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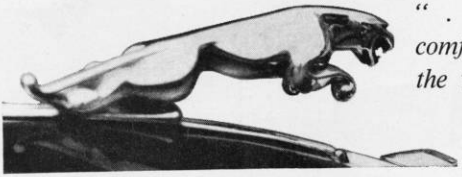


". . . one of the most comfortably sprung cars in the world . . ."

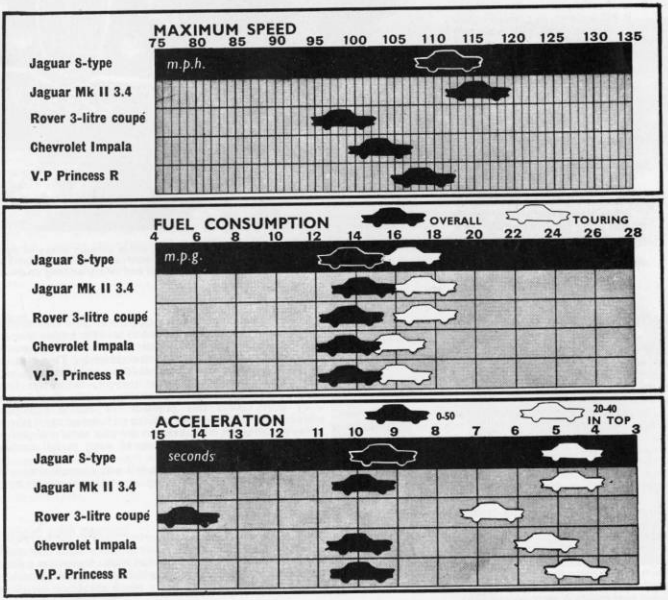
Extended Test

JAGUAR S-type 3·8

Automatic

Number 48 MOTOR TESTED 3,211 MILES

Automatics—how they run



IT is now over a year since the S-type Jaguars were introduced to supplement but not to replace the Mk. 2 saloons, which continue in parallel production. The two models share many common mechanical components and a basic similarity of shape and size. Some of the differences are obvious—the extended tail of the S-type with twin fuel tanks in the rear wings gives much more luggage space, a flatter roof line and changes to the seats give more head and leg room in the back. There are numerous other improvements of this sort, all of them valuable but all relatively insignificant by comparison with the conversion to independent rear suspension which has altered the whole character of the car.

At the end of an unusually long test which included 2,000 miles abroad, we came to the conclusion that this design change alone is easily worth the £200 price difference between the models.

The S-type is one of the most comfortably sprung cars in the world and it will maintain its extremely high cruising speeds with the utmost safety and stability over road surfaces which demand a considerable reduction in speed from most cars. Dunlop SP41 tyres are now standard and with these and the optional power steering fitted to the test car the handling inspires a similar degree of confidence.

The S-type weighs some 3 cwt. more than the Mk. 2 so that in terms of performance figures it is not quite so impressive. It remains, however, a very fast car indeed with a smooth and effortless engine and the ability to return remarkable average speeds without tiring the driver at all. As a short distance car it has some shortcomings, notably a slow rate of warming up and an automatic choke which is not progressive in its disengagement.

Some 2,000 test miles abroad, many of them under arduous Alpine conditions revealed exceptional standards of comfort, speed and safety on long journeys.

Performance

Like most smooth quiet cars the S-type is extremely deceptive. Only under full throttle conditions in Low gear does it give any of the usual " kick in the back " feeling but in normal motoring the speed mounts very quickly without appearing to do so and overtaking, for example, is completed before you really expect it.

The maximum speed is 116 m.p.h. and the car accelerates to 50 m.p.h. in 8½ seconds and to 100 m.p.h. in 34·3 seconds; these figures could probably have been improved considerably by using the gear holds to postpone upward changes to the 5,500 r.p.m. rev limit instead of the 4,000 to 4,500 r.p.m. range which the Borg-Warner transmission uses in Drive range. But this would really be out of character; any driver who demands the last ounce of performance and who is prepared to work for it would probably choose the manual gearbox with overdrive.

