

AKD3258B



M·G·B

DRIVER'S HANDBOOK



ALL CAR OWNERS

should read



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

Technical articles dealing with maintenance
and tuning help Morris, Wolseley, Riley and
M.G. 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

THE



MGB

DRIVER'S HANDBOOK

A copy of this Driver's Handbook is sent out with every 'MGB' car. Additional copies are obtainable only from your M.G. Distributor and Part No. AKD3258B should be quoted when ordering

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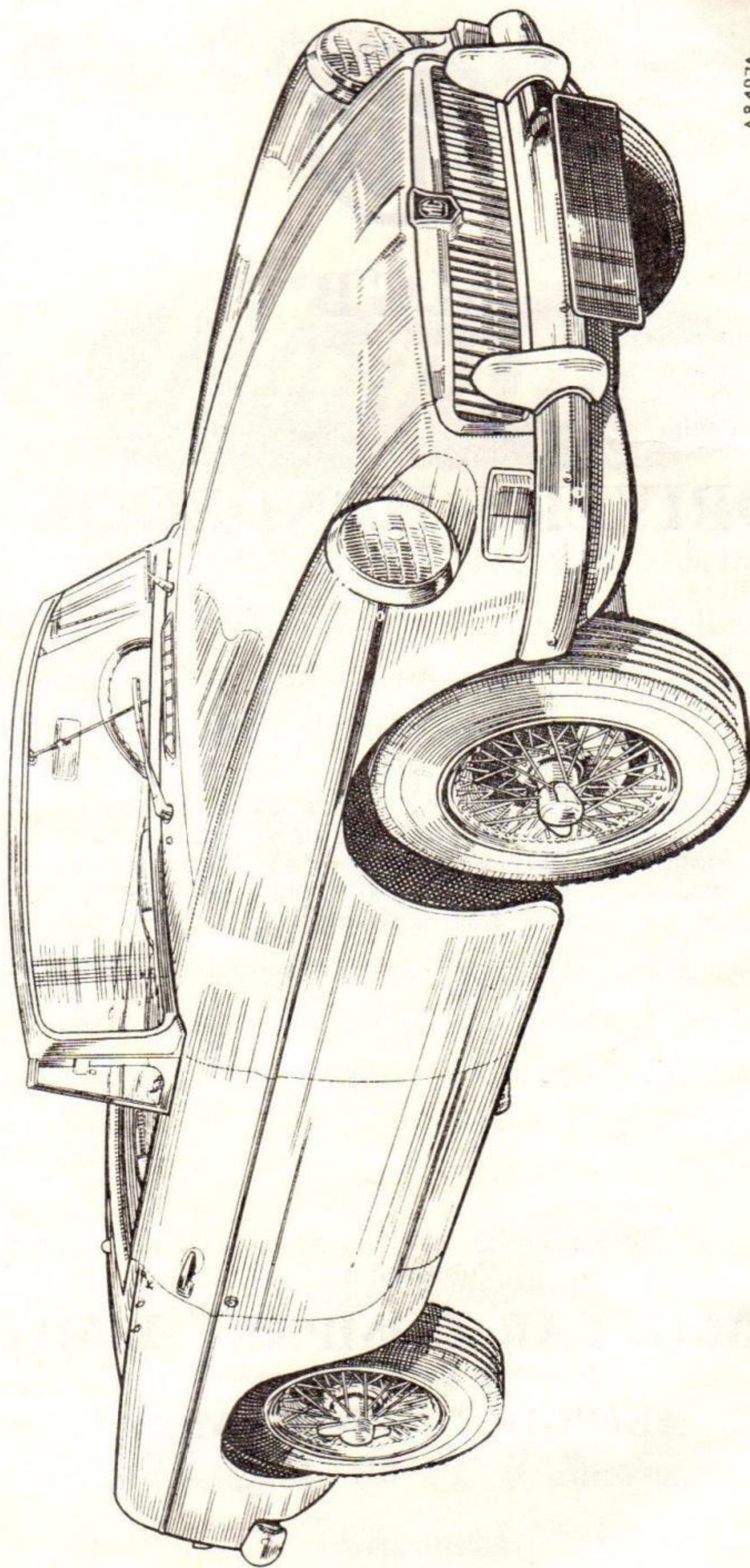
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THE 'MGB' (L.H.D. MODEL)

FOREWORD

IN producing this book the object has been to confine the contents to information essential to the proper running and operation of the vehicle. Nevertheless, the operator will find all the guidance necessary to maintain the vehicle in first-class condition and to ensure trouble-free service. Every vehicle leaving the Factory is capable of giving absolute satisfaction if the maintenance instructions detailed in the following pages are carefully carried out.

Remember that an authorized Distributor/Dealer is better equipped to provide routine and repair service than any other operator; he is at your service and should be consulted if you encounter trouble. When emergency work has been undertaken by other than a franchise holder the vehicle should be submitted to an authorized Distributor/Dealer for checking.

All Warranty work must be carried out by an authorized Distributor/Dealer.

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

For those wanting information of a more detailed and technical nature than is contained in this Handbook a Workshop Manual is available at a reasonable price from your Distributor/Dealer.

IDENTIFICATION

Car number. Stamped on a plate secured to the top left-hand side of the front bulkhead.

Car number (U.S.A.). Stamped on a plate secured to the inside of the front right-hand chassis member below the front suspension cross-member.

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 following locations.

Engine number. On a metal plate fixed to the right-hand side of the cylinder block.

The engine number comprises a series of letters and numbers, presenting, in code, the capacity, make, and type of unit, ancillaries fitted, and the type of compression ratio, together with the serial number of the unit.

Gearbox number. Stamped on the top of the gearbox to the left of the dipstick and filler plug.

Rear axle number. Stamped on the front of the axle tube on the left-hand side adjacent to the spring seat.

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

GENERAL DATA

Engine

Bore	..	..	..	..	3.16 in. (80.26 mm.)
Stroke	..	..	..	..	3.5 in. (88.9 mm.)
No. of cylinders	..	..	..	..	4
Capacity	..	..	..	..	1798 c.c. (109.6 cu. in.)
Compression ratio: High compression	..	..	..	..	8.8 : 1
Low compression	..	..	..	..	8.0 : 1
Firing order	..	..	..	..	1, 3, 4, 2
Valve clearance (cold)	..	..	..	..	.015 in. (.38 mm.)
Oil pressure: Idling	..	..	..	..	Between 10 and 25 lb./sq. in. (.7 and 1.7 kg./cm. ²)
Normal running	..	..	..	..	Between 30 and 80 lb./sq. in. (2.1 and 5.6 kg./cm. ²)

Ignition

Static ignition timing: High compression	10° B.T.D.C.
Low compression	8° B.T.D.C.
Contact breaker gap	014 to .016 in. (.36 to .41 mm.)
Sparking plugs	 Champion N-9Y
Plug gap	025 in. (.64 mm.)

Fuel system

Carburettors	.. .. .	Two S.U. type HS4
Needle	.. .. .	MB (Standard), No. 6 (Rich), 21 (Weak)
Fuel pump	.. .. .	S.U. Type HP electric

Gearbox and overdrive

Overdrive ratio	.. .. .	.802 : 1	
Overall ratios: First	.. .. .	14.214 : 1	
Second	.. .. .	8.656 : 1	Overdrive
Third	.. .. .	5.369 : 1	4.306 : 1
Fourth	.. .. .	3.909 : 1	3.135 : 1
Reverse	.. .. .	18.588 : 1	
Top gear speed per 1,000 r.p.m.:			
Standard	.. .. .	17.9 m.p.h. (27.3 km.p.h.)	
Overdrive	.. .. .	22.3 m.p.h. (35.5 km.p.h.)	

Wheels

Standard: Type	.. .. .	Ventilated disc
Size	.. .. .	4J × 14
Optional: Type	.. .. .	Wire spoke
Size	.. .. .	4½J × 14

GENERAL DATA

Tyres

Standard	.. .. .	5.60—14 (tubed) Dunlop Gold Seal
Optional	.. .. .	5.90—14 Road Speed

Pressures (set cold):

Standard tyres (front and rear):

Normal motoring, including sustained speeds on motorways up to 90 m.p.h. (145 km.p.h.) .. 18 lb./sq. in. (1.27 kg./cm.²)

Maximum or near-maximum speed and sustained speeds in excess of 90 m.p.h. (145 km.p.h.) 24 lb./sq. in. (1.69 kg./cm.²)

Optional tyres (front and rear):

All conditions except competition work 18 lb./sq. in. (1.27 kg./cm.²)

NOTE.—Rear tyre pressures should be increased by 2 lb./sq. in. (·14 kg./cm.²) when touring with a full luggage compartment.

Capacities

Fuel tank	.. .. .	10 gal. (45.4 litres, 12 U.S. gal.)
Cooling system..	.. .. .	9½ pints (5.4 litres, 11.4 U.S. pints)
Cooling system with heater	.. .. .	10 pints (5.6 litres, 12 U.S. pints)
Sump	.. .. .	7½ pints (4.26 litres, 9 U.S. pints)
Oil cooler (when fitted)	.. .. .	¾ pint (·42 litre, ·9 U.S. pint)
Gearbox	.. .. .	4½ pints (2.56 litres, 5.6 U.S. pints)
Gearbox and overdrive	.. .. .	5 pints (2.84 litres, 6 U.S. pints)
Rear axle	.. .. .	2¼ pints (1.28 litres, 2.7 U.S. pints)

Dimensions

Length (overall)	.. .. .	12 ft. 8½ in. (3.8 m.)
Length (overall) with over-riders	.. .. .	12 ft. 9 ³ / ₁₆ in. (3.9 m.)
Width (overall)..	.. .. .	4 ft. 11 ¹⁵ / ₁₆ in. (152.3 cm.)
Height (overall), hood erected	.. .. .	4 ft. 1 ³ / ₈ in. (125.4 cm.)
Ground clearance (minimum)	.. .. .	5 in. (12.7 cm.)
Track: Front: Disc wheels	.. .. .	4 ft. 1 in. (124.4 cm.)
Wire wheels	.. .. .	4 ft. 1¼ in. (125.0 cm.)
Rear: Disc wheels	.. .. .	4 ft. 1¼ in. (125.0 cm.)
Wire wheels	.. .. .	4 ft. 1¼ in. (125.0 cm.)
Wheelbase	.. .. .	7 ft. 7 in. (231.1 cm.)
Turning circle		32 ft. (9.75 m.)
Toe-in		¹ / ₁₆ to ³ / ₃₂ in. (1.5 to 2.3 mm.)

Weights

Unladen weight		1,920 lb. (871 kg.)
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CONTROLS AND WARNING LIGHTS

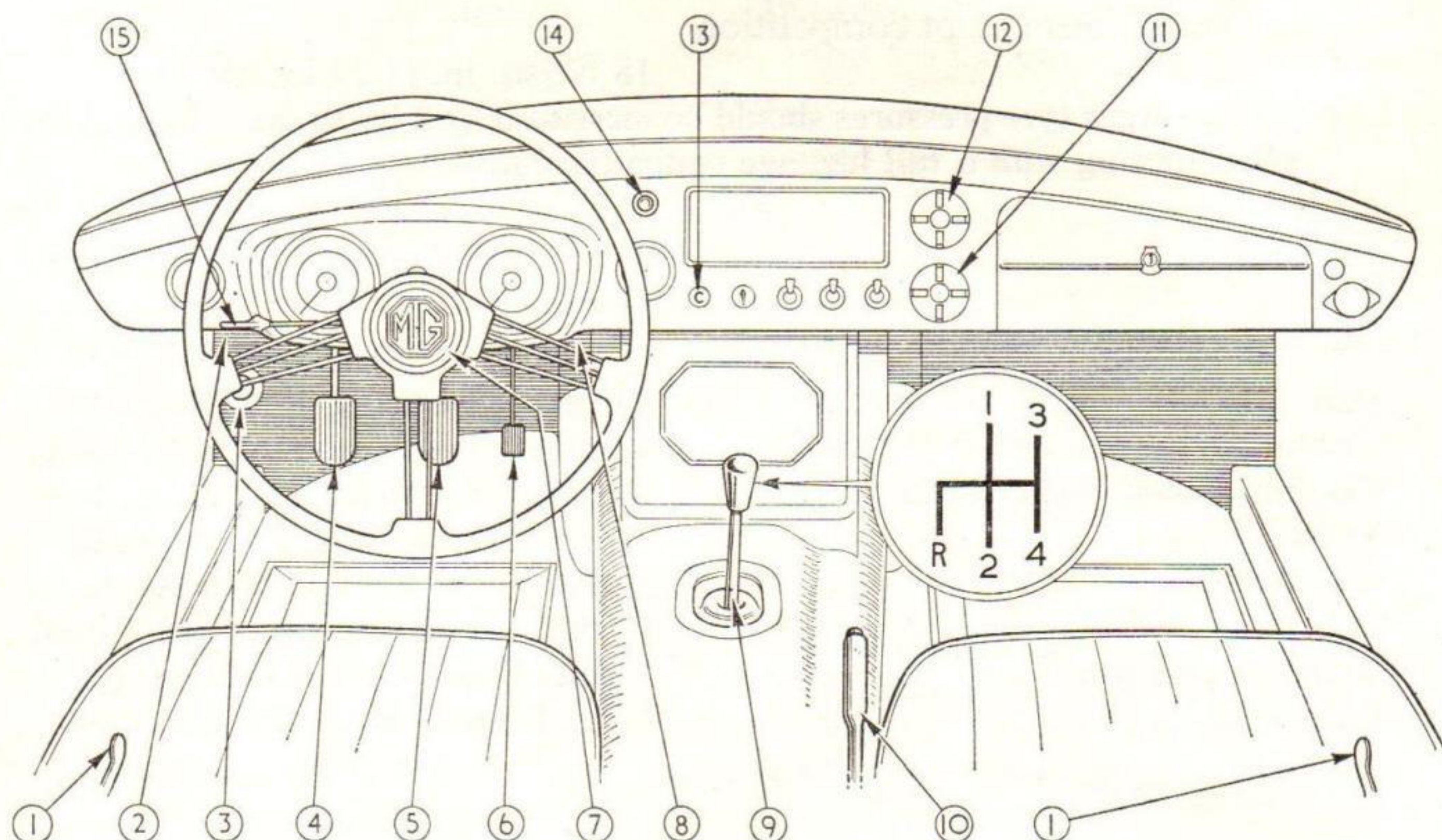
Gear lever

The four forward gears and the reverse gear are engaged by moving the lever to the positions illustrated in the inset below.

To engage reverse gear move the lever to the left of the neutral position until resistance is felt, apply side pressure to the lever to overcome the resistance and then pull it backwards to engage the gear.

Synchromesh engagement is provided on second, third and fourth gears.

Always ensure that the gear lever is in the neutral position before attempting to start the engine.



The controls (L.H.D.)

- | | |
|----------------------------|---------------------------------|
| 1. Seat adjustment. | 9. Gear lever. |
| 2. Bonnet release. | 10. Hand brake. |
| 3. Dip switch. | 11. Heater air control. |
| 4. Clutch pedal. | 12. Heater temperature control. |
| 5. Brake pedal. | 13. Choke control. |
| 6. Accelerator pedal. | 14. Windshield washer control. |
| 7. Horn-push. | 15. Direction indicator switch. |
| 8. Fresh-air vent control. | |

Brake pedal

The centre pedal operates the hydraulic brakes on all four wheels and will also operate the twin stop warning lights when the ignition is switched on.

Clutch pedal

The left-hand pedal operates the hydraulic clutch release. **Do not allow the foot to rest on the clutch pedal while driving as this will cause excessive wear of the withdrawal mechanism.**

CONTROLS AND WARNING LIGHTS

Hand brake

Always apply the hand brake when the vehicle is parked.

The hand brake lever is located alongside the tunnel and operates the rear-wheel brakes only.

To apply the hand brake depress the button in the top of the hand brake lever, pull the lever up and release the button to lock the lever in position. To release the hand brake pull the lever up, depress the button, and move the lever down.

Choke or mixture control

To enrich the mixture and thus assist starting when the engine is cold, pull out the knob marked 'C' and twist to lock.

As soon as the engine is warm enough to run evenly without a rich mixture release the control by turning in a clockwise direction.

Windshield washer

The windshield washer control is located on the fascia panel above the oil pressure gauge.

To operate the washer press the control knob until fluid is ejected onto the windshield and then set the wipers in motion.

In cold weather the reservoir should be filled with a mixture of water and recommended washer solvent to prevent the liquid freezing in the reservoir.

Do not use anti-freeze solution in the windshield-washing equipment.

The reservoir is retained in a bracket mounted on the scuttle in the engine compartment.

Ignition warning light

The ignition warning light is housed in the revolution indicator casing and serves the dual purpose of reminding the driver to switch off the ignition before leaving the vehicle and of acting as a no-charge indicator.

With the ignition switch on, the warning light should be illuminated only when the engine is stopped or is running very slowly. As engine speed increases, the light should dim and eventually go out at a fairly low engine speed.

Failure of the light to behave in this fashion will indicate a broken dynamo belt or other fault in the charging system.

Main beam warning light

The main beam warning light is housed in the speedometer casing and glows when the headlight beams are in the raised position.

The light goes out when the beams are switched to the dip position.

Direction indicator warning lights

The direction indicator warning lights are situated behind the fascia panel above the panel light switch. Each light is positioned behind a directional arrow cut in the fascia.

When the direction indicator switch is operated the appropriate light flashes. The light goes out when the switch is returned to its central position.

INSTRUMENTS

Speedometer

In addition to indicating the speed of the car the speedometer records the trip and total distances. The trip recorder is reset to zero by pushing the knob below the instrument upwards and turning it anti-clockwise until the trip figures are at zero.

The speedometer houses the headlamp main beam warning light.

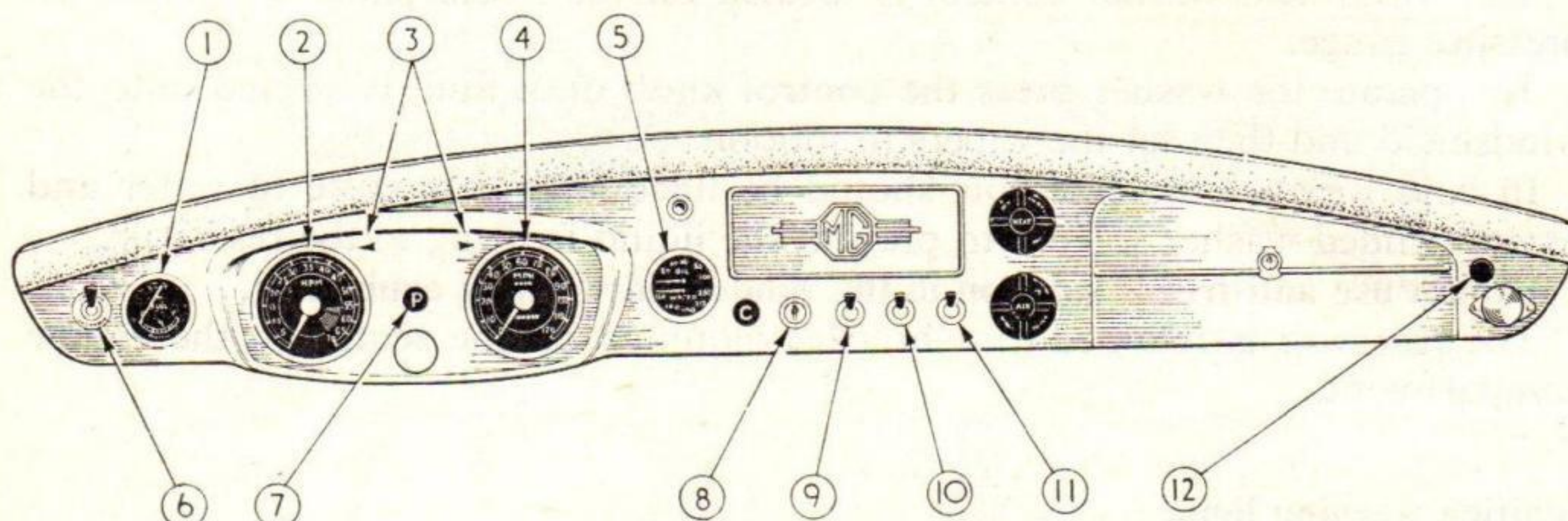
Engine revolution indicator

This instrument indicates the speed of the engine in hundreds of revolutions per minute. Normal use of the engine will not require speeds in excess of 5,000 r.p.m.

Under favourable conditions the needle may be allowed to enter the amber sector of the dial, which commences at 5,500 r.p.m.

Under no circumstances must the needle be allowed to enter the red sector of the dial.

The engine revolution counter houses the ignition warning light.



A8477AW

Instruments and switches (L.H.D.)

- | | |
|--|-------------------------------|
| 1. Fuel gauge. | 7. Panel light switch. |
| 2. Revolution indicator. | 8. Ignition/starter switch. |
| 3. Direction indicator lights | 9. Lighting switch. |
| 4. Speedometer. | 10. Windshield wiper switch. |
| 5. Oil pressure and coolant temperature gauge. | 11. Blower switch. |
| 6. Overdrive switch. | 12. Map-reading light switch. |

Oil pressure and coolant temperature gauge

The upper half of this instrument records the pressure of the oil in the engine lubricating system (see page 4).

The lower half of the instrument indicates the temperature of the coolant at the cylinder head. After the initial rise in temperature during the warming-up period, any sudden upward change in the reading calls for immediate investigation.

Fuel gauge

The fuel gauge operates only when the ignition is switched on and indicates the quantity of fuel in the tank.

SWITCHES

Ignition/starter switch

The ignition and starter are both controlled by a single switch operated by 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 solenoid and the starter motor. Release the key immediately the engine starts. If the engine fails to start first time wait until both the engine and starter motor have come to rest before using the starter switch again.

Overdrive switch

The overdrive switch is mounted on the outer edge of the fascia adjacent to the instrument panel. The switch bezel is marked 'NORMAL' and 'OVER-DRIVE'.

Lighting switch

Move the switch downwards to the half-way position to switch on the pilot lights; move the switch to the fully down position for the headlights. The headlight beams may be raised or lowered by pressing the foot-operated dip switch.

Headlight dip switch

The foot-operated headlight beam dip switch is to the left of the clutch pedal. It is of the repeating type, lowering the beams on one application and raising them on the next. A warning light glows when the beams are in the raised position.

Panel light switch

The panel light switch is located between the speedometer and the engine revolution indicator. To illuminate the instruments turn the knob clockwise. The first movement of the knob will switch on the lights and further turning to the right will dim the lights.

The panel lights will only function when the pilot lights are switched on.

Map-reading light switch

The map-reading light is controlled by a switch adjacent to the lamp. The lamp will only operate when the pilot lights are switched on.

Wiper switch

Move the switch to the down position to set the wipers in motion. Parking of the blades is automatic when the switch is returned to the off position.

Direction indicator switch

The self-cancelling direction indicator switch is mounted on the steering-column below the steering-wheel.

The indicators will work only when the ignition is switched on, and a warning light in the instrument panel flashes when they are in use.

Horn switch

The horns are sounded by a horn-push located in the steering-wheel hub.

HEATING AND VENTILATING

Fresh-air system (standard)

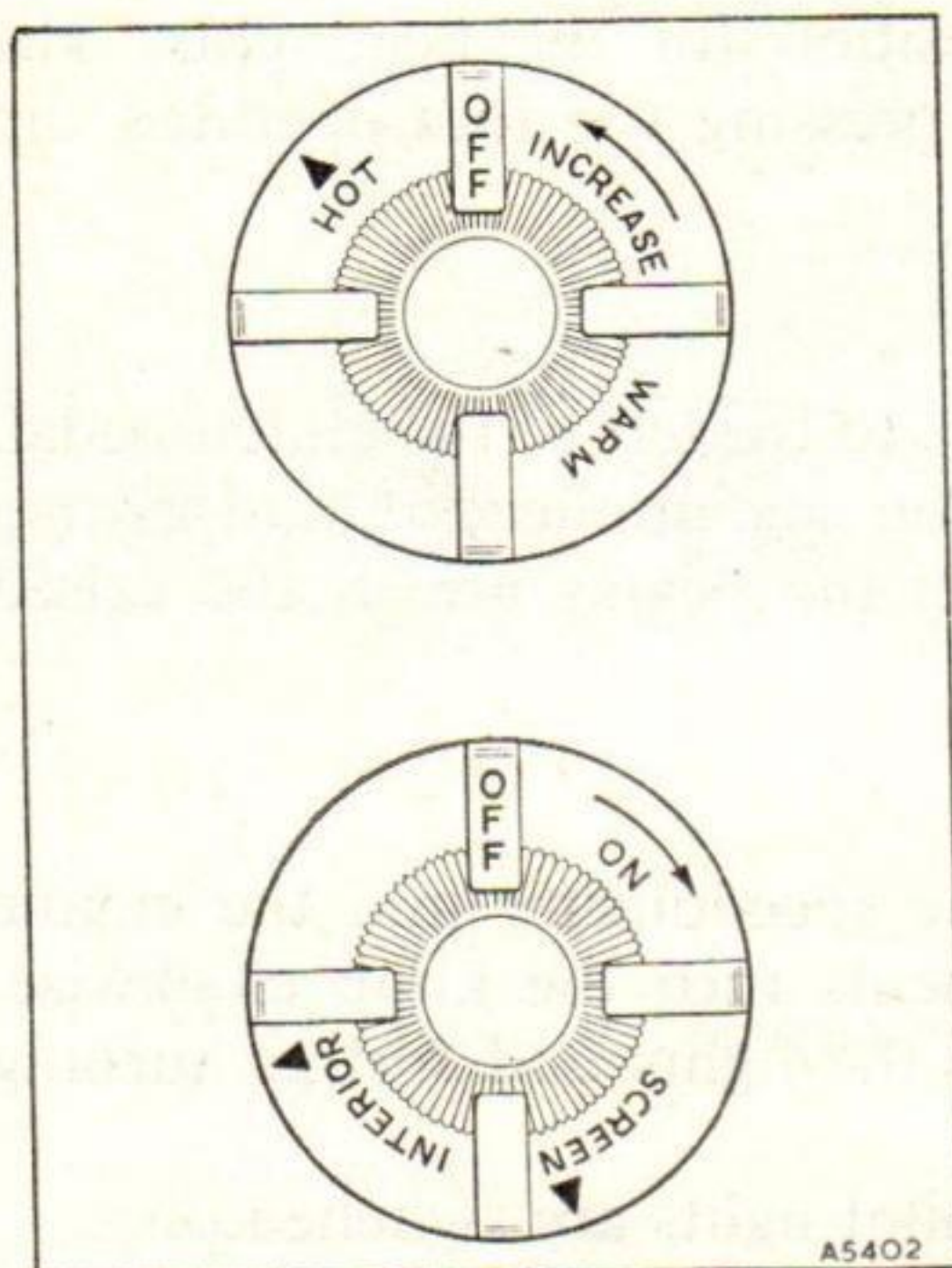
Provision is made for admitting fresh air to the car interior for ventilation purposes.

The fresh air is ducted from the bonnet grille to an air box and passes to the car interior through an air outlet vent on the dash panel.

The fresh air control is located on the dash panel to the left of the speaker panel. Pull the control to open the vent to any one of the three positions.

Heating system (optional)

When a heating and demist unit is fitted, fresh air is ducted from the bonnet grille, through the air box to the heater matrix and then to the demist ducts or to the car interior. Two manually operated spring-loaded air outlet doors are located on the inner foot-well sides to admit air to the interior of the car.



The heater controls (L.H.D. car). The upper control regulates the temperature and the lower control the air distribution

The ram effect caused by the forward motion of the car will provide an adequate supply of air above speeds of approximately 25 m.p.h. (40 km.p.h.). An electric blower in the heater unit controlled by a switch on the fascia panel augments the supply when a greater quantity of air is required or when the car is travelling at low speeds or is stationary.

Controls

The upper control operates a water valve connected to the engine cooling system; the valve controls the rate of flow of the hot water to the heater matrix.

Move the control in the direction of the arrow to increase the heat supply to 'WARM' or 'HOT'.

The lower control operates an air flap in the heater outlet box which deflects the air to the screen or to the air outlet doors and car interior.

HEATING AND VENTILATING

Turn the control in the direction of the arrow to 'INTERIOR' or 'SCREEN' to deflect air to the car interior or to the windshield.

Both controls may be set to intermediate positions and thus provide a wide variety of settings to meet varying conditions.

Use of controls

NOTE.—The full heat output will not be available until the engine has reached its operating temperature.

To obtain maximum heat supply inside the car, turn the air control to 'INTERIOR', the heat control to 'HOT', open the air outlet doors and switch on the blower.

To defrost the windshield turn the air control to 'SCREEN', the heat control to 'HOT', close the air outlet doors and switch on the blower.

To obtain a supply of unheated fresh air turn the air control to 'INTERIOR', the heat control to 'OFF', open the air outlet doors and switch on the blower.

OPTIONAL EQUIPMENT

The following items of equipment are available as optional extra fittings:

Overdrive.	Wing mirrors.
5.60—14 Nylon Gold Seal Whitewall tyres.	Luggage grid.
5.90—14 Road Speed tyres.	Tonneau cover.
5.90—14 Road Speed Whitewall tyres.	Heater.
Wire wheels.	Fresh-air unit.
Ace-Mercury louvred wheel discs.	Radiomobile radio.
Anti-roll bar.	Cigar-lighter (fascia fitting).
Front bumpers with over-riders.	Ashtray (tunnel fitting).
Fog lamp.	Headlamp flasher.
Long-range driving-lamp.	Rear cockpit cushion.
Twin horns.	Folding hood.
Oil cooler (Home trade).	

SUPPLEMENTARY TOOL KIT

To supplement the tool kit a roll containing the following is obtainable from all Distributors. Part No. 97H524 should be quoted.

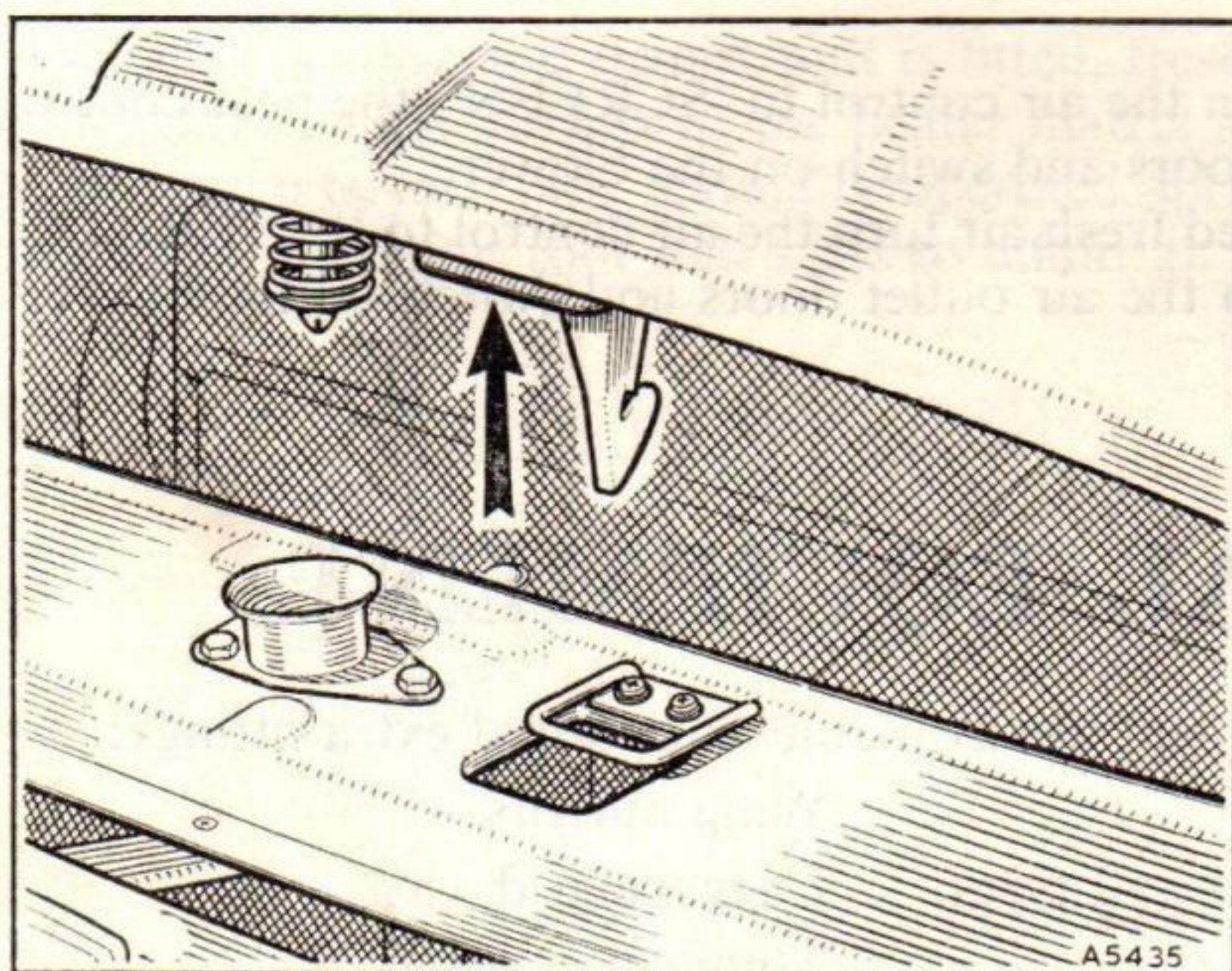
4 spanners:	$\frac{5}{16} \times \frac{3}{8}$ in. A.F.	1 adjustable spanner (7 in.).
	$\frac{7}{16} \times \frac{1}{2}$ in. A.F.	1 tubular spanner ($\frac{1}{2} \times \frac{3}{16}$ in. A.F.).
	$\frac{9}{16} \times \frac{5}{8}$ in. A.F.	1 tommy-bar ($\frac{3}{8}$ in. diameter).
	$\frac{11}{16} \times \frac{3}{4}$ in. A.F.	1 Phillips screwdriver.
1 pair of 6-in. pliers.		

BODY

Bonnet lock and safety catch

To open the bonnet pull the release inside the car (page 6) and press up the safety catch. Disengage the bonnet stay from its clip and place the free end in the bracket attached to the front wheel arch.

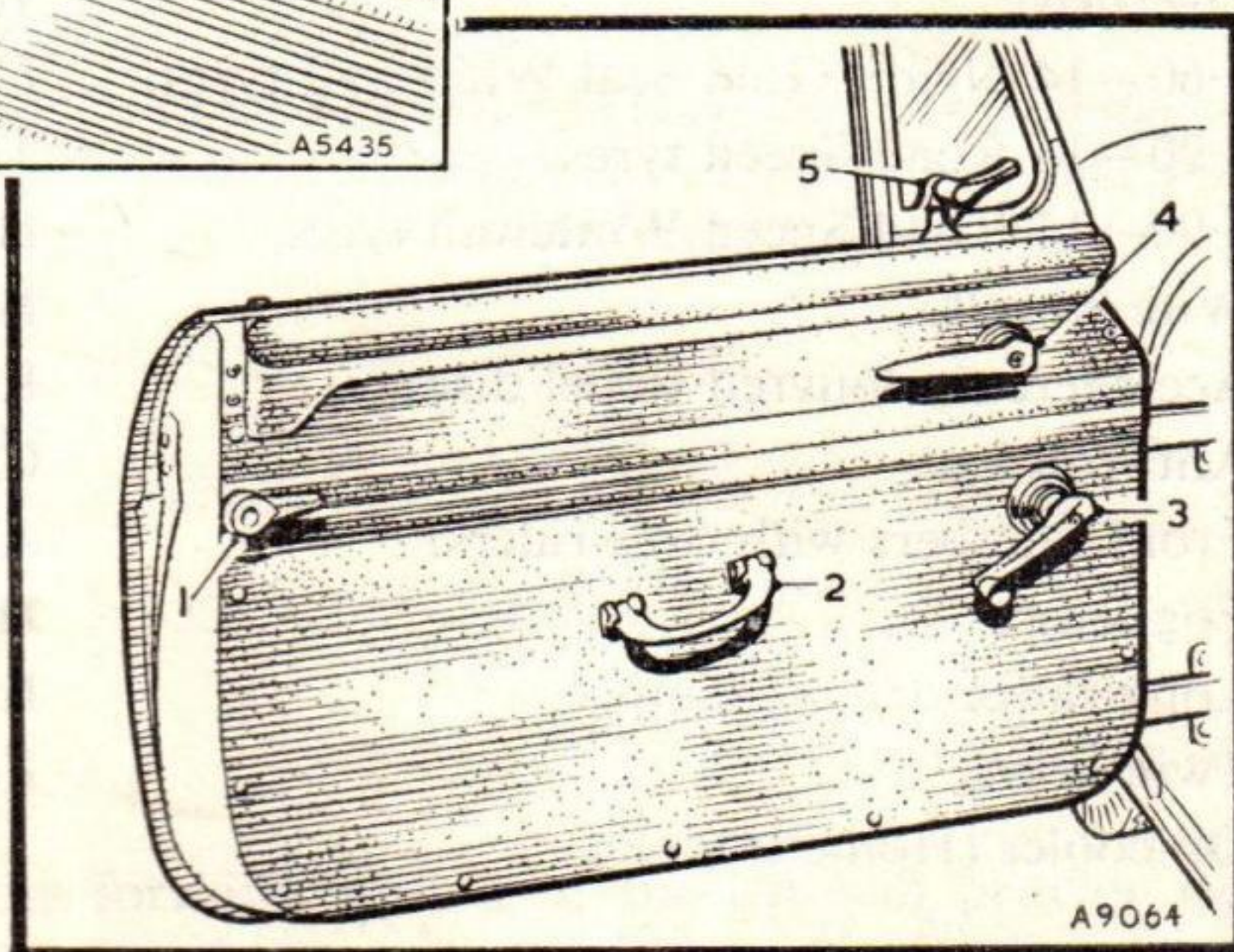
To close, secure the stay in its clip and lower the bonnet. Apply light pressure with the palms of the hands at the front corners of the bonnet and press down quickly. As the bonnet is aluminium, handle it with care and do not use unnecessary force. The safety catch and lock will be heard to engage.



The bonnet lock and safety catch. Press up in the direction of the arrow to disengage the safety catch

A passenger door, showing:

1. Inside locking knob.
2. Door-pull.
3. Window regulator.
4. Door lock remote control.
5. Ventilator catch.



Doors and locks

Both doors may be locked from the outside with the ignition key. The passenger door may alternatively be locked from inside the car.

To lock the doors turn the key towards the rear of the car; to unlock the doors turn the key towards the front of the car.

After locking or unlocking the doors return the key to the vertical position and withdraw it.

The passenger door may be locked from inside the car by turning the locking knob towards the rear of the car. Turn the knob towards the front of the car to unlock the door.

BODY

Both doors are provided with door-pulls.

A window regulator handle is fitted to the inside of each door.

A draughtproof ventilator panel adjacent to each window may be opened by releasing the catch.

Glovebox

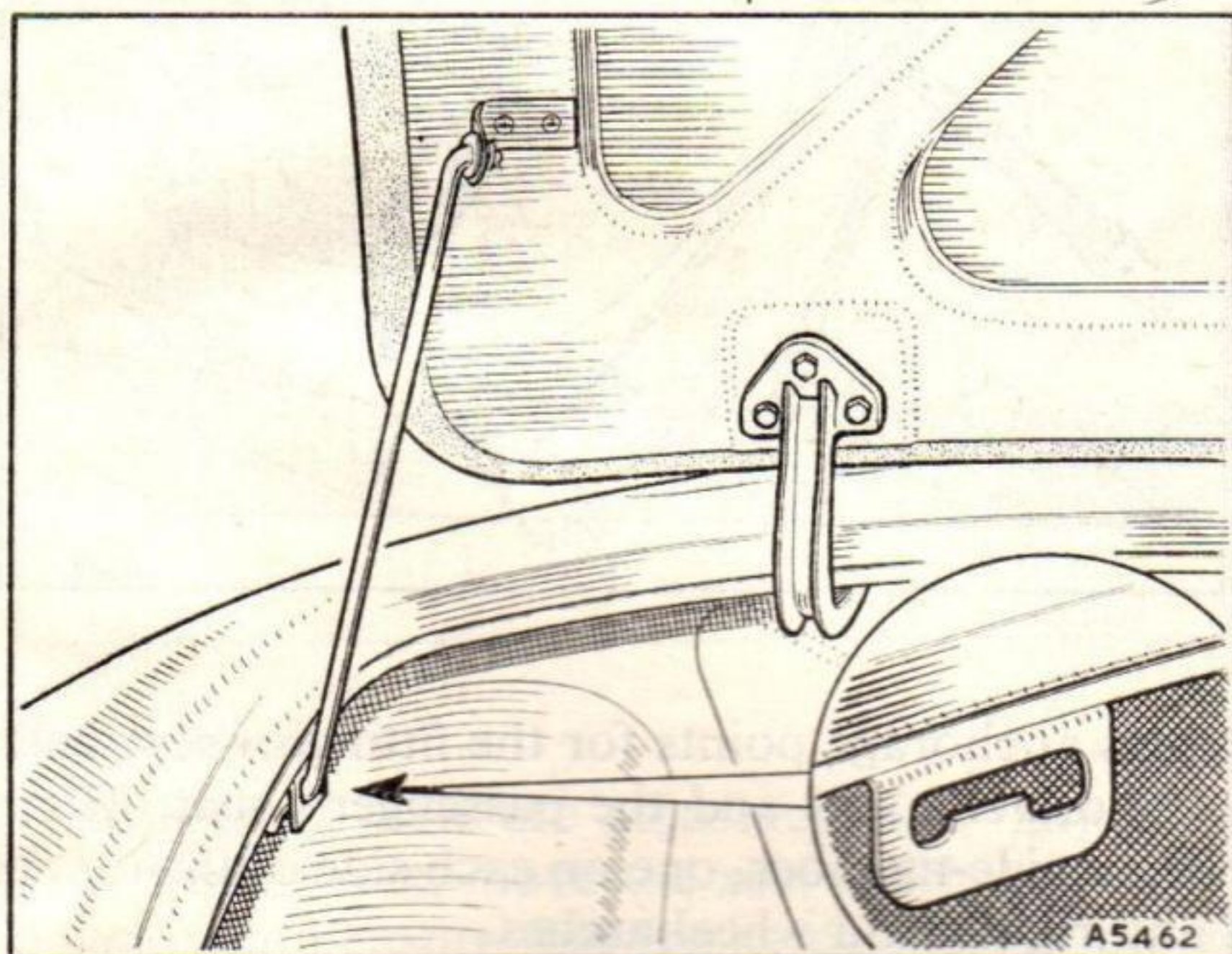
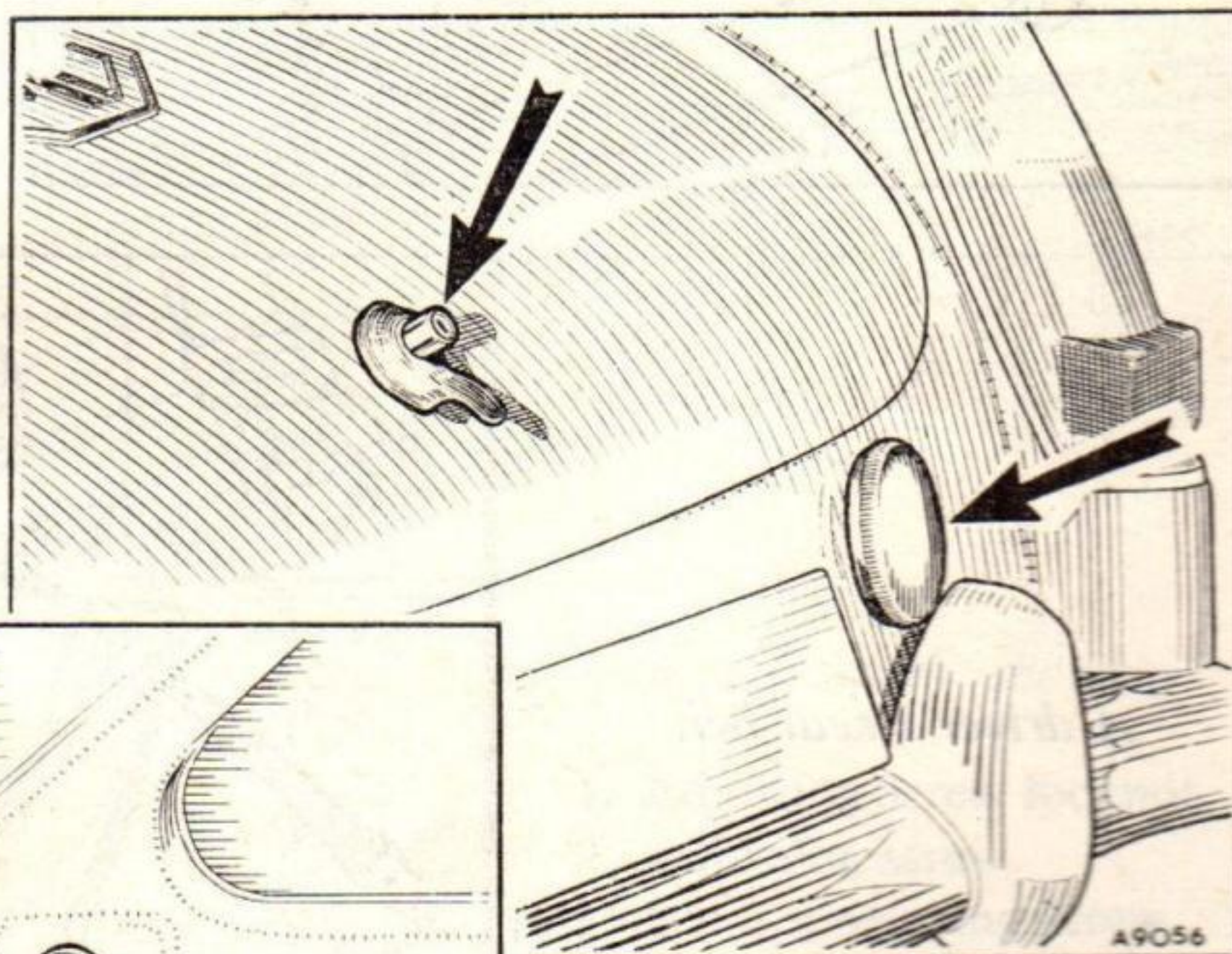
The glovebox is located on the passenger's side of the fascia panel and can be locked with a separate key.

Fuel filler

The fuel filler pipe is fitted with a bayonet-type filler cap which may be removed by turning it in an anti-clockwise direction.

When filling up with fuel avoid filling the tank until fuel is visible in the filler intake tube. Should this be done and the car left in the sun, there will be a considerable risk of fuel leakage due to expansion, and consequent danger from exposed fuel. If inadvertently overfilled, take care to park the car in the shade with the filler intake as high as possible.

