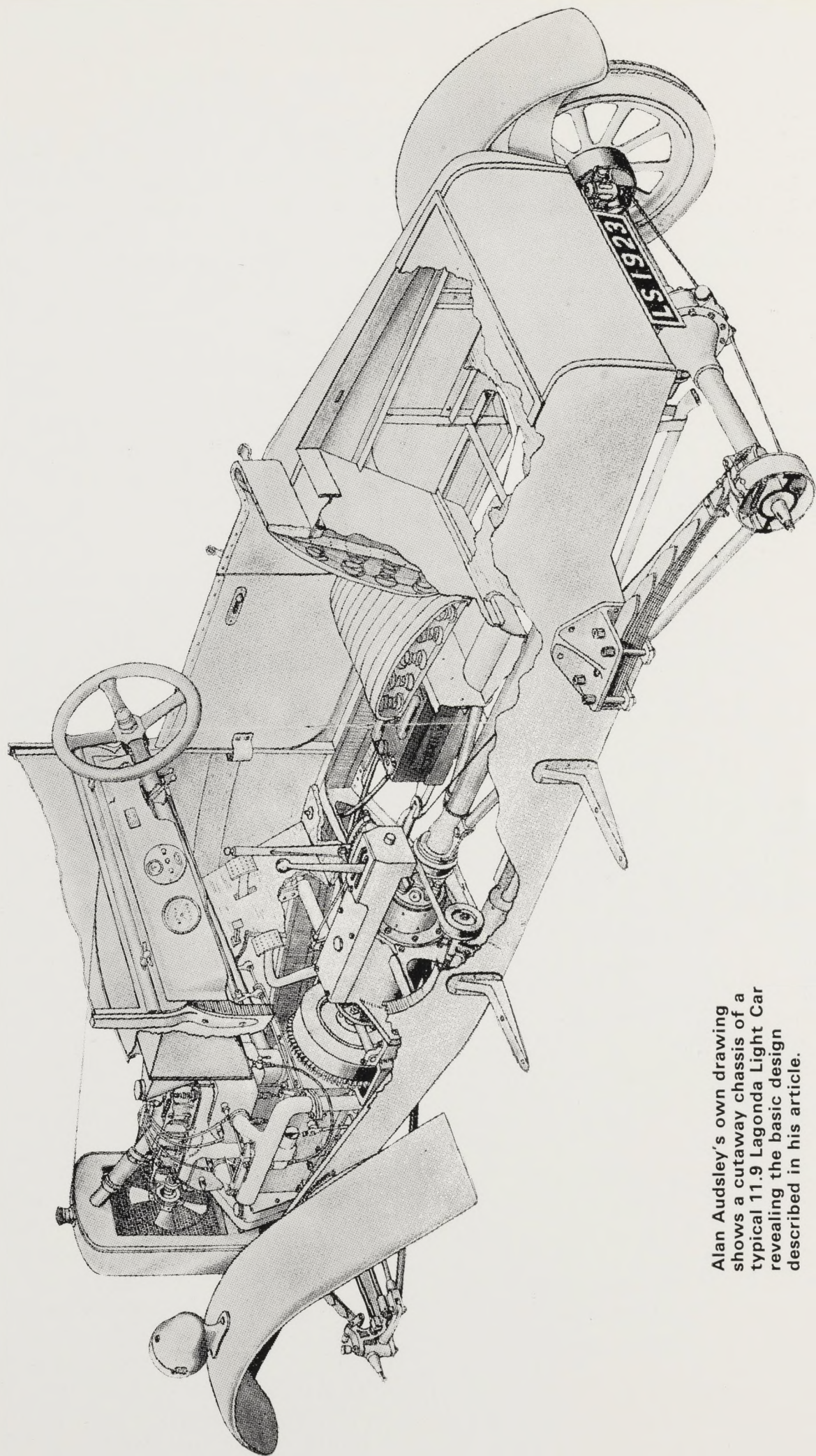
Front suspension was by transverse spring and like the rear no shock absorbers were fitted. There was, however, an anti-roll bar similar to a design recently introduced for the Ford cars using transverse front springing.

The front axle was tubular and the transverse drag link connected direct to a short arm on the end of the steering column. This method is only seen today on children's pedal cars.

