

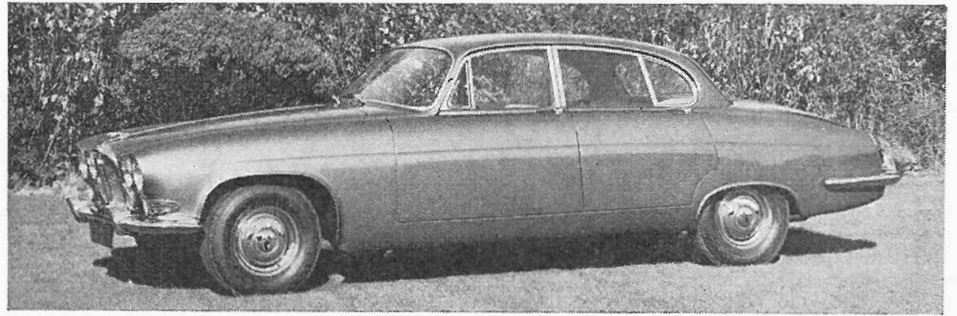
Motor Trader

SERVICE DATA NO. 417

JAGUAR MARK 10

Manufacturers: Jaguar Cars Ltd., Coventry, Warwickshire

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DISTINGUISHING FEATURES. This Jaguar model is recognizable from any standpoint, due to the individual styling. At the front end, the radiator shell and dual headlamps are raked forward and at the rear end, the tail portion of the car is slightly upswept.

INITIAL introduction of the Mark 10 model took place at the Earls Court Motor Show of 1961. It replaced the then existing Mk. IX car, and was seen to have completely revised body construction and styling. This was designed and constructed on the integral principle and the model built as a full five-seater, four-door saloon.

Since original introduction, there have been a number of important changes to specifications, many of which will be found to have bearing upon service procedure. Where possible and practicable these changes are listed throughout this article as well as in the Engineering Changes table, which should be studied first. Where the changes affect service procedure, they are mentioned in the text matter and the engine/chassis serials at which the changes are recorded as having taken place should be noted carefully.

Motive power is provided by a version of the well-known twin overhead camshaft engine, in this application, in "S" form. As used in this model, the power output is 265 b.h.p. at an engine speed of 5,500 r.p.m. Transmission of the drive is either by single dry plate clutch driving through a four-speed synchromesh gearbox, with or without overdrive, or by Borg-Warner automatic transmission. This transmission has been fully described in previous Service Supplements Nos. 260/C19, 272/C25, 344/C59, 352/C63, 354/C64, 356/C65 and readers are referred to these publications for details of service and repair procedures of these units. The rear axle is the Salisbury 4HU, and it incorporates a Thornton Powr-Lok differential. Since the car is fitted with independent rear suspension, drive to the rear road wheels is taken through short universally jointed drive shafts from either side of the truncated axle shafts to each wheel assembly.

Each of these axle output shafts provides the mounting for the discs of inboard rear brakes. Front suspension is also independent, of coil spring and wishbone link pattern, damped by telescopic hydraulic shock absorbers, as is the rear suspension.

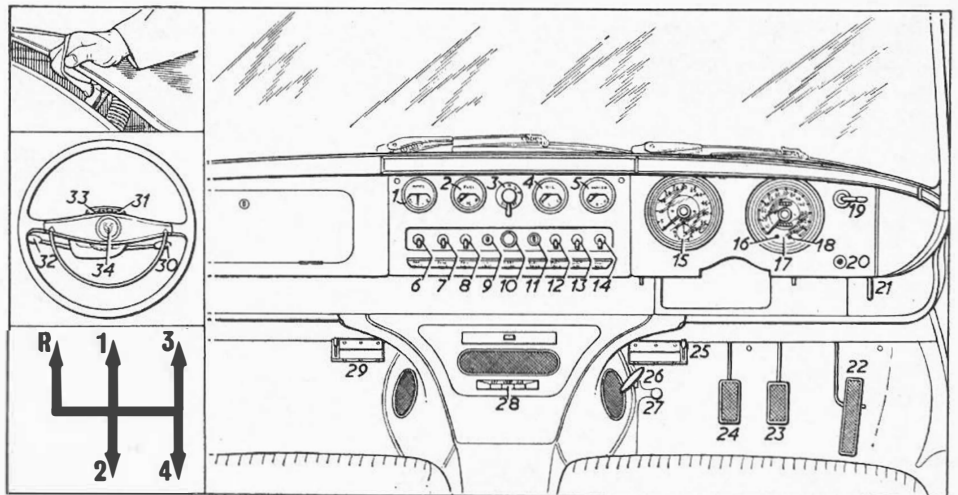
Identification of vehicles follows customary Jaguar practice. The chassis or car number is to be found stamped on the top of the

right-hand front wheel arch, a suffix "DN" indicates that an overdrive unit is fitted. The engine number is stamped on the right-hand side of the cylinder block above the oil filter and to the front of the cylinder head casting, /7, /8, or /9 following the number denoting the compression ratio. All these numbers together with other numerical identification of the car are to be found collectively stamped on a plate which is attached to the left-hand front wing valance. It is essential

that all relevant numbers together with prefix and/or suffix letters should be quoted when referring to the manufacturers, or when ordering spare parts.

Some special tools are required for service, and those considered essential are to be found listed in a separate table in this article.

