"MOTOR TRADER" Service Data

No. 335

JAGUAR XK150

Manufacturers : Jaguar Cars, Ltd., Coventry

LOGICAL successor to the XK140 car, the latest sports model in the range, the XK150 was introduced during the course of 1958. Racing experience and specific developments in construction and design have led to the adoption of many new components. Among them, disc brakes, of Dunlop pattern and design, which are fitted to all four wheels. To amplify drivers' pedal pressure, a brake servo motor of Lockheed pattern is included in the braking circuit.

As with other models of the range, there are a number of options regarding the engine which is available in various stages of tuned performance conditions suitable to requirements. Also optional is a Laycock-de Normanville overdrive for the gearbox. This unit has been fully described in Service Supplement No. 226/C1 and the disc brakes are the subject of Service Supplement No. 310/C44. Similarly optional is Borg Warner automatic transmission.

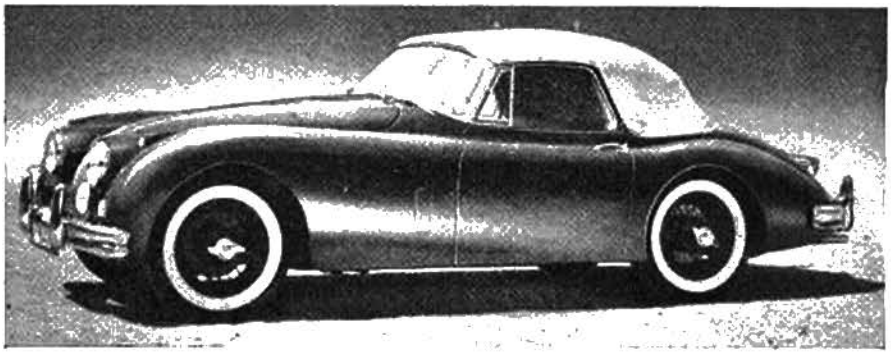
Engine power is transmitted to the rear road wheels in entirely orthodox fashion, via a single dry plate clutch, synchromesh gearbox, single stage propeller shaft and the hypoid bevel drive of a semi-floating Salisbury 4HA rear axle. Power output varies with initial specification and stage of tune and since there are no fewer than ten options from which to choose, detailed reference to this subject has been omitted from the text of this article although engine specifications for all of these variants are quoted in tabular form on p. v.

Identification of vehicles is by chassis and engine numbers. Chassis numbers are to be found stamped on the nearside chassis frame above the rear engine mounting bracket.

Engine numbers are stamped on the offside of the cylinder block above the oil filter, and at the front of the cylinder head casting; /7, /8, /9, suffix indicating the compression ratio of the model in question. Cylinder heads are coloured in accordance with the table on p. v. Gearbox numbers are stamped on a boss at the nearside rear of the unit casting and letter "S" at the end of the prefix shows that an overdrive unit is fitted. The body number is stamped on a plate attached to the nearside of the dash panel beneath the bonnet.

All these numbers and letters are to be found collectively on a plate fixed to the nearside of the dash panel. It is essential that all these numbers and letters relevant to the chassis, engine and to any particular component should be quoted when ordering spare parts.

No special tools are needed for repair work to the cars except for a template for timing the camshaft. This is supplied in the car tool kit. Threads and hexagons are in the main SAE, but a certain number will be found to be BSF.



DISTINGUISHING FEATURES. Traditional Jaguar sports car lines are maintained, with more streamlining of wings and doors. Our illustration shows an export l.h.d. model. Disc brake plates may be seen through spokes of wire wheels.

ENGINE

Mounting

Rubber blocks with moulded-in nuts are bonded to plates which in turn are bolted to chassis frame brackets. Set-screws through brackets are bolted to either side of crankcase at front and to flywheel housing at rear. Tighten all bolts and nuts fully.

Removal

Engine and gearbox should be removed together. Procedure for engine/gearbox removal also applies when an overdrive unit is fitted to the gearbox.

To remove engine, detach bonnet from hinges and take out radiator matrix complete after removal of mounting brackets either side. Take off fan cowling and dynamo together with all pipes, wires, controls and cables fitted to engine. Remove exhaust downpipes at flanges and disconnect propeller shaft.

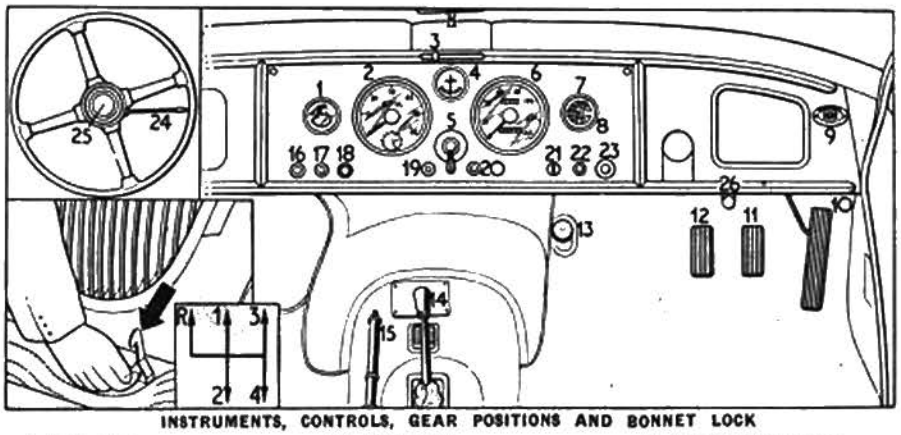
Take out interior carpets and remove gearbox cowl and floorboards, and take off gearbox top cover complete with gear lever. Blanking plate should be fitted to top of gearbox to prevent damage. Jack up and support rear of engine and remove mounting brackets and rubbers.

Detach clutch hydraulic slave cylinder from bracket and remove crankshaft damper.

Disconnect speedo cable from gearbox or overdrive unit if fitted. Sling engine with one end of sling under a depression at front of sump and other end at rear of sump. When engine is lifted it will tilt upwards at front and may be manœuvred forwards and upwards clear of car.

