

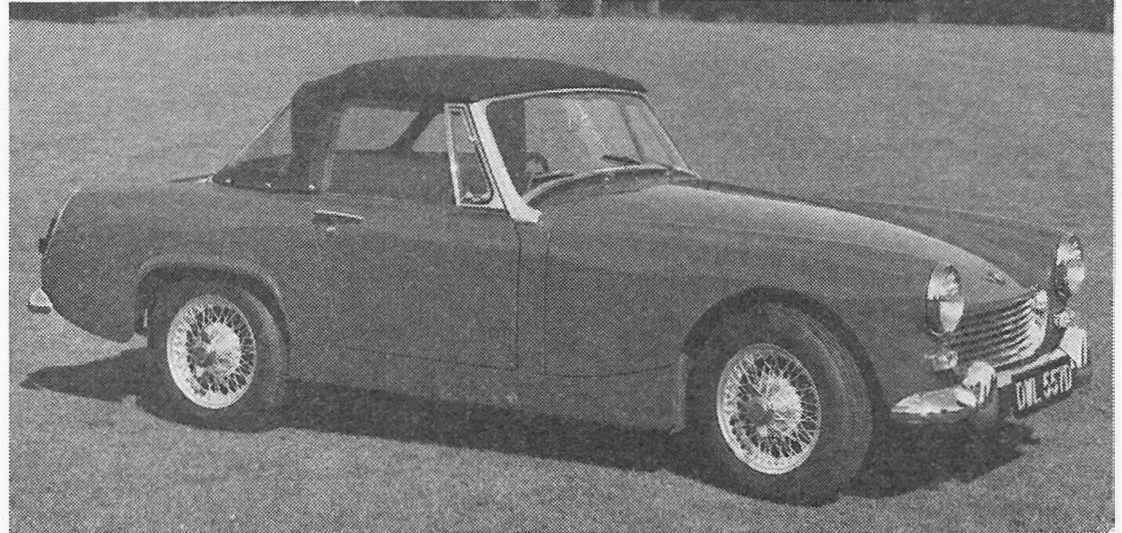
AUSTIN-HEALEY SPRITE Mk IV (1,275cc)

Manufacturers: BMC Ltd., Cowley, Oxford

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PRODUCED by the British Motor Corporation, the Austin-Healey Sprite now is in Mark IV form. Since its introduction in 1958, as the MkI, the engine capacity has grown from 948cc through 1,098cc to the present 1,275cc. For the MkII of 1961 a new body style, broadly similar to the current model, was evolved. In keeping with the modern sports car trend, a folding hood is now used.

It is evident from the construction



DISTINGUISHING FEATURES: In general line, the Mk IV car is virtually identical with the previous models, but the hood of the Mk IV extends further back than on previous cars. The wire wheels shown here are optional extras

of the car that many of the mechanical units are similar to those in use on other models in the BMC range,

but these units are specifically adapted for this model. The engine, of familiar design and construction,

has 4 cylinders with overhead valves, and there is the option of either 8.0:1 or 8.8:1 compression ratio. Drive is transmitted through a diaphragm spring clutch to a 4-speed synchromesh gearbox, and by short open tubular propeller shaft to the hypoid bevel reduction gear contained within the three-quarter floating rear axle. Front suspension is coil spring and wishbone link pattern, with hydraulic shock absorbers. Rear suspension comprises semi-elliptic leaf springs and lever arm hydraulic shock absorbers.

Steering is rack and pinion, each end of the rack being attached to the steering arms of each front suspension unit by short track rods.

Vehicles are identified in the customary BMC manner. Engine numbers are stamped on a plate attached to the right-hand side of the cylinder block, above the dynamo and below No. 1 sparking plug. The car (chassis) number is stamped on a plate secured to the inner wheel arch valance and is visible on lifting the bonnet. It is essential that all the letters and numbers which make up the car serial number are quoted when corresponding with the vehicle manufacturers, or when ordering spare parts.

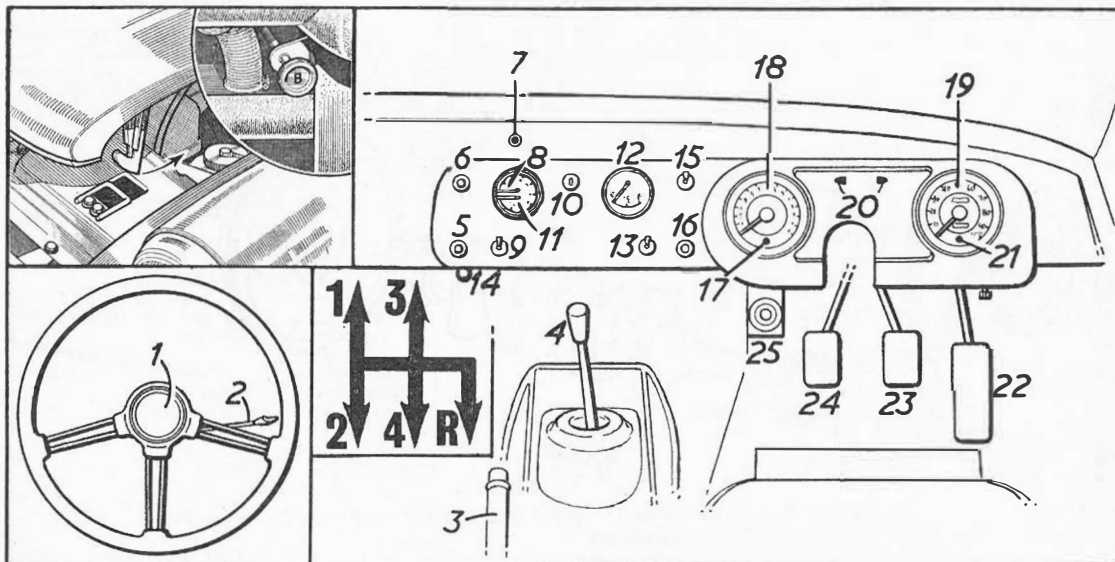
Threads and hexagons are, in the main, of the United thread series pattern and form, and are marked as such. These parts are not interchangeable with threaded parts of any other thread series apart from ANF threaded parts.

Special tools for use in repair operations are available from the vehicle manufacturers, or through their distributive network. A list of those considered to be the more essential to efficient repair work is set out in these pages.

