

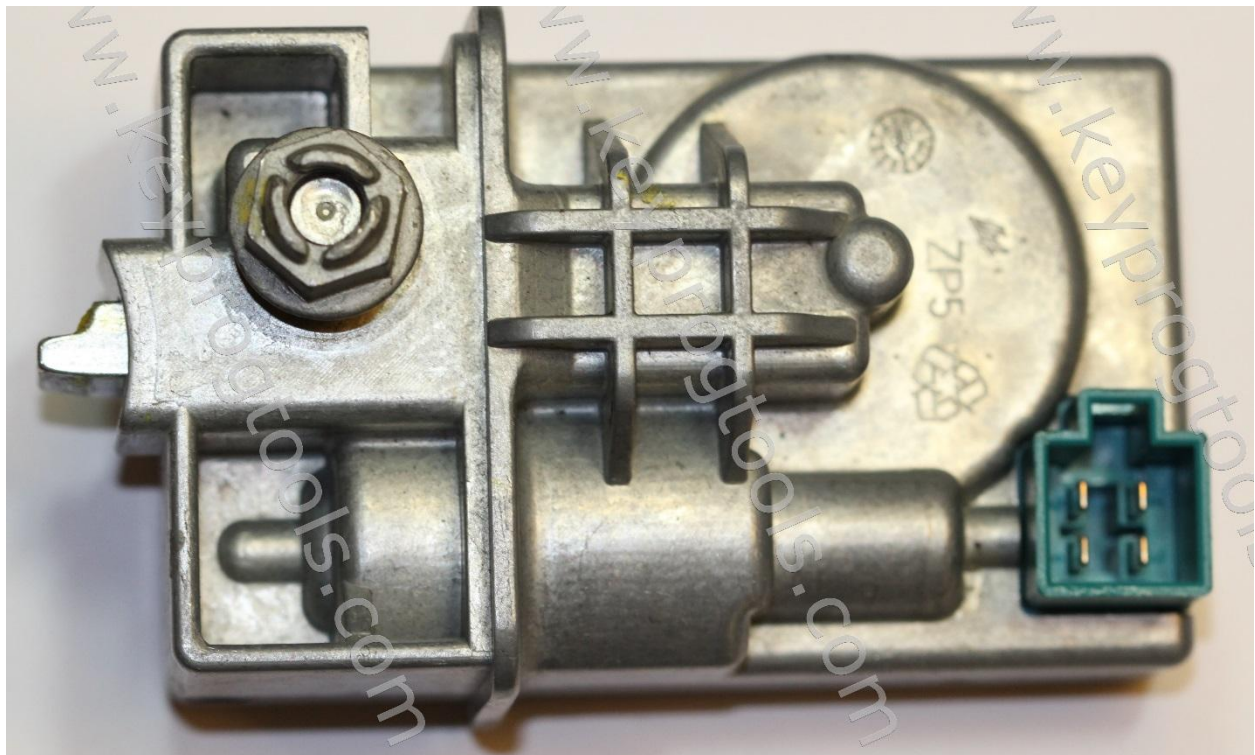
# SIMON TOUCH

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## ESL DOCTOR



## How to renew (Enable) MB ESL/ELV

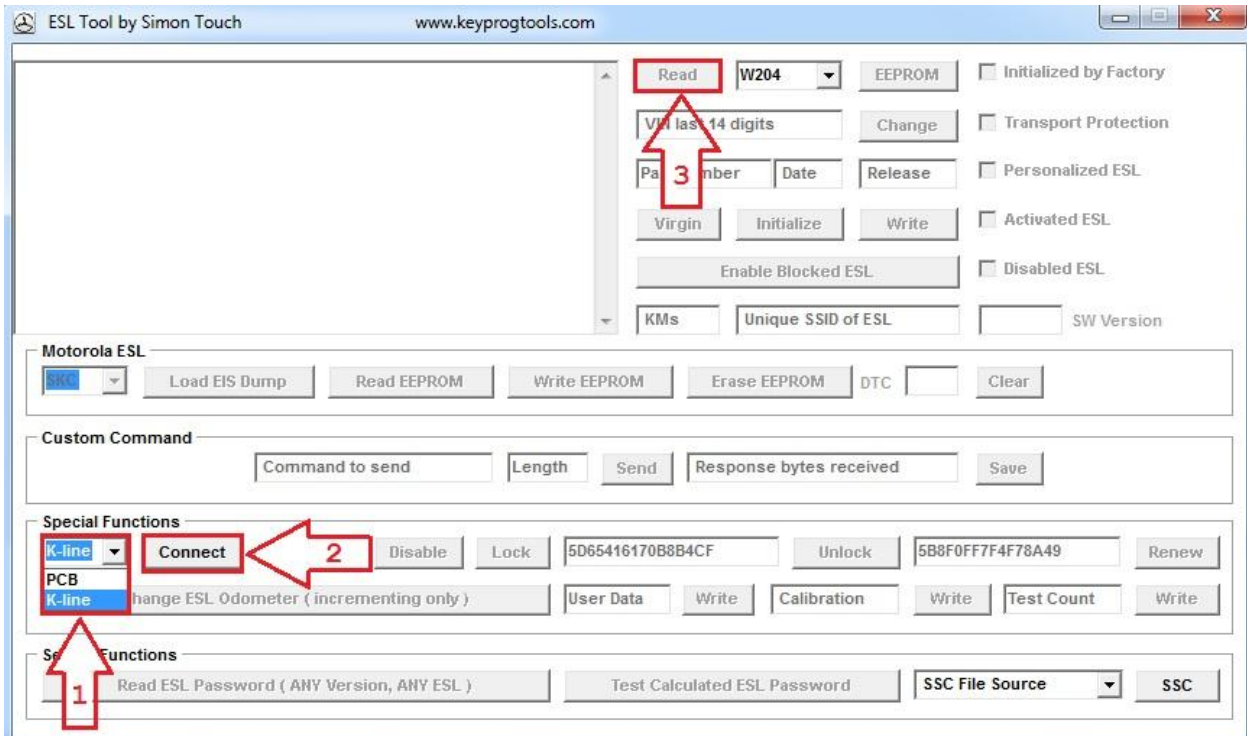


**ESL Voltage must be 12V Minimum 8A**

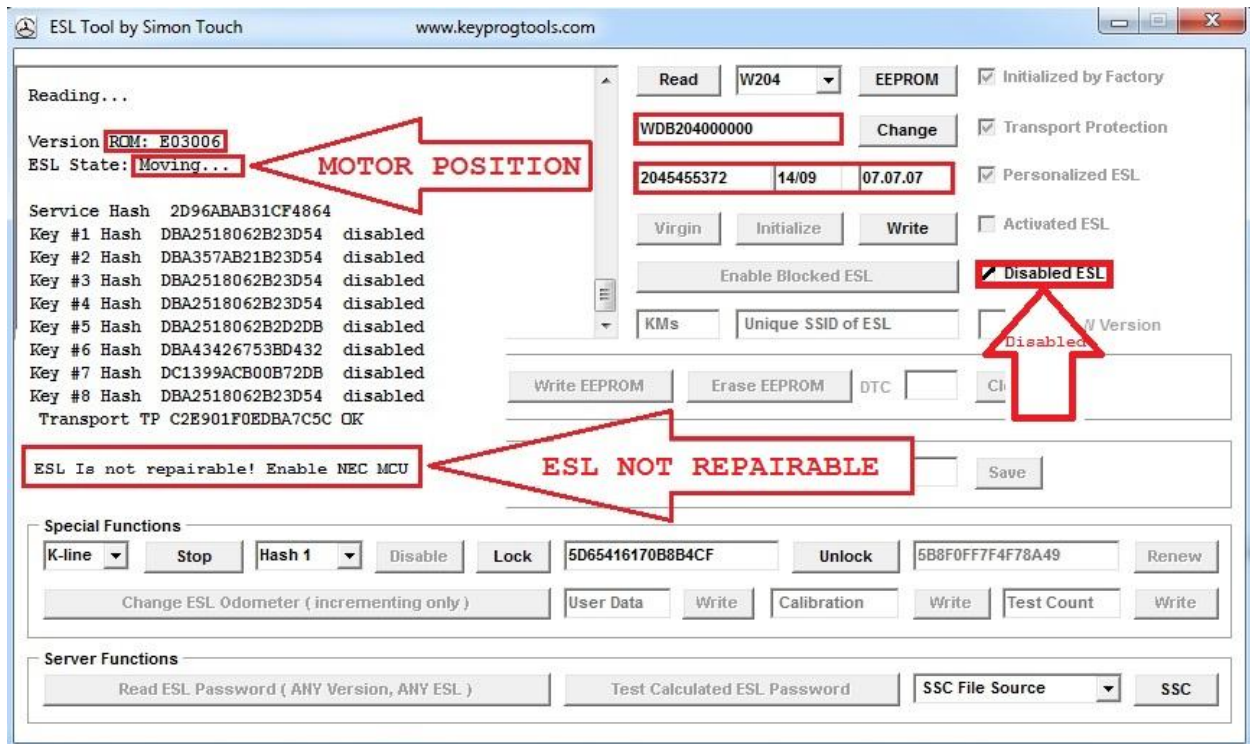
- Plug the MB NEC Steering device by K-Line, open the ALL IN ONE MB Software, and select ESL.



