

97H 1583B

AUSTIN-HEALEY SPRITE

DRIVER'S HANDBOOK



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A copy of this Driver's Handbook is sent out with every Austin-Healey Sprite. Additional copies are obtainable only from your Austin Dealer and Part No. 97H1583B should be quoted when ordering.

JULY 1958

THE AUSTIN MOTOR CO. LTD.
LANGBRIDGE, BIRMINGHAM

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BOX 41 G.P.O.

Foreword

THE information contained in this Operation Manual has been confined to the essentials necessary for the proper running and driving of the car. Nevertheless, the owner will find all the information required to maintain the car in first-class condition and to enable him to give it those all-important items of attention which go so far to ensure trouble-free and satisfactory service.

Every car leaving the Works is capable of giving absolute satisfaction if attention is given to the essential maintenance operations detailed in this book. Remember that Austin Distributors/Dealers are better equipped to provide routine and repair service than the owner-driver; therefore, if you encounter trouble consult the Distributor or Dealer they are at your service.

An exchange scheme for many major items and assemblies is run by B.M.C. Service Limited; ask your Distributor or Dealer for details.

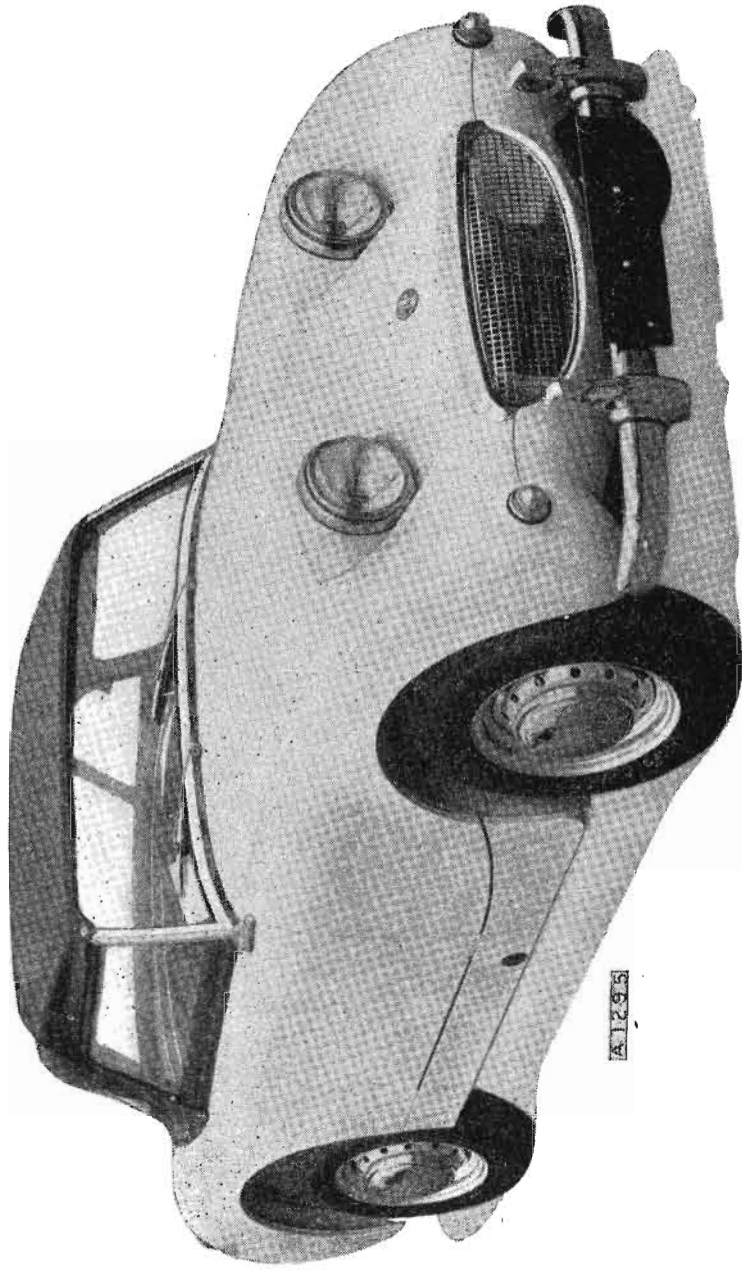
For those requiring information of a more detailed and technical nature than is contained in the Operation Manual, a Workshop Manual is available at a reasonable price from your Distributor or Dealer.

IDENTIFICATION

When communicating with your Distributor/Dealer always quote the car and engine numbers; the registration number is of no use and is not required.

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THE AUSTIN-HEALEY SPRITE

SPECIFICATION

ALWAYS quote the car number in any correspondence, relating to the vehicle, which is addressed to the Austin Motor Co. Ltd. or its Dealers. The number will be found on a plate attached to the left-hand valance inside the engine compartment.

In addition, the engine number is located on the right side of the cylinder block, adjacent to the cylinder head.

ENGINE

Number of cylinders	.. .. .	4
Bore	.. .. .	2.48 in. (62.9 mm.)
Stroke	.. .. .	3.00 in. (76.2 mm.)
Capacity	.. .. .	57.87 cu. in. (948 c.c.)
B.H.P.	.. .. .	43 at 5,200 r.p.m.
Maximum Torque	.. .. .	52 lbs. ft. at 3,300 r.p.m.
Compression ratio	.. .. .	8.3 to 1
Firing Order	.. .. .	1, 3, 4, 2
Valves	.. .. .	Overhead push rod operation
Valve Timing:		
Inlet opens	.. .. .	5° B.T.D.C.
Inlet closes	.. .. .	45° A.B.D.C.
Exhaust opens	.. .. .	40° B.B.D.C.
Exhaust closes	.. .. .	10° A.T.D.C.
Valve Clearance (hot or cold)	.. .. .	.012 in. (.305 mm.)

LUBRICATION

Type	.. .. .	Wet sump
Pump	.. .. .	Hobourn Eaton or Burman Rotor type
Pressure (Normal)	Running (approx.)	60 lbs./sq. in. (4.2 kg./cm. ²)
" " "	Idling	15 lbs./sq. in. (1.05 kg./cm. ²)
Filter	.. .. .	Full flow
Sump capacity	.. .. .	6 Imp. pints (3.41 litres)
Filter capacity	.. .. .	1 Imp. pint (0.57 litres)

FUEL SYSTEM

Pump	.. .. .	A.C. Sphinx 'Y'
Carburettors	.. .. .	Two S.U. semi-downdraught
Model	.. .. .	H1
Needle	.. .. .	GG
Tank capacity	.. .. .	6 Imp. galls. (27 litres)

COOLING SYSTEM

Type	.. .. .	Pressurised
Circulation	.. .. .	Pump, fan and thermostat
Normal operating temperature	.. .. .	164°F. (73°C.)
Capacity	.. .. .	10 Imp. pints (5.68 litres)

IGNITION

Type	.. .. .	Lucas 12 volt
Coil	.. .. .	Lucas type LA12
Distributor	.. .. .	Lucas type DM2 PH4
Contact breaker gap	.. .. .	.014 to .016 in. (.356 to .406 mm.)
Timing	.. .. .	5° before T.D.C. (Premium Fuel)
Sparking Plugs	.. .. .	Champion N.5. Long reach
Plug Gap	.. .. .	.025 in. (.64 mm.)

CLUTCH

Make	.. .. .	Borg and Beck
Type	.. .. .	Single dry plate
Diameter	.. .. .	6½ in. (15.88 cm.)
Method of operation	.. .. .	Hydraulic

GEARBOX

Type	.. .. .	4 speed synchromesh (on 2nd, 3rd & top)
Gear ratios:		
1st	.. .. .	3.627 to 1
2nd	.. .. .	2.374 to 1
3rd	.. .. .	1.412 to 1
Top	.. .. .	1 to 1
Reverse	.. .. .	4.664 to 1
Oil capacity	.. .. .	2½ Imp. pints (1.33 litres)

PROPELLER SHAFT

Make	.. .. .	Hardy Spicer
Type	.. .. .	Open shaft

REAR AXLE

Type	.. .. .	Hypoid three-quarter floating
Oil capacity	.. .. .	1½ Imp. pints (1.0 litre)
Overall ratios:		
1st	.. .. .	15.32 to 1
2nd	.. .. .	10.02 to 1
3rd	.. .. .	5.96 to 1
Top	.. .. .	4.22 to 1
Reverse	.. .. .	19.69 to 1

STEERING

Type	.. .. .	Rack and pinion
Ratio	.. .. .	2½ turns lock to lock
Track toe-in	.. .. .	Parallel to ½ in. (0—3.18 mm.)
Adjustment	.. .. .	Shims

SUSPENSION

Front: Type	..	Independent by coil springs and wishbones
Castor Angle	..	3°
Camber Angle	..	1°
Swivel pin inclination	..	6½°
Rear: Type	..	Quarter-elliptic leaf springs

SHOCK ABSORBERS

Make	..	Armstrong
Type	..	Double acting hydraulic piston

BRAKES

Make	..	Lockheed
Frontbrake: Type	..	Hydraulic with two leading shoes
Rear	..	Hydraulic
Handbrake: Type	..	Pull-up operating mechanically on rear wheels
Drum Diameter	..	7 in. (17.8 cm.)

WHEELS

Type	..	13×3.50D pressed steel disc with ventilation holes
------	----	--

TYRES

Type	..	Dunlop 5.20-13 E.L.P. Tubeless
Pressures:	..	18 lbs./sq. in. (1.27 kg. cm. ²) front 20 lbs./sq. in. (1.41 kg./cm. ²) rear

JACKING SYSTEM

Type	..	Smith's 'Steady-lift'
Operation	..	Ratchet spanner

ELECTRICAL EQUIPMENT

Type	..	Lucas 12 volt
Battery	..	Lucas B.T. 7A
Capacity	..	43 amp. hrs at 20 hr. rate
Coil	..	Lucas type LA 12
Dynamo	..	Lucas type C39PV2
Starter motor	..	Lucas type M35G1
Cut-out and Regulator	..	Lucas type RB106/2
Fuse Unit	..	Lucas type SF6
Horn	..	Lucas type HF 1849
Windscreen Wipers	..	Lucas type DR2

GENERAL DIMENSIONS

Overall Length	..	11 ft. 0½ in. (3.37 m.)
Overall Width	..	4 ft. 5 in. (1.35 m.)
Overall Height	..	4 ft. 1¾ in. (1.26 m.)
Wheelbase	..	6 ft. 8 in. (2.32 m.)
Track (front)	..	3 ft. 9¾ in. (1.16 m.)
Track (rear)	..	3 ft. 8¾ in. (1.14 m.)
Turning Circle	..	32 ft. approx. (9.7 m.)
Approx. Weight	..	13 cwt. (660 kg.)

INSTRUMENTS AND CONTROLS

INSTRUMENTS

Speedometer: Indicates the vehicle speed and total mileage. The trip figures at the top of the speedometer face can be reset to zero by pushing up the knob at the bottom of the speedometer and turning it to the right.

Tachometer: This instrument indicates the revolutions per minute of the engine and thus assists the driver in determining the most effective engine speed range for maximum performance in any gear.

Oil Pressure Gauge: Indicates the engine oil pressure. The pressure may rise to over 60 lb. per sq. in. (4.2 kg./cm.²) when the engine is started up from cold, but after the oil has circulated and become warm the pressure should drop to approximately 60 lb. per sq. in. (4.2 kg./cm.²) with a proportionately lower idling pressure. Should the gauge fail to register any pressure at all, stop the engine immediately and investigate the cause.

Ignition Warning Light: Should glow red when ignition is switched on and fade out when the generator starts charging the battery. Failure to do so should be investigated immediately.

Main Beam Warning Light: A red glow appears when the headlights are switched on, with the two beams straight ahead. The light goes out when the headlights are dipped.

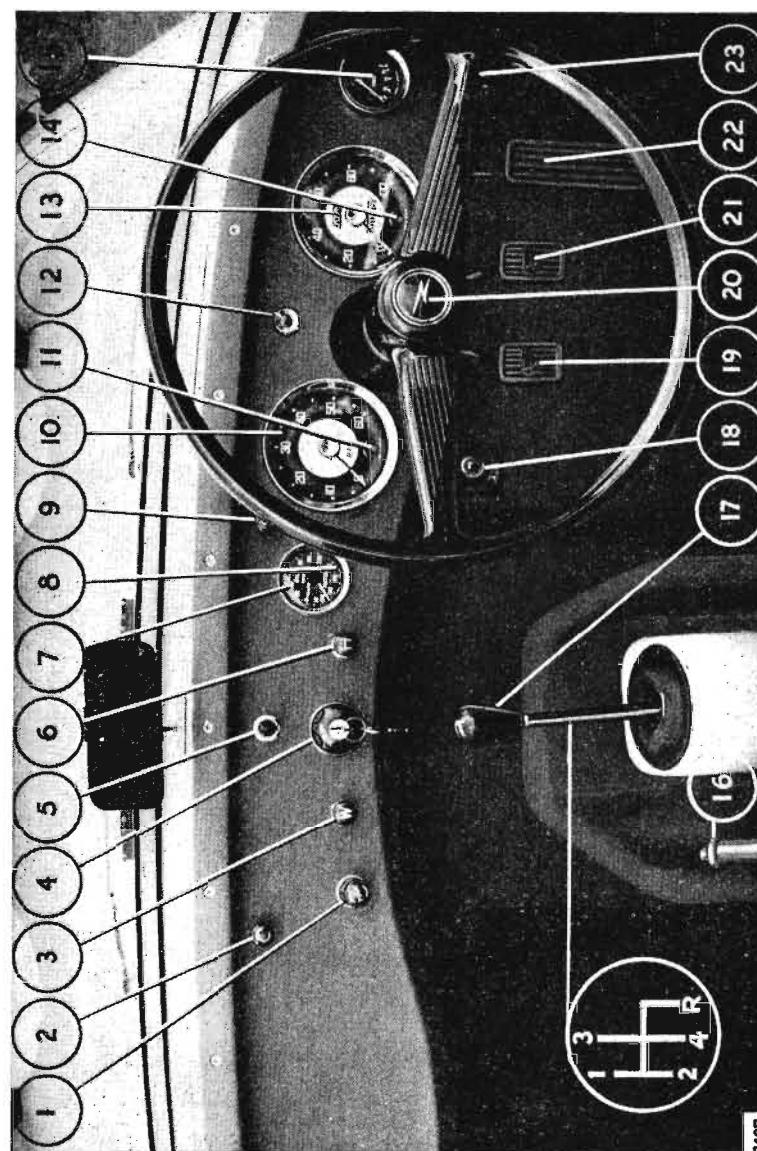
Fuel Gauge: The fuel gauge indicates the contents of the tank when the ignition switch is 'On'.

