

AC3000m€

FIRST AC 3000 ME SOLD BY AC (SCOTLAND) PLC

TO MRS. JAQUELINE MCGOFF

Paid Bands.
Amichmandani

J. Wood

~~W. Wood~~

All rights reserved. No part of this handbook may be reproduced in a retrieval system or transmitted in any form, electrical, mechanical, photocopying, recording or other means without prior written permission from AC Scotland plc.

© AC Scotland plc 1984



AC (SCOTLAND) PLC.

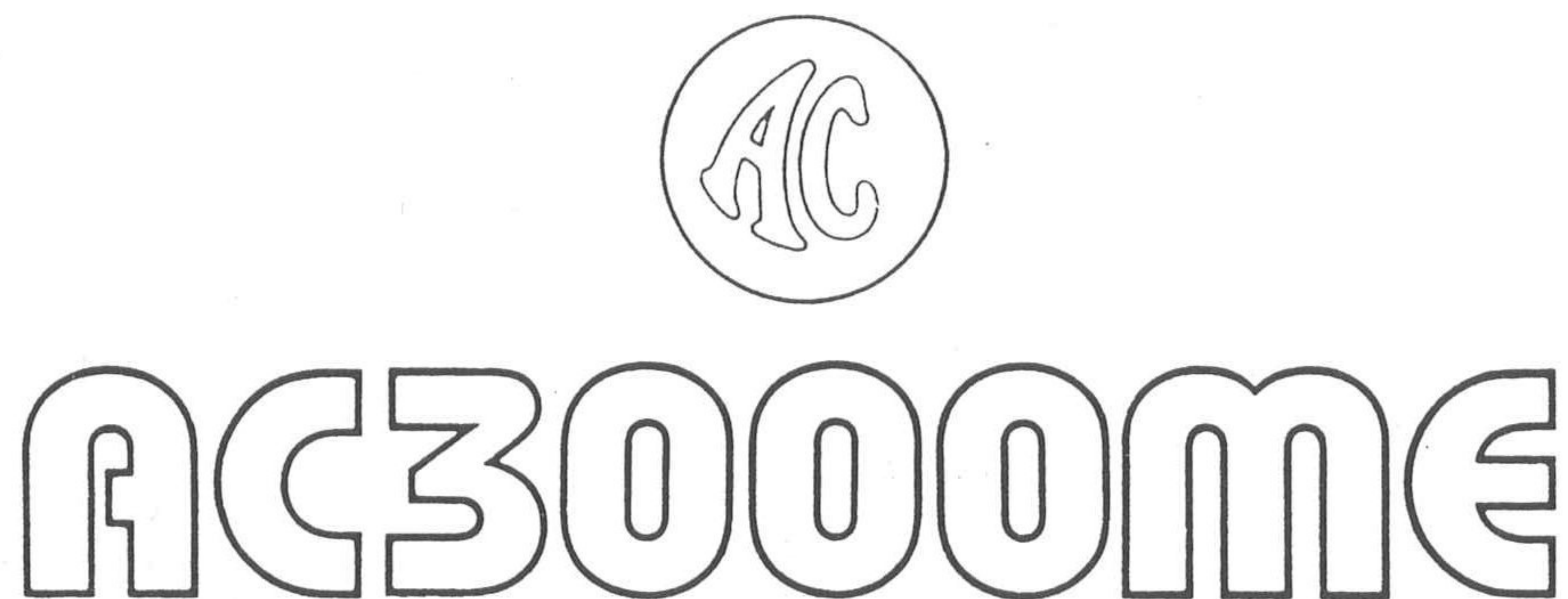
123 Johnstone Avenue, North Cardonald Industrial Estate, Hillington, Glasgow G52 4NZ Tel:041-882 4606

Printed in Scotland, Prontaprint Paisley.

041-882 4606
123 Johnstone Avenue
North Cardonald Industrial Estate
Hillington Glasgow G52 4NZ

Contents & Index

	Page		Page
Introduction	3	Bleeding Hydraulic system	25
Controls	4	Clutch	25
Instruments	5	Wheels & Tyres	26
Console	6	Jacking Tool Kit	27
Ignition/Starter Switch	7	Electrical	28
Steering Column Controls	8	Alternator	28
Heating & Ventilation	9	Starter	28
Steering Column	10	Battery	28
Seats & Seat Belts	10	Fuses	29
Door Locks	11	Headlamps	30
Windows	11	Rear Lamps	31
Front Compartment	11	Side & front indicator lamps	31
Sun roof	12	Flasher repeater lamps	31
Engine compartment (lid)	12	Fog lamp, spot lamp	31
Rear Luggage compartment	12	Rear Fog Lamp	31
Cleaning	12	Roof lamp	31
Engine Starting	13	Boot lamp	31
Running in	13	Windscreen wipers	32
Fuel System	14	Windscreen washer	32
Lubrication system	16	Forecourt service	32
Lubricants	17	Tyre Pressures	33
Cooling System	18	Maintenance	33
Tappet adjustment	20	Servicing schedules	34
Ignition adjustment	21	Specifications	36
Transmission	22	Diagram of front hub assembly	39
Steering & Suspension	23	Diagram of rear hub assembly	40
Speedometer	23	Wiring Diagram	41
Brakes	24		



Introduction

The contents of this Handbook will familiarise the owner with the controls and main features of the AC 3000 ME. The information relates to a car to current specification, but the Company reserves the right to vary this specification in the interests of product efficiency, in this view of its policy of constant development. Such modifications may be introduced with or without notice. Mechanical operations described herein are those within the scope of an owner of reasonable non-professional ability. Major overhauls, replacements etc. not given in these pages call for special equipment, tools, measuring devices, etc. To ensure reliability and safety, these operations should be entrusted to the manufacturers or to an accredited AC dealership having the necessary facilities.

The terms Right-hand (RH) and Left-hand (LH) used here refer to the view forward from the rear of the car, except in the case of the engine/gearbox unit, where they relate to the assembly as viewed from the clutch end.

Identification Numbers

Vehicle Number: on plaque, on bulkhead of front compartment

Engine Number: on top face of crankcase, rear of right hand cylinder block

Gearbox Number: on top of differential housing

Keys

Duplicate keys are provided with the car. Make a note of all key numbers, in case replacements become necessary. It is suggested that the spare set of keys be carried by the owner, e.g. on a key ring, and not in the car, where they may inadvertently get locked in.

Controls

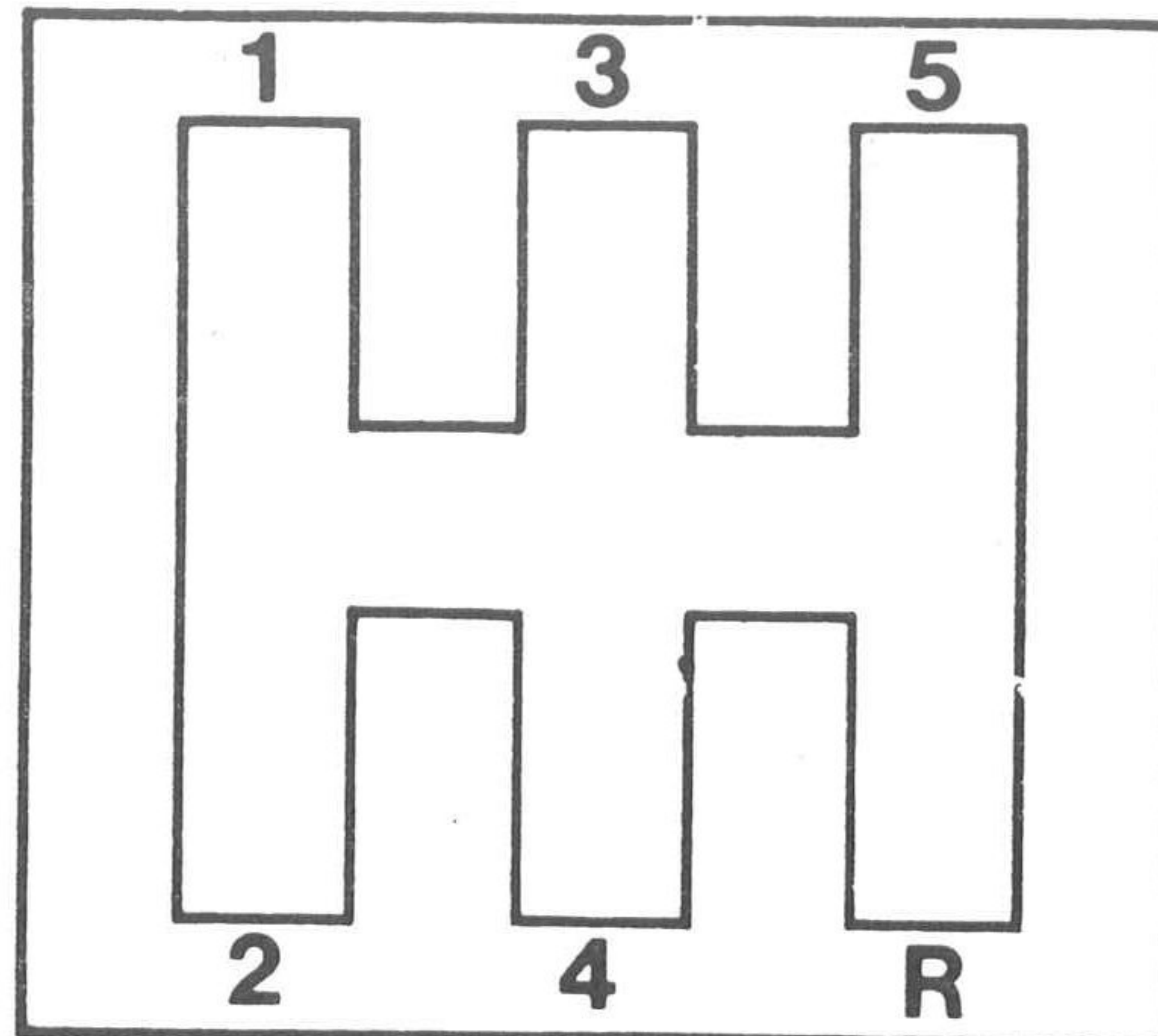


Fig 1

Gear Lever

Gear lever positions are as depicted in Fig. 1 . All gears are indirect, 4th being a ratio of 1:1, while 5th is an overdrive for economical cruising on motorways, etc. There is synchromesh on all gears. To engage reverse, the gear lever must be lifted before moving it through the gate; this is a safety measure to prevent accidental engagement.

Handbrake

Pull-up lever, operating brake pads on the rear wheels only. Operation is mechanical and is entirely independent of the hydraulic system. When applying, press the button at the end of the lever to reduce wear on the ratchet, releasing the button when the brake is felt to be "on". To release the handbrake, pull up the lever slightly, depress the button and push the lever fully down.

Pedals

The pedals are disposed conventionally. The footbrake pedal applies brakes on all four road wheels and actuates the rear "Stop" lights when the ignition is "on".

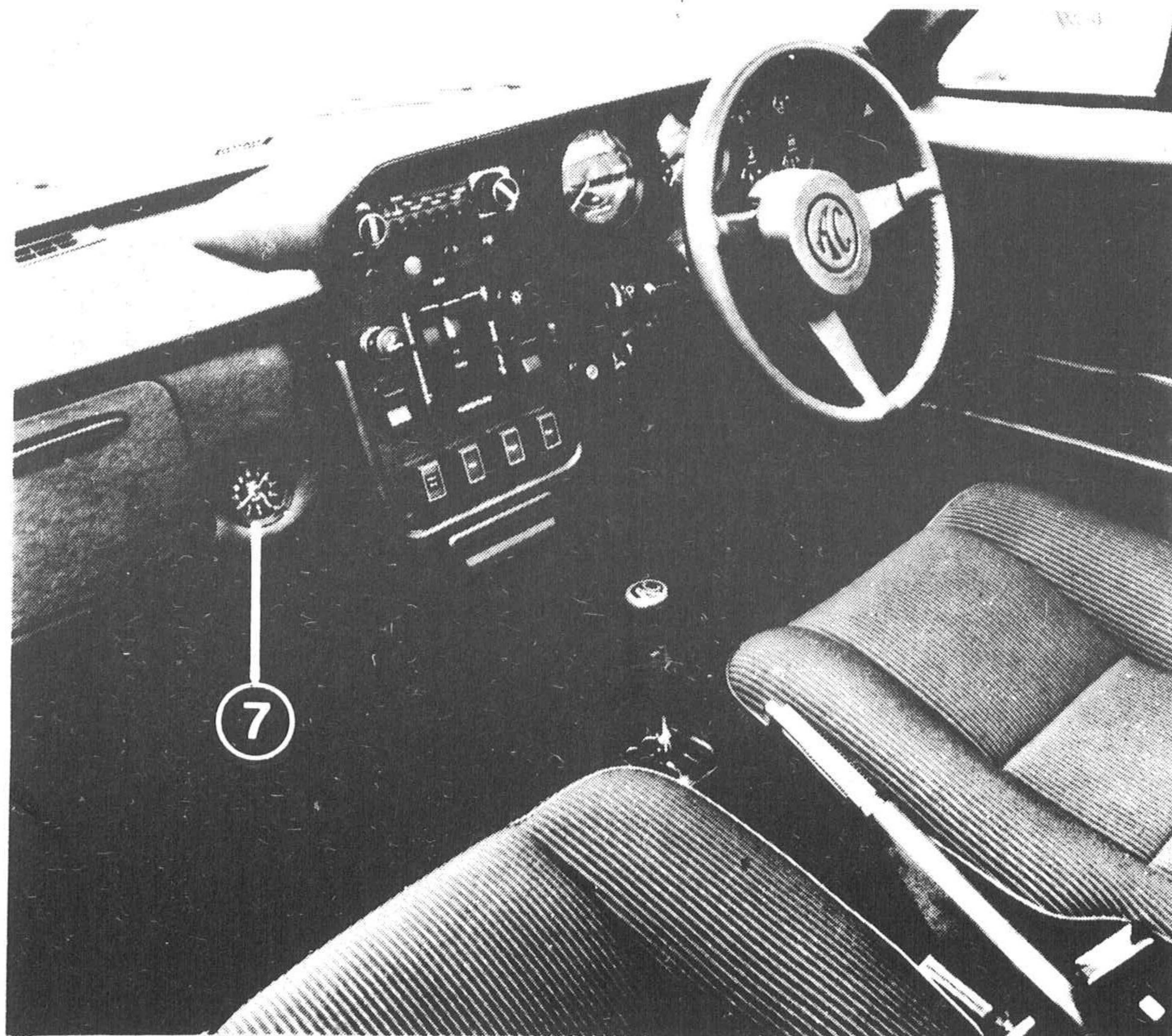


Fig 2

WARNING. Never use the clutch pedal as a footrest, however lightly, as this can give rise to rapid wear of the clutch withdrawal mechanism.

Instruments

Main instrument dials are grouped in a cowled fascia panel in front of the driver. Separate dials are used for each function, except for distance recording.

On right-hand drive cars:

- 1 Left** – Tachometer, recording engine speed in rev/min x 100. Red section denotes excess over recommended engine speeds.
- 2 Left Centre** – Speedometer, calibrated in miles and kilometres per hour. Odometer shows total mileage (km optional), and trip recorder also indicates tenths of a unit, and has a reset button under the lower edge of the fascia.
- 3 Upper Right Centre** – Fuel gauge. Operates when ignition is switched on. Markings denote $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ and full.
- 4 Lower Right Centre** – Water temperature at cylinder head, calibrated 0–140°C.
- 5 Upper Right** – Oil pressure, calibrated in lb/in² and kg/cm². Should read a minimum of 45 lb/in² (3.16 kg/cm²) when engine is warmed up.
- 6 Lower Right** – Voltmeter. A battery condition indicator, which should register approx. 14V during normal running. Any constant reading above 15V should be investigated and rectified. With heavy electrical loads, reading with engine running may drop to 13V, but not lower. With engine stopped and all driving lamps on, the reading should be 12V. If below, either the battery or the charging system need attention.

The above order is reversed on left-hand drive cars.

- 7 Clock** – Mounted on passenger's side of central console. Quartz-crystal movement, self-winding, with reset button. (See Fig 2).

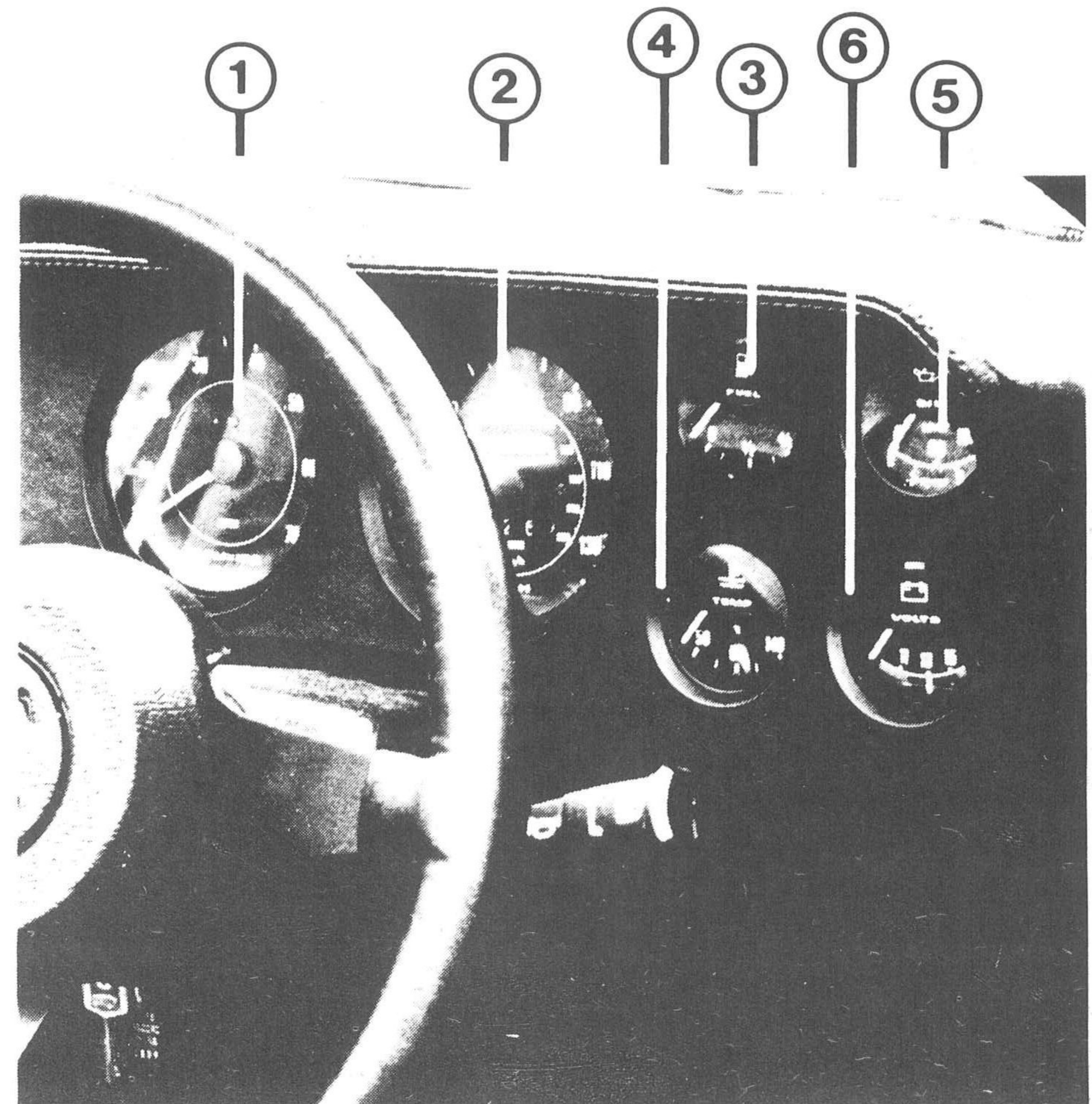


Fig 3

Console

1 Radio/Tape Deck

Radio or optional Tape Deck in top section of console. Switching on radio elevates the electrically-extended antenna; switching off retracts it. Twin speakers located one in each door panel.

2 Indicator Lamps

Left: Blue – headlamps main beam “on”.
Left Centre: Amber – low level of hydraulic fluid, also handbrake “on”.
Right Centre: Green – flashers “on”.
Right: Red – ignition.

3 Heater and Ventilation

Three levers in panel in centre of console.
Left: Air distribution.
Centre: Air flow.
Right: Heat and Cold Air (See page 9).

4 Cigar/Cigarette Lighter

Left of heater panel. Press in to activate.

5 Hazard Switch

Right of heater panel. Operates all flashers simultaneously. Switch illuminated when “on”.

6 Window Switches

Rocker switches for electrical raising and lowering of side windows, left and right of heater panel.

7 Lamp Switches

Four push-push switches in lower section of console.
Left: Rear fog lamps inoperative until side/rear lamps are “on”.
Left Centre: Front fog and spot lamps. (Twin spot lamps on l/h drive cars).
Right Centre: Headlamps, inoperative until side/rear lamps are “on”. (See “Steering Column Controls” P.8).
Right: Side and rear lamps.

8 Reserve Fuel

Rocker switch to right of console brings in reserve fuel supply of 2½ gallons (11.4 litres). Illuminated when “on”. Check occasionally by operating the switch; correct functioning is indicated by an audible click.

9 Instrument Lighting

Rheostat to control intensity of instrument lighting is to the right of the console. Turn the knob clockwise to increase, anti-clockwise to decrease intensity.

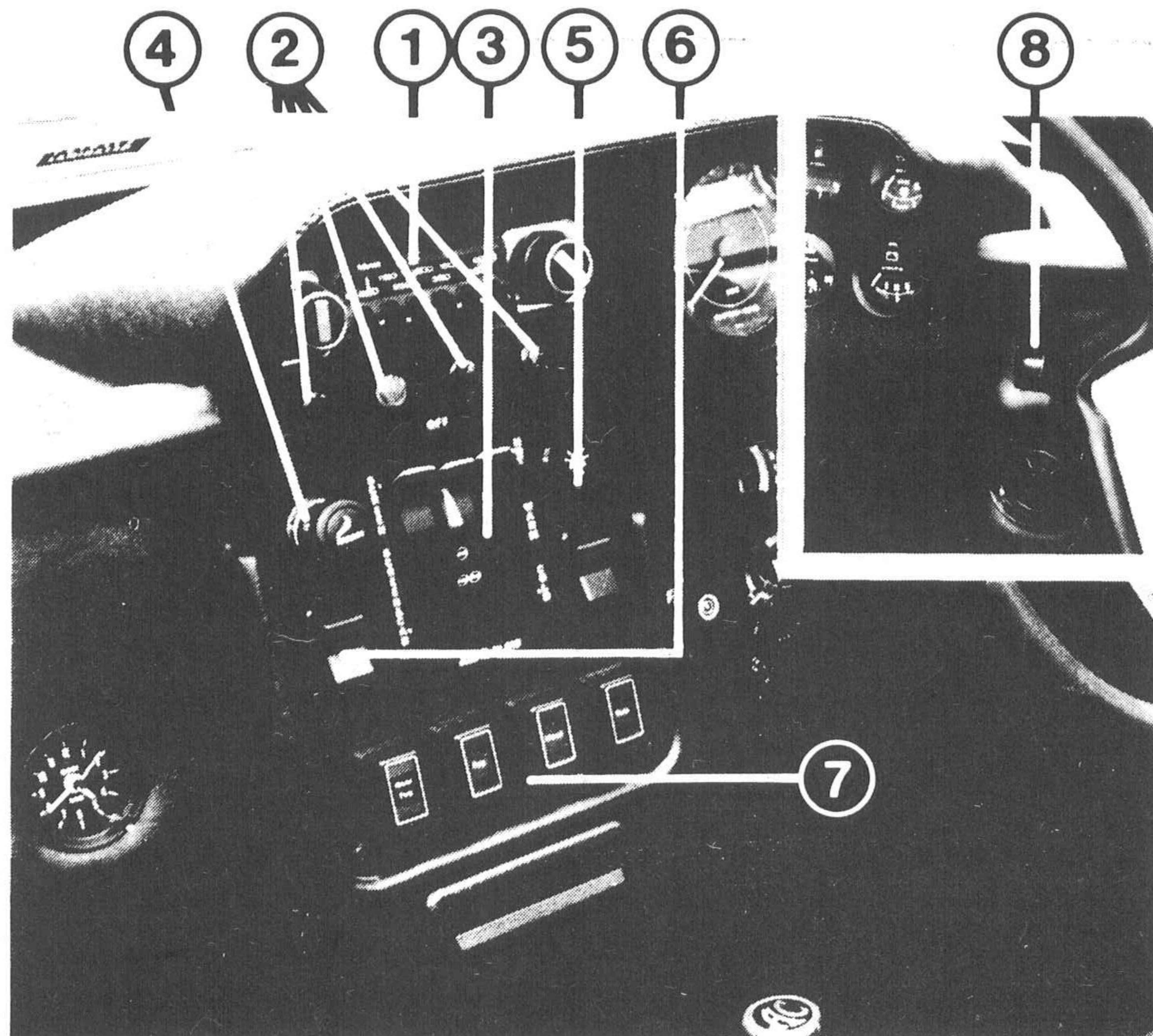


Fig 4

Ignition/Starter Switch

This is on the left of the steering column, and is a combined switch for ignition, starter, steering lock and for energising certain components.

The surround has four markings – 0, 1, 2 and 3.

- 0: All systems “off”, steering lock engaged.
- 1: Key turned clockwise to 1 permits the use of the radio, but ignition remains “off”. Move the steering wheel slightly to ensure that the lock frees.
- 2: Ignition “on” and auxiliary circuits energised. This is the normal key position when the engine is running. Brake and ignition lamps light up.
- 3: Start. Turn the key against spring pressure to energise the starter relay. Release the key immediately the engine fires, when the key will return automatically to Position 2. If the engine fails to start within 5 seconds, do not persist with the starter. Return the key to Position 1 before attempting to restart.

To switch off and lock the steering, turn the key anti-clockwise to Position 1, then push the key fully in and turn to Position 0. Withdraw the key and check the lock for engagement by moving the steering wheel slightly. The key can only be withdrawn in Position 0.

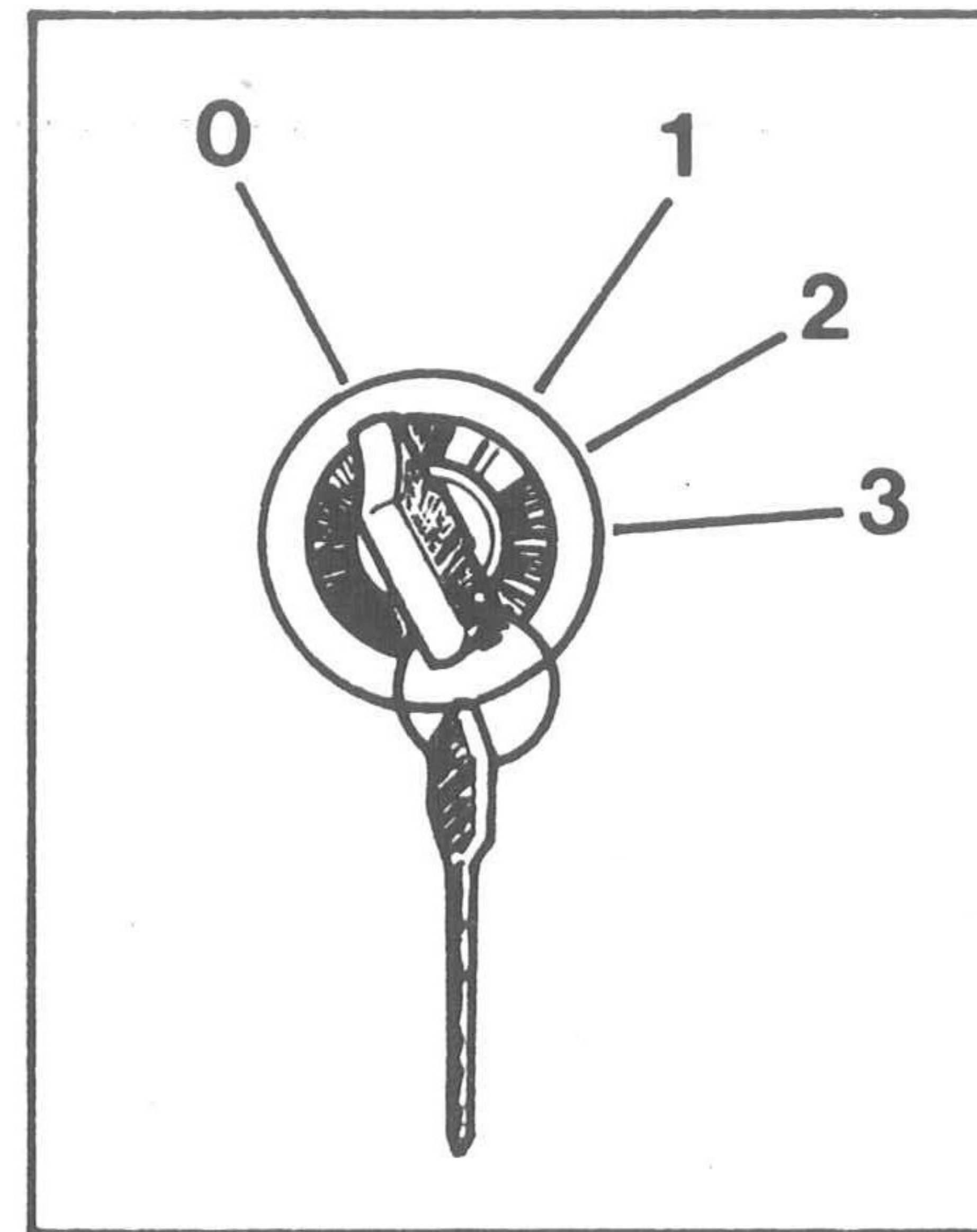


Fig 5

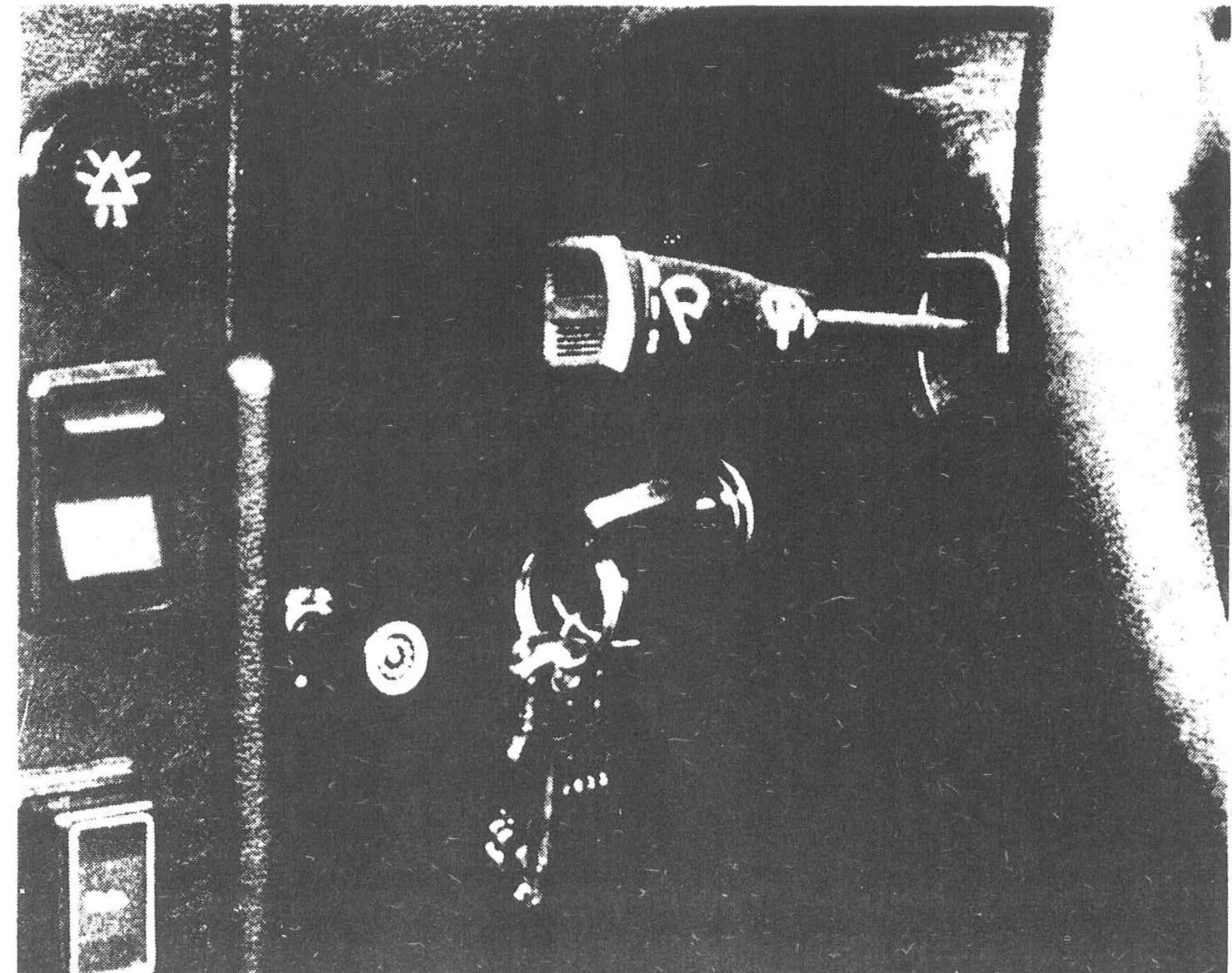


Fig 6

WARNING. Never depress the key or turn to Position 0 when the car is moving.

