

Ruby still has the dynamo charging and along with the modern electronic “black box” regulator I fitted has proved to be very efficient. I would say that of all the older bikes I have owned, it provides the best performance I have ever experienced, in that it is possible to ride with the headlight on and still get plenty of charge. I am still getting used to the idea of having an ignition key to turn the “elastic trickery” on and (most importantly) off, if the engine has perhaps been inadvertently stall-stopped prior to parking.

As for the controls, the only one I have a bit of an issue with at the moment is the gearchange being a bit clunky and only being able to reliably find neutral from second gear. Trying to get into neutral from first has usually proven to be a real hit and miss affair. The long movement on the gear change lever does not bother me, because it is not much different to the Albion ‘box on my J2.

All in all, in spite of what seems to be fairly high fuel consumption, I am thoroughly enjoying my Scott experience and I suppose the real test of ownership is, would I consider buying another? Well.....

*Lewis Potter*

## **New Oil Pumps Anyone?**

A recent enforced lay up in Derby Royal Hospital, whilst it was like swimming in chains for a bloke like me, enabled me to put down on paper what I have been thinking about for some time.

My association and fondness for B & L pumps goes back to racing vintage bikes for years, then the production of twenty one Silk Scotts. The pump we made was a single rotor with a bifurcated feed as used on the vintage racer where it gave no trouble. We added a “Town and Country” lever to knock the oil off around town for the Silk Scotts.

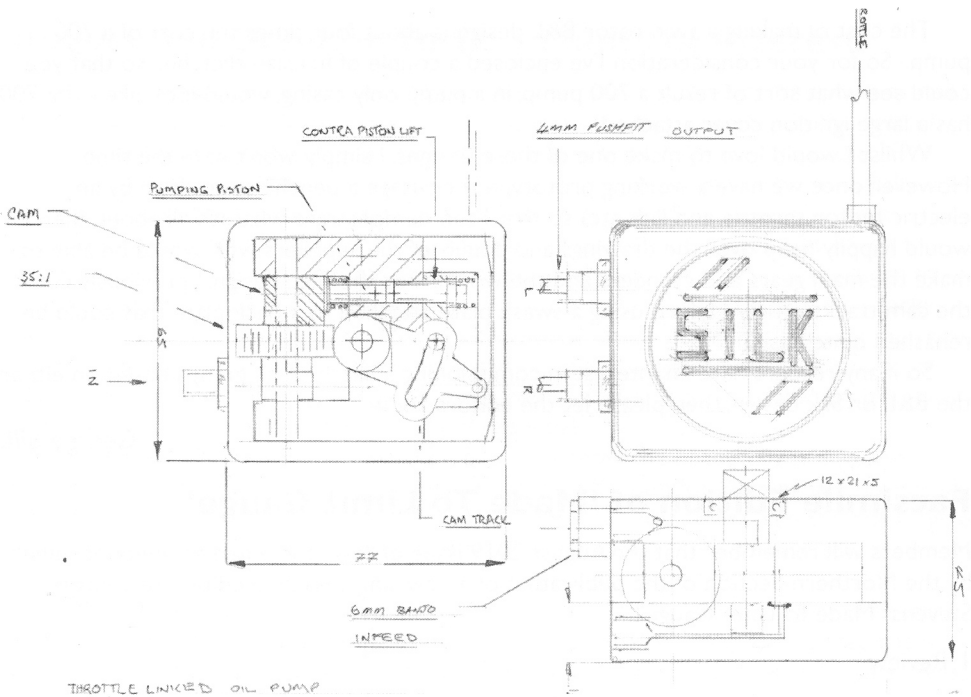
Keith’s recent articles in Yowl [“Bill Hill” Oil Pumps, August and October 2019] and the discovery of a few new “bits” have spurred me on to design a twin rotor unit which turns out smaller than you might imagine. One thing, reading his article, the sealing of the “letter box” needs to be very good if you are looking to pressurise it.

The problem for any designer is what do the customers want when they don’t know themselves? They do know that the lathe oiler based Pilgrim pump which is working at one end of it’s design limit does not really work. Our family had two Birmingham Scotts and are consequently very aware of the drawbacks.

How to find what we want? A first stab around town and on low throttle openings could be 60:1 and on full bore 32:1. If my maths are right that equates to 70 cc at 60:1 and 130 cc at 32:1. Assuming 45 mpg/hour the flow rate comes out as 1.1 cc/min at 60:1 and 3.0 cc/min at 32:1, but I do need a little help from Scott riders so I can get the amounts spot on.