Always ascertain that the ignition is switched off before replenishing the fuel tank.

Water Temperature Gauge: This records the temperature of the cooling water circulating in the cylinder block and radiator. Under normal operating conditions this should be 164°F. (73°C.).

Instruments and Controls

- | | |
|---|--|
| 1. Windscreen washer control. | 12. Direction indicator warning light. |
| 2. Choke control. | 13. Speedometer. |
| 3. Windscreen wiper control. | 14. Ignition warning light. |
| 4. Ignition and lights switch. | 15. Fuel gauge. |
| 5. Flashing direction indicator switch. | 16. Handbrake. |
| 6. Heating and demisting control. | 17. Gear lever. |
| 7. Oil pressure gauge. | 18. Dip switch. |
| 8. Water temperature gauge. | 19. Clutch pedal. |
| 9. Starter control. | 20. Horn button. |
| 10. Tachometer. | 21. Brake pedal. |
| 11. Headlight beam warning light. | 22. Accelerator pedal. |
| | 23. Panel light switch. |



FOOT CONTROLS

Accelerator: The small right-hand pedal which operates the carburettor throttle.

Brake: The centre pedal which operates the brakes on all four wheels.

Clutch: The left-hand pedal. The foot should be kept clear of the pedal except when engagement or disengagement of any gear is intended, or when in heavy traffic. Press to the floor for complete disengagement.

Dip Switch: This is located in the floor to the left of the clutch pedal. To dip the headlight beams depress the switch. Depress again to return them to the straight ahead position.

HAND CONTROLS

Hand Brake: Pull-up lever type, situated between the driver's and passenger's seat. Operates mechanically on the rear wheels only.

Gear Lever: Should always be in neutral when starting the engine. The gear positions are indicated on the top of the lever knob. Move the lever hard right (to overcome pressure of spring-loaded stop) and then back to engage reverse gear.

Choke Control: Pull the control out to its limit when starting the engine from cold. Push in the choke control completely as soon as the engine will run evenly without its use.

Ignition Switch: Turn the key in a clockwise direction to switch on. Do not leave the switch 'on' when the vehicle is stationary—the red warning light is a reminder.

Lights Switch: The central moulding which surrounds the ignition switch. Turn clockwise to the first notch to switch on the sidelights and to the second to switch on the headlights.

Starter Switch Knob: Pull out the control knob to start, and release as soon as the engine fires. If the engine fails to start after a few revolutions, do not operate the starter again until the engine is stationary.

Direction Indicators: To operate, move the switch to the left or right, according to whichever indicator is required. A warning light on the instrument panel flashes green for as long as the indicators are in use.

Heater and Demister Control: This is situated centrally on the fascia and provides the means for regulating the heating and demisting system. Full operating instructions are given on page 47.

Windscreen Wiper Switch: To start the windscreen wipers pull out the switch marked "W" on the fascia panel. To park, push in the switch, when the wiper arms will automatically return to the parked position.

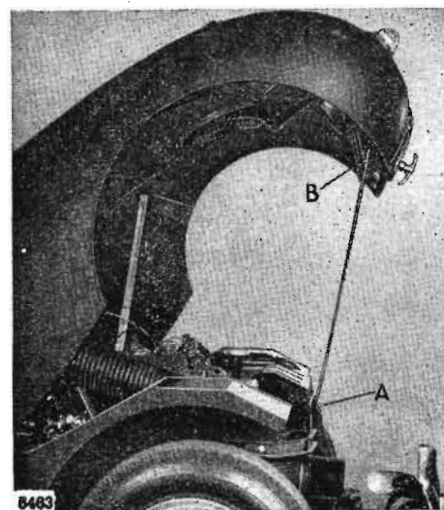
Windshield washer (optional extra). To operate the washer, press the control knob located on the passenger's side of the fascia. In cold weather the reservoir should be filled with a mixture of water and recommended washer solvent to prevent the water freezing in the container and on the windshield. **Do not use radiator anti-freeze solution in the windshield washing equipment.**

Panel Light Switch: Situated on the lower edge of the fascia panel. No light will be obtained unless the sidelights are also on.

Horn Button: Mounted at the centre of the steering wheel and can be operated when the ignition switch is 'off'.

Seats: The driver's seat is mounted on slides and is instantly adjustable by means of the lever located at the front of the seat. The passenger's seat is not adjustable. The backs of the seats can be folded forward.

Crankcase Oil Filler: Incorporated in the valve rocker cover. Bayonet fitting cap, with anchor cable to prevent loss.



Release the extra bonnet prop from its securing clip 'A' and insert the end in the hole 'B' on the underside of the bonnet.

Bonnet lock: To release the bonnet turn the plated locking handle, situated behind the front number plate, in a clockwise direction. Lift the safety catch lever (see illustration on page 46) at the same time raising the bonnet. The bonnet is held open by two telescopic prop rods which lock automatically in the fully extended position.

As a safety measure an extra prop is provided and should always be used to prevent any possibility of an accident. Release

the prop from the clip at the side of the radiator and insert the end into the hole provided in the bracket below the heater intake on the underside of the bonnet.

To close the bonnet release the prop and return it to the securing clip. Raise the bonnet to release the automatic locking device and lower gently. Push downwards on the radiator grille to engage the safety catch and turn the locking handle in an anti-clockwise direction to secure.

The Hood: To erect, place the main hood stick in the body sockets with the hinged rail facing forward, press the main hood stick downwards to compress the tension springs and lock both sides in this position.

Lay the hood over the opened framework and fit the front rail of the hood into the lip of the windshield frame; secure with the two fasteners at each top corner of the windshield.

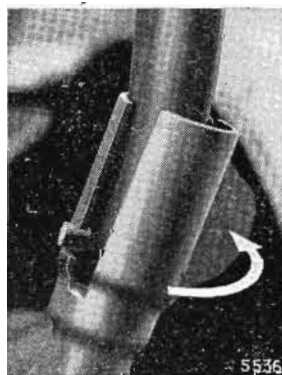
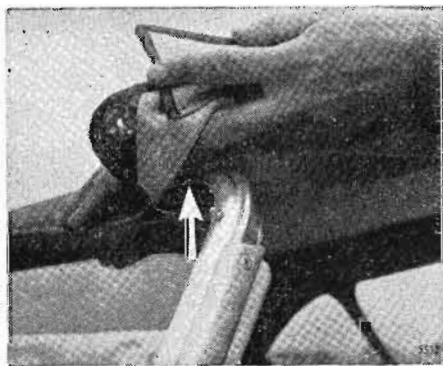
Attach the rear hood rail to the two slotted fasteners on the tonneau panel and the hood sides to the body with the turn buttons and fasteners.

Before releasing the telescopic ends of the main hood stick, make certain that the front hood rail is still firmly secured in the lip of the windshield.

Removing the hood *must* be a reversal of the above order. Never commence hood removal from the windshield.

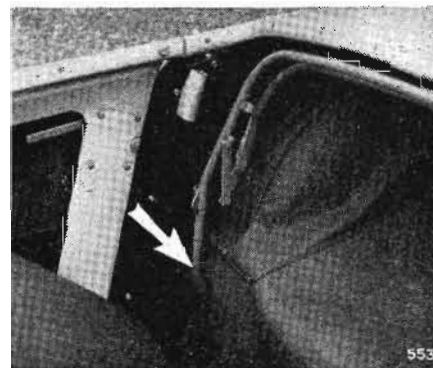
Lay the hood on a flat surface with the lining upwards and roll up from the rear edge, carefully avoiding kinking. Withdraw the hood frame and turn it through 180° so that the hinged rail faces rearwards and stow in the sockets provided. Secure the frame in the centre with the strap attached to the underside of

Secure the front rail firmly into the lip of the windshield.



Push the hood stick downward and rotate the lug as indicated, to lock the telescopic end in the compressed position.

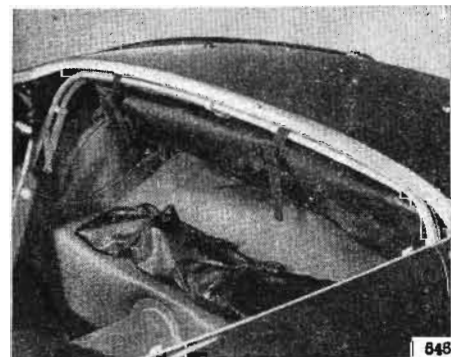
the boot. If correctly positioned the frame will follow the contour of the rear edge of the cockpit. Strap the rolled hood to the top of the hood frame with the extreme ends bent round at the seams into the boot. The straps for this purpose will be found in the tool kit.



One of the two sockets provided for the hood frame when in stowed position.



Fold the ends of the rolled up hood into the boot.



The hood finally stowed away and secured with two straps to the top of the hood frame

DRIVING INSTRUCTIONS

THE importance of running-in the new vehicle cannot be too highly stressed. Beyond all doubt the owner or operator will find that careful, considerate treatment during the vital running-in period will be fully compensated by the resulting dependability and efficiency that will be obtained throughout its life.

RUNNING-IN SPEEDS

The treatment given to a new car will have an important bearing on its subsequent life, and engine speeds during this early period must be limited. The following instructions should be strictly adhered to.

DURING THE FIRST 500 MILES (800 km.)

- DO NOT exceed 45 m.p.h. (72 k.p.h.)
- DO NOT operate at full throttle in any gear.
- DO NOT allow the engine to labour in any gear.

It is most important to remember that at no time during the running-in period must the engine be overloaded, as in attempting to ascend hills in top gear at low vehicle speed. The load should be eased by changing down to a lower gear.

Fierce acceleration must also be avoided, and remember that the engine should never be raced in neutral.

On completion of the first 500 miles (800 km.) the running-in speed may be progressively increased, but full power should not be used until at least 1,500 miles (2400 km.) have been covered, and even then only for short periods at a time. During this mileage a slight falling-off in engine power may develop, in which case it is beneficial to lightly grind-in the valves and re-set the valve clearances. No engine or complete vehicle can be considered fully run-in until it achieves 2-3,000 miles (4-5000 km.).

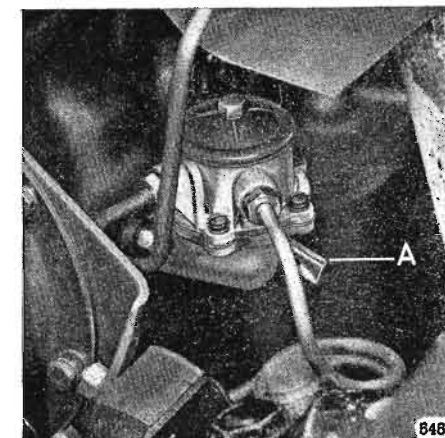
The use of upper cylinder lubricant is recommended at all times, but most particularly during the running-in period. See page 33 for recommended brands.

STARTING

BEFORE starting the engine check the oil level in the sump and the water level in the radiator. Ensure that the gear lever is in neutral and the handbrake is applied. If the engine is cold pull out the choke control.

Switch on the ignition, ensure that the ignition warning light glows and that the fuel gauge registers, then pull the starter control firmly. Release it if the engine fails to start within five or six seconds, wait for the engine to stop rotating and then pull the starter again.

Should the engine not start after a reasonable number of attempts, check up on possible causes. Do not persist in operating the starter, as a great strain is imposed on the battery by so doing.



Fuel Pump Priming Lever
'A' is the priming lever of the fuel pump located on the left side of the cylinder block.

As soon as the engine starts, release the starter control and warm up the engine at a fairly fast idling speed. Should the oil gauge fail to register any pressure or if the pressure is very low, stop the engine immediately and investigate the cause. Failure to do so may result in serious damage to the engine. Also check that the ignition warning light goes out when the engine is running above idling speed, as this indicates that the dynamo is charging the battery.

A thermostat is incorporated in the cooling system to assist the engine in warming up from cold, but do not, under any circumstances, race the engine in an attempt to speed up the process.

Push in the choke control completely as soon as the engine will run evenly without its use.

When the vehicle has been out of action for several days the fuel in the carburettor may have evaporated. In these circumstances, before attempting to start the engine, refill the carburettor by operating the priming lever on the fuel pump, this being located low down on the left side of the engine.

DRIVING

START only in first gear, which is engaged by depressing the clutch pedal and moving the gear lever into the appropriate position. Should the gear not readily engage, momentarily release the clutch pedal, after which, with the clutch again depressed, it should be possible to engage the gear. Gradually release the clutch pedal, at the same time gently depressing the accelerator and releasing the handbrake. The vehicle will move forward, gathering speed in accordance with the amount the accelerator is depressed.