The boot lock and fuel filler (shown arrowed)



The boot lid stay and (inset) stay bracket

Luggage boot

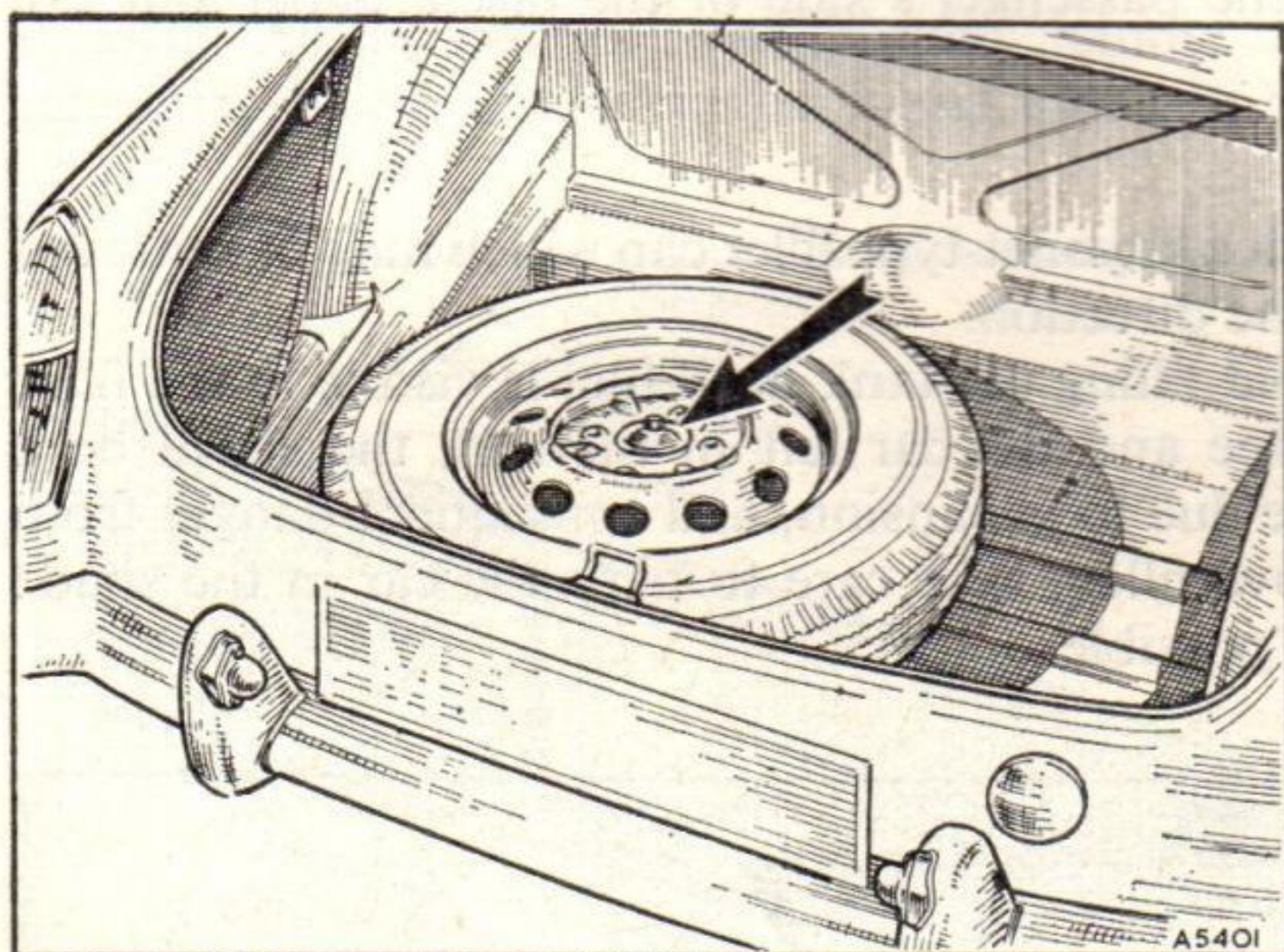
The luggage boot is locked with the glovebox key.

To open, depress the lock and raise the lid. Unclip the stay from underneath the lid and secure the free end in the bracket attached to the side of the luggage compartment.

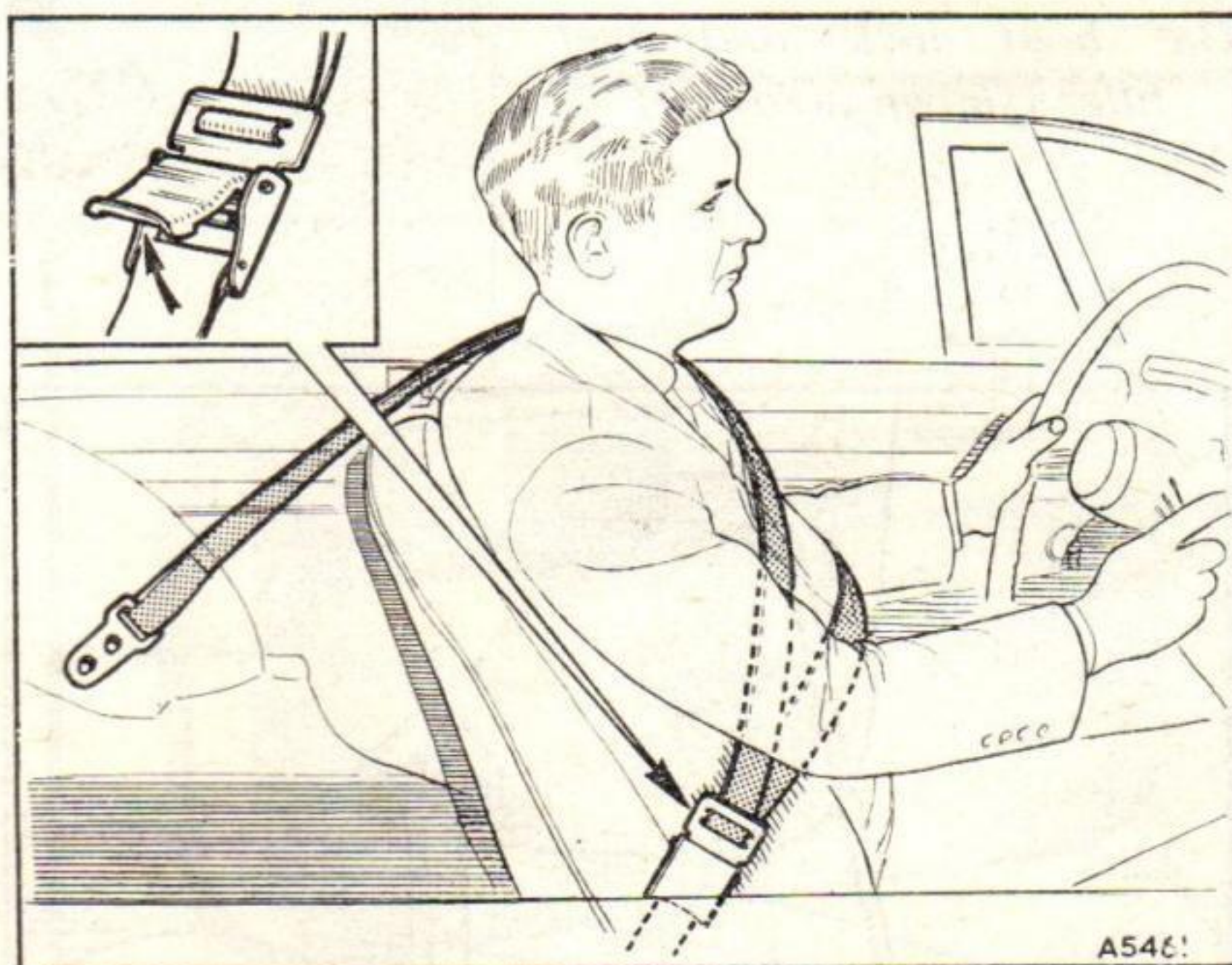
BODY

Spare wheel and tool kit

The spare wheel and tool kit are stowed in the luggage compartment. The spare wheel is secured to the floor of the compartment by a clamping plate and bolt. To remove the spare wheel unscrew the centre bolt and plate, using the tommy-bar from the tool kit.



The spare wheel, showing the clamp plate and centre-bolt



A driver's seat belt

Seat belts

The body of the car incorporates anchorage points for the fitting of seat belts (Part No. AHH7017) to both the driver's seat and the passenger's seat. These points are located one on each frame side-member, one on each side of the tunnel and one each on the left-hand and right-hand wheel arches.

The seat belts, obtainable from Distributors and Dealers, are made up of a long and short belt, both of which are adjustable. When in use the belts are connected by a quick-release buckle.

To use the seat belt, position the buckle tongue on the long belt approximately in the centre of the belt and ensure that the upper end of the belt passes over the shoulder. Adjust the short belt until the buckle is located just in front of the hip and push the tongue of the long belt into the buckle of the short belt

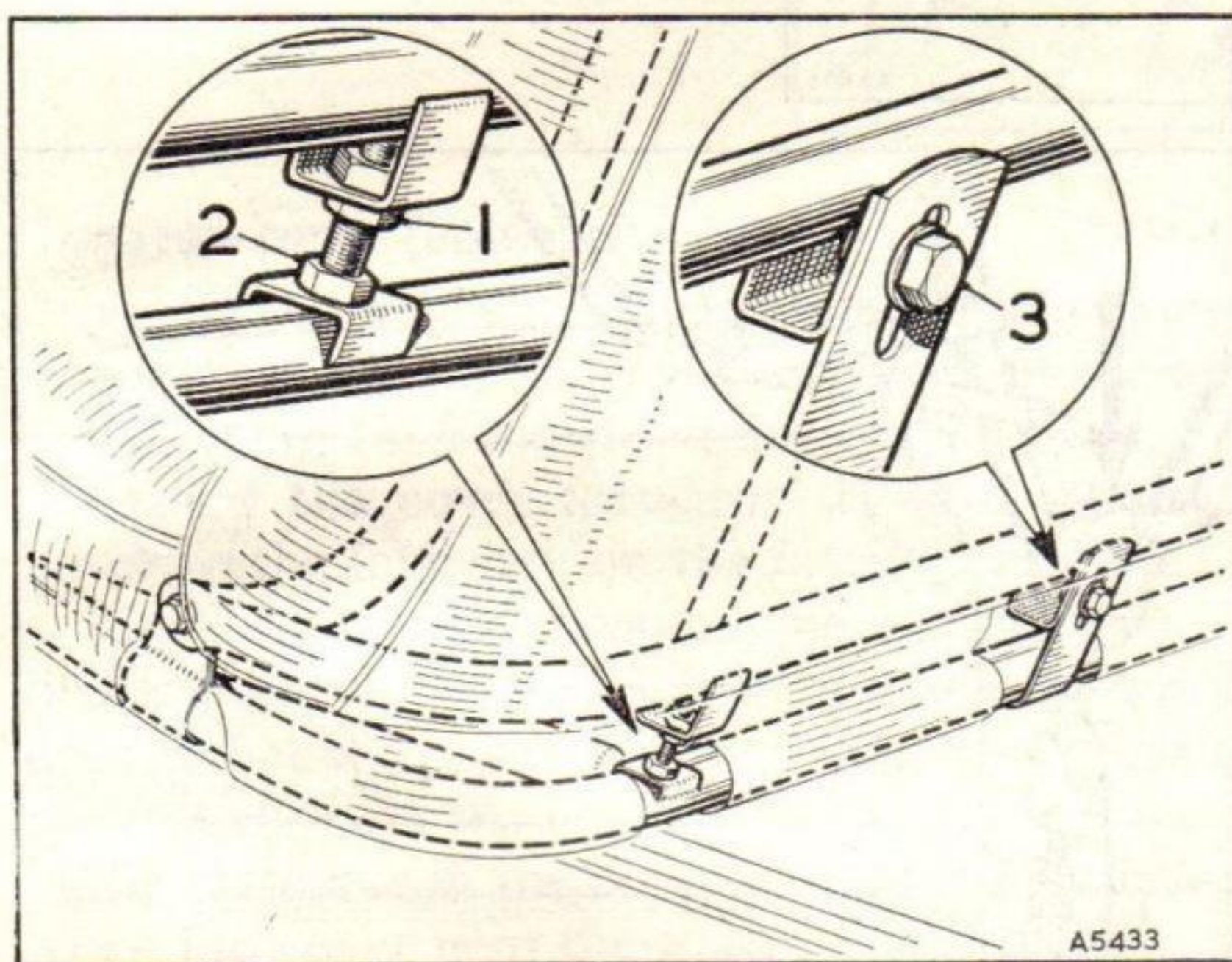
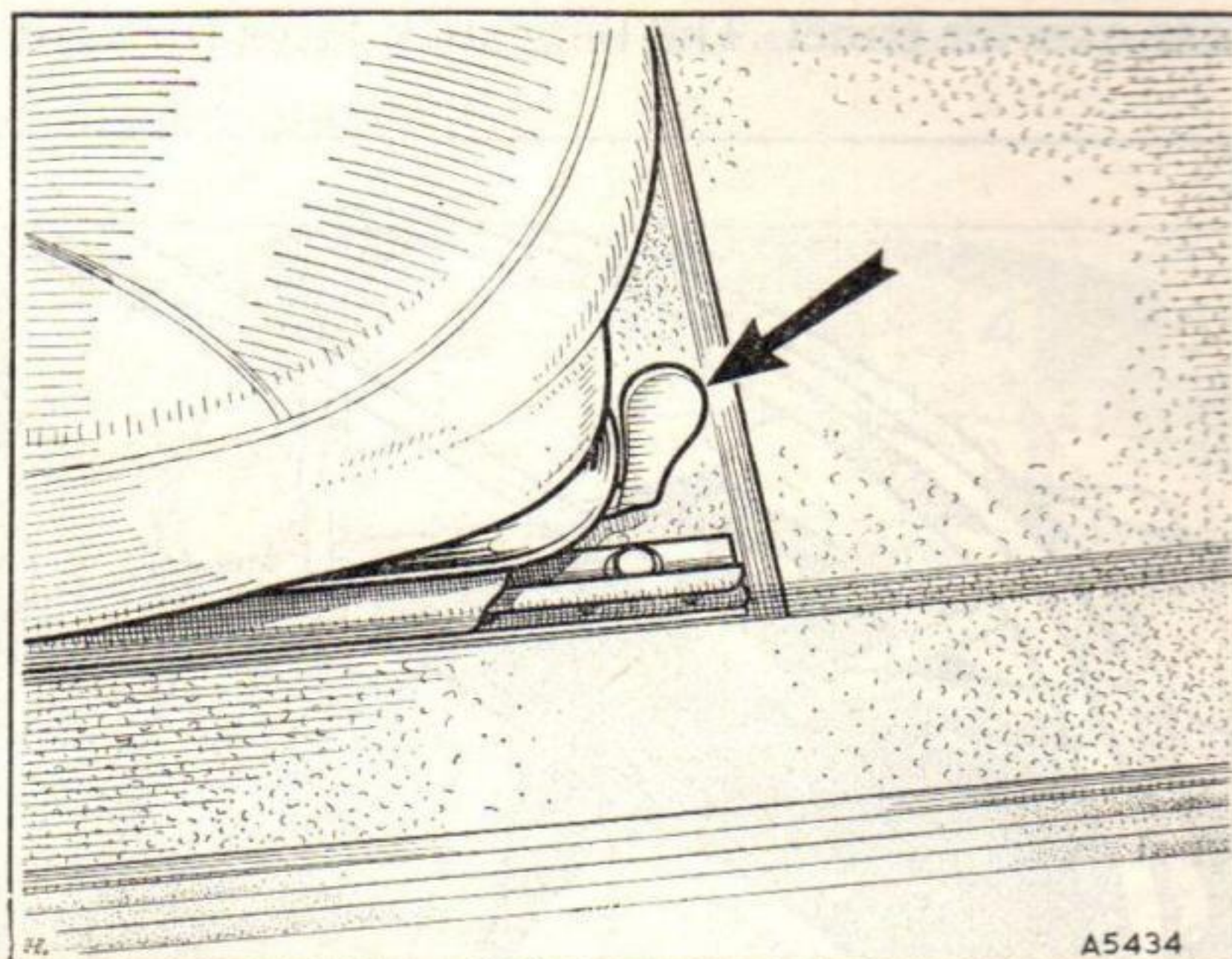
BODY

until it clicks into the locked position. Finally, adjust the long belt until the wearer is held firmly but comfortably in the seat.

When both seats are equipped with seat belts ensure that the short belt used is on the side of the tunnel adjacent to the user.

To release the seat belt lift up the buckle lever. After releasing the belts the long belt must be stowed in such a way as to give clear access to the doors.

A seat catch and slide



A seat squab, showing:

1. Adjusting screw locknut.
2. Adjusting screw.
3. Bracket securing screw.

Seat adjustment

Both front seats are adjustable and may be moved forwards or backwards. To adjust a seat, move the seat catch outwards, slide the seat to the required position and ensure that the catch engages the nearest slot in the seat runner.

The seat squabs are also adjustable for rake by loosening the squab to frame bracket securing screw, loosening the two adjusting screw locknuts and then adjusting the screws.

After adjustment lock the screws with their locknuts and tighten the bracket screw.

The bracket may be reversed to enable the seat squab to tip for the purpose of loading or unloading luggage into the rear cockpit.

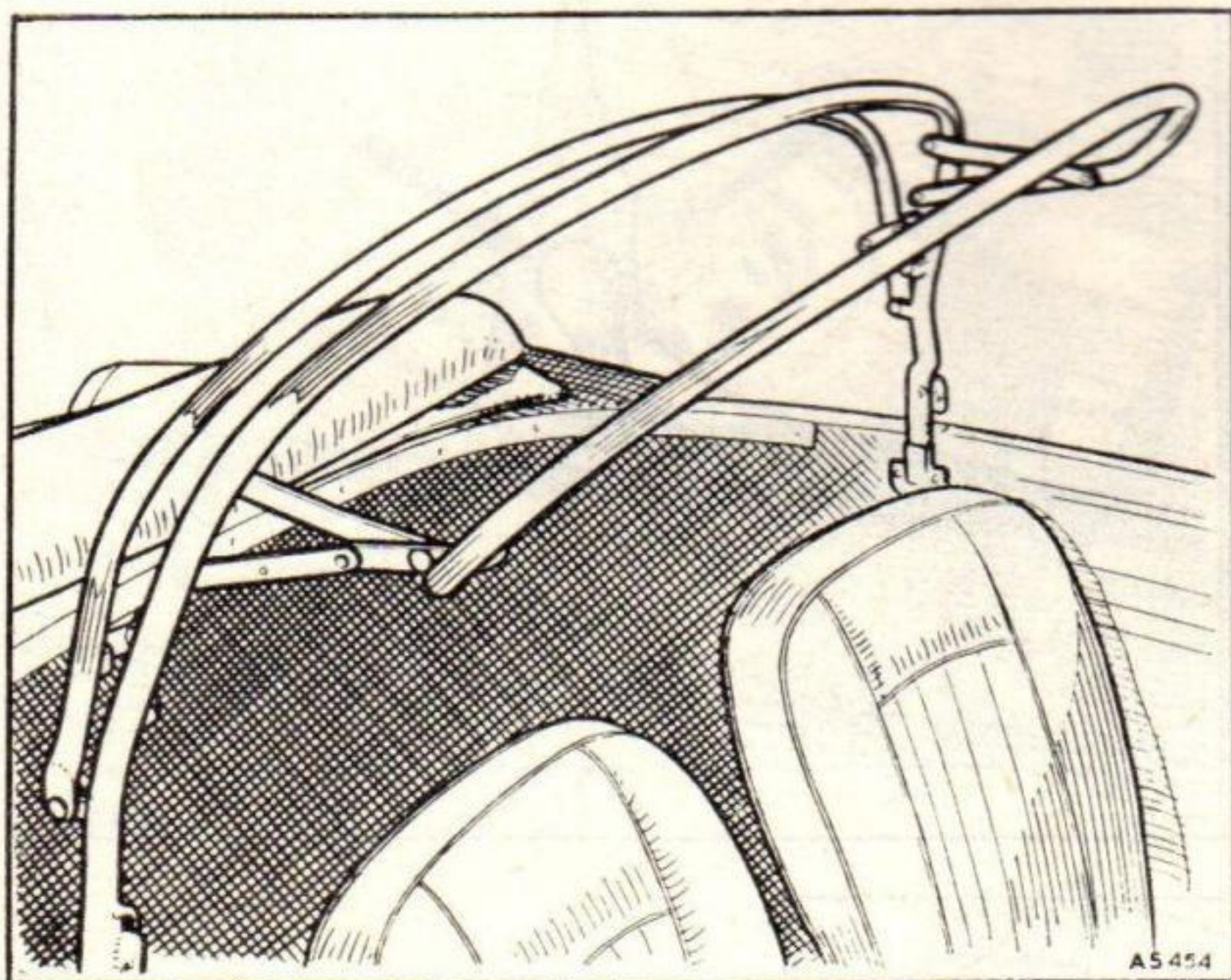
HOOD AND TONNEAU COVER

Fitting the hood (standard)

When not in use the standard hood is normally stowed in the luggage compartment.

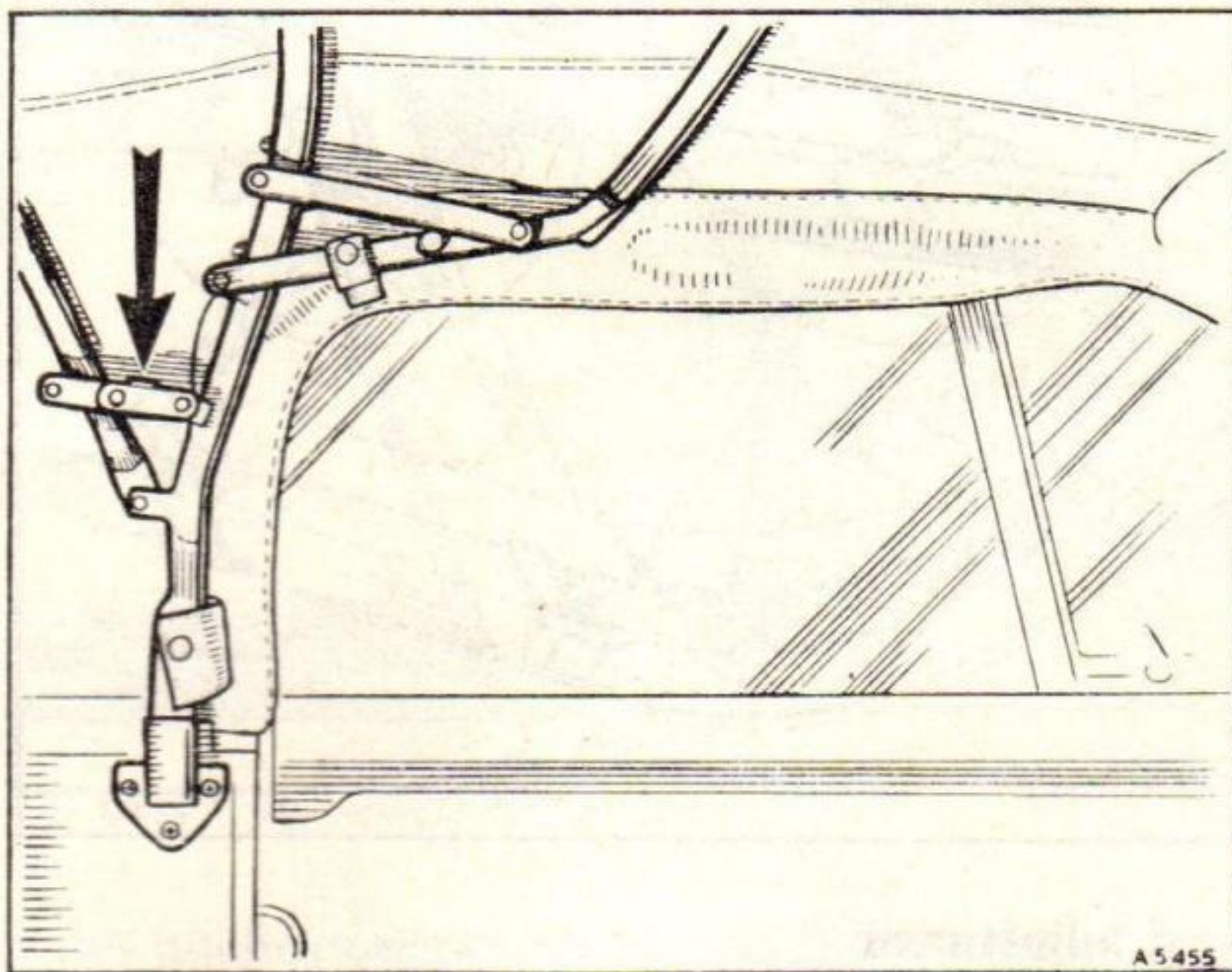
To fit the hood, erect the collapsible frame and pull the front stick forward; leave the rear stick in the collapsed position until the canopy is fitted.

Place the ends of the frame in the support sockets that are fitted one to each rear quarter panel. The long stick faces forward.



The hood sticks fitted and erected

Extend the rear stick and ensure that the links (one shown arrowed) pass over their centres



Unfold the hood over the frame and engage the two locating sockets on the lower rear edge of the canopy with the retaining plates on the rear tonneau panel. Engage the fasteners around the rear of the canopy. Secure the hood header rail to the windshield frame with the two fastener assemblies.

Extend the rear stick to tension the canopy and ensure that the connecting links pass over their centres. Engage the hood quarter panel retainers in the locating sockets to the rear of each door opening and then secure the hood to the foot of each socket, the rear quarter of the frame linkages and the windshield pillars with the durable dot fasteners.

HOOD AND TONNEAU COVER

Folding the hood (standard)

Never fold the hood when it is wet or damp. Wait until it is perfectly dry.

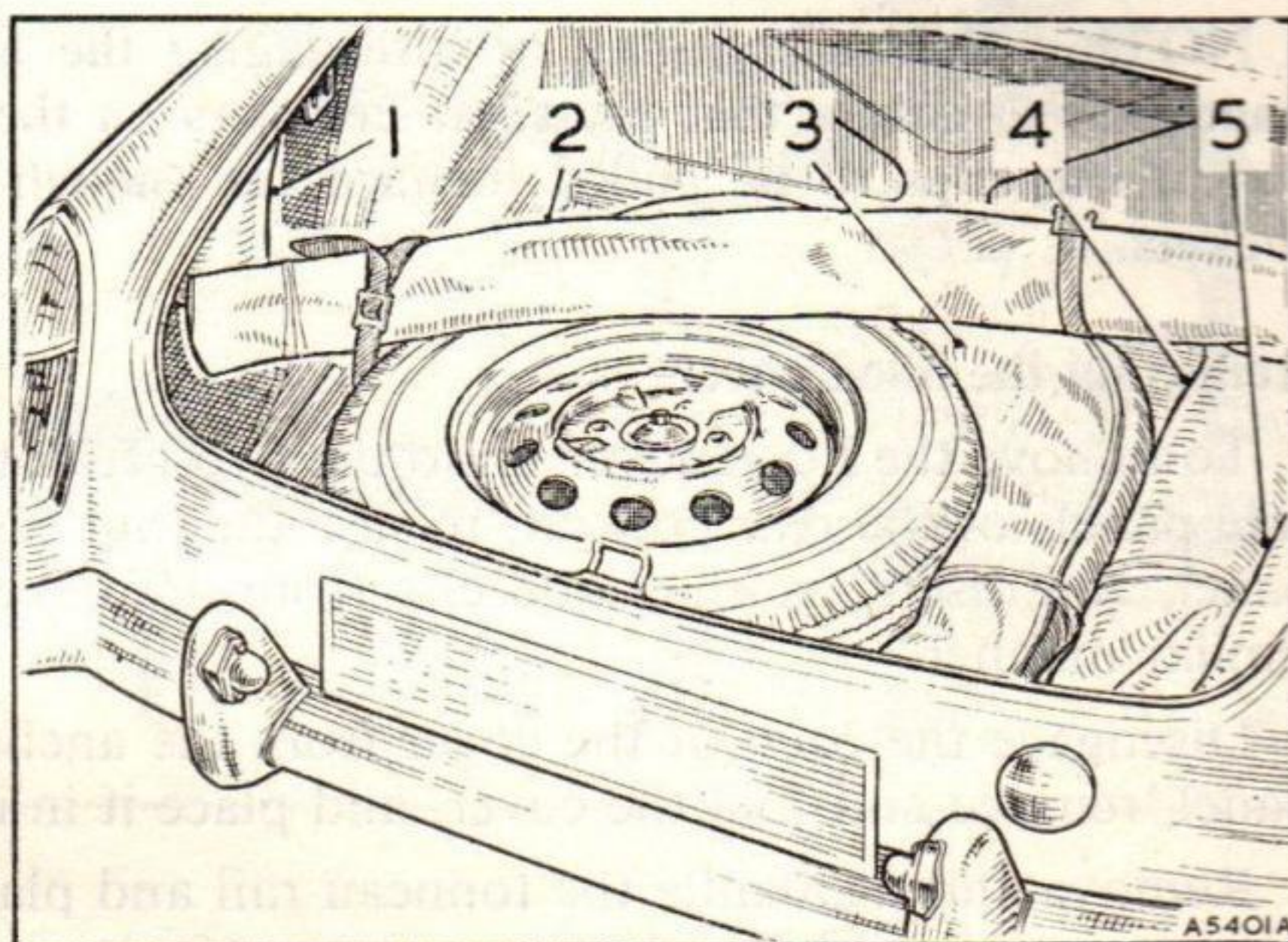
Unlock the over-centre links on the rear stick to slacken the canopy. Undo the durable dot fasteners, release the toggle lever catches, the retainers to the rear of each door opening and all fasteners around the rear of the hood.

Tuck the quarter panels in and roll up the canopy from the rear.

Withdraw the frame from the support sockets, fold the sticks and separate the two halves of the frame. Place the canopy and the frame in their respective stowage bags and stow in the luggage compartment.

The luggage compartment, showing the stowage positions for:

1. Tonneau rail.
2. Standard hood canopy.
3. Hood frame.
4. Tool bag.
5. Tonneau cover and hood cover.



Tonneau cover (optional)

To fit the tonneau cover assemble the tonneau cover rail and fit it to the support sockets. Engage the rear edge of the cover with the retaining plates and fasteners on the tonneau and quarter panels.

Extend the cover forwards to cover the seats and attach the front of the cover to the fasteners on the fascia panel top.

The front of the cover may be unzipped and folded back to give access to the driver's seat or folded back to give access to both front seats. When folded back ensure that the cover is folded under and that the flaps are securely attached to the fasteners on the heel-board.

Zip fasteners in the cover behind the tonneau rail permit seat belts to be used when the cover is in the folded-back position. Ensure that the flaps adjacent to these fasteners are secured.

OPTIONAL HOOD

When not in use the optional hood is folded and lowered into its stowage position in the rear cockpit of the car. In the stowed position the hood is secured by two straps attached to the body.

The hood is protected by a hood cover which is attached at the rear to eight fasteners and two anchor plates fitted to the rear quarter and tonneau panels respectively; it is supported at the front by a tonneau rail and secured to each inner side panel of the cockpit by two lift-dot fasteners.

The hood may be raised or stowed by one person, but where two persons are available, one working each side of the car, the time and effort is reduced.

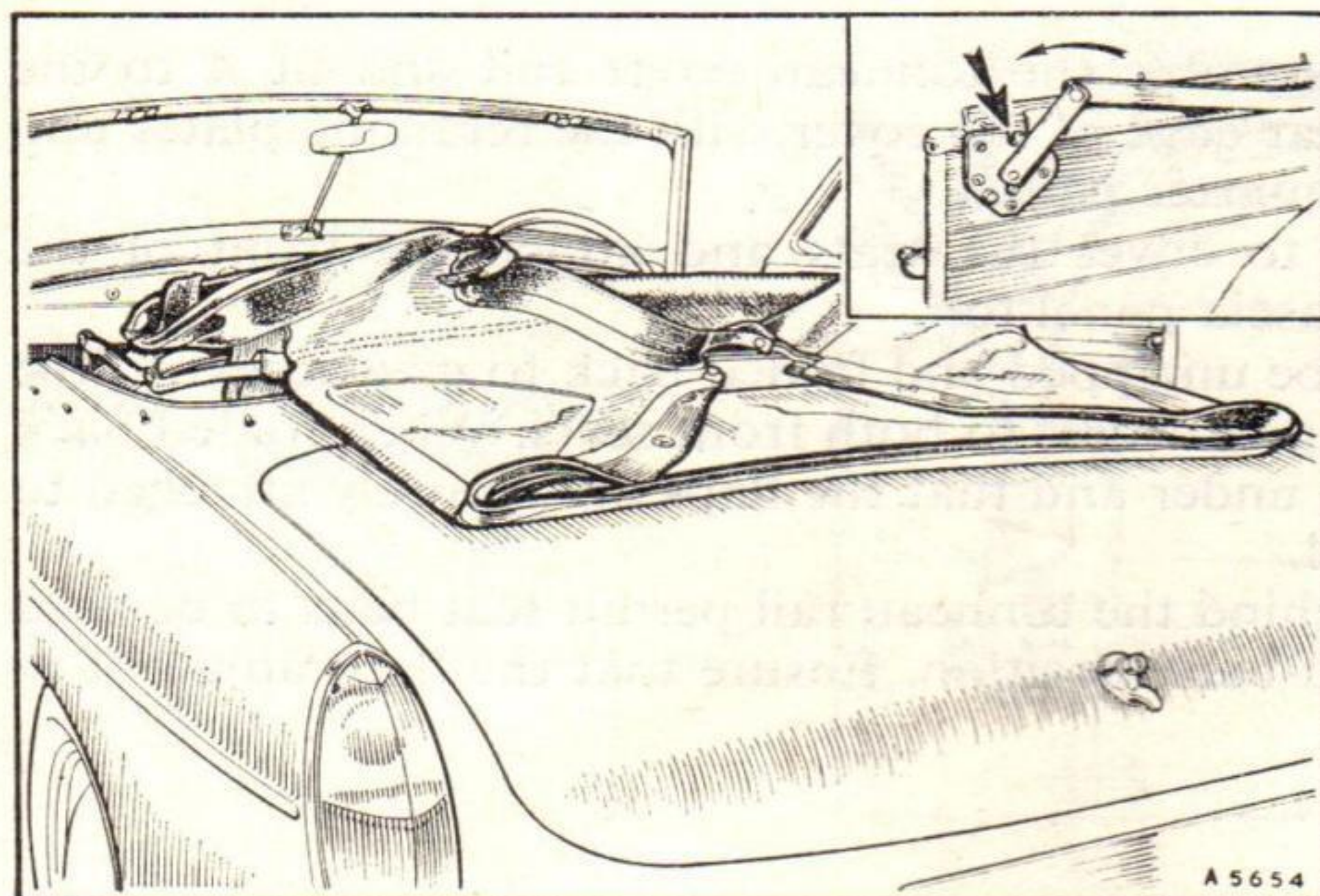
NOTE.—Before engaging or disengaging the hood or hood cover clips it is important to ensure that the eight fasteners on the quarter-panels are undone to permit the clips to be pulled forward far enough to engage or disengage their sockets.

Removing the hood cover

To remove the hood cover undo the two lift-dot fasteners on one of the inner side panels of the rear cockpit, release the four fasteners from the rear quarter-panel, and disengage the hood clip from its socket. Release the other side in a similar manner.

Disengage the back of the cover from the anchor plates on the rear tonneau panel, remove and fold the cover, and place it in its stowage bag.

Remove and dismantle the tonneau rail and place it in its stowage bag. Stow the cover and rail in the luggage compartment.



Lift the hood from the rear cockpit and lay it on the tonneau panel. Engage the swivel links (inset) in their respective slots and unroll the back-light

Raising the hood

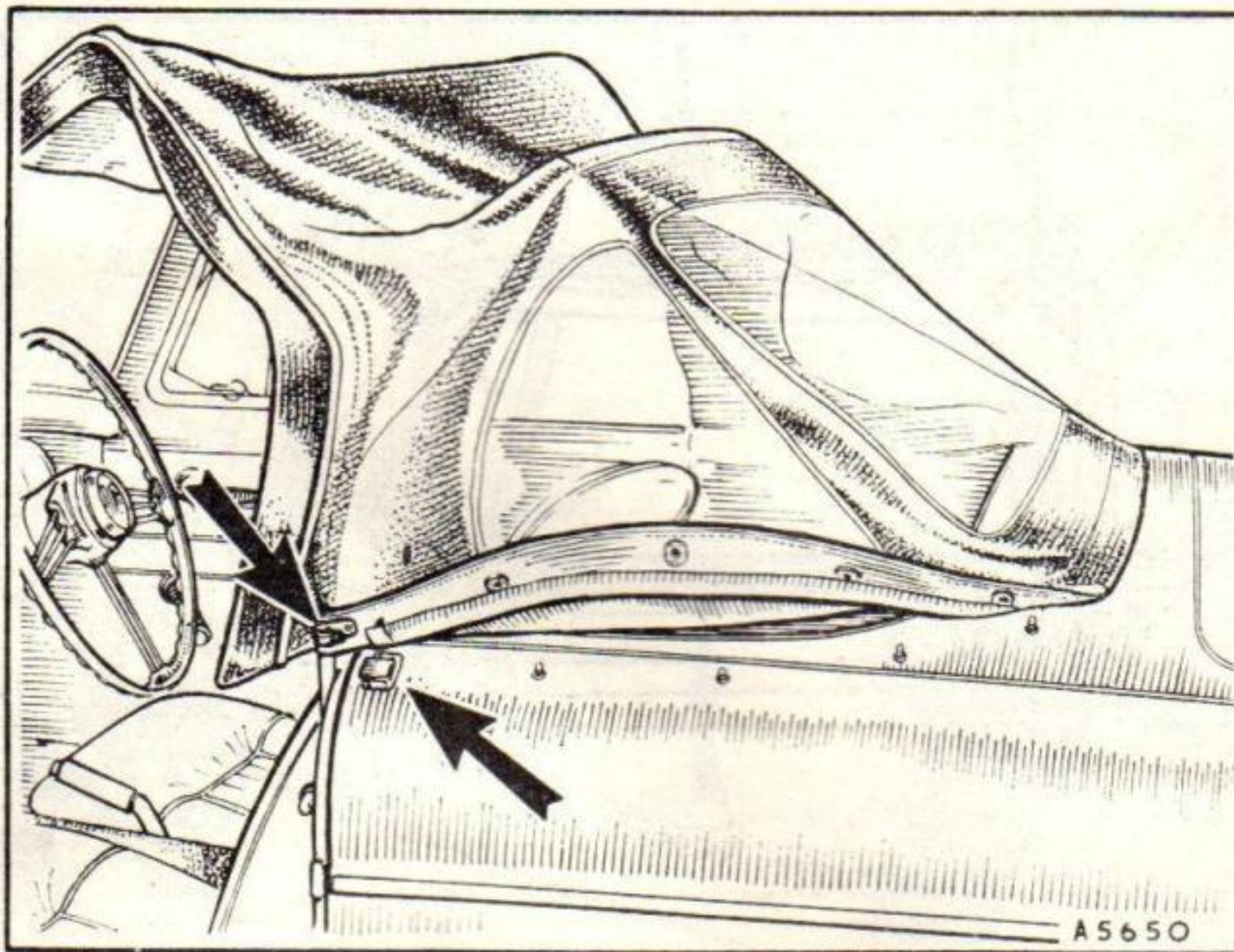
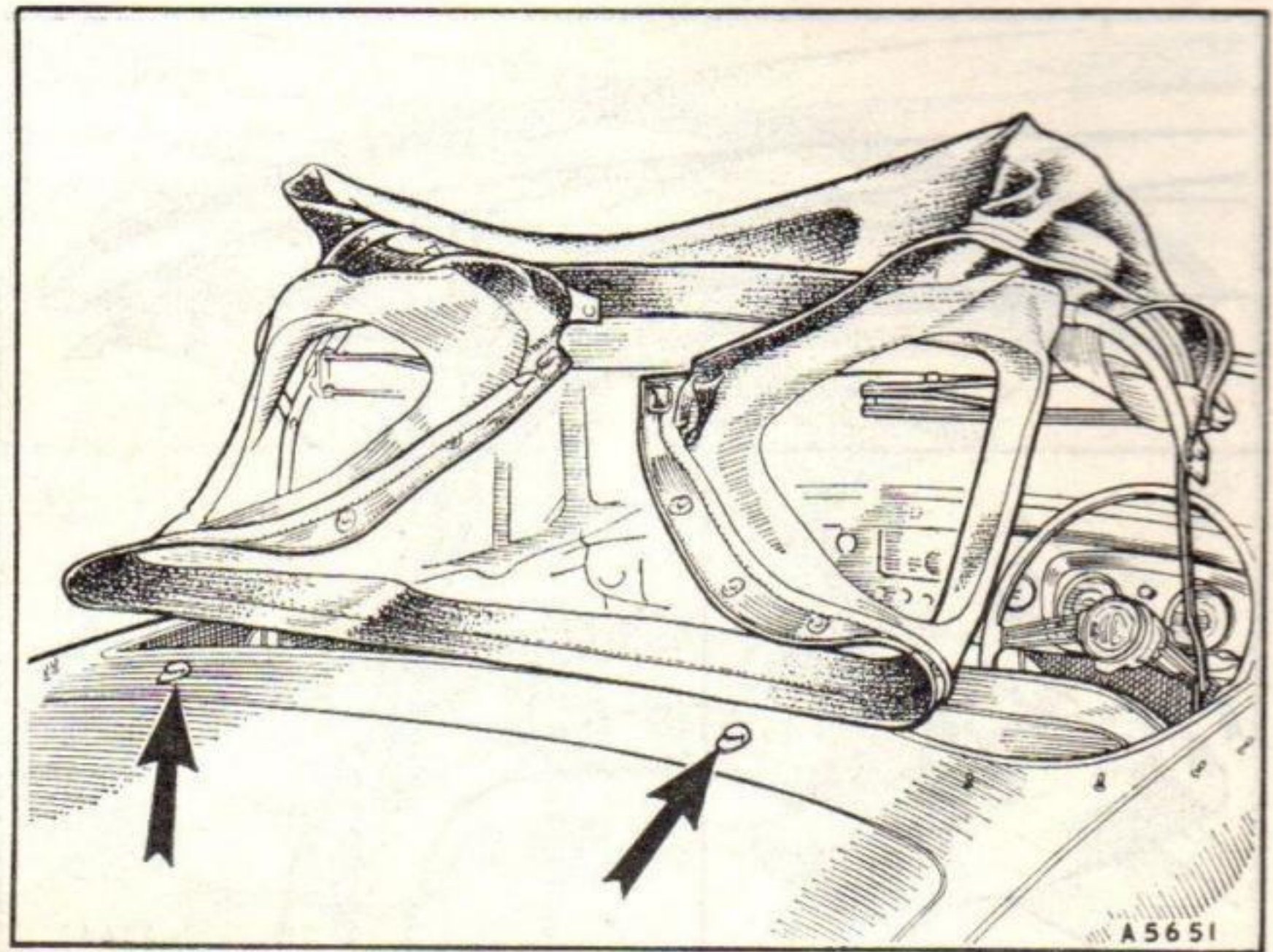
To raise the hood, release the hood-securing straps, lift the hood from the rear cockpit, and pull it back onto the tonneau panel. Alternatively, lower the seat squabs (this is only possible when the squab-retaining brackets have been reversed) and swing the hood forward until it rests on the rear of the seat squabs.

Pivot each swivel link in turn to its upper position and drop them into their respective slots in the base of the hood frame fitting.

OPTIONAL HOOD

Lift the hood from the seat squabs or tonneau panel and allow the back-light to unroll. Engage the bottom of the back-light in the anchor plates on the tonneau panel and pull the header rail forward to prevent the hood falling backwards.

Lift the hood and engage the bottom of the back-light in the anchor plates on the tonneau panel. Pull the hood forward

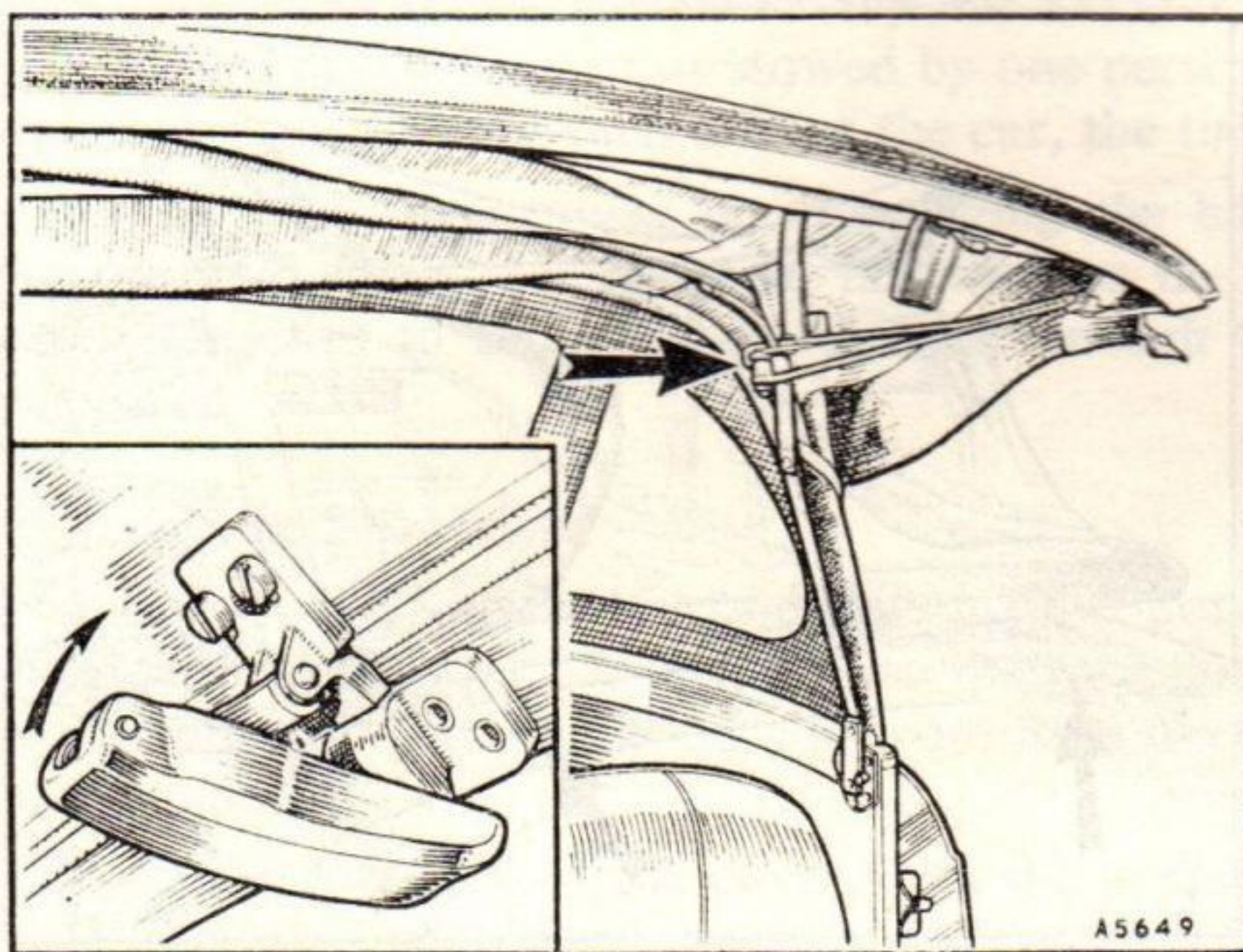


Engage the hood clip (shown arrowed) and then do up the four fasteners on the rear quarter-panel

Unfold a quarter-light, engage the hood clip in its socket, and then do up the four fasteners on the quarter-panel. Secure the other quarter-light in a similar manner.

