

# Motor Trader

## SERVICE DATA No. 484

### Morris Minor 1000

Manufacturers: BLMC, Cowley, Oxford

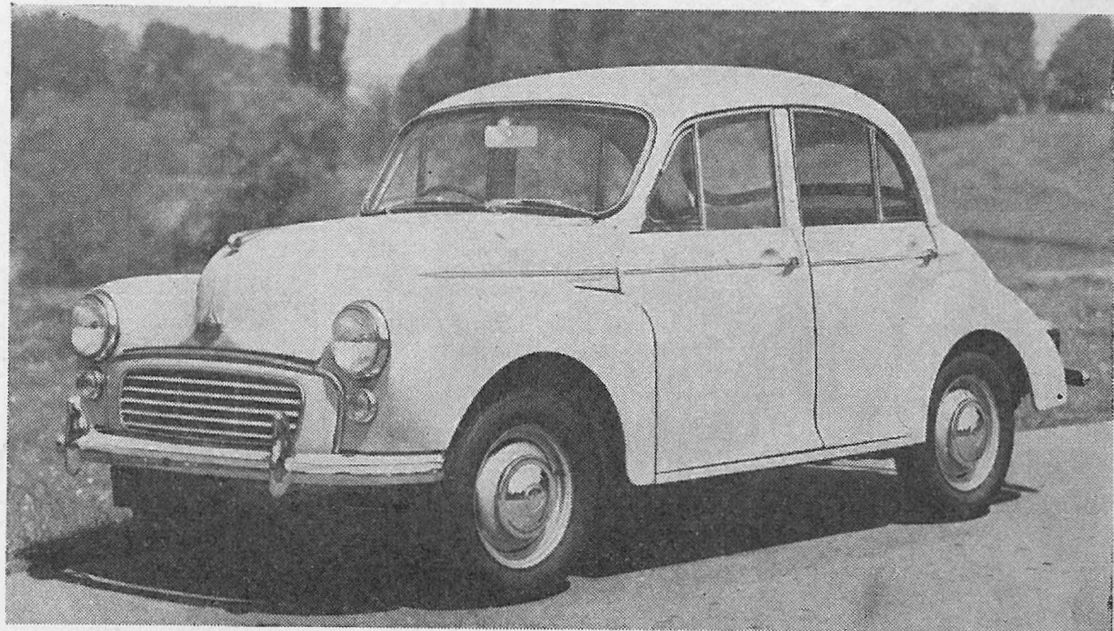
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ALMOST twelve years have elapsed since an article in this series featured the Morris Minor car. During that time although the body shape has remained almost unaltered, there have been many changes to the mechanical specification. Most of these have been of a detailed nature rather than those of a radical departure from the original conception and the cumulative effect of all these is to render the information which we published in 1957 no longer suitable for use with the current Minor models, hence we have revised the former work completely.

Mechanical layout of the car remains as before, a four-cylindere engine driving a four-speed synchromesh gearbox through a single dry plate clutch. Drive to the rear road wheels is taken through a single stage open tubular propeller shaft to the hypoid bevel reduction gear contained within the three-quarter floating rear axle which is suspended upon semi-elliptic leaf springs. Suspension at the front is the familiar torsion bar layout, and rack and pinion steering is still used.

Identification of vehicles follows accustomed BMC practice and is by car and engine numbers. The car number is stamped on a plate which is secured to the right-hand side of the dash panel beneath the bonnet and this number, together with all prefixes and suffixes, should be quoted when in correspondence with the vehicle manufacturers, or when ordering spare parts. The engine number is stamped either upon a metal plate which is secured to the right-hand side of the cylinder block or on the block casting itself. Gearbox numbers are stamped on the gearcase forward of the change speed lever turret; rear axle numbers are stamped on the front of the left-hand axle tube adjacent to the spring seat, and body numbers are to be found stamped on a plate which is welded to the left-hand tie plate beneath the radiator and the wing valance.

Special tools for use in general and



Overall lines of the car have changed little over the years, but latest models now have the large flashing signals front and rear

specific repair jobs are marketed through the BLMC dealer network and a list of those considered the more essential is set out on p. iii. Many of these tools will be found to have application to other vehicles in the BLMC range and a comparison of the tools listed in this data sheet and other similar data sheets will show the extent of this facility.

Threads and hexagons are, in the main, of the Unified thread series, pattern and form. Certain proprietary parts have thread forms of other series; but in any event, nuts, screws, bolts, etc., should always be replaced in the locations from which they were dismantled, care being taken to renew all those components which have stretched or damaged threads.

### ENGINE Mounting

At front, bonded rubber blocks are bolted to lugs on front engine plate and to brackets on body extensions. At rear, gearbox extension housing rubber-bonded brackets are bolted to mountings on cross-member. All bolts should be tightened fully.

### Removal

Engine may be withdrawn with or without gearbox, but when engine/gearbox are removed as a unit, radiator and grille must be removed. To remove with gearbox: secure bonnet in fully open position,

drain coolant and oil from both engine and gearbox. Disconnect all pipes, wires and controls to and from engine and heater connections. Remove carburettor and air cleaner and disconnect exhaust pipe at manifold flange. Remove nuts, bolts and washers to release radiator mask, also grille assembly attached to wings and frame (three 2BA nuts beneath wing). Disconnect sidelamp leads at snap connectors and lift out radiator/grille assembly. Disconnect and remove clutch operating rods and speedo cable at gearbox end.

Remove two setbolts and spring washers securing relay bracket to main frame. Take out packing plate and bushes. Preserve washer fitted between inner bush and lever. Remove thrust spring from opposite end of lever. Take weight of unit with suitable tackle, take up front carpet and felt and remove exposed gearbox cover plate.

Remove the three set bolts and take out gear-lever assembly. Uncouple engine steady cable. Take off nuts (spring and flat washers) securing rear mounting rubbers to cross-member. Remove four bolts securing cross-member to frame (forward one L/H side secures vehicle earth cable). Lower rear of power unit until cross-member can be removed.

Take off four nuts, bolts and spring washers securing front left-hand engine mounting bracket to tie plate. Remove nuts and washers which secure front mounting rubbers to each side of mounting plate. Raise power unit, and remove left-hand mounting bracket and rubber

assembly. Manoeuvre unit sideways to clear right-hand mounting rubber studs, then raise unit, moving forwards and out of car. Replacement is a reversal of dismantling process noting that mounting rubbers should not be tightened fully until mountings are supporting complete weight of power unit.

