



# *XJ-S Convertible*

J A G U A R   S A L E S M E N ' S   R E P O R T   1 9 8 8

## THE LEGEND IS REBORN

The arrival of the XJ-S Convertible is an event which will be welcomed by Jaguar enthusiasts around the world. For many, the legendary E-type represented the ultimate in open top motoring. Now the legend has been reborn in the form of the new XJ-S Convertible. Coming at a time when Jaguar is once again enjoying notable successes on the race track, the new model is certain to become the main focus of attention in the specialist car sector.

Carrying with it many of the technological innovations of the new XJ-6 saloon range, this magnificent luxury sports car nevertheless retains all the classic appeal of its famous predecessor. Powered by the V12 engine, the Convertible brings the excitement of true open top motoring into the 1980's, and becomes the new flagship of the XJ-S range.

### THIS BOOK

The XJ-S Convertible offers you a significant sales opportunity for which you should be fully prepared. Your customers will look to you, as a Jaguar Sales Specialist, to be completely knowledgeable about the new model. This book will give you the information you need about the design and manufacture of the car, and about its many features and benefits. In order to help you learn quickly and easily, the book is structured according to the walkround positions. The quiz at the end will enable you to check your knowledge, and you should aim for nothing less than one hundred percent.

### THE IMPORTANCE OF CUSTOMER CARE

You may encounter a demand for the Convertible which will involve asking your customers to wait. This situation is not new to you; Jaguar is a specialist manufacturer, and building the Convertible involves a huge element of individual craftsmanship, as you will see from this book. We rely on your skills and care to communicate this to your customers. A legend takes time in the making, and the reward of owning the most exclusive open top car in the world is well worth waiting for. We wish you every success in your sales efforts over the coming months.



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## **TOTALLY ENGINEERED FOR QUALITY**

The design and development of the Convertible was a massive project which involved a multi-million pound investment in a new manufacturing facility at Castle Bromwich, and the skills of Jaguar's finest engineers.

### TECHNOLOGICALLY ADVANCED

The body and manufacturing engineering were undertaken in a joint project with the West German firm Karmann. During the design phase, Jaguar utilised the most advanced Computer Aided Design facilities in order to optimise torsional stiffness. Extensive work was carried out by Jaguar's renowned chassis development team to ensure that the Convertible offers levels of ride refinement and comfort which are unique amongst specialist cars. One of the new developments from which all XJ-S models benefit is the introduction of a power-assisted and anti-lock brake system.

### QUALITY, LUXURY AND PRESTIGE

In keeping with the reputation of the Jaguar marque, the Convertible is an outstanding example of craftsmanship and quality. The durability targets for the power-operated hood were several times more rigorous than the industry standard. The hood itself is impressively easy to operate, and beautifully made. The attention to detail, and the use of the finest materials throughout, have created an exclusive and prestigious open top sports car unrivalled anywhere in the world.

## **THE NEW XJ-S RANGE**

### **UK/EUROPE/OVERSEAS**

XJ-S 3.6 Coupé 2 + 2  
XJ-S V12 Coupé 2 + 2  
XJ-S V12 Convertible 2 seater

### **USA/CANADA**

XJ-S V12 Coupé 2 + 2  
XJ-S V12 Convertible 2 seater

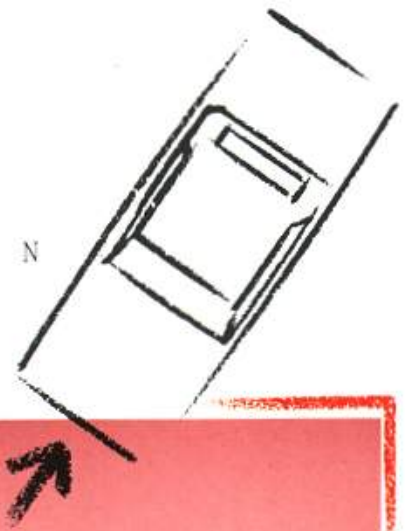








P O S I **1** T I O N





#### DIRECT GLAZED WINDSCREEN

The windscreen of the Convertible is direct glazed so that it lies completely flush with the windscreen panel. This enhances the aerodynamics and also gives a smoother, more elegant line.

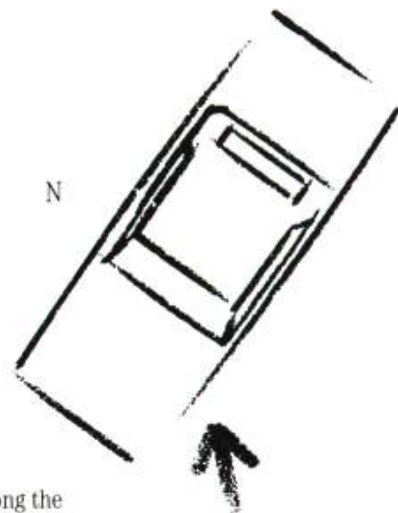
To achieve this, the windscreen panel, header and A posts are among the numerous completely new panels, with the A post incorporating inner and outer reinforcements.

Because of the substantial amount of strengthening required throughout the car, weight-saving was a priority. The glass area significantly affects the weight of the car, and the structural rigidity of the windscreen allows a glass thickness of 5.0 mm to be used (instead of 6.35 mm on the Coupé).



P O S I T I O N

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#### POWER AND PERFORMANCE

The XJ-S Convertible is powered by an engine which is among the most famous in the world; Jaguar's race-bred V12 has become a legend in its own lifetime.

One of the most outstanding characteristics of the V12 is the quiet and effortless delivery of those colossal reserves of power. At any speed, the engine is supremely flexible, giving excellent top gear acceleration. Maximum torque of 317 lb ft\* is not only higher than that of any major competitor, it is also generated at lower engine speeds, reaching its peak at only 3000 rpm.