The chassis and body were built as one and consisted of a steel shell riveted to a light frame of angle of only an eighth of an inch thick. The body was made mainly of 18 S.W.G. plate, heavily tinned. All body joints were riveted and all rivets were sweated over as an additional protection against corrosion. To argue as to whether this was the forerunner of chassisless construction is rather a question of whether the body shell provides the necessary strength or whether the rather frail angle iron would be strong enough if the top were sawn away.

Time alone may provide a rider to this problem; for the angle iron frame is not rust protected and with the very rust resistant body we may one day know the answer as to whether the cars would hold together without the chassis.

The 11.1 Lagonda was named the Business Man's Pleasure Car. It was also named "The Beetle" and this because of its round nose and tail. The radiator consisted of vertical copper tubes mounted between the bulbous top and bottom tanks and the round tail was a tailor-made boot for the spare wheel. Three stud



Alan Audsley's own drawing shows a cutaway chassis of a typical 11.9 Lagonda Light Car revealing the basic design described in his article.

Sankey artillery wheels were used. These were made up as two identical steel pressings, welded back to back. The resultant wheel was very strong and yet light, and easily cleaned. The wheelbase was 7 feet 6 inches and the whole car weighed approximately nine hundredweight. The cost of the 11.1 was £135. With the success of this two seater model a four seater car was available for 1914 but the war soon curtailed the production of private cars and Lagondas joined in the war effort.

The Lagonda light car started as the 11.1 h.p. model. It then developed into the 11.9 and later was called the 12/24. Apart from normal changes to the body design the major external change was in the shape of the radiator which appeared in three distinct forms. The first radiator was the bulbous vertical tube type. This was followed by a nickel honeycomb radiator of somewhat angular outline which finally developed into the curved type which formed the basis for later Lagonda radiator design. One is inclined to associate the three types of radiator with the three distinct stages of engine development but this is not a reliable guide.

After the war the 11.1 car was recontinued. Small changes which took place very soon were the incorporation of worm and sector steering box, forged front axle beam and another change to the rockers. These had been found again to be giving trouble. They had been machined parts, fitted with ball race for the centre pivot. Being oscillating members and not rotating like a ball race's normal function, the balls wore unevenly in their tracks, and trouble soon developed. The races were then dispensed with and solid forged rockers were used, running on hardened pins. Each rocker was fitted with an oil cup to lubricate its pivot. The rocker gear was still exposed and it was not until the 12/24 engine was designed that they were covered over and automatically lubricated.

The engine capacity was changed from 11.1 to 11.9 and the cast iron crankcase and block was superseded by separate block and crankcase, the latter being aluminium. This was the early 11.9, still with a round radiator. The wheelbase had increased to nine foot and the worm driven back axle became much heavier in construction as well as being 18 inches longer in the prop shaft. The axle ratio changed from 3.9:1 to 4.4:1 giving a road speed on standard tyres of 17.5 m.p.h. per 1,000 r.p.m.

Throughout the development of this car the gearbox retained the same ratios and for this box only four sizes of wheel had to be cut: 12, 16, 23 and 30 tooth. The constant mesh wheels were 16T and 30T, 2nd gear wheels were both 23T, bottom were 16T and 30T and the reverse pinion was 12T. The gap between each two gear ratios was therefore very nearly 2 to 1. No clutch stop was used. The only change to the gearbox was to move the layshaft from aside the mainshaft to below it in about 1921 and when the transmission brake was later dispensed with the gearbox mainshaft became shorter and terminated in a spider to take the fabric universal joint to the prop shaft.

The early anchorage for the rear springs showed a weakness and this was redesigned so as to present a large area to rivet to the side of the car. The early pattern had the rivets so closely spaced that the whole bracket readily tore itself loose.

Engine changes were minor but taking place all the time. The fan spindle was originally mounted on an extension to the water outlet manifold but later on a bracket on the aluminium timing cover. An eccentric boss for the fan provided the belt take-up for this and for the dynamo mounted on the offside and above it. The studs securing the exhaust manifold ran through the axis of the porting and later changed to a position where they were not subjected to and obstructing the outcoming gases. An oil indicator float continued to be used and a second oil filler was fitted. The early design had the one filler which discharged the oil over the timing chains, in to the tray for the front con rods and finally to overflow into the sump. The second filler enabled one to pour oil on to the tray for the rear con rod dippers. This then provided immediate lubrication at the rear end after filling a dry engine. This occasion did not often arise as a sump drain did not empty the oil troughs. The only way to do this was to lift the engine off and scoop the troughs empty.

