

# CAMS

5TH CATEGORY - HISTORIC RACING

GROUP Na

APPROVED VEHICLE SPECIFICATION

This form details the approved specification of individual vehicle models in the Na production saloon car group. To be issued with an Historic log book, cars need to comply with these specifications, the physical appearance shown in the illustrations and the general historic rules as detailed in the current CAMS manual.

Make of car: JAGUAR

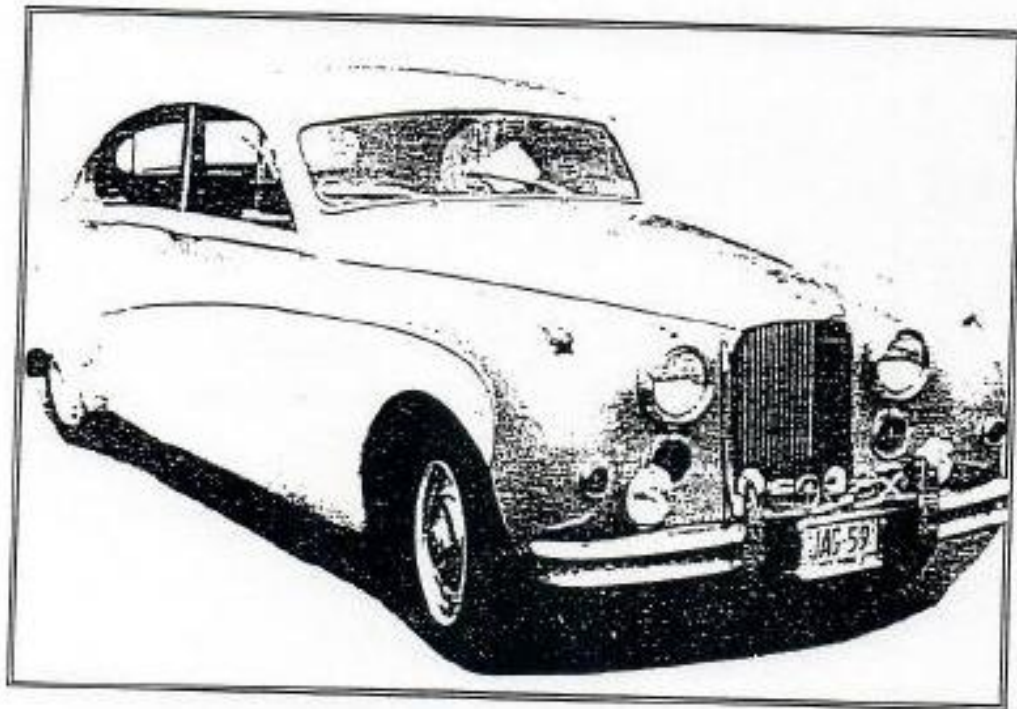
Model: MK VII, VIIM, MK VIII

Period of original manufacture: MKVII 1951-57, MK VIII 1956-59

CAMS Historic group: Na

Date of issue of this Document:

11/01/1996



## SECTION 1 - CHASSIS

### 1.1 CHASSIS FRAME

Description : LADDER FRAME, CROSS BRACED  
Manufacturer : JAGUAR Period of manufacture: 1951-59  
Chassis nos. from: 710001 to: 769999  
Chassis no. location : FIREWALL  
Material : MILD STEEL  
COMMENTS : NIL

### 1.2 FRONT SUSPENSION

Description : IFS TWIN WISHBONES  
Spring medium : TORSION BAR  
Damper type : TUBULAR Adjustable : N/A  
Anti-sway bar : YES Adjustable : N/A  
Suspension adjustable NO Method : N/A  
COMMENTS : RIDE HEIGHT AND SPRING RATE FREE

### 1.3 REAR SUSPENSION

Description : LIVE AXLE  
Spring medium : SEMI ELLIPTIC LEAF  
Damper type : GIRLING LEVER PV7 Adjustable : NO  
Anti-sway bar : NO Adjustable : NO  
Suspension adjustable NO Method : N/A  
COMMENTS : RIDE HEIGHT AND SPRING RATE FREE

### 1.4 STEERING

Type : RECIRCULATING BALL Make : BURMAN  
COMMENTS : NIL

### 1.5 BRAKES

	Front	Rear
Type :	DRUM	DRUM
Dimensions :	12"	12"
Material of drum :	CAST IRON	CAST IRON
No. cyls per wheel :	2 (2LS)	1 (SINGLE LS)
Actuation :	HYDRAULIC	HYDRAULIC
Caliper, Make, Material, Type :	N/A	N/A
Master cyl make :	GIRLING	Type : SINGLE
Adjustable bias :	NO	
Servo fitted :	YES	
COMMENTS :	TANDEM M/CYL ALLOWED	

## SECTION 2 - ENGINE

### 2.1 ENGINE

Make : JAGUAR  
Model : XK  
No. cylinders : 6 Configuration : IN LINE FOUR stroke.  
Cylinder block, material : CAST IRON  
Bore ; original : 83 mm Max. allowed : 84.5 mm  
Stroke ; original : 106 mm Max allowed : 106 mm  
Capacity ; original ; 3442 CC Max. allowed : 3568 CC  
Cooling method : WATER  
Identifying marks :  
COMMENTS : NIL

### 2.2 CYLINDER HEAD

Make : JAGUAR  
No. valves per cyl : 2 Inlet : 1 Exhaust 1  
No of ports, total : 12 Inlet : 6 Exhaust 6  
No camshafts : 2 Location : HEAD Drive : CHAIN  
Valve actuation : OHC  
Spark plugs per cyl. : 1  
Identifying marks :  
COMMENTS : NIL

### 2.3 LUBRICATION

Method : WET SUMP  
Oil cooler standard : NO Location : N/A  
COMMENTS : OIL COOLER ALLOWED

### 2.4 IGNITION SYSTEM

Type : DISTRIBUTER AND COIL Make : LUCAS  
COMMENTS : NIL

### 2.5 FUEL SYSTEM

Carburettor ; Make : SU Model : H6 No. : 2  
Size : 1.75" & 2"  
Fuel injection ; Make : NO Type : N/A  
Supercharged : NO Type : N/A  
Make : N/A Drive : N/A  
COMMENTS : 3 X SU CARBURETTORS ALLOWED  
THROAT SIZE UNRESTRICTED

## SECTION 3 - TRANSMISSION

### 3.1 CLUTCH

Make : BORG AND BECK Type : A6-G Dia. : 9.875"  
No. of plates : 1  
Actuation : HYDRAULIC  
COMMENTS : NIL

### 3.2 TRANSMISSION

Make : JAGUAR Model : SH,JH,SL,JL SERIES  
Case material : C.IRON  
No. forward speeds : 4 Gearchange Type : FLOOR CHANGE  
Gearbox location : BEHIND ENGINE  
Identifying marks :  
COMMENTS : RATIOS FREE

### 3.3 FINAL DRIVE

Make : SALISBURY Model : 2HA  
Wheel drive method : REAR  
Ratio : 4.27 :1  
Differential : FREE Model :  
COMMENTS : RATIOS FREE

### 3.4 TRANSMISSION SHAFTS ( EXPOSED )

No. 1 Location : TAILSHAFT  
Description : TUBULAR  
COMMENTS : NIL

### 3.5 WHEELS AND TYRES

Wheel , type :	DISC	Material :	STEEL
Fixture method :	BOLT ON	No. studs :	5
		<u>Front</u>	<u>Rear</u>
Wheel dia. & rim width ; original :		16 x 5.5"	16 x 5.5"
	Allowed :	16 x 5.5"	16 x 5.5"
Tyre section ; original :		600 x 16	600 x 16
	Allowed :	205 x 16	205 x 16
		205 x 15	205 x 15
Aspect ratio, minimum : 65%			
COMMENTS :	NIL		

## SECTION 4 - GENERAL

### 4.1 FUEL SYSTEM

Tank location : REARWINGS (2) Capacity, litres : 68  
Fuel pump; type : ELECTRIC Make : 2 x SU, TYPELCS  
COMMENTS : NIL

### 4.2 ELECTRICAL SYSTEM

Voltage : 12  
Battery; location : ENGINE BAY  
COMMENTS : NIL

### 4.3 BODYWORK

Type : SALOON Material : STEEL  
No. of seats : 5 No. doors : 4  
COMMENTS : NIL

### 4.4 DIMENSIONS

Track, front : 1448 mm Track, rear : 1473 mm  
Wheelbase : 3048 mm Overall length : 4991 mm  
Dry weight : 1728 kg  
COMMENTS : NIL

### 4.5 SAFETY EQUIPMENT

Fire Extinguisher : REQUIRED  
Seat belt : REQUIRED  
Roll bar : REQUIRED  
Electrical cut off switch : RECOMMENDED  
Safety fuel tank : RECOMMENDED  
COMMENTS : NIL

## CHAPTER 6 LARGE SEDANS 1952-1969

★★★

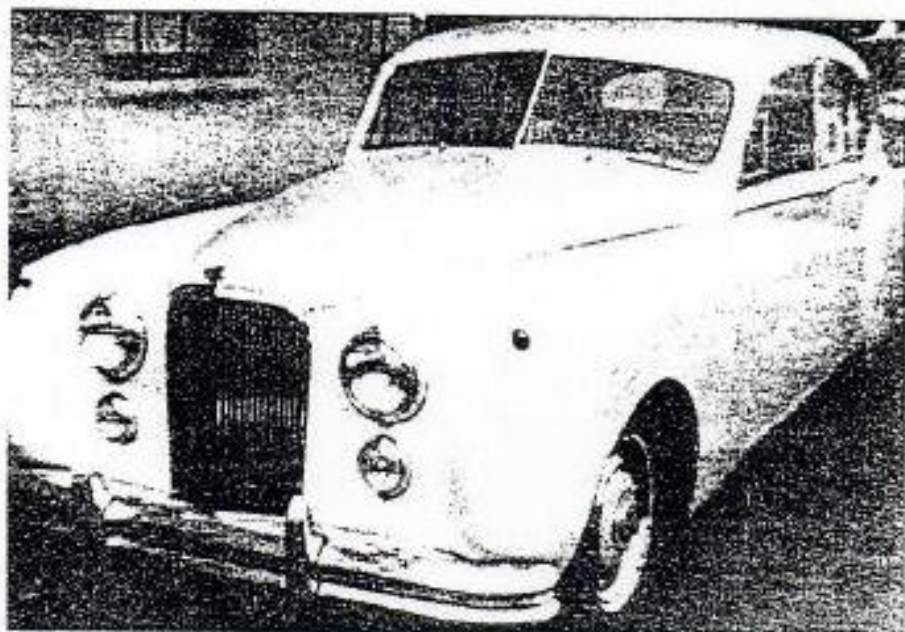
The success story of the XK sports cars provided the nucleus for the development of the touring sedan (saloon, to the English). The 3.4 liter engine was maintained on the same chassis and married to an elegantly styled body. The sedan introduced at the Earl's Court Show in October 1950 demonstrated William Lyons' ability to design cars with a specific audience in mind. This car sported full-sized seats and a full trunk. The styling, although somewhat bulky, was graceful and not overstated. The interior size was increased compared to the Mark V and approximated that of the Bentley, the Rolls-Royce and, indeed, was close to a custom-bodied limousine.

The few detractors were rapidly left in the dust of the rally and touring cup victories amassed by these durable, comfortable and fast sedans. The Jaguar literature is replete with detailed accounts of victories on the rally circuit across the European continent during the early and mid-fifties.

The sole reason that the Mark VII failed to sell well in the American market, and thereby achieve the goal that William Lyons had established for the model, was probably the lack of an automatic transmission. Although all other parameters had been satisfied, the American sedan was never really challenged.

However, the potential buyer should try to conceptualize the car in the eyes of the crowds reported to have completely surrounded the Jaguar display at Earl's Court. There had not been a finer looking, more luxurious or more durable car offered anywhere in England or Europe that possessed the style, class and ride at a price that approached prewar figures.

The basic engine for the Mark VII was the 3.4 liter dohc engine. In May of 1954, Jaguar announced the "M" modifications for the Mark VII sedans, which incorporated the use of the 190 bhp C-type engine. The same transmission options were available. The company also offered a "tuning kit" which included high-lift camshafts, steeply domed pistons and the complementary adjustment parts for the competition trade.



A Mark VII sedan. Distinguishing features are the monoschematic color scheme (compare to the Mark VIII and IX), the thin chrome trim surrounding the grille and the two-piece windshield. Author collection.

