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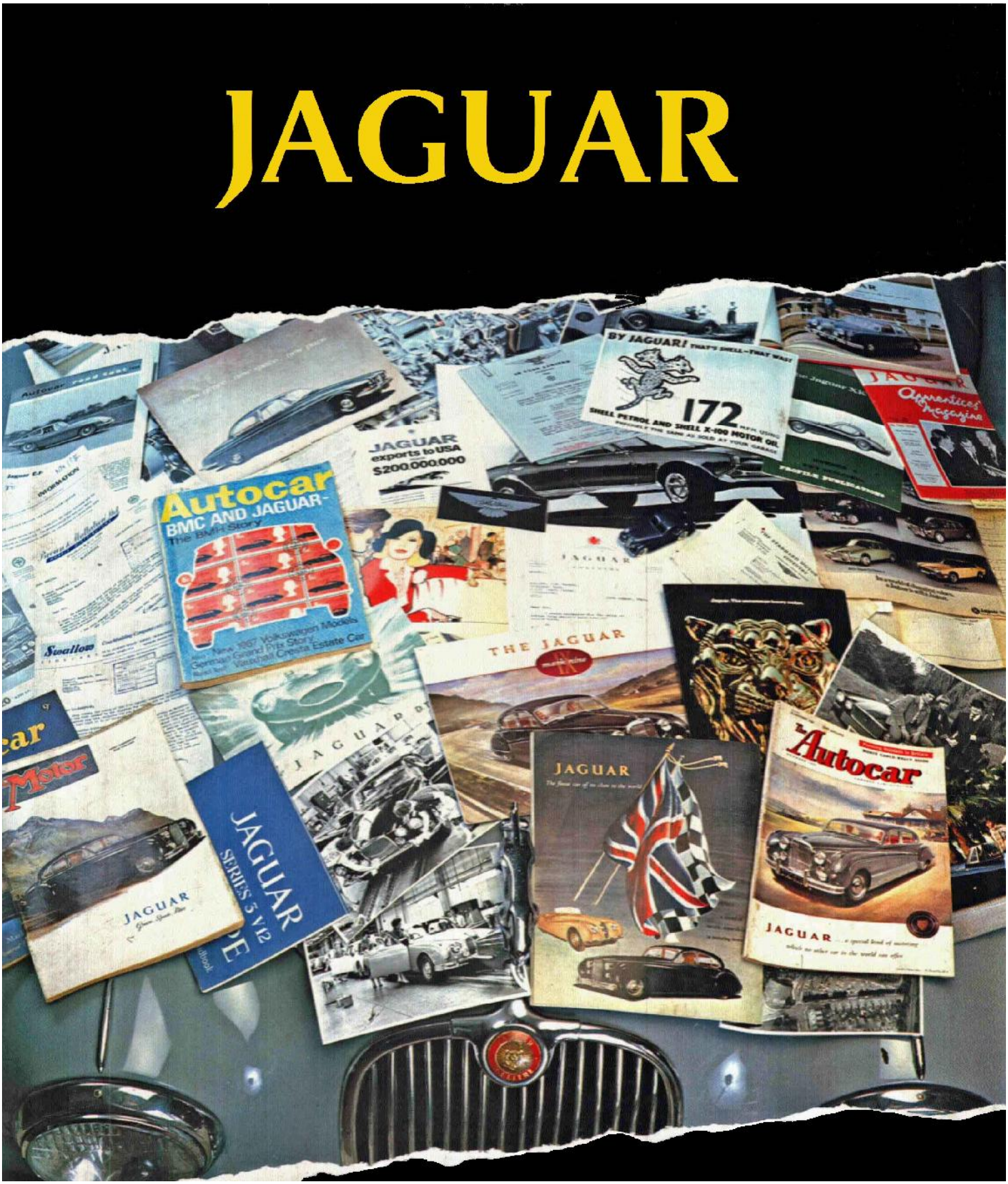


1940's

FORTIES

Technical details of the VA and VB wartime prototype lightweight vehicles.

4x2WD ULTRA-LIGHTWEIGHT VEHICLE, MODEL VA

The VA was a three-seater light car with seating for two in the front and one in the back. It was powered by a JAP air-cooled vee-twin engine mounted at the offside rear. The capacity was 1096 cc and, with a 4.7:1 compression ratio, the horsepower was rated at 10.9 and maximum torque was 500 lb/in at 3000 rpm.

The gearbox was mounted above the rear axle, under the engine, and driven by chain, as was the drive from the gearbox to the bevel type differential which was mounted to the body. The diff could be locked by means of a set screw which was put through the final sprocket in the diff unit.

The live swing axle was exposed and had bearing carriers at either end. Lateral location of the rear wheels was provided by the drive axles, side thrust being transmitted back to the bearings in the diff housing.

The rear suspension was independent with coil springs, swing axles, and radius arms providing location and eliminating tramp. The front suspension was also independent by coil springs and steel axle brackets being designed to slide vertically on steering swivel pins. Front and rear track was 4 ft 5 in and the wheelbase was just 2 in longer. The height worked out at 3 ft 6 in and the width at 4 ft 10½ in.

Weights:	Unladen			Laden		
	Cwt	Qtr	lb	Cwt	Qtr	lb
Gross Vehicle Weight	7	3	12	14	1	7
Front Axle Weight	2	2	3	4	0	14
Rear Axle Weight	5	1	9	10	0	21

Pay Load: 3 men plus 250 lb

The vehicle was extremely light and the front end could easily be lifted by one man. The traction was good, owing to most of the weight being concentrated over the driving axle. The VA failed to be reliable, however, due to difficulties with the cooling of the engine and the problem of maintaining the chain drive centres.

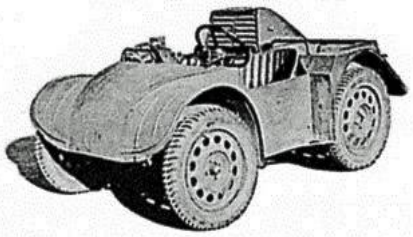
A wooden mock-up model and an actual prototype were built, but eventually they were scrapped and work commenced on the second vehicle, the VB which was more conventional in layout.

4x2WD ULTRA-LIGHTWEIGHT VEHICLE, MODEL VB

The VB was a four-seater light car with two seats in the front and two in the rear in the usual manner. It was powered by a Ford 10 water-cooled, side-valve engine mounted in the front. This engine had a capacity of 1172 cc, was, as the name implied a 10 horsepower unit, and produced 30.1 bhp at 4000 rpm on a compression ratio of 6.2:1.