Steering Column Switch Levers

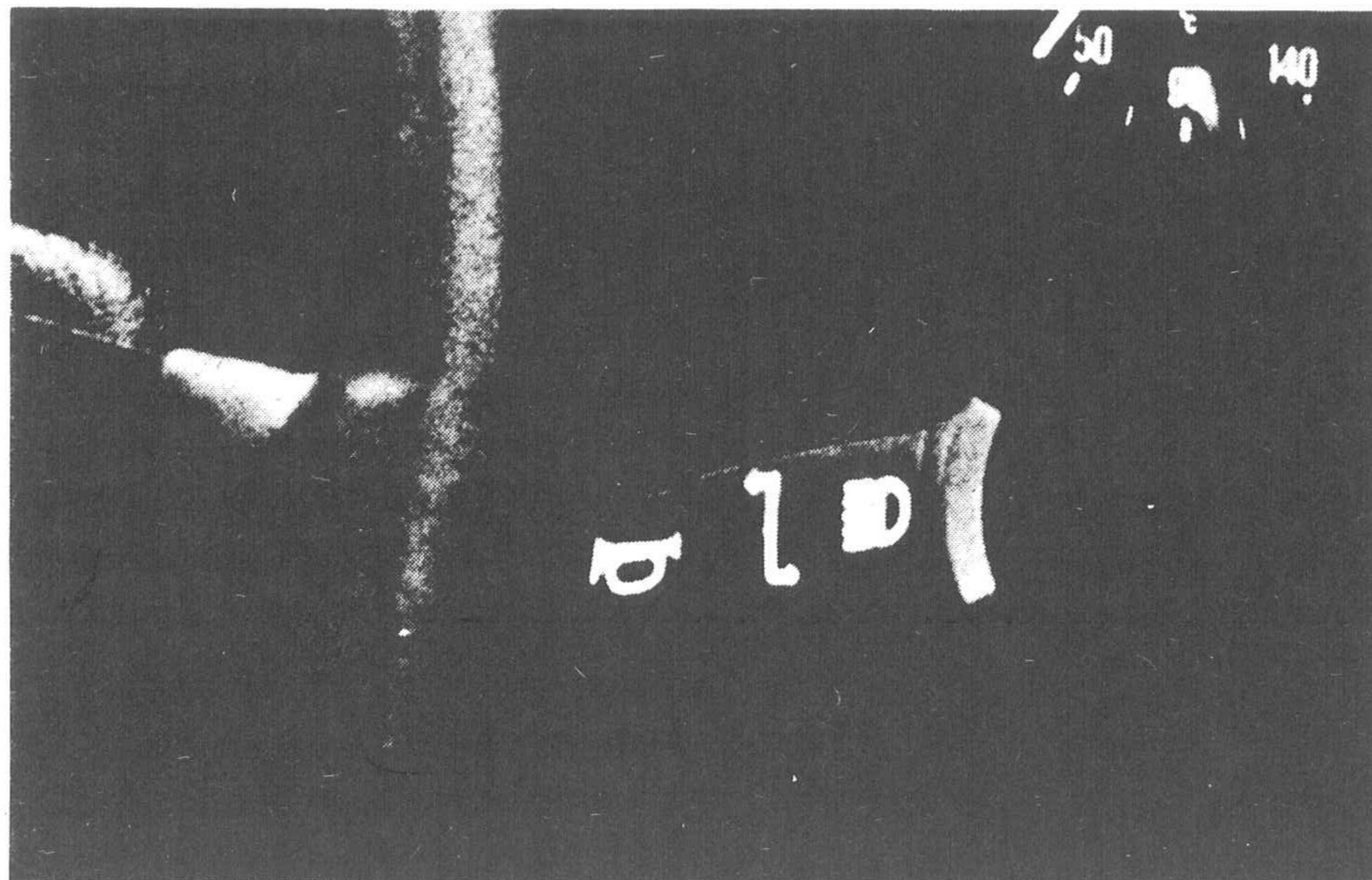


Fig 7

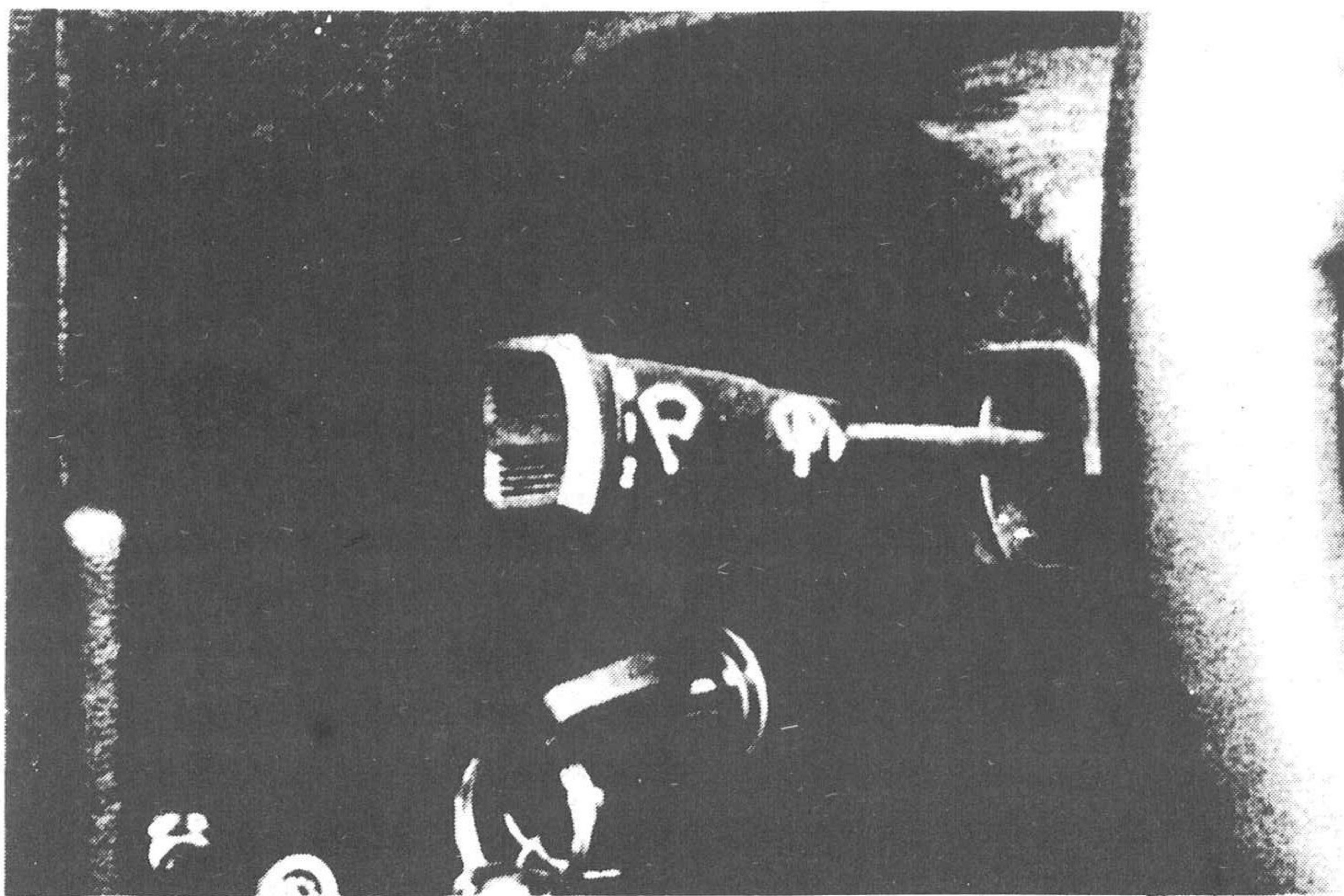


Fig 8

Right-hand Lever (Fig 7)

Horn: Press the end of the lever inwards towards the steering column.

Direction Indicators: Move the lever up for left turn, down for right turn.

Lane Change: After signalling right or left lane change the lever must be returned to centre manually, as steering wheel movement is too small for auto-return.

Headlamps: with the console switch "on" and the lever central the headlamps are in the "dip" position. For main beam, push the lever forwards (towards the fascia); return to the mid-position for dipped beam.
NOTE: Headlamps and rear fog lamps are inoperative until side and rear lamps are switched on.

Headlamp Flash: Pull the lever towards the steering wheel for headlamp flash, which will operate irrespective of the position of the main headlamp switch on the console.

Left-Hand Lever (Fig 8)

Screen Wash: Press the lever inwards towards the steering column.

Screen Wipe: Pull the lever towards the steering wheel for intermittent wipe. Move the lever down for normal wipe. Move the lever fully down for high-speed wipe.

Heating and Ventilation

The three-lever unit in the console operates as follows:

Heating. The right-hand lever controls temperature. In its lowest (cold) position a valve shuts off the hot water from the heater elements. The valve is progressively opened as the lever is moved upwards, giving complete control of temperature.

Air Flow. The centre lever controls fresh air flaps and provides forced cool air through the swivelling face vents, one at either end of the fascia, and through the heater when the fans are operating. When the lever reaches the point marked by a single fan in a circle a blower motor augments the flow of fresh air. Further lever movement to the point marked by two fans brings in a second motor for maximum air flow. Direction of the fresh air flow is varied by positioning the face vents as desired. There are air extractor slots in the rear portion of the bodywork.

When the heater is in operation the fresh air flaps remain closed. Air flow control is entirely independent of the heater.

Air Distribution. The left-hand lever actuates flaps to direct the flow of warm or cold air. With the lever in the top position all air flow is directed towards the inner surface of the windscreen. In its lowest position all warm air reaches the car interior via the foot wells. Intermediate positions proportion the warm air flow between windscreen and car interior.

Summary of Lever Positions

Heat off: *R/H lever down. Centre lever up.*

Cool Air: *R/H lever down L/H lever down. Centre lever adjusted for air flow.*

Warm Air: *R/H lever adjusted for heat. Centre lever up. L/H lever adjusted for air distribution.*

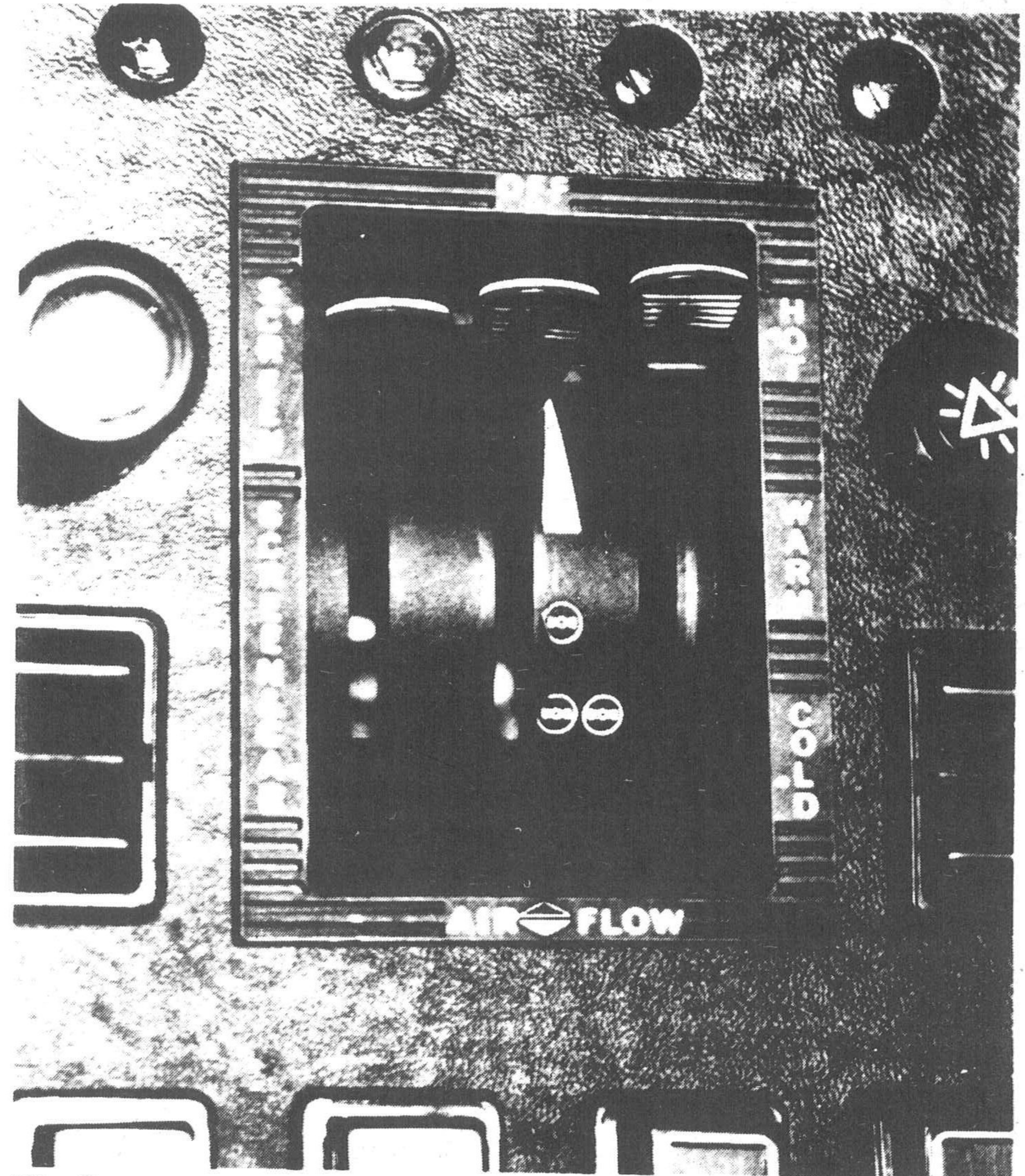


Fig 9

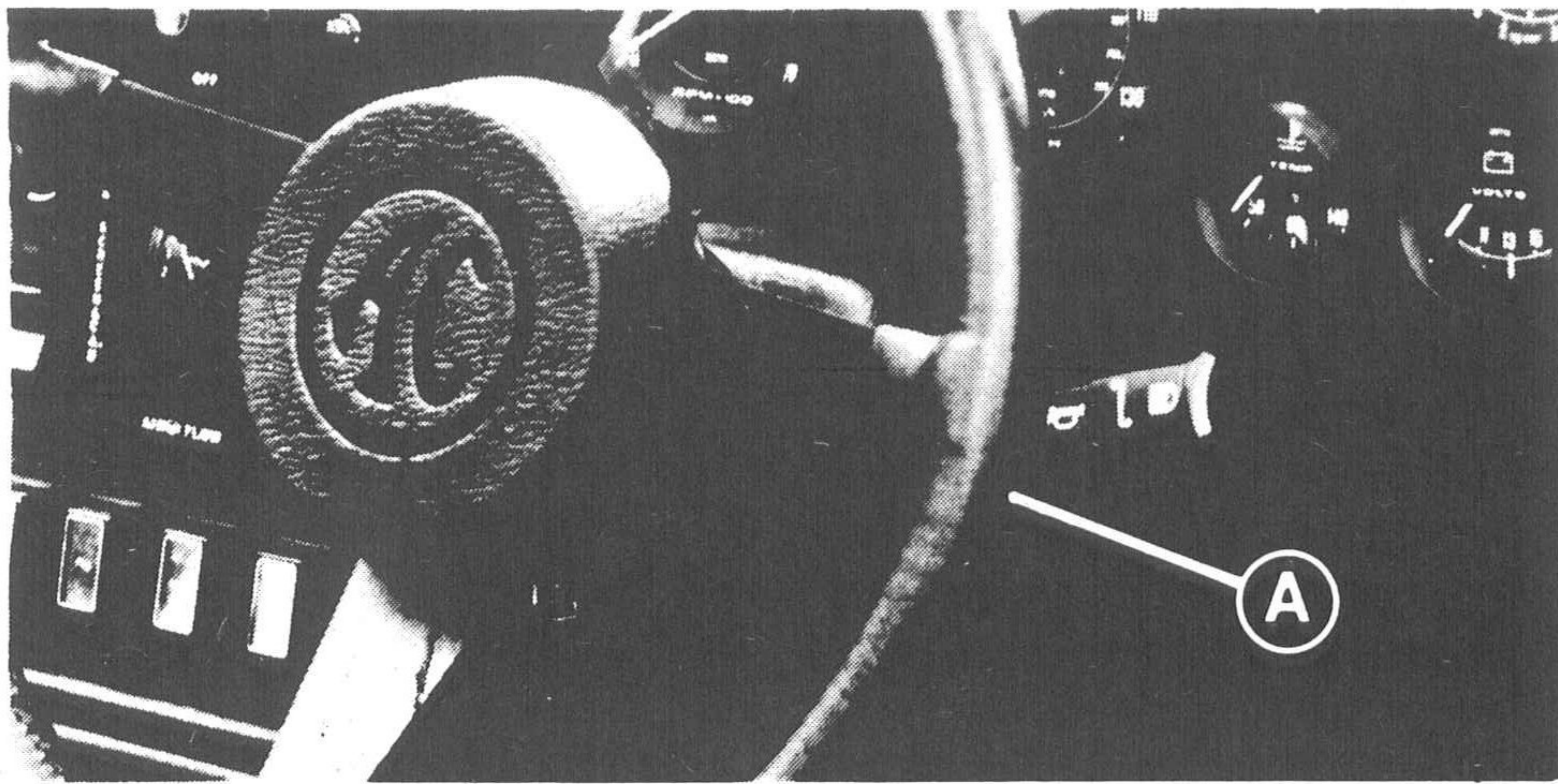


Fig 10

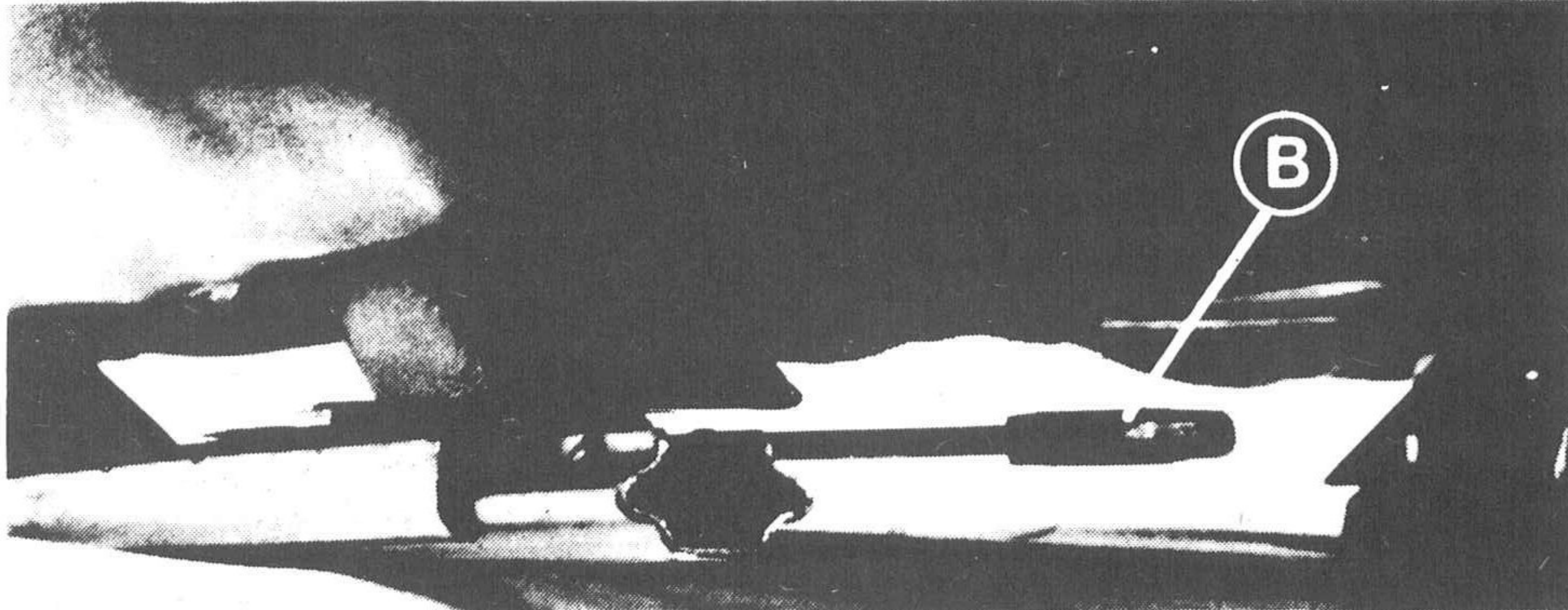


Fig 11

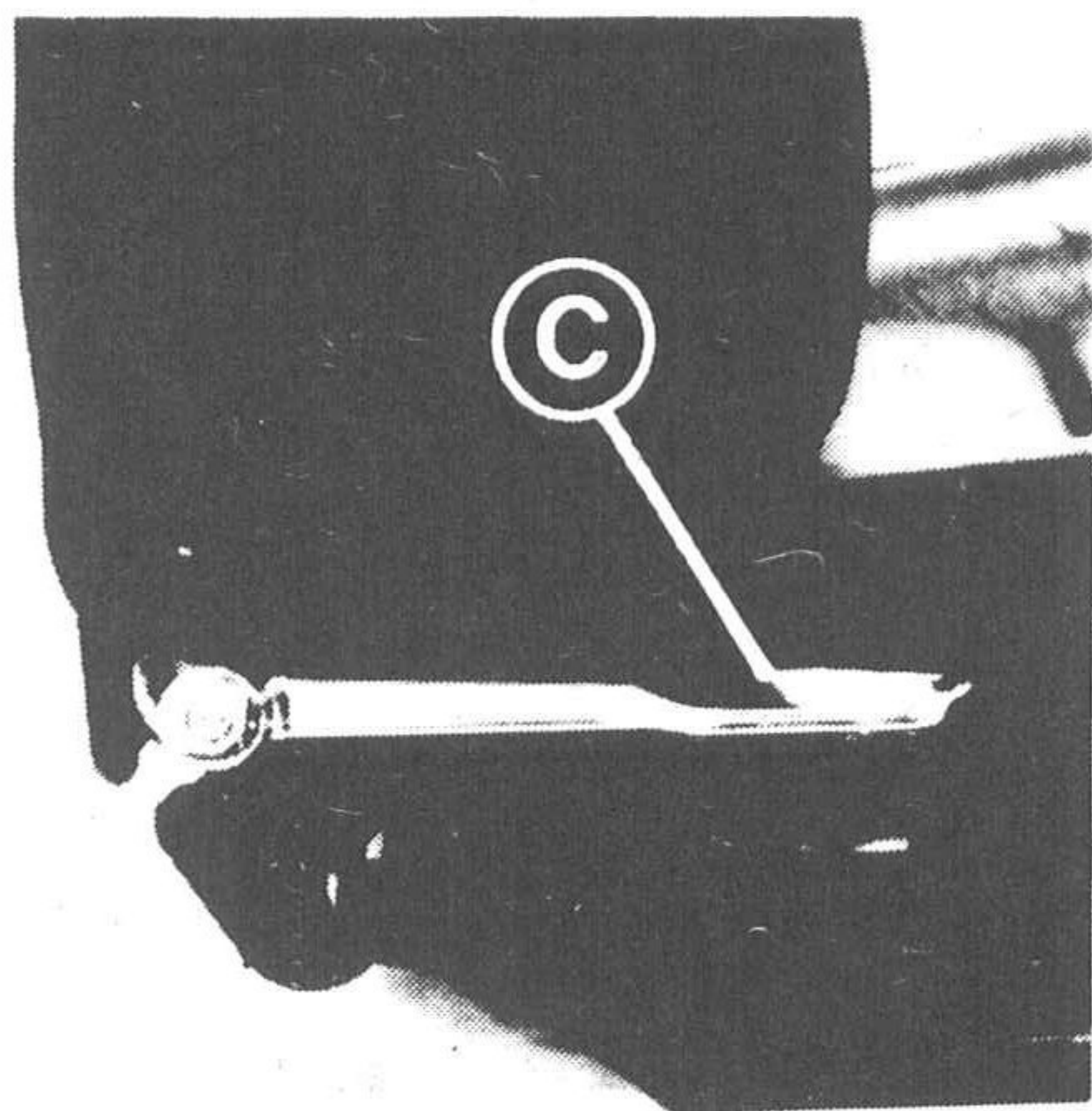


Fig 12

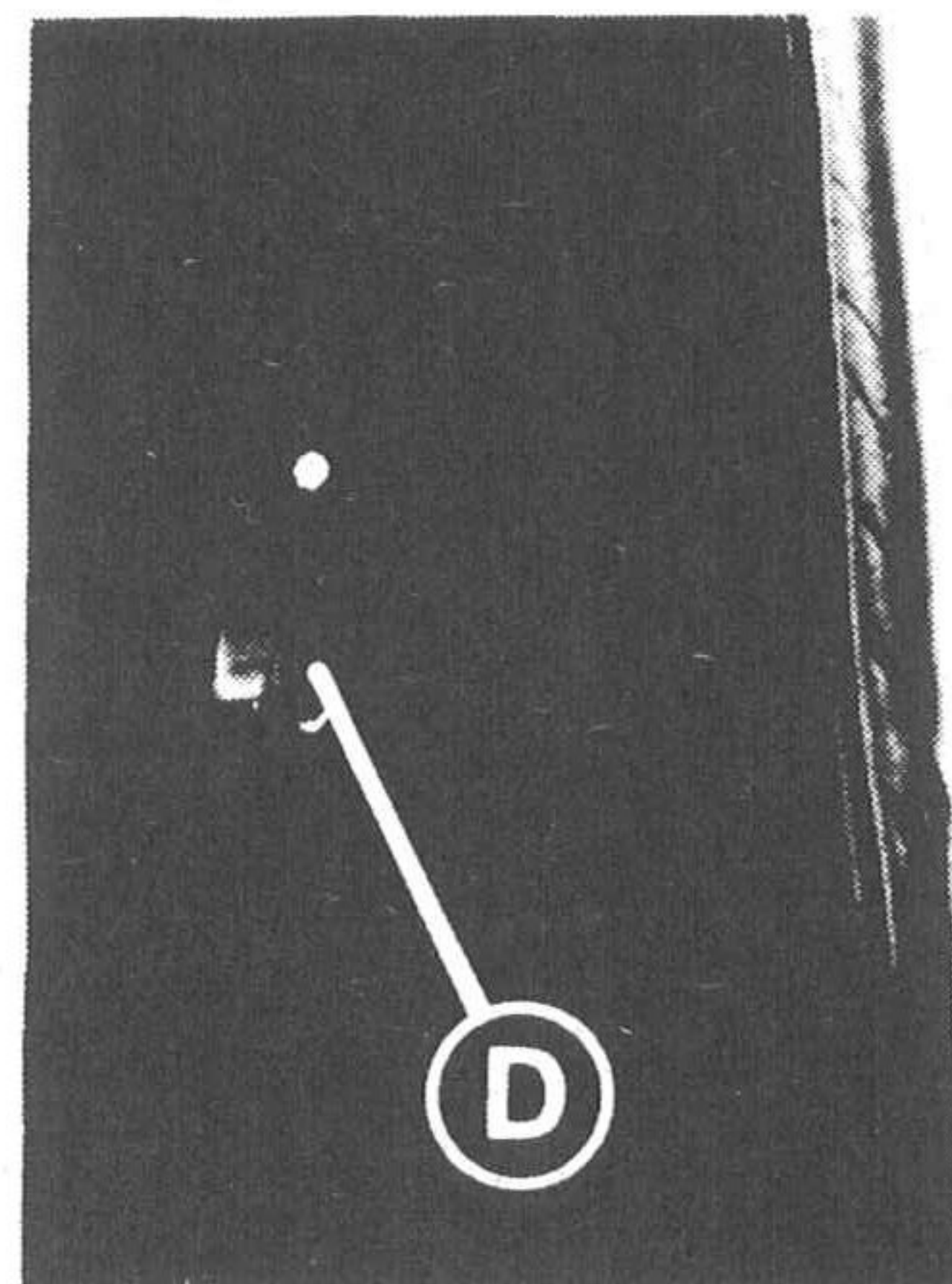


Fig 13

Steering Column

To adjust, slacken off the clamp 'A' on the right-hand side of the steering column below the fascia, move the steering wheel and column to the desired position and retighten the clamp. This provides adjustment for both height and reach.