**THE MARK VII, MARK VIIM,  
MARK VIII, MARK IX**

**ENGINE**

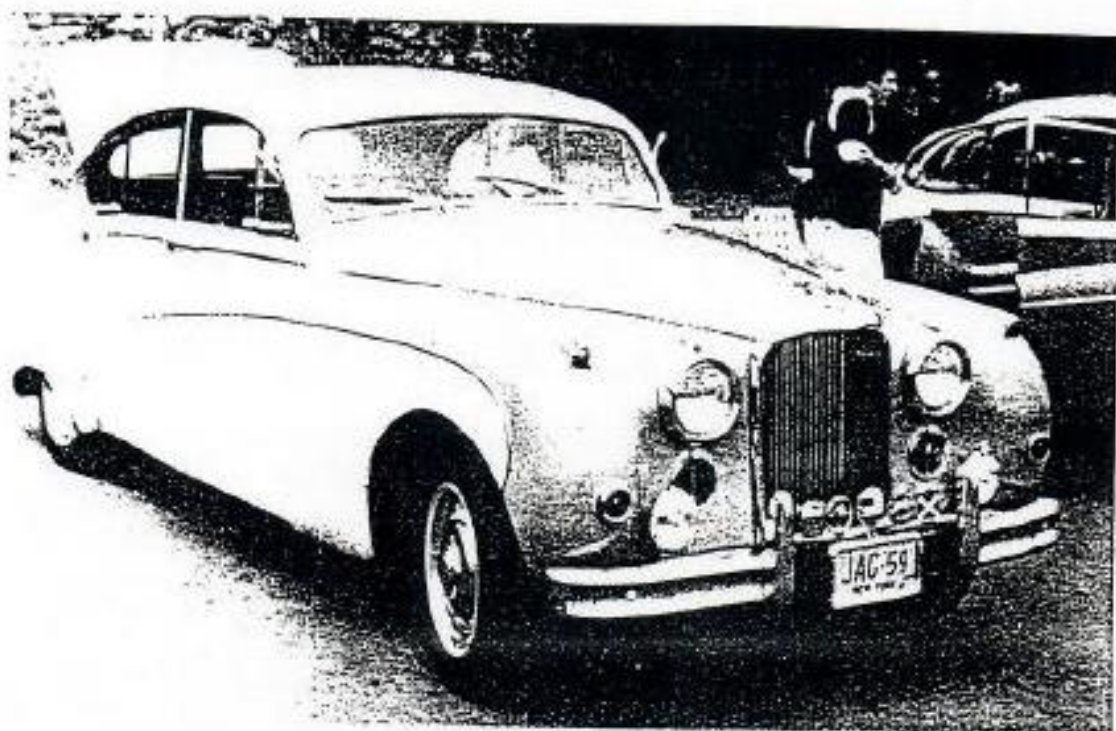
Type: dohc in-line 6-cylinder  
 Bore x Stroke, mm: 83x106 (Mark VII, VIII),  
 87x106 (Mark IX)  
 Displacement: 3442 cc, 3781 cc (Mark IX)  
 Valve Operation: cam action  
 Compression Ratio: 7:1, 8:1 (M)  
 Carburetion: twin SU  
 Bhp (M-F): 160, 190 (M), 210 (Mark VIII), 220  
 (Mark IX)

**CHASSIS & DRIVETRAIN**

Transmission: 4-speed synchromesh, optional Laycock-de Normanville overdrive unit, Borg-Warner automatic  
 Rear Suspension: semielliptical  
 Gear Ratio: 4.27, 5.84, 8.56, 14.4:1; 4.27, 5.17, 7.44, 13.73:1 (M) standard transmission  
 Front Suspension: independent  
 Frame: cross-braced steel

**GENERAL**

Wheelbase, inches: 120  
 Track, front, inches: 56 (early VII); 57 (M, Mark VIII, Mark IX)  
 rear, inches: 56½ (early VII); 58 (M, Mark VIII, Mark IX)  
 Brakes: Girling 2LS hydraulic with servo-assist, Dunlop disc with servo-assist (Mark IX)  
 Tire Size, front and rear: 6.00x16  
 Wheels: 16-inch pressed-steel  
 Body Builder: Jaguar Cars Ltd.  
**Chassis Serial Numbers:**  
 Mark VII (RHD) 710001 on (1951-57)  
 (LHD) 730001 on (1950-57)  
 M series (RHD) 750001 on (1955-57)  
 (LHD) 740200 on (1955-57)  
 Mark VIII (RHD) 760001 on (1956-59)  
 (LHD) 780001 on (1956-59)  
 Mark IX (RHD) 770001 on (1958-61)  
 (LHD) 790001 on (1958-61)



The Mark VIII sedan is easily identifiable by the one-piece window with the two-tone color scheme, heavier chrome trim around the grille and leaping Jaguar hood ornament. Identification of the Mark IX is very difficult and can be done only through research of engine serial numbers. Author photo.



on these models. Only 6,212 of these graceful cars were produced and they remain a favorite of Jaguar buffs.

#### MARK IX

The advent of the 3.8 liter engines pioneered in the XK 150 and XK 150S models provided additional power to keep Jaguar abreast of the Continental competition and at least somewhat in tune with the American horsepower race. In 1959, they were fitted to the Mark VIII and the designation was changed to the Mark IX. The new Dunlop servo-disc braking system was also added again reflecting advances bred from racing experience.

Few changes were introduced in the interior and exterior styling. A set of pictures displayed in Frostick's book, *The Jaguar Tradition*, attests to the difficulty of identifying the respective models from photographs. The sure method is to check the identification plate located on the firewall in the engine compartment.

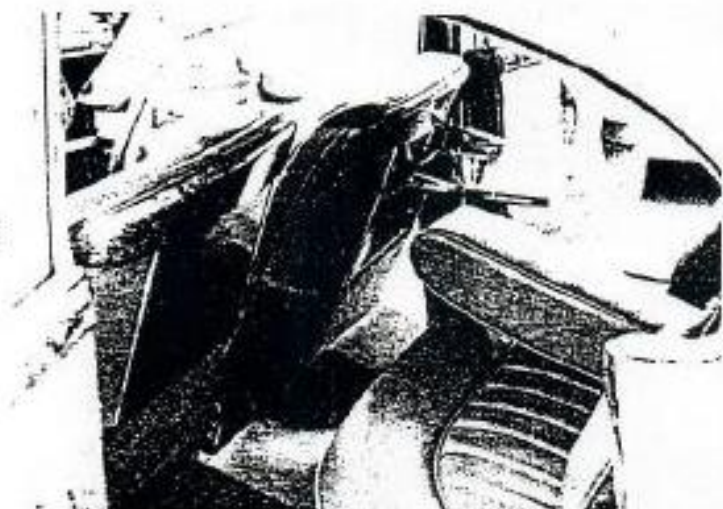
Suffice it to say that each of the three models with this body was felt to introduce a significant improvement and was greeted as such by the English motoring writers. Perhaps the fitting conclusion to this section is to mention that although a new large sedan will still give comfortable and gracious motoring, the rarest of these sedans would be a Mark IX fitted with the optional divider window.

#### THE MARK X AND THE 420G

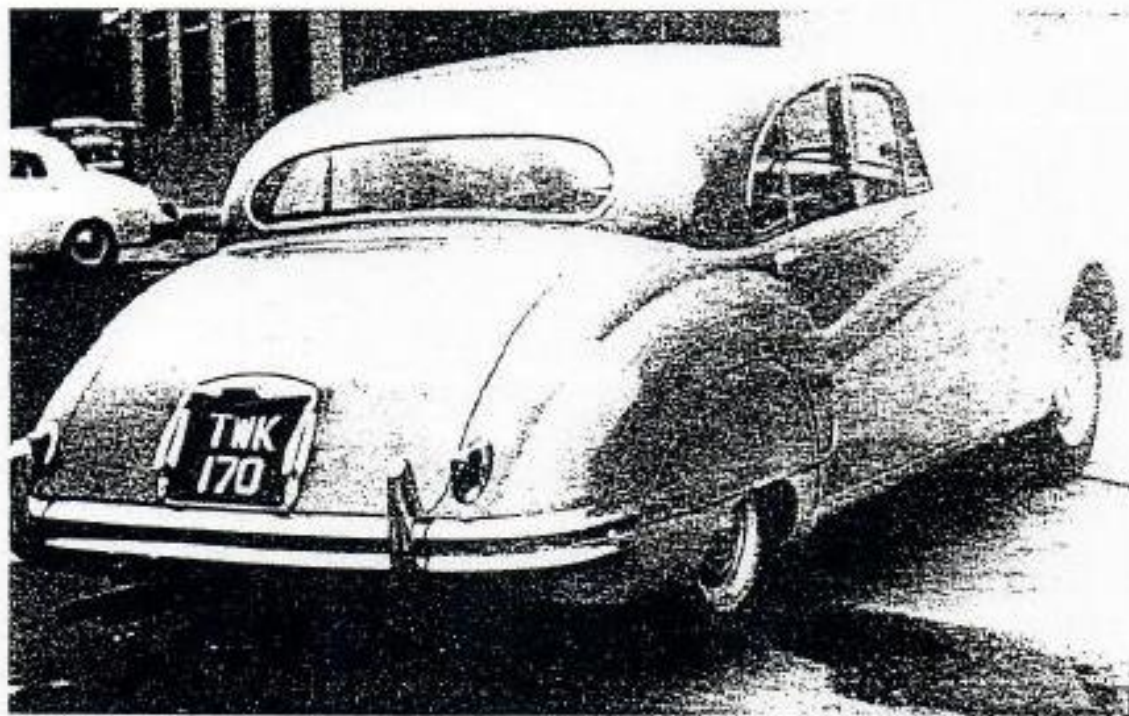
As the decade of the sixties began, it became apparent that Jaguar needed a restyled, large luxury sedan which was also capable of better performance. Thus, in late 1961, the Mark X was introduced. The new body shell unmistakably traced its lineage from the SS I sedans through the Mark V and the Mark VII sedans and the Mark II saloons. The larger interior was termed "Edwardian" by one critic but the space and accouterments were rapidly accepted by the public and one still sees Mark X's in daily use.

Following the E-type by a year, many of the technical innovations were also found on the Mark X. The rear suspension was independent and mounted inboard. The improved 3.8 liter engine featured a new manifold and three SU carburetors. Lower compression ratios in combination with conservative gear ratios seemed to solve the chronic tuning problems noted in the XK 150 and XK-E sports models. The early models were delivered with the standard Borg-Warner automatic transmission but the options of standard transmission and standard transmission with overdrive (still lever-operated and mounted on the dashboard) became available later in the model run.

The styling, although unquestionably Jaguar, was being stretched to satisfy the production engineer. The larger size permitted accommodation of six passengers in real comfort. Sir William Lyons (knighted in 1956 for his contributions to England's industrial heritage) again left his touch on the exterior styling.



The rear seat of the Mark VIII sedan, exemplifying the plush interiors that won this car the reputation of being "the poor man's Rolls." Author photo.



Rear three-quarter view of the Mark VIII. Note the twin gas tanks, full rear wheel covers and flowing two-tone paint scheme. Michael Frostick photo.

which transformed what might have been a very lumpy vehicle into a graceful car in the "Lyons line." A new styling feature was the quadruple integrated headlights.

In 1965, the dohc engine was enlarged to 4235 cc and fitted to the Mark X until the end of the model run in 1967. During these last two years, eighteen "limousine" units were delivered. These are identified by their divider windows installed in the rear surface of the front seat. In 1965, electrically operated windows became available, as did air conditioning.

In mid-summer 1966, Jaguar Cars Ltd. merged with British Motor Corporation. The subsequent autumn saw the introduction of the 420G model which was only the Mark X with a new label. However, the buyer/collector should be careful to correctly identify the prospective purchase. The only external change was the addition of a chrome strip along the side styling crease with a true flasher incorporated in the forward end. The 420G was in production for three years and approximately the same number of units appeared as its predecessor the Mark X. Twenty-four "limousine" units were delivered.

#### THE MARK X AND 420G

##### ENGINE

Type: dohc in-line 6-cylinder  
Bore x Stroke, mm: 87x106 (3.8L), 92.1x106 (4.2L) 1965 on and 420G  
Displacement: 3781 cc, 4235 cc  
Valve Operation: twin overhead camshaft  
Compression Ratio: 7:1 (4.2L and 420G), 8:1 (3.8L), 9:1 (optional)  
Carburetion: 3 SU HD-8  
Bhp (Mfr): 285

##### CHASSIS & DRIVETRAIN

Clutch: SDP hypoid bevel (Mark X); Hauserman diaphragm (4.2L and 420G)  
Transmission: 4-speed all synchromesh; overdrive or automatic transmission available

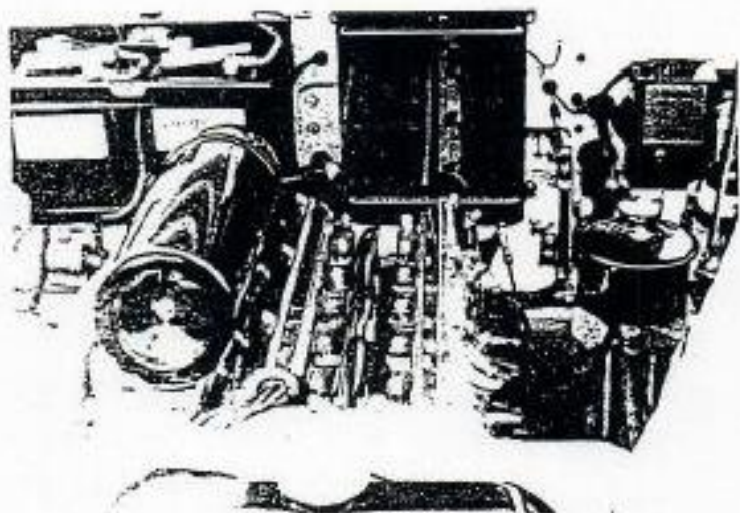
Rear Suspension: coil independent  
Gear Ratio: 3.54, 4.54, 6.58, 11.95:1  
Front Suspension: coil wide pendant  
Frame: unitary construction

##### GENERAL

Wheelbase, inches: 120  
Track, front and rear, inches: 58  
Brakes: Dunlop servo-assisted disc  
Tire Size, front and rear: 7.50x14  
Wheels: pressed-steel disc 14-inch  
Chassis Serial Numbers:  
Mark X: 3.8L (RHD) 300001 on (1961-65)  
3.8L (LHD) 350001 on (1961-65)  
4.2L (RHD) 1D50001 on (1965-67)  
4.2L (LHD) 1D75001 on (1965-67)  
420G: (RHD) G1D 53720 on (1966-69)  
(LHD) G1D 76961 on (1966-69)



Dashboard of a Mark VIII sedan with automatic transmission. Note the nonstandard radio installation. Author photo.



Engine compartment of a restored Mark VIII sedan. Author photo.

## SECTION A

## GENERAL DATA, DIMENSIONS AND SPECIFICATIONS

Models	Mk. VII	Mk. VIII	Mk. IX	XK 120	XK 140	XK 150
Year of manufacture	1951-1957	1957-1959	1958-1961	1949-1954	1954-1957	1957-1961
Track:						
Front	4' 8"	4' 8½"	4' 8"	4' 3"	4' 3"	4' 3½"
Rear	4' 9½"	4' 10"	4' 10"	4' 2"	4' 3½"	4' 3½"
Wheelbase	10' 0"	10' 0"	10' 0"	8' 6"	9' 6"	8' 6"
Turning circle	36' 0"	36' 0"	36' 0"	31' 0"	33' 0"	33' 0"
Ground clearance	7½"	7½"	7½"	7½"	7½"	7½"
Height	5' 3"	5' 3"	5' 3"	Sports 4' 4½"	D.H. Coupe 4' 5½"	D.H. Coupe 4' 7"
				Coupe 4' 5"	F.H. Coupe 4' 7"	F.H. Coupe 4' 7"
Width	6' 1"	5' 1"	5' 1"	5' 2"	5' 4½"	5' 7"
Length (overall)	16' 4½"	16' 4½"	16' 4½"	14' 5½"	14' 8"	14' 9"
Weight (dry)	33 cwt.	34 cwt.	34 cwt.	25 cwt. (approx.)	25½ cwt. (approx.)	26 cwt. (approx.)