INSTRUMENTS, CONTROLS, GEAR POSITIONS AND BONNET LOCK

Inset top left: shows the bonnet safety catch and the bonnet release control which is located inside the car to the lower right of the dashboard. Below left: are shown the steering column mounted controls and the operative positions of the centre-mounted gearlever

- | | | |
|--|-----------------------------|--|
| 1. Horn push | 10. Ignition/starter switch | 19. Speedometer |
| 2. Indicator switch | 11. Water temp. gauge | 20. Direction indicator warning lights |
| 3. Handbrake | 12. Fuel gauge | 21. Headlamps main beam warning light |
| 4. Gearlever | 13. Windscreen wiper switch | 22. Accelerator |
| 5. Heater blower motor and ventilating control | 14. Bonnet release | 23. Brake pedal |
| 6. Windscreen washer | 15. Lighting switch | 24. Clutch pedal |
| 7. Oil filter warning light | 16. Choke control | 25. Headlamps dip switch |
| 8. Oil pressure gauge | 17. Ignition warning light | |
| 9. Panel lights switch | 18. Engine rpm indicator | |



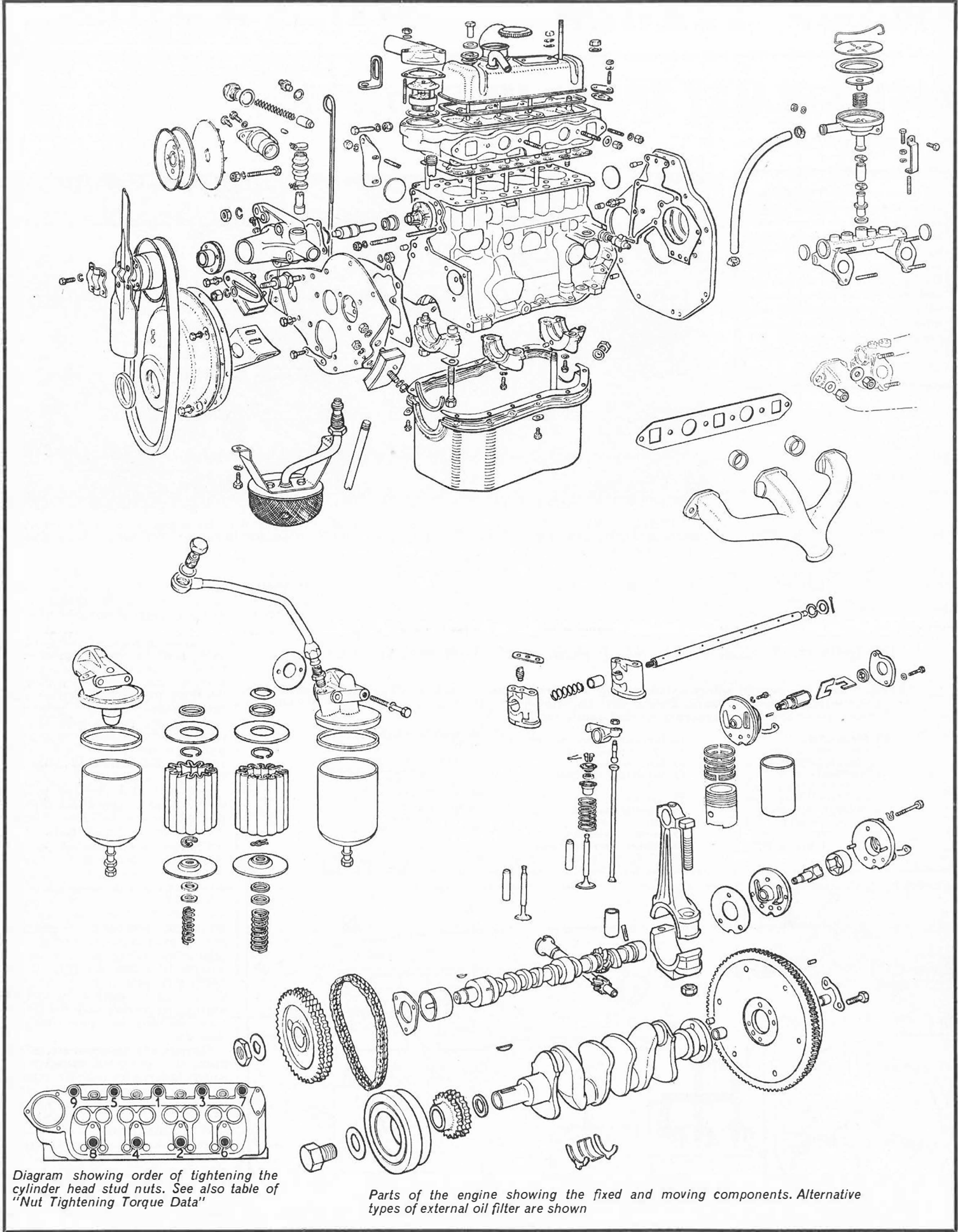


Diagram showing order of tightening the cylinder head stud nuts. See also table of "Nut Tightening Torque Data"

Parts of the engine showing the fixed and moving components. Alternative types of external oil filter are shown

ENGINE

Mounting

At front, shaped bonded rubber blocks are bolted to lugs on front engine plate and to brackets on body extensions. At rear, bonded rubber blocks are bolted up between abutment pads on either side of gearbox extension housing and cradle brackets. All bolts should be tightened fully.

Removal

Engine may be removed with or without gearbox. To remove with gearbox, as a unit, proceed as follows: Remove bonnet from its hinges, drain cooling system, disconnect and remove top and bottom water hoses; remove 4 bolts (2 each side) from radiator mounting flange and lift out radiator core. Disconnect battery and all other electrical leads to engine unit or ancillary components, together with all pipes, wires and controls; remove distributor cap. Release exhaust pipe from manifold and support stay from bellhousing. Remove self-tapping screws around gearbox cover plate, remove securing screws and anti-rattle cap, spring and plunger, and take off with gear lever. Unscrew and remove speedometer drive cable at gearbox end. Disconnect propeller

shaft and remove complete. Support gearbox on trolley jack and remove 4 gearbox cross-member mounting setbolts (2 from inside car). Detach cross-member from gearbox. Remove 2 clutch slave cylinder mounting setbolts on bellhousing and tie up unit out of way.

Arrange sling of lifting tackle around engine unit so that engine will assume a near vertical angle (fan uppermost) when lifted. Remove front mounting nuts from bolts and take weight of engine/gearbox unit on hoist. Lift unit up and out of car, manoeuvring trolley jack forward at the same time to provide support for gearbox. To remove engine without gearbox, proceed as above and note following items. Remove filter bowl and starter motor from right-hand rear of cylinder block. Take weight of gearbox on suitable jack and remove setscrews securing gearbox to engine crankcase. Remove left-hand front engine mounting complete with bracket and right-hand front engine mounting rubber together with front exhaust down pipe support bracket from its fixing on gearbox bellhousing. Take weight of assembly with suitable equipment, and remove engine from vehicle.