Crankshaft

Seven main bearings. Thin wall, steel-backed, white metal-lined shells located by tabs. End float controlled by half thrust washers located in either side of centre bearing cap. No hand fitting permissible. Bearing shells Nos. 1, 4 and 7 are intechangeable, as are Nos. 2, 3, 5 and 6. It is possible to change all mair

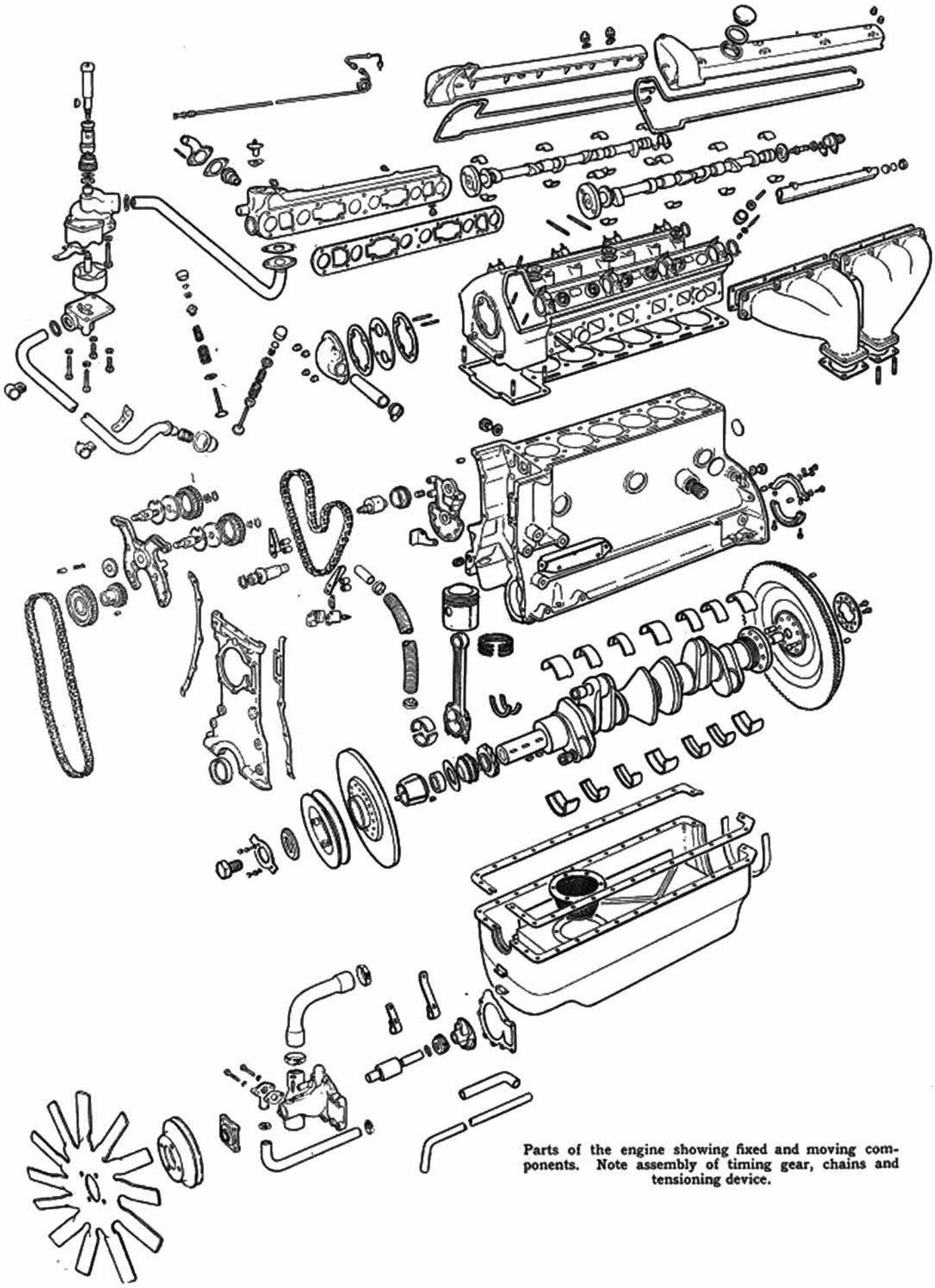


INSTRUMENTS, CONTROLS, GEAR POSITIONS AND BONNET LOCK

1. Fuel gauge
2. Engine r.p.m. indicator
3. Heater control
4. Ammeter
5. Lighting switch
6. Speedometer
7. Oil pressure gauge
8. Water temp. gauge
9. Overdrive switch
10. Accelerator
11. Brake pedal
12. Clutch pedal
13. Headlamp dip switch
14. Gearlever
15. Handbrake
16. Screenwiper switch
17. Panel light switch
18. Heater fan switch
19. Screen washer button
20. Interior light switch
21. Ignition switch
22. Starter switch
23. Cigar lighter
24. Direction flasher switch
25. Horn push
26. Bonnet release

Inset upper left shows siting of steering column controls and below, extreme left, method of rele sing bonnet safety catch from outside car; and, inner left, operative positions of gear lever.

SERVICE DATA SHEET	INDEX ENTRY—JANUARY			COMPONENT SUPPLEMENT
Jaguar XK150	335	27/1/60	334/C53	Smiths Automatic Transmission (Part 2)



Parts of the engine showing fixed and moving components. Note assembly of timing gear, chains and tensioning device.

GENERAL DATA	
Wheelbase	9ft 6in
Track: front	4ft 3½in
rear	4ft 3½in
Turning circle	33ft 0in
Ground clearance	7½in
Tyre size: front / rear	6.00—16in
Overall length	14ft 9in
Overall width	5ft 4½in
Overall height	4ft 7in
Weight (dry) l/h coupe	26 cwt
d/h coupé	26½ cwt

NUT TIGHTENING TORQUE DATA	lb/ft
Flywheel bolts	67
Con-rod nuts	37
Main bearing nuts	83
Cylinder head nuts	54
Camshaft bearings	15

BALL AND ROLLER BEARING DATA	Part No.	Int. dia. / Width (in or mm)	Ext. dia. / Width (in or mm)	Type
ENGINE				
Water pump	C8167	—	—	—
GEARBOX				
Constant mesh pinion	C1838	40×90 mm		B
Mainshaft	C1845	1⅛×3½in		B
FRONT AXLE				
Front hub: (inner)	G3011	1.375×2.717×.7813in		TR
(outer)	G3012	.750×1.938×.7100in		TR

bearing shells without removal of crankshaft, but this should be done only in direst emergency. Thrust half-washers can be changed by removal of centré-cap.

Flywheel, with integral starter ring gear, spigoted on rear flange of crankshaft, retained by ten setscrews and located by two dowels. Flywheel can be refitted 180 deg. from original setting, but should be fitted with T.D.C. mark set correctly to preserve balance of assembly. Oil impregnated bronze spigot bearing bush pressed into end of crankshaft.

Oil pump and distributor drive gear (longer boss to rear), timing sprocket (either way), oil thrower, distance-piece and split tapered collet carrying fan pulley hub are keyed on front end of crankshaft with three Woodruff keys, and retained by setscrew and large washer which bears on pulley hub, to which bonded rubber torsional vibration damper is riveted. Hub is keyed on tapered collet with Woodruff key. Pulley spigoted and bolted to hub.

Circular oil seal bears on distance-piece behind pulley. Split oil collector housing fits round oil return thread on rear end of crankshaft. Lower half, on which cork strip sealing rear of sump fits, bolted to upper half by two Allen head setscrews, with hollow dowels. Upper half dowelled and bolted to crankcase.