## CAPACITIES

	Mk. VII	Mk. VIII	Mk. IX	XK 120	XK 140	XK 150
Engine (sump)	21 pts.	19 pts.	19 pts.	21 pts.	22 pts.	13 pts.
Engine (total)	24 pts.	22 pts.	22 pts.	24 pts.	25 pts.	15 pts.
Gearbox	2½ pts.	2½ pts.	2½ pts.	2½ pts.	2½ pts.	2½ pts.
Gearbox (with overdrive)	4 pts.	4 pts.	4 pts.		4 pts.	4 pts.
Automatic Transmission	15 pts.	15 pts.	15 pts.		15 pts.	15 pts.
Rear axle	3½ pts.	3½ pts.	3½ pts.	3½ pts.	3½ pts.	3½ pts.
Cooling system	22 pts.	22 pts.	22 pts.	25½ pts.	25 pts.	23 pts.
Fuel tank	L.H. 8 gals. R.H. 9 gals.	L.H. 8 gals. R.H. 9 gals.	L.H. 8 gals. R.H. 9 gals.	15 gals.	14 gals.	14 gals.

## TORQUE SPECIFICATIONS (lb/ft)

Cylinder head	54
Connecting rods	37
Main bearings	83
Flywheel securing	67
Camshaft bearing caps	15
Crownwheel securing (Salisbury)	40 to 50

## TUNING DATA

The following tables are a summary of the recommended carburetor needles, distributor and sparking plugs for various conditions of Jaguar engines; standard production conditions are printed in bold type. Against each distributor the appropriate contact breaker gap and static ignition timing is given; the Lucas service number is stamped on the distributor body.

## MARK VII MODEL (1951-1954)

Compression Ratio	Type of Cylinder Head	Cam Lift	Carburetors	Carburettor Needs		Distributor		Distributor Contact Breaker Gap (in)	Static Ignition Timing	Champion Sparking Plug Type	
				With Standard Air Cleaner	With A.C. Disc Air Cleaner	Jaguar Part Number	Lucas Service Number			Leaving	Racing
Prior to Engine No. B.2917 After Engine No. B.2917	Standard	$\frac{1}{8}$ "	Standard 1 $\frac{1}{2}$ " bore	S.M. Weaker SK	—	C.4528 or C.5440	40263A or 40263B	.010-.012 or .014-.016	5° B.T.D.C. or 5° B.T.D.C.	L.10.S	L.11.S
7 to 1	Standard	$\frac{1}{8}$ "	Large type 2" bore	—	V.R. Weaker V.E.	C.5440	40263B	.014-.016	5° B.T.D.C.	L.10.S	L.11.S
Prior to Engine No. B.2917 After Engine No. B.2917	Standard	$\frac{1}{8}$ "	Standard 1 $\frac{1}{2}$ " bore	S.M. Weaker SK	—	C.4529 or C.5441	40276A or 40276B	.010-.012 or .014-.016	5° B.T.D.C. or 5° B.T.D.C.	N.8.B	N.A.8
8 to 1	"C" Type	$\frac{1}{8}$ "	Standard 1 $\frac{1}{2}$ " bore	—	R.G.	C.5468	40249B	.014-.016	T.D.C.	N.A.B	N.A.10

MARK VII MODEL (Type 'M')

Compression Ratio	Type of Cylinder Head	Cam Lift	Exhaust System	Carburettor Nozzles		Carburettors	Distributor		Distributor Contact Breaker Gap (in)	Static Ignition Timing	Champion Sparking Plug Type	
				With Standard Air Cleaner	With A.C. Disc Air Cleaner		Jaguar Part Number	Lucas Service Number			Tearing	Roqing
7 to 1	Standard	3/8"	Standard	S.R. Weaker C.I.W.	—	Standard 1 1/2" bore	C.5556	40435A	.014-.016	5° B.T.D.C.	L.10.S	L.11.S
	"C" type	3/8"	Sports silencer and larger diameter tail-pipe	S.I.	—	Standard 1 1/2" bore	C.5556	40435A	.014-.016	5° B.T.D.C.	L.10.S	L.11.S
8 to 1	Standard	3/8"	Standard	S.R. Weaker C.I.W.	—	Standard 1 1/2" bore	C.5557	40372A	.014-.016	T.D.C.	N.8.B	N.A.8
	"C" type	3/8"	Sports silencer and larger diameter tail-pipe	—	S.J.	Standard 1 1/2" bore	C.5517	40436A	.014-.016	6° B.T.D.C.	N.A.8	N.A.10
	"C" type	3/8"	Sports silencer and larger diameter tail-pipe	—	V.R. Weaker V.E.	Large type 2" bore	C.826D	40445A	.014-.016	6° B.T.D.C.	N.A.8	N.A.10
9 to 1	"C" type	3/8"	Sports silencer and larger diameter tail-pipe	—	V.R. Weaker V.E.	Large type 2" bore	C.826D	40445A	.014-.016	5° B.T.D.C.	N.A.8	N.A.10

## SECTION H REAR AXLES PART I

*Rear Axles all models. See also Part II for specifications of Mark VIII, Mark IX-XK 140-XK 150*

Specifications	
<b>Salisbury Axle:</b>	
Type	Semi-floating with hypoid final drive.
<b>Installation:</b>	
Mark VII	Type 2HA.
XK 120	Type 2HA standard or type 4HA high rates.
<b>Ratios:</b>	
Type 2 HA (Mark VII)	4.27 to 1.
Type 2 HA (XK 120)	3.77 to 1.
Type 4 HA (XK 120)	3.21 to 1.
<b>Adjustment</b>	
Axle shaft end float	Shims.
Differential bearing pre-load	.006 to .008.
Pinion bearing pre-load	.008 shim allowance.
Backlash	8 to 12 lbs./in.
	Etched on drive gear. (.004 minimum.)
<b>E.N.V. Axle:</b>	
Type	Semi-floating with hypoid final drive.
<b>Installation</b>	
	Fitted to certain proportion of XK 120 cars.
<b>Ratios:</b>	
Standard	3.64 to 1.
High	3.27 to 1.
Alternative	3.92 to 1, 4.3 to 1 or 4.56 to 1.
<b>Adjustment:</b>	
Pinion	Shims.
Crownwheel	Adjusting nuts.
Axle shaft end float	.005 to .008.
Backlash	.006.

### Mark VII Model.

This model is fitted with the Salisbury type of axle (Type 2HA) but is not to the same specifications as the Salisbury axle used on the XK 120 models, and therefore the axles fitted to the two models are not interchangeable as assemblies.

### XK 120 Models.

These models are fitted with either an E.N.V. or Salisbury axle; for the recognition features of the two types of axle, refer to "Axle Identification" below.

### Interchangeability.

The E.N.V. and Salisbury axles, except for the brake back plates, hubs and handbrake cable assembly, are interchangeable as assemblies; individual parts are not interchangeable.

The 3.77 to 1 (standard) and 3.31 to 1 (high) ratio Salisbury axles are interchangeable as assemblies;

crowns and pinions for the two ratios are not interchangeable.

*NOTE: If a change is made in the ratio of the rear axle it is also necessary to change the speedometer in accordance with the following table. The Smiths code number and cable revolutions are marked on the speedometer dial.*

Rear Axle Ratio	Speedometer		
	Cable Revs. (Per Mile)	Smiths Code No.	Jaguar Part No.
E.N.V. 3.64	1,225	X51691/28	C.4574
E.N.V. 3.27	1,100	X51691/30	C.4576
Salisbury 3.77	1,280	X51691/41	C.5381
Salisbury 3.31	1,120	X51691/37	C.5385

### Axle Identification.

Salisbury. Differential unit not removable with axle casing in chassis. Cover plate bolted to rear of



12—(H)—(Rear Axle)

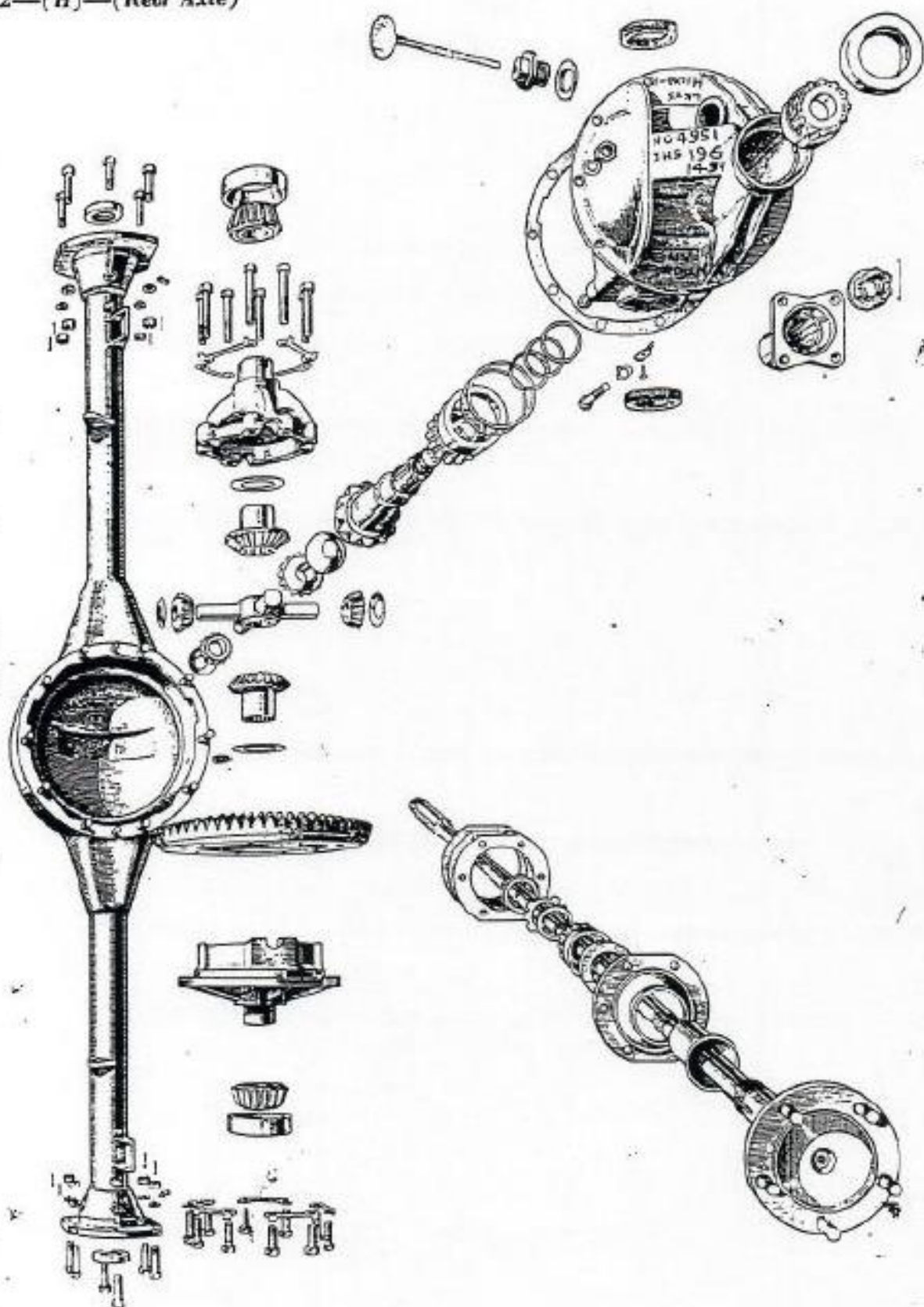


FIG. 10—Exploded view of the E.N.V. rear axle assembly.

## 2—(H)—(Rear Axle)

axle casing. No dipstick fitted, filter and level plug in rear cover plate.

L.N.V. Differential unit bolted to axle casing and is withdrawn forward. Cover plate at rear welded to axle casing. Dipstick and filler plug situated at top left-hand of pinion shaft housing.

### SALISBURY REAR AXLE.

#### To Remove.

Jack up the car at the rear and place blocks under chassis frame in front of road spring anchor bolts. Remove wheel spats, nave plates and road wheels. Release handbrake.

Sicken off all available brake shoe adjustment by rotating adjuster anti-clockwise. Remove two setscrews locating each brake drum to the hub and remove drums. Withdraw cotter pin and slotted nut with washer securing each hub to axle shaft and draw off hubs with suitable puller.

At the rear of the back plates disconnect the hydraulic pipe unions to the wheel cylinders and remove the clevis pins securing the handbrake cable to the operating levers. Remove the bolt securing the thru-axle connection to the rear axle and the up hydraulic pipe to chassis frame.

Remove the five bolts and nuts securing each backplate to the ends of the axle case and withdraw backplate.

On the Mark VII model note the oil seal, bearing retainer plate and two gaskets at the front of each

backplate, and the shims fitted between the backplate and the flange of axle tube.

On the XK 120 model note the oil seal and gasket at the front of backplate and the bearing retainer plate and shims fitted between the backplate and the flange of the axle tube.

Do not lose or transpose these shims to the other side of the axle case as they control the end float of the axle shafts.

Remove cotter pins and four slotted nuts securing rear axle companion flange to propeller shaft. Withdraw bolts, spring propeller shaft out of register and place clear.

Remove locknuts and nuts from rear axle U bolts. Remove "U" bolts and "U" bolt plates.

Remove two nuts and bolts per side securing the straps to chassis frame and withdraw check straps.

Disconnect rear shock absorbers by removing 10 nuts from each link arm and tap link arms out of hubs on axle casing and shock absorber arms.

Slide axle assembly to the right until left-hand end of case is clear of road spring and exhaust pipe. Lower to floor and withdraw under car.

#### To Refit.

Refitting is the reverse of the above procedure & particular attention should be paid to the following points.