Seats

The seats are fully adjustable for leg reach and angle of the backrest. To adjust for leg reach, the lever 'B' (Fig 11) under the front edge of the seat is moved sideways and the entire seat is moved forwards or backwards to give the required reach. The lever is then released, and its catch will engage in the nearest locking notch.

To adjust for angle of backrest, lift the lever 'C' (Fig 12) at the junction of the seat and backrest on the outward side of each seat, move the backrest as required and release the lever.

To hinge the backrest forward for access, lift the lever 'D' midway along the outward side of each backrest.

Seat Belts

Inertia reel tension permits normal movement for control. To secure the belt, see that it is not twisted, draw the tongue over the shoulder and across the chest, and insert the tongue of the fastener into the slot in the buckle unit nearest the user. A click denotes correct engagement. To release, press the button on the buckle unit.

Door Locks

Both doors can be locked externally with the keys provided. Keyless locking: First make sure that you are not locking the keys in the car. To lock the door, depress the button in the sill above the door catch mechanism, lift up the external catch and close the door. Opening from outside requires the use of the key.

Rear Quarter Vents

These panels are instantly detachable after taking out two screws in the rear edge. Their removal provides access to the fuel filler hose clips and to the coolant pipe hose clips.

Door Windows

Tight felt water excluders to door windows can be eased by spraying lightly with WD40 oil, after masking the glass to protect against the spray.

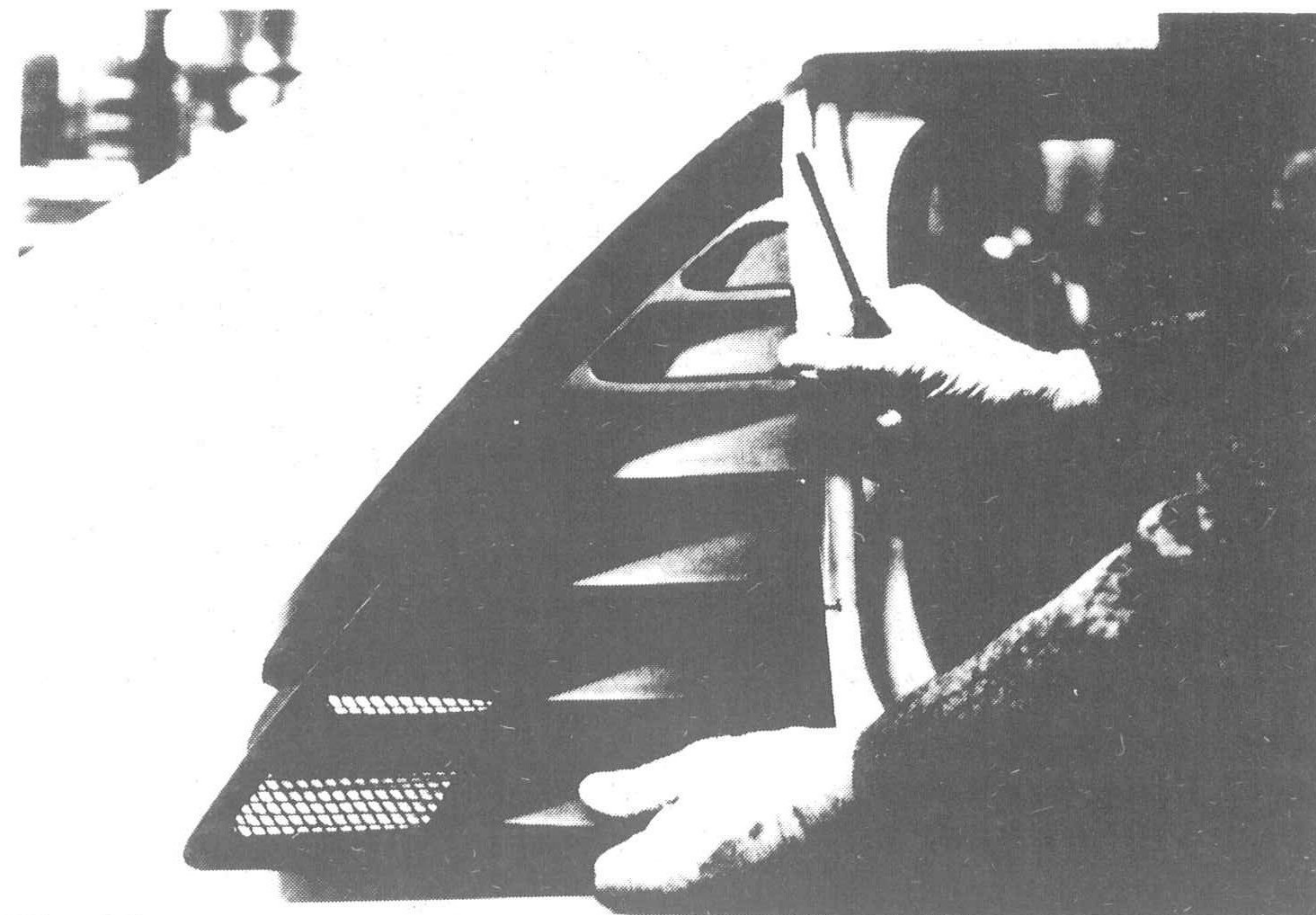


Fig 14

Front Compartment

The release 'A' (Fig 15) for the lid of the front compartment is inside the car body below the face ventilator bullseye on the right-hand side (left-hand on l/h drive cars). The lid hinges forward and locks in the open position. To lower, the catch on the stay, coloured red, must be squeezed and the lid raised slightly.

The reservoirs for the hydraulic fluid for brake 'B' (Fig 16) and clutch 'C' operation are mounted on the bulkhead. The fuse clusters are on the floor alongside the battery. The screen washer reservoir 'D' is against the side wall, and the battery fits into a well. The spare wheel occupies an inclined position over the battery and is secured by a strap. There is space for holdalls and other non-rigid items of luggage. The detachable sun roof is stowed in this compartment when removed.

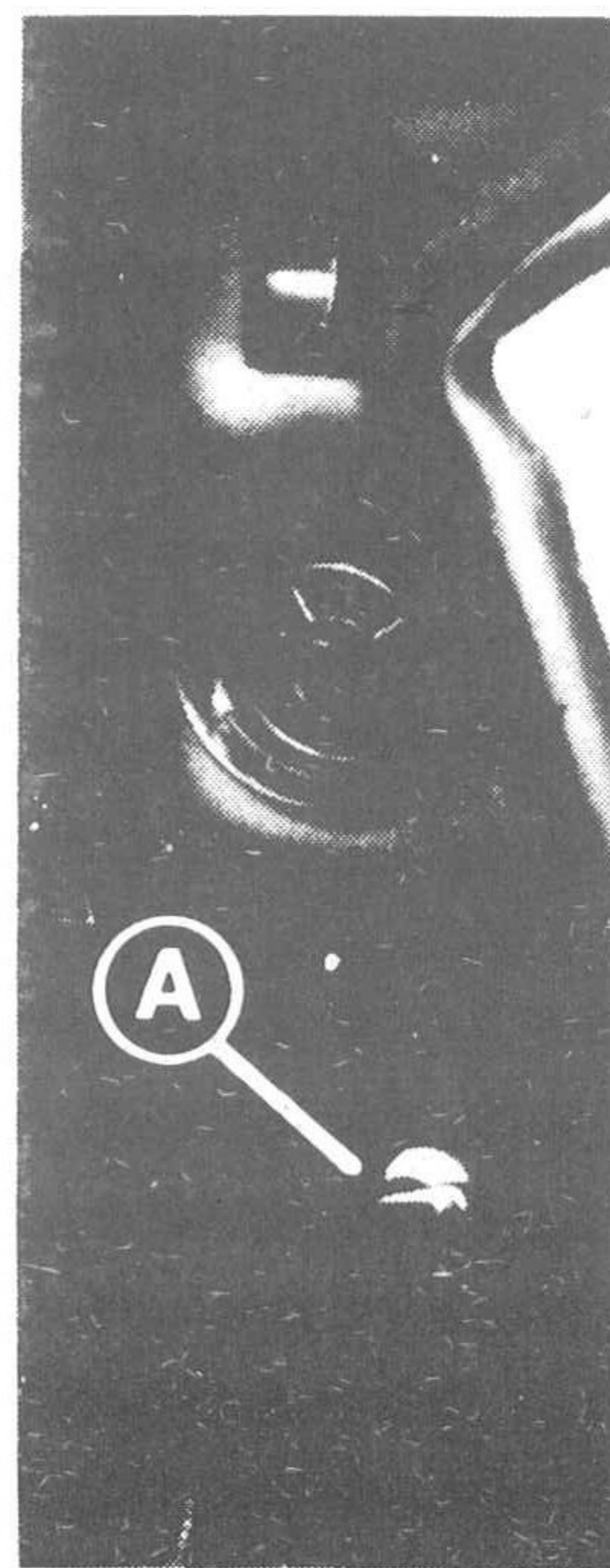


Fig 15

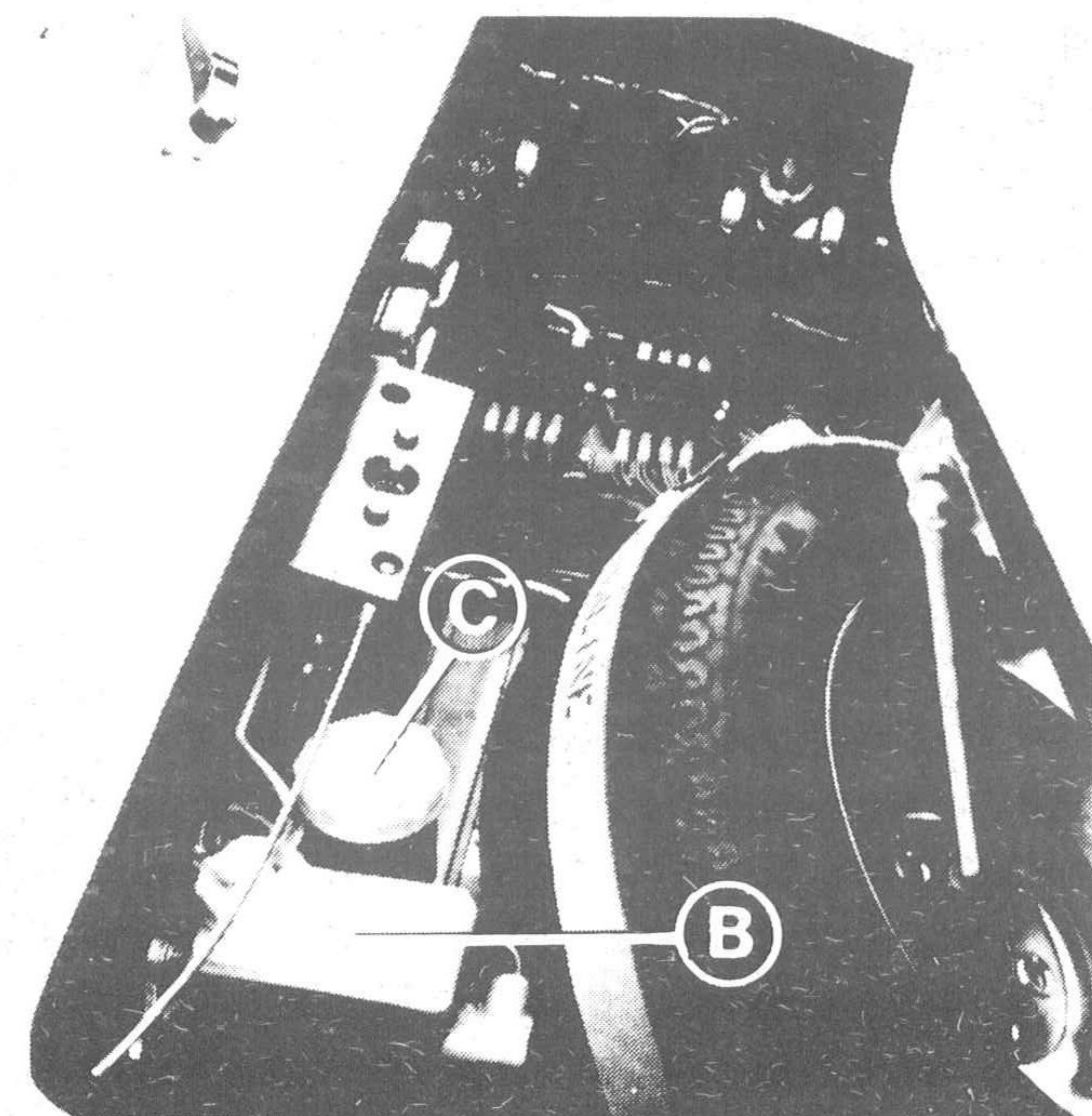


Fig 16

Sun Roof

The sun roof is instantly detached by releasing a single catch and pressing in the two arms 'A' (Fig 17). When removed, it is stowed in the front compartment in a special bag, face upwards and with the catch to the rear. When the car is driven with the sun roof removed, the side windows should be lowered by about one inch.

Engine Compartment Lid

The lid is hinged along its rear edge, and is released by a lever 'A' (Fig 17a) on left-hand side at shoulder level. The stay is self-locking, and the catch, marked red, must be squeezed and the lid raised slightly before lowering. A spring-loaded safety hook prevents the lid from lifting when the car is in motion, should the lid be not properly fastened.

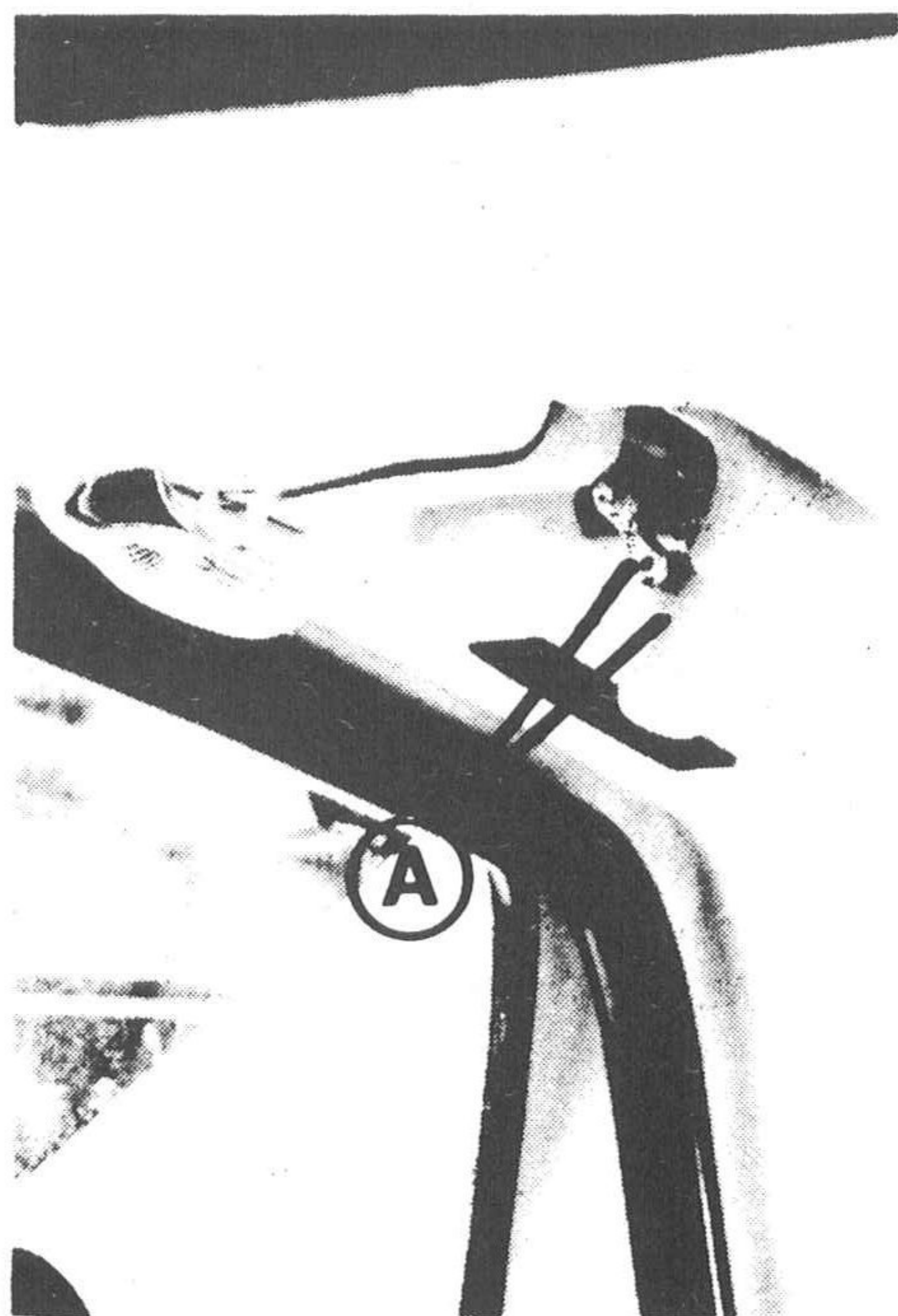


Fig 17

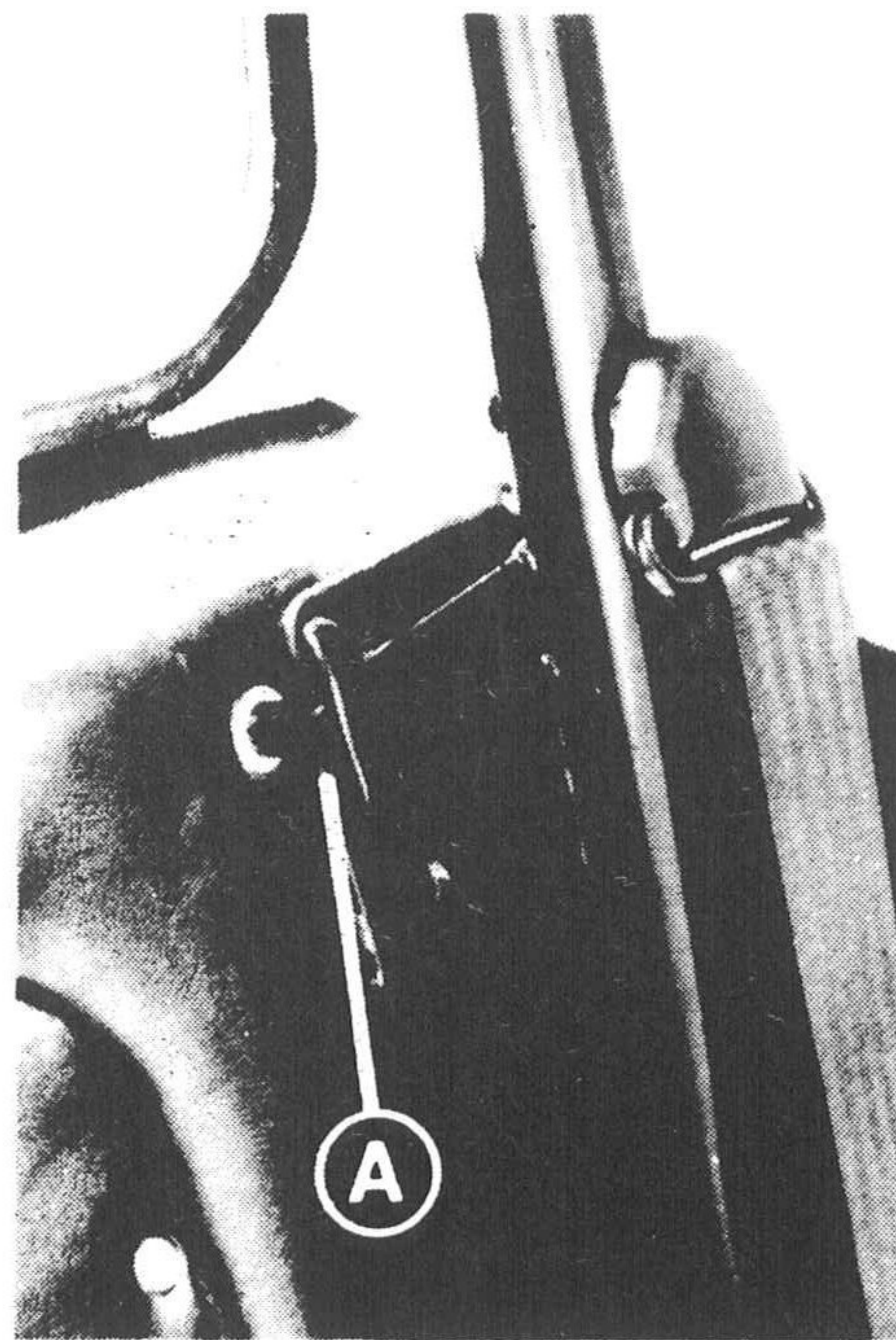


Fig 17a

Rear Luggage Compartment

The boot is fully carpeted and provides a luggage space of approximately 12 ft³ (0.34 m³). It provides access to the bulb holders of the rear lamp clusters. A lamp in the boot lights up when the boot is lifted, but can be switched off by an integral switch. The stay is self-locking, and the catch, coloured red, must be squeezed and the lid raised slightly before lowering.

Cleaning

Wash the exterior of the car frequently. Use plenty of water to which car shampoo solution has been added, and apply with a soft sponge. Then give a second wash with clean water. Dry off with a moist chamois leather. Heavy deposits of mud should be thoroughly softened with water before removal. After running over salted roads in winter or through sea water, thoroughly hose the underside of the car. Although rust prevention during manufacture has been very carefully carried out, certain component parts are vulnerable to damage by brine.

Never wipe off dust with a dry cloth; always wash it off, as dust is very abrasive. This rule applies equally to painted, plated and glass surfaces.

When using proprietary polishes, remember that some are difficult to remove from glass surfaces. Remove grease or tar spots with a soft rag soaked in petrol or white spirit.

The interior of the car is best cleaned by a vacuum cleaner.

Engine Starting

Check that the seat belts are fastened, the hand brake is applied and the gear lever is in neutral position. Insert the ignition key into the steering column switch; turn the key to Position 1 and check that the steering wheel lock is free. Turn the key to Position 2, when the red light in the console will glow and the fuel contents gauge and the voltmeter register. To start an engine from cold, fully depress the accelerator pedal (the car has an automatic choke) and then let the pedal return to the "rest" position. Turn the key to Position 3 against spring pressure. As soon as the engine fires, release the key, which will return automatically to Position 2. The red warning light then goes out, engine speed registers on the tachometer and the oil pressure gauge registers.

Do not operate the starter for more than 5 seconds. If the engine fails to start, move the key back to Position 1 before attempting to restart.

After starting, warm up the engine at approximately 1000 rev/min; not too slowly, but do not "race" a cold engine. When the engine is warm, the oil pressure at fast idling speed (1500 rev/min) should register 45 lb/in² (3.16 kg/cm²). Normal water temperature will be reached only after several minutes' running.

When restarting a hot engine, the accelerator pedal should be depressed slightly and the starter key operated. If the red warning light or any instrument behaves in an erratic manner, investigate the cause immediately.

Running in a new engine

Run in under reasonable loads, keeping the engine speed down to, say 3000 rev/min. Avoid violent acceleration, and use the gears to prevent "slogging." Careful and progressive running-in determines future engine efficiency and economy.

When a new car has completed approximately 450 miles (750 km) it should be taken back to the Works or to the Supplier, who will carry out the following services:

- Change engine oil; change oil filter element.

- Adjust tappet clearances.

- Adjust idling speed.

- Adjust belt tensions.

- Adjust contact breaker points.

- Tighten manifold nuts to 13–16 lb/ft torque (1.8–2.2 kgm)

- Tighten cylinder head bolts in four stages, as follows:

 - Stage 1:** to 20–30 lb/ft (2.8–4.2 kgm)

 - Stage 2:** to 50–55 lb/ft (6.9–7.6 kgm)

 - Wait 10 minutes, then

 - Stage 3:** to 65–70 lb/ft (9.0–9.7 kgm)

 - Run the engine 10–15 minutes, then

 - Stage 4:** Retighten to 65–70 lb/ft (9.0–9.7 kgm).

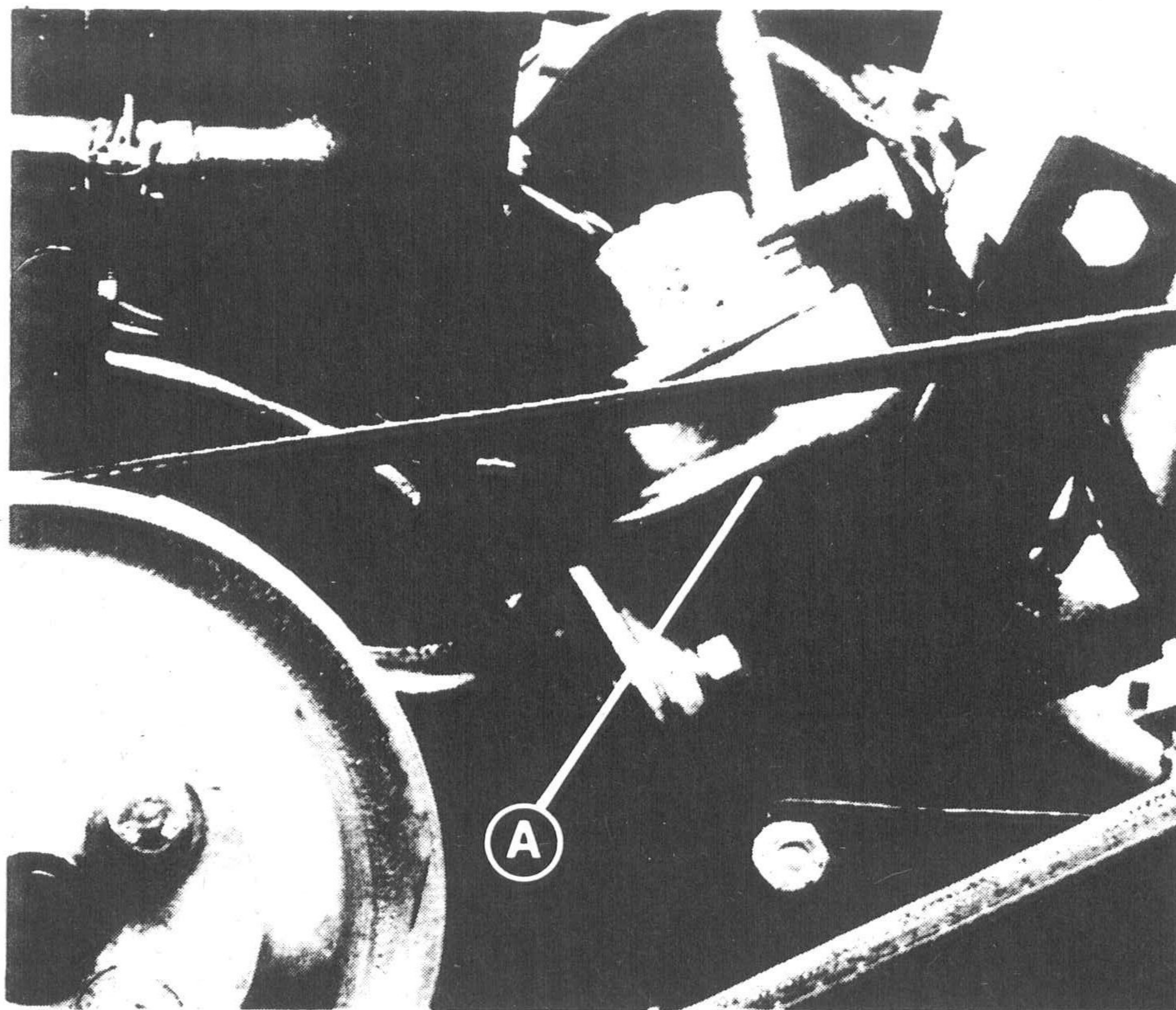


Fig 18

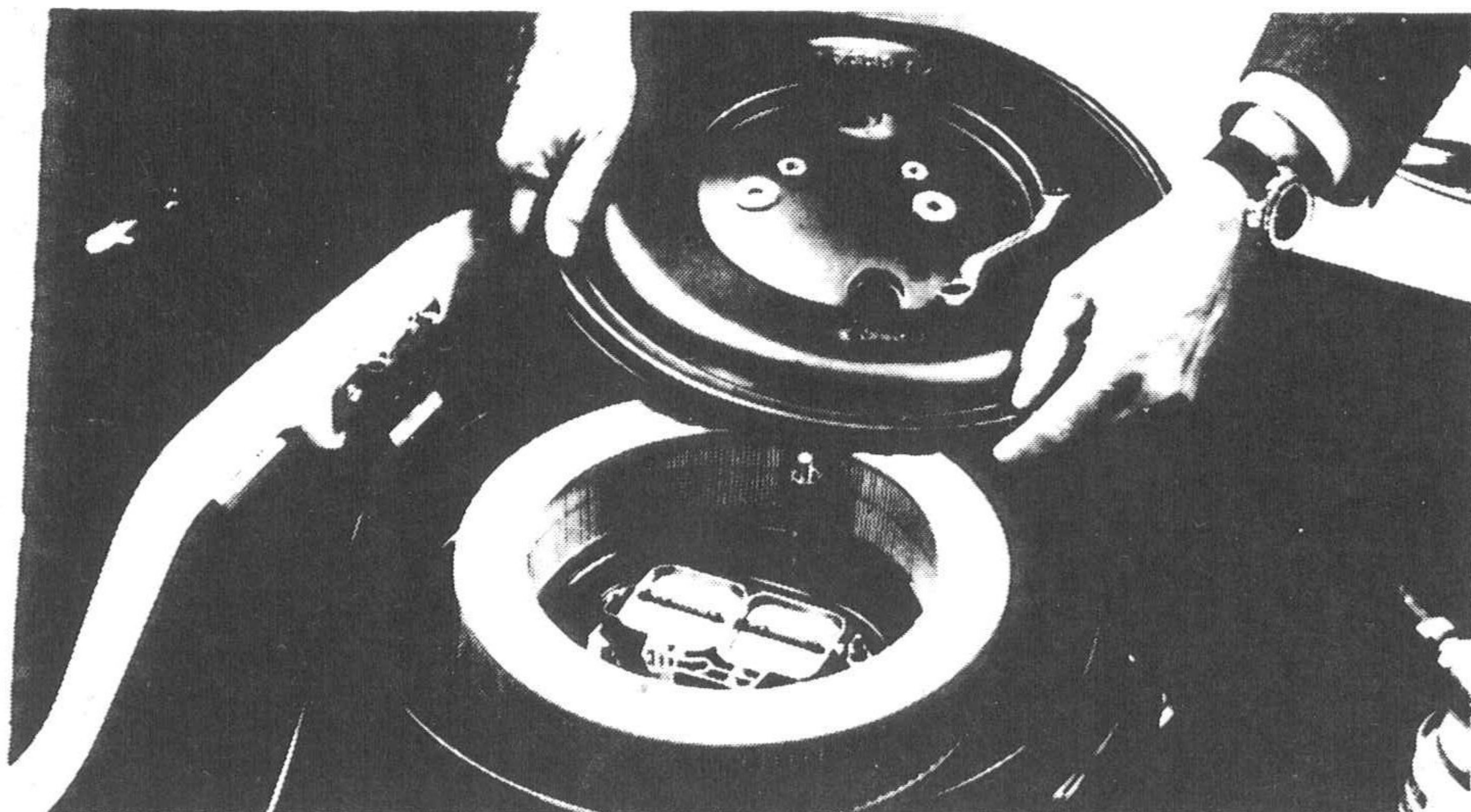


Fig 19

Fuel System

The fuel tank is mounted in a well under the monocoque chassis, forward of the engine. It is filled through twin lockable filling caps, one on either side of the car to facilitate refuelling. It is suggested that both caps be released if the tanks are to be completely filled, to eliminate all chances of airlocks. A reserve fuel capacity of $2\frac{1}{2}$ gallons (11.4 litres) is provided, and is made available by a switch on the right-hand side of the console (q.v.).