Connecting Rods

"H"-section stampings, horizontally split big-end bearings, thin-wall steel-backed, lead bronze-lined shells located by tabs in caps; no hand fitting permissible. This type lead bronze bearing used on latest models.

Small ends bronze bushed for fully floating gudgeon pins.

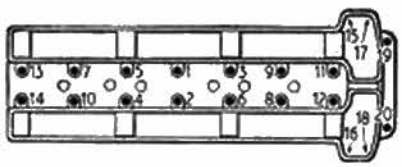


Diagram showing order of tightening cylinder head stud nuts. See also table of Nut Tightening Torque Data this page.

Pistons

Brico semi-split skirt aluminium alloy. Gudgeon pins located by spring rings. Top compression ring is chromium plated. Pistons should be fitted with cylinder bore number stamped on crown to rear, with split to non-thrust (near) side. *Note: that Jaguar practice is to number cylinders from rear to front. Where reference is made in this article to cylinder numbers, our usual practice of numbering from front to rear is maintained.*

Connecting rods will pass through bores, but bolts may have to be extracted Remove and assemble through top.

Camshafts

Duplex endless roller chain drive in two stages. First stage drives double idler sprocket and has Renold hydraulic tensioner on offside, rubber rubbing blocks fitted. Second stage passes round idler sprocket, both camshaft sprockets and below small tensioner sprocket on eccentric hub.

Complete assembly of timing chain sprockets and brackets can be removed after removal of cylinder head, sump and timing cover.

Each camshaft runs in four split steel-backed white metal-lined shells, located by dowels. Oil fed through drillings in head to rear bearings, and through hollow shafts to other bearings. End float of camshaft controlled by front bearing between sprocket and flange on shaft.

When removing head for top overhaul, first slacken chain tensioner, then detach each sprocket and slide it inwards along slot, securing it with elastic band on boss.

Before refitting cylinder head, it is important to observe procedure as follows to avoid fouling of inlet and exhaust valves or valves with pistons, in addition to noting that the engine should not be rotated with camshaft sprockets removed.

Position camshafts, using valve timing gauge provided in tool kit. Key of gauge locates in keyways of camshaft and bottom face of gauge with camshaft cover face on cylinder head. Turn crankshaft to T.D.C. No. 1 firing (flywheel mark visible through aperture in left-hand side of bell-housing). Check rotor arm position in distributor, refit cylinder head and connect timing chains.

Valves and Tappets

Overhead, set at 70 deg, included angle. Not interchangeable, inlet larger than exhaust. Split cone cotter fixing, double springs with seats between springs and head.

Valve guides plain, no shoulder, non-interchangeable. Press in until outer end of guide projects $\frac{5}{16}$in from spring seat, after total immersion of cylinder head in boiling water for 30 mins.

Valve seat inserts for inlet and exhaust shrunk into light alloy head.

Plain cylindrical tappets fit over valves and slide in guides shrunk into head. Adjust clearance between cam and valve by pad on top of valve stem. Pads are available in thicknesses ranging from .085in to .110in in .001in steps. Pads are identified by etched letters A to Z, A being thinnest. Camshafts must be removed for tappet adjustment.

For removal of valve seat inserts or tappet guides, light alloy head must be heated in oven or muffle for one hour from cold at a temperature of 300 deg F, when new parts should press in easily.

Lubrication

Hobourn-Eaton eccentric rotor pump fitted, with pressure relief valve situated in filter head. Skew drive gear retained on shaft (Woodruff key) by nut. Shaft runs in bronze bush pressed into housing on front of crankcase. Upper end of shaft has offset slot for distributor drive.

When refitting skew gear, shaft and bush assembly, turn crankshaft to T.D.C.

ENGINE DATA	
General: Type	o.h.c.
No. of cylinders	6
*Bore × stroke: mm	83 × 106
in	3.2677 × 4.1732
Capacity: c.c.	3442
cu in	210
R.A.C. rated h.p.	25.6
Max. b.h.p. at r.p.m.	210 at 5,500 r.p.m.
Max. torque at r.p.m.	—
Compression ratio	7 : 1, 8 : 1, 9 : 1

CRANKSHAFT AND CON. RODS	Main Bearings				Crankpins
Diameter	2.75in				2.086in
	No. 1	2, 3, 5, 6	4	7	
Lgth (in)	1½	1$\frac{7}{16}$	1½	1½	1$\frac{7}{16}$in

Running clearance: main bearings	.0015–.003in
big ends	.001–.0025in
End float: main bearings	.004–.006in
big ends	.006–.008in
Undersizes	.020, .030, .040in
Con. rod centres	7.750in
No. of teeth on starter ring gear / pinion	132/10

PISTONS AND RINGS		
Clearance (skirt)	.0011–.0017in	
Oversizes	.010, .020, .030in	
Weight without rings or pin† (7 : 1 CR)	1lb 2½oz	
Gudgeon pin: diameter	.8751–.8749in	
fit in piston / fit in con. rod	double thumb push at 68°F.	
	Compression	Oil Control
No. of rings	2	1
Gap	.015–.020in	.011–.016in
Side clearance in grooves	.001–.003in	.001–.003in
Width of rings	.0777–.0787in	.155–.156in

† 8 : 1 CR—1lb 3oz. 9 : 1 C.R.—1lb 4oz.

CAMSHAFT	
Bearing journal: diameter	1.000–.0005in –.001in
Bearing clearance	.0005–.002in
End float	.0045–.008in
Cam lift	(See table p. v)
Timing chain: pitch	½in
No. of links: upper	100
lower	82

VALVES	Inlet	Exhaust
Head diameter	1½in	1½in
Stem diameter	$\frac{11}{32}$in	$\frac{11}{32}$in
Face-angle	45°	45°
	Inner	**Outer**
Spring length: free	1.656in	1.935in
fitted	1$\frac{3}{16}$in	1$\frac{7}{16}$in
rate	69.3 lb/in	77.4 lb/in

* Alternative bore sizes, see table p.v.

1/6, and push in assembly so that, when skew gear meshes with crankshaft gear, slot is parallel to crankshaft centreline, with larger segment towards engine.

Ignition

Anti-clockwise distributor, with centrifugal and vacuum control, spigoted in crankcase on offside front, and retained by clamp plate.

When removing distributor, slacken clamp, leaving clamp plate on crankcase.

Set timing by means of scale and pointer on crankshaft damper. On road test, micrometer adjustment should not be made in excess of six "clicks" either advance or retard.

Cooling System

Pump and fan. Non-adjustable wax type thermostat in front end of inlet manifold water jacket.

Adjust fan belt by swinging dynamo until there is about ½in movement either way on vertical run of belt.

