

GENERAL INSTRUCTIONS

SERIES TWO

REMOVAL OF AXLE COMPLETE.

It should not, in the normal course of events, be necessary to remove the complete axle assembly from the car. Should however such an operation be required, the following procedure should be followed:

Remove the brake drums, hubs and road wheels. Remove the bolts anchoring the shock absorber to the spring anchorage brackets. Take away the spring anchorage bolts. Remove the brake compensator—the brake pipes to the individual units having been previously disconnected immediately behind the brake anchorage plates—unscrewing the lock nut fully, and screwing the spring nut also back on to the thread, which will allow the brake rods to come away. The universal joint should also be disconnected and the propeller shaft removed.

The axle can then be pulled sideways to the right-hand or silencer side of the chassis. The left-hand side of the axle can then be dropped below the left-hand spring and withdrawn outwards. This latter operation may be assisted if the tail pipe is removed from the silencer.

FRONT AXLE

This assembly is of Reverse Elliot type and has been specially designed to eradicate any tendency towards wobble, shimmey or wheel tramp. Given reasonable attention, the wearing parts will have long life and the steering will remain light and accurate.

The axle beam, stub axle and steering arms are made from drop stampings in special heat treated extra high tensile alloy steel. Plain king pins are cottered in the axle beam with bushes in the stub axles.

Tapered Timken bearings are located in the hub retained by hexagon nuts on the stub axles. Adjust bearings to give barely perceptible play (about .003 in.).

Removal of the cotter will allow the king pin to be driven out in an upward direction. The dust cap should always be in position on top in normal running conditions.

Steering ball joints sealed plug type. Screws right and left hand thread to allow corrections of track as desired.

Axle beam castor angle, $2\frac{1}{2}°$—$3°$.

King pin inclination, $7\frac{1}{2}°$.

Wheel camber, $2\frac{1}{2}°$.

Wheel toe-in on rim, $\frac{3}{16}$ in.

A.C. CARS
PLC.

Registered Offices and Works :—
THAMES DITTON, SURREY, ENGLAND.

FOREWORD

This book was written with the object of enabling the owner to maintain his car in perfect condition throughout its life.

A car is a piece of machinery and, like all other machinery of a complex nature, needs regular care and attention to give maximum results. A little time spent now and then in this direction will be amply repaid by ultimate performance.

This book should be read by the owner to enable him to have a more intimate knowledge of the car he possesses, a knowledge which will benefit both owner and car alike. The A.C. Car when it leaves the factory is as perfect as is possible in every detail through the efforts of the skilled workmen producing it ; after that, it is in the owner's hands to make or mar, as he wishes. We sincerely hope he will help to maintain his car in that condition which has made the A.C. famous by its quality and efficiency.

Telephones : 01-398 5621-4

5. Examine the wiring to verify that current is getting to the pump when the switch is in the " on " position.
6. Test the earthing of the pump by means of a piece of wire from the main body to the chassis.
7. Remove the end box cover and pass a piece of cardboard between the points : this will clear away any foreign matter which may be responsible for any failure. Slight pressure of the finger on the outer side of the points will assist this cleaning operation. Should the pump work intermittently or not start clicking immediately when switched on, after the car has been standing overnight, it is an indication that trouble is occurring and should be given immediate attention.

It is recommended that the normal private owner should not carry out any further attention other than described, rather placing the job in experts' hands.

CLUTCH

This unit is manufactured by Messrs. Borg & Beck, being of a single plate dry disc type. The Manufacturer's reference being 9A6G Type BB9/25.

Individual adjustment is provided for locating the internal levers in manufacture and the adjusting nuts are located in place by means of a split pin and this should not be disturbed unless the clutch is dismantled for replacement of parts.

The replacement of a new centre plate or linings does not involve adjustment to the clutch in the main, other than to the pedal position described hereafter.

An exploded view of the general outline is shown and reference is made as follows to the various parts.

A graphite release bearing (5) is used, mounted in a cup (6) attached to throw out fork, and a release lever plate (4) is attached to inner ends of release levers (8) by means of retainer springs. Release is accomplished by moving release bearing forward against the release lever plate (4). Each release lever (8) is pivoted on a floating pin which remains stationary in the lever and rolls across a short flat portion of the enlarged hole in the eyebolts (9). The outer ends of eyebolts extend through holes in the clutch cover and are fitted with adjusting nuts (12) by which each lever is located in correct position. The outer or shorter ends of the release levers engage the pressure plate lugs by means of struts (13) which provide knife edge contact between the outer ends of levers and pressure plate lugs, so eliminating friction at this point. Thus the pressure plate (2) is pulled away from the driven plate (14) compressing the several small thrust springs (3) which are assembled between the pressure plate and the clutch cover (1).

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MAINTENANCE

for AC's post-war
2 Litre Saloon

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Electrics/Cylinder-head



Engine (Ignition System)

Every 3000 miles (4800km) the distributor needs lubricating. The cam should receive the slightest smear of grease, and the rotor-arm should be removed and a few drops of light oil applied (for the shaft bearing). Similar oil should also be applied through the hole in the baseplate to lubricate the centrifugal weight mechanism. A tiny amount of grease or engine oil should be applied to the contact breaker pivot. ***Every 6000 miles*** (9600km) the contact breaker should be checked and cleaned if necessary (with an extremely fine abrasive and then washed in petrol). For the earlier distributors (stamped 40143A, B or D), the contact breaker gap should be set to 0.012 inch (0.3mm) with the contacts fully open (the series 3 handbook states 0.011"). For later distributors stamped 40143E, which have a high-lift cam, the gap should be 0.018 inch (0.46mm). The toolkit's screwdriver comes with a suitable feeler gauge. If you have the full toolkit in your car, then you are very lucky!