The Ford engine drove through a three-speed, constant mesh gearbox from the same source and had the following ratios: 1st 3.071, 2nd 1.765, 3rd 1.000, reverse 4.015. There was an auxiliary gearbox

An internal memo from John Silver to Messrs Lyons, Whittaker, Orr and Heynes, dated 13 December 1943 had attached a suggested procedure in connection with post-war development work and makes mention of discussing this at the next Post-War Meeting.



The VA was the first of two small vehicles built by S.S. during the war for dropping by parachute.

consisting of an overall reduction gear attached to the output end of the main gearbox. The ratios were 1:1 and 2.083:1. A very short prop shaft took the drive to the bevel drive differential, which was not lockable like that of the VA. Otherwise the rear axle and suspension were similar to the earlier version. The rear axle ratio was 5.375:1.

The front suspension was independent but employed wishbones and coil springs. Tyres of 5.00 in to 5.75 in x 16 were used, those on the rear being of Cross Country tread pattern. The front and rear track was just 4 ft, while wheelbase was 5 ft $1\frac{1}{4}$ in. Overall length amounted to 8 ft and width to 4 ft 6 in. Including the top, height was 6 ft and the VB weighed in at $8\frac{1}{2}$ cwt.

The highly significant feature was, of course, the construction which was unitary. A separate chassis was dispensed with and all stresses were taken by the body construction.

SS CARS LIMITED

COVENTRY

ENG.

TELEPHONES
HEAD OFFICE & WORKS
COVENTRY 88681 (10 LINES)
TELEGRAMS: "JAGUAR" COVENTRY
CODE - BENTLEY'S SECOND

DIRECTORS:
W. LYONS,
CHAIRMAN & MANAGING DIRECTOR
T. W. DAFFERN, O.B.E., F.C.A., F.S.A.A.
H. N. GILLITT
A. WHITTAKER, GENERAL MANAGER

YOUR REFERENCE:

OUR REFERENCE:

11th September, 1946

TO MR. LYONS

FROM:- MR. HEYNES

1947-8 PROGRAMME

I am putting forward a few notes on the positions of the 1947-8 programme as previously discussed with you, as a basis for further discussion. I propose we should work along these lines giving this work priority to the exclusion of other experimental work except where this can be worked in without affecting the programme outlined below.

CHASSIS

1. CHASSIS FRAME. The new straight sided box section chassis frame on the lines already existing on the XJ. car will be worked upon. This is considered to be absolutely essential owing to the very poor quality of the frames which we are receiving from Sankey's at the present time. The very wide variation we are getting on the present frames is responsible for a very large number of faults which exist on the present car, and it is anticipated that by a simpler design of frame from the production angle the majority of these will be eliminated even if we have to put up with the same source of manufacture.

2. FRONT SUSPENSION. Independent suspension basically as at present fitted to the XJ. chassis. Experiments are now in hand with softer rubber bushes to reduce the hysteresis or internal friction in the system, which will give the effect of a softer ride without having to reduce any further the rate of the springs, which theoretically are as low as those used on the majority of American cars, but which give the false rating by this internal stiffness.

An S.S. Cars internal report, prepared in September 1944, and entitled 'Development and Design on Current Models not applicable to 1st Release', makes mention of the introduction of a 1½ litre SS100.

Designs are now in hand which replace the top wishbone by the Armstrong or Luvax shock absorber which eliminates the further working part.

Stub axle, wheel bearings, hub, ball pivots, and steering linkage all appear to be perfectly satisfactory, and will remain unchanged.

Experiments are being tried out with a slightly increased offset on the wheel by means of packing pieces, as we feel that due to the wide section of the tyre we are rather too close to the centre point steering position than is desirable.

Adjustment of bottom wishbone bushes to the frame and also the mounting for the shock absorber are being incorporated to the single bracket, which will be an integral part of the frame dispensing with the use of the bolt-on brackets now employed.

3. STEERING. The worm and rack steering at present employed will be retained basically subject to modifications to eliminate faults which exist in its present state.

(a) HEAVINESS. The pinion which started off with 10 teeth and has now been reduced to 8 is now being reduced to 7 teeth, which gives us the affect of a further 12½% lighter steering than we have at present, which we feel should be satisfactory. In addition to this, with the new steering box design the pinion is mounted on roller bearings which may give anything up to another 20% lightness.

(b) The slight coarseness which can be felt is considered to be due to the straight tooth rack and pinion, and the helical gear and rack are being used to enable us to obtain a greater tooth overlap which will eliminate this point.

(c) STEERING WHEEL KICK. By the modifications which have already been carried out this has been reduced to a very large extent, and may possibly be eliminated entirely by the increased offset which we are giving the front wheels experimentally. On the other hand a steering box of a revised design is being constructed under Burman Patents with a variable reverse efficiency which should entirely eliminate any reaction being felt on the steering wheel, and yet retain exceptional lightness on the actual steering control.