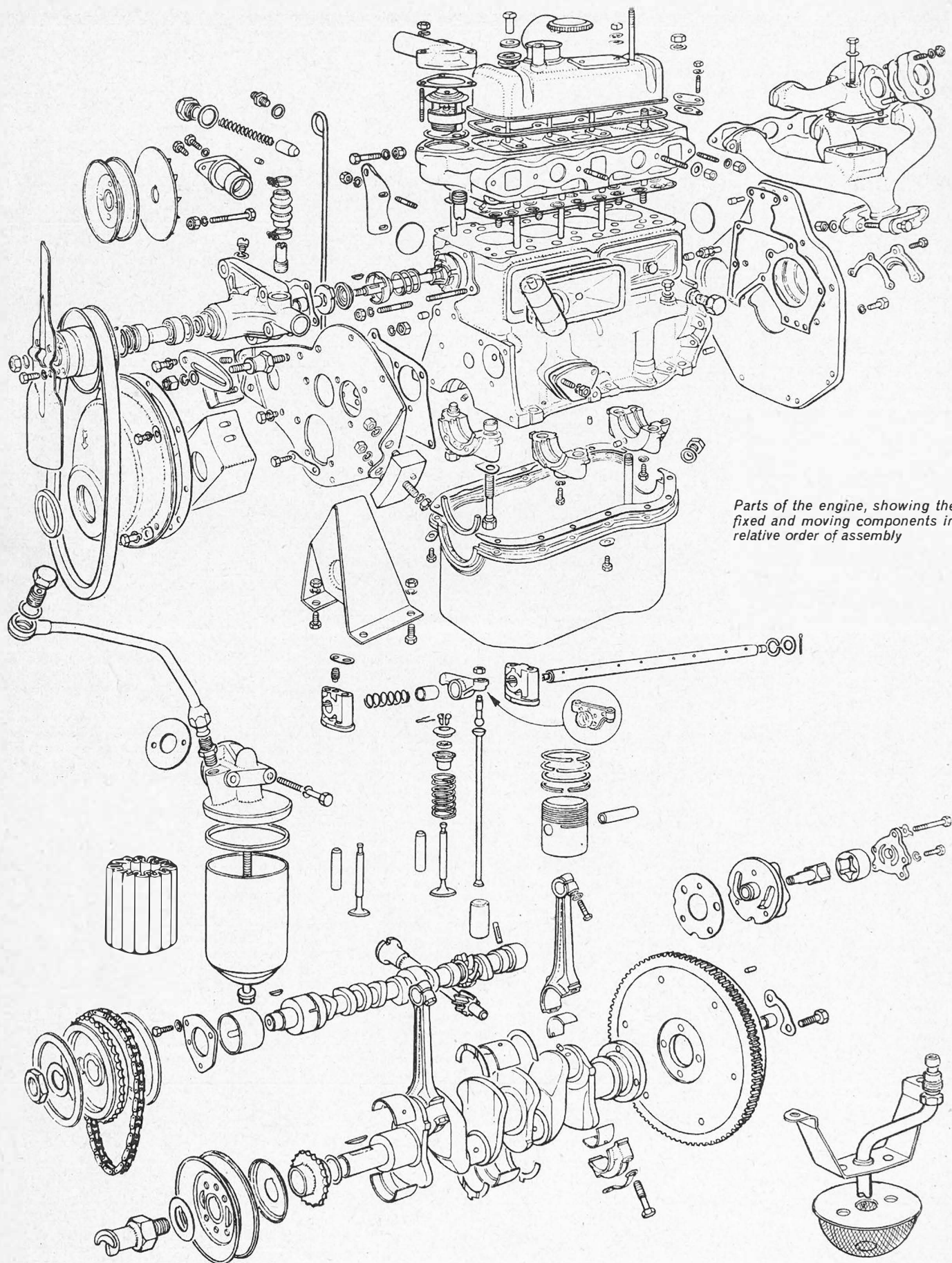
### Crankshaft

Three main bearings, thin-wall steel-backed, copper/lead-lined located by tabs. End-float controlled by split thrust washers recessed either side of centre main bearing and retained by tabs in cap. Fit with oil grooves to crankshaft, no hand fitting permissible.

Main bearings cannot be changed with engine in place, as rear cap cannot be detached without removal of rear engine plate, but thrust washers can be renewed *in situ*. Oil intake strainer and suction tube assembly (union screwed into bottom face of crankcase) must be removed completely before centre bearing cap can be removed.

Flywheel, with shrunk-on starter ring gear, spigoted on rear flange of crankshaft and retained by four equally spaced set-screws. Oil-impregnated spigot bearing bush pressed into end of shaft.

Timing sprocket and pulley hub, with oil thrower between, pressed on front end of crankshaft, sharing special flat Woodruff key, and retained by hand starter dog setscrew. Sprocket fits with longer boss to rear, with shims behind for alignment. Pulley hub passes through felt



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

sealing ring in timing cover. Tighten starter dog setscrew until, with crankshaft at T.D.C. 1 and 4, jaws are at "20 past 10".

Rear main bearing cap forms lower half of oil collector trough round return thread on shaft. Upper half detachable, retained by three setscrews. If detached, upper half must be refitted so that it butts on cap after cap has been tightened fully.

## Connecting Rods

Big ends thin-wall, steel-backed, copper/lead shells, lead-tin plated surface, located by tabs. No hand fitting permissible. Rods split diagonally, cap and rod stamped on same side.

Big ends are offset. Fit Nos. 1 and 3 with larger boss to rear, 2 to 4 to front. Oil bleed hole on longer side of big end must go to off side, away from camshaft.

Gudgeon pins are fully floating.

## Pistons

Aluminium alloy, aluminited finish, with dished crown.

Top compression ring plain internally chamfered and chrome-plated, second and third rings taper faced and must be fitted with sides marked "TOP" upwards. Oil control ring, fitted in lowest groove, is Wellworthy Duaflex 61.

Big ends will pass through bores, but pistons will not pass crank throws. Remove and assemble through top.

## Camshaft

Single-roller endless-chain drive. Camshaft sprocket spigoted on camshaft, keyed with Woodruff key and retained by nut. No alternative fitting for valve timing. Sprockets must be removed and assembled together.

Camshaft runs in three bearings in crankcase. Bearings have white metal-lined steel bushes. End-float controlled by thrust plate trapped between sprocket and shoulder on shaft, and bolted to front face of crankcase.

Dot-punched timing marks on sprockets must be together when chain is fitted, with No. 1 piston at T.D.C. on compression stroke.

## Valves

Overhead, not interchangeable. Inlet larger than exhaust. Split cone cotter fixing, single springs. Rubber packing rings on valve stems below collars.

Valve guides plain, no shoulder, Press in until they project  $\frac{1}{32}$  in from spot face of spring seat.

## Tappets and Rockers

Plain barrel tappets sliding directly in crankcase. Access through opening in side.

Bushed rockers, all interchangeable, on shaft carried in four pillars. Two different types used, either forged or pressed steel. Latter type MAY NOT be re-bushed. Shaft located by grub screw in No. 1 pillar, which is drilled for oil feed through drillings in head and cylinder block. Pair of rockers for each cylinder located on either side of pillar, separating springs between rockers of adjacent cylinders.

Push rods can be removed singly after adjustment has been slackened right off. Inner rockers can be pulled aside against separating springs, but end rockers must be

taken off after removal of split pin, plain washer and double-coil spring washer.

