



Tex magna indicator switch restoration

By Enrico Agostinelli

One of the most used (or at least should be for most) device in our beloved Land Rover, is the indicator switch. On later series 1¹ and on series 2 Land Rover the indicator stalk fitted was provide by Tex magna. This is an item that was fitted on other vehicles as well (e.g. Bedford trucks) although with some minor differences in the finishing.

I've restored many over the last few years, and the main differences I've found concern:

- wiring (4 or 5 cable versions)
- Finishing (grey, black or chrome)

¹Whether or not the Series One has turn signals depends on the regulations of the jurisdiction that it was originally sold. It was not uniform when they became a requirement, especially in North America where is was province by province or state by state.

- Lens colour (green or red)
- Bracket type (C or S clamp locking system)

In a Land Rover series, for what I've seen, the configuration is: 5 cables, grey finishing, green lens and S type bracket clamp.

As far as I'm aware, the code on the body is the same for all versions, and indicated the model itself from Tex Magna.

This units are pretty reliable, with 2 main issues that comes up over time:

1. Perished rubber wheel
2. Faulty contacts in the Bakelite switch

Lets start from the basics; to remove the unit from the steering shaft simply open the

bracket via the 1 bolt (S type clamp) or 2 bolts (C type clamp).

The bracket is connected to the aluminium body via 2 flat head screw, located where the wiring harness enter into the body. Simply unscrew them to free the bracket base.

With the indicator aluminium body on hand, unscrew and remove the 2 small flat head screw on the side, and unscrew the big centre screw without removing it. The top part will now come out and expose the inside of the indicator stalk. The centre screw that you haven't removed, it's still holding the chrome lever.

Now carefully remove that screw and release the spring pressure from the



Old versus renewed pieces

chrome lever, without damaging the bulb. Now it's time to remove the wheel (it should simply slide out) and the bulb. Final stage of the disassembly it's to remove the 2 flat screw that hold the Bakelite switch inside the body; this will free up the electrical switch and allow a complete disassembly of the parts.

You can now strip and repaint the body as desired. Mask the lens to avoid paint contamination.

Hardened Rubber Wheel:

Replacing the rubber wheel can be a bit tricky; there are 2 methods to do it and I'll try to explain for each the process:

By removing the rivets

1. Remove the old rubber
2. Drill out the 4 rivets
3. Clean properly the metal parts
4. Position the rubber wheel
5. Pack the metal parts around the rubber
6. Place new rivets and lock them in place

Without removing the rivets

1. Remove the old rubber
2. Clean properly the space between
3. Place 4 cuts at the bottom of the rubber wheel



Cut new freewheel. Some come pre-cut, others do not



New rubber insert beside the old existing one.



Cut, or chip out the old rubber wheel. You will find it is quite hardened and comes in pieces

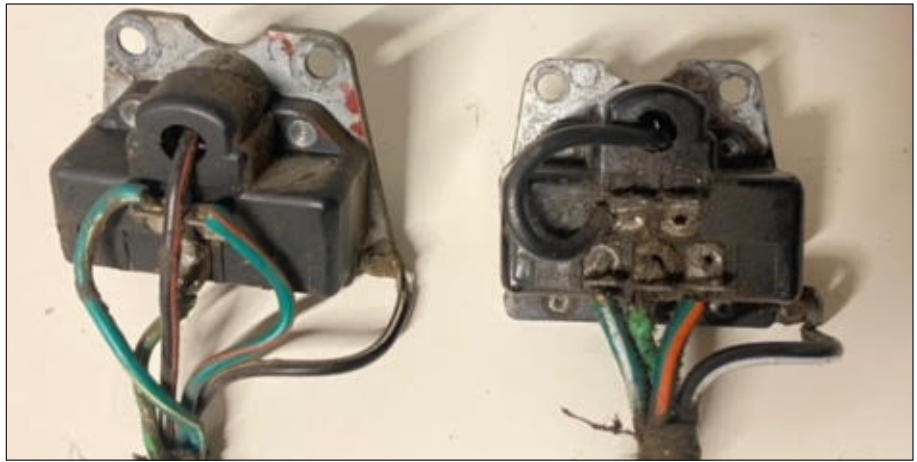


The metal rim, minus the old rubber, The new just stretches on, lining up holes with rivets

4. Push the rubber wheel into the metal recess. To do that, Use plenty of alcohol to facilitate the rubber slippage, and don't exaggerate with the stretch or you'll brake the rubber ring.