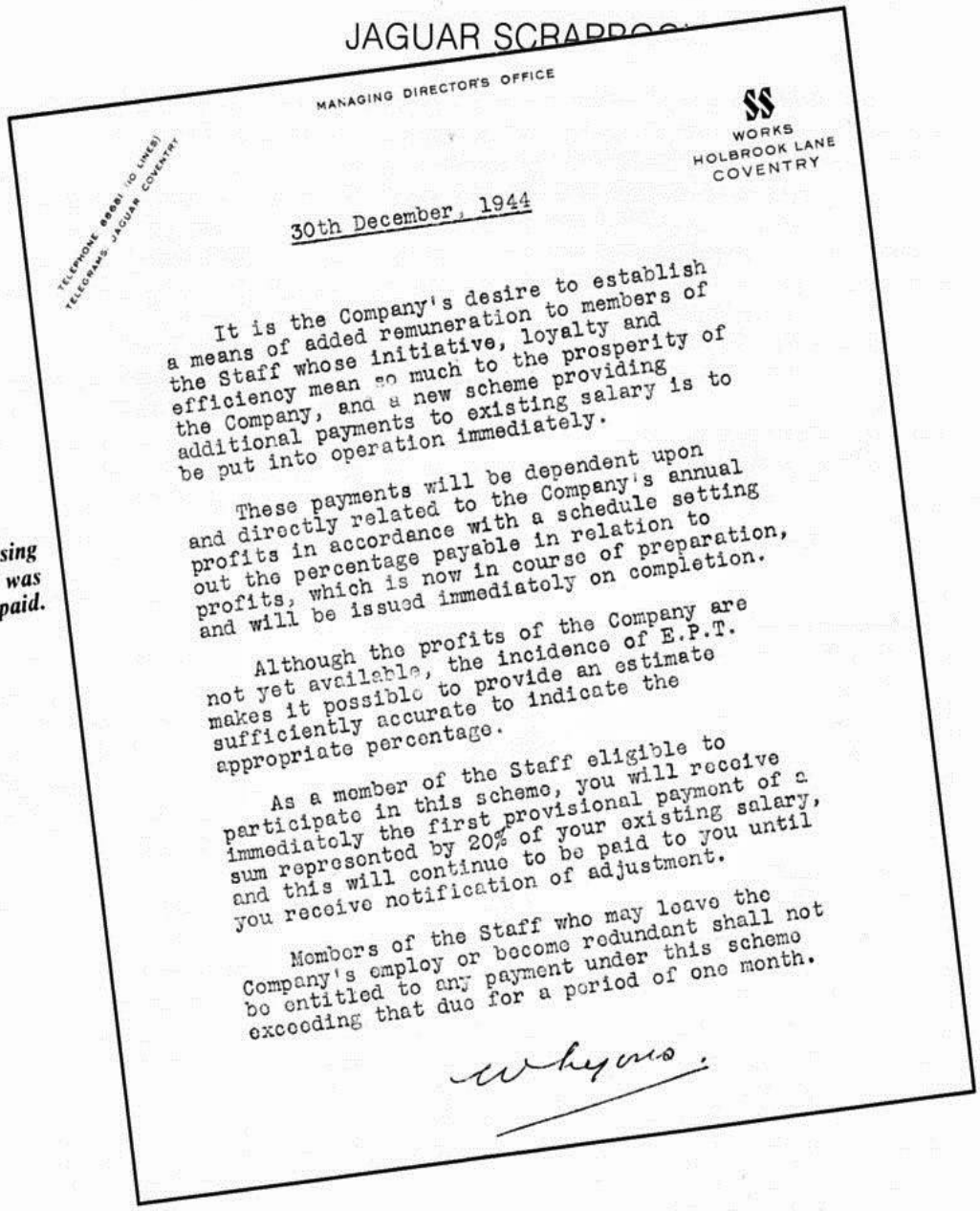
4. REAR SUSPENSION. The rear suspension which is being tried out on the XJ. at the moment shows considerable promise for axle location, and appears to be generally satisfactory except we have not so far succeeded in eliminating the friction in the system to give us the soft ride which we require. Experiments are being carried out mounting the main arm on roller and ball bearings in an endeavour to obtain a floating ride, but it is not considered desirable with this bearing set up for production, and it is felt that considerable further experimental work and a certain amount of re-design is necessary before the system is perfected to a state where we can release it for production.

An alternative design in body and semi-elliptic leaf springs carried on the frame extension has been prepared, and it is proposed to proceed with this as a basis of the production model.

The axle is being mounted on to the leaf spring through rubber bushes and will be controlled for torque reaction by means of the shock absorber arms situated well above the axle centre. By this means we can retain the low prop shaft tunnel which was obtained with the torsion bar suspension, and we have a system which follows closely on the conventional practice and eliminates the necessity for extensive experimental work.

5. SHOCK ABSORBERS. Front shock absorbers as already stated under front suspension will be made an integral part of the top wishbone. The Armstrong shock absorber is the most convenient type for our purpose, and a design is being made primarily to suit this shock absorber.

REAR SHOCK ABSORBER. Here again the arm of the shock absorber will also form a torque control arm for the rear axle.



MANAGING DIRECTOR'S OFFICE

SS
WORKS
HOLBROOK LANE
COVENTRY

TELEPHONE 88881 (10 LINES)
TELEGRAMS: JAGUAR COVENTRY

30th December, 1944

It is the Company's desire to establish a means of added remuneration to members of the Staff whose initiative, loyalty and efficiency mean so much to the prosperity of the Company, and a new scheme providing additional payments to existing salary is to be put into operation immediately.

These payments will be dependent upon and directly related to the Company's annual profits in accordance with a schedule setting out the percentage payable in relation to profits, which is now in course of preparation, and will be issued immediatoly on completion.

Although the profits of the Company are not yet available, the incidence of E.P.T. makes it possible to provide an estimate sufficiently accurate to indicate the appropriate percentage.

As a member of the Staff eligible to participate in this scheme, you will receive immediately the first provisional payment of a sum represented by 20% of your existing salary, and this will continue to be paid to you until you receive notification of adjustment.

Members of the Staff who may leave the Company's employ or become redundant shall not be entitled to any payment under this scheme exceeding that due for a period of one month.

W. Lyons.

A letter from Lyons advising staff that a bonus was to be paid.

A customer visiting the works on one occasion saw Lyons and said to him, 'You know I wish you'd discard your rubber top to the gear lever – it gets hot and sticky, and makes your hand black'.

Lyons, who did not take kindly to complaints, put the fellow in his place by replying with the stinging retort, 'Gentlemen usually drive in gloves'!

Armstrong type shock absorbers will be used on the first set-up, but provision can easily be made here for either type.

6. (a) LOCKHEED BRAKES. Due to the use of 16" tyres we are tied to using a maximum drum diameter on the brakes of 12". The first set of brakes fitted up on this car are Lockheed 12" x 1⅝" and are fitted with VG.91 linings. The brakes can be faded under exacting conditions. This is believed not to be actual lining fade, but rather due to drum expansion and the high leverage giving insufficient travel at the brake shoe to take care of this. The pedal reaches the floor board after three fairly high speed applications, but apparently the effectiveness quickly returns.

The feel of the brakes, however, is entirely unsatisfactory. They lack the 'bite' which we have on the present production 14" brakes. These brakes have been demonstrated to Messrs. Lockheed and we are awaiting their further remarks.

It may be possible that the trouble can be overcome by fitting an automatic adjuster which will allow us to run a reduced amount of free travel on the pedal, but Lockheed are not in a position to supply this at the moment, consequently our experiments on Lockheed brakes are in abeyance.

(b) GIRLING BRAKES. We have just received the first experimental set of Girling brakes for this car. These are the 12" x 1⅝". The question of fitting a wider brake is at present being looked into in the Drawing Office, as it is felt that this will probably be necessary for the 2½ and 3½-litre car.

These brakes are the hydrostatic type 2 L.S. on the front and normal type on the rear. Owing to the self-adjusting properties of the hydrostatic brake a higher pedal ratio will be possible than has been permissible with the Lockheed brakes which we have been trying, and it is thought that satisfactory results can be obtained without further modification. A report on these brakes should be available in about a fortnight's time.

