next generation. I have picked up my repaired (previously crushed) exhaust system from Richard Bensley at Competition Fabrications of Attleborough. He does special metalwork for Vintage bikes and if anyone wants more details then I can advise. I just need to set up the front fork spacers to get that together and every step that brings the bike nearer to completion encourages me to finish the job.

I received a ride report from Mark Scott in Texas which is a joy to read, especially to an engine rebuilder who put his heart and soul into building the best engine he could. These engines are my mechanical children and I care that they are well looked after and behave themselves.

Roger Moss

A Silk for the Twenty- First Century

George Silk should need no introduction to the readers of this magazine. He created his first special in 1970 and Chris Williams had some good wins sprinting the bike. A 500cc Spondon framed bike was also built for the 10M - the original plans fell through (Chris Williams) but Stuart Hicken, who now runs Mallory, got the bike home on two gears. This machine became the basis of the first commercial "Silk Scotts" produced with George's business partner Maurice Patey. Together, they set up Silk Engineering and began by providing a 'spares and repair' service for Scott motorcycle owners. Silk Engineering exhibited the "Silk Scott" prototype at the Racing and Sporting Motorcycle Show in London in 1971 which attracted much interest, and by 1975 had produced a total of twenty one Silk-Scott Specials. Disagreements with Matt Holder about engine supply and the use of the Scott trademark forced the Company to develop their own engine with help from David Midgelow of Rolls-Royce engineering and Gordon Blair of Queen's University, Belfast, who helped with the exhaust whilst the porting came from the racer. In 1975, the Silk 700S was launched to much acclaim. The new engine was installed in a steel tubular frame made by Spondon Engineering of Derby, and they also produced the forks, yokes and disc/drum brakes.

An important footnote was the construction of the Silk which was built as a competition prize for Motorcycle Mechanics in 1986. This prototype engine, a 500cc top on a shorter stroke, used a revised loop scavenge engine and was fitted into 700S cycle parts. A second interesting Silk prototype was also constructed which comprised a single cylinder 250cc trials bike, this had an 8 speed (2x4) horizontal split gearbox with concentric swinging arm.

These two final prototypes appeared to be the end for Silk motorcycle production. However, George is a generous man and is using lessons learnt from their construction to build his son Richard a one off "Silk Special". The aim was to finish this bike for 2020 but there is still much to do. The engine is the heart and soul of the project and is largely complete. As might be expected, it is not a conservative design and features a Silk 700S bottom end with a top end off the 500 prototype and a gearbox similar to that used in the 250 trials bike. The barrels have separate "dry" cylinder liners running KTM 300

flat topped pistons - the engine uses a loop scavenge system using shaped ports in the barrels. From a quick inspection, the crankcase, crankshaft and porting in the liners all look remarkably modern.

