BSA SERVICE SHEET No. 427

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MODEL C15

ATTENTION WHICH CAN BE GIVEN WITHOUT DISMANTLING

Oil Pressure Valves

There are three ball valves in the lubrication system but only two can receive attention without complete dismantling of the engine.

The pressure release valve is situated at the front of the timing case on the R/H side and is accessible when the plug *D*, Fig. C28A is removed.

It is advisable to clean the ball, spring and ball seating every few thousand miles or when the oil is changed.

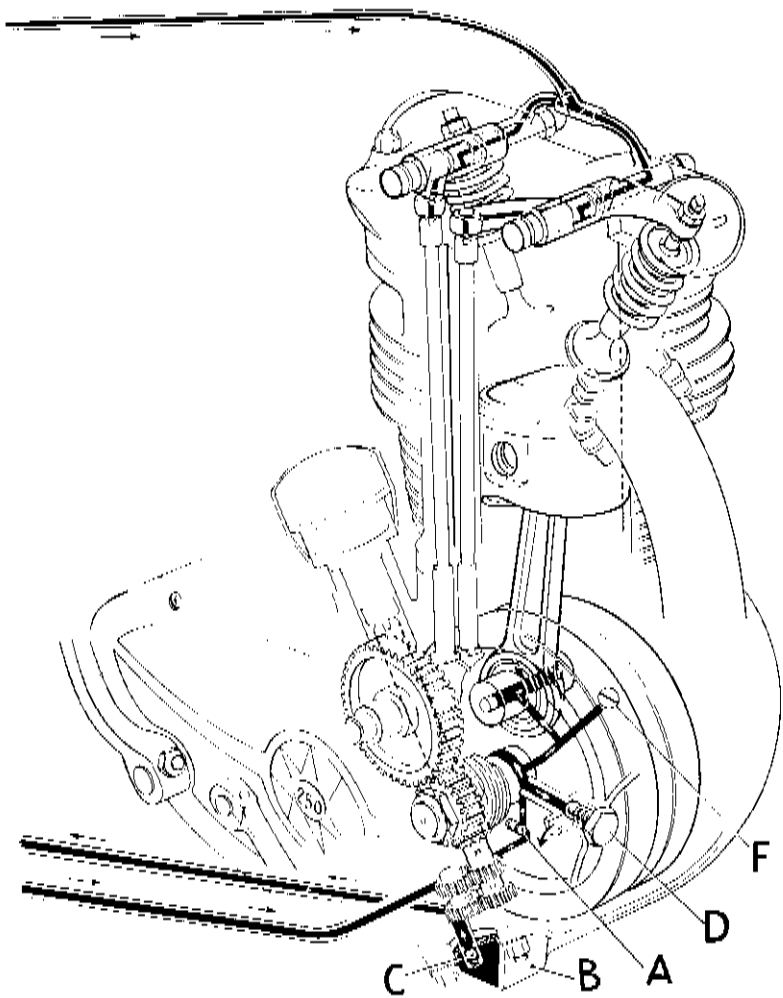

Fig. C28A. Lubrication System.

If the ball valve *C*, Fig. C28A should be stuck on its seating it will prevent the return of oil to the tank. In this event, remove the cover plate *B* below the pump, insert a suitable piece of wire and lift the ball off its seating to free it.

Tappet Clearance

The engine must be quite cold whenever the tappet clearance is checked. Remove the inspection covers and take out the spark plug.

Rotate the engine forward until the INLET valve has just closed and the push rod is just free to rotate, this is the correct position for checking the EXHAUST valve.

Slide a feeler gauge between the end of the valve and the adjusting pin as shown in Fig. C29A.

If adjustment is necessary slacken the locknut *A* and adjust pin *B* until the correct gauge will just slide between the valve and the pin. Hold the pin firmly in position and tighten the locknut. Check the clearance again in case tightening the locknut has altered the setting.