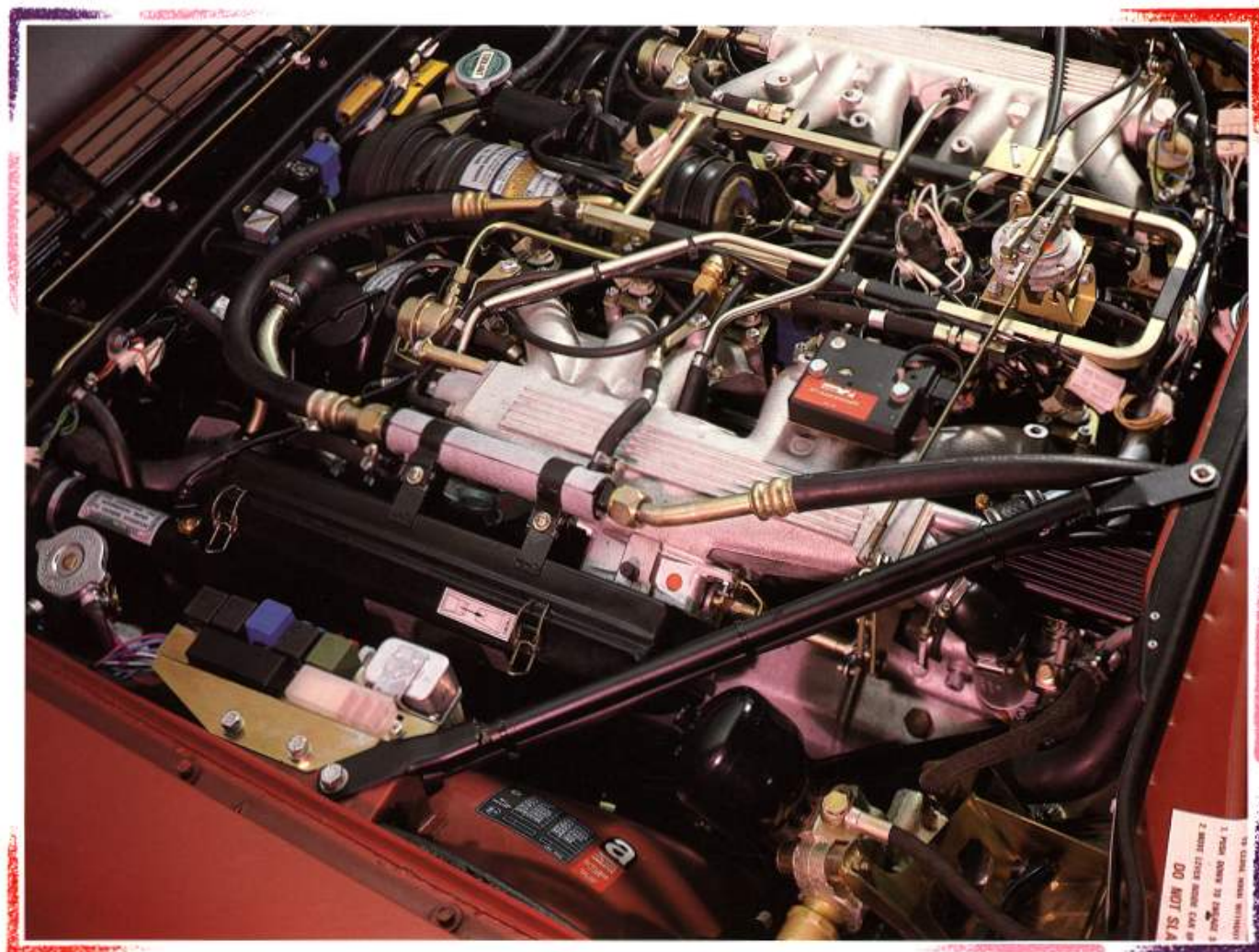
Despite the additional weight required for strengthening panels, it is a tribute to the immense power of the V12 that performance is virtually on a par with the Coupé. Top speed is a breathtaking 150 mph, and the Convertible can reach 60 mph in under 8 seconds.

To maintain the Jaguar's traditional refinement, scrupulous attention was paid to the settings of the engine mounts, front and rear crossbeam mounts, and the suspension.

\* All engine data given here applies to UK non-catalyst versions.





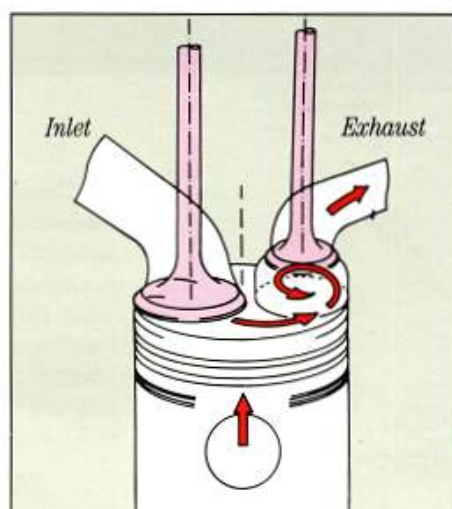


#### Underbonnet

All XJ-S models, including the Convertible, are now fitted with a brake power boost instead of a vacuum servo, and an anti-lock brake system; these are covered in detail at Position 3. The same hydraulic fluid is used for the primary and boost circuits.

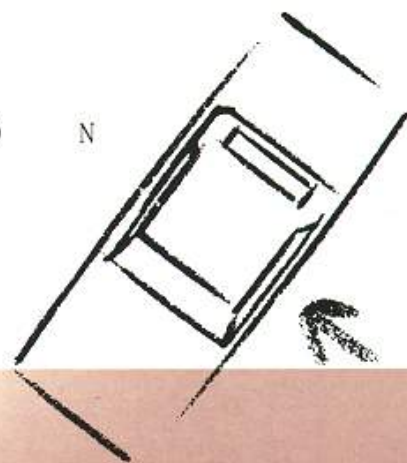
#### Combustion chamber

Fed by an advanced electronic fuel injection system, the V12's high efficiency combustion chamber consists of two zones. The mixture first enters the smaller zone beneath the inlet valve, and is swirled along a narrow guide channel to the larger zone beneath the recessed exhaust valve, where it is ignited. The strong swirl and 'squish' effect produced by this design gives controlled, even burning and high levels of combustion efficiency, permitting the engine to run on a leaner than average mixture.





# P O S I T I O N



## BODY STRUCTURE

The Convertible is Jaguar's first true open top car since the E-type roadster ceased production in 1974. Designing the new XJ-S was a formidable engineering achievement, because the roof is normally fundamental to the rigidity of a car.

When the hood is down, the only structural member above the waistline of the Convertible is the windscreen; there are no centre pillars or front quarter lights, and the door glass is unsupported, so that with the windows down the Convertible offers the exhilaration of full open top motoring.

### DESIGNING FOR STRENGTH AND REFINEMENT

Advanced computer aided design techniques were used to determine the required increases in metal thickness and the positioning of reinforcing panels. During this process, sophisticated computer programs using Finite Element modelling allowed Jaguar engineers to predict the behaviour of the complete vehicle, including running gear and mountings. In fact, the Convertible's torsional stiffness actually exceeds the original target by 15%.



Exterior changes

- \* Frameless door glass, with no quarter lights.
- \* Revised rear wings and saddle panel.
- \* Flush-glazed windscreen.