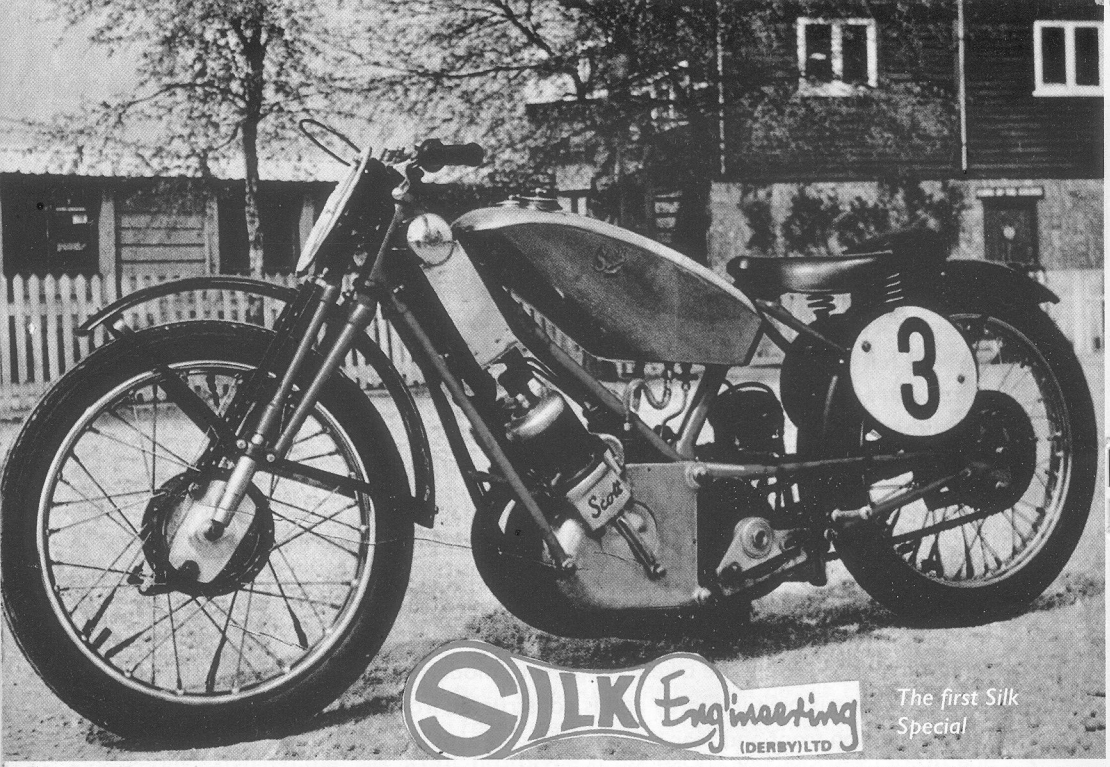
Fuelling will be taken care of by a pair of Amal carburettors feeding the crankcases via modern style reed blocks. Oiling will be via a Silk 700S-style pump feeding to the mains, coupled with a crossover system to ensure the oil is distributed everywhere. George has fitted an additional small helical geared pump unit (complete with a filter unit) to ensure that the helical primary gear train to the gearbox receives the additional small continuous oil flow which it requires. The crankshaft feeds the clutch and gearbox via helical drive from the centre. The clutch is a derivative of the Scott competition clutches Silk used to make and there is a 6-speed gearbox running Nova gears.

Interestingly, as in the 2S0cc prototype, the engine runs three gearbox shafts and in order to improve handling the output shaft is concentric with the swinging arm. George showed us the custom gearbox selector plate and the selector forks he had made. To ensure the gears changed smoothly he added miniature rollers to the selector forks. Cooling is by a Silk 700S radiator with conventional thermo Siphon but also has an additional third cooling outlet circulated by an electric waterpump and a fan which are thermo switched to enable the bike to cope with modern traffic. The Silk designed mono-shock frame is built in Derby and is constructed from brazed steel tubing with Maxton suspension front and rear and the swinging arm is rooted in the engine. The frame bolts to projections on the engine and this cancels out any torsional twisting found in conventional deSigns (patented in 1980).

As with all custom projects, many problems were encountered during the build. Faulty materials meant that the gearbox mainshaft had to be remade. George's usual gear cutter could not cut the required 13 tooth spline, so after a few practice attempts he cut the splines himself with his 360 degree turntable - which of course does not divide by 13! The cutter was successfully converted using a hand ground centre drill. Currently, Eddie Shermer has the barrel with the liners installed, and this was a major job in its own right. The cylinder heads are mostly completed, with just the compression bowls to make. One major job which remains is the crankcase fine boring. The gearbox just needs a few gears hardening and grinding and then the clutch and all the helical gears are done. The petrol tank is an important part of any custom build but unfortunately things were delayed when Steve Gagg contracted Covid-19. As always, there will be many brackets to fabricate and, of course, a complete custom exhaust system will have to be made up.

Needless to say,we are really looking forward to visiting George again and seeing the completed bike. We don't know when that will be yet but rest assured that we will print the second part of this article as soon as we can. Good luck George!