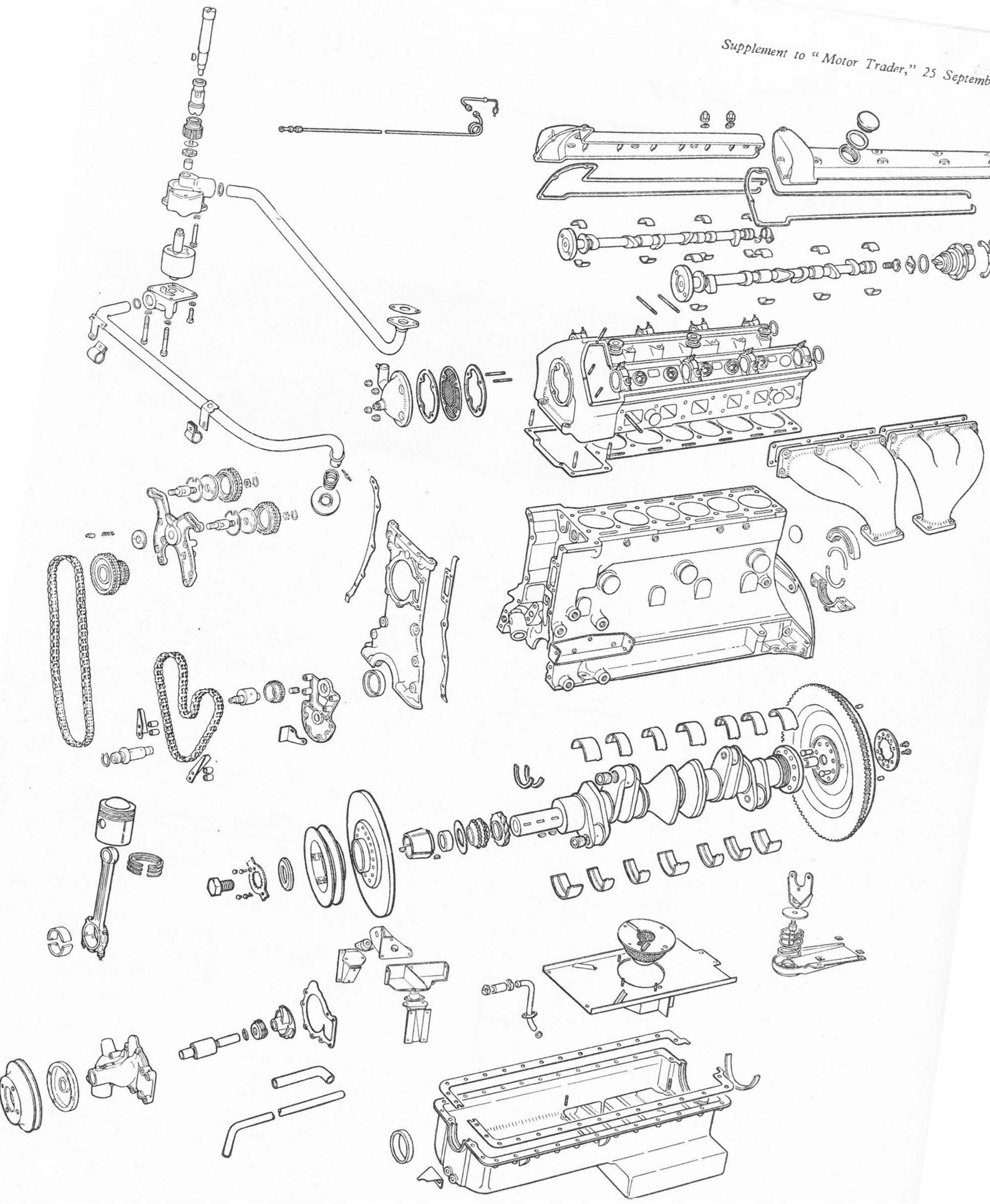
Threads and hexagons are, in the main, of S.A.E. pattern and form, but certain threaded parts of the proprietary components may be found to be B.S.F.



INSTRUMENTS, CONTROLS, GEAR POSITIONS AND BONNET LOCK

- | | | |
|----------------------------------|---|---|
| 1. Ammeter | 14. Screenwasher switch | 25. R/h scuttle vent |
| 2. Fuel gauge | 15. Engine r.p.m. indicator | 26. Handbrake |
| 3. Lighting switch | 16. Ignition warning light | 27. Dip switch |
| 4. Oil pressure gauge | 17. Speedometer | 28. Fan temperature switches |
| 5. Water temperature gauge | 18. Main beam warning lamp | 29. L/h scuttle vent |
| 6. Interior/map light switch | 19. Intermediate speed hold switch (If auto. trans. fitted) | 30. Auto. trans. selector lever or o'drv. switch lever |
| 7. Panel lights switch | 20. Brake fluid level (handbrake warning light) | 31. R/h flasher warning light |
| 8. Heater fan switch | 21. Bonnet lock control | 32. Direction indicator switch/headlamps flasher switch |
| 9. Ignition switch | 22. Accelerator | 33. L/h flasher warning light |
| 10. Cigar lighter | 23. Brake pedal | 34. Horn control |
| 11. Starter switch | 24. Clutch pedal | |
| 12. Fuel tank change-over switch | | |
| 13. Screenwiper switch | | |

Insets at left, from top to bottom: method of releasing bonnet catch, siting of the steering column mounted controls, operative position of the centre mounted gear lever, on manual control models



Parts of the engine showing the fixed and moving components in relative order of assembly

GENERAL DATA	
Wheelbase	10ft 0in
Track: front	4ft 10in
rear	37ft 0in
Turning circle	6in
Ground clearance	7.50-14
Tyre size: front	(Road Speed
rear	R.S.5)
Overall length	16ft 10in
Overall width	6ft 4in
Overall height	4ft 6½in
Weight (dry, approx)	35 cwt

SPECIAL TOOLS	
	Tool Numbers
ENGINE	
Timing chain adjuster	J.2
Valve spring compressor	J.6118
Engine lifting plate	J.8
Crankshaft rear seal sizing tool	J.17
Valve guide bore reamer	J.18
OVERDRIVE	
Hydraulic pressure testing equipment	L.301 (consists of BW.1A & BW.38)
Freewheel assembly ring	L.178
Operating piston remover	L.300
REAR AXLE	
Multi-purpose hand press (used in conjunction with the following adaptors)	SL.14
Pinion bearing inner race removal/refitting	SL.11 P/AB-2
Differential bearing removal	SL.11D/A-5
Differential bearing refitting (Universal handle)	SL.2D/B-2
Rear hub outer bearing inner race-remover	J.16A
Main tool and ring (used in conjunction with the following adaptor)	SL.12
Pinion bearing outer race removal/refitting	SL.12 AB-4
Pinion cone setting gauge	SL.3 P.C.S.
Pinion oil seal installation collar	SL.4 P/B
Hub endfloat master spacer	J.15
Hub endfloat dial gauge	J.13
Rear hub extractor	J.1.C
Hub bearing outer race removing/replacing adaptors	J.20 (use with SL.12)
STEERING	
Power steering piston assembly sleeve	J.19
Hydraulic pressure gauge set	J.10
End cover fitting tool	8434
FRONT SUSPENSION	
Front coil spring compressor	J.6A
REAR SUSPENSION	
Rear spring compressor	J.11A (use with SL.14)
Rear wishbone pivot dummy shaft	J.14 (2 off)
BRAKES	
Piston resetting tool	7840
Brake servo vacuum gauge	J.12
Brake servo vacuum gauge adaptor	J.12-2
Servo operating lever setting gauge	9020

