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## The Lucas PLC 2 Switch

The Lucas PLC switches fitted to early T-Types, were quite robust, all are of similar construction. The parts which get damaged are: the lock barrel, the switch knob and the bezel. To change the lock barrel (difficult to find now), the nut in the centre of the back of the case has to be removed. To replace the knob, or bezel the switch has to be disassembled. The PLC2 which came with TA0844 was intact with internals in good shape but the bezel will need to be re-chromed.

To start disassembly it is necessary to remove the nut soldered to the threaded spigot which is part of the lock barrel. This nut is located between the two centre terminals on the rear of the switch case. I used a gas soldering iron to heat until the solder melted and then sucked away the solder with a solder sucker. Sufficient solder can be removed this way to enable the nut to be unthreaded. Inserting the key will enable the lock barrel to be withdrawn.

At this stage the switch is being held together by its bezel. A twist of the bezel to line up with the release grooves in the casing should result in a handful of springs, washers and contacts. There are two springs inside and so controlled release of the bezel is necessary. Take a note of the order in which the switch comes apart as some time may elapse before the bezel is restored. (See photo 1).



**Photo 1 – Take care in disassembling the switch!**

The components were dirty with hard deposits of old Lucas grease, I cleaned all this with isopropyl alcohol, and had the bezel re-chromed.

The bezel will need painting and lettering. To do this, mask the edges and carefully take the shine off the centre lettered area using fine wet and dry paper. Spray with a thin coat of primer and a thin coat of satin black and leave to dry. With a fine brush, fill the grooves of the lettering with white emulsion paint and remove the surplus with damp lint free cotton material stretched over a finger. This will remove some paint from the lettering grooves. Leave to dry, fill these areas again as before until the lettering is complete.

Make two clips to fit into the groves on opposite sides of the switch case to hold the SRBP washer with the centre cut-out and contact ring. One, 5/8 inch wide for the groove adjacent to a grub screw socket and one 3/4 inch wide for the other, I used welding wire. Now to the tricky part: how to fit together.

1/. First orientate the bezel so that its lugs fit the grooves in the case, because of the position of the lugs this can only be done in one position. Mark both with sliver of tape for locating later. Note that the lock barrel has a flat section at the thread end, this means that it only inserts correctly in one position. Note the position of the moulded projection in the centre of the switch case as viewed looking into the switch for later location of the lock barrel tube. Use tape to mark this.

2/. Place the knob into the bezel then put on the circlip cover dished side out, then the circlip, followed by the large plain SRBP washer then the large spring, with small end against the washer.

3/. Place the small insulation backed ignition contact ring into the case with contacts in location. Place its dished metal cover on top, dished side inwards. This metal cover has two cut away parts at its edge, the larger one should be against the projection moulded into the case close to its centre, Now ensure that the flat on the inside of the ignition contact ring lines up with the flat on its cover - it could be 90 degrees out. Follow this with the small spring, small end out. The small SRBF washer is balanced on top.

4/. Place a ballpoint pen through the centre of this assembly and slide the mazak lock body cover over the pen. The lock body cover has cut away parts on its inside end, with fingers either side. One side is deeper than the other which should line up with the small moulded projection near the centre of the case. The two fingers should fit into the slots in the back of the casing. It should not rock when pressed fully in, it is essential to get this orientation correct. Remove the pen. Look into the centre of the lock barrel holder and ensure that the flats on the inside of the ignition contact ring and its cover still line up. The cover can be moved with a small screwdriver.

5/. Dab some lubricant on the contacts in the case. (I used Servisol Switch Lubricant). Place the large contact ring into the case followed by the large SRBP washer with cut outs. Rotate both clockwise so that they stop at the projection on the inside of the case, check that the centre cut-outs line up.

6/. Fit the two wire clips in the grooves moulded into the sides of the switch case to retain the plain washer and large contact ring in position when pressed fully in. Secure the clips around the outside of the case with a broad elastic band. (See Photo 2).



**Photo 2 – Secure the clips around the outside of the case with a broad elastic band,**

Note from photo 2 that the cut out in the centre of the SRBP ring at 9 o'clock is smaller than the other three and the projections at 2 and 5 o'clock are the same width but narrower than those opposite. This means that the knob will

only fit in one position.

7/. Again ensure that the contact ring and its covering washer are rotated fully clockwise so that the cut away parts line up. With the large spring and the large SRBP washer on the inside of the switch knob, place the assembly into the switch case locating the narrow slots on the switch knob with the ones on the large contact ring and washer. There is only one position where the knob will fit.

The tape marks for the bezel location should be coincident and the knob should locate in the grooves when in the 'Lamps Side' position. Ease together until the bezel is firmly home and rotate it anticlockwise (viewed from the knob) until the bezel stop is reached. Remove the two clips. The knob will now be in the 'Lamps Head' position, check that the four knob positions can be achieved.

8/. Should things not work out at this stage, break for coffee and start again.

9/. Check that the flat on the ignition contacts ring are in line with that of its cover as in 6/. Insert the key in the lock barrel. Line up the flat near the end of the barrel with those of the ignition ring and its cover and insert the barrel into its housing. Slight wiggling might be necessary to achieve this. Screw on the nut (6BA) it can be soldered or locked with another nut.



With luck the lock can be rotated to complete the ignition circuit.

**Bob Butson.** October 2011