

JAGUAR CARS LTD. COVENTRY ENGLAND

# JAGUAR

3·4 & 3·8 'S' MODELS

## INFORMATION

ISSUED BY  
THE PRESS OFFICER

Performance Figures. Sheet 2.

<u>FUEL CONSUMPTION.</u>	in 4th gear.	in overdrive.
at constant 30 m.p.h. on level	28.8 m.p.g.	34.7 m.p.g.
at constant 40 m.p.h. on level	28.7 m.p.g.	34.0 m.p.g.
at constant 50 m.p.h. on level	25.5 m.p.g.	32.0 m.p.g.
at constant 60 m.p.h. on level	22.7 m.p.g.	28 m.p.g.
at constant 70 m.p.h. on level	20.0 m.p.g.	24.4 m.p.g.
at constant 80 m.p.h. on level	17.5 m.p.g.	20.6 m.p.g.
at constant 90 m.p.h. on level	14.3 m.p.g.	17.0 m.p.g.

MEAN MAXIMUM SPEED                      123 M.P.H.

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### 3.4 AND 3.8 'S' TYPE MODELS.

#### GENERAL SPECIFICATION.

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ENGINE. 6 cylinder 3.4 litre Jaguar XK engine. 70° twin overhead camshaft driven by a two stage roller chain. 83 m.m. bore x 106 m.m. stroke. Cubic capacity 3442 c.c. (210 cu.ins.) Compression ratio 8:1. For countries where fuel specifications require a change in compression ratio, the correct alternative ratio is supplied. Develops 210 B.H.P. at 5,500 r.p.m. Twin S.U. type HD6 carburettors and double exhaust system.

ENGINE. 6 cylinder 3.8 litre Jaguar XK engine. 70° twin overhead camshaft driven by a two stage roller chain. 87 m.m. bore x 106 m.m. stroke. Cubic capacity 3781 c.c. (230.6 cu.ins.) Compression ratio 8:1. Develops 220 B.H.P. at 5,500 r.p.m. For countries where fuel specifications require a change in compression ratio, the correct alternative ratio is supplied. Twin S.U. type HD6 carburettors and double exhaust system.

Cooling by pump and fan with bypass thermostat control. Forced lubrication by submerged pump system incorporating full flow filter. Chrome iron cylinder block. Cylinder head of high tensile aluminium alloy with hemispherical combustion chambers. Aluminium alloy pistons. Steel connecting rods.  $2\frac{3}{4}$  diameter counterweighted crankshaft carried in seven large bearings.

TRANSMISSION. (Manually operated gearbox). Four speed single helical synchromesh gearbox. Gearchange lever between front seats. Dry plate clutch with hydraulic operation. Sealed bearing propeller shaft. Hypoid rear axle. Limited slip differential on 3.8 litre model. Final drive ratio 3.54:1.

TRANSMISSION. (Overdrive model). As above with addition of a Laycock de Normanville overdrive controlled by a lever mounted on steering column. Limited slip differential on 3.8 litre model. Final drive ratio: 3.77:1 (overdrive 2.93:1).

TRANSMISSION. (Automatic transmission model). Borg Warner Automatic Transmission system with driver controlled intermediate gear hold. Gear ratios: Low 17.6 - 8.16, intermediate 10.95 - 5.08, Direct top 3.54. Gear selector lever on steering column. Limited slip differential on 3.8 litre model. Final drive ratio 3.54:1

SUSPENSION. (Front.) Independent suspension incorporating semi-trailing wishbones and coil springs with telescopic dampers. Anti-roll bar between lower wishbones. Suspension assemblies and steering gear are mounted on a separate subframe which is itself located in the body by rubber mountings.

SUSPENSION. (Rear) Fully independent rear suspension incorporating on each side, a lower transverse tubular link pivoted at the wheel carrier and sub-frame adjacent to the differential case and, above this, a half-shaft universally jointed at each end. These serve to locate the wheel in a

transverse plane Longitudinal location is provided by the rubber mountings locating the sub assembly in the body structure and by a radius arm between the lower link and a mounting point on the body structure. Twin coil springs, each enclosing a telescopic hydraulic damper, provide the suspension medium. The whole assembly together with the differential unit is carried in an easily detachable sub-frame which is located in the body structure by rubber mountings

**BRAKES.** Dunlop bridge type disc brakes featuring quick change pads with automatic adjustment for wear. Vacuum servo assistance. Self adjusting 'pull up' type handbrake Combined handbrake and brake fluid level warning light.

**STEERING.** Burman re-circulating ball type steering with 17 in diameter two spoke steering wheel adjustable for reach. Left or right hand steering optional. Turning circle  $33\frac{1}{2}$  ft. Power assisted steering available as an optional extra.

**WHEELS AND TYRES.** Pressed steel bolt-on disc wheels fitted with Dunlop tyres. Wire spoke wheels available as an optional extra. Spare wheel and tyre.

**FUEL SUPPLY.** Two separate tanks one in each rear wing - total capacity 14 gallons. Two electrically operated S.U. fuel pumps (one for each tank) controlled by changeover switch on instrument panel. The separate fillers to each tank are concealed beneath lockable covers.

**ELECTRICAL EQUIPMENT AND INSTRUMENTS.** Lucas 12 volt battery. 60 amp/hour at 10 hour rate with current voltage control. Ventilated dynamo. Sidelamps. Sealed beam headlamps and foglamps, the former controlled by a foot operated dipswitch. Separate lever for actuating headlamp flashing. Separate stop/tail, direction and reflector units mounted in a single assembly. Reversing lamp. Self-cancelling flashing direction indicators with warning light. Instruments and labelled switches illuminated by internal flood lighting controlled by a 2-position dimmer switch. Concealed map reading lamp beneath screen rail in front compartment. Twin courtesy lights above the centre door pillars and a third lamp located above the rear window All courtesy lights can be operated either manually by switch on instrument panel or automatically by any of the four doors. Cigar lighter with luminous socket. Twin blended windtone horns. Twin blade 2-speed self-parking windscreen wipers. Electrically operated windscreen washers Interior illumination for luggage compartment. Starter motor. Vacuum and centrifugal automatic ignition advance. Oil coil ignition. 5 ins. diameter speedometer 5 ins. diameter electrically driven revolution counter with electric clock. Ammeter, electrically operated oil pressure gauge, water temperature gauge, fuel gauge, combined handbrake and brake fluid level warning light.