When the rear axle assembly has been attached

ALTERNATIVE  
CONSTRUCTION

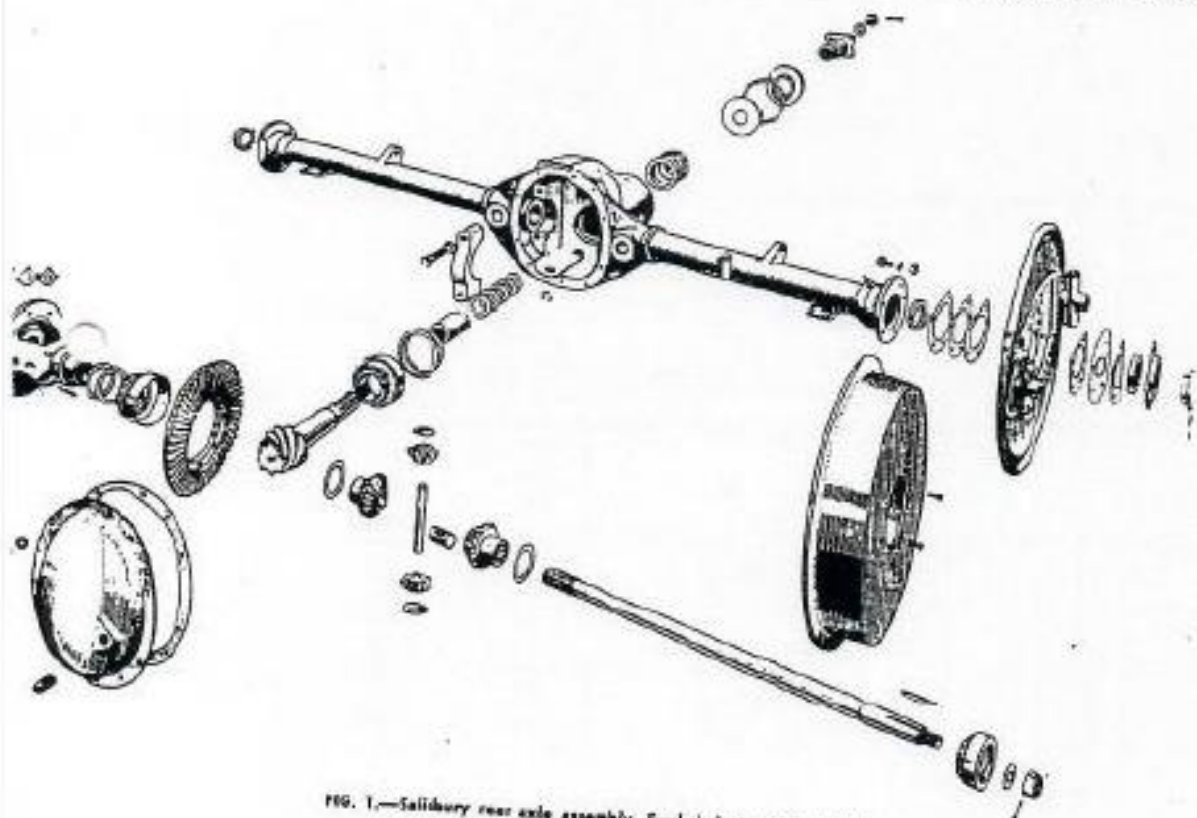


FIG. 1.—Salisbury rear axle assembly. Exploded view. (Mark VII)

## SECTION J

# FRONT SUSPENSION

### PART I

(All Models: See also Part II for additional information on XK 140-XK 150.)

Type		Specifications	
Torsion bar length		Independent torsion bar. 52 ins.	
Caster angle		Mk. VII: $0^\circ \pm \frac{1}{4}^\circ$ .	XK 120: $3^\circ$ positive ( $5^\circ$ prior to Chassis No. 660126 R.H.D. 670439 L.H.D.)
Camber angle		$1^\circ \pm \frac{1}{4}^\circ$ positive	$1\frac{1}{2}^\circ$ to $2^\circ$ positive
Swivel inclination		$8^\circ$	$5^\circ$
Ground clearance		$7\frac{1}{2}''$	$7\frac{1}{2}''$
Shock absorbers		Girling.	Newton

#### TORSION BAR.

Mark VII and XK 150 Models.

##### To Remove.

Place a support under chassis frame. Jack up under lower wishbone lever and remove road wheel. Leave jack in position to relieve load on shock absorber.

Disconnect shock absorber at top mounting and draw shock absorber clear of mounting post. Remove split pin and washer from shock absorber lower mounting and withdraw shock absorber. (If the original torsion bar is to be refitted, it is only necessary to disconnect the shock absorber at the top mounting.)

Remove reaction lever locking bolt passing through chassis cross member into lever. Rotate adjustment barrel nut in an anti-clockwise direction until the nut is almost off the threads on the bolt. (Fig. 4.) (If the original torsion bar is to be refitted, scribe a line at either end of bar on muff coupling and on the reaction lever to mark their relative positions and facilitate re-assembly.)

Remove setscrew with spring washer passing through lower wishbone lever into muff. Remove split pin, slotted nut, washer and bolt passing through wishbone lever and muff. Tap muff coupling off register on wishbone lever to rear down raised splines on bar.

Remove nut, washer and bolt clamping reaction lever to torsion bar and withdraw bar forward under lower wishbone bracket. Remove muff coupling.

##### To Refit.

Note that torsion bars are stamped "O/S" (i.e., off-side, right hand) or "N/S" (i.e., nearside; left hand) on the rear end face and are not interchangeable from side to side.

Enter the muff coupling, shoulder to rear, over the splines on the forward end of the bar. Enter the

rear splines of the torsion bar into the reaction lever and fit the clamping bolt, washer and nut.

If a new torsion bar is to be fitted it will be necessary to engage the muff on the correct torsion bar splines to enable final adjustments to be correctly made at the barrel nut. To do this, ensure that the adjustment barrel nut is just entered on the threads of the bolt and maintain a distance between the top and bottom shock absorber mountings of  $15\frac{1}{2}''$ . On the Mark VII model this is between the centre of the shock absorber lower mounting pin and the centre of the shock absorber top mounting holes. On the XK 120 model this distance is between the centre of the shock absorber lower mounting pin and the lower face of the shock absorber top mounting hole. This will correctly position the lower wishbone lever in relationship to the torsion bar. Enter the muff on the splines of the bar and the register on the lower wishbone lever and secure in position using the setscrew with spring washer, bolt, washer, slotted nut and new split pin.

*NOTE: A simple distance gauge can be made up to maintain the distance of  $15\frac{1}{2}''$  between the top and bottom shock absorber mountings, as illustrated in Fig. 2 for the Mark VII model and in Fig. 3 for the XK 120 model.*

Rotate the adjustment barrel nut clockwise until the locking setscrew hole in the reaction lever appears in the centre of the slot cut in the rear of the chassis crossmember. Fit the locking bolt but do not tighten until final adjustments have been made.

Refit shock absorber and road wheel. Test torsion bar settings and correct, if necessary, as described below. Do not forget to tighten the reaction lever locking bolt when adjustments are complete.

##### To Check and Adjust.

It is assumed that the car is full of petrol, oil and water. If not, additional weight must be added

2—(J)—(Front Suspension)

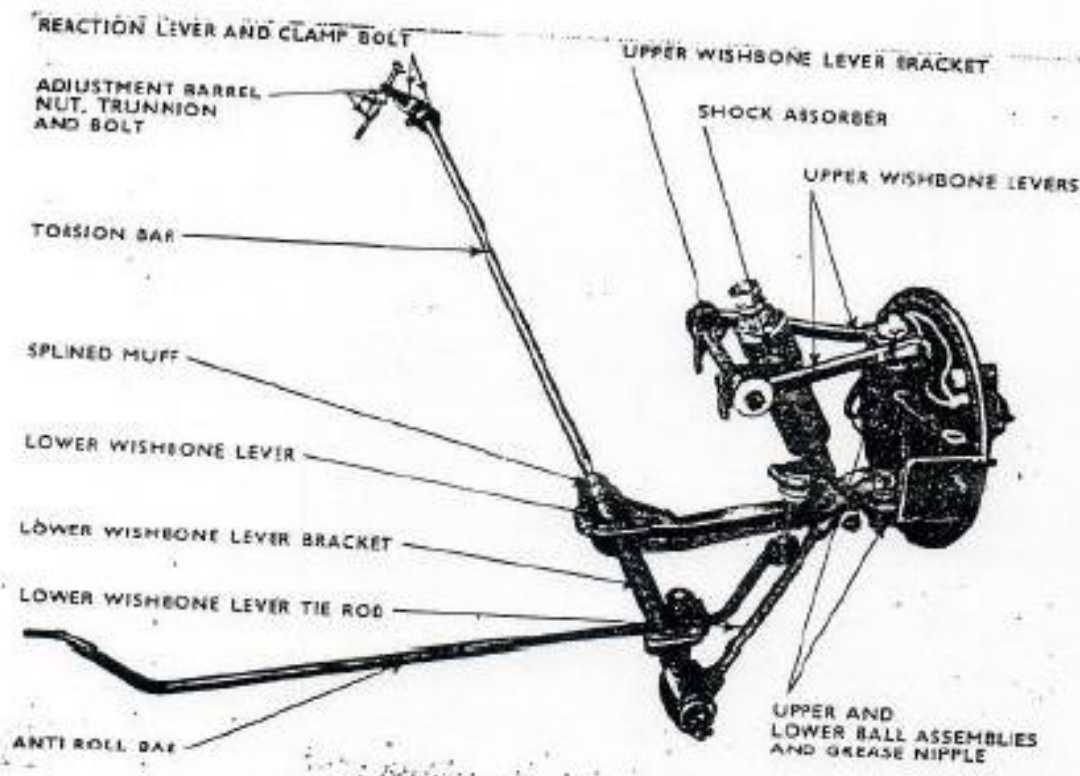


FIG. 1.—General arrangement of front suspension unit, (XK 120 illustrated.)

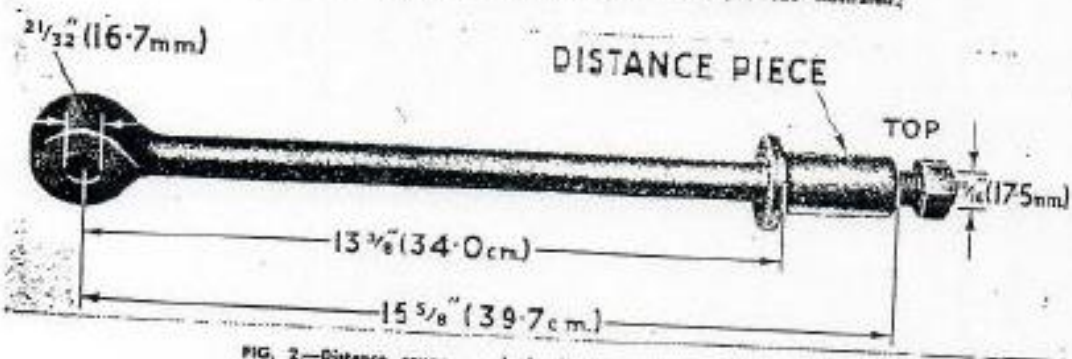


FIG. 2.—Distance gauge — shock absorber mountings, (Mark VII.)

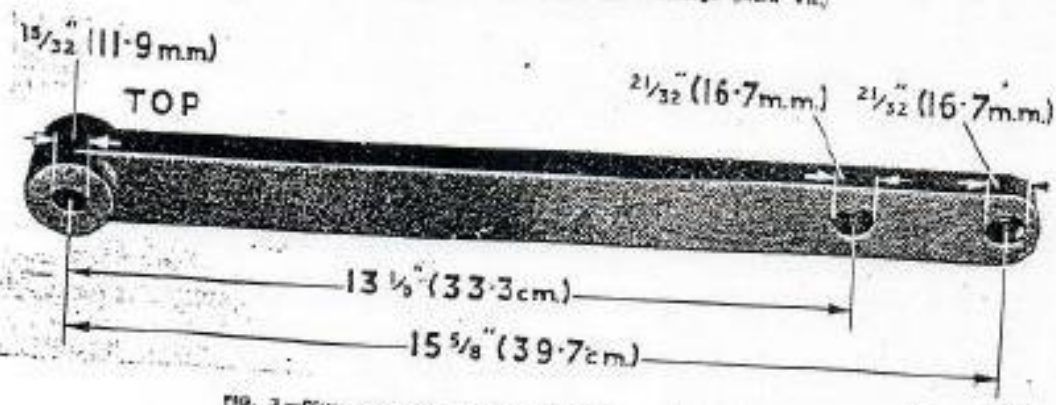


FIG. 3.—Distance gauge — shock absorber mountings, (XK 120.)

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## SECTION K REAR SUSPENSION

Specifications	
Type:	Semi-elliptic leaf springs.
Springs:	Mark VII: XK 120:
Number of leaves	9 7
Free camber (see note below)	6" 5 1/2"
Laden camber. Spring flat	875 lbs. 585 lbs.
Spring eye diameter	1" —.016 1" —.016
	— .026 — .026
Shock absorbers:	
Type	Coiling Hydraulic piston PV.7.

Note: Spring camber on Mark VII model is measured from a line taken from the bottom of the upturned eye to the top of the down turned eye, and from this line to the top of the main leaf. On the XK 120 model it is measured from the centres of the spring eyes to the top of the main leaf.

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### SUSPENSION RUBBER BUSHES.

Mark VII and XK 120 Models.

Important.

Whenever any of the rubber bushes fixed to the road spring anchor bolts, road spring shackles and shock absorber link arms are dismantled either for examination or replacement it is essential that the car is in the normal riding position, either before preloading is applied to any of the rubber bushes mentioned above or assemblies finally locked up. If these precautions are not taken, excessive load will be applied with consequent damage and possible premature failure of rubber bushes. The rubber bushes should not in any circumstances be lubricated.

### ROAD SPRINGS.

Mark VII and XK 120 Models.

To Remove and Refit.

Jack up the rear of the car and lower on to stands placed beneath chassis frame in front of rear spring front anchorages.

Remove rear wing valance, nave plates and road wheels.

Lower jack until axle assembly is supported by rebound stirrups.

Remove lock nuts and nuts from spring saddle "U" bolts and withdraw "U" bolts.

Remove nut securing front anchor bolt and withdraw bolt through exit hole provided in the side member.

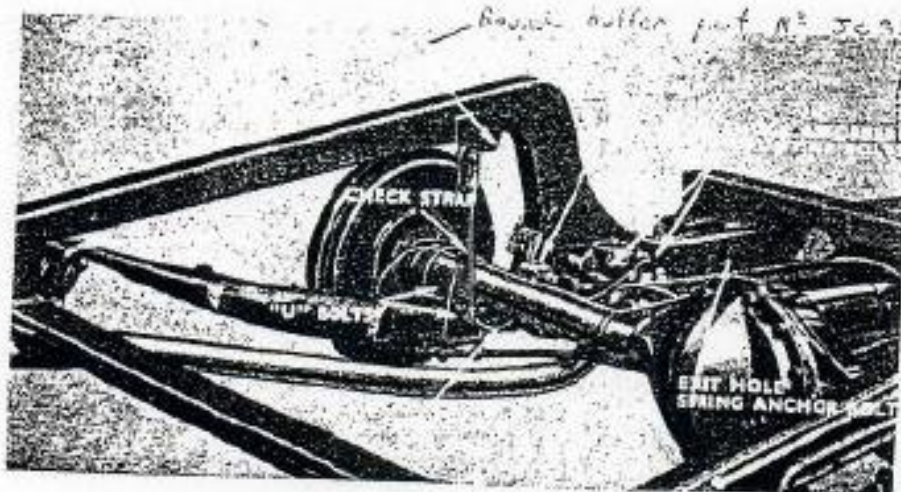


FIG. 1.—Layout of the rear suspension Mark VII.

