WOLSELEY

6/110

Driver's Handbook

A B.M.C. Publication
ALL CAR OWNERS

should read

Motoring

FIRST-CLASS TECHNICAL AND SPORTS SECTIONS ARE REGULAR FEATURES OF THIS WIDELY READ MONTHLY MAGAZINE

Technical articles dealing with maintenance and tuning help all Nuffield car owners to get the best out of their cars. Expert advice of technical staff is at the service of all readers

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MOTORING
The Nuffield Organization
Cowley, Oxford, England
FOREWORD

YOU will find in these pages an introduction to your vehicle and information essential to satisfactory use and maintenance.

A Passport to Service containing service vouchers is provided, and the regular use of the vouchers in sequence is the best safeguard against the possibility of abnormal repair bills at a later date. Replacement Passport to Service books are obtainable free of charge from Distributors or Dealers. Prevent rather than cure.

Completed voucher counterfoils are proof of regular servicing and could well enhance the value of your vehicle in the eyes of a prospective buyer.

By keeping the Passport to Service, signed by the Distributor, Dealer or vendor in the vehicle you can quickly establish the date of purchase and provide the necessary details if adjustments are required to be carried out under warranty.

Claims for the replacement of parts under warranty must 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. Except in cases of emergency warranty work should always be carried out by a BMC appointed Distributor or Dealer.

When Service Parts are required insist on BMC GENUINE PARTS as these are designed and tested for your vehicle and in addition have the full backing of the BMC Factory Warranty. ONLY WHEN GENUINE PARTS ARE USED CAN BMC ACCEPT RESPONSIBILITY.

All BMC GENUINE PARTS and APPROVED ACCESSORIES can be identified by this label on the packing.
GENERAL DATA

Engine
Number of cylinders ........................................ 6
Bore .................................................. 3·281 in. (83·34 mm.)
Stroke ................................................. 3·5 in. (88·9 mm.)
Cubic capacity ......................................... 2912 c.c. (177·7 cu. in.)
Compression ratio ...................................... High 8·3 : 1. Low 7·3 : 1
Firing order ........................................... 1, 5, 3, 6, 2, 4
Valve rocker clearance (cold) ......................... 0·012 in. (0·30 mm.)
Oil pressure (normal) ................................ 55 lb./sq. in. (3·87 kg./cm.²)
Oil pressure (idling) .................................. 25 to 30 lb./sq. in. (1·76 to 2·11 kg./cm.²)

Ignition
Static ignition timing .................................. 5° B.T.D.C.
Sparking plugs ......................................... Champion UN12Y
Sparking plug gap .................................... 0·025 in. (0·64 mm.)
Contact breaker gap .................................. 0·14 to 0·16 in. (3·6 to 4·0 mm.)
Stroboscopic ignition timing ......................... 8° B.T.D.C. at 600 r.p.m.

Fuel system
Carburetters .......................................... S.U. H4-type (two)
Carburettor needle ................................... AR

Transmission
Rear axle ratio ........................................ Standard 3·9:1. Automatic 3·545:1
Overall gear ratios:
First .................................................. 10·31 : 1
Second ............................................... 8·10 : 1
Third .................................................. 5·11 : 1
Top .................................................... 3·91 : 1
Reverse .............................................. 13·26 : 1

Tyres
Size ................................................... 7·50—13 tubeless
Pressure:
Normal—Front ....................................... 27 lb./sq. in. (1·9 kg./cm.²)
Rear .................................................. 25 lb./sq. in. (1·76 kg./cm.²)
For sustained speeds in excess of 85 to 90 m.p.h. (136 to 144 km.p.h.)
increase pressure to:
Front ............................................... 31 lb./sq. in. (2·18 kg./cm.²)
Rear .................................................. 29 lb./sq. in. (2·04 kg./cm.²)

Weights
Kerbside weight ....................................... 3,537 lb. (1605 kg.)
Maximum towing weight ............................. 2,800 lb. (1270 kg.)
GENERAL DATA

Capacities
Fuel tank capacity ............ 16 gal. (19-2 U.S. gal., 73 litres)
Engine oil capacity (including oil filter) ........ 12-1/2 pints (15-3 U.S. pints, 7-25 litres)
Gearbox oil capacity (standard gearbox) ......... 5-1/2 pints (6-6 U.S. pints, 3-13 litres)
Gearbox oil capacity (automatic gearbox) ........ 11-1/2 pints (13-5 U.S. pints, 6-4 litres) including 5 pints (6 U.S. pints, 3 litres) in torque converter
Rear axle oil capacity ........... 3-1/2 pints (3-9 U.S. pints, 1-84 litres)
Water capacity (with heater) ........... 19 pints (22-8 U.S. pints, 10-8 litres)

Dimensions
Track (front) ................. 4 ft. 7 in. (1-397 m.)
Track (rear) .................. 4 ft. 5-1/2 in. (1-352 m.)
Turning circle .................. 41 ft. (12-5 m.)
Front wheel alignment (unladen) .......... 1-1/8 in. (3-18 mm.) toe-in
Wheelbase ...................... 9 ft. 2 in. (2-79 m.)
Over-all length .................. 15 ft. 7-1/2 in. (4-789 m.)
Over-all width .................... 5 ft. 8-1/4 in. (1-74 m.)
Over-all height .................... 4 ft. 11-1/2 in. (1-512 m.)

IDENTIFICATION

When communicating with your Distributor or Dealer, always quote the commission, car and engine numbers. When the communication concerns the transmission units or body details, it is necessary to quote also the transmission casing and body numbers.

Car number. This is stamped on the identification plate secured to the left-hand side of the bulkhead. The number should be quoted complete with all prefixes.

Engine number. The engine carries a serial number stamped on a metal plate secured to the left-hand (carburettor) side of the cylinder block.

The other major components of this vehicle also have serial numbers, and should it be necessary to quote them at any time, they will be found in the positions given as follows:

Synchromesh gearbox number. This is stamped on the right-hand side of the gearbox casing.

Automatic gearbox number. This is stamped on a plate attached to the left-hand side of the transmission case.

Rear axle number. This is stamped on the rear of the left-hand axle tube adjacent to the rebound rubber.

NOTE.—To reduce the possibility of theft, ignition switches are not marked with a number, owners are advised to make a note of the number stamped on their ignition key in case of future loss.

References to right- or left-hand in this Handbook are made when viewing the car from the rear.
CONTROLS

Gear lever (synchronesh gearbox)

The four forward gears and reverse are engaged by moving the lever to the positions shown in the illustration inset. To engage reverse gear move the lever to the left in neutral until resistance is felt. Continue moving the lever to the left against spring pressure until the stop is reached, and then move it rearwards to engage the gear.

The reverse lamp is automatically illuminated when the reverse gear is engaged, provided the ignition is switched on.

Synchronesh engagement is provided on second, third, and top gears.

The controls (synchronesh gearbox with overdrive)

1. Horn ring.
2. Direction indicator and headlight flasher switch.
3. Bonnet lock handle.
4. Seat adjusting lever.
5. Overdrive control.
8. Clutch pedal.
10. Accelerator.
11. Seat adjusting lever.
12. Hand brake lever.

Overdrive

The overdrive control is made operative by pushing the control handle right in. Comprehensive instructions on the use and operation of this control are given on pages 13 and 14.

Automatic transmission

A car equipped with automatic transmission will not have the conventional gear lever or clutch pedal. Comprehensive operating and driving instructions for a car fitted with automatic transmission are given on pages 15-17.
Pedals (synchromesh gearbox)
The left-hand pedal operates the clutch, the centre pedal the brakes, and the right-hand pedal the accelerator. Do not allow the foot to rest on the clutch pedal while driving or excessive wear of the release mechanism will result.

Hand brake
The hand brake is located between the driving seat and the door. A thumb-operated ratchet release is incorporated in the handle. Pulling the handle upwards applies the rear wheel self-adjusting brake-shoes mechanically.
Release the hand brake by pulling on the lever to take the load and then pressing the ratchet release.

The controls (automatic transmission)
1. Seat adjusting lever.
2. Automatic transmission gear selector lever.
3. Horn ring.
4. Headlight dipping switch.
5. Seat adjusting lever.
7. Accelerator pedal.
8. Direction indicator and headlight flasher switch.

Power-assisted steering (optional equipment)
The power-assistance mechanism is integral with the steering gearbox. The steering gearbox is supplied with oil from a reservoir positioned on the right-hand wing valance and the oil is circulated under pressure by a pump driven from the rear of the dynamo. In the event of hydraulic failure, the driver maintains full mechanical control of the steering, although greater effort will be required to turn the steering-wheel.
INSTRUMENTS AND SWITCHES

Seat adjustment

Both halves of the split-bench front seat are locked in position by a spring-loaded lever mounted under the front outer edge of each seat. To adjust the seat position, press the knob of the lever outwards, re-position the seat, and release the knob ensuring that the lever clicks back to the locked position.

The rake of the front seat squabs can be adjusted by means of a lever located on the lower outside edge of each.

Horns

The horns are sounded by pressing the inner plated ring of the steering-wheel.

Combined direction indicator and headlight flashing switch

The lever-type switch mounted on the steering nacelle below the steering-wheel controls the flashing direction indicators and also the headlight main beams for signalling purposes.

Move the lever downwards to switch on the right-hand side flashing indicators and upwards for the left-hand side. The indicators will work only when the ignition is switched on, and a warning light in the end of the lever flashes while they are doing so. The switch is self-cancelling, except when only a slight turn is made. It may then be necessary to return it by hand.

Moving the lever towards the steering-wheel switches on the headlight main beams. The switch returns to the ‘off’ position as soon as it is released. It is operative only when the main beams are not in normal use.

The instruments and switches

1. Blower switch.
2. Lighting switch.
3. Ignition and starter switch.
5. Windscreen wiper switch.
6. Ammeter.
7. Temperature gauge.
8. Vacuum servo warning light.
9. Clock.
10. Lubrication warning light.
11. Speedometer.
13. Heater temperature control.
14. Heater air control.
15. Choke control.
16. Windscreen washer control.
17. Oil pressure gauge.
18. Fuel gauge.
19. Main-beam warning light.
20. Ignition warning light.
21. Trip distance setting.
22. Long-range driving light switch.

Headlight beam dipping switch

The headlight beam dipping switch is situated to the left of the base of the steering-column. A dark-red or blue (Export) warning light on the fascia panel indicates when the light beams are in the raised position.
INSTRUMENTS AND SWITCHES

Ignition and starter switch

The ignition and starter are both controlled by a single switch with a removable key.

To switch on the ignition insert the key and turn it in a clockwise direction until a slight resistance is felt. Further movement in the same direction will operate the starter motor. Release the key immediately the engine starts. If the engine fails to start first time wait until it has come to rest before using the starter control again.

The ignition switch must not be left on when the engine is not running or the battery will discharge itself through the coil should the contact breaker points be closed. The fuel pump and fuel and temperature gauges are brought into operation by this switch, which is also the master switch for the windscreen wipers, direction indicators, ventilation blower motor, reverse lamp, and stop lamps.

Choke or mixture control

To obtain a rich mixture for starting purposes, draw the mixture control knob out and turn it to the right to lock it in the desired position.

The first \( \frac{1}{4} \) in. (6.5 mm.) of movement only operates the throttle control. This initial movement can be used to give a fast engine idling speed and prevent stalling when driving at low speeds before the engine has fully warmed up. This will not be detrimental to the engine, but do not run the engine for any length of time with the control withdrawn to any greater extent. It should be returned to the ‘off’ position (turn clockwise and push) as soon as the engine is warm enough to run without it.

Windscreen wiper switch

Move the switch downwards to the first position to start the wiper blades at normal speed. This position should be used in heavy snow or with a drying windscreen. Move the switch to the fully down position to increase the speed of the blades. This position is used when driving fast through heavy rain or light snow. The blades are parked automatically when the control is returned to the ‘off’ position.

Windscreen washer

To obtain a discharge of water from the jets on the scuttle pull out the control knob. Whilst the knob is pulled out the jets will continue to discharge, up to a maximum period of 15 seconds. The discharge can be terminated earlier by pushing in the control knob.

The knob must be pushed in after use to enable a fresh charge of fluid (water or Trico solvent) to be drawn in from the container for use when next required.

Lighting switch

Move the switch downwards to the half-way position to switch on the pilot lights and into the fully down position for the headlights.

Long-range driving light switches

Moving the switch down to the first position switches on the near-side light, and to the fully down position switches on both lights.
INSTRUMENTS AND SWITCHES

Panel light switch
Move the switch downwards to operate the panel lights which are in circuit with the lighting switch and only function when the pilot lights are switched on.

Interior lights
The interior lights are controlled by a separate switch on each lamp and also by an automatic switch on each front door pillar.
When the doors are closed the lights are off while both their individual switches are in the ‘off’ position. Both lights will come on when one switch lever is moved to the ‘on’ position.
Both interior lights are switched on when either front door is opened.

Warning lights
The ignition warning light glows red when the ignition is switched on but goes out as the engine speed is increased.
It is normal for the brake warning light to come on at a second application of the foot brake with the engine switched off. To overcome this the engine must be started up to allow the brake servo to create a vacuum in the reservoir tank.
Should the brake vacuum servo warning light remain on when the engine is running, the servo assistance to the hydraulically operated brakes has become inoperative, with consequent reduced braking effect, and the system should be examined by your Distributor or Dealer without delay.
The headlight main-beam warning light glows red or blue (Export) when the beams are in the raised position as a reminder to dip the lights for approaching traffic.
For details of the lubrication warning light see page 11.

Speedometer
In addition to recording the road speed this instrument records the trip and total distances. The trip mechanism can be set to zero by pushing upwards the knob below the back of the instrument and turning it anti-clockwise.

Oil pressure gauge
This instrument indicates the engine lubrication pressure. Starting from cold the pressure may rise to over 60 lb./sq. in. (4.22 kg./cm.²) and under normal running conditions approximately 55 lb./sq. in. (3.87 kg./cm.²) with 25 to 30 lb./sq. in. (1.76 to 2.11 kg./cm.²) idling pressure. Should the gauge fail to register any pressure stop the engine and investigate immediately.

Temperature indicator
The temperature of the cooling water leaving the cylinder head is electrically recorded by this indicator while the ignition is switched on. When the ignition is switched off the needle moves to the cold position. After the initial rise in temperature during the warming-up period any sudden upward change in the reading calls for immediate investigation.

Fuel gauge
This instrument indicates the level of the fuel in the fuel tank 30 seconds after the ignition is switched on. When the ignition is switched off the indicator needle returns to the ‘empty’ position.
INSTRUMENTS AND SWITCHES

Ammeter
This instrument shows the rate in amperes at which the battery is being charged or discharged.

Clock
To regulate the clock adjust the screw on the lower left-hand corner of the clock face, clockwise for slow and anti-clockwise for fast. The clock is set by the milled knob on the lower right-hand corner of the face. Push in the knob to engage the hands.
Always disconnect the battery before investigating the clock or wiring and re-start the clock immediately after reconnecting the battery; it must never be inoperative while still connected. To start the clock press in the knob and release it smartly.

Cigar-lighter
To use the cigar-lighter push the knob right in. When the element is sufficiently heated the unit will be partially ejected. It may then be removed for lighting purposes.
The cigar-lighter illumination bulb is controlled by the panel light switch.

Lubrication warning light
The lubrication warning light is your guide to the need for a more frequent oil and filter change.
If the light comes on and continues to glow when the engine is running at or above fast idling speed, it indicates the need for a new oil filter element and an oil change; this should be done as soon as possible within a maximum of a further 300 miles (500 km.).
If 6,000 miles (10000 km.) or 6 months have passed since the last oil and filter change, although the warning light has not appeared, both the engine oil and filter element must be changed.
BMC SEAT BELTS

Description
Seat belts for the front seats are supplied by BMC Service Ltd. Attachment points for these belts are incorporated in the construction of the body and are located on the centre door pillars, the rear door sills, and the sides of the drive shaft tunnel.

Fitting the seat belts to the car is carried out by your Dealer or Distributor.

Use of belts
Make sure that the short belt being used for either seat is attached to the side of the tunnel farthest from the seat, i.e. the belt must cross the tunnel.