Crankshaft

Three main bearings, thin wall steel-backed, copper-lead-indium

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 with engine *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, is spigoted on rear flange of crankshaft and retained by 4 equally spaced setscrews. Oil-impregnated spigot bearing bush is pressed into end of shaft.

Timing sprocket and pulley hub, with oil thrower between, is pressed on front end of crankshaft, sharing special flat Woodruff key, and retained by setscrew. Sprocket fits with longer boss to rear, with shims behind for alignment. Pulley hub passes through felt sealing ring in timing cover. Tighten crankshaft sprocket securing setscrew fully.

Rear main bearing cap forms lower half of oil collector trough round return thread on shaft. Upper half detachable, retained by 3 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, lead-indium-lined shells, located by tabs, no hand fitting permissible. Rods split horizontally, cap and rod stamped on same side. Big ends are offset. Fit Nos. 1 and 3 with larger boss to rear, 2 and 4 to front. Oil bleed hole on longer side of big end must go to offside, away from camshaft. Gudgeon pins, pressed in connecting rod, hand push fit into pistons.

Pistons

Aluminium solid skirt dished crown. Pistons are supplied in 5 size gradings for selective assembly, rising in .003 in steps. Grade numbers 1 to 5 stamped in diamond with "front" on piston crown. Grade number must correspond with number stamped on top of cylinder block alongside bore.

There are four piston rings, three compressions, one oil control. These rings are fitted above gudgeon pin. 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 is spigoted on

ENGINE DATA	
General	
No. of cylinders	4
Bore x stroke: mm	70.61 x 81.28
in	2.78 x 3.2
Capacity: cc	1,274.86
cu in	77.8
Max bhp at rpm (net)	65-6,000
Max. torque at rpm	72-3,000
Compression ratio	8.8:1 or 8.0:1

CRANKSHAFT AND CON. RODS		
	Main Bearings	Crankpins
Diameter	2.0005-2.0010in	1.6254-1.6259in
Length	.975-.985in	
Running clearance:		
main bearings	.001-.0025	
big ends	.001-.0025	
End float: main bearings	.002-.003in	
big ends	.008-.012in	
Undersizes	*	
Con. rod centres	5.748-5.792	
Two types of crankshaft are fitted, the only difference being in the method of hardening. Identification is by the numbers AEG 566 or 12G 1321 stamped on the 5th web. Before regrounding the crankshaft, ascertain the type, since the maximum permissible regrind varies, AEG 566 .010in and 12G 1321 .020in.		

PISTONS AND RINGS		
Clearance (skirt): top	.0029-.0037in	
bottom	.010-.020in	
Oversizes	.010-.020in	
Gudgeon pin: diameter	.8123-.8125in	
fit in piston	hand push fit	
fit in con. rod	.008-.0015in (interference)	
	Compression	Oil Control
No. of rings	3	1
Gap	.011-.016in	.008-.013in
Width of rings	.016-.0625in	

CAMSHAFT			
	front	centre	rear
Bearing journal: diameter (in)	1.665 1.666	1.622 1.623	1.372 1.373
Bearing clearance	.001-.002in		
End float	.003-.007in		
Timing chain: pitch	52		
no. of links			

VALVES		
	Inlet	Exhaust
Head diameter (in)	1.307-1.312	1.1515-1.1565
Stem diameter (in)	.2793-.2798	.2788-.2793
Face-angle	45°	45°
	Inner	Outer
Spring length free fitted	1.703in 1.270in	1.828in 1.383in

CHASSIS DATA	
Clutch	Borg & Beck
Make	diaphragm spring
Type	
Springs: no.	4
colour	2 lavender, 2 white & violet

GEARBOX	
Type	synchronesh
No. of speeds	4
Final ratios: 1st	13.504 : 1
2nd	8.085 : 1
3rd	5.726 : 1
4th	4.22 : 1
Rev	17.395 : 1

SPECIAL TOOLS	Part No.
ENGINE	
Puller	18G.2
Valve spring compressor	18G.45
Oil pump relief valve grinding-in tool	18G.69
Crankshaft gear/pulley/prop. shaft flange replacer	18G.138
Valve rocker bush remover and replacer	18G.148
Torque wrench (30-140lb ft)	18G.372
Gudgeon pin removing and replacing tools	18G.1002 & 18G.587
CLUTCH & GEARBOX	
Clutch assembly gauging fixture	18G.99A
Clutch centraliser	18G.139
Bearing and oil seal replacer (basic tool)	18G.134
Oil seal replacer adaptor	18G.134L
Rear oil seal remover (basic tool)	18G.389
Rear oil seal remover (adaptor)	18G.389A
Oil seal clinching tool	18G.488
REAR AXLE	
Hub oil seal replacer	18G.14
Diff. bearing remover (basic tool)	18G.47C
Diff. bearing remover (adaptor)	18G.47M
Bearing and oil seal replacer (basic tool)	18G.134
Hub replacer/adaptor	18G.134Q
Front and rear hub cover (basic tool)	18G.304
(bolts)	18G.304F
(thrust pad)	18G.304H
Bevel pinion bearing outer race remover (basic tool)	18G.264
remover (adaptor)	18G.264D
remover (adaptor)	18G.264E
Bevel pinion bearing inner race remover/replacer	18G.285
Bevel pinion setting gauge	18G.191
Diff. bearing gauge	18G.191A
FRONT SUSPENSION	
Assembly fixture	18G.253
Hub assembly remover (basic tool)	18G.8
Inner race remover adaptor	18G.8P
Front spring compressor	18G.153
Front and rear hub remover	18G.146

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 3 bearings in crankcase. Front bearing has white-metal-lined steel bush, pressed in, others are direct. End float is 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 TDC on compression stroke.

Valves

Overhead, not interchangeable, inlet larger than exhaust. Split cone cotter, double springs. Cotters are retained by spring clips. There are rubber sealing rings with retainers on valve stems below collars.

Valve guides plain, no shoulder, interchangeable, both identical. Press in both types, until height above seat is 540in.

Tappets and Rockers

Plain barrel tappets sliding directly in crankcase, their removal will entail removing camshaft and then withdrawing tappet barrels with a magnet. Ensure that each barrel is

marked in order that it is returned to its original position.