Fuel feed is by a mechanical pump 'A' (Fig 18) driven from the engine camshaft, with an integral filter. To clean the filter, disconnect the fuel hose, take out the central bolt and lift off the cover. Take out the filter gauze and wash it in clean fuel. Remove all sediment from the pump bowl and body. Replace all parts, after checking the condition of the gasket and renewing it if necessary.

The carburetter is a twin-choke instrument with automatic choke. A large pancake air filter is fitted, the top of which is easily detached for removal of the paper element for cleaning. To check the element for perforation, place a bright light in the centre and examine. (See Fig 19).

To adjust idling speed. To adjust the idling speed, first go for a short run to warm up the engine to the normal temperature. Screw in the slow running adjuster 'A' (Fig 20) for a fast idling speed. Finally, readjust the slow running screw until even running at slow speeds results.

Sluggish accelerator operation can be caused by a sticking cable. To remedy, the cable is detached from the carburettor, and WD40 oil sprayed inside the cable (and from the accelerator end) casing until the inner cable moves freely.

NOTE: This work should be carried out only by a competent mechanic.

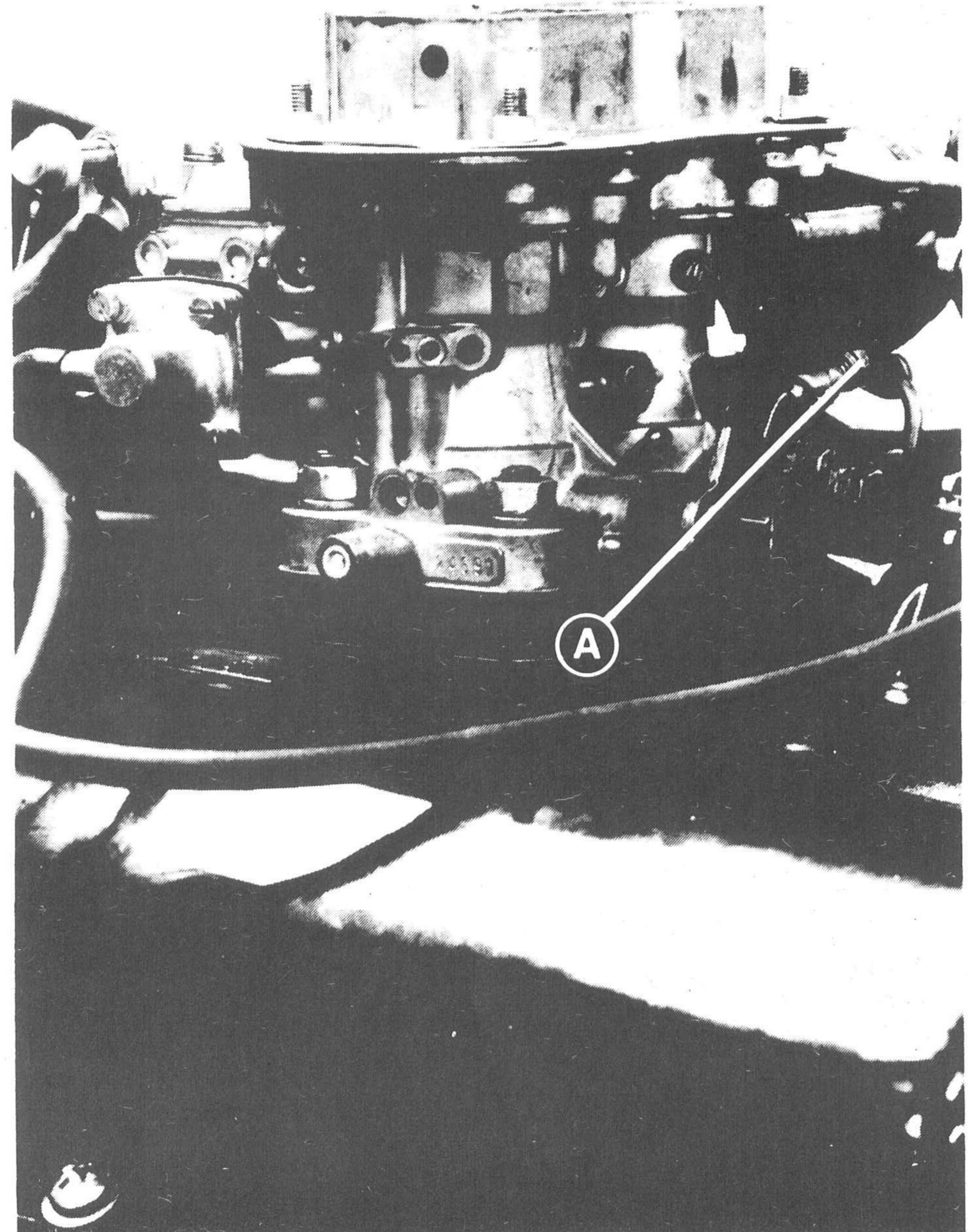


Fig 20

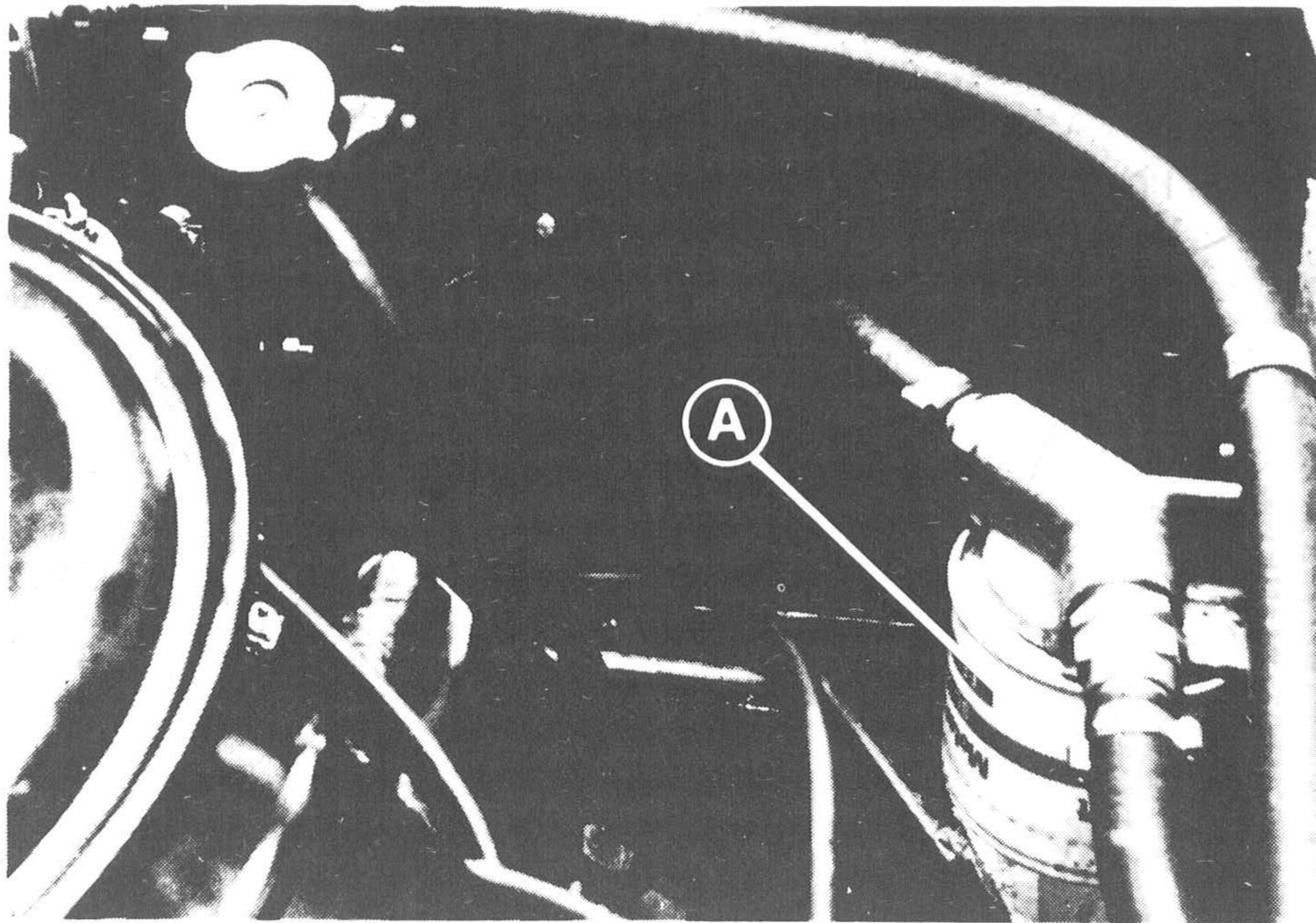


Fig 21

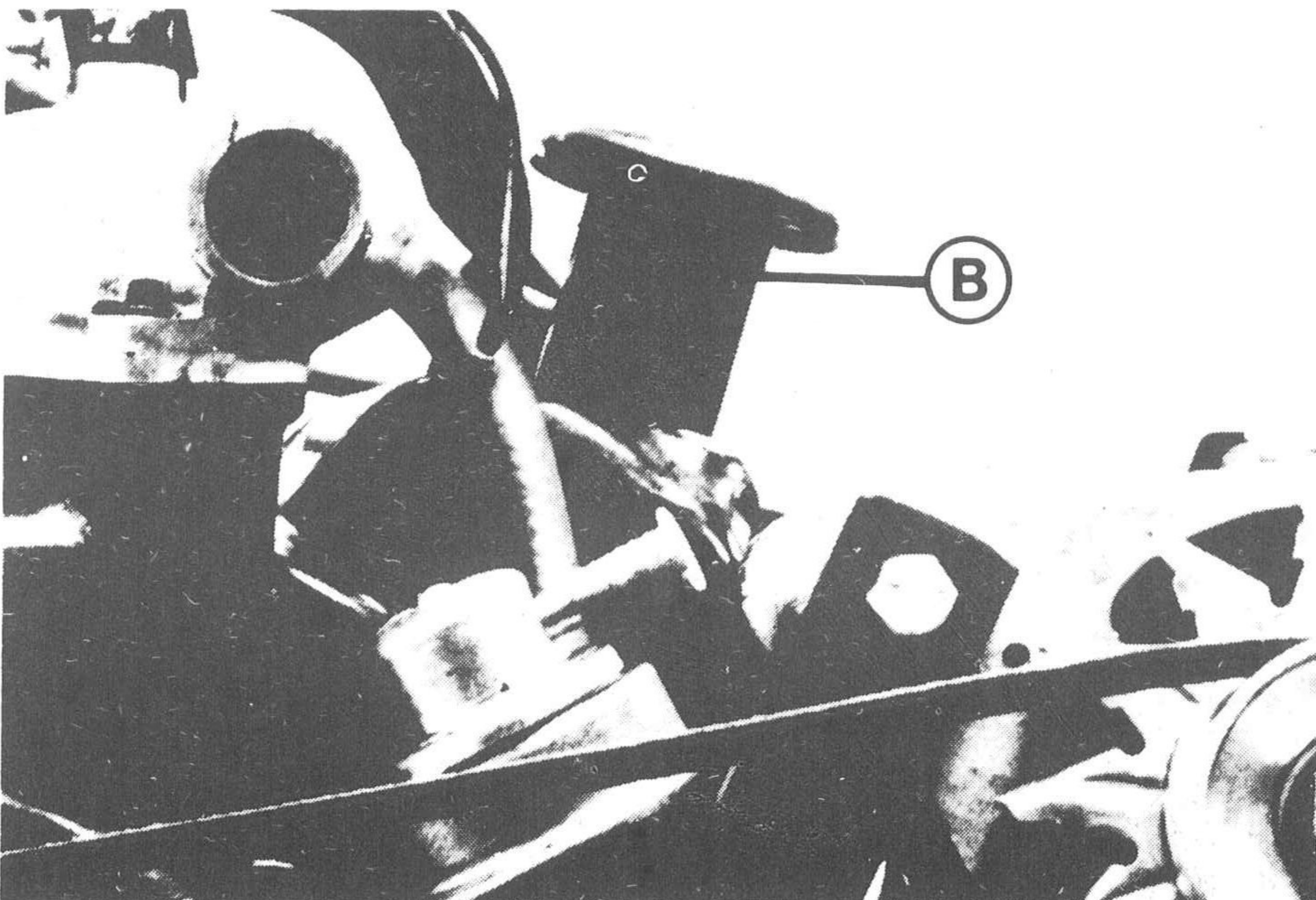


Fig 22

Lubrication System

This has been developed by AC for high performance duties. To permit the use of a remote oil filter and oil cooler, a special Y-piece is screwed into the normal filter orifice in the crankcase. From the outward flow branch of the Y-piece a flexible hose conducts the oil to the full-flow filter 'A' (Fig 21) on the rear bulkhead of the engine bay, and thence to an oil cooler on the side wall. From the oil cooler, the oil returns to the inward flow branch of the Y-piece and is force-fed to the engine bearings, etc. The oil filler is an orifice 'B' (Fig 22) in the left-hand valve rocker cover, with push-on cap. A dipstick, 'C' (Fig 23) cranked to clear the exhaust system, fits into an orifice on the right-hand side of the crankcase, and has "Max" and "Min" readings. Take dipstick readings when the car is not on a camber, and preferably with a cold engine. Take out the dipstick and wipe it clean; then re-insert in the orifice to get a true reading.

To drain Engine Oil. Warm up the engine to normal running temperature, stand the car on level ground with a receptacle of adequate capacity under the sump, remove the oil filler cap and then the drain plug 'D' (Fig 24) in the base of the sump. Allow the system to drain thoroughly. While it is doing so, place another receptacle under the oil filter and remove the disposable filter element. Use care, as this contains an appreciable quantity of used oil.

To refill, first remove receptacles and replace drain plug; renew filter element (see below). Then refill the sump through the filler orifice in the valve rocker cover, until a "Max" reading is obtained on the dipstick. (See page 38 for quantities required.) After the car is next used, check the oil level, as filter capacity has to be taken into consideration. Top up as necessary.

Although screwed in by hand pressure, the filter element tends to get stuck, and is best removed by use of a strap wrench. Before screwing in the new element, smear a little engine oil on the rubber ring. Then screw into position hand-tight – do not over-tighten.

NOTE: Oil filter elements cost very little, and we strongly urge that the element be renewed at each oil change.

Change of Lubricant

If it becomes expedient to change to a different brand of lubricant, completely drain the system when the engine is warm. Fit a new filter element. Cleanse the system by the use of a flushing oil, circulating this by running the engine at fast idling speed until well warmed up. Stop the engine, and drain off the flushing oil – not forgetting the contents of the filter. Replenish the sump with the new lubricant, using only an oil from the approved.

Recommended Lubricants

The following are suitable for temperatures down to -10°C (10°F).

Supplier B.P.	Engine and Transmission, Oilcan	Grease Gun
	Super Visco-Static 20-50	Energrease L2
Castrol	Castrol GTX	LM Grease
Duckham's	Q 20-50	LB 10
Esso	Uniflo	Multi-purpose H
Filtrate	Super 20-50	Super Lithium
Mobil	Super 10W-50	Mobilgrease MP
Petrofina	Fina Super Grade 20-50	Marson HTL2
Regent	Havoline 20W-50	Marfak All-purpose
Shell	Super Multigrade	Retinax A
Sternol	Super WW	Ambroline LHT2

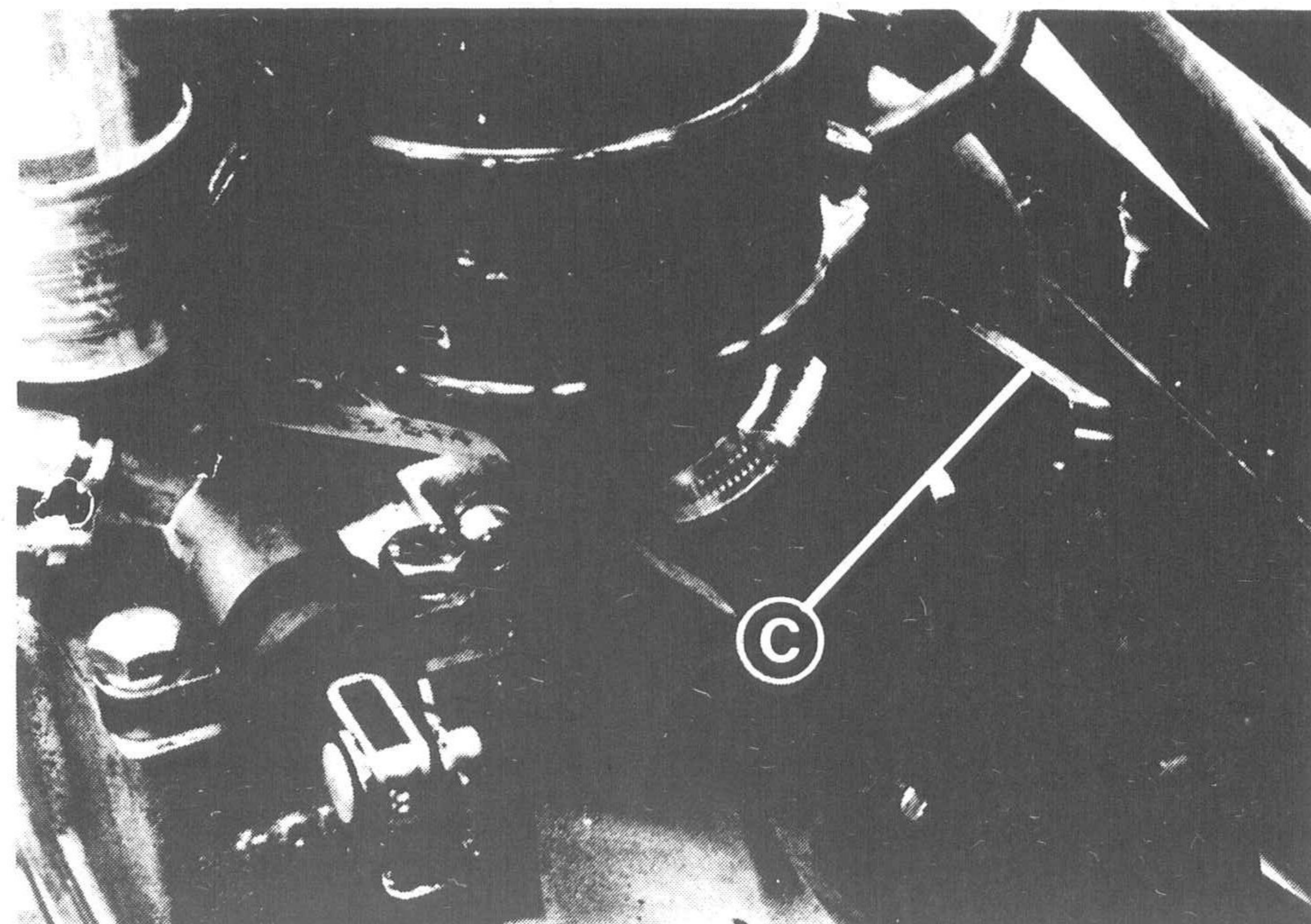


Fig 23

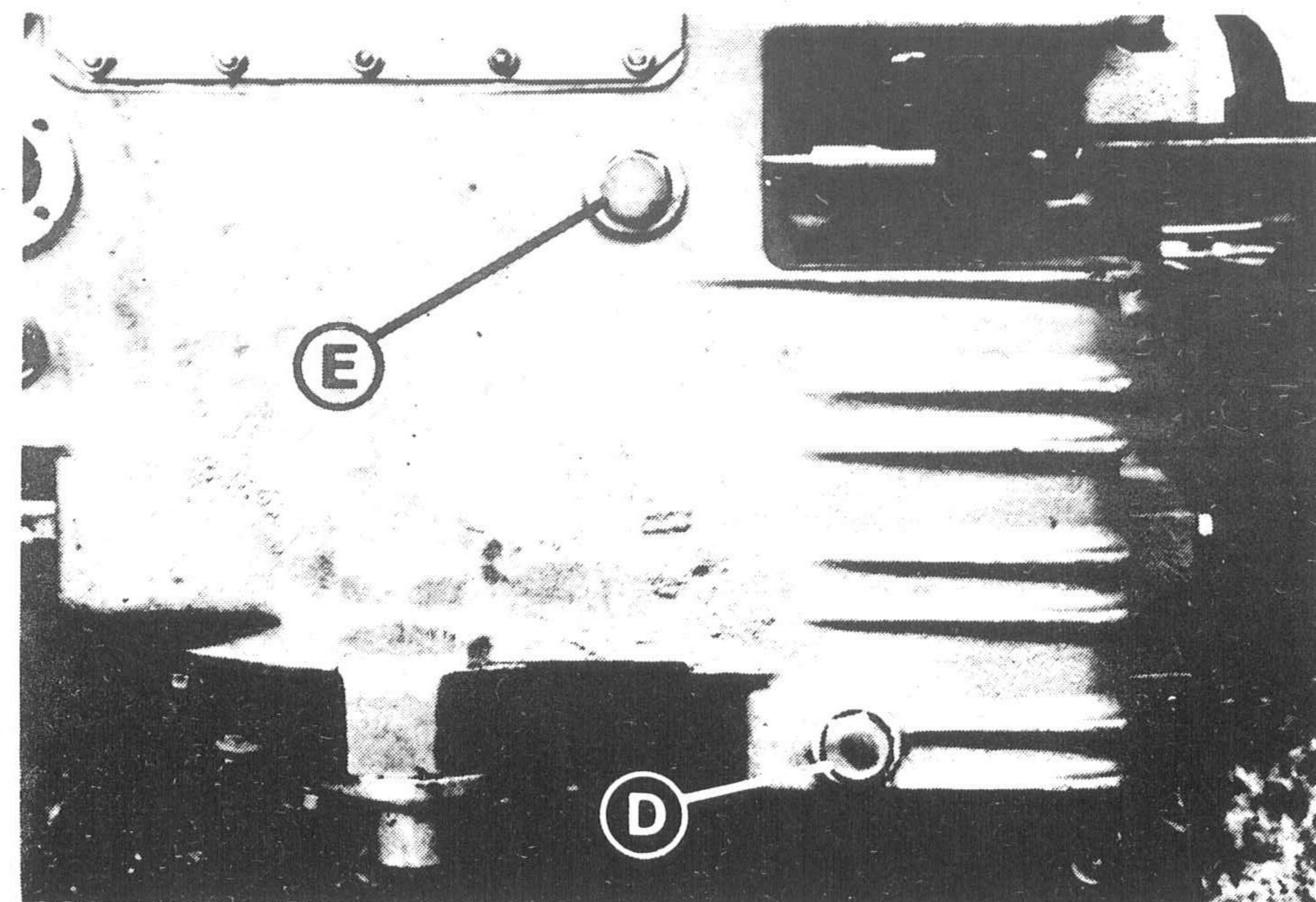


Fig 24

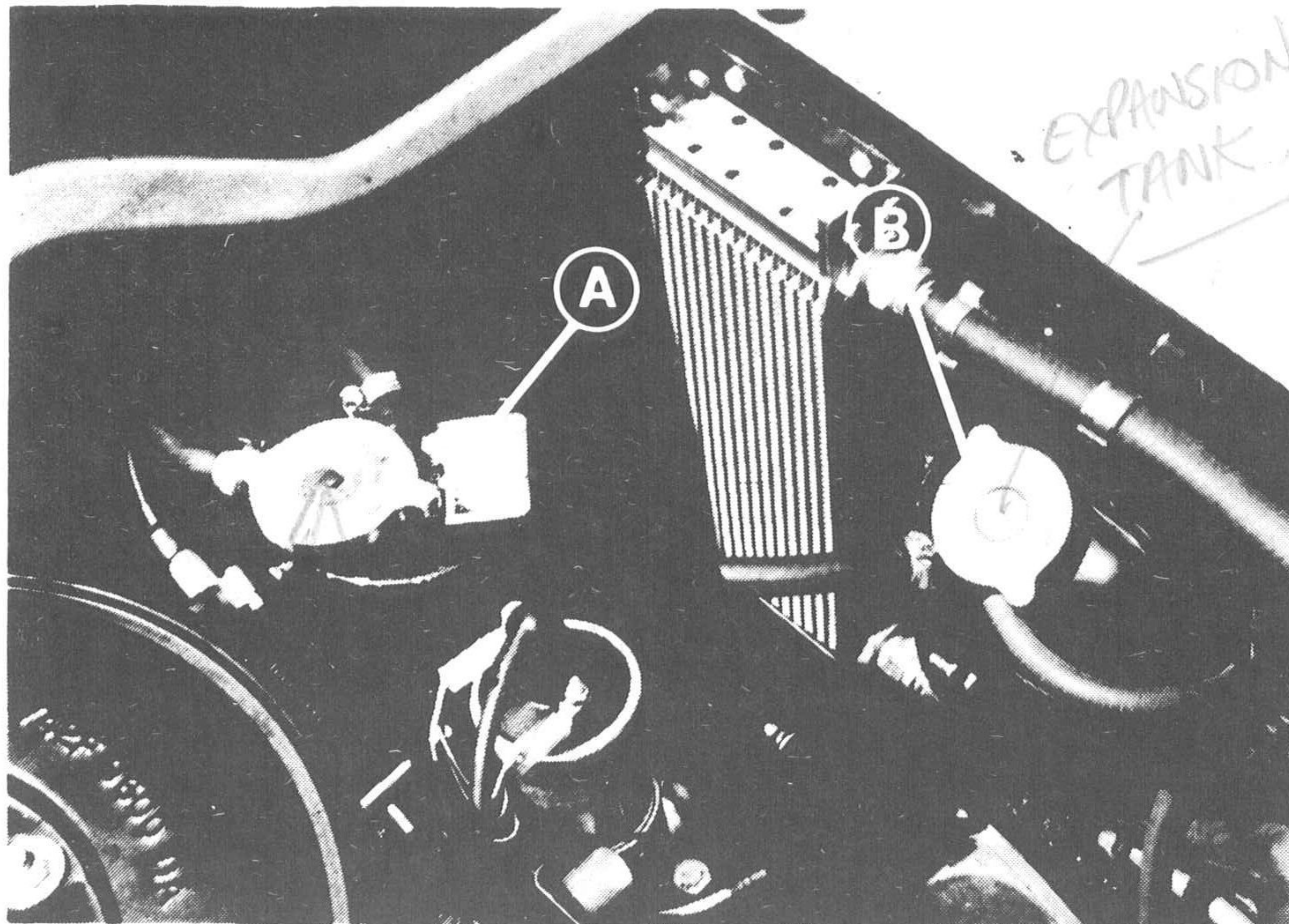


Fig 25

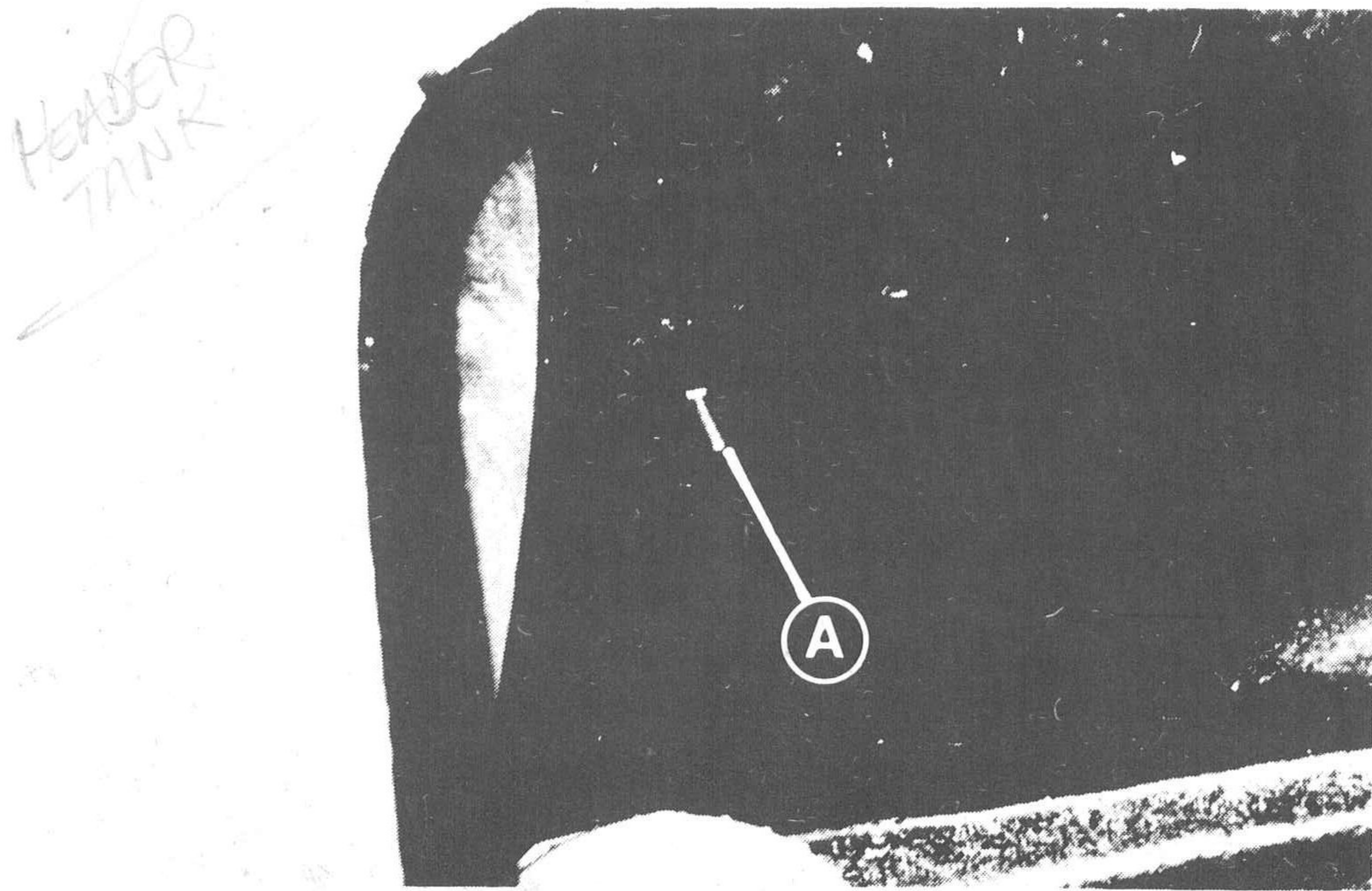


Fig 26

Cooling System

The cooling system is pressurised, and incorporates a forward mounted radiator. Twin thermostatically controlled electric fans are mounted behind the radiator, and are accessible when the grille on top of the nose of the car is removed. The grille can be taken out after removing two nuts. 'A' (Fig 26) shows left hand nut, the right hand nut is the other side of compartment accessible from the front compartment. Replacement is facilitated by placing lengths of plastic piping on the studs to act as guides. The coolant is taken through heavy gauge copper pipes within the body sides to a header tank 'A' (Fig 25) and expansion tank 'B' in the engine compartment. Pressure in the expansion tank is set for a maximum build-up of 13 lb/in² (0.9 kN/m²) when the coolant is hot. As this represents a temperature above boiling point at atmospheric pressure, never try to take off the filler cap of the header tank until pressure is released. If it is necessary to top up the cooling system of a hot engine, proceed as described under "Forecourt Service" on page 32. The filler cap on the header tank differs in design and function from the pressure cap on the expansion tank, and the two must never be confused. The level of coolant in the expansion tank should be half-full when cold.