## Lubrication

Hobourn-Eaton eccentric rotor pump spigoted in recess in rear face of cylinder block and driven by pin and slotted shaft from rear end of camshaft. Latest type unit identified by pump manufacturers name and patent number cast on outer flange of cover instead of appearing around centre of cover.

Engine must be removed from car for removal of pump. Cylindrical gauze intake strainer in sump, carried on bracket between centre and rear main bearing caps and flange-bolted to suction pipe, upper end of which is retained by union nut screwed into bottom face of crankcase.

Oil delivered through drillings to gallery on off side of crankcase, and to full-flow oil filter, bolted to cylinder block casting.

Non-adjustable spring-loaded plunger relief valve on off side of crankcase below distributor. Remove distributor for access.

### SPECIAL TOOLS

#### Part No.

**ENGINE**  
Camshaft liner remover and replacer  
Camshaft liner remover and replacer adaptor  
Valve rocker bush drift  
Oil release valve grinding-in tool  
Camshaft liner reamer (basic tool)  
Pilots and reamers  
Bearing and oil seal replacer (basic tool)  
Timing case oil seal replacer adaptor  
Adaptor for use with above

18G 124A  
18G 124K  
18G 226A  
18G 69  
18G 123A  
18G 123AT  
18G 123B  
18G 123BA  
18G 134  
18G 134BD  
18G 134L

**GEARBOX AND CLUTCH**  
Clutch assembly gauge fixture  
Clutch plate centraliser  
Dummy layshaft  
Synchroniser assembly tool  
First motion shaft bearing assembly and replacer  
Rear oil seal remover (basic tool)  
Adaptor for use with above

18G 99A  
18G 139  
18G 471  
18G 144  
18G 140  
18G 389  
18G 389A

### FRONT AND REAR SUSPENSION

Front and rear hub extractor (basic tool)  
Bevel pinion rear bearing inner race remover and replacer  
Bearing oil seal replacer (basic tool)  
Differential bearing remover  
Adaptor for use with above  
Bevel pinion outer race remover (basic tool)  
Adaptors for use with above  
Bevel pinion bearing pre-load gauge  
Bevel pinion setting gauge  
Differential bearing gauge  
Bevel pinion flange wrench

18G 304  
18G 285  
18G 134  
18G 47C  
18G 47M  
18G 264  
18G 264D  
18G 264E  
18G 207  
18G 191  
18G 191A  
18G 34A

### GENERAL DATA

Wheelbase	7ft 2in
Track: front	4ft 2 $\frac{1}{2}$ in
rear	
Turning circle: { R.H.	33ft 1in
L.H.	32ft 11in
Ground clearance	6 $\frac{3}{4}$ in
Tyre size	5.20—14 or 145-14SP
Overall length	12ft 4in
Overall width	5ft 1in
Overall height	5ft 0in
Weight (kerb)	1.636lb
	1.733lb
	2-dr. sln.
	4-dr. sln.

### NUT TIGHTENING TORQUE DATA

ENGINE	lb.ft
Cylinder head stud nuts	40
Con. rod big end bolts	35
Main bearing setscrews	60
Flywheel setscrews	35-40
Manifold/cylinder head	15
Crankshaft pulley nut	70
Rear road spring "U"-bolt nuts	12 $\frac{1}{2}$
Front hub nut	35-40
Road wheel nuts	37-39
Steering wheel nut	32-37

### ENGINE DATA

General Type	10MA
No. of cylinders	4
Bore x stroke: mm	64.58 x 83.72
in	2.543 x 3.296
Capacity: cc	1098
cu in	67
Max. bhp at rpm	not quoted
Max. torque (lb.ft) at rpm	8.5:1*
Compression ratio	
* 7.5:1 available	

### PISTONS AND RINGS

Clearance (skirt)	} bottom top	.0005-.0011in
Oversizes		.0021-.0037in
Weight		+.010, +.020in
Gudgeon pin: diameter		.562in
fit in piston		hand push fit
fit in con. rod		fully floating
	Compression	Oil Control*
No. of rings	3	1
Gap (fitted)	.007-.012in	.007-.012in
Side clearance in grooves	.002-.004in	.0015-.0035in
Width of rings: top	.062-.0625in	
2 & 3	.0615-.0625in	.124-.125in

\* Later engines have Wellworthy Duaflex 61: fitted gap, rail: .012-.028in side spring: -.1-.15in.

### CAMSHAFT

Drive type	Chain		
	Front	Centre	Rear
Bearing journal: diameter (in)	1.6655-1.666	1.62275-1.62325	1.3725-1.3735
Bearing clearance		.001-.002in	
End float		.003-.007in	
Timing chain: pitch		3/8in	
No. of links		52	

### VALVES

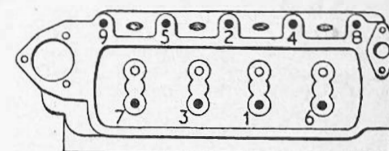
	Inlet	Exhaust
Head diameter	1.156in	1.000 in
Stem diameter	.2793-.2798in	.2788-.2793in
Face-angle	45deg.	45deg.
Spring length: free		1 $\frac{3}{4}$ in
No. of work-coils		4 $\frac{1}{2}$
Pressure: valve open		88lb
valve shut		55.5lb

### CRANKSHAFT AND CON. RODS

Diameter	Main Bearings			Crankpins
	1.7505—1.7510in			1.6254—1.6259in
	Front	Centre	Rear	
Length (in)	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	1.068-1.070in
Running clearance: main bearings				.001-.002in
big ends				.001-.0025in
End float: crankshaft				.002-.003in
big ends				.008-.012in
Max. undersize				.040in
Con. rod centres				5.75in

### NUT TIGHTENING TORQUE DIAGRAM

Diagram showing order of tightening cylinder head stud nuts. See also table of "Nut Tightening Torque Data" col. ii above





## Cooling System

Pump and fan. Non-adjustable thermostat in water outlet port on cylinder head. Centrifugal water pump fitted and on latest engines cylinders are not completely water-jacketed.

Adjust fan belt by swinging dynamo until there is 1 in movement either way on vertical run of belt.

# TRANSMISSION

## Clutch

Borg & Beck single dry plate. Sintered carbon thrust release bearing.

Only external adjustment is on front end of pedal pull rod, to give 1½ in to 1¾ in free movement at pedal pad.

Access to clutch for service after removal of gearbox.

## Gearbox

Four speed. Synchromesh on 2nd, 3rd and top gears. Central lever, remote control. Propeller shaft sliding joint on mainshaft.

### To Remove Gearbox

Remove distributor top, disconnect exhaust pipe and heater connections (if fitted) to allow engine to drop (detach heater tap from rear of cylinder head). Disconnect and remove battery, also cable from starter motor. Remove air cleaner and drain oil from gearbox. Remove gear lever and lever seating brackets. Raise rear of car on axle stands. Disconnect speedo drive, clutch link and cross-shaft, and rear

end of propeller shaft (also engine steadies). Support rear of sump on jack, and detach rear mountings. Lower engine until gearbox can be drawn straight back, and take out bell-housing flange bolts and set-screws (including starter bolts).

