

# SPARKING PLUG SPANNERS

**F**EW MOTORCYCLE and car owners and not all garages have spanners specifically for dismantling and assembling detachable type sparking plugs. Their construction and proportions render sparking plugs susceptible to damage from inconsiderate treatment. Yet in many cases cleaning is a routine operation.

Difficulties mainly concern loosening and tightening the gland nut. This is slender, screws into a non-too-thick body, and on a 14 mm. plug has flats only 1/8 in. wide. The nut must be secure, however, for the plug to be gas-tight, and after a period of use there may well be carbon or gummy oil tending to stick the threads.

In the absence of special spanners, the least hazardous method *is* to hold the body of the plug in true vice jaws, sufficiently firmly so as not to squeeze it, and apply a flat-ring spanner to the gland nut-holding the spanner down while turning.

If the body is gripped too tightly, it distorts and grips the gland nut; if an open spanner or adjustable type is used it is likely to distort the nut, and a cranked ring spanner is liable to slip off. Should the gland nut be held in the vice, it too can distort and seize in the body. In such circumstances, dismantling is difficult or impossible; and in the process, the insulator may be damaged.

A simple "special" spanner, **A**, can be made from rectangular steel 1 1/2 in. X 1/4 in. by about 2 in. long, this having a hexagon drilled and filed to receive the gland nut. The tool is gripped in the vice flush with the top of the jaws, the sparking plug inverted into the hexagon, and a flat-ring spanner applied to the body-avoiding any distortion from gripping across diameters.

A more elaborate service tool, obviating the need for a ring spanner, can be made as **B** and **C**. With this, the body of the sparking plug is placed in the main portion, **B**, which is gripped flush in the vice jaws, and the spanner, **C**, is applied to the gland nut.

Handles if needed

The main portion, **B**, is in two pieces of the same material as the simple spanner, **A**, held by countersunk rivets; and spanner, **C**, can be made from rectangular section 1 1/4 in. X 1/4 in. by about 12 in. long. In some instances, the ends of such a spanner are reduced like the tangs of files to take handles; or alternatively, four pieces of hardwood (two each side, two each end) 1 1/4 in. x 3/8 in. x 3 1/2 in. can be riveted on to make handles.

The tool at **D**, devised pre-war by the manufacturer of well-known sparking plugs, employs a pair of discs with hexagons to fit gland nut and body, each disc having a circle of holes, which, different in number, do not coincide or obstruct all together. Thus, it is possible to select a pair of holes not quite in line, enter a taper tommy bar, and lever the discs relative to one another, loosening or tightening the gland nut. One of the discs is usually attached to the ordinary spanner with which plugs are fitted to or removed from the engine, forming a handle, **E**.

Suitable proportions for the discs are 2 1/2 in. dia. x 1/4 in. thick; pitch circles 2 in. dia.; number of holes,

eight and nine, dia. 3/8 in. Eight holes can be marked off by bisecting with dividers on the pitch circle, and for nine holes, the dividers should be set to a bare 11/16 in. to space round the pitch circle-correcting slight in; accuracies when making the centre punch dots for drilling.

An ordinary tubular spanner can be welded to one disc to accept the body of the sparking plug, and the top disc should then fit the gland nut. Welding should be employed, and not carried deeply to affect the hexagon. Brazing is inadvisable for this reason - it is likely to flow into the hexagon. An old plug body can be used for alignment in welding.

Hexagons can be easily marked by placing body and gland nut on material and scribing round. A centre hole can then be drilled or bored; or if this is not possible, a number of small holes can be drilled, and the piece punched out, **F**. In all cases, the hexagon is carefully filed.