BODY. All steel, four door, five-seater saloon. Integral body-chassis construction providing maximum rigidity with minimum weight. Large zone toughened windscreen with slim pillars and semi wrapround rear window for maximum visibility front and rear. The semi-wrapround windscreen does not interfere with ease of entry or exit. Wide view rear mirror incorporating dimmed image position. Chromium-plated window frames to all doors. Front and rear non-draught ventilators fitted with anti-thief catches. Chrome finishers on rain guttering and top of door waist rail. Seats upholstered in finest quality leather hide over deep foam rubber cushions. Front seats fitted with combined height and reach adjustment, reclining type squabs, and centre armrests. Polished figured walnut instrument panel features revolution counter and speedometer positioned directly in front of driver and separate instruments for oil pressure, water temperature, fuel gauge and ammeter. Instrument panel also contains, on the passenger's side, a glove compartment with an interior light and lockable lid. A large padded parcel shelf runs the full width of the car beneath the instrument panel and houses the heater temperature control in its forward edge. A separate housing beneath the instrument panel contains a radio and speaker (optional extra) together with a very large ashtray. When no radio is fitted, the speaker grille is retained and the radio control panel aperture is blanked off with an escutcheon. Two-spoke steering wheel and semi-circular horn ring. Front and rear doors incorporate large pockets and armrests, whilst the rear doors also contain ashtrays. Central folding armrest in rear compartment. Sun vizors. Deep pile carpets over thick felt underlay. Heavy duty wrapround bumpers with over-riders. "Zero-torque" door locks enable doors to be closed easily and quietly. Seat belt anchorage points are incorporated for both front and rear seats.

HEATING AND DEMISTING. Completely new fresh air heating system capable of high temperature and volume supply to front and rear compartments. Separate control varies supply to rear compartment. Air intake vent and heater valves are vacuum servo assisted. Two-speed fan controlled by switch on instrument panel.

LUGGAGE ACCOMMODATION. Ample luggage accommodation is provided in a capacious compartment of 19 cu.ft. capacity. The lid is counter-balanced for ease of operation. Interior of compartment illuminated by night. Compartment fully trimmed to protect luggage.

SPARE WHEEL AND TOOLS. The spare wheel is carried beneath the luggage compartment floor, in a separate compartment, and is readily accessible. The tools, in a special fitted and lined container, are housed in the spare wheel compartment. Jack and wheel brace (or wheel hammer on wire wheel models) housed in luggage compartment.

General Specification. Sheet 4.

JACKING. Exterior jacking points, front and rear, enable the car to be lifted with the minimum of effort by means of the jack provided.

PRINCIPAL DIMENSIONS. Wheelbase 8ft. 11 $\frac{3}{8}$ ins., track front 4ft. 7 $\frac{1}{4}$ ins., track rear 4ft 6 $\frac{1}{4}$ ins., overall length 15ft 7 $\frac{3}{4}$ ins., overall width 5ft. 6 $\frac{3}{4}$ ins.

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## TECHNICAL SPECIFICATION.

### 3.4 'S' AND 3.8 'S'.

#### ENGINE. (3.4 'S').

No. of cylinders.	6 in line
Bore	3.2677" (83 mm)
Stroke	4.1732" (106 mm)
Capacity	3442 cc. (210 6 cu.ins.)
R.A.C. Rating	25.6 h.p.
Compression ratio	8:1 (7 or 9:1 optional)
Piston area	50.32 sq.ins. (324.6 sq.cms.)

#### ENGINE. (3.8 'S')

No. of cylinders	6 in line
Bore	3.425" (87mm.)
Stroke	4.1732" (106 mm.)
Capacity	3781 cc. (230.6 cu.ins.)
R.A.C. Rating	28.15 h.p.
Compression ratio	8:1 (7 or 9:1 optional)
Piston area	55.28 sq.ins. (356.6 sq.cms.)

#### VALVES.

Layout	Twin overhead camshafts driven by two-stage roller chain from crankshaft.
Valve material Inlet	Sil chrome steel.
Valve material Exhaust	Austenitic steel.
Face angle	45°
Lift	$\frac{3}{8}$ " (9.5 mm.)
Tappet clearance (cold)	Inlet .004" (.19mm.) Exhaust .006" (.015 mm.)
Timing	Inlet opens 15° BTDC Inlet closes 57° ABDC Exhaust opens 57° BBDC Exhaust closes 15° ATDC
Valve insert	Centrifugally cast, cast iron
Valve head diameter	Inlet $1\frac{3}{4}$ " (44.4 mm.) Exhaust 1.5/8" (41.3 mm.)
Timing mark location	On Damper

#### IGNITION.

Breaker gap	.014" - .016" (.36-41 mm.)
Firing order	1, 5, 3, 6, 2, 4. From rear end.
Timing	7:1 C/R TDC: 8:1 C/R 7° BTDC. 9:1 C/R 5° BTDC
Control	Automatic Vacuum/Centrifugal.
Timing mark location	On Damper.

#### CARBURATION.

Carburettor Make & No.	Twin S.U. Type HD6.
Choke control	Automatic- Thermostat control.
Air cleaner	Paper element

### CARBURATION.

Fuel pump - Make & No.	S.U. Two.
Fuel pump - Type No.	AUF 301.
Petrol filter	A.C.Delco glass bowl type in fuel line.

### LUBRICATION.

Engine oil - Summer	S.A.E. No.30
Engine oil - Winter	S.A.E.No.20
Normal pressure running	40 p.s.i. (2.8 kgs. /cm <sup>2</sup> when hot)

### ENGINE PARTS.

Cylinder block	Chrome iron casting (The 3.8 'S' engine incorporates dry type cylinder liners).
Cylinder head	High tensile aluminium alloy casting.
Oil sump	Aluminium casting with baffles and strainer.
Crankshaft	High tensile steel stamping
Connecting rods	High tensile steel stampings
Crankshaft damper	"Met alastik" on front of crankshaft
Bearings - Main	Steel-backed white metal lined
Bearings - Big End	Steel-backed lead indium lined
Camshafts	Chilled cast iron
Camshaft bearings	Steel-backed white metal lined
Pistons	Aluminium alloy die casting

### PERFORMANCE DATA. (3.4 'S') (8:1 compression ratio)

Max B.H.P. at R.P.M.	210 at 5500
Max B.M.E.P.	155 p.s.i.
Max B.M.E.P.	10.9 kg./cm <sup>2</sup>
Max torque	215 ft.lbs. at 3000
Max torque	29.71 M.kgs. at 3000
B.H.P. per sq.in. Piston area	4.17
Top gear MPH at 1000RPM.	Manual & Auto (3.54:1) 21.4 (34 Kms.)
Peak piston speeds	Overdrive (2.93:1) 25.9 (42 Kms.) 3825 ft./min (1167 M/min.)

### PERFORMANCE DATA. (3.8 'S') (8:1 compression ratio)

Max B.H.P. at R.P.M.	220 at 5500
Max B.M.E.P.	157 p.s.i.
Max B.M.E.P.	11.038 kg./cm <sup>2</sup>
Max torque	240 ft.lbs. at 3000
Max torque	33.2 M.kgs. at 3000
B.H.P. per sq.in. Piston area	3.98
Top gear MPH at 1000 RPM.	Manual & Auto (3.54:1) 21.4(34Kms.)