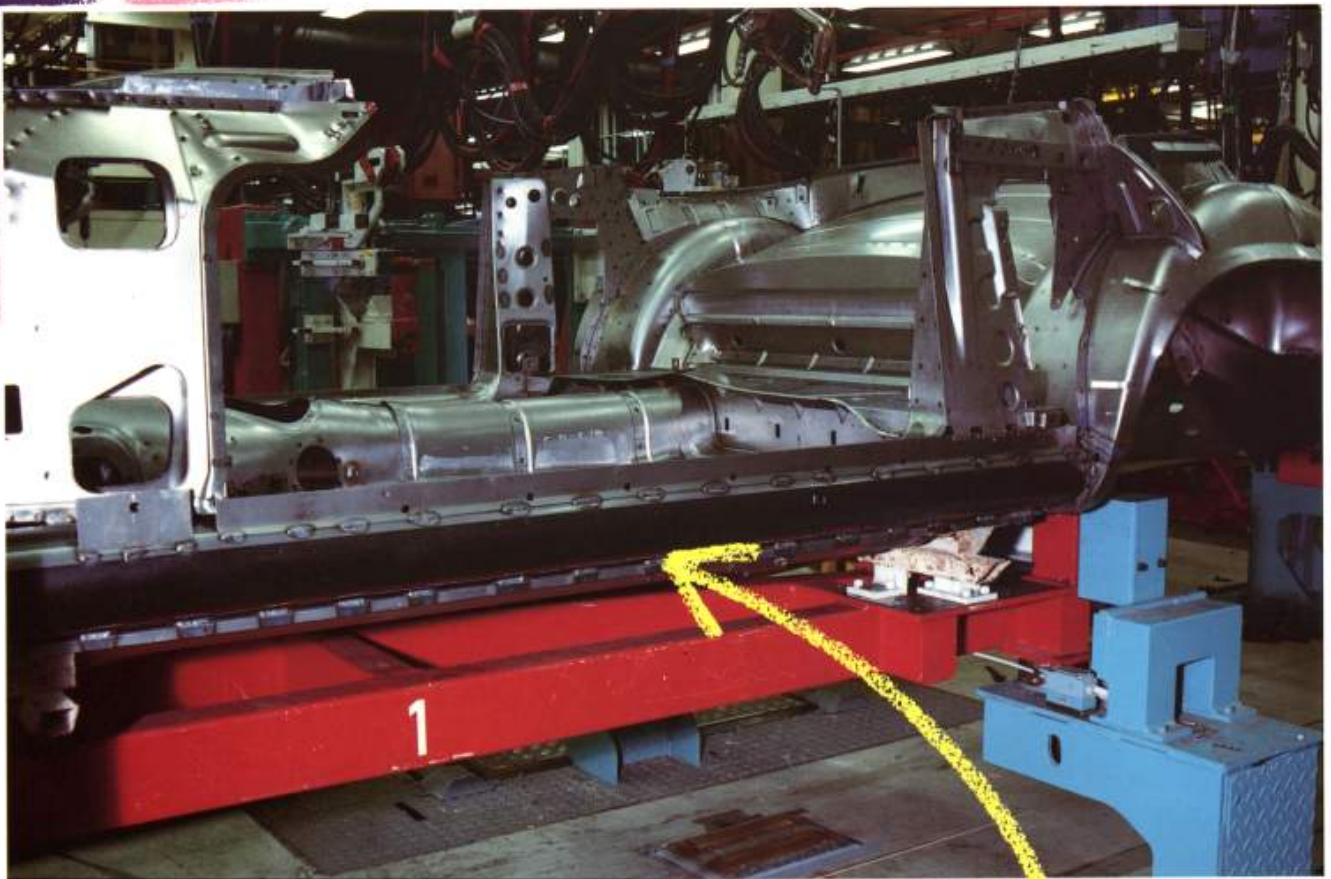
TESTING SETS NEW STANDARD

An intensive development programme followed, where prototypes were tested both in the laboratory and on varied road surfaces to assess the effectiveness of different combinations of mounting rubbers for the driveline and suspension. Thirty combinations were tested for shake and internal noise levels, in order to attain the highest standards of ride refinement and comfort.

The programme included running development vehicles for an entire Canadian winter in temperatures down to -32 degrees C; in Phoenix Arizona the cars were tested at temperatures as high as 45 degrees C.

A completely new standard was developed for rig testing the power hood, with a durability target four times more demanding than those used by Jaguar's major competitors.

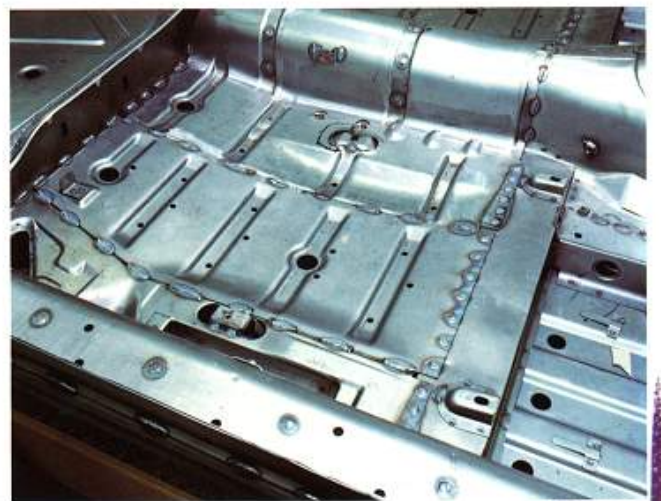
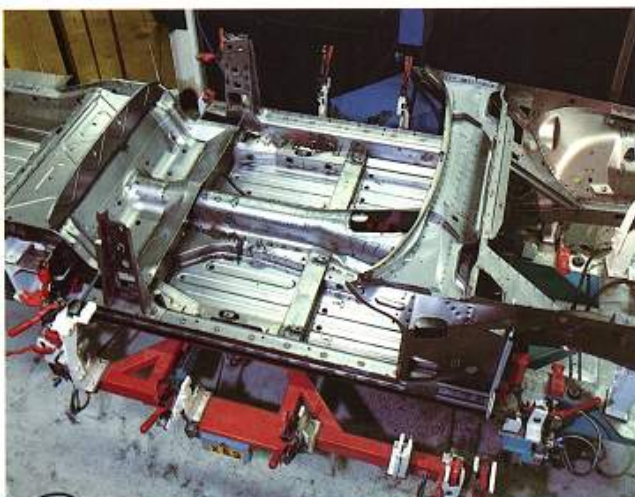
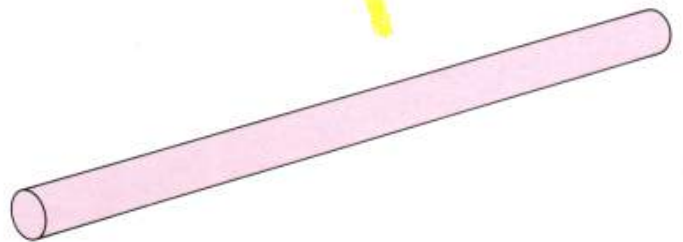
The same rigorous approach was used for testing the doors. More than half of the 100,000 tests carried out by the door slam rig involved pushing on the unsupported door glass.



#### Reinforcements

*The Convertible is almost a car within a car, so extensive are the reinforcements which ensure body rigidity:*

- \* A total of 156 new or modified panels have been included – 33% of the total panel count.
- \* The underframe has been re-designed to incorporate a double-skinned rear floor.
- \* The sills have immensely strong steel inner tubes 110mm in diameter, 2mm thick, and almost two metres in length.
- \* Stiffening panels are fitted to the transmission tunnel, and front and rear bulkheads.
- \* The A post incorporates inner and outer reinforcements.
- \* A box section steel member is incorporated across the front of the stowage box to provide additional strength.