Water Pump. A separate drive is provided for the water circulating pump 'C' (Fig 27), with a jockey pulley tensioning device. The belt should be tensioned to allow a deflection of $\frac{1}{2}$ -inch (12 mm) on the top run. To adjust, slacken off the mounting nut 'D' on the flange of the pulley mounting and the bolt 'E' on the tensioning slot, move the pulley unit as necessary and retighten.

Draining. With the car on level ground, move the heater control to "Hot" (up), and remove both filler cap and pressure cap. Open the coolant drain plug on the cross pipe in the front of the engine bay. "F" (Fig 28). After draining, flush the system thoroughly with clean water.

Refilling. Close the tap on the cross pipe in the engine bay. Leave off the expansion tank cap and refill the system through the filler cap of the header tank. With both caps off, warm up the engine at fast idling speed; then top up as necessary and replace the filler cap on the header tank. Finally, after the engine has cooled down, half fill the expansion tank and replace the pressure cap.

Anti-freeze. As a precaution against damage by frost, an anti-freeze solution to BS.3150-1-2 should be used. For preference, add the solution during a drain and refill. Anti-freeze solution can be left in the system throughout the year, but should be drained off and renewed every two years. The table indicates the temperatures at which the car can be driven away from cold, and figures allow a safety margin.

Anti-freeze solution %	Imp. pints	Quantity		Complete protection down to	
		U.S. pints	litres	°C	°F
12½	3.5	4.2	2	-6.5	+20
25	7	8.4	4	-12	+10
37½	10.5	12.6	6	-20	-4
50	14	16.8	8	-36	-33

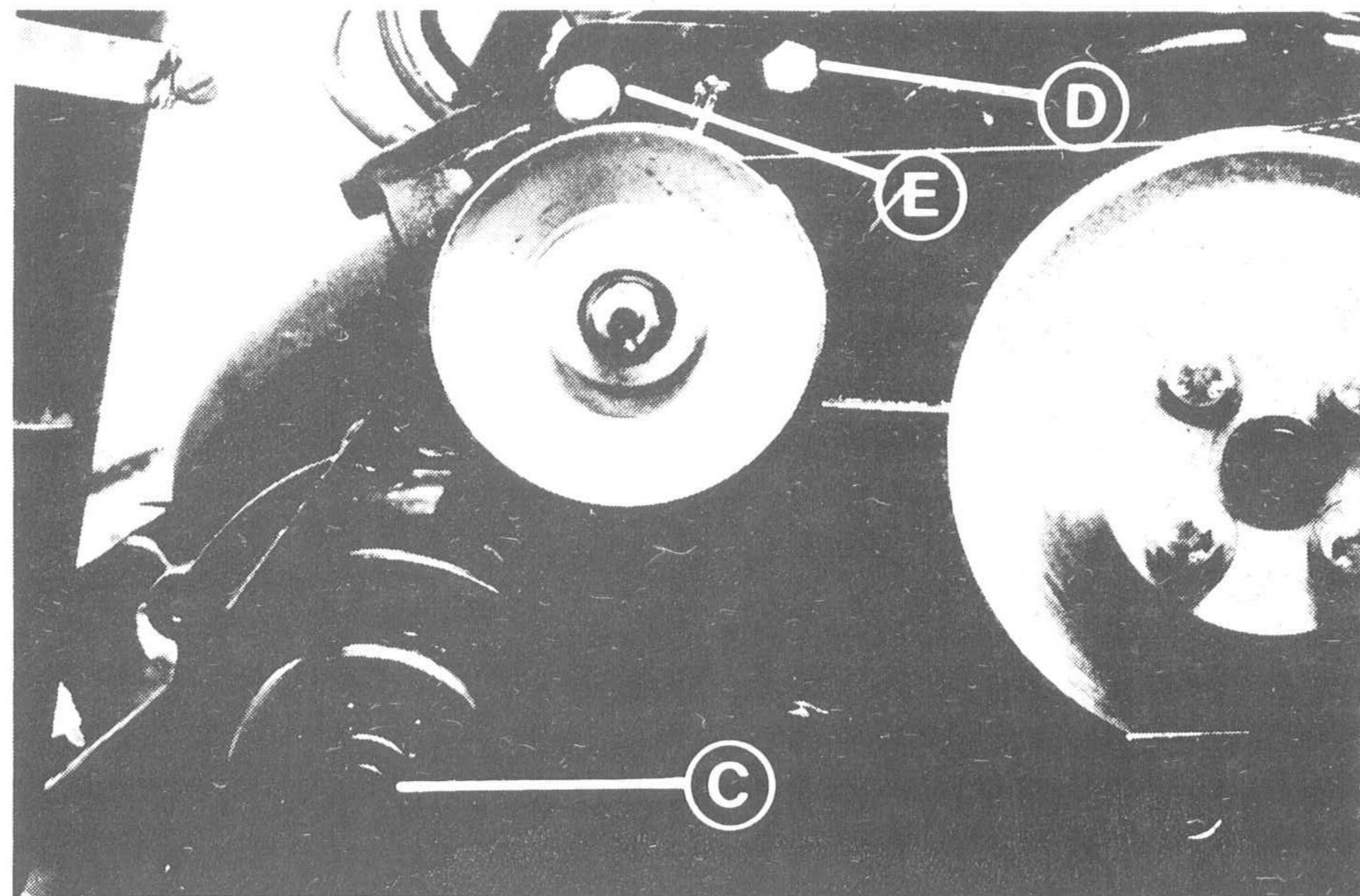


Fig 27

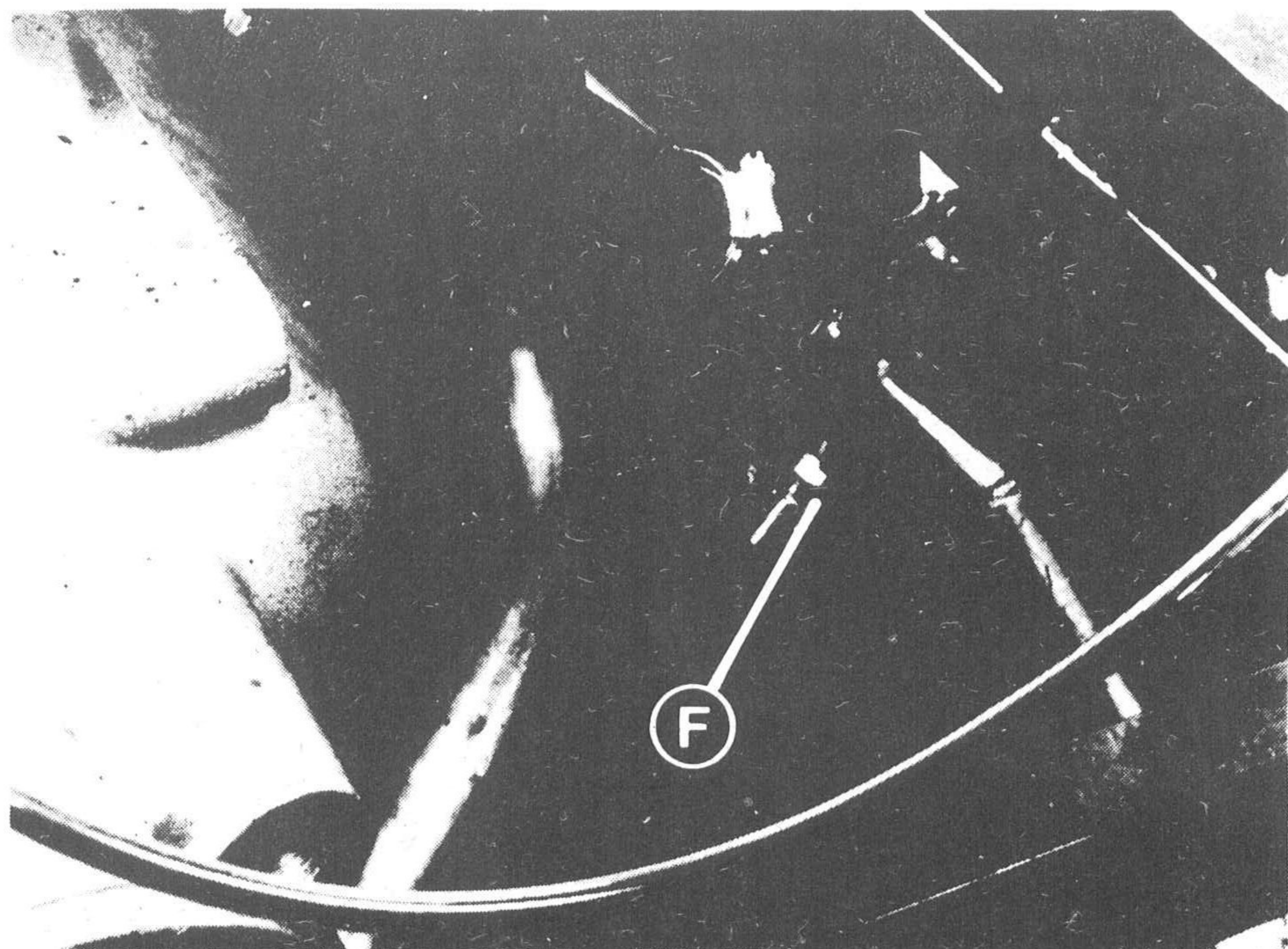


Fig 28

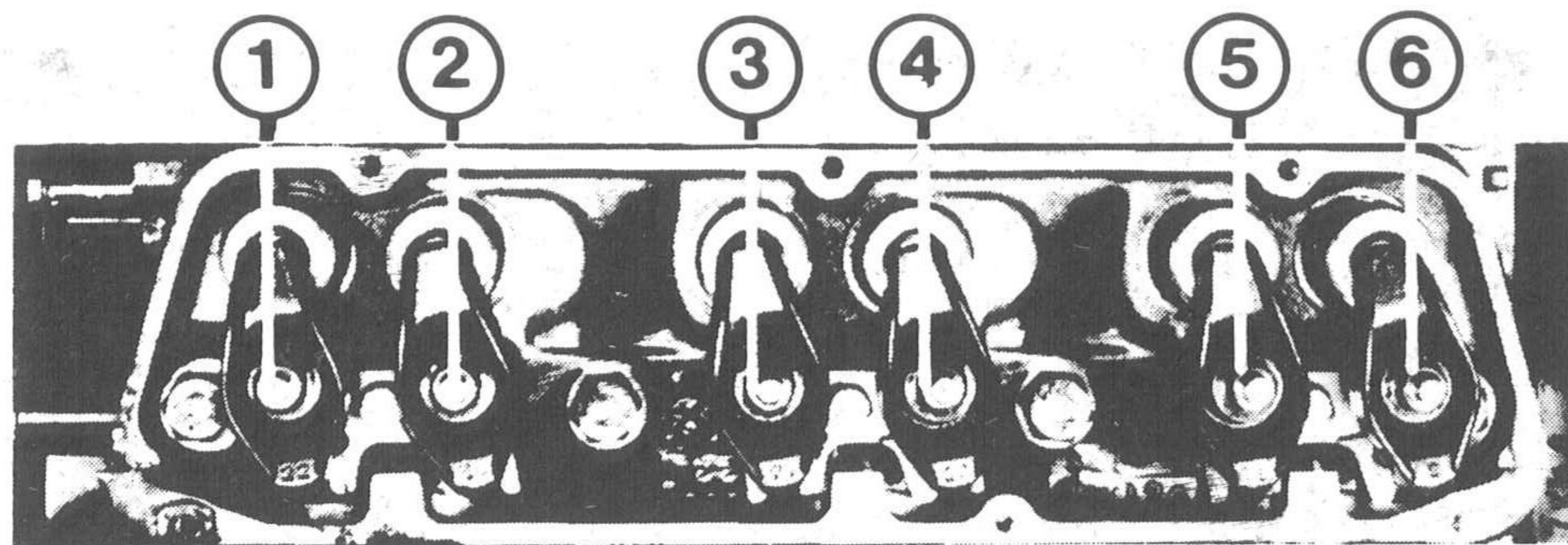
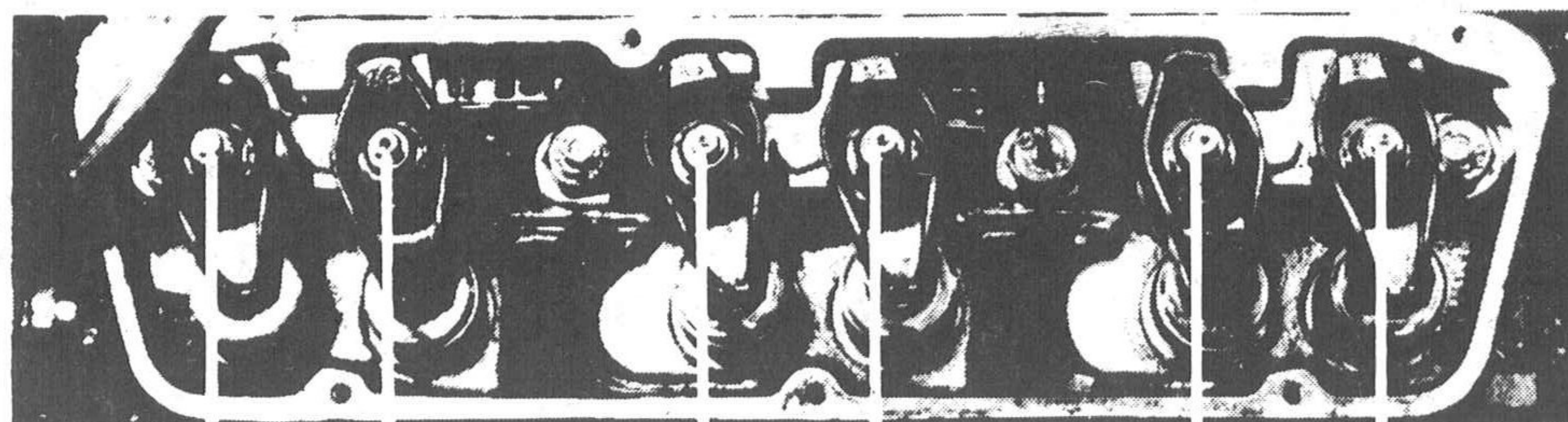


Fig 29



7 8 9 10 11 12

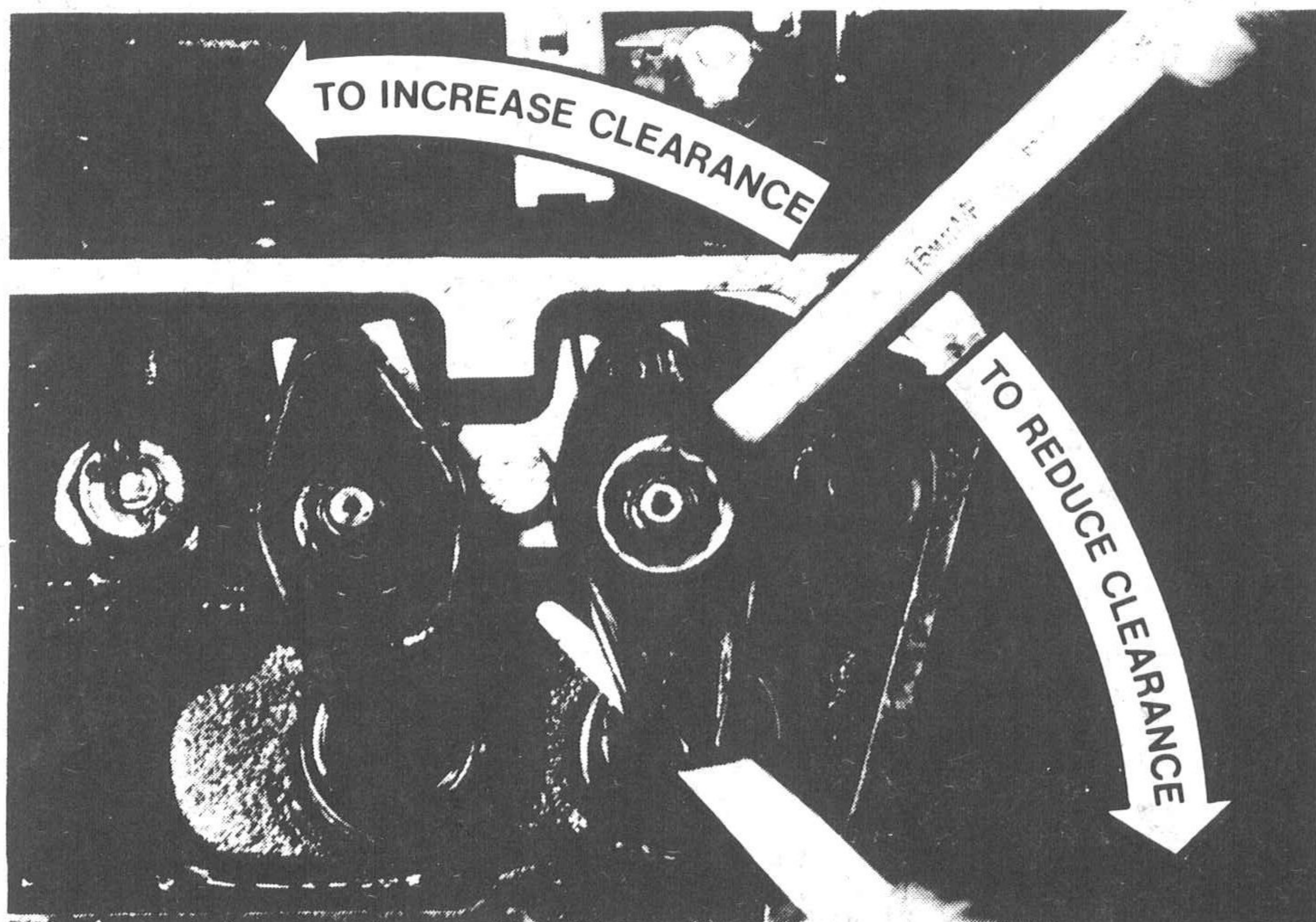


Fig 30

To adjust Tappets

Always check the valve rocker clearances when the engine is hot. To adjust the tappets, remove both valve rocker covers. Note that the valves number as follows: 1-6, front to rear of right-hand cylinders; 7-12, front to rear of left-hand cylinders. (See Fig 29).

Adjust in the following order:

Valves open	Adjust Nos.
1 and 6	7 (in) and 10 (ex)
8 and 11	4 (in) and 5 (ex)
2 and 3	9 (in) and 12 (ex)
7 and 10	6 (in) and 1 (ex)
4 and 5	11 (in) and 8 (ex)
9 and 12	2 (in) and 3 (ex)

With a ring spanner, turn the retaining nut clockwise to reduce clearance; anti-clockwise to increase clearance (Fig 30). Clearances after adjustment should be:

inlet: 13 thou (0.33 mm) Exhaust: 22 thou (0.56 mm)

To open the valves, remove the sparking plugs, engage 4th gear, and – with assistance – move the car slowly while observing valve rocker movement. Before replacing the valve rocker covers, see that the cork gaskets are in good condition, and renew if necessary.

Ignition Adjustment

To adjust the contact breaker gap, turn the engine slowly, (see previous page) until the heel of the moving arm rests exactly on a high point of the cam 'A' (Fig 31). Slacken off both adjuster screws 'B'. Using a feeler gauge, move the fixed point by inserting a screwdriver blade in slot 'C' until the gap between points is 25 thou (0.64 mm). Tighten both adjuster screws and check the gap, readjusting as necessary. Replace rotor arm and distributor cap.

To lubricate the distributor, remove the cap and rotor arm. Apply two drops of engine oil to the felt pad within the cam body. Smear petroleum jelly (Vaseline) or battery grease on to the face of the cam, and a trace of oil on the contact breaker pivot post.

Worn or pitted contact breaker points can be dressed with a fine oil stone until flat, but must be renewed before wear or pitting becomes severe.

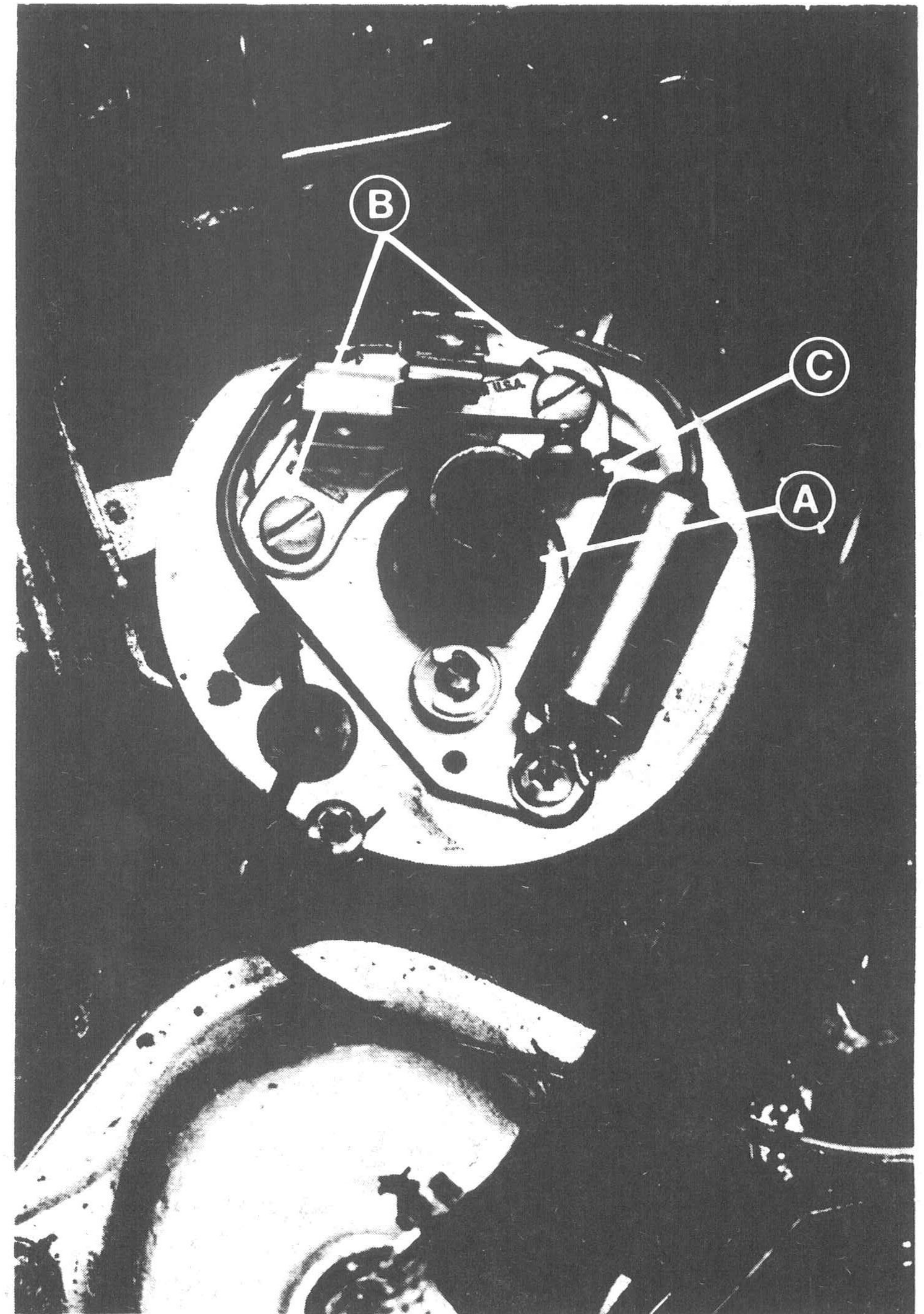


Fig 31

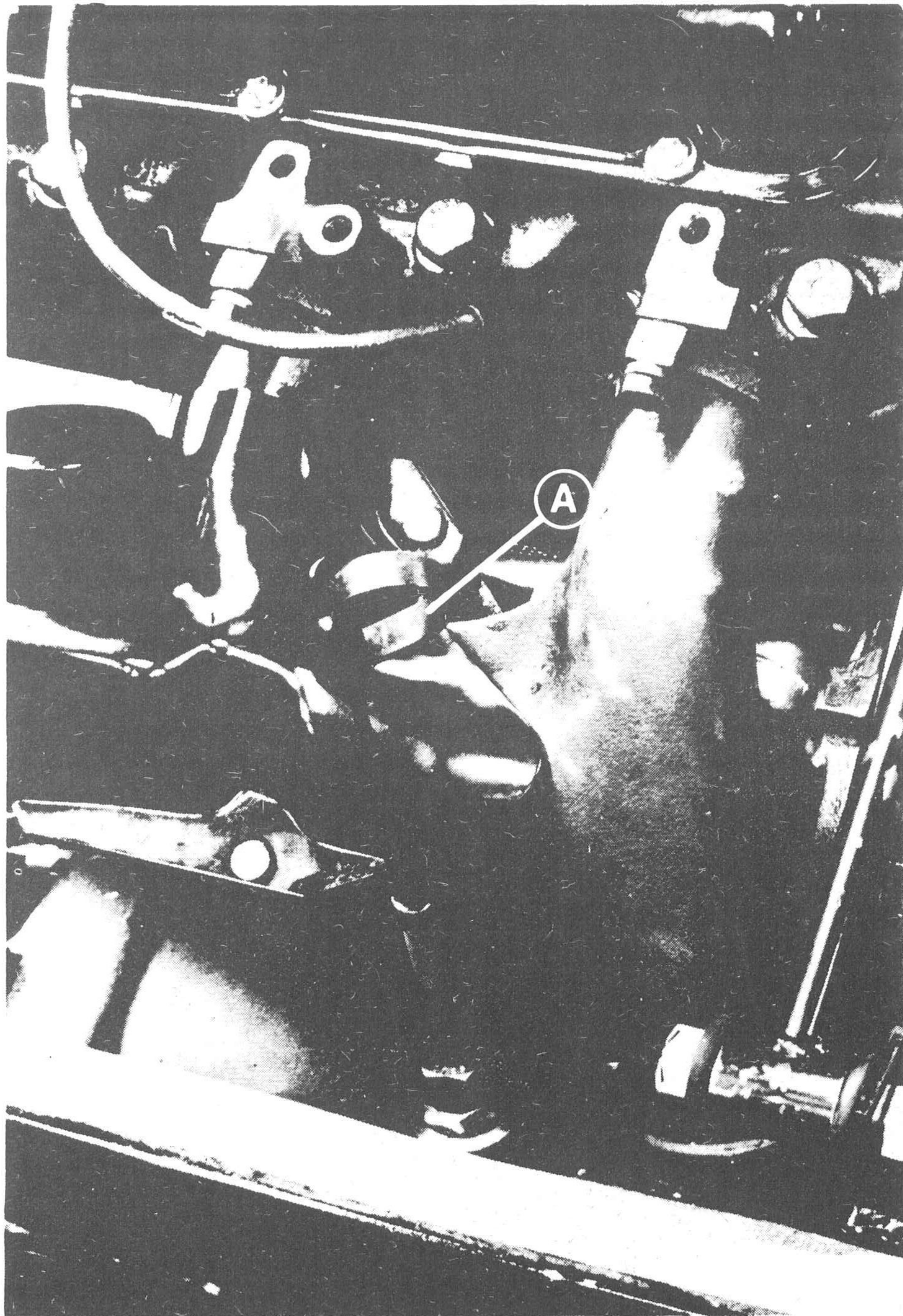


Fig 32

Transmission

The drive from the engine to the gearbox is by Renold "Triplex" chain on triple sprockets. A spring-loaded hydraulically-damped chain tensioning device is fitted, so that no adjustment is needed. The drive is enclosed in a light alloy case which acts as an oil bath. Oil is fed automatically from the gearbox, providing constant lubrication.

Gearbox and differential assembly housing form a single cast light alloy unit with the engine sump, but are isolated from the engine lubricant.

The 5-speed gearbox is of AC design and construction. There is synchromesh on all gears. The 4th gear gives a ratio of 1:1, 5th being an overdrive for high speed cruising with economy. A dipstick 'A' (Fig 32) indicates gearbox oil level; replenishment of oil is through the dipstick orifice, using a funnel. A drain plug on the underside of the gearbox casing is provided for oil draining 'E' (see Fig 24 Page 17). The oil used is of the same grade as for the engine (see Page 17).

The oil is drained off and renewed at the 6000-mile service, after which it should be topped-up periodically, but not changed.

The differential assembly is lubricated from the gearbox. The inner universal couplings to the drive shafts are pre-packed and sealed for life. The outer universal joints have a greaser (see "Steering and Suspension"). *Do not over-grease, as this may blow the seal.*

Steering and Suspension

Steering is by rack and pinion, and gives a ratio of 3.0 lock to lock. The steering rack is pre-packed, and requires no lubrication unless the rubber gaiters are damaged and have to be renewed.

The lower steering column is located in the front chassis bulkhead by a special bush. This is of necessity a good fit, and if the movement of the steering wheel shows any tightness, this bush should be sprayed with WD40 oil.

Suspension is fully independent, using coil springs and co-axial heavy duty, double acting, hydraulic shock absorbers. The suspension incorporates double tubular wishbones, with steel vertical pillars at the front, and light alloy vertical pillars at the rear.

There are three greasing points on each side of the car, disposed as follows:

Front (Fig. 33) – Grease nipple 'A' on lower front wishbone ball joint.

Rear (Fig. 34) – Grease nipple 'B' on lower rear wishbone pin.

Grease nipple on drive shaft 'C' outer universal coupling.

For greasing, jack up each wheel in turn until clear of the ground.