PERFORMANCE DATA. (3.8 'S')  
(8:1 compression ratio)

Top gear MPH at 1000 RPM  
Peak piston speeds

Overdrive (2.93:1) 25.9 (42 Kms.)  
3825 ft./min.  
1167 M/min.)

TRANSMISSION.

(Manually operated  
gearbox)

Four speed single helical  
synchromesh gearbox. Gear  
change lever on floor between  
front seats.  
Gear ratios 1st. & Rev. 11.95  
2nd 6.58, 3rd 4.54, 4th 3.54.  
Borg & Beck 10" single dry plate  
clutch with hydraulic operation.

(Overdrive model)

As above, with addition of a  
Laycock de Normanville Overdrive  
electrically controlled by a switch  
mounted on the steering column.  
Gear ratios: 1st. & Rev. 12.73,  
2nd. 7.01, 3rd. 4.84, Top 3.77,  
Overdrive 2.93.  
Borg & Beck 10" single dry plate  
clutch with hydraulic operation.

(Automatic Transmission  
Model)

Borg Warner Automatic  
Transmission system with  
driver-controlled intermediate  
gear(speed)hold on facia panel.  
Gear selector lever on steering  
column.  
Gear ratios: Low 17.6 - 8.16,  
Intermediate 10.95 - 5.08,  
Direct top 3.54

PROPELLER SHAFT.

Hardy Spicer needle bearing shaft with "Sealed for Life" bearings.

INDEPENDENT DRIVE UNIT.

Hypoid bevel gear drive.  
Ratio

Standard & Automatic  
Transmission models 3.54:1,  
Overdrive 3.77:1

Thornton "Powr-Lok" differential.

BRAKES.

Dunlop bridge-type disc brakes with vacuum-servo assistance.  
Self-adjusting handbrake.  
Friction Pad (front and rear)

Face dimensions

2.125" x 1.870" (54 x 47.5 m.m.)

### BRAKES.

Thickness	.656" (16.6 m.m.)
Area per face	3.975 sq.ins. (25.6 cm <sup>2</sup> )
Area per disc	7.95 sq.ins. (51.2 cm <sup>2</sup> )
Area per car	31.8 sq.ins. (205 cm <sup>2</sup> )
Material	Mintex M33
<u>Brake Disc.</u>	
Diameter ins.	Front 11" (280 mm.) Rear 11 $\frac{3}{8}$ " (289 mm.)
Thickness ins.	Front $\frac{3}{8}$ " (9.5 mm.) Rear $\frac{1}{2}$ " (12.7 mm.)
Rubbed area	Total 494.8 sq.ins. (3194 cm <sup>2</sup> )
Operating cylinder dia.	Front 2 $\frac{1}{8}$ " (54 mm.) Rear 1 $\frac{1}{2}$ " (38 mm.)
Operating pressure	400 p.s.i. (98 kg/cm <sup>2</sup> )
Braking ratio (Front/Rear)	66/34
Master cylinder dia.	7/8" (22 mm.)
Brake fluid specification	S.A.E. 70 R 3

### SUSPENSION.

FRONT. Independent by coil springs and wishbones with anti-roll bar.

Caster angle	0° $\pm$ $\frac{1}{4}$ °
Camber	$\frac{3}{4}$ ° $\pm$ $\frac{1}{4}$ ° positive
Alignment	Parallel to 1/16" (1.59 mm.) toe in

REAR.

Camber angle	$\frac{1}{4}$ ° $\pm$ $\frac{1}{4}$ °
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### DAMPERS.

Telescopic, hydraulic, gas-cell type.

FRONT.

Rebound	Blow-off pressure	400 lbs. @ 810 ins./min. (181 kgs. @ 2060 cm/min.)
	Bleed pressure	80 lbs. @ 90 ins./min. (36 kgs. @ 228 cm/min.)
Bump	Blow-off pressure	300 lbs. @ 810 ins./min. (136 kgs. @ 2060 cm/min.)
	Bleed pressure	50 lbs. @ 90 ins./min. (23 kgs. @ 228 cm/min.)

REAR.

Rebound.	Blow-off	225 lbs. @ 810 ins./min. (102 kgs. @ 2060 cm/min.)
	Bleed	80 lbs. @ 90 ins./min. (36 kgs. @ 228 cm/min.)
Bump	Blow-off	165 lbs. @ 810 ins./min. (74 kgs. @ 2060 cm/min.)
	Bleed	25 lbs. @ 90 ins./min. (11 kgs. @ 228 cm/min.)

EXHAUST SYSTEM.

Dual exhaust with dual silencers.

COOLING SYSTEM.

Belt-driven pump and 12 bladed  $13\frac{1}{4}$ " (336 mm.) dia. fan.  
Pressurised 7lbs. p.s.i. (.49 kg/cm<sup>2</sup>) system with by-pass  
thermostat control  
Thermostat: A.C. alcohol type.  
Setting 78°C. (173°F.)

ROAD WHEELS AND TYRES.

Wheels	Pressed-steel bolt-on disc. Rim 5k x 15.
Tyres	Dunlop 6.40 x 15 in. RS5, with tubes.
Rolling radius (30 mph)	12.75" (323.8 mm.)
Tyre revs/mile (30 mph)	791

STEERING (Manual)

Burman re-circulating ball type steering unit.  
17" diameter (430 mm.) steering wheel adjustable  
for reach.  
No. of turns of steering wheel lock to lock 4.7.

STEERING (Power Assisted)  
(Optional Extra)

Burman power-assisted steering incorporating oil  
reservoir, eccentric type rotary pump, driven from  
back of dynamo and a hydraulically-assisted re-  
circulating ball-type steering box.  
17" diameter (430 mm.) steering wheel adjustable  
for reach.  
No. of turns lock to lock 3.5.

BODY CONSTRUCTION.

All-steel body of monocoque construction.

ELECTRICAL EQUIPMENT.

Starter	Lucas Type M45G
Dynamo	Lucas Type C42
Coil	Lucas HA 12 Oil filled
Distributor	Lucas Type 22D6
Control box	Lucas Type RB.340
Battery	Lucas BV1A 60 amp/hr. at 10 hr. rate.
Spark plugs	Champion UN12Y

CAPACITIES.

Engine - Refill	11 pints. 6.25 litres
Engine - Total	13 pints. 7.5 litres
Automatic Transmission	
Unit	15 pints. $8\frac{1}{2}$ litres
Gearbox(without overdrive)	$2\frac{1}{2}$ pints. $1\frac{1}{4}$ litres

1 1/2

Rec'd. Oct. '66

INTRODUCTION.

The announcement of a new Jaguar car can always be counted upon to create considerable interest throughout the world - such is the reputation of this most successful of quality car manufacturers.

The tens of thousands of satisfied owners all over the world who, having once embarked upon the ownership of a Jaguar do not willingly revert to another make, form the solid foundations upon which the Company's business - and success - are based. Jaguar has never bowed to passing whims of fashion, indeed it has set its own unique trends and styles which are instantly recognisable anywhere in the world as 'Jaguar'.