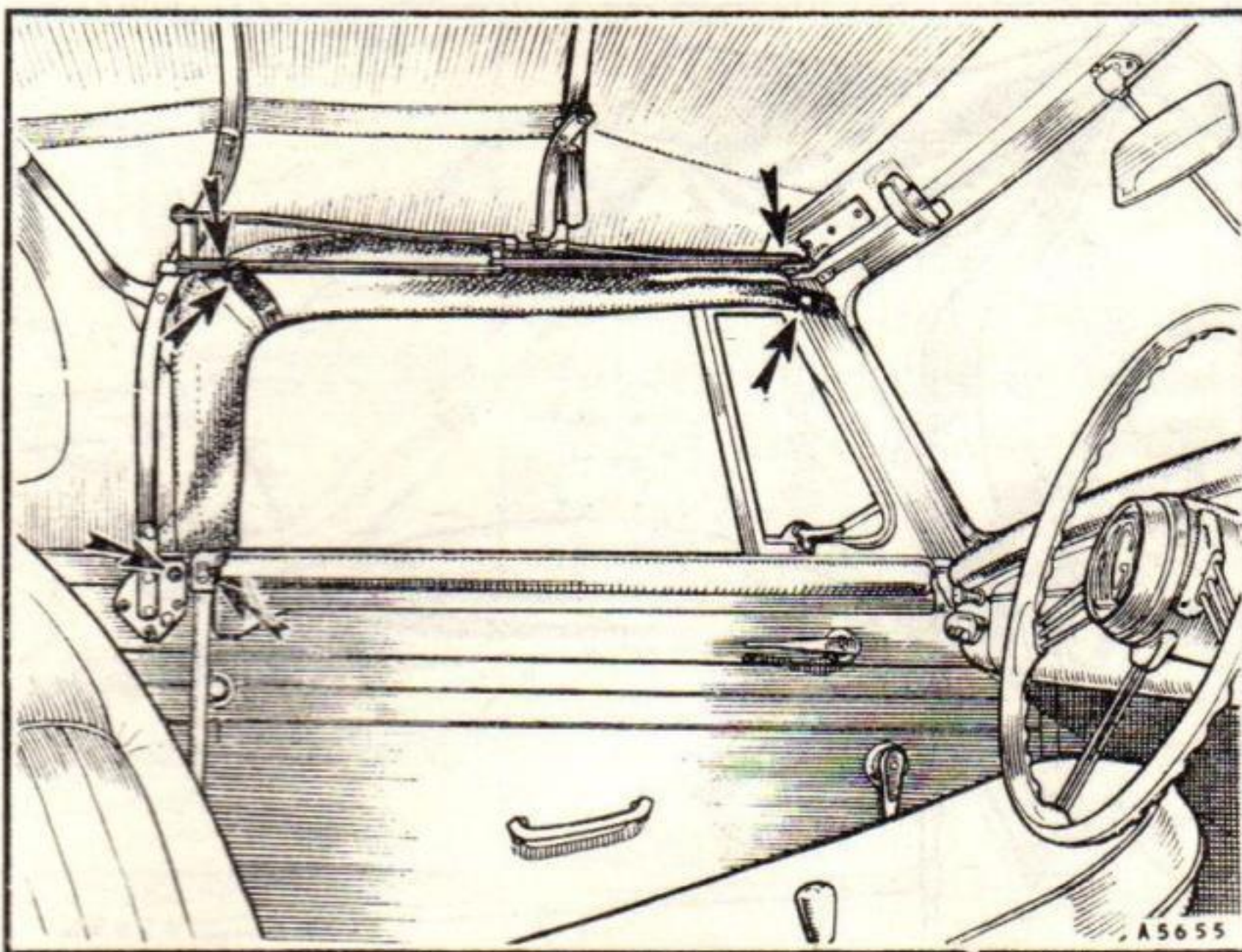
OPTIONAL HOOD

From inside the car fully extend the hinge links and engage the toggle fasteners on the header rail with their sockets on the top of the windshield frame.



Extend the hinge links and (inset) do up the toggle fasteners

Do up the six lift-dot fasteners (three shown arrowed)



Secure the six lift-dot fasteners situated one at the top of each windshield pillar, one on the rear of each hinge link, and one on each swivel link. Link each of the two hood-retaining straps together.

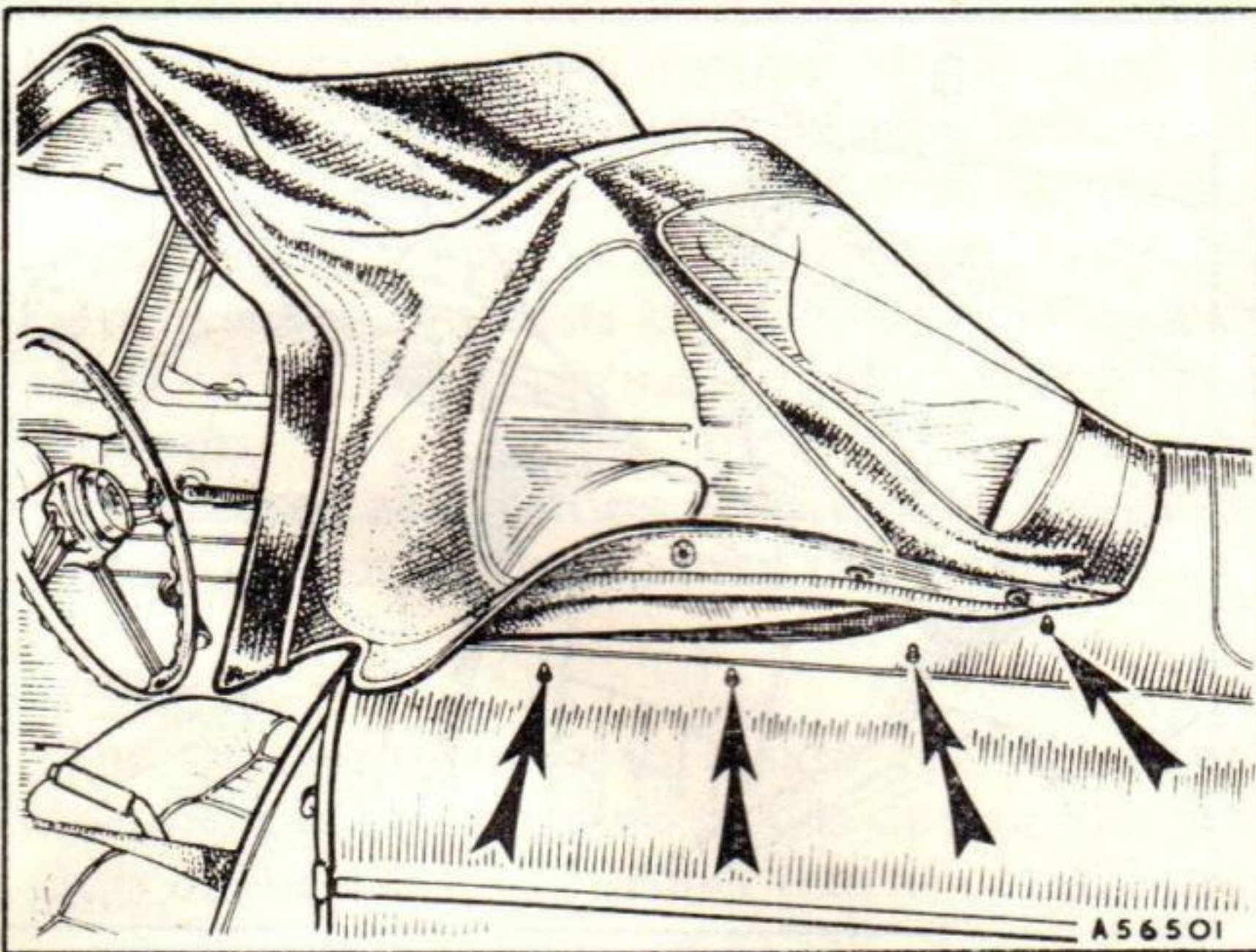
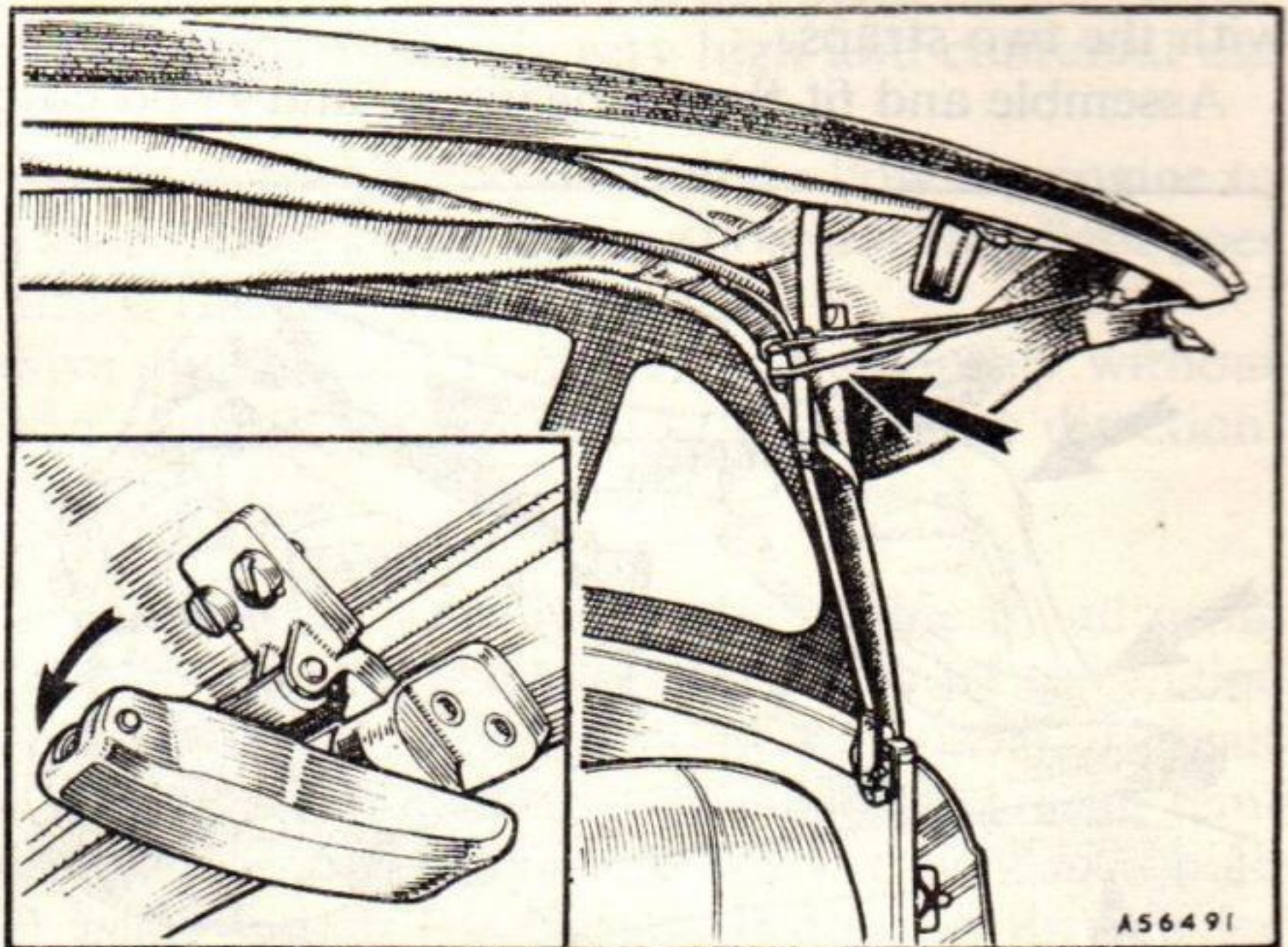
OPTIONAL HOOD

Folding the hood

Never fold the hood when it is wet or damp.

From inside the car release the six lift-dot fasteners and the toggle fasteners. Lift the header rail clear of the windshield frame and then collapse the hinge links.

Undo the six lift-dot fasteners, release the toggle fasteners, and collapse the hinge links



Release the hood fasteners from the quarter-panel and disengage the hood clip

On one side of the car release the four fasteners on the rear quarter-panel, disengage the hood clip, and fold the quarter-light onto the back-light; ensure that the fold is made along the hood material.

From the other side of the car release and fold the remaining quarter-light in a similar manner.

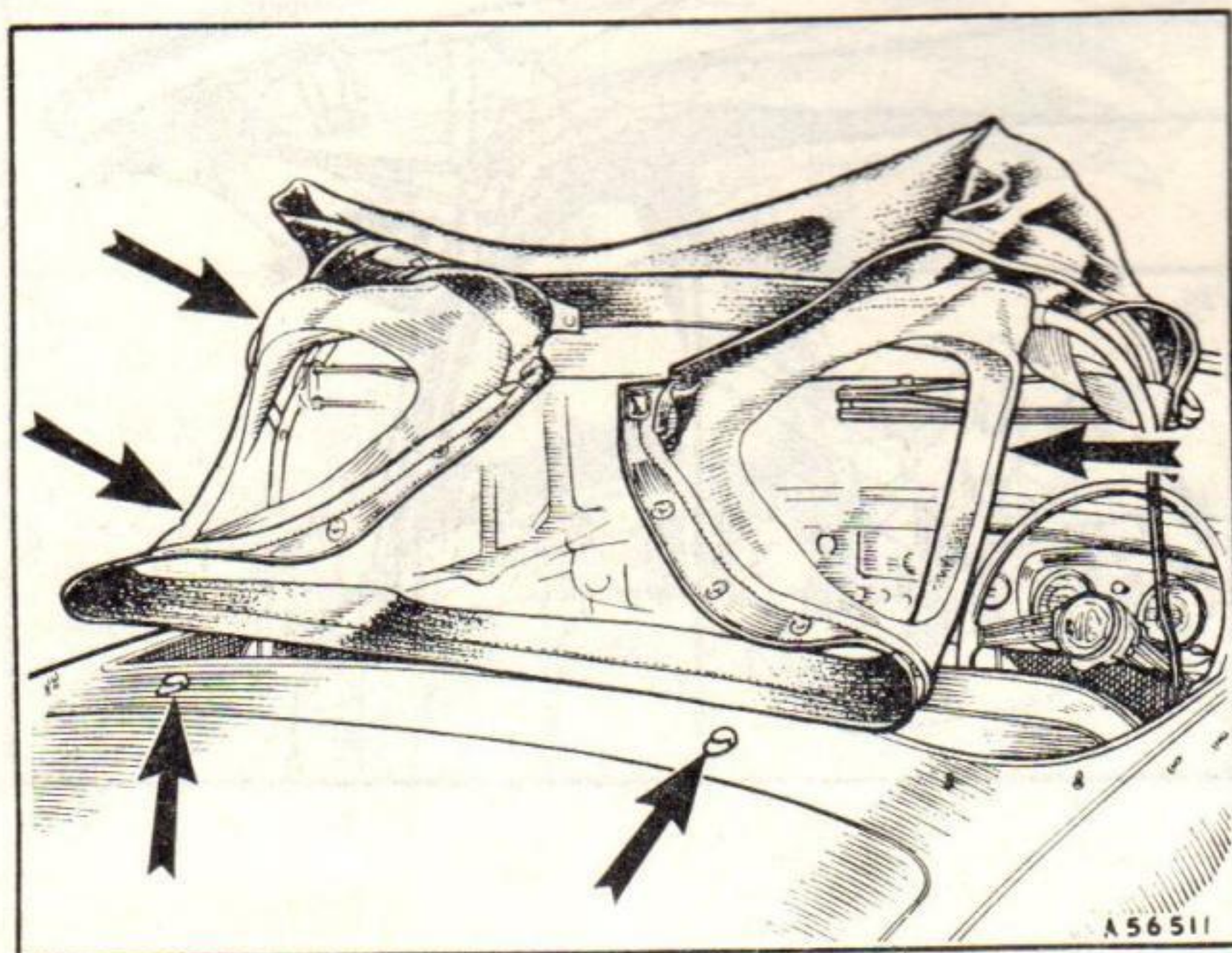
OPTIONAL HOOD

Bring the header rail towards the rear frame and pull out the surplus hood material clear of the frame. Support the hood with one hand and with the other release the bottom of the hood from the anchor plates. Allow the hood to rest on the tonneau panel or the rear of the seat squabs.

Disengage each swivel link in turn and then roll up the back-light and quarter-lights. Fold the surplus canopy over the back-light to protect it.

Lift the hood from the rear of the seat squabs or the tonneau panel and pivot it down into the rear cockpit. Pull the hood back as far as it will go and secure it with the two straps.

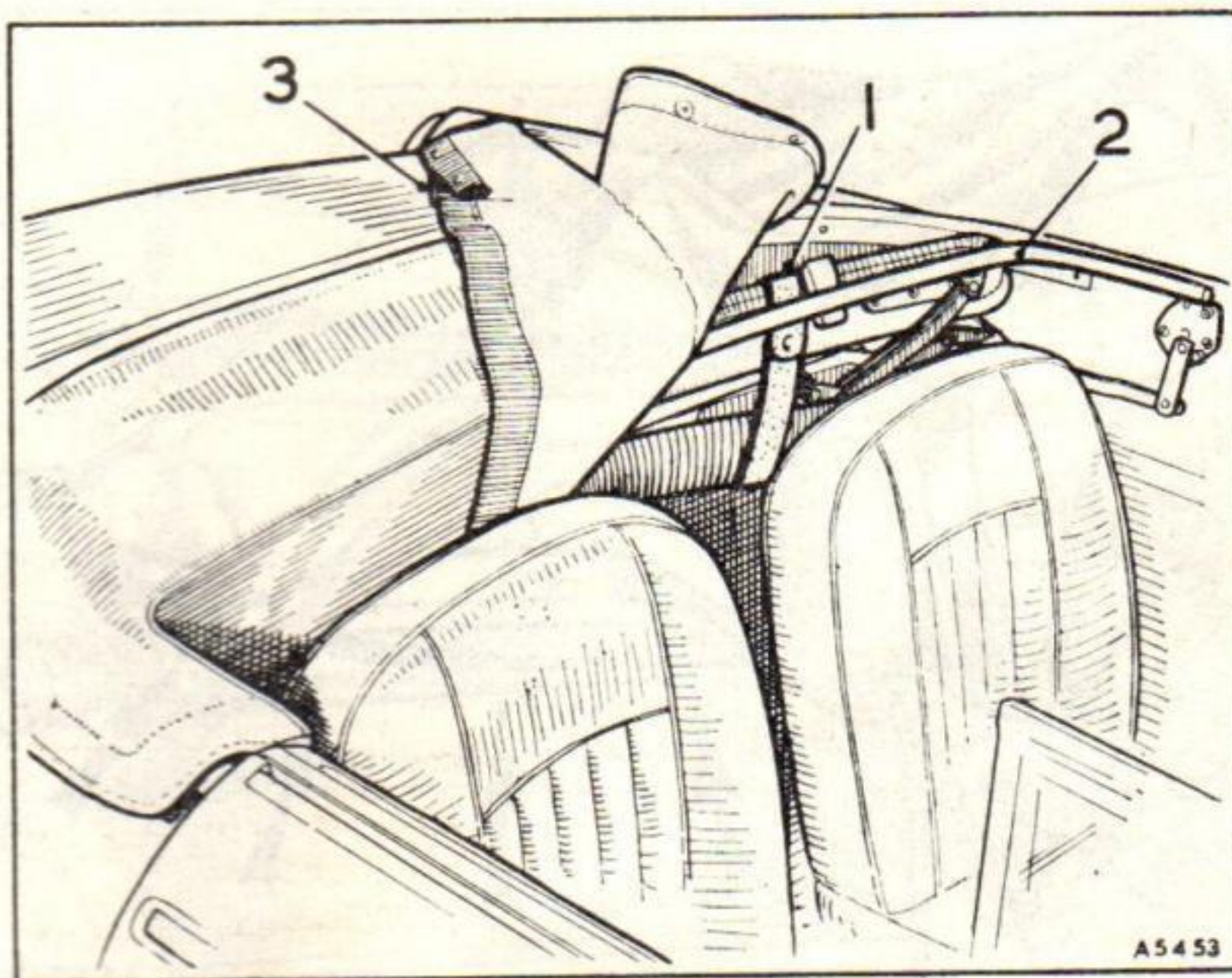
Assemble and fit the tonneau rail and hood cover.



Fold the quarter-lights inwards, release the back-light from the anchor plates, and lay the hood on the tonneau panel or rear of the seat squabs. Roll up the back-light and cover it with the surplus canopy. Then disengage the swivel links

The optional hood in the stowed position, showing:

1. A hood securing strap.
2. The tonneau rail.
3. Hood cover.



Fitting the hood cover

Assemble the tonneau rail and fit it to the body sockets with the cross-rod of the rail towards the rear. Spread the cover over the rail and engage the back of the cover with the anchor plates on the tonneau panel. Engage the hood cover clip with its socket and do up the four fasteners on the rear quarter panel. Do up the two lift-dot fasteners inside the rear cockpit.

Secure the other side of the hood cover in a similar manner.

RUNNING INSTRUCTIONS

Starting up

Before starting the engine ensure that the gear lever is in neutral and the hand brake is applied. If the engine is cold pull out the choke control.

Switch on the ignition, check that the ignition warning light glows and that the fuel gauge registers; operate the starter switch. If the engine fails to start within five or six seconds release the starter switch and allow the engine to come to rest. Should the engine fail to start after a reasonable number of attempts, trace and rectify the cause of the failure. Do not persist in operating the starter as the current consumption of the starter motor is very high and continual use may be detrimental to the batteries.

Release the starter switch as soon as the engine starts and allow the engine to warm up at a fairly fast idling speed. Check that the ignition warning light goes out and that the correct pressure is shown on the oil gauge.

As soon as the engine is warm enough to run evenly and smoothly without a rich mixture, release the choke control by turning it in a clockwise direction.

Warming up

Research has proved that the practice of warming up an engine by allowing it to idle slowly is definitely harmful. The correct procedure is to let the engine run fairly fast, at approximately 1,000 r.p.m., corresponding to a speed of about 18 m.p.h. (27 km.p.h.) in top gear, so that it attains its correct working temperature **as quickly as possible**. Allowing the engine to work slowly in a cold state leads to excessive cylinder wear, and far less damage is done by driving the car straight on the road from cold than by letting the engine idle slowly in the garage.

Overdrive (optional)

The overdrive can be engaged at any speed within the third or fourth gear range at any throttle opening between light and full throttle. **DO NOT** depress the clutch pedal to select 'overdrive' or 'normal'.

To prevent overspeeding the engine **DO NOT** select 'normal' top from 'overdrive' top at speeds in excess of the direct drive maximum or change from 'overdrive' third to 'normal' third at speeds in excess of 'normal' third speed maximum.

If increased acceleration is required when in 'overdrive' top the overdrive can be switched out to give normal top gear.

Running in

The treatment given to a new car will have an important bearing on its subsequent life and engine speeds during this period must be limited.

It is important to remember that at no time during the running-in period must the engine be overloaded or raced.

The following instructions should be strictly adhered to.

During the first 500 miles (800 km.)

DO NOT exceed 45 m.p.h. (72 km.p.h.).

DO NOT operate at full throttle in any gear.

DO NOT allow the engine to labour in any gear.

After the first 500 miles (800 km.) the running-in speed may be progressively increased until the engine is fully run in.

GETTING THE BEST FROM YOUR 'MGB'

When fitted with a H.C. engine (compression ratio 8·8 : 1)

The engine fitted to your 'MGB' is a highly developed unit and it is essential that you should know something about the specialized maintenance it requires if you are to maintain it at the peak of its mechanical efficiency.

Special recommendations on the sparking plugs, ignition settings, and fuel to be used are given by the manufacturers, and it is stressed that failures are bound to occur if these are not strictly adhered to. Particular care is needed with this engine owing to its high compression ratio, which makes it extremely sensitive to variations in fuel, ignition timing, and the heat range to the sparking plugs.

In lower compression engines a much wider range of fuels can be tolerated without causing serious damage to the engine, and ignition settings will stand variations of a reasonable amount. Also, even if the incorrect sparking plugs are used, no more damage may be incurred than burnt-out plugs or leaky valves. But with an engine having a very high compression ratio the range of fuels, sparking plugs, and ignition settings is much narrower and it is essential that the mixture should always be correct, and particularly never overweak at maximum load or power.

High-compression engines are very sensitive to variations in spark advance (over-advance) and to fuel/air ratio (mixture). Variations in these settings will increase the combustion temperature, and if the variation is excessive pre-ignition will cause high shock waves, resulting in damage to the engine. The engine should be decarbonized at regular intervals as excessive deposits of ash from the combustion of lubricating oil and fuel can cause pre-ignition difficulties.

Choice of fuel

When fitted with H.C. engine (compression ratio 8·8 : 1)

The octane number of a motor fuel is an indication given by the fuel technicians of its knock resistance. High-octane fuels have been produced to improve the efficiency of engines by allowing them to operate on high compression ratios, resulting in better fuel economy and greater power. Owing to the high compression ratio of the 'MGB' engines, fuels with an octane rating below 98 are not suitable; should it be necessary to use a fuel with a lower octane number, the car must be used very carefully until the correct fuel can be obtained.

It is necessary to use Super grade fuels in the 100-octane range unless Premium fuels of minimum 98-octane Research are available.

When fitted with L.C. engine (compression ratio 8·0 : 1)

Premium fuels of minimum 93-octane Research up to 97 octane are required, with preference to 95/97.

Super grade fuels in the 100-octane range can be used if preferred.

Sparking plugs

The correct grade of sparking plug for use under normal driving conditions is the Champion N-9Y. Plugs of a lower heat range (hotter running) should not be used, otherwise pre-ignition will occur, with consequent rise in combustion temperature and resulting engine damage. For competition work or hard driving where high output is consistently sustained the Champion N3 sparking plug should be used. This is a cooler-running plug and will ensure lower

Getting the best from your 'MGB'

combustion temperatures and an increased margin of safety. Accumulated deposits of carbon, leaking or cracked insulators, and thin electrodes are all causes of pre-ignition. The plugs should therefore be examined, cleaned, and adjusted at the specified intervals and defective ones renewed. New plugs should be fitted every 12,000 miles (20000 km.).

Static ignition settings

It is of the utmost importance that the correct setting should always be maintained. It will be appreciated that any variation in the contact breaker gap will affect the ignition setting, and your particular attention is called to the 6,000 miles (10000 km.) check and adjustment of the distributor points (see page 55). After adjusting the contact breaker gap to the correct setting it is advisable to check the ignition timing, and to correct it if necessary.

An accurate check can be carried out by a very simple electrical method. To do this, connect a 12-volt lamp between the low-tension terminal on the side of the distributor and a good earth point on the engine.

With the ignition switched on and the sparking plugs removed, turn the crankshaft until the crankshaft pulley timing groove (see page 29) is exactly at the correct number of degrees as stated under '**GENERAL DATA**' (page 4).

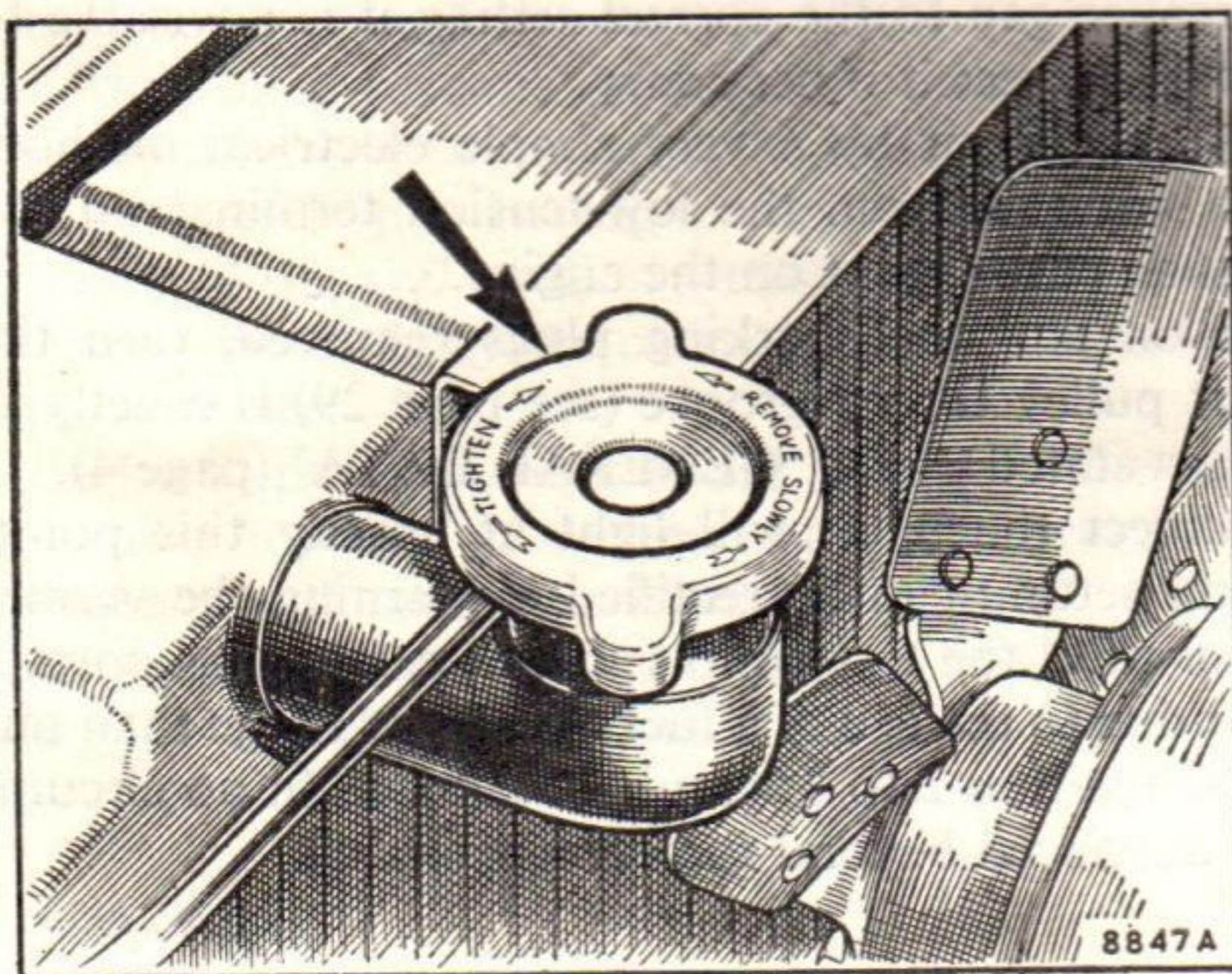
If the ignition timing is correct the lamp will light at exactly this point. Any discrepancy in the ignition setting can be rectified by turning the vernier adjusting nut on the distributor until the test lamp lights at exactly the correct setting. If pinking should occur due to the use of a fuel of a lower range than our recommendations, retarding the ignition 2 to 3° can be tolerated. In no circumstances should the ignition be advanced beyond the correct setting.

COOLING SYSTEM

Filling the radiator

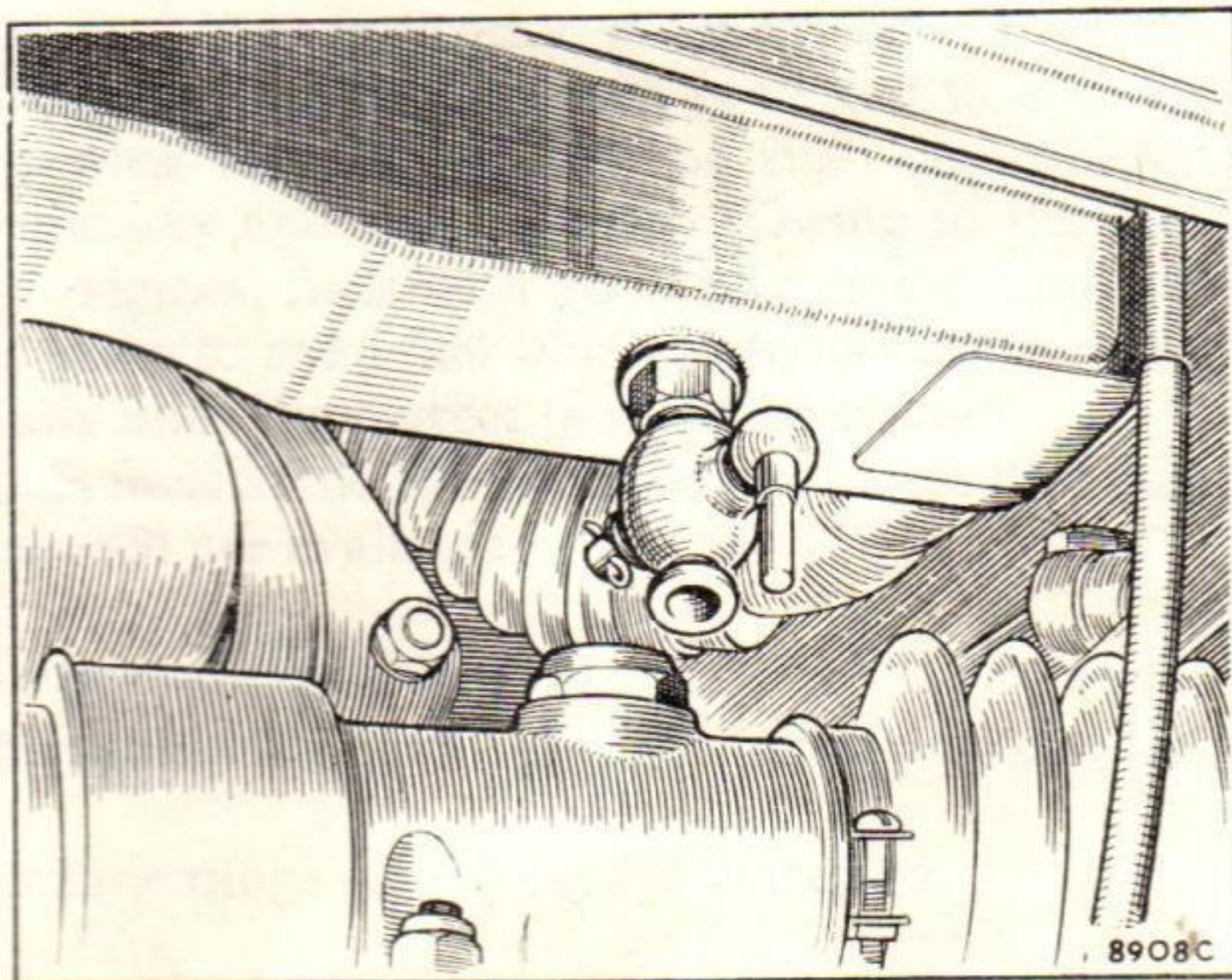
A pressurized cooling system is used on this vehicle and the pressure must be released gradually when removing the radiator filler cap if the system is hot. It is advisable to protect the hands against escaping steam and then turn the cap slowly anti-clockwise until the resistance of the safety stop is felt. Leave the cap in this position until all pressure is released. Press the cap downwards against the spring to clear the safety stops and continue turning until it can be lifted off.

The radiator should be filled until approximately 1 in. (25 mm.) of water is visible in the filler neck.



The radiator filler cap. Unscrew the cap slowly if it is being removed while the engine is hot

The radiator drain tap is located on the left-hand side of the radiator bottom tank



Radiator drain tap

This tap is located on the front of the radiator bottom tank on the left-hand side and is accessible from below the front bumper between the number-plate and the over-rider. Release the radiator filler cap carefully (see above) when draining the radiator. To drain the cooling system completely the engine drain tap must also be opened.

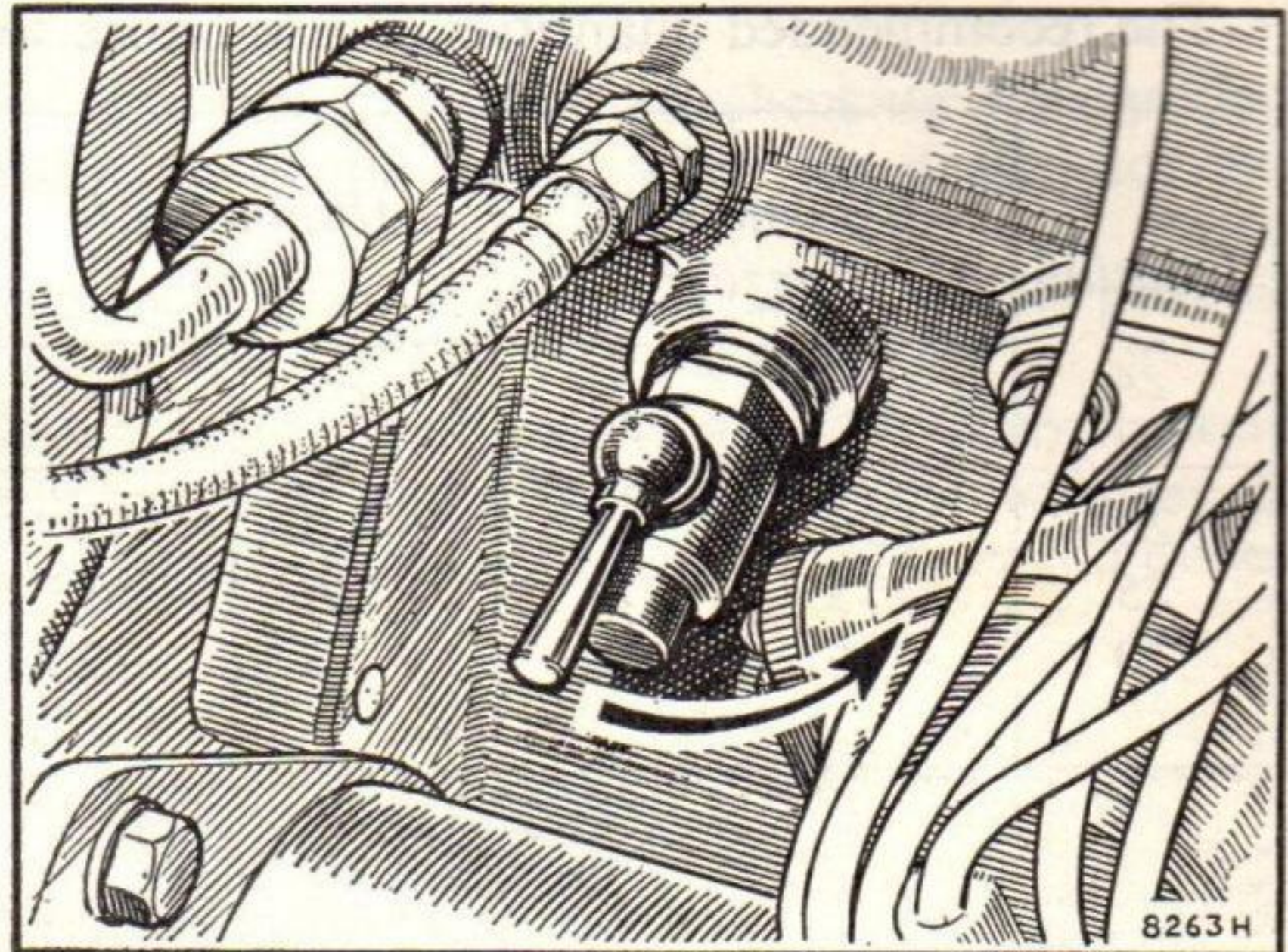
COOLING SYSTEM

Engine drain tap

To drain the water from the engine carefully release the radiator filler cap (see page 26) and open the tap on the rear right-hand side of the cylinder block.

To drain the cooling system completely the radiator drain tap also must be opened.

The cylinder block drain tap is located on the right-hand side of the engine at the rear



Heater unit

When a heater unit is fitted the water cannot be drained from it completely by opening the engine and radiator drain taps, and it is essential that an anti-freeze mixture is used in the cooling system to prevent damage by freezing.

To assist draining the system when a heater unit is fitted the temperature control lever on the heater panel should be in the 'HOT' position.

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 cooling system when the vehicle is left for any length of time in frosty weather, or by adding anti-freeze to the water. When a heater is fitted anti-freeze **must** be used as no provision is made for draining the unit.

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, followed by the water.

To avoid wastage by overflow add just sufficient water to cover the bottom of the header tank. Then run the engine until it is hot and add sufficient water to bring the surface to the correct working level, i.e. with about 1 in. (2.5 cm.) of water visible in the filler neck.

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

COOLING SYSTEM

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

Do not use radiator anti-freeze solution in the windshield-washing equipment.

The recommended quantities of anti-freeze solutions are as follows:

<i>Solution</i> %	<i>Commences freezing</i>		<i>Absolute safe limit</i>		<i>Amount of anti-freeze</i>		
	° C.	° F.	° C.	° F.	<i>Pts.</i>	<i>U.S. pts.</i>	<i>Litres</i>
20	-9	16	-19	-3	2	2.4	1.1
25	-13	9	-26	-15	2½	3.0	1.4
30	-16	3	-33	-28	3½	3.9	1.9

IGNITION

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.

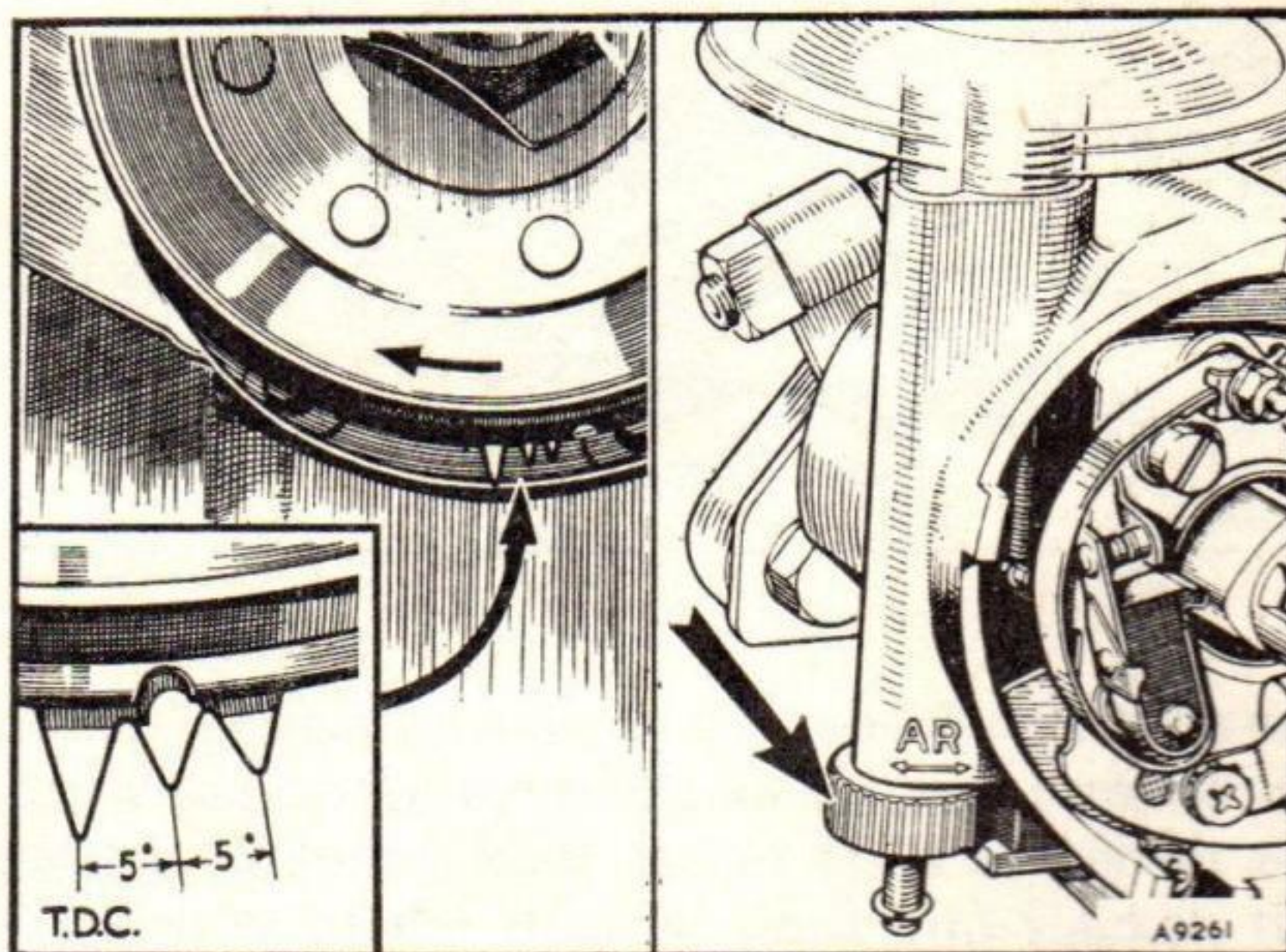
Checking static ignition timing

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 distributor cam (see page 55).

The rim of the crankshaft pulley has a small groove which will correspond with the long pointer on the timing cover when Nos. 1 and 4 pistons are at T.D.C.; the other two pointers indicate 5° and 10° B.T.D.C. To turn the pulley

The distributor adjusting nut (arrowed) together with the timing cover pointers and crankshaft pulley groove



to the required position remove the sparking plugs, engage top gear, and push the car forward until the groove in the pulley is in the correct position ('GENERAL DATA').