The static timing is 20 degrees before top-dead-centre. If the engine has been uprated with higher compression pistons (which is very likely now), then changes to the timing, both static and dynamic, are desired. This is explained in some detail in Leo Archibald's book "AC 2 Litre Saloons and Buckland Sports Cars" (Veloce - 2002).

The distributor illustated here has a radio suppressor (coloured red) on the lead from the coil. Suppressors on the individual spark-plug leads have little effect, but some suppression on the coil lead is recommended.



The surfaces of the high-tension leads, distributor-cap and the top of the coil should be kept clean, especially when the weather is turning damp and cool. In particular, the spark-plug leads are bundled together into a tube, where dirt can accumulate. These can be cleaned using WD-40, but this should not be sprayed directly onto the ignition parts themselves, because it is a good insulator and so it should be kept away from any connectors and contacts.

Spark-plugs are specified in the manuals as Lodge C14, 14mm. The gap is specified as 0.015 to 0.018 inch (0.38 to 0.46mm). When low octane 2 star petrol was phased out in the UK (in 1989), I found that slight mis-firing occurred on partial throttle, and I followed advice of another classic car owner to widen the spark-plug gap. With a gap of about 0.025 inch (0.64mm) the trouble was solved.



Data from Lucas literature gives the following regarding the distributor:

Contact-breaker spring tension = 20 to 24 ozs (measured at contacts).

Condenser capacity = 0.18 to 0.23 micro-farads

Centrifugal advance commences at 200 to 400rpm distributor speed (or 400 to 800rpm crankshaft speed)

Maximum advance = 16 to 18 degrees at 1600rpm (presumably distributor speed).

Engine (Dynamo)

The dynamo is gear driven, and is mounted transversely on the right-hand side of the engine near the flywheel. ***Every 1000 miles*** (1600km) add a few drops of engine oil to the dynamo bearing via the lubricator. ***Every 12000 miles*** (19200km), remove the felt pad from the lubricator and half fill with petroleum jelly. Also at this service interval, the brushes and commutator should checked. These can be seen after removing the metal band from the outer end of the dynamo. The spring-loaded carbon brushes should slide easily in their holders, but can be cleaned with a tiny amount of petrol on a cloth if necessary. The same cleaning process can be done to the commutator (i.e. the copper segments that the brushes run against) while cranking the engine over. The starter motor should receive similar attention. If brushes have to be replaced, then they need bedding in before the dynamo or motor can be used.

Data from Lucas literature gives the following regarding the dynamo:

When cold, the cutting in speed should be 900 to 1050rpm at 12.5 volts.

Current output should be 13 amps at 1500 to 1700rpm, at 13 volts (test on a 1 ohm resistor without the regulator).

Brush tension = 36 to 44 ozs.

Resistance of the field windings (i.e. the static windings within the casing) = 6.8 ohms.

Engine (Starter-Motor)

Data from Lucas literature gives the following regarding the starter-motor:

Lock torque = 17 lbs-ft (approx.) with 450 amps at 7.2 volts.

Brush tension = 32 to 40 ozs.

Ignition Coil

Data from Lucas literature:

Current consumption = 0.95 amp when running (2.5 amps stalled).

Battery

Car batteries have changed somewhat since the 1940s! The old maintenance procedure specified checking/topping up (with distilled water) the cells, ***every 1000 miles*** (1600km). Battery terminals should be smeared with petroleum jelly. Occasionally, check the state of charge of each cell using a hydrometer to test the specific gravity of the electrolyte. Readings of 1.28 to 1.30 would indicate a fully charged cell, in mild weather. Readings will be lower in cold weather.

Replacement hard rubber batteries are available from some specialists, but it is difficult to find any with the mounting flange at each end (at the top). Long threaded rods with nuts held the battery down via these flanges.

Cylinder-Head

A new head gasket is recommended whenever the cylinder-head is refitted. Unfortunately, these gaskets are expensive! The head is very heavy, so remove exhaust, carbs etc. The timing wheel needs to be removed and that has its own perch to rest on. I found it easiest to stand astride the engine, lift up the head and rest it on the wing (wing protected by cloths and a plank of wood). If the head is stuck to the block, then refit the timing wheel and crank the engine over to use the compression to break the seal.

In the block's water jacket, you may find that debris has almost buried the rear two cylinders. This is a laticework of debris that accumulates because the water flow is stagnent in that rear area. Check carefully the condition of the top surface of the alloy block, as a perfect joint is required. Corrosion or old repairs may cause trouble. Also check that the liner top flanges are all level with each other. These flanges should be higher than the surrounding block, typically by 10 to 12 thou (although some people prefer a greater height). Also check how flat the mating surface of the head is. Not forgetting the condition of the cylinder-head studs, as these may corrode near the water passages through the gasket towards the rear.