## SECTION L

## BRAKES

## PART I

(All Models fitted with Drum Type Brakes.)

Mark VII Models.		Specifications				
Make	---	---	---	---	---	Girling autostatic hydraulic.
Type	---	---	---	---	---	Two leading shoe—front.
Drum diameter	---	---	---	---	---	12".
Lining:						
Material	---	---	---	---	---	Mintex M.14 bonded.
Total area	---	---	---	---	---	207 sq. ins.
Length	---	---	---	---	---	11½".
Width	---	---	---	---	---	2¼".
Thickness	---	---	---	---	---	¼".
Master cylinder bore	---	---	---	---	---	¾".
Wheel cylinder bore:						
Front	---	---	---	---	---	1¼".
Rear	---	---	---	---	---	¾".
Shoe adjustment:						
Front	---	---	---	---	---	Self adjusting.
Rear	---	---	---	---	---	Screwed wedge.
XK 120 Models.						
Make	---	---	---	---	---	Lockheed hydraulic.
Type	---	---	---	---	---	Two leading shoe—front.
Drum diameter	---	---	---	---	---	12".
Lining:						
Material	---	---	---	---	---	Mintex M.14.
Total area	---	---	---	---	---	207 sq. ins.
Length	---	---	---	---	---	11½".
Width	---	---	---	---	---	2¼".
Thickness	---	---	---	---	---	¾".
Master cylinder bore	---	---	---	---	---	1".
Wheel cylinder bore	---	---	---	---	---	1¼".
Shoe adjustment:						
Front	---	---	---	---	---	Two micram adjusters.
Rear	---	---	---	---	---	Single micram adjuster.

## GIRLING BRAKES.

## Mark VII Model.

## BRAKE ADJUSTMENT.

## Front.

The front wheel brakes are so designed that no adjustment for lining wear is necessary or provided for, as this automatically takes place when the foot brake is operated.

## Rear.

Place chocks under the front wheels. Release the hand brake and raise the rear end of the car.

Turn the square-headed adjuster situated at the rear of the back plate (Fig. 2) in a clockwise direction

until solid resistance is felt. Slacken back the adjuster until the brake drum rotates freely (usually two clicks). A slight drag may be felt from the trailing shoe but this should not be sufficient to prevent the wheel from turning freely. Spin the wheel and apply the brakes hard to centralise the shoes in the drum and re-check adjustment. Repeat for the other rear wheel.

*NOTE: Immediately after fitting replacement shoes it is advisable to slacken the adjuster one further click to allow for possible lining expansion, reverting to normal adjustment afterwards.*

## Hand Brake.

Adjustment of the rear brakes will automatically adjust the hand brake. If, however, it is found that,

## FLEXIBLE HOSES.

## To Remove

The flexible hoses must be disconnected at the support bracket end first, otherwise rupture of the hose is likely to occur.

Front. At the support bracket on the brake back plate, unscrew the conical union securing the metal pipe to the end of the flexible hose. Hold the hexagon of the flexible hose end sleeve situated underneath the support bracket, unscrew the lock nut, and release hose. Unscrew the hose at the other end, allowing the hose to rotate.

Rear. At the bracket on the chassis frame above the right-hand rear shock absorber, unscrew the conical union securing the metal pipe to the end of the flexible hose.

Hold the hexagon of the flexible hose end sleeve on one side of the support bracket, unscrew the lock nut from the other side and release hose. Unscrew the hose at the other end, allowing the hose to rotate.

**NOTE:** Do NOT attempt to clear the bore of a flexible hose by probing. If a hose is choked or perished, fit a replacement.

## To Refit.

Refitting is the reverse of the removal procedure. When refitting the flexible hose at the support bracket end ensure that the hose does not twist, by holding the hexagon of the end sleeve with a spanner whilst tightening the lock nut.

After refitting the hose(s) it will be necessary to "bleed" the hydraulic system.

## BRAKE SHOES.

Always fit Girling "factory lined" replacement shoes. These have the correct type of lining and are accurately ground to size which ensures a quick and easy "bed in" to the drums.

When fitting replacement shoes always fit a new set of shoe return springs.

## Front Brake Shoes.

**To Remove.** (Refer to Fig. 5.)

Jack up the car and remove road wheel. Remove the two countersunk screws securing the brake drum to the hub and remove drum.

Slacken off the nuts in the stabilisers. Lift one shoe out of the abutment slot in one wheel cylinder,

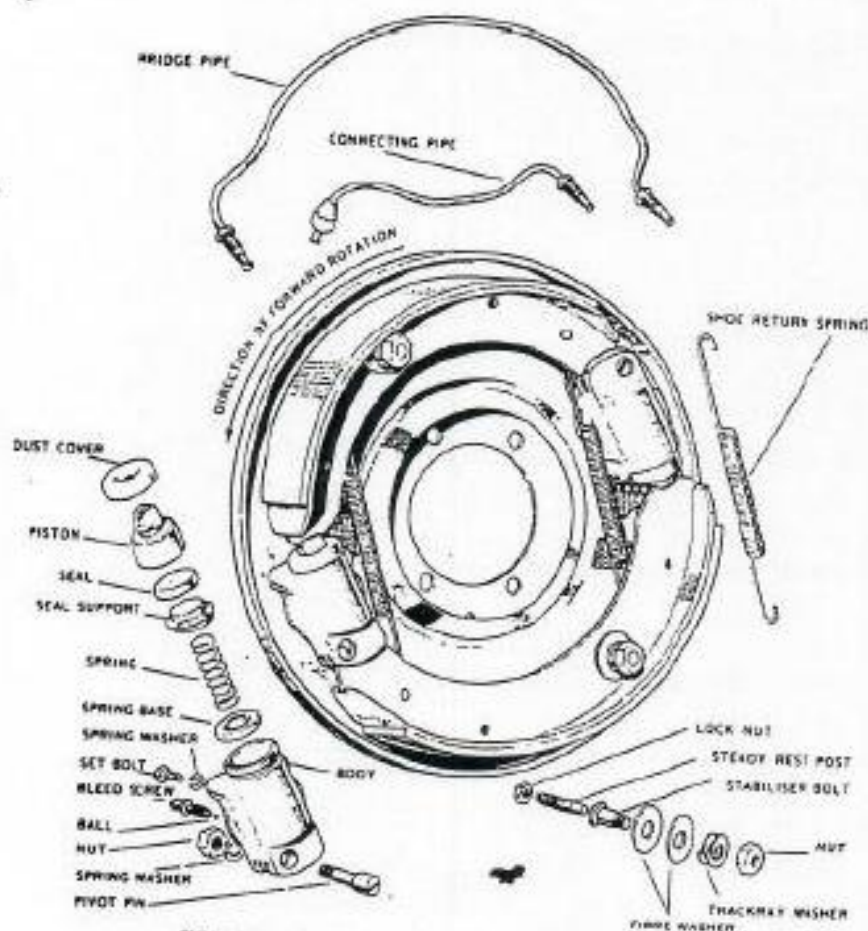


FIG. 5.—Front brake assembly (Mark VII — left-hand side).

## MARK VIII MODEL

Compression Ratio	Type of Cylinder Head	Cam Lift	Exhaust System	Carburettor Type	Carburettor Nozzles	Distributor		Distributor Contact Brasher Gap (in)	Static Ignition Timing	Champion Sparking Plug Type and Gap	
						Jaguar Part Number	Lucas Service Number			Teaching	Rating
7 to 1	"B" Type (Light blue top)	$\frac{3}{8}$ "	Twin	S.U. HD.6 $1\frac{1}{2}$ " bore	T.L.	C12733	40578A	.014-.016	4° B.T.D.C.	L.7 (.025)	L.5 (.025)
8 to 1	"B" Type (Light blue top)	$\frac{3}{8}$ "	Twin	S.U. HD.6 $1\frac{1}{2}$ " bore	T.L.	C12732	40576A	.014-.016	6° B.T.D.C.	N.5 (.025)	N.3 (.025)

## MARK IX MODEL

7 to 1	"B" Type (Dark blue top)	$\frac{1}{2}$ "	Twin	S.U. HD.6 $1\frac{1}{2}$ " bore	T.U.	C14533	40640A	.014-.016	4° B.T.D.C.	L.7 (.025)	L.5 (.025)
8 to 1	"B" Type (Dark blue top)	$\frac{1}{2}$ "	Twin	S.U. HD.6 $1\frac{1}{2}$ " bore	T.U.*	C14533	40640A	.014-.016	4° B.T.D.C.	N.5 (.025)	N.3 (.025)
9 to 1	"B" Type (Dark blue top)	$\frac{3}{8}$ "	Twin	S.U. HD.6 $1\frac{1}{2}$ " bore	T.U.*	C14534	40665A	.014-.016	5° B.T.D.C.	N.5 (.025)	N.3 (.025)

\*T.L. needles fitted to early cars.



(Engine)—(B)—1

SECTION B  
THE ENGINE

ENGINE V<sup>8</sup> W3771-7  
DISPLACEMENT V<sup>8</sup> 660815

PART I

Mark VII-XK 120 models and basic Mark VIII-IX and XK 140-150 models. See also Part II.

Specifications

(Dimensions are given in inches unless otherwise specified)

Type	Jaguar XK—3½ litre— Twin O.H.C.	Compression
Bore	3.2677	7:1 129 lb/σ"
Stroke	4.1732	8:1 159 lb/σ"
Number of cylinders	6	9:1 180 lb/σ"
Firing order	1-5-3-6-2-4	
Nominal H.P.	25.6	
Capacity	210 cu. ins. (3442 c.c.)	
Compression ratio	7 to 1 or 8 to 1	
B.H.P.	8 to 1 C.R.: 160 at 5200 r.p.m. 7 to 1 C.R.: 150 at 5200 r.p.m.	

Maximum torque	195 lbs. ft. at 2500 r.p.m.
Initial timing	See Section "A", "Tuning Data".

132 teeth on flywheel and gear  
Flywheel diameter (servicing) 12 3/16"

Cylinder Block

Material	Chromium iron.
Bore diameters:	
Nominal	3.2677.
Bore for oversizes (maximum)	+ .030.
Number of main bearings	7.
Casting machining sizes, main bearings	2.9165 +.0005 —.000.
Cylinders:	
Location of No. 1	Adjacent to flywheel.

Cylinder Liners

Type (for service only)	Dry sleeve.
Position when fitted (relative to top of block)	Flush.
Method of retaining	Interference fit.
Bore for liners	3.391 to 3.392.
Outside diameter of liner	3.3945 to 3.3955.
Interference fit	.0025 to .0045.

Cylinder Head

Material	Aluminium alloy.
Interference fit of inserts	.0023 to .0037.
Valve seats:	
Angle—Inlet	30°.
Exhaust	45°.
Width—Inlet	3/8 nominal.
Exhaust	3/8 nominal.
Port size:	
Inlet	1 1/2 inches.
Exhaust	1 1/2 inches.

Lucas 663 2241  
663 5283

6—(A)—(General Data)

XK 120 MODELS

Compression Ratio	Type of Cylinder Head	Cam Lift	Cylinders	Carburetor Needs		Distributor		Distributor Contact Breaker Gap (in)	Static Ignition Timing	Champion Sparking Plug Type	
				With A.C. Disc Air Cleaner	With A.C. Remote Air Cleaner	Jaguar Part Number	Lucas Service Number			Teaching	Rating
7 to 1	Standard	$\frac{3}{8}$ " or $\frac{1}{2}$ "	Standard $1\frac{1}{2}$ " bore	R.F. Weaker R.G.	W.O.2 Weaker W.O.3	C.2747 or C.5442 or C.5468	40198A or 40198D or 40249B	.010-.012 .014-.016 .014-.016	5° B.T.D.C. 5° B.T.D.C. 5° B.T.D.C.	L.10.S. L.11.S.	L.11.S.
	"C" Type	$\frac{1}{2}$ "	Larger type $2\frac{1}{2}$ " bore	V.R. Weaker V.E.	—	C.826D	40445A	.014-.010	5° B.T.D.C.	L.10.S.	L.11.S.
8 to 1	Standard	$\frac{1}{2}$ " or $\frac{3}{8}$ "	Standard $1\frac{1}{2}$ " bore	R.F. Weaker R.G.	W.O.2 Weaker W.O.3	C.2748 or C.5443 or C.5469	40199A or 40199D or 40199E	.010-.012 .014-.016 .014-.016	5° B.T.D.C. 7° B.T.D.C. 7° B.T.D.C.	N.8.B.	N.A.8
	"C" Type	$\frac{1}{2}$ "	Standard $1\frac{1}{2}$ " bore	R.G.	D.G.	C.5468	40249B	.014-.016	T.D.C.	N.A.8	N.A.10
	"C" Type	$\frac{3}{8}$ "	Standard $2\frac{1}{2}$ " bore	V.R. Weaker V.E.	—	C.8269	40445A	.014-.016	5° B.T.D.C.	N.A.8	N.A.10
9 to 1	"C" Type	$\frac{1}{2}$ "	Standard $1\frac{1}{2}$ " bore	R.C.	—	C.5287	40328A	.014-.016	T.D.C.	N.A.8	N.A.10
	"C" Type	$\frac{1}{2}$ "	Standard $2\frac{1}{2}$ " bore	V.R. Weaker V.E.	—	C.5286	40293A	.014-.016	3° B.T.D.C.	N.A.8	N.A.10

\* 40199 Superseded by 41010

## XK 140 MODELS

Compression Ratio	Type of Cylinder Head	Cam Lift	Exhaust System	Carburettor Needs		Carburettors	Distributors		Distributor Contact Breaker Gap (in)	Spark Ignition Timing	Champion Sparking Plug Type	
				With Standard Air Cleaner	With A.C. Disc Air Cleaners		Jaguar Part Number	Lucas Service Number			Touring	Racing
7 to 1	Standard	1"	Single or Dual	S.J. Weaker L.B.A.	—	Standard 1 1/2" bore	C.5556	40435A	.014-.016	8° B.T.D.C.	L.10.S	L.11.S
	"C" Type	1"	Dual	S.R.	W.O.2	Standard 1 1/2" bore	C.5556	40435A	.014-.016	8° B.T.D.C.	L.10.S	L.11.S
8 to 1	Standard	1"	Single or Dual	S.J. Weaker L.B.A.	—	Standard 1 1/2" bore	C.5517	40436A	.014-.016	10° B.T.D.C.	N.8.B	N.A.8
	"C" Type	1"	Dual	S.R.	W.O.2	Standard 1 1/2" bore	C.5469	40199E	.014-.016	10° B.T.D.C.	N.A.8	N.A.10
	"C" Type	3/4"	Dual	—	V.R. Weaker V.E.	Large type 2" bore	C.5286	40293A	.014-.016	5° B.T.D.C.	N.A.B	N.A.10
9 to 1	"C" Type	3/4"	Dual	—	V.R. Weaker V.E.	Large type 2" bore	C.8269	40445A	.014-.016	5° B.T.D.C.	N.A.B	N.A.10

## SECTION E CLUTCH

### Specifications

Make	Borg and Beck.
Model	10 A6-C.
Outside diameter	9 $\frac{1}{2}$ "
Type	Dry single plate.
Release bearing	Graphite.
Driven plate type	Borglite.
Thrust springs:	Mk. VII
Number	12
Colour	Cream
Fitted load	125 lbs.
Driven plate damper springs:	
Number	8
Colour	4 Light Grey and Violet
	4 Maroon and Light Green.
	} Red
	} KK 120
	} 12
	} Yellow
	} 40 lbs.