TRANSMISSION

Clutch

Borg & Beck single dry plate, graphite thrust release bearing, hydraulic actuation through slave cylinder operated by foot pedal. Only external adjustment is by nut on rear end of pedal pull rod to give 1in free movement at pedal pad.

Access to clutch for service after removal of gearbox and bell-housing.

Gearbox

Four speed, synchromesh 2nd, 3rd and top gears. Single helical gear forms. Overdrive available as optional equipment on this model has been fully described in Service Supplement sheet No. 226/C1. Automatic transmission is also fitted to this car and full constructional details are to be found in Service Supplement Nos. 260/C19 and 272/C25.

To remove gearbox take up carpet, seats, floorboards, gearbox cowl and propeller shaft tunnel. Disconnect front end of propeller shaft, reversing light switch wire, speedo drive, detach clutch slave cylinder from bracket. Jack up engine under rear of sump, detach bell-housing bottom cover and take out bell-housing setscrews. Gearbox can then be drawn back and lifted out. Note: If overdrive is fitted, engine and gearbox must be removed as complete unit to achieve access to gearbox.

To dismantle gearbox, remove top cover with remote control assembly, selector rods and forks. Engage top and 1st gears to lock box, and undo driving flange nut. Draw off flange, extract speedo drive pinion and detach rear cover with lipped oil seal complete with layshaft and reverse spindles. Draw off speedo drive gear and thick washer.

Using suitable extractor withdraw rear ball bearing from mainshaft. Remove bell-housing and front bearing cover with lipped oil seal (note copper washers under setscrew heads). Turn primary shaft so that cut-away on top gear dogs clears layshaft constant mesh gear. Tap mainshaft forward to drive out primary shaft and ball bearing, with caged roller spigot bearing. Mainshaft assembly can then be lifted out through top. Lift out layshaft cluster with needle roller bearings and thrust washers, and bushed reverse idler.

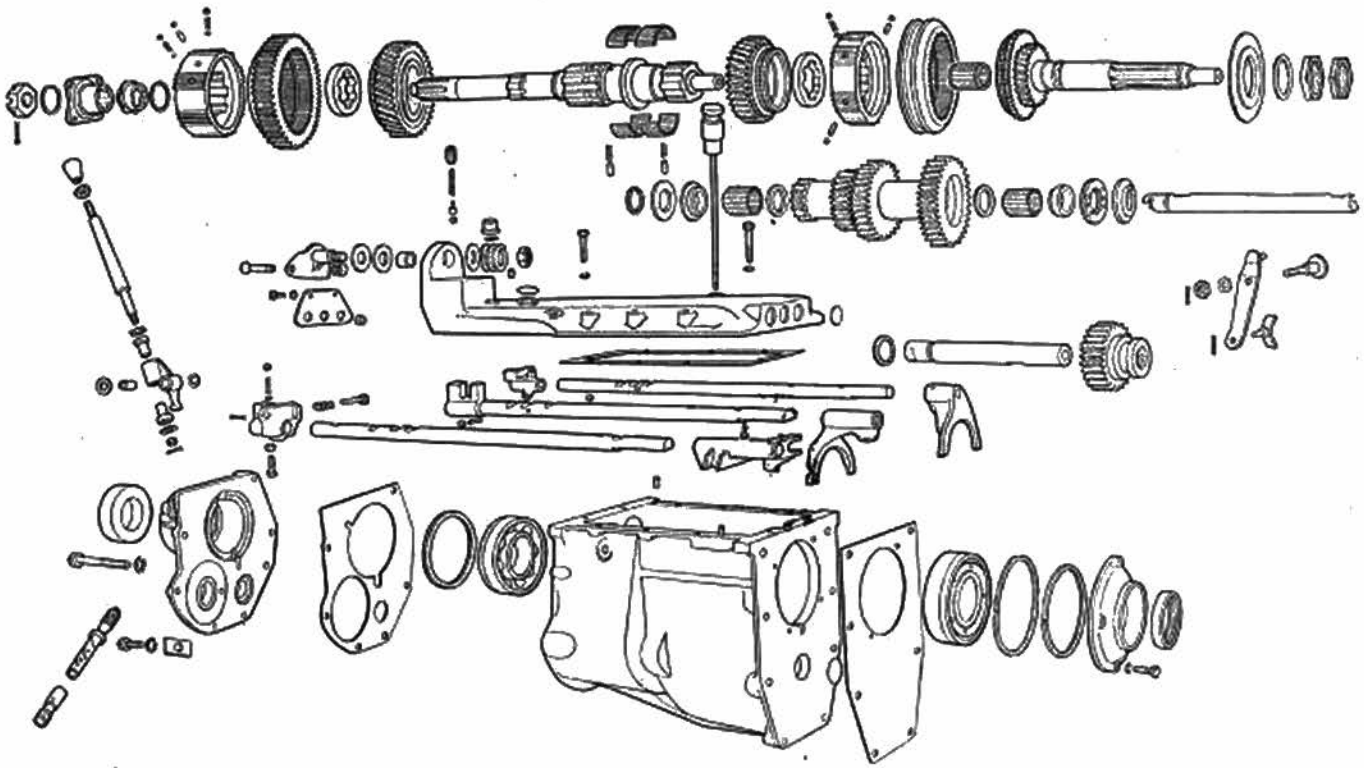
Primary shaft ball bearing retained on shaft with chip shield by nut and locknut.

To dismantle mainshaft assembly slide off top/3rd synchro assembly, noting interlocking plunger and ball in drilling through synchro hub. Press down plunger in shaft, locking 3rd gear splined thrust washer, releasing washer. Slide off 3rd gear with 41 needle rollers. Remove 1st gear and synchro assembly (same as top/3rd gear, with interlocking plunger and ball). Remove 2nd gear (same as 3rd gear). When reassembling note that interlocking plunger and ball in top/3rd and 2nd synchro hubs must be opposite cutaway splines on mainshaft and in synchro sleeves.

Reverse idler spindle should not be separated from rear extension housing as rubber sealing ring recessed in spindle cannot be replaced without special thimble.

When reassembling box insert small retaining rings in layshaft needle roller recesses, and insert 29 needle rollers in each end, sticking them in with thick grease. Insert outer retaining ring in front end of shaft with large bronze thrust washer. Stick on steel thrust washer (pegged to box). Insert stepped steel washer at rear (pegged to shaft) and small bronze thrust washer. Insert reverse gear into casing. Lower cluster into box and insert thin rod to support it.

Move reverse gear and lever forward in casing. Feed in mainshaft and primary shaft assemblies, and drive in ball bearing. Lift layshaft cluster with rod and insert dummy spindle .980in in diameter, with generous chamfer on end, into lay-



Parts of the gearbox, showing gear trains, casing and selector mechanism. Note assembly of the mainshaft synchronizing hubs and lockwashers, also that layshaft is integral cluster.

shaft so as not to disturb needle rollers. Assemble distance-piece and speedo gear on mainshaft, and offer up rear extension housing with layshaft spindle, and reverse spindle. Insert layshaft spindle, pushing out dummy spindle to front, picking up reverse gear on spindle as rear extension is pushed home. Complete assembly of box.