## MANUFACTURING

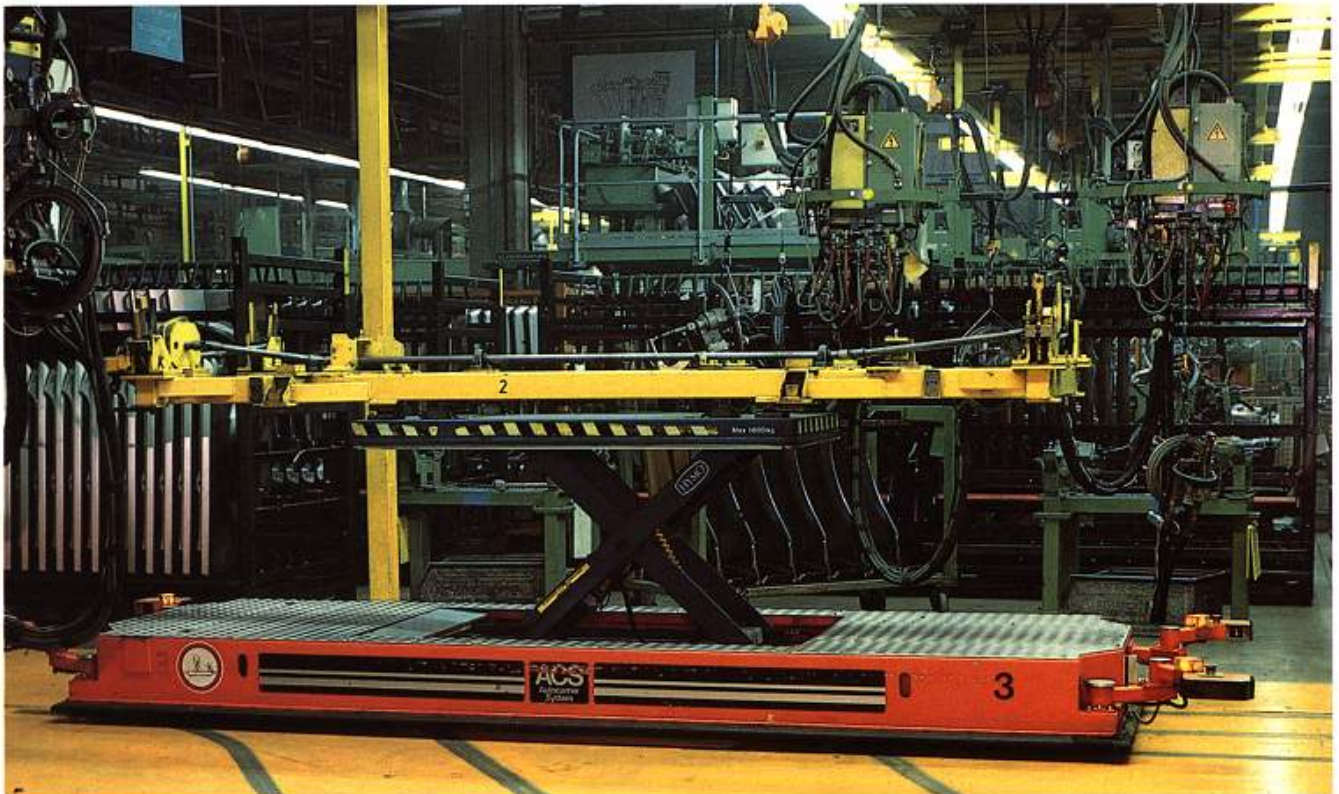
Carefully planned pre-production and pilot build programmes were run before the start of volume build, in order to test production methods and train operators without interrupting the manufacture of other vehicles.

The production of the Convertible involved the investment of millions of pounds in a completely new assembly facility at Castle Bromwich. The facility uses special build stations with pneumatic clamping to ensure total consistency in the body structure. Automated Guided Vehicles (AGVs for short) are used to transport the assemblies from one build station to another.

This Flexible Manufacturing System is ideal for the production of a highly specialist car such as the Convertible, and can be modified far more quickly and at less cost than the traditional fixed production line.

### Automated Guided Vehicles

*The AGVs follow sensors built into the floor, responding to microwaves generated from a central computer. They can also be guided by a hand-held control. Each vehicle beeps a warning when it is moving, and incorporates sensors which detect if there is anything (or anyone) in its path; if it encounters an obstacle, it stops immediately.*



## BRAKES

Two major advances for all XJ-S models are firstly, the introduction of a brake power boost instead of the previous vacuum servo, and secondly the standard fitment of the Teves anti-lock brake system.

### BRAKE POWER BOOST

The brake power boost is a hydraulic system which takes its power from an electric pump. A pressure reserve for the power boost is stored in an accumulator filled with an inert gas. When the brake pedal is depressed, the system boosts the driver's effort immediately, applying hydraulic pressure to the main piston.

The major benefit of the power boost is that when the system is fully charged, it can give a larger number of fully assisted deceleration stops than a vacuum servo working off engine manifold depression. The hydraulic system also recharges more quickly. The result is outstanding efficiency, and greater reserves of braking power under all conditions.

### THE SAME BRAKE FLUID

The XJ-S power boost system is in principle the same as that fitted to the saloon range, with two exceptions. The XJ-6 system is powered by an engine-driven pump instead of an electric one, and uses different fluids for the power boost and the primary brake circuit. The XJ-6 power boost uses mineral oil, whilst the primary brake circuit uses a synthetic vegetable-based fluid; these fluids should never be confused. The XJ-S uses the same synthetic fluid for both the primary brake circuit and the power boost.

### ANTI-LOCK BRAKE SYSTEM

The major benefit of anti-lock braking is that it helps the driver to retain steering control when braking hard on a slippery surface. The Teves anti-lock brake system, like that fitted to the XJ-6 Sovereign and Daimler, is microprocessor-based. It also incorporates yaw control for additional efficiency.

A sensor on each wheel feeds information on the rate of change of acceleration or deceleration to the anti-lock processor. From this, the processor can compare notes with the rate of change of other wheels, and detect if a wheel is about to lock.

If the system detects that wheel locking is imminent, it first of all stops any more brake pressure going to that wheel. If the wheel is still decelerating, the system releases the brake pressure. This causes the wheel to re-accelerate. The processor notes this, and pumps fluid back to the brake. This on/off cycle occurs at up to 6 times a second, giving effective braking, and allowing the driver to steer out of trouble.

### YAW CONTROL

Yaw Control helps the anti-lock system to compensate at times when one side of the car is on a slippery surface, and the other side on dry ground. The system allows for the widely differing side to side braking effort by initially reducing the braking pressure on the 'good' wheels as well as the one about to lock, reducing the tendency for the car to pull to one side.

