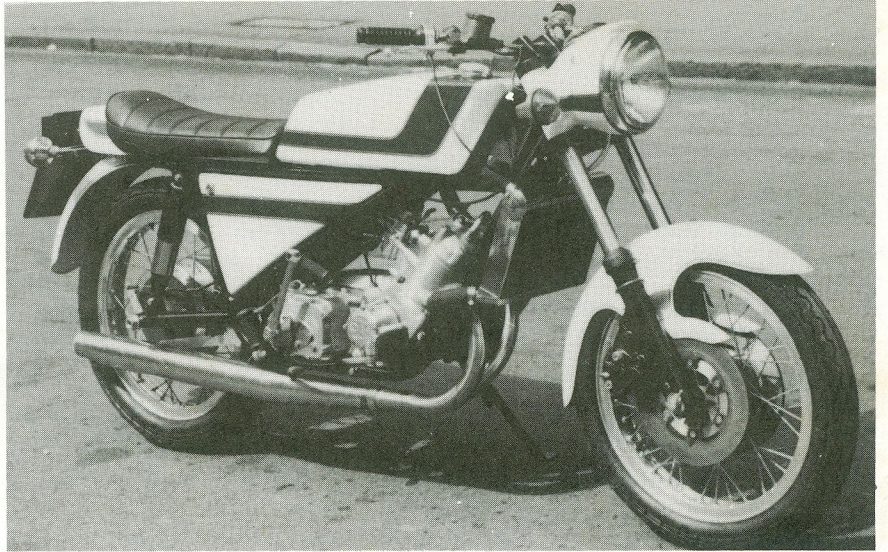


*The Exclusive*

# SILK 700S



**660cc. 320 lb.**

**FLEXIBLE POWER**

**HIGH POWER/WEIGHT RATIO**

**SUPERB HANDLING**

**"AS SMOOTH AS A SILK"**

# THE STORY OF THE SILK 700S

## The Background

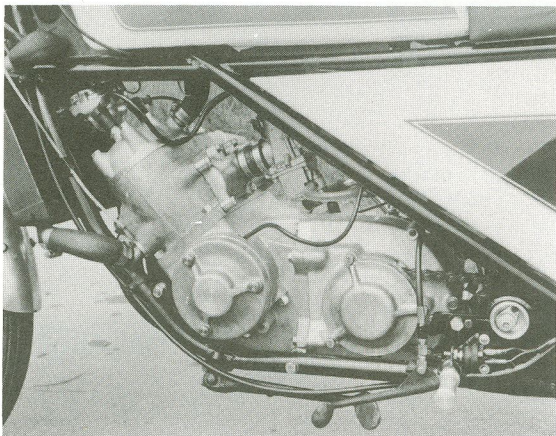
George Silk and Maurice Patey set up Silk Engineering with the ambition of putting on the road a really advanced high-quality British motor-cycle. Both have motor-cycle racing and trials experience; in recent years, they have achieved remarkable results in overhauling and tuning vintage motor-cycles. They have already produced a small number of new "Silks" with reconditioned Scott engines.

The directors of the company and the design staff now include senior specialists from the fields of Aeronautical, Production and Value Engineering, and a senior management consultant, to give the broad base necessary for launching a new highly-technical product into today's competitive market.

## The Engine

Traditionally, the 2-stroke had the advantages of lightness, compactness, simplicity and mechanical quietness; but it suffered from a reputation for difficult starting, sparkplug troubles, blue exhaust smoke, rapid bore wear and seizure. Later versions of the 2-stroke, using the "loop-scavenge" principle, produce very high powers but suffer, at the same time, from lack of torque at low speeds so that six gears are necessary, and the fuel consumption is high.

The new Silk engine was initially designed by David Middelow, C. Eng., M.I. Mech.E. and George Silk, to emphasize the advantages and minimise the disadvantages of the 2-stroke, and was then referred to Dr. G. Blair, B.Sc., Ph.D., C.Eng., M.I. Mech.E., M.S.A.E. at Queen's University, Belfast for the porting to be optimised, and the performance to be calculated by computer. Our new, patented, "Velocity Contoured" charge/scavenge system is a major factor in achieving abundant low speed torque and good fuel consumption. Maximum horse power is produced at 6,000 r.p.m., but maximum torque occurs at 3,000 r.p.m., giving real "kick-in-the-back" acceleration throughout the speed range and requiring only a simple four-speed box. The fuel consumption is outstanding for a 700 c.c. bike, by any standards. The compact design of the all-aluminium engine makes the best of the power/weight and power/volume advantages of the 2-stroke.



Water-cooling has a number of advantages and other manufacturers are now introducing it for their higher-powered machines. Firstly, it controls the hotspots, giving more uniform and better controlled combustion, thus reducing unwanted exhaust emission.