Second gear is engaged by depressing the clutch pedal, moving the gear lever out of first into the next higher gear and then releasing

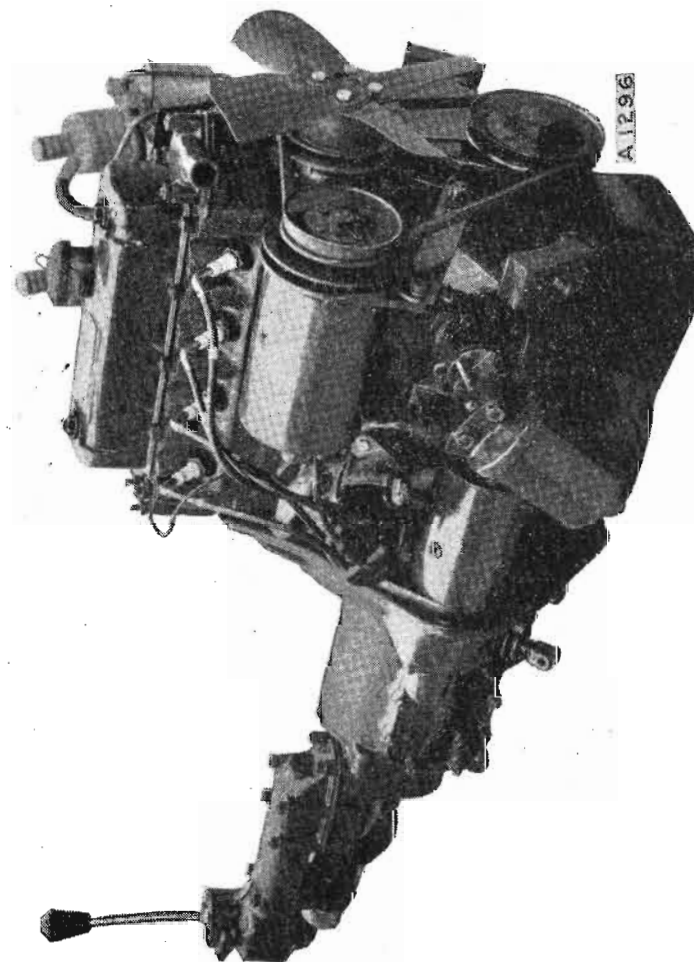
REGULAR ATTENTIONS

THE following is a summary of the regular attentions required to maintain the Austin-Healey Sprite in perfect running order. These instructions should be closely followed, whether the attentions are undertaken by the operator or by the local Austin Dealer. Under arduous conditions, as, for instance, very dusty or muddy roads and tracks or high speeds, it will be advisable to attend to the oiling points more frequently than every 1,000 miles (1600 km.).

POST DELIVERY CHECK

Dealers are under agreement to carry out a 'Post Delivery Check' on Austin vehicles purchased from them. This service is undertaken once during the period of the first 500 miles or as soon as possible afterwards. Except for materials used, they will perform the following operations free of charge:

- (1) Change oil in the engine, gearbox and rear axle.
- (2) Lubricate all chassis points.
- (3) Check and lubricate all door catches, hinges, striking plates and the bonnet safety catch.
- (4) Tighten nuts of cylinder head and valve rocker shaft brackets and manifold to recommended torque settings.
- (5) Check valve clearances and reset if necessary.
- (6) Tighten fan belt if necessary.
- (7) Check all water pipe connections and tighten clips if necessary.
- (8) Examine and clean the carburettors and reset the slow running adjustment.
- (9) Check all fuel pipe union nuts.
- (10) Examine and adjust if necessary sparking plugs and distributor points.
- (11) Check working of automatic ignition control and reset if necessary.
- (12) Check front wheel alignment and steering connections, adjust if necessary.
- (13) Check braking system functionally, adjust and bleed if necessary.
- (14) Check brake and clutch fluid reservoir and top-up if necessary.
- (15) Check electrical system functionally, examine battery and top-up if necessary. Clean and tighten terminals.
- (16) Check tightness of all nuts and bolts on shock absorbers, springs, wheel nuts, universal joints, etc.
- (17) Inspect shock absorbers for leaks, examine oil levels and top-up if necessary.
- (18) Check tyre pressures.
- (19) Check operation of all instruments.
- (20) Road test.



R.H. Side View of Power Unit.

DAILY

Engine: Check the level of oil in the sump and top-up if necessary to the 'FULL' mark on the dipstick. The oil filler is in the valve rocker cover and the dipstick is on the right side of the engine.

After adding oil, allow a few seconds to elapse for the oil to reach the sump from the valve rocker cover before checking the level.

Radiator: Check the level of water in the radiator and top-up if necessary. Fill to the bottom of the filler cap well, when the engine is cold.

N.B.—Do not remove the filler cap if the coolant temperature is above boiling point or if the engine is running.

WEEKLY

Tyres: Check all tyre pressures, using a tyre gauge and inflate, if necessary, to the recommended pressures. Ensure the valves are fitted with screw caps and inspect the tyres for possible damage and wipe off any oil or grease. See page 50 for correct pressures.

EVERY 1,000 MILES (1600 km.)

Gearbox: Check the level and top-up if necessary. To reach the filler plug, turn back the rubber floor covering and remove the rubber plug from the left side of the gearbox covering.

Remove the filler plug and fill up to the bottom of the threads. This gives the correct level.

Radiator Header Tank and Filler Cap.

The engine cooling system is sealed and pressurised and for this reason the radiator filler cap should never, under any circumstances, be removed when the coolant is above boiling point or the engine is running.



Gearbox Oil Filler Plug Access.

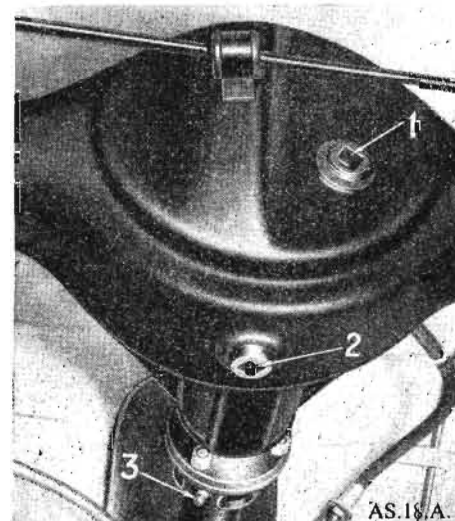
1. Filler plug.
2. Rubber cover.



Rear Axle: Check the level and top-up if necessary. The filler plug is located on the rear side of the axle and also serves as an oil level indicator.

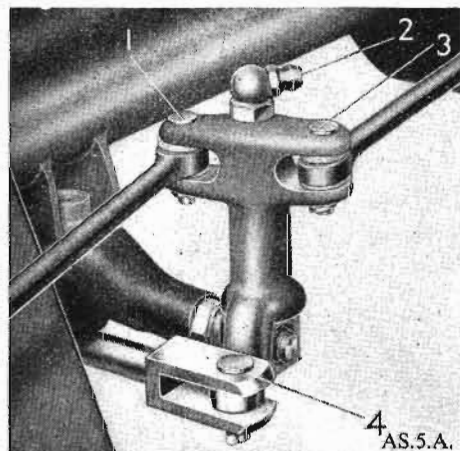
After topping-up allow time for any surplus oil to run out should too much have been injected. This is most important as if the axle is overfilled, the lubricant may leak through to the brake linings and lessen their efficiency.

Brakes: Apply an oil gun to the brake balance lever nipple on the rear axle, and to the handbrake cable nipple located just forward of the rear axle.



Rear Axle and Rear Universal Joint.

1. Combined oil filler and level plug.
2. Drain plug.
3. Propeller shaft rear universal joint nipple.



Rear Brake Balance Lever Oiling Points.

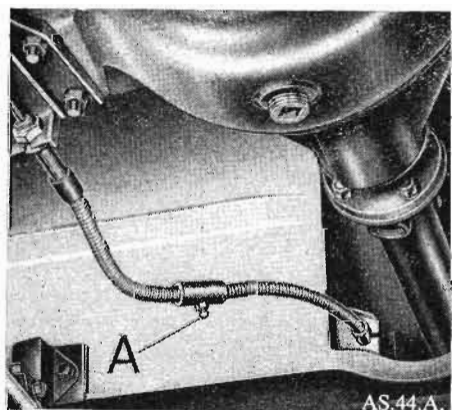
1. L.H. pull rod joint pin.
2. Balance lever nipple.
3. R.H. pull rod joint pin.
4. Balance lever arm joint pin.

Front Suspension: Apply an oil gun to the lower arm joints where they meet the swivel axle housing.

Swivel Axle Pins: Apply an oil gun to the two nipples on each swivel axle. This is best done when the vehicle is partly jacked up, as the oil is then able to penetrate properly around the bushes.

Steering Connections: Apply an oil gun to the nipple on each tie-rod ball joint.

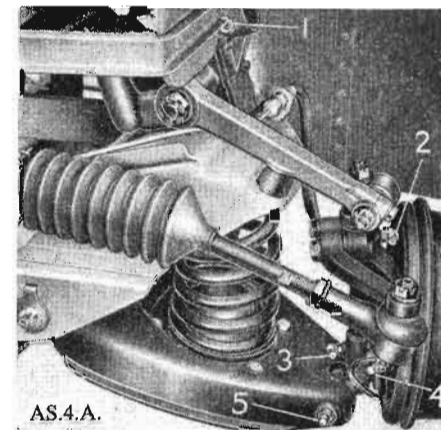
Propeller Shaft Universal Joints: Apply an oil gun to the universal joint nipple at each end of the propeller shaft. If necessary, move the vehicle to obtain access to the nipples.



Handbrake Cable Nipple.
'A' indicates the position of the cable grease nipple.

Front Suspension and Tie Rod Oiling Points.

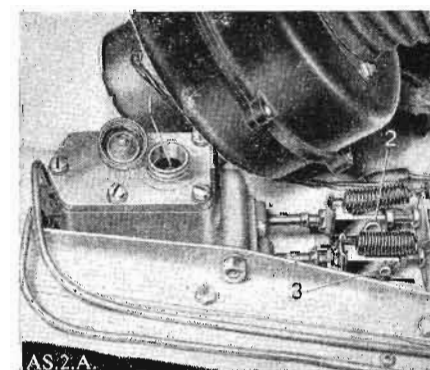
1. Shock absorber filler plug.
2. Swivel axle pin upper bush.
3. Swivel axle pin lower bush.
4. Tie rod ball joint.
5. Suspension lower fulcrum pin.



Propeller Shaft Front Universal Joint Nipple.
Lift the floor covering and remove the rubber plug in the propeller shaft tunnel to gain access to the oil nipple.

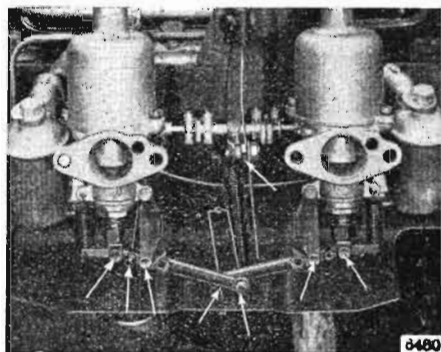
Brake and Clutch Fluid Reservoir.

1. Reservoir filler opening. Top up to the bottom of the filler plug threads.
2. Clutch pedal linkage oiling point.
3. Brake pedal linkage oiling point.



Throttle Linkage.

Apply a few drops of oil to each of the linkage joints indicated.



Shock Absorbers: Ensure that there are no visible signs of leakage and that the rubber bushes of the shock absorbers arms are undamaged.

Control Linkages: With an oil can, oil all the brake, clutch and throttle linkage joints.

Brakes: Inspect the hydraulic fluid lines and flexible hoses.

Brake and Clutch Fluid Reservoir: Ascertain that the fluid level in the supply reservoir, mounted on the steering side of the engine compartment, is up to the bottom of the filler plug threads. Top-up if necessary using only the recommended fluid.

Carburettors: Remove the suction chamber cap and damper assembly on each carburetter and replenish the reservoir with S.A.E. 20 oil as necessary.

Battery: Ascertain the state of charge of the battery by taking hydrometer readings.

Check that the electrolyte in the cells is level with the top of the separators. If necessary add a few drops of distilled water. Never use tap water as it contains impurities detrimental to the battery.

Never leave the battery in a discharged condition. If the vehicle is to be out of use for any length of time, have the battery removed and charged once a fortnight.

Wheels: Check the security of the wheel nuts and tighten them if necessary.

EVERY 2,000 MILES (3200 km.)

Carry out the 1,000 mile (1600 km.) service.

EVERY 3,000 MILES (4800 km.)

Engine: Drain the oil in the engine sump while it is warm (i.e. immediately after using the vehicle) and refill with new oil

to the 'FULL' mark on the dipstick. The drain plug is located at the rear right-hand extremity of the sump and care should be taken to ensure that no dirt or grit enters the sump when replacing the plug. Capacity is 6 pints (3.41 litres).

Bonnet Lock: Apply a few drops of engine oil to the bonnet lock and safety catch.

Fan Belt: Check the adjustment of the fan belt. It should be sufficiently tight to prevent slip at the generator and water pump, yet at the same time it should be possible to move it laterally about 1 inch (2.54 cm.).

To make any necessary adjustment slacken the bolts and raise or lower the generator until the desired tension of the belt is obtained. Then securely lock the generator in that position.

Distributor Spindle: Lubricate the distributor bearings by withdrawing the moulded rotating arm from the top of the distributor spindle and carefully adding a few drops of oil round the screw exposed to view. See page 33 for recommended oils. Take care to refit the arm correctly by pushing it on to the shaft and turning until the key is properly located.