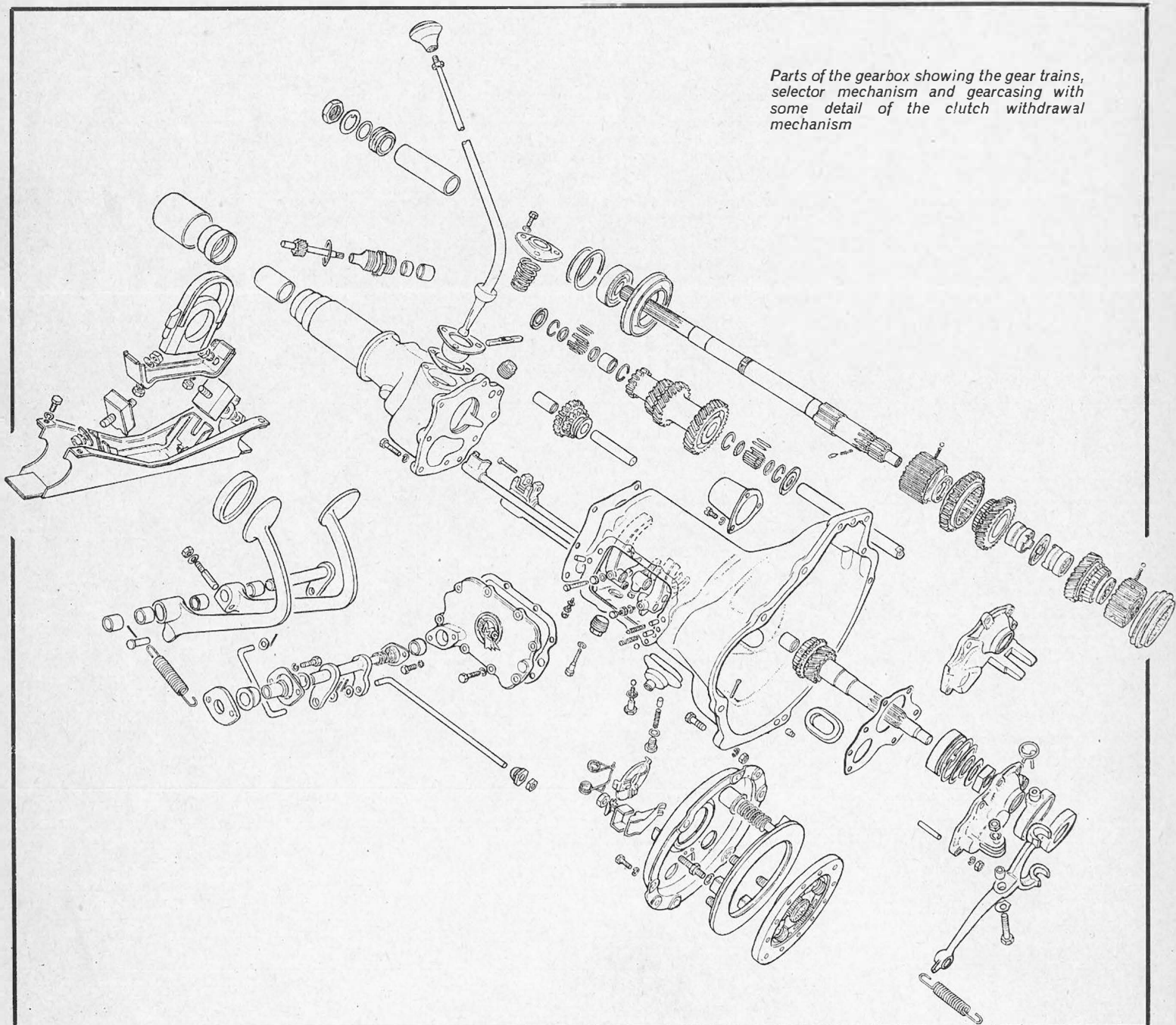
### To Dismantle Gearbox

Remove drain plug and speedo drive pinion and bush. Take off clutch arm dust seal, and unlock withdrawal arm pivot bolt. Take off nut and washer, unscrew bolt and take out lever. Remove three securing setscrews around change speed lever seat cover to remote control casing; take out lever and cover. Preserve anti-rattle plunger and spring.

Unscrew eight nuts, remove remote-control casing from rear extension; unscrew nine bolts and

remove extension, manoeuvring control lever from selectors preserving bearing packing washer as faces are separated. Detach side cover and pick out 1st/2nd and 3rd/top selector springs and plungers. Take out plug nearest front in bottom of box, retaining reverse selector spring and plunger. Take out selector fork set-screws, and draw rods out one at a time, catching interlock plunger and balls recessed in walls of box. Lift out forks.

Drive out layshaft spindle either way, allowing cluster to fall to bottom of box. Draw out primary shaft with spigot bush and ball bearing, drifting from inside if necessary. Tap out mainshaft assembly to rear with ball bearing and housing (spigoted in rear of box). Take out reverse spindle locking setscrew and drive spindle out to rear. Lift out bushed idler gear and layshaft cluster with thrust washers.



Parts of the gearbox showing the gear trains, selector mechanism and gearcasing with some detail of the clutch withdrawal mechanism

Layshaft cluster runs on needle rollers retained in bore by "L"-section retaining rings and spring rings. Rollers will not drop out.

To dismantle mainshaft assembly, note baulk ring positions and slide off top/3rd gear synchro assembly plain side to rear. Depress plunger locating splined thrust washer inside 3rd gear cone, turn washer and slide off, releasing 3rd and 2nd gears with bushes, thrust washer between, splined thrust washer behind 2nd gear, and 2nd synchro assembly with sliding 1st gear. Undo shaft nut, releasing speedo drive gear and long distance-piece. Press shaft out of ball bearing and bearing out of housing.

Primary shaft ball bearing (same as mainshaft bearing) retained on shaft by nut with right-hand thread.

To Reassemble Gearbox

Reverse procedure of dismantling, noting following points:—

**Layshaft cluster:** Push inner spring rings into bore, making sure that they bed securely, insert short distance-piece in rear end, then insert inner retainer and feed 20 rollers into each end, using layshaft spindle as guide. Fit outer retainers and spring rings. Lower cluster into gearbox with large front and small rear thrust washers, and locate with thin rod so that large gear is clear of primary shaft when it is entered.

**Mainshaft:** Press on ball bearing in housing (spring ring and flange on housing to rear), and fit distance-piece, speedo drive gear and nut.

Slide on 2nd gear synchro assembly with sliding 1st gear (three locating balls and springs are all on one side), followed by large splined thrust washer, 2nd gear and bush (plain bore) with dogs to front.