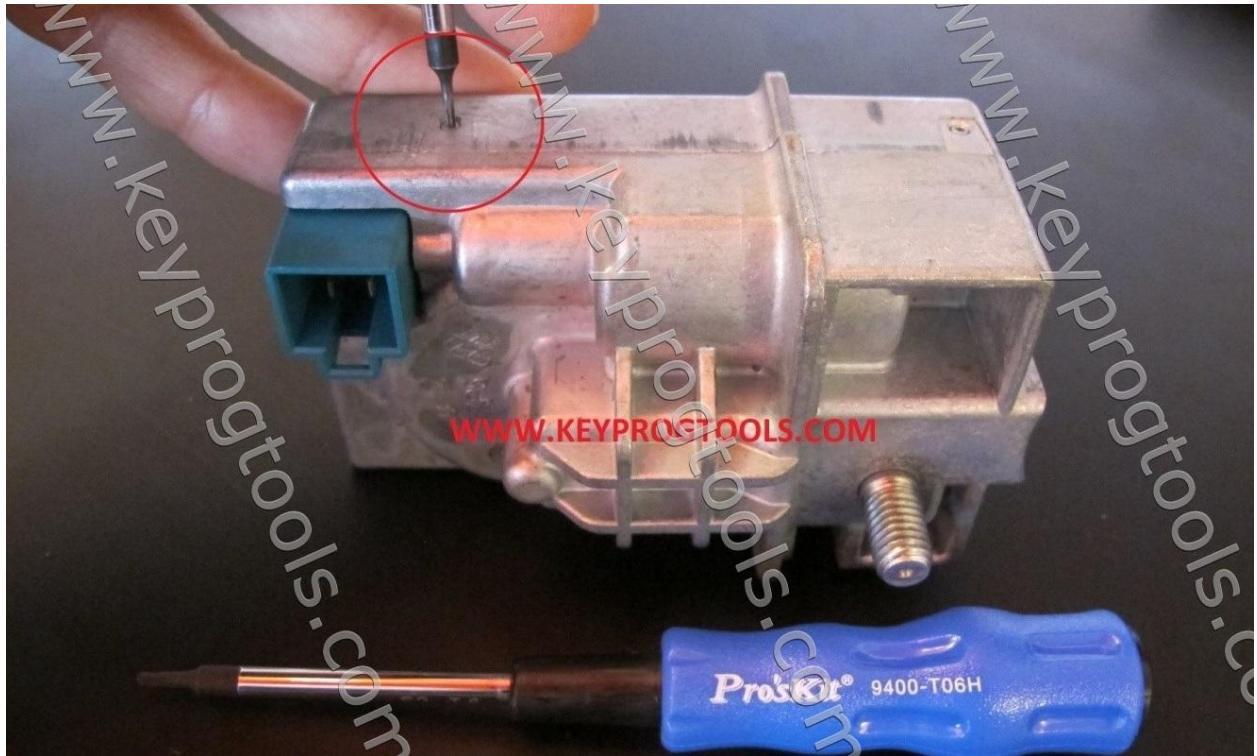
- Select K-line, connect then click on read.



- Device will read the SSID/Hashes ESL Status, Motor position and show you ESL IS NOT REPARABLE.



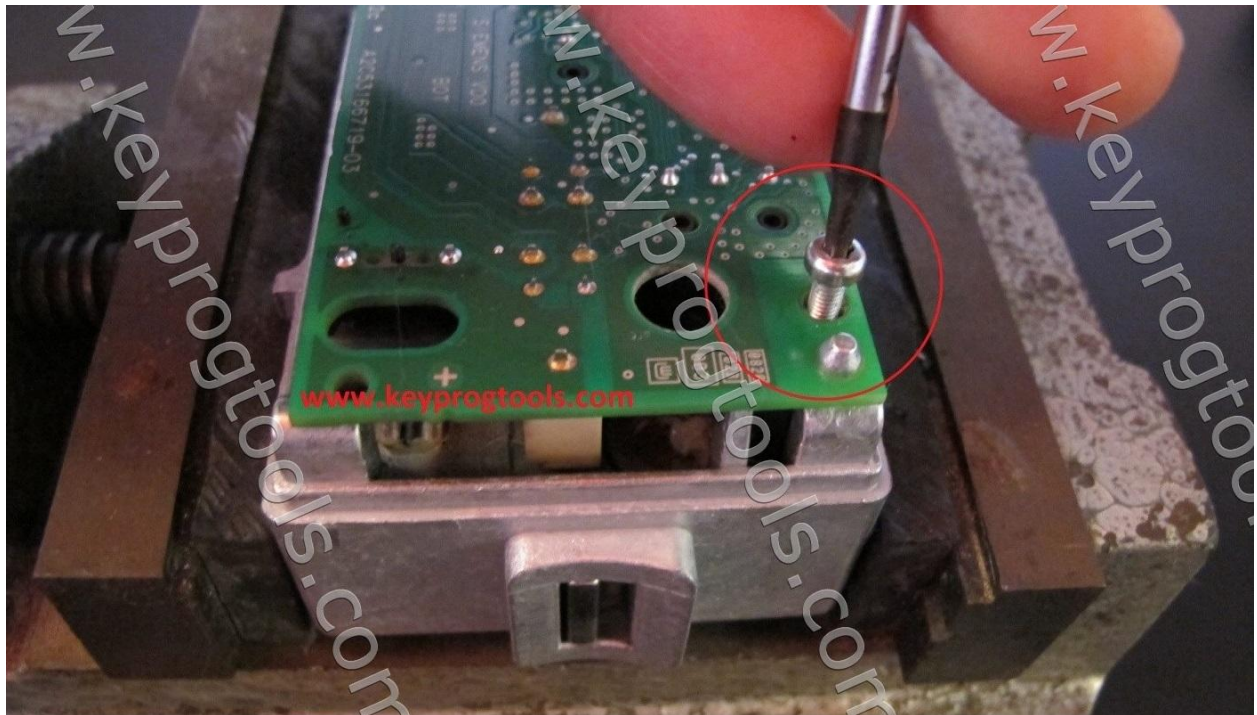
- Remove the ESL from the car, use star screw driver number 5 or 6 and open the ESL.