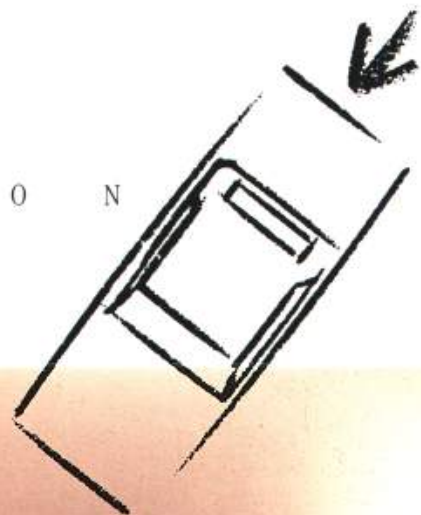
### SELF-CHECKING

As with the XJ-6, the anti-lock control unit has self-checking features which detect whether or not the system is working properly. Any malfunctions will not affect the main braking system, and the driver is alerted through a warning signal on the instrument panel.



P O S I T I O N

4



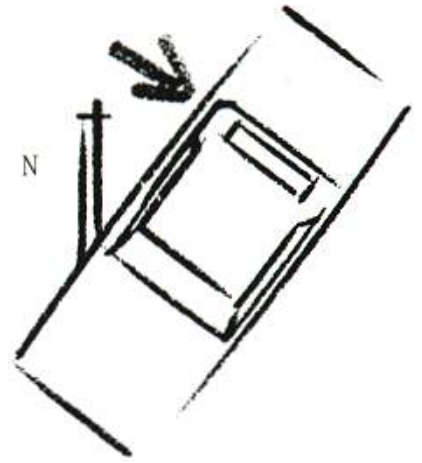
#### GLASS HEATED REAR WINDOW

The XJS is rare among convertibles in incorporating a glass rear window, which greatly enhances the appearance with the hood up. The window is tinted glass, and incorporates a heater element for good rear visibility. The heater is automatically de-activated when the hood is folded down.

#### FUEL TANK SIZE

To avoid the hood stacking too high when it is folded, the fuel tank size of the Convertible has been marginally reduced, from 20 to 18 gallons – still more than adequate for the new Grand Tourer. The boot capacity too has been only fractionally changed, from 10.15 to 9.24 cu ft.

# P O S I T I O N



## STOWAGE COMPARTMENT

The Convertible is a pure two-seater, and as a result there is useful additional space for locking away personal belongings in the single large stowage box. When the hood is up, luggage can also be placed on top of the box, retained by the elegant chromed rail. The rear speakers are mounted in the front face of the stowage box (as opposed to the rear quarter panels on the Coupé).

## TRIM

In the Jaguar tradition, quality and attention to detail show everywhere. The rear quarter panels are trimmed with leather and wood veneer with a matchwood inlay, complementing the front compartment. A lamp provides illumination for the stowage area.

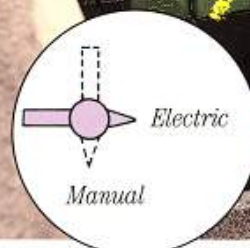
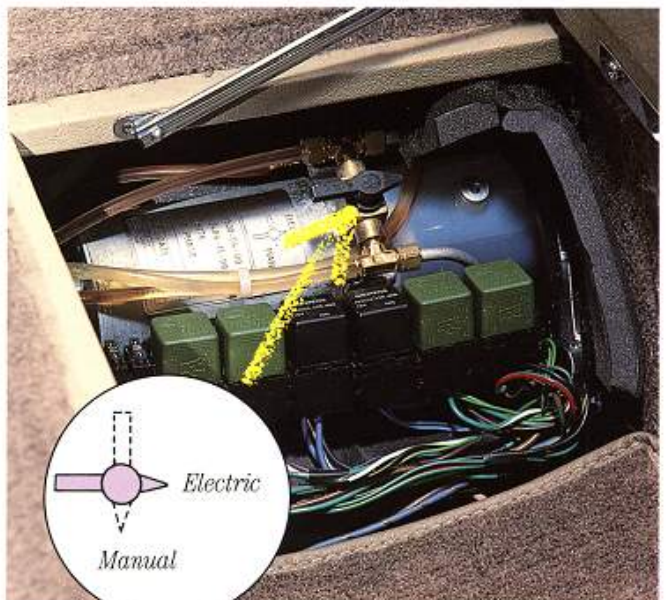
## AIR EXTRACTOR VENTS

On the Coupé, air is extracted through fluted vents on either side of the flying buttresses. On the Convertible, the vents are incorporated in the lower B post.

## HOOD MANUAL SWITCH

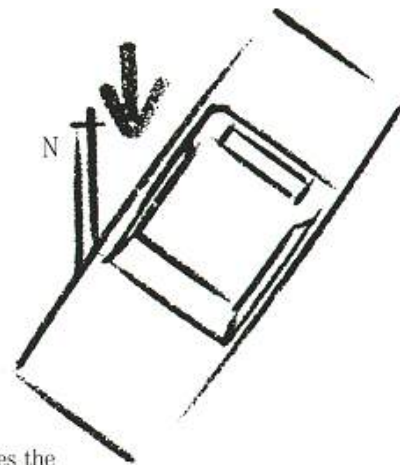
The hood is normally fully electrically operated, but there is the facility for changing over to manual operation in an emergency. The motor and switch are located in a space beneath the rear floor, to the side of the stowage box. Switching over to manual simply requires the turn of a switch. It is obviously essential that you explain this to your customers at the handover.







# P O S I T I O N



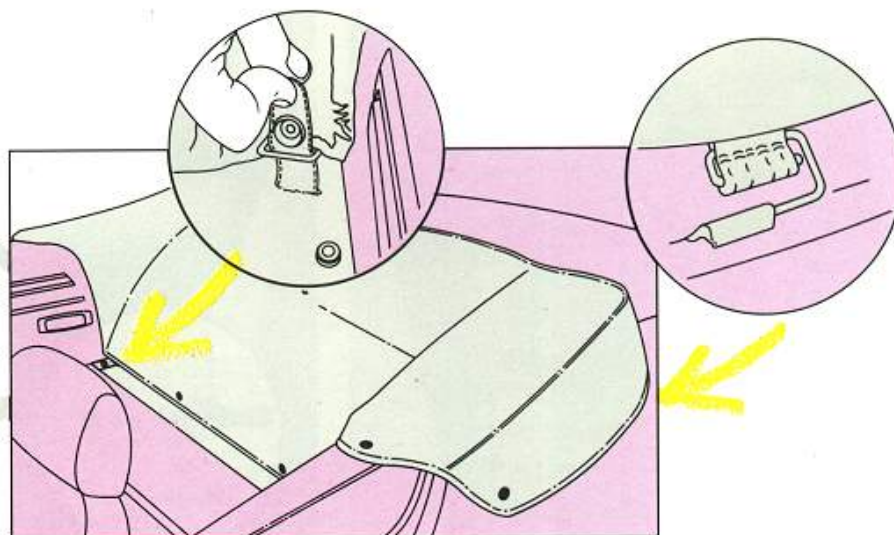
## THE HOOD

Unlike many of its competitors, the XJ-S Convertible features the luxury of a fully power-operated hood. All the driver has to do is to release or secure the lock-down catches. The touch of a switch does all the rest, and the hood can be raised or lowered in approximately 12 seconds.