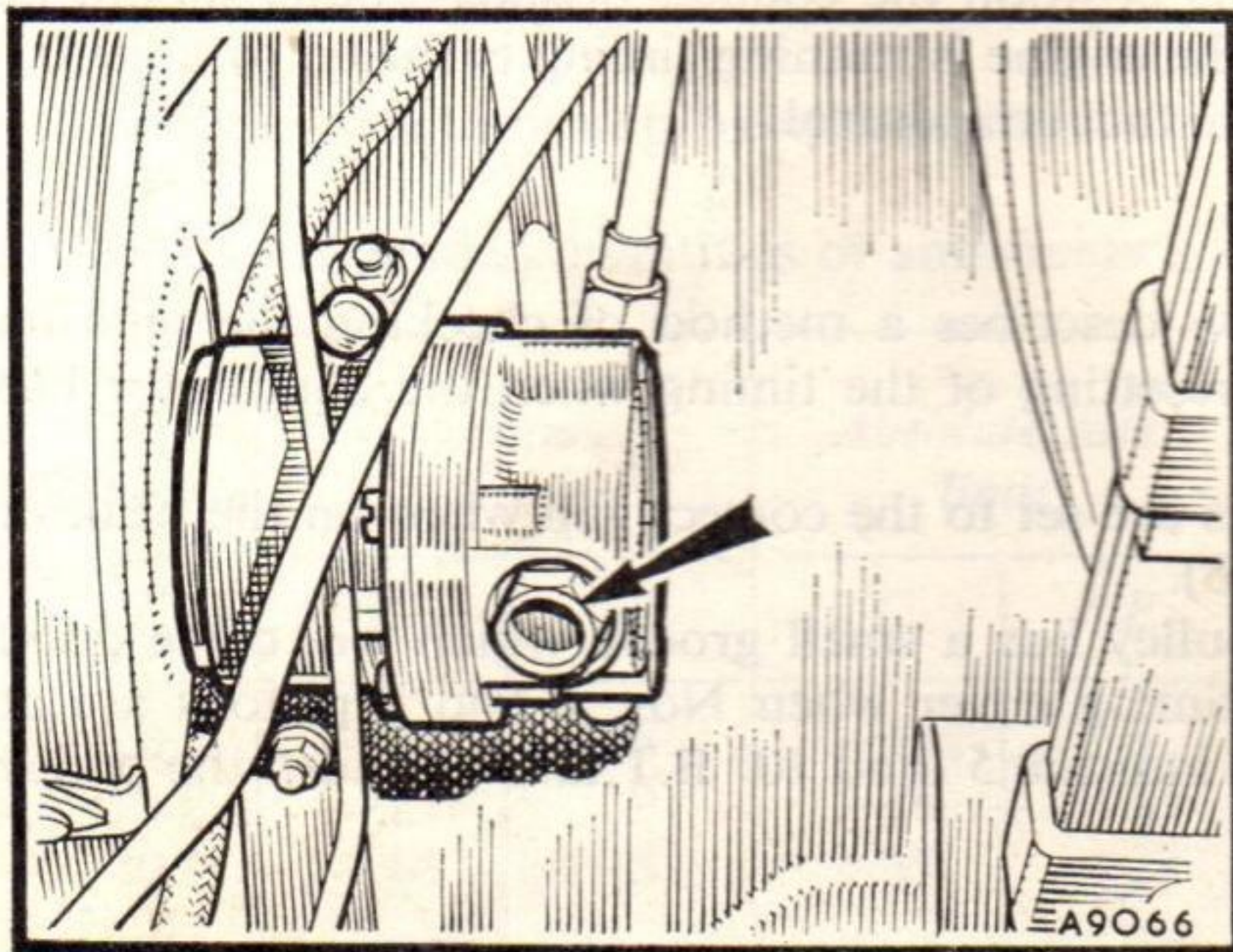
With the crankshaft in this position the contact points should be just about to open. If the points are open, turn the knurled nut towards 'R' until they are closed; if they are closed, turn the nut towards 'A'. In both cases turn the nut until the points are just parting.

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. 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.

FUEL PUMP

The fuel pump is mounted on a bracket secured to the heelboard adjacent to the front of the right-hand rear spring.



The fuel pump, showing (arrowed) the pump filter plug

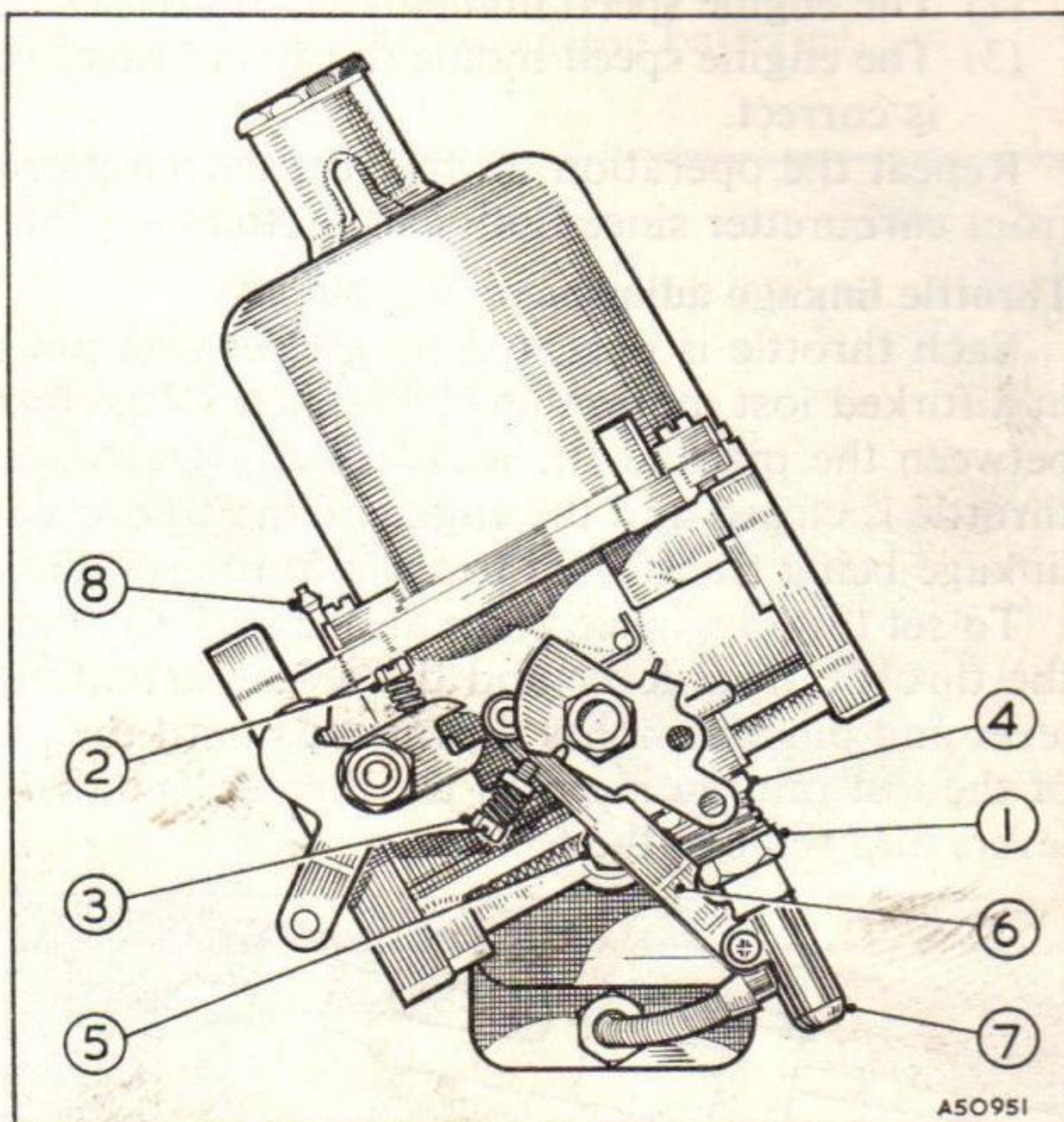
CARBURETTER ADJUSTMENTS

The twin carburetters are carefully balanced and it is important that only qualified persons be allowed to rectify any major fault.

In the event of poor running ensure that the pistons are moving freely in their suction chambers and that the dashpots are correctly topped up with oil (see pages 47 and 59).

A rear carburetter, showing:

1. Jet adjusting nut.
2. Throttle stop screw.
3. Choke or fast-idle screw.
4. Jet locking nut.
5. Float-chamber securing nut.
6. Jet link.
7. Jet head.
8. Vacuum ignition take-off



Synchronization and slow-running adjustment

Allow the engine to reach its normal operating temperature and then switch off.

Disconnect the choke cable from the choke control bracket and remove the air cleaners. Slacken the two throttle coupling lever clamp bolts to permit the throttle spindles to move independently of the throttle shaft and slacken the two choke lever clamp bolts to free the choke actuating levers. Unscrew the fast idling screw.

Start the engine and unscrew both throttle adjusting screws to close the throttles and then open the throttles by screwing each screw in one complete turn. Switch off the engine.

Remove the suction chambers and pistons, slacken the jet housing locknut and screw the jet adjusting nut up until each jet is flush with the bridge piece of its respective carburetter. Refit the pistons and suction chambers and check the pistons for freedom of movement by operating the piston pins. Turn each jet adjusting nut down two complete turns.

Start the engine and adjust the throttle adjusting screws to give the desired idling speed. Listen to the suction noise at each carburetter in turn and make fine adjustments until a similar noise is heard at each carburetter.

Mixture adjustment

Press each jet upwards and turn each jet adjusting nut the same amount until the fastest idling speed consistent with even firing is obtained.

CARBURETTER ADJUSTMENTS

As the mixture is adjusted the engine may run a little faster, in which case it will be necessary to adjust each throttle adjusting screw by the same amount to reduce the speed.

After adjustment check the mixture strength of the front carburetter by lifting the piston pin approximately $\frac{1}{32}$ in. (.75 mm.). If:

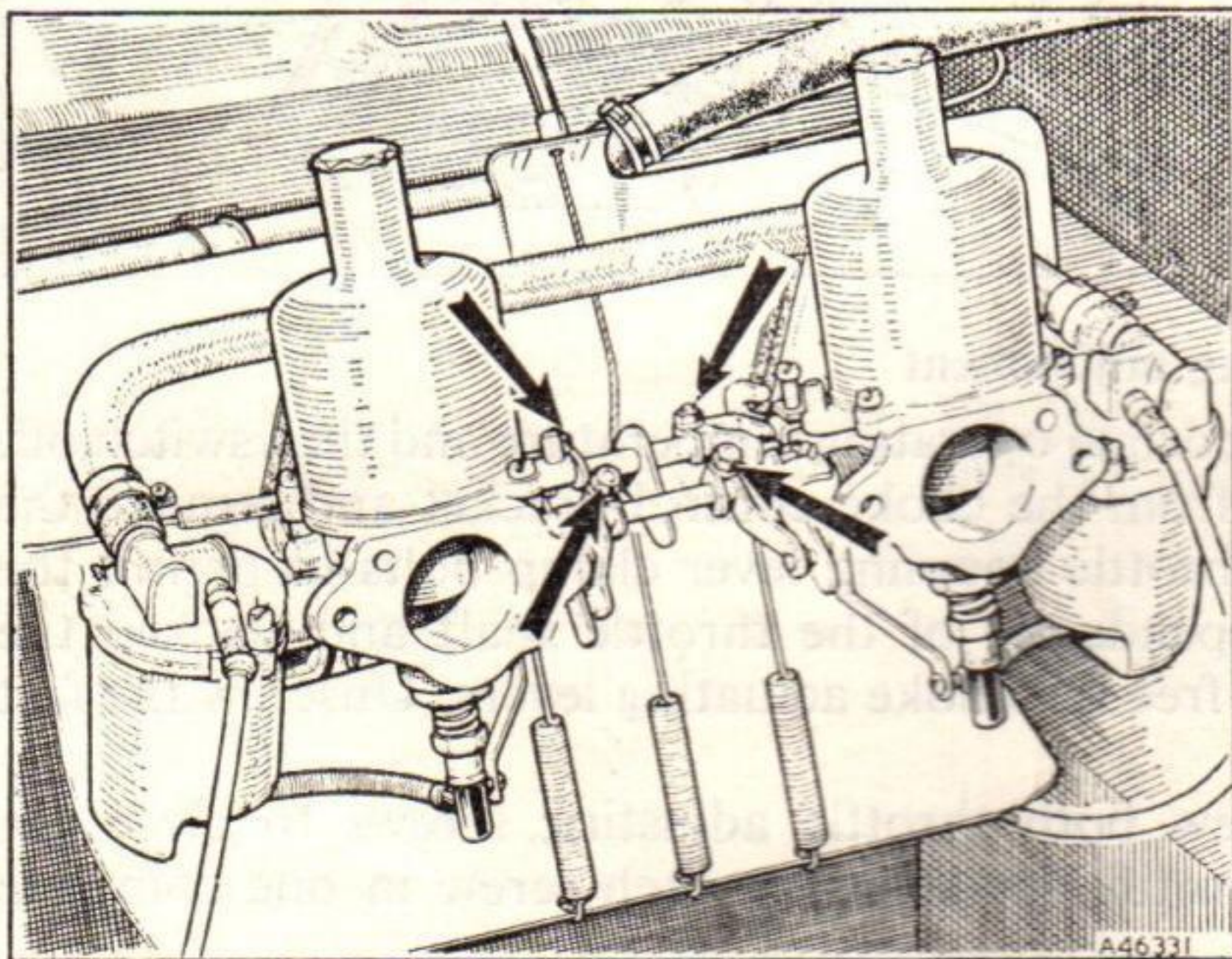
- (1) The engine speed increases the mixture strength is too rich.
- (2) The engine speed immediately decreases the mixture strength is too weak.
- (3) The engine speed momentarily increases very slightly the mixture strength is correct.

Repeat the operation on the rear carburetter and after adjustment check the front carburetter since both carburetters are interdependent.

Throttle linkage adjustment

Each throttle is operated by a lever and pin assembly with the pin working in a forked lost motion lever attached to the throttle spindle. A clearance exists between the pin and the fork and this clearance must be maintained when the throttle is closed and the engine idling to prevent any load from the accelerator linkage being transferred to the throttle spindle.

To set this clearance place a .012 in. (.305 mm.) feeler between the bottom of the throttle shaft lever and the choke actuating lever shaft. Move the throttle lever and pin assemblies downwards until the pin rests lightly on the lower arm of the lost motion lever on the throttle spindle. Tighten the clamp bolts on the levers and remove the feeler.



The throttle coupling lever clamp nuts and choke lever clamp nuts are indicated by the arrows

Choke control adjustment

Tighten the choke actuating lever clamp bolts and refit the air cleaners and the choke control cable.

Disconnect the jet head linkage and pull out the choke control.

A small clearance must exist between the fast-idle cam and its abutment screw when the choke control is pushed fully in.

To obtain this setting disconnect the jet head linkage, pull the choke control fully out and start the engine. Adjust the fast idle cam abutment screw to obtain an engine speed of approximately 1,000 r.p.m. when the engine is hot. Switch off the engine.

Push the choke control in, connect the jet head linkage and then check the operation of the throttle and choke controls.

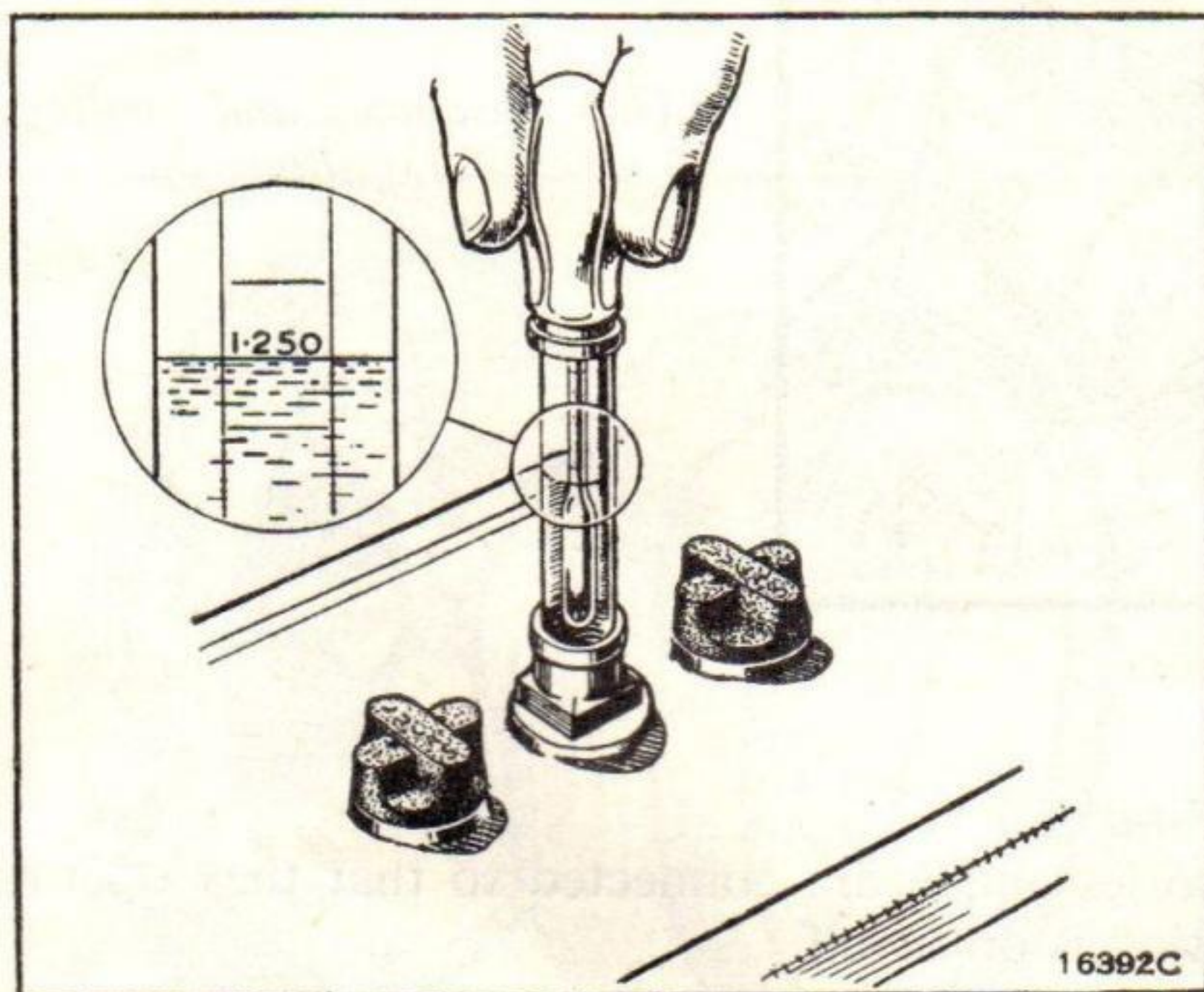
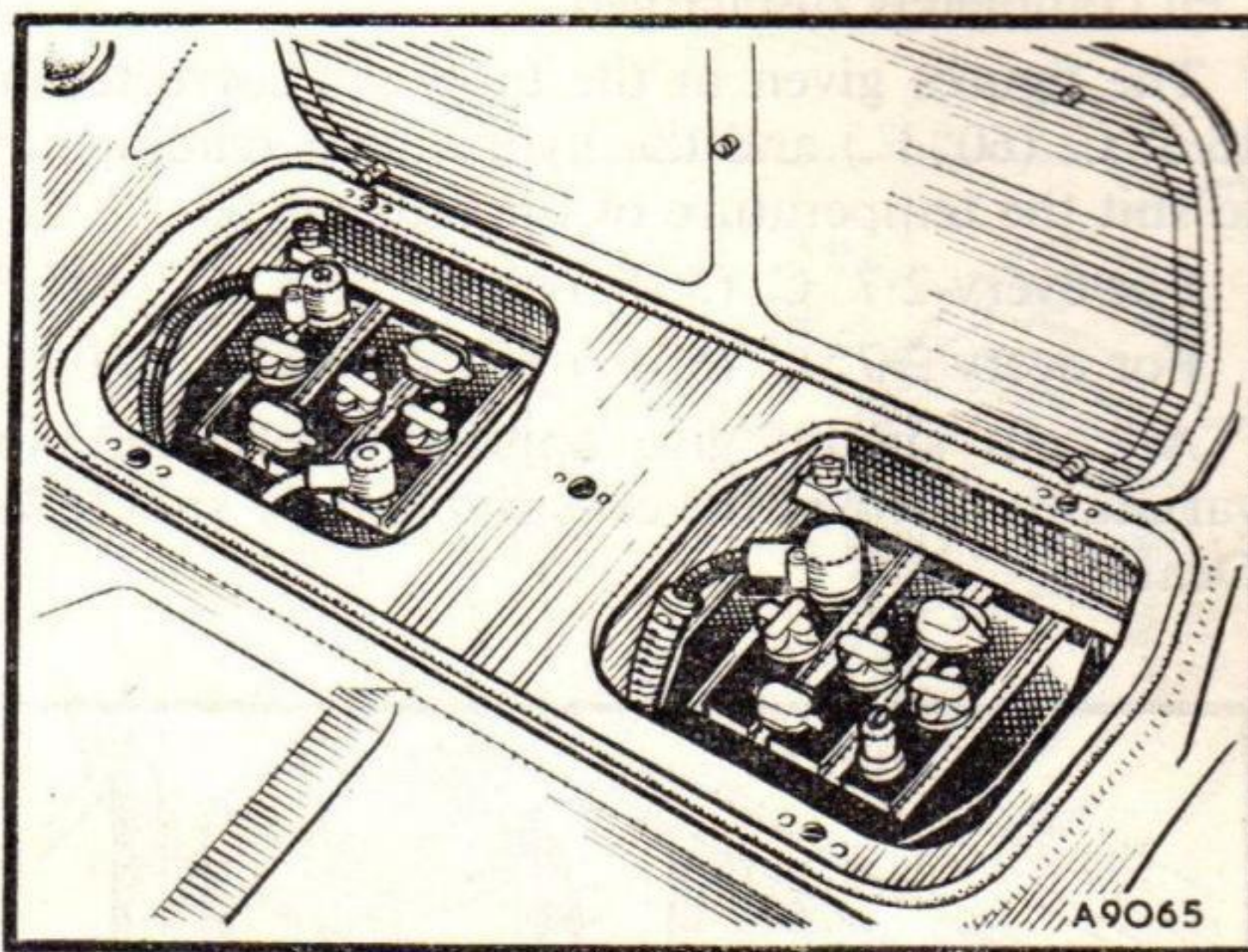
ELECTRICAL EQUIPMENT

Batteries

The batteries are located in trays beneath the rear floor panel. To gain access to them remove the moulded carpet, release the five screws in the floor panel, and remove the panel.

Weekly, top up the cells with distilled water. Do not use tap-water and do not use a naked light when examining the condition of the cells. Do not overfill, and always wipe away all dirt and moisture from the top of the batteries.

To gain access to the batteries remove the moulded carpet and rear floor panel



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

Never leave the batteries in a discharged condition for any length of time. Have them fully charged and every fortnight give them a short refreshing charge to prevent any tendency for the plates to become permanently sulphated.

Checking the 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 hydrometer must be held

ELECTRICAL EQUIPMENT

vertically and the readings taken at eye-level. Check that the float is free and take care not to draw in too much electrolyte. The specific gravity readings and their indications are as follows:

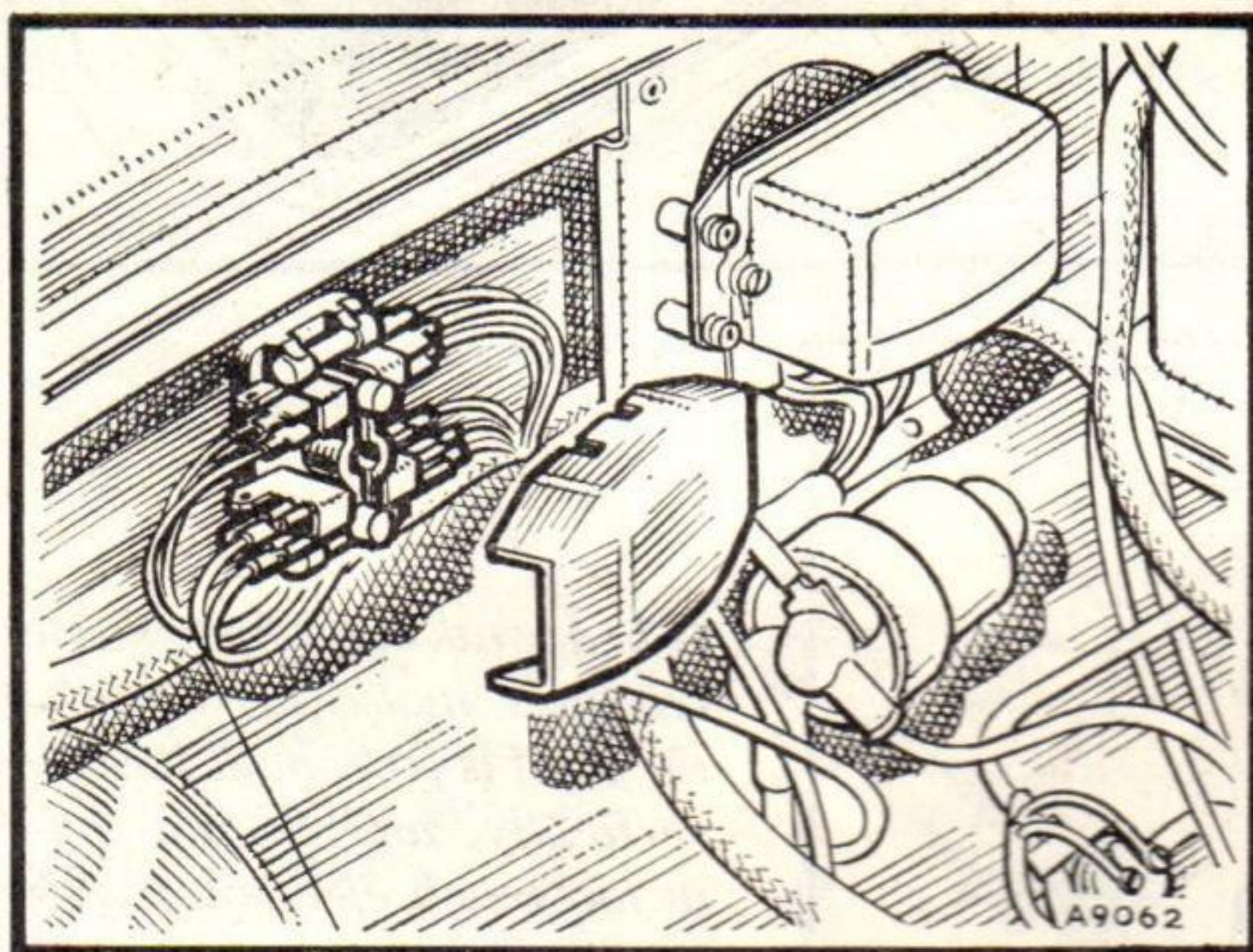
	<i>Home Trade and climates below 27° C. (80° F.)</i>	<i>Climates frequently above 27° C. (80° F.)</i>
Cell fully charged	1.270 to 1.290	1.210 to 1.230
Cell about half-discharged	1.190 to 1.210	1.130 to 1.150
Cell completely discharged	1.110 to 1.130	1.050 to 1.070

The figures given in the table are corrected to an electrolyte temperature of 15.5° C. (60° F.) and the hydrometer readings obtained must also be corrected to suit the temperature of the electrolyte.

For every 2.7° C. (5° F.) above 15.5° C. (60° F.) add .002.

For every 2.7° C. (5° F.) below 15.5° 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.



The fusebox and voltage regulator

Fuses

Fuse connecting 'A1' and 'A2' (50-amp.)

This fuse protects the accessories which are connected so that they operate irrespective of whether the ignition is on or off.

Fuse connecting 'A3' and 'A4' (35-amp.)

This fuse protects the accessories which are connected so that they operate only when the ignition is switched on (stop lamps, etc.).

Spare fuses

Spare fuses are provided and it is important to use only the correct replacement fuse. The fusing value is marked on a coloured paper slip inside the glass tube of the fuse. If the new fuse blows immediately and the cause of the trouble cannot be found, have the equipment examined by a Distributor or Dealer.

ELECTRICAL EQUIPMENT

Voltage regulator

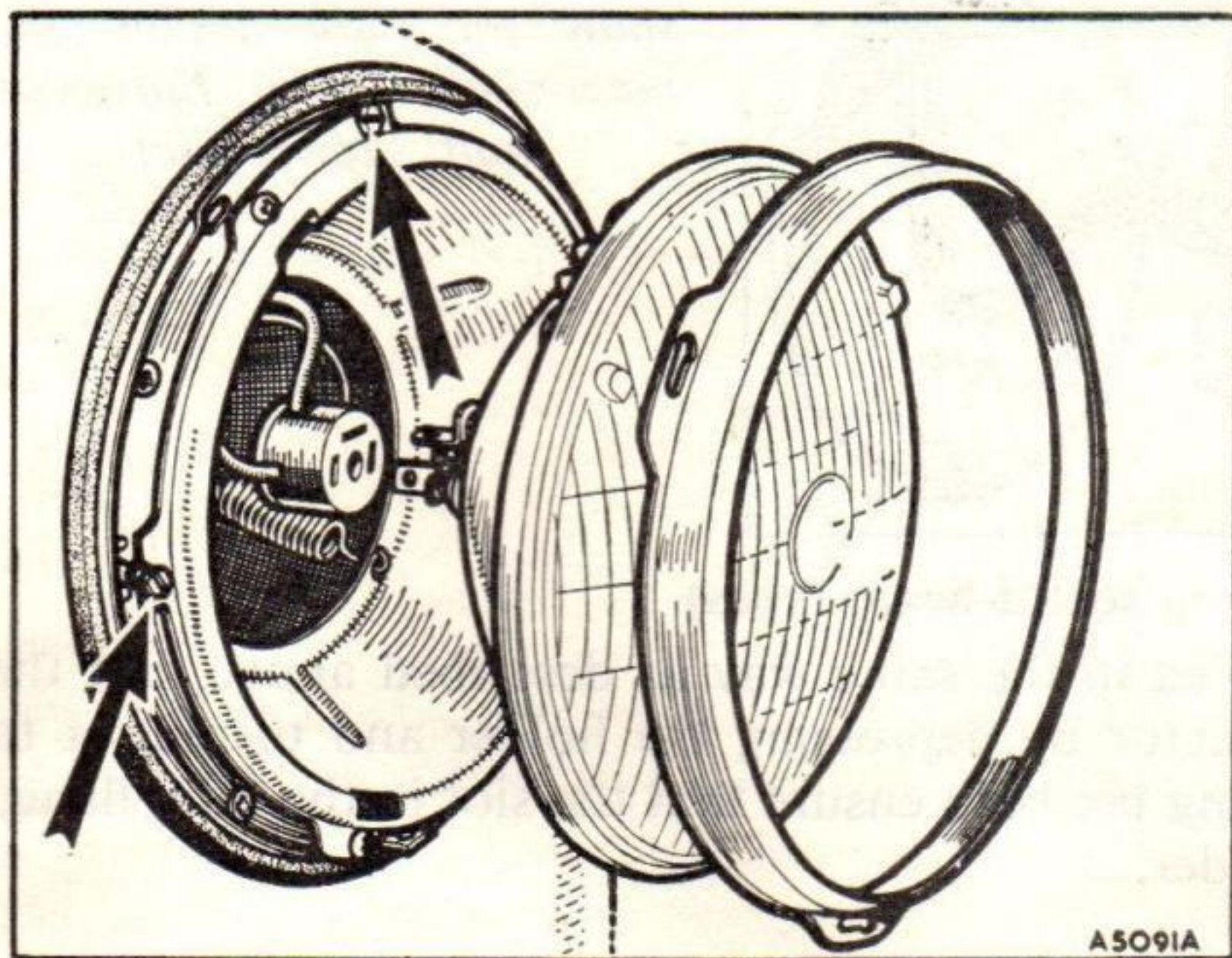
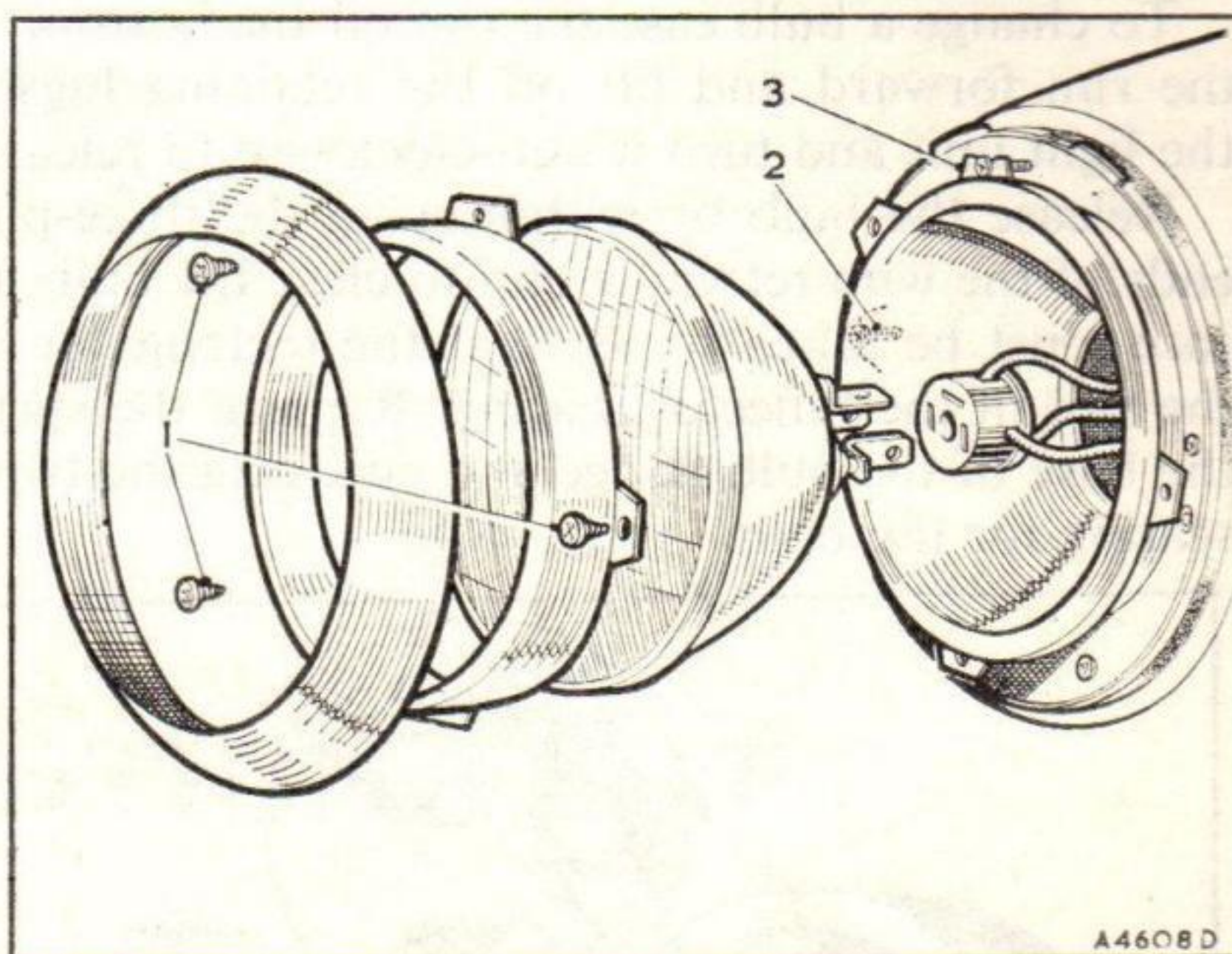
This is a sealed unit located on the right-hand front wheel arch which controls the charging rate of the dynamo in accordance with the needs of the batteries. It requires no attention and should not be disturbed.

Headlamps (U.K. sealed-beam type)

To change a sealed-beam light unit ease the outer rim off the bottom of the lamp, pull the bottom of the rim forward and lift off the retaining lugs at the top of the lamp.

The U.K. sealed-beam headlamp, showing:

1. Retaining plate screws.
2. Horizontal adjustment screw.
3. Vertical adjustment screw.



The North American sealed-beam headlamp with the beam adjusting screws indicated by the arrows

Remove the three inner rim retaining screws and remove the rim. Pull the light unit from the back-shell and disconnect the three-pin plug.

To refit the light unit engage the three-pin plug and place the unit in the back-shell; ensure that the three lugs formed on the rear circumference of the unit engage the slots in the back-shell. Refit the inner rim, place the outer rim over the retaining lugs and ensure that the cut-away portion of the rim is at the bottom of the lamp and then press the rim downwards and inwards to secure it.

ELECTRICAL EQUIPMENT

Headlamps (North American sealed-beam type)

The North American sealed-beam light units can be identified by a figure '2' moulded into the lens at the 12 o'clock position.

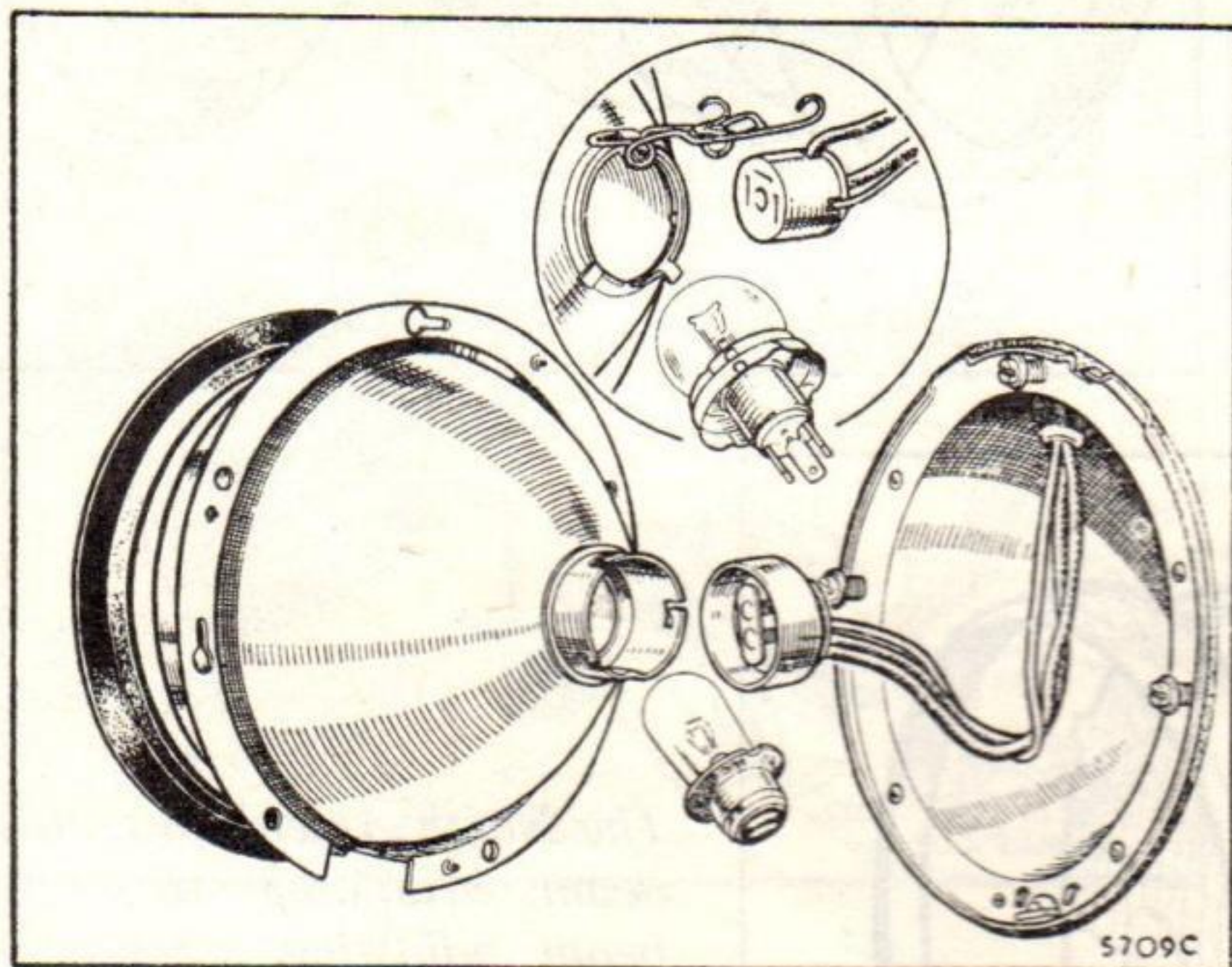
Access to the light unit is gained in a similar manner to that described for the U.K. sealed-beam light unit except that the inner rim retaining screws need only be slackened off and the rim rotated anti-clockwise to remove it.

Headlamps (European type)

Headlamps are fitted with bulbs and lenses that conform to the requirements of the country to which the car is exported.

To change a bulb ease the rim off the bottom of the lamp, pull the bottom of the rim forward and lift off the retaining lugs at the top of the lamp. Press the light unit and turn it anti-clockwise to release it from the back-shell.

Release the bulb by withdrawing the three-pin socket and pinching the two ends of the wire retaining clip to clear the bulb flange. When replacing the bulb care must be taken to see that the rectangular pip on the bulb flange engages the slot in the reflector seating. Replace the spring clip with its coils resting in the base of the bulb flange and engaging the two retaining lugs on the reflector seating for the bulb.



A headlight unit removed to show the bulb holder and back-shell, with European bulb shown inset

Headlamps (except European and sealed-beam types)

Access to the bulb is achieved in the same way as described above, but the bulb is released from the reflector by depressing the holder and turning it to release the bulb. When replacing the bulb ensure that the slot in the bulb flange engages the keyway in the holder.

Setting the 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 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. A slot is provided in the dust-excluding rubber to permit this. Horizontal adjustment can be made by using the adjusting screws on each side of the

KEY TO LUBRICATION CHART

DAILY

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

A

EVERY 3,000 MILES

(2) ENGINE Drain oil from the sump and replace with new oil.

(3) CARBURETOR Clean the carburetor and replace the filter.

(4) AIR FILTER Clean or replace the air filter.

LUBRICATION CHART

(5) BLANK Check the blank and replace if necessary.

(6) FRONT Change the front wheel oil.

(7) PROPELLER SHAFT Change the propeller shaft oil.

(8) HAND BRAKE Change the hand brake cable oil.

(9) DYNAMO Add two drops of oil to the hole in the rear end bearing plate.

(10) DYNAMO Add two drops of oil to the hole in the rear end bearing plate.

(11) DYNAMO Add two drops of oil to the hole in the rear end bearing plate.

(12) DYNAMO Add two drops of oil to the hole in the rear end bearing plate.

(13) OIL FILTER Replace the oil filter.

(14) OIL FILTER Replace the oil filter.

(15) OIL FILTER Replace the oil filter.

(16) OIL FILTER Replace the oil filter.

(17) OIL FILTER Replace the oil filter.

(18) OIL FILTER Replace the oil filter.

(19) OIL FILTER Replace the oil filter.

(20) OIL FILTER Replace the oil filter.

(21) OIL FILTER Replace the oil filter.

(22) OIL FILTER Replace the oil filter.

(23) OIL FILTER Replace the oil filter.

(24) OIL FILTER Replace the oil filter.

(25) OIL FILTER Replace the oil filter.

(26) OIL FILTER Replace the oil filter.

(27) OIL FILTER Replace the oil filter.

(28) OIL FILTER Replace the oil filter.

(29) OIL FILTER Replace the oil filter.

(30) OIL FILTER Replace the oil filter.

KEY TO LUBRICATION CHART

DAILY

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

EVERY 3,000 MILES (5000 Km.)

- (2) ENGINE. Drain the used oil from the sump and refill to the 'MAX' mark on the dipstick with new oil to Ref. A.
- (3) CARBURETTORS. Remove the cap from each suction chamber and insert a small quantity of oil to Ref. D. Lubricate the carburettor controls.
- (4) GEARBOX AND OVER-DRIVE. Check the oil level with the dipstick, and replenish if necessary with new oil to Ref. A.
- (5) REAR AXLE. Replenish if necessary to the level of the filler plug with new oil to Ref. B.
- (6) FRONT SUSPENSION. Charge each upper and lower swivel pin nipple with grease to Ref. C.
- (7) PROPELLER SHAFT. Charge each universal joint nipple and sliding yoke nipple with grease to Ref. C.
- (8) HAND BRAKE CABLE. Charge the nipple on the hand brake cable with grease to Ref. C.

EVERY 6,000 MILES (10000 Km.)

- (9) DYNAMO. Add two drops of oil to Ref. D to the hole in the rear end bearing plate.

- (10) OIL FILTER. Renew the element and wash the bowl in fuel.
- (11) GEARBOX AND OVER-DRIVE. Remove both drain plugs, drain off the old oil, and refill with new oil to Ref. A.
- (12) REAR AXLE. Drain the used oil from the rear axle and refill with new oil to Ref. B.
- (13) DISTRIBUTOR. Withdraw rotating arm and add a few drops of oil to Ref. D to opening and also to advance mechanism through gap around cam spindle. Smear cam and pivot pin with grease or oil.

EVERY 12,000 MILES (20000 Km.)