Secondly, it provides better cooling round the spark plugs, thus helping to overcome one of the 2-stroke's problems. Thirdly, it emphasises the 2-stroke's inherent mechanical quietness. Fourthly, although there is the added bulk of the radiator, the actual engine itself can be much smaller, lighter and more get-at-able. Finally, the whole system is so well matched that, with such a small engine, the header tank can be mounted above it, using thermo-syphon cooling and avoiding the complication of water pumps and thermostats.

Simplicity, leading to reliability and ease of maintenance, has been our aim throughout.

**HIGH POWER/WEIGHT RATIO**

**SUPERB HANDLING**

**"AS SMOOTH AS A SILK"**

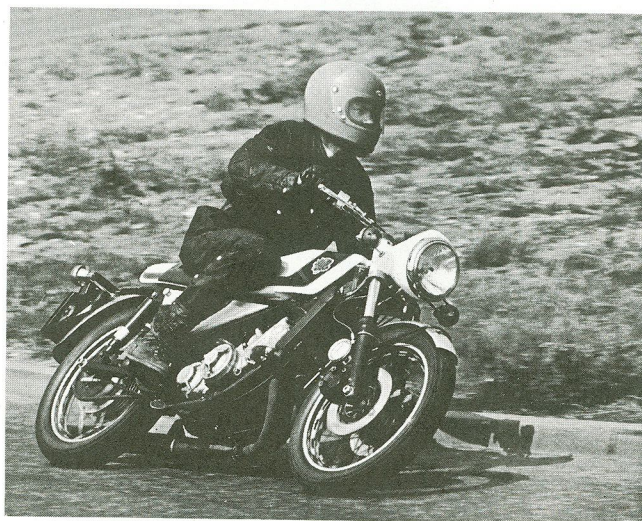
# The Bicycle

The lightweight frame, based on a well proven, race-bred design, emphasises the advantages of the small lightweight engine, and we have really concentrated on keeping it light. Not only does this contribute to the fantastic performance, but it means that the bike is readily handleable — you don't need a weight-lifter to move it round the garage!

Also contributing to this, and to the fabulous road holding and steering, is the low centre of gravity, again made possible by the compactness of the engine.

The ride is, if anything, slightly on the firm side, but we have done this deliberately to give the optimum road holding — we really do claim it is the optimum.

As one experienced rider said, "you have to ride some of the modern high performance bikes as though they were on ice all the time — with the Silk, you forget about the steering and go where you want, almost by instinct."



## Our Programme

This is not a mass-production machine, and we are not mass-production manufacturers. It is our intention to avoid the pitfall of over-production and entering a field which is not our true metier. These bikes will therefore remain exclusive, limited-production items. With limited production, it is practical to sell and support the machines direct from the factory; the agency and distribution costs thus saved enable us to provide the quality and individuality that we are offering.

**SILK** Engineering  
(DERBY) LTD

**SUPERB HANDLING**

# SPECIFICATION

## General Description.

A lightweight, high-performance, sports-tourer, designed and manufactured in limited quantities by enthusiasts for enthusiasts.

## The Engine.

### Type and dimensions.

Inclined twin-cylinder piston-port 2-stroke, water cooled, pressure-pump lubricated. Patented "Velocity Contoured" charge/scavenge system for low-speed torque and good fuel consumption. Bore and stroke 76mm x 72mm, 653c.c.

### Engine Construction.

Separate cast-aluminium head, block and crankcase, with integral water cooling. Centricast iron dry liners, jig-machined for accurate porting. 2-piece crankcase, horizontally split for rigidity and avoiding oil leaks. Pressed-up counterbalanced crankshaft, running in 4 caged needle-roller bearings. Forged con-rods with floating gudgeon pins and caged needle-roller big-ends. Specially designed ported-skirt pistons.

### Lubrication.

Crankshaft-driven Silk "DUPU" micrometering duplex pressure pump meters oil according to R.P.M. and throttle opening, through pressure-retaining non-return-valves.

Approx. rate of oil usage better than 300 miles per pint. Separate  $3\frac{1}{4}$  pint oil tank.

### Ignition.

"Lumenition" transistorised ignition, with centrifugal advance/retard and dual coils.

## The Bicycle.

### Frame.

Lightweight duplex frame, triangulated for strength and rigidity at steering head and swinging-arm pivot points. Manufactured in aircraft-grade tubing by Spondon Engineering and race proved. Complete engine and gearbox removal by taking out six bolts, without dismantling.

### Steering head and front forks.

Twin Timken tapered-roller, steering head bearings, pre-packed with grease and sealed. Race proved hydraulic-damped front forks.