- \* To operate the hood, the gear selector needs to be in PARK or NEUTRAL, the handbrake must be applied, and the ignition key must be in the AUXILIARY or IGNITION position. (The hood will operate whether or not the engine is running.)
- \* The single rocker switch on the centre console activates the hood and the rear quarter lights at the same time. This ensures good hood to glass sealing, and avoids the rear quarter windows protruding unprotected above the waistline.
- \* The hood switch needs to be held down all the time until the hood is open or closed. If the switch is released, the hood stops moving – an important safety feature in the event of fingers getting trapped.
- \* Another way of stopping the hood is to switch the ignition key to the OFF position. To start the hood moving again, the ignition key should be turned back to AUXILIARY or IGNITION, and the hood switch depressed.
- \* Simple, robust handles enable the hood to be pulled down and locked or released from the catches on the header rail.

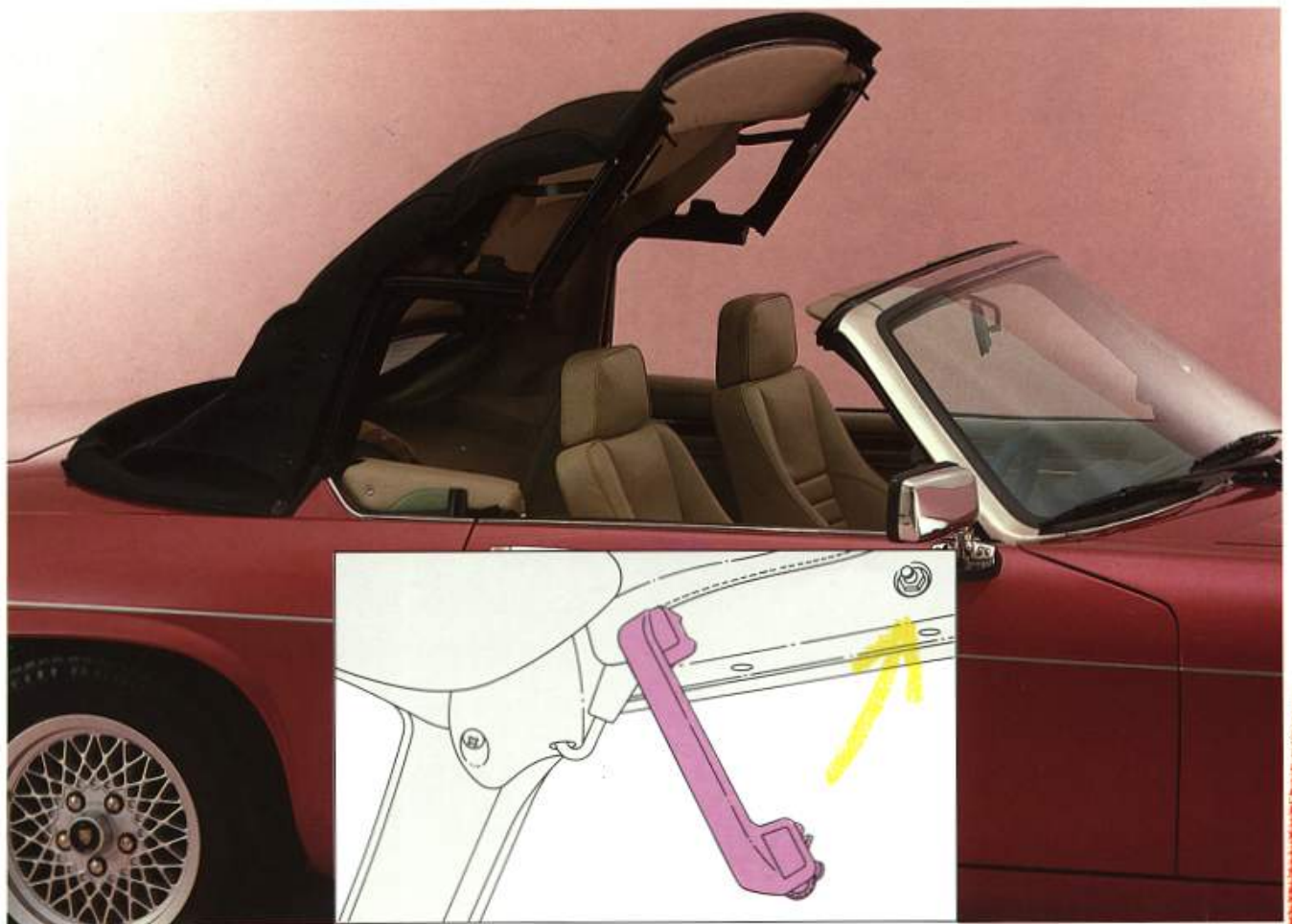
## QUALITY

Made at Browns Lane, the hood is a superb example of Jaguar's unstinting quality. It is trimmed in heavy woven fabric, in a choice of colours – blue, brown or black. To enhance the interior appearance and provide additional sound proofing, the hood is stuffed and lined internally with limestone cloth.



*Tonneau cover retaining clips*





*Hood locking/release handles.*

### LUXURY

The most demanding motoring connoisseur will be more than satisfied with the driving environment of the XJ-S Convertible.

Elegant sports seats are a new feature – leather trimmed, of course. Both seats are heated, and feature electric lumbar support adjustment. Air-conditioning is among the many luxuries.

A superb in-car music system enhances driving pleasure. The standard audio unit in the UK is Alpine; this is removable, and is supplied with a zip up bag for protection when it is stowed in the boot or rear stowage box. The Alpine is optional in European markets, together with the Clarion security fixed audio unit.

The door and rear quarter windows are electrically controlled, as are the heated door mirrors. All the other Jaguar refinements are here, including a trip computer, central locking of doors and boot, and the convenience of cruise control.

In fact the Convertible is so superbly well-equipped that only one option is left to the discretion of the owner – a cellular mobile telephone\*. After all, not everyone wants to interrupt the pleasure of driving the most desirable open top sports car in the world.

\* UK specification.



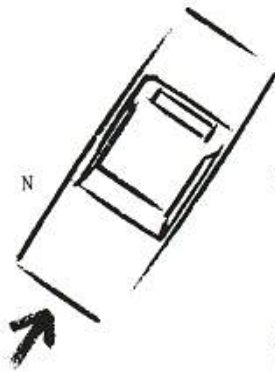




## FEATURE SUMMARY

P O S I T I O N

1



### **XJ-S 3.6 (Coupe)**

Laminated windscreen.  
Tinted glass.  
Bright screen moulding.  
Two-speed wipers.  
Flick and intermittent wipe.  
Electric washers.  
Quartz halogen headlamps with dim-dip and combined sidelamps.  
Deep section bumpers with wraparound and bright top face.  
Front spoiler and undershield.  
Re-designed bonnet to accommodate 3.6 engine.