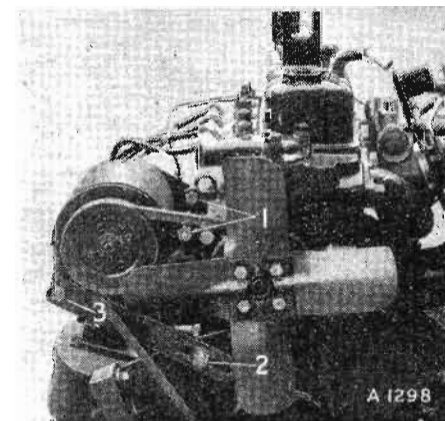
Distributor Cam: Apply a trace of engine oil to the distributor cam. Be careful not to let any oil or dirt reach the contact breaker points.

Distributor Automatic Advance: Remove the distributor cap and add a few drops of engine oil through the hole in the contact breaker base through which the cam passes.

Wheels: Change over the wheels diagonally (including the spare wheel) in order to obtain maximum service with even wear from each tyre.

Fan Belt Adjustment

1. Dynamo hinge bolts.
2. Adjusting link nut.
3. Adjusting link setpin.



Brakes: Check the brakes and adjust if necessary.

Contact Breaker Points: Clean the contact breaker points. Cleaning of the contacts is made easier if the contact breaker lever carrying the moving contact is removed. Before replacing, smear the pivot on which the contact breaker operates with engine oil.

Check and reset the contact breaker points to the correct gap of .014 to .016 in. (.36 to .41 mm.) (see page 43).

Sparking Plugs: Remove the plugs and clean off all carbon deposit from the electrodes, insulators and plug threads.

Re-set the plug points to the correct gap of .025 in. (.64 mm.)

EVERY 4,000 MILES (6400 km.)

Carry out the 1,000 mile (1600 km.) service.

EVERY 5,000 MILES (8000 km.)

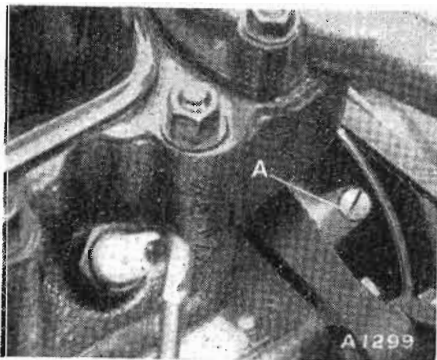
Carry out the 1,000 mile (1600 km.) service.

EVERY 6,000 MILES (9600 km.)

Gearbox: Drain when the oil is warm (i.e. after using the vehicle) and refill to the level of the filler plug with new oil. Capacity $2\frac{1}{2}$ pints (1.33 litres).

Rear Axle: Drain when the oil is warm, and refill to the level of the filler plug opening with new oil. Capacity $1\frac{3}{4}$ pints (1.00 litre).

Engine Oil Filter: At the same time as the engine oil is changed, drain the full-flow filter and renew the filter element, not forgetting to top-up the filter container with new oil before refitting it to the head casting on the engine crankcase (see page 38).
N.B.: On no account must this attention be neglected as it is essential that the oil filter does not become clogged with dirt.



Water Pump Oiling Plug.
'A' indicates the position of the plug on the water pump body.

Shock Absorbers: Check the fluid level, and top-up if necessary. The correct level is just below the filler plug threads (see page 33 for recommended fluid). Carefully clear away all road dirt and grit from the vicinity of the filler plugs before removal.

N.B.—Where the recommended fluid is not available:—

Any good quality mineral oil to specification SAE 20/20W can be used. It must be clearly understood that these alternatives are not suitable for low temperature operation.

Front Wheel Alignment: Check the alignment of the front wheels. This is correct when there is 0 to $\frac{1}{8}$ in. (0 to 3.2 mm.) toe-in.

Ignition Timing: Check the setting and adjust if necessary.

Sparking plugs: Remove the plugs and clean off all carbon deposit from the electrodes, insulators and plug threads.

Water Pump: Remove the oiling plug on the water pump casing and add a small quantity of SAE 140 oil. The oiling of the pump must be done very sparingly otherwise oil will flow past the bearings on to the face of the carbon sealing ring and impair its efficiency.

Front Road Wheel Hubs: Remove the wheel, lever out the hub cap with a screw-driver, and recharge with grease. It is important that the hubs are not overgreased, due to the fact that any surplus may find its way on to the brake linings, thus reducing their efficiency.

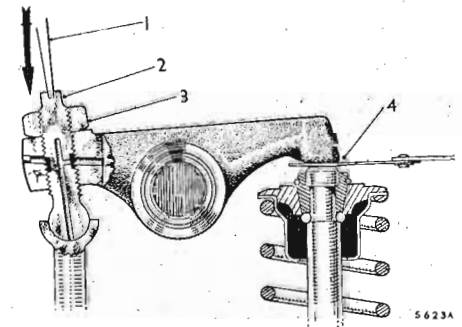
Air Cleaners: The air cleaners should be removed, cleaned and re-oiled. Swill each cleaner in petrol, drain, immerse in engine oil and again drain before refitting.

Valve Clearance Adjustment: Check the rocker clearances and adjust if necessary. The correct clearance is .012 in. (.31 mm.) with the engine hot.

Fuel Pump: Clean the fuel pump filter and sediment chamber. See page 39.

Valve Clearance Adjustment

1. Screwdriver blade.
2. Adjusting screw.
3. Locknut.
4. .012 in. (.31 mm.) feeler gauge.



Carburettors: The flow of fuel at each carburetter inlet to each float chamber should be checked and if necessary the filters in the unions should be cleaned.

Remove the bowl of the carburetter for cleaning by disconnecting the fuel supply pipe and slackening the lid retaining nut. Unscrew the chamber holding-up bolt, being careful to note the positions of the brass and fibre washers, and then take off the lid. Do not lose the float needle.

In addition, clean out each suction chamber assembly by removing the three securing screws and lifting off the body in the same plane to avoid damage to the needle.

Lift out the hydraulic damper and wash the assembly in petrol. Dry thoroughly, refit and replenish the damper with oil. When fully re-assembled lift the piston to its fullest extent, thus expelling surplus oil which lubricates the piston rod and eventually finds its way into the induction pipe.

This is the only part which requires lubrication, the piston itself and the inside of the suction chamber should be left dry.

Bodywork: With an oil can, lubricate the door locks and hinges, and other moving joints on the bodywork.

General: Examine and tighten if necessary, all nuts, bolts, unions, connections and linkage joints, especially after the vehicle has completed its first 6,000 miles (9600 km.).

EVERY 7,000 MILES (11200 km.)

Carry out the 1,000 mile (1600 km.) service.

EVERY 8,000 MILES (12800 km.)

Carry out the 1,000 mile (1600 km.) service.

EVERY 9,000 MILES (14400 km.)

Carry out the 1,000 mile (1600 km.) service.

EVERY 10,000 MILES (16000 km.)

Carry out the 1,000 mile (1600 km.) service.

EVERY 11,000 MILES (17,600 km.)

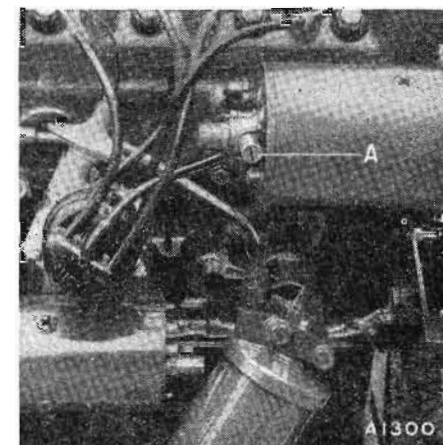
Carry out the 1,000 mile (1,600 km.) service.

EVERY 12,000 MILES (19,200 km.)

Sparking Plugs: Renew the sparking plugs. Use only Champion N5 Long Reach Plugs.

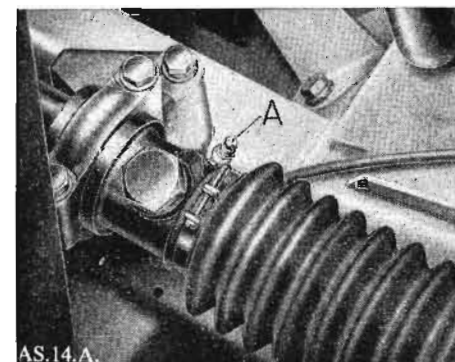
Cooling System: Flush out the cooling system in accordance with the instructions given on page 46. Normally this operation is carried out twice annually upon the addition and removal of anti-freeze. In countries where anti-freeze is not required, however, the cooling system should be flushed out every 12,000 miles (19200 km.).

*Generator Bearing,
Unscrew the lubricator cap
'A' and replenish with
grease.*



Speedometer and Tachometer Drives: Disconnect the cable from the instrument end and pull the inner member out of the casing. This should be lubricated sparingly by smearing it with light grease. It is important that the drive is not overlubricated, otherwise damage will be caused to the instrument head should the lubricant find its way in to the head. After returning the inner cable into its outer casing it should be withdrawn approximately 8 in. (20 cm.) and the surface grease wiped off.

To re-assemble, thread the cable with a twisting movement into the casing, since this will help the cable to engage easily with its union at the drive end. When this engagement is felt the cable can be pushed home so that the square end stands out approximately $\frac{3}{8}$ inch (9.63 mm.) from the casing.



*Steering Rack Oil Nipple.
'A' indicates the position of
the rack oil nipple.*

Generator Bearing: Unscrew the cap of the lubricator on the side of the bearing housing, lift out the felt pad and spring and approximately half-fill the lubricator cap with a recommended grease (see page 33). Replace the spring and felt pad and screw the lubricator cap back into position.

Oil Sump: The engine sump should be drained and flushed through with a flushing oil as supplied by one of the manufacturers shown on the lubrication chart on page 64.

Remove the sump drain plug and allow the old oil to drain completely. Replace the plug and pour 3½ pints (2 litres) of flushing oil into the engine through the filler cap. Run the engine at a fast tick-over for 2½ to 3 minutes. Special care should be taken to ensure complete drainage of the flushing oil. At this stage the external filter should be dismantled, the bowl thoroughly cleaned and a new element fitted.

Replace the drain plug and refill the engine with oil to Ref. A (page 33).

Front and Rear Hub Bearings: Check for signs of wear.

Starter Commutator: Clean and check condition and freedom of brushes in their holders.

Steering: An oil nipple provided at the left-hand side of the rack housing (right-hand side on L.H.D. vehicles) is accessible when the bonnet is raised. Replenish the rack housing via this nipple with S.A.E. 90 hypoid oil. Give 10 strokes of the oil gun only.

Decarbonising and Valve Grinding: This attention may not be needed so frequently on vehicles used for long journeys. As a general guide, a falling off in engine power indicates when decarbonizing is due.

Headlamp Beam Setting: The headlamp beam settings should be checked and re-set if necessary, every 12,000 miles (19200 km.) or at least once a year.

Checking and adjustment (see page 52) may well be undertaken when the thinner engine oil and anti-freeze is introduced in preparation for winter service.

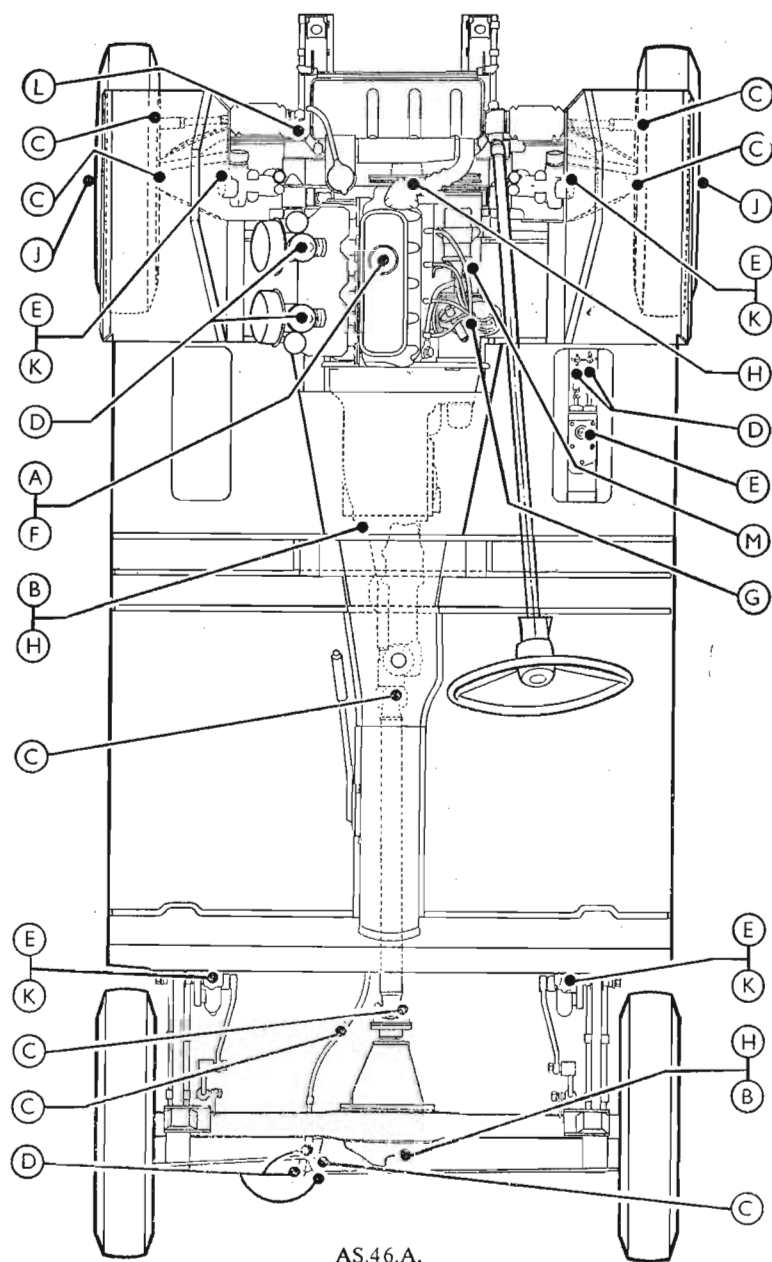
EVERY 24,000 MILES (38400 km.)