Speedometer Drive. This is on the inner side of the right-hand hub assembly (left-hand on l/h drive cars). Grease should be inserted at 6000 and 12000 mile (10000 and 20000 km) intervals. To grease, remove the stud in the top of the unit 'D' (see inset of Fig 34), and using a piece of cloth as a grommet, force in a small quantity of grease from an injector; replace the stud. *Note: The run of the speedometer drive cable is vital and fitting a new cable should be done by your AC dealer. (See detailed drawings on Page 39 for cable run).*

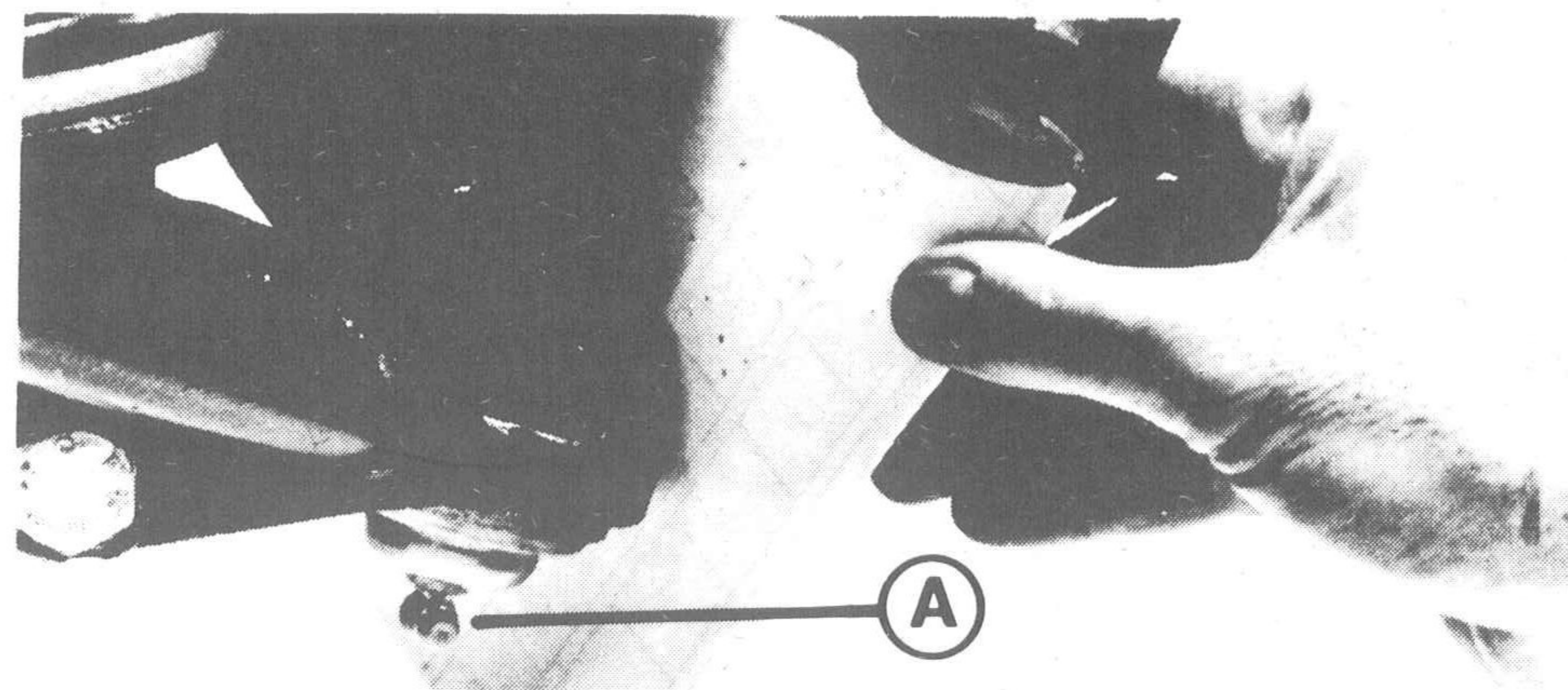


Fig 33

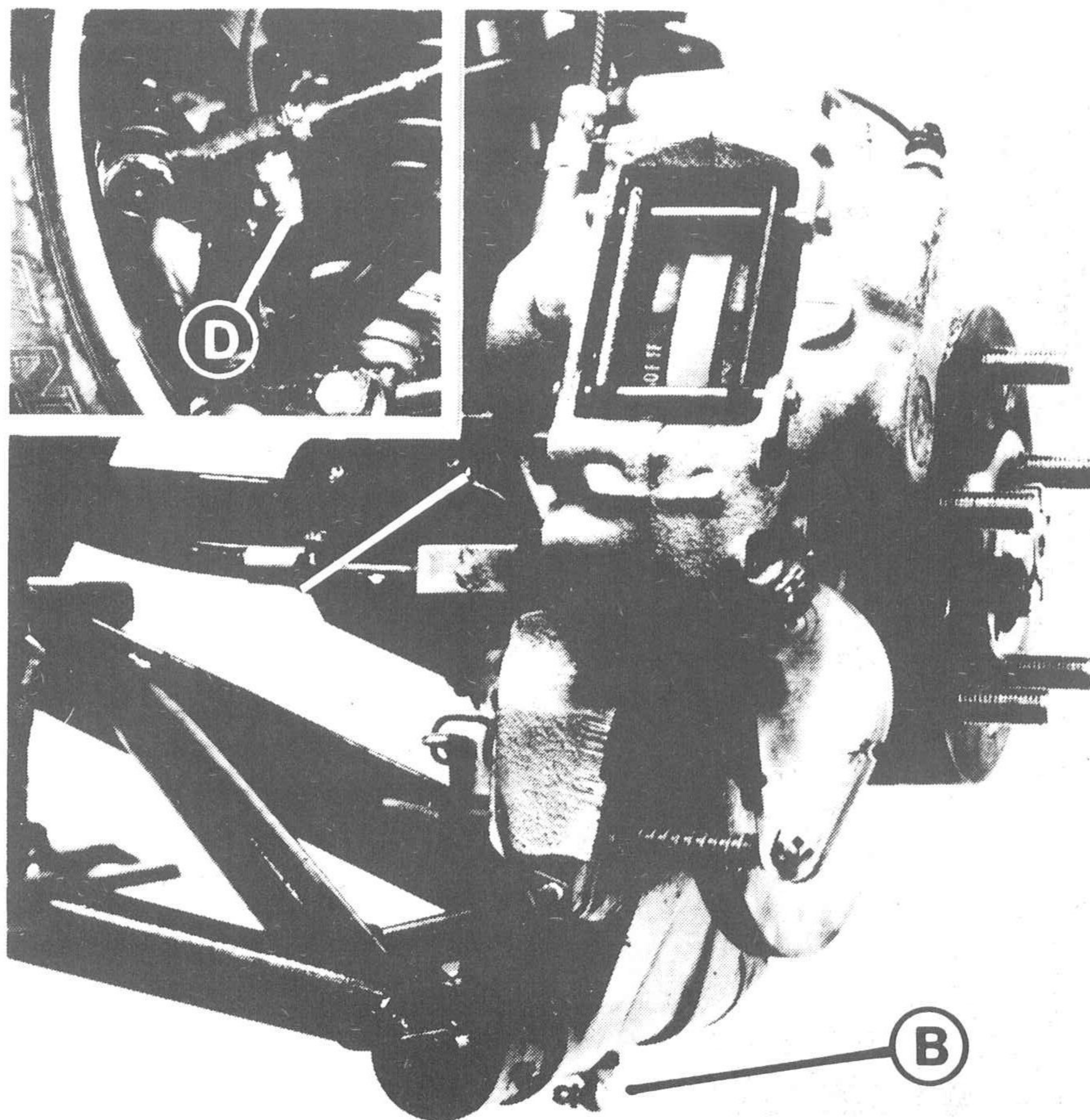


Fig 34

Braking System

A dual hydraulic braking system is used, incorporating tandem master cylinders. This operates front and rear brakes independently from a single brake pedal. An amber light in the fascia console gives warning of low level of hydraulic fluid, and handbrake "on".

Self-adjusting caliper disc brakes are used on all four wheels. The handbrake is also of the caliper type, mechanically operated and acting on the rear wheels only. It is self-adjusting, but the operating mechanism has provision for adjustment. The pad mechanism, pivot pins and compensator pivot of the handbrake should be lightly oiled at 6000-mile (10000 km) intervals.

NOTE: Great care must be taken to keep oil and grease off brake discs and brake pads. Insert card as shown in Fig 33 to protect front discs from grease.

Fitting, renewing and repositioning brake pads calls for the use of special equipment, and should be carried out at the AC works or by an accredited AC Dealer Agency with full facilities.

Brake pads must be checked for wear at regular intervals. Minimum safe lining thickness is $\frac{1}{8}$ -in (3.0 mm).

Brake Fluid. The hydraulic fluid used is Girling Green DOT3 Spec. Alternatively, other hydraulic fluids conforming to SAE J1703 or FMVSS116 DOT3 specifications may be used, but only as replacement fluid for the complete system. Hydraulic fluids of different manufacture should NOT be mixed.

Hydraulic fluids are hygroscopic and readily absorb air. It is therefore essential that hydraulic reservoirs be kept covered, and that caps be retained on all cans containing fluid.

For the same reason, the brake fluid should be changed every 18000 miles (30000 km) or at 18-month intervals, by draining the system completely, renewing the fluid and bleeding the brakes. Fluid seals and hydraulic hoses must be checked regularly and renewed if suspect. In any case, seals and hoses should be renewed at intervals of 30000 miles (50000 km), when the condition of master cylinders, slave cylinders, filters, etc. should be checked.

IMPORTANT. When topping up the brake fluid in the reservoir do not overfill. Provision must be made for the displacement of fluid by the sensor unit when the cover is replaced. As the fluid damages painted surfaces, spillage should be avoided.

Bleeding Hydraulic Systems

NOTE: An assistant is necessary for these operations.

Bleeding is necessary when air gets into a hydraulic system. Air bubbles cause spongy braking of much reduced efficiency, and must be eliminated immediately.

Procedure. Wipe clean all components to be dealt with. The brake furthest from the master cylinder is bled first; in the case of the 3000 ME the bleed sequence is as follows:

1. Left-hand rear
2. Right-hand rear
3. Left-hand front
4. Right-hand front

Pump the brake pedal a few times to bring all pads in contact with the discs. Top up reservoir with hydraulic fluid, using scrupulous cleanliness, and replace filler cap of reservoir.

Using sequence 1–4 above, deal with each brake in turn. Jack up and remove road wheel. Take off cap from bleeder nipple of brake cylinder (outside caliper) 'A' (Fig 35). Fit small-bore rubber tube to nipple, with other end of tube in a clean glass jar containing a quantity of brake fluid; extremity of tube *must* be below the level of the fluid.

With a spanner, unscrew nipple $\frac{3}{4}$ -turn, and get assistant to depress brake pedal a few times, lifting foot clear of pedal after each depression. After a few strokes the fluid should be clear of air bubbles, but pumping must be continued until no bubbles remain. When fluid is clear of air, retighten nipple – keeping brake pedal depressed – remove tube and replace rubber cap on nipple. Replace wheel and lower.

Repeat with other wheels in sequence, making sure that fluid reservoirs are kept topped up as required, replacing cover each time to exclude air. After the final bleed, the reservoir must be filled to the correct level, and the sensor connections replaced.

IMPORTANT: Discard all fluid bled from hydraulic systems; also, keep hydraulic fluid clear of paintwork, which it will damage.

Clutch system. This is bled in a similar manner from the nipple on the slave cylinder above the clutch housing. 'B' (Fig 36).

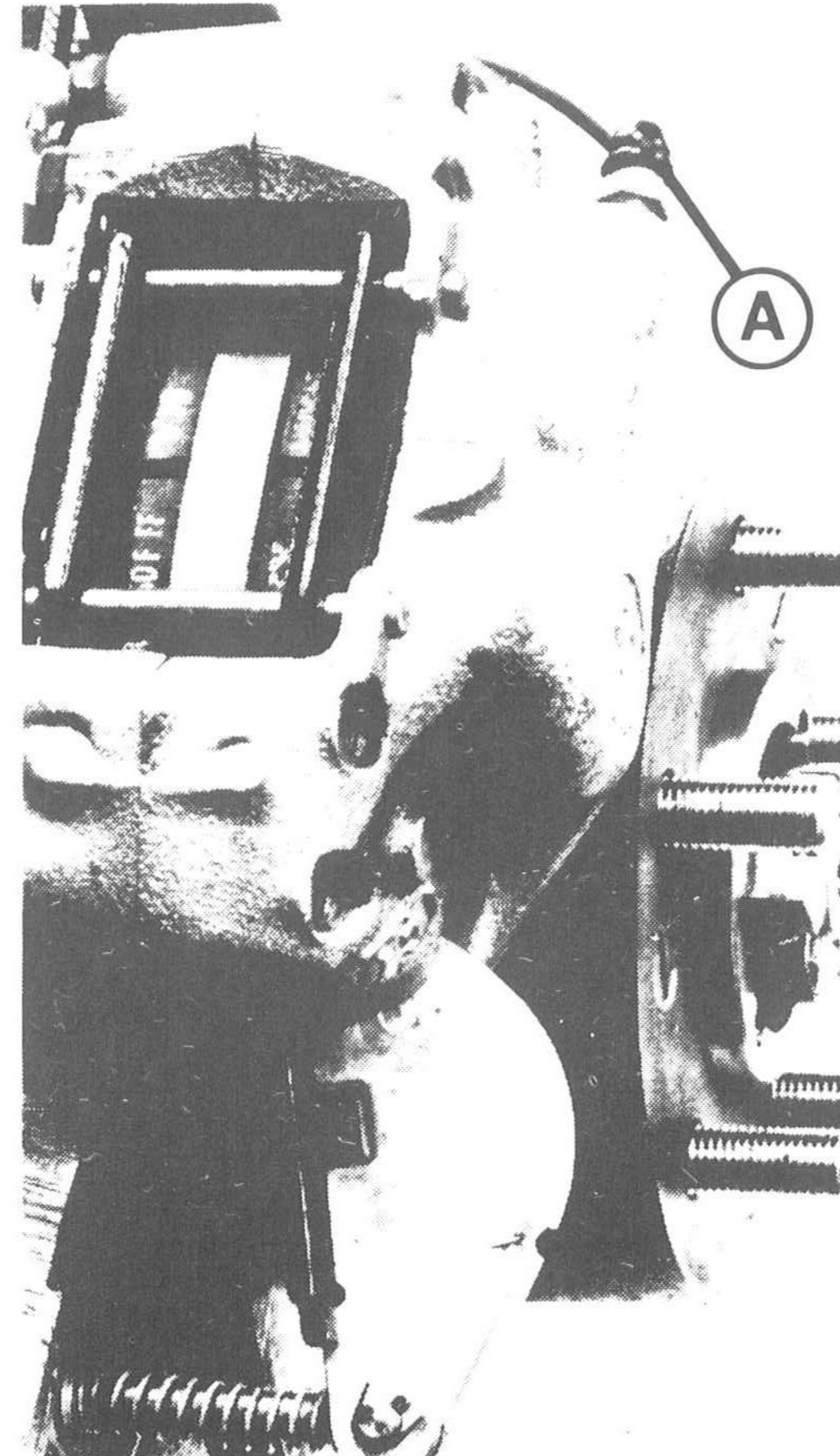


Fig 35

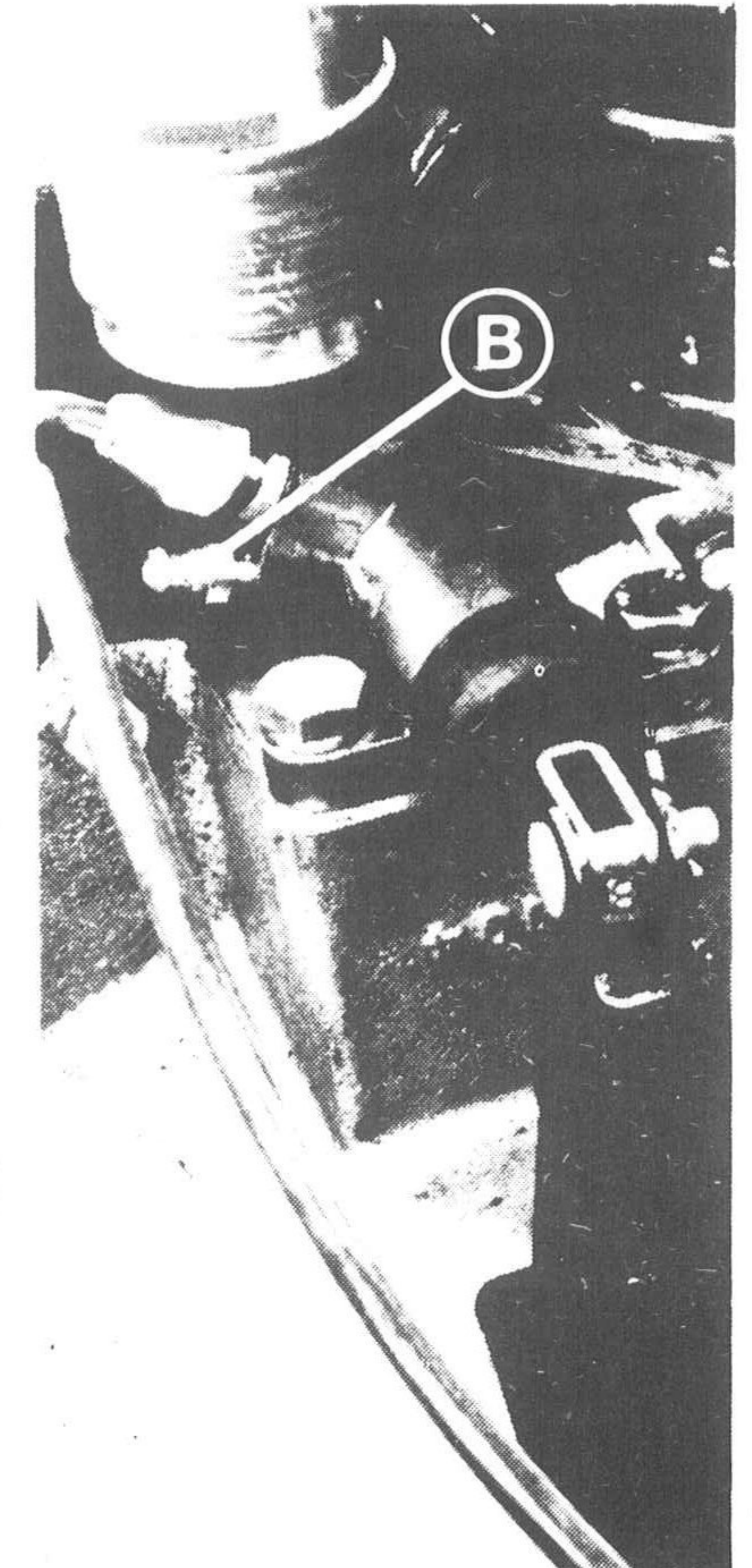


Fig 36

Wheels and Tyres

Wheels are of cast light alloy, combining high strength with light weight. Wheels with tyres fitted are dynamically balanced at the AC works and should not be changed round. Unbalanced tyres wear rapidly, adversely affect handling and are in every way dangerous. It is essential that wheels and tyres be rebalanced when new tyres are fitted.

When wheels are replaced after removal, tighten the retaining nuts alternately (1 3 5 2 4) using even pressure – but do not over-stress.

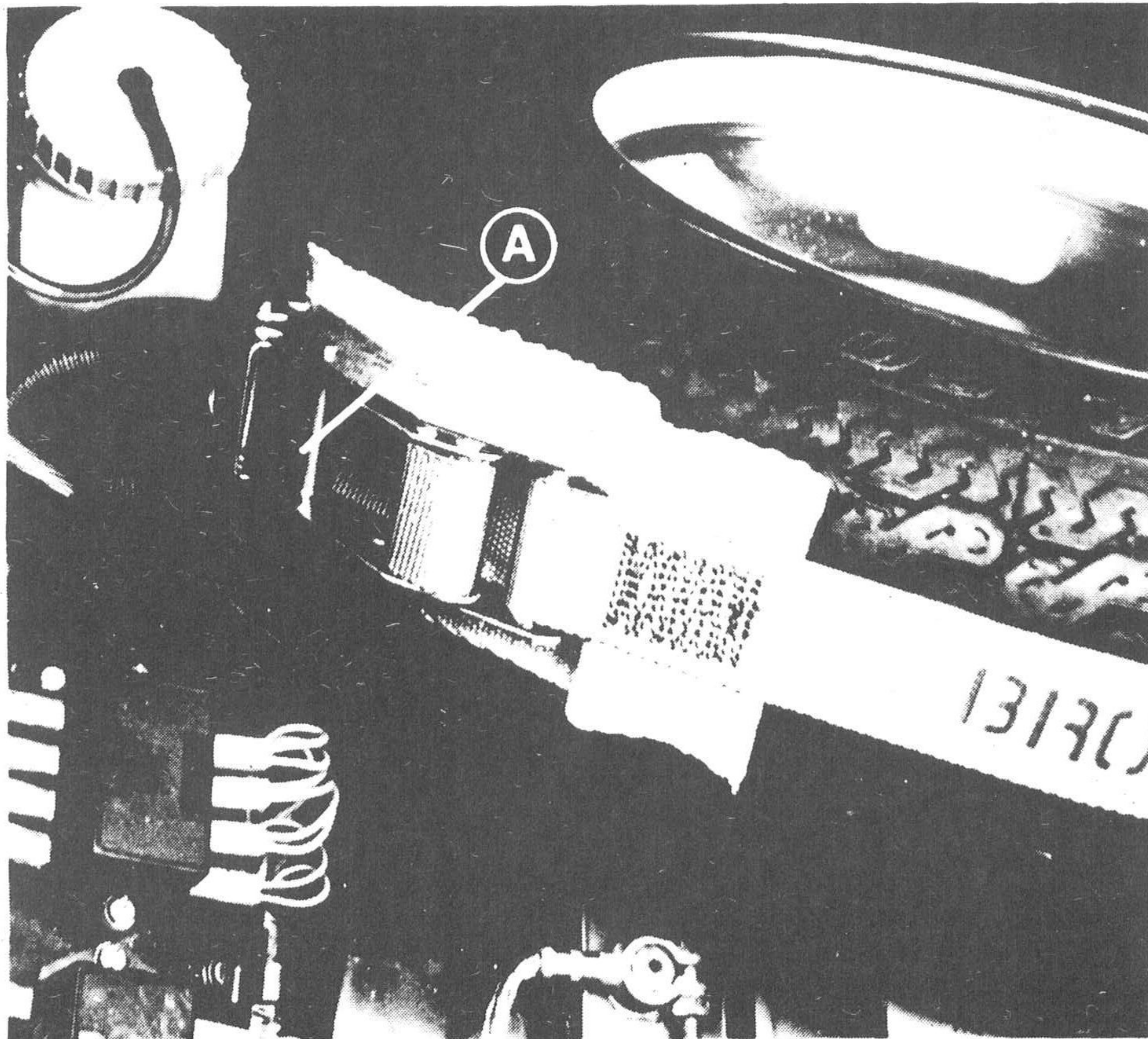


Fig 37

Only tyres of the recommended high speed specification may be used. Departure from the specified type and size is highly dangerous.

Tyre pressures must be checked frequently, gauge readings being taken when the tyres are cold. Some loss of pressure is inevitable, but should not exceed 2 lb/in² (0.14 kN/m²) per week. If the loss is greater, the cause must be rectified. Both over- and under-inflation cause uneven tyre wear and poor handling, under-inflation being the more dangerous and damaging.

All tyres must be inspected regularly for wear and defects, especially cuts and damage to tyre walls. Stones should be removed from treads, especially flints and other sharp-edged materials. Grease and oil should be wiped off with a rag moistened with petrol.

Valve caps not only exclude dirt, but are an integral part of the valve system, forming a seal against pressure leakage. Screw on finger-tight, renewing if the seal inside the cap is worn. Always carry a spare set of valve inserts and valve caps with the tool kit. Whenever tyres are renewed, renew the valves also.

NOTE. A deflated front tyre may not immediately collapse from the rim, but is indicated by erratic steering that must never be ignored.

Spare Wheel. The spare wheel is stowed in the front compartment, where it occupies an inclined position above the battery. It is securely held by a tension strap, and a safety device prevents accidental opening of the release. To free, the cross bar below the lever 'A' (Fig 37) must be pushed down to clear the retaining slots, whereupon the lever can be lifted and the strap released.

Lifting Jack

A mechanical jack of the scissors type is supplied together with a tool kit and is located in the front compartment. When using the jack, it is most important to see that it is positioned under a monocoque main member. Correct lifting points are: For front wheels – under chassis monocoque, in line with the centre of the lower edge of the fixed light in the door (Fig 38). For rear wheels – adjacent to, but not under, the large nut on the chassis side member, below the air intake to the engine compartment (Fig 39). *Do not lift at any other point.*

For lifting, the car should be on level ground that is not soft. See that the handbrake is on, and set the gear lever in 1st gear position. Chock both sides of the road wheel diagonally opposite the wheel to be lifted, using large stones or other suitable objects.

Before lifting the car for wheel removal, ease the wheel retaining nuts slightly. Position the jack as recommended above, and raise the car until the wheel is clear of the ground. Then remove the retaining nuts and take off the wheel.

Replace the wheel (or the spare wheel in case of deflation); then refit, but do not fully retighten, the wheel nuts. Lower the car to the ground and remove the jack. Then fully retighten the wheel retaining nuts diagonally. Remove the chocks, check tyre pressure and before starting the engine, remember that 1st gear is engaged.

NOTE: It is not safe to use the lifting jack as sole support when working under the car. Lift the car as described above; then place an axle stand or other strong support under a suitable point on a monocoque side, and lower the car until the stand or support takes the full weight.

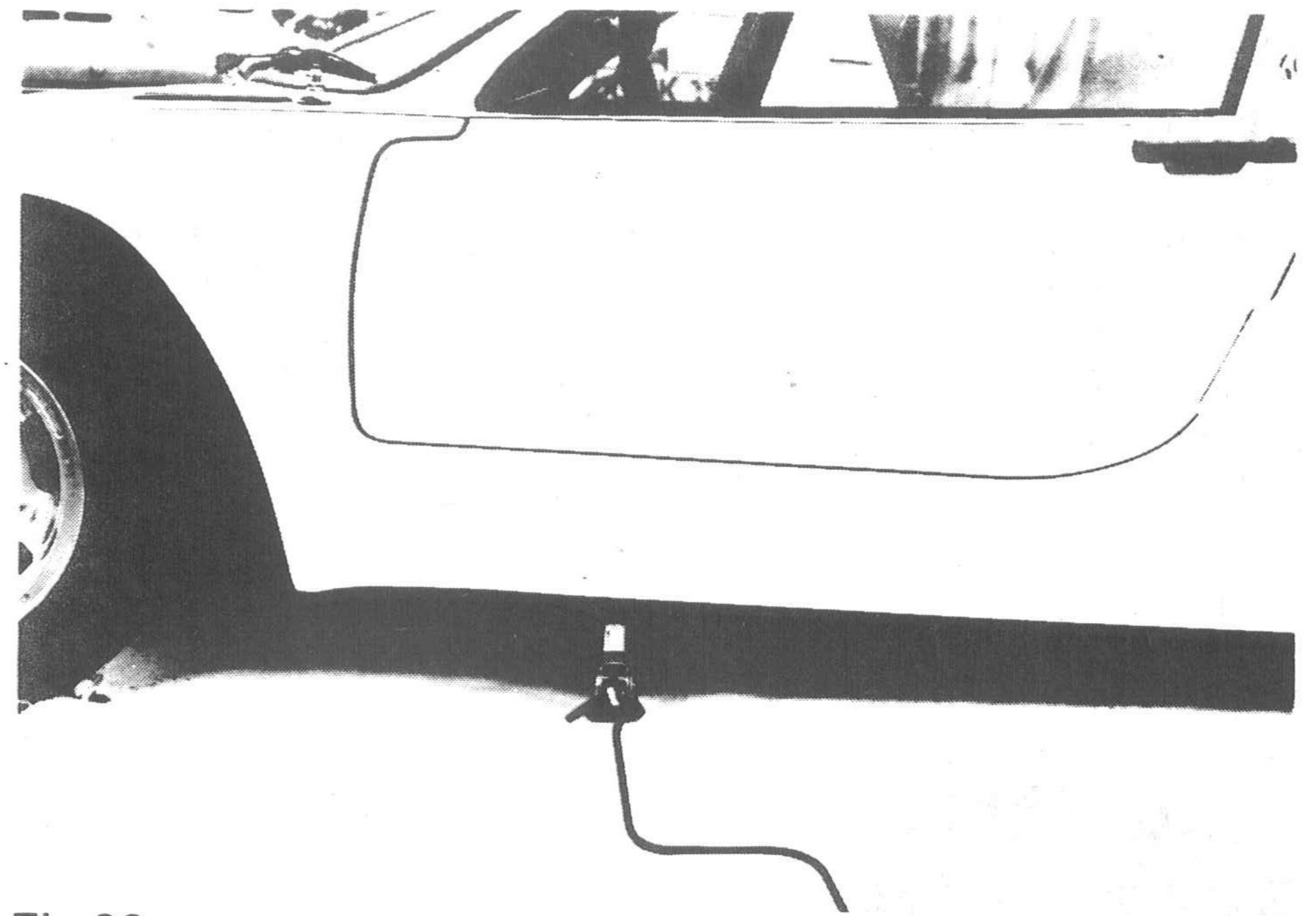


Fig 38

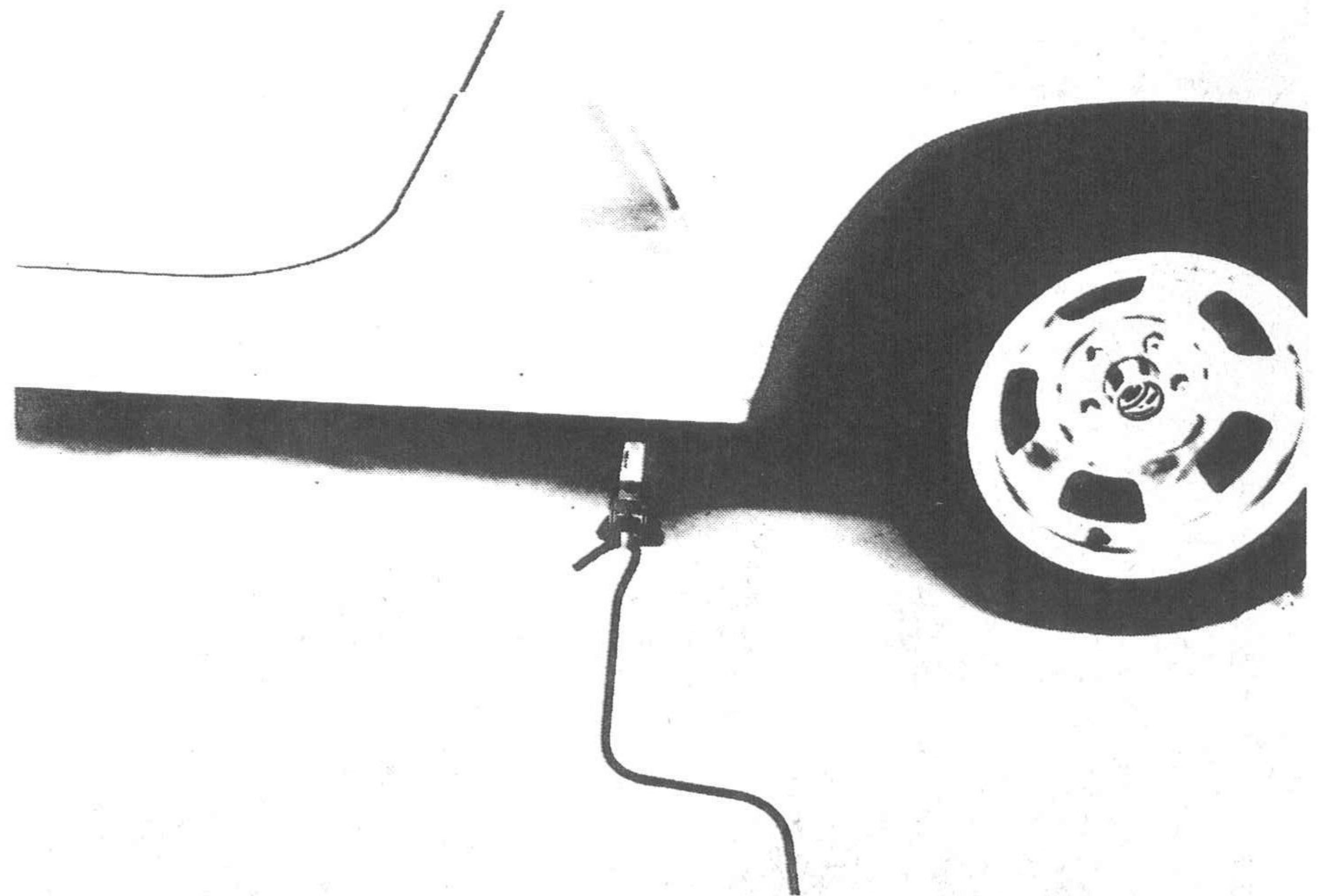


Fig 39

Electrical

IMPORTANT. The negative earth (ground) return system incorporates an alternator, which will be seriously damaged if polarity is reversed, or the engine run with either of the battery cables disconnected. If it is at any time essential to run the engine with the charging circuit incomplete, disconnect both cables from the alternator and "short" the terminals with a bridge piece.