When refitting the cylinder-head, AC recommended a gasket sealant. Also make sure that the gasket is the right way up so that the water passages line up with those in the head. As the head is lowered into place, the top of the chain tensioner needs to be pushed inside the rear of the head, so that it is not trapped underneath. The tightening sequence of the 14 head nuts, is to start from the centre pair and work your way outwards, but leaving the 4 longer studs until last. Some heads have all studs equal in length, so the final 4 to tighten are either side of the centre pair. The torque setting is 40 ft-lbs, and they should be retightened after the engine has run and warmed up and again after 100 miles running. The reason for retightening is that the gaskets are soft. I don't believe it makes any difference whether the engine is warm or cold for the 100 mile retightening. When analysing this topic, some articles state that the alloy block expands more than the iron cylinders, because of the alloy's greater rate of thermal expansion. This is incorrect, because the cylinders become much hotter than the alloy block. The timing wheel has offset driving studs to ensure that it goes back onto the camshaft the right way.

Tappet clearance is 0.020" when hot.

Be sure not to try running the engine without the rocker-cover in place, because there is an oil jet supply to the timing chain which will spray out if not covered.

Torque Settings for Engine Bolt/Nut Tightening

Cylinder-head: 40 ft-lbs

Big-end bolts: 25 ft-lbs

Main bearing caps: 40 ft-lbs

Flywheel: 28 ft-lbs.

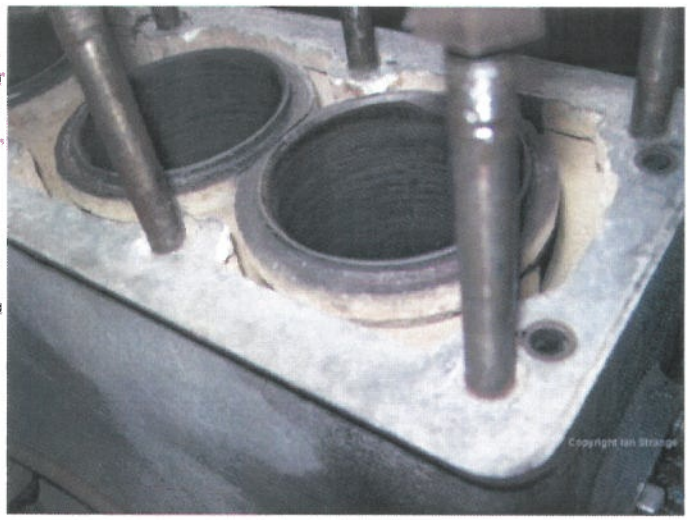
Engine Theory

I hope to include information on mechanical over-hauls at a future date. A bit of theory can be useful, especially since I've seen articles over the years with incorrect theories about the design of the AC engine.

Head fastening

In this photo of a headless AC engine, you can see that the water-jacket is exposed and the cylinder-liners are only fixed into the block at their lower ends. They are an interference fit, but also sealed by copper-asbestos gaskets. The top flanges of the cylinder-liners are set slightly higher than the top of the block, usually by 10 to 12 thou (0.254 to 0.305mm). This design raises a few issues worth considering:

1) It's sometimes pointed out that aluminium expands at a greater rate than iron, but over-looked that the cylinders are considerably hotter than the block when



the engine is running. This means that the heights of the block and cylinders increase more or less equally, although unequally at certain stages of warming up or cooling down. It also means that the cylinders probably remain an interference fit in the block bores, except maybe when the engine is cooling down.

2) When the cylinder-head nuts are tightened, the block is placed under tension and the cylinders are under compression, thus reducing the protrusion of the liners. The amount of this deflection is larger than one might expect, because the loads are sent down the full height of the water-jacket (approx. 4 inches/100mm).

3) The AC engine's construction was already a bit out-dated in that it used soft gaskets and stiff studs. This is why the head nuts need re-tightening after the engine first warms up, and again after 100 miles, as the soft gasket settles. The soft gaskets do have the advantage of allowing for cylinders that are at very slightly different heights (although hard gaskets under the liners would improve matters provided that all component dimensions were to a high accuracy). At one time AC changed to harder gaskets, using a series of gaskets in layers, each of a different material.

4) Copper gaskets in contact with the alloy block causes corrosion of the latter. This is all the more reason to follow AC's instructions to use liquid gasket sealant with the head gasket. Note that graphite (used in some modern gasket designs) is even worse than copper for causing electrolytic corrosion of the aluminium alloy.

Non-pressurised cooling system

The AC's cooling system is not sealed. It has an over-flow pipe from the radiator which allows water to escape when the temperature is high and slight pressure builds up. The real reason engines changed to pressurised systems was to raise the working temperature of the coolant. This increases the heat transfer from coolant to air via the radiator due to the higher temperature difference. The reduced temperature difference between cylinders and coolant is much less of a design problem. The AC's coolant operates at 70-75 degrees C. AC later fitted pressure type radiator caps to ACs that came in for servicing, simply to provide a quick release cap. The original caps are brass with a fine thread and take a long time to screw on!

Oil filtering and by-pass filters

Old engine designs had no filters other than a gauze to prevent sludge blocking oilways. Removal of fine metal dust was achieved by providing a large capacity oil sump which acted as a sediment bowl. The stagnent oil permitted heavy metal dust to sink, forming thick sludge which would be flushed out during regular oil changes.

In the early 1950s, AC added a by-pass filter. This causes some confusion nowadays. Note that this is not a full-flow filter. As its name implies, it is on a separate circuit from the main oil circulation. Oil is pumped to the by-pass filter and returned back to the sump. The idea is that this filter can be very efficient at removing impurities, without it affecting oil flow to the bearings. All the oil will pass though this filter, but it takes several hours of running to achieve this. Hence, it is not as effective as later full-flow filters, but is an improvement on the old system.