Adjust the short belt until the attached buckle is located just in front of the hip (see illustration). The upper part of the long belt passes diagonally across the chest, the lower part returns around the waist to the door sill attachment point. The buckle attached to the long belt should be approximately at belt centre.

To fasten, bring the belt buckles together and snap the tongue upwards (the hook fits into the hinged part of the tongue).

Adjust the long belt until the waist portion is comfortably tight and it is just possible to slide a hand between the upper part of the belt and the chest.

To release, flick the tongue outwards and the buckles will fall apart.

Fold the belt and stow the hook in the clip incorporated in the long belt attached to the central door pillar.
OVERDRIVE
(Manual Control Gearbox Only)

The overdrive unit provides a higher ratio than normal drive on the forward gears when it is engaged. It has been chosen to provide quiet, economical, high-speed cruising at road speeds of the order of 80 m.p.h. (128 km.p.h.). Use of the overdrive under suitable conditions will result in a considerable reduction in fuel consumption.

NOTE.—The kick-down from overdrive top gear to direct top gear should never be used at speeds exceeding 85 m.p.h. (136 km.p.h.), otherwise severe damage to the engine may occur. Overdrive must not be used when making descents on mountainous roads.

Selection and engagement
Overdrive can be selected at any time by pushing in the control knob fully, but it will not engage until the road speed rises above 32 m.p.h. (51 km.p.h.) and the accelerator pedal has been momentarily completely released. Overdrive will then remain in engagement until manually disengaged or until the road speed has fallen below 28 m.p.h. (45 km.p.h.).

Disengaging overdrive
When it is desired to resume normal drive, i.e. for maximum engine braking, the overdrive can be disengaged quite simply by pulling out the control knob fully, although the method of doing so varies slightly with different driving conditions as follows:

1. When the car is at rest, or the engine is driving the car in normal drive (third or top gear), simply pull out the control knob.
2. When overdrive is engaged, or the car is free-wheeling, push the accelerator pedal down to its maximum travel momentarily to operate the kick-down switch and simultaneously pull out the control knob.
3. When overdrive is not engaged, at speeds below 28 m.p.h. (45 km.p.h.), depress the accelerator pedal slightly so that the engine is driving the car and at the same time pull out the control knob.

Kick-down
To return temporarily to direct drive for a burst of acceleration when travelling with overdrive engaged push the accelerator down as far as possible. This will operate the kick-down switch on the accelerator shaft and automatically disengage the overdrive, giving the effect of changing down to a lower gear.

Overdrive will not be re-engaged until the accelerator pedal has been completely released.

A spring-loaded kick-down baulk is fitted to the accelerator pedal to provide a positive feel for the kick-down position. This baulk is set so that full throttle position on the carburettor is reached when the buffer of the baulk is in contact with the pad on the carpet. Further downward movement of the accelerator pedal will operate the kick-down switch.

Free-wheel
When overdrive is selected a free-wheel is brought into operation. Considerable economy in fuel consumption can be obtained by taking advantage of the free-wheel to coast under suitable driving conditions.
OVERDRIVE

The free-wheel is automatically locked when reverse gear is engaged and operates only when overdrive is selected but not engaged.

Use in traffic

In certain traffic conditions the overdrive can be used to avoid normal gear changing. It is possible to accelerate in third gear, engage the overdrive by releasing the pedal, and obtain a ratio closely approximating to direct top gear. Normal third gear may be resumed by using the kick-down switch. At speeds below the 'cut-in' point, with overdrive selected, the free-wheel allows gear changing without the use of the clutch except when engaging or disengaging first and reverse gear.

When the engine is started from cold with the use of the mixture control stalling will be avoided if this control is left pulled out just sufficiently to increase the idling speed until the engine has warmed up.
AUTOMATIC TRANSMISSION

Description

The automatic transmission incorporates a fluid torque converter coupling in place of the usual flywheel and clutch. The converter is coupled to a hydraulically operated planetary gearbox which provides three forward ratios and reverse. All forward ratios are automatically engaged in accordance with accelerator position and speed of the car.

Over-riding control with appropriate engine braking is available for the first or second gear ratios by manual selection of ‘L’.

Selector lever

Operation of the automatic transmission is controlled by a selector mounted beneath the steering-wheee. The position of the lever is indicated by a pointer and a quadrant, the quadrant being marked with the following five positions: ‘P’, ‘R’, ‘N’, ‘D’, ‘L’. A stop plate is provided to prevent direct selection of ‘P’, ‘R’, or ‘L’ from either ‘N’ or ‘D’; ‘D’ may be instantly engaged from ‘N’. Before engaging ‘L’, ‘R’, or ‘P’, press the hand lever plunger inwards. Before disengaging ‘P’ press the hand lever plunger inwards. Do not engage ‘R’ or ‘P’ while the car is in motion.

‘P’ (park)

In the park position no engine power is transmitted to the rear wheels. The gearbox is mechanically locked by a parking pawl that engages with a gear on the driven shaft.

Use of the park position is recommended whenever the car is parked or when the engine is to be run for tuning or adjustment.

DO NOT select ‘P’ when the car is moving.

‘R’ (reverse)

This position provides a reverse ratio with full engine braking. DO NOT select ‘R’ when the car is moving forward.

‘N’ (neutral)

In the neutral position no engine power is transmitted to the rear wheels. The hand brake must be applied when the selector is at ‘N’ and the car is at rest.
AUTOMATIC TRANSMISSION

'D' (drive)

The position for all normal driving. This position covers a fully automatic range of three ratios, all of which are engaged automatically and progressively up and down according to the vehicle speed and the position of the accelerator. Provided the vehicle speed is below a preset maximum, down-changes may be effected by fully depressing the accelerator past a detent button mounted on the pedal (early models) which is known as 'kick-down'.

'L' (lock-up)

Provides over-riding control for the first or second gear ratios with appropriate engine braking.

When starting from rest with the selector in 'L' the transmission starts in first gear and will remain locked in that gear irrespective of road speed and accelerator position. This gear provides maximum engine braking.

When the transmission is in the third gear of the 'D' range the selection of 'L' will immediately give second ratio and moderate engine braking. A reduction in road speed to below 5 m.p.h. (8 km.p.h.) will automatically give first ratio. First ratio may also be obtained at speeds of up to 24-27 m.p.h. (38-43 km.p.h.) by fully depressing the accelerator ('kick-down').

Driving procedure

In territories where ambient temperatures are unusually high, dust and/or mud must not be allowed to decrease the effective areas of the stoneguards in the converter housing.

In cars which are frequently used on unmade roads the transmission oil pan must not be allowed to remain caked in mud which would act as a temperature insulator.

A starter inhibitor switch embodied in the gearbox ensures that the starter will only operate when the selector is in the 'P' or 'N' position. With 'N' selected, apply the hand or foot brake before starting the engine.

NOTE.—Always select 'P' before attempting to start the engine from under the bonnet or by means of the starting-handle.

When the engine has been started from cold with the use of the mixture control stalling will be avoided if this control is left out just sufficiently to increase idling speed until the engine has warmed up. The more apparent transmission engagement under these conditions is not detrimental to the car or to the transmission.

Normal driving

After starting the engine, release the accelerator, apply the foot brake, and move the selector lever to the appropriate forward or reverse position. Release the brake and depress the accelerator.

With the selector in 'D', all forward ratios up or down will be automatically and progressively engaged as the speed of the car increases or decreases; thus, all ratio changes are automatically made to suit the speed of the car as well as the torque demand.
AUTOMATIC TRANSMISSION

Minimum accelerator pressure will result in low-speed up-changes. If the accelerator is depressed up to full throttle the up-changes will occur at higher road speeds; fully depressing the accelerator (‘kick-down’) will produce up-changes at maximum road speeds.

Irrespective of the accelerator position, starts from rest are always smooth, but the usual delicacy of accelerator control is necessary on slippery surfaces and for maximum fuel economy.

Increased acceleration ‘kick-down’

When a lower gear ratio is required for rapid overtaking or hill-climbing (‘kick-down’) changes are fully under the driver’s control except that the maximum down-change speeds for the 3–2, 3–1, and 2–1 gear ratios are preset to give optimum performance without overspeeding the engine. ‘Kick-down’ does not operate at speeds above 54 to 57 m.p.h. (86 to 91 km.p.h.) for a 3–2 change and 24 to 27 m.p.h. (38 to 43 km.p.g.) for a 2–1 change.

The transmission will remain in the lower ratio until the accelerator is released.

Engine braking

When descending steep hills use the foot brake to reduce the road speed to below 60 m.p.h. (96·5 km.p.h.), when ‘L’ may be selected. The transmission will instantly change to second ratio and thus provide appropriate engine braking. See ‘L’ (lock-up) for first ratio (‘kick-down’) when maximum engine braking is required.

When the descent has been made, select ‘D’ and proceed as for normal driving.

Driving on soft surfaces

When the rear wheels fail to grip a surface due to snow, mud, or sand, the car may be rocked backwards and forwards by alternately selecting ‘R’ and ‘D’ with a small throttle opening.

Stopping

To stop the car release the accelerator and apply the brakes in the normal way.

Parking

Stop the car, select ‘P’, and apply the hand brake as an additional precaution.

Emergency starting

The car may be push- or tow-started; pushing is recommended as it avoids danger of the car over-running the towing vehicle.

Select ‘N’, switch on the ignition, set the mixture control, and release the hand brake. Allow the car to attain a road speed of approximately 25 m.p.h. (40 km.p.h.), then select ‘D’, whilst fully depressing the accelerator.

Towing for recovery

Before towing always check the fluid level in the transmission case, and top up if necessary.

If there is any reason to suspect that the transmission is faulty or damaged, the propeller shaft must be removed or, alternatively, the rear wheels lifted from the ground before towing commences.

Tow in ‘N’ and ensure that the hand brake has been released.
HEATING AND VENTILATION

Car heating

The car interior is heated by passing fresh air drawn from the outside of the car through a matrix supplied with hot water from the engine. The heated air is then fed into the interior of the car.

The full heat output will not be available until the engine has reached its normal running temperature.

Controls

The temperature and distribution of the air are regulated by two sliding controls situated on the fascia panel. The right-hand control regulates the temperature and the left-hand control regulates the air distribution.

1. The controls set to prevent mist forming on the windscreen and to provide a circulation of warm air.
2. The controls set to remove ice from the windscreen.

Temperature control

When in its ‘OFF’ position the heat is shut off and an air flap is closed to prevent cold air entering the car at foot level.

With the control at the ‘COLD’ position the heat is still shut off but the air flap is opened. As the control is moved to the left the temperature of the matrix of the heater is increased, the maximum heat being reached with the control at the ‘HOT’ position.

Air control

With the control in the ‘OFF’ position the air supply to the windscreen is cut off, giving the maximum air flow at foot level. By sliding the control to the right air is increasingly deflected onto the windscreen, with a corresponding reduction in the volume of air fed into the car at foot level. The maximum volume of air is directed onto the windscreen when the ‘BOOST’ position is reached, the air flow at foot level then being completely cut off.

Use of controls

To prevent cold air from entering the car both controls should be kept in the ‘OFF’ position until the engine has warmed up.
HEATING AND VENTILATION

By utilizing a suitable combination of the settings of both controls a flow of cold or heated air can be obtained to deal with any of the varying climatic conditions which may be encountered.

Examples of suggested settings are given in the table below and in the illustrations on page 18.

<table>
<thead>
<tr>
<th>Conditions required</th>
<th>Control settings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ventilation</strong></td>
<td></td>
</tr>
<tr>
<td>Maximum flow of COLD air at toeboard level, no flow at windscreen</td>
<td>COLD OFF</td>
</tr>
<tr>
<td>Approximately equal flow of COLD air at toeboard level and windscreen</td>
<td>COLD DEMIST</td>
</tr>
<tr>
<td>Maximum flow of COLD air at windscreen, no flow at toeboard level</td>
<td>COLD BOOST</td>
</tr>
<tr>
<td><strong>Heat</strong></td>
<td></td>
</tr>
<tr>
<td>Maximum flow of HOT air at toeboard level, no flow at windscreen</td>
<td>HOT OFF</td>
</tr>
<tr>
<td><strong>Heat and Demist</strong></td>
<td></td>
</tr>
<tr>
<td>Approximately equal flow of HOT air at toeboard level and COLD air at windscreen</td>
<td>HOT DEMIST</td>
</tr>
<tr>
<td><strong>Heat and Defrost</strong></td>
<td></td>
</tr>
<tr>
<td>Approximately equal flow of HOT air at toeboard level and windscreen</td>
<td>HOT DEFROST</td>
</tr>
<tr>
<td><strong>Defrost</strong></td>
<td></td>
</tr>
<tr>
<td>Maximum flow of HOT air at windscreen, no flow at toeboard level</td>
<td>HOT BOOST</td>
</tr>
</tbody>
</table>

Variations in the above conditions can be obtained by using intermediate positions of the controls.

Blower motor

Air is normally fed into the heater intake by the ram effect of the forward motion of the car. When the car is travelling slowly, or is stopped, this ram effect ceases, and to compensate for this an electric blower is incorporated in the heater system. The switch for the motor is located on the fascia panel (see page 8).

The blower motor should also be switched on in extreme weather conditions to augment the supply of air to the heater.

Fresh-air circulation unit

On vehicles fitted with a fresh-air circulation unit the flow of air is regulated by sliding controls similarly positioned to the heater controls illustrated on page 8.
HEATING AND VENTILATION

To obtain maximum delivery of air to the windscreen slide the left-hand control to the ‘ON’ position and the right-hand control to the ‘OFF’ position.

For maximum delivery at toe-board level slide the left-hand control to the ‘OFF’ position and the right-hand control to the ‘HOT’ position.

Intermediate positions can be selected to meet varying conditions.

Air-conditioning system (optional extra)

The system is a means of lowering the temperature of the air within the car. It is controlled by a rotary three-positioned switch on the fascia panel operating the air-conditioning system and regulating the speed of the fans located in the evaporator pack. The three positions are ‘OFF’, ‘SLOW’, and ‘FAST’, and the air-conditioning system is switched on when either of the fan speeds is selected. During any period when the air-conditioning system is not required it should be operated for about 15 minutes each week to keep the components in good working order. For maximum efficiency and temperature reduction the car windows must be kept closed. Cooling can be maintained under all conditions provided the engine is run at fast idle speed.

Servicing checks

To ensure effective operation of your air-conditioning system it is recommended that the following checks are carried out at the intervals specified.

Compressor oil level

The oil level of the compressor should be checked by your Distributor or Dealer after the first 500 miles (800 km.) following installation or any further maintenance, and every 6,000 miles (10,000 km.) or 6 months thereafter.

Refrigerant charge

The refrigerant charge should be checked every 3,000 miles (5000 km.) or 3 months, and you can do this yourself by following the operations listed below.

1. Start and run the engine at a fast idle speed.
2. Switch on the air-conditioning system.
3. After the system has been operating for five minutes, open the boot and observe the sight glass, mounted on the left-hand boot hinge bracket.
4. The appearance of bubbles in the sight glass indicates that the system is undercharged and requires topping up.
5. Switch off the air-conditioning system and the engine. If your air-conditioning system requires topping up consult your Distributor or Dealer.

Obstructions

Occasionally check that the condenser matrix (located in front of the radiator) and the evaporator matrix (located beneath the rear window parcel shelf) are free from obstruction.
BODY DETAILS

Door locks

Front and rear doors may be locked from the inside by the interior handles. To lock the front doors move the interior handle rearwards, which, upon being released, will return to the normal position. The door will remain locked until the interior handle is pushed forwards.

Rear doors are locked by moving the interior handle rearwards (where it will remain) and unlocked by pushing the handle forwards.

When carrying children the safety locks fitted to all doors can be set (see illustration below) and the doors can then only be opened from the outside.

Either front door may be locked from the outside by means of the key provided. To lock a door, turn the key slightly towards the front of the car, return it to the upright position, and withdraw it. To unlock the door reverse the locking process.

The children's safety lock. Push the lever upwards before closing the door to render the interior controls inoperative.

To lubricate the door locks inject a small amount of oil into the small hole exposed by rotating the locking rotor by hand, also lubricate the door hinges. Inject oil generously around the push-button whilst operating the key and the remote control. Lightly smear the dovetails and striking plates with grease.