To dismantle top cover remove lever and pivot jaw assembly (nut on front of pivot housing). Detach sealing plate from rear of cover and unscrew plugs retaining selector springs and plungers. Unscrew taper-ended screws from selector forks and draw out rods to rear one at a time, catching interlock balls as they are released from cross-drilling in rear of cover.

Propeller Shaft

Hardy Spicer needle roller bearing universal joints, nipples provided for lubrication.

Rear Axle

Salisbury 4HA hypoid bevel drive, semi-floating shafts. Final drive housing integral with axle tubes, rear cover detachable.

To remove axle from car, disconnect brake fluid pipe, shock absorbers, brake cables and rear end of propeller shaft. Remove U-bolts, and hub and brake disc assembly from one side. Axle can then be passed through springs.

Rear axle used in this car compares in detail with that employed on Mk. VIII models, with the exception of the disc brake fitments. For all practical purposes and so far as the differential gear and half-shaft arrangement is concerned and for overhaul procedure, readers are referred to Trader Service Data No. 197, noting that the nominal distance from crown wheel centre line to pinion head is 2.625in, not 2.750in and that hub bearing end float is .003in-.005in not .006in-.008in, as stated on page v of that data sheet. For additional information readers are also referred to Service Supplement Sheet No. 298/C38 which features this axle unit.

CHASSIS

Brakes

Dunlop disc type on all four wheels. Lockheed Vacuum servo-operated from footbrake pedal, handbrake operates mechanical linkage to rear wheels. Brake units comprise hub mounted disc and braking unit rigidly attached to rear axle. Caliper unit houses a pair of brake pads and pad carriers.

CHASSIS DATA

CLUTCH

Make	Borg & Beck
Type	sdp
Springs: no.	12
colour	Yellow/Lt. Green
free length	2.68in
Centre springs: no.	6
colour	red/cream
Linings: thickness	.155–.145in
dia. ext.	9.870–9.840in
dia. int.	6.760–6.750in

GEARBOX

Type	synchromesh	
No. of forward speeds	4	
	3.54 : 1	4.09 : 1
Final ratios: 1st	11.954	13.811
2nd	6.584	7.607
3rd	4.541	5.247
4th	3.54	4.09
Rev.	11.954	13.811
overdrive	—	3.182

BRAKES

Type	Dunlop disc
Disc diameter: front	12in
rear	12in
Brake cylinder bore diameter:	
front	2¼in
rear	1¾in

PROPELLER SHAFT

Make	Hardy Spicer
Type	Needle roller bearing UJ

Since friction pads are self adjusting, adjustment and maintenance are confined to examination for wear and replacement of pads when worn to ¼in thick.

Handbrake should only be adjusted by means of adjuster screws on rear calipers and then only to compensate for pad wear. Insert .004in feeler between pad and disc, screw in bolt until gauge is just nipped, withdraw gauge and check free rotation. If handbrake travel is still excessive, yoke at rear end of main cable may be adjusted and repositioned on its threaded rod by means of nut and securing locknut. Adjust so that there is no slack, but no cable should be in tension.

Further details of this system are contained in Service Supplement No. 310/C44. Lockheed 6¾in vacuum servo unit has no mechanical connection with master cylinder, but operates integral hydraulic boost cylinder, and is controlled through reaction valve operated by fluid pressure.

Rear Springs

Semi-elliptic. Metal bonded rubber bushes for spring eyes and shackles. Tighten fully with weight of car on springs. Centre-bolts offset. Fit springs with shorter section to front.

SHOCK ABSORBERS

Make (front)	Girling
Type	Telescopic
Service	Replacement

STEERING BOX

Type	Rack and Pinion
Adjustments: column end float	Nil
mesh	eccentric drive

FINAL DRIVE

Type	semi-floating hypoid
Crownwheel/bevel pinion teeth:	
std.	46/13
o'drive	45/11

FRONT-END SERVICE DATA

Castor (static laden)	1½°-2° positive
Camber (static laden)	½°-1° positive
King pin inclination (static laden)	5°
Toe-in	0-¼in
No. of turns lock to lock	2¾
Adjustments: castor, camber	shims
toe-in	screwed tie rod ends

SPRINGS

	Front	Rear
Length (eye centres, laden)	ind. t. b.	44in
Width	—	1¾in
No. of leaves	—	7
Free camber (length, coil)	—	5¼in
Loaded camber (length, coil) at load	—	¼in at 690lb
Spring rate	—	138 lb/in

Front Suspension

Independent, torsion bars. Inner ends of upper and lower links pivoted in loose rubber bushes bonded to inner sleeves. Ball joints at outer ends. Upper link outer ball socket bolted between arms of link, with shims for castor adjustment. Ball pin tapered and fitted in top of stub axle carrier member. Ball joint is sealed and serviced only as assembly.

Suspension layout is similar to that employed on XK 120 models and readers are referred to Trader Service Data No. 185 for further details of service and repair operations.