The succession of outstandingly successful models produced by the Company have each represented a major advance over its predecessor and thus maintained the Company's dominance in all the many aspects of quality car production. The new 'S' type models represent one more step in this logical progression and have been introduced to widen still further the appeal of the Jaguar range by bridging the gap that has hitherto existed between the outstandingly successful Mark 2 model and its equally successful larger counterpart - the Mark X. The 'S' type thus completes the highly successful range of current Jaguar cars consisting of the Mark 2 and Mark X saloons as well as the 'E' type Grand Touring models all of which continue for 1964.

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five times defeated the cream of foreign competition in this most gruelling of all races, breaking record after record and achieving the added distinction of being the first car ever to exceed 100 m.p.h. for the entire 24 hours of the race. Similar successes were achieved at Reims, Spa, Sebring, and in the famous Tourist Trophy Race.

For good measure, in 1952 a Jaguar coupe broke four World Records by running continuously for seven days and seven nights at a speed of over 100 m.p.h. and covering a distance of 16,851 miles. The new world records then set up by Jaguar have never been beaten. Having dominated the scene in sports car racing for over five years, the Company withdrew from official participation in racing in 1957, its mission of putting Britain on the map of the racing world completed. Since then, private owners have taken up the burden and have achieved many outstanding successes throughout the world.

Expansion of business again compelled a move to bigger premises and in 1952 the Company took over, and subsequently bought, its present one million square feet factory. Towards the end of 1956 the Company was honoured by the visit to the factory of Her Majesty the Queen and The Duke of Edinburgh and by the conferment of a Knighthood on the founder. In 1957 the factory narrowly escaped complete destruction in a disastrous fire which destroyed nearly a third of it. The subsequent rehabilitation and rebuilding was quick and efficient and production - which had never ceased for more than one day - soon exceeded the pre-fire level.

The introduction of new models gave urgency to the Company's expansion plans and production rose steadily to meet the ever increasing demand for Jaguars from all countries of the world. However it was becoming all too obvious that yet more space was needed and the amount required could not be found in the existing factory premises. The situation was finally resolved in 1960 by the purchase of The Daimler Co. Ltd. - one of the oldest car manufacturing concerns in the world - and located only a couple of miles away from Jaguar. By this move Jaguar acquired a factory equal in size to its existing premises and one which, because of under-utilisation gave the Company the floor space it so badly needed. In addition Daimlers thriving bus and armoured car business was also acquired thus considerably diversifying the Company's interests.

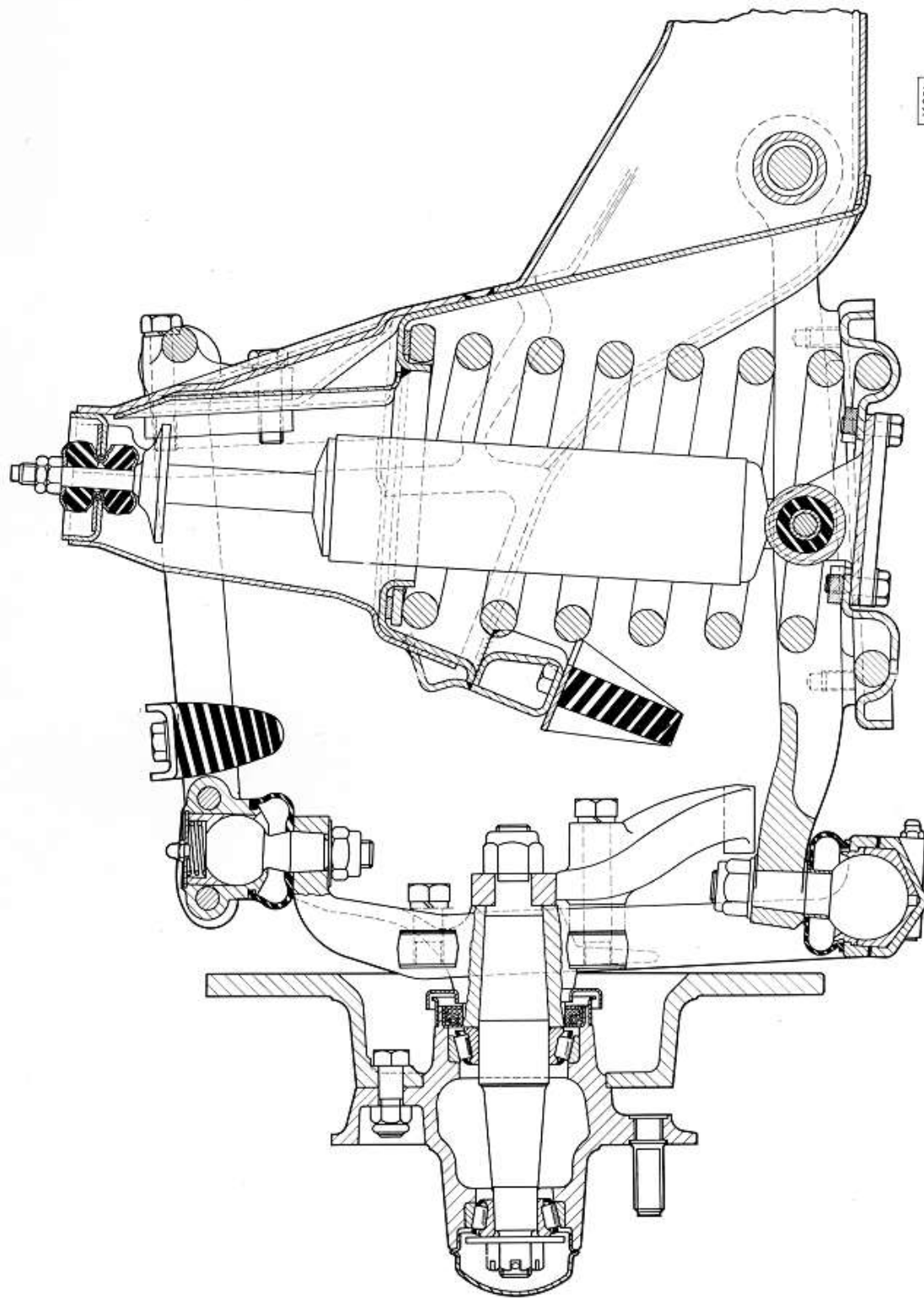
1961 proved to be a momentous year in the Company's history, for two completely new models were introduced - the "E" Type and the Mark X - both of which were received with unparalleled enthusiasm in all markets of the world. In addition, Guy Motors of Wolverhampton were also purchased towards the end of the year, thus adding a range of quality commercial vehicles and buses to supplement those acquired with Daimler.