A front door can, if required, be locked without using the key by pushing the interior handle rearwards before closing the door and holding the exterior push-button in as the door is closed. Entry can then only be gained by using the key.

Luggage boot

To open the boot release the catch by depressing the push-button immediately above the reversing lamp and raise the lid.

The boot can be locked in the closed position with the key provided. Lubricate the boot hinges with oil to ensure ease of operation.
BODY DETAILS

Bonnet lock
Release the bonnet catch by pulling the knob marked ‘B’, which is in the extreme right-hand end of the parcel tray. Insert a finger between the top of the radiator grille and the bonnet, push the safety catch lever to the left, and raise the bonnet. Use the prop clipped to the right-hand side of the bonnet to support it.

When closing the bonnet apply double hand pressure to force it into the fully closed position. The safety catch and bonnet lock will be heard to engage.

It is essential that the bonnet release mechanism, hinges and safety catch be adequately lubricated with oil to ensure freedom of operation of these components. Should any stiffness occur, this may result in insecure fastening of the bonnet, with consequent risk of the bonnet flying open whilst the car is in motion.

Push the safety catch in the direction of the arrow to release the catch

The windscreen washer container, indicating the filler cap and (1) suction hose, (2) control valve hose, (3) water hose

Filling the windscreen washer container
The jar should be filled with clean water through the cap on the container top. Trico solvent should be added to the water in cold weather to prevent freezing. Do not use radiator anti-freeze.

Connecting windscreen washer hoses
Should the hoses become disconnected from the top of the washer container, the suction hose from the inlet manifold of the engine must be reconnected to the upper connector on the centre of the container top. The clear plastic hose must be connected to the plastic connector on the top of the container marked ‘JETS’, and the ribbed hose, which connects to the control valve, must be fitted on the lower connection in the centre of the container top.
BODY DETAILS

Roof rack (when fitted)

The roof rack must be regarded as a means of carrying bulky rather than heavy articles of luggage, i.e. articles which by virtue of their shape or size cannot be stowed conveniently inside the vehicle. Any weight carried on the roof may have an adverse effect on the handling of the vehicle, which must be driven with due discretion. A straight ride will not be influenced to any great degree, although cornering and behaviour in a cross-wind will be different due to the change in position of the centre of gravity and the centre of pressure.

Weight in excess of 85 lb. (38 kg.) should not be carried on the roof.

The fuel filler cap is combined with the access panel and is locked in the closed position.

The spare wheel tray is lowered by turning the bolt in the boot floor anti-clockwise, using the starting-handle. The bolt locking clip shown inset.

Fuel filler

The filler is concealed by the panel above the left-hand rear wheel.

The contents of the fuel tank are sealed against theft after closing and locking the filler panel with the key provided.

Releasing the spare wheel

The spare wheel is secured on a tray below the luggage compartment by the bolt in the rear right-hand corner of the luggage boot floor. To release the wheel turn the bolt anti-clockwise as far as possible with the starting-handle.

After lowering the spare wheel tray the spare wheel may be withdrawn from its stowage.

When replacing the wheel push it forwards on the tray until it is centralized and located by the two stops and then retighten the securing bolt.
Running Instructions

Running-in speeds

The treatment given to a new vehicle 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.

SPEEDS OVER 45 M.P.H. (70 Km.P.H.) AND FULL-THROTTLE OPERATION SHOULD BE AVOIDED FOR THE FIRST 500 MILES (800 Km.).

DO NOT ALLOW THE ENGINE TO LABOUR IN ANY GEAR.

Starting

Before starting the engine make sure that the gear lever is in the neutral position. When starting from cold pull out the choke or mixture control. Switch on the ignition and operate the starter. The crankshaft will be rotated and after a second or two the engine should start, when the control must immediately be released. It is bad practice to keep the starter operating if the engine refuses to start as the starter takes a very heavy current from the battery and may discharge it.

After the engine has run for a few minutes, or almost immediately in warm weather, the choke control should be returned to the normal position. On no account must the engine be run for any length of time with this control pulled out or neat fuel will be drawn into the cylinders and considerable damage may be caused. The control should be returned to its normal position as soon as the engine is warm enough to run evenly without its use. It is not necessary, and in fact it can be detrimental, to use the mixture or choke control when starting a warm engine.

If the car is fitted with automatic transmission, reference should be made to pages 15–17 for starting and operating instructions.

Filling up with fuel

Considerable loss of fuel can occur as a result of filling the fuel tank until the fuel is visible in the filler tube. If this is done and the vehicle is left in the sun, expansion due to heat will cause leakage, with consequent loss of and danger from exposed fuel.

When filling up, therefore:

(1) Avoid filling the tank to the extent that fuel is visible in the filler tube.

(2) If the tank is inadvertently overfilled take care to park the vehicle in the shade with the filler as high as possible.

Starting-handle

The starting-handle is stowed in the luggage boot. To rotate the crankshaft, raise the starting-handle aperture cover located centrally at the bottom of the radiator grille, insert the handle, and engage the starting dog.

When using the handle keep the thumb on the same side of the handle as the palm of the hand for safety in case of a misfire.
COOLING SYSTEM

Filling and topping up

The radiator should be filled to approximately ¼ in. (13 mm.) below the bottom of the filler neck.

Unscrew the filler cap slowly if it is being removed while the engine is hot. The filler cap is retained by a bayonet catch with a graduated cam which permits release of internal pressure prior to removal. A lobe on the end of the cam guards against accidental release of the cap before the internal pressure is relieved. Protect your hand against escaping steam.

Fill the cooling system with clean water (preferably soft) until the correct level is reached. For instructions covering the filling of the cooling system when an anti-freeze solution is to be added see 'Frost precautions'.

The radiator cap removed to show (1) the cam, (2) the stop, and (3) the safety catch

Frost 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 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.

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

Before adding anti-freeze mixture the cooling system must be drained and flushed through by inserting a hose in the filler and allowing water to flow through until clean. The taps should be closed after allowing all the water to drain away, and the anti-freeze should be poured in first, and then the water. Anti-freeze may remain in the cooling system for a period of two years provided the specific gravity of the cooling system is checked periodically and anti-freeze added as necessary; this should be done by your Distributor or Dealer.

To avoid wastage by overflow add just sufficient water to cover the bottom of the header tank. Run the engine until it is hot and add more water (hot) to bring the surface to the correct working level, i.e. about ¼ in. (13 mm.) below the bottom of the filler neck.
COOLING SYSTEM

The correct quantities of anti-freeze for different degrees of frost resistance are:

<table>
<thead>
<tr>
<th>Anti-freeze</th>
<th>Commences to freeze</th>
<th>Frozen solid</th>
<th>Amount of anti-freeze</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>°C.</td>
<td>°F.</td>
<td>°C.</td>
</tr>
<tr>
<td>25</td>
<td>-13</td>
<td>9</td>
<td>-26</td>
</tr>
<tr>
<td>33(\frac{1}{2})</td>
<td>-19</td>
<td>-2</td>
<td>-36</td>
</tr>
<tr>
<td>50</td>
<td>-36</td>
<td>-33</td>
<td>-48</td>
</tr>
</tbody>
</table>

Only anti-freeze of the ethylene glycol type incorporating the correct type of corrosion inhibitor is suitable and owners are recommended to use Bluecol Anti-freeze. The use of any other anti-freeze which conforms to Specification B.S.3151 or B.S.3152 is also approved.

NOTE.—Never use radiator anti-freeze in the windscreen-washing equipment.

Draining the cooling system

The cooling system is provided with two drain taps, both of which must be opened when draining the cooling system. One tap is located on the left-hand side of the radiator bottom tank and the other is located on the left-hand side of the cylinder block just above the engine front mounting bracket. Both taps are accessible from the engine compartment.

The location of the car heater is such that it cannot be drained by the cooling system drain taps, and when freezing conditions are expected anti-freeze must be used in the cooling system.
IGNITION EQUIPMENT

Static ignition timing

The point where ignition should start is given in ‘GENERAL DATA’. With the crankshaft stationary at this position the contact breaker points should be just beginning to open. When the engine is running timing is varied by a centrifugal advance mechanism and a vacuum control.

Checking static ignition timing

The information given below describes a method of checking the ignition timing; it does not detail the resetting of the timing when the distributor has been removed from the engine.

Check that the contact points are set to the correct gap when on the peak of the cam (see page 53).

The rim of the crankshaft pulley has a small notch corresponding with the pointer when Nos. 1 and 6 pistons are at T.D.C. (see ‘GENERAL DATA’).

When the crankshaft is set in this position the distributor rotor arm should be pointing to No. 1 segment of the distributor cap with the points just breaking.

To set ignition at 5° B.T.D.C.

Fully retard the distributor by turning the knurled nut towards ‘R’.

Slacken the distributor clamping screw and turn the distributor body until the points are just about to open; tighten the clamping screw.

Advance the distributor 5° by turning the knurled nut towards ‘A’ and counting 55 clicks (1° is equal to 11 clicks).

A simple electrical method may be used to ensure an accurate check. Connect a 12-volt bulb between the low-tension terminal on the side of the distributor and a good earth point on the engine. Switch on the ignition, if the bulb lights, turn the knurled nut towards ‘R’ until the light goes out and then back towards ‘A’ until it just lights. This will give the correct static timing.

If this adjustment cannot be made with the knurled nut consult your Distributor/Dealer.
ELECTRICAL EQUIPMENT

Battery

Remove the filler plug from each of the cells and examine the level of the electrolyte in each. If necessary, add sufficient distilled water to bring the electrolyte just above the tops of the separators. Do not use tap-water and do not use a naked light when examining the condition of the cells. Do not overfill. Wipe away all dirt and moisture from the top of the battery.

When taking hydrometer readings make certain that the float is free, hold the tube vertically, and do not draw in too much electrolyte. Take the readings at eye level.

Checking specific gravity

Check the condition of the battery by taking hydrometer readings of the specific gravity of the electrolyte in each of the cells. Readings should not be taken immediately after topping up the cells. The specific gravity readings and their indications are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Home Trade and climates below 27° C. (80° F.)</th>
<th>Climates frequently above 27° C. (80° F.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell fully charged</td>
<td>1·270 to 1·290</td>
<td>1·210 to 1·230</td>
</tr>
<tr>
<td>Cell about half-discharged</td>
<td>1·190 to 1·210</td>
<td>1·130 to 1·150</td>
</tr>
<tr>
<td>Cell completely discharged</td>
<td>1·110 to 1·130</td>
<td>1·050 to 1·070</td>
</tr>
</tbody>
</table>

The figures given in the table are corrected to an electrolyte temperature of 16° C. (60° F.) and the hydrometer readings obtained must also be corrected to suit the temperature of the electrolyte.

For every 3° C. (5° F.) above 16° C. (60° F.) add -002.

For every 3° C. (5° F.) below 16° C. (60° F.) subtract -002.

All cells should give approximately the same reading; if there are wide variations between the cells the battery should be examined by a Distributor or Dealer.

Never leave the battery in a discharged condition for any length of time. When the car is not in use have the battery fully charged, and every fortnight give it a short refreshing charge to prevent any tendency for the plates to become permanently sulphated.
Fuses

The fuse holder will be found under the large plastic cover located on the right-hand side of the radiator.

The fuse (50 amp.) between ‘1’ and ‘2’ protects the accessories which operate irrespective of whether the ignition is on or off. The fuse between ‘3’ and ‘4’ protects the accessories which operate only when the ignition is switched on.

Two spare fuses are provided, and it is important that only fuses of the same amperage (marked inside the fuse tube) should be used.

If a new fuse blows immediately trace the fault before inserting another one.

The separate fuse (35-amp.) for the pilot and tail lights is located in the cylindrical tube situated in the wiring loom under the fascia right hand side. To renew the fuse, hold one end of the tube, push in, twist, and pull off the other end. The fuse is then accessible.

Release the retaining clips and remove the plastic cover to gain access to the regulator and fuse holder located to the right of the radiator

1. Fuse holder.
2. Horn relay.
3. Control box.
4. Driving lamps relay.

Blown fuses

The units which are protected by the fuses can readily be identified on the wiring diagram. A blown fuse is indicated by the failure of all the units protected by it, and is confirmed by examination of the fuse when withdrawn. Before renewing a blown fuse inspect the wiring of the units that have failed for evidence of a short circuit or other fault. Remedy the cause of the trouble before fitting a new fuse.

Voltage control box

The cut-out and regulator are accurately set before leaving the Works and they must not be tampered with. The fuses are accessible without removing the cover protecting the regulator and cut-out units.

Flasher unit and horn relay

The flasher unit and the horn relay in the above illustration require no maintenance attention.

Both units are sealed and must be replaced as complete units should they become faulty.
ELECTRICAL EQUIPMENT

Headlamps (U.K. sealed-beam type)

In the event of failure the complete light unit must be renewed.

Remove the retaining screw at the bottom of the plated lamp rim and lift off the rim. Unscrew the three Phillips screws securing the light unit retaining plate, supporting the lens of the light at the same time. Remove the plate, lift the unit forward, and pull off the three-pin plug from the back of the light unit.

To replace the unit reverse the above procedure, but ensure that the lugs moulded on the back of the lens engage in the slots in the back-shell before fitting the rim.

Headlamps (sealed-beam, North America)

To change a light unit, remove the retaining screw from the bottom of the lamp rim, lift the bottom of the rim forwards and upwards, and detach the rim. Slacken the three Phillips screws securing the light unit retaining rim and rotate the rim anti-clockwise to remove, supporting the lens of the light unit at the same time. Pull off the three-pin plug from the rear of the light unit.

The light unit must be renewed when necessary as a complete assembly.

Headlamps (European type)

The European-type headlamps are fitted with special front lenses and bulbs giving an asymmetrical light beam.

To remove the headlamp bulb remove the screw from beneath the headlamp and withdraw the rim. Remove the three inner rim retaining screws, remove the rim and pull the light unit forward from the back-shell.

Early cars: Press the light unit and turn anti-clockwise to release it from the back-shell.

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.
ELECTRICAL EQUIPMENT

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 for the bulb.

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.

Headlamps (L.H.D. except European and sealed-beam types)

Access to the bulb is obtained in the same manner as that described for European-type headlamps. Twist the back-shell anti-clockwise and pull it off. The bulb can then be withdrawn from its holder.

Setting headlamps

The lamps should be set so that the main driving beams are parallel with the road surface or in accordance with the local regulations.

Vertical adjustment may be made without disturbing the lamp rim by turning the screw at the top of the lamp. The screw can be reached by inserting a thin screwdriver in the groove provided on the under side of the rim at the top.

After removing the lamp rim horizontal adjustment can be made by using the adjusting screw on the right-hand side of the light unit. On early European and L.H.D. except Europe and North American type units two horizontal adjusting screws are fitted.

The headlamp beams should be checked, and reset if necessary, at the mileage recommended by your Distributor or Dealer who will have the special equipment needed.
ELECTRICAL EQUIPMENT

Front pilot and flashing direction indicator lamps

To obtain access to either bulb press the lamp front inwards and turn it anticlockwise until it is free to be withdrawn. Reverse this movement to replace the front.

Both bulbs are of the bayonet-type fixing.

Tail lamp bulbs are accessible from inside the luggage compartment. Pull the bulb holders from the lamp backplate.

Tail, stop, and flashing direction indicator lamps

Access to these bulbs is gained from inside the luggage boot. The bulb holders complete with bulbs may be pulled out from the lamp backplate.

The flashing indicator lamps have single-filament bulbs which may be replaced either way round.

The tail and stop lamp bulbs have twin filaments. The offset peg bayonet fixing ensures correct replacement.
ELECTRICAL EQUIPMENT

Long-range driving lamps
Access to the lamp bulb is obtained by removing the lamp rim retaining screw, removing the rim, and withdrawing the light unit.
Twist the bulb retainer anti-clockwise and pull it off. The bulb can then be removed from its holder.
Fit the replacement bulb in the holder with the slot in its disc in engagement with the projection in the holder. Refit the retainer into the light unit.
When replacing the light unit ascertain that the locating lugs are correctly positioned in the lamp shell before attempting to tighten the lamp rim securing screw.

