Reprinted from The Motor *November, 16, 1949*

THE JAGUAR
2-Seater Type XK 120

IMPORTANT NOTE

IN the Road Test data panels it is noted that the speedometer fitted showed a substantial exaggeration of the true speed. Subsequent to the pages concerned being printed, we have been advised by the manufacturers that this has followed a recent change in tyre section and that the corresponding alteration in speedometer gear ratio was accidentally omitted from the car tested. It is the considered policy of Jaguar Cars Ltd., to supply speedometers as near accurate as is commercially possible.

JAGUAR CARS LIMITED
COVENTRY

Telephone: Coventry 88681
Telegrams: "Jaguar" Coventry

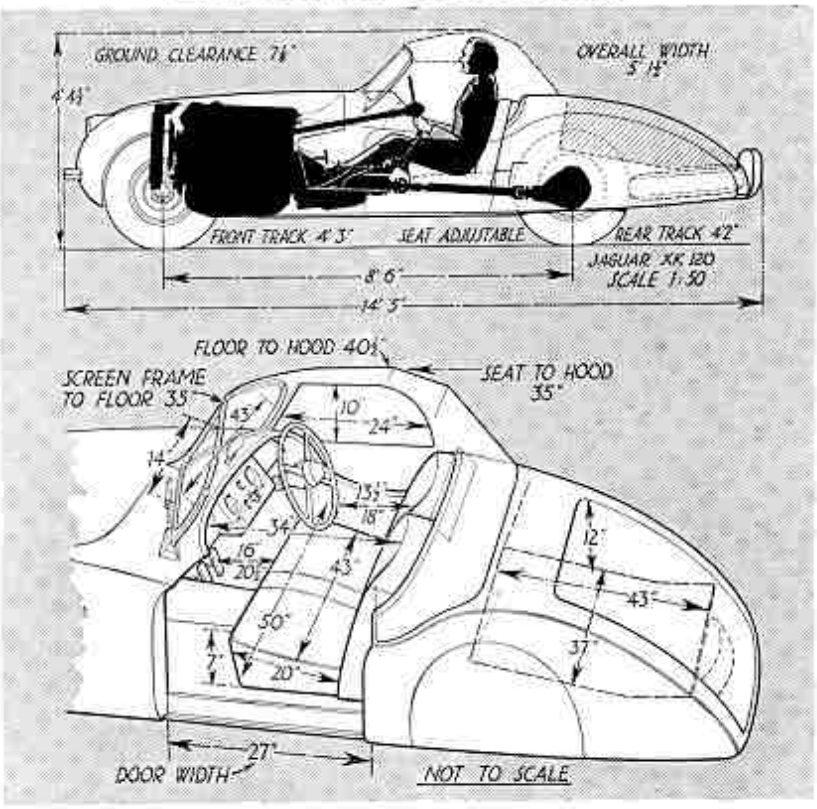
Reprinted from "The Motor," November 16, 1949

The Motor Continental Road Test No. 7C/49

Make: Jaguar
Makers: Jaguar Cars Ltd., Coventry

Type: XK 120 2-seater

Dimensions and Seating



Test Conditions

Cool, dry weather with little wind. Tested on smooth tarmac and concrete, at Montlhéry autodrome and at Jabbeke motor road, using petrol of approx. 72 octane rating. Dunlop "Road Speed" tyres operated at increased inflation pressures. Test car fitted with optional undershield, and tested with hood and sidescreens erected.

Test Data

ACCELERATION TIMES on Two Upper Ratios

	Top	3rd
10-30 m.p.h.	6.7 secs.	5.1 secs.
20-40 m.p.h.	6.7 secs.	5.0 secs.
30-50 m.p.h.	6.6 secs.	4.8 secs.
40-60 m.p.h.	7.4 secs.	5.4 secs.
50-70 m.p.h.	8.1 secs.	5.9 secs.
60-80 m.p.h.	8.5 secs.	6.1 secs.
70-90 m.p.h.	9.9 secs.	—
80-100 m.p.h.	11.3 secs.	—

ACCELERATION TIMES through Gears

0-30 m.p.h.	3.2 secs.
0-40 m.p.h.	5.1 secs.
0-50 m.p.h.	7.3 secs.
0-60 m.p.h.	10.0 secs.
0-70 m.p.h.	12.4 secs.
0-80 m.p.h.	15.7 secs.
0-90 m.p.h.	20.1 secs.
0-100 m.p.h.	27.3 secs.
Standing quarter-mile	17.0 secs.