### CLUTCH ASSEMBLY.

#### To Remove and Refit.

##### Mark VII Model:

The engine and gearbox unit is removed as one assembly by lowering the rear of the assembly and moving it forwards and upwards, as described in the following paragraphs.

Release bonnet fastener and open the bonnet. Support while removing four setbolts from two hinges at rear and lift bonnet clear.

Drain radiator block and engine by operating remote control of radiator drain tap situated at the top left side of the radiator block and opening tap at the left-hand rear of the cylinder block. If anti-freeze mixture is in use conserve water. Disconnect top and bottom water hoses.

Remove two bolts at top and two bolts at bottom and lift grille clear.

Remove three setscrews securing tie panel to support channel. Remove tie panel complete with bonnet release cable. Remove upper support bracket by withdrawing two setbolts and lifting clear. Remove four bolts holding block to support frame. Withdraw radiator block upwards clear of car, at the same time slowly rotating the fan in order to avoid damage due to blades interfering with bottom outlet pipe.

Disconnect battery lead. Disconnect dynamo leads. Slack adjustment bolts and clamp up dynamo as near as possible to engine.

Remove the two setbolts passing through the silencer steady brackets into the inlet manifold casting. Remove silencer. Withdraw two bolts securing air silencer manifold to carburetter flanges. Remove manifold.

Disconnect throttle linkage at rear flexible joint. Disconnect petrol feed pipe from carburetters. Dis-

connect wire to self-starting carburetter solenoid. Disconnect electrical connections from starter motor. Disconnect thermometer bulb from water uptake manifold and tie clear. Care must be exercised not to twist the capillary tube to gauge or fracture may occur. Disconnect oil pressure gauge pipe. Disconnect vacuum pipe from inlet manifold. Disconnect two heater pipes from rear of engine. Disconnect revolution counter cable from rear of camshaft. Disconnect front exhaust pipe at joint with intermediate pipe. Remove oil filter unit from engine.

Remove gearbox carpet and cover. Remove change speed lever. Disconnect electrical connections to reverse switch and bayonet junction sleeves. Disconnect speedometer cable and place clear. Disconnect front end of propeller shaft at gearbox coupling.

Disconnect sway bar support brackets at frame, but do not remove bar from suspension fixing points.

Disconnect flexible hydraulic pipe from clutch operating cylinder, insert wooden plug in end of pipe to prevent loss of fluid and tie pipe to some convenient part of chassis, clear of engine unit.

**Note:** System will require bleeding on re-assembly.

On early models having the mechanical clutch linkage the following paragraph is applicable in place of the above:

Disconnect two bolts from plate on bell housing, two bolts from plate on frame, two bolts from keeper plate holding shaft to inner (bell housing) ball, two split pins from operating linkage and remove short shaft complete.

Place sling around engine and take weight on pulley blocks prior to disconnecting engine mountings. Remove both front engine mountings where bolted to crankcase (three bolts per side) and remove mounting rubbers (one nut per side) from chassis mounting plates. Note that the earth lead is

## SECTION D

# FUEL SYSTEM

### PART I

*Carburettors for Mark VII-XK 120 models, and fuel pumps for all models. See also Part II.*

#### Specifications

Carburettors:	Mk. VII	XK 120
Make	Twin S.U.	Twin S.U.
Type	H.6	H.6
Needle size:		
Standard	S.M.	R.F.
Weak	S.K.	R.G.
Jet size	.100"	.100"
Starting carburetter:		
Needle size	435/8	435/8
<b>Fuel Pumps:</b>		
Mark VII: Two S.O. type L.C.S. electric.		
XK 120: Single S.U. type L.C.S. electric.		

#### CARBURETTERS.

##### Maintenance.

Routine carburetter maintenance is confined to cleaning the petrol filters situated in the float chamber caps, checking that the auxiliary starting carburetter electrical connections are clean and tight and the addition of oil after removing the piston damper by unscrewing the caps on top of the dashpots.

To these carburetters, which have hydraulic piston dampers, add the recommended grade of engine oil until the hollow piston spindle is filled. Observe that lack of oil will cause weakness of mixture on snap throttle openings and consequent falling off in performance. Occasionally the carburetters should be removed and dismantled for thorough cleaning. In view of the very fine tolerances to which the working parts are machined, metal polish or other abrasives must under no circumstances be used to clean these working parts. The fit of the piston in the dashpot chamber is not measured mechanically but by air leak between the large diameter of the piston and the dashpot interior. To check the fit, hold the piston upside down in the right hand with a finger covering the small air hole. With the left hand push the dashpot on to the piston as far as it will go. When the left hand is removed the dashpot will fall until clear of the piston; the time taken for this fall should be between four and five seconds.

##### To Remove and Refit.

Remove the two bolts passing through the silencer steady brackets into the inlet manifold casting. Remove silencer. Withdraw two bolts securing air silencer manifold to carburetter flanges. Remove manifold.

On the Super Sports withdraw the four bolts securing air cleaners to carburetter flanges. Remove

air cleaners. On the Fixed Head Coupe remove air cleaner hoses from carburetter flanges.

Disconnect distributor vacuum feed pipe from front carburetter by unscrewing union. Disconnect petrol flexible feed pipe. Disconnect both leads from starting carburetter solenoid and solenoid feed lead from clip at rear of inlet manifold. Unscrew auxiliary starting carburetter feed pipe union from inlet manifold. Disconnect throttle linkage at rear flexible joint. Release overflow pipes from clip on pressure oil filter. Remove eight carburetter flange nuts and withdraw carburetters.

Refitting is the reverse of the above procedure. Always fit new carburetter flange joints on assembly.

##### To Dismantle and Re-assemble.

Unscrew caps on top of dashpots. Observe hydraulic piston dampers attached to caps. Withdraw three screws securing each dashpot to carburetter body and remove dashpots and pistons. (Care must be exercised not to bend the needle which is attached to the piston.) Remove screw at base of piston and withdraw needle. Note that needle should be fitted with lip of shoulder flush with base of piston. Remove petrol feed pipe from float chamber covers. Observe gauze filter thimble located in float chamber cap and two fibre washers fitted in front and behind petrol feed pipe union. Remove hexagon nut under carburetter body retaining float chamber and remove float chamber. Withdraw setscrew passing through float chamber cap, remove overflow pipes and withdraw cap and float now disclosed. Dismantle needle valve assembly fitted to float chamber cap by withdrawing pin from fork and unscrewing valve assembly.

To dismantle jet assembly remove the cap nut at base of jet followed by the jet screw and jet securing nut when the jet can be removed, together with

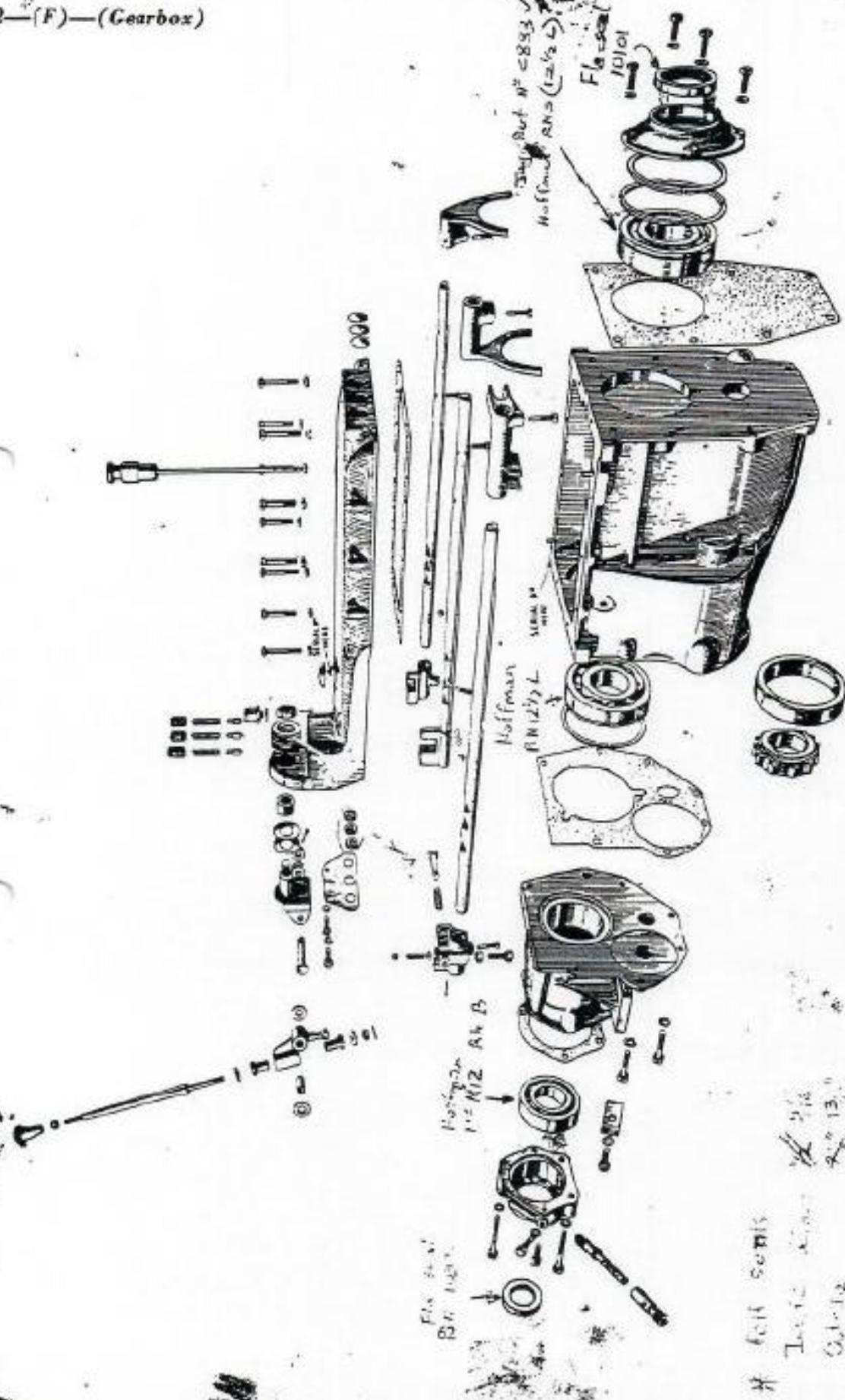


FIG. 1.—The gearbox top cover and casing (S.H. and J.H. Series).

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## SECTION F

Gear Box  
No. JH 955

## GEARBOX

## Specifications

Type:					
Early Mark VII and XK 120	...	...	...	...	S.H. or J.H. Series — 4-speed and reverse.
Later Mark VII and XK 120	...	...	...	...	S.L. or J.L. Series — 4-speed and reverse.
Note: See also "JS" Series gearbox, page 72					
Identification:					
Early Mark VII and XK 120	...	...	...	...	Prefix S.H. or J.H. to gearbox number.
Later Mark VII and XK 120	...	...	...	...	Prefix S.L. or J.L. to gearbox number.
Location of gearbox number	...	...	...	...	Stamped on top rear left-hand side of casing and on rim of core plug aperture in top corner. Also on plate on scuttle under bonnet.
Synchromesh Ratios:					2nd, 3rd and top.
Top	...	...	...	...	1.0 to 1.
3rd	...	...	...	...	1.367 to 1.
2nd	...	...	...	...	1.982 to 1.
1st	...	...	...	...	3.375 to 1.
Reverse	...	...	...	...	3.375 to 1.
Bearings:					
Clutch Shaft—Main	...	...	...	...	Hoffman 340 K (ball).
Spigot	...	...	...	...	Porous bronze bush.
Main Shaft — Spigot	...	...	...	...	Roller.
Intermediate	...	...	...	...	Hoffman RMS 12½ L (roller).
Intermediate	...	...	...	...	Hoffman MS 12½ K (ball).
Rear	...	...	...	...	Hoffman MS 12 (ball).
2nd Speed gear	...	...	...	...	Needle rollers.
3rd Speed gear	...	...	...	...	Needle rollers.
Countershaft — Front and rear	...	...	...	...	Needle rollers.
Reverse gear	...	...	...	...	Phosphor bronze bush.
Fit of reverse gear on shaft	...	...	...	...	.0014 to .0024.
Countershaft end float	...	...	...	...	.002 to .004.
Mainshaft end float	...	...	...	...	.002 to .006.
Second gear end float on mainshaft	...	...	...	...	.002 to .004.
Third gear end float on mainshaft	...	...	...	...	.002 to .004.

**NOTE:** The contents and illustrations of this section apply specifically to the S.H. and J.H. Series gearbox units. See below for details of variations from the S.L. and J.L. Series units.

**MARK VII AND XK 120 MODELS.**

Four types of gearboxes are fitted to the Mark VII and XK 120 models, that is, Series S.H., J.H., S.L. and J.L. For further details and the interchangeability of the four types of gearbox units, refer to the paragraphs under the headings "Series S.H. and J.H." and "Series S.L. and Series J.L." on page 65. The main differences between the S.H. and J.H.

Series and the S.L. and J.L. Series gearboxes are that the latter series have a shorter mainshaft and no rear extension and bearing, the rear end cover being directly attached to the rear face of the gearbox casing. On cars fitted with S.L. or J.L. gearboxes a longer propeller shaft (Mark VII longer front propeller shaft) and a speedometer cable of different length are used.

