

## SECTION C

# THE IGNITION SYSTEM

### GENERAL DESCRIPTION.

The coil ignition equipment is provided with an automatic advance mechanism which is housed in the distributor unit. It consists of a centrifugally operated mechanism by means of which the ignition is advanced in proportion to the engine speed.

Like the rest of the electrical equipment, it is wired on the "positive earth" system, which results in longer sparking plug life.

#### Distributor Type.

The distributor is a Lucas Model DKY4A, Service No. 40162. These identification marks are stamped on the side of the distributor.

#### Ignition Coil Type.

The coil is a Lucas Model Q12, Service No. 45020. These identification marks are stamped on the base of the ignition coil.

#### Sparking Plugs.

The standard sparking plugs for the M.G. "TD" Midget are Champion L.10S, 14 mm.

#### Attention to Sparking Plugs.

To obtain the best engine performance and the most economical running, the sparking plugs must be kept clean and correctly adjusted. They should be removed and cleaned after the first 500 miles of use in a new engine. This is advisable since the slower engine speeds and the conditions of the running-in period have a tendency to cause fouling of the plugs. Plugs should subsequently be removed for inspection cleaning and adjustment after each period of 3,000 miles.

When sparking plugs are removed from the engine their gaskets should be removed with them and replaced on the plugs, which should be placed in a suitable holder. It is advisable to identify each plug with the number of the cylinder from which it was removed so that any faults can be traced back to the cylinder concerned.

When examining plugs place a new plug of the same type beside the others to afford a ready comparison of their relative conditions.

When examining plugs note the condition of their gaskets. A large proportion of the heat from the insulator is dissipated to the cylinder head by means of the copper gasket between the plug and cylinder head. Plugs not screwed down tight become overheated, causing pre-ignition, short plug life and pinking.

Gaskets in different conditions are illustrated in Fig. 17. The upper left-hand gasket was obviously not properly compressed, owing to the plug not being tightened down sufficiently.

On the other hand it is unnecessary and unwise to tighten up the plugs too much. What is required is a reasonably good seal between the plug and the cylinder head.

The lower left-hand gasket clearly indicates that the plug was pulled down too tightly or has been in service too long. Note its distorted condition and the evidence of blow-by, which is a prolific cause of plug overheating.

The right-hand upper gasket is in good condition, providing an adequate seal and a good path for heat dissipation.

For comparison a new gasket is shown in the lower right-hand corner of Fig. 17.

If the gaskets are at all questionable they should be replaced by new ones without hesitation.

#### Plug inspection.

After removal of the plug the condition of the electrodes and deposits on the insulator and plug body should be examined.

1. If the insulator is brown in colour, the electrodes grey and the plug body dry or covered with a thin layer of soot, the engine condition and mixture strength are satisfactory.
2. A dry, greyish-yellow or brown insulator with a thin layer of light fawn powder deposit indicates the use of a leaded fuel or a rich mixture.
3. When the insulator is dry and fawn or white in colour, and the electrodes are corroded and burnt at the tips, the plug temperature is too high.

This is caused either through the use of an unsuitable plug; by a weak mixture; or by high combustion temperatures.

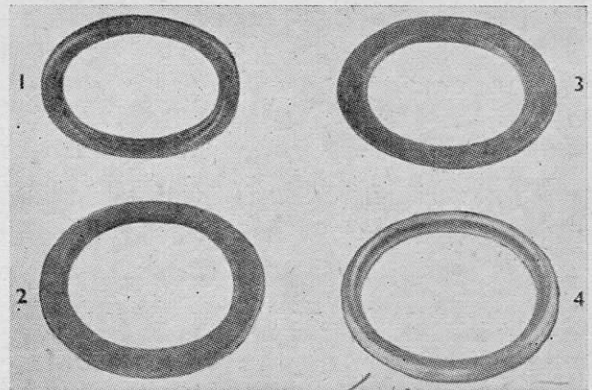


FIG. 17.—This illustration shows plug gaskets in various conditions. (1) Indicating insufficient tightening down on the plug. (2) Over-tightening of the plug. (3) Correct degree of tightening. (4) New gasket before use.