Making general reference to the self-adjustment, I have made it perfectly clear to both Girling and Lockheed that under no circumstances will we consider the manually adjusted brake for our new designs. I feel that this attitude is quite justified in view of the fact that the Americans will have had at least 2 years experience on self-adjusting brakes.

7. WHEELS. Wheels so far supplied by Dunlops have been unsatisfactory. Difficulty is experienced on removing and refitting the tyres, partly due to the shallow-based rim, and partly due to the tyre construction. It is confidently expected, however, that we shall be clear of this difficulty by the time production is ready to commence.

On the experimental wheels submitted, breakage has been experienced in the disc pressing. These have cracked at the bottom of the main bowl due to the wheel flexing under load. Dunlops are investigating this and we are expecting further sample wheels at an early date.

The tyre size 6.00 x 16" appears to be adequate for our requirements on the Saloon, and it is proposed to retain this size.

8. PROPELLER SHAFT. The divided Prop. Shaft is essential to obtain the low floor line which we require. So far our experience with this has been unsatisfactory. We have not been able to entirely eliminate Prop. Shaft vibration. Experiments are still proceeding on the lines of known practise. Drawings have been obtained of the centre joint used on the 25 h.p. Wolseley, and the question has been discussed with Mr. Van Eugan of Wolseley's. Apparently their experience was that the rubber requires to be very hard and very little of it to give the best results. This is contrary to what one would expect, but we have had the same indication from Messrs. Hardy Spicer, possibly derived from their joint experiments at Wolseley's. Experiments are proceeding, and it is anticipated that the question will be cleared by trial and error.

9. BODY MOUNTING. On the second XJ. chassis on which the design is proceeding, arrangements will be made in conjunction with Body Design to mount the body alongside the outside of the front members on rubber pads as we saw employed on the 1946 Chrysler. The question of this mounting is only just being picked up, and it is too early to give details as to how this will be carried out.

ENGINE

1.6 CYLINDER ENGINE (3 1/2 and 2 1/2-LITRE). It is proposed that for the commencement of production the present 6 cylinder engine should be employed. Provision is naturally being made on the car to accommodate the new engine as an alternative, but it is felt that if experiments on the new engine do not prove immediately successful when the first engine is completed, the position might be set back so that production of the 6 cylinder engine cannot be achieved in time to meet the production requirements.

2 1/2-LITRE ENGINE. With the supply of the present 1 1/2-litre engine ceasing, it is essential that an alternative engine is available at the time production starts. Two alternatives are being considered here. Either the 4 cylinder XK engine to be brought into production from the start, or an alternative small 6 cylinder (1900 c.c.) engine on the present 2 1/2-litre block can be made available subject to satisfactory engines of this type being produced experimentally.

(a) 1900 c.c. 6 CYLINDER ENGINE. Preliminary tests on this engine have indicated that the engine has possibilities, but the re-design of head and induction passages would be necessary to obtain the desired H.P., particularly at the bottom end. A cylinder head design is being

prepared which I consider would be desirable to produce in aluminium, and it would be modified in such a way that it would allow the use of the flat top piston. The cylinder block would be maintained identical with the 2½ litre cylinder block.

If this is done, it is suggested that the machining of this cylinder head should be put out to avoid further loading up of the tooling position on our own shops.

(b) XK 4 CYLINDER ENGINE. Bench experiments on this engine are still proceeding, and although the engine shows considerable improvement over our present range of engines, it is still not up to the standard which we consider desirable before this is released. It is, however, felt that in the main the results can be produced without major modification. The bottom half of the engine so far has stood up considerably better than any other engine which we have had.

No major trouble has been experienced with the aluminium head, the valve seats, the valve gear generally, or with their ability to withstand the prolonged running.

The chain drives at the front of the engine have not yet been tested in their latest form, but experience with the XF engine and the greater simplicity of the drive which has now been achieved indicates that we are justified in expecting a silent, satisfactory operation at this point.

The final decision on this must await the first engine of the present second series engines.

The combustion chamber design appears to be the one thing which is not really as yet 100% satisfactory. The engine with the latest combustion head has been submitted to Mr. Weslake who is about to commence a further series of tests.

Our own feeling on this combustion chamber is that the compression pressures which are being obtained with the 7½:1 compression ratio are satisfactory. The power output, however, from these compression pressures is disappointing, and the tendency to detonation which we are experiencing is unsatisfactory in view of the fact that we are using an aluminium head with an excellent water flow and 80 octane fuel. It is our opinion that the engine should operate satisfactorily under these conditions without pinking, with at least 8:1 compression ratio, and that it is due to unsatisfactory burning in some way which is preventing us from getting the desired results.

We are at the moment experimenting with the method of reducing the inlet gas blow over the head of the hot exhaust valve. We have in addition placed on order a set of salt cooled valves, and if either of these experiments show an effective increase of B.M.E.P., I anticipate that we shall be able to remedy the trouble very quickly and with very little alteration.

Alternatively, or pending the correction of the burning in this head, it would be quite satisfactory to go into production with this engine with a 7:1 compression ratio, and the engine would still give a very much superior performance than that which is produced by our present 1½ litre engine. In addition, there is considerable saving in weight on this engine as compared with our present unit.