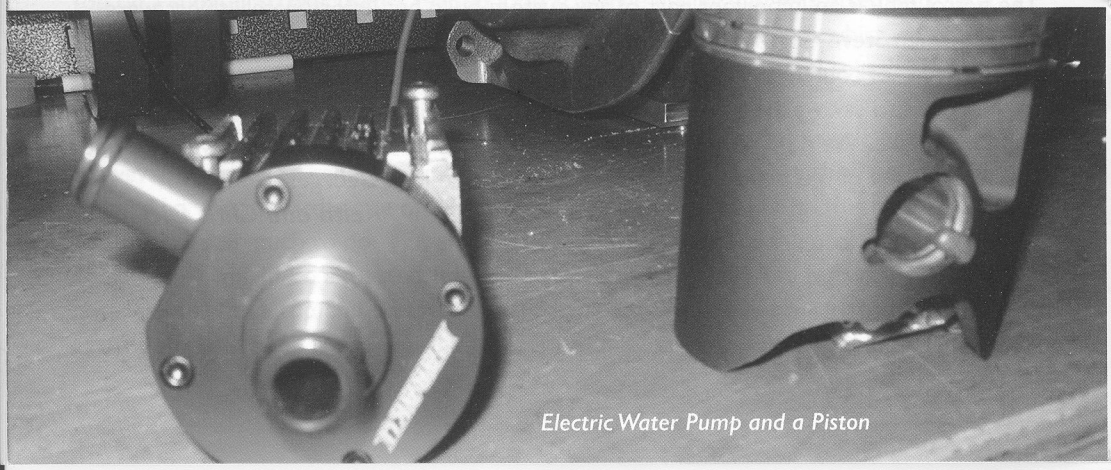
Keith and Chris Dickinson



The first Silk Special

The Competition Prize

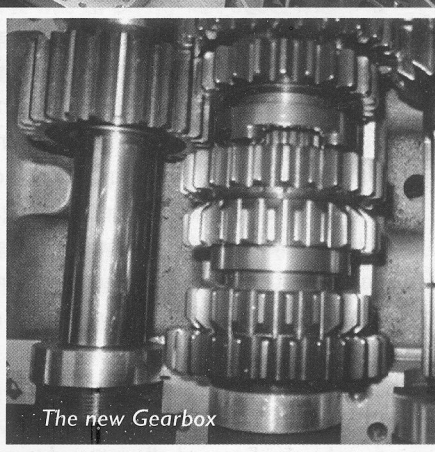
The Single Cylinder 250cc Trials Bike



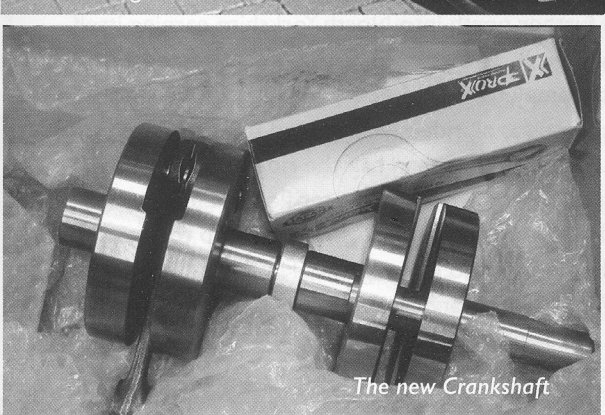
Electric Water Pump and a Piston

George with the new Engine

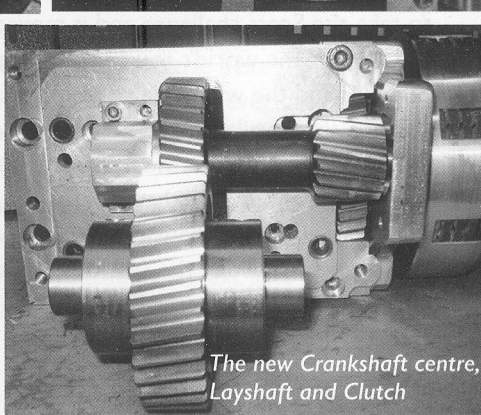
The Rolling Chassis



The new Gearbox



The new Crankshaft



The new Crankshaft centre, Layshaft and Clutch