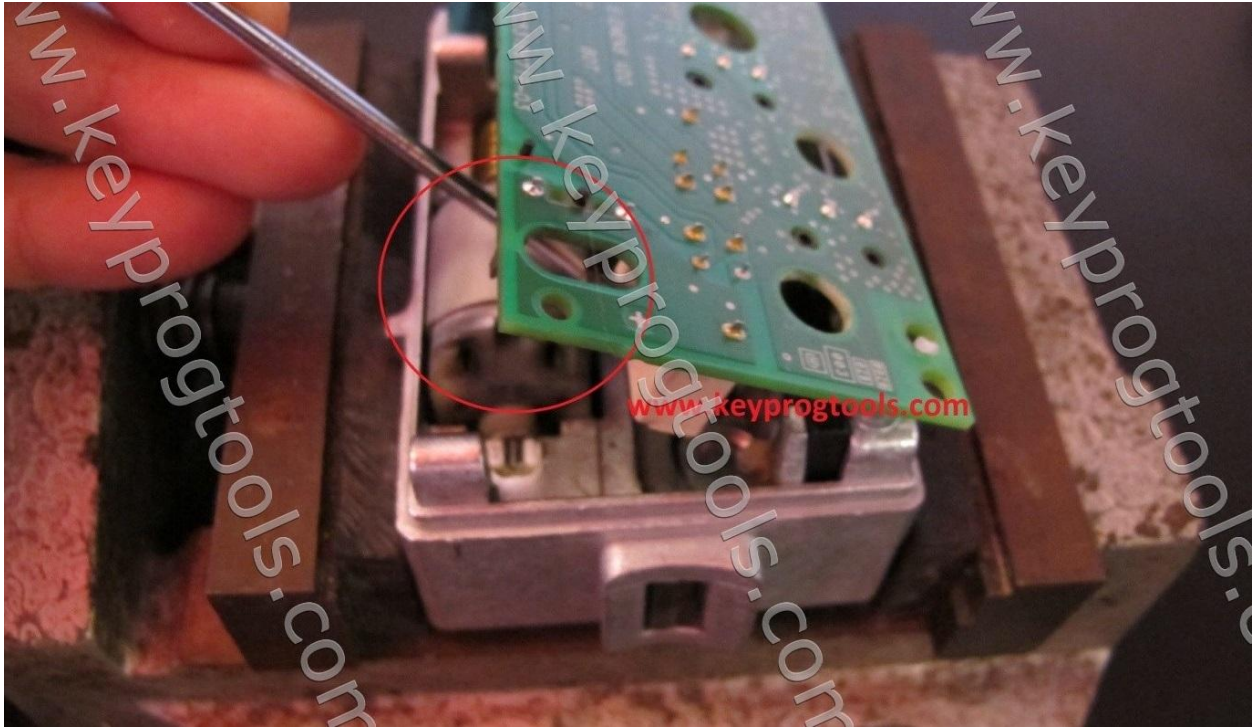
- Turn the pin slowly toward the clock to pull it out.



- Remove the board screw.



- Use a screw driver to pull the ESL board from the Motor side



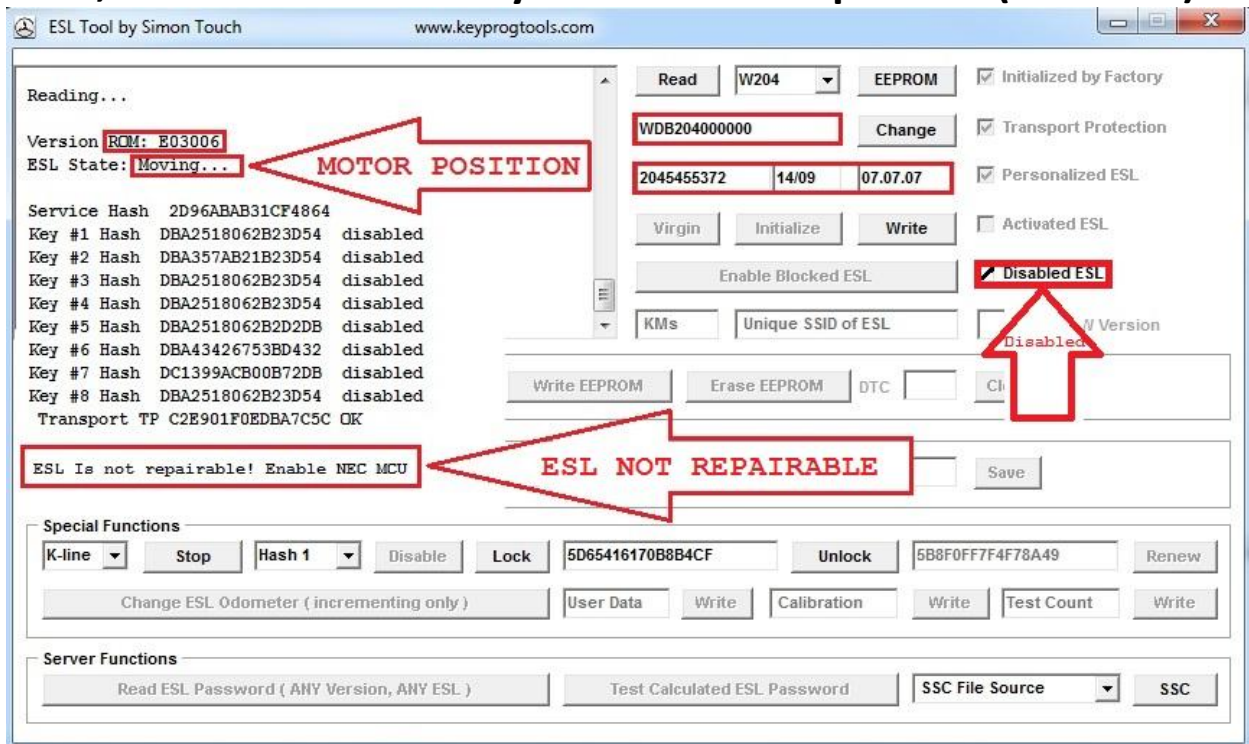
- Clean the NEC with solvent (**read note 2**) and **DESOLDER** the NEC with hot air.