GEARBOX

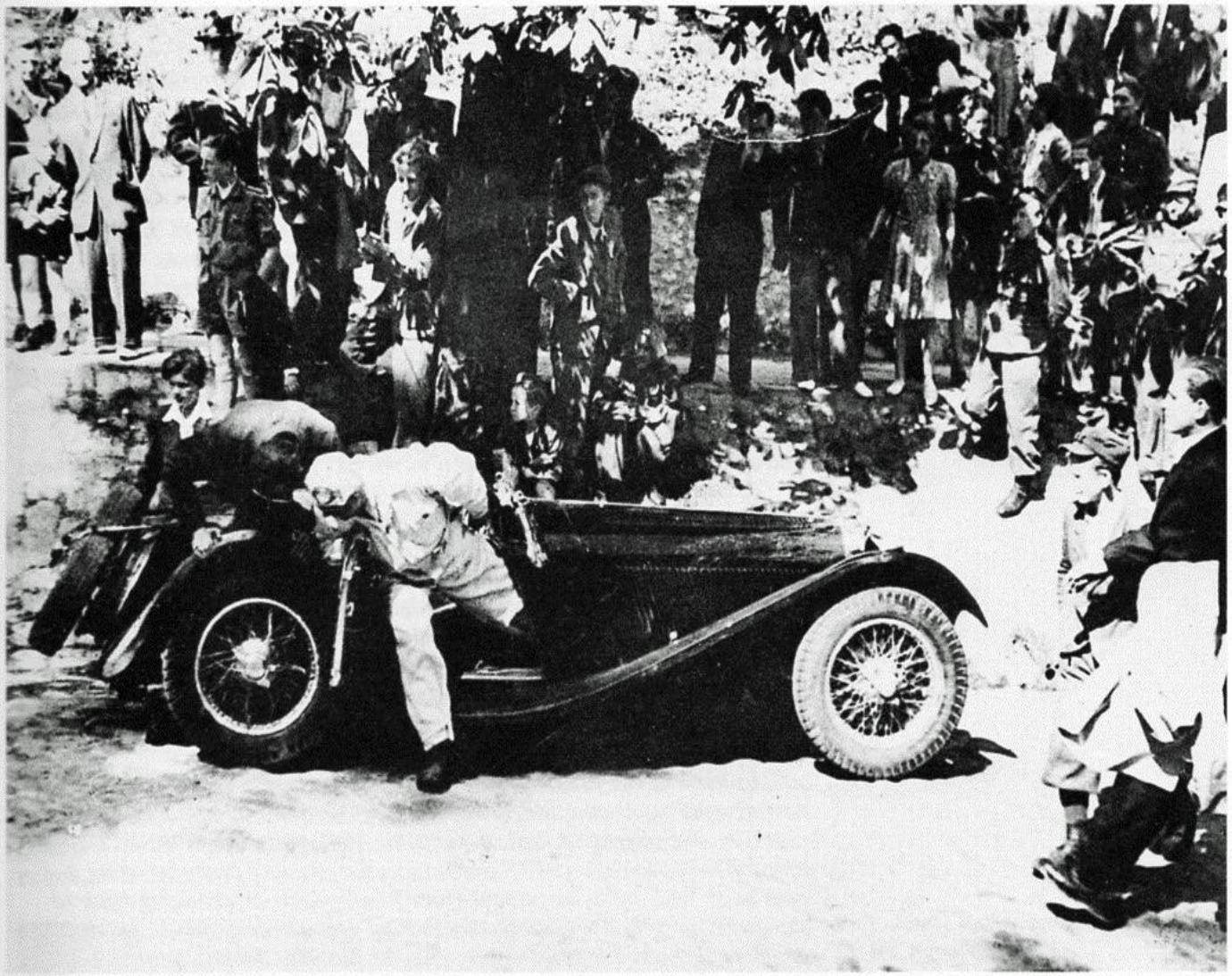
The position on the gearbox still remains rather open and the following alternatives are listed for further discussion together with comments on their respective merits.

(a) EXISTING SYNCHROMESH GEARBOX WITH SINGLE HELICAL GEARS. The latest sample box manufactured by Moss does indicate that this can be made satisfactorily and it may be advisable to continue fitting this box on the six cylinder cars to maintain production, or at any rate it can be viewed as an alternative. It is considered that this box is unnecessarily heavy for the 1½-litre.

(b) INERTIA LOCK SYNCHROMESH. If the re-design of the synchromesh was made to improve synchronising and the box made

suitable for all sizes of engine, we would propose to go to inertia lock type of synchromesh, either using the modification of the Buick such as we used on the Hillman Minx, which is quite satisfactory, or manufacturing the later General Motors type under licence. This would involve a royalty of somewhere between 8/- [40p] and 12/- [60p] per box, which I consider excessive and I would suggest that if the box is re-designed, an inertia lock unit of both types is made up so that we may see exactly what we are getting for the royalty payment.

(c) COTAL GEARBOX. Discussions with Mr. Van Eugan at Wolseley's indicate that quite a lot of development work has taken place on this box, which has resulted in reduction in weight and a slight reduction in size.



This '100' driver and his riding companion seem to be in a state of some consternation and concern with regard to the rear of the motor car. Or, perhaps he has just run somebody over!

The sizes of boxes which they are making 10/12 m.k.g. (84 ft. lbs.) and 18 m.k.g. (35 ft. lbs.) would be suitable for the 1½-litre and the 2½-litre respectively. For the 3½-litre engine, however, we should fit a 25 m.k.g. box which they do not propose to manufacture, and to obtain a box of this capacity we should either have to go direct to France and buy boxes complete, which is liable to be extremely difficult, or endeavour to obtain a licence to manufacture for ourselves or someone else to manufacture for us.

The most difficult problem here appears to be the fact that whilst we can obtain boxes for the smaller engines, for the larger car we should be faced with using either a normal synchromesh box or an 18 m.k.g. box, which would really be rather over-stressed, but which might prove satisfactory in practice. It is possible that an improvement in the quality of the gear steel could be made which would enable us to successfully use

an 18 m.k.g. box with a 3 1/2-litre engine. This would need investigation which should really be carried out by a parent company.

(d) DE NORMANVILLE BOX. The 4 speed De Normanville box has distinct possibilities providing it can be manufactured economically and that it proves sufficiently reliable in operation. I see no reason why both these requirements should not be made providing sufficient energy is put behind the development of the box from this stage.

The first 2 speed box will be available for trial in the course of a few days, and if we are satisfied with this we should propose asking De Normanville to push right ahead with the 4 speed box. If this box were adopted, I think it should be introduced at first as an optional extra to the normal synchromesh box until we had 12 months experience of it in the hands of the public.

CLUTCH

A number of experiments are in hand on the clutch to try and improve the pick up, particularly after a reasonable mileage and also to prevent interference due to engine movement and transmission noise to the car, and in addition to obtain a considerably lighter pedal than that which we have at the moment.

Designs are being prepared in conjunction with Messrs. Lockheed for an hydraulic operation. Progress, however, on this is very slow. In the meantime, an alternative pedal operation has been developed and is being fitted on our left hand drive cars, which from initial tests on the 1 1/2-litre appears to be quite effective and it may be more satisfactory to adopt this method of operation than to go to the hydraulic type.

On the clutch plate we are pressing as hard as possible to obtain a rubber centre to try out the value of this on the reduction of transmission noises.

A Borglite plate and various types of lining material are also being experimented with. The results, however, so far have been rather mixed.

REAR AXLE (HARDY SPICER MANUFACTURE)

The position regarding the supply of the Spicer axle is still not quite clear. I understand it will be a considerable time before they are able to manufacture in this country, and it does seem essential that an alternative source of supply is obtained. Probably the best plan would be to have one firm alternative for the small axle and another firm for the large unit. Moss and E.N.V. Engineering are the two firms under consideration at the moment.