The amount of oil filtration required depends upon the bearings fitted, which in turn tend to depend on the power output of the engine. Bearings use soft white-metal alloys to allow metal dust to become embedded in them. Higher engine performance requires a less soft white metal - or else a thinner layer of white metal as found on shell bearings. Harder white metal means that metal dust is less likely to sink in, and may then abrade the shaft (crankpins and journals), and so the crankshaft then requires surface hardening to resist this. It also increases the need for good oil filtering. Therefore, by-pass filters helped when shell bearings were introduced for main bearings. After shell bearings were introduced for big ends, it then became a good idea to upgrade to full-flow filtering. The final development of the AC engine also featured surface hardening by nitriding (the "N" of the CLBN engine number prefix refers to nitriding).

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PRODUCTION RUN

of AC's post-war 2 Litre Saloon, Drop-Head and Buckland.

Production Run/Modifications in Brief

1946: Prototype chassis L800, fitted with pre-war style DH body, first registered in April.

1947: Prototype Saloon L801 first registered in January. Model officially launched in March. First production cars appeared on the roads in October. Approx. 15 cars produced by the end of the year, mostly exported. Various detail features of the prototype were dropped after the first few cars were built (such as early type hub-cap design, and trafficators moved from behind doors, to behind side windows).

1948: Rear wheel spats dropped early in year. Louvres added to front inner-wings. First Drop-Head Coupé (DHC) appeared, complete with fixed side windows. Another DHC (without the side windows) was also built and appeared at the Geneva Motor Show, sporting the newer design of windscreen with metal frame. This windscreen was adopted for general production later that year. ENV axle (instead of Moss) was tried out on chassis EL922 (EL prefix indicates that ENV axle was fitted from new). First Buckland Tourer appeared.

1949: ENV axle was gradually phased into general use. Rear track increased to 4ft 8in (from 4ft 7in) and axle ratio changed from 4.625:1 to 4.55:1. Side and tail lamps changed to the Lucas L488 style in the mid/late part of that year (around chassis EL1200).

1950: Tubular dampers replaced the Girling lever-arms from chassis EL1307 (many earlier cars then received this mod.). Rear side windows could be opened from chassis EL1318. Tyres changed from 5.50 x 17 to 6.70 x 16 (giving them about the same rolling radius) from chassis EL1403 (DH Coupé cars had this change earlier). Bonnet vents increased from 2 to 3 on each half. In September, scuttle vents were introduced, just above the wings. DHC production (export only) ceased.

1951: Pistons changed from Specialoid to Wellworthy, indicated by a "W" suffix to engine numbers. Metalastic damper added to front end of crankshaft from engine UMB1802-W. Dials and switches changed from black to cream coloured. Prototype 4 door Saloon was built.

1952: Rear brakes changed to hydraulic from chassis EH1807 (the AC manuals state EH1806), indicated by the "EH" prefix. 4 Door Saloon and new type of DHC launched in October. The new Drop-Head had much larger window area, a fully fold away hood, and boot enlarged by omitting the usual fuel tank, and fitting two smaller tanks under the front wings. Both of these new cars had a revised design of quarter-light window with plated surround, and conventional catch/operation for opening the window. The DHC never went into production after the prototype was built.

The 4 Door Saloon started to appear late in 1952. About a dozen 2 door Saloons built during late 1952/early 1953 were not registered until about 1954/55, and so they still retain early features (such as vertically ribbed seats). Perhaps the 2 door model was hard to sell once the 4 door was available?

1953: More detail changes to passenger compartment fittings including a cheaper aluminium doorstep plate instead of the chrome-plated brass plate. Buckland ceased building their version of the 2 Litre, but AC constructed a small number with the same body style (both cut-away and straight topped doors) during the year, known as the 2 Litre Sports Tourer. 4 Door Saloons made up most of the rest of that year's production.

1954: Mostly 4 Door Saloons built that year.

1955: Later CL prefixed series of AC engines started to be fitted to the Saloons, from chassis EH2082. Fewer than 20 Saloons produced (2 and 4 Door). By this time, they were only built to special order, now that the factory was in full swing with Ace and Aceca sales.

1956: Production down to single figures for the year. Many of the final Saloons had lights, dials and other fittings from the Ace/Aceca.

1957: Just one Saloon registered at the start of the year - a 4 Door.

1958: Final two Saloons were completed, both 2 Door examples.

Production numbers

1296 chassis produced. Chassis numbers L800 to EH2095.

Approx. 1125 to 1130 2 Door Saloons (including 1 experimental over-slung chassis and 1 later converted to split-axle IFS).

Approx. 45 to 50 Four Door Saloons.

Approx, 15 Drop-Head Coupés.

Approx. 70 Bucklands.

Approx. 15 Two Litre Sports Tourers.

Approx. 20 chassis supplied to other companies.

1 prototype improved drop-head (1953).

1 experimental drop-head (prototype chassis), 1946.

Precise numbers of each body style are not clear, because records are sometimes conflicting (or conflict with surviving chassis).

Chassis prefixes/suffixes

"L" prefix denotes chassis with Moss rear axle (although some early chassis were later converted to ENV axle) and hydro-mechanical brakes.

"EL" prefix denotes chassis with ENV rear axle and hydro-mechanical brakes.

