

# B.S.A. CYCLES LIMITED

BIRMINGHAM, 11

Service Sheet No. 38.

"Service," March, 1935.

## PETROL CONSUMPTION.

A poor petrol consumption can be attributable to any one of a number of factors, and it is therefore important that attention be given to the following if the best all round results are to be obtained.

Test the consumption over a long distance run at an average speed of 28-30 m.p.h. with a measured quantity of fuel.

Avoid violent acceleration and the excessive use of the intermediate gears; wherever possible drive with the ignition fully advanced, and air lever open.

The fuel consumption will be adversely affected if the machine is driven consistently at high speeds, used in much traffic work, or is constantly stopped and started.

## ENGINE.

Excessive carbon deposit must be removed from the combustion chamber and the exhaust system must be periodically cleaned of carbon and partly burnt oil.

Test the compression of the engine with the throttle slightly opened. If compression is weak examine for incorrect tappet adjustment, the need for the grinding in of the valves, a tendency for one or other of the valves to stick in its guide, and excessively worn piston rings which call for replacement.

The valve timing must be in accordance with the recommendations contained in the Instruction Book.

Air leakages in the induction system must be corrected by the remaking of the carburetter flange joint and/or the replacing of excessively worn valves and valve guides.

## IGNITION.

Clean the magneto contact breaker and sparking plug joints.

Set the contact breaker points to open .012in. at the highest lift of the cam, and set the sparking plug points at a gap of .018in.

The ignition timing must be in accordance with the recommendations contained in the Instruction Book. A retarded ignition may have a very serious effect upon fuel consumption.

Although the sparking plug will normally function satisfactorily for a considerable mileage, its efficiency will be reduced as time goes on, thus necessitating a renewal.

## CARBURETTER.

The standard carburetter setting is recommended as the result of considerable experimental work, and it is not desirable that a smaller main jet be fitted.

The position of the jet needle is important. Raising it will richen the mixture and vice versa.

When the needle jet wears, resulting in a rich mixture, try the effect of lowering the needle a notch or even two, but failing a satisfactory improvement replace the worn part.

Set the pilot jet adjustment to give a good tick over without prejudicing easy starting. Avoid an excessively rich mixture at the pilot jet.

The carburetter must be kept perfectly clean. If it is necessary to dismantle the instrument to remove water or dirt from the float chamber, float needle seating, or jet orifices, make perfectly sure on re-assembly that the float needle clip is located in the groove formed on the needle and that the main jet and all joints are tight.

If an Air Cleaner is fitted to the carburetter intake it is important that it be thoroughly cleaned periodically, since dirt will tend to choke the filter, thus limiting the air supply and giving rise to an excessively rich mixture.

Avoid the wastage of fuel by turning the petrol tap off whenever the machine is left standing. Definite leakage may not be in evidence, but the rate of evaporation in the float chamber under certain conditions may be appreciable.

Do not flood the carburetter when the engine is warm.