Every 24,000 miles (38400 km.) the engine sump should be removed and the sump and pick-up strainer thoroughly cleaned and replaced. This work should be entrusted to an Authorized Austin Dealer.

RECOMMENDED LUBRICANTS—HOME AND OVERSEAS

	BP	Duckham's	Mobil	Shell	Filtrate	Sternol	Wakefield	Esso
Engine	Above 32°F. (0°C.)	Duckham's NOL "Thirty"	Mobiloil A	X-100 30	Medium Filtrate 30	Sternol W.W.30	Castrol XL	Esso Extra Motor Oil 20W/30
	32°F. (0°C.) down to 10°F. (-12°C.)	Duckham's NOL "Twenty"	Mobiloil Arctic	X-100 20/20W	Zero Filtrate 20	Sternol W.W.20	Castrolite	Esso Extra Motor Oil 20W/30
	Below 10°F. (-12°C.)	Duckham's NOL "Ten"	Mobiloil 10W	X-100 10W	Sub-zero Filtrate 10W	Sternol W.W.10	Castrol Z	Esso Motor Oil 10
Transmission	Engorgol S.A.E. 30	Duckham's NOL "Thirty"	Mobiloil A	X-100 30	Medium Filtrate 30	Sternol W.W.30	Castrol XL	Esso Extra Motor Oil 20W/30
Rear Axle and Steering Rack	Engorgol E.P. S.A.E. 90	Duckham's Hypoid 90	Mobilube GX 90	Spirax 90 E.P.	Hypoid Filtrate Gear 90	Ambroleum E.P. 90	Castrol Hypo	Esso Expec Compound 90
Oil Nipples	Engorgol E.P. S.A.E. 140	Duckham's NOL E.P. 140	Mobilube GX 140	Spirax 140 E.P.	E.P. Filtrate Gear 140	Ambroleum E.P. 140	Castrol Hi-Press	Esso Expec Compound 140
Front Wheel Hubs, Generator and Brake Cable	Engorgol L.2	Duckham's L.B. 10 Grease	Mobilgrease M.P.	Retinax A	Super Lithium Filtrate Grease	Ambroleum L.H.T.	Castrolense L.M.	Esso Multi-purpose Grease H.
Distributor and Oil Can	Engorgol S.A.E. 30W	Duckham's NOL "Twenty"	Mobiloil Arctic	X-100 20/20W	Zero Filtrate 20	Sternol W.W.20	Castrolite	Esso Extra Motor Oil 20W/30
Upper Cylinder Lubrication	Engorgol U.C.L.	Duckham's Adcooid Liquid	Mobil Upperlube	Upper Cylinder Lubricant	Filtrate Petroyle	Sternol Magikoyl	Castrollo	Esso Upper Cyl. Lubricant

Rear Axle and Steering Rack:—For temperatures below 10°F. (-12°C.) use S.A.E. 80 Hypoid Lubricant.
Oil Nipples:—Alternatively the grease as shown for hubs can be used.
Hydraulic Brake and Clutch Reservoir:—Use Genuine Lockheed Brake Fluid only.
Shock Absorbers:—Use Armstrong's Super (thin) Shock Absorber Fluid.



AS.46.A.

REGULAR ATTENTIONS			Page No.
		DAILY	
Oil	A	Engine sump. Check oil level and top-up if necessary	22
		1,000 MILES (1600 km.)	
Oil	B	Gearbox and rear axle. Check oil levels and top-up if necessary	22, 23
Oil Gun	C	Propeller shaft universal joints	24
		Swivel axles and suspension lower joints	24
		Steering tie rod ball joints	24
		Rear brake cable and balance lever	23
Oil Can	D	Brake, clutch and throttle linkage joints	26
		Carburettor damper assembly reservoirs with S.A.E.20 oil.	26
Examine	E	Brake and clutch fluid reservoir level. Top-up if necessary	26
		Shock absorbers. Check for leakage	26
		3,000 MILES (4800 km.)	
Oil	F	Engine sump. Drain and refill	27
Oil Can	G	Distributor	27
		6,000 MILES (9600 km.)	
Oil	H	Gearbox and rear axle. Drain and refill.	28
		Water pump	29
Grease	J	Front hubs	29
Examine	K	Shock absorbers. Check levels and top-up if necessary	29
		12,000 MILES (19200 km.)	
Oil Gun	L	Lubricate steering rack with S.A.E. 90 Hypoid oil	32
Grease	M	Generator bearing. Replenish lubricator cap with grease	32

GENERAL MAINTENANCE

THE following information covers those attentions which are essential to the efficient operation of the vehicle, and is additional to or more detailed than that given in 'Regular Attentions'.

ENGINE

Lubrication: Correct lubrication is of the utmost importance to the engine, which may have to operate at sustained high temperatures and speeds, and it is therefore essential that only oils of the highest quality and correct grade are used. Inferior oils will cause excessive wear in an unduly short time.

The colour or appearance of an oil at atmospheric temperatures gives no indication as to its efficiency under operating conditions and owners are advised to use the officially recommended lubricants as listed on page 33. It is appreciated that in some areas these oils are not available, in which case, only good quality oils conforming with the S.A.E. numbers listed should be used.

The letters S.A.E. followed by a number constitute a classification of the lubricant in terms of viscosity or fluidity.

For instance, a low S.A.E. number indicates that the oil is of low viscosity, which means that it flows more readily than oil with a high viscosity rating.

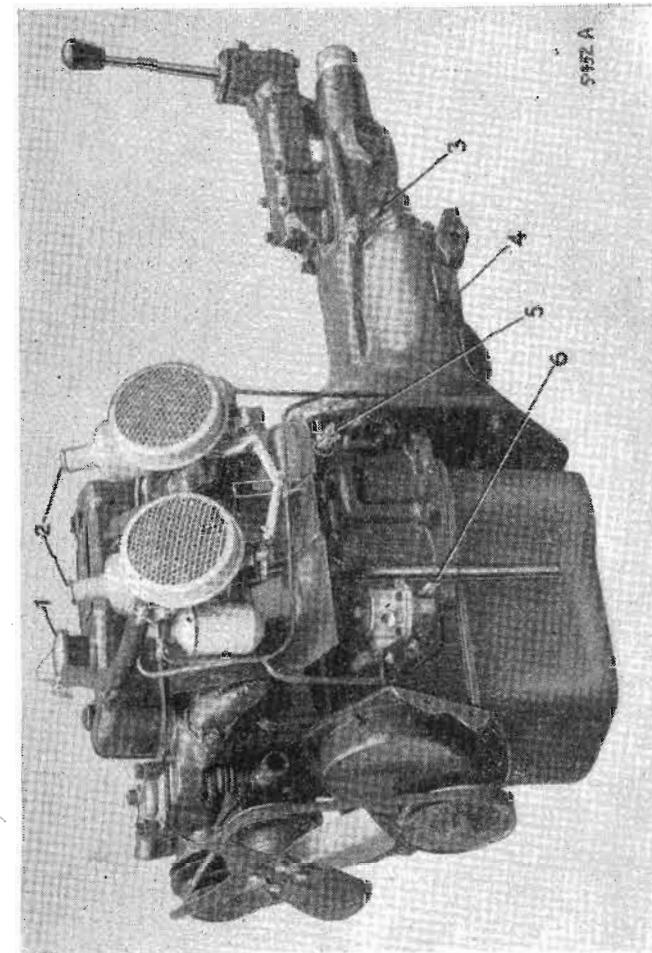
It will be appreciated, therefore, that oil with a low S.A.E. number is essential if easy starting is to be obtained in cold weather, whereas in hot weather a high viscosity oil is desirable in order to keep oil consumption within normal limits.

The use of upper cylinder lubricant is recommended at all times, but most particularly during the running-in period. See page 33 for recommended brands.

Even the best oils in the engine become contaminated during use, with unburnt fuel, carbon, metallic particles, and moisture, and it is therefore most important that the oil is changed at the recommended mileages.

Multigrade Motor Oils: In addition to the recommended lubricants listed on page 33, we approve the use of multigrade oils, as produced by the oil companies shown on our list, for all climatic temperatures unless the engine is old and in poor mechanical condition. Some are more expensive than the recommended motor oils because of their special properties and greater fluidity at low temperatures.

Oil Level: The oil should never be allowed to fall more than $\frac{1}{2}$ in. (12.7 mm.) from the 'FULL' mark on the dipstick. It is advisable to wipe the dipstick before taking the reading, which must only be taken when the engine is stationary and the vehicle on level ground if a true result is to be obtained.



- L.H. Side View
of Power Unit.
1. Oil filler cap.
 2. Carburettor hydraulic damper reservoirs.
 3. Gearbox oil filler plug.
 4. Gearbox drain plug.
 5. Cylinder block drain cock.
 6. Fuel pump priming lever

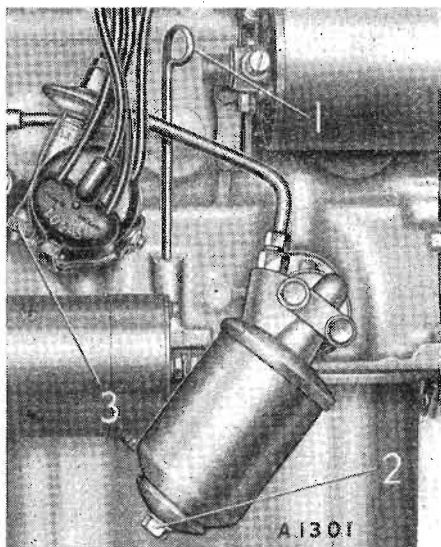
Oil Pressure: The oil pressure gauge indicates whether the oiling system is working properly. It should be looked at occasionally while the engine is running.

The engine oil pressure may rise to over 60 lbs. per sq. in. (4.2 kg./cm.²) when the engine is first started up in cold weather, but after the oil has circulated and become warm the pressure will drop to 60 lbs. per sq. in. (4.2 kg./cm.²) with a proportionately lower idling pressure.

Never run the engine if the gauge fails to register a pressure or if the pressure is very low. Switch off and investigate the cause of the failure as otherwise serious damage might result.

Full Flow Filter: Before reaching the engine bearings the oil is passed through a full flow filter at a controlled pressure of approximately 60 lbs. per sq. in. (4.2 kg./cm.²). Some pressure is lost in passing the oil through the filter element and this pressure loss will become more pronounced as the element becomes coated by foreign matter removed from the oil.

A balance valve is provided in the filter unit to guard against the possibility of the filter becoming completely choked and thereby preventing the oil from reaching the bearings. This balance valve is set to open when there is a pressure difference between the oil on the inside and the oil on the outside of the filter element of 15 lbs. per sq. in. (1.06 kg./cm.²). When the valve is open, un-filtered oil by-passes the filter element and



Engine Details.

1. Oil level dipstick.
2. Oil filter securing bolt.
3. Distributor micrometer adjuster.

reaches the bearings at a reduced pressure of approximately 35 lbs. per sq. in. (2.46 kg./cm.²). Therefore, to ensure only filtered oil is supplied to the bearings it is essential to renew the filter element at 6,000 miles (9600 km.) or when the oil pressure gauge indicates the change is necessary by a fall in pressure.

Renewing Filter Element: First drain the filter by removing the centre fixing bolt from the base of the container. With the bolt removed it will be necessary to support the container by hand until all the oil has drained away. Withdraw the container complete with the element. Slide out the filter element and, using a non-fluffy cloth, thoroughly clean out the container internally and externally. Insert a new element in the container, and holding the centre fixing bolt in position against the bottom of the container, fill with new oil. Now, still holding the bolt in this position, locate it in the filter head casting and tighten just sufficiently to make an oil tight joint.

This is the only attention likely to be required. The filter container should not be removed or drained, once a new element has been fitted, until element renewal is required.

FUEL SYSTEM

FUEL is stored in a rear mounted tank of 6 gallons (27 litres) capacity. An A.C. mechanical 'Y' type fuel pump, operated by the engine camshaft, draws fuel from the tank and delivers it under pressure to two S.U. type H.I. carburetters. Twin 'pancake' type air cleaners filter the air to the carburetter intakes.

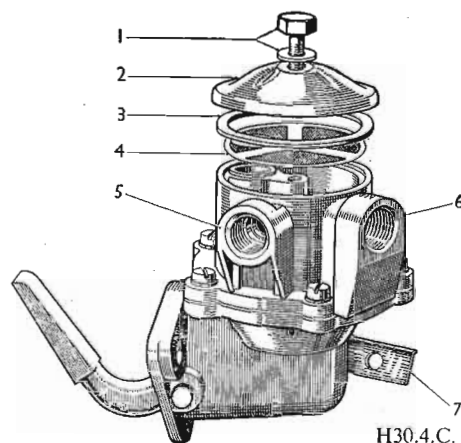
Fuel Pump: This is bolted on the left-hand forward side of the engine crankcase and has a suction pipe from the tank and an outlet pipe to the carburetters. A priming lever is fitted to enable the carburetters to be primed by hand, should the float chambers become dry due to evaporation. If petrol appears to be leaking from the edge of the pump diaphragm, tighten the covers screws alternately. Sometimes such leakage may actually come from one of the pipe unions causing the fuel to run down to the pump and collect around the diaphragm flange.

The pump filter should be examined and cleaned if necessary. Access to it is gained by removing the dome cover, after unscrewing the retaining screw, when the filter gauze itself may be lifted off its seating. Clean out the sediment chamber and clean the filter gauze in an air jet or petrol. The gasket under the filter cover should be replaced if broken or if it has hardened.