ENGINE DATA				
General Type			o.h.c.	
No. of cylinders			6	
Bore × stroke: mm			87 × 106	
in			3.425 × 4.1732	
Capacity: c.c.			3781	
cu. in.			230.6	
Max. b.h.p. at r.p.m.			265–5500	
Max. torque at r.p.m.			260 lb. ft.–4000	
Compression ratio			8 : 1 or 9 : 1	
CRANKSHAFT AND CON. RODS				
	Main Bearings		No. 4	No. 7
	No. 1	Nos 2, 3, 5, 6		
Diameter (in)	2.750–2.7505	2.750–2.7505	2.750–2.7505	2.750–2.7505
Length (in)	1½	1¾	1½	1½
Crankpins: diameter				2.086in
length				1½in
Running clearance:				
main bearings				.0025–.0042in
big ends				.0015–.0033in
End float: main bearings				.004–.006in
big ends				.0058–.0087in
Undersizes				.010, .020, .030, .040in
Con. rod centres				7¾in
No. of teeth on starter ring gear/pinion				104/10

PISTONS AND RINGS		
Clearance (skirt)	.0011-.0017in	
Max. oversize	+.030in	
Weight without rings or pin	not quoted	
Gudgeon pin: diameter	.8750-.8752in	
fit in piston	finger push fit at 68°F	
fit in con. rod	fully floating	
Compression height	8:1 CR	2.069-2.064in
	9:1 CR	2.247-2.242in
	Compression	Oil Control
No. of rings	2	1
Gap (fitted)	.015-.020in	.011-.016in
Side clearance in grooves	.001-.003in	.001-.003in
Width of rings	.0777-.0787in	.1550-.1560in

ENGINEERING CHANGES		
CHASSIS		Chassis No.
		R.H.D. L.H.D.
"Sealed for life" rear axle half shaft joints (automatic cars)	302620	351981
	302615	352053
Bleed point on power assisted steering	303738	352573
New rear road springs	301347	351583
Gas cell type rear dampers	300770	351196
Modified rear suspension cross-beam	300981	351328
Thicker brake discs: (overdrive s/n)	302938	352067
(automatic) ...	302914	352060
Mintex M59 friction pads	302914	352051
Modified rear brake caliper attachment	300633	351045
Larger brake cylinder pistons	300471	350973
Revised heater controls	300318	350684
ENGINE		Engine No.
Modified crankshaft rear oil seal	ZA 1001	
Reduced big end clearances	ZA 1054	
Drilled inlet camshafts	ZA 1730	
Change of spark plug type	ZA 2327	
Modified pistons and con. rods	ZA 3153	
"Delrin" float chamber needle	ZA 9860	
Automatic fan belt tensioner	ZA 6622	
Modified overdrive solenoid and operating valve	ZA 8457	
Power assisted steering pump	ZA 6530	

NUT TIGHTENING TORQUE DATA	
	lb. ft
ENGINE	
Camshaft bearing cap nuts	15
Con-rod bolts	37
Main bearing bolts	83
Cylinder head nuts	54
REAR AXLE	
Drive gear bolts	70-80
Diff. bearing cap bolts	60-65
Pinion nut	120-130
Thornton Powr-Lok diff. bolts	40-45
Pinion nut	120-130

through 90deg., take off air cleaner. Disconnect and remove all pipes, wires and controls to engine unit. Remove small bolt and self-locking nut securing intermediate throttle shaft to main throttle shaft, remove rod from rear of intermediate shaft and withdraw shaft. Take off two water hoses from right-hand side of heater, remove two vacuum pipes from check valve on heater vacuum reservoir (r/h wing valance), also vacuum pipe carburettor balance pipe to brake vacuum reservoir. Remove securing nuts and take off power assisted steering pump, remove cables from dynamo. Release exhaust pipes at manifold joints, also bracket on bell housing, and earth strap.

From underneath car, remove complete steering track rod and tie rod assembly, unscrew central oil filter bolt, withdraw canister complete with element and retain sealing ring. Move exhaust pipes to one side to prevent damage in subsequent operations. On automatic transmission models, disconnect solenoid control wiring at snap connectors, and cables at pressure switch. Remove mechanical connections at rod ends and linkages. On standard and overdrive models, remove console and gearlever grommet, take out gearlever, disconnect speedometer drive cable at gearbox end, remove clutch hydraulic flex pipe at slave cylinder on clutch housing, disconnect cables from overdrive. Place jack under rear mounting, remove securing setscrews and washers, lower jack slowly to relieve tension on mounting spring, take out mounting and spring, preserve packing pieces. Take out mounting pin and upper spring seat from rear of transmission, disconnect propeller shaft, and universal joint from companion flange.

With suitable tackle sling engine, or use mounting plate after taking off cylinder head securing nuts Nos. 3, 6, 8 and 9. Support engine on lifting tackle, place trolley jack under front of car and support transmission (place piece of wood between jack and transmission underside, or gearbox casing). Remove bolts from both front mountings, also self-locking nut and stepped washer from stabilizer between rear of cylinder head and bulkhead, adjust engine position to remove stabilizer bolt from its mounting. Raise front of engine, lower rear on jack and manoeuvre up and out of car taking care to avoid damage to oil feed pipe to camshafts at rear of cylinder head, also that ignition timing pointer on front of sump does not contact front body cross member.

Crankshaft

Seven main bearings. Thin wall, steel-backed, lead indium-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 interchangeable, as are Nos. 2, 3, 5 and 6. It is possible to change all main bearing shells without removal of crankshaft, but this should be done only in direst emergency. Thrust half-washers can be changed by removal of centre-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 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 Wood-

ENGINE

Mounting

At front, flanged mountings bolted up between angle brackets attached to crankcase and body respectively. At rear, spring-loaded mounting attached to body underside by four setscrews, spring and oval washers. Note four square packing pieces between mounting plate and body. Tighten all setscrews fully.

Removal

Engine should be removed from above, car standing on workshop floor, using overhead lifting tackle and trolley jack. If two sets of lifting tackle and lifting plates are available, trolley jack may be dispensed with.

Disconnect battery and remove bonnet. Drain coolant from radiator and oil from engine. Slacken clips on upper and lower water hoses and remove radiator matrix by taking off securing self-locking nuts and washers at top and bottom of unit. (Two each top and bottom.)

Remove flex pipe at carburettor air intake elbow, turn slotted fasteners on air cleaner

ruff key. Pulley spigoted and bolted to hub.

Circular oil seal bears on distance-piece behind pulley. Split oil seal housing contains asbestos rope seal and 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 indium-lined shells located by tabs in caps; no hand fitting permissible.