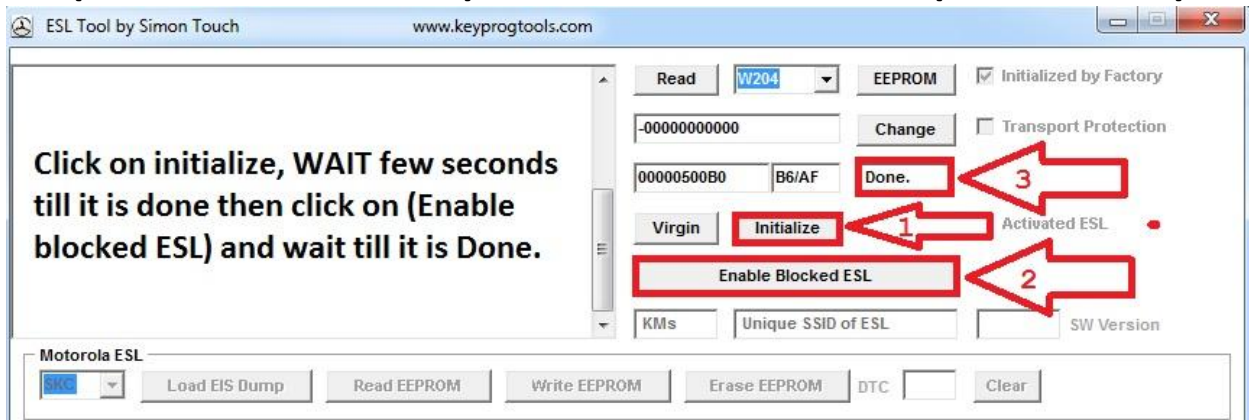
- Put the NEC in the ESL Socket in the right position.



- Open the ESL Software, select PCB, Connect and click on read, software will show you ESL is not reparable (Disabled)



- Click on initialize, WAIT few seconds till it is done then click on (Enable blocked ESL) and wait till it is done (**read note 3**)

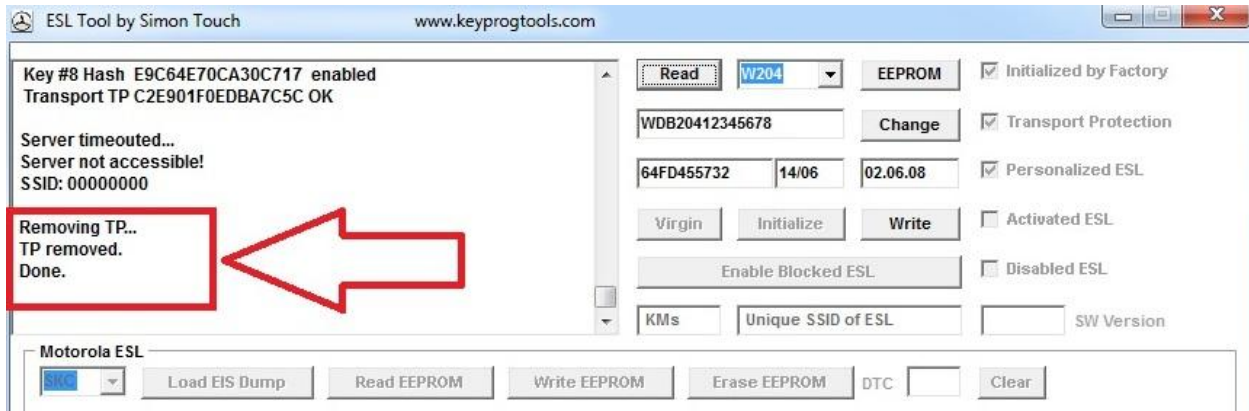


- When it's done click on read you will see the key hashes becomes the same and the ESL is enabled.
- Click on ESL Factory dump.

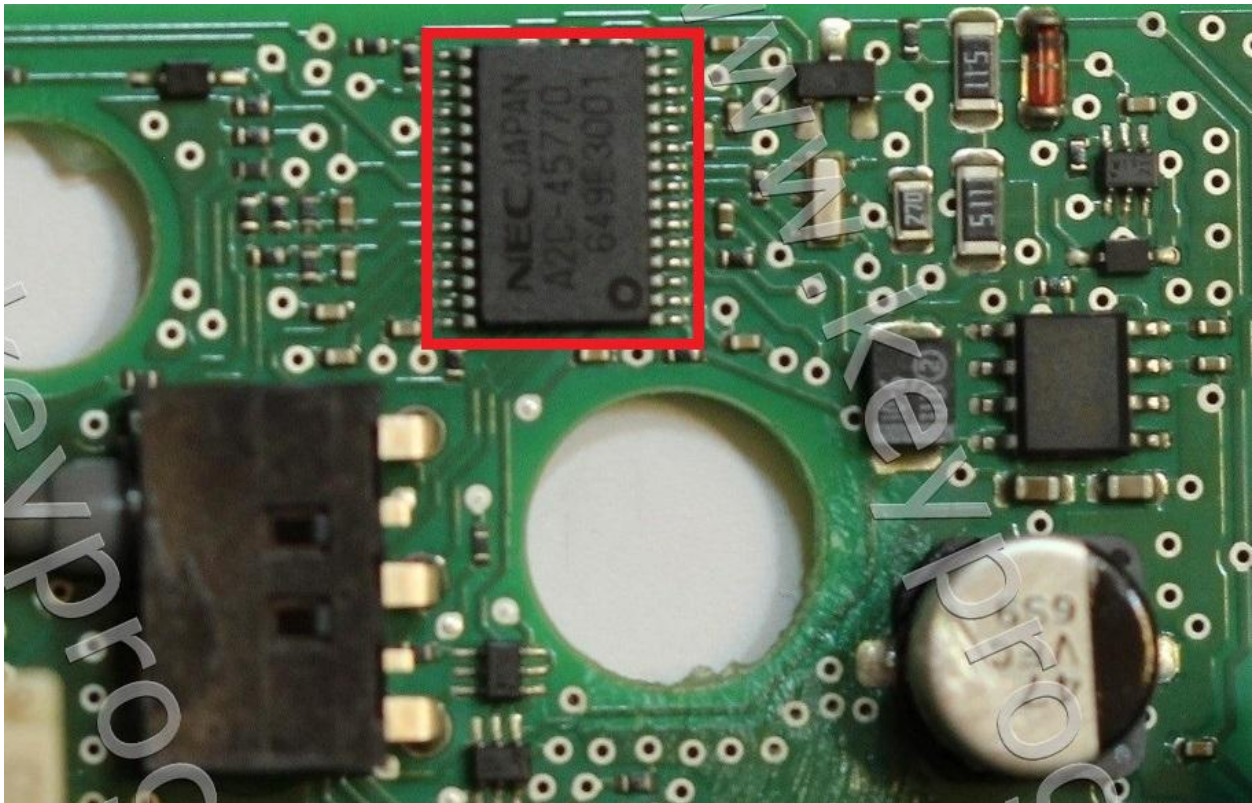


- Software will write
- Removing TP...
- TP removed.
- Personalizing...
- Done.