When refitting the cover, make certain that the fibre washer is replaced under the head of the screw. Tighten the filter cover retaining screw just sufficiently to make a fuel tight joint.

The Fuel Pump

1. Retaining screw and washer.
2. Cover.
3. Cork gasket.
4. Filter gauze.
5. Outlet union.
6. Inlet union.
7. Priming lever.



Check pump to engine mounting setscrews and fuel pipe unions for tightness.

Fuel pump service is available at all Austin dealers and A.C. service stations. They are stocked with parts and fittings for any repairs and adjustments that may become necessary.

Carburettors: The carburettors fitted to the Austin-Healey Sprite engine are two S.U. type H.1, and providing that the regular attentions are carried out at the recommended mileage, will be found to give efficient and trouble-free service.

The twin carburettors are carefully balanced to ensure perfect running of the engine, and it is therefore important that only qualified people should be allowed to attend to any major faults.

Should the engine run erratically, having previously given good results, look for a minor fault rather than a major one.

In the event of poor running, first make sure that the pistons are able to move freely; if they are not, the cause may be due to dirt in the suction chambers, the cure for which is given under 'Every 6,000 miles (9600 km.)' (page 30).

The only carburettor adjustments are by means of the jet adjusting screws and the throttle stop screws.

It is first essential to run the engine until it has attained its normal running temperature before commencing any mixture or slow-running adjustments.

The slow-running is governed by the setting of the jet adjusting screws and the throttle lever adjusting screws, all of which must be correctly set and synchronised if satisfactory results are to be obtained.

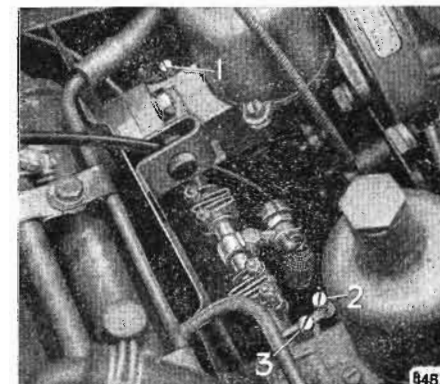
In order to adjust the carburetters successfully it is necessary to remove the air cleaners and intake pipe assembly from the carburetters and engine valve cover and make sure the pistons work freely and the jets are properly centred.

Adjusting the Jets:

- (1) Slacken off the pinch-bolt of one of the spring coupling clips locating the carburetter interconnecting shaft to the carburetter throttle spindles and also release the two screws securing the choke spring to the jet levers, so that each carburetter can be operated independently.
- (2) Release the throttle lever adjusting screws until both throttles are completely closed.
- (3) Turn the throttle lever adjusting screw for the rear carburetter clockwise until it is just touching the web on the carburetter body and then give it one full turn. This will set the rear carburetter for fast idling and leave the front one out of action. This can be ensured further by lifting the front carburetter piston a matter of $\frac{1}{2}$ in. (13 mm.).
- (4) With the engine running, set the jet adjusting screw for the rear carburetter so that a mixture strength is obtained which will give the best running speed for this throttle opening, taking care to see that the jet head is kept in firm contact with the adjusting nut the whole time.
- (5) The correctness or otherwise of this setting can be checked by raising the suction piston with a small screwdriver, or similar instrument to the extent of $\frac{1}{32}$ in. (.8 mm.). This should cause a very slight momentary increase in the engine speed without impairing the evenness of running in any way.

Carburetter Adjustment

1. & 3. Throttle lever adjusting screws.
2. Throttle/mixture control inter-connecting lever adjuster.



If this operation has the effect of stopping the engine it is an indication that the mixture setting is too weak.

If an appreciable speed increase occurs and continues to occur when the piston is raised as much as $\frac{1}{4}$ in. (6 mm.) it is an indication that the mixture is too rich.

- (6) When the rear carburettor mixture setting has been carried out correctly release its throttle adjusting screw so that it is clear of the stop and the throttle is completely closed, and lift the piston $\frac{1}{2}$ in. (13 mm.) to render it inoperative. Then repeat the jet-adjusting operations on the front carburettor.
- (7) When both carburetters are correctly adjusted individually for mixture strength the throttles of each should be set so as to give the required slow-running and synchronisation.

Slow-running and Synchronisation: Screw each throttle lever adjusting screw so that its end is only just making contact with the web on the carburettor body, then give each screw one full turn exactly.

Start the engine, which will now idle on the fast side.

Unscrew each throttle lever adjusting screw an equal amount, a fraction of a turn at a time until the desired slow-running speed is achieved.

Correct synchronisation can be checked by listening at each carburettor air intake in turn through a length of rubber tube and noticing if the noise produced by the incoming air is the same in both. Any variation in intensity of the sound indicates that one throttle is set more widely open than the other—the louder sound indicates the throttle with the greater opening.

When the same intensity of sound is produced by both carburetters the intercoupling shaft clip should be tightened up firmly to ensure that the throttles work in unison.

Since the delivery characteristics, when both carburetters are operating together, vary somewhat from those existing when each is working separately it will be found necessary to check them again for correctness of mixture strength by lifting the pistons in turn as described in 'Adjusting the jets,' making such adjustments of the jet adjusting screws as are required to balance the mixture strength and to ensure that it is not too rich.

IGNITION SYSTEM

A 12-volt battery provides the current necessary to operate the ignition system. A high voltage is induced by the coil, and the distributor, as its name implies, distributes this voltage to the sparking plugs in the correct firing sequence.

Distributor: The DM2 type Lucas distributor is fitted with an automatic timing control operated by centrifugal force together with a vacuum timing control operated by the depression in the engine induction manifold. The combined effects of the two controls gives added efficiency over the full engine operating range, with a corresponding economy in fuel consumption.

A micrometer adjuster is also provided in order that fine adjustments to timing may be made to allow for changes in running conditions, e.g. state of carbonisation, change of fuel, etc.

To gain access to the distributor contacts for cleaning and re-facing, first remove the distributor cover and rotor arm. Next, unscrew the nut on the terminal post, lift off the spring and remove the contact adjusting screw '1', after which both contacts may be removed.

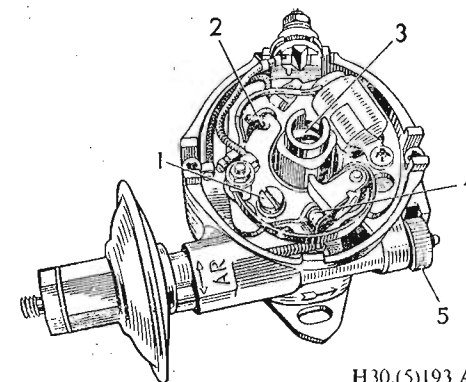
Examine the contacts, which must be free from grease or oil. If they are burned or blackened, clean them with a very fine carborundum stone or with very fine emery cloth. Afterwards wipe away any trace of dirt or metal dust with a petrol moistened cloth.

If the contacts are badly burned, they should be renewed. Replacement contacts must only be fitted in pairs.

When refitting the contacts take care that the fibre insulating washer is replaced in its correct position.

The Distributor

1. Contact adjusting screw.
2. Contact adjusting slot.
3. Cam and drive shaft oiling point.
4. Contact points.
5. Micrometer adjuster.



H30.(5)193.A.

To adjust the contact breaker points, turn the engine with the starting handle until the contacts are fully open. Slacken the fixed contact plate securing screw '1'. Insert a screw-driver in the slot '2' and move the plate until the gap gauge is a sliding fit between the contacts (.014 to .016 in. or .36 to .41 mm.) and then fully tighten the securing screw. Finally recheck the gap and replace the rotor arm. Before replacing the distributor cap wipe the inside and outside with a soft dry cloth, paying particular attention to the space between the terminals. Ascertain that the small carbon brush on the inside of the cap works freely in its holder and that the terminals are secure.

Coil: The L.A.12 type Lucas ignition coil requires no attention beyond checking that the terminal connections are tight and that the exterior is kept clean, particularly between the terminals.

H.T. Cables: The high tension cables must be carefully examined and any which have the insulation cracked, perished or damaged in any way must be replaced.

Sparkign Plugs: The sparkign plugs fitted to the Austin-Healey Sprite are of the Champion N.5 Long Reach type, and as they are of great importance to satisfactory engine performance, every care should be taken to fit only the recommended type when replacements become necessary.

Every 3,000 miles (4800 km.), remove the plugs and clean off all carbon deposit from the electrodes and plug threads with a stiff brush dipped in paraffin.

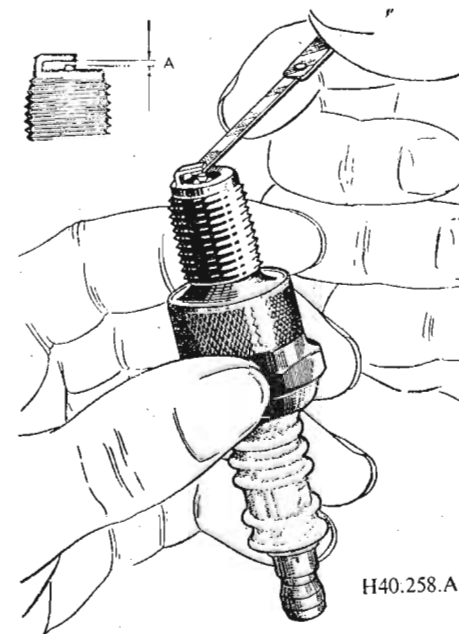
Alternatively the plugs may be taken to the local Austin dealer for cleaning and testing on a special 'Air Blast' service unit.

Check the plug gaps with the gauge provided and reset if necessary to the recommended clearance of .025 in. (.64 mm.). When resetting, bend the side electrode only. Never bend the centre electrode as this may split the insulator tip.

When refitting the plugs, make sure that the copper washers are not defective in any way. If they have become worn and flattened, fit new ones to ensure obtaining a gastight joint. Screw the plug down by hand as far as possible, then use a spanner for tightening only. Always use a tubular box spanner to avoid possible damage to the insulator, and do not under any circumstances use a movable wrench. Never over-tighten a plug, but ensure that a good joint is made between the plug body, washer and cylinder head.

The sparkign plugs should be wiped frequently with a clean rag, as paint splashes, accumulation of oil and dust, etc., on the insulator are often responsible for poor plug performance.

Sparkign Plug Gap
The clearance 'A' should be set at .025 in. (.64 mm.).



COOLING SYSTEM

THE engine cooling system is sealed and pressurised, thus raising the coolant boiling point to 224°F. (107°C.). A pressure relief valve located in the radiator filler cap, opens at approximately 4 lbs. per sq. in. Circulation is by means of a centrifugal type pump and a thermostat regulates the coolant temperature.

Topping Up: This should only be necessary very occasionally to replace water lost through evaporation. Use only rain water, if available, or clean soft water, and fill to the bottom of the filler cap well when the engine is cold.

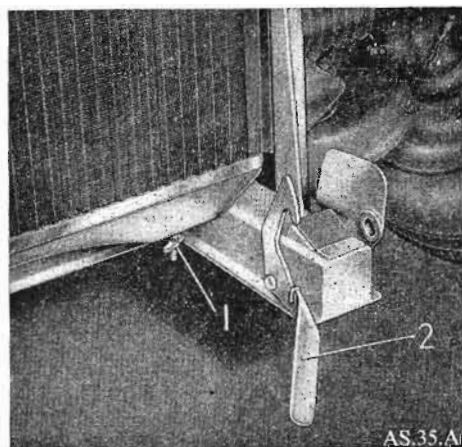
N.B.—Under no circumstances should the radiator filler cap be removed if the coolant temperature is above boiling point or if the engine is running.

Draining the System: There are two drain cocks; one positioned at the bottom of the radiator, and the other on the left side of the cylinder block. Open both cocks and ascertain that the vehicle is standing on level ground while draining.

When draining in freezing weather, do so when the engine is hot. Run the engine slowly for one minute when the water has ceased flowing to clear any water left in the pump and other places where it might collect. Finally, leave a reminder on the vehicle to the effect that the cooling system has been drained.

Radiator Drain Cock.

1. Drain cock.
 2. Bonnet safety catch.
- Turn the cock in an anti-clockwise direction to open.

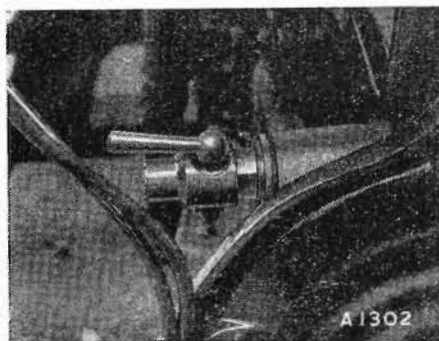


Flushing the Radiator: To ensure efficient circulation of the coolant and to reduce the formation of scale and sediment in the radiator, the system should be periodically flushed with clean running water, preferably before putting in anti-freeze in the Autumn and again when taking it out in the Spring.

The water should be allowed to run through until it comes out clean from the drain cocks.

COLD WEATHER PRECAUTIONS

Water, when it freezes, expands and if precautions are not taken there is considerable risk of bursting the radiator, cylinder block, or heater (where fitted). Such damage may be avoided by draining the cooling system when the vehicle is left for any length of time in frosty weather, or by adding anti-freeze to the water. When a heater is fitted anti-freeze *must* be used as no provision is made for draining the unit.

*Cylinder Block Drain Tap.*

The drain tap 'A' is located on the left side of the cylinder block, adjacent to the engine rear mounting plate.

The cooling system is of the sealed type and relatively high temperatures are developed in the radiator upper tank. For this reason anti-freeze solutions having an alcohol base are unsuitable owing to their high evaporation rate producing a rapid loss of coolant and a consequent interruption of circulation.