Bushed rockers, all interchangeable on shaft carried in four pillars. 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 spring between rockers of adjacent cylinders.

Push rods can be removed singly after adjustment has been slackened right off. Inner rockers can be pulled aside again 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 or concentric pump spigoted in recess in rear face of cylinder block and driven by pin and slotted shaft from rear end of camshaft. Engine must be removed from car for removal of pump.

Oil is delivered through drillings to gallery on offside of crankcase, and to full flow filter screwed into crankcase and retained by clamp.

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

Cooling System

Pump and fan. Non-adjustable thermostat in water outlet port on cylinder head. Pump has spring loaded carbon and rubber seal. Adjust fan belt by swinging dynamo until there is 1in movement either way on vertical run of belt.

TRANSMISSION

Clutch

Borg and Beck diaphragm spring with carbon thrust release bearing. Only external adjustment is on front end of pedal pull rod, to give $\frac{1}{2}$ in free movement at pedal pad. Access to clutch for service is obtained 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 dismantle gearbox, remove drain plug and speedo drive pinion and bush. Take off clutch arm dust seal, and unhook withdrawal arm pivot bolt. Take off nut and washer, unscrew bolt and take out lever.

Unscrew 8 nuts, remove remote control casing from rear extension; unscrew 9 bolts and remove exten-

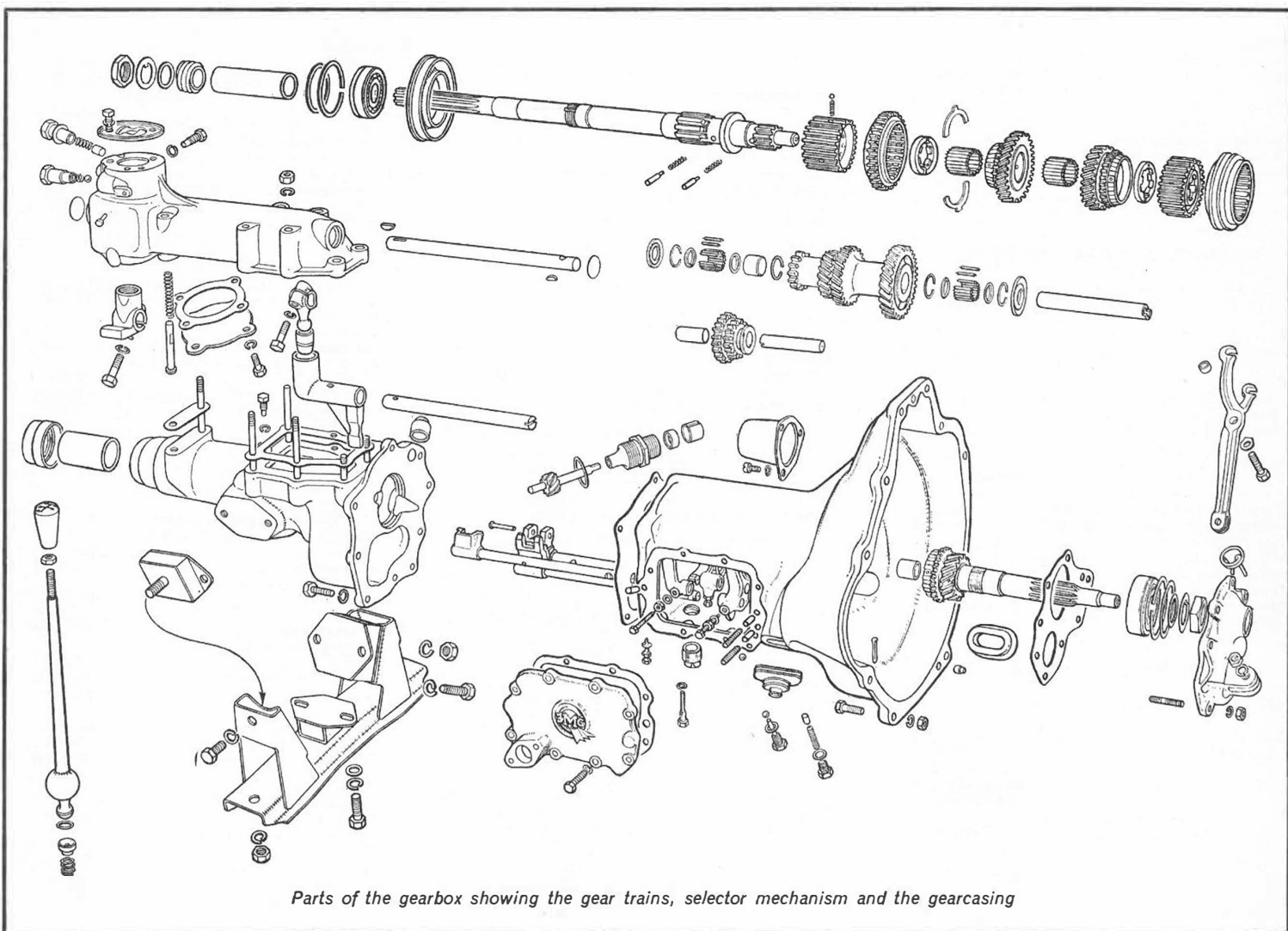
sion, manoeuvring control lever from selector preserving bearing packing washer as faces are separated.

Remove 7 nuts and washers and take off front cover. 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 setscrews, 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.

Layshaft cluster runs on caged needle rollers, thrust washers at outer ends. Rollers will not drop out.

To dismantle mainshaft assembly, slide off top/3rd gear synchro assembly. Depress plunger locating splined thrust washer inside 3rd gear cone, turn washer and slide off, releasing 3rd speed gear with needle roller bearings. Thrust washer behind on shaft.