The rubber wheel has a direction, it needs to be placed with the deeper recess towards the metal wheel shaft; use the pictures in this paper to support the identification of the side.

Now you have replaced the rubber wheel, and for most of the user this will complete the restoration.



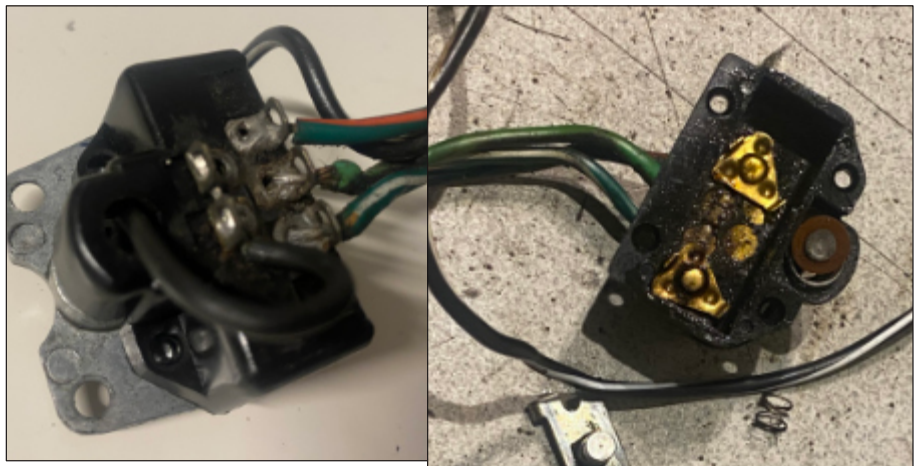
The Switch opened up. Switch connections

Faulty Contacts:

Unfortunately in some cases, it's necessary to address faulty contacts, and to do that it's necessary to open the Bakelite switch. This is a painful process, so don't attempt it if you are not ready for some patience manoeuvre.

The wirings can stay soldered, also because the high temperature of the soldering can damage the switch.

The Bakelite switch body is composed by 2 parts, an aluminium base and a Bakelite top. The 2 parts are blocked together by 4 pressed pillars. To open it, drill out the head of the 4 pillars.



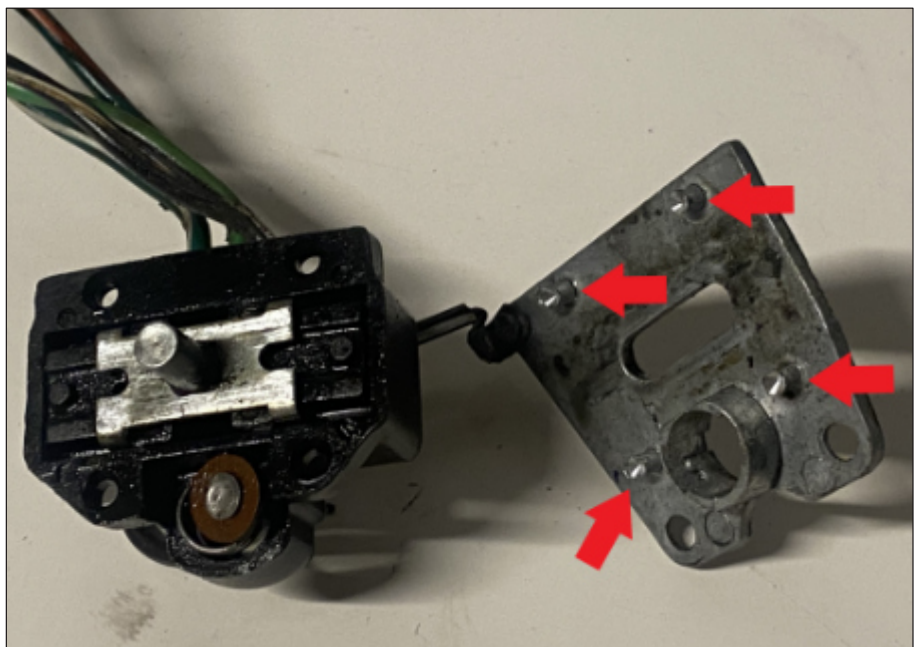
The bakelite switch assembly

The Switch opened up

Now the content of the switch is exposed; be careful opening it cause the sliding parts are spring loaded on side and top direction. The sliding mechanism is formed by 2 plastic part that slide in the Bakelite recess, and push 2 copper plate that allow the contacts.