Locate centre thrust washer on dogs of bush, and slide on 3rd gear bush (splined bore) so that dogs locate in spaces in centre washer. Insert spring and plunger in shaft, and fit 3rd gear and splined thrust washer. Depress plunger through hole in 3rd gear cone and turn washer to lock. Slide on top/3rd synchro assembly, which has three balls and springs equally spaced.

When inserting selector rods, note that two interlock balls fit in cross drillings, one between top/3rd and reverse, one between 1st/2nd and reverse, just behind selector locating springs and plungers. Short plunger, rounded at both ends, fits in cross-drilling between top/3rd and 1st, 2nd rods in rear wall of box.

When fitting front cover and rear extension housing, refit shims as found in bearing locations. These shims need changing only if new cover or housing is fitted, in which depth of bearing location varies. Shims are available in three thicknesses, .004in, .006in and .010in.

Propeller Shaft

Hardy Spicer needle roller bearing universal joints, series 0500. Nipples for lubrication of joints. Sliding joint, yoke integral with sleeve, on gearbox mainshaft.

Rear Axle

Three-quarter floating, hypoid bevel, banjo type, rear cover welded to casing. Apart from attention to hubs and half shafts, axle cannot be overhauled without use of full range of tools.

To remove axle, raise rear of car, remove roadwheels, release hand brake and disconnect brake hose at union on underside of car floor.

Remove brake cable housings at anchorages on spring brackets, disconnecting cables and taking out clevis pins securing yokes to actuating levers on back plates of brake drums. Support axle on stand or trolley jack, unscrew "U" bolt nuts and locknuts, remove spring clamp and damper bracket plates. Release and remove damper arms from body. Mark propeller shaft coupling flanges and disconnect shaft from driving flange, supporting rear end of shaft. Remove rear shackle nuts and plates and lower rear ends of springs to the ground. Withdraw axle from car. Refitting is reverse of above process, but it will be necessary to bleed brakes. Connect brake cables before releasing weight of axle as cable tightens when weight is off springs.

Distance piece and shims between pinion bearings. Shims (.003in and .005in) to give 8-10 lb/in preload drag (plus 3 lb/in if oil seal is fitted) when flange nut is tightened to 150 lb.ft. Adjustment for pinion mesh by distance piece. Shims between differential cogs and inner bearings to give backlash etched on rear face of crown wheel. Add .002in shims each side to give preload.

CHASSIS Brakes

Lockheed hydraulic. Two leading shoe front brakes with separate cylinder to each shoe. Rear brakes have single floating cylinder incorporating bell-crank for hand-brake operation.

Micram adjuster on each wheel cylinder, with slotted head reached through holes in drum after removal of wheel. Turn adjuster clockwise until shoe touches drum, then back

off one notch. Note two adjusters on each front wheel.

Handbrake cables have adjusting nuts at base of hand lever, but these should never be touched unless cables have stretched severely. Brake shoes must be adjusted before cables are taken up. Make sure that cable nuts are properly bedded on trunnions after adjustment.

Rear Springs

Semi-elliptic. Loose rubber shackle and anchorage bushes (all interchangeable). Shackle pins and anchorage bolts shouldered, tighten fully. Anchorage bolts have heads drilled for peg spanner, and are inserted from inner side of bracket. **Shackle pins and anchorage bolts must be tightened with car in static laden position.**

Front Suspension

Independent torsion bar, shock absorber controlled. Suspension on the 1,000 c.c. Minor is identical with that employed on earlier model, and readers are referred to *Trader Service Data* 167 for full details of overhaul and dismantling.

Steering Gear

Rack and pinion. Inner ends of short track rods attached to ends of rack by ball joints covered by concertina gaiters and lubricated from steering gear.

Shock Absorbers

Front and rear: double-acting piston-type hydraulic. No adjustment.

Front shock absorbers can be topped up in place after cleaning, but rear must be removed.

CHASSIS DATA		
Clutch Make Type Diameter Facing material Pressure springs: number colour Pedal free movement	Borg & Beck sdp. 7 <sup>1</sup> / <sub>16</sub> in wound yarn 6 yellow 1 <sup>3</sup> / <sub>8</sub> -1 <sup>1</sup> / <sub>2</sub> in	
GEARBOX		
Type No. of forward speeds Final ratios: 1st 2nd 3rd 4th Rev.	synchromesh 4 15.276:1 9.169:1 5.950:1 4.220:1 19.665:1	
PROPELLER SHAFT		
Type	needle roller brg. UJ	
FINAL DRIVE		
Type Crownwheel/bevel pinion teeth ratio	3 <sup>1</sup> / <sub>4</sub> floating 4.22:1 (4.55:1 optnl.)	
BRAKES		
Type	Lockheed	hydraulic
	Front	Rear
Drum diameter Linings: length width thickness material Swept area	8in — — Ferodo AM8 73.9 sq.in	7in 6.54in 1.22in .198in Ferodo AM8 53.6 sq.in

SPRINGS		
Type No. of leaves Thickness of leaves Free camber Working camber	Front	Rear
	ind. tb.	1/2 ell 5 1/16in 4.22in .78in pos

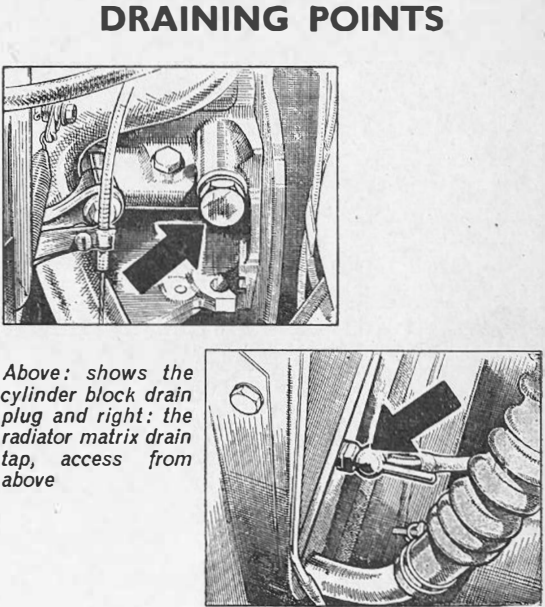
SHOCK ABSORBERS	
Make Type Service	Armstrong double acting hydraulic replacement

FRONT-END SERVICE DATA	
Castor Camber King pin inclination Toe-in No. of turns lock to lock Adjustments: castor camber toe-in	3° Nil* 8 1/2†. 3/32in 2.6 screwed pivot nil screwed track rod ends