Only anti-freeze of the ethylene glycol type incorporating the correct type of corrosion inhibitor is suitable and owners are recommended to use Bluecol, Shell Snowflake, or Esso Anti-freeze.

The correct quantities of anti-freeze for different degrees of frost resistance in the 'Sprite' are:—

Down to 7°F (−14°C)	Down to 0°F (−18°C)
15% Solution	20% Solution
Quantity: 1½ pints	Quantity: 2 pints
(.85 litres)	(1.14 litres)

If temperature below 0°F (−18°C) are likely to be encountered a solution of at least 25% of anti-freeze must be used; consult your local Dealer on this matter.

Before introducing anti-freeze mixture to the radiator it is advisable to clean out the cooling system by swilling out the passages with a hose inserted through the filler aperture, keeping the drain taps open.

Only top up when the cooling system is at its normal running temperature, to avoid losing anti-freeze due to expansion. The capacity of the cooling system is 10 pints (5.68 litres).

HEATING AND DEMISTING

THE Smith's heating and demisting system is designed to provide heated fresh air to the car interior at floor level and to the wind-screen for demisting and defrosting.

A tap controlling the flow of hot water through the heater unit is fitted at the rear of the cylinder head. The tap is opened by turning in an anti-clockwise direction when heating is required or shut off by turning clockwise when the system is to be used for cool air ventilation.

Air is drawn in to the system through a forward-facing intake and the ram effect caused by the car's motion will provide sufficient quantity of air for the heater's requirements at speeds above 25 m.p.h. A blower motor is provided for use at lower speeds or when a greater quantity of air is required. The blower is switched on by turning the control on the fascia marked 'H' in a clockwise direction.

A shut off valve is incorporated in the air intake to prevent fumes entering the car in traffic and is operated by pulling out the control marked 'H'. The blower motor must be switched off before the valve is closed and cannot be switched on again until the valve is returned to the open position.

Two doors located forward at either side of the gearbox tunnel control distribution of air between screen and car interior. For heating, open the doors. For defrosting (i.e., boosting flow of hot air to screen) close the doors.

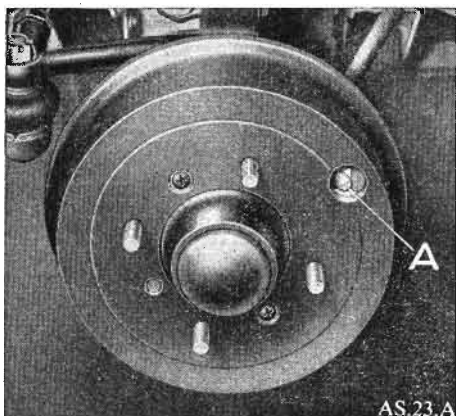
BRAKING SYSTEM

THE Lockheed hydraulic braking system employs two-leading shoe brakes at the front, with a dual purpose expander unit on the rear brake shoes, enabling them to be operated hydraulically or mechanically. A pull-up type handbrake operates directly on the mechanical linkage to the rear wheels, whilst the foot brake operates on all four wheels.

Adjustment: The brakes may require adjustment approximately every 1,000 miles (1600 km.) to maintain them at maximum efficiency.

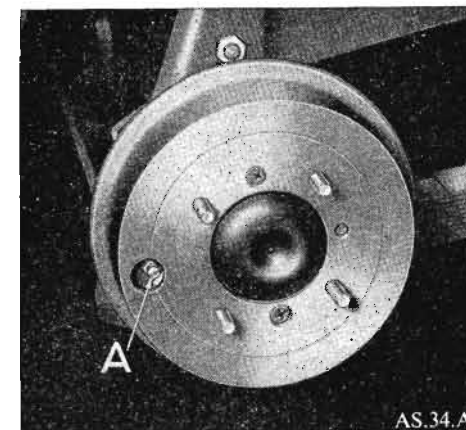
Front Brakes: Apply the handbrake, jack up one front road wheel until it is free to revolve. Spin the wheel in a forward direction and apply the foot-brake firmly to centralize the shoes in the drum. Remove the road wheel cap and align the hole in the wheel and the brake drum with the screw-driver slot on one wheel cylinder. Insert a screw-driver and turn in a clockwise direction until the brake shoe bears hard against the drum. Back off the adjustment the least possible amount (usually two or three clicks) until the wheel is free to revolve. Repeat these operations at the other wheel cylinder. Replace the road wheel cap. Adjust the opposite front wheel brakes in a similar manner.

Rear Brakes: Place chocks under the front wheels, release the handbrake and jack up one rear wheel until it is free to revolve. Remove the road wheel cap and proceed as for the front brakes, but, as there is only one adjusting point for both shoes, the adjuster must be turned until one shoe bears against the drum, then continue turning until both shoes bear hard. Back off the adjustment the least possible amount until the wheel can be revolved (the amount of backing off may be slightly more than was needed for the front brakes). Replace the road wheel cap. Adjust the opposite rear wheel brakes in a similar manner.



Front Brake Adjustment.
'A' indicates the position of one of the front brake shoe adjusters.

Rear Brake Adjustment.
'A' indicates the position of the rear brake shoe adjuster.



WHEELS AND TYRES

THE wheels fitted to the Austin-Healey Sprite are of the pressed steel disc type with ventilation slots. A spare wheel and tyre is carried in the luggage compartment.

Tubeless tyres are now fitted as standard equipment and they provide many advantages over the orthodox tyre with its separate inner tube.

Normally a tubeless tyre will not leak as a result of penetration by a nail or other normal puncturing object, provided that it is left in the tyre. It is, however, necessary to examine the tyres every 3,000 miles and withdraw such objects at a time when loss of air pressure will cause the least inconvenience.

If a hole in the tyre fails to seal, an effective repair can be carried out with a Dunlop 'Reddiplug'. Dunlop 'Reddiplug' Repair Kits are available at low cost and full instructions are provided with each Kit. This repair method has the advantage of not requiring removal of the tyre from the wheel.

Checking Pressures: For accurate results, pressures should be checked when the tyres are cold; otherwise an allowance must be made for the increase in pressure resulting from the heat generated during running. Pressures should never be reduced in warm tyres where increases above the recommended figures are due to temperature.

Regular attention should be given to the spare tyre as well as to the tyres in use.

A tyre that loses more than three to four pounds per square inch in a week should be suspected of a slow puncture, but first make sure that the valve is not the cause. The pressures given should be maintained to ensure long tyre life and best running and riding conditions for the vehicle.

N.B. The front and rear tyres, on the side nearer to the curb, should be inflated to a pressure of 2/3 lb. per sq. in. above the pressure in the tyres on the opposite side.

The benefit of this differential pressure will be found in easier handling and less tyre wear, particularly in countries where roads are winding and heavily, or only moderately, cambered.

Valve Caps: See that the valve caps are in position and that they are in good condition; renew them if necessary. Valve caps provide a second air seal and protect the valve mechanism from dust, oil and road material.

Tyre Pressures:

Rim Size	Tyre Size	Front	Rear
13—3.50	5.20—13	18 lbs./sq. in. 1.27 kg./cm ² .	20 lbs./sq. in. 1.41 kg./cm ² .

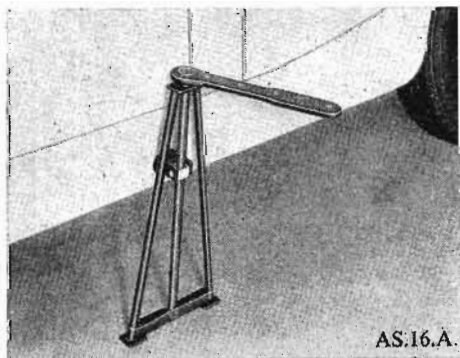
Jacking: The jacking of the vehicle is effected by a Smith's 'Steady-lift' jack which operates from two points, one underneath each side of the vehicle enabling either the right or left side of the vehicle to be raised.

Before jacking the vehicle first apply the handbrake firmly.

Ensure that the jack lug is fully engaged in the socket and that the jack base has a firm footing on the ground; then proceed to operate the ratchet type jack handle, in a clockwise direction until the vehicle has been raised to the height desired.

Changing a Wheel: Before removing a wheel ascertain that the vehicle is securely jacked with the handbrake firmly applied and if on a hill it is advisable to scotch one or both of the wheels.

When replacing a wheel, tighten the nuts alternately and progressively, at the same time avoid overtightening. The recommended torque figure is 37 to 39 lbs. ft. (5.02 to 5.05 kg.m.) Finally check the nuts for security with the wheel on the ground.



AS.16.A.

Jacking Position.

Make sure that the jack lug is fully inserted in the socket and that the jack base is firmly positioned immediately below this socket.

ELECTRICAL EQUIPMENT

In the event of any fault developing in the electrical equipment the owner is advised to contact the nearest Austin dealer or Lucas Service Depot.

Those attentions and replacements which the owner should be able to undertake are as follows:

Battery: Keep the battery top clean and the terminals tight and well smeared with petroleum jelly. Also check the security and good electrical contact of the battery earthing clip on the engine rear mounting plate.

Ascertain the state of charge of the battery by taking hydrometer readings. The specific gravity readings should be:

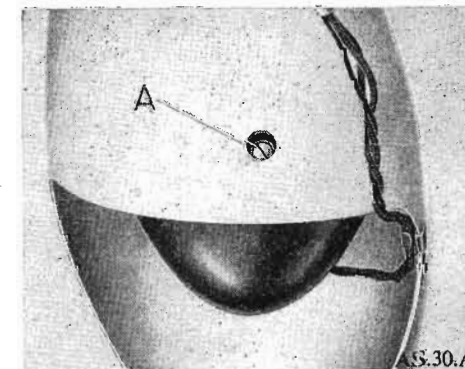
Fully charged	.. .. .	1.280 to 1.300
Half charged	.. .. .	Approx. 1.210
Discharged	.. .. .	Below 1.150

These figures are for an assumed electrolyte temperature of 60°F. (15.6°C.).

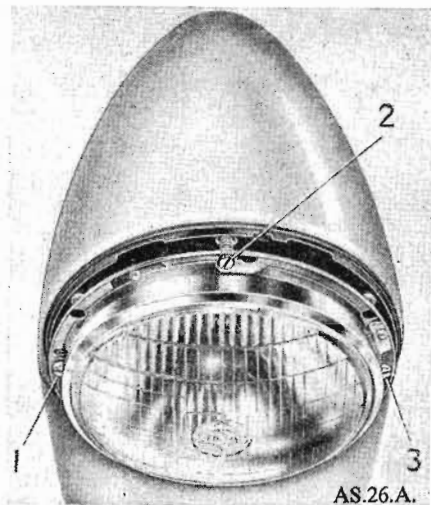
Headlights: Each headlight consists of a combined reflector and front glass assembly provided with a mounting flange by means of which it is secured in the body housing. The bulb, which is of Lucas pre-focus type, is located accurately in the reflector and is secured by a bayonet fixed backshell which also provides the contact to the bulb. The design of the bulb and holder is such that the bulb is correctly positioned in relation to the reflector and no focussing is required when a replacement bulb is fitted.

Headlight Rim Securing Screw.

This illustration shows the position of the headlight rim securing screw 'A' underneath the bonnet.



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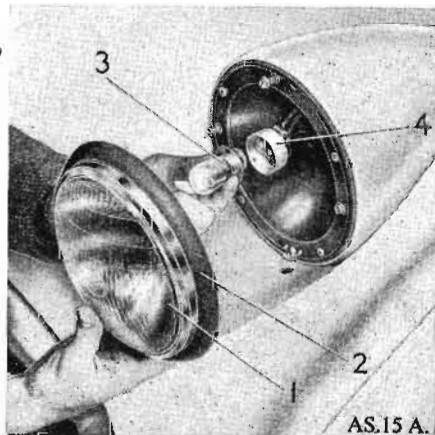
Headlight Beam Adjustment.

- 1 and 3. Horizontal adjustment screws.
2. Vertical adjustment screw.

Headlight Alignment: The headlights must be set correctly in relation to the road and to each other. Should adjustment become necessary proceed as follows:

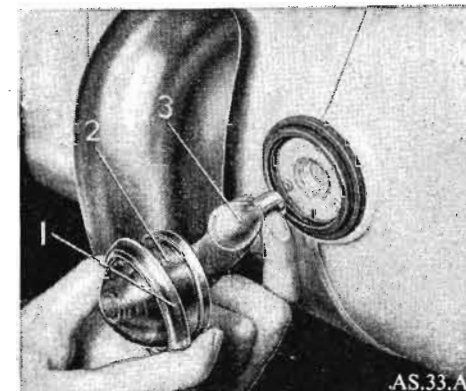
Remove the front rim by unscrewing the rim securing screw (see illustration) and lifting off the rim. Next remove the rubber dust excluder, when three spring-loaded adjustment screws will be visible, by means of which the setting can be altered as desired.

If vertical adjustment is required, set the light unit to the required position by means of the vertical adjustment screw at the top of the reflector unit. Turn the screw in a clockwise direction to raise the beam and in an anti-clockwise direction to lower it. If horizontal adjustment is required, set by means of the two adjustment screws (one on each side of the light unit).



Headlight Assembly

1. Light unit.
2. Rubber dust excluding ring.
3. Bulb.
4. Bulb backshell.



Rear Flasher Light.

1. Glass cover retaining ring.
2. Flasher glass cover.
3. Bulb.

BULB FITTING

Headlights: Remove the light unit from the body housing by pressing it in against the tension of the adjustment screw springs and turning it in an anti-clockwise direction until the heads of the screws can be disengaged from the slotted holes in the light unit rim. Do not disturb the setting of the screws when removing the light unit or the alignment will be altered.