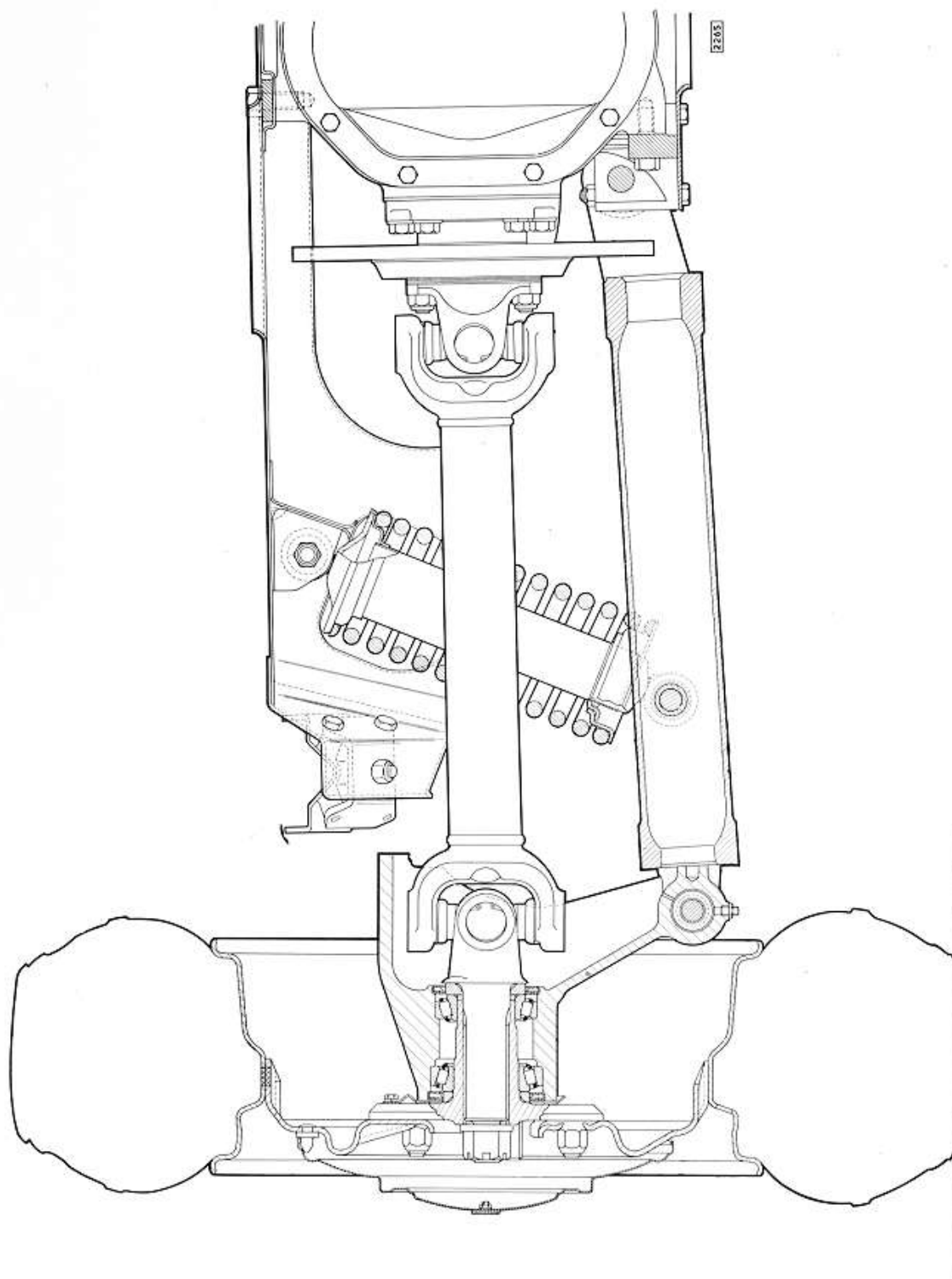


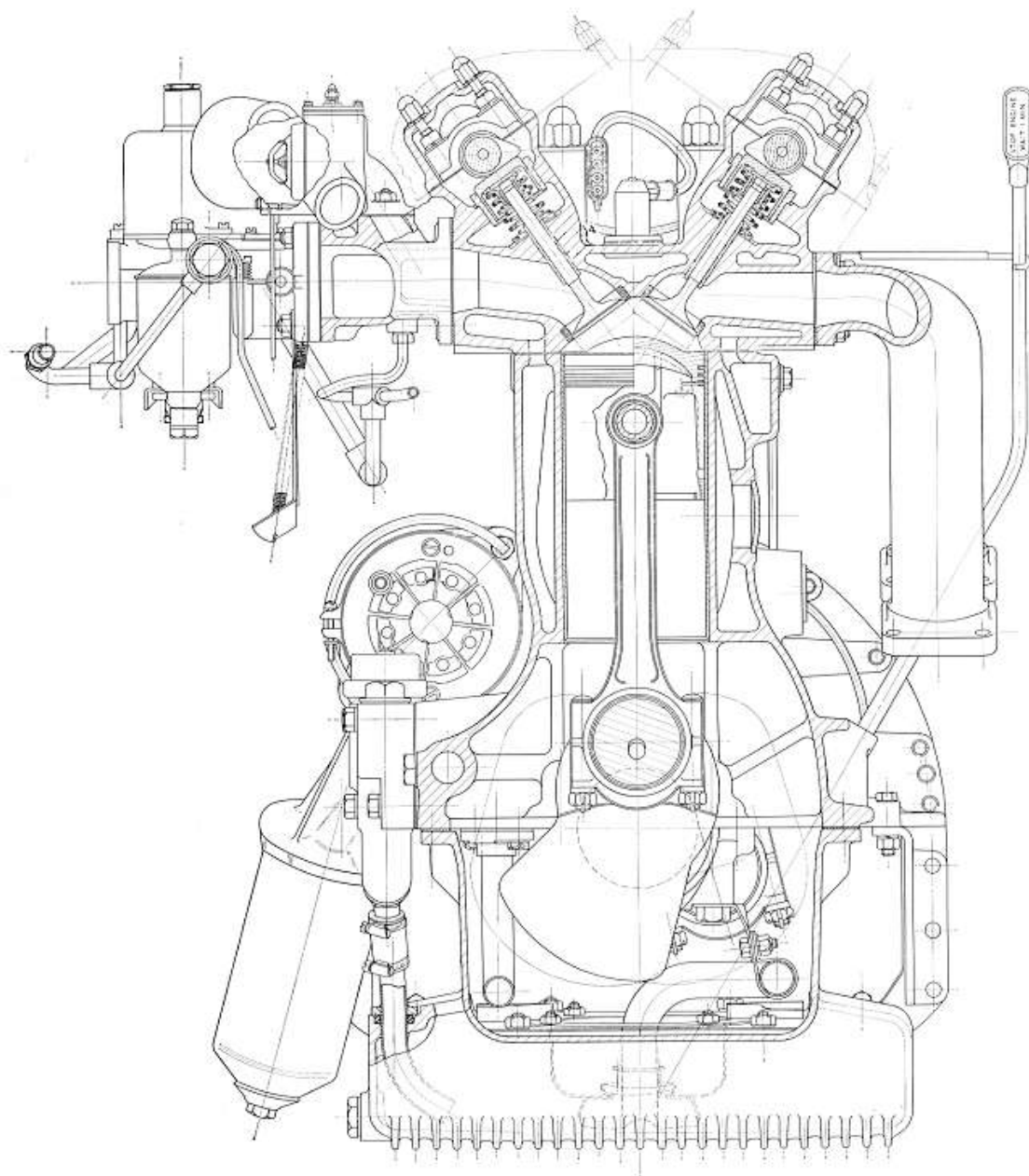
Whereas the Daimler purchase was made primarily to provide room for the expansion of car manufacturing facilities, the object of purchasing Guy Motors was that of diversification into a new field - that of Commercial Vehicles. The desire to diversify still further led to the purchase, in 1963, of the Coventry based firm of Coventry Climax Engines Ltd. - an organisation well known for its wide range of fork lift trucks, fire pumps, generator sets as well as a range of diesel and petrol engines. Best known of the petrol engines are the  $1\frac{1}{2}$  litre V8 Formula 1 racing engines which have proved to be so outstandingly successful in this seasons races.