FUEL CONSUMPTION

Overall consumption for 174 miles, at moderately high speeds, 8.8 gallons = 19.8 m.p.g.

27.5 m.p.g. at constant	30 m.p.h.
26.5 m.p.g. at constant	40 m.p.h.
24.0 m.p.g. at constant	50 m.p.h.
22.0 m.p.g. at constant	60 m.p.h.
18.5 m.p.g. at constant	70 m.p.h.
17.0 m.p.g. at constant	80 m.p.h.
15.0 m.p.g. at constant	90 m.p.h.
13.0 m.p.g. at constant	100 m.p.h.

MAXIMUM SPEEDS

Flying Half-mile

Mean of four opposite runs...124.6 m.p.h.
Best time equals ... ...126.8 m.p.h.

Speed in Gears

Max. speed in 3rd gear	90 m.p.h.
Max. speed in 2nd gear	62 m.p.h.

WEIGHT

Unladen kerb weight	25½ cwt.
Front/rear weight distribution	48/52
Weight laden as tested	29 cwt.

INSTRUMENTS

Speedometer at 30 m.p.h.	10% fast.
Speedometer at 60 m.p.h.	8% fast.
Speedometer at 90 m.p.h.	9% fast.
Distance recorder	2% fast.

HILL CLIMBING (at steady speeds)

Max. top-gear speed on 1 in 20	108 m.p.h.
Max. top-gear speed on 1 in 15	103 m.p.h.
Max. top-gear speed on 1 in 10	87 m.p.h.
Max. gradient on top gear	1 in 7.1 (Tapley 310 lb./ton)
Max. gradient on 3rd gear	1 in 5.3 (Tapley 415 lb./ton)
Max. gradient on 2nd gear	1 in 3.6 (Tapley 600 lb./ton)

BRAKES AT 30 m.p.h.

0.97g. retardation (= 31 ft. stopping distance) with 115 lb. pedal pressure.
0.65g. retardation (= 46 ft. stopping distance) with 75 lb. pedal pressure.
0.41g. retardation (= 73 ft. stopping distance) with 50 lb. pedal pressure.
0.28g. retardation (=108 ft. stopping distance) with 25 lb. pedal pressure.

In Brief

Price £988, plus purchase tax £275 3s. 11d. equals £1.263 3s. 11d.
Capacity ... ... 3,442 c.c.
Unladen kerb weight ... 25½ cwt.
Fuel consumption ... 19.8 m.p.g.
Maximum speed ... 124.6 m.p.h.
Maximum speed on 1 in 20 gradient ... ... 108 mp.h.
Maximum top gear gradient 1 in 7.1
Acceleration,
10-30 m.p.h. in top ... 6.7 secs.
0-50 m.p.h. through gears 7.3 secs.
Gearing 22.1 m.p.h. in top at 1,000 r.p.m. 79.5 m.p.h. at 2,500 ft. per minute piston speed.

Specification

Engine

Cylinders	6
Bore	83 mm.
Stroke	106 mm.
Cubic Capacity	3,442 c.c.
Piston area	50.3 sq. ins.
Valves	Twin o.h.c.
Compression ratio	8/1 (Optional 7/1)
Max. power	160 b.h.p.
at	5,400 r.p.m.
Piston speed at max. b.h.p.	3,750 ft. per min.
Carburetter	2 horizontal S.U.
Ignition	Lucas Coil
Sparking plugs	14 mm. Champion NA8
Fuel pump	S.U. Electric
Oil filter	Tecalemic full-flow

Transmission

Clutch	10" s.d.p., Borg & Beck
Top gear (s/m)	3.64 (Optional 3.27)
3rd gear (s/m)	4.98
2nd gear (s/m)	7.22
1st gear	12.29
Propeller shaft	Hardy Spicer, open
Final drive	Hypoid bevel

Chassis

Brakes	Lockheed hydraulic (2 L.s front)
Brake drum diameter	12 ins.
Friction lining area	208 sq. ins.
Suspension: Front	Torsion Bar I.F.S.
Rear	Semi-elliptic leaf
Shock absorbers: Front	Newton telescopic
Rear	Girling PV7
Tyres	Dunlop "Road Speed," 6.00-16

Steering

Steering gear	Burman re-circulating ball
Turning circle	31 ft.
Turns of steering wheel, lock to lock	3¼

Performance factors (at laden weight as tested)

Piston area, sq. in. per ton	34.6
Brake lining area sq. in. per ton	143
Specific displacement, litres per ton/mile	3,220

Fully described in "The Motor," Oct. 27, 1948.