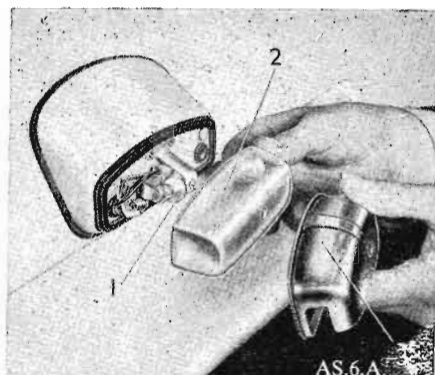
Twist the backshell of the light unit in an anti-clockwise direction and pull off. The bulb can then be removed.

Place the replacement bulb in the holder, taking care to locate it correctly. Engage the projections on the inside of the backshell with the slots in the holder, press on and secure by twisting it to the right. Replace the light unit in the body housing by reversing the removal procedure.

Headlight European type: The headlamps on left-hand-drive cars for use in some European countries are fitted with special lenses and bulbs, giving an asymmetrical light beam to the right-hand side.

Access to the bulb is obtained in the same manner as that described for right-hand-drive cars, but the bulb is released from the reflector by withdrawing the three-pin socket and pinching the two ends of the wire retaining clip to clear the bulb flange. When replacing the bulb care must be taken to see that the rectangular pip on the bulb flange engages the slot in the reflector seating. Replace the spring clip with its coils resting in the base of the bulb flange and engaging the two retaining lugs on the reflector seating for the bulb.

Headlight, North American Sealed Beam: To change a sealed beam light unit, remove lamp shroud, slacken the three retaining screws securing the light unit rim, and rotate the rim anti-clockwise to disengage the slotted holes from the head of the retaining screws. Pull the unit forward and disconnect the three pin socket to release it from the backshell.



Rear Number Plate Light.

1. Bulb.
2. Light glass.
3. Light cover.

Side and Flasher Lights: Move back the rubber lip, insert a coin or screw-driver blade under the glass retaining collar and gently lever the collar out from the light body. This will enable the light glass to be completely removed, leaving the bulb accessible in its socket.

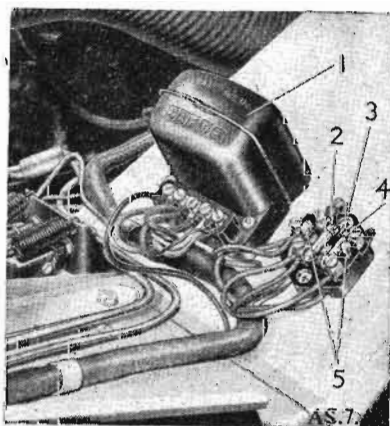
Stop-Tail Lights: Remove the two cover securing screws and lift off the cover to gain access to the bulb.

Rear Number Plate Light: Undo the one bolt and the cover can be removed to give access to the bulb.

Panel Lights: The holders can be pulled from their fittings at the back of the instrument panel and the bulbs are then easily removed.

Ignition and Headlight Beam Warning Lights: The bulbs can be unscrewed from their holders when pulled out from the back of the instrument panel.

Fuses: The fuse unit is situated adjacent to the voltage regulator on the right-hand side of the engine bulkhead and contains two fuses and two spare.



Regulator and Fuse Unit.

1. Regulator cover.
2. AUX. IGN. fuse (35 amps.)
3. Fuse unit.
4. AUX. fuse (35 amps.)
5. Spare fuses.

One fuse protects the accessories which are operative only when the ignition is switched on (e.g., stop-lights, fuel gauge, and direction indicators). The other fuse protects those accessories which can be operated independently of the ignition. If a new fuse blows, the cause of the trouble must be determined.

BULBS

	Volts	Watts	B.M.C. Part No.
Headlights:—			
Left-dip (all R.H.D. except Sweden) ..	12	50/40	13H140
Vertical dip, hooded (R.H.D. Sweden) ..	12	45/40	3H921
Vertical dip, (L.H.D. Europe except France) ..	12	45/40	13H138
Vertical dip (L.H.D. France yellow) ..	12	45/40	13H139
Right dip (L.H.D. except Europe) ..	12	50/40	13H141
Side and flasher lights ..	12	6	1F9026
Stop and Tail-lights ..	12	21/6	1F9026
Flasher Lights ..	12	21	1F9012
Number Plate Illumination Light ..	12	6	2H4817
Panel Lights ..	12	2.2	2H4732
Ignition, Headlight Beam and Direction Indicator Warning Lights ..	12	2.2	2H4732

FUSES

Accessories (AUX)	35 amps.
Accessories (AUX. IGN)	35 amps.

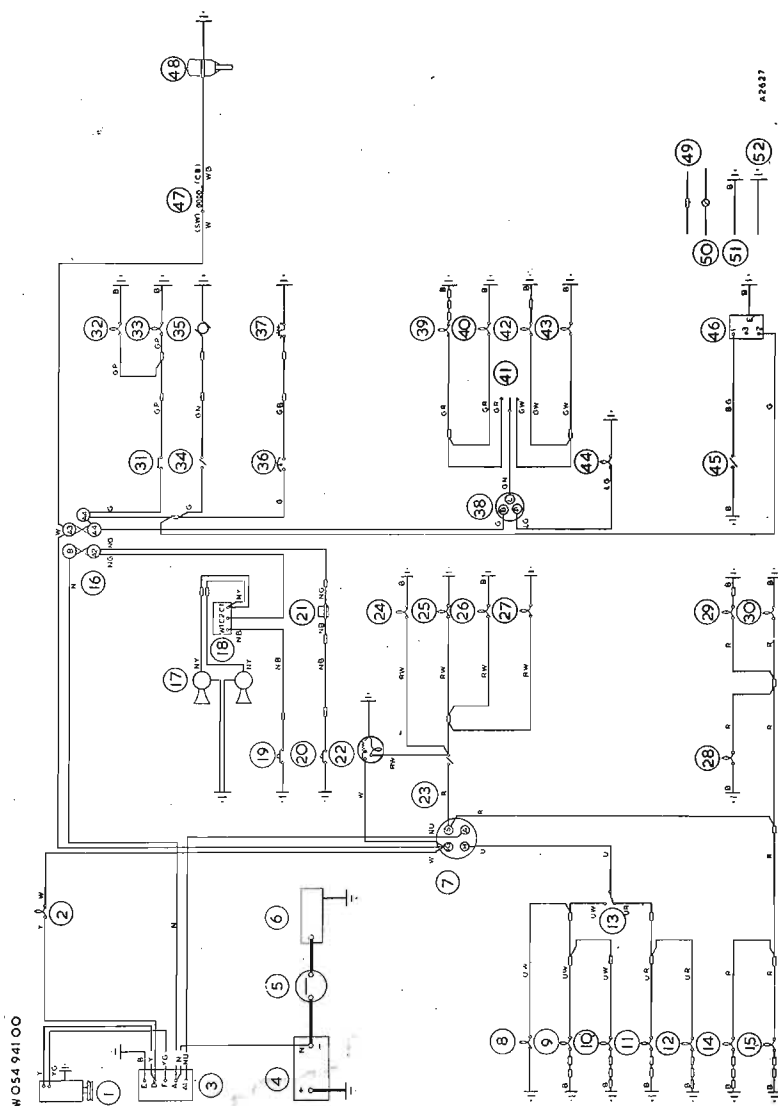
RADIO

THREE models are available as optional extras, Radiomobile Models 20X, 22X and 230R.

For tuning and operating instructions reference should be made to the booklet issued with each radio supplied by the manufacturers.

Two of the models available are manually tuned. Model 20X operates on the Medium and Long Wavebands. On the left of the unit a volume control and on/off switch is fitted whilst on the right there is a tuning control concentric with a Waveband switch. Model 22X is identical except that it operates only on the Medium Waveband.

The other model is the 230R which is a short wave receiver. The volume—on/off control is on the left of the unit forward of, and concentric with, the tone control which gives three tone settings. There are two further controls on the right of the unit, the forward control being for tuning, with the wave-change switch behind it.



Wiring Diagram.

KEY TO WIRING DIAGRAM

- | | |
|--|--|
| 1. Generator | 28. R.H. Tail Lamp. |
| 2. Ignition Warning Light. | 29. Number Plate Lamp. |
| 3. Control Box. | 30. L.H. Tail Lamp. |
| 4. 12-volt Battery. | 31. Stop Lamp Switch. |
| 5. Starter Switch. | 32. R.H. Stop Lamp. |
| 6. Starter Motor. | 33. L.H. Stop Lamp. |
| 7. Ignition and Lighting Switch. | 34. Heater Switch } (when fitted) |
| 8. Main Beam Warning light. | 35. Heater Motor } |
| 9. R.H. Headlamp Main Beam. | 36. Fuel Gauge. |
| 10. L.H. Headlamp Main Beam. | 37. Fuel Tank Gauge Unit. |
| 11. L.H. Headlamp Dip Beam. | 38. Flasher Unit. |
| 12. R.H. Headlamp Dip Beam. | 39. L.H. Front Flasher. |
| 13. Dipper Switch. | 40. L.H. Rear Flasher. |
| 14. L.H. Sidelamp. | 41. Flasher Switch. |
| 15. R.H. Sidelamp. | 42. R.H. Rear Flasher. |
| 16. Fuse Unit. | 43. R.H. Front Flasher. |
| 17. Connections for Twin Windtone Horns (when fitted). | 44. Flasher Warning Light. |
| 18. Horn Relay. | 45. Windshield Switch (earthed to control box terminal E). |
| 19. Horn Push. | 46. Windshield Wipers. |
| 20. Horn Push. | 47. Ignition Coil. |
| 21. Horn. | 48. Distributor. |
| 22. Cigar Lighter and Illumination. | 49. Snap Connectors. |
| 23. Panel Light Switch. | 50. Terminal Blocks or Junction Box. |
| 24. Panel Light. | 51. Earth Connections made via Cable |
| 25. Speedometer Light. | or |
| 26. Panel Light. | 52. Via Fixing Bolts. |
| 27. Tachometer Light (when fitted). | |

CABLE COLOUR CODE

B BLACK	P PURPLE	Y YELLOW
U BLUE	R RED	L LIGHT
N BROWN	S SLATE	D DARK
G GREEN	W WHITE	M MEDIUM

When a cable has two colour code letters, the first denotes the main colour and the second denotes the tracer colour.

BODYWORK

DUST on the vehicle may be lightly flicked off with a duster, but on all other occasions the vehicle should be thoroughly washed and dried before a non-abrasive polish is used. Any attempt to rub dirt off the vehicle will result in severe scratching of the smooth surface of the high lustre enamel. Grease and tar splashes must be very carefully removed with a soft rag dipped in petrol.

Washing and Polishing: Frequent washing with clean cold water will greatly assist in maintaining the high lustre finish of the paintwork.

When washing the vehicle, start at the top and work downward, using a slow flow of water and a sponge free from grit and oil. Leather off all surplus moisture.

Should the finish become dull after several months, the use of an emulsion polish of reputable manufacture will restore it to its original condition.

Chromium plated parts should be washed with soap and warm water and cleaned with a damp leather. On no account should metal polish or any kind of abrasive substance be used.

An occasional application of wax polish will help to preserve the finish.

The hood should be cleaned regularly, particularly when it is new, to combat any initial chemical reaction which may occur during its early life.

To clean the hood, it is only necessary to use soap and water, with a soft brush to remove any ingrained dirt. Frequent washing with soap and water considerably improves the appearance and wearing qualities of the hood, and it should be washed at least as often as the rest of the car.

If dust and grime have been allowed to remain on the hood for a long time so that it has become really dirty, and the ordinary soap and water method is not completely effective, then benzine may be used with the same type of brush.

The interior of the hood can be cleaned by the sparing use of trichlorethylene or a reputable brand of proprietary clothes cleaner. On no account should spirit cleaners be used inside the hood as their use would damage the proofing and wearing qualities of the fabric.

It will be found that by cleaning by the methods outlined, the hood will continue to look as good as new.

The leather-cloth upholstery and trimming should be wiped over occasionally with a cloth dampened in warm soapy water.

Repeat the operation using a fresh cloth and water—avoid flooding—and finish by drying and polishing with a good quality leather cream.

IT IS IMPORTANT TO USE A MILD, NON-CAUSTIC SOAP OF THE TOILET KIND and to avoid the use of PETROL and DETERGENTS.

IMPORTANT

Your attention is drawn to the following points, compliance with which, we suggest, will prove mutually beneficial.

Warranty Certificate

- (a) Completion of the Warranty Certificate 'Tear off slip' at the time of vehicle purchase, when sent to the Factory, will ensure registration of ownership by the British Motor Corporation.
- (b) Retention of the Owner's portion of the Certificate, signed by the Distributor and Owner, in a safe place *in the vehicle* (by quickly establishing ownership) will help to expedite any adjustments under Warranty if such adjustments are required to be carried out by a B.M.C. Distributor or Dealer other than the supplier of your vehicle.

Claims Under Warranty

Claims for replacement of material or parts under warranty must always be submitted to the supplying Distributor or Dealer, or when this is not possible, to the nearest Distributor or Dealer informing them of the Vendor's name and address.

Preventive Maintenance

Service vouchers (applicable in the United Kingdom only), are produced for your convenience and the use of these is the best safeguard against the possibility of abnormal repair bills at a later date.

Prevent rather than Cure.

Replacement Parts

When service parts are required insist on genuine B.M.C. (MOWOG) Parts as these are designed and tested for your vehicle and in addition warranted for twelve months by the British Motor Corporation. **ONLY WHEN GENUINE PARTS ARE USED CAN B.M.C. ACCEPT RESPONSIBILITY.**

Our worldwide network of Distributors and Dealers is at your service.

NOTES