Parts of the gearbox showing the gear trains, selector mechanism and the gearcasing

FRONT-END SERVICE DATA	
Castor	3°
Camber	$\frac{3}{4}$ °
King pin inclination	6 $\frac{1}{2}$ °
Toe-in	0- $\frac{1}{8}$ in
No. of turns to lock	2 $\frac{1}{2}$
Adjustments: castor	nil
camber	
toe-in	
	screw track rod ends

BALL AND ROLLER BEARING DATA		
	Int. dia., Ext. dia., Width (in or mm)	Type
GEARBOX		
Primary shaft (front)	$1 \times 2\frac{1}{2} \times \begin{cases} .623\text{in} \\ .625\text{in} \end{cases}$	B
Mainshaft (rear)		
REAR AXLE		
Pinion (front)	$1 \times 2\frac{1}{2} \times \frac{3}{8}\text{in}$	TR
Pinion (rear)	$1 \times 2.6785 \times .688\text{in}$	TR
Diff. side bearings	$35 \times 72 \times 17\text{mm}$	TR
Hubs	$35 \times 72 \times 17\text{mm}$	TR
FRONT AXLE		
Hubs (inner)	$25 \times 52 \times 15\text{mm}$	TR
Hubs (outer)	$17 \times 47 \times 14\text{mm}$	TR

SPRINGS		
	Front	Rear
Width	3.625in	1 $\frac{1}{2}$ in
No. of leaves or coils	7	5
Free camber (length, coil)	8.4in	4.437in.
Working load	750lb	375lb

NUT TIGHTENING TORQUE DATA	
	lb. ft
Cylinder head stud nuts	50
Main bearing set screws	60
Con rod bolts	45
Flywheel securing bolts	40
Steering wheel nut	40
Rear damper bolts	25
Front hub nuts	25-65
Disc/hub	40-45
Front swivel hub/caliper	45-50

PROPELLER SHAFT	
Make	Hardy Spicer needle roller brg uj.
Type	

SHOCK ABSORBERS	
Make	BMC
Type	
Service	Lever arm
	Top up

FINAL DRIVE	
Type	$\frac{3}{4}$ floating hypoid
Crownwheel/bevel pinion teeth	
	38/9

GENERAL DATA	
Wheelbase	6ft 8 in
Track: front (disc wheels)*	3ft 10 $\frac{1}{8}$ in
rear (disc wheels)*	3ft 8 $\frac{1}{2}$ in
Turning circle: left lock	32ft 1 $\frac{1}{2}$ in
right lock	31ft 2 $\frac{1}{2}$ in
Ground clearance	5in
Tyre size	5.20-13
Overall length	11ft 5 $\frac{1}{2}$ in
Overall width: (disc wheels)	4ft 6 $\frac{1}{2}$ in
(wire wheels)	4ft 8 $\frac{1}{2}$ in
Overall height	4ft $\frac{3}{4}$ in
Weight (dry)	1,510lb
*wire wheels 3ft 10 $\frac{1}{8}$ in front, 3ft 9 $\frac{1}{2}$ in rear	

BRAKES		
	Front	Rear
Type	8.25in — — Ferodo 2424F	7in 6.68in 1.25in .187in Ferodo AM8
Diameter		
Lining: length		
width		
thickness		
material		

STEERING BOX	
Make	BMC
Type	
Adjustments: pinion end float	rack & pinion
rack end float mesh	thrust washers shims on damper

From opposite end of shaft, take off securing nut, lockwasher, speedo drive gear and distance piece. Remove ball bearing journal, complete with its housing and drift bearing out of housing. Draw 1st gear and synchro assembly off the shaft. Depress spring loaded plunger, which locks rear splined ring at end of 3rd motion shaft. Lift out both halves of the washer provided for the splined ring. Slide 2nd gear off shaft, preserving needle roller bearing.

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 caged 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. Thrust washers available in thicknesses of .123-.124in, .125-.126in, .127-.128in and .130-.131in to obtain correct end float of .001-.003in.

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

drillings 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 housing cover 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. 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 special tools. Replacement axles are available as units and should be used when possible.

To remove axle raise rear of car, remove road wheels, release hand brake. Take off downpipe, exhaust pipe and silencer. With jack in position under differential unit, release check straps at body connections. Undo damper linkages and disconnect each suspension upper link from rear axle bracket. Remove brake cable at adjustment point. Mark propeller shaft coupling flanges and remove shaft. Disconnect hydraulic brake pipe at main union, forward of differential housing. Remove 'U' bolt securing nuts. Take weight of axle on jack and remove spring shackle pins. Lower axle unit away and clear of car. Refitting is reverse of above process.

CHASSIS

Brakes

Lockheed hydraulic. Disc front brakes with caliper containing 2 pads to each disc. Rear drum brakes have single floating expander unit incorporating bellcrank for both hand and foot brake operation.

No adjustment provided for front brakes, apart from renewal of pads. To renew pads, jack up car and remove road wheels. Depress pad retaining springs, with draw retaining split pins. Remove springs, take out friction pads and anti-squeak shims from caliper. Fit new pads and reverse dismantling process. Check brake fluid level and hydraulic operation.

Handbrake operates on rear wheels only, through a cable to the compensator mechanism. From this point pull to the rear brake expanders is by transverse rods which are non-adjustable. Provision for adjustment is on threaded end of outer cable at attachment point on underside of diff. casing. To adjust, rear brake shoes should be locked by wheel adjustment to drums and the hand control applied slightly (one notch on lever ratchet). Cable slackness, if then present, may be removed by adjusting sleeve nut of cable at compensator. Correct wheel adjustment should then be restored, with handbrake lever fully released. Brake shoes must be adjusted before any attempt is made to reset the hand linkage.