### **XJ-S V12 (Coupe)**

(Additions/changes to above)

Headlamp wash/wipe.

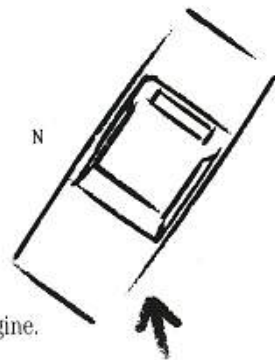
### **XJ-S V12 (Convertible)**

(Additions/changes to above)

Flush-glazed windscreen.

P O S I T I O N

2



### **XJ-S 3.6 (Coupe)**

Aluminium alloy 3590cc six cylinder engine.  
Four valves per cylinder.  
Twin overhead camshafts.  
Lucas Engine Management System with one microprocessor for fuel injection and programmed ignition.  
Seven main bearing crankshaft.  
Viscous coupled cooling fan with thermal control.  
Five-speed sports shift transmission.  
Power assisted steering.  
Electric fan in addition to viscous coupled fan.  
Inertia fuel cut-out.  
Low maintenance battery.  
Hydraulic power boost system for brakes.  
Anti-lock braking system (A.B.S.) with yaw control.

### **XJ-S V12 (Coupe) and XJ-S V12 (Convertible)**

(Additions/changes to above)

5345cc V12 OHC engine.

GM 400 automatic transmission.

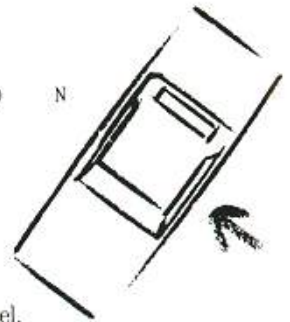
Cruise control.

Digital fuel injection.

Constant energy electronic ignition.

P O S I T I O N

3



### **XJ-S 3.6 (Coupe)**

Bright drip rail.  
Black door posts and rear quarter panel.  
Black door window frames.  
Twin electric remote control door mirrors.  
Sports style alloy wheels.  
235/60 VR 15 tyres.  
Limited slip differential.  
Front and rear disk brakes, ventilated at front.  
Hydraulic power boost to brakes.  
Dual circuit braking system.  
Anti-lock braking system (Teves) with yaw control.  
Independent front suspension with anti-roll bar and anti-dive geometry.  
Independent rear suspension with twin spring and damper units and anti-roll bar.  
Sports pack (3.6 only).  
Wax injected box sections.  
Stainless steel silencers and tail pipes.  
Full underbody protection.  
Sports pack coachlines.

### **XJ-S V12 (Coupe)**

(Additions/changes to above).

Starfish alloy wheels. (Sports style N.C.O.).

215/70 VR 15 tyres.

### **XJ-S V12 (Convertible)**

(Additions/changes to above)

Convertible body style with re-inforced:-

'A' posts.

Sills.

Transmission tunnel.

Rear floor.

Front/rear bulkhead.

Frameless door glass.

Power-operated hood.

*N.B. For the sake of consistency with the pocket guide, the above Feature Summary does not contain a Position 5.*

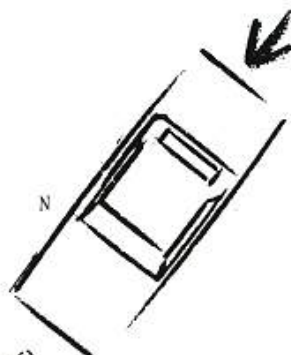
*The XJ-S V12 Convertible features discussed on pages 14 and 15 of this book are summarised under Position 6.*



## FEATURE SUMMARY

P O S I T I O N

4



### XJ-S 3.6 (Coupe) and XJ-S V12 (Coupe)

Heated rear window with automatic timer combined with electrically heated mirrors.

Fully carpeted boot.

Bright boot lid moulding.

Boot lamp.

Spare wheel cover.

Reversing lamps.

Twin rear fog lamps.

Locking filler flap.

Bright tail pipe trim.

Attaché case tool kit.

Jack bag trimmed in carpet material.

### XJ-S V12 (Convertible)

(Additions/changes to above).

Revised rear saddle, fuel tank and boot.

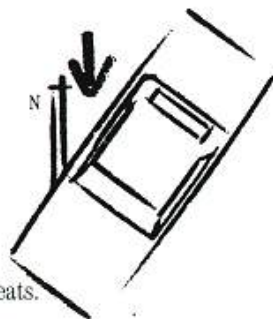
Hood cover.

Stowage bag for in-car entertainment unit.

Locking fuel filler cap.

P O S I T I O N

6



### XJ-S 3.6 (Coupe)

Sports pack bucket style reclining front seats.

Centre armrest.

Inertia reel front seatbelts with concealed reels.

Rear seat belts.

Dipping rear view mirror.

Burr elm veneer fascia inserts.

Instruments:

Speedometer with trip recorder.

Tachometer.

Temperature gauge.

Battery condition indicator.

Oil pressure gauge.

Fuel gauge.

Stereo radio/cassette player with four speakers -

Clarion 950HX with security code system.

Electric aerial.

Warning lamps incorporating primary and secondary lamps (red for 'stop immediately,' amber for 'when convenient'):

Brake system.

Parking brake.

Oil pressure.

Ignition.

Bulb failure.

Low coolant.

Low fuel.

Main beam.

Indicators.

Hazard.

Rear fog lamps.

Heated rear windows.

Seat belts.

Air conditioning with illuminated controls.

Lockable glovebox.

Vanity mirror in glovebox lid.

5 speed manual gearbox.

Centre console with burr elm veneer inserts and clock.

Fully carpeted interior.

Sports pack leather trimmed steering wheel.

Twin column stalks operating

Left: horn, headlamp dip/flash and indicator.

Right: wipers and washers.

Illuminated switches.

Cigar lighter.

Electric windows.

Burr elm veneer door inserts.

Front door pockets.

Door open warning lamps.

Twin electric remote control door mirrors.

Electrically heated mirrors.

Central door locking.

"Herringbone" tweed cloth seat centres.

Leather surrounds with matching head restraints.

Chromed front seat adjuster bars.

Chromed radio speaker surrounds.

### XJ-S V12 (Coupe)

(Additions/changes to XJ-S 3.6)

Leather trimmed interior.

Electric lumbar support with heated seats.

Automatic transmission (GM 400).

Trip computer.

Cruise control.

Burr walnut wood fascia and door inserts.

### XJ-S V12 (Convertible)

(Additions/changes to XJ-S V12)

Electrically controlled rear quarter windows.