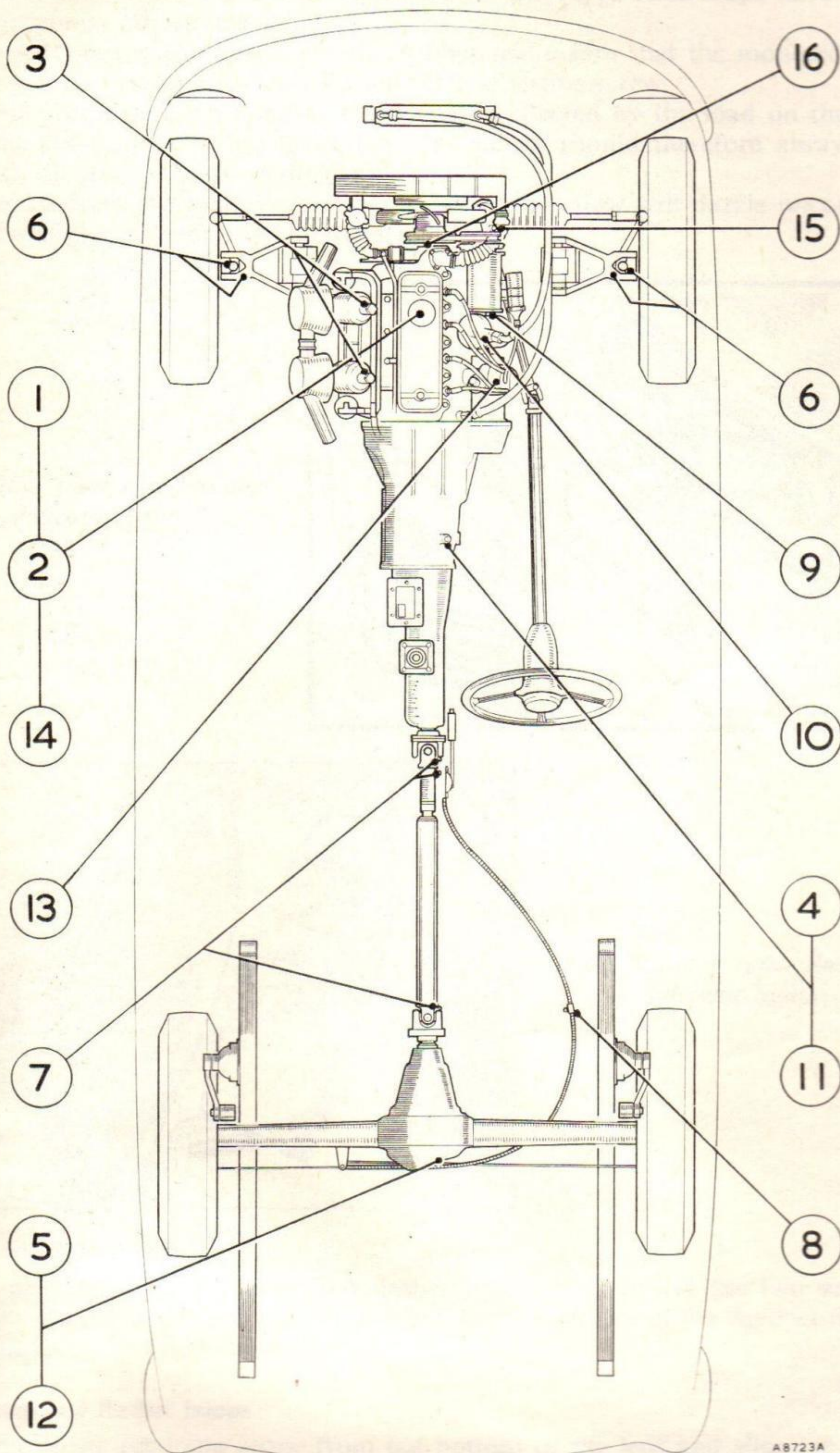
- (14) ENGINE. Drain the used oil from the engine, flush out, and refill to the 'MAX' mark on the dipstick with new oil to Ref. A.
- (15) STEERING. Drain the oil from the steering rack and refill with $\frac{1}{3}$ pint (.18 litre, .4 U.S. pint) of new oil to Ref. B.
- (16) WATER PUMP. Remove the plug on the body and add a small quantity of grease to Ref. C.

MULTIGRADE MOTOR OILS

In addition to the lubricants recommended in this Handbook we also approve the use of the multigrade motor oils produced by the oil companies shown in our publications for all climatic temperatures unless the engine is in poor mechanical condition.

NOTE.—Oil and grease references are detailed on page 72.

LUBRICATION CHART



IRRIGATION CHART



ELECTRICAL EQUIPMENT

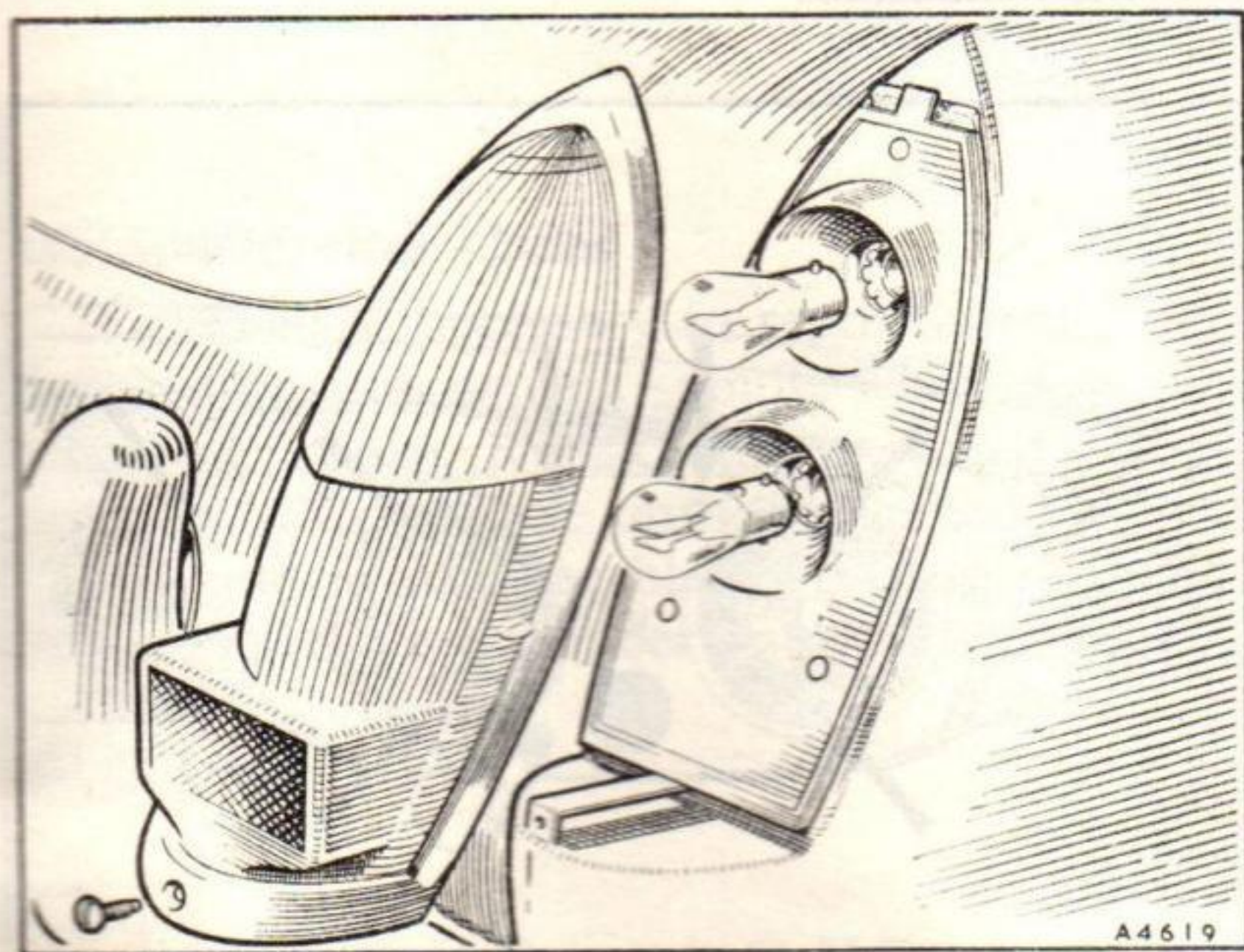
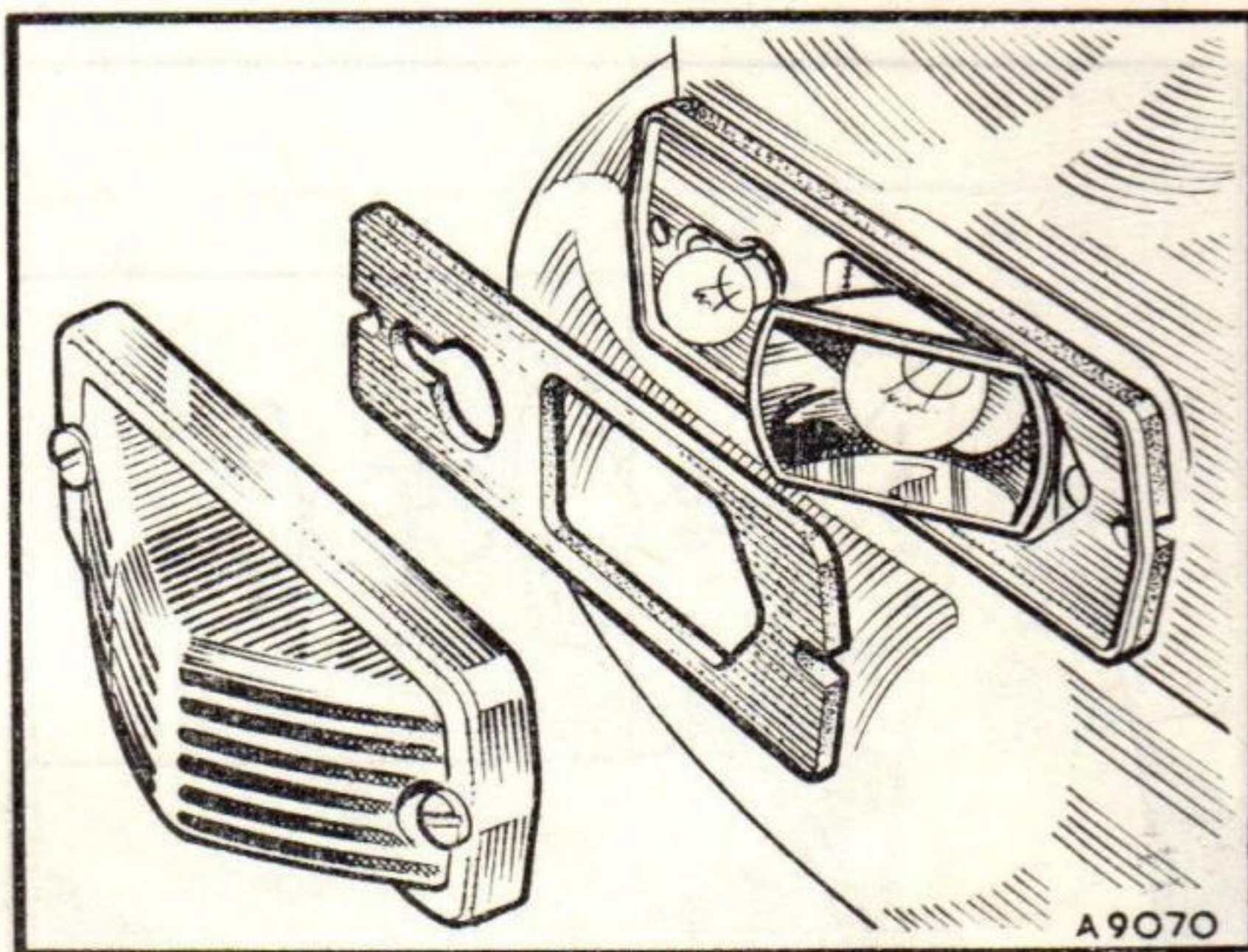
light unit after removing the rim. The sealed-beam-type headlamps have only one horizontal adjustment screw.

When replacing the dust-excluding rubber make sure that the moulded slot is fitted at the top to coincide with the vertical setting screw.

Remember that the setting of the beams is affected by the load on the car and the consequent spring deflection. The lamps should therefore always be set with the normal load on the car.

Avoid setting the main beams above horizontal; they will dazzle oncoming traffic and give inferior road illumination.

The front pilot and flashing indicator lights



The tail/stop and flashing indicator lights

Pilot and flasher lamps

To gain access to the pilot and flasher light bulbs remove the two screws securing the lamp lens and take off the lens. Both bulbs are of the bayonet-fixing type and may be fitted either way round.

Tail/stop and flasher lamps

Remove the retaining screw from the bottom of the lens and slide the lens upwards to release it from the retaining lug at the top of the lamp backplate.

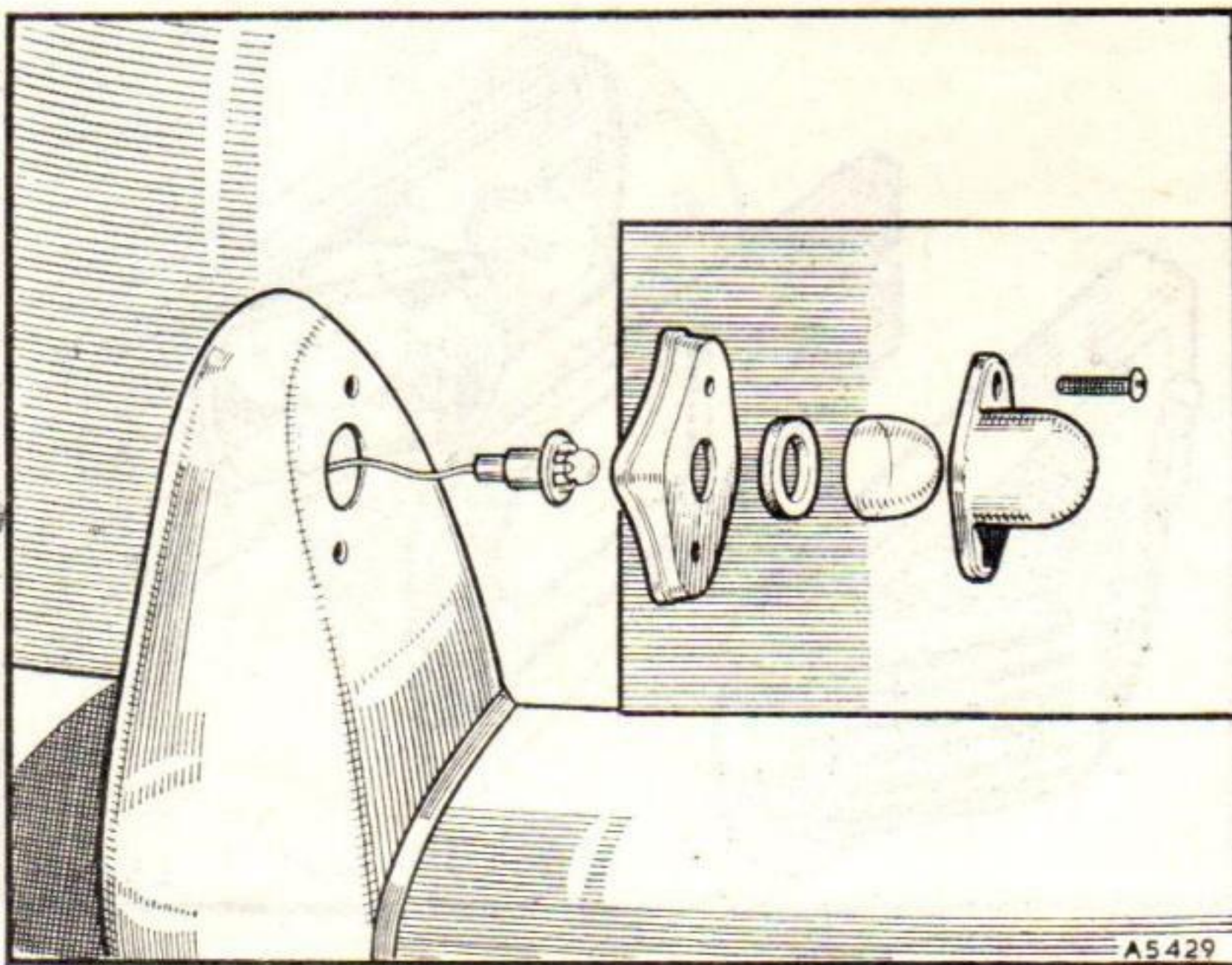
ELECTRICAL EQUIPMENT

Number-plate lamps

The rear number-plate lamps are fitted one to each inside face of the rear bumper over-riders.

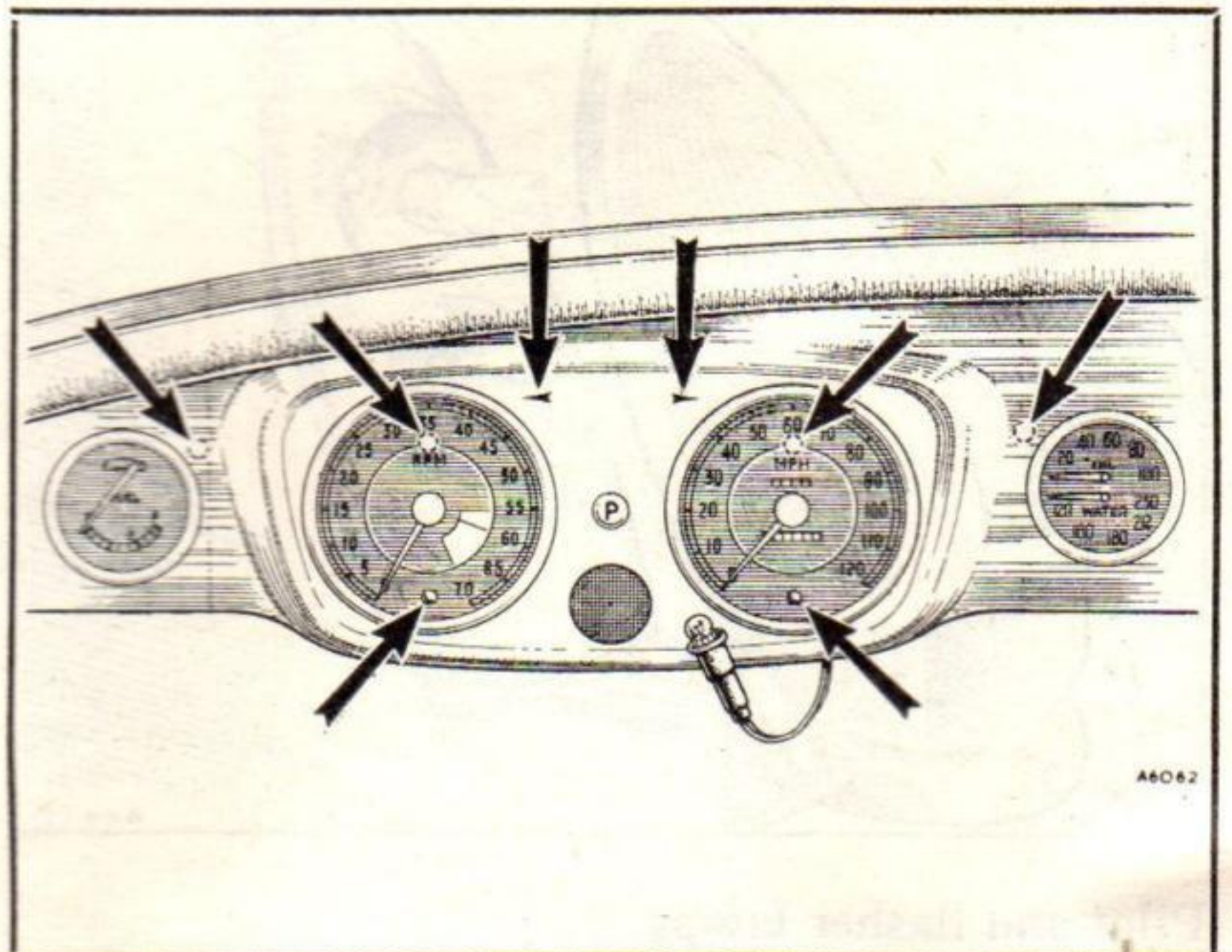
To gain access to a lamp bulb remove the two securing screws and retain the nuts and distance pieces from the inside of the over-rider. Take off the lamp hood and remove the bulb.

When refitting the screws and nuts ensure that the thick edge of the wedge-shaped distance piece is fitted so that it faces the front of the car.



The number-plate lamps are secured to the over-riders with screws

The panel and warning lights (shown arrowed) are accessible from behind the fascia



Panel and warning lights

The locations of the panel and warning lights are shown in the accompanying illustration.

The panel and warning light bulb holders are a push fit in their housings and are accessible from below the fascia panel.

ELECTRICAL EQUIPMENT

Jammed starter pinion

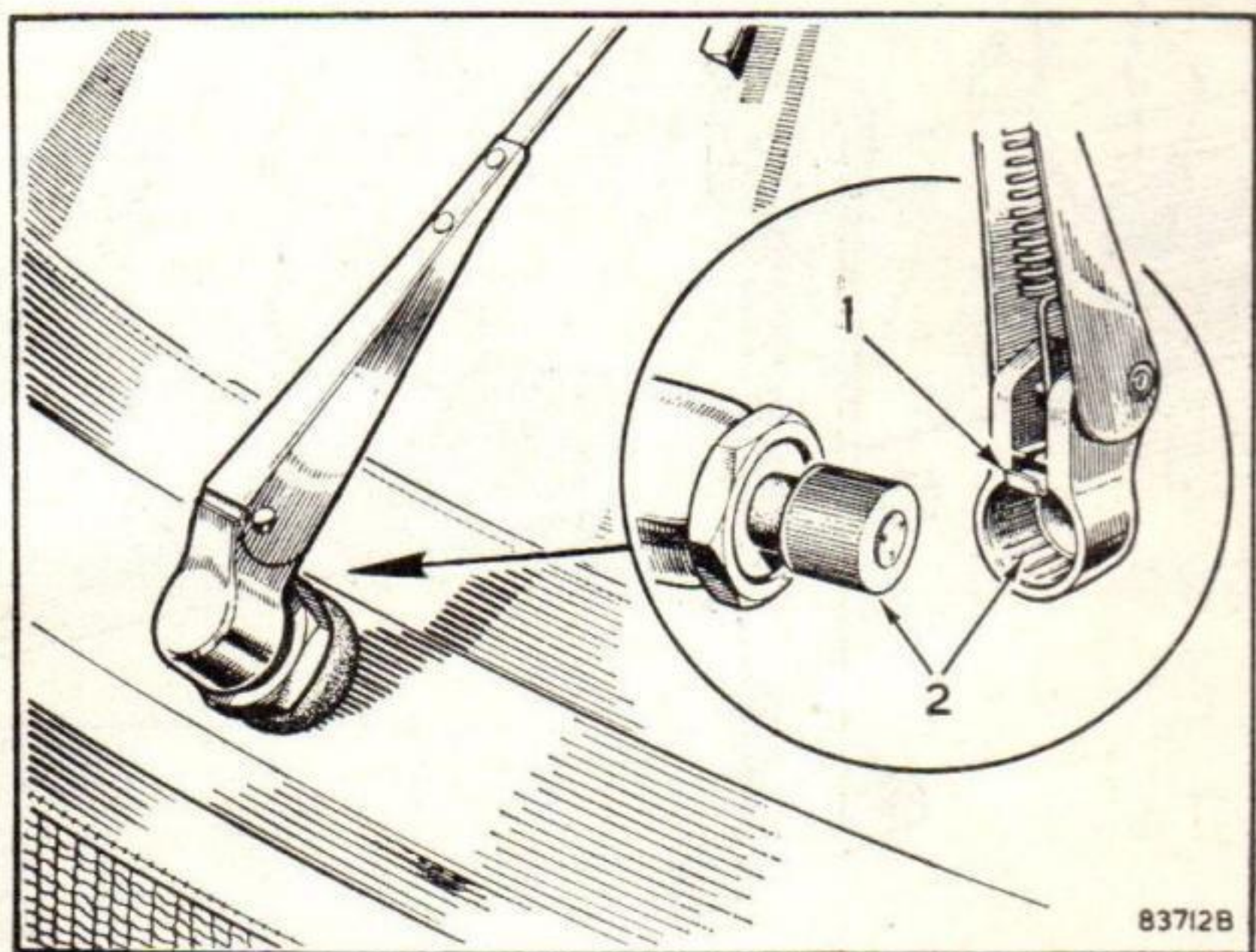
In the event of the starter pinion becoming jammed in mesh with the flywheel, it can usually be freed by turning the starter armature with a spanner applied to the shaft extension at the commutator end.

Renewing high-tension cables

The high-tension cables connecting the distributor to the sparking plugs may after long use, also show signs of perishing. They must be renewed.

Cut the cables to length, fill the cable holes in the cover with Silicone grease, and push the cables well home in the distributor cover and pierce with the cable-securing screws.

To adjust the wiper blades raise the retaining clip (1) and withdraw the arm. Refit in the desired position on the splined shaft (2)



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Windshield wiper blades

Should it be necessary to reposition the wiper blades, the arm can be withdrawn from the driving spindle when the small spring clip is held clear of the retaining groove. Replace the arm in the required position and push it hard down onto the spindle until it is secured in position by the retaining clip.

To renew the wiper blade, unplug one end of the blade, slide off the old rubber, slide a new rubber onto the blade and refit the plug.

Replacement bulbs

			Volts	Watts	B.M.C. Part No.
Headlamps (L.H.D. and R.H.D. Europe— except France—dip vertical)	..	..	12	45/40	BFS410
Headlamps (L.H.D. France)	..	..	12	45/40	BFS411
Headlamps (L.H.D. except Europe)	..	..	12	50/40	BFS415
Pilot lamps	..	..	12	6	BFS989
Tail/stop lamps	..	..	12	21/6	BFS380
Flashing direction indicators	..	..	12	21	BFS382
Number-plate lamp	..	..	12	6	BFS207
Panel, map, and warning lights	..	..	12	2.2	BFS987

WHEELS AND TYRES

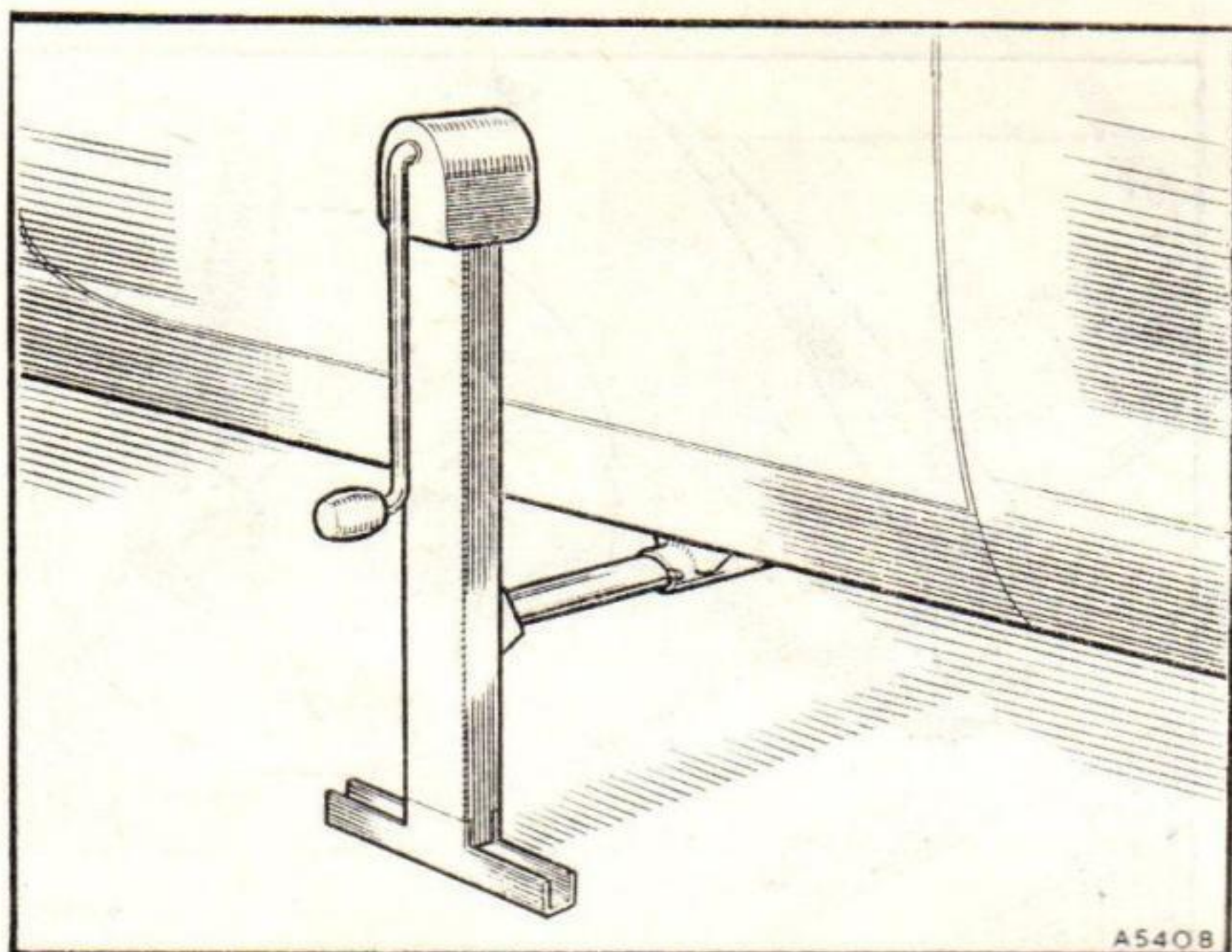
Jacking up the car

Apply the hand brake, and if the car is on an incline it is advisable to block one of the wheels on the opposite side of the car to the one being jacked.

Insert the lifting arm of the jack into the socket located in the door sill panel. Remove the hub cover and slacken the road wheel nuts. Make certain that the jack lifting arm is pushed fully into the socket.

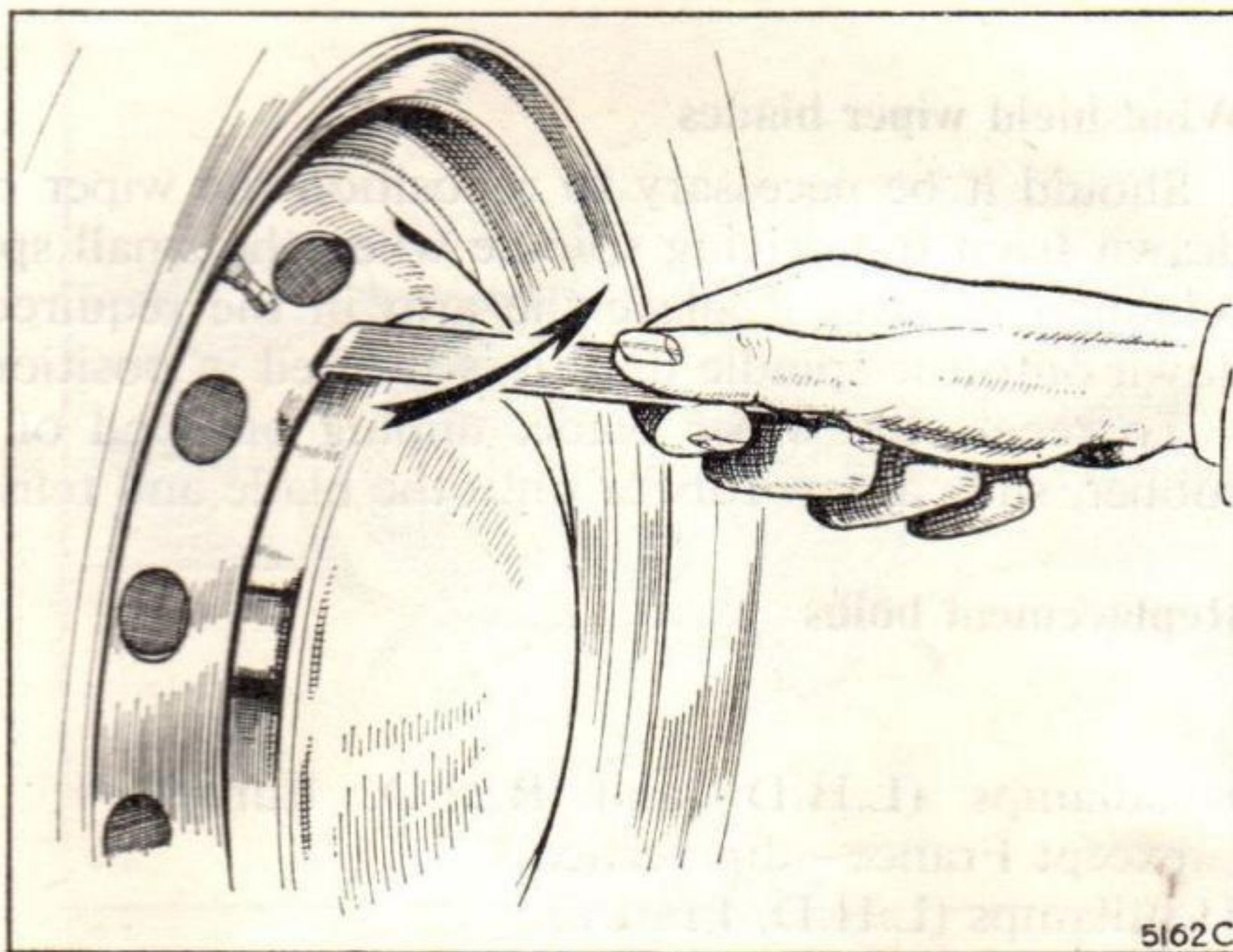
Jack maintenance

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 side-lift jack and a jacking point

Insert the end of the hub cover lever behind the disc and use a twisting movement to remove the hub cover



5162C

Removing the wheel discs (pressed-steel wheels)

Insert the wheel disc lever in the recess provided in the road wheel and lever off the disc, using a sideways motion.

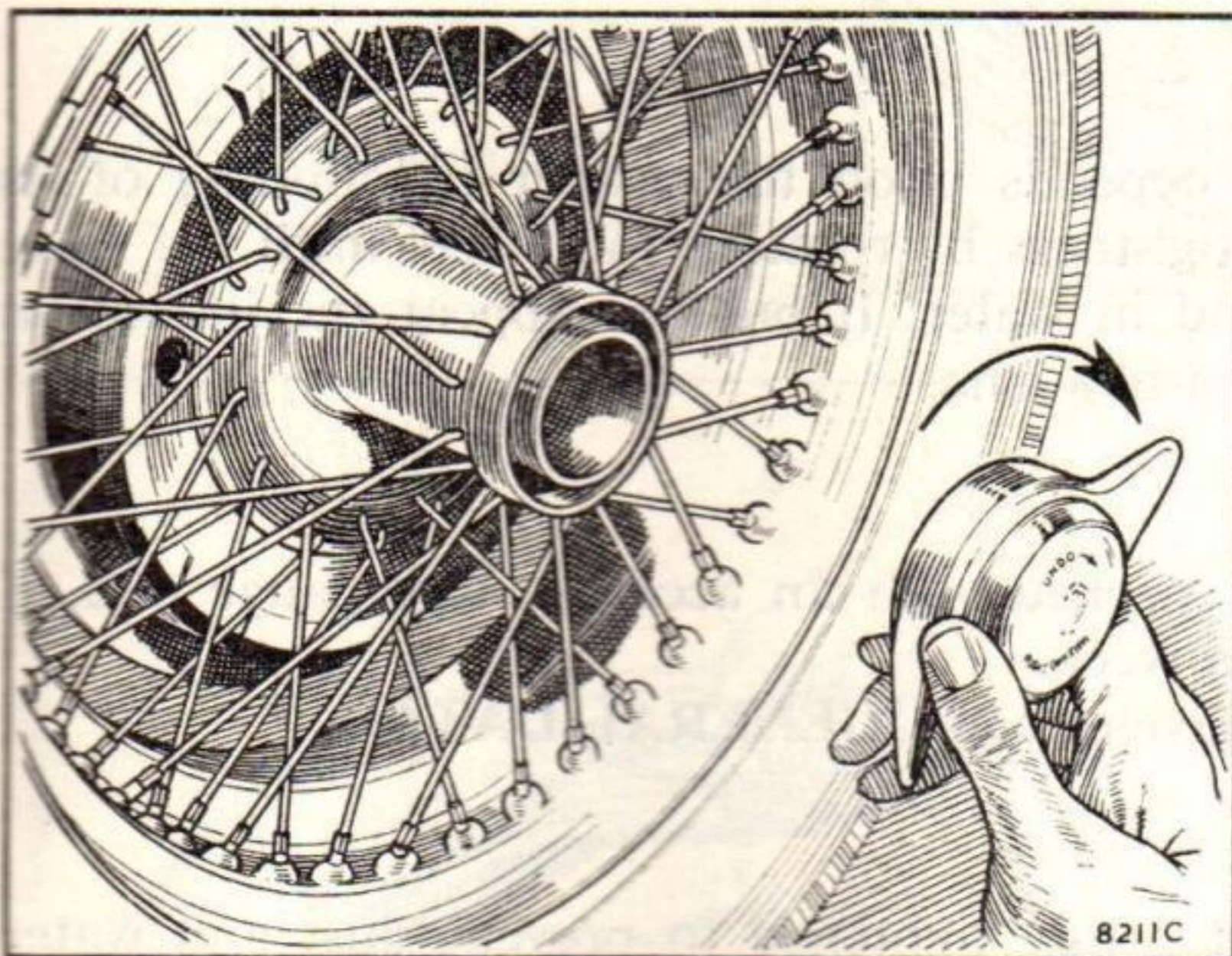
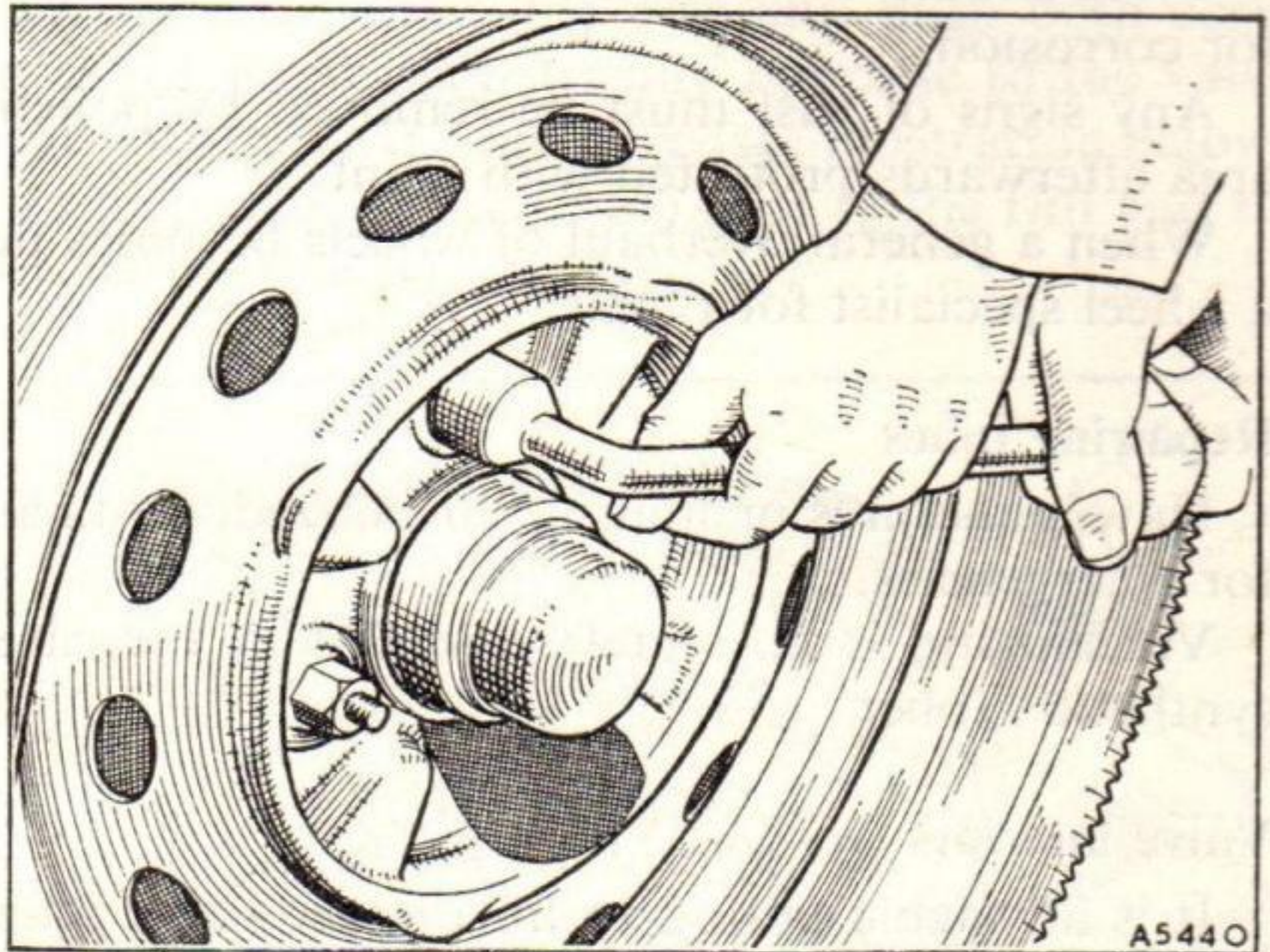
To refit the hub disc, place the rim over two of the buttons on the wheel centre and give the outer face a sharp blow with the hand over the third button.

WHEELS AND TYRES

Removing and replacing the wheels (pressed type)

Slacken the four nuts securing the road wheel to the hub; turn anti-clockwise to loosen and clockwise to tighten. Raise the car with the jack (page 40) to lift the wheel clear of the ground and remove the nuts. Withdraw the road wheel from the hub. When replacing the road wheel ensure that the securing nuts are fitted with the taper side towards the wheel.

Removing the road wheel securing nuts (pressed type)



Turn the winged hub nuts clockwise to unscrew on the right-hand side of the car and anti-clockwise on the left-hand side

Removing and replacing the wheels (wire type)

Use the mallet to slacken the winged hub nut or the spanner to slacken the octagonal hub nut used.

Care of wire wheels

- (1) When the car is new, after the first long run or after 50 miles (80 km.) of short runs, jack up the wheels and hammer the nuts to make sure that they are tight.
- (2) Always jack up a wheel before using the hammer, and always hammer the nuts tight.

WHEELS AND TYRES

- (3) Locknuts are marked 'LEFT' or 'RIGHT' to show to which side of the car they must be fitted, and also with the word 'UNDO' and an arrow.
- (4) Before replacing a wheel wipe all serrations, threads, and cones of the wheel and hub and then lightly coat them with grease. If a forced change is made on the road, remove, clean, and grease as soon as convenient.
- (5) Once a year remove the wheels for examination and regreasing.

Tyres should be removed periodically so that the wheel rim can be examined for corrosion.

Any signs of rust must be removed by polishing with emery-paper and the area afterwards protected with paint.

When a general overhaul of wheels becomes necessary they should be sent to a wheel specialist for repair.

Repairing tubes

Have punctures or injuries vulcanized. Ordinary patches should only be used for emergencies.

Vulcanizing is absolutely essential in the case of tubes manufactured from synthetic rubber.

Valve interiors

It is advisable always to have spare valve interiors, and these are obtainable packed in small metal containers.

Always make sure that valve interiors are screwed well home on replacement.

Tyre valves

The airtightness of the valve depends upon the proper functioning of its interior. It may be tested for airtightness by rotating the wheel until the valve is at the top and inserting its end in water. If bubbles appear the interior is faulty and should be replaced by a new one.

Checking tyre pressures

The tyre pressures should be checked with an accurate tyre gauge and, if necessary, adjusted at least once a week.

The correct tyre pressures are given under '**GENERAL DATA**'.

Valve caps

The valve caps should be kept firmly tightened to prevent dust and water entering and damaging the valve seats. The caps also act as an additional air seal.

When they are removed for tyre inflation or removal they should always be kept in a clean place.

WHEELS AND TYRES

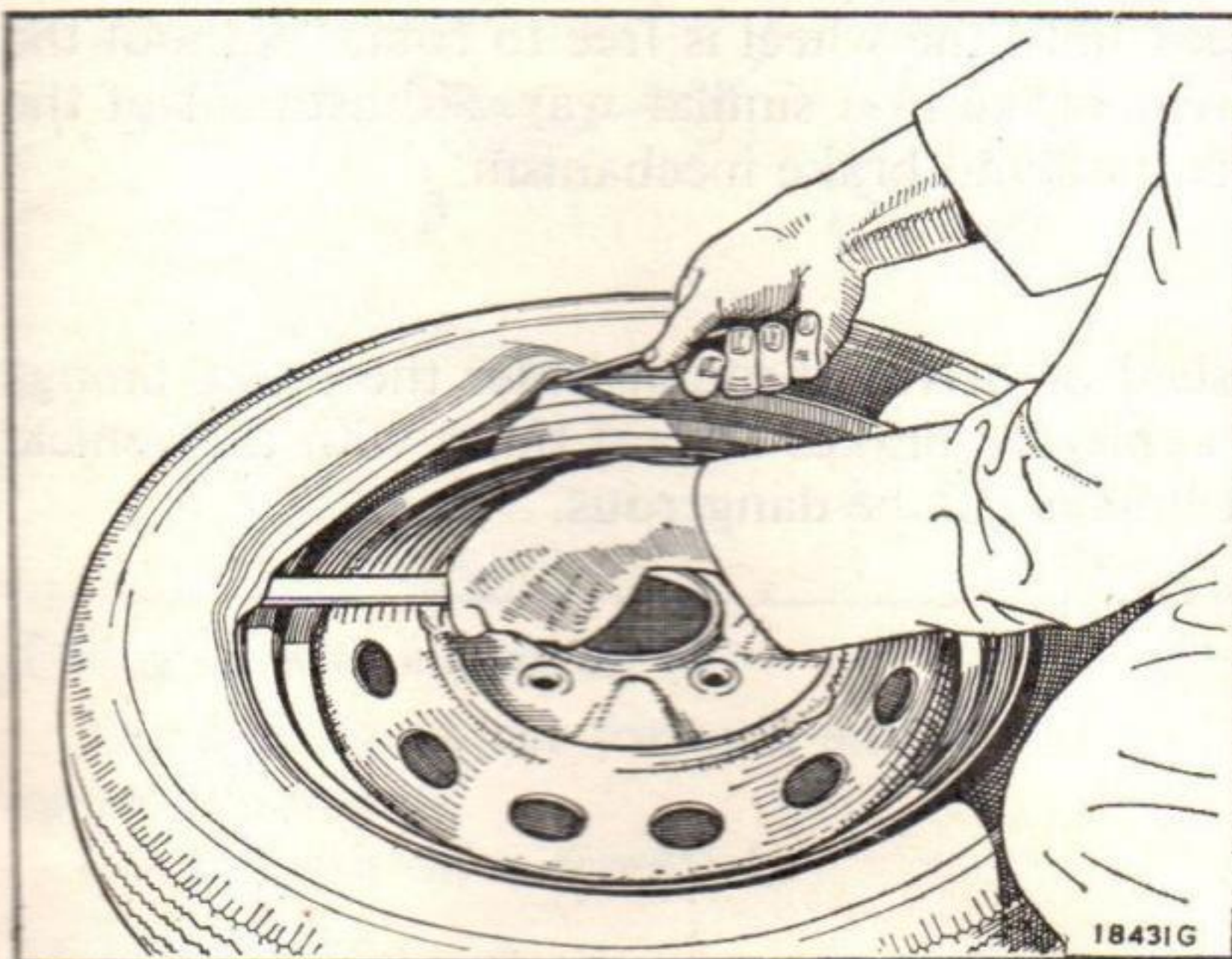
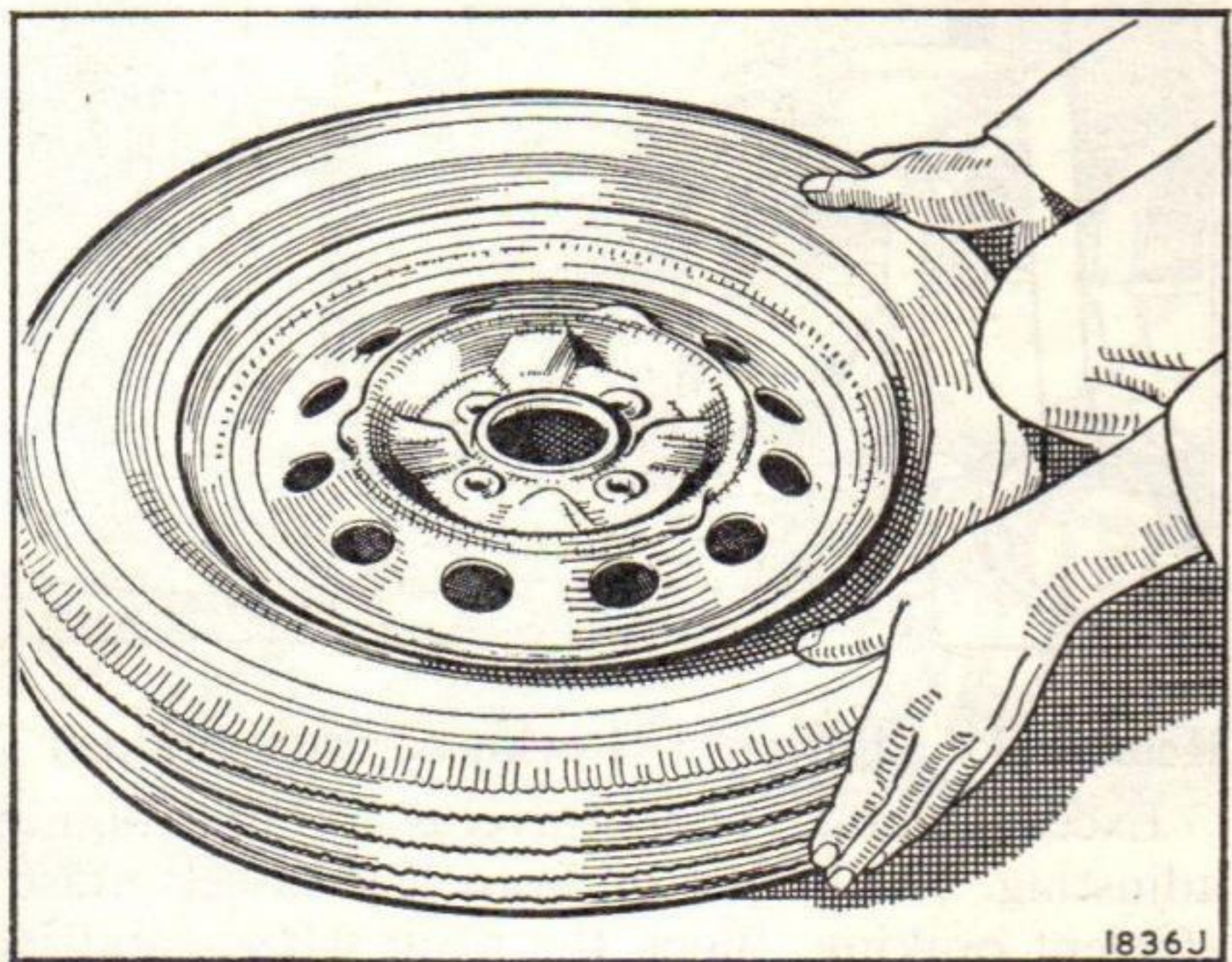
Tyre removal

Inextensible wires are incorporated in the edges of tyres. Do not attempt to stretch the edges of the tyre cover over the rim. Force is entirely unnecessary and dangerous, as it merely tends to damage the cover edges. Fitting or removing will be quite easy if the wire edges are carefully adjusted into the rim base. If the cover edge fits tightly on the rim seating it should be freed by using the tyre levers as indicated.