"EH" prefix denotes chassis with ENV rear axle and full hydraulic brakes.

"X" included in prefix (or suffix) indicates left-hand drive. Some early examples were converted to right-hand drive. Cobra articles usually claim that "X" simply means "export", but it was AC's standard practice for many years to use "X" for left-hand drive.

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SPECIFICATIONS

of AC's post-war 2 Litre Saloon.

Engine

Swept volume ---------- 1991cc (122 cu. in.)

Bore ---------- 65mm (2.559 in.)

Stroke ---------- 100mm (3.937 in)

Compression ratio ------ 6.5:1, later 6.75:1

Max. power ---------- 74bhp (55.2kW), later 76bhp (56.7kW) at 4500rpm

Max. torque ---------- 95lb-ft (129Nm) at 2500rpm later 105lb-ft (142Nm) at 2750rpm

Block ---------- Light alloy with wet liners

Cylinder head ---------- Cast iron, cross-flow

Valve gear ---------- Single overhead camshaft, chain driven, inclined valves

Fuel system ---------- 3 SU carburettors with automatic cold-start device. SU electric pump.

Dry weight ---------- 350lbs (159kg)

Transmission

Clutch ---------- "Borg and Beck" single dry plate

Gearbox ---------- "Moss" 4 speed manual. Synchromesh on 2nd, 3rd and 4th. Ratios: 3.39, 1.98, 1.37, 1.00

Propeller shaft ------- "Hardy Spicer"

Rear axle (early) ----- "Moss" 4.625:1 ratio,

Rear axle (later) ----- "ENV" 4.55:1. Hypoid bevel gears.

Suspension

Front ---------- Beam axle, "Woodhead" leaf-springs, "Woodhead-Monroe" tubular dampers.

Rear (early)------- Fully floating Moss axle. "Woodhead" leaf-springs. "Girling" lever-arm dampers.

Rear (later) ------- Semi-floating ENV axle. "Woodhead" leaf-springs. "Woodhead-Monroe" tubular dampers.

Brakes

Front (early) --------- "Girling" Hydrastatic HSL 12" (30.48cm) x 1.656" (4.21cm) drums.

Front (later) --------- "Girling" leading shoe HLS from chassis 1240 onwards. 12" (30.48cm) x 1.656" (4.21cm) drums.

Rear (early) -------- "Girling" mechanical non-servo, 12" (30.48cm) x 1.656" (4.21cm) drums.

Rear (later) -------- from chassis 1240 to 1806 drums were 12" (30.48cm) x 1.676" (4.26cm).

Rear(later still) ---- from chassis 1807 onwards "Girling" hydraulic HW, with 12" (30.48cm) x 1.75" (4.45cm) drums.

Chassis

Material ------- Mild steel, mostly 10swg (6swg at rear end).

Design --------- Mostly box section plus tubular cross-members, a central crusiform of channel section. Underslung rear.

Bodywork

Construction ------ Traditional coach-built body bolted to chassis.

Materials --------- Aluminium-alloy panelling (Duralumin alloy 2017 or one of its successors such as alloy 2024), 18swg for body-shell, 16swg for wings. Body frame of ash timber and birch plywood. Inner panels of mild steel and aluminium-alloy. Radiator cowl of brass. Most brightwork of chrome-plated brass. Bumpers of chrome-plated spring steel.

Interior

Upholstery --------- Leather over Dunlopillo cushions.

Trim ---------- Fine cloth, leather, polished wood trim and dash, velvet-pile carpeting.

Steering ---------- Adjustable for reach and height.

Dials/gauges ------ 0-100mph speedometer, ammeter, water temperature, oil pressure, fuel gauge, electric clock.

Dimensions

Length ---------- 15' 4" (467cm)

Width ---------- 5' 7" (170cm)

Height ---------- 5' 1" (155cm)

Wheelbase --------- 9' 9" (297cm)

Front track ------- 4' 7" (140cm)

Rear track -------- 4' 7" (140cm) with Moss axle 4' 8" (142cm) with ENV axle

Ground clearance --- 7" (18cm)

Frontal area ------ 24 sq. ft. (2.23 square metres)

Tyres ----------5.50 x 17, later 6.70 x 16

Ground clearance: The figure for 7" is as quoted in road tests and contemporary articles. I measured it to be 7.5" for the front axle, with the lowest area of chassis/body 8.5" clear of the ground. The exhaust silencer (under the driver's seat) should be installed 'flat' to maintain ground clearance.

Other data

Kerb weight (with 5 gallons of fuel) --- 2912lbs / 26cwt / 1321kg

Weight distribution ---------- 48/52 front/rear

Fuel tank capacity ---------- 11.5 imperial gallons / 52 litres sometimes 10.5 gallons / 48 litres

Electrical system ---------- 12 volt "Lucas"

Tyre pressures ----------22psi (152kPa)
Tyre pressures might have to be changed if non-standard tyres are installed, such as radials and/or non-standard sizes.

Note that original performance figures are likly to be improved upon today. "Pool" petrol of the 1940s helped to keep compression ratios low. In later years (1960s onwards), engines were often uprated, typically to 90bhp. For engine components to increase power and durability, see the AC Engine Project.