A long-range driving lamp. The lower arrow indicates the reflector locating lugs. If the beam requires adjustment, first slacken the lamp retaining nut indicated by the upper arrow.

Access to the radiator badge bulb is obtained by withdrawing the badge centre, which is held in position by spring blades.

The beam can be adjusted by slackening the nut securing the lamp to its mounting in the body and turning the lamp to the desired position.

Radiator badge lamp
To remove the bulb from the radiator badge unit raise the bonnet and insert a hand behind the grille, squeeze the badge centre retaining clips together, and push forward so that it can be withdrawn to give access to the bulb. To replace the badge centre press into position until the clips spring into place.
ELECTRICAL EQUIPMENT

Number-plate and reversing lamps
To reach the number-plate illumination bulbs and the central reversing lamp bulb remove the two screws securing each lamp cover and withdraw the cover.

Windscreen wiper
The wiper is controlled by a switch on the fascia. The blades park automatically when switching off.
No adjustment or lubrication is necessary.
To ensure that the windscreen is wiped as clean as possible, the blade rubbers should be renewed each year. The blade can be released from the wiper arms by lifting the retaining clips.
Should it be necessary to reposition an arm, hold back the retaining spring with a small screwdriver, pull off the arm, and replace it on a different spline.

To reposition the wiper arm raise the retaining clip (1) and withdraw the arm. Refit on another spline (2)

The overdrive relay located on the right-hand side of the engine compartment with the fuse shown inset

Overdrive relay
The relay in conjunction with the mechanical governor controls the operation of the overdrive. Should the fuse (25-amp.) mounted on the side of the unit 'blow', the overdrive will become inoperative and a replacement fuse must be fitted.
ELECTRICAL EQUIPMENT

Fuel pump
Fuel is delivered to the carburetters by means of an electrically operated S.U. pump, AUF 208 type. The pump is situated in the luggage compartment on the right-hand wheel arch. Complete access to it is obtained by removing the fuel tank millboard cover from the rear of the luggage compartment.

Starter
The starter motor is mounted on the left-hand side of the engine on the flywheel housing. It requires no lubrication between overhaul periods.

If the pinion fails to engage when the engine starts the starter will emit a high-pitched whine and the engine must be stopped immediately.

Should the starter pinion become jammed with the flywheel ring, it can usually be freed by rotating the squared end of the armature with a spanner after withdrawing the protecting cap.

The continued use of the starter when the engine fails to start will not only discharge the battery but also damage the starter.

A jammed starter can be released by turning the squared end of the shaft

An interior lamp with the cover removed, showing a locating tongue and its slot

Interior and luggage compartment lamps
The plastic cover on each interior lamp is held in position by two locating tongues. To gain access to the bulb gently squeeze the centre of the cover and pull it outwards. The festoon-type bulb can then be released from its holder.
ELECTRICAL EQUIPMENT

Selector quadrant lamp (automatic transmission only)

To gain access to the automatic transmission selector quadrant lamp remove the two screws securing the cover to the steering-column cowl. After lifting the cover away the bulb holder may be withdrawn and the bayonet fixing bulb removed.

The automatic transmission selector quadrant with the cover removed to show the bulb and bulb holder

The combined direction indicator and headlight flashing switch with the warning light cover unscrewed to expose the bulb. Move the lever in the direction indicated by the arrow to flash the headlights

Flashing direction warning light

To remove the warning light bulb, unscrew the translucent cover from the end of the lever and the bulb from its holder. With the earlier type of direction indicator switch mounted on the steering-wheel hub, insert a small screwdriver into the slot provided at the top and gently prize out the glass from the switch lever. The bulb can now be eased from its retaining clip.

Clock illumination lamp

To gain access to the clock illumination bulb withdraw the clock from the fascia panel. Remove the two milled nuts from each side of the clock at the rear and withdraw the retaining bracket and earth lead. Pull the clock forward and remove the bulb holder complete with bulb from the back of the clock.
Panel lights and warning lights

These bulbs are accessible from beneath the instrument panel and will be found in the positions indicated below.

To remove the bulbs from the instrument panel withdraw the holders from the back of the instruments.

The location of the panel bulbs and warning lights

<table>
<thead>
<tr>
<th>Replacement bulbs</th>
<th>Watts</th>
<th>BMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headlamps (vertical dip—R.H.D. Sweden)</td>
<td>45/40</td>
<td>BFS 410</td>
</tr>
<tr>
<td>Headlamps (vertical dip—L.H.D. Europe except France)</td>
<td>45/40</td>
<td>BFS 410</td>
</tr>
<tr>
<td>Headlamps (vertical dip—L.H.D. France—yellow)</td>
<td>45/40</td>
<td>BFS 411</td>
</tr>
<tr>
<td>Headlamps (left dip—R.H.D. except U.K. and Sweden)</td>
<td>50/40</td>
<td>BFS 414</td>
</tr>
<tr>
<td>Headlamps (right dip—L.H.D. except Europe)</td>
<td>50/40</td>
<td>BFS 415</td>
</tr>
<tr>
<td>Long-range driving lamps</td>
<td>48</td>
<td>BFS 185</td>
</tr>
<tr>
<td>Long-range driving lamps (yellow—France only)</td>
<td>48</td>
<td>BFS 685</td>
</tr>
<tr>
<td>Pilot lamps</td>
<td>6</td>
<td>BFS 989</td>
</tr>
<tr>
<td>Stop and tail lamps</td>
<td>21/6</td>
<td>BFS 380</td>
</tr>
<tr>
<td>Flashing direction indicator lamps</td>
<td>21</td>
<td>BFS 382</td>
</tr>
<tr>
<td>Number-plate lamp</td>
<td>6</td>
<td>BFS 989</td>
</tr>
<tr>
<td>Number-plate lamp (Germany)</td>
<td>4</td>
<td>13H 2756</td>
</tr>
<tr>
<td>Reversing lamp</td>
<td>21</td>
<td>BFS 382</td>
</tr>
<tr>
<td>Interior lamps</td>
<td>6</td>
<td>BFS 254</td>
</tr>
<tr>
<td>Radiator badge lamp</td>
<td>6</td>
<td>BFS 989</td>
</tr>
<tr>
<td>Brake servo, ignition, lubrication, and headlamp warning lights</td>
<td>2-2</td>
<td>BFS 987</td>
</tr>
<tr>
<td>Direction indicator warning lamp</td>
<td>1-5</td>
<td>BFS 280</td>
</tr>
<tr>
<td>Clock dial light</td>
<td>2-0</td>
<td>BFS 281</td>
</tr>
<tr>
<td>Speedometer and instrument dial lights</td>
<td>2-2</td>
<td>BFS 987</td>
</tr>
<tr>
<td>Automatic transmission selector quadrant lamp</td>
<td>2-0</td>
<td>BFS 281</td>
</tr>
<tr>
<td>Cigar-lighter illumination light</td>
<td>1-8</td>
<td>47H 9548</td>
</tr>
<tr>
<td>Switch panel illumination</td>
<td>2-2</td>
<td>BFS 987</td>
</tr>
<tr>
<td>Boot illumination lamp</td>
<td>6</td>
<td>BFS 254</td>
</tr>
</tbody>
</table>

37
**KEY TO WIRING DIAGRAM**

*(6/110 WOLSELEY MK. II)*

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Dynamo.</td>
<td>41.</td>
<td>Fuel pump.</td>
</tr>
<tr>
<td>2.</td>
<td>Control box.</td>
<td>42.</td>
<td>Oil pressure gauge.</td>
</tr>
<tr>
<td>4.</td>
<td>Starter solenoid.</td>
<td>44.</td>
<td>Speedometer.</td>
</tr>
<tr>
<td>5.</td>
<td>Starter motor.</td>
<td>45.</td>
<td>Water temperature gauge.</td>
</tr>
<tr>
<td>10.</td>
<td>Main-beam warning lamp.</td>
<td>50.</td>
<td>Vacuum warning lamp.</td>
</tr>
<tr>
<td>12.</td>
<td>L.H. sidelamp.</td>
<td>52.</td>
<td>R.H. driving lamp.</td>
</tr>
<tr>
<td>17.</td>
<td>L.H. stop and tail lamp.</td>
<td>57.</td>
<td>Horn relay.</td>
</tr>
<tr>
<td>21.</td>
<td>R.H. door switch.</td>
<td>61.</td>
<td>Line fuse (35 amps.).</td>
</tr>
<tr>
<td>22.</td>
<td>L.H. door switch.</td>
<td>62.</td>
<td>Overdrive relay (25-amp. fuse)</td>
</tr>
<tr>
<td>24.</td>
<td>Horn-push</td>
<td>64.</td>
<td>Overdrive centrifugal switch.</td>
</tr>
<tr>
<td>25.</td>
<td>Flasher unit.</td>
<td>65.</td>
<td>Overdrive solenoid</td>
</tr>
<tr>
<td>27.</td>
<td>Direction indicator warning lamp.</td>
<td>67.</td>
<td>Switch illumination lamp.</td>
</tr>
<tr>
<td>28.</td>
<td>R.H. front flasher lamp.</td>
<td>68.</td>
<td>Induction heater and thermostat (when fitted).</td>
</tr>
<tr>
<td>29.</td>
<td>L.H. front flasher lamp.</td>
<td>69.</td>
<td>Oil filter switch.</td>
</tr>
<tr>
<td>30.</td>
<td>R.H. rear flasher lamp.</td>
<td>70.</td>
<td>Driving lamps relay.</td>
</tr>
<tr>
<td>32.</td>
<td>Heater or fresh-air motor switch.</td>
<td>72.</td>
<td>Oil filter warning lamp.</td>
</tr>
<tr>
<td>33.</td>
<td>Heater or fresh-air motor.</td>
<td>73.</td>
<td>Combined reverse and automatic gearbox safety switch.</td>
</tr>
<tr>
<td>34.</td>
<td>Fuel gauge.</td>
<td>74.</td>
<td>Ignition/starter switch — 4-position alternative.</td>
</tr>
<tr>
<td>35.</td>
<td>Fuel gauge tank unit.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36.</td>
<td>Windscreen wiper switch.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37.</td>
<td>Windscreen wiper motor.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38.</td>
<td>Ignition starter switch.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39.</td>
<td>Ignition coil.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40.</td>
<td>Distributor.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CABLE COLOUR CODE**

- B. Black
- C. Blue
- G. Green
- I.G. Light Green
- N. Brown
- P. Purple
- R. Red
- U. Blue
- W. White
- Y. Yellow

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

For those owners who feel inclined to carry out their own adjustments the following instructions are given.

Run the engine until it attains its normal running temperature.

Set the slow-running screws on the carburettor throttle levers so that the throttles are both open the same amount. This is indicated by the same suction noise at each carburettor.

Disconnect the mixture control wire from the end of the jet levers and screw the jet adjusting nut well downwards. The jet actuating levers are held in contact with the jet heads by their return springs and must be kept in contact the whole time.

The Type H4 carburetters showing:
1. Throttle adjusting screw—front carburettor.
2. Throttle adjusting screw—rear carburettor.
4. Front carburettor throttle opening delay mechanism.

The jet adjusting nuts should now be screwed inwards slowly (thus gradually weakening the mixture) until the engine idles evenly, firing on all cylinders regularly and running at its best speed. This will be the normal slow-running position when the engine is hot and the general performance on the road should be entirely satisfactory. Check by raising each carburettor piston ¼ in. (6 mm.). A small spring-loaded plunger is fitted for this purpose to the right and just below the suction chamber on each carburettor. If the engine speed increases momentarily the setting is right. If the engine stalls the setting is too weak and if it continues to run at an increased speed the setting is too rich.

Reconnect the mixture control wire, giving it a twist as shown in the above illustration for automatic locking of the control knob.

Finally, adjust the idling speed by turning each throttle screw an equal amount having first slackened one of the clamping bolts on the connecting rod between the carburettors. Tighten the clamp bolt when the adjustment is complete.

After the slow-running has been adjusted check the fast-idle adjustment by pulling out the mixture control knob on the fascia (a minimum of ¼ in. or 6 mm.) until the linkage is about to move the carburettor jets and adjust the fast-idle screws to give an engine speed of about 1,000 r.p.m. when hot.
WHEELS AND TYRES

Towing

If it is necessary to tow the car use the towing eyes provided.

Jack maintenance

If the jack is neglected it may be difficult to use in a roadside emergency. Look at it occasionally, clean off accumulated dust, and lightly oil the thread to prevent the formation of rust.

*The jack should be positioned leaning slightly outwards at the top*

*Insert the flattened end of the wheelbrace between the hub cover and the wheel. Lever in the direction indicated by the arrow*

Wheel removal

Remove the plug from the socket below the front door and insert the arm of the jack as illustrated.

Apply the hand brake and remove the hub cover as shown above.

Slacken the nuts half a turn, jack up completely, unscrew the nuts and remove the wheel.

To replace, locate the wheel on the hub and refit the nuts with their tapered sides towards the wheel, tighten them lightly.

Lower the jack and fully tighten the nuts in the sequence 1, 3, 5, 2, 4, imagining them to be numbered 1 to 5 in rotation.

Replace the hub cover, remove the jack and insert the plug.
WHEELS AND TYRES

Tyre pressures

The recommended tyre pressures are given on page 4. For touring at sustained speed in excess of 85-90 m.p.h. (136-144 km.p.h.) inflation pressures for both front and rear tyres should be increased by 4 lb./sq. in. (28 kg./cm.²).

Any unusual pressure loss should be investigated. Under-inflation causes rapid tyre wear, and even more serious is the possibility of damage to the fabric of the tyre, owing to the excessive flexing of the tyre walls.

Tyre examination

Flints and other sharp objects should be removed with a penknife or similar tool. If neglected, they may work through the cover.

Penetration does not normally result in deflation and the tyres should be repaired when convenient. Penetrations by objects of small diameter can be repaired with the tyre manufacturer's plugging kit, while more extensive damage requires the removal of the tyre for vulcanizing.

During fitting, check the pressure frequently to make sure that 40 lb./sq. in. air pressure is not exceeded as there can be a risk of severe bead damage. If 40 lb./sq. in. air pressure will not seat the beads properly, deflate, lubricate, centralize the tyre and reinflate.

IMPORTANT.—Lock the wheels down when using a fitting machine. Stand clear of the tyre when inflating and do not lean over it until the beads are properly seated.

Valves and caps

Ensure that the valve caps are screwed down firmly by hand, do not use tools.

Changing position of tyres

To obtain maximum mileage from a set of tyres, occasionally, or as advised by your Distributor/Dealer, interchange the front and rear wheels and bring the spare into use.

The positional changing of wheels must not be undertaken if radial-ply tyres have been fitted to the rear wheels only.

Tyre removal and replacement

Remove the valve interior to deflate the tyre completely and push both cover edges into the base of the rim at the point diametrically opposite to the valve, then lever the cover edge near the valve over the rim edge. Remove both
WHEELS AND TYRES

beads, one at a time, over the flange on the side of the rim which has the
narrower bead seat. If the tyre is removed with the wheel lying flat, the narrower
bead seat should be upwards. Continue round the tyre until the bead on one
side is completely free. Stand the tyre and wheel upright, keeping the remaining
bead in the well-base of the wheel rim. Lever the tyre bead at the top of the wheel
over the rim flange, and at the same time push the wheel away from the cover
with the other hand.

Change the road wheels
round diagonally and bring
the spare into use as shown
in the illustration.

Push the cover bead into the
well of the road wheel and
lever the tyre over the rim
close to the valve.

If the rim is dirty or rusty, clean the flanges and bead seats with a wire brush,
steel wool or emery cloth, as appropriate, wipe clean with a moist cloth.

A similar technique has to be employed when replacing the tyre. A red spot
or star is marked on the side wall of the tyre and this must correspond with the
‘H’ mark on the wheel rim. Keep the beaded edge in the wheel base and care-
fully lever the tyre edge over the wheel rim on the opposite side. Great care
must be exercised to avoid damage to the tyre bead, and the tyre levers must be
in good condition.

Initial inflation can be carried out with a foot pump, using a rope tourniquet
around the periphery of the tyre to obtain a seal between the tyre edge and the
wheel rim, but it is more easily accomplished with a compressed-air line.