Thus with a wide range of cars, commercial vehicles, buses, fork lift trucks and fire pumps, each pre-eminent in its own particular field, and modern well equipped factories with which to produce them, the Jaguar organisation looks to the future with confidence knowing that it is well prepared to meet successfully the increasingly severe competition likely to be encountered in world markets.

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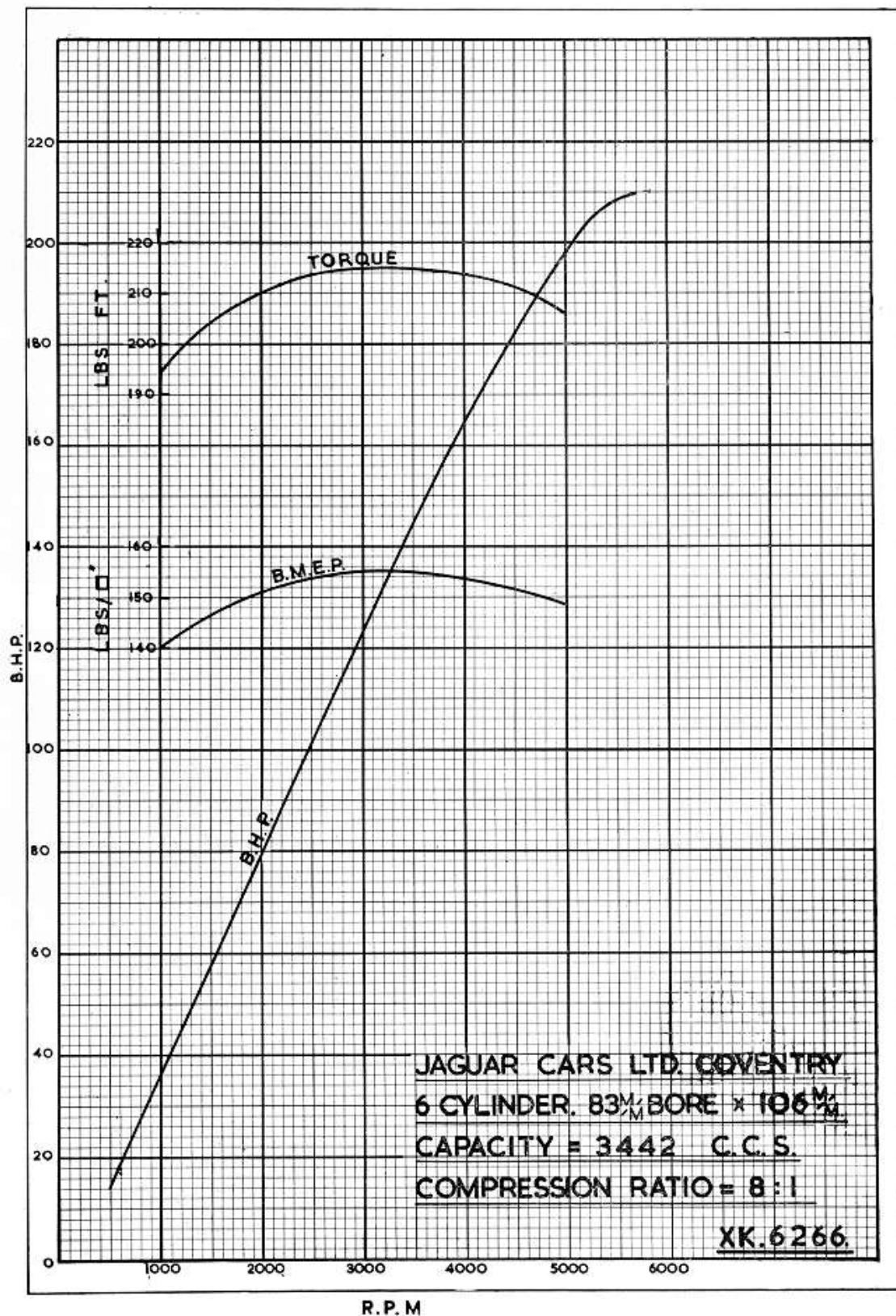




87<sup>mm</sup> X 106<sup>mm</sup> = 3781 CC.