To check the functionality, clean and check continuity. In some cases there could be shorts circuit that bridge the contacts between the central and side pin. The resolution differ case by case, so I cannot enter in further detail, but a solder can resolve most of them.

Now let's pass to the reassessing process. The Bakelite switch need to be put back together, use some patience and put back the plastic block and copper plates into the case. The center spring can be tricky to place in, so use some patience and allow



Various places to drill out

you some time.

To close the Bakelite top, you can reuse the pillars you previously drilled out and some small self tapping screw. Note that no excess can be over the aluminium plate, as this would interfere with the chrome lever when on action.

Before marking it as done, check the switch functionality on a bench.

If everything is working, put the Bakelite switch in the body and start the re-assembling process. The wheel is the next item to go back, use a drop of oil to make it spin better. The chrome lever goes in and can be held in place by the big screw partially inserted from the bottom.

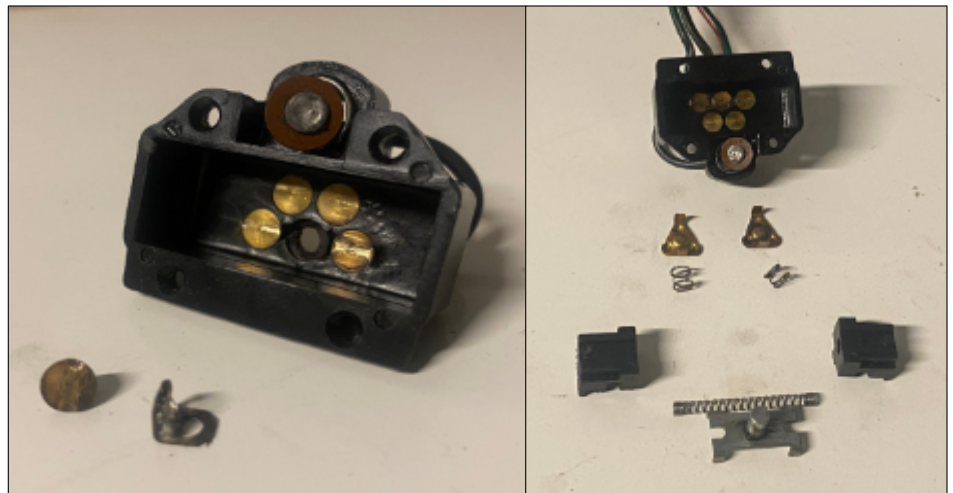
Now the bulb and then finally time to close the body with its top part.

For Land rover application, here the wirings connection:

Green-brown to positive
Green-red to indicator A
Green-white to indicator B

Black white to negative
Black red is the positive of the lamp

The Tex magna can be now fitted back to its place for some new adventures!



Extreme case damage pin out

The bakelite switch all apart



Cleaned and assembled without the bulb

References:

Bulb: is a 12v 2.2w bulb. Land-Rover part 530054 or 537025. Or 643, or part #1445, which supersedes Lucas GLB643. Which was also used in the Range Rover Cigar lighter from 1970-1984 and the Triumph TR7/8, amongst other vehicles.

This bulb is also available as a LED if you are interested in seeing it flash in the assembly.

Rubber wheel: Land-Rover part 522882

A replacement rubber wheel that will fit into the metal assembly without drilling is available from Pangolin 4x4. 3 Brothers (Canada), Rovers North (USA), Emberton Imperial (UK), Series Forever (EU), to name a few, also carry it. Do your homework on pricing and mailing.



Assembled with bulb