Fitting radial-ply tyres

Radial-ply tyres (Dunlop SP41) should only be fitted in sets of four, although
in certain circumstances it is permissible to fit a pair on the rear wheels; tyres of
different construction must not be used on the same axle. A pair must never be
fitted to the front wheels with conventional tyres at the rear.

Consult your Distributor or Dealer before changing to radial-ply tyres.

Impact fractures

Excessive local distortion as a result of striking a kerb, a loose brick, a deep
pot-hole, etc., may cause the casing cords to fracture.
BODYWORK

Coachwork

Regular care of the body finish is necessary if the new appearance of the car exterior is to be maintained against the effects of air pollution, rain, and mud.

Wash the bodywork frequently, using a soft sponge and plenty of water containing a mild detergent. Large deposits of mud must be softened with water before using the sponge. Smears should be removed by a second wash in clean water and with the sponge if necessary. When dry, clean the surface of the car with a damp chamois-leather. In addition to the regular maintenance, special attention is required if the car is driven in extreme conditions such as sea spray, or on salted roads. In these conditions and with other forms of severe contamination an additional washing operation is necessary which should include underbody hosing. Any damaged areas should be immediately covered with paint and a complete repair effected as soon as possible. Before touching-in light scratches and abrasions with paint thoroughly clean the surface. Use petrol/white spirit (gasoline/hydrocarbon solvent) to remove spots of grease or tar.

The application of BMC Car Polish is all that is required to remove traffic film and to ensure the retention of the new appearance.

Bright trim

Never use an abrasive on stainless, chromium, aluminium, or plastic bright parts and on no account clean them with metal polish. Remove spots of grease or tar with petrol/white spirit (gasoline/hydrocarbon solvent) and wash frequently with water containing a mild detergent. When the dirt has been removed polish with a clean dry cloth or chamois-leather until bright. Any slight tarnish found on stainless or plated components which have not received regular washing may be removed with BMC Chrome Cleaner. An occasional application of mineral light oil or grease will help to preserve the finish, particularly during winter, when salt may be used on the roads, but these protectives must not be applied to plastic finishes.

Windscreen

If windscreen smearing has occurred it can be removed with BMC Screen Cleaner.

Interior

Clean the carpets with a stiff brush or vacuum cleaner, preferably before washing the outside of the car. The most satisfactory way to give carpets a thorough cleaning is to apply BMC 2-way Cleaner with a semi-stiff brush, brush vigorously and remove the surplus with a damp cloth or sponge. Carpets should not be cleaned by the ‘Dry Clean’ process. The upholstery and roof lining may be treated with BMC 2-way Cleaner applied with a damp cloth and a light rubbing action.

A razor blade will remove transfers from the window glass.

The BMC approved products mentioned above are obtainable from your Distributor or Dealer.
MAINTENANCE ATTENTION

The bracketed letters given in the section headings on the following pages refer to the appropriate column of the recommended lubricants table on page 91.

WEEKLY

Radiator
Check the level of water in the radiator, and top up if necessary.

Checking engine oil level
The level of the oil in the engine sump is indicated by the dipstick on the right-hand side of the engine. Maintain the level at the ‘MAX’ mark on the dipstick and never allow it to fall below the ‘MIN’ mark. There is a difference of 2¾ pints (3·4 U.S. pints, 1·56 litres) between the ‘MIN’ and ‘MAX’ marks on the dipstick.

The oil filler dipstick with the oil level markings shown in the inset

Filling up with engine oil (A)
The filler is on the forward end of the rocker cover and is provided with a quick-action cap. Clean, fresh oil is essential.

Tyre pressures
Check all tyre pressures and inflate, if necessary, to the recommended pressures. Ensure that the valves are fitted with screw caps, inspect the tyres for possible damage, and wipe off any oil or grease.

Battery
Check electrolyte level, and top up if necessary (see page 28).
Every 3,000 miles (5000 km.) or 3 months

For the complete summary of attention to be given every 3,000 miles (5000 km.) or 3 months service refer to page 61.

Automatic transmission (D)

The automatic transmission fluid level should be checked, and topped up if necessary.

**Absolute cleanliness is essential** to ensure long, trouble-free transmission life. Make certain that all fluid added to the transmission unit is perfectly clean; thoroughly clean around the filler and drain plugs before checking, filling, or draining the transmission.

Rag of any description must not be used when wiping the gearbox dipstick; a minute particle of foreign matter from this source is quite sufficient to interfere with the action of the valves in the hydraulic system of the gearbox. Use only nylon or wash-leather.

Use only a recommended automatic transmission fluid for filling and for topping up.

The automatic transmission filler tube and dipstick showing:

A. Low mark.
B. High mark.

The automatic transmission filler tube with breather and dipstick is located under the bonnet just forward of the bulkhead.

Topping up must be carried out as follows:

1. Run the engine until it reaches its normal running temperature.
2. Drive the car onto a level surface and apply the hand brake. Place the selector lever at 'P'.
3. Allow the engine to idle in 'P' for two minutes.
4. With the engine still idling in 'P' take a dipstick reading; delay may lead to a false reading due to fluid splash.
5. If necessary, add fluid to bring the level to the high mark. The difference between the high and low marks on the dipstick is 1 Imperial pint (1.2 U.S. pints, 0.6 litre).
6. Do not overfill.

**NOTE.**—If checked when the fluid is cold, the level will be 3 in. (10 mm.) below the high mark.

Lubricate the automatic transmission selector linkage with an oilcan.
Every 3,000 miles (5000 km.) or 3 months

Steering gearbox—normal steering (B)

Check the level, and top up if necessary. The correct level is flush with the bottom of the filler hole. Take care that no dirt or grit enters the filler hole when removing or replacing the filler plug.

Steering idler (B)

Check the level of oil in the steering idler, and top up if necessary. The steering idler is on the left-hand frame side-member on right-hand-drive cars and on the right-hand side on left-hand drive models and is accessible from the engine compartment.

NOTE.—On no account should the steering idler be overlooked, as lack of lubricant in this component may cause a serious breakdown due to the additional load imposed on the steering gearbox.

Brakes

The front disc brakes and rear brake-shoes are self-adjusting and the only brake adjustment possible is the hand brake lever travel.

If the hand brake lever travel exceeds four notches on the normal application, then adjustment is necessary. Unscrew the seven screws and remove the adjuster cover from the base of the hand brake lever. Slacken the locknut and tighten the brass nut until the lever travel is reduced to four notches on a heavy application. Tighten the locknut and replace the cover.

Front hubs

Do not remove the front hub grease-retaining caps.

The bearings are packed with a special grease on assembly and additional lubrication is only necessary when the hubs are dismantled for overhaul.
Every 3,000 miles (5000 km.) or 3 months

Power-assisted steering (optional equipment) (D)

Check the level of oil in the reservoir, and top up if necessary. A dipstick is attached to the filler cap. Maintain the level at the ‘F’ mark on the dipstick and do not allow it to fall below the ‘L’ mark. Use an automatic transmission fluid supplied by one of the oil companies listed on page 91. Do not use brake fluid or hydraulic damper fluid, and take care that no dirt or grit enters the filler hole after the cap has been removed. The container used for the oil must be clean.

The carburter piston dampers with one damper partially withdrawn for lubrication

Carburter dampers (A)

Unscrew the oil cap at the top of the suction chamber of each carburter and withdraw the cap with its attached plunger. Top up to within ¾ in. (13 mm.) from the top of the hollow piston rod. In no circumstances should a heavy-bodied lubricant be used.

Failure to lubricate the piston dampers will cause the pistons to flutter and reduce acceleration.
Every 3,000 miles (5000 km.) or 3 months

Lubrication points (C)

Lubrication nipples are situated at the points listed below and should receive several strokes of the grease gun.

1. Steering swivels (three nipples each side). This is best done when the vehicle is partly jacked up as the grease is then able to penetrate properly around the bushes.

2. Hand brake cable (one nipple on driver's side of car).

NOTE.—The propeller shaft universal joints on earlier cars will require lubrication (two nipples on vehicles fitted with synchromesh gearbox) three nipples with automatic transmission.

![The front suspension and steering linkage lubricating points]

Windscreen washer bottle

Check the level of the water in the bottle and top up with clean water if necessary.

Brake and clutch master cylinders

Check the level of the fluid in the hydraulic brake and clutch master cylinders (located on the engine bulkhead), and replenish if necessary with LOCKHEED SERIES 2 DISC BRAKE FLUID. Do not use any substitute as this will seriously affect the working of the system.

The fluid level should be maintained ¼ in. (6 mm.) below the bottom of the filler neck in each cylinder.

NOTE.—Vehicles fitted with an automatic transmission have only the brake master cylinder fitted.

Engine

Change engine oil if using monograde or single-viscosity conventional lubricants.

Headlamps

The headlamp beam alignment should be checked by your Distributor or Dealer (see page 31).
Every 6,000 miles (10000 km.) or 6 months

For the complete summary of attention to be given every 6,000 miles (10000 km.) or 6 months service refer to page 62.

Draining the sump (A)

The sump should be drained and refilled with the appropriate grade of lubricant.

Remove the hexagon-headed drain plug at the rear of the sump to release the old engine oil. This is best done immediately the car returns from a journey while the oil is still warm and fluid. Clean the plug thoroughly before refitting, and screw up tightly.

Refill the sump with fresh oil.

The engine sump plug is located on the right-hand side of the engine

The gearbox dipstick and filler plug with the oil level markings on the dipstick shown in the inset

Gearbox and overdrive (A)

Check the level, and top up if necessary. To reach the combined filler plug and dipstick lift the carpet and remove the left-hand rubber cover on the top of the gearbox covering.

Remove the plug and dipstick and fill up to the indicated level, the difference between the 'LOW' and 'HIGH' marks on the dipstick is 1 pint (1.2 U.S. pints, 0.57 litre).
Every 6,000 miles (10000 km.) or 6 months

Rear axle (B)

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.

IMPORTANT.—Use only Hypoid oil in the rear axle.

Use a square spanner to remove the rear axle filler plug

Unscrew the central bolt indicated by the arrow to release the casing and element

External oil filter

The external oil filter is of the renewable element type and is located on the right-hand side of the cylinder block. Unscrew the central casing bolt, remove the casing, and discard the filter element. Wash out the casing with fuel and allow it to dry thoroughly. Install a new filter element of the correct type and refit. Do not overtighten the central bolt.
Every 6,000 miles (10000 km.) or 6 months

Fan and dynamo driving belt

Inspect the dynamo driving belt, and adjust if necessary to take up any slackness. Care should be taken to avoid overtightening the belt, otherwise undue strain will be thrown on the dynamo bearings.

The belt tension is adjusted by slackening the bolts of the dynamo cradle and moving the dynamo the required amount by hand. Tighten up the bolts thoroughly.

Cars equipped with power-assisted steering have a modified dynamo and a double-section fan belt. The tension should be adjusted so that, with the car stationary, belt slip does not occur when the engine is running and the steering is turned to full lock.

The four dynamo attachment points which must be slackened for belt adjustment

The lubricating hole for the dynamo end bearing. Do not over-lubricate

Dynamo lubrication (A)

Add two or three drops of oil to the dynamo bearing through the central hole in the rear end bearing plate.

Do not over-oil.

The dynamo fitted to cars with power-assisted steering has no provision for periodic lubrication.

52
Every 6,000 miles (10000 km.) or 6 months

Battery
Check the state of charge of the battery by taking hydrometer readings (see page 28).

Distributor
Check the functioning of the automatic advance and retard mechanism as follows.

Centrifugal advance mechanism
Remove the distributor cap and grasp the rotor firmly. Turn the rotor arm in the direction of rotation and release it. The rotor arm should return to its original position without showing any tendency to stick.

Vacuum advance
Use a screwdriver to check the movement of the moving plate. Where a modified cap having a window cut in the side is available fit the cap and start the engine. Open the throttle and observe the movement of the contact breaker plate.

Contact breaker points
Turn the crankshaft by hand until the contacts are fully opened. Check the gap with a gauge; the gauge should be a sliding fit in the gap. If the gap varies appreciably from the gauge slacken the contact plate securing screw. Using the screwdriver notch provided, adjust the gap until it is correct and tighten the screw. The thickness of the gauge should be 0.015 in. (0.38 mm.).

If the contact breaker points are burned or blackened clean them with a fine carborundum stone or with very fine emery-cloth.

Cleaning the contacts is made easier if the contact breaker lever carrying the moving contact is removed. To do this unscrew the nut securing the end of the spring, remove the plastic insulator and both wire terminals, and lift off the lever complete with moving contact. After cleaning check the contact breaker setting on replacement.
Every 6,000 miles (10000 km.) or 6 months

Distributor lubrication (A, C)
Lightly smear the cam with grease or thin engine oil, and at the same time drop a spot of oil or place a smear of grease on the contact breaker pivot. Avoid overgreasing.

The distributor cam and contact breaker lubricating points

The distributor cam bearing and automatic advance mechanism lubricating points

Drop a few spots of thin engine oil on the automatic advance weights and on the screw in the centre of the cam spindle after withdrawing the rotor arm. Do not remove this screw as clearance is provided for the oil to pass.

Make sure that oil or grease does not find its way onto the contact points. Carefully wipe away all surplus oil and see that the contact breaker points are perfectly clean.

Wipe the inside and outside of the cap with a soft dry cloth. Ensure that the small carbon brush moves freely in its holder and that the terminals are secure.

If new high-tension leads are fitted fill the cable sockets in the moulding with Silicone grease and push the cables completely home, watching in the process that the displaced surplus grease exudes evenly all round the leads to form a perfect seal. Care should be taken to leave an adequate surplus on the surface of the cap at the lead entry points.
Every 6,000 miles (10000 km.) or 6 months

Sparking plugs

The sparking plugs should be cleaned, with special air blast equipment, and the gaps reset to 0.025 in. (0.64 mm.).

Use a special Champion sparking plug gauge and setting tool and move the side wire on the plug, never the centre one.

Oily, dirty, or corroded plugs cannot give good results.

Use a special Champion sparking plug gauge and setting tool and move the side wire on the plug—never the centre electrode

Front wheel alignment. Dimension (A) must be 3/8 in. (3.18 mm.) smaller than (B)

Front wheel alignment

The front wheels are set with 3/8 in. (3.18 mm.) toe-in and this alignment should be checked with the car in an unladen condition. Incorrect alignment will cause excessive tyre wear. Care must be taken to ensure that the measurements are taken at axle level and that the rims run true.

If adjustment is required the work should be placed in the hands of an authorized Distributor or Dealer.
Every 6,000 miles (10000 km.) or 6 months

Valve rockers

The valve rocker clearance should be -0.012 in. (-0.30 mm.) when the engine is cold.

Remove the two nuts and bolts from the clamp holding the air cleaner intake pipe to the valve rocker cover. Slacken the clip securing the pipe to the air cleaner and withdraw the pipe. Disconnect the engine breather hose from the rear of the rocker cover and remove the breather pipe which runs between the air cleaner and the cylinder block side cover. Remove the two rocker cover dome nuts and withdraw the engine lifting brackets. Remove the two rocker cover securing nuts with their washers and lift off the cover, taking care not to damage the sealing gasket.

![Diagram](Image)

The method of setting the valve clearance, and (inset) using a feeler gauge to check the clearance

Testing and setting the valve rocker clearance must be carried out when the tappet is on the back of its cam.

As this cannot be observed accurately, the rocker adjustments should be carried out in the following order, which also obviates turning the engine over more than is necessary.