The round tail had given way to a more angular form and the two seater car was fitted with a dickey. This made little change to the main frame of the car as the angle iron side members always stopped short at the rear spring mountings and the dickey or boot was just a lightweight projection beyond this.

The next noticeable change was the introduction of the square radiator and it was at this stage of development that Lagondas tried to

capture the cheap car market with a car of this pattern simplified to the bare essentials. This was the type K, which was listed as the "Popular" model. No starter was fitted, lighting was on a three lamp system, dimming the headlamps by switching them in series. Bulb horn was standard and no dickey seat was fitted but the boot opened for luggage and to hold the battery and spare wheel. A starter ring was fitted as well as a starter bracket but to fit a starter would have necessitated mounting the battery further forward in the interests of cable shortness. The screen was a single plate of glass and the hood secured by straps to the scuttle. This practice had ceased on all the other models which had the hoods clipping rigidly to the screen frame. The K model was devoid of all instruments. The dash board contained the Magneto switch and the CAV switch panel containing the lights and dynamo switches, ammeter and dynamo field fuse. It was current at this time to fit speedometer (Cooper Stewart) and a clock to the higher priced cars.

Worm axle was replaced by bevel drive and the rather long prop shaft was provided with a bearing half way down the torque tube to eliminate whip. The axle ratio was now 4.7:1, necessitated by the heavier bodywork appearing on the more lavishly equipped cars and the type K although still of only 14 cwt. suffered the undesirable ratio change presumably in the interests of standardisation.

Early in 1923 the 6 gallon gravity feed tank was fitted with a two way tap to give a petrol reserve. Gravity feed was used on all models, feeding an S.U. carburettor on the earliest models and a Zenith subsequently. The early cars had the petrol filler protruding centrally through the dash midway between the screen and the bonnet, but the filler was later concealed under the bonnet.

During 1923 a new type of axle appeared for all but the cheapest models. This was of more robust construction and the torque tube was pivoted in a spherical housing mounted on a frame cross member. The prop shaft was fitted with a fabric coupling and the duty of this coupling was to transmit the engine torque only—a considerable improvement on the earlier design. Hand and footbrake now operated conventional internal expanding brakes working on much bigger rear drums. Compensation for the footbrake and handbrake was now in each case by a pulley wheel and continuous cable from one

drum to the other. Four shoes were fitted in each drum; two hand operated and two foot.

The next development was the arrival of a new engine; the 12/24. It was basically the old engine under a new name, and the name was only conforming to the then popular system of referring to engine size by the Rated/Developed horsepower. It is interesting to hear reported that the 11.9 and 12/24 engines all developed between 23 and 24 brake horsepower on Lagonda's test bed. The main changes to the engine were in the lubrication and the drives to the ancillary equipment, but the most striking change at first glance, was the concealment of the rocker gear previously exposed to view.

The bore of 69 mm and stroke of 95 mm remained unchanged in this engine. The piston type pump was replaced by a rotary vane type of Rotherham's manufacture. It fed, as before to the two main bearings and also the timing chains. A further branch led up to the rockers, now encased in an aluminium cover. The change necessitated a slight alteration to the inlet manifolding but the general valve layout remained unchanged. Oil ducts ran along the top of the rockers to carry lubrication to their ends, which on the previous design was sadly lacking.

The 12/24 engine had a flange mounted dynamo and the timing chain drive was modified for this and for the mounting of the magneto on top of and across the timing case in a similar manner to the later 14/60 engine. A Simms coupling was used for magneto timing whereas the earlier engine had a fabric type coupling and adjustment was carried out by slackening off a tapered driving shaft, making the adjustment and then drawing up on the taper by tightening a nut on the end of the shaft.

The new engine was soon followed by the appearance of the taller and more rounded radiator and this was the last major change to take place. The rounded radiator 12/24 car made its debut in the autumn of 1923, and although the car was heavier still, the coachwork offered was lavish and well equipped.

The 12/24 continued in production but was soon to have a single plate clutch instead of cone, and in 1925 four wheel brakes were available as an extra.

To be concluded (Part 2) in future issue.



Holy Cow — it usually starts when I kick it!

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We have a large stock of useful spare parts for Lagonda cars still available. Although the demand for parts has diminished over the last few years and prices have increased considerably, we can still assist Lagonda owners with the majority of parts required for re-building and servicing the numerous pre-war Lagonda Models.

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