

L322 STEERING LOCK PROBLEM & CHEAP SOLUTION

Although we do not repair vehicles here at BlackBox Solutions, as we are so heavily involved in the development supply and support of Diagnostic equipment for all land Rover Vehicles that we do get to learn about the existence of some common problems. I also have my own L322 so have my own share of experience with their problems.

This document is simply a report / account of events and information that has been provided to me by reputable sources and which I freely provide in the hope that it helps others. In this respect I must point out that this information may or may not be correct, and neither myself or Blackbox will be held responsible in any way for detrimental results in my providing it and it's contents.

So now the legal disclaimer part is done on to the information.

It first started a few months back when a good indie friend of mine (George) called me in to help him with a problem that was driving him nuts.

It was a 2003 MY V8 L322 which had been in his workshop for some time having the engine rebuilt. After putting it back together he discovered that the Ignition key would only turn in the barrel (on the centre console) the first time after connecting the battery, which did then start the vehicle. If he turned it off (Can't recall if this also required the key to be removed) and then went to start the vehicle the second time, the key would not turn in the Barrel. He would then have to disconnect the battery and start all over again.

He got a new Immobilizer ECU, which I coded up for him, but this had no effect. After pulling a fault code indicating a communication error with the Steering Lock ECU (Fitted on the steering Column), I advised he replace the Steering lock ECU, which apparently means the entire upper column assembly.

He managed to get a used one which he fitted and without any coding or fault code clearing his problem was solved.

In the process of trying to help George, I did some surfing on the web and found others that had experienced the same problem / symptoms and were asking for help / Advice. However, as usual I did not really find anyone posting up a definitive solution / fix.

Recently my friend also tells me had another L322 come in with the same symptoms and he simply fitted a replacement which again cured the problem instantly.

Then a couple of weeks back I popped in to see another good friend (Yiotis) who runs quite a large and busy auto electrical place as I needed a battery. I found him working in quite a rough L322 around the Ignition barrel area.

He was glad to see me and sure enough, although his English is not great it was enough to explain that this vehicle had the same symptoms as George had. Apparently the vehicle had also been unused for some time.

Of course I told him of Georges experience and solution

But Yiotis is a bit more inclined to try find cheap alternatives to simple ECU replacements and will even open them up in an effort to repair them first.

He wanted to try simply cutting the wires to the Steering Lock ECU in this vehicle which I advised him against, knowing that there is some 2 way data communications going on between the Immobilizer and Steering Lock ECU.

I left leaving him at least sure where the problem was.

I guess I should not have been surprised when Yiotis called me the next morning to tell me his findings and explain his cheap solution.

He told me that he had obtained another Steering Lock ECU / Upper column, probably a Faulty one from George and had used this to figure the problem and sort it without replacing anything.

Ultimately the Steering lock ECU has a physical locking bolt driven by a motor and cam assembly that engages or disengages with the steering columns main shaft and Yiotis had discovered that this bolt was sticking.

The solution was simply to apply further lubrication to the mechanism to allow it to work freely. However Yiotis also figured that this could be done without removing the Steering Lock ECU from the vehicles Column as for security this is mounted in a way that would make it very difficult.

Yiotis figured roughly where to drill a small 2mm hole in the main column's upper aluminum casting through which he could insert the small straw that comes with cans of WD40 and then spray some in.

He was kind enough to send me a picture of the location he drilled the hole in.

I guess the location, drill size or angle is not that critical, and I also have to guess that you just drill till you break through. Perhaps it would be wise to go slow such that the drill removes all Swarf though.

From the exploded diagram provided in the Workshop manual it looks like the solenoid, well more of a motor and cam, actually drives the Bolt and holds it to the unlocked position. It then releases the bolt when it comes to lock it but this is then done by a spring which I guess is where the sticking bit happens.

This would account for why you can turn the key in the barrel the first time only, as the Immobilizer ECU which controls the barrel key turn lock solenoid as well as the Steering lock ECU from which it gets confirmation feedback would upon seeing the key turned for the first time send an Unlock command to the steering lock ECU and get feedback that the bolt was now in the unlocked position. Then on first turn off it would then send a lock command to the steering lock ECU but due to the sticking Bolt would not get a confirmation reply of the bolt moving to the locked position, causing it to store a communication fault and no longer allow the Key to turn.

As I have stated, this is currently all second hand information, and summation although technically and physically it all adds up and makes perfect sense and reasoning, even supporting intermittent situations, or possibly keys locked in, But at the very worst, on trying this you will just end up with a small hole that can easily be plugged if desired, and replacement of the upper column will replace this part anyway.

I can but hope that this helps others with the same problem and that they can then post up their results or drop us an E-mail to Info@Blackbox-solutions.com so we can add some numbers in respect of those it has worked for.

Here is the picture of the location the hole has to be drilled in, circled in Red



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