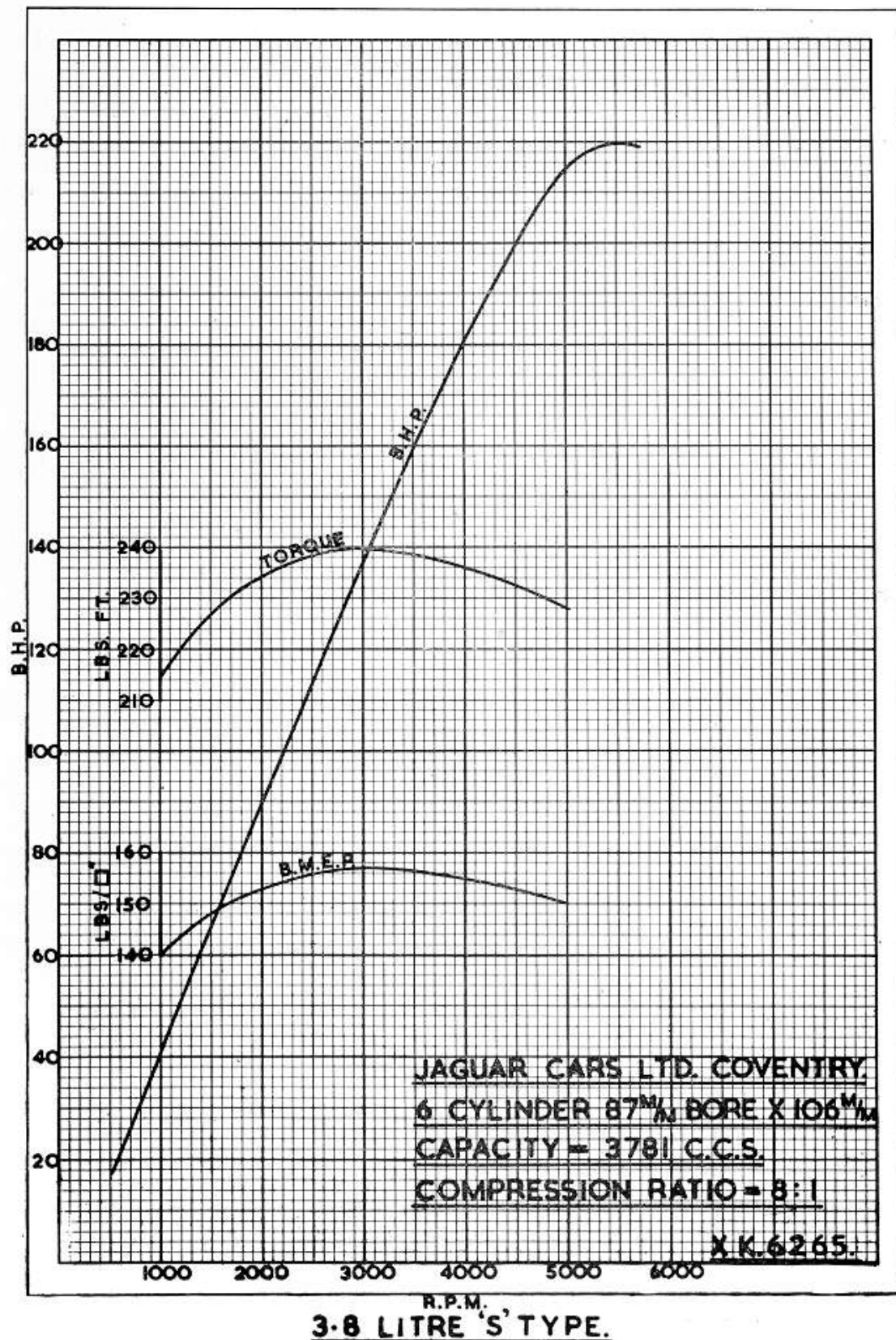
3.8 LITRE V6  
ENGINE CROSS SECTION  
20 D 42  
914 50

C.23340



3.4 LITRE 'S' TYPE.







## SALIENT FEATURES OF THE

### NEW 'S' TYPE JAGUAR.

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- \* Full 4/5 seater - lavishly equipped and superbly finished
  - \* Individual front seats, with combined adjustment for reach and height, also feature reclining type back rests and centre armrests.
  - \* The shaped rear seat with centre armrests provide maximum comfort for two persons, or three if the centre armrest is folded away.
  - \* High efficiency fresh air type heating and demisting system providing extremely wide choice of settings coupled with simplicity of operation.
  - \* Comprehensive instrumentation.
  - \* Large luggage compartment of 19 cu.ft. capacity.
  - \* Choice of 3.4 or 3.8 litre 6 cylinder XK engines.
  - \* Choice of manual change transmission - with or without overdrive - or fully automatic transmission.
  - \* Independent suspension and self adjusting disc brakes on all four wheels.
  - \* Large fuel tank capacity of 14 gallons, carried in two separate tanks.
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## THE NEW JAGUAR 'S' TYPE MODELS.

### GENERAL DESCRIPTION.

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The new 'S' type models have been introduced to bridge the gap which has existed in the Jaguar range between the highly successful Mark 2 models and their equally successful larger counterparts the Mark X. The compact overall dimensions of the Mark 2 have proved to be one of its most important sales features and this fact was borne clearly in mind when the dimensions of the new 'S' types were decided upon. As a result these newcomers are larger only by an amount sufficient to provide a valuable increase in passenger and luggage accommodation and to enable independent rear suspension and larger fuel tank capacity to be incorporated in the specification. Thus the 'S' types are compact 4/5 seaters with 19 cu.ft. of luggage space and fit in neatly between the Mark 2 (12 cu.ft.) and the Mark X (27 cu.ft.). The new 'S' types are complementary, therefore, to the existing Mark 2 and Mark X models which, together with the 'E' type Grand Touring Models, are continued for 1964.

In both cars, the power unit is the Jaguar 6 cylinder twin overhead camshaft XK engine which has proved to be one of the most successful power units ever produced. Its high power output over a wide speed range, its durability and extreme smoothness have endowed it with a world wide reputation - a reputation which has been further enhanced by the many victories won by Jaguar cars in international rallies and races all over the world. In 3.4 litre form, the bore and stroke are 83 m.m. x 106 m.m. giving a capacity of 3442 c.c. and, with the standard compression ratio of 8:1, develops 210 b.h.p. at 5,500 r.p.m. The 3.8 litre version has a bore and stroke of 87 m.m. x 106 m.m. giving a capacity of 3781 c.c. The standard compression ratio is again 8:1 and 220 b.h.p. is developed at 5,500 r.p.m. It is worth noting that suitable alternative compression ratios are supplied to countries where fuel requirements make this necessary. Both power units are fitted with twin S.U. carburettors and are supplied with air via a large duct from the front of the car. This duct incorporates a silencer and filter unit thus providing both an adequate supply of filtered air at ambient temperature and the lowest possible level of engine noise.

In order to meet every possible customer requirement, both manual and fully automatic transmissions are available. The manual transmission consists of a four speed gearbox with synchromesh on the upper three ratios, and a hydraulically

General Description. Sheet 2.

operated dry plate clutch. If required, an overdrive can be specified which operates in fourth gear only and is electrically controlled by a lever mounted on the steering column. The automatic transmission consists of a fluid flywheel coupled to a gearbox providing three forward ratios 'low', 'intermediate' and 'high' as well as reverse. The maximum torque converter multiplication of 2:1 and a final drive ratio of 3.54:1 give the wide range of 17.6 and 3.54:1. An important refinement first introduced by Jaguar in 1956 - is the fitting of a gear hold switch mounted on the facia panel, which enables instant changes to be made between high and intermediate, and for this gear to be held irrespective of throttle opening until the switch is again operated. This is particularly useful when overtaking in heavy traffic conditions and, together with the provision of a gear selector position for engaging and retaining 'low', this means that the driver can exercise complete control of the gearbox if he so desires. Thus all the advantages of fully automatic transmission are combined with the more important features of manual change transmissions to provide a system fully capable of meeting all the demands of varying operating conditions and driving techniques.

The front suspension is by semi-trailing wishbones and coil springs which enclose the telescopic dampers. An anti roll bar is fitted between the lower pair of wishbones. The whole of the front suspension assembly, together with the steering gear, is carried on a fabricated beam which is attached to the body-chassis unit by four rubber mounting blocks. Two of these are of the 'V' type which carry the weight of the car and serve to locate the beam in the transverse plane. The other two are vertical sandwich blocks interposed between the forward located torque arms of the suspension beam and the body chassis structure. These locate the beam in the longitudinal plane and also provide a controlled degree of flexibility.