Performance (with 74bhp engine and Moss axle)

0-30mph (0-48km/h) ---------- 5.7 seconds

0-50mph (0-80km/h) ---------- 14.1 seconds

0-60mph (0-97km/h) ---------- 19.9 seconds

30-50mph (48-80km/h) in top gear --- 13.4 seconds

Max. speed ---------- 80mph (129km/h)

Performance (with 74bhp engine and ENV axle)

0-30mph (0-48km/h) ---------- 6.9 seconds

0-50mph (0-80km/h) ---------- 16.0 seconds

0-60mph (0-97km/h) ---------- 22.6 seconds

30-50mph (48-80km/h) in top gear --- 14.1 seconds

Max. speed ---------- 83mph (134km/h)

Performance (with 76bhp engine and ENV axle)

0-30mph (0-48km/h) ---------- 6.3 seconds

0-50mph (0-80km/h) ---------- 14.4 seconds

0-60mph (0-97km/h) ---------- 21.0 seconds

30-50mph (48-80km/h) in top gear ----- 15.8 seconds

Max. speed ---------- 84mph (135km/h)

Note that 0-60mph (or 0 to anything) is a misleading comparison for car acceleration. A timed distance test is a true "yard-stick". A standing start quarter mile time of 22.0 seconds was recorded for the AC (74bhp engine, Moss axle).

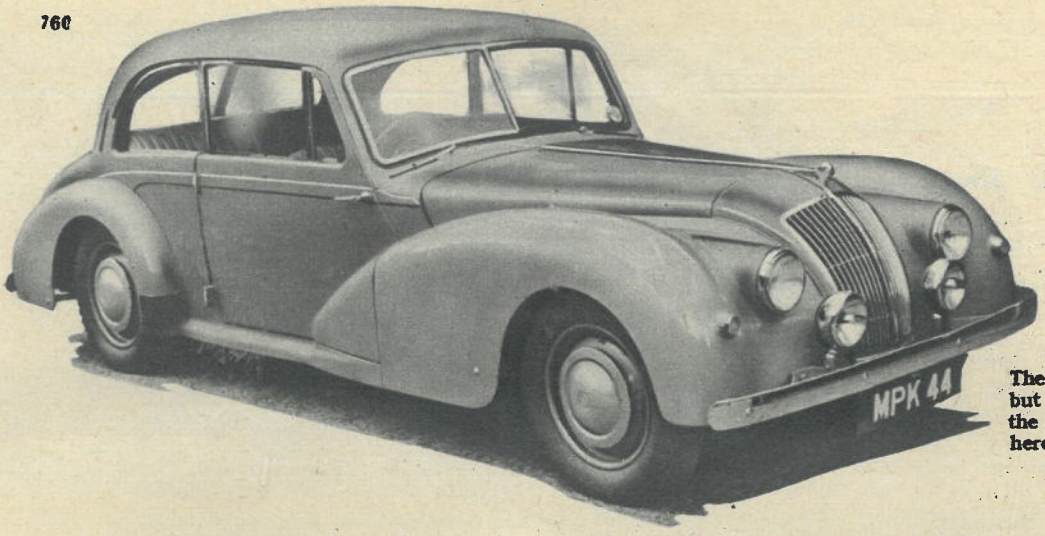
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No. 1385
2-LITRE A.C. SALOON

The modern effect is obtained, but with a bonnet hinged down the centre. The fog lamps seen here are not included in the standard equipment.

The Autocar ROAD TESTS

DATA FOR THE DRIVER

2-LITRE A.C.

PRICE, with two-door saloon body, £982, plus £295 7s 0d British purchase tax. Total (in Great Britain), £1,277 7s 0d.
RATING: 15.7 h.p., 6 cylinders, overhead valves, 65 × 100 mm, 1,991 c.c.
BRAKE HORSE-POWER: 74 at 4,500 r.p.m. **COMPRESSION RATIO**: 6.5 to 1.
MAX. TORQUE: 95 lb ft at 2,500 r.p.m. 18 m.p.h. per 1,000 r.p.m. on top gear.
WEIGHT: 26 cwt 1 qr 21 lb (2,961 lb). LB per C.C.: 1.49. B.H.P. per TON: 55.97.
TYRE SIZE: 5.50 × 17in on bolt-on steel disc wheels. **LIGHTING SET**: 12-volt.
TANK CAPACITY: 11½ Imp. gals.: approx. fuel consumption range, 22—24 m.p.g.
TURNING CIRCLE: 39ft (L and R). **MINIMUM GROUND CLEARANCE**: 7in.
MAIN DIMENSIONS: Wheelbase, 9ft 9in. Track, 4ft 7in (front); 4ft 8in (rear). Overall length, 15ft 4in.; width, 5ft 7in; height, 5ft 1in.

ACCELERATION

Overall gear ratios	From steady m.p.h. of 10 to 30	20 to 40	30 to 50
4.55 to 1	13.7 sec.	13.2 sec.	14.1 sec.
6.22 to 1	9.2 sec.	9.1 sec.	10.1 sec.
9.01 to 1	6.2 sec.	6.9 sec.	—
15.42 to 1	—	—	—

From rest through gears to :—	sec.
30 m.p.h.	6.9
50 m.p.h.	16.0
60 m.p.h.	22.6
70 m.p.h.	36.3

Steering wheel movement from lock to lock: 2¾ turns.