Remove all valve parts to completely deflate the tyre 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 (see illustration below).

This permits the tyre valve to be pushed through the hole in the rim and the inner tube to be withdrawn for attention when required.

The cover beads should be pushed into the well-base of the rim opposite to the valve



The cover edge can then be levered over the rim close to the valve position to remove it, or replace it, as required

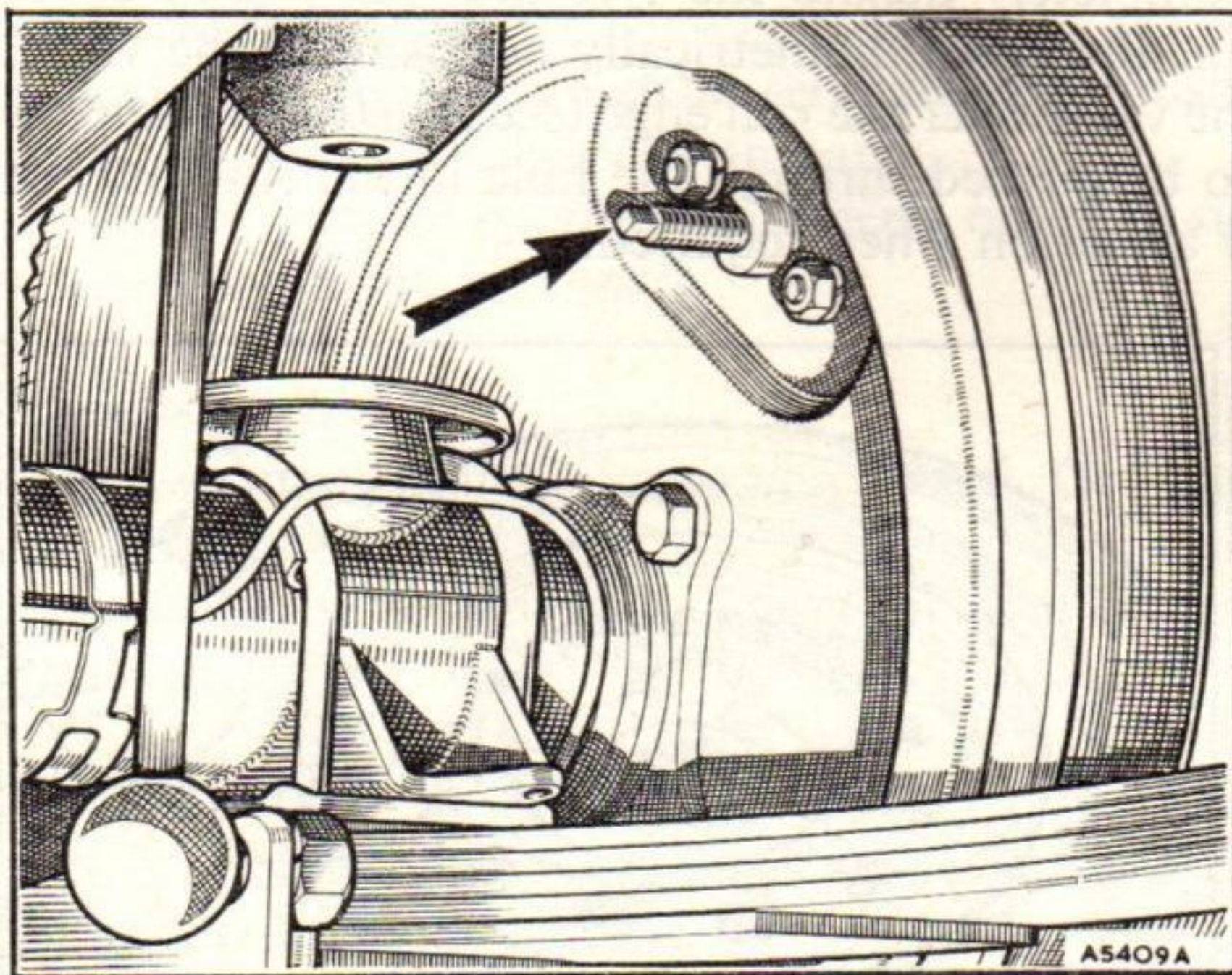
Tyre replacement

A similar technique has to be employed when replacing the tyre, first fitting the tyre into the rim at a point opposite to the valve and finishing the fitting in the region of the valve, keeping the beaded edge in the well-base of the rim.

BRAKE ADJUSTMENT

Front brakes (Lockheed disc brakes)

Wear of the disc brake friction pads is automatically compensated for and manual adjustment is therefore not required. When the lining material has worn down to the minimum permissible thickness of $\frac{1}{16}$ in. (1.59 mm.) the brake pads must be renewed. Special equipment is required, and the fitting of new pads should be entrusted to an authorized Distributor or Dealer.



The rear brake-shoes are adjusted by a square-headed adjuster behind the brake back-plate

Rear brake adjustment (Lockheed drum brakes)

Excessive brake pedal travel is an indication that the rear brake-shoes require adjusting. The brakes on both rear wheels must be adjusted to regain even and efficient braking. Block the front wheels and jack up each rear wheel in turn. Fully release the hand brake. Turn the expander in a clockwise direction until the wheel is locked, then turn back until the wheel is free to rotate without the shoe rubbing. Adjust the other rear brake in a similar way. Adjustment of the brake-shoes automatically adjusts the hand brake mechanism.

Wet brakes

When the vehicle is being washed or driven through water the brake linings may become wet. To dry them, apply the brakes several times with the vehicle moving slowly. Driving with wet brakes can be dangerous.

PERIODICAL MAINTENANCE

The recommended lubricants are indicated by a letter after each item and are listed on page 72.

DAILY

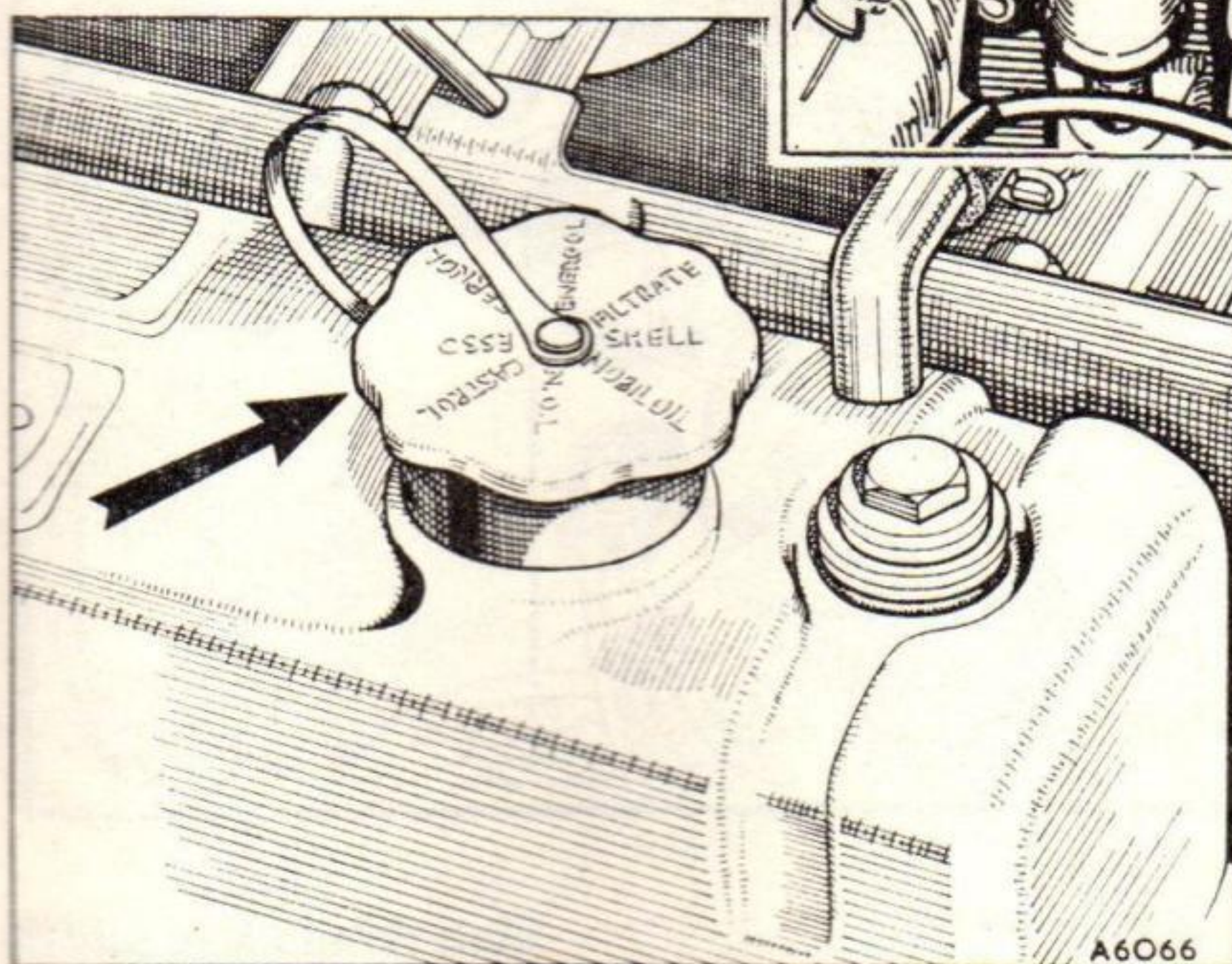
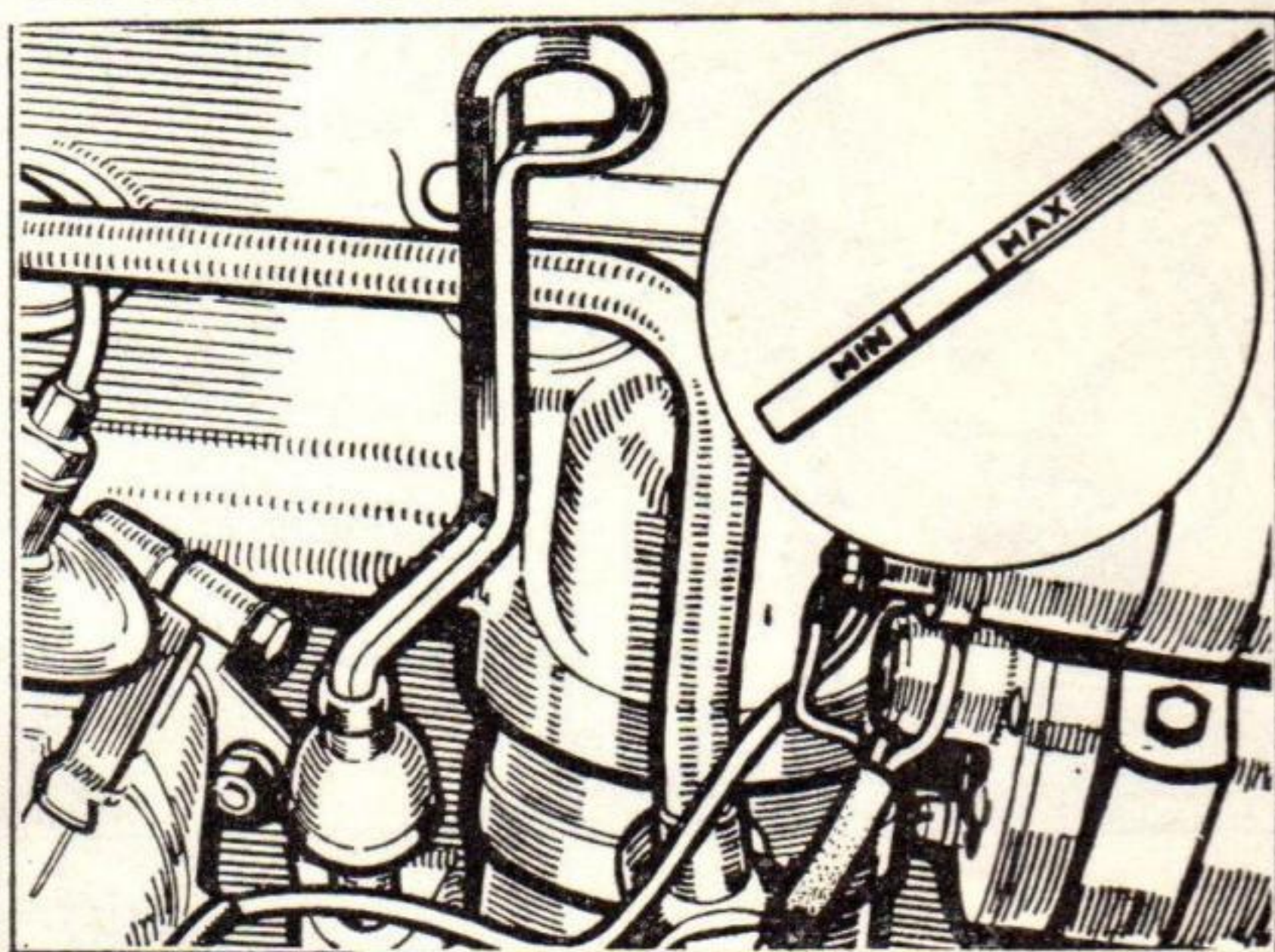
Radiator

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

Checking engine oil level (A)

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.

The engine oil dipstick with the markings shown in the inset



The plastic oil filler cap must be turned anti-clockwise to release it

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.

WEEKLY

Tyre pressures

Check all tyre pressures, using a tyre gauge, 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.

WEEKLY

Batteries

Check the batteries and top up to correct level with distilled water. Do not use tap-water and do not use a naked light when examining the condition of the cells. Do not overfill, and always wipe away all dirt and moisture from the top of the batteries (see page 33).

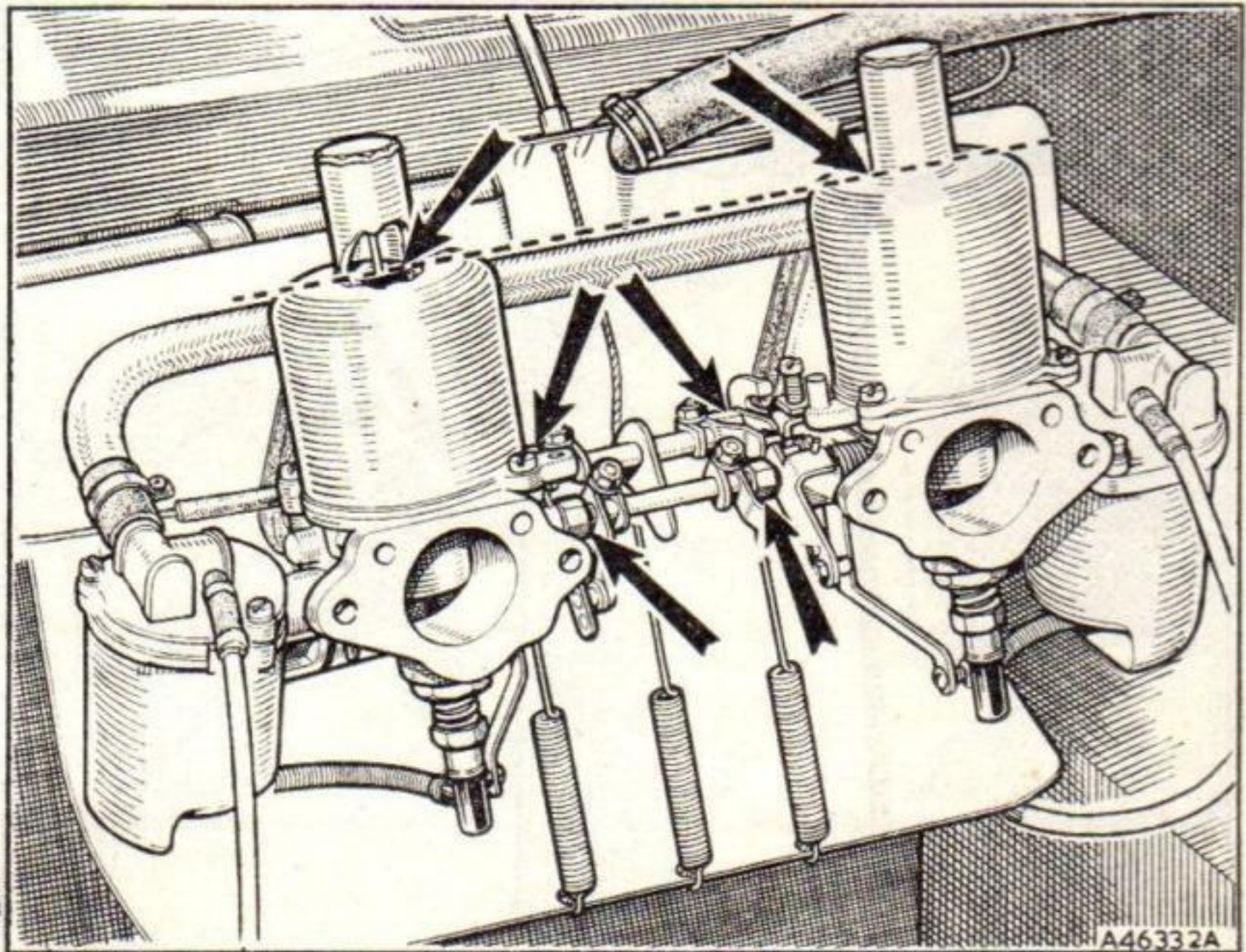


EVERY 3,000 MILES (5000 Km.)

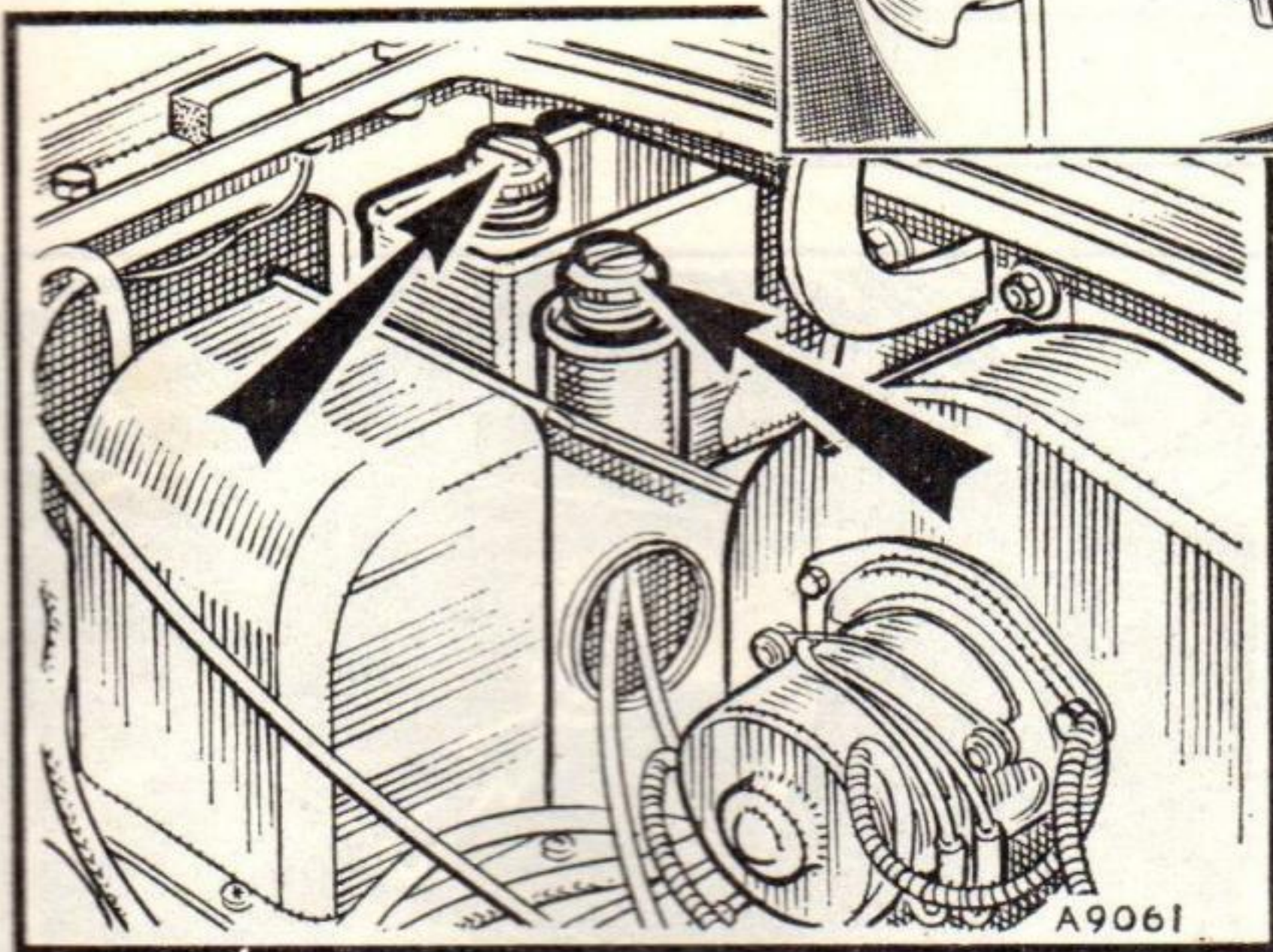
Carburettors (D)

Unscrew the oil cap at the top of the suction chamber of each carburettor and withdraw the cap with its attached plunger. Top up with oil to within $\frac{1}{2}$ 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. Lightly lubricate the carburettor control linkage with oil.



Lubricating the carburettor piston dampers and controls



The brake master cylinder (upper arrow) and the clutch master cylinder (lower arrow)

Brake and clutch fluid

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 DISC BRAKE FLUID**. Do not use any substitute as this will seriously affect the working of the system.

When climatic temperatures are below -34°C . (-30°F .) the systems should be drained and refilled with Lockheed Super Heavy Duty Brake Fluid or a fluid conforming to Specification S.A.E. 70.R3.

The fluid level should be maintained $\frac{1}{2}$ in. (13 mm.) below the bottom of the filler cap in each cylinder.

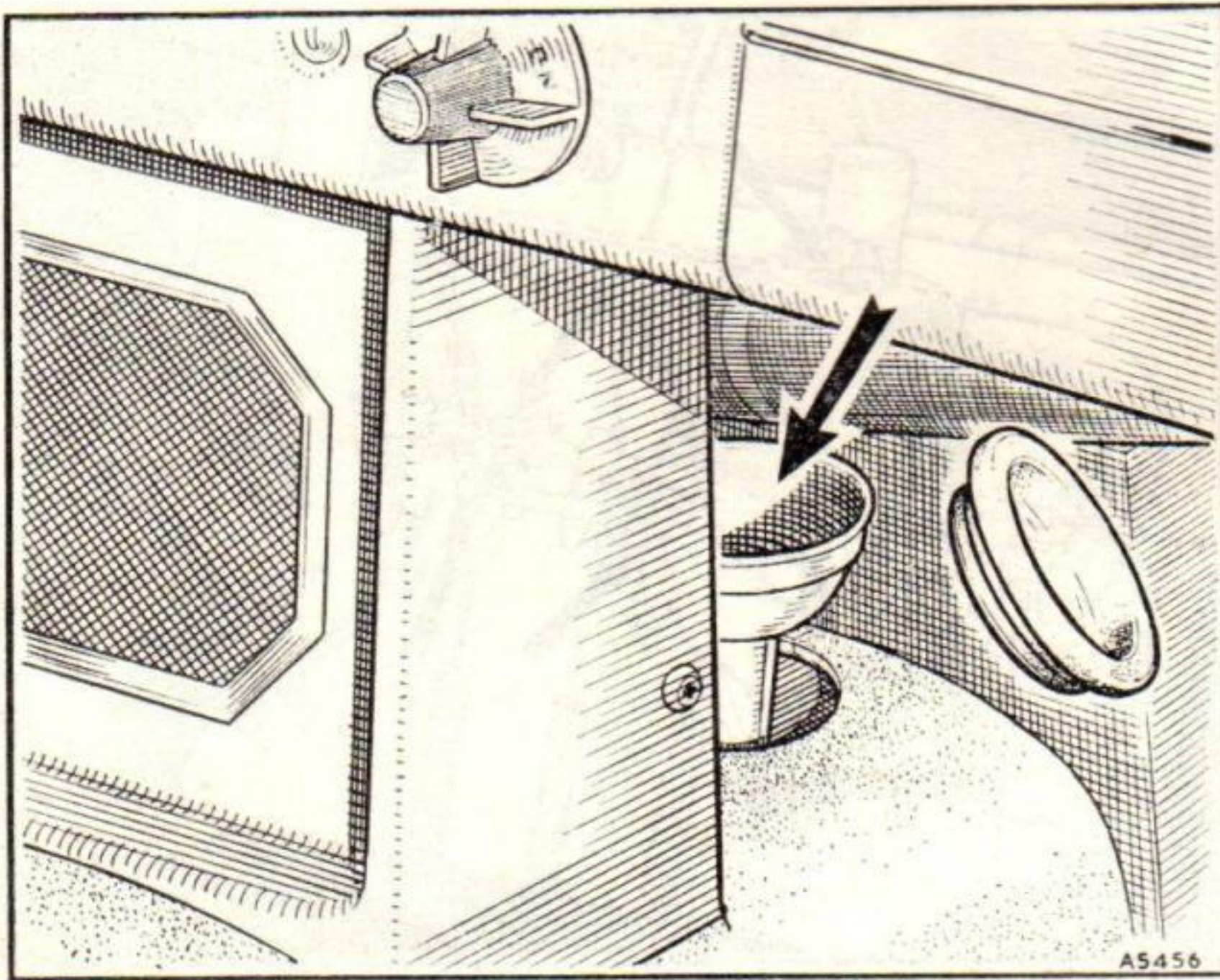
Visually inspect the brake pipes for leakage and security. Check the brake pedal, and adjust the rear brakes if necessary.

EVERY 3,000 MILES (5000 Km.)

Gearbox and overdrive (A)

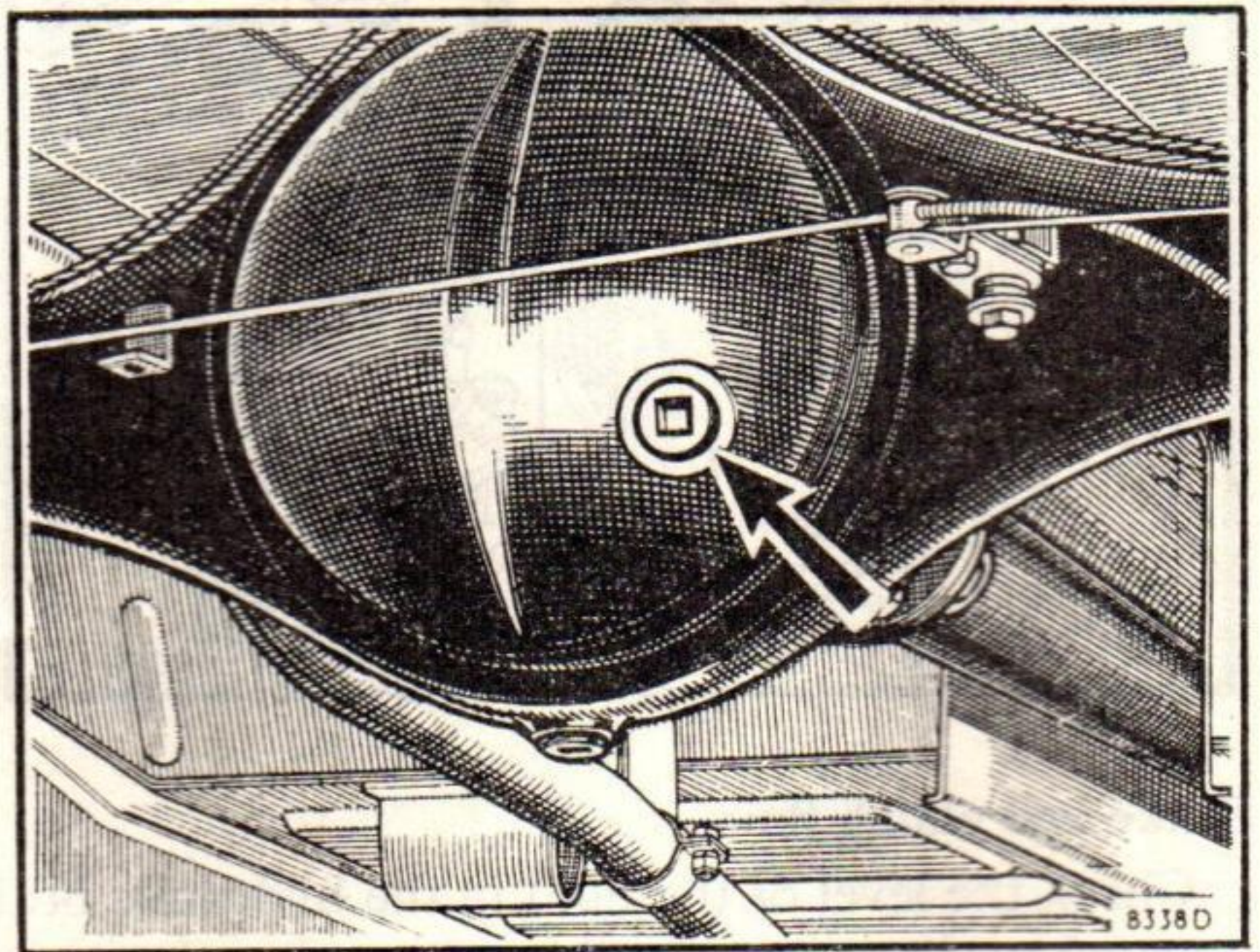
When replenishing the gearbox care must be taken to ensure that it is not filled above the 'HIGH' mark on the dipstick. If the level is too high oil may get into the clutch case and cause clutch slip.

The combined filler plug and dipstick for the gearbox is located beneath the rubber plug on the tunnel behind the speaker panel.



The gearbox oil filler plug and (arrowed) a funnel passing through the tunnel to the gearbox

The rear axle filler and level plug



Rear axle (B)

Check the level, and top up if necessary. The filler plug is located on the rear 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.

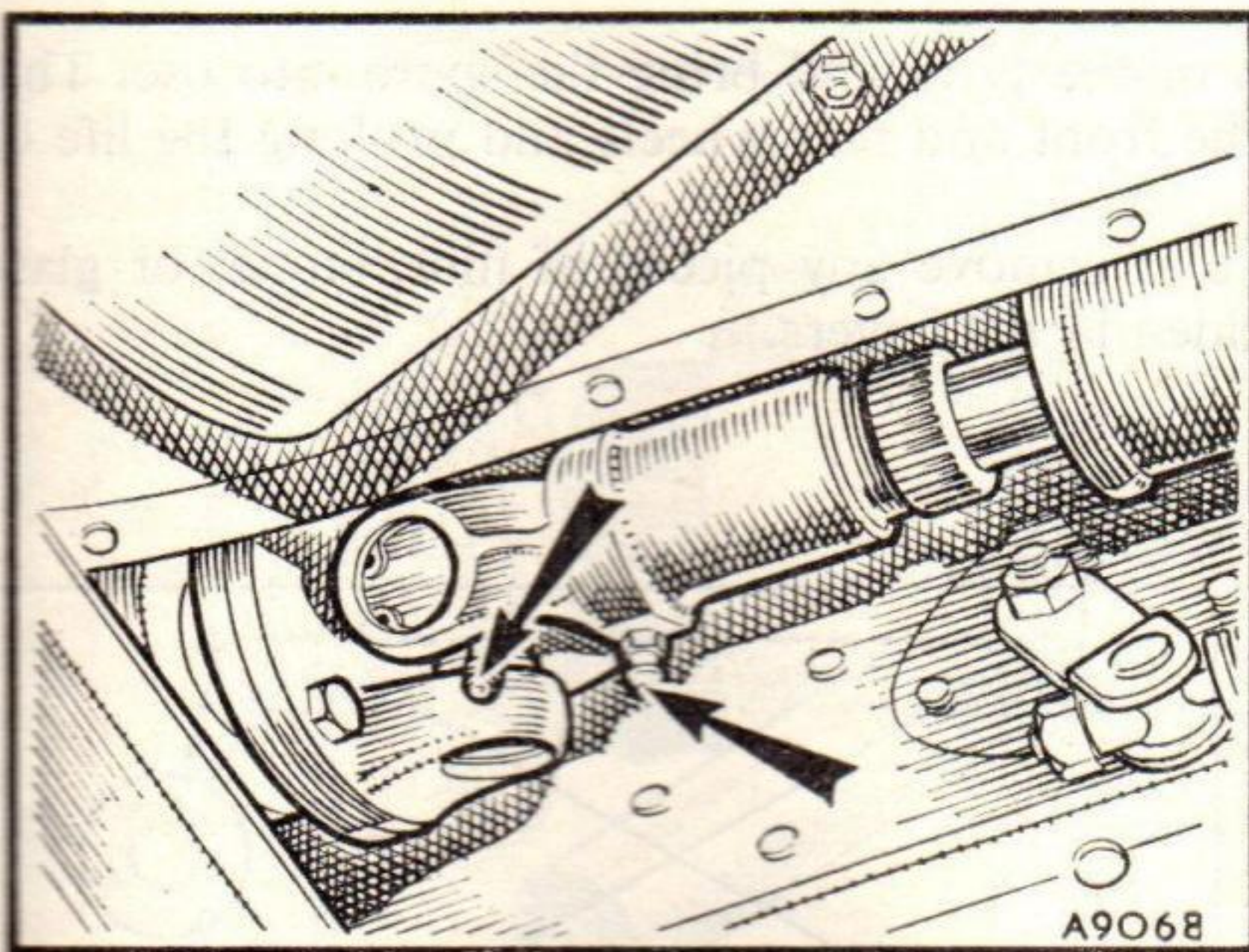
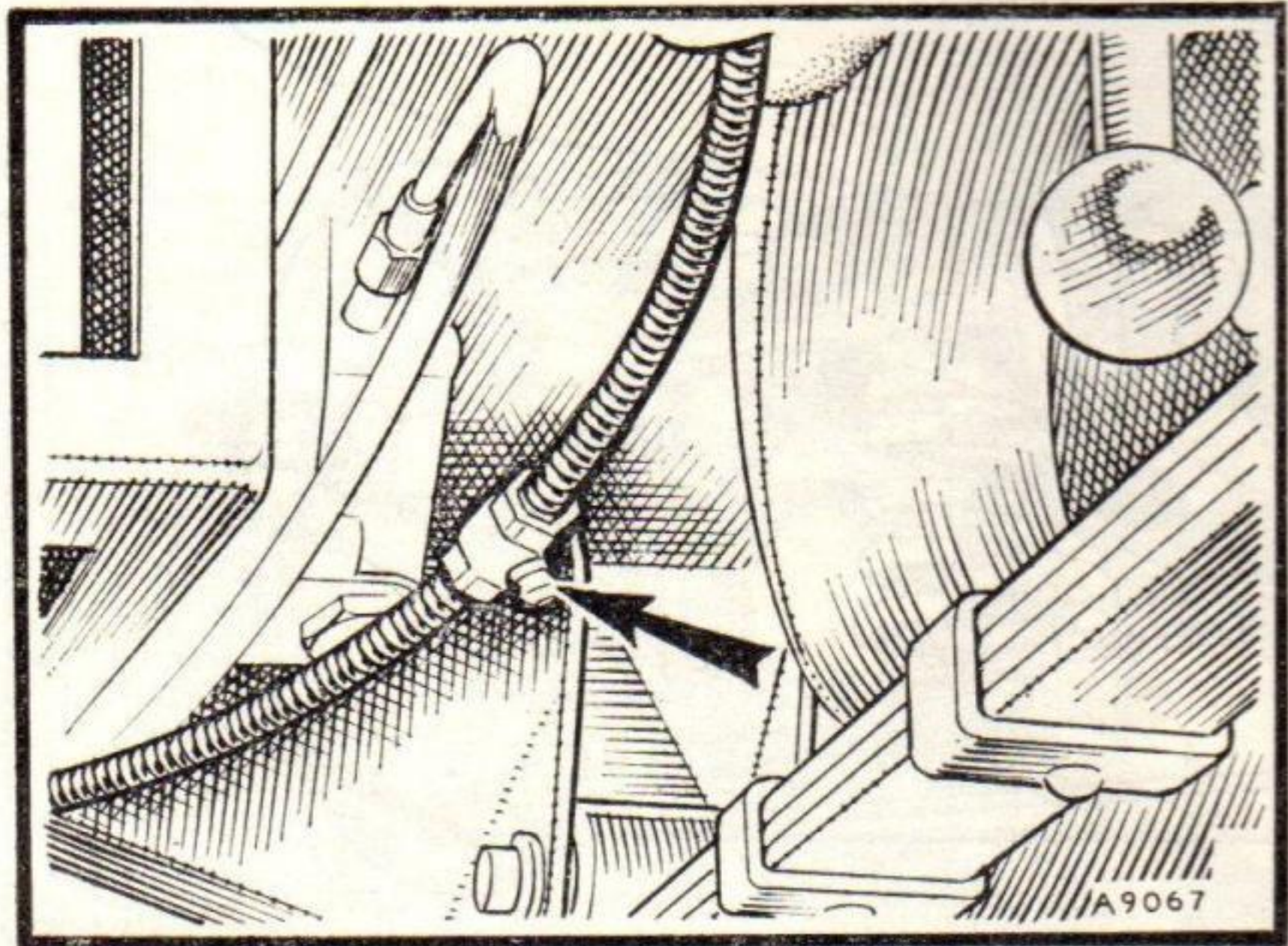
NOTE.—It is essential that only Hypoid oil be used in the rear axle.

EVERY 3,000 MILES (5000 Km.)

Hand brake cable (C)

The nipple on the hand brake cable should be charged with grease.

A grease nipple is provided on the hand brake cable and will be found near the front end of the right-hand rear spring



The lubrication nipples for the front universal joint and the sliding yoke

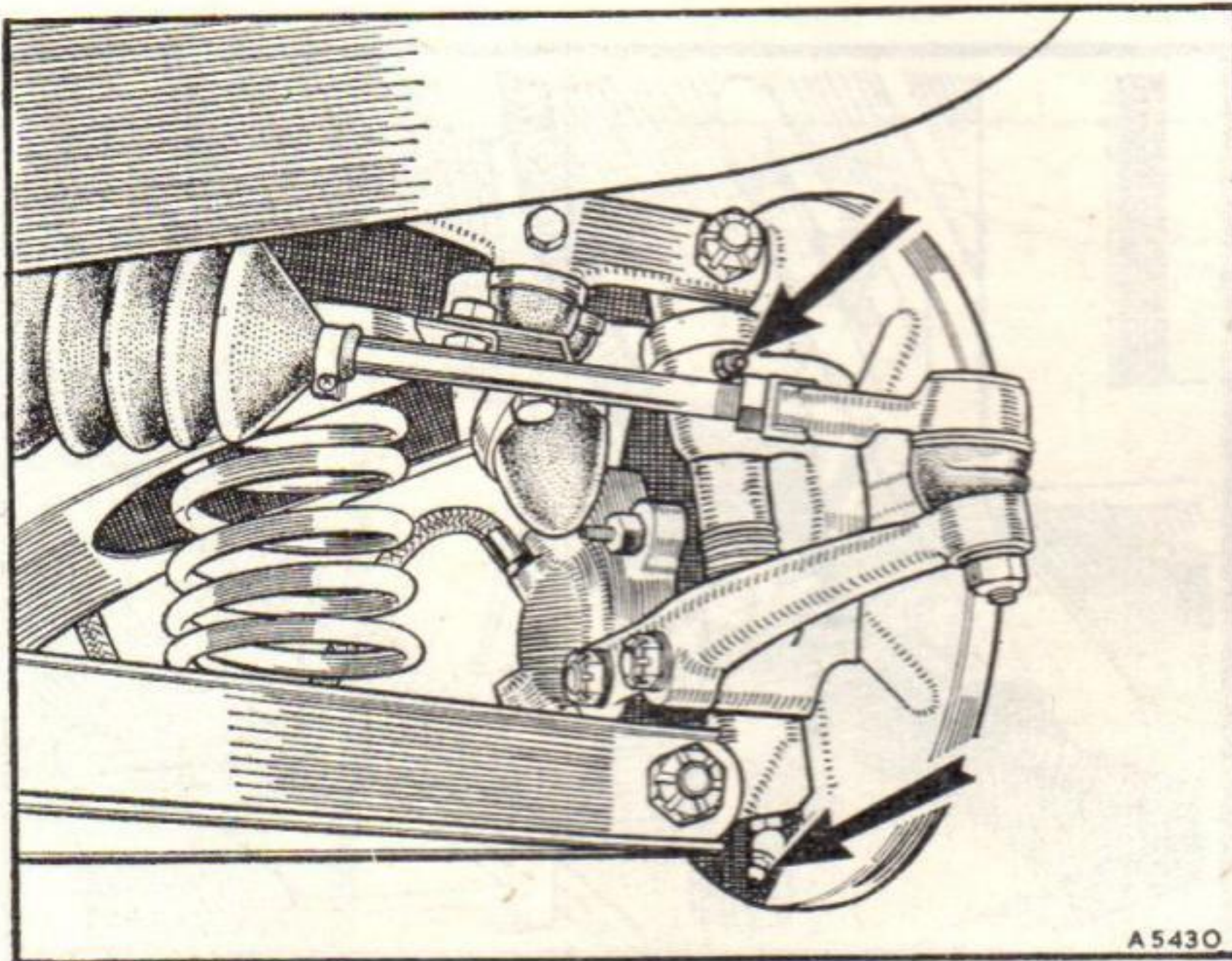
Propeller shaft (C)

Lubrication nipples are provided on the front and rear universal joints and also on the sliding yoke at the front end of the propeller shaft. Three or four strokes of the grease gun are required.

EVERY 3,000 MILES (5000 Km.)

Front suspension (C)

Lubrication nipples are provided at the top and bottom of each swivel pin; each nipple should be charged with grease.