In view of the present delay in getting the major tools produced and new designs into operation, it appears that we shall be faced with the necessity of carrying on with the existing 1945 body for at least 12 months following the 1947 Show, unless we consider manufacturing a new body built up as at present from small panels or changing back to the coach-built body. Circumstances may prove it desirable to produce a coach-built body for the 3 1/2-litre only to the new design continuing on the main production lines with the present steel body with certain modifications. The following suggestions are put forward assuming that we are continuing with this body for a further 12 months.

1. BODY MOUNTING. To obtain a greater silence in the car it appears desirable to go to a rubber mounting between the frame and the bottom sill of the body such as was used on the 1946 Chrysler. To do this the bottom side of the body would require modifying and considerably stiffening. The single piece rocker from front to rear is most desirable and general strengthening up particularly around the centre pillar can also be carried out at the same time. In addition to this the floors would have to be self-supporting off the bottom side as contact with the chassis frame except through rubber would be avoided.

2. FLOATING DASH. The present floating dash lacks the stiffness which we had on the 1937 type dash. The accessibility to the instrument panel and the mounting of the battery are unsatisfactory. With

Sir Willian Lyons was visiting the Piccadilly showrooms one day when he was approached by the Sales Manager.

'Excuse me, Sir William. The carpets in the showroom are becoming very worn, and threadbare in places. May I order new carpets?'

'Certainly not,' replied Lyons, who was not known for spending money unnecessarily. 'There is plenty of wear left in those.'

That was the end of the conversation. On a subsequent visit a month or two later, however, Lyons happened to look down and noticed – new carpet! The unfortunate fellow was summoned.

'I thought I told you not to replace the carpet. I thought I told you that the existing ones were perfectly satisfactory. When I give an order, I expect it to be obeyed . . .

Lyons carried on in this vein until the fellow managed to interrupt long enough to explain that they weren't new carpets.

'What I have done, Sir William, is to turn them round. Half of each strip was under the show cabinets at the side of the room, and therefore not worn. So now that I have reversed them the worn area is under the cabinets.'

Lyons was silent for a few moments, as he looked around him. The young man held his breath.

'Remarkable,' muttered Lyons. 'Remarkable.'

There was another pause.

'Right, my man. I want you at Wappenbury Hall, nine o'clock on Monday morning. You can do the same thing for me at home.'

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modification to these items an improvement in the pedals and general sealing would be affected at the same time, and an endeavour to obtain a little more footroom for the pedals would also be made. Mounting for the heater and wireless would be considerably simplified, so that these units could be replaced from under the bonnet rather than the inside of the car.

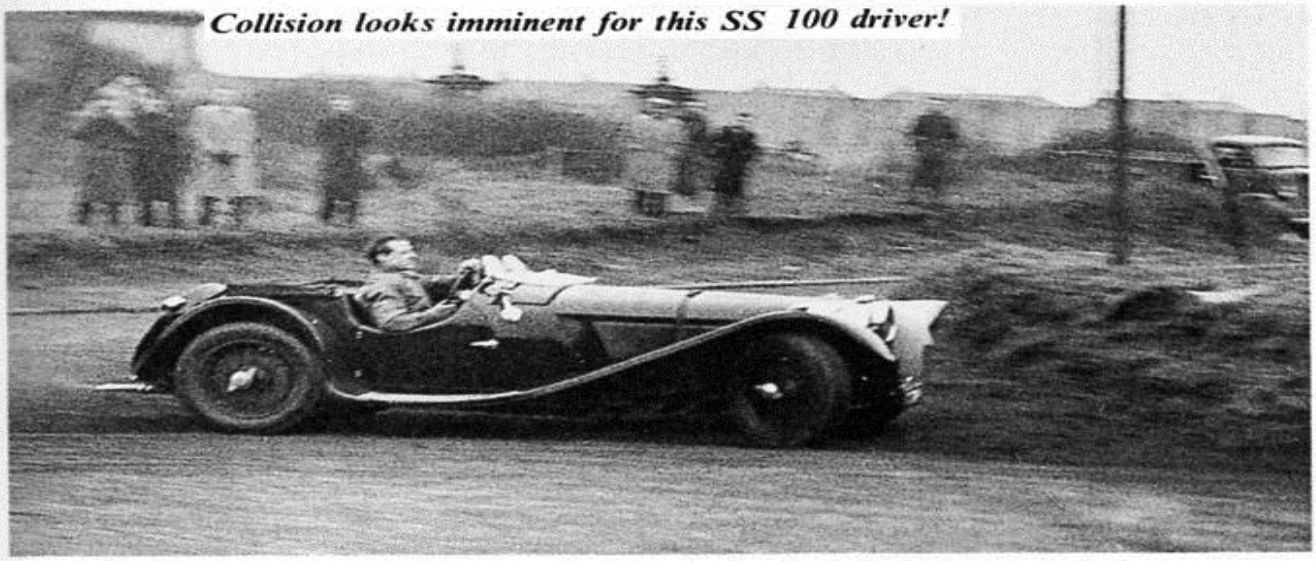
3. WEIGHT SAVING. Whilst the main structure of the body would be kept in steel, experiments on the use of aluminium should be carried out immediately on such components as front and rear doors, sliding roof, bootlid, number plate lid, and lining boards in the rear boot.

4. BONNET. Fixed bonnet sides without louvres to be experimented with. The valences under the front wing to be across the wing as a diaphragm to support the wing and also to allow a clear flow of air over the engine to the inside of the wing and avoid a pressure build up on it.

5. INSTRUMENTS AND ACCESSORIES. Instrument panel to be restyled raising it to allow more clearance for the driver's knees, and if possible further forward to give a more spacious appearance in the front seats.

SCREEN WIPERS. Cable operated type to be considered in conjunction with self-parking as on American cars. We suggest here that we should consider the fitting of a fixed screen both to facilitate production and to eliminate difficulties of screen wiper parking.

Collision looks imminent for this SS 100 driver!



Heater and air conditioning unit needs an entire re-design. Views on this have already been expressed to Clayton Dewandre.

Instruments can be made either easily detachable from the rear or detachable by lifting the facia panel in which case all wiring to be on the front of the instrument wiring panel so that it is immediately accessible.

6. SEATS. The front seats need a complete re-design, firstly to reduce the weight, and secondly to incorporate an effective sliding and lifting mechanism which can be easily operated.

Was this photograph, which I discovered in Bill Heynes' files, the inspiration for the 'rotund style' Jaguar? It was a projected V8 Claveau. Emile Claveau, a Frenchman, who is described in Nick Georgano's definitive encyclopedia as, 'an experimenter rather than a manufacturer,' was building monocoque designs with all-independent suspension as early as 1926, and built this creation in 1946.