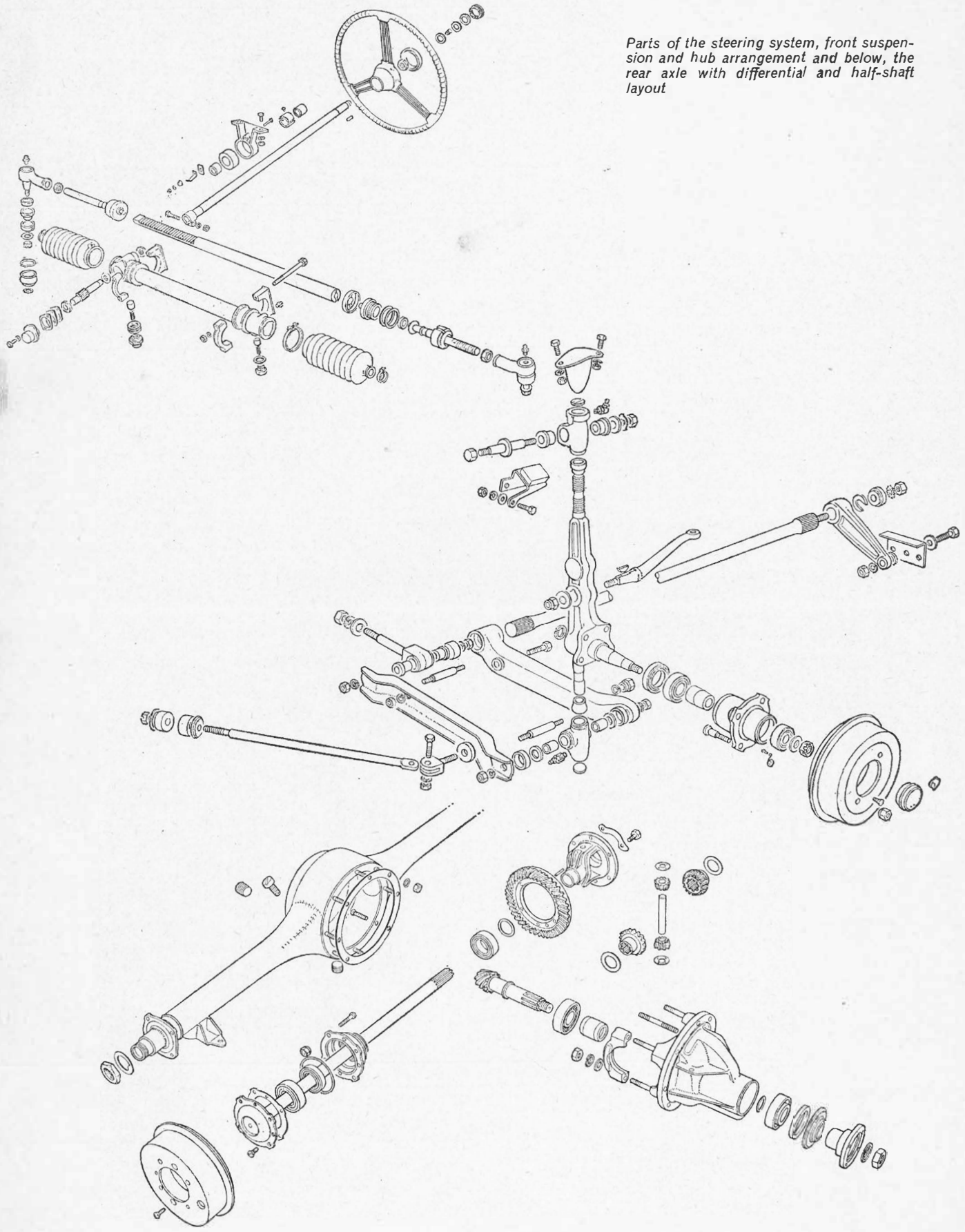
\*1 deg. on cars with rubber top link bushes  
†7 1/2 deg on cars with rubber top link bushes

FILL-UP DATA		
Engine sump (including filter) Gearbox Rear axle Cooling system Fuel tank Tyre pressures: *†front rear* (fully equipped 2-up saloon 5.20-14 tyres)	Pints	Litres
	6 1/2	3.69
	2 1/4	1.3
	1 1/2	.85
	8 3/4	5
	6 1/2 galls. 22psi 22psi	29.6 1.6kg/cm² 1.6kg/cm²

\*4-up: 24 psi (1.7kg/cm²)    \*†With SP41 tyres and  
2-up: front 24 psi (1.7kg/cm²), rear: 26 psi (1.8kg/cm²)