**SERIES S.H. AND SERIES J.H.**

On early Mark VII and XK 120 cars two types of gearboxes are used, that is, Series S.H. and Series J.H. which are fully interchangeable as units, but which many internal parts are not interchangeable. The serial number of the box is prefixed by S.H. or J.H., thus identifying the type of box with which the series and serial number will be dealt with. The series and serial number will be stamped on a boss situated at the rear side of the gearbox case and on the rim of the core plug aperture in the top cover. The number is also given on a plate fixed to the scuttle.

The difference between the two types of box is in the construction of the constant pinion shaft and countershaft gears, the constant pinion shaft wheel being slotted to the shaft on Series S.H. and integral with the shaft on J.H. On Series J.H. the countershaft gears consist of 1st speed and integral splined gears on which are mounted second, third and constant mesh gears. On Series S.H. the countershaft gears first, second, third, and constant mesh are a unit gear.

*NOTE: S.H. and J.H. Series gearbox units are not interchangeable with S.L. and J.L. Series.*

**SERIES S.L. AND SERIES J.L.**

On later Mark VII and XK 120 cars two types of gearboxes are fitted, that is, Series S.L. and Series J.L. In these series Mark VII gearboxes are not interchangeable with XK 120 gearboxes as units; the rear cover of the XK 120 unit incorporating the gearbox rear mounting platform. The serial number of the box is prefixed by either S.L. or J.L., thus identifying the type of box to be dealt with. The series and serial number will be found stamped on a boss situated at the nearside (left hand) rear at the top of the gearbox case and on the rim of the core plug aperture in the top cover. The number is also given on a plate fixed to the scuttle.

*NOTE: S.L. and J.L. Series gearbox units are not interchangeable with S.H. and J.H. Series.*

**GEARBOX — TO REMOVE AND REFIT.****Mark VII Model.**

The engine and gearbox unit is removed as one assembly by lowering the rear of the assembly and moving it forwards and upwards. (See Section E, under "Clutch Assembly — To Remove and Refit.")

**XK 120 Models.**

The gearbox can be removed from the engine when the floorboards have been removed and the rear of the engine supported. (See Section E, under "Clutch Assembly — To Remove and Refit.")

Alternatively, the engine and gearbox can be removed as a unit, and the gearbox and clutch bell housing subsequently detached from the engine.)

**GEARBOX — TO DISMANTLE.****Mark VII and XK 120 Models.**

Drain gearbox by removing plug and fibre washer situated at base of the case. Withdraw dipstick. Re-

move ten setscrews with spring washers and lift off top cover observing that this is located by two dowels fitted in the gearbox case. Remove and scrap joint washer.

Break locking wire and remove four setscrews with copper washers securing cover to case. Remove front end cover. Remove and scrap oil seal from cover. Observe oil drain at bottom of cover mating with return hole in case and jointing washer interposed.

Engage top and reverse gears to lock box, remove split pin, slotted nut and plain washer securing propeller shaft drive flange to mainshaft. Tap drive flange off shaft. Remove four bolts with spring washers securing cover to extension. Remove locking screw with spring washer securing speedometer driven gear in cover. Withdraw driven gear and bearing. Remove cheese-headed setscrew, now disclosed, securing cover to extension. Remove rear end cover. Remove and scrap oil seal from cover, scrap jointing washer. Withdraw speedometer driving gear and distance piece behind gear from mainshaft.

Disengage top and reverse gears to place box in neutral. Remove seven setscrews with spring washers securing extension to case. Do not disturb plate locking counter and reverse shafts since these will be withdrawn with the extension. Using a suitable drawer engaging on the mainshaft and on the extension draw off the extension complete with the mainshaft rear ball bearing, counter and reverse shafts. Remove distance piece between mainshaft front and rear bearings. The countershaft gears will now rest at the bottom of the case out of engagement with mainshaft gears. Remove and scrap felt oil sealing washer fitted on countershaft between extension and countershaft gears. Remove setscrew with spring washer securing plate locking counter and reverse shafts, remove locking plate and carefully remove any burrs on the locked ends of the shafts which might damage the shaft mounting holes in the extension when the shafts are withdrawn. Withdraw shafts forward. Tap ball bearing out of extension. Observe oil return hole at bottom and breather hole at top of extension mating with oil return and breather holes in case and jointing washer interposed. Scrap joint washer.

Rotate the constant pinion shaft until the two cut away portions of the toothed driving gear are facing the top and bottom of the case. Tap the mainshaft to the front to knock the constant pinion shaft with ball bearing forward out of the case. Remove constant pinion shaft and withdraw roller bearing from shaft spigot.

**Constant Pinion Shaft — S.H. Series.**

Remove circlip, packing washer and shims if fitted. Remove collar and circlip from bearing. With suitable bearing puller draw bearing off shaft. Remove oil thrower and constant pinion.

**Constant Pinion Shaft — J.H. Series.**

Withdraw circlip securing locknut and rotate nut off shaft (left-hand thread). Remove collar and circlip from bearing. With a suitable bearing puller draw bearing off shaft. Remove oil thrower.



## SECTION I

# STEERING

## PART II

(All Models Fitted with Power Assisted Steering.)

Specifications	
MARK VIII — MARK IX MODELS.	
Steering Unit:	
Make	Burman.
Type	Hydraulically assisted worm and recirculating ball.
Ratio at centre of travel	20 to 1.
Number of turns lock to lock	3 $\frac{1}{2}$ .
Turning circle	36 ft.
Oil pump:	
Make	Hoburn-Eaton.
Type	Eccentric rotor.
Location	Rear end of generator.
Operating pressure	600 to 650 p.s.i.
Wheel alignment (toe-in)	$\frac{1}{8}$ to $\frac{1}{4}$ toe-in.

### POWER ASSISTED STEERING.

#### General Description.

The power assisted steering system consists of an oil reservoir, eccentric rotor type pump driven off the belt of the dynamo shaft, and an hydraulically assisted worm and re-circulating ball type steering unit. These parts are connected by flexible hoses as follows:—

- Reservoir to inlet side of pump.
- Outlet side of pump to inlet pipe connection attached to the steering box.
- Outlet at top of steering box to reservoir.

The pump supplies a continuous flow of oil through the system while the engine is running and the steering is in the straight ahead position. Pressure is only created in the system when the steering column is rotated and is proportional to the effort applied to the steering wheel.

#### The Steering Unit.

The steering box is of the re-circulating ball, worm and nut type in which hydraulic assistance is applied to a piston (D, Fig. 2) forming part of the nut (C). The piston works within a cast iron cylinder pressed into the steering box casing, hydraulic pressure being admitted to one side or other of the piston, depending on which steering lock is applied.

Admission of oil to the appropriate pressure chamber is controlled by a selector valve (K) co-axially mounted within the hollow rear end of the wormshaft (G). The valve extends rearwards through the steering box top cover, and forms the input shaft to

which the lower end of the steering column is directly connected.

Rotary movement of the valve relative to the wormshaft opens and closes ports in the wormshaft and thus directs oil to the side of the piston in operation for the steering lock required.

When steering wheel effort is at a minimum, centralisation of the valve within the wormshaft is effected by the action of an interlock ball (E) which is loaded by a coil spring (H) located at the bottom of the valve. The interlock ball operates in specially shaped mating holes in the valve and wormshaft.

#### The Valve.

The valve is of cylindrical form, and has a central longitudinal passage, which is closed at each end. An interrupted flange formed on the outside of the valve working between stops on the wormshaft, limits the rotary movement of the valve within the wormshaft. This prevents overloading of the valve and permits normal steering in the event of the hydraulic assistance not being available. At each side of the valve an oil feed groove and port is machined, the port drillings communicating with the central passage (see Fig. 3). The side of the valve with the short oil feed groove controls the hydraulic flow to the chamber below the piston. The other side of the valve with the long feed groove controls the flow to the chamber above the piston.

*NOTE: A limited amount of axial movement of the valve (input shaft) may be noticed when turning the steering but this movement is quite normal.*

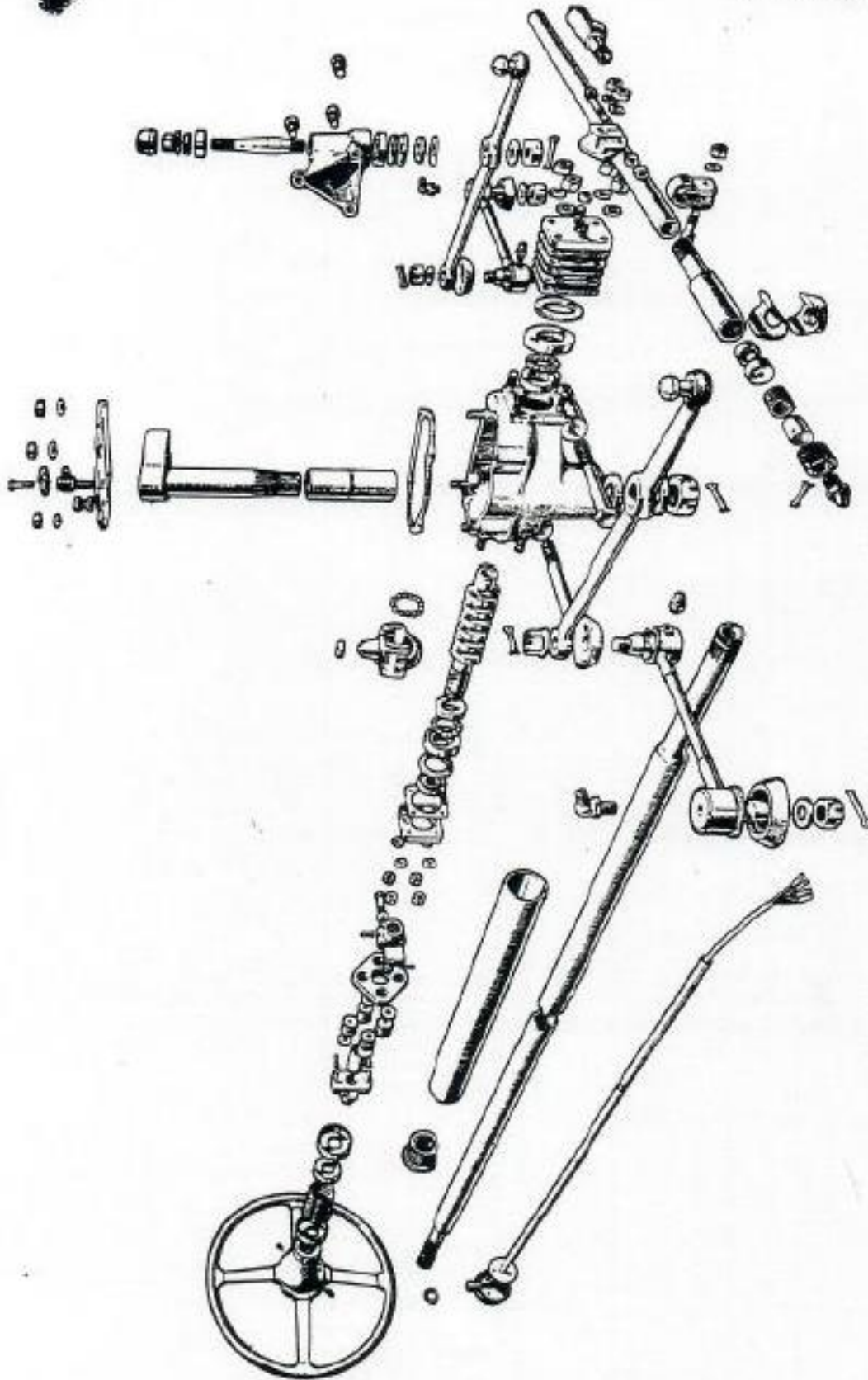


FIG. 1.—This steering gear assembly (Mark VIII, One-piece type drag-arm) illustrated. Exploded view.

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## SECTION I STEERING

### PART I

(All Models Fitted with Manual Steering. See page 112 for information on XK140-XK150 models.)

#### Specifications

Steering unit:		
Type	---	Burman recirculating ball.
Adjustments:		
Inner column end float	---	Shims under plate.
Rocker shaft end float	---	Adjusting screw and pre-load spring
Steering wheel diameter	---	Mk. VII 18" NK 120 17"
Caster angle	---	0° ± ½° 3° positive (5° prior to chassis No. R.H.D. 660126, L.H.D. 670439.)
Camber angle	---	1° ± ½° positive 1½° to 2° positive
Swivel pin inclination	---	3° 5°
Wheel alignment	---	¼" to ⅜" toe-in ¼" to ⅜" toe-in
Turning circle	---	36' 31'

#### STEERING BOX.

##### To Remove and Refit. Mark VII Model.

The steering assembly of the Mark VII model consists of a separate steering box and inner column which are connected by a universal joint; couplings splined to the worm shaft and inner column being joined to a flange plate by rubber bushes.

The steering box can be removed from the chassis frame without removing the inner and outer column, as described in the following paragraphs.

Jack up the front of the car and remove the front road wheel on the steering column side. The steering box and universal joint will now be accessible from underneath the wing.

Disconnect battery positive lead and set the road wheels in the straight-ahead position. Disconnect the four manette control wires from the junction box fitted to the wing valance of the steering column side. Slacken the clamp bolt of the stator tube bracket attached to the bottom end plate of the steering box. Unscrew the two grub screws in the steering wheel hub and withdraw manette control with a twisting motion. Plug hole in stator tube to avoid loss of oil.

From underneath the wing remove the pinch bolt securing the upper coupling of the universal joint to the inner column. Withdraw the inner column from the universal joint by pulling on the steering wheel. (This operation may partly withdraw the top bush from the outer column but can be replaced on re-assembly.) If the stator tube was not withdrawn with the manette control, push the tube upwards with a pair of grips from between the bottom of the

inner column and universal joint until the end of the tube is clear of the steering box.

Remove the split pin and nut securing the steering tie rod inner ball joint to the rear end of the drop arm. Tap the ball joint out of its taper in the drop arm and place clear. Remove the split pin from the end of the track rod and unscrew the end plug until the track rod end can be lifted from the ball on the front end of the drop arm.

Remove the two bolts and stud nut securing the steering box to the bracket on the chassis frame and remove the box.

Refitting is the reverse of the removal instructions, but special attention should be given to the following points when refitting the manette control.

Set the road wheels in the straight-ahead position. Push stator tube down inner column until bottom of tube is flush with the end of clip bracket attached to bottom of steering box. Temporarily tighten clip bracket clamp bolt. Pass the manette control wires down through the stator tube and enter the kered end of manette tube into the slot of the stator tube.

Slacken the clip bracket clamp bolt and centralise the trafficator hand control. Turn manette control until the trafficator hand control is in the top centre position and tighten clip bracket clamp bolt. Push manette control fully home into the steering wheel hub and secure with the two grub screws through the side of the hub.