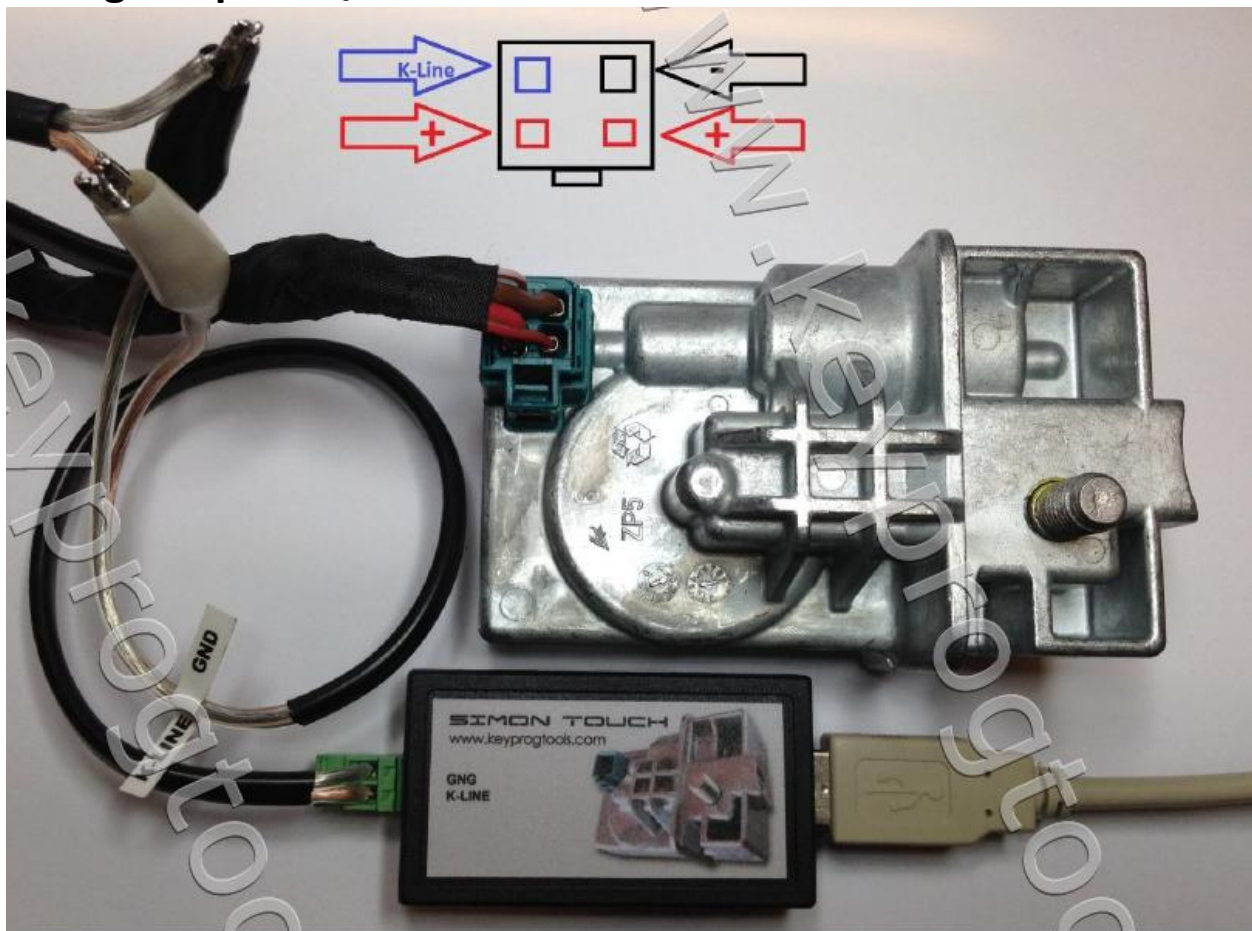




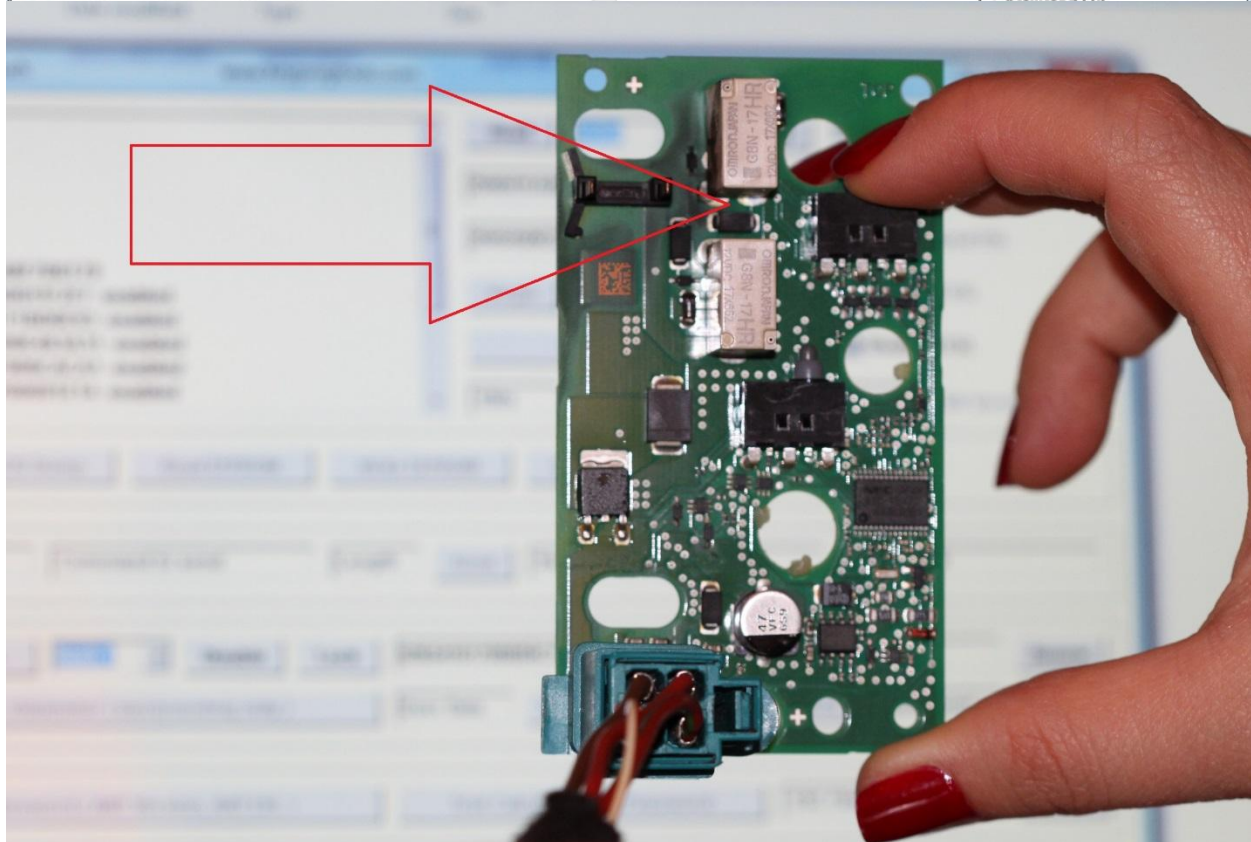
- Solder the NEC back to the PCB.