Rear Springs

Semi-elliptic leaf springs, plates of different thicknesses. To remove,

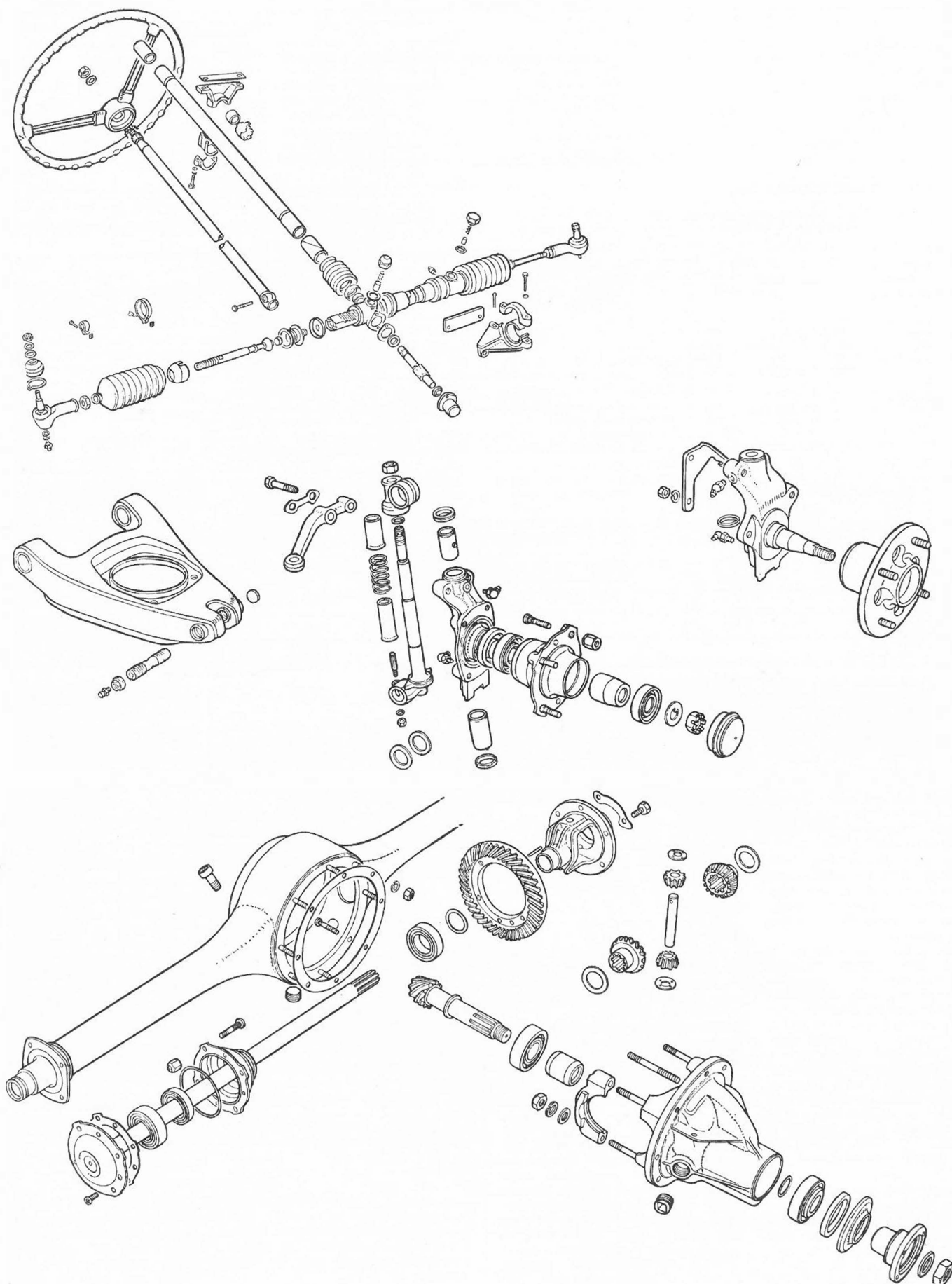
raise vehicle by placing jack under differential unit and support body. Take out shackle pins. Springs may be removed after removal of setscrews securing front anchor bracket to rear of body foot-well, and from beneath car, removal of front bracket securing setscrews, together with four 'U' bolt securing nuts and damper anchorage plate. Refitting is a reversal of above process.

Front Suspension

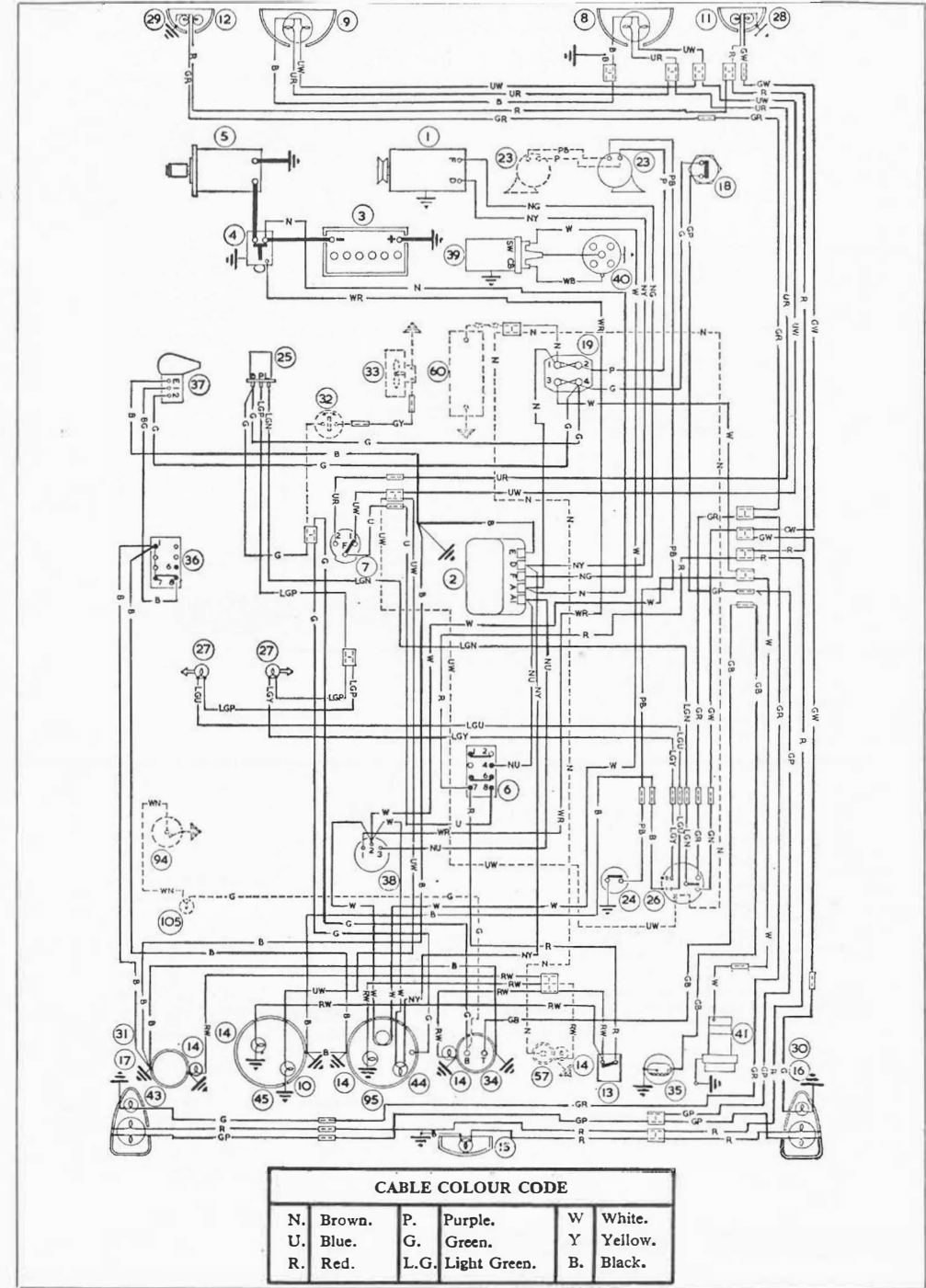
Coil spring and wishbone type. In each symmetrical unit, a single armed double-acting hydraulic damper is bolted to its support bracket at its upper end. Arm of damper is towards front of car and is secured to swivel pin trunion link by a fulcrum pin and Metalastik rubber bushes. Bottom end of swivel pin is secured to outer end of lower links by a fulcrum block, cotter pinned in position. Inner arms of lower links are secured to brackets by Metalastik bushes and fulcrum pins. Rebound rubbers are fitted to bottom of coil spring top bracket and a smaller rebound rubber is fitted under each damper arm.

