

Brum alternator clatter — and how to cure it

Silk-Scotts were, of course, fitted with these alternators. What an awful way to drive them, with all that magnetic resistance to rotation, with a peg in a slot with a disc $\frac{3}{32}$ " thick. Primitive to say the least. But what other way was there to drive them on a Scott.

Matt Holder went ahead and did it on his Brums, and they made an awful noise after minimal miles. When I started riding my Silk-Scott, I used to pull into lay-bys all the time to check the dreadful noise was only from the alternator, and not the engine internals. I couldn't put up with this, and just had to do something about it.

This article explains my attempt to cure this awful clatter. Instead of point to point contact, as a peg in a slot is, I thought it better to run the big-end bolt peg in a tight hole, and increase the area of contact to reduce the hammering effect of the peg each time it passes a magnet.

The first thing was to make a new big-end screw with a peg 10mm dia. and 0.265" long. The length of the peg was determined by pushing the crankshaft as far as it would go over to the near side, sticking plasticine on the inside of the crankcase door and bolting it up tight. On removal the depth of the compressed plasticine was measured, and the peg length was made to give just a few thou clearance from the door face.

Increasing the length of the peg enabled me to have the nylon insert either side of the disc, so increasing the area of contact. For the insert I used *Glass Filled Nylon 66*. this is 70% nylon/30% glass mix that has a high degree of reinforcement stiffness, high tensile and compressive strengths, and is stable up to 250°C. To me it seemed to be ideal.

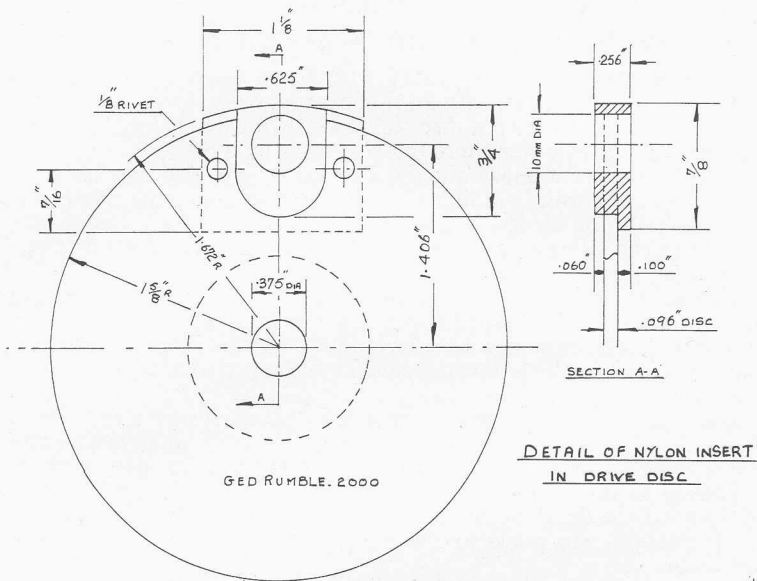
I made the insert to the sketch, and a good tight fit in the new, wider, disc slot. The hole was reamed 10mm dia. for a tight push fit on the drive peg. I turned a piece of mild steel bar to be a push fit in the centre hole of the disc, and another for the 10mm hole in the insert. Then using these two steel dowels I set the centres at 1.406" — the same as the long-stroke throw. Using Araldite, I bonded all together, and when set, riveted the insert in position. The Araldite was removed, and the centres checked at 1.406".

My crankcase door apertures have been bored out to admit 4" dia. cranks, so there is plenty of clearance when offering up the alternator to the crankcase. To make sure the insert in the alternator disc ran true with the big-end peg, I removed spark and sump plugs, and as the engine was spun, I nipped up the door straps a little at a time so the alternator centred itself and all ran true, allowing final tightening to take place.

All was well during summers 1997, 1998 and 1999, covering 1,200 miles. The alternator purred like a kitten. What a pleasure to ride the bike free from all that clatter and mechanical shrieking. 1,200 miles isn't a lot on test, so whether success or failure during 2000, I'll be back to let you know.

Ged Rumble.

Ged's diagram is shown overleaf. Next cure — primary chain noise? - Ed.



Geoff Bucknall inserted plumber's copper elbow-joint to improve water-flow through the sharp angle of hose between rad. and header tank.