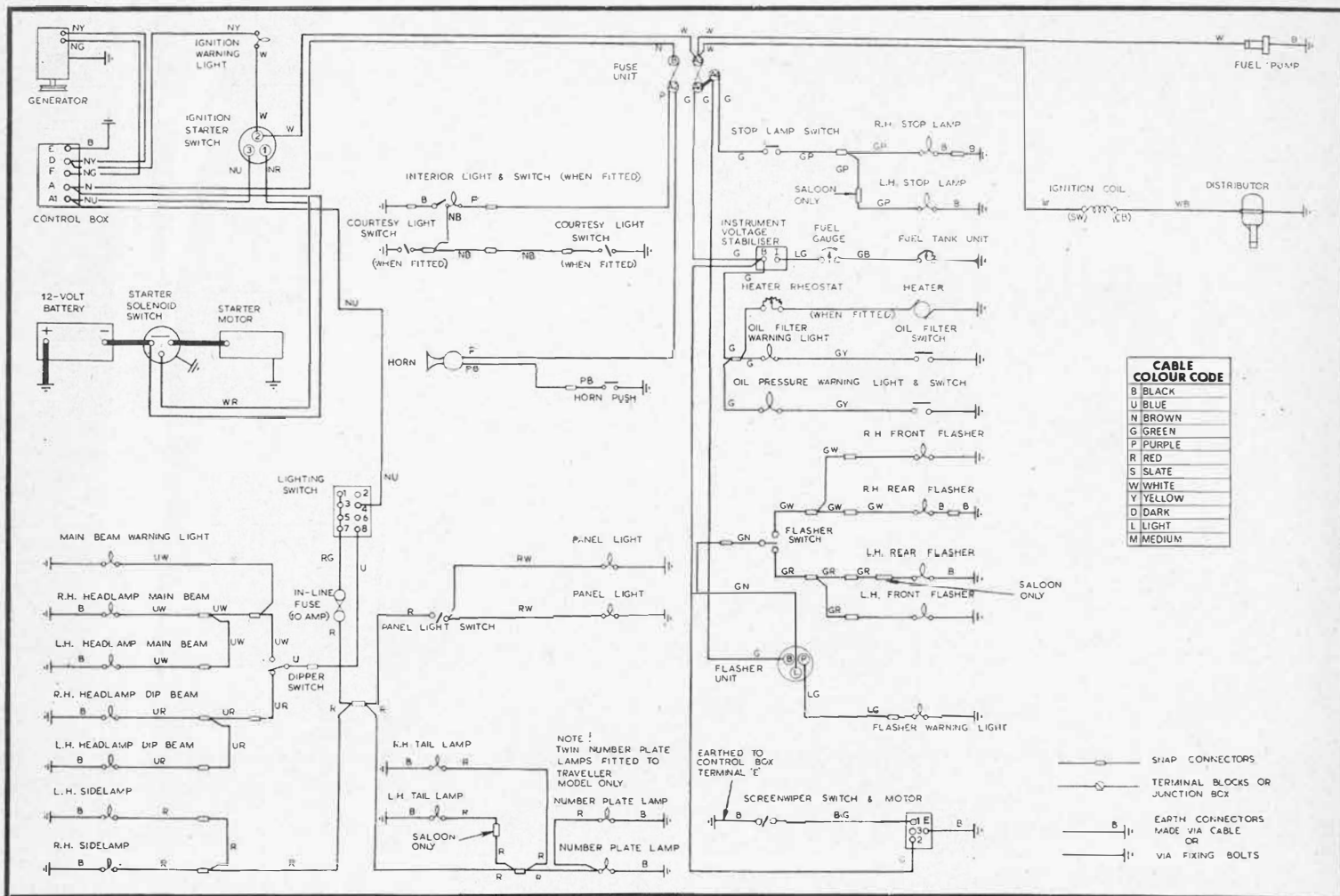


STEERING BOX	
Make Type Adjustments: pinion end float rack end float mesh	BMC rack and pinion thrust washer shims on dampers



Parts of the steering system, front suspension and hub arrangement and below, the rear axle with differential and half-shaft layout





Wiring diagram by permission of Joseph Lucas Ltd.

**Firing order**  
Tappet clearance (cold)  
inlet }  
exhaust }  
timing  
**Valve timing:**  
inlet opens  
inlet closes  
exhaust opens  
exhaust closes  
**Standard ignition timing (static)**  
(stroboscopic)

I,3,4,2  
.012in  
.02lin  
5° BTDC  
45° ABDC  
51° BBDC  
21° ATDC  
3° BTDC at  
600 rpm

#### TUNE-UP DATA

**Dwell angle**  
**Location of timing mark**  
**Plugs: make type size gap**  
**Carburettor: make type**  
60° ± 3°  
c/shaft pulley and pointer  
Champion  
N5  
14mm  
.024-.026in  
SU  
HS2

**Settings: float diameter jet needle**  
**Air cleaner: make type**  
**Fuel pump: make type pressure**  
1/8-3/16in  
1 1/4in  
.090in  
AN  
H6  
EB  
Cooper  
paper element  
SU  
electric "L"  
3/4-1 psi

#### HORNS, WINDSHIELD WIPER, SUNDRY ITEMS AND OVERDRIVE EQUIPMENT

HORN(S)	Model type & note	Part No.	WINDSHIELD WIPER	Model	Part No.
	9H W/T (High)	54068094	Motor	DR3A	75450
	9H W/T (low op)	54068087	Wiper blade		54711282
Current consumption 3.5-4.0 amp per hour			Wiper arm (right hand and left hand)		54715786
			<b>SUNDRY ITEMS</b>	FL5	35020
			Flasher unit	4FJ	54038068
			Fuse/Junction Box		

SWITCHES	Model	Part No.
Ignition (combined with starting motor con-switch)	47SA	31973
*Head	57SA	31956
*Side		
Headlamp-dip	103SA	34536
Direction indicator	37SA	31883
Windshield wiper	57SA	31836
Panel light	10	31140
Stop lamp	2SH	34542
Steering Column Con.	CC9	33581

Note: Switches identified by a common symbol are combined in a dual or multi-purpose switch.

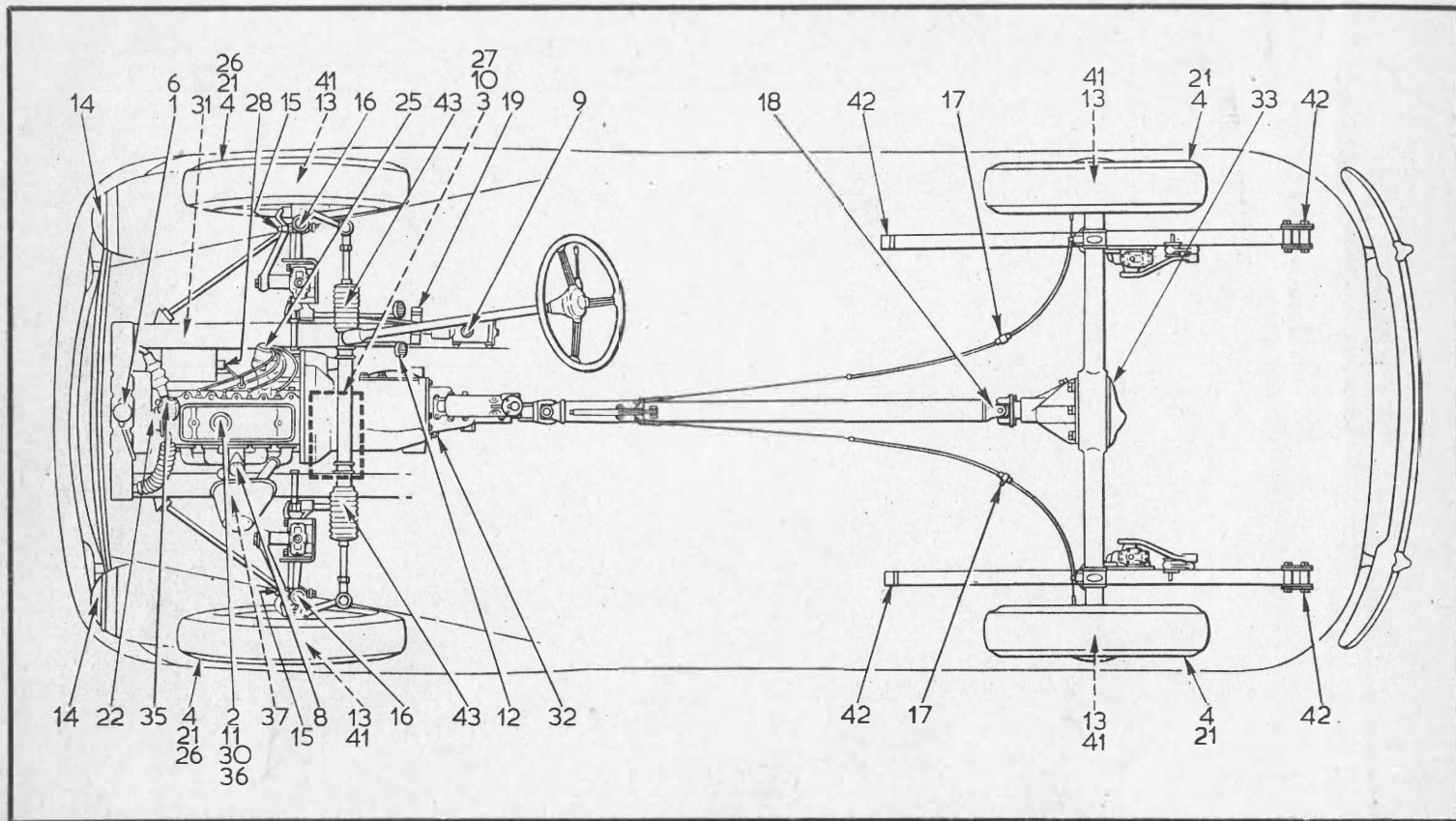
Part numbers quoted are basic equipment for right-hand drive vehicles. Variations may be found according to the Country in which the vehicle is used.