FROM MANAGING DIRECTOR
21st September, 1946

To MR. HEYNES
Herewith my notes on your report dated the 11th September.

1947 – 8 PROGRAMME

CHASSIS

1. Before a decision can be made to adopt the new frame for the existing body, purchase commitments must be carefully investigated of all material affected.

2. FRONT SUSPENSION. The precaution necessary in the case of the Frame is necessary also here. I feel that the progress that has been made with this suspension is most disappointing. I do not think there is a sufficiently concentrated effort. I cannot see that we have any chance at the present rate of progress, of introducing this chassis next year.

I would, however, like a definite timetable of the further development work intended.

3. STEERING. As number 2. Unless we can achieve a steering to compare with the PACKARD at an early date we must proceed with a steering identical to the PACKARD.

4. REAR SUSPENSION. I am in agreement with this, but feel it is possibly a retrograde step. Here again I would like a timetable.

5. SHOCK ABSORBERS. This I agree.

6. LOCKHEED BRAKES. Agreed.

7. WHEELS. The question of road drum must be considered.

8. PROPELLER SHAFT. Agreed.

9. BODY MOUNTING. Agreed.

ENGINE

1. 6 CYLINDER ENGINE (3½ and 2½-LITRE). Agreed.

2. 1½-litre ENGINE. Agreed: but the question of 4 cylinder to be produced off the existing tooling and plant must also be investigated. The XK must undoubtedly be 100% before it is passed to production, the first XF operated satisfactorily at 8:1 compression, so we should not forego the advantage we gained.

BOARD MEETING, 14 AUGUST 1947

The Chairman reported that he had made an offer to acquire the name Lagonda, goodwill, jigs, tools, drawings, patents, all cars, car stocks, spares and service equipment, for the sum of £85,000. Up to the time of this meeting no reply had yet been received.

GEARBOX

a) EXISTING SYNCHRONISER GEARBOX WITH SINGLE HELICAL GEARS. We should persevere to obtain quietness and easy gear change with the existing double helical, and at the same time push forward with the single helical providing we are satisfied they will stand up.

b) INERTIA LOCK SYNCHROMESH. The cost of tooling up, and length of time is of the greatest importance.

c) COTAL GEARBOX. We should proceed with this as far and as quickly as possible. The question of the ordinary synchromesh for the small engine must also be taken up as quickly as possible with Wolseley's.

d) DE NORMANVILLE BOX. If we could prove this quickly, the question of manufacture would have to be investigated.

CLUTCH

There is room for considerable improvement and this should be persevered with.

REAR AXLE (Hardy Spicer manufacture)

We are obtaining quotations.

BODY

We must at this juncture assume that we shall continue with the present body.

1. BODY MOUNTING. No change must be made without firstly fully investigating what they involve, but I agree the principle.

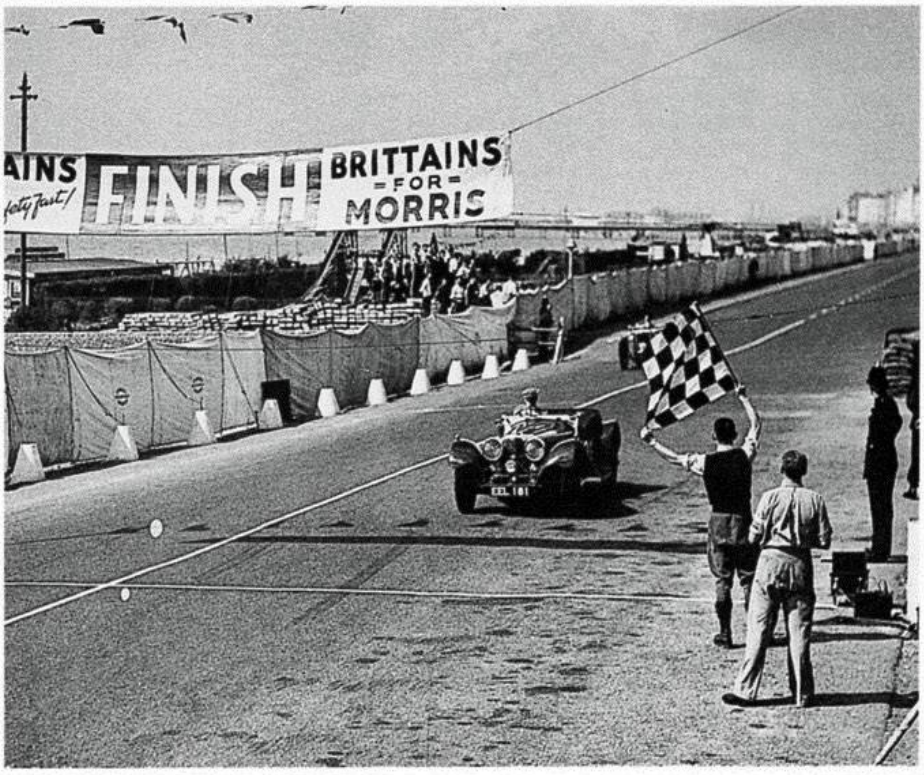
2. FLOATING DASH. Agreed. The question of Heat must also be considered.

3. WEIGHT SAVING. Here again the consequences of a change must be considered.

4. BONNET. Agreed.

5. INSTRUMENTS AND ACCESSORIES. Agreed. But the existing opening screen to be retained.

6. SEATS. Agreed.



G.F.A. Gale in his SS Jaguar 100 takes on and beats Sarginson in his MG in the over-2-litre class for standard sports cars at the Brighton Speed Trials in 1947.

Caravan manufacturers Sprite Ltd, undertook a 10,000 mile tour with one of their caravans towed by a 1948 3½-litre Jaguar saloon. Apart from a broken exhaust manifold due to the uneven roads, the trip was trouble-free, but Jaguar declined to use the exploit for their publicity purposes.

One of the directors of the company later wrote to a colleague, of the exercise. No assistance was given by Jaguar, for if you remember, the words of Lofty England at the time were, "The ruddy things should not be allowed on the road".

Well said, Lofty!

April 20th, 1949

To MR. LYONS
Copies to MR. HEYNES, MR. BAILY, AND MR. RANKIN.

