

bike which spits out its rotor in this way to be faced with a bill for several hundred pounds for a complete restoration, as the crank will be far too badly damaged to locate another rotor. However, a solution is at hand which not only prevents any recurrence, but can be fitted to a damaged crank. Although proved on a Triumph over several thousand miles, this should fit almost any machine suffering from a Lucas alternator set-up. Furthermore I can cheerfully claim to be the inventor of this solution and am miraculously in a position to supply it to interested parties! But first the details.

When all the wreckage has been scraped out of the chaincase it will be noted that between the rotor and the engine sprocket there is a spacer. Although the outer face of this spacer may be well ruined, beneath it the crankcase nose is undamaged. This provides centralisation. A new spacer is made which has a flat face as thick as the original, but a diameter as large as the new rotor you have just bought. Its rear face will need to be shaped to fit into the sprocket. At the centre of this disc is a male taper, quite small, with a major diameter of about two-thirds that of the steel sleeve through the new rotor. The remnants of the washer that fitted under the rotor retaining nut are

discarded and a new washer made, which includes an identical male taper. As you would expect, your new rotor then has a female taper machined into either end of its bore. It's important that the tapered washer is well over-size on the stud sticking out of the crank.

This takes care of centralisation and retention as the rotor centralises on the taper at the rear, and is trued by the flat face of the new spacer. The tapered washer simply holds it on and will not pull the rotor out of true even if the stud is bent, providing that over-size is there.

All that remains is to drive the rotor and this is best done as near as possible to its periphery, in order to reduce drive torque and minimise the effect of all those pulses. Fortunately the Triumph engine sprocket has two threaded holes for extraction (head studs fit) and these two holes are extended through the new spacer and into the rotor, taking care that they line up with the webs between the magnets. As these holes only drive they can be quite shallow and should not break through the alloy sides of the rotor. A couple of head studs can then be cut down to suit, just clearing the bottom of the holes in the rotor, and you have an assembly. There are minor details such as

the correct taper - I used 45 degrees but any proper engineer will know the official angle, and of course if you own a machine without extractor holes in the sprocket you'll have to make them, but this does seem to be a final solution. It's even easier than the original to fit and dismantle, especially on a really chewed up crank with lots of clearance.

It may well be that you have this problem with your machine at the moment or that, to avoid a future disaster, you wish to incorporate this underhand deviation from standard - which is at least invisible unless you take off the chaincase and look closely. In which case you can do one of two things. Either go to the good people who usually do your engineering work, taking the sprocket, the old spacer and the new alternator rotor with this article (they should have remarkably little difficulty in supplying you with the modified system); or, of course, you can venture into the riotous St Pauls, Bristol, locate the New Enterprize workshops in Grosvenor Road and have it made by High Tech, the originators of this wonderful idea. You'll still need the same bits, plus £50 in negotiable units and I don't work Mondays and Tuesdays.