If at any time a high speed battery charger is used, or if electric welding equipment is used on the car, remove both leads from the alternator, and reconnect when charging or welding is completed. When replacing any leads, take great care that polarity is correct.

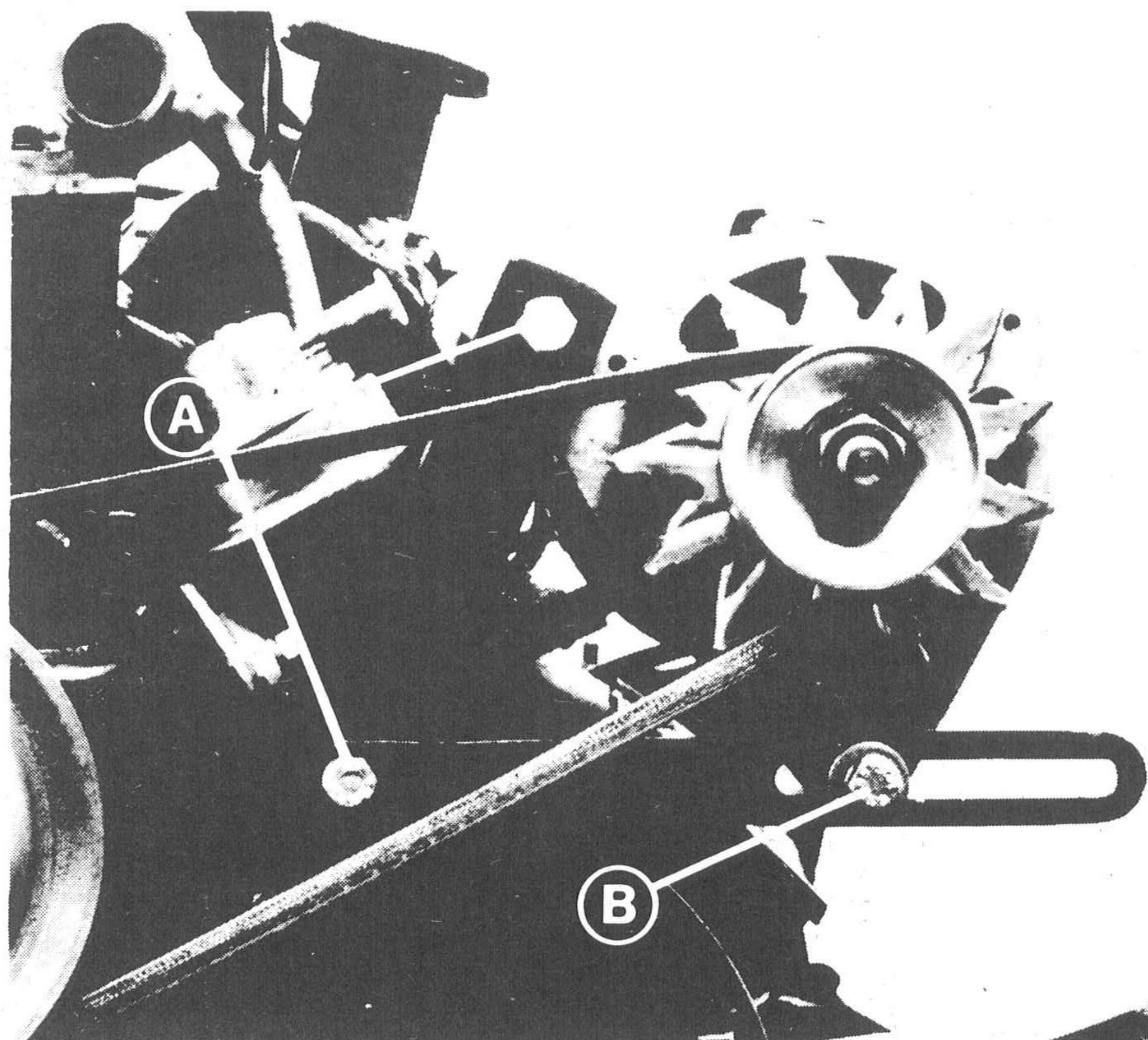


Fig 40

Alternator. The alternator has a separate belt drive, which should be tensioned to permit a deflection of $\frac{1}{2}$ -inch (12 mm) at mid-point under hand pressure. Too tight a belt can damage alternator bearings. To adjust the belt, slacken off the mounting bolts 'A' (Fig 40) and adjuster bolt 'B', move the alternator until tension is correct and retighten the bolts. The end cover and ventilating slots must be kept clean, and terminals greased lightly with petroleum jelly or battery grease.

Starter. As the starting current is heavy, see that the cables are in good order, and that connections are clean, with a smear of petroleum jelly or battery grease, and tight, so that perfect contact is made. When greasing or retightening the terminals, it is good practice to temporarily disconnect the negative (—) cable from the battery, replacing it as soon as the work is completed.

Battery. The battery is mounted in a well in the front compartment under spare wheel. Always keep the exterior of the battery clean and dry. Wipe off surplus water when topping-up with absorbent paper tissue. If electrolyte is spilt, wipe off with a rag moistened with dilute ammonia solution. See that battery connections are tight and free from corrosion. Grease with petroleum jelly or battery grease.

Examine the electrolyte level in the cells frequently, topping up with purified (distilled) water only to a level at least $\frac{1}{8}$ -inch (3 mm) above the tops of the plates. Never add acid unless contents of the cells have been spilt.

Never allow a battery to remain in a discharged or partly discharged state, which will ruin it. The voltmeter on the instrument panel acts as a battery condition indicator. For more precise testing, reading the specific gravity of the contents of each cell with a hydrometer

will indicate their condition. Hydrometer readings should be: Charged – 1.280/1.300; Half-charged – 1.210; Discharged – 1.150. These figures apply to a temperature of 60°F (15.6°C).

A partly discharged battery can be restored to full efficiency by the use of an external battery charger. Take great care that the cables from the charger are connected to the correct battery terminals before plugging in to the mains supply.

WARNING. Never try to restart an engine while an external battery charger is connected to the battery. When disconnecting the charger, first switch off at the mains.

Fuses. The fuses are in two clusters with push-on covers, and are on the floor of the front compartment adjacent to the bulkhead 'A' (Fig 41). There are eight operational fuses, seven rated at 35 amp and one rated at 25 amp, together with three spare 35 amp and one 25 amp fuse. Six operational and two spare fuses are in each cluster.

A blown fuse immobilises all units in its particular circuit. Before renewing a blown fuse, inspect wiring and electrical units for obvious faults. If the replacement fuse blows, the reason should be investigated, and if necessary referred to a competent auto-electrician. Always use a replacement fuse of the same rating as the faulty fuse it replaces; the rating is marked on each fuse.

There is also a line fuse below the relays on the bulkhead for the aerial operating motor; this is rated at 10 amp. Fuses for the radio or cassette player are under the cowl of the fascia. They are accessible after

detaching the cowl (one central bolt to the right hand side of the steering column. Ratings are: Radio – 2 amp; cassette player – 3 amp.

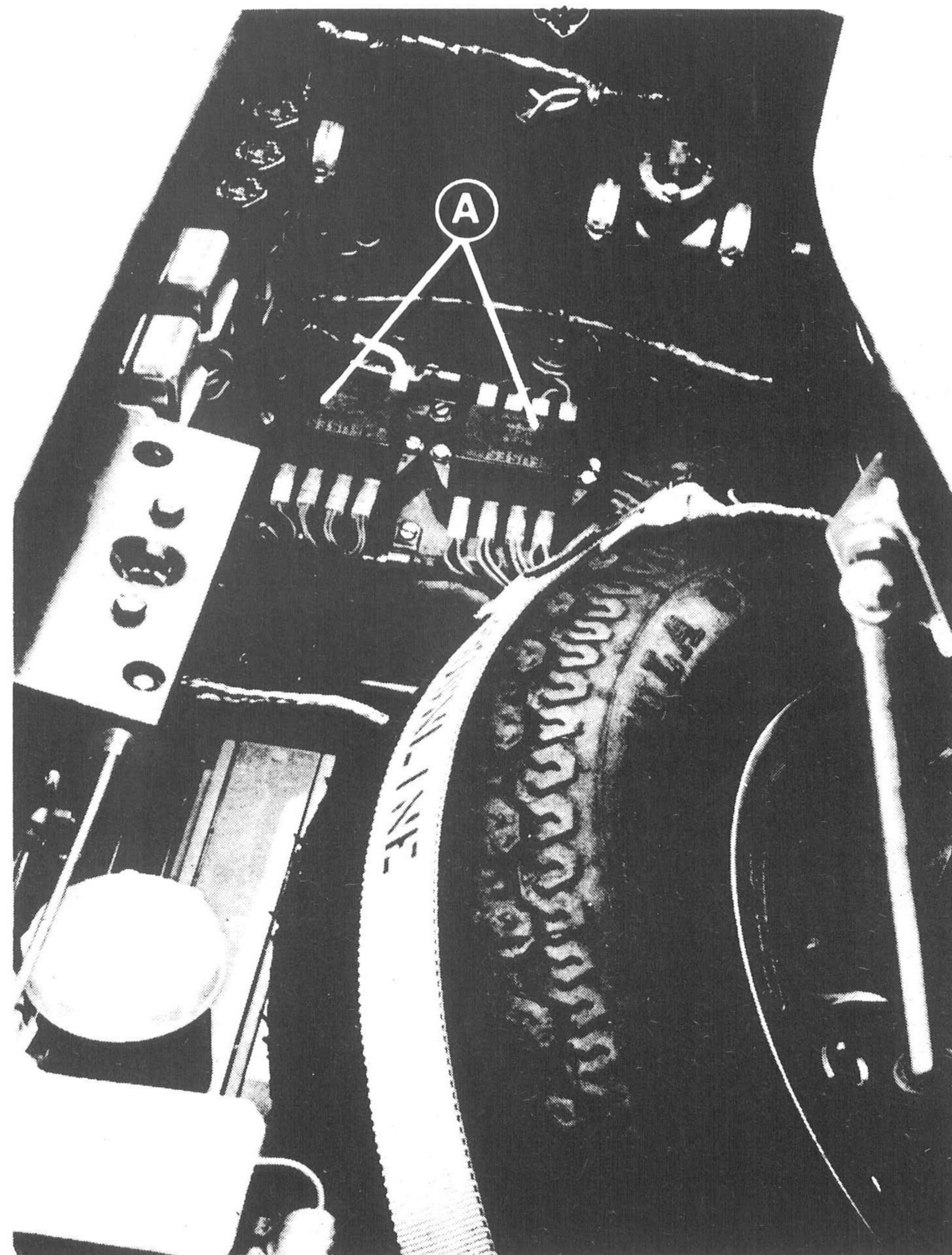
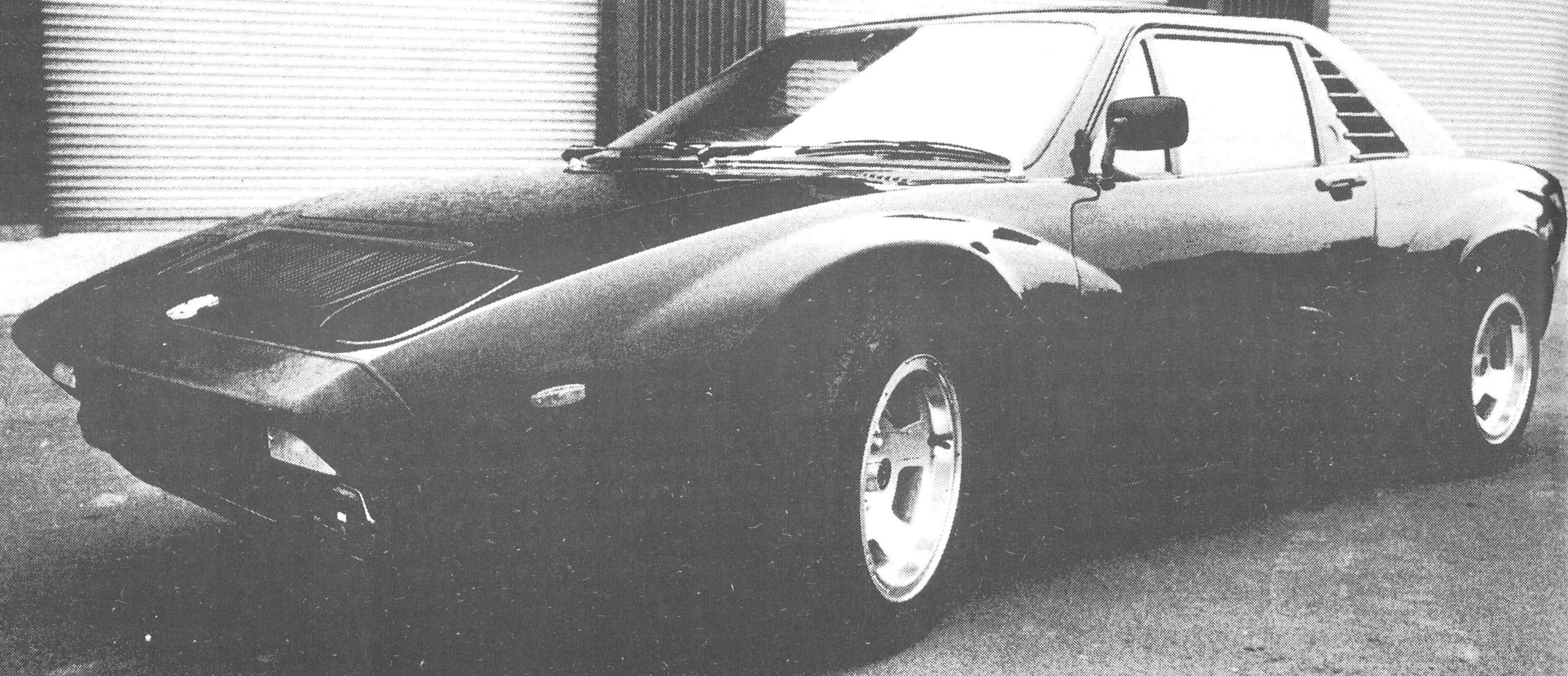


Fig 41



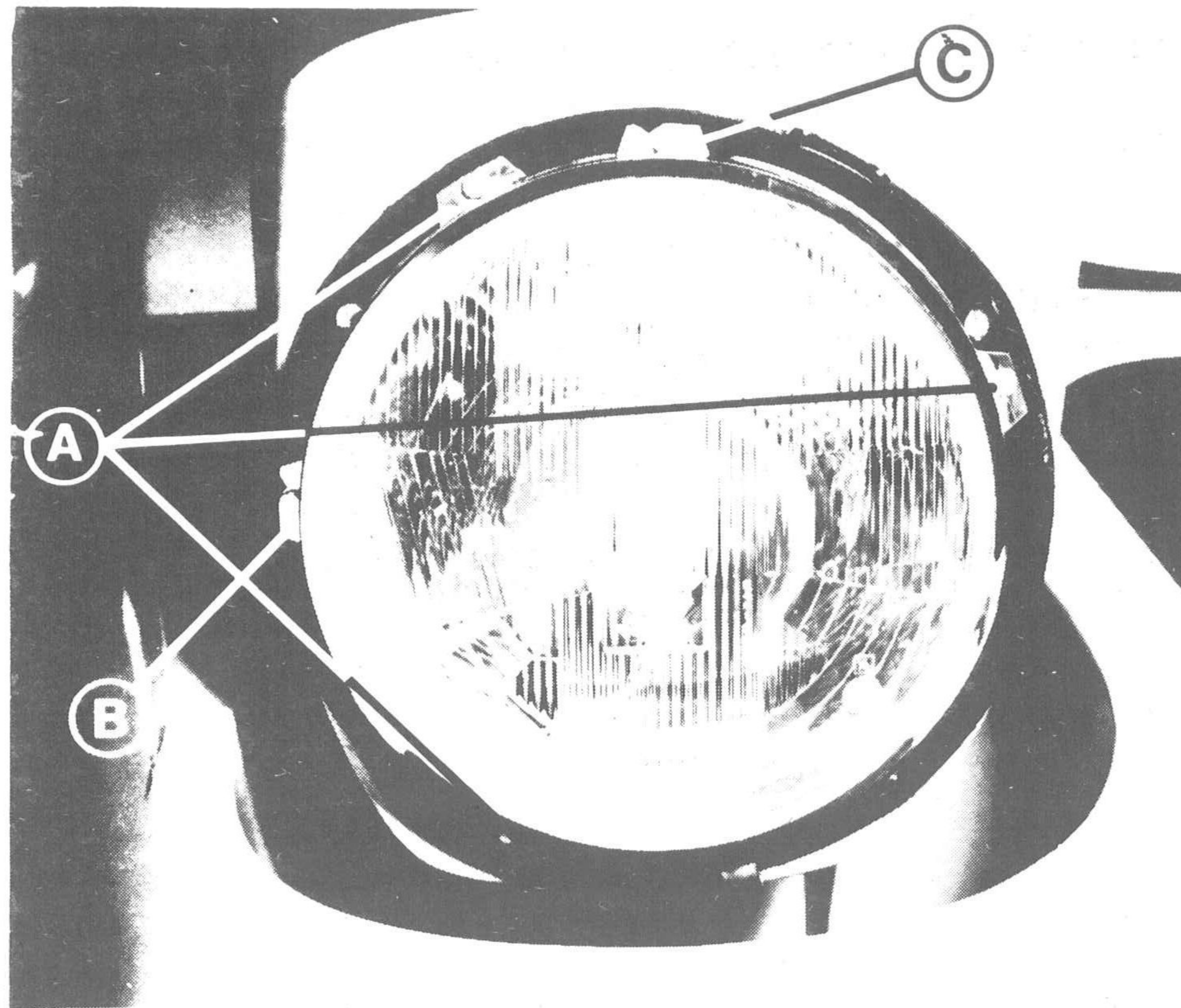


Fig 42

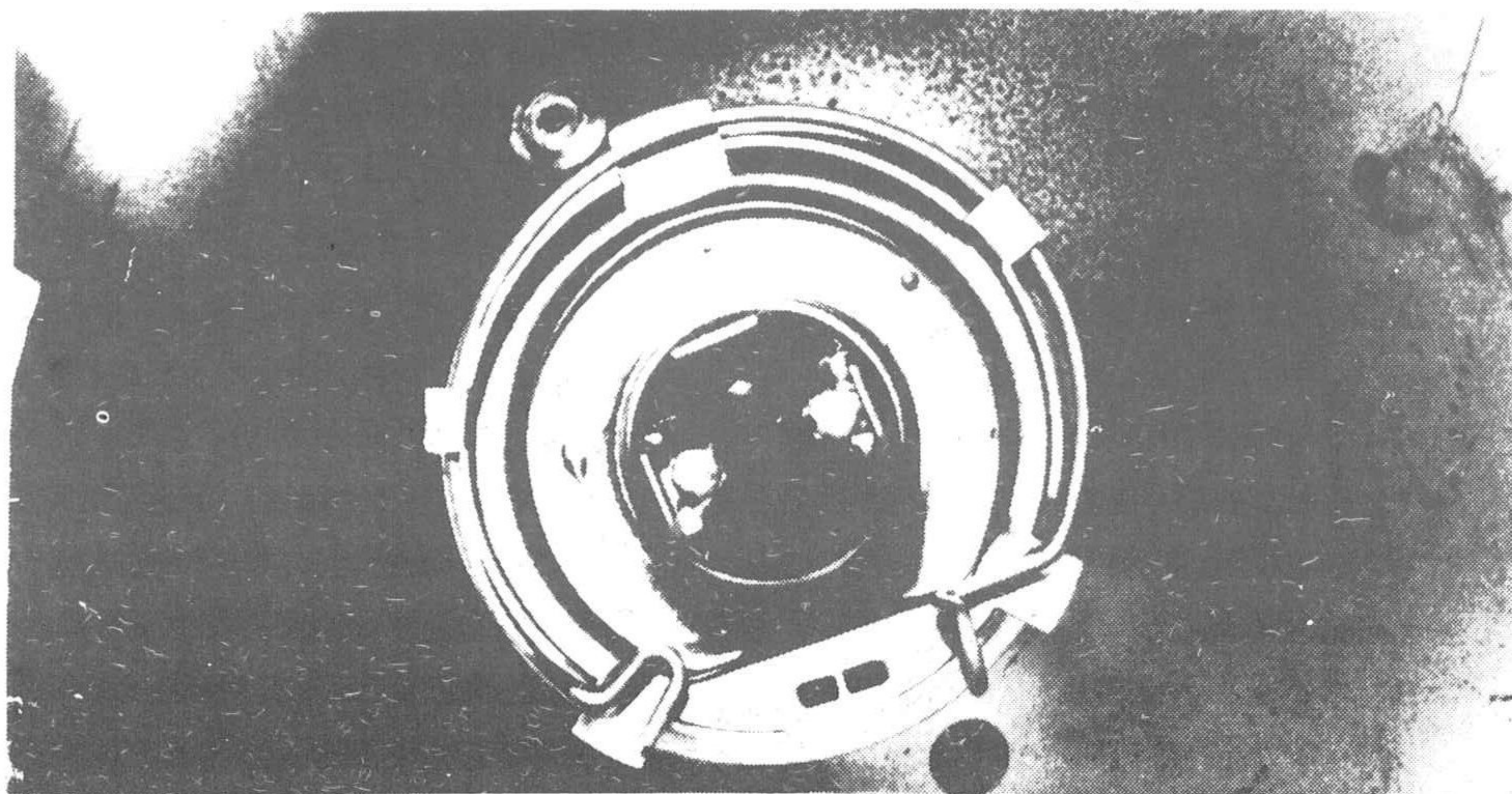


Fig 43

Headlamps. The retractable headlamps are controlled by a push-push switch on the console, with main beam, dip and flasher selected by the right-hand lever on the steering column (q.v.). The flasher operates independently of the switch on the console. In the event of failure of the pop-up mechanism, either lamp may be wound down by rotating a knurled screw on the underside of the operating unit, accessible from the front compartment.

To change a headlamp bulb: Use the push-push switch to set the headlamps in the "up" position. Remove the negative (-) battery lead. Pull off the chromed headlamp surround. Then remove the three equally-spaced Philips screws 'A' (Fig 42) round the perimeter of the lens (do not disturb the adjusting screws) and carefully withdraw the lamp from its casing. Pull off the wiring connector plug. The bulb unit is held in position by a spring retaining clip; when this is removed the bulb unit can be withdrawn.

When replacing the bulb unit, note that the spring clip must go under the narrower pair of lugs and over the wider pair, with the ends in the chamfered slots (Fig 44). The bulb unit is 12V, 60/55W, double pole; Part No. 50440 (472 clear, 476 yellow).

After bulb replacement, switch off at the console push-push switch, replace detached battery lead, and check headlamp operation.

Headlamp adjustment. Removal of the chromed headlamp rim also makes accessible the headlamp adjuster screws. Screw 'B' (Fig 42) adjusts the beam in a horizontal plane; screw 'C' gives height adjustment. Adjustments should be made with two persons in the car and a full fuel tank. As the beam must be set in

accordance with regulations, it is recommended that the Lucas "Beamsetter" service be used.

Rear Lamp Clusters. These are accessible from within the rear luggage compartment. Wiring and bulb holders are protected by a pair of covers, each held in position by four nuts.

To change a bulb, remove the four nuts and draw off the cover. Pull out the bulb holder and renew the bulb. There are three bulbs in each cluster; numbered from the outside these are as follows:

- (1) Flasher. 12V, 21W, single pole, No. 1057.
- (2) Stop/Tail 12V, 5/21W, double pole, No. 380.
- (3) Reversing 12V, 21W, single pole, No. 1057.

Side and Front Indicator Lamps. To change a bulb, take out the two Philips screws and remove the lens. The inner assembly will then be free and the bulb holders can be withdrawn.

- Bulbs: Side – 12V, 4W, single pole, No. 2662.
Flasher – 12V, 21W, single pole, No. 1057.

Flasher Repeater Lamps. To change a bulb, take out the two Philips screws and remove the lens, giving access to the bulb holder.

- Bulb: 12V, 4W, single pole, No. 2662.

Fog Lamp, Spot Lamp (Two spot lamps on l/h drive cars.) To change a bulb, take out the two Philips screws and remove the rim and lens. The inner assembly can then be withdrawn and the bulb holder pulled out, complete with bulb, by releasing the spring clip. When replacing the lens, see that the two rubber grommets are in position.

- Bulbs: Spot Lamp – 12V, 55W, single pole,
No. 15420 R8 – E1 7L
Fog Lamp – 12V, 55W, single pole,
No. H 3 E2 – 1 47

Rear Fog Lamps. These are adjacent to, but separate from the rear lamp clusters, and are brought into action by the left-hand push-push switch on the console. To change a bulb, take out the two Philips screws and remove the lens, which will provide access to the inner assembly.

- Bulb: 12V, 21W, single pole, No. 1057.

Roof Lamp The roof lamp has a three-position switch. With the switch lever moved to the left, the lamp is an interior light. With the switch lever to the right, it acts as a courtesy light in conjunction with the door-operated switch. Centre position is "off" (Fig 44).

The bulb is accessible by removing the two Philips screws holding the lens.

- Bulb: Philips 12V, 10W, festoon, No. K 5606.

Boot Lamp. This is under the forward edge of the boot, and is provided with an over-rider switch. With the switch at "on", the light comes on when the boot is opened.

This bulb is also accessible when the lens is removed.

- Bulb: Philips 12V, 10A, festoon, No. K 5606.

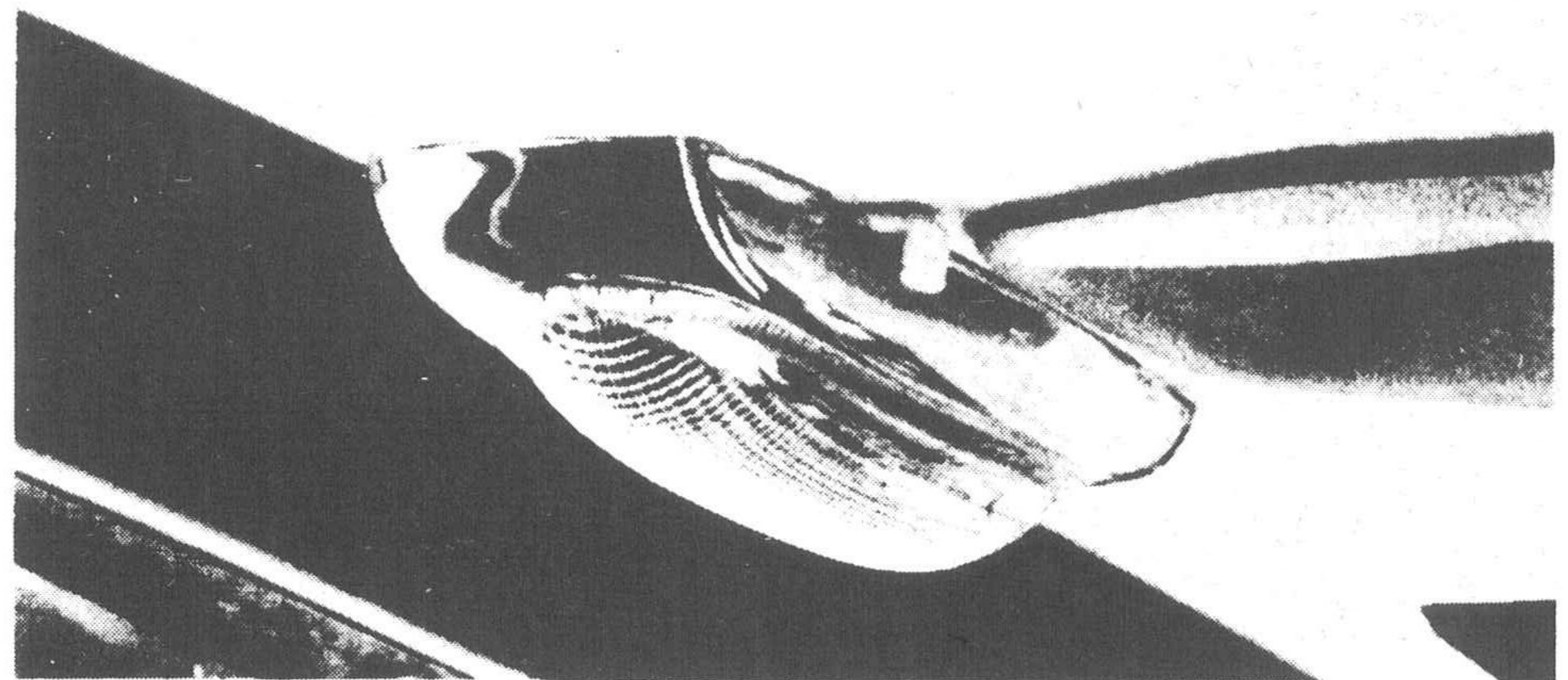


Fig 44

Windscreen Wipers

The windscreen wipers are controlled by the left-hand lever on the steering column (see Page 8, Fig 8) to give (a) single wipe, (b) intermittent wipe at 10-sec. intervals, (c) normal wipe and (d) high speed wipe.