Steering Gear

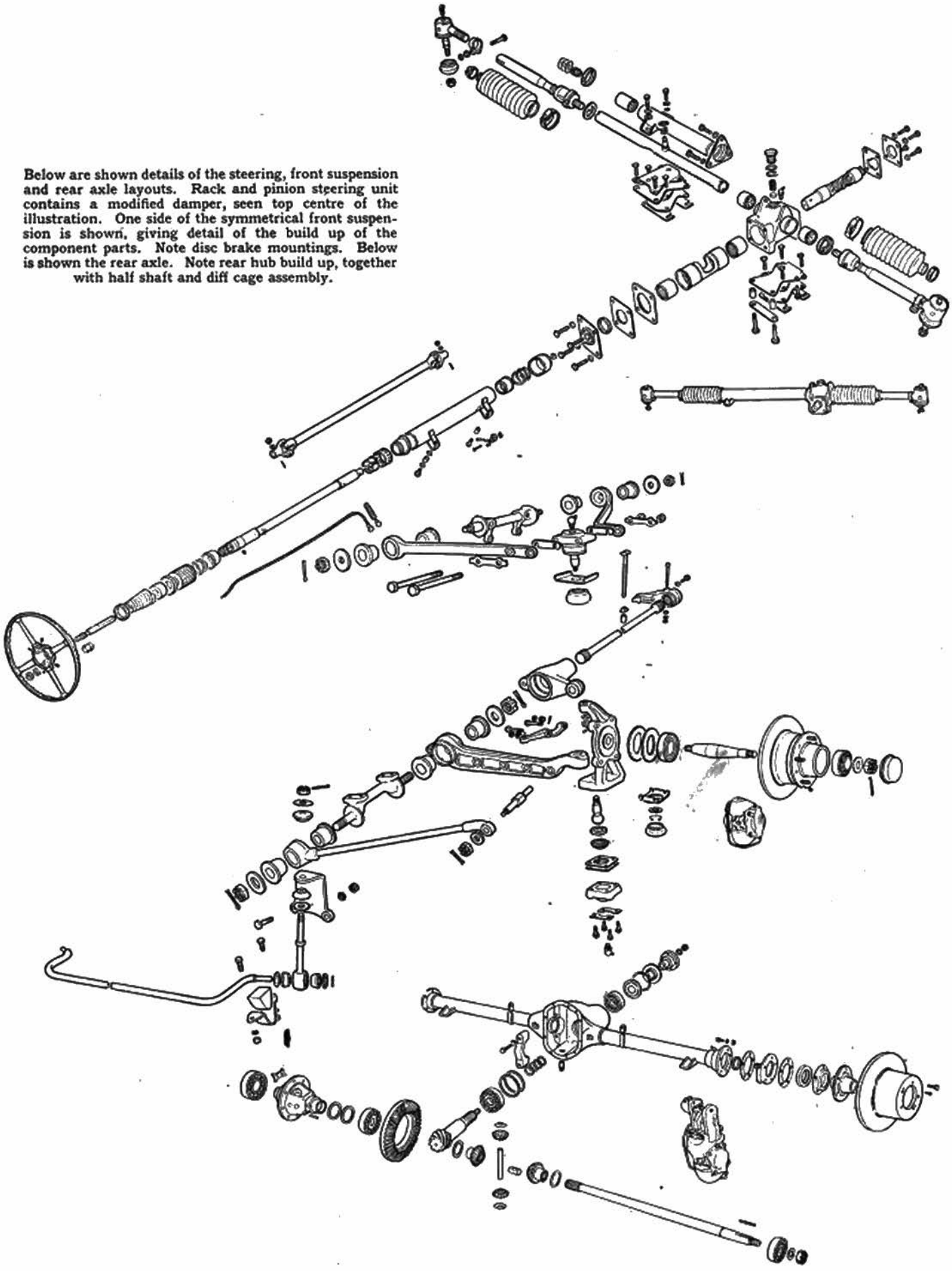
Rack and pinion. Rack operates short track rods, adjustable for length, through ball joints at either end of rods, lubricated from rack. Only provision for adjustment is for pinion and rack mesh made by means of eccentric sleeve with external serrations at upper end over which square adjuster plate fits.

Shock Absorbers

Front and rear, Girling telescopic hydraulic, no provision for topping up.

	Bore mm	Comp. Ratio	Cylinder Head	Cam Lift	Carbs.	Air Cleaner	Exhaust	Distributor	Ignition Timing	Carb. Needle	Spark Plugs
XK 150 (3.4)	83	7 : 1	B Type sky blue	⅜	SU HD6	AC	Twin	C.12733 (40578A)	4° BTDC	TL	L7
XK 150 (3.4)	83	8 : 1	B Type sky blue	⅜	SU HD6	AC	Twin	C.12732 (40576A)	6° BTDC	TL	N5
XK 150 (3.4)	83	9 : 1	B Type sky blue	⅜	SU HD6	AC	Twin	C.14269 (40617A)	5° BTDC	TL	N5
XK 150 (3.8)	87	7 : 1	B Type met blue	⅜	SU HD6	AC	Twin				N5
XK 150 (3.8)	87	8 : 1	B Type met blue	⅜	SU HD6	AC	Twin				N5
XK 150 (3.8)	87	9 : 1	B Type met blue	⅜	SU HD6	AC	Twin	C.14534 (40665A)	7° BTDC	TU	N5
XK 150 "S" (3.4)	83	9 : 1	Gold	⅜	Triple SU HD8	Cooper air box	Twin	C.14268 (40616A)	9° BTDC	UE	N5
XK 150 "S" (3.4)	83	8 : 1	Gold	⅜	Triple SU HD8	Cooper air box	Twin	C.14952 (40670A)	9° BTDC	UE	N5
XK 150 "S" (3.8)	87	9 : 1	Gold	⅜	Triple SU HD8	Cooper air box	Twin	C.14269 (40617A)	10° BTDC	UE	N5

Below are shown details of the steering, front suspension and rear axle layouts. Rack and pinion steering unit contains a modified damper, seen top centre of the illustration. One side of the symmetrical front suspension is shown, giving detail of the build up of the component parts. Note disc brake mountings. Below is shown the rear axle. Note rear hub build up, together with half shaft and diff cage assembly.



TUNE-UP DATA

Firing order	1, 5, 3, 6, 2, 4, (No. 1 at rear)
Tappet clearance (cold): inlet ...	.004in
exhaust	.006in
Valve timing: inlet opens ...	15° BTDC
inlet closes ...	57° ABDC
exhaust opens ...	57° BBDC
exhaust closes ...	15° ATDC
Standard ignition timing ...	see table below.
Location of timing mark ...	Timing marks on engine damper. Pointer on sump.
Plugs: make }	Champion (see
type }	table p.v.)
size	14 mm
gap	.025in
Carburettor: make	SU
type	see table p.v.
Settings: Choke }	see table p.v.
Main jet }	
Air cleaner: make }	see table p.v.
type }	
Fuel pump: make	S.U.
type	electric AUA57
pressure	2½ lb/sq in

No advance below 2½in Hg.
8 : 1 Compression Ratio:
Model DMBZ6 | Part No. 40576
Max. centrifugal advance (crank degrees) 34°-38° at 6,400 r.p.m.
No advance below 550 r.p.m.
Centrifugal advance springs. Part No. 424950
Max. vacuum advance (crank degrees) 16°-20° with 20in Hg.
No advance below 5in Hg.
9 : 1 Compression Ratio:
Model DMBZ6 | Part No. 40617
Max. centrifugal advance (crank degrees) 24° at 4,000 r.p.m.
No advance below 650 r.p.m.
Centrifugal advance springs. Part No. 54410416
Max. vacuum advance (crank degrees) 14°-18° with 20in Hg.
No advance below 4½in Hg.

IGNITION COIL

Model HA12 | Part No. 45067
Primary resistance 3.0-3.5 ohms
Running current at 1,000 r.p.m. 1.0 amp

WINDSCREEN WIPER

Model DR3 | Part No. 75319 (R.H.D.) | Part No. 75308 (L.H.D.)

HORN(S)

Model HF 1748 | Part No. 70071 (high note) | Part No. 70063 (low note)
Type: High frequency
Current consumption 4 amp (per horn)

FLASHER UNIT

Model FL5 | Part No. 35010

FUSE UNIT

Model SF6
Fuse ratings 50 amp—50 amp.