Maintenance

Fuel tank: 14 gallons (Optional 25 gallons). **Sump:** 25 pints, S.A.E. 30 summer, S.A.E. 20 winter. **Gearbox:** 2¼ pints, S.A.E. 30. **Rear axle:** 3½ pints, S.A.E. 90 E.P. gear oil. **Steering gear:** S.A.E. 140 gear oil. **Radiator:** 25½ pints. **Chassis Lubrication:** By grease gun (heavy grease) to 22 points every 1,000 miles. **Ignition timing:** Set to pink lightly at 1,500 r.p.m., full throttle. **Spark plug gap:** 0.022 in. **Contact breaker gap:** 0.012 in. **Tappets (cold):** Inlet 0.006 in., exhaust 0.008 in. **Front wheel toe-in:** ⅛ in. to ¼ in. **Camber angle:** 1½° to 2° positive. **Castor angle:** 4½° to 5½° positive. **Tyre pressures:** Normal, 25 lb. per sq. in. For high speed driving, 35 lb. per sq. in. **Torsion bar setting:** With 200 lb. load on front seats, and 25 lb. tyre pressure, set ground clearance under chassis side member behind sump to 7⅛ in. **Brake fluid:** Lockheed Orange. **Shock absorber fluid:** Front, S.A.E. 10 engine oil. Rear, Girling piston-type (thin) oil. **Battery:** 2 in series, Lucas 6-volt 64 amp.-hour. **Lamp bulbs:** 12 volt. Head lamps 48/48 watt (Lucas 302 or 303). Side and number plate 6 watt (Lucas 989). Tail/stop lamps 6/24 watt (Lucas 189).

Ref. 8/35/49.

The JAGUAR 2-Seater Type XK 120

A Docile and Comfortable Touring Car with Phenomenal Acceleration to More Than 120 m.p.h.

TOURING ESSENTIAL.—The luggage locker is of useful capacity, or can enclose a second spare wheel for competition purposes.

BY attaining a timed maximum speed of over 124 m.p.h. with comprehensive all-weather equipment in place, and accelerating from rest up to 100 m.p.h. in a two-way average time of 44.6 seconds, the Jaguar XK 120 model recently proved itself to be very much the fastest post-war car to be subjected to road test by "The Motor." The actual character of the car will more truly be appreciated, however, when it is mentioned that the hitherto unequalled acceleration time quoted above was obtained with the car driven away from a standstill in top gear, and that very much better times still were obtained when the gearbox was used to obtain the acceleration figures published on the data page.

In their catalogue, the manufacturers refer to this as a super-sports model, but it is a description which we cannot regard as appropriate. Sport of any kind usually implies deliberate acceptance of some degree of discomfort in the quest for utmost performance or precision, whereas the Jaguar is a two-seater car in the design of which sacrifice of comfort has certainly not been accepted. Equally, a sports car has often come to be regarded as a vehicle which is not really as fast as some big touring roadsters but which keeps up with them by phenomenal controllability in tight corners—and the Jaguar is simply the fast touring car with impeccable handling qualities which proved in the Production Car Race at Silverstone its ability to stay in front of all the catalogued sports models.

SHELTERED SPEED.—A broad "V" windscreen and high sides to the wide body make speeds in excess of 120 m.p.h. comfortable. Left- or right-hand drive cars are available.

Enough for Everyone

So far above normal is the performance of the Jaguar that the precise figures (which could only be recorded by the complementary use of both French and Belgian testing sites) can virtually be described as of scientific interest only. There is, in effect, an amount of power in reserve sufficient to ensure that on normal roads the car will go almost as fast as conditions make safe, and on the wide open spaces of track or motor road the ultimate speeds sustained are such that road tyres can only be preserved intact with certainty if quite high inflation pressures are used.