The complete wiper arm fits on to a spline and is secured by a spring clip. To remove an arm, insert the blade of a broad screwdriver under the boss and impart a twisting motion.

To renew a wiper blade, raise the arm from the windscreen until it is in the service position. Push out the spring-loaded hinge pin and take off the blade.

Windscreen Washer

The windscreen washer is operated by pushing in the wiper control arm (see Page 8, Fig 8). The motor and reservoir 'A' (Fig 45) are on the side of the front compartment. Always keep the reservoir topped up, and use the recommended proportion of a screenwasher additive to improve visibility. Never add anti-freeze to the water, as this will damage paint and rubber.

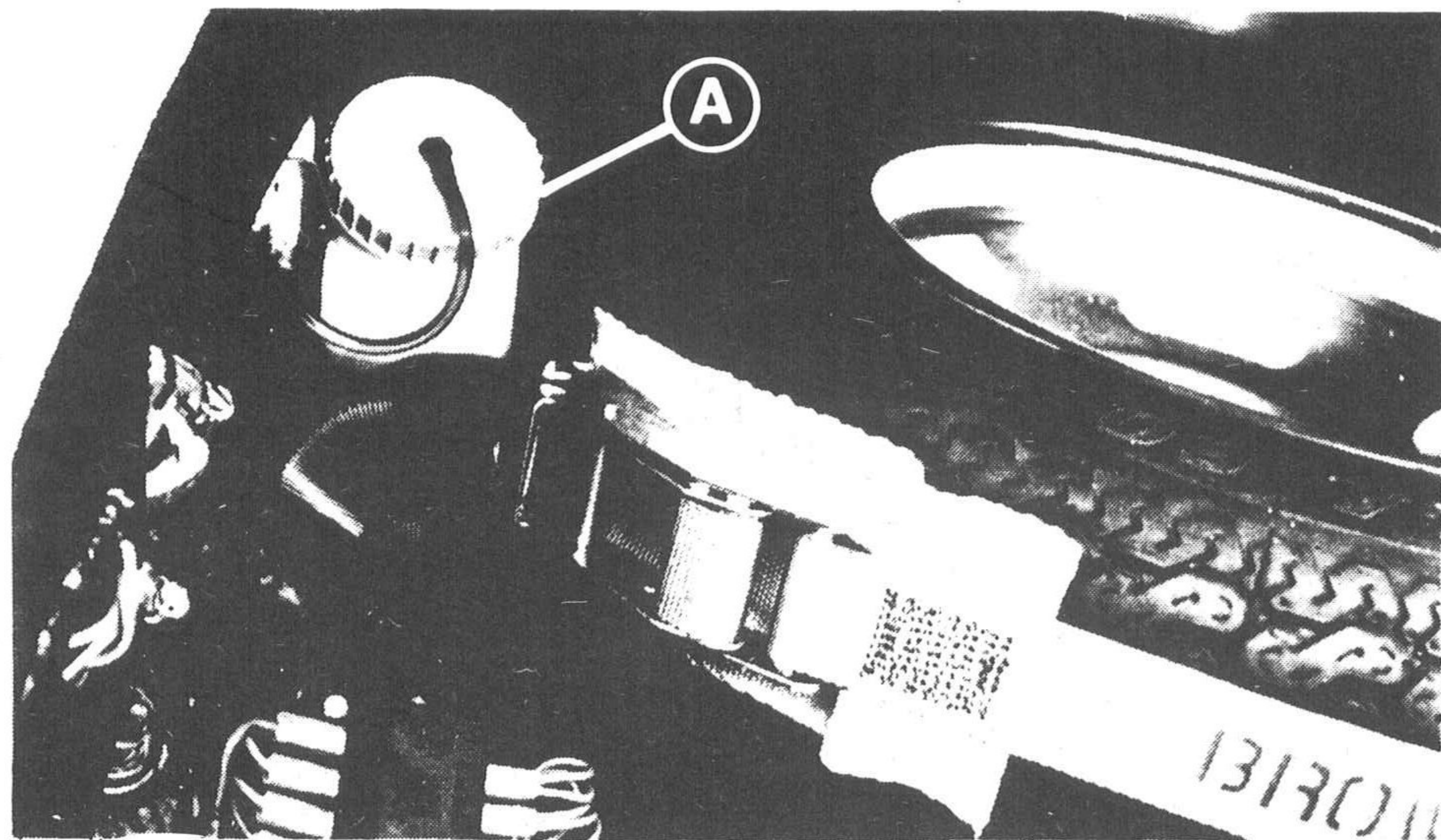


Fig 45

SERVICE

Forecourt Service

Fuel. This should be to 97 Octane Rating (Research Method) which is British Standard 4-star.

Lubrication. Top up with a lubricant of the same designation and rating as that already in use. Do not mix oils of different manufacture. Use only a lubricant from the approved list on Page

Coolant. (See Fig 25 on Page 18.)

WARNING. Never release the filler cap 'B' of the header tank when the engine is hot, unless pressure is released by removing the pressure cap on the expansion tank, as the water is above boiling point at atmospheric pressure, and severe scalding may result.

Care must be taken when removing the pressure cap 'A' from the expansion tank when the engine is hot. Using a glove or cloth, slowly and carefully turn the expansion tank cap anti-clockwise until it comes up against the safety stop. Wait until all pressure is released; then press down the cap to clear the safety stop, turn and lift off. Only then may the filler cap of the header tank be removed for topping-up the cooling system. The expansion tank should be maintained at the half-full mark, but should only be topped up when the engine is cold.

Screen Washer. Top up the reservoir in the front compartment as required, with clean water. A small quantity of a recognised screen washer additive will prevent smearing. Never add anti-freeze solution,

which damages paintwork, screen wiper blades and rubber surrounds.

Battery. Check the electrolyte level in the cells; top up as required to a level at least $\frac{1}{8}$ -inch (3 mm) above the tops of the plates with purified (distilled) water, but do not overfill. Wipe off any spilt water. (See under 'Battery' Page 28.)

Hydraulic Fluid. Check fluid levels in brake and clutch reservoirs. Top up as necessary with fluid of the same type – from a closed tin. Do not overfill, and make allowance for the displacement of fluid by the sensor when the cover of the brake fluid reservoir is replaced. Refit the reservoir covers and re-cap the tin of fluid. Any spillage of hydraulic fluid will damage paintwork. If there is any appreciable drop in the fluid levels in the reservoirs, the cause must be investigated and rectified at once.

Tyre Pressures. Pressures must be checked when tyres are cold. It is useless to check tyre pressures at a filling station during a run, as the warm tyres will give misleading readings. Pressures for cold tyres are:

Front – 16–18 lb/in² (1.11–1.24 kN/m²)

Rear – 24–26 lb/in² (1.66–1.80 kN/m²)

For sustained speeds above 100 mph (160 km/h) increase pressures by 6 lb/in² (0.41 kN/m²).

Maintenance

Irrespective of the Schedules given in this and the following pages, the Owner is recommended to carry out these checks and simple services between the periods set out.

Weekly, every 300 miles (500km), or before any long journey, check:

- Engine oil level
- Hydraulic fluid (clutch and brakes)
- Electrolyte level in battery
- Coolant level
- Operation of all brakes
- Tyre pressures and condition
- Security of road wheel nuts
- Functioning of all controls, instruments, lamps, etc.

Monthly, or every 1200-1500 miles (2000-2500 km)

- Check level of oil in gearbox
- Check tension of drive belts
- Clean air filter element
- Check contents of screenwash reservoir
- Check door operation; lubricate all hinges, catches, etc.
- Examine and adjust distributor points
- Lubricate throttle linkage on carburetter
- Check condition of brake pads

First Service

After the first 450 miles (750 km) the car should be taken back to the AC Works or to the Supplier, who will carry out the services listed in Column A of the Schedule without charge, excepting only the cost of oil and oil filter element.

Service Schedules

These are based on 6000-mile (10000 km) and 12000-mile (20000 km) periods. For lower mileages, services should be carried out at 6 and 12-monthly intervals for B and C respectively. (See over)

Service Schedules (continued)

Electrical

- Check level of electrolyte in battery
- Check main battery leads and connections
- Check all controls, lamps, horns, wipers, motors and instruments
- Check screenwash reservoir top up
- Check headlamp alignment
- Renew screenwiper blades

Bodywork and Chassis

- Check body, suspension and steering retaining bolts and connectors
- Check and lubricate locks, catches, hinges, check door operation etc (excluding Steering Lock)
- Examine underseal

ROAD TEST

A At 450 miles 750 km	B Every 6000 mi. 10000 km or 6 months	C Every 12000 mi. 20000 km or 12 months
•	•	•
•	•	•
•	•	•
•	•	•
	•	•
		•
•	•	•
•	•	•
		•
•	•	•

Abridged Specification

Engine

Type	FORD – V6 – 2614E (HC)
Capacity	2994 cc (182.5 in ³)
Bore	93.67 mm (3.687 in)
Stroke	72.41 mm (2.851 in)
Compression Ratio	8.9 : 1
Firing Order	1 4 2 5 3 6
Valve Clearance	Inlet: 13 thou (0.33 mm)
(hot)	Exhaust: 22 thou (0.56 mm)
Idling Speed –	
normal	600 rev/min
fast	1000–1500 rev/min
Maximum Power	138 bhp (DIN) at 5000 rev/min
Maximum Torque	174 lb ft (24.2 kgm) at 3000 rev/min

Exhaust System Stainless steel, from manifold to tail pipe, with twin silencers

Cooling System

Type	Pressurised, with forward mounted radiator
Radiator Pressure	13 lb/in ² (0.9 kN/m ²)
Pressure Cap	Marked 13
Thermostat	Wax type. Opens at 85°–89°C, fully open at 99°–102°C
Circulation	Pump, driven from camshaft by belt
Drive Belt	Dayco 9.5 x 1035LA
Fans	Dual Smiths electric, thermostatically controlled

Lubrication

Type

Force feed, with remote full-flow filter and oil cooler

Oil Filter

Motorcraft EFL90, Crosland 637, with renewable element

Oil Pressure – hot

45 lb/in² (3.11 kN/m²)

Oil Cooler

In engine compartment

Oil Breather

Emission control valve, with hose to carburetter

Fuel System

Tank

Under rear of monocoque

Filler Caps

Twin caps, one on either side of car

Fuel Gauge

Calibrated $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, F

Fuel Pump

Mechanical, with integral filter

Carburetter

Twin choke downdraught, with automatic choke

Fuel Filter

On fuel pump

Air Cleaner

Pancake type, with renewable paper element

Ignition System

Type

Coil

Coil

Lucas 21C6

Distributor

72 GBAA 3GA Formoco

Contact Breaker gap

25 thou (0.64 mm)

Condenser

Formoco

Ignition Timing – static

10° before top dead centre

Firing Order

1 4 2 5 3 6

Sparking Plugs

AGR32 Motorcraft

Sparking Plug gap

23–27 thou (0.58–0.69 mm)

Transmission

Clutch

Borg & Beck, dia. 9 in (229 mm)

Drive to Gearbox

Renold “Triplex” chain in oil bath, with tensioner

Gearbox

AC 5-speed, all synchromesh

Ratios

1st – 3.242 : 1, 2nd – 1.947 : 1,
3rd – 1.403 : 1, 4th – 1.000 : 1,
5th – 0.835 : 1, reverse – 2.901 : 1

Final Drive

Ratio – 3.167 : 1

Effective Gearing

Road Speed at 1000 rev/min –
4th, 21.14 mph (35 km/h)
5th, 25.32 mph (41 km/h)

Wheels and Tyres

Wheels

Cast light alloy, 14in x 7in

Tyres

205 x 60 series, VR wet weather radial ply

Tyre Pressures

Front: 16–18 lb/in² (1.11–1.24 kN/m²)
Rear: 24–26 lb/in² (1.66–1.80 kN/m²)
For sustained speeds over
100 mph (160 km/h) increase
pressures by 6 lb/in² (0.41 kN/m²)

Steering

Type

Rack and pinion, 3.0 turns lock to lock

Brakes

System

Dual hydraulic, with tandem master cylinder

Brakes

Caliper disc

Front:

Dia. 10.92 in (27.74 mm)
Swept area, 116.40 in² (751 cm²)

Rear:

Dia. 10.09 in (25.73 mm)
Swept area, 78.23 in² (505 cm²)
Total swept area, 389.26 in²
(2512 cm²)

Handbrake

On rear discs

Dia. 10.09 in (25.73 mm)

Swept area, 78.23 in² (505 cm²)

Total swept area, 156.46 in² (1010 cm²)

Specification (continued)

Jacking System

Type Mechanical, scissors type

Suspension

Type Fully independent; coil springs with co-axial Armstrong hydraulic shock absorbers

Electrical

Polarity Negative earth (ground)

Battery Voltage, 12

Capacity, 60 A/h

Alternator Lucas 17 ACR

Drive Belt Dayco 9.5 x 875LA

Starter Motor Lucas 2M-100, pre-engaged

Windscreen Wiper Motor Lucas 2-speed with overload protection

Radio Radiomobile, Model 1170

Cassette unit Radiomobile, Model 310

Capacities

Fuel 14 Imp. gallons (16.8 U.S. gal.) (63.6 litres)

Lubricant Engine, including oil filter and oil cooler

10 Imp. pints (12 U.S. pints) (5.68 litres)

Gearbox, including oil cooler

7 Imp. pints (8.4 U.S. pints) (4.0 litres)

Coolant

Including header tank and expansion tank
28 Imp. pints (33.6 U.S. pints) (15.9 litres)

Screen wash

3 Imp. pints (3.5 U.S. pints) (1.7 litres)

Dimensions

Length overall 13 ft 1 in 3.988 m

Width overall 5 ft 5 in 1.651 m

Height (unladen) 3 ft 9 in 1.143 m

Wheelbase 7 ft 6½ in 2.298 m

Track – Front 4 ft 7 in 1.397 m

Rear 4 ft 8 in 1.422 m

Front Wheel alignment ¼-in toe-in 1.5 mm toe-in

Turning Circle (between kerbs) 31 ft 0 in 9.45 m

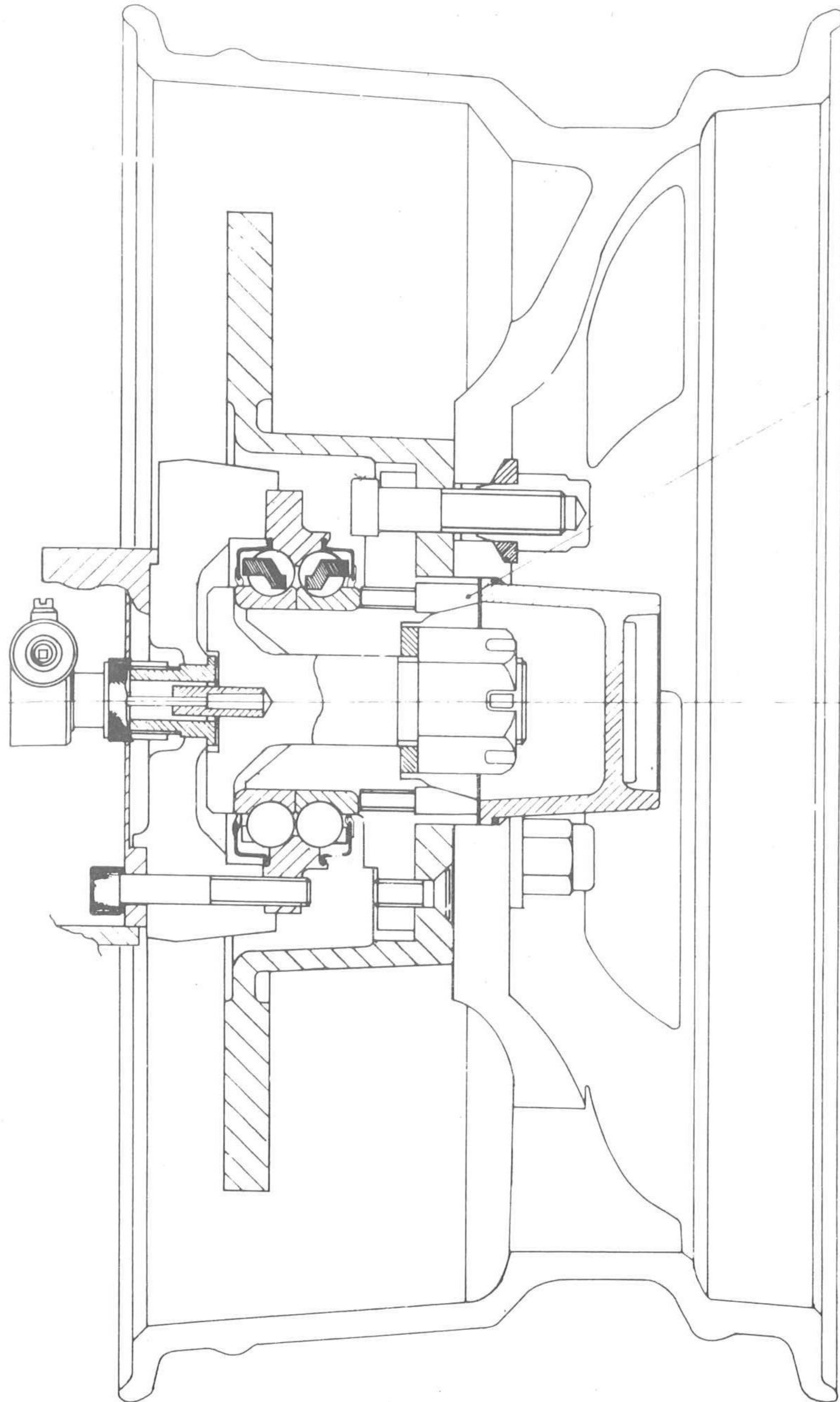
Ground Clearance (laden) 5.25 in 1313 cm

Weights

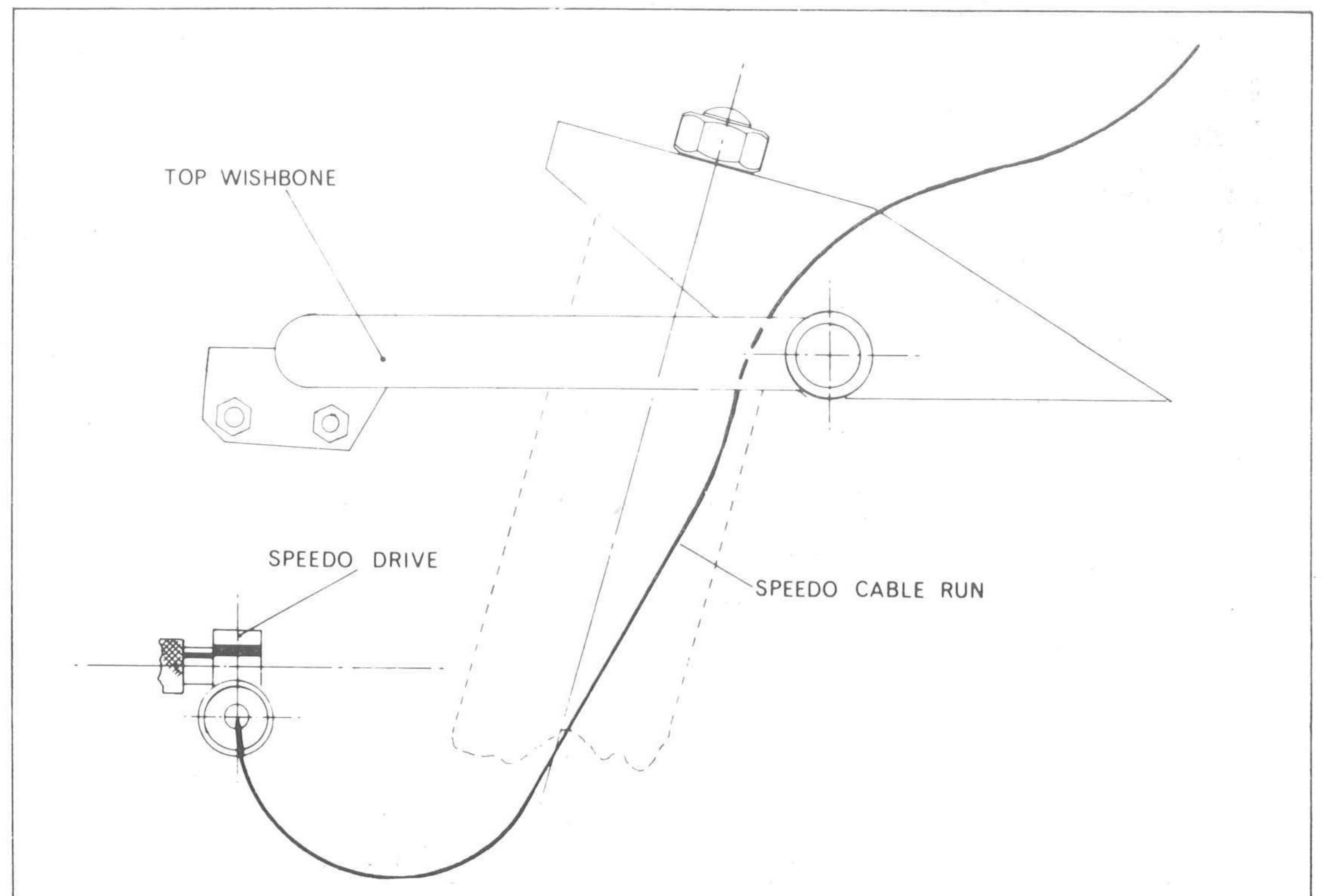
Kerb, with fuel, oil and water 1 ton, 1 cwt, 1105.36 kg 84 lbs

Weight Distribution 40% front, 60% rear

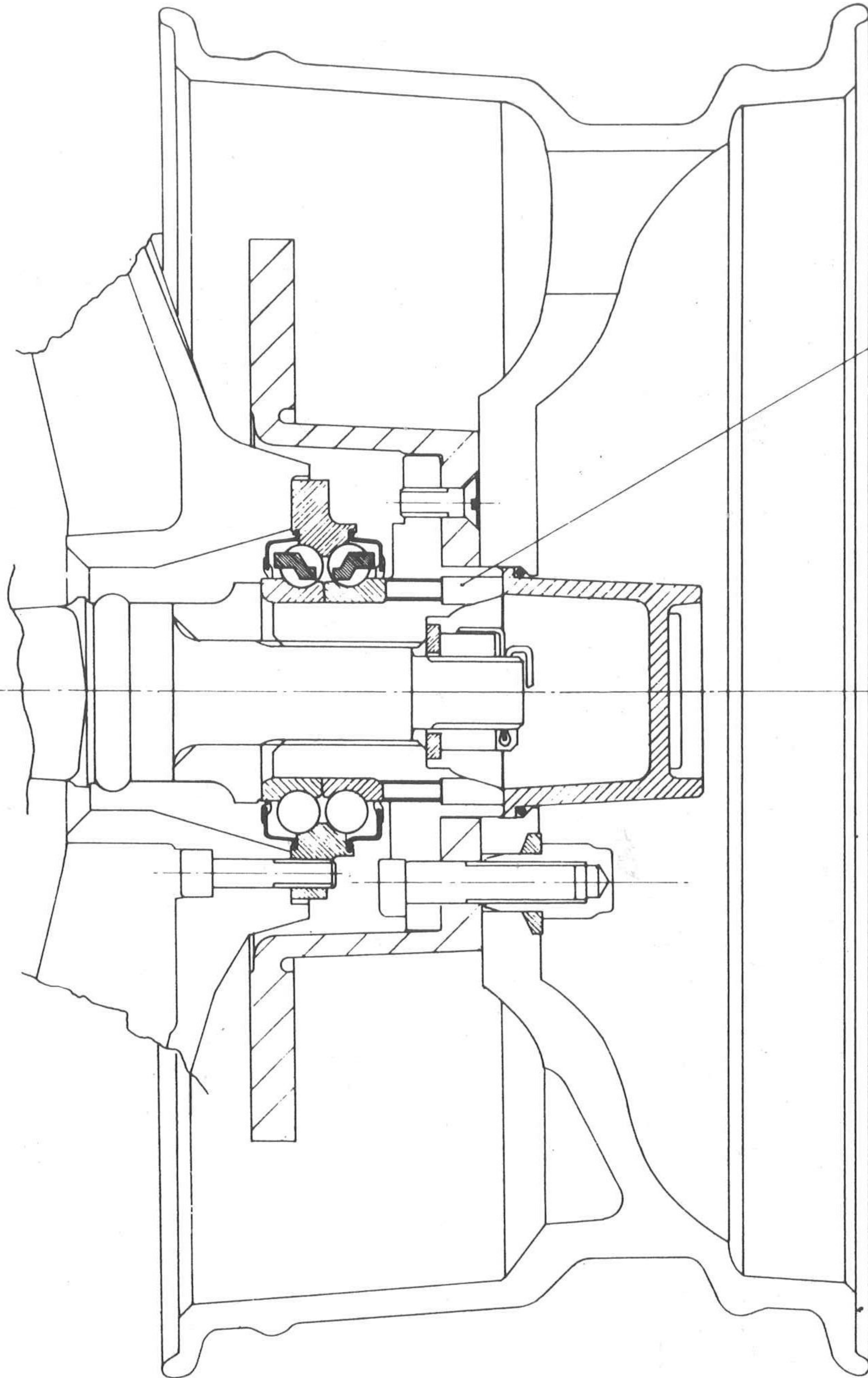
Front Wheel Hub Assembly



To remove the front and rear hub bearings, screw into the thread holes in each hub two 5/16" dia. x 3" long UNF bolts. Tighten both down progressively, keeping an equal pressure on both sides of the race until the race is free. **On no account should the hub bearings be removed in any other way.**

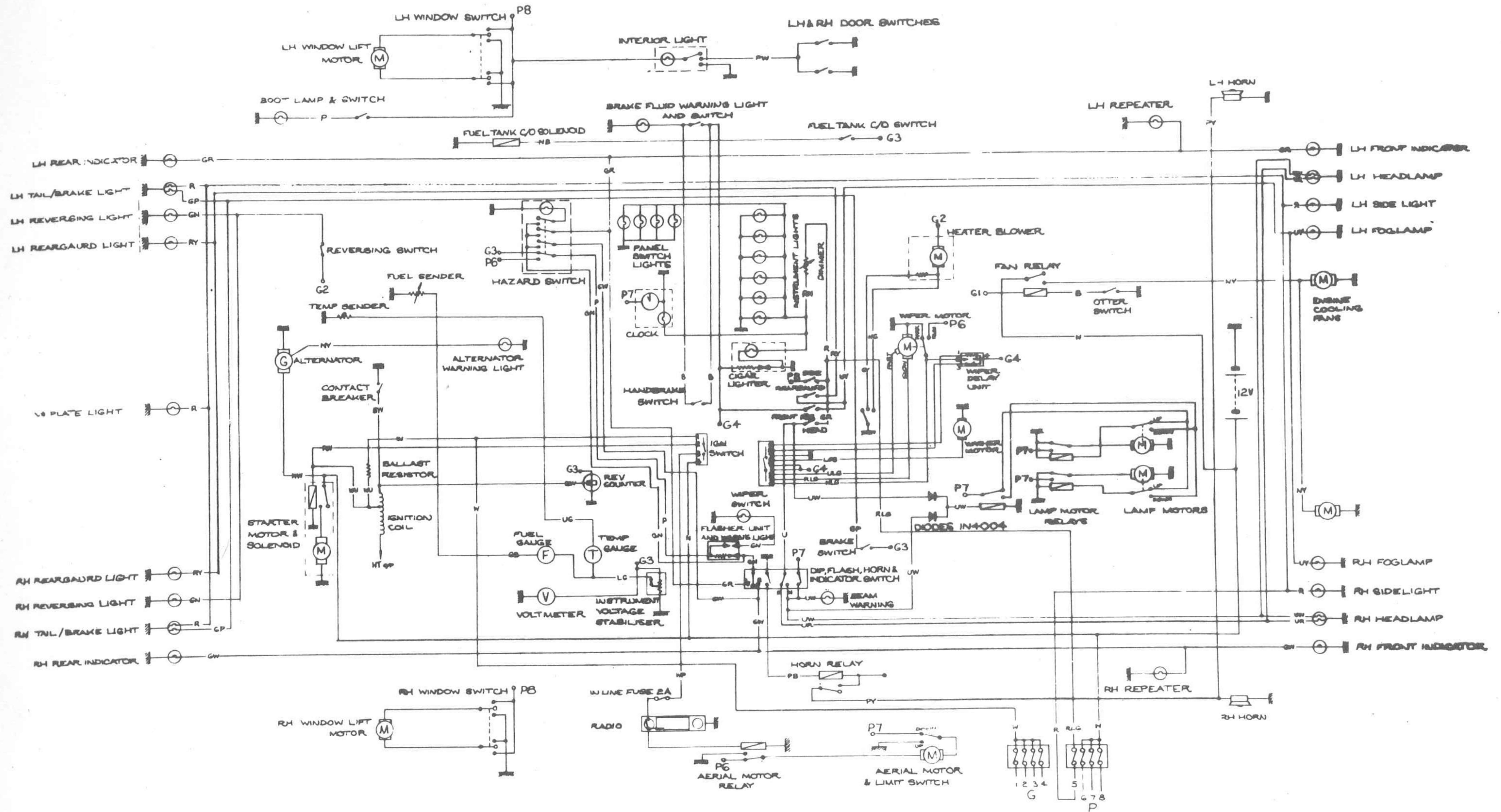


Rear Wheel Hub Assembly



To remove the front and rear hub bearings, screw into the thread holes in each hub two 5/16" dia. x 3" long UNF bolts. Tighten both down progressively, keeping an equal pressure on both sides of the race until the race is free. **On no account should the hub bearings be removed in any other way.**

Wiring Diagram



IGNITION SWITCH OPERATION	
POSITION	CONNECTION
OFF	
AUX	4-3
IGN	4-3,1
START	4-1,2

WIPER SWITCH OPERATION	
POSITION	CONNECTION
OFF	3-4
SLOW	3-1
FAST	2-1
INTERMITTENT	9-7, 3-8

TERMINATIONS MARKED G2, P7 etc ARE WIRED TO THEIR RESPECTIVE TERMINAL ON THE FUSEBOXES. ALL 'G' CONNECTIONS ARE COLOURED GREEN, AND 'P' CONNECTIONS PURPLE. ALL CHASSIS CONNECTIONS ARE COLOURED BLACK.

COLOUR KEY	
N BROWN	Y YELLOW
P PURPLE	R RED
W WHITE	LG LIGHT GREEN
U BLUE	B BLACK
G GREEN	