### Rear suspension.

Rigid swinging-arm pivoting on substantial Tufnol bushes. Grease-nipple lubricated to provide adequate supplies of grease to expel road dirt and water, to ensure long-life and accurate road holding and steering. Girling suspension units, readily adjustable to suit load.

### Brakes.

Twin 10" disc Lockheed hydraulic front brakes. Finned light-alloy calipers. Discs in cast-iron for optimum braking in dry or wet conditions. Robust light alloy handlebar-mounted master cylinder. 7" light alloy drum rear brake.

### Wheels.

Aluminium or chrome-plated steel rims. Stainless steel spokes. Avon Roadrunner tyres.  
Sizes: Front, 3.60 x 18; Rear, 4.10 x 18.

## Electrical generation.

Crankshaft-driven 104w. 12 volt alternator, with rectifier and battery.

## Carburation.

Latest-type Amal Concentric Mk. II carburettor, with dry paper air intake silencer/filter.

## Exhaust system.

Siamesed expansion type with specialist-designed silencer.

## The Transmission.

### Primary chain.

$\frac{7}{16}$ " Reynolds Duplex chain in enclosed oil bath. Speed reduction

### Clutch.

Specially designed robust multi-plate clutch, using standard clutch-plates, running in enclosed oil bath.

### Gearbox.

Rigid casting assemblies flange-mounted on to the crankcase, with rigid cast covers, multiple-bolted to eliminate oil leaks.

Robust heavy-duty close-ratio gears:

1st 2:29, 2nd 1:59, 3rd 1:21 Top Direct.

### Final drive.

Totally enclosed  $\frac{5}{8}$ " x  $\frac{1}{4}$ " roller chain, grease packed.

Adjustment by eccentric in swinging-arm fulcrum.

Standard gearing: 19 tooth gearbox-sprocket, 36 tooth wheel sprocket with "Cush-Drive."

## Electrical Equipment.

12v. Negative earth system.

Special Lucas 7" quartz-halogen headlamp, with built-in parking light.

Headlamp fairing includes speedometer, ignition switch, ammeter, light switch, headlamp highbeam indicator, flashing indicator warning light. Amber flashing indicators front and rear.

Large area combined stop-and-tail light and reflector.

Horn.

## General

Nuts and bolts throughout are stainless steel; standard threads are UNF or UNC.

## Customer-choice items.

Wheels:	Chrome-plated steel or polished alloy rims.
Front brake:	Twin-disc standard. Alternatives are hydraulically operated single disc or 8" 2 leading-shoe cable-operated drum brake.
Front forks:	Dirt-excluding full gaiters if required.
Handlebars:	To suit customer preference.
Fuel tank:	Long range 4 gallon (18 litre) or sprint 3 gallon (14 litre) capacity.
Seat:	Single seat or occasional dual seat and pillion footrests. Seat height from 28" (71 cm.) to suit customer.
Sidecar attachments:	If required, with lighting and braking.
Colour scheme:	White background on tank and panels, black frame. "Silk purple and gold" linings as standard. Alternative coloured linings to customer choice if required.

# DIMENSIONS AND PERFORMANCE

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## **Dimensions.**

Wheelbase: 56" (142 cm.). Length: Approx. 81" (206 cm.)  
Ground clearance: approx 8" (20 cm.). Weight approx. 320 lbs.  
Fuel capacity: 4 galls. (18 litres) or 3 gals. (13 litres).  
Oil capacity: 3 $\frac{3}{4}$  pints (1.85 litres).

## **Approximate performance** (dependant on conditions).

Max. speed in Top gear: In excess of 115 m.p.h. (185 k.p.h.).  
At 6,000 R.P.M. in 3rd: 106 m.p.h. (170 k.p.h.).  
At 6,000 R.P.M. in 2nd: 82 m.p.h. (132 k.p.h.).  
At 6,000 R.P.M. in 1st: 55 m.p.h. (90 k.p.h.).  
Acceleration times 0 — 70 m.p.h. (103 k.p.h.):  
Acceleration times 30 — 70 m.p.h. (48-103 k.p.h.) in top gear:  
Braking distance from 30 m.p.h. (48 k.p.h.):  
Fuel consumption — Average touring: 55 m.p.g. (7.0 litre/100 km.)  
At constant 50 m.p.h. (80 k.p.h.): m.p.g. litre/100 km.)  
At constant 70 m.p.h. (103 k.p.h.): m.p.g. litre/100 km.)  
Oil consumption — average touring: 300 miles/pint (850 km./litre)  
(.12 litre/100 km.)

**Note.** The above information is awaiting verification.

## **SILK ENGINEERING (DERBY) LTD.,**

Registered in England No.1068122

BOARS HEAD MILL - DARLEY ABBEY - DERBY

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