It should be made very plain, at the outset, however, that we do not look on the Jaguar's performance as either unnecessarily high or as inherently dangerous. Vast accelerating power and brakes to match mean that running out of Central London on a normal weekday the speed can safely rise above a genuine 100 m.p.h. several times even in the first 20 miles, full advantage being taken of every open stretch almost irrespective of adverse gradient. Equally, although the car is capable of arriving over the brow of a hill, or at a crossing preceded by a corner, at speeds which other road users just had not dreamed about, a driver using the power intelligently can cover long distances in astonishingly short times without doing anything dangerous, going gently when necessary in the happy knowledge that time can quickly be made up so soon as conditions are better. The length of clear road needed for overtaking slower cars is of course abnormally small, and the Jaguar can accelerate past a lorry and be back on its own side of the white line within an astonishingly brief time and distance.

CLASSIC STYLE.—Twin chain-driven overhead camshafts and horizontal S.U. carburetters are features of the neat 6-cylinder, 3½-litre engine.

Restrained Power

Fast though it is, the Jaguar is the most docile of cars to drive, as the recording of acceleration from a standing start in top gear has already implied. Any normal motorist can get into the driving seat and go off through town traffic quite peacefully, and unless he depresses the accelerator pedal a long way or discovers that thanks to the willingness of the engine to rev. the town speed limit is easily exceeded even in bottom gear, he will hardly suspect what power lies in reserve. There is no embarrassing sudden response to the accelerator pedal, but rather a docility of the power unit and a smoothness of the clutch which make for a delightful willingness to crawl in tightly packed traffic. Although the compression ratio is high, the engine accepts Pool petrol with a very tolerable amount of pinking during full throttle acceleration.

Normally, the car is started quietly from rest in second gear—and, after a few seconds' accelerations, top is engaged directly and probably the brakes used to reduce speed to the over-shot legal speed of 30 m.p.h.! The smoothness of the engine is such that one can easily fail to appreciate that top-gear acceleration is astonishingly rapid—it is only side-by-side driving or stop-watch tests which reveal that, for example, the Jaguar has quicker acceleration in top gear from 20 m.p.h. upwards than has a modern 4-litre American straight-eight automobile with torque converter transmission.

When utmost speed is called for, the Jaguar suddenly changes its personality

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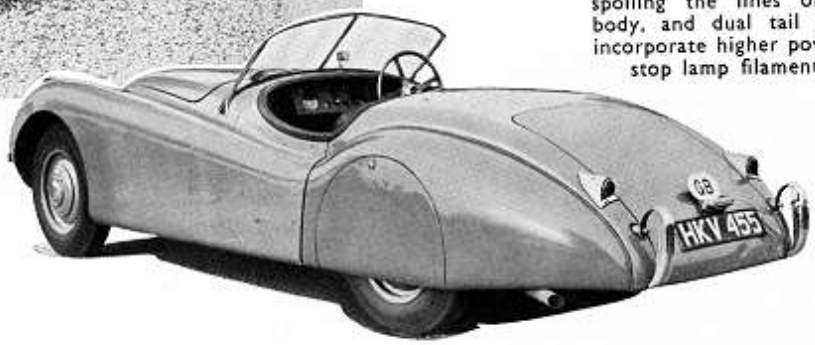
AS TESTED.—All-weather equipment is easy to erect, and streamlines the car for utmost speed. A three-point attachment to the windscreen holds the hood secure at all times.



TAIL PROTECTION.—Vertical bumper bars protect the tail against most risk of damage without spoiling the lines of the body, and dual tail lamps incorporate higher powered stop lamp filaments.

Started away from rest by dropping the clutch in at a tachometer reading of 2,500 r.p.m. it sizzles away with the rear axle shuddering slightly and right-hand rear wheel tracing a black line up the road, to attain 30 m.p.h. in barely more than 3 secs. before a change to second gear is needed for further acceleration to 60 m.p.h. in 10 secs. total time, whereafter a change into third gear and another 10 secs. acceleration allows top gear to be engaged at a genuine 90 m.p.h. The engine which pulls hard at 500 r.p.m. is delivering 160 of the hairiest-legged horses when the tachometer needle points to 5,500 r.p.m., and despite the car's luxury and its unladen weight of 25½ cwt. it will provide acceleration such as most drivers have never even imagined.