This new Jaguar, in common with the Mark X saloon and 'E' Type Grand Touring models, features independent rear suspension. This layout makes it possible to employ a softer suspension than would otherwise be the case if a heavy and rigid axle were fitted. This results in a softer, smoother ride and superb road holding, since independent suspension gives a much closer control of wheel movement. In the Jaguar system, location of the wheels in a transverse plane is achieved by the use of two tubular links of which the top link is the half-shaft - universally jointed at both ends. The lower link is also tubular and is pivoted at its outer end to the aluminium wheel carrier and to the subframe adjacent to the differential casing at the inner end. To provide maximum rigidity in a longitudinal plane the pivot bearings at both ends of the



### General Description. Sheet 3.

lower link are widely spaced. The suspension medium is provided by twin coil springs enclosing telescopic hydraulic dampers, and these are mounted on each side of the differential casing. The whole assembly is carried in a fabricated steel subframe which is easily and quickly detachable from the body structure. The subframe is mounted in the body by four 'Vee' rubber blocks - and by a rubber bushed radius arm on each side of the car between the lower link and a mounting point on the body structure. Not only does this result in the insulation of the whole assembly from the body, but it eliminates all transmission roughness and noise - two of the main disadvantages of fully independent suspension systems.

Dunlop bridge type disc brakes, with self adjusting quick-change pads, are fitted to all four wheels. The use of a vacuum servo ensures that maximum retardation is available with only light pedal pressure. The handbrake is of the latest self-adjusting type - the linkage, in the 'on' position, is also arranged to actuate the brake fluid level warning light. The braking system is, therefore, completely self adjusting for wear throughout the life of the pads, thus relieving the owner of this onerous task.

Precise and light steering are essential features on a car of this type, and Burman re-circulating ball type steering is provided. The 17" two spoke steering wheel is adjustable for reach, and 4.7 turns are required from lock to lock. A thirty three foot turning circle is provided. Power assisted steering is available as an optional extra, hydraulic pressure being provided by an eccentric pump, driven off the rear of the dynamo.

The body is an all steel four door five seater saloon of integral body-chassis construction. This form of construction provides a body of moderate weight allied to a very high degree of stiffness in bending and torsion. An important safety feature of the design is the provision of excellent all round visibility. This has been achieved by the use of slim windscreen pillars, a deep windscreen and semi wrapround rear windows. In addition, all four doors incorporate large windows carried in narrow chrome plated frames. The doors themselves are hinged at their forward ends and open through a wide angle to facilitate entry and egress. The latest type of locks enable the doors to be closed easily and quietly

The interior of the car is lavishly equipped and luxuriously furnished. Individual front seats are fitted each being provided with reclining type squabs, centre armrests, and a combined height and reach adjustment. This feature, together with the adjustable steering wheel enables all drivers to find exactly their most comfortable driving position - an important safety feature since driver

fatigue is thus reduced to a minimum. Both front and rear seats are upholstered in finest quality leather and spring cases with an overlay of foam rubber cushions are employed. The wide rear seat will accommodate three adults, or two in armchair comfort if the wide folding central armrest is brought into use.

A comprehensive range of instruments is provided and these, together with the row of clearly labelled switches controlling the electrical equipment, are mounted in a polished walnut instrument panel. The revolution counter and speedometer are placed immediately in front of the driver. The other instruments for oil pressure and water temperature, together with the ammeter and petrol gauge are arranged so that they can be read at a glance. All switches and instruments are illuminated at night by internal flood lighting controlled by a two-position dimmer switch. The passengers side of the instrument panel incorporates a glove compartment fitted with an interior light and lockable lid. A full width parcel shelf is fitted beneath the instrument panel and, below this, a central console carries the radio and speakers when fitted. High quality carpets are fitted in both front and rear compartments and all woodwork is in polished figured walnut.

It is important to note that this accent on luxury has not affected the more practical aspect of the car's design. Reference has already been made to the instrument panel layout and to the provision of a wide range of driving positions. The windscreen is kept clear by two speed self parking windscreen wipers and electrically driven windscreen washers. Sealed beam asymmetric dip headlamps enable the car's full performance to be used at night. A map reading lamp is provided in the front compartment and comprehensive courtesy lighting in the rear is operated by any of the doors or by a switch on the instrument panel.

An important feature of the car is the new fresh air type heating and demisting system which has been specially designed and developed for the 'S' type. It has been designed to provide a system which is both extremely efficient and simple to operate. The equipment is thus capable of delivering a small or very large volume of air, at any temperature between maximum and ambient, through a system providing separate delivery to each side of the front compartment as well as an individual supply to the rear. Simplicity and ease of operation are ensured by the use of vacuum servos to operate the water valves heater flaps and air intake vent. Thus the system is controlled solely by three push buttons mounted on the centre console, a volume control lever and a switch mounted on the facia panel which operates the two speed blower. This comprehensive system provides an infinite range of temperatures and volume together

with rapid defrosting and demisting of the large windscreen.

From the above description it will be realised that the 'S' type models form an important and worthy addition to the current Jaguar range - a range which has proved to be the most successful and comprehensive in the history of the Company. The very high level of sales both at home and overseas continues to tax the manufacturing resources of the Company despite the fact that these have been more than doubled within the last five years.

## PERFORMANCE FIGURES.

CAR: Jaguar 3.8 litre 'S' type overdrive model fitted with the standard final drive ratio of 3.77:1 (2.93:1 in overdrive).

TEST LOCATION: Motor Industry Research Association Proving Grounds.

WEATHER: Dry. Barometer: 29.7 Hg. Temperature: 56°F.  
Wind: N.W. Ave. 8 m.p.h. gusting 12 m.p.h.

SURFACE: Dry Tarmacadam.

FIGURES are the mean of several runs in opposite directions.

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### ACCELERATION TIMES from standstill.

0-30 m.p.h.	3.3 secs.
0-40 m.p.h.	6.0 secs.
0-50 m.p.h.	7.9 secs.
0-60 m.p.h.	10.1 secs.
0-70 m.p.h.	14.2 secs.
0-80 m.p.h.	17.1 secs.
0-90 m.p.h.	22.9 secs.
0-100 m.p.h.	29.4 secs.
Standing $\frac{1}{4}$ mile	15.0 secs.

### ACCELERATION TIMES in 4th gear (direct top).

10-30 m.p.h.	7.6 secs.
20-40 m.p.h.	7.3 secs.
30-50 m.p.h.	7.5 secs.
40-60 m.p.h.	7.0 secs.
50-70 m.p.h.	7.6 secs.
60-80 m.p.h.	8.5 secs.
70-90 m.p.h.	9.6 secs.
80-100 m.p.h.	10.7 secs.
90-110 m.p.h.	15.5 secs.