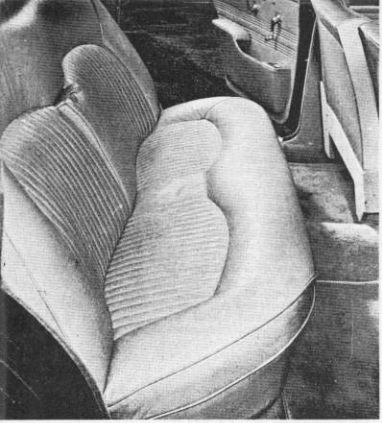
Overdrive would also be an advantage for motorway cruising at over 100 m.p.h.; the automatic model settles down very happily at 90–100 m.p.h. (around 4,500 r.p.m.) which will be more than enough for most people. At higher speeds it retains most of its silky smoothness but increasing power roar makes it more conspicuous.

The fully automatic starting carburetter gave easy starting from cold but on our car tended to stall the engine through over-richness before the cylinder head water temperature rose to 35°C., at which it cuts out completely. This situation is aggravated by automatic transmission which makes a high idling speed impracticable and prevents the driver from blipping the throttle whilst slipping the clutch. Rapid drive-away starts avoid this problem but during prolonged manoeuvring to extract the car from an hotel garage it proved rather irritating. It is necessary to drive for some miles before the big engine raises its 22 pints of water to full running temperature.

A re-start on the 1 in 3 test hill was accomplished with extraordinary ease—the Jaguar just accelerated rapidly away without a trace of wheelspin.

Transmission

The Borg-Warner automatic gearbox fitted to the S-type is a reliable unit which has been in use for many years now and is too well known to need much description. It provides a direct drive top and a hydraulic torque converter operating on Low and Intermediate epicyclic gears, which are almost inaudible.



JAGUAR S-type automatic

Leather-covered seats, adjustable for reach and rake, are very comfortable but do not give much lateral support under hard cornering. There are folding armrests at front and back, and pockets in the doors.

It seems particularly well-matched to the Jaguar engine, both upward and downward changes at full throttle being accomplished with only a gentle surge.

It shows to least advantage when circumstances make it necessary to release the accelerator whilst accelerating hard in a lower gear; it then changes up rather jerkily. This situation, which arises frequently in slow traffic or on mountain passes can be circumvented by using the intermediate gear hold which is operated by a facia mounted switch conveniently near the right hand rim of the steering wheel. This hold also extends the accelerating range in this gear to over 80 m.p.h. but the rev counter must then be watched to keep engine speed within safe limits.

When the car is brought to rest on the footbrake some hydraulic pressure is trapped in order to resist transmission "creep"—even on slight downhill gradients it will stand still until the accelerator pedal is touched or the ignition switched off. Towards the end of our test this useful device seemed to be working a little harder than it should and one or two drivers complained that it overrode their efforts to "feather off" the braking just before stopping.

Running costs

Over more than 3,000 miles the Jaguar averaged 15·3 m.p.g. This represents something approaching the worst end of the scale and it is possible to get over 20 m.p.g. when driving slowly on country roads, although few people would be likely to maintain such a figure in mixed conditions. Measure-

Performance

Conditions: Weather: Dry, cool, light wind 5-15 m.p.h. (Temperature 43 F-47 F, Barometer 29·7-29·8 in. Hg.). Surface: Dry tarmacadam. Fuel: Premium grade (97 octane R.M.).

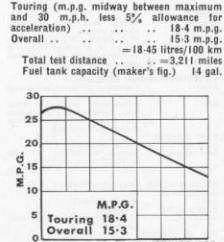
Maximum speeds

Mean of opposite runs	116·0 m.p.h.
Best one way ¼-mile	117·5
Intermediate gear) Automatic changes	72
Low gear) changes	40
"Maximile" Speed: (Timed quarter mile after 1 mile accelerating from rest)	
Mean	112·5
Best	112·5

Fuel Consumption

Touring (m.p.g. midway between maximum and 30 m.p.h. less 5% allowance for acceleration) 18·4 m.p.g.
Overall 15·3 m.p.g.
= 18·45 litres/100 km

Total test distance = 3,211 miles
Fuel tank capacity (maker's fig.) 14 gal.