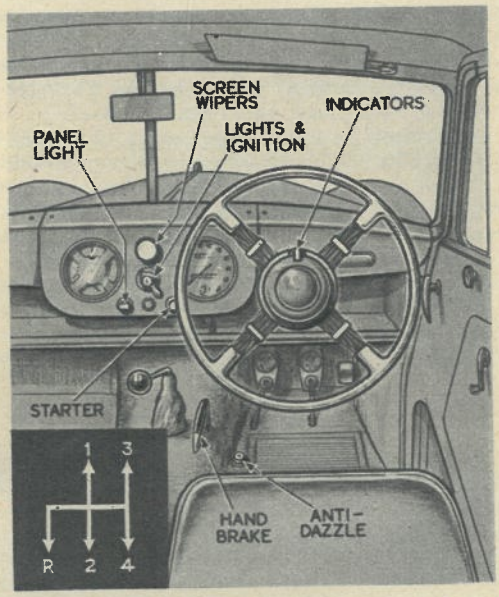
Speedometer correction by Electric Speedometer :—

Car Speedometer	Electric Speedometer	Car Speedometer	Electric Speedometer
10	= 11.0	50	= 51
20	= 21.5	60	= 61.5
30	= 31	70	= 72
40	= 41		

Speeds attainable on gears (by Electric Speedometer)	M.p.h. (normal and max.)
1st	15–23
2nd	35–45
3rd	52–66
Top	82/83

WEATHER: Dry, warm; wind light to fresh.

Acceleration figures are the means of several runs in opposite directions.



Described in "The Autocar" of March 7, 1947.

AS one of Britain's old-established makes the 2-litre six-cylinder A.C., in its latest form, continues its worthy traditions, possessing the specialized appeal of a hand-built car which has definite character. Since the war, although a fairly radical change has been made in appearance, which now broadly follows current trends, the fundamental mechanical design has not been greatly altered by comparison with the pre-war model. The continuity thus achieved is unusual and has practical value from the owner's point of view, for it means that the snags that are common to most designs, which show up only in the course of time in everyday usage, have been ironed out.

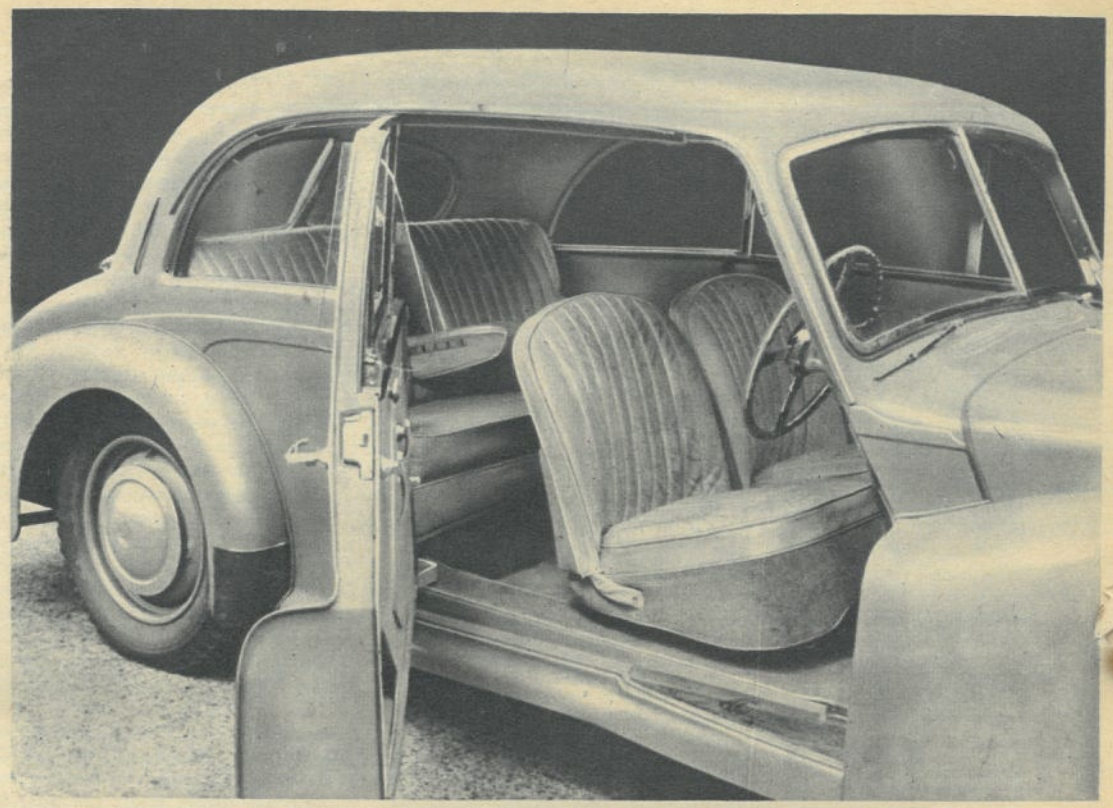
For many years an overhead camshaft engine has been used—a point of interest in view of the fact that several of the latest designs from other quarters follow this efficient practice. In another respect the A.C. engine was ahead of its time, in the use of aluminium alloy for the cylinder block and crankcase, with inserted cast-iron liners for the cylinder bores. Aluminium is used, too, for the body panelling and the wings, with the result that the sheet steel content is at a minimum and weight is conserved. There is still half-elliptic suspension all round, the particular qualities of which will be referred to in detail subsequently.