TRANSMISSION UNITS

	Model	Part No.
LAYCOCK		
Transmission gear solenoid ...	11S	76515
Rotary throttle switch	12SA	31504
Interruption switch	SS10-1	31077
Relay	SB60	33174
BORG WARNER		
Throttle switch	TOS1	31392
Gear holding solenoid	11S	76516
Starting motor	M45G	26097
Rotary inhibitor switch ...	55SA	31680
Brake line valve solenoid ...	BVS1	76502
Hydraulic pressure switch ...	HPS1	31393

LUCAS EQUIPMENT AND TEST DATA

BATTERY

Model STG11E-2 OFF

GENERATOR

Model C45PVS-5 (earlier fitment) Part No. 22462
Model C45PVS-6 (later fitment) Part No. 22496

CONTROL BOX

Model RB310 Part No. 37189
Model RB310 (later) | Part No. 37207
Model RB310 (later) | Part No. 37297

STARTING MOTOR

Model M45G | Part No. 26062
Drive: Eclipse Inboard

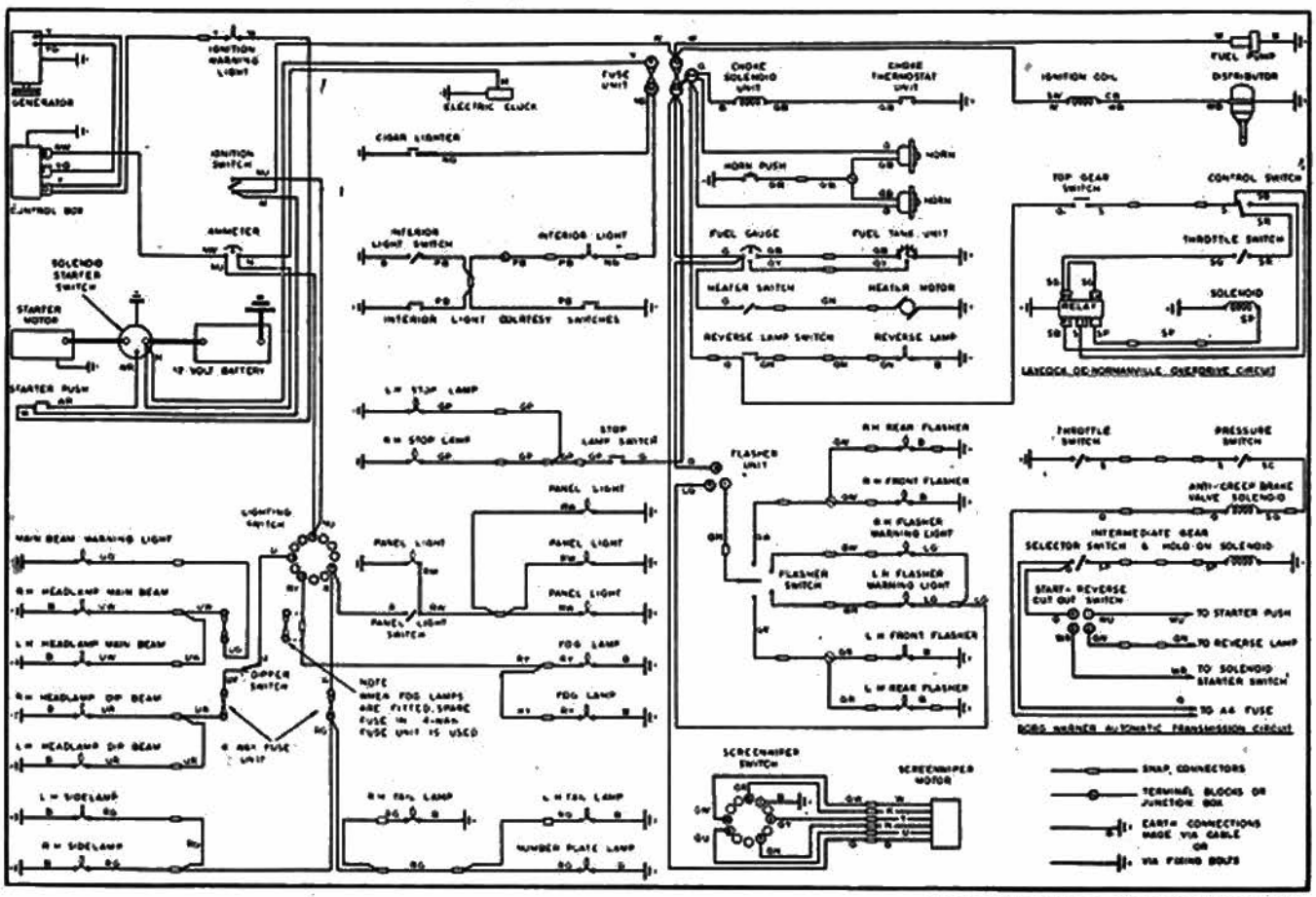
DISTRIBUTOR

Model DMBZ6A | Part No. 40578
7 : 1 Compression Ratio:
Max. centrifugal advance (crank degrees) 32°-36° at 7,000 r.p.m.
No advance below 800 r.p.m.
Centrifugal advance springs | Part No. 425183
Max. vacuum advance (crank degrees) 20°-24° with 20in. Hg.