Small ends bronze bushed for fully floating gudgeon pins.

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.*

On later cars pistons are fitted with Maxiflex scraper rings, each of these consists of two steel rails with space between. These are held together by special adhesive inserted at initial assembly. When re-assembling, ensure that ring ends do not overlap.

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.

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 (mark on crankshaft damper). 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. When renewing, valve guide bores should be reamed to .505in and each guide should be pressed in until outer end projects $\frac{1}{8}$ 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.

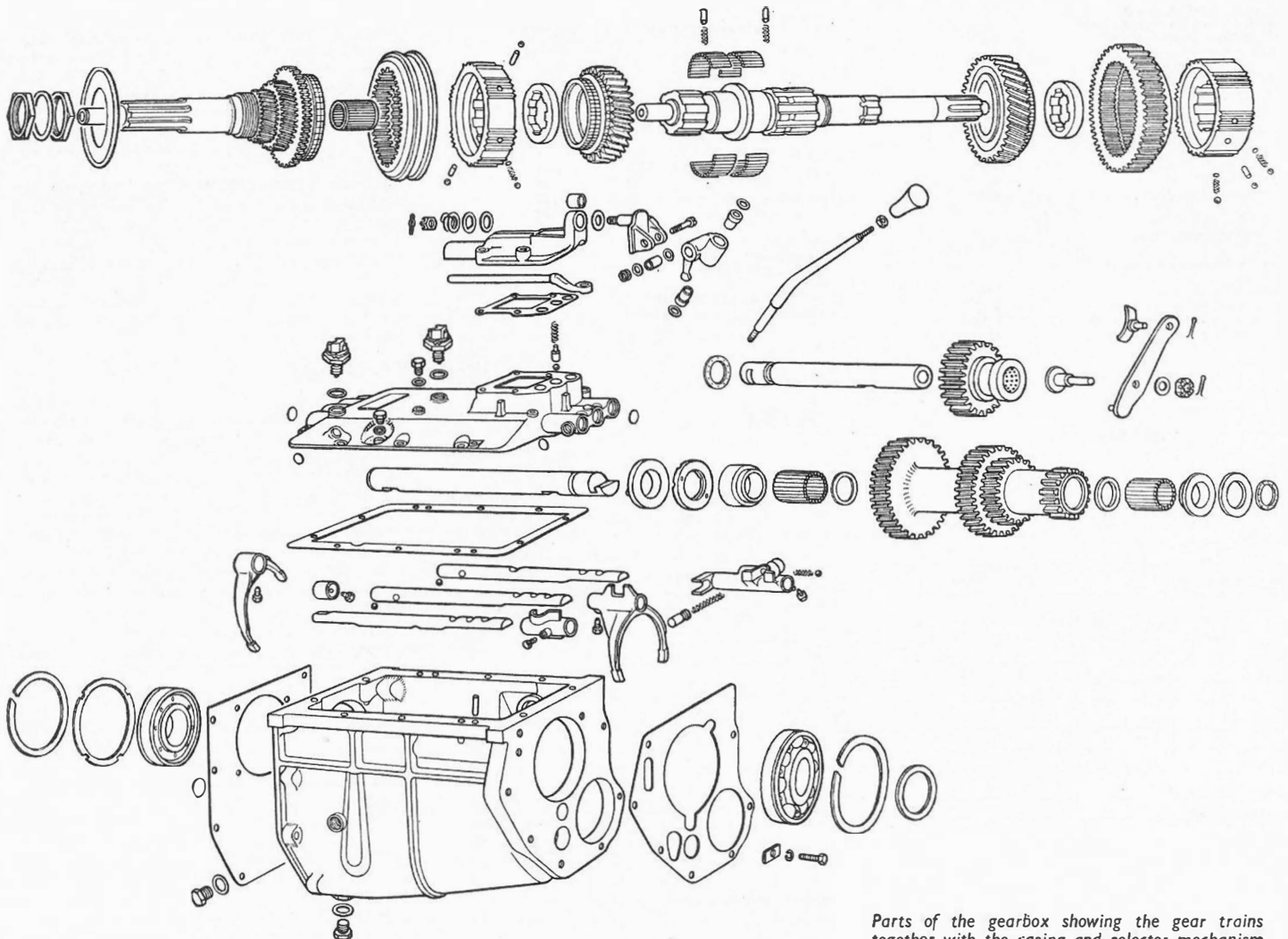
Plain cylindrical tappets fit over valves and slide in guides shrunk into head. Adjust clearance between cam and valve by pad on top of valve stem. Pads are available in thicknesses ranging from .085in to .110in in .001 steps. Pads are identified by etched letters A to Z, A being thinnest. Camshafts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



Parts of the gearbox showing the gear trains together with the casing and selector mechanism

Cooling System

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

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 slave cylinder push rod to give $\frac{1}{8}$ in free travel at withdrawal lever.

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

Gearbox

Four speed, synchromesh on 2nd, 3rd and top gears. Single helical gear forms.

To Remove Gearbox

Gearbox should be removed with engine unit as detailed in engine section. It is not possible to remove gearbox as a separate unit.

Dismantling and reassembling process is similar to that described on pp. iv and v of Service Data No. 375, to which readers are referred for these details.

Rear Axle

Salisbury 4HU, mounted independently from hubs and road wheels and is fitted with Thornton Powr-Lok differential unit. Short drive shafts, with universal joints at each end are coupled to axle output shafts and each shaft provides mounting location for discs of inboard rear brakes. Axle ratio is stamped on tag attached to assembly by one of detachable rear cover securing screws.

To remove axle, first remove rear suspension, proceeding as follows: slacken clamp bolts and nuts and take off exhaust pipes and silencers complete with tail pipes. Take off radius arms after removal of safety straps, and securing bolts, also bolts securing each end of anti-roll bar to radius arm. Place block of hard wood (9×9×1 in) between rear suspension and jack. Jack up car, place stands under body, forward of radius arm mounting posts (use wood blocks between chassis stands and body to avoid damage). Take off rear road wheels. Undo brake flex hose at body junction. Disconnect rear brake mechanism (caliper levers) on suspension cross beam. Take outer hand brake cable screw out of adjuster block. Remove cross beam mounting rubber attachment nuts at front of beam, noting and preserving shims. Remove rear cross beam mounting nuts, also prop shaft securing nuts at pinion flange. Lower unit on jack and withdraw axle and suspension complete from car.