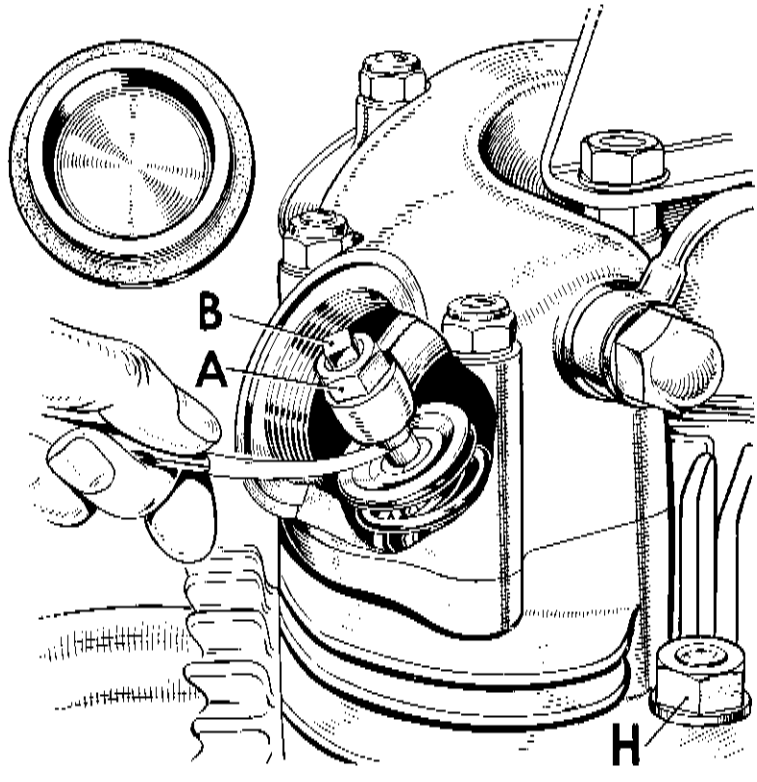

Fig. C29A. Tappet Adjustment.

After the exhaust valve has been adjusted rotate the engine forward again until the exhaust valve clearance is just taken up, but before the valve actually starts to open.

This is the correct position for checking the inlet valve which is adjusted in a similar manner to that described for the exhaust valve.

Correct clearances are: -

Inlet valve ...	.012 inches.
Exhaust valve	.014 inches.

Contact Breaker Gap

Remove the cover *A*, Fig. C30A after pressing aside the spring clip.

The gap between the points when fully open should be .015 inches. Rotate the engine slowly until the foot of the rocker arm is on the peak of the cam, then check the gap between the contacts at *B* with the feeler gauge.

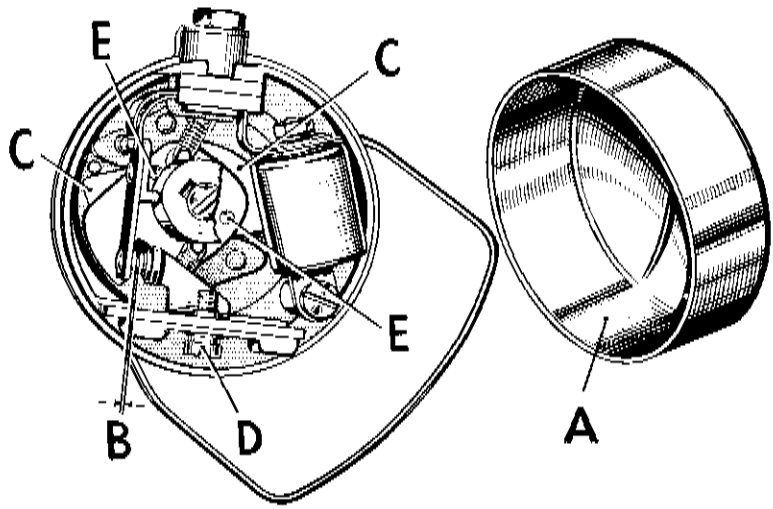

Fig. C30A. Contact Breaker and Auto Advance Mechanism.

If the gap requires adjusting, slacken the screw *D* and move the plate until the gap is correct, then re tighten the screw and re-check the setting.

No oil or grease should be allowed to get on the contact breaker points which should always be clean and dry.

Ignition Timing

To check the ignition timing expose the contact breaker as previously described. As a slight variation in the contact breaker gap alters the timing (wide gap advances and narrow gap retards the timing), it is advisable to check after adjusting the points.

With the spark plug out, engage top gear and turn the engine by means of the rear wheel until the piston is at the top of its stroke with both valves closed, if either valve is open rotate the engine one complete revolution to bring the piston to the correct position, that is: top dead centre on the compression stroke.

Insert a slim rod, such as an old spoke, through the spark plug hole and keeping the rod as vertical as possible, make a mark in line with some point on the head such as one of the fins, now make a second mark 1/16 in. above. Re insert the rod and, again keeping it as vertical as possible, turn the engine back by revolving the rear wheel backwards until the piston has descended to bring the second mark on the rod in line with the point chosen on the head.

The piston should now be at the firing point (1/16 in. B.T.D.C.) and the contact breaker points should be just about to open.