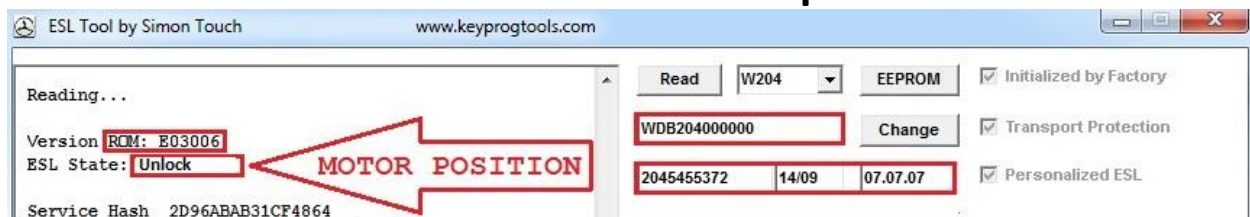
- Plug the power/K-Line socket.



- Press and hold the switch on Top and click one read to check the switch functionality software will show the ESL in Locked position.

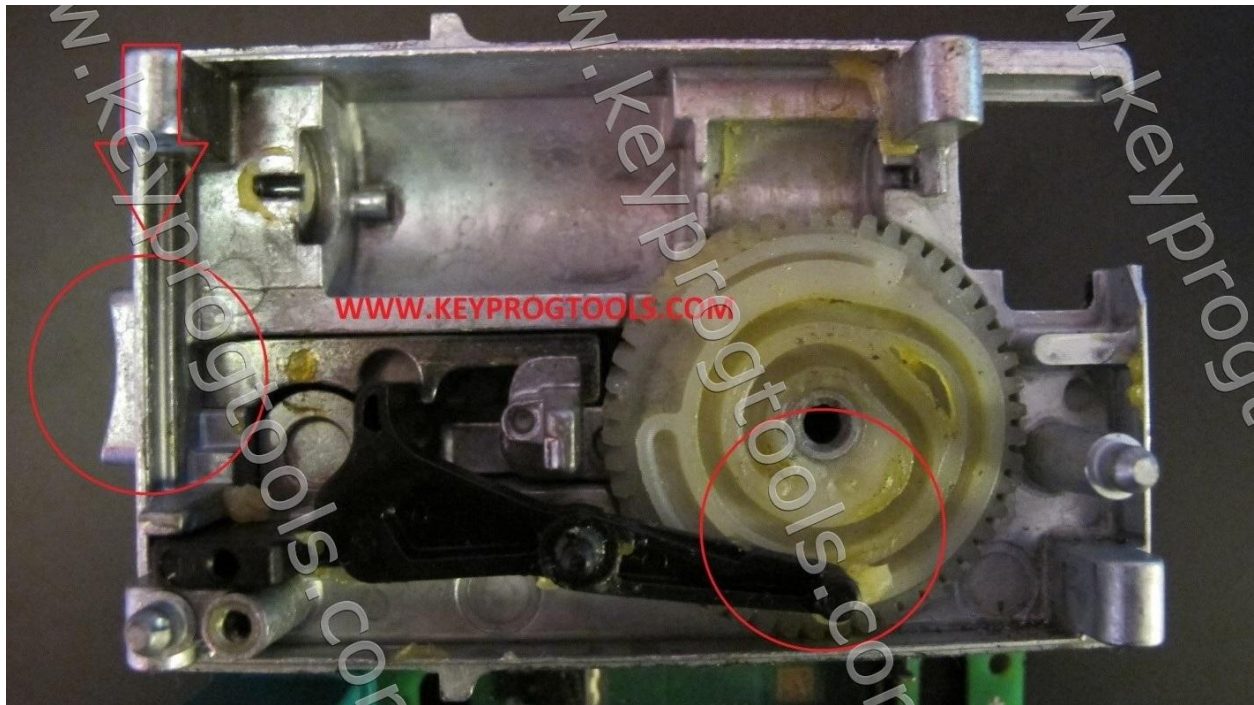


- Press and hold the 2 switches and click on read. Software will show the ESL in Unlocked position.

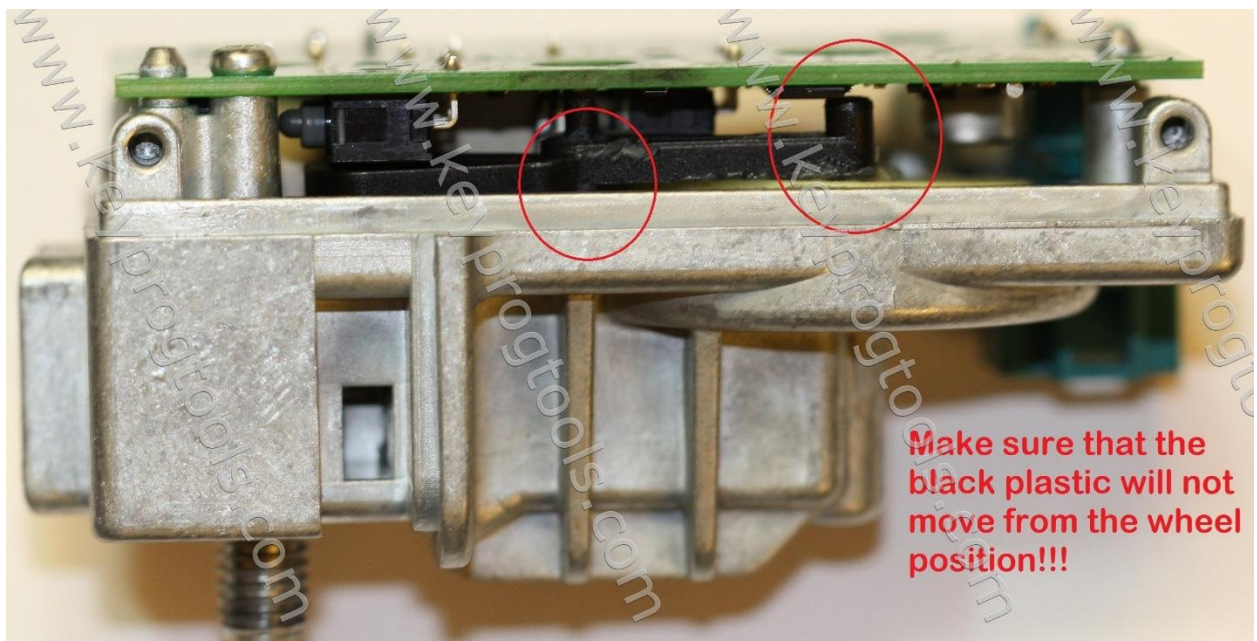


- Keep holding the 2 switches and disconnect the power from the ESL, now NEC Calculation is on unlock position.