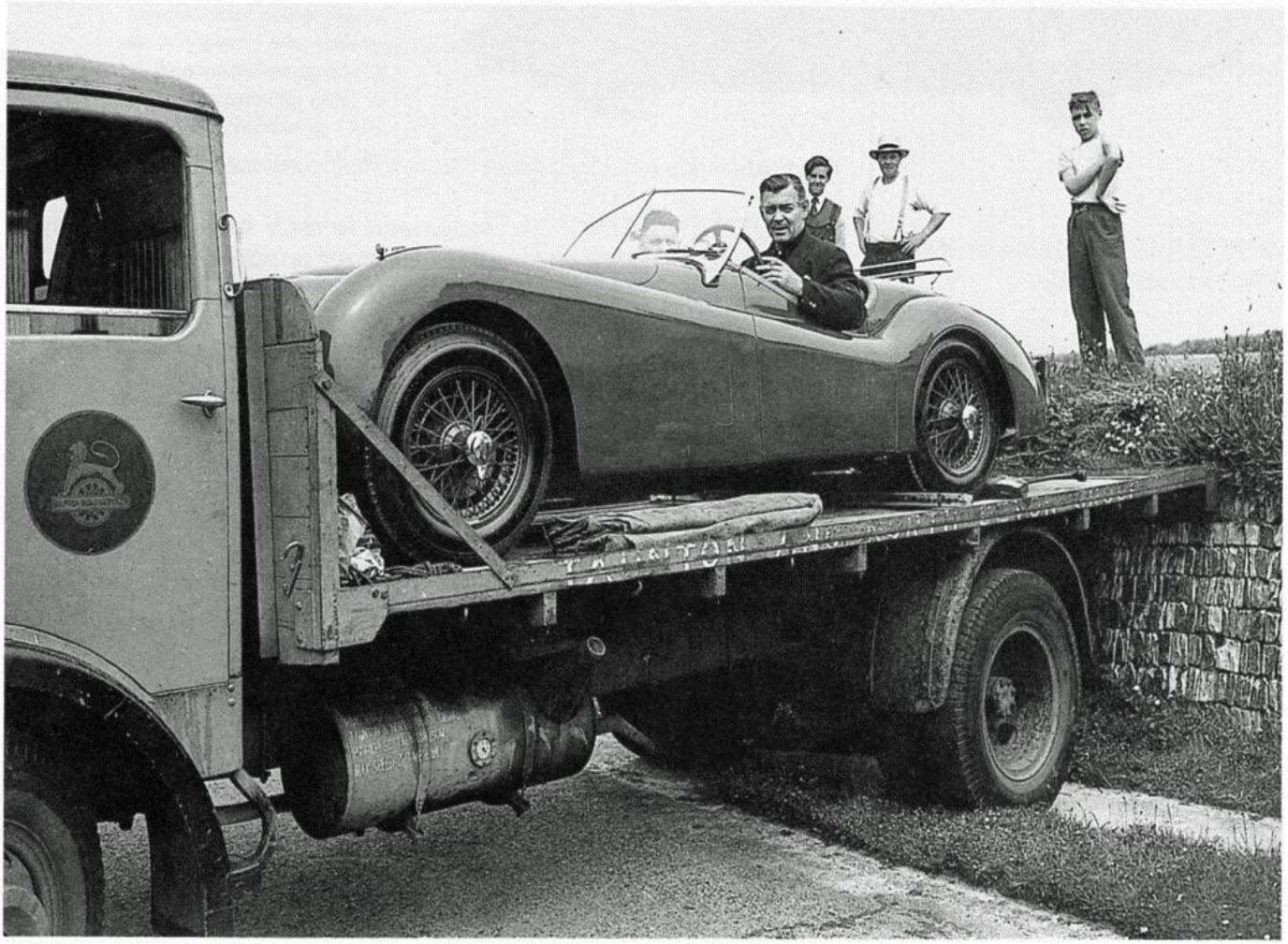
XK 2-SEATER

SPEED TESTS ON JABBEKE ROAD, BELGIUM

The car was tested over a mile on a perfectly level stretch of the Jabbeke road, this being the same section used by Col. Gardner for his recent records, and to ensure the accuracy of the measured distance, his timing marks were utilised.

The stopwatch was operated by an observer carried in the car, as electrical timing not being available, any system of flag signalling would have proved too inaccurate over a mile.

A check test of rpm with and without the observer showed that his weight had no effect upon the speed. The faster time recorded on Test 5 was entirely due to the improved streamlining resulting from fitting the tonneau cover.



Clark Gable taking delivery of his new XK120; or perhaps he went everywhere like this! (Jaguar Cars)

The figures, with the exceptions of Tests 4 and 5, represent the mean of two or more runs in each direction. Tests 4 and 5 were taken in one direction only, as on the other I was driving directly into the sun, and there being a considerable amount of traffic on the road, it was desirable to have good visibility. The speeds recorded can, however, be taken as a mean, the road being quite level and the following wind only slight.

An observer could not be carried on Test 5, but it was possible to make an accurate assessment of the speed by comparing the rpm with those recorded on the previous run. On the official tests, when electrical timing will be used it will, of course, not be necessary to carry an observer, and, the road being closed, weather conditions will not be of much importance.

BOARD MEETING, 9 OCTOBER 1947

Lagonda: The Chairman reported that our offer to Lagonda had not been accepted.

Particulars of the tests are as follows:-

Tyres Dunlop R.S. 6.00 x 16. Pressures 35 lbs., front & rear (cold)

TEST	*CONDITION*	*SPEED*
I	*Standard. Hood down.*	*120.0 mph*
II	*Undershield fitted. Hood down.*	*123.25 mph*
III	*Undershield fitted. Hood & side curtains erected.*	*125.0 mph*
IV	*Undershield fitted. Screen removed, cockpit open (rpm 5700 true)*	*131.3 mph*
V	*Undershield fitted. Screen removed, tonneau cover fitted (rpm 5900 true)*	*135.0 mph*

The car held the road very well indeed. Slight instability at speeds in excess of 125 mph was counteracted by carrying a full Jerry can in the boot, this making a considerable improvement. Tests with and without the Jerry can showed that it did not detract from the speed.

At cruising and high speeds the engine maintained a temperature of 70 – 80 degrees C, but in London traffic blocks the temperature rose to boiling point. A run of half a mile, at 30 mph was then sufficient to reduce it to 90 degrees C.

The brake linings (V.G. 91) are some improvement on those previously tried out on the Two-Seater, but they are commencing to judder badly, and it will be necessary to carry out further experiments before the brakes can be considered satisfactory.

If it is decided to fit an undershield as standard some ventilation will be required in order to maintain the sump and gearbox temperatures within safe limits. The driving compartment also becomes very hot. The seats, particularly the cushions, are uncomfortable on a long run.