If the setting is incorrect, slacken the clip screw *E*, (Fig. C31A) which is situated at

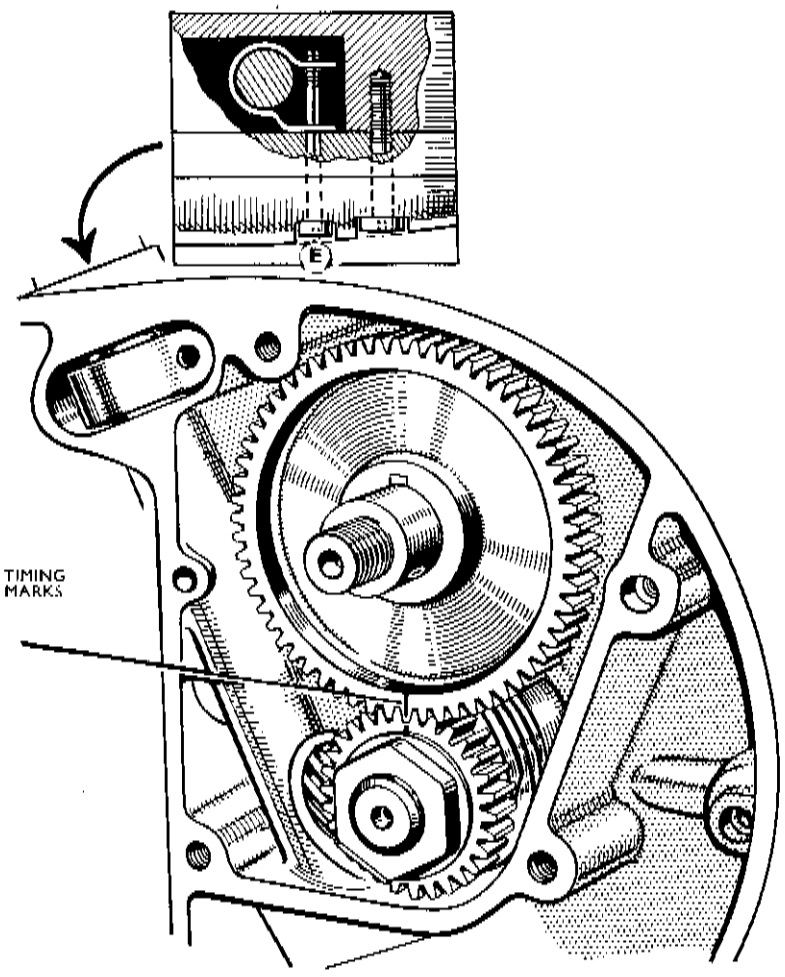

Fig. C31A. Valve Timing Marks.

the top of the outer timing cover and rotate the body of the distributor gently either way until the foot of the rocker arm is at the base of the cam when the points should be just about to separate.

Sparking Plugs

The machine is supplied with a Champion non-detachable type sparking plug to suit the characteristics of the engine. If the best performance with regard to both power and economy is to be obtained then it must remain clean and properly gapped.

The sparking plug should be removed periodically for examination. If the carburation is correct and the engine is in good condition the plug will remain clean for considerable periods. An over-rich mixture will however cause the formation of a sooty deposit on the plug points and eventually on the plug body (see upper view of Fig. C32A). Heavily leaded fuels may form a greyish deposit in a similar manner. If a heavy deposit is found, the plug should be cleaned, with the aid of the sand blast type of plug cleaner found at most garages as, otherwise the performance of the machine may be affected. If a heavy deposit is allowed to build up inside the plug it may prevent the engine from firing altogether. A weak mixture will cause burning of the plug points and give the plug a whitish appearance. See Service Sheet 708.

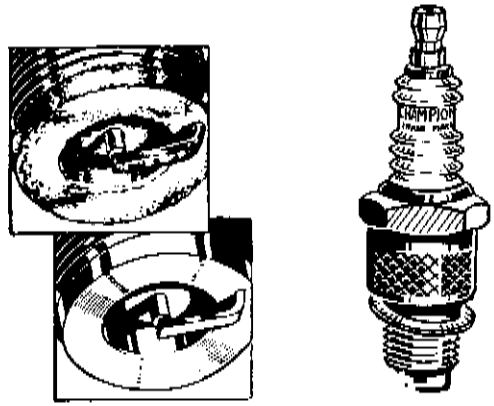

Fig. C32A. The Sparking Plug.

Check that the gap between the sparking plug points is correct and if necessary re-set to .020 .025 in. by bending the side wire. In no circumstances attempt to move the central electrode as this may damage the insulation. If the points are badly burnt away or cleaning fails to restore the plug to its full efficiency, then it should be replaced by a new one.

When replacing the plug make sure that the copper washer is in good condition. Use a tubular spanner to prevent damage to the plug and keep the outside of the insulation free from oil and dirt by wiping with a clean rag.

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