Access to axle unit after further dismantling of suspension unit to remove tie plate, hydraulic dampers, half-shafts (note camber shims), inner wishbone fulcrum shafts (drift out). Also, remove hub, half-shaft, wishbone and radius arm from other side. Remove handbrake compensator, disconnect hydraulic feed pipes at brake calipers. Turn suspension assembly over, remove locking wire and take out diff. carrier mounting bolts, remove cross beam.

Rear Suspension

Independent coil springs and telescopic dampers. Universally jointed half-shafts form top "links," and lower links are pivoted at wheel carrier and axle cross-member ends respectively.

Suspension medium provided by four coil springs, each containing telescopic dampers, and mounted in pairs each side of the differential casing. Complete assembly is carried in steel cross-beam mounted to the body on four "V"-rubber blocks, located by radius

CAMSHAFT	
No. of bearings	4 per shaft
Bearing journal: diameter	1.000in (-.0005in)
Bearing clearance	.0005-.002in
End float	.0045-.008in
Timing chain: pitch	$\frac{1}{2}$ in
No. of links (upper)	100
(lower)	82

TUNE-UP DATA	
Firing order (No. 1 at rear of engine)	1-5-3-6-2-4
Tapet clearance* (cold):	
inlet	.004in
exhaust	.006in
Valve timing: inlet opens	15° B.T.D.C.
inlet closes	57° A.B.D.C.
exhaust opens	57° B.B.D.C.
exhaust closes	15° A.T.D.C.
Standard ignition timing (8 : 1 C.R.)	9° B.T.D.C.
(9 : 1 C.R.)	10° B.T.D.C.
Location of timing mark	Crankshaft damper, pointer on sump
Plugs: make	Champion
type	UN 12Y
size	14 mm
gap	.025in
Carburettor: make	S.U.
type	HD8 (triple)
Settings: choke	2in
jet size	.125in
jet needle	UM
Auxiliary starting carburettor and needle type	425/8
Air cleaner: make	A.C.
type	paper element
Fuel pump: make	Lucas
type	2FP
pressure	2 $\frac{1}{2}$ -2 $\frac{3}{4}$ lb/sq. in.
*Set at .010in for timing.	

arms, pivots of which are rubber bushed and mounted either side of car, between lower link and body structure.

CHASSIS

Brakes

Dunlop disc type on all four wheels, pedal boost vacuum servo-operated from footbrake pedal, handbrake operates mechanical linkage to rear units. Brakes comprise hub mounted disc and braking unit rigidly attached to each suspension member at front. Caliper unit houses a pair of brake pads. At rear, similar brake units are mounted inboard adjacent to differential unit, and incorporate the handbrake pad carriers.

Since friction pads are self-adjusting, adjustment and maintenance are confined to examination for wear and replacement of pads when worn to $\frac{1}{16}$ in thick.

Self-adjusting handbrakes fitted, consequently no attention is required, apart from renewal of pads when worn to dimension stated above.

Front Suspension

Independent coil spring and wishbone link pattern. Inner end of upper and lower links pivoted in loose rubber bushes. 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 in general, compares with that used on earlier series models. For further details see pp. v and vi Service Data No. 335.

Steering Gear

Power-assisted recirculating ball layout. Unit used compares with that described in Service Supplement No. 322/C50.

Shock Absorbers

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

VALVES		
	Inlet	Exhaust
Head diameter (in)	1 $\frac{1}{2}$ ±.002	1 $\frac{1}{2}$ ±.002
Stem diameter (in)	$\frac{3}{16}$ ±.0025	$\frac{3}{16}$ ±.0025
Face-angle	45°	45°
	Inner	Outer
Spring length: free	1 $\frac{1}{8}$ in	1 $\frac{1}{8}$ in
fitted	1 in	1 $\frac{1}{8}$ in
at load	30.33lb	48.375lb

CHASSIS DATA	
CLUTCH	
Make	Borg & Beck
Type	sdp 10 A6 G
Springs: no.	12
colour	Violet
free length	2.68in
Centre springs: no.	6
colour	brown/cream
Driven plate: type	Borgite
material	wound yarn

GEARBOX		
Type	synchromesh	
No. of forward speeds	Std.	O'drive
Final ratios: 1st	11.954 : 1	12.731 : 1
2nd	6.584 : 1	7.012 : 1
3rd	4.541 : 1	4.836 : 1
4th	3.54 : 1	3.77 : 1
o'drive 4th	—	2.933 : 1
Rev.	11.954 : 1	12.731 : 1

FINAL DRIVE	
Type	Salisbury 4HU (hy-poid)
Crownwheel/bevel pinion teeth (std.)	46/13
(overdrive)	49/13

BRAKES		
Type	Dunlop disc front & rear	
	Front	Rear
Disc diameter	10 $\frac{1}{2}$ in	10 in
Master cyl. bore dia.	$\frac{1}{2}$ in	$\frac{1}{2}$ in
Brake cyl. bore dia.	2 $\frac{1}{8}$ in*	1 $\frac{1}{8}$ in†
Friction pad material:		
footbrakes	Mintex M33	
handbrake	Mintex M34	
Servo type	vacuum bellows	

*Later cars: 2 $\frac{1}{8}$ in. †Later cars: 1 $\frac{1}{8}$ in from chassis nos. 300471 RHD 350973 LHD. Note: Main friction material later cars: M59.

SPRINGS		
	Front	Rear*
Type	ind. coil	ind. coil
Wire dia. of coils	—	.475in
No. of coils (approx.)	—	10 $\frac{1}{2}$
Free length	—	12.525in
Identification colour	—	Yellow
Wheel camber	—	1°±1° neg.