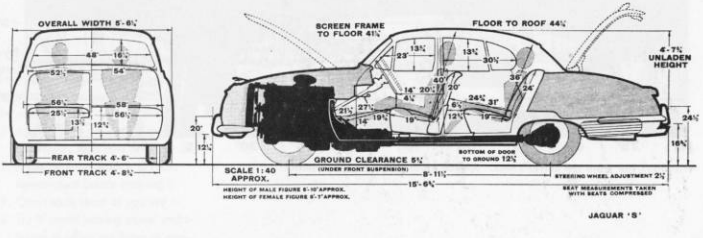


Acceleration times

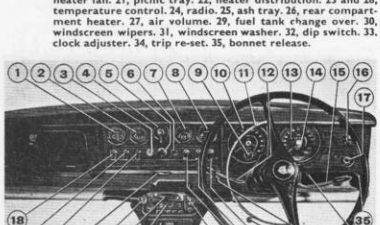
0-30 m.p.h.	4·5 sec.
0-40	6·4
0-50	8·5
0-60	11·8
0-70	16·5
0-80	20·9
0-90	26·6
0-100	34·3
Standing quarter mile	18·3
m.p.h.	"kick-down" sec.
10-30	3·2
20-40	3·8
30-50	4·0
40-60	5·4
50-70	8·0
60-80	9·1
70-90	10·1
80-100	13·4

OVERTAKING

Starting at 40 m.p.h. in direct top gear and



1, ammeter. 2, petrol gauge. 3, ignition. 4, lights. 5, cigar lighter. 6, starter. 7, oil pressure gauge. 8, engine thermometer. 9, clock. 10, rev. counter. 11, horn ring. 12, direction indicators and headlamp flasher. 13, speedometer. 14, mileage recorder. 15, gear selector. 16, intermediate hold. 17, hand-brake warning light. 18, interior lights. 19, panel light. 20, heater fan. 21, picnic tray. 22, heater distribution. 23 and 28, temperature control. 24, radio. 25, ash tray. 26, rear compartment heater. 27, air volume. 29, fuel tank change over. 30, windscreen wipers. 31, windscreen washer. 32, dip switch. 33, clock adjuster. 34, trip re-set. 35, bonnet release.



using kick-down gear change, distance required to gain 100 ft. on another car travelling at a steady 40 m.p.h. =460 ft.

Brakes

Pedal pressure, deceleration and equivalent stopping distance from 30 m.p.h.

lb.	g	ft.
25	0·27	111
50	0·60	50
75	0·85	35
100	0·95	31½
Handbrake	0·31	97

FADE

TEST 1. 20 stops at ⅓g deceleration at 1 min. intervals from a speed midway between 30 m.p.h. and max. speed (=73 m.p.h.)

	lb.
Pedal force at beginning	40
Pedal force at 10th stop	45
Pedal force at 20th	55

TEST 2. After top gear descent of steep hill falling approximately 600 ft. in half a mile increase in brake pedal force for ⅓g stop from 30 m.p.h.. .. .. .. =5 lb.

WATERPROOFING

Increase in brake pedal force for ⅓g stop from 30 m.p.h. after two runs through shallow watersplash at 30 m.p.h. =20 lb.

Steering

Turning circle between kerbs	ft.
Left	36
Right	36½
Turns of steering wheel from lock to lock	3½
Steering wheel deflection for 50 ft. diameter circle	1¼
Steering force (at rim of wheel) to move front wheels at rest	9 lb.
Steering force to hold car on 100 ft. diameter circle at 15 m.p.h. (=0·3g approx.)	4 lb.

ments in different types of use gave the following figures:—

Country roads, cruising 50–60 m.p.h. ..	22 m.p.g.
Main roads, not exceeding 75 m.p.h. ..	18 m.p.g.
400 miles across France at 60 m.p.h. average	15 m.p.g.
Motorway running, averaging 95 m.p.h. ..	14 m.p.g.