Steering Gear

Rack and pinion. Tie rods attached to each end of steering rack by ball joints operate swivel arms. Steering wheel operates splined, toothed pinion engaging with rack gear. Pinion and play is removed by adjustment of shims beneath pinion tail end bearings. Backlash of gears controlled by damper pad in rack mechanism.



Parts of the front suspension, steering and the rear axle



Wiring diagram by courtesy of BMC Service Ltd

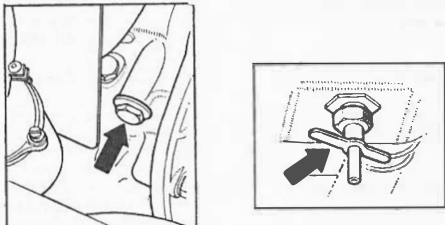
Lamps	Model	Part No.	Lucas No.	Bulb Wattage	Cap
Head RHD dip left	F700	58811D	S B		
LHD dip right	F700	58817B	415	50/40W	B.P.F.
Export USA & Canada	F700	59191B	S B		
Export Europe (except countries stated)	F700	58814E	410	45/40W	Unified
Export France	F700	58815E	411	45/40W	Unified
Export Sweden	F700	59702E	410	45/40W	Unified
Export Germany	F700P	39755A	410/989	45/40/6W	Unified/MCC
Rim		554440			
Gasket		54521487			
Long range driving					
*Side/flasher					
Front flasher (Germany)	686	52759B	232	8W	SCC
Stop tail flasher & reflex.	676	53915A	380/382	21/6/21W	SBC/SCC
" " Germany	676	54331A	399/232	18/5/8W	SBC/SCC
" " N. America	676	53916A	380/382	21/6/21W	SBC/SCC
Number plate	467	538365F	989	6W	MCC
" " (Germany)	467-2	54352A	233	4W	MCC
Reverse					
†Panel (bulbholder)		554734			
†Ignition warning (bulbholder)		319408			
†Main beam warning (bulbholder)		54944812			
†Flasher warning (bulbholder)		863511			
Oil warning	WL15	38189A			
Bulb holder		54945043			

Bulb No. 282 (2W, bats.)

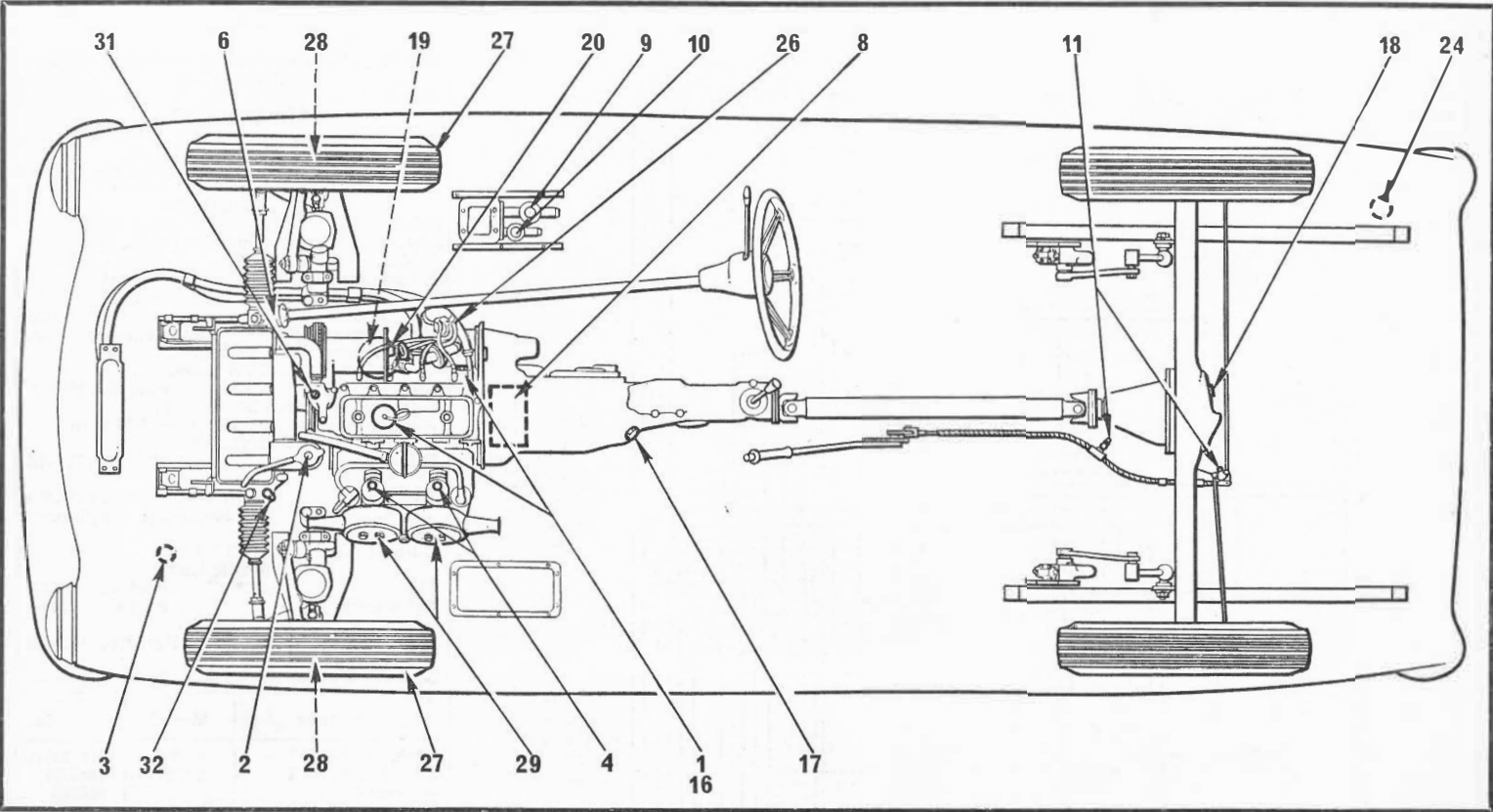
- BATTERY**
N9 Part No. 54028659
NZ9 Dry Charged, Export) Part No. 54028661
- GENERATOR**
C40 Part No. 22742E
- CONTROL BOX**
RB 106-2 Part No. 37290F
- STARTING MOTOR**
M356-1 Part No. 25079H
Drive 'SB' inboard
- DISTRIBUTOR**
23D4 Part No. 40819H
Max. centrifugal advance (crank degrees) 28°-32°.
No advance below 450 r.p.m. (crank)
Centrifugal advance Part No. { 42588
springs 54415962
Max. vacuum advance (crank degrees) no vac
No advance below 2in Hg.
- IGNITION COIL**
LA12 Part No. 45141A
Primary resistance 3-3.4 ohms
Running current at 1,000 r.p.m. 1.15 amp
*WINDSCREEN WIPER
- DR3A** Part No. 75504E
- HORN(S)**
9H Part No(s) 54068133 (H.N.)
54068132 (LN, optional)
- Type: Windtone
Current consumption 3.5-4 amp
- FLASHER UNIT**
FL5 Part No. 35020A
FL5 Germany Part No. 35040A
- FUSE UNIT**
4FJ Part No. 54038033
Fuse ratings 35A

