

# **BSA SERVICE SHEET No. 503**

*Reprinted January, 1965.*

**MODELS D1, D3, D5 AND D7,**

## **ENGINE ADJUSTMENTS WHICH CAN BE CARRIED OUT WITHOUT DISMANTLING**

### **Contact Breaker Points**

Access to the contact breaker mechanism is obtained by removing the small cap in the centre of the generator cover. On early Wipac models this cap is retained by a spring clip as shown in Fig. D1, but on all other models two small retaining screws are used.

### **D7 Models**

On D7 models, access to the contact breaker and clutch adjuster, can be obtained after the pear-shaped cover on the left-hand side of the engine has been removed by taking out the three screws.

The contact points must be maintained in good condition and kept free from oil and dirt. They should be cleaned occasionally by passing a piece of smooth clean paper between the points and withdrawing it when the points are closed. If the points are burnt they should be cleaned with very fine emery cloth, and then wiped with a petrol-soaked rag. This is easier carried out if the rocker arm complete is removed. On Wipac magnetos the spring clip on the end of the rocker arm spindle must be removed and the terminal at the end of the spring disconnected to allow the rocker arm to be detached. On Lucas generators the terminal post nuts should be slackeden so that the slotted end of the spring can be removed from the post, thus permitting the rocker to be withdrawn from the spindle.

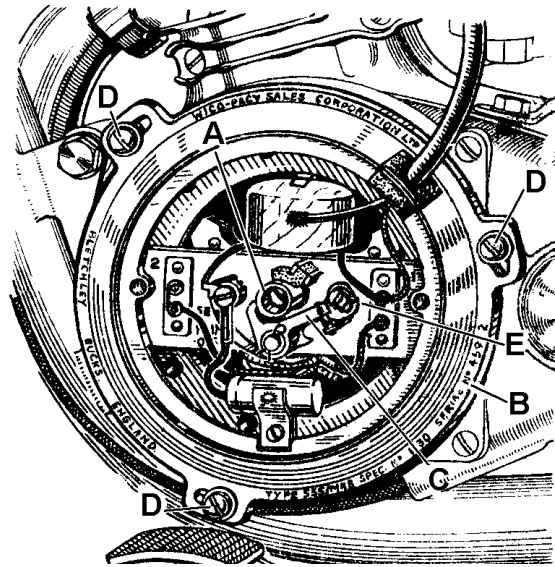


Fig. D1. *Wipac Equipment.*

It is most important that the correct contact breaker gap is maintained. Rotate the engine until the points are fully open and then check the gap with feeler gauges. The gap should be .015 in. for Wipac and .012 in. for Lucas equipment.

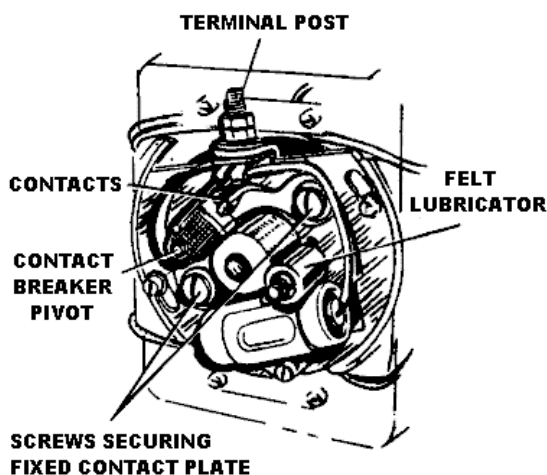


Fig. D1a. *Lucas Equipment*

If the gap is incorrect the points must be re-adjusted. Slacken the screws securing the fixed contact plate (E) Fig. D1, for Wipac, and Fig. D1a for Lucas equipment. Move the plate until the contact gap is correct then tighten the securing screws and re-check the gap. Early Wipac models have an eccentric headed screw at (F) Fig. D1, to facilitate movement of the plate, but on all other models the plate is simply pushed backwards or forwards.

## B.S.A. Service Sheet No. 503 (contd.)

### Ignition Timing

Before checking the ignition timing the contact breaker gap must always be checked, as this affects the ignition setting. Rotate the engine until it is at top dead centre, ascertained by a suitable rod inserted through the plug hole. Turn the engine backwards until the piston has descended  $\frac{5}{32}$  in. for D1 and D3 models,  $\frac{1}{16}$  in. for D5 and D7 models and the contact points should then be just on the point of opening, i.e. not more than .002 in. apart. This is best determined by inserting a piece of very fine paper (such as cigarette paper) between the points. The paper will be only lightly gripped when the points are just on the point of opening.

If the setting is not correct the three screws in slotted holes (D) Fig. D1, should be slackened, thus permitting the complete contact breaker back plate to be rotated until the correct setting is obtained. Rotating the plate in a clockwise direction advances the ignition. On Lucas models the contact breaker back plate is retained by four screws in slotted holes as shown in Fig. D1a, but the procedure is identical.

### Sparking Plug

The sparking plug is of such importance in satisfactory engine performance that it is advantageous to give proper attention to this component. It is poor economy to use any but the most efficient plug. The better plug will soon pay for itself by effecting more complete combustion and loss of power due to partially unburned fuel will be eliminated. The plug most suited to the requirements of this engine is the Champion L10S. Remove the sparking plug every 1,000 miles (1,500 km.) or so, for inspection. If the carburation system is in correct adjustment the sparking plug points should remain clean almost indefinitely. An over-rich mixture will, however, cause the formation of a sooty deposit on the points and, later, outside the plug body (as upper view, Fig. D2). If therefore such a deposit is found, clean it off carefully and check your carburetter. Too large a proportion of oil in the petrol mixture will also cause plug fouling. The continued use of leaded fuel may also eventually produce a deposit on the plug—this time of a greyish colour.

A light deposit due to any of these causes can easily be cleaned off, but if it is allowed to accumulate, particularly inside the body the plug may spark internally with an adverse effect on engine performance—if, indeed, it does not stop the engine altogether—and the plug should be taken to a garage for cleaning. If eventually the cleaning process fails to restore the plug to its original condition of efficiency, it should be replaced by a new one.

When inspecting a plug also check the gap between the points. This should be .018—.020 in. (.44—.50 mm), and adjustment should be made by bending the side wire. Never attempt to move the centre electrode.

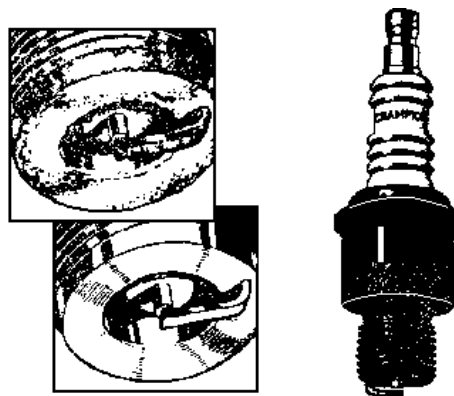


Fig. D2. *The Sparking Plug.*

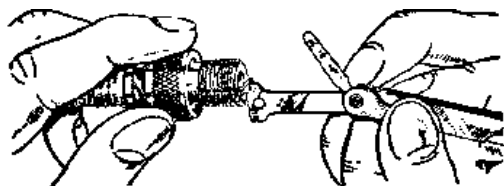


Fig. D3. *Setting the Plug Points.*