With its standard 8 to 1 compression ratio the S-type uses Premium fuel (97–98 Octane) easily obtainable anywhere in Western Europe. The separate wing tanks hold seven gallons each and have their own fillers, one each side. A change-over switch on the facia also connects the fuel gauge to whichever tank is in use; on a really fast journey the safe range between refuelling stops is only about 180–190 miles and the oil consumption about 1,200 m.p.g. This car had done over 25,000 miles and may not have had the latest piston ring assemblies.

An excellent handbook gives far more detailed information than most. It also makes it clear that there is quite a lot of servicing to do, some of it at 3,000 mile intervals but the bulk every 6,000 miles, including greasing at 14 points. There are no fixed charges for this work but it will probably be fairly expensive by current standards. On the other hand all the usual components in the engine compartment which need attention are easily accessible except the oil filter which is approached from underneath.

Handling

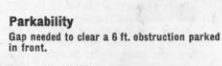
The S-type represents a very big step forward in handling compared with previous Jaguar saloons. It is, of course, a heavy car and softly sprung and it is possible to generate

Speedometer

30 m.p.h.	1¾ fast
60	1½ fast
90	1¾ fast
Distance recorder	1¾ fast

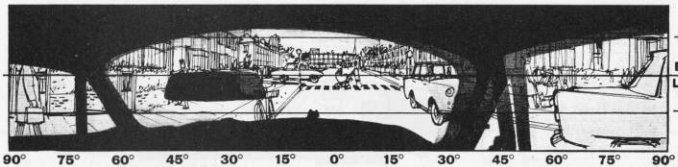
Parkability

Gap needed to clear a 6 ft. obstruction parked in front.



Weight

	cwt.
Kerb weight (unladen with fuel for approximately 50 miles)	33½
Front/rear distribution ..	53½/46½
Weight laden as tested	37



Visibility: 180° from the driver's seat. Shaded areas show one-eye visibility.

JAGUAR S-type

automatic

quite a lot of roll and tyre squeal by throwing it round corners too fast. It can, however, be driven in this rather inappropriate way quite safely, if the driver wishes, because it is extremely well-balanced with no noticeable under or oversteer and no vices as it approaches the limit. Bumpy surfaces have little effect on the roadholding and neither does clumsy use of the throttle in the middle of a corner. It is also very stable on the straight and very easy to place accurately at high speeds on narrow roads.

Good power steering, an optional extra fitted to the test car, plays a considerable part in this. It has a sensibly high ratio giving 3½ turns from lock to lock; it differs from the type previously used on the Mk. 2 in being responsive to steering torque and not just to wheel movement. The figures in the data panel show that it gives exceptionally light control (lighter than most very small cars) and yet it retains a satisfactory degree of feel and self-centring action even when negotiating very sharp corners quickly—a test which some systems fail. It is true that a stranger to the car tends to overdo his steering movements when entering fast corners but this tendency disappears almost completely after a few hundred miles as the driver adjusts to the very small forces required.

Brakes

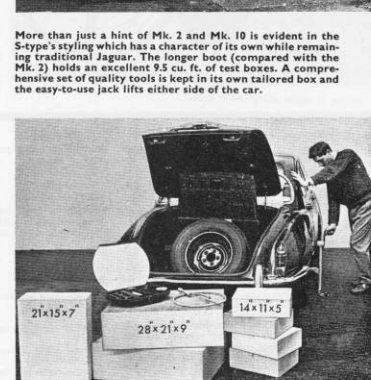
All our standard tests affected the brakes to some extent. The long hill descent had least effect, raising the pedal pressure for a ½ g stop by only 5 lb. Two runs through the watersplash raised it by 20 lb., but this increase was only momentary, and twenty ½ g stops in 20 minutes from nearly 75 m.p.h. brought a rise of 15 lb. and perceptible roughness of feel, but no pulling to one side.