Alpine removable stereo radio/cassette.

Single rear stowage box.

Hood manual/auto switch (rear compartment)

Hood and rear quarter light control switch (centre console).

## Q U I Z

1. The Convertible is Jaguar's first open top sports car for:
  - a. 10 years?
  - b. 12 years?
  - c. 14 years?
2. What are the models in the new XJ-S range for UK/Europe/Overseas?
3. What are the two major benefits of the flush-glazed windscreen?
4. What torque characteristics enable the V12 to give such powerful and flexible performance?
5. By how much does the Convertible's torsional stiffness exceed the original target?
6. a. How many panels are either completely new or modified?  
b. What percentage is this of the overall panel count?
7. a. What type of manufacturing facility is used to assemble the Convertible?  
b. How are panel assemblies transported from one build station to the next?
8. What are the two differences between the brake power boost system fitted to the XJ-S, and that fitted to the XJ-6?
9. What is the major benefit of the brake power boost system?
10. On which XJ-S models is anti-lock braking now standard?
11. What is the major benefit of anti-lock braking?
12. What is the major benefit of Yaw Control?
13. What is the special feature of the Convertible's heated rear window?
14. What is the fuel tank size of the Convertible?
15. Where is the switch for changing over the hood to manual operation?
16. To operate the hood, what position/s do you need to select for:
  - a. The gear selector?
  - b. The ignition key?
  - c. The handbrake?
17. What are the two ways in which you can stop the hood from opening or closing?
18. What is the major new interior feature of the Convertible?
19. Which of the following features are standard on the Convertible?
  - a. Air conditioning
  - b. Heated seats
  - c. Cruise control
  - d. Leather seat trim

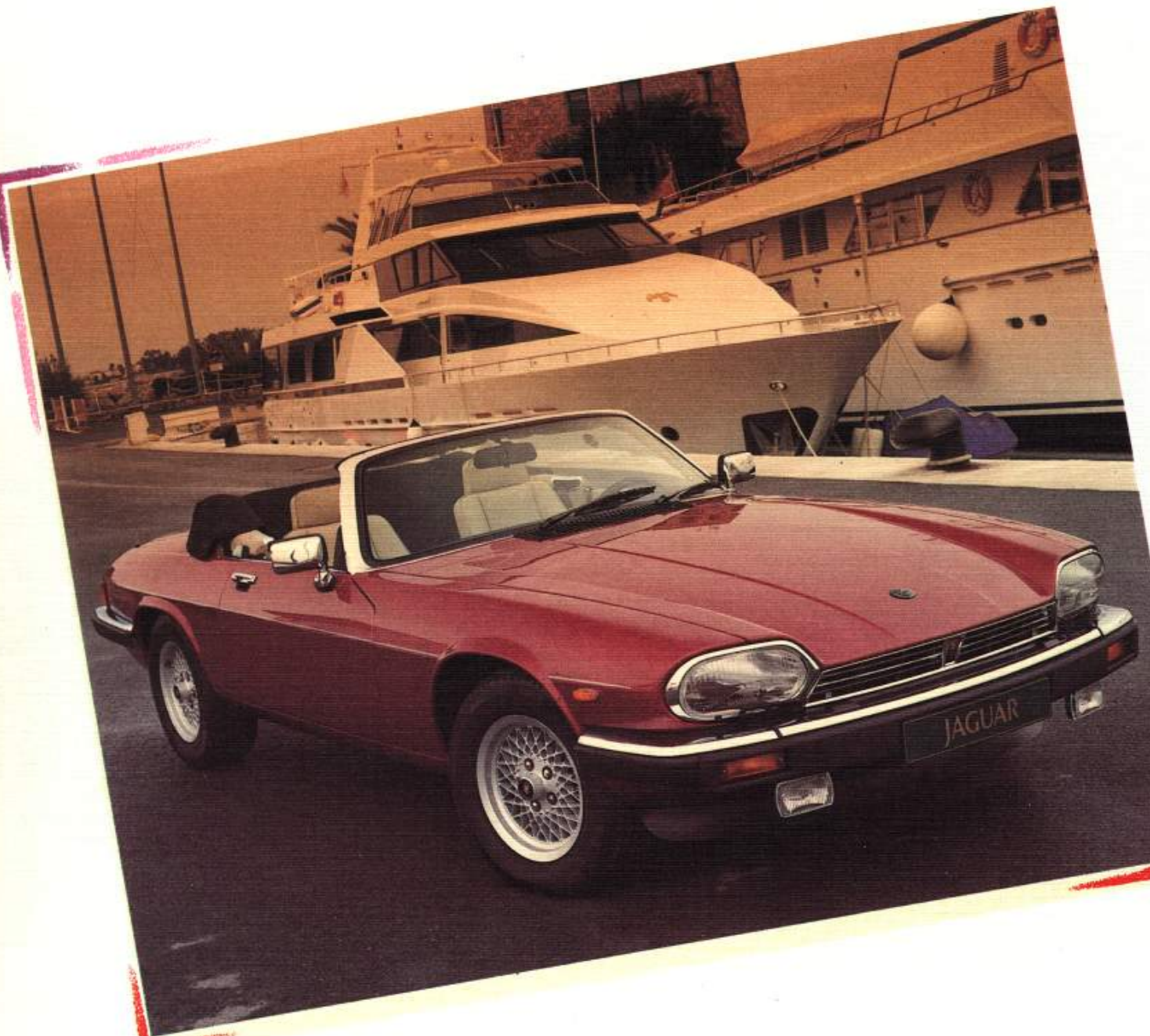




Q      U      I      Z  
A      N      S      W      E      R      S

1. c. 14 years (the E-type roadster ceased production in 1974).
2. XJ-S 3.6 Coupé  
XJ-S V12 Coupé  
XJ-S V12 Convertible
3. a. Improved aerodynamics  
b. Smoother appearance
4. Very high torque (317 lb ft), generated at low engine rpm (maximum torque is achieved at only 3000 rpm).
5. By 15%.
6. a. 156  
b. 33%
7. a. Flexible Manufacturing Facility  
b. By Automated Guided Vehicles
8. It is powered by an electric pump (instead of an engine-driven pump).  
b. It uses the same brake fluid for both the power boost system and the primary brake circuit.
9. It gives a larger number of fully assisted deceleration stops.
10. On every model.
11. It helps the driver to retain steering control when braking hard on a slippery surface.
12. It helps to compensate for the times when one side of the car is on a slippery surface, and the other side on dry ground.
13. It is made of glass.
14. 18 gallons
15. Under the rear floor to the side of the stowage box.
16. a. PARK or NEUTRAL  
b. AUXILIARY or IGNITION  
c. Handbrake on
17. a. Release the switch  
b. Turn off the ignition
18. The removeable in-car audio unit.
19. All of them.





Issued by Jaguar Cars Ltd.  
Browns Lane  
Allesley  
Coventry CV5 9DR



Designed and produced by Hurlstons in association with Magic Eye Media