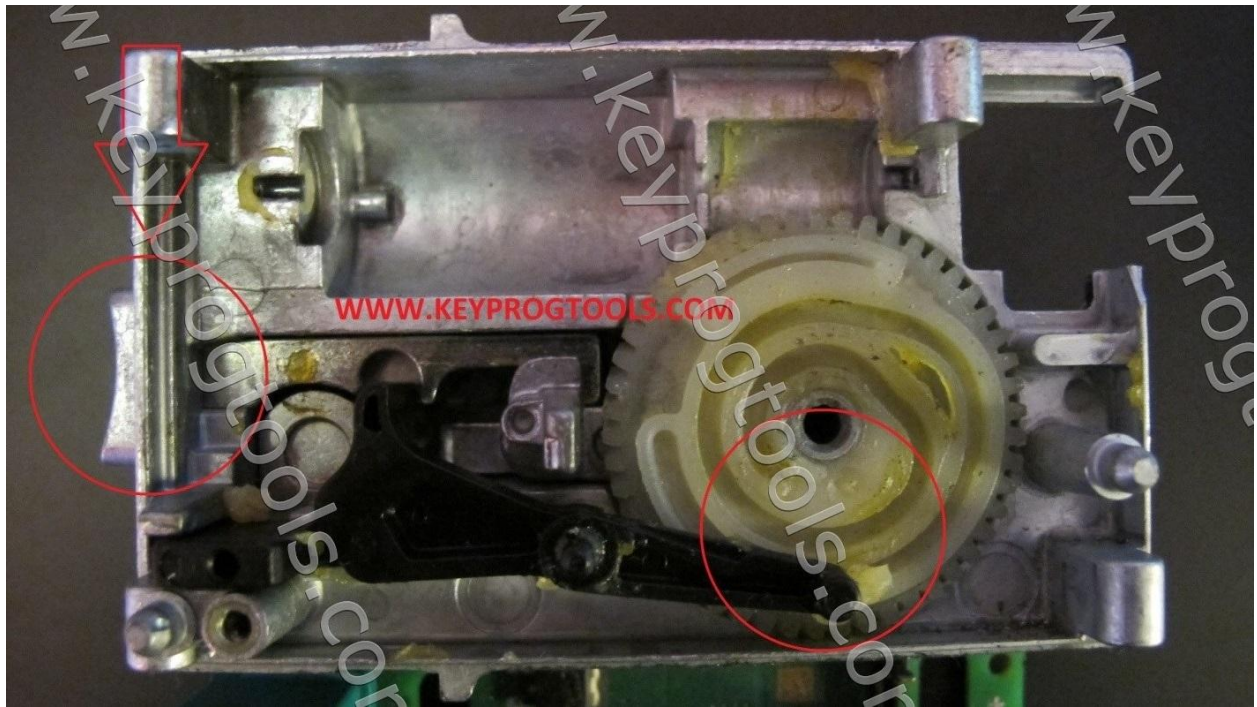
- Change the ESL Motor with new one and assemble the ESL on unlock position, it is recommend to put some grease under the ESL wheel.



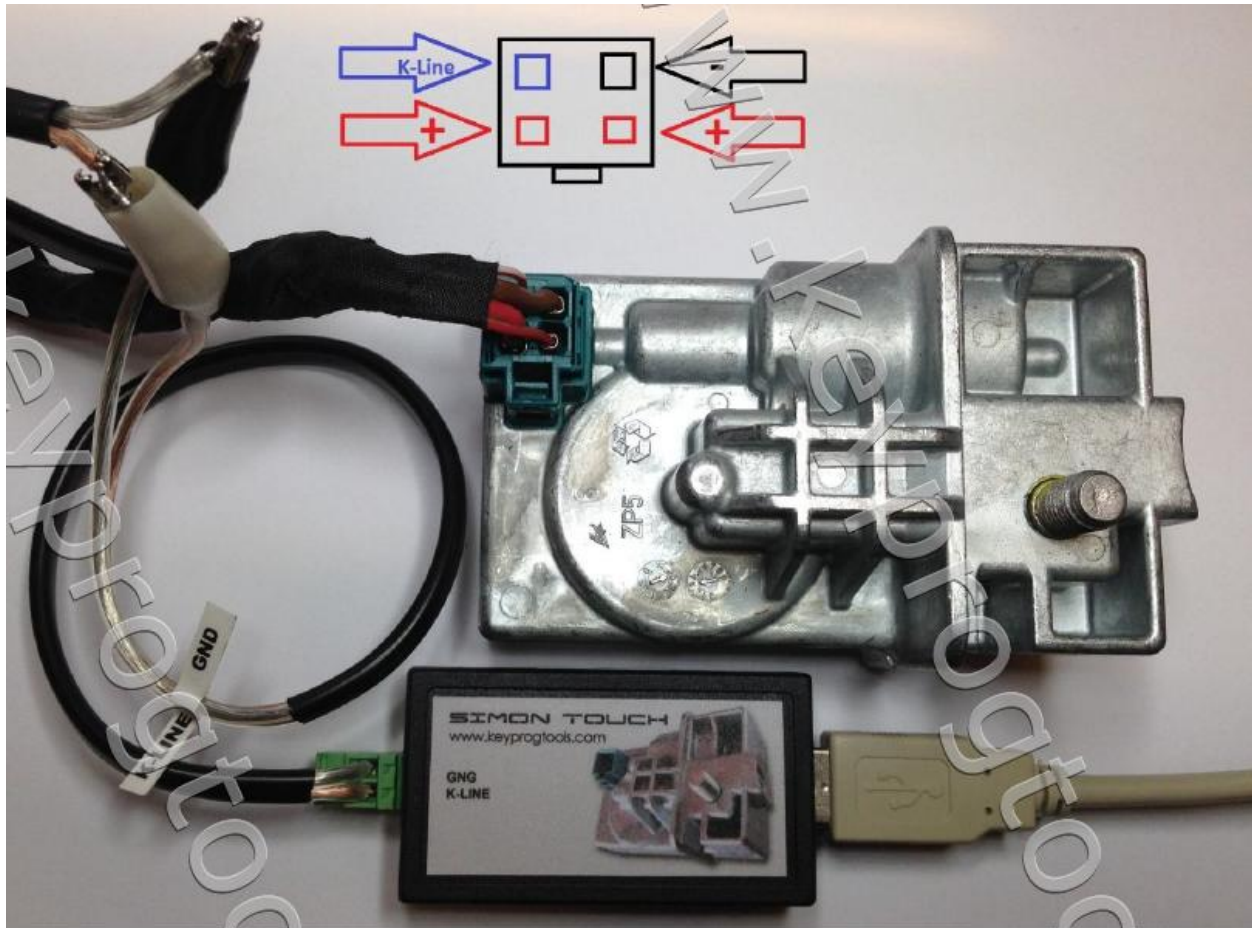
- Make sure that the black plastic wheel will not mover from the wheel position.