<table>
<thead>
<tr>
<th>No. 1 valve with No. 12 fully open</th>
<th>No. 12 valve with No. 1 fully open</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 7 &quot; &quot; No. 6 &quot; &quot; &quot;</td>
<td>No. 6 &quot; &quot; No. 7 &quot; &quot; &quot;</td>
</tr>
<tr>
<td>No. 9 &quot; &quot; No. 4 &quot; &quot; &quot;</td>
<td>No. 4 &quot; &quot; No. 9 &quot; &quot; &quot;</td>
</tr>
<tr>
<td>No. 2 &quot; &quot; No. 11 &quot; &quot; &quot;</td>
<td>No. 11 &quot; &quot; No. 2 &quot; &quot; &quot;</td>
</tr>
<tr>
<td>No. 5 &quot; &quot; No. 8 &quot; &quot; &quot;</td>
<td>No. 8 &quot; &quot; No. 5 &quot; &quot; &quot;</td>
</tr>
<tr>
<td>No. 10 &quot; &quot; No. 3 &quot; &quot; &quot;</td>
<td>No. 3 &quot; &quot; No. 10 &quot; &quot; &quot;</td>
</tr>
</tbody>
</table>

To adjust the clearance slacken the adjusting screw locknut on the opposite end of the rocker arm and rotate the screw clockwise to reduce the clearance or anti-clockwise to increase it. Retighten the locknut when the clearance is correct, holding the screw against rotation with a screwdriver.

Front brakes

In order to maintain peak braking efficiency and at the same time obtain maximum life from the friction pads they should be examined, and if the wear on one pad is greater than on the other their operating positions should be changed over.

This work should be undertaken by an authorized Distributor or Dealer.
Every 6,000 miles (10000 km.) or 6 months

**Automatic transmission**

The selector linkage should be checked, and adjusted if necessary, by your Distributor/Dealer.

*The key slot, oil hole in lock, and safety catch*

**Door locks and hinges (A)**

To lubricate the door locks inject a small amount of oil into the small hole exposed by rotating the locking rotor.

Inject oil generously around the push-button while operating the key and remote control.

Lubricate the door hinges.
Every 12,000 miles (20000 km.) or 12 months

For the complete summary of attention to be given every 12,000 miles (20000 km.) or 12 months service refer to pages 63 and 64.

Water pump (C)

Remove the plug on the water pump casing and add a small quantity of grease. This must be done very sparingly, otherwise grease will run past the bearings onto the face of the carbon sealing ring and impair its efficiency.

![The water pump lubrication plug](image)

Sparking plugs

New sparking plugs should be fitted every 12,000 miles (20000 km.). Ensure that only the recommended plugs are used and that they are set to the correct gap (see page 55) before installation.

Power-assisted steering (optional equipment) (D)

Clean the reservoir top cover, unscrew the securing bolt, and lift off the cover and sealing ring. Withdraw the filter element and replace it with a new one. Refit the top cover, ensuring that the sealing ring is correctly seated. Tighten the securing bolt firmly but not excessively.

After renewing the filter element check the oil level, and top up if necessary (see page 48).

Brake linings

Remove the rear road wheels and rear brake-drums. Check the brake linings for wear and blow dust from the brake plate and drums. Refit the brake-drums and road wheels.
Every 12,000 miles (20000 km.) or 12 months

Air cleaner

Two chemically impregnated filter elements are fitted in the air cleaner. These elements require no attention during their life, but new elements must be fitted at every 12,000 miles (20000 km.) service.

The air cleaner with the cover removed

A. Element.
B. Seal.
C. Retaining plate.
D. Retaining nuts.

The air cleaner, showing the location of the three toggle clips retaining the outer cover

Release the three toggle clips and remove the outer cover, unscrew the two nuts retaining each element and remove the plate, front seal, and element. Inspect both the rear and front seal for damage or deterioration, and renew if necessary.
SUPPLEMENTARY TOOL KIT

To supplement the tool kit a waterproof canvas roll containing the following is obtainable from all Distributors. Part No. AKF 1596 should be quoted.

6 spanners:
- $\frac{3}{8}$ in. $\times \frac{3}{8}$ in. A.F.
- $\frac{1}{4}$ in. $\times \frac{1}{4}$ in. A.F.
- $\frac{1}{2}$ in. $\times \frac{3}{8}$ in. A.F.
- $\frac{3}{8}$ in. $\times \frac{3}{8}$ in. A.F.
- $\frac{1}{4}$ in. $\times \frac{3}{4}$ in. A.F.
- $\frac{1}{4}$ in. $\times \frac{7}{8}$ in. A.F.

1 pair 6-in. pliers.
1$\frac{1}{2}$ in. A.F. tubular spanner.
1 7 in. $\times \frac{3}{8}$ in. diameter tommy-bar.
2 screwdrivers.
MAINTENANCE SUMMARY

Regular servicing by your Distributor or Dealer, as proved by presentation of completed voucher counterfoils, could well enhance the value of your vehicle in the eyes of a prospective buyer.

Weekly
- Check engine oil level; top up as necessary.
- Check coolant level in radiator; top up as necessary.
- Test tyre pressures, and regulate if necessary.
- Check battery and top up to correct level.

3,000 miles (5000 km.) or 3 months service
1. **Engine**
   - Top up carburettor piston dampers.
   - Check coolant level in radiator, and top up if necessary.
   - Check water level in windscreen washer bottle, and top up if necessary.

2. **Clutch**
   - Check level of fluid in hydraulic clutch supply tank, and top up if necessary.

3. **Power steering**
   - Check oil level in reservoir, and top up if necessary.

4. **Brakes**
   - Check brake pedal travel, and adjust brakes if necessary (Mk. I only).
   - Inspect brake pipes and hoses.
   - Check level of fluid in hydraulic brake supply tank, and top up if necessary.
   - Inspect disc brake pads.

5. **Electrical**
   - Check battery and top up to correct level.
   - Check headlamp beam alignment.

6. **Lubrication**
   - Check engine oil, and top up if necessary.
   - Top up oil levels in steering gearbox and steering idler.
   - Lubricate all grease nipples.
   - Lubricate automatic gearbox selector linkage.
   - Change engine oil if using monograde or single-viscosity conventional lubricants.

7. **Automatic transmission**
   - Check fluid level, and top up if necessary.

8. **Wheels and tyres**
   - Check tyre pressures, including spare.
MAINTENANCE SUMMARY

6,000 miles (10000 km.) or 6 months service

1. **Engine**
   - Check fan belt tension and adjust if necessary.
   - Check valve rocker clearances, and adjust if necessary.
   - Top up carburettor piston dampers.
   - Check coolant level in radiator, and top up if necessary.
   - Check water level in windscreen washer bottle, and top up if necessary.

2. **Ignition**
   - Clean and adjust sparking plugs.
   - Check, and adjust if necessary, distributor contact points.
   - Check functioning of automatic advance and retard mechanism.
   - Lubricate all distributor parts as necessary.

3. **Clutch**
   - Check level of fluid in hydraulic clutch supply tank, and top up if necessary.

4. **Steering**
   - Check front wheel alignment, and adjust if necessary.

5. **Power steering**
   - Check oil level in reservoir and top up if necessary.

6. **Brakes**
   - Check brake pedal travel, and adjust brakes if necessary (Mk. 1 only).
   - Inspect brake pipes and hoses.
   - Check level of fluid in hydraulic brake supply tank and top up if necessary.
   - Inspect disc brake friction pads.

7. **Electrical**
   - Check battery cell specific gravity readings and top up to correct level.
   - Check all lamps for correct functioning.
   - Check headlamp beam alignment.

8. **Lubrication**
   - Change oil in engine.
   - Fit new oil filter element.
   - Lubricate dynamo bearing.
   - Check and top up oil levels in steering gearbox and steering idler.
   - Lubricate door locks and hinges.
   - Check and, if necessary, top up oil levels in rear axle and gearbox.
   - Lubricate all grease nipples.
   - Lubricate automatic gearbox selector linkage.

9. **Automatic transmission**
   - Check fluid level, and top up if necessary.
   - Check selector linkage, and adjust if necessary.

10. **Wheels and tyres**
    - Check tyre pressures, including spare.
MAINTENANCE SUMMARY

9,000 miles (15000 km.) or 9 months service

Carry out the 3,000 miles (5000 km.) or 3 months service.

12,000 miles (20000 km.) or 12 months service

1. **Engine**
   - Fit new air cleaner elements.
   - Check fan belt tension, and adjust if necessary.
   - Check valve rocker clearances, and adjust if necessary.
   - Top up carburettor piston dampers.
   - Check coolant level in radiator, and top up if necessary.
   - Check water level in windscreen washer bottle, and top up if necessary.

2. **Ignition**
   - Fit new sparking plugs.
   - Check distributor contact points, and adjust if necessary.
   - Check functioning of automatic advance and retard mechanism.
   - Lubricate all distributor parts as necessary.

3. **Clutch**
   - Check level of fluid in hydraulic clutch supply tank, and top up if necessary.

4. **Steering**
   - Check steering and suspension moving parts for wear.
   - Check front wheel alignment, and adjust if necessary.

5. **Power steering**
   - Fit new oil filter element to reservoir, and top up if necessary.

6. **Brakes**
   - Check brake pedal travel, and adjust brakes if necessary (Mk. I only).
   - Inspect brake pipes and hoses.
   - Check level of fluid in hydraulic brake supply tank, and top up if necessary.
   - Inspect disc brake friction pads.
   - Inspect and blow out rear brake linings and drums.
   - Clean servo air cleaner (Mk. I) only.

7. **General**
   - Tighten rear road spring seat bolts.

8. **Electrical**
   - Check battery cell specific gravity readings and top up to correct level.
   - Check all lamps for correct functioning.
   - Check headlamp beam alignment.
9. *Lubrication*
   - Change oil in engine.
   - Fit new oil filter element.
   - Lubricate dynamo bearing.
   - Lubricate water pump.
   - Check and top up oil levels in steering gearbox and steering idler.
   - Lubricate door locks and hinges.
   - Check and top up oil levels in rear axle and gearbox.
   - Lubricate all grease nipples.
   - Lubricate automatic gearbox selector linkage.

10. *Automatic transmission*
    - Check fluid level, and top up if necessary.
    - Check selector linkage, and adjust if necessary.

11. *Wheels and tyres*
    - Check tyre pressures, including spare.

15,000 miles (25000 km.) or 15 months service
   Carry out the 3,000 miles (5000 km.) or 3 months service.

18,000 miles (30000 km.) or 18 months service
   Carry out the 6,000 miles (10000 km.) or 6 months service.

21,000 miles (35000 km.) or 21 months service
   Carry out the 3,000 miles (5000 km.) or 3 months service.

24,000 miles (35000 km.) or 24 months service
   Carry out the 12,000 miles (20000 km.) or 12 months service.

NOTE.—Take the advice of your Distributor or Dealer on:
   1. The need for more frequent engine oil changes;
   2. When to change round road wheels;
   3. When to check and adjust headlight beams.
HYDRAULIC BRAKE SYSTEMS
PREVENTIVE MAINTENANCE

In addition to the recommended periodical inspection of brake components it is advisable as the car ages and as a precaution against the effects of wear and deterioration, to make a more searching inspection and renew parts as necessary. It is recommended that:

(1) Disc brake pads, drum brake linings, hoses, and pipes should be examined at intervals no greater than those laid down in the Passport to Service.

(2) Brake fluid should be changed completely every 18 months or 24,000 miles (40000 km.) whichever is the sooner.

(3) All fluid seals in the hydraulic system and all flexible hoses should be examined and renewed if necessary every 3 years or 40,000 miles (65000 km.) whichever is the sooner. At the same time the working surface of the pistons and the bores of the master cylinder, wheel cylinders, and other slave cylinders should be examined and new parts fitted where necessary.

Care must be taken always to observe the following points:

(a) At all times use the recommended brake fluid.

(b) Never leave fluid in unsealed containers. It absorbs moisture quickly and this can be dangerous.

(c) Fluid drained from the system or used for bleeding is best discarded.

(d) The necessity for absolute cleanliness throughout cannot be over-emphasized.
THE BMC SERVICE FACTORY EXCHANGE UNIT SCHEME

The BMC Exchange Scheme—the most comprehensive in Europe—has been designed specifically to save you money.

Briefly, the scheme covers practically every major assembly on any BMC car or commercial vehicle marketed in the last 10 years, and includes components such as heaters and servo units for brakes as well as a wide range of instruments.

If, for example, you want another engine, the Distributor returns the old one to us, and we issue one which has been fully reconditioned in one of our own specialist factories.

By using this technique the cost is considerably reduced, but not the quality, and each replacement unit carries the same factory warranty as a brand-new one.

Your BMC Distributor or Dealer will be pleased to give you full details and comparative examples of the money which you can save by taking advantage of this scheme.

Units Available

- Engines and Ancillaries
- Clutches
- Gearboxes
- Rear Axles and Differential Assemblies
- Braking System Units
- Steering Gears
- Instruments
- Electrical Units
- Bumper Bars
- Fuel Pumps
- Shock Absorbers
- Heaters
LUBRICATION DIAGRAM
KEY TO DIAGRAM

WEEKLY

(1) ENGINE. Check oil level with the dipstick, and replenish if necessary with oil to Ref. A.

Every 3,000 miles (5000 km.) or 3 months

(2) AUTOMATIC TRANSMISSION. Check the fluid level by the dipstick, and top up if necessary with fluid to Ref. D.

(3) STEERING GEARBOX. Check the oil level, and top up if necessary with oil to Ref. B.

(4) STEERING IDLER. Check the oil level, and top up if necessary with oil to Ref. B.

(5) POWER STEERING. Check the oil level in reservoir, and top up if necessary with oil to Ref. D.

(6) STEERING SWIVELS. Give three or four strokes of the grease gun filled with grease to Ref. C to three nipples on each side.

(7) PROPELLER SHAFT. Give three or four strokes of the grease gun filled with grease to Ref. C (early cars).

(8) HAND BRAKE. Give the cable nipple three or four strokes of the grease gun filled with grease to Ref. C.

(9) CARBURRETERS. Remove the caps from the top of the suction chambers, and top up the piston dampers if necessary with oil to Ref. A.

(10) ENGINE. If using monograde oil, drain and refill.

Every 6,000 miles (10000 km.) or 6 months

(10) ENGINE. Drain off the old oil and refill with fresh oil to Ref. A.

(11) GEARBOX AND OVERDRIVE. Check the oil level by the dipstick, and top up if necessary with oil to Ref. A.

(12) REAR AXLE. Check the oil level, and top up if necessary with oil to Ref. B.

(13) OIL FILTER. Renew the element and wash the bowl in fuel.

(14) DISTRIBUTOR. Withdraw the rotor arm and add a few drops of oil to Ref. A to the cam bearing, to the advance mechanism through the gap around the cam spindle, and also one spot to the contact breaker pivot pin. Smear the cam and rocker bearing with grease to Ref. C.

(15) DYNAMO. Add two drops of oil to Ref. A to the hole in the end of the bearing.

Every 12,000 miles (20000 km.) or 12 months

(16) ENGINE. Drain off the old oil and refill with fresh oil to Ref. A.

(17) POWER STEERING. Fit a new oil filter element to the reservoir, and top up with oil to Ref. D.

(18) WATER PUMP. Remove the filler plug and add a small amount of grease to Ref. C. Replace plug.

NOTES.—Take the advice of your Distributor or Dealer on the need for more frequent oil changes.

Oil and grease references are detailed on page 91.
WOLSELEY
6/110
Mk. I
SUPPLEMENT
## GENERAL DATA

### Fuel system
- Carburetters: S.U. H4-type (two)
- Carburettor needle:
  - High compression: AT
  - From Engine No. 1536: AR
  - Low compression: No. 3
  - Later engines: AR

### Transmission
- Rear axle ratio: Standard 3.9:1. Automatic 3.545:1
- Overall gear ratios:
  - First: 12.09 : 1
  - Second: 6.45 : 1
  - Top: 3.9 : 1
  - Reverse: 11.73 : 1
- Overall gear ratios with overdrive from Engine No. 4346:
  - First: 9.315 : 1
  - Second: 4.966 : 1
  - Top: 3.009 : 1

### Tyres
- Size: 7.00—14 tubeless
- Pressure: normal—front and rear: 26 lb./sq. in. (1.83 kg./cm.²)
  - For sustained speeds in excess of 85 to 90 m.p.h. (136 to 144 km.p.h.) increase pressure to 32 lb./sq. in. (2.25 kg./cm.²)

### Weight
- Unladen weight—approx.: 3,452 lb. (1566 kg.)
- Maximum towing weight: 2,800 lb. (1270 kg.)

### Capacities
- Fuel tank capacity: 16 gal. (19.2 U.S. gal., 73 litres)
- Engine oil capacity (including oil filter): 12½ pints (15.3 U.S. pints, 7.25 litres)
- Gearbox oil capacity (standard gearbox): 5½ pints (6.6 U.S. pints, 3.13 litres)
- Gearbox oil capacity (automatic gearbox): 13½ pints (16.2 U.S. pints, 7.8 litres)
- Rear axle oil capacity: 3½ pints (3.9 U.S. pints, 1.84 litres)
- Water capacity (with heater): 19 pints (22.8 U.S. pints, 10.8 litres)

### Dimensions
- Track (front): 4 ft. 5½ in. (1.366 m.)
- Track (rear): 4 ft. 5½ in. (1.352 m.)
- Turning circle: 41 ft. (12.5 m.)
- Front wheel alignment (unladen): ½ in. (3.18 mm.) toe-in
- Wheelbase: 9 ft. 2 in. (2.79 m.)
- Overall length: 15 ft. 7½ in. (4.762 m.)
- Overall width: 5 ft. 8½ in. (1.74 m.)
- Overall height: 5 ft. 0½ in. (1.536 m.)
CONTROLS

Gear lever (synchronesh gearbox)

The three forward gears and reverse are engaged by moving the lever to the positions shown in the illustration inset.

