The Daimler Armoured Car was built by BSA from 1941 to satisfy the requirement for a light and speedy reconnaissance vehicle. Technically advanced and carrying a 2pdr gun it proved to be one of the best British armoured vehicles of WWII. It carried a crew of 3 – the driver located in the hull, the commander and gunner located in the turret.

The Daimler was powered by a 6 cylinder 4 litre petrol engine. This drove a pre-selective 5 speed gearbox via a fluid flywheel. Using a forward-reverse transfer box the Daimler had 5 gears in both directions and was capable of 50mph. Unusually a second steering position was incorporated for reversing purposes.

Some 2600+ Daimler armoured cars were produced and were used extensively in North Africa and Europe. After WWII it was exported to a number of Commonwealth countries and also continued in service with the British TA until the 1960's.

The Handbook is in English and is divided in 3 sections – the first gives general instructions and data for the vehicle; the second gives operating, maintenance and adjustment details; the last section gives a detailed description of all moving parts. The Handbook comprises 331 pages and 227 monochrome and colour illustrations including wiring diagrams and a detailed lubrication chart.
Maintenance.

1. To lubricate the distributor (Type DXLH 6A), slacken the two screws securing the distributor cover (not the two screws that are sealed), and lift off the cover complete with moulding and cables. Lubricate as follows. When replacing the distributor top make sure the slot cut in it mates with the locating peg in the distributor body.

   (a) Add one or two drops of clean engine oil to the cam lubrication wick.

   (b) Apply a light smear of clean engine oil to the tops of the pivot pins on which the contact breaker levers work.

   (c) Lift the rotor off the top of the spindle and add a few drops of thin machine oil. If the rotor is a tight fit, it can be carefully levered off with a small screwdriver. Do not remove the screw which is exposed to view, as there is a clearance through which the oil passes to lubricate the cam bearing. Afterwards, re-fit the rotor correctly and push it on to the shaft as far as it will go.

   (d) Add a few drops of thin machine oil through the hole in the contact breaker base through which the cam passes, in order to lubricate the automatic timing control.
Chapter I B—Power Unit

The flow of air is then straightened by the inner fixed vanes before entering the oil bath cleaner. Upon entering the Oil Bath Cleaner the partly cleaned air is deflected against the surface of the oil in which most of the remaining dust is deposited.

Finally, the air is drawn upwards through the oil impregnated woven metallic mesh which gives a final cleaning before it enters the carburettors.

Fig. 105. A.C.D. II—Air Cleaner showing Path of Air.
Part 8

HUB REDUCTION GEAR

Ratio 3.5 : 1.

From the outer Tracta joint the drive is finally transmitted to the wheel through the hub reduction gear which is a simple epicyclic train exactly corresponding to Fig. 123 (see also Fig. 138).

The sunwheel is splined to the output shaft, the planet carrier is bolted to the hub and wheel, and the annulus is fixed to the non-rotating portion of the hub.

It has already been explained, see page 184, that when the annulus of a simple epicyclic train is held stationary, the reduction given by the train is obtained. The method of operation is therefore exactly the same as 1st gear or the simple epicyclic train in the gearbox.

A hub reduction gear is used to reduce the stresses throughout the transmission.

Part 9

WHEELS AND TYRES

Size 10-50 x 20.

The wheels are of the divided rim type, the two halves being fastened together by the outer ring of nuts. The inner ring secures the wheel to the hub. The tyres are of the Run Flat type. Whilst they are not puncture-proof, the tyre is so stiffly constructed that it will support the weight of the vehicle even if the inner tube is deflated. When the inner tube is punctured, the effect is of partial deflation. Under these conditions, the speed of the vehicle should be kept as low as possible, for if high-speed is maintained, the flexing of the tyre gives rise to excessive internal friction and the heat generated will eventually cause the tyre to disintegrate.

Tyre pressures are to be maintained as follows:

Road, front 56 lb. per square inch, rear 60 lb. per square inch; Cross Country, front 36 lb. per square inch, rear 42 lb. per square inch. If the tyres are run deflated, they should be examined at the earliest opportunity by the E.M.E. or equivalent authority.

A spare wheel is carried on the left-hand side of the hull.

Fig. 139. Wheel and Tyre.
Chapter VI B—Electrical Equipment

A push-button switch (10) is fitted, which is marked "Starter" and controls the solenoid operating switch. Two banks of terminals (12) are provided for connections. These are accessible when the hinged cover (74) is opened. To replace the pilot light bulb, open fuse hinged cover and slacken two screws (38) when the face plate (1) can be removed. Two-pin plug sockets (66) are fitted above the switches, marked red and black for positive and negative polarity respectively. These sockets are not controlled by a switch and the two-pin plug connected to the end of the inspection lamp should be pressed firmly into the sockets when it is required to use the inspection lamp. Five fuses (16) are fitted: A for ignition, B for tail lamp, C for headlamp, D for side lamps, and E for auxiliaries. These fuses are mounted in holders located in spring clips and are easily withdrawn by hand from their clips.

Fig. 168. C.A.V. Switchboards—Types 100-21 and -21A.

1. Faceplate.
2. Switch Blades.
3. Switch Contacts.
4. Screw, Switch Connection.
5. Screws, fixing Switches.
7. Light Switches.
9. Screws, fixing Sub-Plate.
10. Starter Control Switch.
11. Terminals.
16. Fuses.
24. Sub-Plate.
29. Screw, Starter Push Base.
30. Spring Ring.
31. Top Plate.
32. Return Spring.
38. Screws, Face Plate.
66. Inspection Lamp Sockets.
67. Pilot Light.
74. Hinged Cover.
81. Grub Screws.