Against this it must be recorded that for normal fast road motoring we have met few more satisfactory installations —they are quiet, light, progressive and sensitive and they feel immensely well balanced and reassuring when an emergency stop is necessary from very high speed. The handbrake held the car on a 1 in 3 gradient, although the lever needed considerable force.

Comfort and control

Road irregularities are so varied in their nature, ranging from potholes, transverse ridges and pavé at one extreme to wavy surfaces and hump-backed bridges at the other, that ride is always difficult to assess. Considering its response over the whole of this wide spectrum we would rate the S-type as one of the best sprung cars you can buy for European roads. It is soft but well-controlled, it doesn't rattle or shake and road noise is very low even with high speed tyre pressures. It is, in fact, a quiet car altogether because wind noise only becomes pronounced at speeds over 100 m.p.h. unless there is a strong cross-wind.

More than just a hint of Mk. 2 and Mk. 10 is evident in the S-type's styling which has a character of its own while remaining traditional Jaguar. The longer boot (compared with the Mk. 2) holds an excellent 9.5 cu. ft. of test boxes. A comprehensive set of quality tools is kept in its own tailored box and the easy-to-use jack lifts either side of the car.



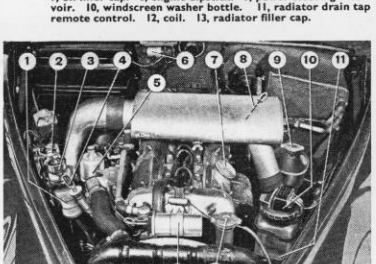
The driving position, too, is remarkably adaptable. Adjustable rake squabs and a telescopic steering column set at an angle which causes the wheel to move upwards as it extends backwards earned praise from drivers of vastly different length. One of our shortest drivers thought that he had never encountered a more comfortable position; on the other hand a 6 ft. 4 in. member of the staff was also very happy although he would have liked another inch or two of leg room. The seats themselves could be improved by squabs giving more support to the spine and better lateral location to eliminate a slight feeling of insecurity when cornering fast although central folding armrests in each front seat enable the passenger, at least, to balance on his elbows.

Rear seat ride and accommodation are excellent. A six foot passenger can sit comfortably behind a driver of similar height; there is adequate room for three people and shaped squabs and a folding central armrest make it particularly luxurious for two.

Heating arrangements have been completely revised. The main controls "Off", "Air" and "Heat" are worked by push-button servos and there is also a control to direct air to the rear passengers. Temperature is set by a sliding lever in a quadrant and rotating knobs, one each side of this quadrant, direct air either to the feet, or higher up the body of each front occupant, or cut it off entirely so that it all goes to the demisting slots. In mild weather we found the system slow to warm up but otherwise satisfactory. We wondered whether it would supply enough heat for exceptionally cold weather and the air flow, even when boosted at low speeds by a quiet two-speed fan, is not as powerful as one might wish for hot weather ventilation.

All round visibility is good although the scuttle flap which admits air to the heater system tends to obscure the view of the near side front wing. The mirror gives an unusually clear and comprehensive rear view and it is adjustable for height. Reversing needs a little care because there is no visible indication of the extremely long tail.

1, clutch fluid reservoir. 2, petrol filter. 3, brake fluid reservoir. 4, transmission dipstick. 5, SU HD6 carburetter. 7, oil filler cap. 8, engine dipstick. 9, power steering reservoir. 10, windscreen washer bottle. 11, radiator drain tap remote control. 12, coil. 13, radiator filler cap.



Fittings and Furniture

Interior trimming follows the traditional Jaguar style—carpets, leather upholstery and polished wood door cappings and facia. It has the same full range of instruments as the Mk. 2 and the Mk. X and, indeed, the central panel of small dials and switches is standardized and hinges down for inspection of the wiring and fuses behind. The row of six similar tumbler switches is labelled and illuminated at night but needs to be memorized for rapid use. Beneath this panel is a pull-out tray and the glove box lid folds down horizontally as well for picnic use. A full-length parcel shelf with a padded edge runs below the facia although if a radio is fitted this occupies the central section. There are pockets in all the doors.