An immediate impression, which is sustained throughout extensive experience of the car, is of its feeling of tautness and of being solidly built. From the outset the driver feels safe in it. Accustomed as one now is to independent front suspension, it is natural to consider rather more closely than usual the behaviour of the springing. It would be difficult to tell as regards the front end of the car that it had not a fairly stiff version of torsion bar i.f.s., for there is no harshness. Woodhead-Monroe telescopic dampers are used there and this combination, together with high-geared steering, is such as to enable the car to be steered within fine limits. The cornering abilities are exactly as recalled with pre-war versions of this make, but the riding is more comfortable; that is to say, the car sits down really firmly. and takes bends or the more acute turns (for instance, a roundabout on an arterial road) rock steadily without a

Autocar

ROAD TESTS

—continued—



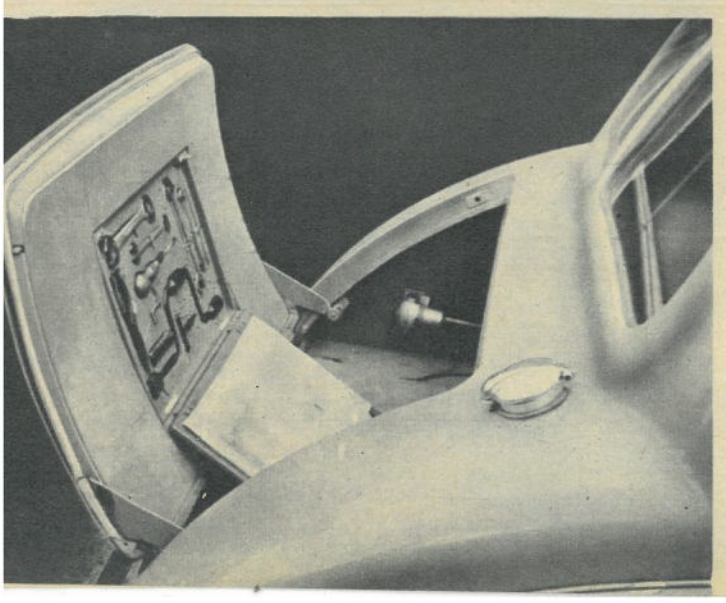
An inviting-looking interior which lives up to its promise of comfort. Fine leather is used over soft Dunlopillo upholstery. The front seats are separate and individually adjustable, and in the rear seat is a central folding arm-rest, as well as softly upholstered elbow rests. Pivoting ventilator panels are fitted at the front of the doors, controlled by quick-action hand wheels.

view, a point of very great advantage in giving confidence, whilst the bonnet is not high and the view on to the road is quite close. The front seats are separate and individually adjustable, and the driver sits well up to an honest-to-goodness four-spoked spring wheel which is telescopically adjustable on the column. The hand brake lever is a pull and push type with a pistol grip, rising out of the propeller-shaft tunnel in an unusual but convenient position; it does its job efficiently. The windscreen is wide, and sensibly deep, and although the pillars are fairly thick they do not present any obstruction to vision that matters or frequently arises.

The brake system is the Girling hydro-mechanical, operating hydraulically on the front wheels and mechanically on the rear. As employed on the A.C., these brakes give plenty of power and are efficient for a quick pull-up in a straight line at traffic speeds; for high-speed retardation fairly heavy pedal pressure has to be applied, but the stopping power is there.

Throughout, from the obviously high quality of the exterior finish to the tasteful and again excellent quality of the interior trimming and finish, this car shows evidence of being a well-made example of the individualistic British quality car. The leather trim is of the first grade, over soft Dunlopillo upholstery for both cushions and back rests, and quiet but effective use is made of polished woodwork for the instrument board. Minor controls are at a minimum, and the driver is not faced with the battery of knobs and switches which so often confront him today. The body is a thoroughly comfortable four-seater with a folding central arm-rest in the back seat, and the view outwards for all passengers is exceptionally good. Ventilation is looked after by means of pivoting glass panels at the front of the two wide doors, an arrangement which is particularly desirable with this style of body, where the extensive main drop windows it involves are apt to produce draught for the back-seat occupants. A sliding roof is not fitted, and, as a rule, is not required abroad.

Small tools, including spanners of good quality, are carried in this convenient way. The luggage locker is of useful though not exceptional capacity; its floor is covered with soft rubber, and large tools are clipped at the sides. The spare wheel is in a separate compartment below.



Good use is made of the thickness of the lower part of the doors to provide storage space for books and maps and so forth, whilst also there is a shelf beneath the facia and another shelf behind the rear-seat cushion. A good view is given by the driving mirror. It is felt at times that the horn note could be more powerful; the beam from the built-in head lamps is useful for speeds up to the maximum on known roads, but could usefully be stronger. It takes a little while to become accustomed to the position of the anti-dazzle switch, which it is most convenient to operate by the left heel. The anti-sun glare vizors should be wider, so as to cover a greater area of the screen. A rear window blind is fitted.

In general, this is a car in which a keen owner can take pride. It is a pleasure to drive, even in town traffic, and it proclaims itself as a soundly built piece of engineering—not simply a means of transport. Those are main reasons, after all, why this type of car continues to appeal to connoisseurs. The engine, with its three carburettors, looks efficient and is neat, whilst its auxiliaries are conveniently arranged for attention. An engine water thermometer is fitted, and even under the exceptionally hard driving which this car received during the test was not seen above 70 deg C. For cold starting there is a thermostatically controlled starting carburettor: the engine fired instantly and permitted driving straight off.