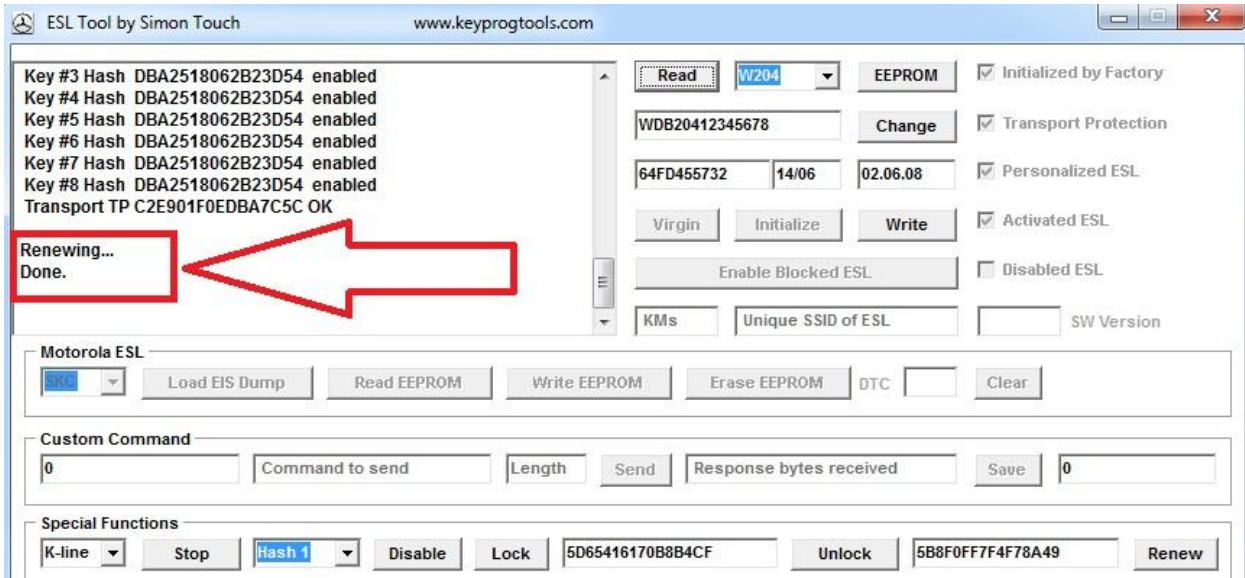
- If you disconnect the power and the ESL is in Moving position, this will kill the ESL NEC after the assembling.
- If you choose the Locked switch position and you assemble the ESL on Unlocked position, this will kill the ESL NEC.
- Assembles the ESL on UNLOCKED position.



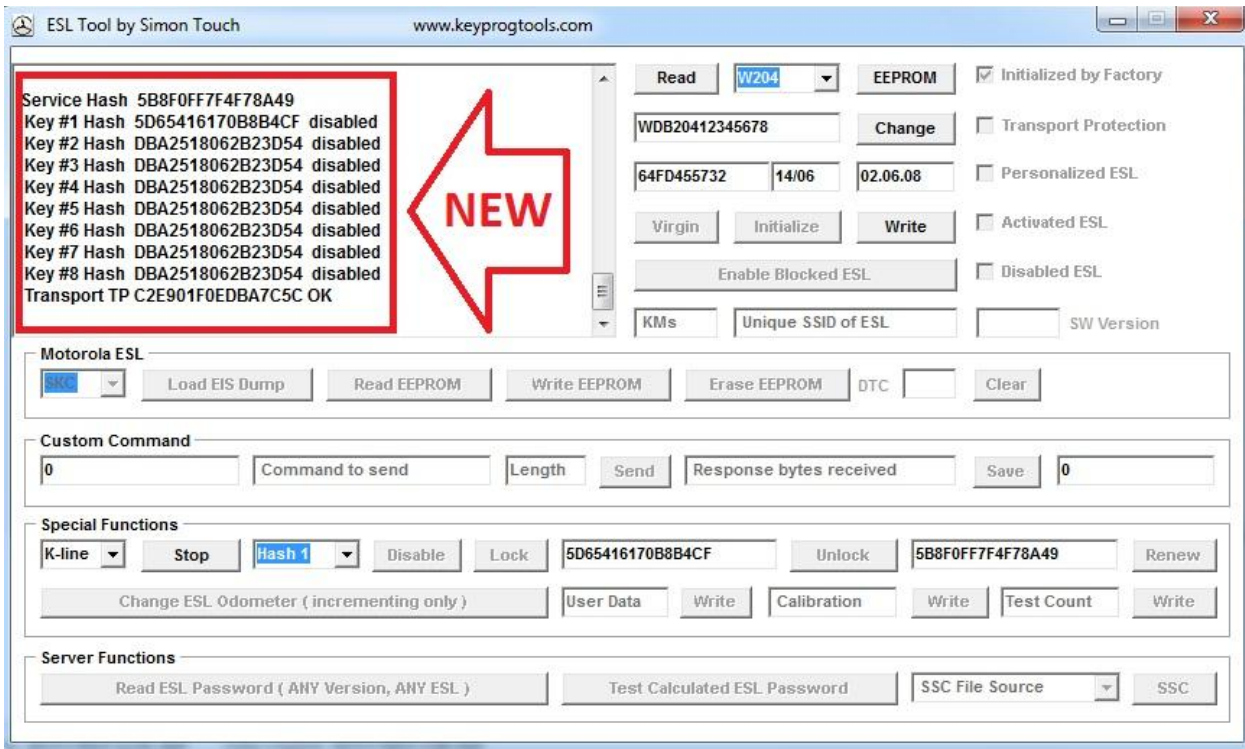
- Plug the power/K-Line socket.



- Open the ESL software, select K-Line, connect, read, write and load again the factory dump, the ESL will automatically go to lock position.
- Click on unlock then click on READ then click on renew, you will see a message Renewing done...



- Click on read you will see ESL become new as factory.



You can always change the ESL Vin/mileage/production date and part number by K-Line, lock or unlock the ESL, enable or disable keys from the ESL.



## Enjoy 😊

**NOTE 2 VERY IMPORTANT:** NEC pins must fit ZIF socket very well. Pins of NEC should be treated with soldering iron to remove all traces of residual dirt and the chip itself should be cleaned with solvent. Chip must look like new before putting it to ZIF socket. It is very important because the erasing process works with high frequency signals.

ESLD Software has a very easy way to check if the erasing is working properly - click "Read" button and look at the values of "Test Counts 1: " and "Test Counts 2:". The first counter should barely change while erasing, but the second counter will show major change.

### NOTE BELOW FOR MODIFIED SOCKET ONLY:

To diagnose erasing process, read first chip, after click "Enable" button to erase, stop it after a minute and "Read" it again. Look the counters - if "Test Counts 2:" is not changing at all, it means there is some problem with capacitor 8.2pF or chip is not cleaned or is not properly installed to the ZIF socket or the power from the USB is not enough.

**NOTE 3** If "Test Counts 2:" is changing, then all is OK - just wait until the job is finished. With the new update, renew ESL will be faster but most importantly - it is safer, TP status will not become "incorrect", erasing will occur without any damages. How fast will it be? It depends on lots of factors: power of USB, temperature, etc... It depends also on NEC MCU internal state. Erasing time has no exact timing, for some NECs it might take less than 5 minutes and for others it might take 5 hours.

**In all cases renew will succeed!**

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