In terms of maximum speed, our test was made on a fully equipped car with normal 3.64:1 top-gear ratio, and speeds as high as the 132.6 m.p.h. recorded on a demonstration car using the alternative 3.27 : 1 top gear and a single aero screen were not expected. With the hood and sidescreens erected, however, less than two miles' acceleration from rest was needed for the car to show a timed two-way mean speed of 124.6 m.p.h. on the Jabbeke motor road, the car running perfectly true with only a single guiding hand on the steering wheel. Lowering the neat hood reduced the mean timed speed only to 122.1 m.p.h., and on the steeply banked Montlhéry autodrome where the tight curves add 50 per cent. to the load on the tyres and springs a few unrehearsed laps at dusk showed speeds of over 117 m.p.h. around the 1½-mile circuit.

Speed in Luxury

Fast though it is, to an extreme degree, the Jaguar is a comfortable touring machine, as we appreciated on first acquaintance with it, introductions being made in Central London on a wet autumn night. With the hood raised, it is necessary to bow the head low when getting in, but once inside it is dry and reasonably warm, there being quite enough headroom and a great deal of elbow room. The hood, incidentally, does not flap, even at the car's very high maximum speed.

When tyre pressures are normal the suspension is extremely comfortable, either on the open road or in town. Even with the very high tyre pressures used on the banked track at Montlhéry, the negotiation of cobbled village streets produced a trace of rattle from the optional undertray rather than any bumping of driver or passenger. Nevertheless, soft though the ride is, even the worst surfaces likely to be tackled at speed failed to reveal any inadequacy of damping.

The driving position selected for present production models to some extent emphasizes the car's intended roadster character, the seat backrest being inclined backwards slightly and shaped to give only a moderate degree of lateral support, the adjustable spring-spoke steering wheel raked a fraction too steeply for the most rapid lock-to-lock manœuvres, and the operating pedal for the very light yet slip-free clutch coming back rather far from the natural rest position of the left foot. So far as the latter point was concerned, we found that, for the small number of gear changes made when keeping in formation with a 90-95 m.p.h. car on the road, it was not necessary to use the clutch at all. The four-speed gearbox has a rigid remote-control lever placed well back and incorporates that sort of synchromesh mechanism which conceals driving inaccuracies without impeding really fast movements of the lever.

For the passenger, on his separately adjustable seat, the degree of comfort provided is fully as great as that enjoyed by the driver. Although there is a fair amount of wind roar (which may, perhaps, be minimized on later cars, which have a more rounded windscreen shape), the car is in general very reasonably silent, and the luggage locker, plus large compartments in the doors and behind the seats, allow a fair amount of miscellaneous touring impedimenta to be carried.

Flexible suspension allows a trace of roll to be observed during really fast cornering, but this does not interfere with stability. The car's precise controllability is not always fully appreciated at first, but once it is realized that only small wheel movements and finger-and-thumb effort are needed it is instinctive to negotiate winding roads at really high speed, audible protest from the tyres being very, very seldom heard except during violent braking. The steering is stable on the straight, apart from slight correction being needed for sudden changes of camber, and behaves well in strong, gusty side winds, while the turning circle is exceptionally compact.

Fast Brakes

Outstanding qualities of acceleration and maximum speed are only of real use on the road if they are matched by excellent brakes, and in this respect the Jaguar is magnificently equipped. Lockheed hydraulic brakes with 12-in. diameter drums give really good stopping power, calling for pedal pressures which are quite low without being so small as to give unduly easy locking of the wheels. The figures published on our data page tell only a small fraction of the story concerning brakes, however, since they are based on low-speed tests ; what is especially creditable is the way in which the car can be slowed or brought quickly to rest from speeds above 100 m.p.h. without fuss or misbehaviour on smooth or rough road surfaces.

Unlike the brakes, the head lamps are not really worthy of the car. True, their bulbs are of one-third greater power than is usual on cars of half the speed potentialities, but even with fluted reflectors giving a closely controlled beam a road must be very free from curves or undulations before a night speed of 70 m.p.h. becomes comfortable. The remainder of the car's equipment is very much more satisfactory ; for example, the automatic choke, which gives easy starting from cold, and the facia panel cigarette lighter, which is especially useful on an open car.

Regarded simply as a technical achievement, the Jaguar is outstanding, not because it is unorthodox in any major detail, but simply because of its excellence as a comfortable car of very high performance. When the basic price of below £1,000 is taken into consideration, it becomes evident that Jaguar Cars Ltd., have produced a model which, in terms of value for money, far outstrips anything even they have hitherto marketed, which is saying a great deal.

The Jaguar technical team have very evidently evolved a winner, a car which is superb even at this early stage in what should be a very long and honourable career.

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