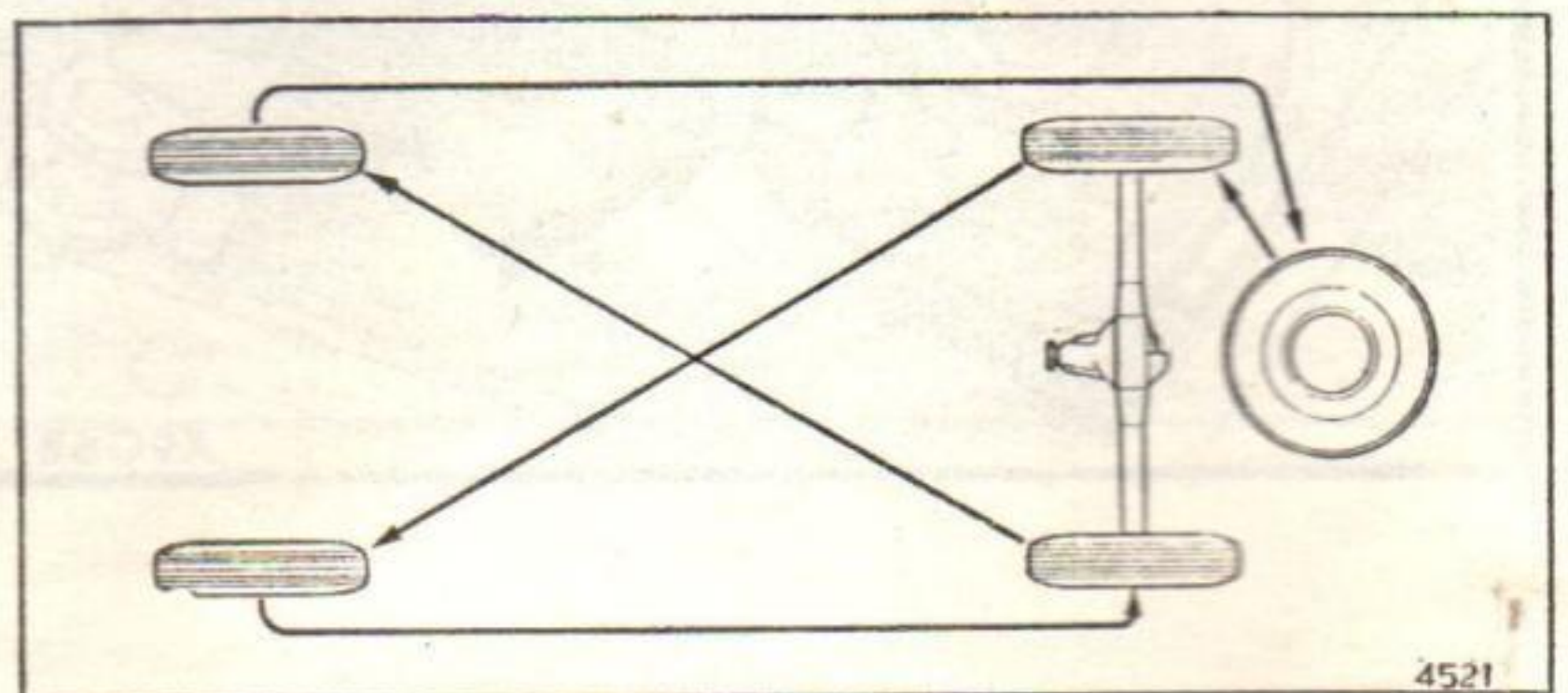
The front suspension lubrication nipples, which require regular attention. This illustration shows the left-hand side only

Wheels and tyre pressures

Change the running position of the tyres and bring the spare into use. This will equalize the tyre wear of the front and rear wheels and prolong the life of the tyres.

Inspect the tyres frequently and remove any pieces of flint, stone, or glass which may have become embedded in the covers.

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



Check the tyre pressures (see 'GENERAL DATA') with an accurate tyre gauge, and correct when necessary. Do not forget the spare wheel, which should be maintained at the highest pressure recommended for the vehicle.

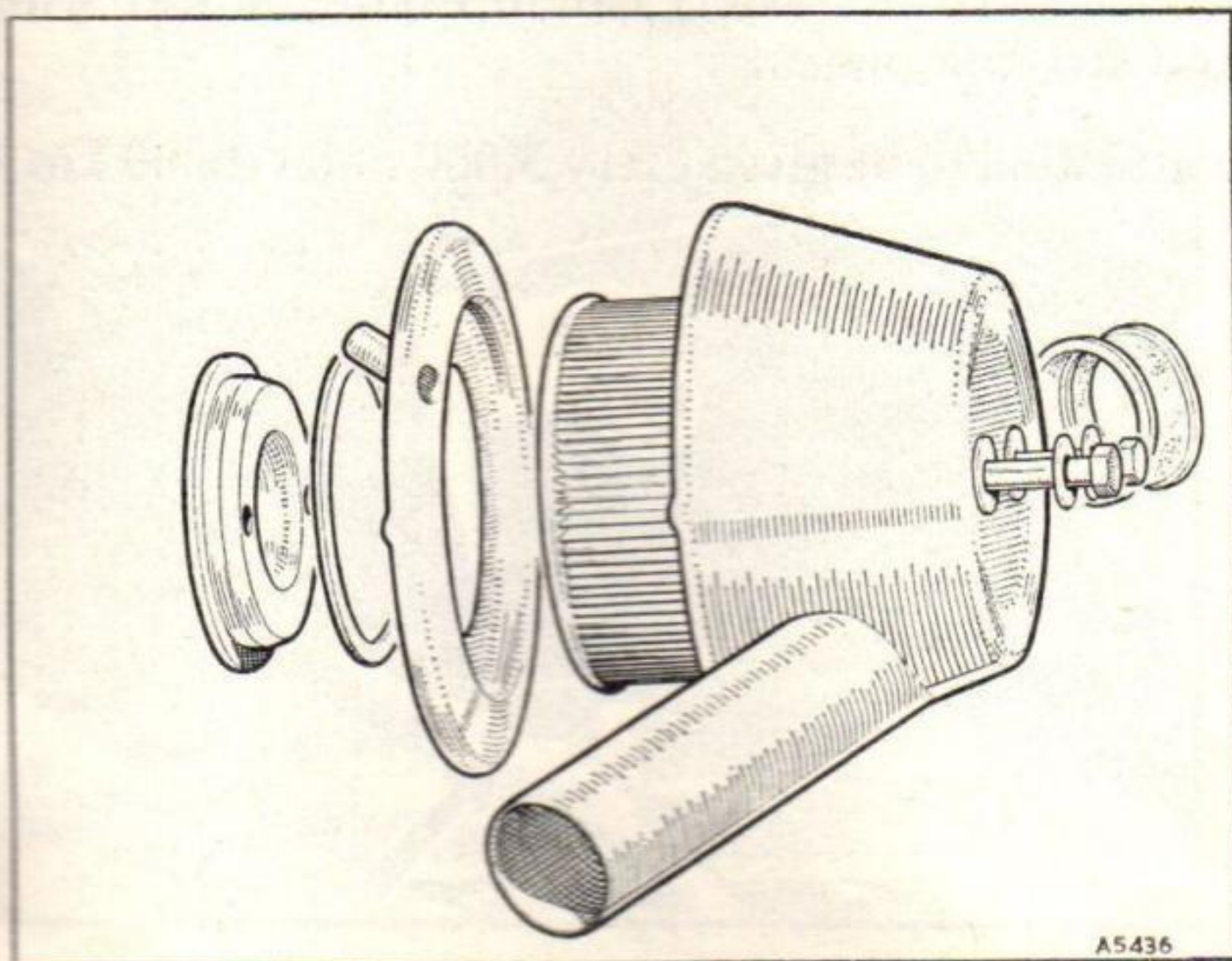
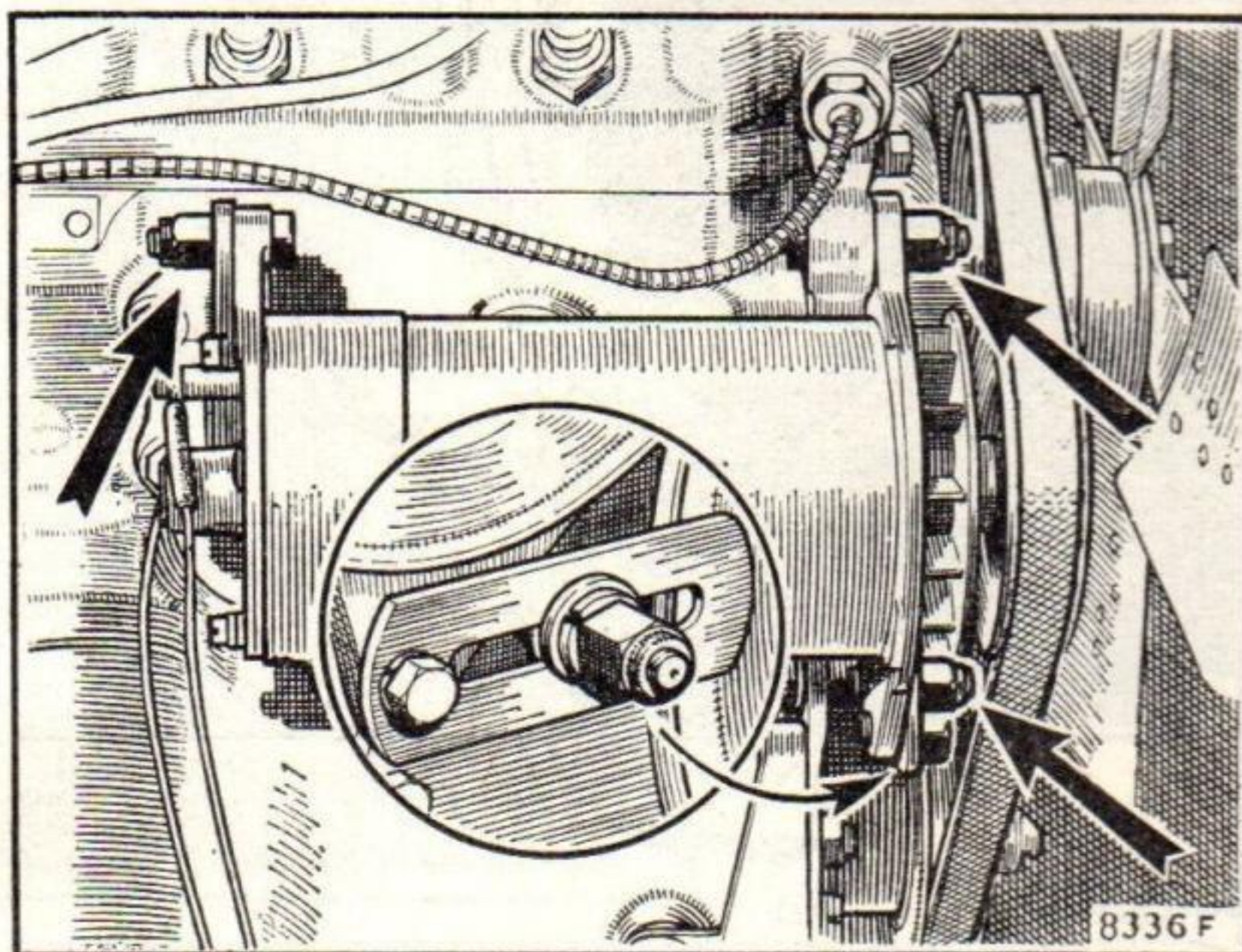
EVERY 3,000 MILES (5000 Km.)

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, particularly the one passing through the slotted adjusting link (inset).

Slacken the two bolts attaching the top of the dynamo to the engine and also the two bolts securing the slotted adjusting link below the dynamo body when the belt tension requires attention



The dry-type air filter components. Clean the inside of the case before reassembling

Air filter (dry type)

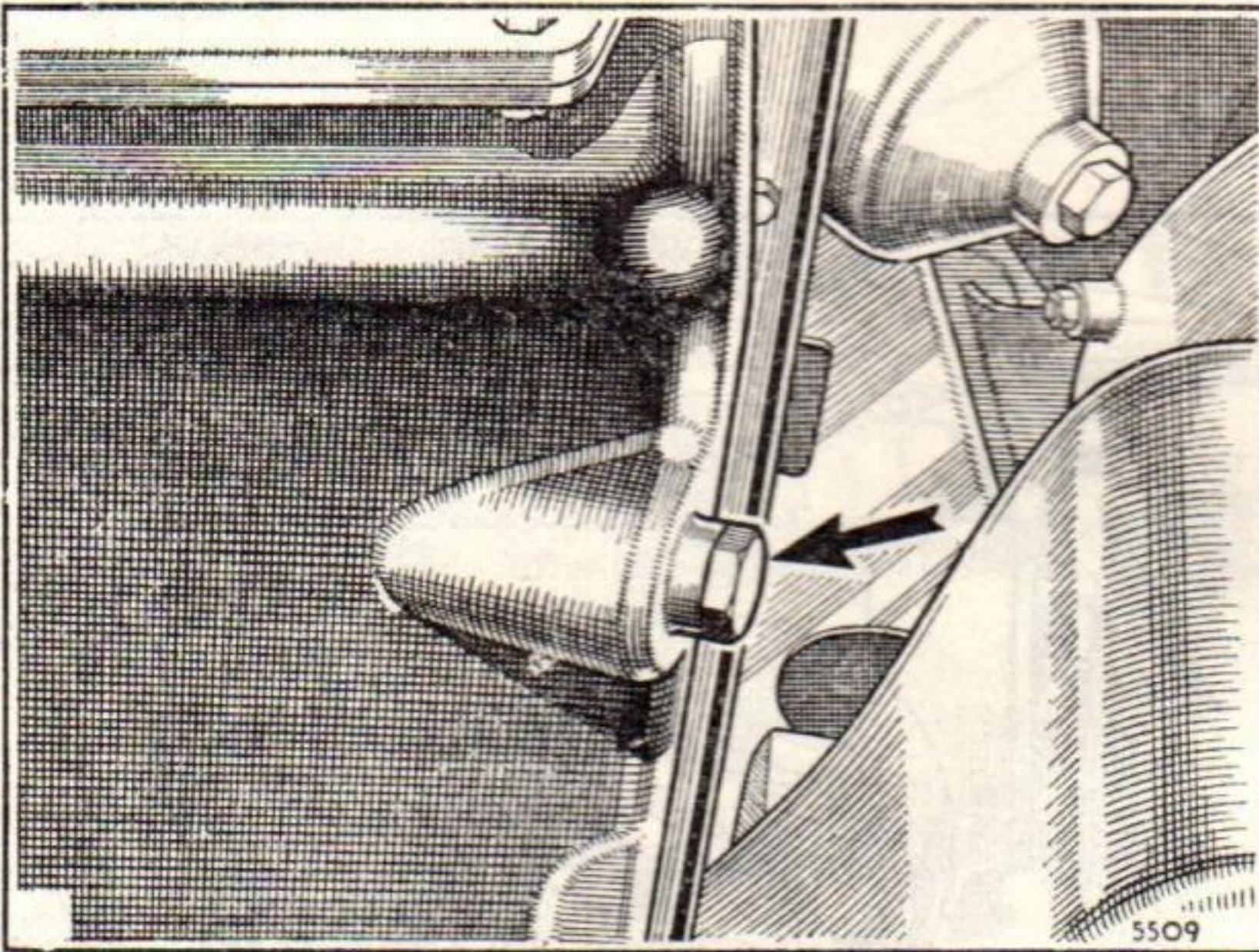
Unscrew the bolts securing each air filter to the choke bracket and fixing plate respectively and remove the filters from the vehicle. Remove the wire clip and base plate and shake the dust from the paper element. Clean the inside of the casing thoroughly and reassemble.

EVERY 3,000 MILES (5000 Km.)

Draining the sump (A)

Drain the oil from the engine sump and refill with new oil. The drain plug is on the right-hand side of the sump and should be removed after a journey while the oil is still warm and will drain easily.

The sump capacity is shown in 'GENERAL DATA'.



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

Body (D)

Check the opening and closing of the doors. Inject oil through the key slot, and through the oil holes in the lock.

Lubricate the door hinges, bonnet lock, and safety catch. Lightly smear with a suitable grease the dovetails and striking plates.

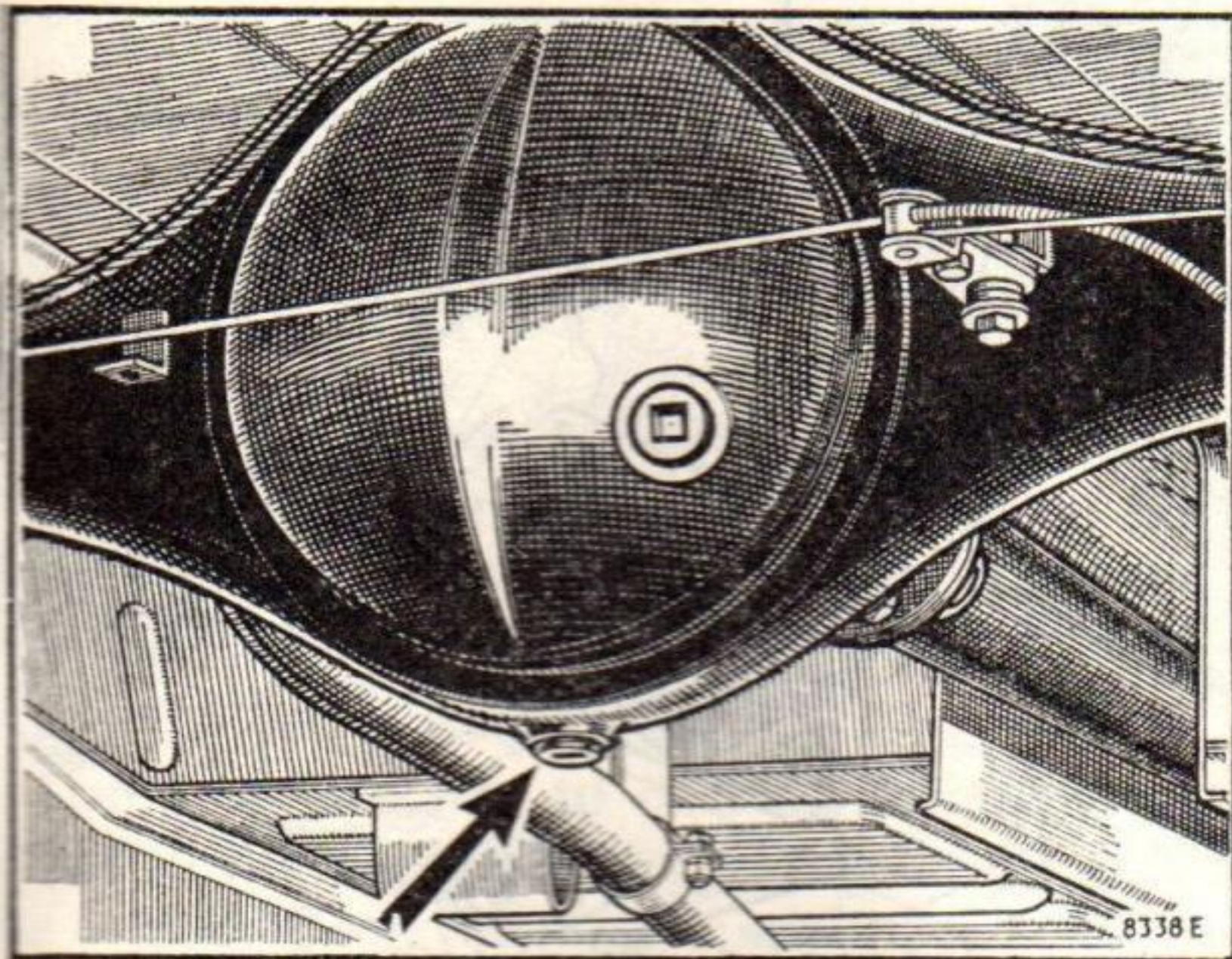
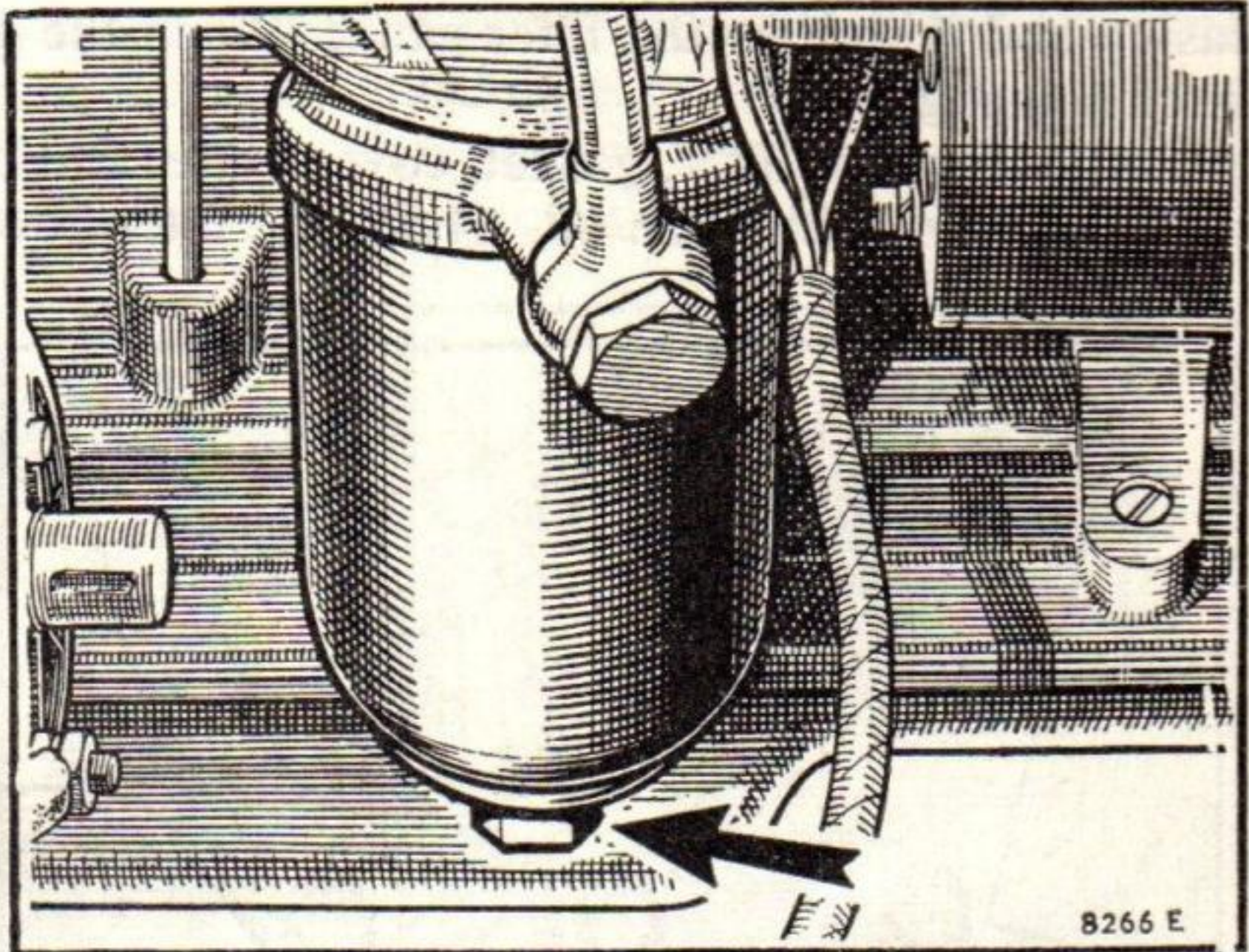
For a complete summary of the attention to be given every 3,000 miles (5000 km.) see also page 64.

EVERY 6,000 MILES (10000 Km.)

Oil filter

The external oil filter is of the renewable-element type and is located on the right-hand side of the cylinder block. The filter is released by undoing the central bolt securing the filter body to the filter head. When fitting the new element make sure that the sealing washer for the filter body is in good condition and that the body is correctly fitted.

Unscrew the central casing bolt and the filter bowl may be withdrawn



The rear axle drain plug

Rear axle (B)

Drain the oil from the rear axle and refill with fresh oil. The most suitable time for draining is after a long journey, whilst the oil is still warm. Clean the drain plug before it is replaced and tightened.

Approximately $2\frac{1}{4}$ pints (1.28 litres, 2.7 U.S. pints) of oil are required to refill the axle.

EVERY 6,000 MILES (10000 Km.)

Gearbox (A)

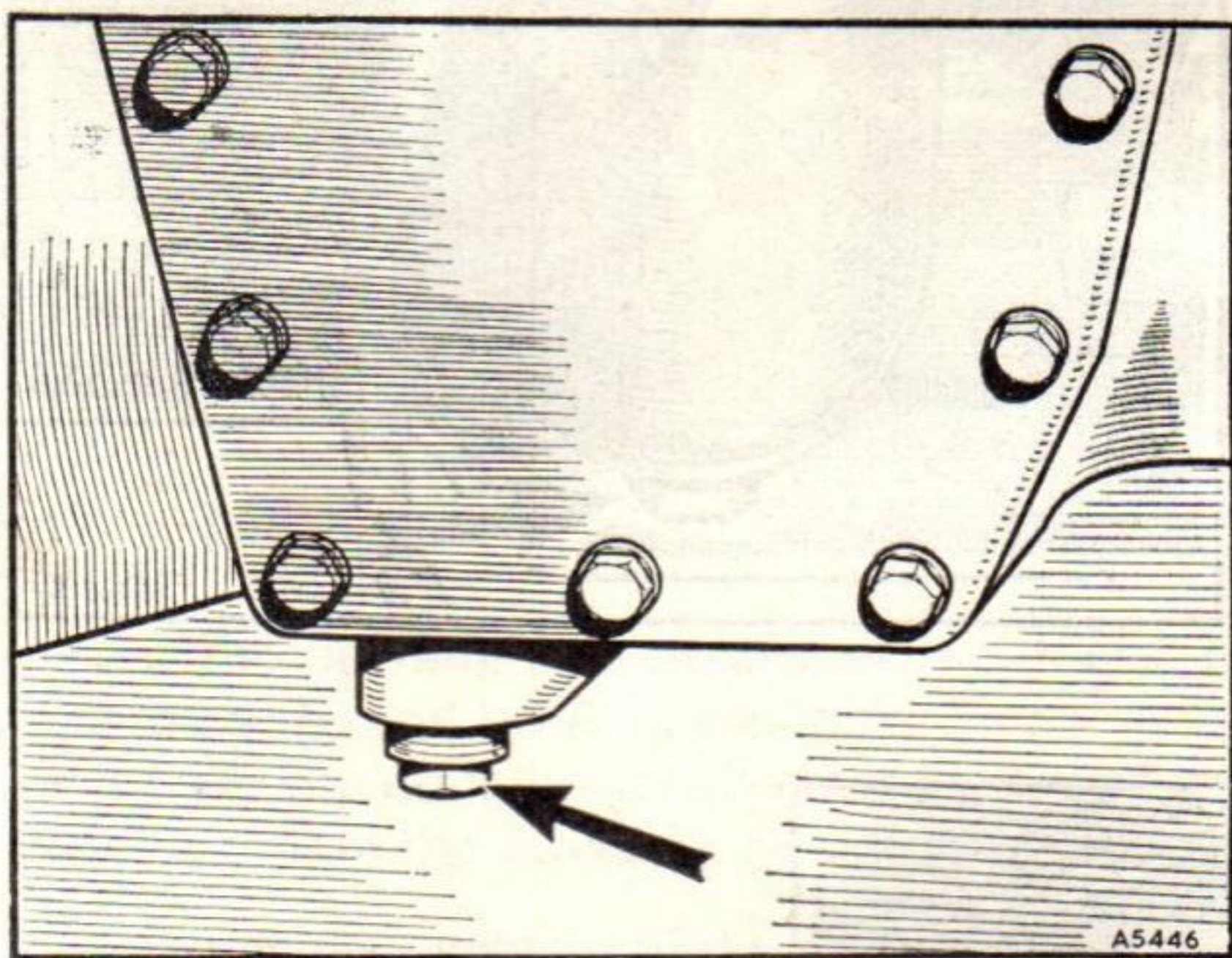
A drain plug is provided on the under side of the gearbox. Drain when the oil is warm after a run, and refill to the level indicated on the filler plug dipstick with new oil. Also see 'Overdrive'.

Overdrive (A)

The unit has no separate filler plug. When draining the gearbox, the overdrive drain plug (marked 'DRAIN') must be withdrawn.

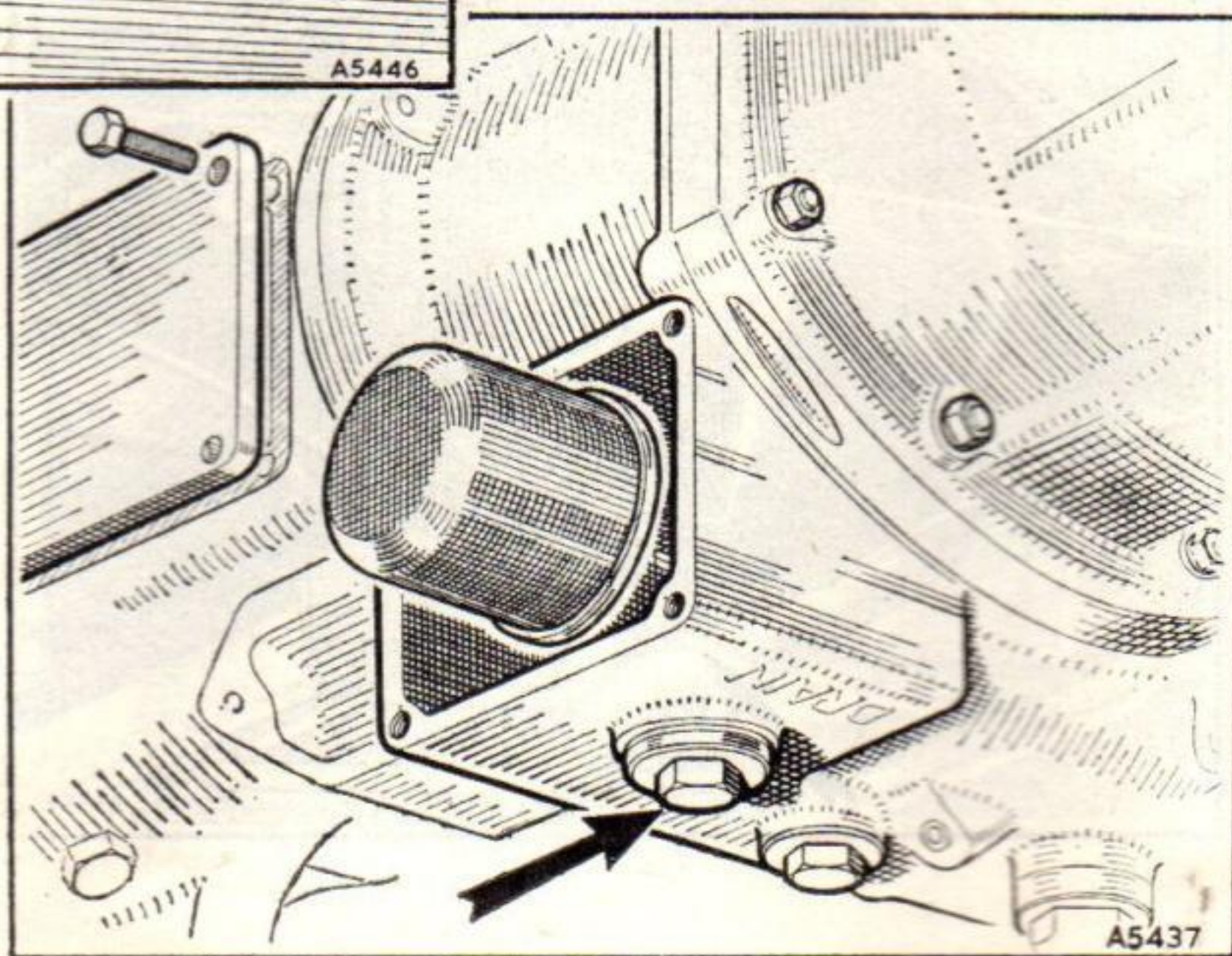
Remove the overdrive filter cover and gasket from the right-hand side of the casing and withdraw the filter gauze. Wash the gauze in fuel and clean out the filter housing.

Refit the gauze filter, gasket, cover-plate, and drain plugs and fill the gearbox and overdrive with fresh oil. Check the filter cover and drain plugs for leaks.



The gearbox drain plug

The overdrive cover-plate and filter. The drain plug is shown arrowed



Batteries

Check the condition of the batteries 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 hydrometer must be held vertically and the readings taken at eye-level. The specific gravity readings and their indications are given on page 34.

EVERY 6,000 MILES (10000 Km.)

Valve rockers

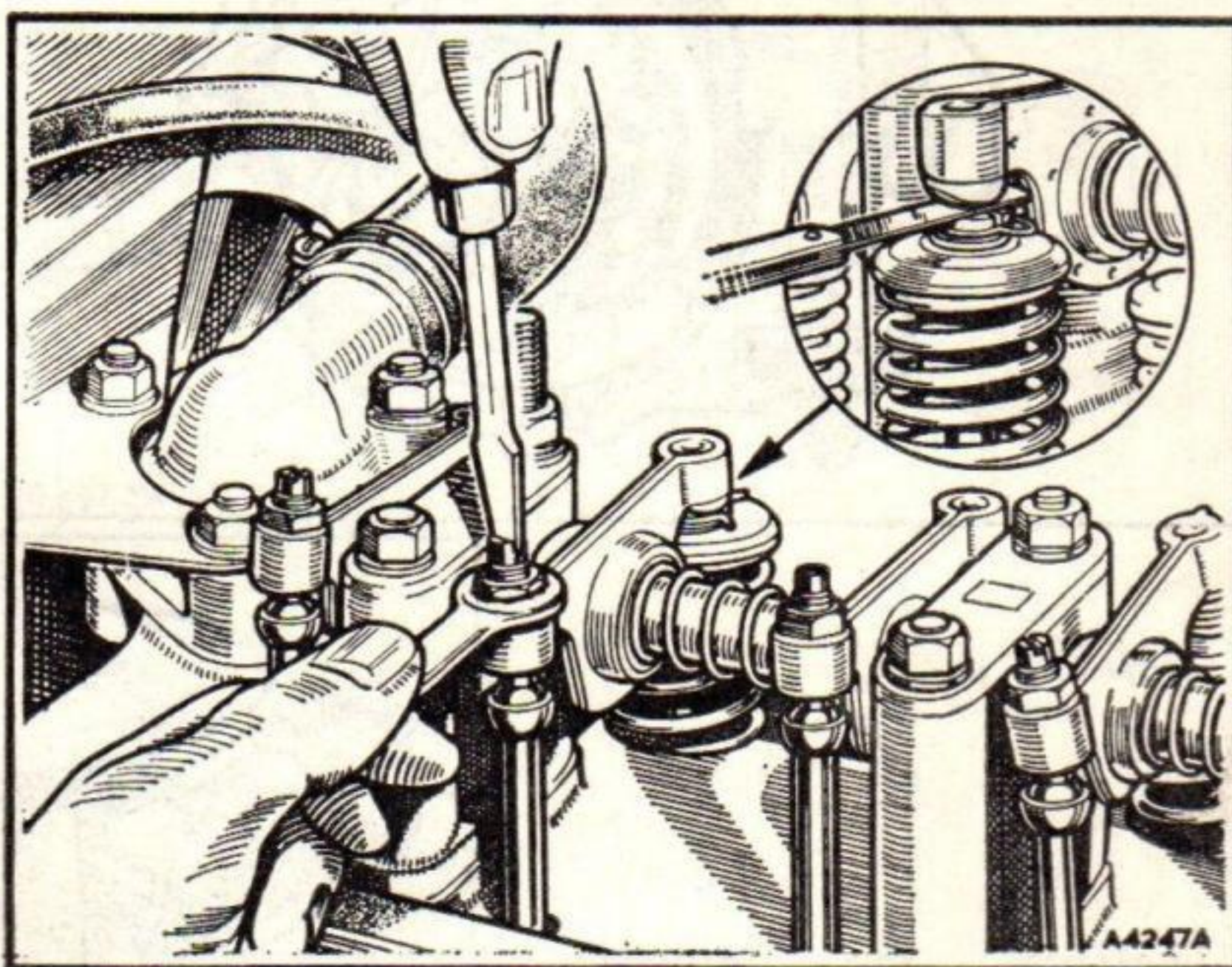
Remove the valve rocker cover and test the clearance between the rocker arms and the valve stems by inserting a .015 in. (.38 mm.) feeler gauge between them. The blade should be a sliding fit when the valves are tested in the following order while the engine is cold:

Test No. 1 valve with No. 8 fully open Test No. 8 valve with No. 1 fully open

”	”	3	”	”	”	6	”	”	”	”	6	”	”	”	3	”	”
”	”	5	”	”	”	4	”	”	”	”	4	”	”	”	5	”	”
”	”	2	”	”	”	7	”	”	”	”	7	”	”	”	2	”	”

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.

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



Distributor

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

Centrifugal advance mechanism

Remove the distributor cover and grasp the rotor firmly. Turn the rotor 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 gap

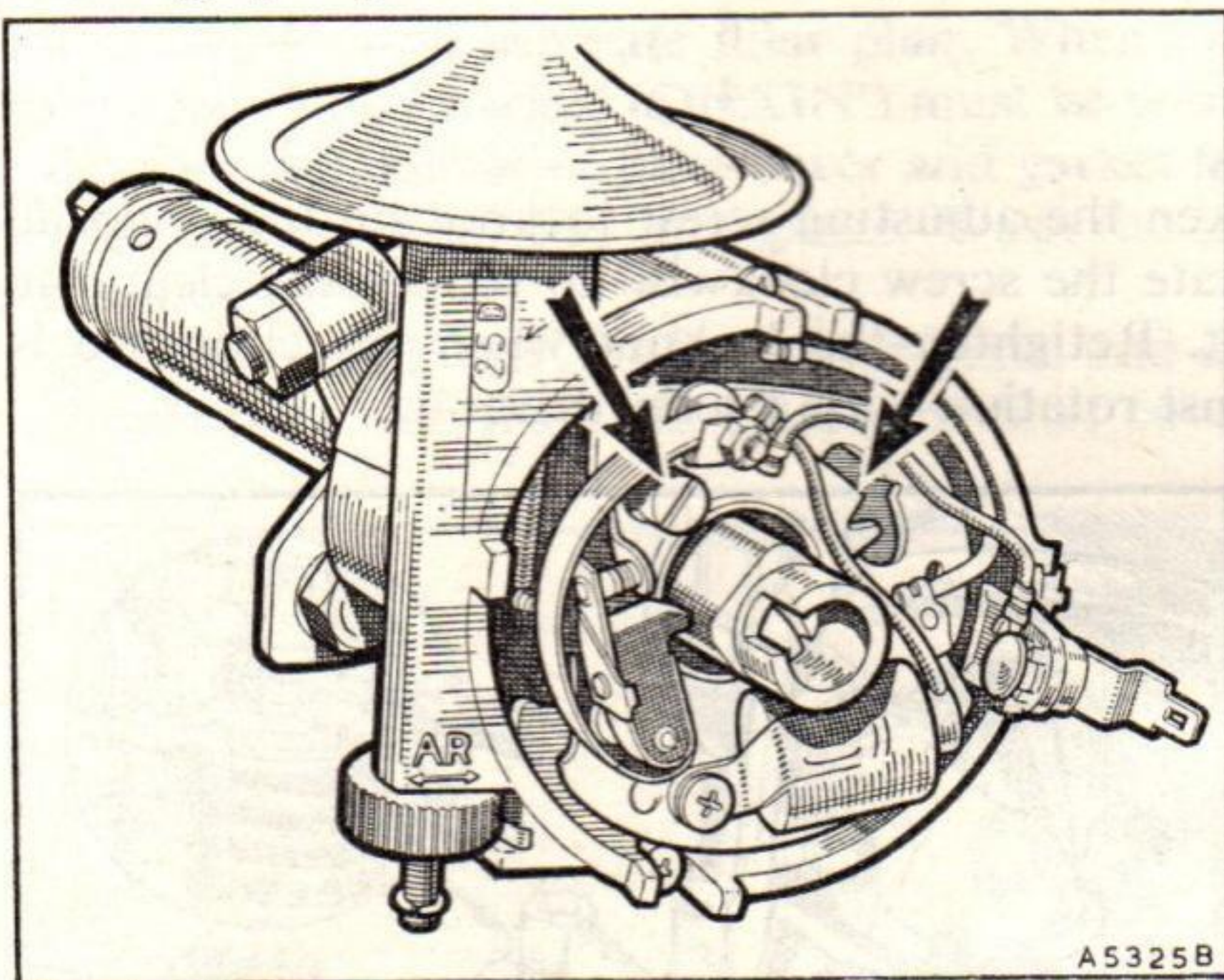
Check the contact gap with a feeler gauge (see 'GENERAL DATA'). Remove the sparking plugs, turn the crankshaft by turning the fan pulley until the contacts are fully open, and the gauge should be a sliding fit.

If the gap varies appreciably, slacken the contact plate screw, insert a screwdriver in the cut-out, and move the plate until the gap is correct. Retighten the screw.

EVERY 6,000 MILES (10000 Km.)

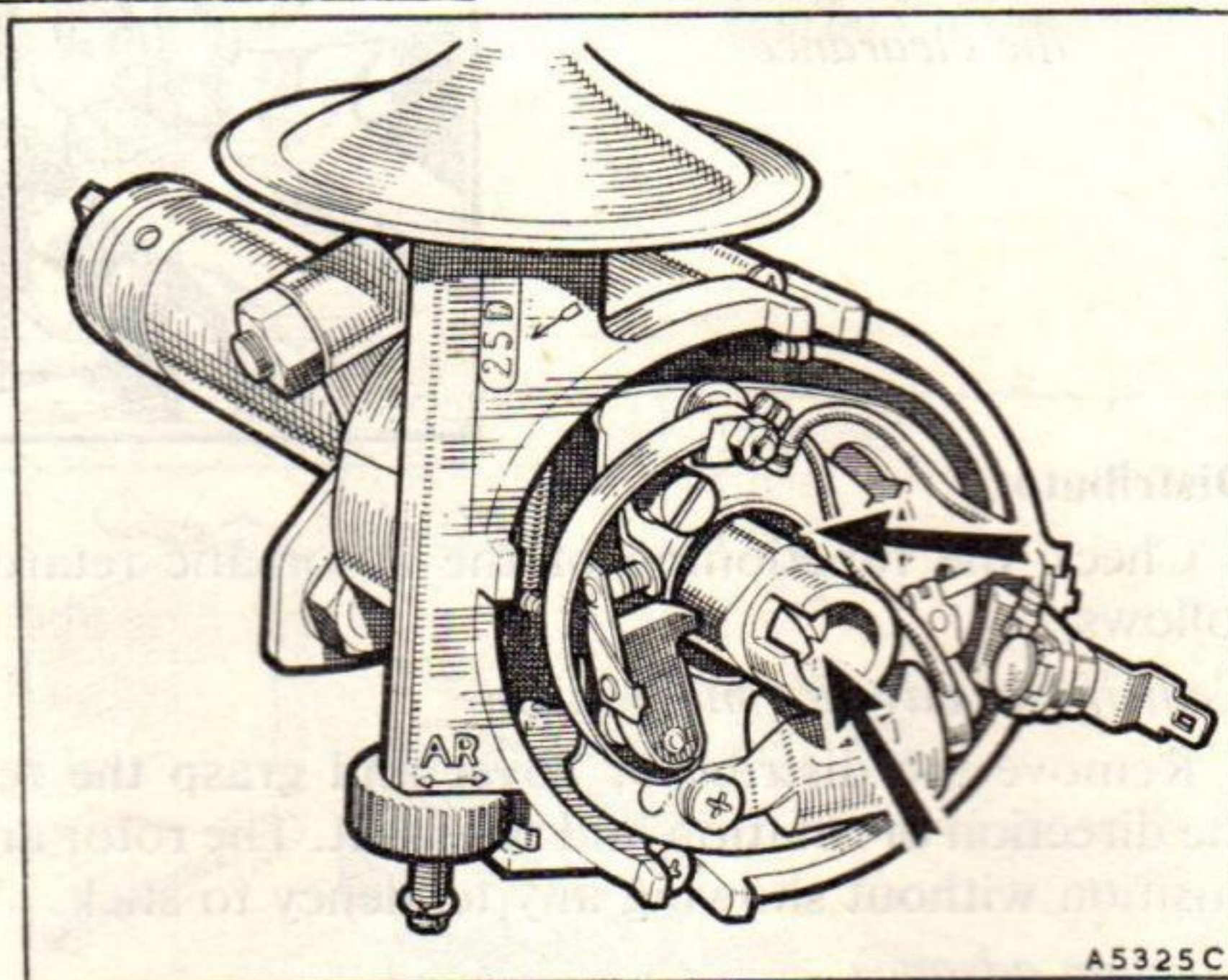
If the contacts appear pitted or blackened they should be removed and cleaned with a fine carborundum stone or fine emery-cloth.

To release the contacts remove the nut, washer, and insulator from the retaining post and lift off the moving contact and the two insulating washers. Take out the screw and remove the contact plate. Set the gap after replacing. Thoroughly wipe the distributor cap to ensure that it is clean.



The contact plate securing screw and the screwdriver adjusting slots are here indicated by the arrows

Lubricate the advance mechanism and the cam spindle



Distributor (C and D)

Remove the distributor cover and rotor arm and lightly smear the cam with grease to Ref. C or thin engine oil. Avoid overgreasing.

At the same time drop a spot of oil or place a smear of grease on the contact breaker pivot.

Drop a few spots of thin engine oil to Ref. D 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.