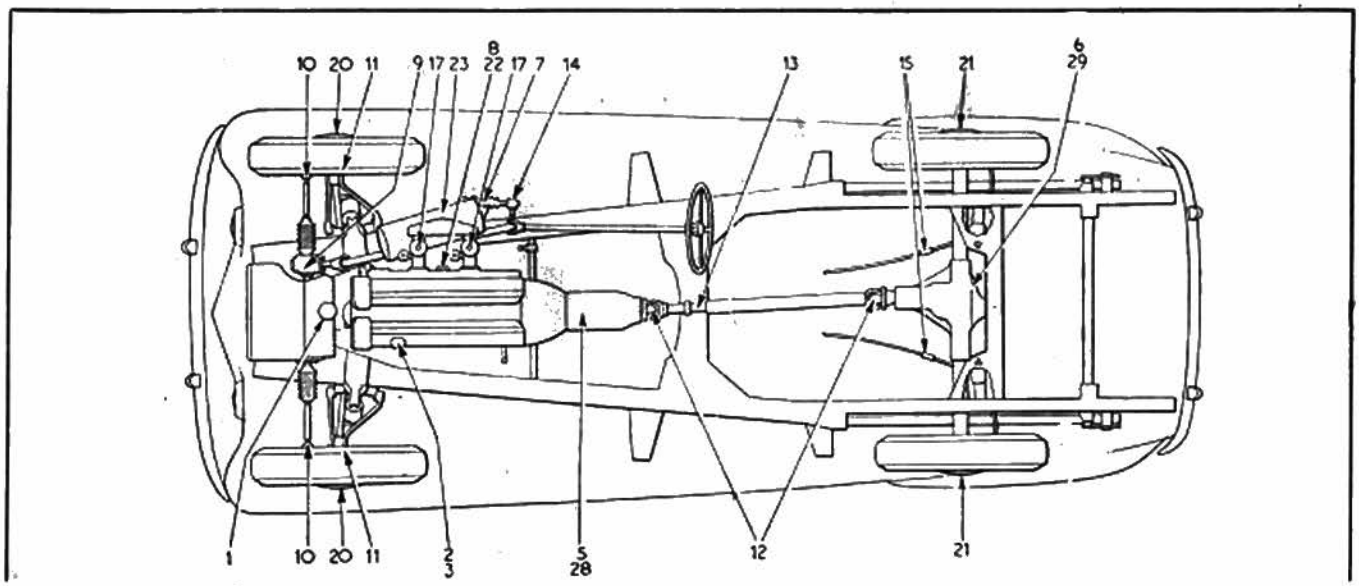
BULBS

Lamps	Model	Part No.	Lucas Number	Wattage	Cap
Head (Home and R.H.D. Export) ...	J700	51762	404	60/36	B.P.F.
Head Export L.H.D.	J700	51763	406	60/36	B.P.F.
Head Export U.S.A.	PF700	51562	—	—	—
Head Export Europe (except countries stated)	PF700	51507	370	45/40	B.P.F.
Head Export France	F700EF	51563	—	—	—
Head Export, Norway, Sweden, Germany	F700	51564	350	35/35	B.P.F.
Head Export Holland and Switzerland	F700	51565	370	45/40	B.P.F.
Head Export Italy	PF700	58293	370	45/40	B.P.F.
*Fog (except France)	SFT576	55174	323	48	B.P.F.
*Fog (France)	SFT576	55133	323	48	B.P.F.
Side	513	52175	207	6	S.C.C.
Front Flasher, except U.S.A. ...	563	52271	382	21	S.C.C.
U.S.A.	563	52343	382	21	S.C.C. S.B.C.
Stop tail L.H.	549	53350	380	6/21	Offset Pin
R.H.	549	53351	380	6/21	S.B.C. Offset pin
Number plate and reverse (not France)	512	53215	382 (reverse) 21		S.C.C.
Number plate and reverse (France)	512	53556	222 (No. plate) 4		M.C.C.

*Optional extra equipment.



Wiring diagram by permission of J. Lucas, Ltd.



KEY TO MAINTENANCE DIAGRAM

DAILY

1. Radiator } top up
2. Engine sump }

EVERY 2,500 MILES

3. Engine sump—drain and refill.
4. Battery } top up
5. Gearbox
6. Rear axle
7. Brake fluid reservoir
8. Engine oil filter—remove and clean.
9. Steering housing—oil gun.
10. Steering tie rod ball joints } grease gun
11. King pins
12. Propeller shaft universal joints
13. Propeller shaft splines
14. Foot brake pedal boss
15. Handbrake cables
16. Clutch pedal free travel—check
17. Carburettor piston dampers—oil
18. Distributor—oil shaft bearing, auto advance contact breaker pivot, grease cam

EVERY 5,000 MILES as for 2,500 miles service plus following:

19. Carburettor filters—remove and clean
20. Front wheel bearings } grease gun
21. Rear wheel bearings }
22. Engine oil filter—renew
23. Air cleaner—clean and re-oil
24. Accelerator linkage } oil can
25. Handbrake ratchet
26. Screen wiper pivots
27. Door, bonnet, bootlid, petrol filler cover, locks and hinges

EVERY 10,000 MILES, as for 5,000 miles plus following:

28. Gearbox } drain and refil'
29. Rear axle
30. Overdrive oil pump*—clean oil filter
31. Petrol pump filter—clean

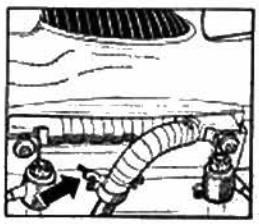
*If fitted.

FILL-UP DATA

	Pints	Litres
Engine sump* ...	13	7½
Gearbox (without overdrive)	2½	1½
Gearbox (with overdrive)	3	2½
Rear axle	2½	1½
Cooling system (including heater) ...	23	13
Fuel tank	14 galls	63½
Tyre pressures: front	23 lb/sq. in.	1.6 Kg/cm²
rear ...	26 lb/sq. in.	1.85Kg/cm²

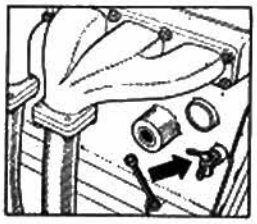
*Total capacity—allow 2pt. for filter (1 litre)

DRAINING POINTS



Left: shows a view from underside of radiator matrix drain tap, access from beneath.

Right: shows cylinder block drain tap on near-side of engine.



RECOMMENDED LUBRICANTS

		S.A.E. No.	Mobil	Wakefield	Shell	Esso	B.P.	Duckham's
Engine ...	Above 90°F	40	Mobiloil AF	Castrol XXL	X-100 40	Extra Motor Oil 40/50	Energol 40	NOL 40
	32° to 90° F ...	30	Mobiloil A	Castrol XL	X-100 30	Extra Motor Oil 20W/30	Energol 30	NOL 30
	Below 32°F ...	20	Mobiloil Arctic	Castrolite	X-100		Energol 20	NOL 20
Gearbox, Carburettor dashpot, Distributor, Oil can ...		30	Mobiloil A	Castrol XL	X-100 30		Energol 30	NOL 30
Automatic Transmission ...		(AQ-ATF) type "A"	Mobil Fluid 200	Castrol TQ ATF Grade "A"	Donax T6	Automatic Fluid 55	ATF Type "A"	Nolmatic
Rear Axle		90	Mobilube GX 90	Castrol Hypoy	Spirax 90 EP	Expee Compound 90	Energol EP 90	Hypoid 90
Propeller shaft, U.J.s ...		140	Mobilube C 140	Castrol D	Spirax 140 HP	Gear Oil 140	Energol 140	NOL EP 140
Chassis nipples (except propeller shaft needle roller bearing) steering housing ...		—	Mobilgrease MP	Castrolease Medium or WB	Retinax RB or A	Grease or High Temp. Grease	Energrease C3 or N3	LB 10 Grease or H.P.G.
Wheel hubs and distributor cam		—	Mobilgrease MP	Castrolease WB	Retinax A Grease	High Temp. Grease	Energrease N3	LB 10 Grease
Upper cylinder lubricant ...		—	Upperlube	Castrollo	Donax U	Upper Cylinder Lubricant	Energol U.C.L.	Adcold Liquid
Brake fluid reservoir		Wakefield Crimson fluid (disc.)						

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