The reverse lamp is automatically illuminated when the reverse gear is engaged, provided the ignition is switched on.

Synchronesh engagement is provided on first, second, and top gears.

The controls (synchronesh gearbox with overdrive)

1. Horn ring.
2. Direction indicator and headlight flasher switch.
3. Bonnet lock handle.
4. Seat adjusting lever.
5. Overdrive control.
8. Clutch pedal.
10. Accelerator.
11. Seat adjusting lever.
12. Hand brake lever.

NOTE.—The direction indicator switch lever on earlier cars was located at the centre of the steering-wheel.
INSTRUMENTS

The controls (automatic transmission)

1. Horn ring.
2. Direction indicator and headlight flasher switch.
3. Bonnet release knob.
4. Seat adjusting lever.
5. Intermediate gear hold control.
6. Automatic transmission gear selector lever.
8. Foot brake pedal.
10. Seat adjusting lever.
11. Hand brake lever.

NOTE.—The direction indicator switch lever on earlier cars was located at the centre of the steering-wheel.

The instruments and switches

1. Heater temperature control.
2. Clock.
3. Heater air control.
4. Ammeter.
5. Temperature gauge.
6. Main-beam warning light.
8. Ignition warning light.
10. Windscreen washer control.
13. Choke control.
15. Oil pressure gauge.
16. Long-range driving light switch.
17. Fuel gauge.
18. Ignition and starter switch.
19. Trip distance setting.
20. Lighting switch.
AUTOMATIC TRANSMISSION

Description

The automatic transmission incorporates a fluid torque converter coupling in place of the usual clutch and a hydraulically operated epicyclic gearbox in which all ratio changes are performed automatically in accordance with the position of the accelerator pedal and the speed of the car. Thus there is no need for a clutch pedal or for the conventional gear change lever, and driving in normal conditions becomes a matter involving the use of the accelerator and brake pedals only.

Selector lever

The selector lever and quadrant are mounted below the steering-wheel on the left-hand side of the column in a right-hand-drive car and on the right-hand side in a left-hand-drive car.

Five settings of the transmission may be manually selected by movement of the lever, the position of the lever for any selection being indicated by letters on the quadrant. The letters are 'P', 'N', 'D', 'L', and 'R', and the transmission settings corresponding to the letters are detailed below. All normal driving is done with the lever at 'D'.

A baulking mechanism is provided in the end of the selector lever to prevent the accidental engagement of positions 'P', 'L', and 'R' when the lever is in the 'D' or 'N' position. Press the plated button in the end of the selector lever when moving into or out of these positions. The lever may be moved between 'N' and 'D' and between 'L' and 'R' without depressing the button.

P' (park)

The transmission is in neutral and the car is mechanically locked against movement by a parking pawl engaging a gear on the output shaft. The pawl will not engage at forward speeds above 3–5 m.p.h. (5–8 km.p.h.) should the lever be moved to 'P' accidentally. Under no circumstances should position 'P' be engaged when the vehicle is moving backwards. The pawl allows the car to be stopped on a hill without fear of running away, though it is advisable to apply the hand brake in such conditions to prevent overloading of the mechanism.

Always move the lever to this position when the car is parked. The engine may be idled or run for tuning.
AUTOMATIC TRANSMISSION

‘N’ (neutral)
The transmission is in neutral as in ‘P’, but the parking pawl has been dis-engaged so that the car may be coasted, towed, or pushed. The hand brake should be applied when the car is at rest with the lever in this position. The engine may be idled or run for tuning. Do not move the control lever to ‘N’ when travelling at speeds above 45 m.p.h. (70 km.p.h.).

‘D’ (drive)
The position for all normal driving, including starting from rest. Three nominal ratios are available—low, intermediate, and direct—all of which are selected automatically according to the vehicle speed and torque demand. A free-wheel is operative in low and intermediate (not in manually engaged low).

‘L’ (low)
The transmission is in low, the same ratio as that obtained automatically in certain conditions when the lever is at ‘D’, but when manually selected at ‘L’ the transmission will not change out of this ratio until ‘D’ is again selected. This position is used in conditions necessitating lengthy periods of low-gear work, or where maximum engine braking is required.

‘R’ (reverse)
A free-wheel is operative when the transmission is in reverse.

Intermediate hold
The intermediate hold control is located at the lower edge of the fascia panel in the centre, and is operative when pulled out. The control is progressive, but when fully pulled out the change from intermediate to direct drive will not occur until 68 to 72 m.p.h. (110 to 115 km.p.h.) is reached. When starting from rest for the first time after pulling the control out low gear will be engaged and the change to intermediate will not occur until 38 to 42 m.p.h. (61 to 67 km.p.h.) is reached.

The amount the control is pulled out directly affects the road speeds at which ratio changes take place; thus the change from low to intermediate can be preset to take place between approximately 12 to 14 m.p.h. (19.2 to 22.4 km.p.h.) and 38 to 42 m.p.h. (60.8 to 67.2 km.p.h.), and the change from intermediate to direct drive between approximately 24 m.p.h. (38.4 km.p.h.) and 70 m.p.h. (112 km.p.h.).

When the road speed falls to below 66 m.p.h. (105.6 km.p.h.) the change down to intermediate ratio will occur, but the transmission will not change down into low until the control is pushed fully in, the accelerator pedal is released, and the road speed falls to 4 to 5 m.p.h. (7 to 8 km.p.h.).

If the control is not pushed fully in after use subsequent starts will be made in intermediate ratio, and further ratio change speeds will also be affected. This is not detrimental to the transmission, and under certain conditions of operation may be beneficial to fuel economy.

It must be noted, however, that the use of the intermediate hold under conditions of fast acceleration may adversely affect fuel economy.

Starting the engine
The starter will operate only if the lever is at ‘P’ or ‘N’. Move the lever to one of these positions and start the engine in the usual way. If ‘N’ is used, make sure
that the hand brake is applied to prevent the car creeping. The starter cut-out is not effective when the solenoid switch under the bonnet is manually operated.

Starting-handle

Always move the lever to ‘P’ before using the starting-handle; the parking pawl will prevent the car from moving forward.

Emergency starting

Move the selector lever to ‘D’, switch on the ignition, and use another vehicle to push the car at a speed of approximately 25 m.p.h. (40 km.p.h.). Pushing is recommended in preference to towing as it avoids any danger of over-running the towing vehicle when the engine starts. Select ‘L’ when being push-started in a car which has a flat battery.

Recovery

WARNING.—If there is any reason to suspect that the transmission is faulty or damaged the propeller shaft must be removed before towing.

Before towing always check the oil level in the transmission case and top up as necessary.

Move the selector lever to ‘N’. With neutral selected the car may be towed over any distance and at speeds up to the legal limit or a maximum of 45 m.p.h. (72 km.p.h.).

Moving away from rest

After starting the engine move the lever to ‘D’, depress the accelerator pedal, and release the hand brake. As the speed of the car increases, intermediate and then direct top gear will be engaged progressively and automatically, and thereafter all ratio changes will be made to suit the car speed and torque demand. Direct top gear will be engaged when the speed is between 20 and 60 m.p.h. (32 and 96 km.p.h.), depending on the accelerator position and car speed.

When the engine has started from cold with use of the mixture control, stalling will be avoided if this control is left pulled out just sufficiently to increase the idling speed until the engine has warmed up. The ‘creep’ induced by this can be controlled by judicious use of the brake pedal.

Accelerator ‘kick-down’

When a sudden burst of acceleration is required in order to pass another car, or when extra power is needed to climb a hill, depress the accelerator as far as possible (‘kick-down’). The transmission will then change down from direct top to intermediate and remain there until the accelerator is released. ‘Kick-down’ does not operate above 62 m.p.h. (99 km.p.h.) approximately.

Using the engine as brake

Engine braking is available for the descent of steep hills and is obtained by the engagement of the manual low gear ratio (L); no free-wheel is operative in manually engaged low ratio. Do not engage manual low if the car speed is above 35 m.p.h. (56 km.p.h.) owing to the possibility of damage to the engine by over-revving.

Reversing

A free-wheel is operative when the transmission is in reverse, which considerably simplifies backing the car. It is recommended that the left foot should be
AUTOMATIC TRANSMISSION

used on the brake pedal when manoeuvring the car in confined spaces, while the right foot is used on the accelerator in the usual manner.

If the lever is moved to ‘R’ while the car is travelling forward at more than 3–5 m.p.h. (5–8 km.p.h.) the effect is to change into neutral, and a reverse interlock prevents the engagement of reverse above these speeds.

Stopping

Stop the car in the normal way by applying the foot brake, leaving the control lever at ‘D’ until the car is stationary; move the lever to ‘N’ or ‘P’ and apply the hand brake. When a temporary stop is made in traffic or to allow a passenger to alight there is no need to move the control lever from ‘D’, but it is necessary to hold the foot brake to prevent the car from moving should the accelerator be accidentally depressed.

Soft road surfaces

When the rear wheels fail to grip the road in snow, mud, or sand the car may be rocked backwards and forwards until sufficient grip is obtained to drive away. Hold the accelerator pedal so that the engine speed corresponds to a road speed of between 3 and 5 m.p.h. (5 and 8 km.p.h.) and move the selector lever gently from ‘R’ to ‘L’ and back. It is important to move from ‘L’ to ‘R’ while the car is moving forward, and vice versa. If the forward speed rises above 5 m.p.h. (8 km.p.h.) no reverse will be obtained, since the reverse interlock will operate as mentioned above.

Driving on snow and ice

To enable the characteristics of the automatic transmission to be used to the best advantage when driving in conditions of snow and ice the following instructions should be followed.

When starting off, pull out the choke control slightly to increase the engine idling speed. This will induce ‘creep’ and enable the car to be driven off slowly and safely without wheelspin.

In conditions when speed is restricted to approximately 25 m.p.h. (40 km.p.h.) set the control lever at the ‘L’ position. This will obviate automatic ratio changes, and will also enable the braking effect of the engine to be used. Where higher speeds are considered safe set the control lever at ‘D’, and with light throttle application the ratio changes will be smooth and at low speeds. Should rear wheel skidding be experienced, release the accelerator pedal. This will automatically interrupt the drive between the engine and the rear wheels, and thereby reduce the effect of the skidding. If the speed of the car is considered to be too high, brake down gently to a lower speed.

Starting from rest on hills

If the car is parked on a steep hill with the lever at ‘P’ it may tend to creep slightly downhill against the brakes so that the parking pawl becomes tightly engaged. To free the transmission apply the foot brake lightly, slightly depress the accelerator, and release the hand brake; engage reverse if the car is facing downhill or move the selector lever to ‘D’ if facing uphill. Depress the accelerator pedal slowly until the pawl is heard to click out of engagement and immediately apply the foot brake fully. The car should not move during this operation; it may then be driven away.
HEATING AND VENTILATION

Car heating
The car interior is heated by passing fresh air drawn from the outside of the car through a matrix supplied with hot water from the engine. The heated air is then fed into the interior of the car.
The full heat output will not be available until the engine has reached its normal running temperature.

The controls set to remove ice from the windscreens

The controls set to prevent mist forming on the windscreens and to provide a circulation of warm air

Controls
The temperature and distribution of the air is regulated by two rotary controls situated on the fascia panel. The left-hand control regulates the temperature and the right-hand control regulates the air distribution.

Temperature control
When in its ‘OFF’ position the heat is shut off and an air flap is closed to prevent cold air entering the car at foot level. With the control at the ‘COLD’ position the heat is still shut off but the air flap is opened. As the control is turned clockwise the temperature of the matrix of the heater is increased, the maximum heat being reached with the control at the ‘HOT’ position.
HEATING AND VENTILATION

Air control

With the control in the ‘OFF’ position the air supply to the windscreen is cut off, giving the maximum air flow at foot level. By turning the control in an anticlockwise direction air is increasingly deflected onto the windscreen, with a corresponding reduction in the volume of air fed into the car at foot level. The maximum volume of air is directed onto the windscreen when the ‘BOOST’ position is reached, the air flow at foot level then being completely cut off.

Use of controls

By utilizing a suitable combination of the settings of both controls a flow of cold or heated air can be obtained to deal with any of the varying climatic conditions which may be encountered.

WHEELS AND TYRES

Tyre pressures

The recommended tyre pressures are given on page 72. For touring at sustained speeds in excess of 85–90 m.p.h. (136–144 km.p.h.) inflation pressures for both front and rear tyres should be increased by 6 lb./sq. in. (42 kg./cm.²).
Fuel pump

Fuel is delivered to the carburetters by means of an S.U. electric fuel pump, type SP. The pump is situated in the luggage compartment on the right-hand wheel arch. Complete access to it is obtained by removing the fuel tank millboard cover from the rear of the luggage compartment.

The locations of the panel bulbs and warning lights

The direction indicator warning lamp glass removed to show the bulb (earlier cars)

The automatic transmission selector quadrant with the cover removed to show the bulb and bulb holder
WIRING DIAGRAM

(6/110 WOLSELEY MK. I)
**KEY TO WIRING DIAGRAM**

(6/110 WOLSELEY MK. I)

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>12-volt battery.</td>
<td>41.</td>
<td>Fuel pump.</td>
</tr>
<tr>
<td>4.</td>
<td>Starter solenoid.</td>
<td>42.</td>
<td>Oil pressure gauge.</td>
</tr>
<tr>
<td>5.</td>
<td>Starter motor.</td>
<td>43.</td>
<td>Ignition warning lamp.</td>
</tr>
<tr>
<td>6.</td>
<td>Lighting switch.</td>
<td>44.</td>
<td>Speedometer.</td>
</tr>
<tr>
<td>8.</td>
<td>R.H. headlamp.</td>
<td>46.</td>
<td>Water temperature transmitter.</td>
</tr>
<tr>
<td>15.</td>
<td>Number-plate illumination lamp.</td>
<td>53.</td>
<td>R.H. driving lamp.</td>
</tr>
<tr>
<td>16.</td>
<td>R.H. stop and tail lamp.</td>
<td>54.</td>
<td>L.H. driving lamp.</td>
</tr>
<tr>
<td>17.</td>
<td>L.H. stop and tail lamp.</td>
<td>55.</td>
<td>Clock.</td>
</tr>
<tr>
<td>22.</td>
<td>L.H. door switch.</td>
<td>60.</td>
<td>Boot light.</td>
</tr>
<tr>
<td>23.</td>
<td>Horn.</td>
<td>61.</td>
<td>Line fuse, 35 amps.</td>
</tr>
<tr>
<td>25.</td>
<td>Flasher unit.</td>
<td>63.</td>
<td>Overdrive kick-down switch (when fitted).</td>
</tr>
<tr>
<td>26.</td>
<td>Direction indicator and headlamp flasher switch.</td>
<td>64.</td>
<td>Overdrive centrifugal switch (when fitted).</td>
</tr>
<tr>
<td>27.</td>
<td>Direction indicator warning lamp.</td>
<td>65.</td>
<td>Overdrive solenoid.</td>
</tr>
<tr>
<td>29.</td>
<td>L.H. front flasher lamp.</td>
<td>67.</td>
<td>Automatic gearbox selector indicator lamps (when fitted).</td>
</tr>
<tr>
<td>31.</td>
<td>L.H. rear flasher lamp.</td>
<td>69.</td>
<td>Induction heater and thermostat (when fitted).</td>
</tr>
<tr>
<td>32.</td>
<td>Heater or fresh-air motor switch.</td>
<td>70.</td>
<td>Suction chamber heater (when fitted).</td>
</tr>
<tr>
<td>33.</td>
<td>Heater or fresh-air motor.</td>
<td>71.</td>
<td>Driving lamps relay.</td>
</tr>
<tr>
<td>34.</td>
<td>Fuel gauge.</td>
<td>72.</td>
<td>Radiator badge illumination lamp.</td>
</tr>
<tr>
<td>35.</td>
<td>Fuel gauge tank unit.</td>
<td>73.</td>
<td></td>
</tr>
<tr>
<td>36.</td>
<td>Windscreen wiper switch.</td>
<td>74.</td>
<td></td>
</tr>
<tr>
<td>37.</td>
<td>Windscreen wiper motor.</td>
<td>75.</td>
<td></td>
</tr>
<tr>
<td>38.</td>
<td>Ignition starter switch.</td>
<td>76.</td>
<td></td>
</tr>
</tbody>
</table>

**CABLE COLOUR CODE**

- **B.** Black.
- **G.** Green.
- **L.G.** Light Green.
- **P.** Purple.
- **R.** Red.
- **N.** Brown.
- **U.** Blue.
- **V.** White.
- **Y.** Yellow.