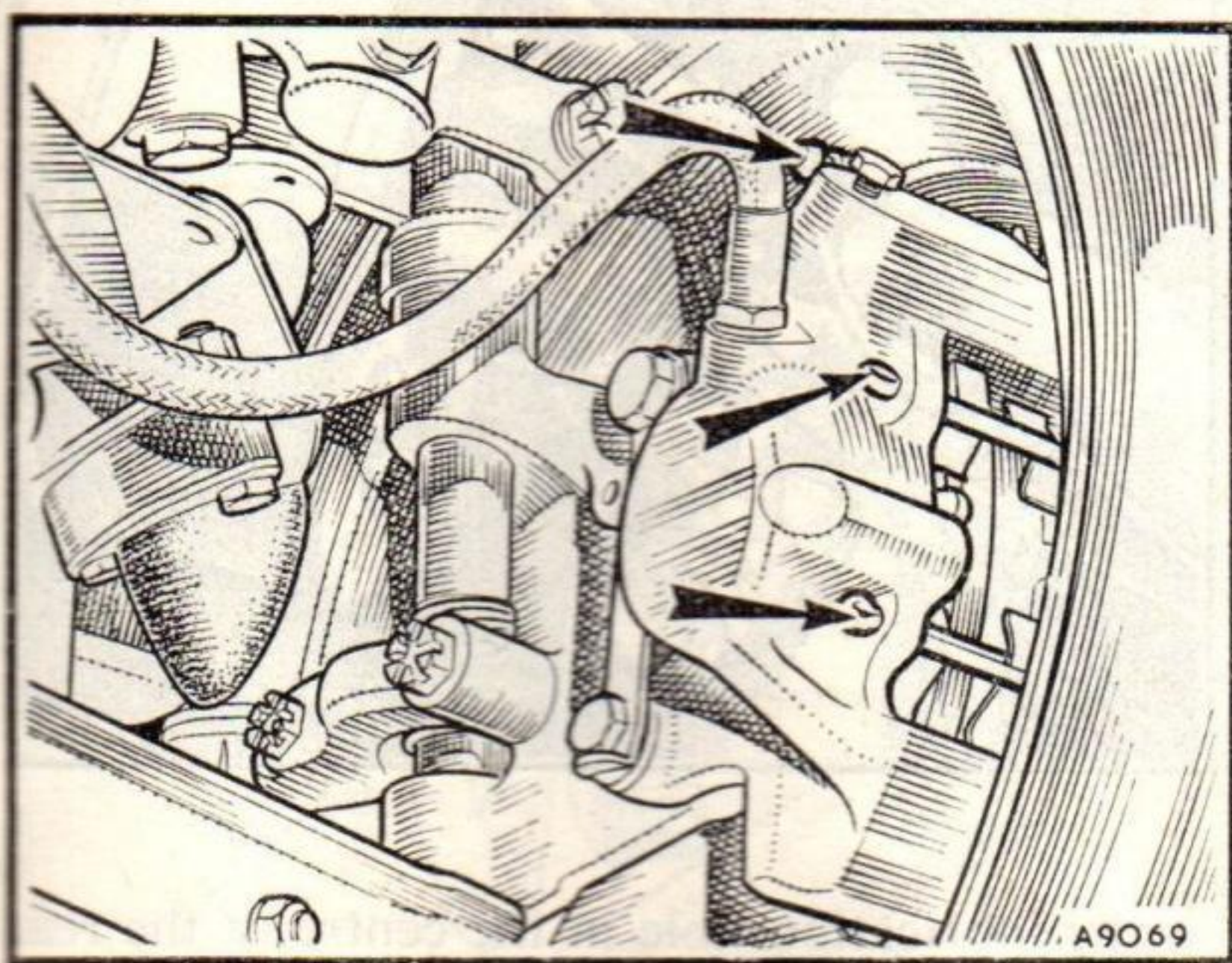
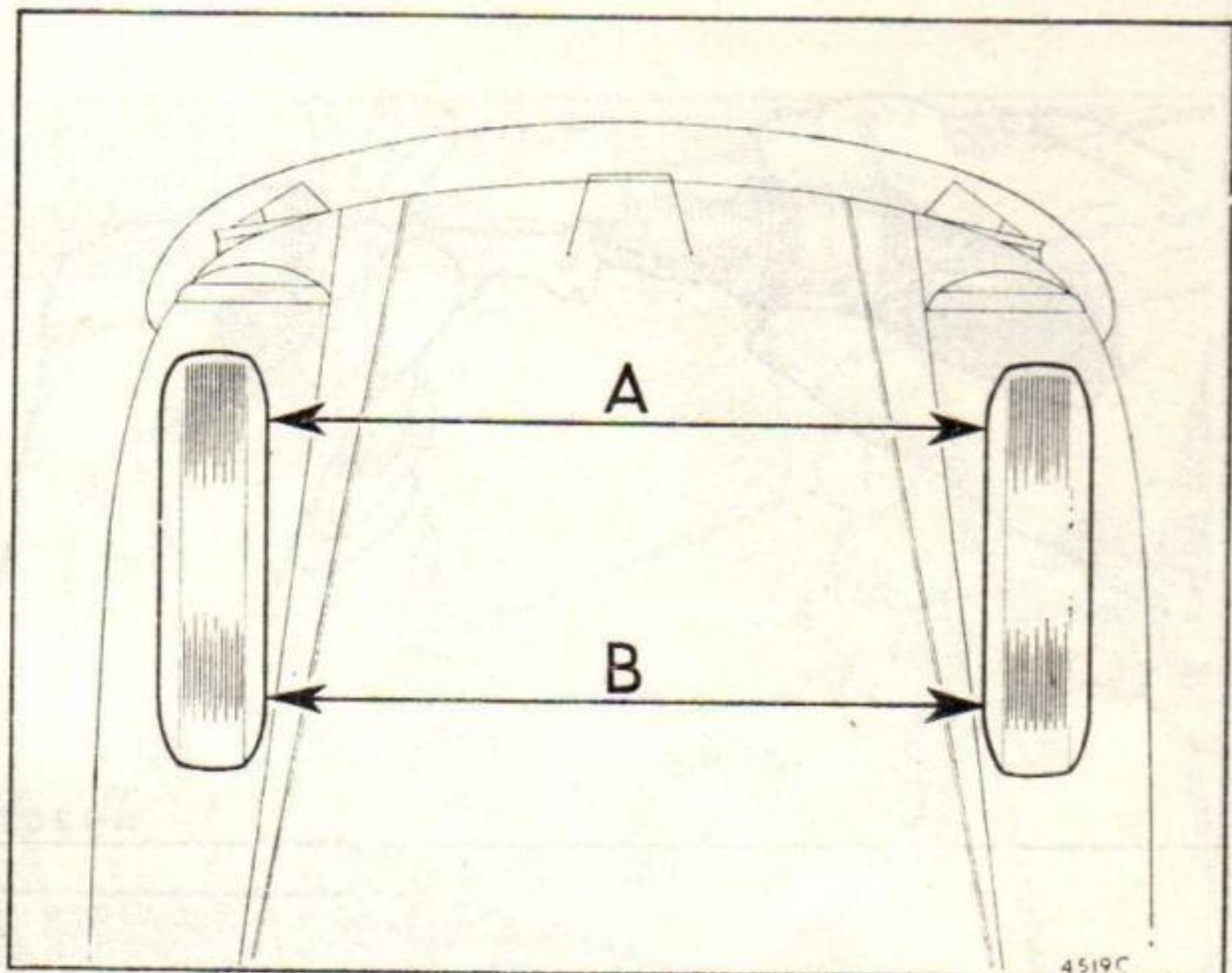
EVERY 6,000 MILES (10000 Km.)

Front wheel alignment

Excessive and uneven tyre wear is usually caused by faulty wheel alignment. The front wheels should be set with between $\frac{1}{16}$ and $\frac{3}{32}$ in. (1.5 and 2.3 mm.) toe-in, and care should be taken that the measurements are taken at axle level and that the rims run true.

Since correct alignment is so important and entails the use of a special gauge, this work should be entrusted to an authorized Distributor or Dealer.

The front wheels must be set so that dimension (A) is between $\frac{1}{16}$ and $\frac{3}{32}$ in. (1.5 and 2.3 mm.) smaller than dimension (B) when the wheels are in the straight-ahead position



The upper arrow indicates the bleed nipple and the lower arrows the spring clip retaining pins

Disc brakes

Examine the disc brake friction pads for wear. Wear on the pads is automatically compensated for during braking operations and manual adjustment is not therefore required. If the wear on one pad is greater than on the other their operating positions should be changed over.

When the pads have worn to a minimum thickness of $\frac{1}{16}$ in. (1.6 mm.) they must be renewed.

Entrust this work to an authorized Distributor or Dealer.

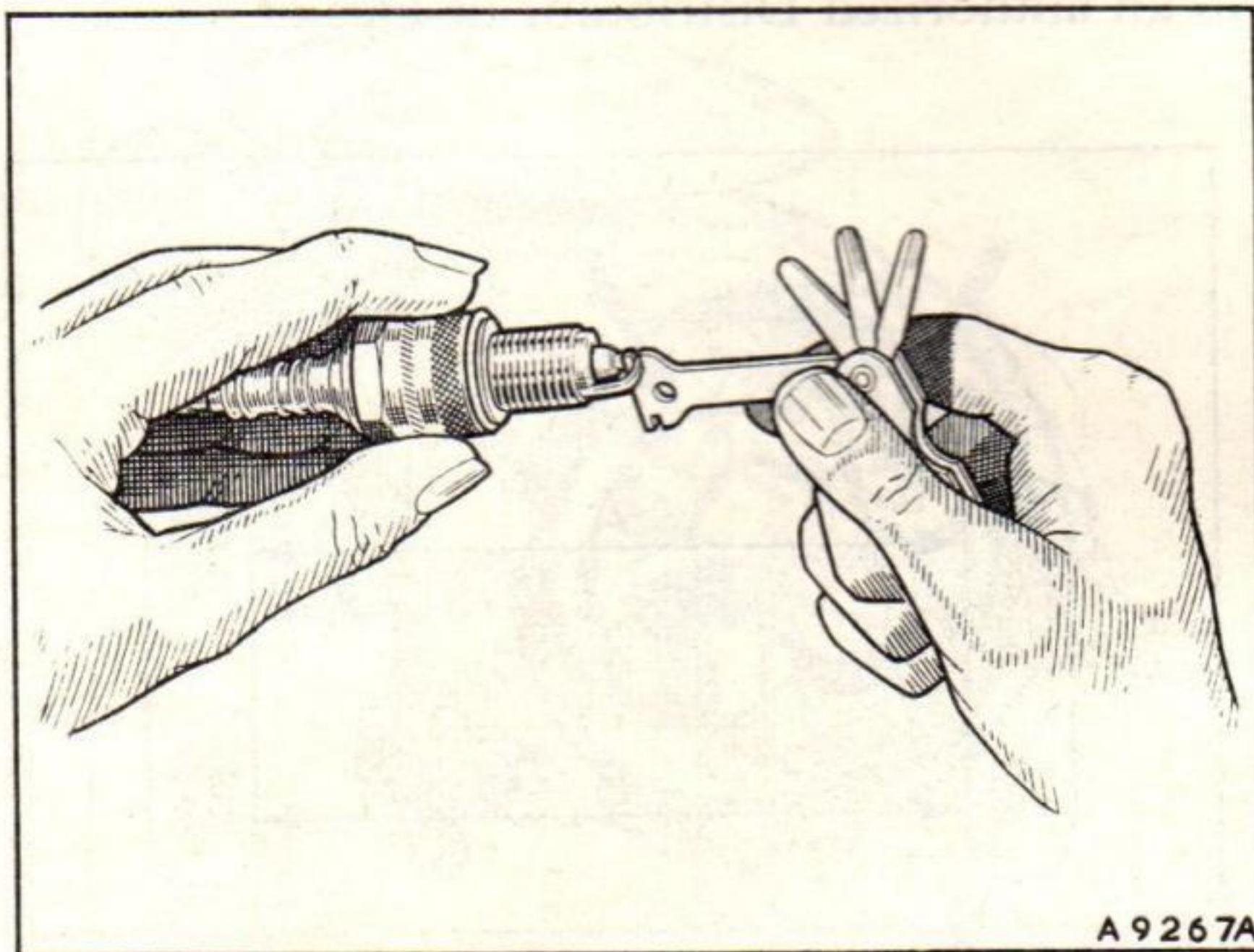
EVERY 6,000 MILES (10000 Km.)

Sparking plugs

The sparking plugs should be cleaned preferably by a service station with a special air-blast service unit, and the gaps should be reset to .025 in. (.64 mm.).

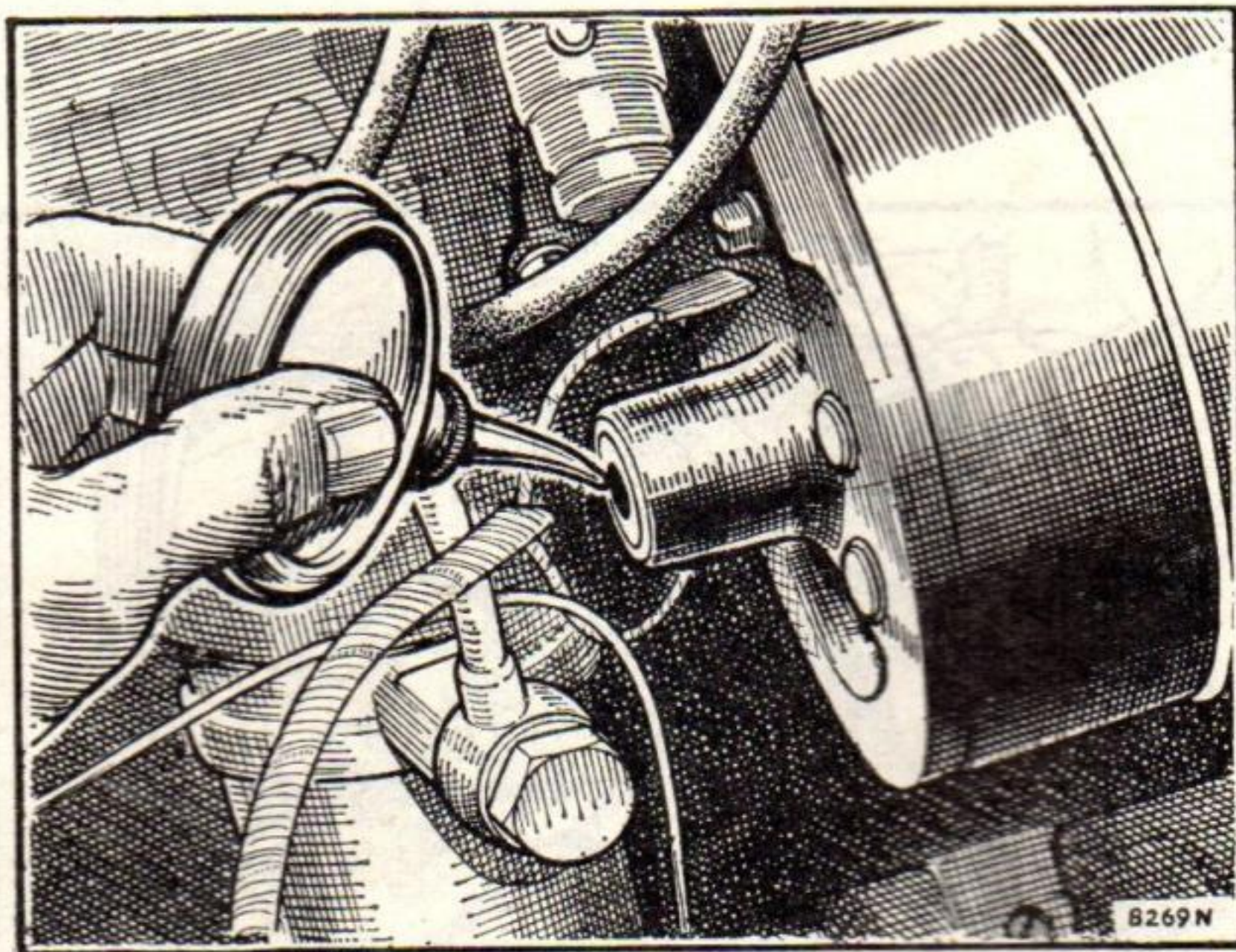
Use a special Champion sparking plug gauge and setting tool and move the side wire on the plug, never the centre one.

Plugs which are oily, dirty, or corroded 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

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



Dynamo lubrication (D)

Add two drops of engine oil in the lubrication hole in the centre of the rear end bearing plate. **Do not over-oil.**

Road springs

Check the rear spring anchorages for cleanliness and security. Tighten the rear spring centre bolts.

Electrical

Check all lamps for correct functioning.

For a complete summary of the attention to be given every 6,000 miles (10000 km.) see also page 64.

EVERY 12,000 MILES (20000 Km.)

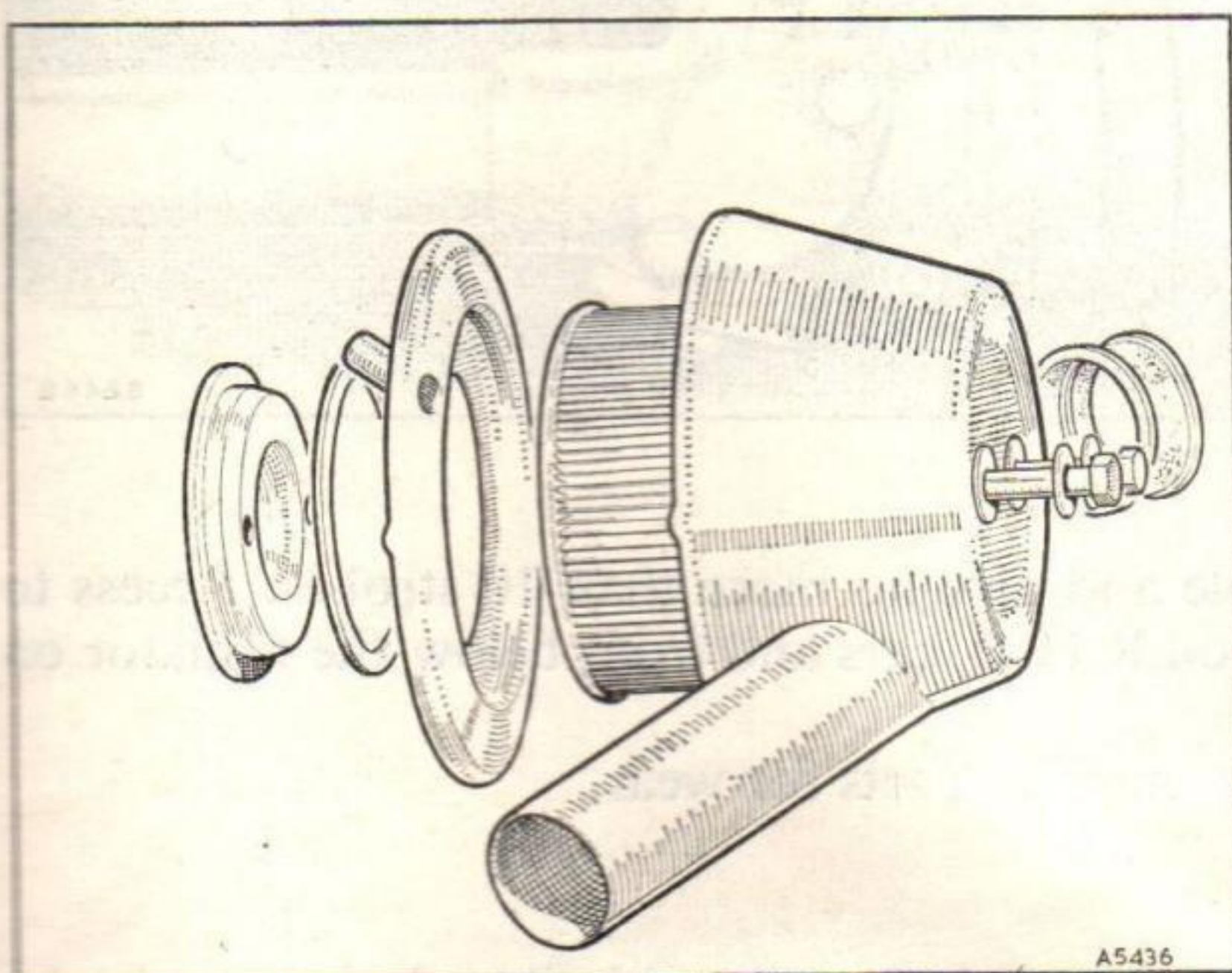
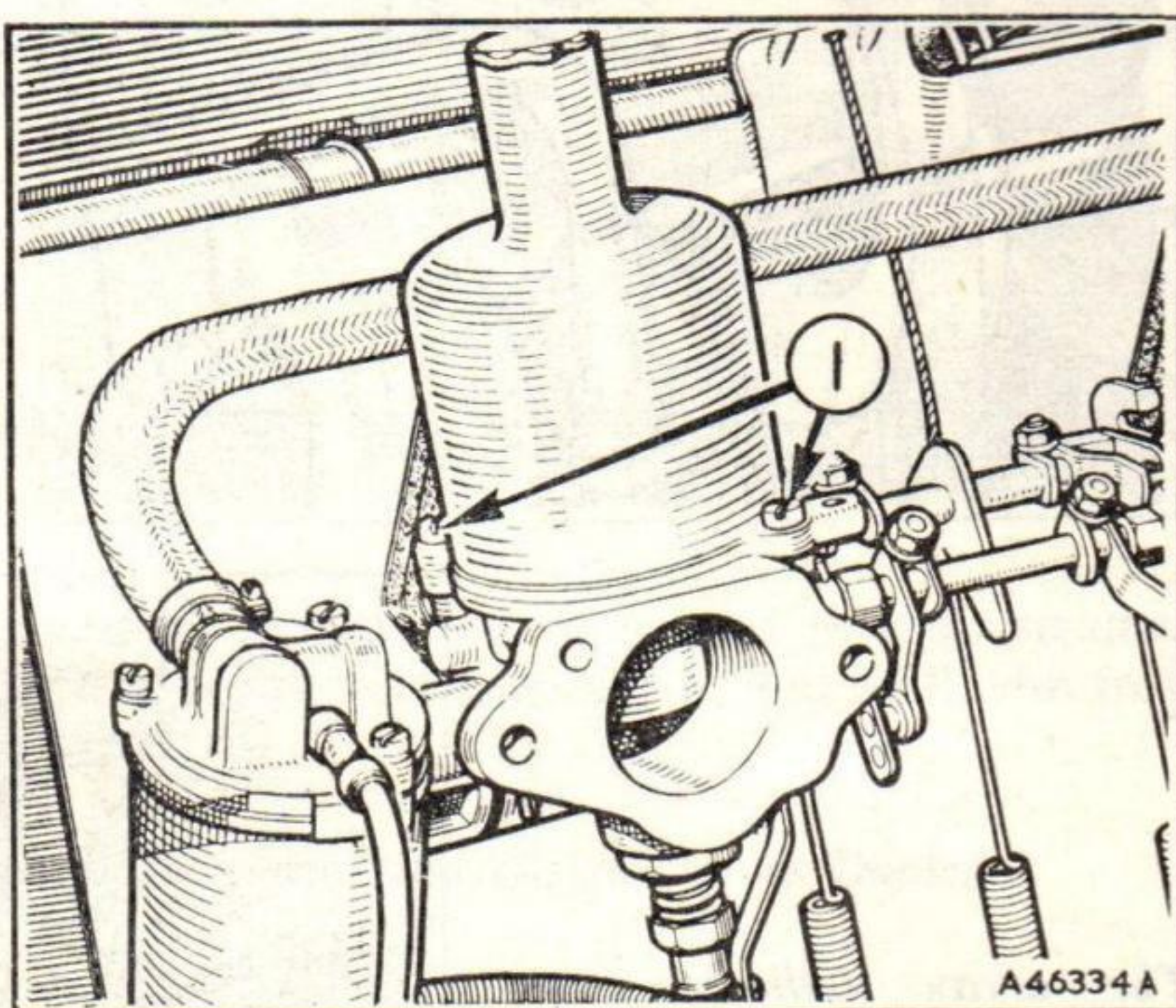
Carburettors

The suction chamber and piston should be removed from both carburettors and cleaned in fuel.

To remove the suction chamber and piston extract the screws securing the suction chamber to the carburetter body and withdraw both the chamber and the piston, taking care not to damage or bend the needle. Clean the main inside bore of the chamber and the two outside diameters of the piston with a clean rag moistened with fuel. Reassemble in a dry, clean condition, with a few spots of oil on the piston rod only.

The S.U. Type HS4 carburettors. Remove the screws, etc., indicated to release the suction chambers for cleaning

1. Suction chamber screws.



The dry-type air filter components. Clean the inside of the case before reassembling with a new element

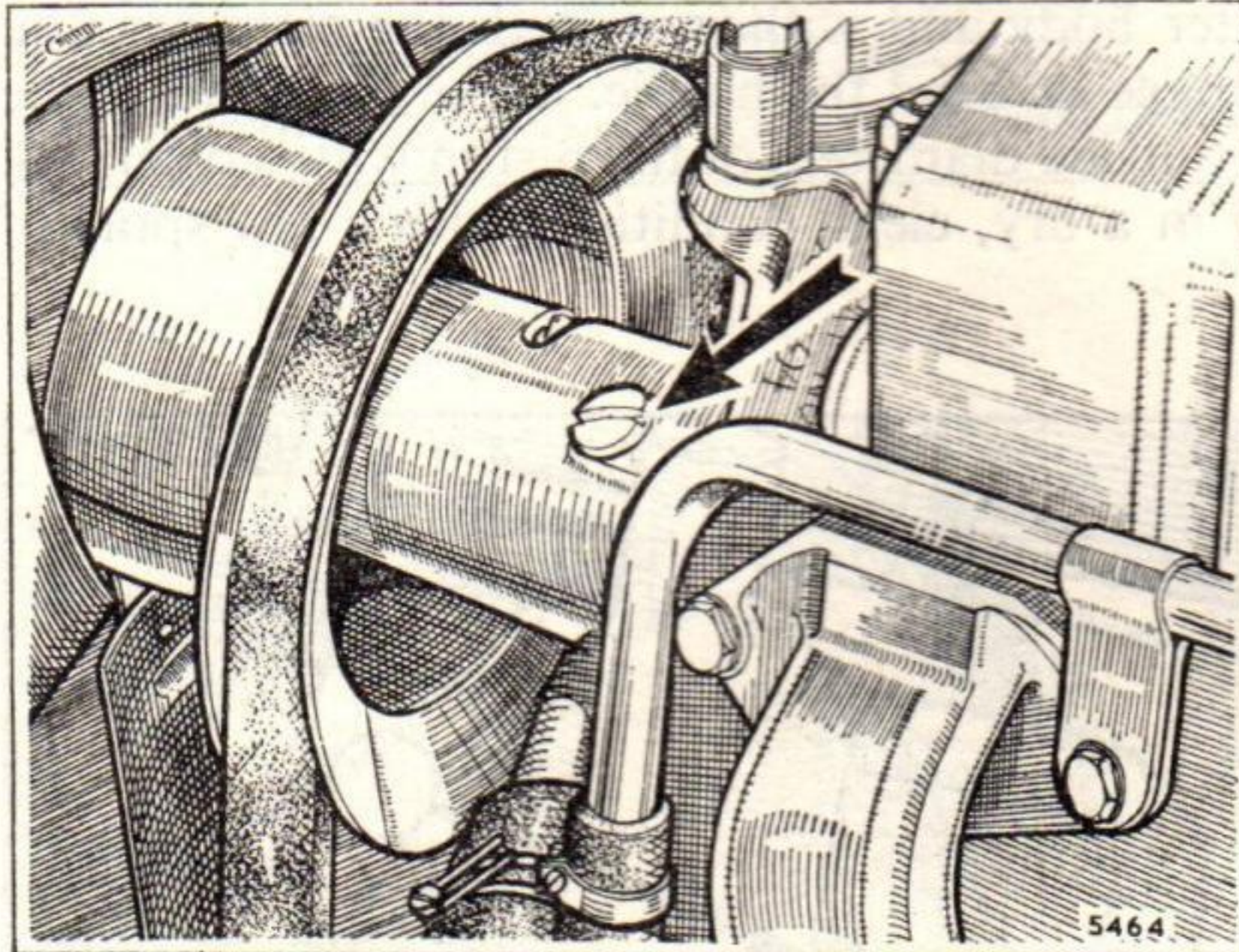
Air filter (dry type)

Unscrew the bolts securing each air filter to the choke bracket and fixing plate respectively and remove the filters from the vehicle. Remove the base plate and throw away the old paper element. Clean the inside of the casing thoroughly and reassemble, using a new element.

EVERY 12,000 MILES (20000 Km.)

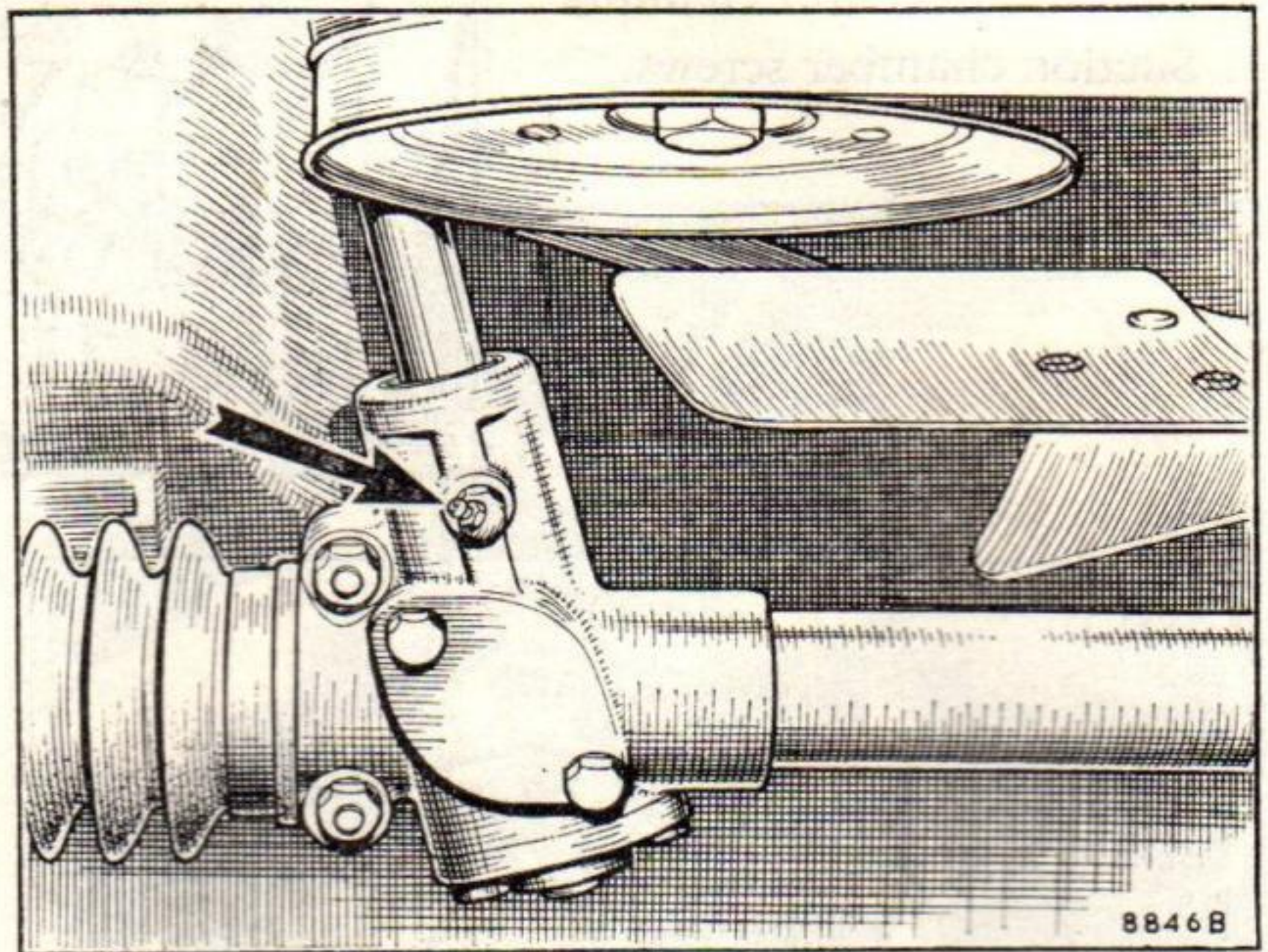
Water pump (C)

Remove the plug on the water pump casing and lubricate sparingly with grease.



Remove the plug from the water pump and lubricate sparingly with grease

The arrow indicates the pinion nipple



Steering rack (B)

Apply an oil gun to the nipple and give no more than 10 strokes. Access to the nipple is gained from above on R.H.D. cars and from below the radiator on L.H.D. cars.

Check steering and suspension moving parts for wear.

Engine-flushing (A)

Remove the engine sump drain plug and allow the old oil to drain completely. Replace the plug and pour in through the engine filler cap approximately 4 pints (2.27 litres, 4 $\frac{3}{4}$ U.S. pints) of flushing oil. A flushing oil supplied by one of the recommended lubricant manufacturers (page 72) should be used. Run the engine at fast tick-over speed for 2 $\frac{1}{2}$ to 3 minutes. After stopping the engine special care must be taken to ensure complete drainage of the flushing oil.

Replace the sump drain plug and fill the engine with fresh oil.

EVERY 12,000 MILES (20000 Km.)

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 58) before installation.

Radiator

Open both drain taps on the engine and radiator and allow the coolant to drain. Remove the radiator filler cap and insert a water hose in the top of the radiator. Allow the water to run for several minutes to swill out the radiator and cylinder block passages.

Refill the system with water (preferably soft) or one of the recommended anti-freeze solutions (see page 28).

For a complete summary of the attention to be given every 12,000 miles (20000 km.) see also page 64.

EVERY 24,000 MILES (40000 Km.)

Engine (A)

Drain the oil from the engine and remove the sump and pick-up strainer. Clean the sump pick-up strainer and crankcase, reassemble, and refill with fresh oil.

This work should be entrusted to an Authorized Distributor or Dealer.

BODY ATTENTION

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 B.M.C. 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 bright plastic 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 attention may be removed with B.M.C. 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.

Windshield

If windshield smearing has occurred it can be removed with B.M.C. Screen Cleaner.

Interior

Clean the carpets with a stiff brush or vacuum cleaner, preferably before washing the outside. The upholstery and carpets may be treated with B.M.C. 2-Way Cleaner applied with a damp cloth and a light rubbing action. The best result will be obtained on carpets if the solution is applied with a soft brush.

A razor blade will remove transfers from the window glass.

Cleaning the hood

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

Do not use caustic soaps, detergents, or spirit cleaners to clean the hood or the hood back-light.

The B.M.C. approved products mentioned above are obtainable from your Distributor or Dealer.

MAINTENANCE SUMMARY

Daily

Inspect oil level in crankcase. Top up if necessary.
See that radiator is full of water.

Weekly

Test tyre pressures.
Check batteries and top up to correct level.

3,000 miles (5000 km.) service

1. *Engine*

Top up carburettor piston dampers.
Lubricate carburettor controls.
Check fan belt tension.
Check radiator level.
Shake dust out of air cleaner elements (do not wash).

2. *Clutch*

Check level of fluid in the hydraulic clutch master cylinder.

3. *Brakes*

Check brakes, and adjust if necessary.
Make visual inspection of brake lines and pipes.
Check level of fluid in the hydraulic brake master cylinder.

4. *Body*

Lubricate door locks and hinges, bonnet lock and safety catch, and operating mechanism.
Inject oil in key slots.

5. *Electrical*

Check batteries and top up to correct level.

6. *Lubrication*

Change engine oil.
Top up gearbox and rear axle oil levels.
Lubricate all grease nipples (except steering rack and pinion).

7. *Wheels and tyres*

Change wheels round diagonally, including spare, to regularize tyre wear.
Check tyre pressures.

6,000 miles (10000 km.) service

1. *Engine*

Top up carburettor piston dampers.
Lubricate carburettor controls.
Check fan belt tension.
Check valve rocker clearances, and adjust if necessary.
Check radiator level.
Shake dust out of air cleaner elements (do not wash).

2. *Ignition*

Check automatic retard and advance mechanism.
Check, and adjust if necessary, distributor contact points.
Lubricate all distributor parts as necessary.
Clean and adjust sparking plugs.

MAINTENANCE SUMMARY

3. *Clutch*
Check level of fluid in the hydraulic clutch master cylinder.
4. *Steering*
Check wheel alignment, and adjust if necessary.
5. *Brakes*
Check brakes, and adjust if necessary.
Make visual inspection of brake lines and pipes.
Check level of fluid in the hydraulic brake master cylinder.
Inspect the disc brake friction pads and report if attention is required.
6. *General*
Tighten rear road spring seat bolts.
7. *Body*
Lubricate door locks and hinges, bonnet lock, safety catch, and operating mechanism.
Inject oil in key slots.
8. *Electrical*
Check battery cell specific gravity readings and top up to correct level.
Lubricate dynamo end bearing.
Check all lamps for correct functioning.
9. *Lubrication*
Change oil in engine, gearbox, overdrive (if applicable), and rear axle.
Fit new oil filter element.
Lubricate all grease nipples (except steering rack and pinion).
10. *Wheels and tyres*
Change road wheels round diagonally including spare, to regularize tyre wear.
Check tyre pressures.

9,000 miles (15000 km.) service

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

12,000 miles (20000 km.) service

1. *Engine*
Remove carburetter suction chambers and pistons, clean, reassemble, and top up.
Lubricate carburetter controls.
Check valve rocker clearances, and adjust if necessary.
Check fan belt tension.
Lubricate water pump sparingly.
Renew air filter elements.
2. *Ignition*
Check automatic retard and advance mechanism.
Clean, and adjust distributor contact points.
Lubricate all distributor parts as necessary.
Fit new sparking plugs.
3. *Clutch*
Check level of fluid in the hydraulic clutch master cylinder.

MAINTENANCE SUMMARY

4. *Steering*
Check steering and suspension moving parts for wear.
Check wheel alignment, and adjust if necessary.
5. *Brakes*
Check brakes, and adjust if necessary.
Make visual inspection of brake lines and pipes.
Check level of fluid in the hydraulic brake master cylinder.
Inspect disc brake friction pads and report if attention is required.
6. *Radiator*
Drain, flush out, and refill radiator.
7. *General*
Tighten rear road spring seat bolts.
8. *Body*
Lubricate door locks and hinges, bonnet lock, safety catch, and operating mechanism.
Inject oil in key slots.
9. *Electrical*
Check battery cell specific gravity readings and top up to correct level.
Check headlamp beam setting, and reset if necessary.
Lubricate dynamo bearing.
Check all lamps for correct functioning.
10. *Lubrication*
Drain engine, flush out with flushing oil, and refill with fresh oil.
Change oil in gearbox, overdrive (if applicable), and rear axle.
Fit new oil filter element.
Lubricate steering rack and pinion.
Lubricate all grease nipples.
11. *Wheels and tyres*
Change road wheels round diagonally, including spare, to regularize tyre wear.
Check tyre pressures.

24,000 miles (40000 km.) service

Carry out the **12,000 miles (20000 km.) service**, with the following amendment:

1. Lubrication

Remove engine sump and pick-up strainer, clean out the sump, strainer, and crankcase, and reassemble, filling with fresh oil.

IMPORTANT

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

1. WARRANTY DOCUMENT

Retention of the Certificate or Passport to Service, signed by the Distributor or Vendor, in a safe place **in the vehicle** will (by quickly establishing the date of sale) help to expedite any adjustments under Warranty if such adjustments are required to be carried out by an authorized Distributor or Dealer other than the supplier of your vehicle.

2. CLAIMS UNDER WARRANTY

Claims for the replacement of material or 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 franchise holder, since this ensures that no doubt can arise in connection with circumstances of the vehicle history when claims are put forward.

3. PREVENTIVE MAINTENANCE

A Passport to Service containing Service Vouchers (applicable in the United Kingdom only) is provided with every new vehicle, 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 Voucher Books are obtainable free of charge from Distributors and Dealers. **Prevent** rather than **cure**.

Regular servicing, proved by completed Voucher counterfoils, could well enhance the value of your vehicle in the eyes of a prospective buyer.

4. REPLACEMENT PARTS

When Service Parts are required insist on **B.M.C. GENUINE PARTS** as these are designed and tested for your vehicle and in addition are warranted for 12 months by the British Motor Corporation. **ONLY WHEN GENUINE PARTS ARE USED CAN B.M.C. ACCEPT RESPONSIBILITY.**



When purchasing replacement parts or having repairs done owners are requested to see that a label similar to the one illustrated here is attached to the invoice rendered. These labels are issued by B.M.C. Service Limited and constitute a guarantee that B.M.C. genuine parts are supplied.

Our world-wide network of Distributors and Dealers is at your service.

B.M.C. SERVICE LIMITED

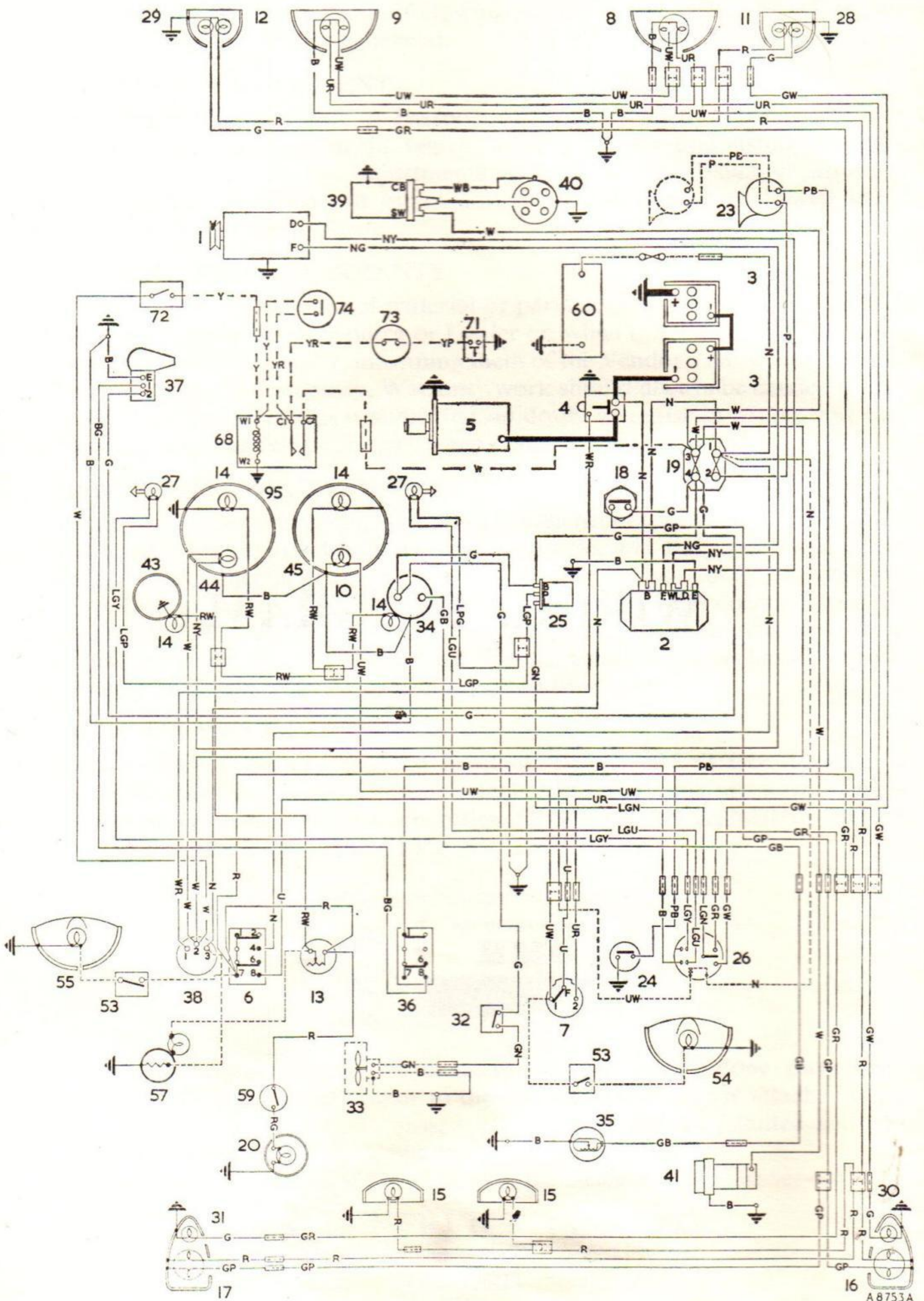
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Overseas Cables: BMC SERV. Telex. Oxford. England

WIRING DIAGRAM

WIRING DIAGRAM



KEY TO WIRING DIAGRAM

1. Dynamo.
2. Control box.
3. Battery—6-volt.
4. Starter solenoid.
5. Starter motor.
6. Lighting switch.
7. Headlight dip switch.
8. R.H. headlamp.
9. L.H. headlamp.
10. Main-beam warning light.
11. R.H. pilot lamp.
12. L.H. pilot lamp.
13. Rheostat—panel lights.
14. Panel lights.
15. Number-plate lamps.
16. R.H. stop/tail lamp.
17. L.H. stop/tail lamp.
18. Stop light switch.
19. Fuse unit.
20. Map lamp.
23. Horn (twin when fitted*).
24. Horn-push.
25. Flasher unit.
26. Direction indicator (and headlight flasher*) switch.
27. Direction indicator warning lights.
28. R.H. front flasher lamp.
29. L.H. front flasher lamp.
30. R.H. rear flasher lamp.
31. L.H. rear flasher lamp.
32. Heater or fresh-air motor switch.
33. Heater or fresh-air motor.*
34. Fuel gauge.
35. Fuel gauge tank unit.
36. Windscreen wiper switch.
37. Windscreen wiper motor.
38. Ignition/starter switch.
39. Ignition coil.
40. Distributor.
41. Fuel pump.
43. Oil pressure gauge.
44. Ignition warning lamp.
45. Speedometer.
53. Fog or driving light switch.*
54. Driving lamp.*
55. Fog lamp.*
57. Cigar-lighter—illuminated.*
59. Map light switch.
60. Radio.*
68. Overdrive relay unit.*
71. Overdrive solenoid.*
72. Overdrive manual control switch.*
73. Overdrive gear switch.*
74. Overdrive throttle switch.*
95. Revolution indicator.

CABLE COLOUR CODE

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

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

Items marked thus * may be fitted as an optional extra. Their circuits are shown dotted on the wiring diagram.

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KEY TO RECOMMENDED LUBRICANTS

	A			B		C	D	E
	Engine and Air Cleaner			Gearbox	Steering-box and Rear Axle (Hypoid Gears)	Water Pump and Nipples	Oilcan and Carburetter	Upper Cylinder Lubrication
Component	Tropical and temperate down to 32° F. (0° C.)	Extreme cold down to 10° F. (-12° C.)	Arctic consistently below 10° F. (-12° C.)	All conditions	All conditions down to 10° F. (-12° C.)	Arctic consistently below 10° F. (-12° C.)	All conditions	All conditions
ESSO	Esso Extra Motor Oil 20W/30	Esso Extra Motor Oil 20W/30	Esso Motor Oil 10	Esso Extra Motor Oil 20W/30	Esso Gear Oil G.P. 90	Esso Gear Oil G.P. 80	Esso Extra Motor Oil 20W/30	Esso Upper Cylinder Lubricant
MOBIL	Mobiloil A	Mobiloil Arctic	Mobiloil 10W	Mobiloil A	Mobilube G.X. 90	Mobilube G.X. 80	Mobiloil Arctic	Mobil Upperlube
BP	Energol S.A.E. 30	Energol S.A.E. 20W	Energol S.A.E. 10W	Energol S.A.E. 30	Energol S.A.E. 90 E.P.	Energol S.A.E. 80 E.P.	Energol S.A.E. 20W	Energol U.C.L.
SHELL	Shell X-100 30	Shell X-100 20W	Shell Rotella 10W	Shell X-100 30	Shell Spirax 90 E.P.	Shell Spirax 80 E.P.	Shell X-100 20W	Shell Upper Cylinder Lubricant
FILTRATE	Filtrate Medium 30	Filtrate Zero 20/20W	Filtrate Sub-Zero 10W	Filtrate Medium 30	Filtrate Hypoid Gear 90	Filtrate Hypoid Gear 80	Filtrate Zero 20/20W	Filtrate Petroyle
STERNOL	Sternol W.W. 30	Sternol W.W. 20	Sternol W.W. 10	Sternol W.W. 30	Ambroleum E.P. 90	Ambroleum E.P. 80	Sternol W.W. 20	Sternol Magikoyl
DUCKHAM'S	Duckham's NOL Thirty	Duckham's NOL Twenty	Duckham's NOL Ten	Duckham's NOL Thirty	Duckham's Hypoid 90	Duckham's Hypoid 80	Duckham's NOL Twenty	Duckham's Adcoide Liquid
CASTROL	Castrol X.L.	Castrolite	Castrol Z	Castrol X.L.	Castrol Hypoy	Castrol Hypoy Light	Castrolite	Castrollo