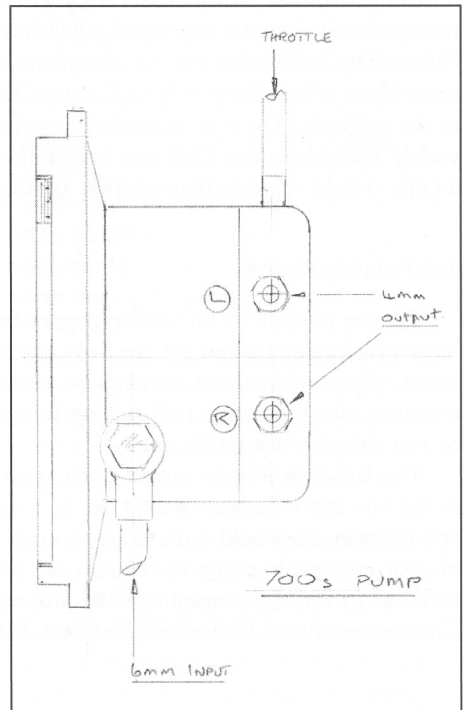
Basic spec: The twin rotor unit should fit into any Scott pump location. The size will be 75mm (3”) width x 50mm (2”) height x 45 mm (1.8”) deep. The cam cylinders are mounted in ball races geared together and will be linked to the throttle. Thus, you get a smooth progressive delivery across the range.

However, enforced inaction causes you to perhaps reflect more. Initially I was moved to envisage a twin rotor B&L as described above because I know the problems you get with a single rotor with which Bill Hill was obviously struggling. I also said I thought I had



some B&L parts, but these turned out to be gears and pistons from the 700s pumps. When I did the calculations around the B&L pump, even at 4mm diameter piston you have an area of 1.25sq cm. So a stroke of .25 still gives 0.3ccs per stroke. Say your Scott is pootling along at 1000-1200 rpm, that's  $1200/35 = 34$  strokes/min. So even at the lowest cam stroke you get 10ccs per minute - we are probably looking for half to a quarter of that.

So I had another look at a 700s pump, for which I do have all the drawings, and which is based on the internals of a Tecalmet gas turbine oil pump. This pump has a piston of 6mm and it pumps on full chat @ 1:35. There is a contra piston controlled by a cam directly connected to the throttle that can be set to limit the pump output, from a minimum amount up to the maximum amount. This design (Pictures 1 and 2) has the advantage that it actually pumps the oil into the engine, whereas the single rotor B&L has a bifurcated outlet which is subject to bias.



The cost of making a twin rotor B&L design is about four times the cost of a 700 pump. So for your consideration I've enclosed a couple of full size sketches so that you could see what sort of result a 700 pump, in a pump only casing, would look like - the 700 has a large ignition cover attached.

Whilst I would love to make one of these designs, I simply won't have the time. However, once we have a working prototype (I envisage a bench set up drive by an electric motor; throttle and link etc) so that I can demonstrate what it's all about, then I would happily hand over the drawings and details of the suppliers who would be able to make the main gears and cylinders and the worm. For the B&L design, I previously cut the cam tracks on my Myford using a swash plate attached to a back plate that could be rehashed quite easily.

So if any readers have an interest in commissioning a batch of oil pumps based on either the B&L or Silk design, then please let the editors know.

*George Silk*

## **Facsimile Edition of 'Made To Limit Gauge'**

Members will remember that the August 2019 issue of Yowl contained an announcement by the Northern Section of the publication of a new single-volume edition of George Stevens' 'Made To Limit Gauge'.

### **1. Review**

The first time I read 'Made to Limit Gauge' was about forty years ago when a local motorcycle dealer loaned me a copy when I first got into Scott's. It was good to get reacquainted with the reprinted publication arranged by Martin, Graeme and Andrew. Particularly impressive are the enhancements made by modern scanning and printing techniques which, according to Graeme, have brought out some elements not easily seen in the originals. The trio should be commended for their work in making MTLG more widely available in the Club and I recommend that anyone who is interested in purchasing a copy should register that interest as soon as possible.

*Geoff Green*

### **2.A Possible Reprint**

We are pleased to be able to report that almost all of the fifty copies we had printed have now been sold and we are now considering whether or not to commission some more. We would expect these to be available at the original price of £25.00 per copy, including inland postage and packing, but would like to 'test the market' to see whether or not the plan is a viable one.

The facsimile edition would once again be marketed only to SOC members and we in the Northern Section would like to know the number of potential purchasers. If you believe you would wish to buy a copy please contact Martin Hodkin to advise him of your interest in doing so. Martin can be contacted by telephone (0114 245 2028) or email ([martin@flyingsquirrel165.plus.com](mailto:martin@flyingsquirrel165.plus.com)); alternatively you can write to him at 87 Chapeltown Road, Ecclesfield, Sheffield, S35 9WD.

*Andrew Marfell  
Martin Hodkin  
Graeme Rimer*