

## Silk 700 S (Mk 2) Ignition Replacement

We don't see much published in Yowl for our Silk owners, so I thought that the following article may be of interest. It was written some years ago by my friend Tony Donnithorne, and concerns updating the Silk ignition as carried out on his son's Silk.

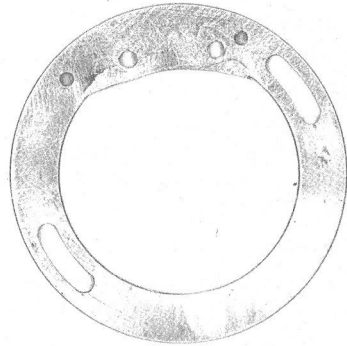
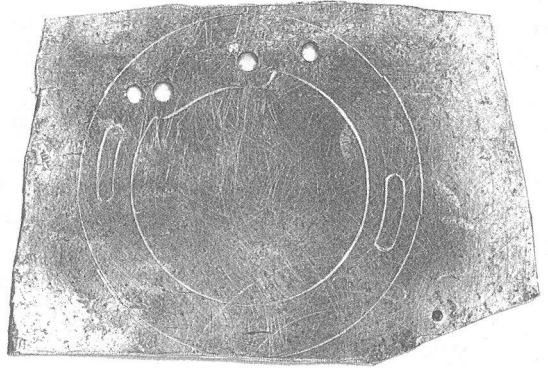
*Dave Bushell*

The ignition system was supplied by Lumenition, and original equipment (replacement units) are no longer available. The design has been updated in recent years and the new module and sensor do not interchange with the old units. The Silk uses an electronic ignition system that is actuated by an optical sensor fitted behind the oil pump on the offside of the engine. The shutter is driven from the end of the crankshaft, and uses a centrifugal bobweight to advance the spark.

The Ignition Power Module on our Silk failed, and when I approached Lumenition they were very helpful but admitted that they had not fitted the new units to a Silk. They were confident that they would both work and be more efficient, due to the latest technology used in the design. As there were no other units readily available that would fit, I decided to find a way of fitting the new sensor.

I purchased a kit, Part No PMA 50, which comprised the Electronic Power Module and the Optical Sensor, and removed the old units. The oil pump is removed by undoing the top and bottom bolts only. The module was not a problem, as it was the same design and size, and fitted under the fuel tank using the same holes as before. The sensor, however, was a problem as it is mounted on a 3mm thick aluminium ring which needs rotating to time the engine. However, the new sensor has a different shaped base, so consequently new locating holes must be drilled and tapped to take 2BA screws. It also has left-hand entry wires.

By trial and error, I worked out the position for the sensor, and found that it needed to be mounted inboard of its present position, and the ring was not wide enough. This gave me two options - either make a new ring with a smaller internal bore, or weld a segment on to the inner edge of the ring to increase the width at that point. It was easier for me to opt for the latter and my friendly welder, using his TIG equipment, built up the ring to its new shape.



## **Instructions for fitting to Silk 700S Mk 2.**

1. File off the surplus weld, and ensure that the extension clears the centre boss.
2. Drill and tap the right hand hole in the ring, to 2BA, 15mm away from the surplus 4BA hole, positioned slightly overhanging the original inner edge of the ring, and 56mm across to the opposite inner edge. (All measurements are to centres of holes).
3. Continue with the left-hand hole, which should be 21 mm away from the first hole and in the same position in relation to the edge of the ring.
4. It is then necessary to trim the left-hand leg of the sensor, as it is too long. Cut off the 3/16" hole, and some of its lower edge. This is to ensure clearance on the centre boss.
5. Secure the sensor to the ring, using the right hand hole, and fit the ring to the engine. Check that the sensor has clearance round the centre boss, and from the engine casting above it. The wires will exit through the hole in the top of the case.
6. Fit the Power Module and wire it up. Black to the original earth position, cut the Red and Mauve (Brown) wires to length and fit female Lucar terminals. The Red wire connects to the positive spade on the nearside coil, the Mauve wire to the negative spade on the offside coil, and the multi plug connects the Module and the Sensor as before. The Black/Yellow extension lead can be discarded.
7. Switch on the ignition and pass a card between the optical lenses, a spark should occur at the Sparking Plugs.
8. Reposition the sensor by rotating it on the right-hand screw to ensure that the shutter fully covers the optical lenses, but does not touch the sensor, and interrupts the light beam when rotated clockwise. Remember that the spark occurs at the Sparking Plug, when the shutter interrupts the light beam.
9. When determined, tighten the right-hand screw and remove the ring, you now have the exact position; scribe round the sensor to record this.
10. From the back of the ring, mark the back of the sensor through the previously threaded hole. Remove the sensor and drill out to 3/16". This hole should allow a cheese headed 2BA screw to pass down the side of the raised platform of the sensor from the front.
11. To time the engine, refer to the instructions in the manual. Set the right hand piston 0.200 ins (3/16" is 0.1875) BTDC, the plugs should spark when the shutter is rotated to the fully advanced position.
12. Lock up the ring, recheck the timing and replace the oil pump and sparking plugs. If you have got everything right it should start first kick.

### **The Ignition Kit is available from:-**

Lumenition, Autocar Electrical Equipment Co. Ltd, 49/51 Tiverton Street, London SE1 6NZ

When carrying out this work I have made templates of the ring and the sensor base (see picture), and would be willing to help any fellow Silk owners who may be in trouble, or wish to update their ignition. I can be contacted on 01342 326366 or email [tony.zenith@talk21.com](mailto:tony.zenith@talk21.com).

**Tony Donnithorne**