The S-type continues to use the separate ignition key and press button starter which has been a Jaguar feature for so many years. The rotating lighting switch is another traditional feature and in its fourth position it controls a pair of built-in foglamps. Two speed wipers, an electric windscreen washer, headlamps flasher, map reading light and electric clock are all standard fittings. There are few concessions to crash safety apart from the padded parcel shelf edge and broad-spoked steering wheel and the rear view mirror and hard wooden facia look a little menacing. Anchorages are provided for lap and diagonal safety belts.

MAKE Jaguar • MODEL 3·8-litre S-type automatic • MAKERS Jaguar Cars Ltd., Coventry, England

ENGINE

Cylinder	6
Bore and stroke	87 mm. × 106 mm.
Cubic capacity	3,781 c.c.
Valve	Twin overhead camshafts
Compression ratio	8 : 1 (optional 7 or 9)
Carburetter(s)	Twin S.U. H.D 6
Fuel pump	S.U. electric
Oil filter	Tecalemit full-flow
Max. power (gross)	220 b.h.p. at 5,500 r.p.m.
Max. torque (gross)	240 lb. ft. at 3,000 r.p.m.

TRANSMISSION

Borg-Warner automatic transmission with 3 speed epicyclic gearbox and hydraulic converter (giving torque multiplication up to 2·15) operative on lower gears

Top gear	Direct
Intermediate	1·45
Low	2·30
Reverse	2·09
Final drive	3·54 : 1 hypoid bevel with limited slip differential

M.p.h. at 1,000 r.p.m. in:—

Top gear	21·6
Intermediate	15·1
Low	9·4

CHASSIS

Construction	Integral body/chassis

BRAKES

Type	Dunlop discs all round with vacuum servo
Dimensions	11 in. dia front, 11⅛ in. dia. rear
Friction areas	319 sq. in. of friction lining area operating on 495 sq. in. rubbed area of discs

SUSPENSION AND STEERING

Front	Transverse wishbones, coil springs and anti-roll bar
Rear	Independent. Location by lower links, half-shape and longitudinal radius arms with twin coil spring/damper units each side
Shock absorbers:	
Front and rear	Girling telescopic
Steering gear	Burman recirculating ball with (optional) power assistance
Tyres	185–15 Dunlop SP 41 with tubes

COACHWORK AND EQUIPMENT

Starting handle	No
Jack	Screw pillar type
Jacking points	2 each side
Battery	12 volt, 57 amp. hr. fitted under bonnet
No. of electrical fuses	7
Indicators	Self-cancelling flashers
Screen wipers	Two speed self-parking electric
Screen washers	Electric
Sun visors	2
Locks:	
With ignition key	Front doors
With other keys	Glove box and boot
Interior heater	Fresh air heater with two speed fan
Extras	Automatic gearbox, power assisted steering, alternative axle ratios, wire wheels, radio, laminated screen, electrically heated rear window, safety harness, etc.
Upholstery	Leather
Floor covering	Pile carpet
Alternative body types	None

MAINTENANCE

Sump	12 pints S.A.E. 30
Gearbox	15 pints Auto. Trans. Fluid
Rear axle	2¼ pints S.A.E. 90 EP
Steering gear	Auto. Trans. Fluid (power assisted)
Cooling system	22 pints (2 drain taps)
Chassis lubrication	Every 6,000 miles to 14 points
Ignition timing	7° before t.d.c.
Contact breaker gap	·014 to ·016 in.
Sparking plug type	Champion UN 12Y
Sparking plug gap	·025 in.
Tappet clearances (cold)	Inlet ·004 in., Exhaust ·006 in.
Front wheel toe-in	Parallel to ± in.
Castor angle	Zero ± ¼°
Tyre pressures	Normal motoring—30 lb. front, 27 lb. rear For sustained high speeds up to maximum—36 lb. front, 33 lb. rear Fully laden, increase rear pressures by 3 lb.

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