Check that the trafficators cancel evenly on each side of the straight-ahead position. Refill steering box with the recommended grade of oil.

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## SECTION L

## BRAKES

## PART II

(All Models fitted with Disc Type Brakes.)

Specifications	
Mark IX and XK 150 Models:	
Make	Dunlop disc.
Type	Vacuum assisted hydraulic.
Servo unit type	Lockheed 6 $\frac{1}{2}$ ".
Friction pad material:	
Early Mk. IX and XK 150	Ferodo DS5.
Later Mark IX	Mintex M33.
Introduction of quick change friction pads:	
Mark IX models	At commencement of production.
XK 150 models:	Commencing Chassis Nos.
Open 2-Seater	820004 R.H.D.
	831712 L.H.D.
Drop head coupe	827296 R.H.D.
	837836 L.H.D.
Fixed head coupe	824069 R.H.D.
	835886 L.H.D.

## DESCRIPTION.

The brake unit consists of a caliper which straddles the disc and houses a pair of cylindrical brake pads and pad carriers. Cylinder blocks are bolted to the outer faces of the caliper and house the operating cylinder assemblies. Ball and socket type contacts are arranged between the pistons and the carrier plates, and flexible rubber dirt excluders seal the cylinders and pistons from foreign matter, moisture, etc. Each cylinder block also accommodates two retractor pin assemblies which function as return springs and maintain a "brake off" working clearance of approximately 0.008" to 0.010" between the pads and the disc throughout the life of the pads.

## Handbrake.

The mechanically actuated handbrakes are attached to the caliper bodies of the rear brakes by means of hinge bolts. Each brake consists of two carriers which locate astride the brake disc, and riveted to the inner face of each carrier is a friction pad. The free end of the inner carrier is equipped with a pivot seat to which is pinned a pair of side plates. A connecting link located between two spacers is secured between the eye ends of the side plates by means of a through bush, bolt, locknut and washers. A drilled hole at the inner end of the connecting link provides the attachment point for the fork end of the brake cable, while the opposite end is hinged between a pair of pivot links. These links are similarly connected to a pivot seat fitted to the fixed end of the carrier. A trunnion mounted between the pivot ends of the side plates carries a threaded bolt to which

is fitted a locknut. This bolt passes through the carriers and terminates with a hemispherically formed head which seats in a similarly shaped recess in the outer carrier. Located around the bolt and registering in a counterbore in the inner carrier is a return spring retained under load by a nut. A spring plate riveted to the carrier locks the nut in position.

## ROUTINE MAINTENANCE.

## Brake Fluid Level.

The fluid reservoir for the hydraulic brake is attached to the wing valance on the driver's side and it is important that the level does not fall more than 1" below the filler neck.

The level of the fluid should, therefore, be checked at the recommended intervals. If it is found that the fluid level falls rapidly, indicating a leak from the system, the car should be immediately taken to the nearest Jaguar dealer for examination.

## Footbrake Adjustment.

Both the front wheel and rear wheel brakes are so designed that no manual adjustment to compensate for brake friction pad wear is necessary, as this automatically takes place when the footbrake is applied.

## Handbrake Adjustment.

The mechanically operated handbrakes are attached to the rear caliper bodies but form an independent mechanically actuated system carrying their own friction pads and individual adjustment.

Check the gap between each side of the caliper and the disc. The difference should not exceed 0.010" and shims may be fitted to centralise the caliper.

If not already fitted, fit the bridge pipe connecting the two cylinder assemblies. Connect the supply pipe to the cylinder block and ensure that it is properly secured.

#### Renewing the Friction Pads.

Brake adjustment is automatic during the wearing life of the pads. As the pads wear, the outer ends of the retractor pins will withdraw into the cylinder block and can be used to gauge pad wear. When the end of the pin is approximately  $\frac{5}{16}$ " below the face of the block, the pads should be renewed.

*NOTE:* A metal sleeve, which projects above the cylinder block, may be fitted around the retractor pin. In this case the sleeve, which is only a taper fit in the cylinder block, can be withdrawn with a pair of pliers. The sleeves need not be refitted as they are provided primarily for protection of the retractor pins during transit and handling of the caliper assemblies.

If checking is neglected, the need to renew the pads will be indicated by a loss of brake efficiency. To fit new pads, proceed as follows:—

Remove the pipes, plug the open end of the supply pipe and drain the cylinder blocks.

Unscrew the securing bolt and remove the cylinder blocks complete with piston and pad assemblies.

Press the carrier plate and cylinder block firmly together to press the piston back into the cylinder, and reset the retractor pins. To do this, press the pin heads into their recesses in the carrier plate and,

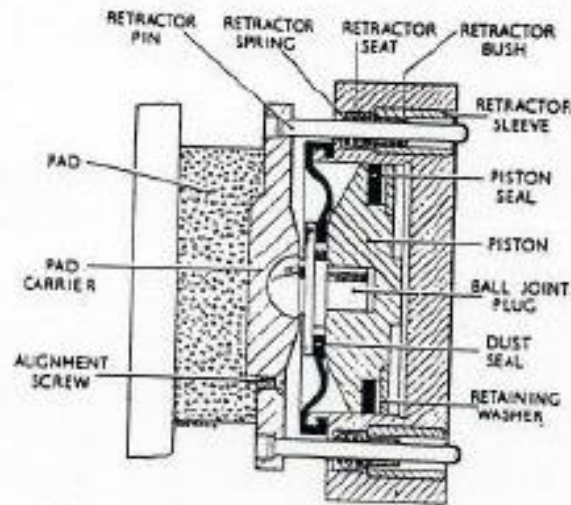


FIG. 5.—Section through cylinder block and friction pad.

holding them in this position, ensure that the retractor bushes are pressed well home into their housings on the outer face of the block.

Carefully prise the pad from the carrier plate using a sharp knife, and clean away any traces of cement from the face of the plate. During this operation be careful not to twist the carrier plate relative to the block, as this may distort the retractor pins. Trichlorethylene may be used to clean the carrier plate. This fluid should be used sparingly and should not be allowed to contact the rubber components.

Lightly smear the annular face of the carrier plate

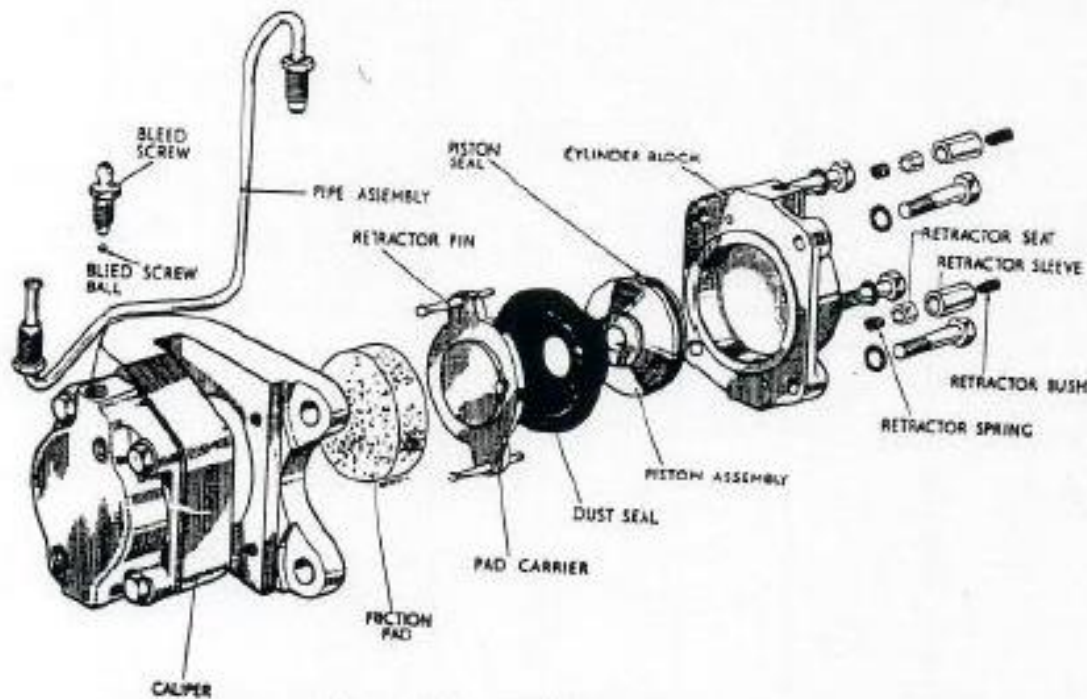


FIG. 4.—Exploded view of the front brake caliper.

**SECTION M**  
**ELECTRICAL**  
**PART I**

*All Models. See also Part II for Type RB 310 Control Box*

*Specifications*

**MARK VII AND XK 120 MODELS.**

**BATTERY.**

Make and Type	Lucas 12v. G.T.W. 11A. Home: Lucas 6v. S.T.X.W. 11E. (2 off). Export: Lucas 6v. S.T.Z.W. 11E (2 off).
Specific gravity and charging rates:	
No. of plates in each cell	11
Ampere-hour capacity	At 10-hour rate, 63.

**CONTROL BOX**

Make	Lucas.
Type	RB 106/1 or RB 106/2.

**Setting Data**

<b>Cut-out:</b>	
Cut-in voltage	127-13.3 volts.
Drop-off voltage	9-10 volts.
Reverse current	3.0-5.0 amps.
<b>Regulator settings on open circuit:</b>	
Temperature:	Voltage:
10°C. (50°F.) cold climate	16.1-16.7 volts.
20°C. (68°F.) normal temperature	15.8-16.4 volts.
30°C. (86°F.) hot climate	15.6-16.2 volts.
40°C. (104°F.) very hot	15.3-15.9 volts.

BREAKER GAP

C-CIL

**DISTRIBUTOR.**

Make	Lucas
Type:	Mk. VII:           XK 120:
Early engines 7 to 1 CR.	DVX6A-40249B
Later engines 7 to 1 CR.	DVX6A-40263B
8 to C.R. engines	DVX6A, GC47-40198B DVX6A, GC48-40199B

**Design Data:**

Open period	22° ± 4°.
Closed period	38° ± 4°.
Firing angles	0°, 60°, 120°, etc., ± 1°.

**Centrifugal Advance Data:**

Service No.	Type	Control Begins (r.p.m.)	Intermediate (r.p.m.)	(degrees)	Control Ends (r.p.m.)	(degrees)
40198B	GC47	150-300	850	8-10½	1,380	16-18
40199B	GC48	450-580	1,050	6-8	1,600	13-15
40249B	GC49	140-300	850	8-10½	1,400	16-18
40263B	GC50	500-700	1,250	9-12	1,620	16-18
40276B	GC53	380-500	925	6½-8½	2,025	18-20

Note: R.p.m. and degrees given in the above table are distributor revolutions and degrees. Rotation clockwise.

## IGNITION COIL

Type	B12
Service No.	45012A.
Primary resistance	4.0-4.4 ohms.
Slowspeed sparking gap	0.44 ins.
High-speed test	3,500 (distributor r.p.m.)
Test volts	12.5 maximum.
Approximate running current at 1,000 r.p.m.	1.0 amps.
Approximate stall current	2.9 amps.

## DYNAMO

Nominal voltage	12.
Cutting-in speed (r.p.m.)	900-1,050.
At generator volts	13.0.
Maximum output (amps.)	20.
At r.p.m.	1,500-1,700.
At generator volts	13.5.
On resistance load (ohms)*	0.67.
Field resistance (ohms.)	6.0.

\*Resistance load must be capable of carrying 20 amperes without overheating.

## STARTER MOTOR

Nominal voltage	12.
Lock torque (lbs.-ft.)	22.
Current (amps.)	430-450.
Voltage	7.8-7.6.
Torque at 1,000 r.p.m. (lbs. ft.)	8.3.
Current (amps.)	200-220.
Voltage	10.2-9.8.

Starter Motor details:

LUCAS  
M45G GC49  
26062A  
12V → 8 49

## WINDSCREEN WIPERS

	Model CR.4:	Model CRT. 14:
Normal current consumption (motor cold and driving both blades on wet screen)	1.75-3.0 amps.	2.0-3.25 amps.
Stall current (motor cold)	5.5-6.5 amps.	7.8-8.5 amps.
Armature resistance (between adjacent commutator segments)	0.85-1.05 ohms.	0.8-1.0 ohms.
Field coil resistance	15-16 ohms.	8.4-9.0 ohms.
Field current (approximate)	0.8 amps.	1.4 amps.

## BULB REPLACEMENTS

Mark VII Model

Lamp	Lucas Bulb No.	Volts	Watts	Application
Head, Left hand	302	12	48/48	Home.
Right hand	185	12	48	Left hand drive, Export. Right-hand drive Export, U.S.A.
	303	12	48/48	
	302	12	48/48	
	302	12	48/48	
Fog Side	325	12	36	Sealed beam units U.S.A.
	207	12	6	
Number plate and rear boot	351	12	6/18	U.S.A.
Reverse	989	12	6	
Rear and brake	199	12	24	
Panel lights	351	12	6/18	
Trafficator, interior map light	987	12	2.2	
Trafficator and ignition warning lights	236	12	3	
Head lamp warning light	987	12	2.2	
	987	12	2.2	



# APPLIED POWER AUSTRALIA LIMITED

FAX MESSAGE

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UNIT V3 REGENTS PARK ESTATE REGENTS PARK NSW 2143  
AUSTRALIA

PO BOX 261 REGENTS PARK NSW 2143 AUSTRALIA

PHONE: 02 743 8988

A.C.N.

008 462 271

TO: MICHAEL SJ JOHN COX

FROM: TONY CALDERSMITH

PAGES (INCLUDING THIS ONE): 1

SUBJECT: JAGUAR MK7 WHEELS & TYRES

C.C. JOHN BENSON

FAX: 02 725 7112

DATE: 11/1/96

Dear Michael,

This is to confirm that the Eligibility Committee has approved the use of 15" diameter wheels as an alternative to the standard 16", on your MK7 Jaguar, in Group Na competition.

This follows the precedent set some years ago when we agreed that Jaguar XK120s in Group Sa could use 15" wheels and tyres, due to the lack of suitable 16" tyres.

The MK7 specification sheets have been altered accordingly.

Regards,

P.S. John,

Because of Michael's entry for Amaroo, I called Lloyd Cleaver, Paul Berchall and Bob Cracknell and got their approval. As I noted in the fax, this is not new and the Jaguar precedent has been set.

Copies of the revised specification sheets are included.

AEC