Switches	Model	Part No.
Ignition/starter	47 SA	31973J/K
Starter solenoid	2 ST	76445H
Rubber Boot		858266
Lighting	57 SA	31837E
Direction indicator & H/Lamp Flasher (Special orders)	135 SA	35724A
Dip	103 SA	34536E
Stop light	2SH	34542A
Panel	57 SA	34426E/F
Wiper	57 SA	34426E/F
Steering column control	CC5	33625B
Flasher	135 SA	35725A

TUNE-UP DATA	
Firing order	1-3-4-2
Tappet clearance (cold): inlet exhaust	.012in .012in
Valve timing: inlet opens inlet closes exhaust opens exhaust closes	5° BTDC 45° ABDC 51° BBDC 21° ATDC
Standard ignition timing Location of timing mark	7° BTDC c/shaft pulley and pointer
Plugs: make type size gap	Champion UN12Y 14mm .024-.026in
Carburetors: make type	SU HS2
Settings: choke main jet	1 1/2in .090in
Needles: standard rich weak	AN GG H6
Piston spring colour	blue
Air cleaner: make type	AC paper element
Fuel pump: make type pressure	SU electric 2 1/2-3 psi



Left shows the cylinder block drain plug, into which a tap may be screwed, and right: the radiator matrix drain tap



KEY TO MAINTENANCE DIAGRAM

EVERY 3,000 MILES (or 3 months)

- 1. Engine sump
 - 2. Radiator
 - 3. Screenwasher bottle
 - 4. Carburettor piston damper(s)
 - *5. Clutch fluid level (See item 10)
 - *6. Steering box
 - *7. Steering idler box
 - 8. Battery
 - 9. Brake fluid level
 - 10. Clutch
 - 11. Brakes
 - *12. Clutch linkage—lubricate
 - *13. Grease nipples—lubricate all except steering rack & pinion
 - *14. Brake pipes and flex hoses—check condition
 - *15. Tyre pressures—check
- check and top up
- check and adjust
- EVERY 6,000 MILES (as for 3,000 Miles plus following)

- 16. Engine sump—drain and refill
 - 17. Gearbox
 - 18. Rear axle
 - 19. Engine oil filter element—renew
 - 20. Dynamo end bearing—lubricate
 - *21. Door locks, hinges, catches etc.—oil can
 - *22. Fan belt tension
 - *23. Valve rocker clearances
 - *24. Fuel pump filter—clean
 - *25. Sparking plugs—remove, clean and reset gaps
 - 26. Distributor—oil shaft bearing, auto advance mechanism and contact breaker pivot, smear cam with grease, clean and reset points (.014–.016in)
 - 27. Front wheel alignment—check
 - 28. Disc brake pads—inspect for wear etc.
 - 29. Air cleaner element (dry type)—renew
 - *30. Rear spring seat bolts—tighten
 - 31. Water pump
 - 32. Steering rack and pinion
- check and top up
- check and adjust
- lubricate
- * Not shown on diagram

FILL-UP DATA		
	Pints	Litres
Engine sump	6½	3.7
Gearbox	2½	1.3
Rear axle	1½	.99
Cooling system (without heater)	10	5.68
Fuel tank	6 galls	27.3
	heavy duty	SP41
Tyre pressure: front	18 psi	22 psi
rear	20 psi	24 psi

RECOMMENDED LUBRICANTS

	Castrol	Esso	B.P.	Duckham's	Mobil	Shell	Filtrate	Sternol
Engine and Gearbox down to 5°C (41°F)	Castrol XL SAE20W/50	Extra Motor Oil 20W/40 Motor Oil 40/50 Motor Oil 40	Energol SAE40	Q20/50	Mobiloil Special 20W/40	X-100 40 Super Motor Oil	Filtrate Heavy Filtrate 20W/50	WW 40
Between 5°C to -12°C (41° to 10°F)	Castrolite SAE20W/30	Motor Oil 20W/30 Motor Oil 20 Extra Motor Oil	Energol SAE 20W Super Visco-Static	Q.5500 Q20/50	Mobiloil Special 10W/30	X-100 20W Super Motor Oil	Filtrate 10W/30 Filtrate Zero	WW Multigrade 10W/40
Rear axle and steering down to -12°C (10°F) Hypoy		Gear Oil GP 90/140 or GP90	Gear Oil SAE 90 EP	Hypoid 90	Mobilube GX90	Spirax 90 EP	Hypoid Gear 90	Ambroleum EP 90
Below -12°C (10°F)	Hypoy Light	Gear Oil GP80	Gear Oil SAE 80EP	Hypoid 80	Mobilube GX80	Spirax 80EP	Hypoid Gear 80	Ambroleum EP80
Grease Points	Castrolase LM	Multipurpose Grease H	Energrease L2	L.B. 10 Grease	Mobilgrease MP	Retinax A	Super Lithium Grease	Sternoline LHT
Upper Cylinder lubrication	Castrollo	Upper Cylinder Lubricant	UCL	Adcoild Liquid	Upperlube	Upper Cylinder Lubricant	Petroyle	Magikoyl
Oilcan and carburettor	Castrolite	Extra Motor Oil	Super Visco-Static	Q.5500	Mobiloil Special 10W/30	Super Motor Oil 10W/30		WW Multigrade 10W/40