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

Every 3,000 miles (5000 km.) or 3 months

Automatic transmission (D)

Topping up must be carried out as follows:

1) Run the engine until it reaches its normal running temperature.
2) Drive the car onto a level surface and apply the hand brake. Place the selector lever at 'P'.
3) Open the cover in the floor and clean around the dipstick.
4) Move the selector lever to 'L' and allow the engine to idle for one minute.
5) With the engine idling, take a dipstick reading quickly; delay may lead to a false reading due to fluid splash.
6) Add sufficient fluid to bring the level to the 'FULL' mark on the dipstick. Do not overfill.
7) Re-check the level.

Lubricate the automatic transmission selector and governor lever linkage with an oilcan filled with oil.

The automatic transmission dipstick markings

The square-headed brake-shoe adjusting screw on the rear brake backplate

Brake adjustments

Adjustment is required when excessive pedal travel is necessary to apply the brakes.
Every 3,000 miles (5000 km.) or 3 months

Place blocks against the wheels remaining in contact with the ground and use the special jack provided in the tool kit to raise one side of the car.

Front brakes

No adjustment is provided or is necessary on the front brakes as they are self-adjusting.

Rear brakes

After releasing the hand brake turn the square-headed adjusting screw on the brake backplate in a clockwise direction until a definite resistance is felt, then turn the adjuster back one notch. The wheel should then be free to rotate without rubbing.

Adjusting the shoes automatically adjusts the hand brake mechanism. No attempt must be made to adjust the hand brake by means of the cable.

The rear propeller shaft joint and brake cable (inset)
lubricating points

Lubrication points

Lubrication nipples situated on the propeller shaft universal joints (two nipples on vehicles fitted with synchromesh gearbox, three nipples with automatic gearbox) should receive several strokes of the grease gun.
Every 12,000 miles (20000 km.) or 12 months

Brake servo piston

The brake servo unit is mounted under the bonnet on the left-hand wing valance. To lubricate the servo piston, slide the short length of rubber hose along the air pipe at the side of the unit. This will be made easier if the pipe along which the hose is to be pushed is smeared with Lockheed Brake Fluid. Inject approximately 20 c.c. of S.A.E. 20 oil (S.A.E. 5 oil where temperatures are below 0° C. [32° F.]) into the elbow of the pipe connected to the servo end cover. Push the hose back to its original position.

![The servo unit air cleaner and securing clip. The lower arrow indicates the vacuum servo warning light switch](image)

Servo air cleaner

Release the clip securing the air cleaner to the brake servo unit and remove the cleaner. Wash out the cleaner gauze in methylated spirit and dry thoroughly. Refit the cleaner to the servo unit in a dry condition; do not wet the gauze with oil.
Every 24,000 miles (40000 km.) or 24 months

**Automatic transmission (D)**

The following procedure will enable the operation of draining and refilling the transmission to be carried out satisfactorily:

1. Run the car onto a level surface, stop the engine, and apply the hand brake.
2. Remove the drain plug in the left-hand side of the transmission and allow the fluid to drain.
3. Remove the converter housing cover and turn the engine until the converter drain plug is at the bottom; remove the plug and drain the converter.
4. Remove the converter pressure take-off plug from the bottom of the reverse servo cylinder.
5. When all the fluid has drained away refit the three drain plugs after thoroughly cleaning them.
6. Remove the dipstick and pour in 10 pints (12 U.S. pints, 5.7 litres) of fluid.
7. Allow the engine to idle for one minute with the selector lever at ‘L’ to ensure that the converter is filled with fluid from the transmission case.
8. With the engine idling and the lever at ‘L’ slowly add fluid to bring the level to the ‘FULL’ mark on the dipstick.

The approximate total refill capacity of the transmission and converter after draining is 13½ pints (16.2 U.S. pints, 7.8 litres).

*The automatic transmission filler and drain plugs*

A. Dipstick and filler.
B. Transmission case drain plug.
C. Converter drain plug.
D. Converter pressure take-off.
# INDEX

<table>
<thead>
<tr>
<th>A</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air cleaner</td>
<td>59</td>
</tr>
<tr>
<td>Air-conditioning system</td>
<td>20</td>
</tr>
<tr>
<td>Automatic transmission</td>
<td>15–17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td></td>
</tr>
<tr>
<td>Bonnet</td>
<td>22</td>
</tr>
<tr>
<td>Bright trim</td>
<td>44</td>
</tr>
<tr>
<td>Coachwork</td>
<td>44</td>
</tr>
<tr>
<td>Door locks</td>
<td>21</td>
</tr>
<tr>
<td>Roof rack</td>
<td>23</td>
</tr>
<tr>
<td>Windscreen</td>
<td>44</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Brakes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>49</td>
</tr>
<tr>
<td>Hand brake</td>
<td>7, 47, 49</td>
</tr>
<tr>
<td>Master cylinder</td>
<td>49</td>
</tr>
<tr>
<td>Preventive maintenance</td>
<td>65</td>
</tr>
</tbody>
</table>

| Bulbs, replacement | 37 |

<table>
<thead>
<tr>
<th>C</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carburetters</td>
<td></td>
</tr>
<tr>
<td>Adjustments</td>
<td>40</td>
</tr>
<tr>
<td>Piston dampers</td>
<td>48</td>
</tr>
<tr>
<td>Car number</td>
<td>5</td>
</tr>
<tr>
<td>Cigar-lighter</td>
<td>11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Clutch</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>49</td>
</tr>
<tr>
<td>Master cylinder</td>
<td>49</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Controls</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic transmission</td>
<td>6, 7</td>
</tr>
<tr>
<td>Choke (mixture)</td>
<td>9</td>
</tr>
<tr>
<td>Gear lever</td>
<td>6</td>
</tr>
<tr>
<td>Hand brake</td>
<td>7</td>
</tr>
<tr>
<td>Heater</td>
<td>18–20</td>
</tr>
<tr>
<td>Overdrive</td>
<td>6</td>
</tr>
<tr>
<td>Pedals</td>
<td>7</td>
</tr>
<tr>
<td>Windscreen washer</td>
<td>9, 22</td>
</tr>
</tbody>
</table>

| Cooling system | 25, 26 |
| Draining | 26 |
| Dynamo driving belt | 52 |
| Frost precautions | 25, 26 |
| Radiator | 25 |

<table>
<thead>
<tr>
<th>D</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data, general</td>
<td>4, 5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical equipment</td>
<td></td>
</tr>
<tr>
<td>Battery</td>
<td>28</td>
</tr>
<tr>
<td>Clock</td>
<td>11, 36</td>
</tr>
<tr>
<td>Direction indicators</td>
<td>8, 32</td>
</tr>
<tr>
<td>Fuses</td>
<td>29</td>
</tr>
<tr>
<td>Headlamps</td>
<td>30, 31</td>
</tr>
<tr>
<td>Interior lamps</td>
<td>10, 35</td>
</tr>
<tr>
<td>Long-range driving lamps</td>
<td>9, 33</td>
</tr>
<tr>
<td>Number-plate lamp</td>
<td>34</td>
</tr>
<tr>
<td>Overdrive relay</td>
<td>34</td>
</tr>
<tr>
<td>Panel lights</td>
<td>10, 37</td>
</tr>
<tr>
<td>Pilot lamps</td>
<td>9, 32</td>
</tr>
<tr>
<td>Radiator badge lamp</td>
<td>33</td>
</tr>
<tr>
<td>Reversing lamp</td>
<td>6, 34</td>
</tr>
<tr>
<td>Starter motor</td>
<td>35</td>
</tr>
<tr>
<td>Voltage regulator</td>
<td>29</td>
</tr>
<tr>
<td>Warning lights</td>
<td>10, 11, 36, 37</td>
</tr>
<tr>
<td>Windscreen wiper</td>
<td>34</td>
</tr>
<tr>
<td>Wiring diagram</td>
<td>38</td>
</tr>
<tr>
<td>Engine number</td>
<td>5</td>
</tr>
<tr>
<td>Exchange units</td>
<td>66</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>F</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fuel system</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Filler</td>
<td>23, 24</td>
</tr>
<tr>
<td>Fuel gauge</td>
<td>10</td>
</tr>
<tr>
<td>Pump location</td>
<td>35</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignition</td>
<td></td>
</tr>
<tr>
<td>Distributor</td>
<td>27, 53, 54</td>
</tr>
<tr>
<td>Sparking plugs</td>
<td>55, 58</td>
</tr>
<tr>
<td>Timing</td>
<td>27</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instruments</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammeter</td>
<td>11</td>
</tr>
<tr>
<td>Oil gauge</td>
<td>10</td>
</tr>
<tr>
<td>Speedometer</td>
<td>10</td>
</tr>
<tr>
<td>Temperature gauge</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>J</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jacking</td>
<td>41</td>
</tr>
<tr>
<td>L</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Lubrication</td>
<td></td>
</tr>
<tr>
<td>Automatic transmission</td>
<td>46, 62, 64</td>
</tr>
<tr>
<td>Carburetter dampers</td>
<td>48</td>
</tr>
<tr>
<td>Diagram</td>
<td>69</td>
</tr>
<tr>
<td>Distributor</td>
<td>54</td>
</tr>
<tr>
<td>Dynamo</td>
<td>52</td>
</tr>
<tr>
<td>Engine</td>
<td>45, 50</td>
</tr>
<tr>
<td>Gearbox and overdrive</td>
<td>50</td>
</tr>
<tr>
<td>Grease points</td>
<td>49</td>
</tr>
<tr>
<td>Oil filter</td>
<td>51</td>
</tr>
<tr>
<td>Power-assisted steering</td>
<td>48, 58</td>
</tr>
<tr>
<td>Rear axle</td>
<td>51</td>
</tr>
<tr>
<td>Recommended lubricants</td>
<td>91</td>
</tr>
<tr>
<td>Steering</td>
<td>47, 48</td>
</tr>
<tr>
<td>Warning light</td>
<td>11</td>
</tr>
<tr>
<td>Water pump</td>
<td>58</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance attention</td>
<td></td>
</tr>
<tr>
<td>Every 3,000 miles</td>
<td>46–49</td>
</tr>
<tr>
<td>Every 6,000 miles</td>
<td>50–57</td>
</tr>
<tr>
<td>Every 12,000 miles</td>
<td>58–59</td>
</tr>
<tr>
<td>Summary</td>
<td>61–64</td>
</tr>
<tr>
<td>Weekly</td>
<td>45</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>O</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Overdrive</td>
<td>13, 14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>P</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Power-assisted steering</td>
<td>7</td>
</tr>
<tr>
<td>Preventive maintenance, brake</td>
<td>65</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INDEX</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Recommended lubricants</td>
<td>91</td>
</tr>
<tr>
<td>Replacement parts</td>
<td>66</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Seat belts</td>
<td>12</td>
</tr>
<tr>
<td>Starting</td>
<td>24</td>
</tr>
<tr>
<td>Supplementary tool kit</td>
<td>60</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Switches</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dipper</td>
<td>8</td>
</tr>
<tr>
<td>Direction indicator</td>
<td>8</td>
</tr>
<tr>
<td>Headlight flashing</td>
<td>8</td>
</tr>
<tr>
<td>Horn</td>
<td>8</td>
</tr>
<tr>
<td>Ignition/starter</td>
<td>9</td>
</tr>
<tr>
<td>Lighting</td>
<td>9</td>
</tr>
<tr>
<td>Panel lights</td>
<td>10</td>
</tr>
<tr>
<td>Windscreen wiper</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>T</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tyres</td>
<td></td>
</tr>
<tr>
<td>Care of</td>
<td>41</td>
</tr>
<tr>
<td>Fitting</td>
<td>43</td>
</tr>
<tr>
<td>Pressures</td>
<td>4, 42</td>
</tr>
<tr>
<td>Sizes</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>V</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve rocker clearance</td>
<td>56</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>W</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty</td>
<td>3</td>
</tr>
<tr>
<td>Wheels</td>
<td></td>
</tr>
<tr>
<td>Alignment</td>
<td>55</td>
</tr>
<tr>
<td>Removing</td>
<td>41</td>
</tr>
<tr>
<td>Spare</td>
<td>23, 42</td>
</tr>
</tbody>
</table>

Index to the Mark I Supplement: page 90
## INDEX

### Mark I Supplement

<table>
<thead>
<tr>
<th>A</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic transmission</td>
<td>75–78</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brakes</td>
</tr>
<tr>
<td>Adjustment</td>
</tr>
<tr>
<td>Servo air cleaner</td>
</tr>
<tr>
<td>Servo piston</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controls</td>
</tr>
<tr>
<td>Heater</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data, general</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical equipment</td>
</tr>
<tr>
<td>Panel lights</td>
</tr>
<tr>
<td>Wiring diagram</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>F</th>
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<tbody>
<tr>
<td>Fuel pump location</td>
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</tbody>
</table>

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<thead>
<tr>
<th>L</th>
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<tbody>
<tr>
<td>Lubrication</td>
</tr>
<tr>
<td>Automatic transmission</td>
</tr>
</tbody>
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<thead>
<tr>
<th>M</th>
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<tbody>
<tr>
<td>Maintenance attention</td>
</tr>
<tr>
<td>Every 3,000 miles</td>
</tr>
<tr>
<td>Every 12,000 miles</td>
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<tr>
<td>Every 24,000 miles</td>
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<th>T</th>
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<tbody>
<tr>
<td>Tyres</td>
</tr>
<tr>
<td>Pressures</td>
</tr>
<tr>
<td>Component</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td><strong>Climatic conditions</strong></td>
</tr>
<tr>
<td>All conditions down to $-18^\circ$ C. (0° F.)</td>
</tr>
<tr>
<td><strong>BP</strong></td>
</tr>
<tr>
<td><strong>SHELL</strong></td>
</tr>
<tr>
<td><strong>FILTRATE</strong></td>
</tr>
<tr>
<td><strong>DUCKHAM'S</strong></td>
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<tr>
<td><strong>CASTROL</strong></td>
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<tr>
<td><strong>ESSO</strong></td>
</tr>
<tr>
<td><strong>MOBIL</strong></td>
</tr>
</tbody>
</table>

Approval is also given to B.P. Super Visco-Static 20W/50, Castrol XL, Duckham's Q20/50, Esso Extra Motor Oil 20W/40, Mobil Special 20W/40, Shell X-100 20W/50, and Sternol W.W. Also to monograde, i.e., single-viscosity detergent/dispersant lubricants, supplied by the approved companies listed in this chart. S.A.E. 30 down to 0° C. (32° F.), S.A.E. 20/20W down to $-12^\circ$ C. (10° F.), and S.A.E. 10W below $-12^\circ$ C. (10° F.).