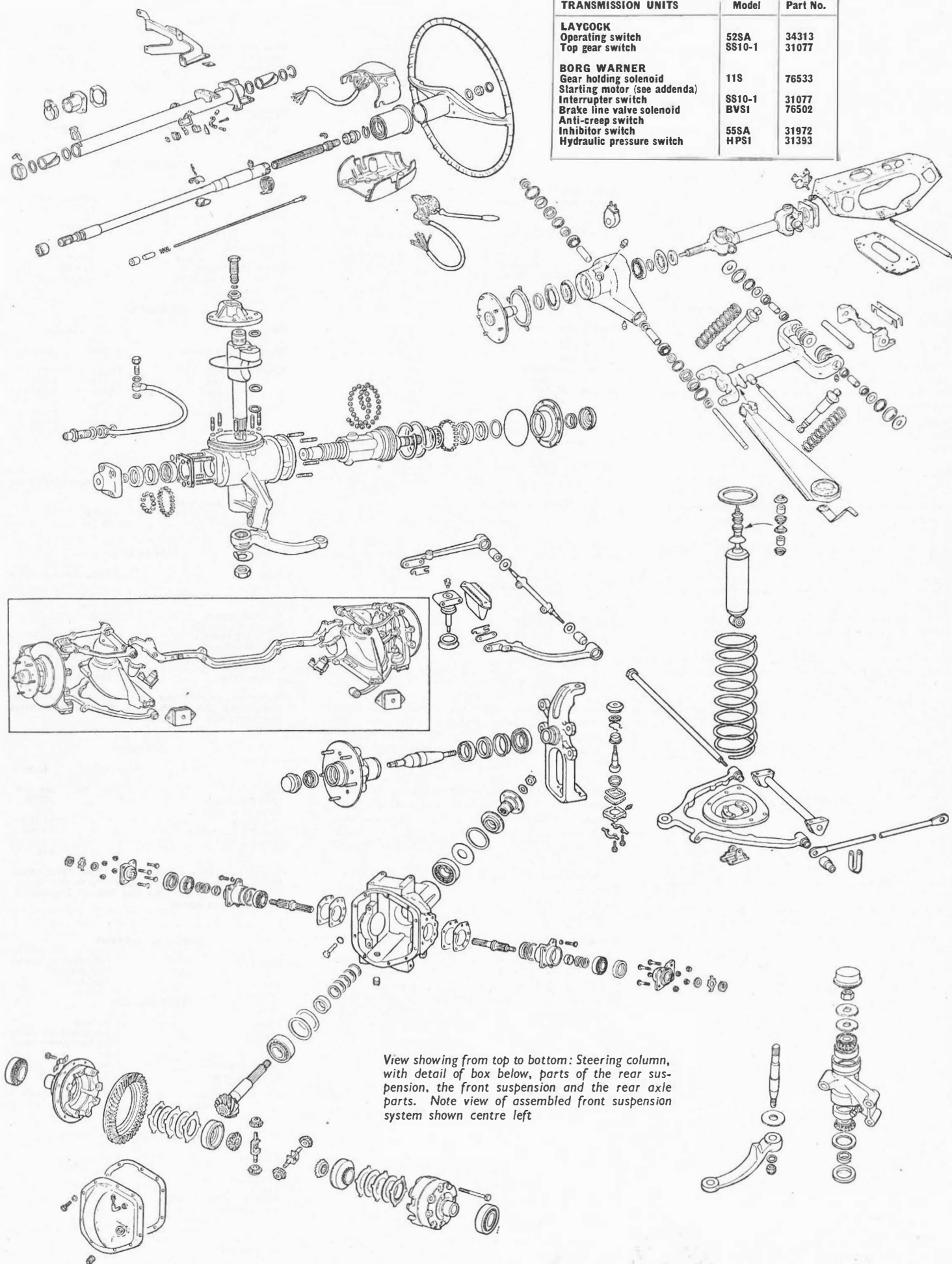
*Latest type shown in table. Earlier types:—Free length 12.725in colour white and another with free length 13.35in, colour green. See also table of Engineering changes, chassis section.

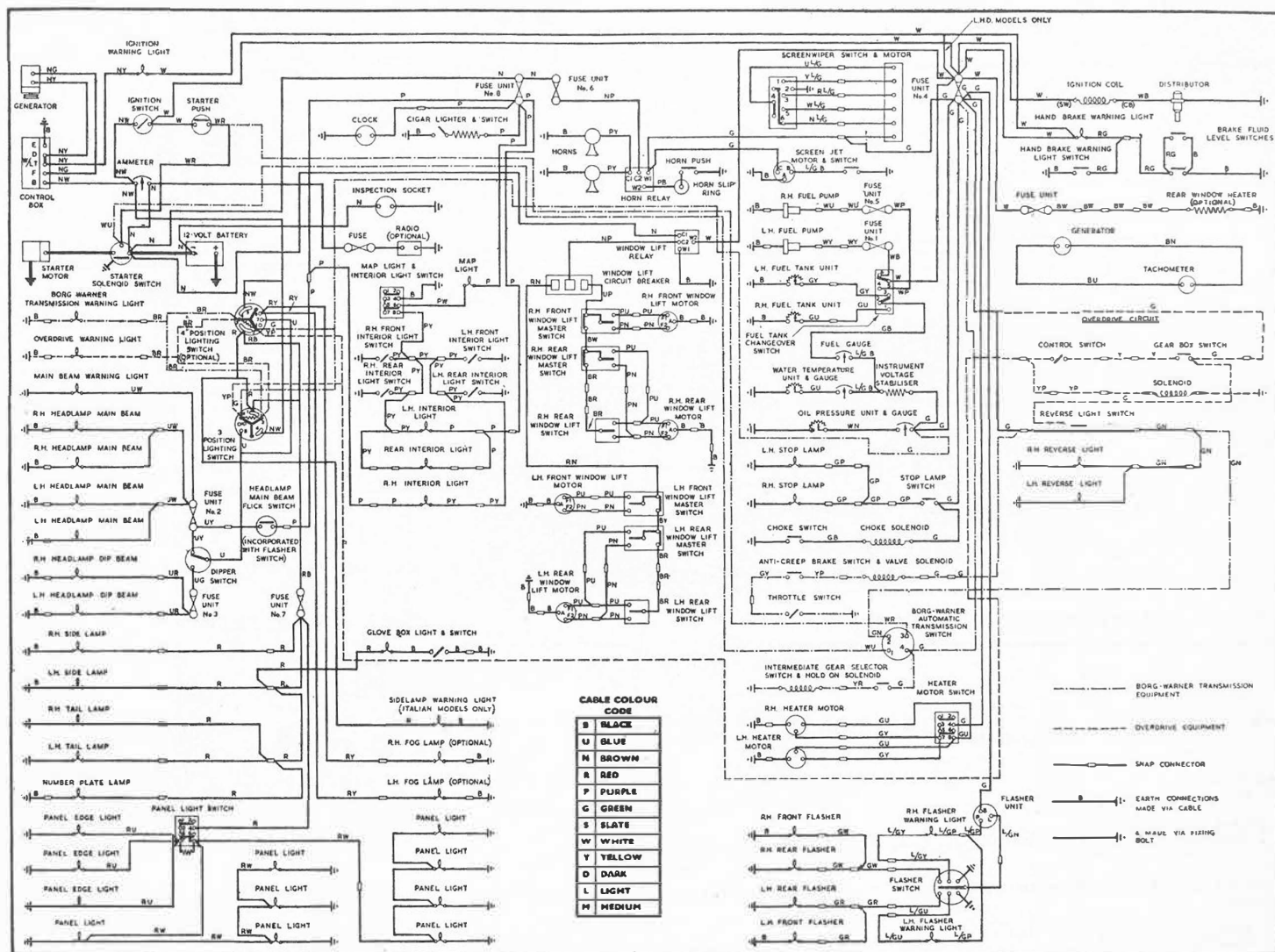
SHOCK ABSORBERS	
Type	Telescopic hydraulic
Service	front and rear replacement