#### BATTERY and STARTING MOTOR SYSTEM

	Model	Part No.
Battery	D9	54028971
Starting Motor	M35G	25079
Starting Motor (later)	M35J	25149
Solenoid Switch	4ST	76766
<b>CHARGING SYSTEM</b>		
Generator	C40-1	22700
Regulator	RB106-2	37290
<b>IGNITION SYSTEM</b>		
Distributor	25D4	41269
Max. centrifugal advance (crank degrees)	22-26	
Max. centrifugal advance (crank rev/min)	6800	
No advance below 600 (crank rev/min)		
Centrifugal advance springs (set of 2)		54418216
Max. vacuum advance (crank degrees)	4-8	
No advance below 5 (inches of mercury)		
Ignition Coil	LA12	45213
Primary resistance (ohms) at 20°C.	3.0-3.4	
Running current (amps) at 1000 rev/min	1.0	

#### LAMPS

		Bulb or Sealed Beam Unit			
	Model	Part No.	Lucas No.	Wattage	Cap
<b>FRONT LAMPS</b>					
Head (right hand & left hand)	F700	58811	54521872	60/45	S.B.U.
(inner lamp)	53/4				
Head (outer lamp)	53/4				
Side & Flasher	632	52572	{ 989 (S) 382 (F)	6 21	M.C.C. S.C.C.
<b>REAR LAMPS</b>					
Stop/Tail & Flasher (Saloon & convertible)	745	{ 54213 (LH) 54212 (RH)	{ 382 (F) 380 (S/T)	21 6/21	S.C.C. S.B.C.
Stop/Tail (Traveller)	594	53564	380	6/21	S.B.C.
Rear Flasher (Traveller)	594	52337	382	21	S.C.C.
<b>PANEL LAMPS</b>					
Ignition		863511	987	2.2	M.E.S.
Oil		863511	987	2.2	M.E.S.
Automatic Choke					
Main Beam		554734	987	2.2	M.E.S.
Flasher					
Oil Filter		863511	987	2.2	M.E.S.



## KEY TO MAINTENANCE DIAGRAM

### WEEKLY

1. Radiator
  2. Engine sump
  3. Battery
  4. Tyre pressures—check
  - \* 5. Road wheel nuts—check for tightness
- } check and top up

### EVERY 3,000 MILES

- \* 6. Radiator
  - \* 7. Screenwasher bottle
  8. Carburettor piston damper
  9. Brake fluid level
  10. Battery
  11. Engine sump
  12. Clutch pedal free play
  13. Brakes
  14. Headlamp alignment
  15. Swivel pins (top and bottom)
  16. Steering tie rods (2)
  17. Handbrake cables
- } check and top up
- } check and adjust as necessary
- } grease gun

18. Propellor shaft universal joint
  19. Brake and clutch pedal shafts and linkages
  - \* 20. Brake fluid lines and pipes—check condition and security
  21. Tyre pressures—check
- } grease gun

### EVERY 6,000 MILES (as for 3,000 miles plus following)

22. Fan belt tension—check
- \* 23. Valve rocker clearances—check and adjust (.012in) if necessary
- \* 24. Sparking plugs—remove, clean and reset (.024-.026in)
25. Distributor—oil shaft bearing, auto. advance mechanism and contact breaker pivot, smear cam with grease. Remove, clean and reset contact breaker points (.014-.016in)
26. Front wheel alignment—check and adjust, if necessary
27. Battery—check SG of electrolyte and top up
28. Dynamo end-bearing—oil (few drops)
- \* 29. Lamps—check for correct functioning

30. Engine sump—drain and refill
  31. Oil filter element—renew
  32. Gearbox
  33. Rear axle
  - \* 34. Door locks, hinges, catches, etc.—oil can
- } check and top up

### EVERY 9,000 MILES (as for 3,000 miles) EVERY 12,000 MILES (as for 6,000 miles plus following)

35. Engine water pump—lubricate sparingly with grease (if plug fitted)
  36. Oil filler cap and filter assembly
  37. Carburettor air cleaner element
  - \* 38. Sparking plugs
  - \* 39. Breather control valve—test and clean (when fitted)
  - \* 40. Steering and suspension components—check for wear
  41. Brakes—remove drums, de-dust and inspect linings for wear etc.
  42. Rear road spring seat bolts—check
  43. Steering rack and pinion—oil gun
- } renew
- \* Not shown on diagram

Note: "Fill-up Data" foot of p.v

## RECOMMENDED LUBRICANTS

	Castrol	Esso	B.P.	Duckham's	Mobil	Shell	Filtrate	Sternol
Engine and Gearbox, Distributor, Carburettor Dashpot, Oil Can Above —12°C (10°F)	GTX or XL (SAE 20W/50)	Extra Motor Oil 20W/50	Super Viscostatic 20W/50	Q20/50	Mobiloil Special 20W/50	Super Motor Oil 100 (20W/50)	Filtrate Super 20W/50	Super WW Motor Oil
Between —18°C to —7°C (0°F to 20°F)	Castrolite Castrol Super	Extra Motor Oil 10W/30	Super Viscostatic 10W/40	Q.5500	Mobiloil Super 10W/50	Super Motor Oil 101 (10W/30)	Filtrate Super 10W/30	WW Multigrade 10W/40
All temperatures below —18°C (0°F)	CR 5W/20	Extra Motor Oil 5W/20	Super Viscostatic 5W/20	Q.5-30	Mobiloil 5W/20	Winter Special Motor Oil or Super Motor Oil 5W/30	Filtrate 5W/20	WW Multigrade 5W/20
Steering Gear & Rear Axle Above —12°C (10°F)	Hypov (SAE90)	Gear Oil GP 90/140 or GP 90	Gear Oil SAE 90 EP	Hypoid 90	Mobilube GX90	Spirax 90 EP	EP Gear 90	Ambroleum EP 90
Below —7°C (20°F)	Hypov Light	Gear Oil GP 80	Gear Oil SAE 80 EP	Hypoid 80	Mobilube GX 80	Spirax 80 EP	EP Gear 80	Ambroleum EP 80
Grease Points	LM Grease	Multipurpose Grease H	Energrease L2	L.B. 10 Grease	Mobilgrease MP	Retinax A	Super Lithium Grease	Ambroline LHT 2
Upper Cylinder Lubrication	Castrollo	Upper Cylinder Lubricant	Upper Cylinder Lubricant	Adcoid Liquid	Upperlube	Upper Cylinder Lubricant	Petroyle	Magikoyl