STEERING BOX	
Make	Burman
Type	Worm and recirculating ball, power assisted
Steering gear ratio	18.9 : 1
Oil pump make	Hobourn-Eaton
type	Roller
location	rear of generator
operating pressure†	1,000 lb/sq. in

FRONT-END SERVICE DATA	
Castor	0°±1°
Camber	$\frac{1}{8}$ °±1° pos.
King pin inclination	3 $\frac{3}{4}$ °
Toe-in	$\frac{1}{16}$ in
No of turns lock to lock	4 $\frac{1}{2}$
Adjustments: castor } camber } toe-in }	shims
	screwed tie rod ends

†Engine speed 1,000 r.p.m.





Wiring diagram by permission of Joseph Lucas Ltd.

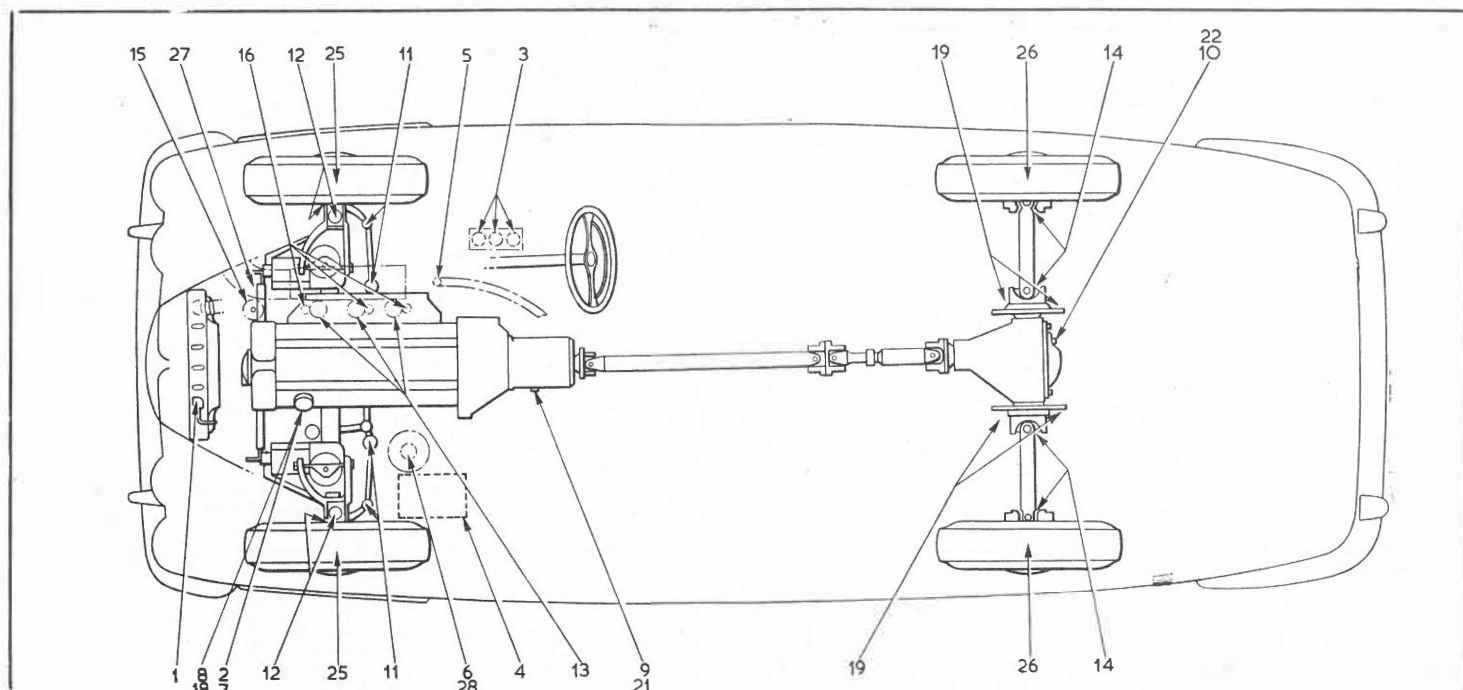
LUCAS EQUIPMENT	
BATTERY	
Model FRV11A	Part No. 22804
GENERATOR	
Model C48	Part No. 22804
CONTROL BOX	
Model RB340	Part No. 37354
STARTING MOTOR	
Model M45G	Part No. 26140
Drive 'S' Type Inboard	
DISTRIBUTOR	
Model DMBZ6A	Part No. 40828
Max. centrifugal advance (crank degrees) 17°-21° at 4,600 r.p.m.	
No advance below 800 r.p.m.	
Centrifugal advance springs Part No. 54414898.	
Max. vacuum advance (crank degrees) 14°-18° with 20in Hg.	
No advance below ... in Hg.	
IGNITION COIL	
Model HA12	Part No. 45104
Primary resistance 3.0-3.5 ohms	
Running current at 1,000 r.p.m. 1.0 amp.	
WINDSCREEN WIPER	
Model 6W	Part No. 75465 (R.H.D.) 75425 (L.H.D.)
HORN(S)	
Model WT618	Part No(s). 69127 (L.N.) 69128 (H.N.)
Type: Windtone	
Current consumption 13½-15½ amp (per horn)	
FLASHER UNIT	
Model FL5	Part No. 35011
FUSE UNIT	
Model 4FJ (540 380 32)—2 Off	
Fuse ratings 35 amp.	
35 amp.	

FILL-UP DATA	Pints	Litres
Engine sump (refill including filter)	12	6.75
Gearbox (without overdrive)	2½	1.5
Gearbox (with overdrive)	4	2.25
Automatic transmission	15	8.5
Rear axle	2½	1.5
Cooling system (including heater)	24½	14
Fuel tank (left-hand)	10 galls	45.5
Fuel tank (right-hand)	10 galls	45.5

Tyre Pressures		
front	28lb/sq in	1.97 Kg/cm ²
Normal use up to 100 m.p.h. Not more than 3 people in car	25 lb/sq in	1.76 Kg/cm ²
rear		

*For normal use state, quoted above but with full complement of passengers, rear tyre pressures should be increased to 28 lb/sq. in (1.97 kg/cm²). For sustained high speed, pressures should be 32 lb/sq. in (2.25 kg/cm²) front, 30 lb/sq. in (2.11 kg/cm²) rear. With full complement of passengers in this state, pressures should be 32 lb/sq. in (2.25 kg/cm²) all round.

LAMPS		BULB OR LIGHT UNIT		
Model	Part No.	Lucas No.	Wattage	Cap
*Head Home, Outer	F700	58715	60/45	—
Head Home, Sweden, Inner	F575	58723	37.5	—
Head S. America, Middle East, Outer	F700	58747	—	—
Head Austria, Outer	F700	58953	410	—
Head Austria, Inner	F575	58724	54521615	37.5
Head France, Outer	F700	58954	411	—
Head France, Inner	F575	58725	54520931	37.5
Long range driving Side	461/1	52606	989	6
*Front Flasher R.H.	690	52540	382	21
Front Flasher L.H.	690	52542	380 (S.T.)	6/21
*Stop tail and Rear Flasher	687	53935	382 (F.)	21
*Number plate and reverse	687	53934	989 (N.P.)	6
	689	53943	382 (R)	21
Flasher repeater	—	54360731	987	2.2
Interior	—	52477	989	6
Panel (bulb holder)	481	54121	989	6
Map	519	863511	987	2.2
Bonnet	—	554734	987	2.2
Ignition warning bulb holder	—	—	—	—
Main beam warning bulb holder	—	—	—	—
Flasher warning	—	—	—	—
Choke warning	—	—	—	—
Petrol warning	—	—	—	—
Oil warning	—	—	—	—
Brake warning	WL3/1	38220	987	2.2
Side Lamp warning (Italy)	WL13	38234	987	2.2



KEY TO MAINTENANCE DIAGRAM

DAILY†

1. Radiator
2. Engine sump } check levels

WEEKLY

3. Brake and clutch fluid supply tanks—check levels

MONTHLY

4. Battery—check electrolyte level

EVERY 1,250 MILES

5. Automatic transmission (if fitted) } check levels
6. Power steering reservoir

EVERY 2,500 MILES (as for 1,250 Miles plus following)

7. Engine sump—drain and refill
8. Engine oil filter element—clean
9. Gearbox } check levels
10. Rear axle } check levels
11. Steering tie rod ball joints } lubricate
12. Wheel swivels } lubricate
13. Carburettor piston dampers } lubricate
14. Rear half shaft U.J.s } lubricate
15. Distributor—oil shaft bearing, auto advance mechanism, contact breaker pivot, smear cam with grease

EVERY 5,000 MILES (as for 2,500 Miles plus following)

16. Carburettor filters } clean
17. Fuel line filter } clean
18. Engine oil filter element—renew
19. Rear suspension wishbone pivot bearings—lubricate
20. Door hinges, locks, catches, seat runners, ratchets, adjusting mechanism and linkages, etc.—oil can

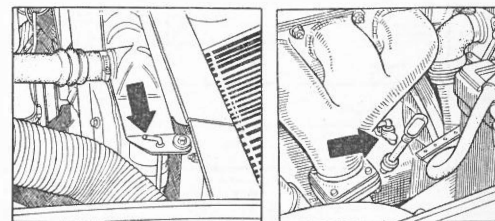
EVERY 10,000 MILES (as for 5,000 Miles plus following)

21. Gearbox } drain and refill
22. Rear axle } drain and refill
23. Automatic transmission (if fitted)—drain and refill
24. Overdrive oil pump filter (if o'drive fitted)—clean
25. Front wheel bearings—strip, clean and repack with h.m.p. grease
26. Rear wheel hubs—lubricate
27. Air cleaner element—renew
28. Steering gear oil reservoir filter—renew

*Not shown on diagram

†Early cars only—see table Eng. Changes p. iii

DRAINING POINTS



Left: shows the location of the radiator matrix drain tap, and right: the cylinder block drain tap, below rear exhaust manifold, and adjacent to engine dip-stick

RECOMMENDED LUBRICANTS

	MOBIL	CASTROL	SHELL	ESSO	B. P.	DUCKHAM'S	REGENT
Above 90° F	Mobiloil AF	Castrol XXL	Shell X-100 40	Esso Extra Motor Oil 40	Energol 40	NOL 40	Advanced Havoline 40
Engine ... 32° to 90° F	Mobiloil A	Castrol XL	Shell X-100 30	Esso Extra Motor Oil 20W/30	Energol 30	NOL 30	Advanced Havoline 30
Below 32° F	Mobiloil Arctic	Castrolite	Shell X-100 20W	Esso Extra Motor Oil 20W/30	Energol 20	NOL 20	Advanced Havoline 20/20W
Engine oils Multigrade*	Mobiloil Special 10W/30	Castrolite 20/20W-30	X-100 Multigrade 10W/30	Esso Extra Motor Oil 20W/30	Energol Viscoslastic	Q5500	Advanced Havoline Special 10W/30
Gearbox, Distributor, Oil can	Mobiloil A	Castrol XL	X-100 30	Esso Extra Motor Oil 20W/30	Energol SAE 30	NOL 30	Advanced Havoline 30
Rear axle	Mobilube GX 90	Castrol Hypoy	Spirax 90 EP	Esso Gear Oil GP 90	Energol 90 EP	Hypoid 90	Universal Thuban 90
Chassis nipples	Mobilgrease MP	Castrol LM	Retinax A	Multipurpose Grease H	Energol L2	LB 10	Mariak Multipurpose
Wheel hubs and distributor cam drive shafts and propeller shafts at chassis or shaft overhaul only	Mobilgrease MP	Castrol LM	Retinax A	Multipurpose Grease H	Energol L2	LB 10	Mariak Multipurpose
Automatic transmission Power steering system	Mobil Fluid 200	Castrol T.Q.	Shell Donax T.6	Automatic Transmission Fluid	Energol A.T.F. Type A	Nolmatic	3528 Texamatic Fluid
Upper cylinder lubricant	Mobil Upperlube	Castrollo	Donax U or Shell UCL	Esso UCL	Energol U.C.L.	Adcoid Liquid	Regent U.C.L.
Brake and clutch fluid reservoirs	Dunlop Disc Brake Fluid (S.A.E. 70 R.3) or other brands of S.A.E. Spec. 70 R.3						

*These oils should NOT be used in worn engines, whose general condition indicates that overhaul is required.