

Diagspeed

Diagspeed 2016 mbk

Diagspeed



Table of content

Part 1 - Startup

1- Hardware Parts	p.6
2- Installation.....	p.7

Part 2 - Software Description

1- Interface.....	p.9
-----------------------------------	---------------------

Part 3 - Software Use

1- Unit Reset Tools.	
1a- 7G Gear Box.....	p.11
1b- ISM.....	p.12
1c- ECU Motor.....	p.13
1d- FDCT W117	p.14
2- EIS Tools.....	
2- Read, Write Vin, Reset EIS, Remove TP, Pers. ESL W204 212.....	p.15
3- ESL Tools.	
3a- Reset ESL	p.20
3b- Deblock ESL.....	p.21
3c- Personalization ESL ELV without reset EZS	p.22
4- Key Reader Tools.	
4- Key Reader	p.23
5- Password Search Tools.....	
5- BGA or all lost Keys.....	p.27
6- Write Key Tools.	
6- Generate Key	p.28
7- Generate Key Tools.....	
7- Generate Key Tools	p.30
8- Correct Old Key Tools.....	
8- Correct Old Key	p.32
9- Read Password SW57 Tools.	
9-Read Password	p.33
10- Work Key 0XBE Tools.	
10- Work Key 0XBE.....	p.34
11- RF Remote Key Tools.....	
10- RF Remote Key	p.35
12- ESL W204 Emulator Tools.	
10- ESL W204 Emulator	p.36



Part 4 - Updates

- 1- How To Update. p.38**
- 2- Online Update Main Device. p.38**
- 3- Online Update NEC Board. p.39**
- 4- Online Update IR Special NEC Key..... p.39**

Part 5 - Connections

- 1- Device Socket Connections.**
 - [1- Device Connectionsp.41](#)

- 2- EIS Connections.....**
 - [2a- HC705.....p.42](#)
 - [2b- HC908p.44](#)
 - [2c- HC912.....p.45](#)
 - [2d- HC9S12.....p.47](#)
 - [2e- NEC.....p.48](#)

- 3- ESL Connections.**
 - [3a- W201/W208/W202p.51](#)
 - [3b- W203/W639p.52](#)
 - [3c- W211/W219/W209.....p.53](#)
 - [3d- W212/W207/W204/W906.....p.54](#)
 - [3e- Sprinter W906p.54](#)
 - [3f- Emulator.....p.55](#)

- 4- Unit Tools Connections.....**
 - [4a- 7G Tronic.....p.56](#)
 - [4b- ISM.....p.57](#)
 - [4d- ECU Motorp.58](#)
 - [4c- FDCT W117p.61](#)



Part 1

Startup



1- Hardware Parts

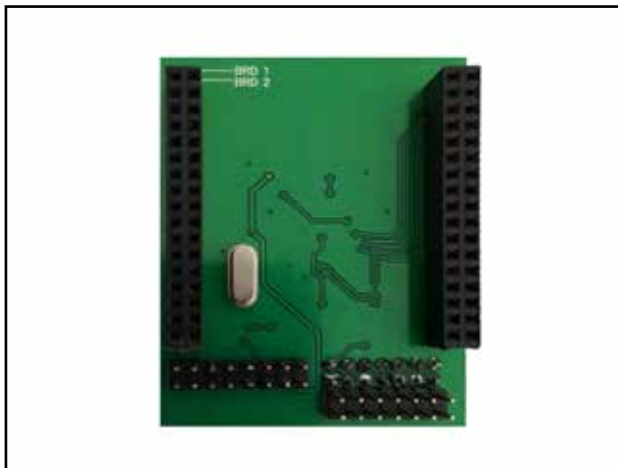
1- Main Device



2- Socket NEC



3- NEC Board



4- ESL Adapter



5- Bench Cable EZS/ESL
204 207 212 172



6- OBD2 Cable

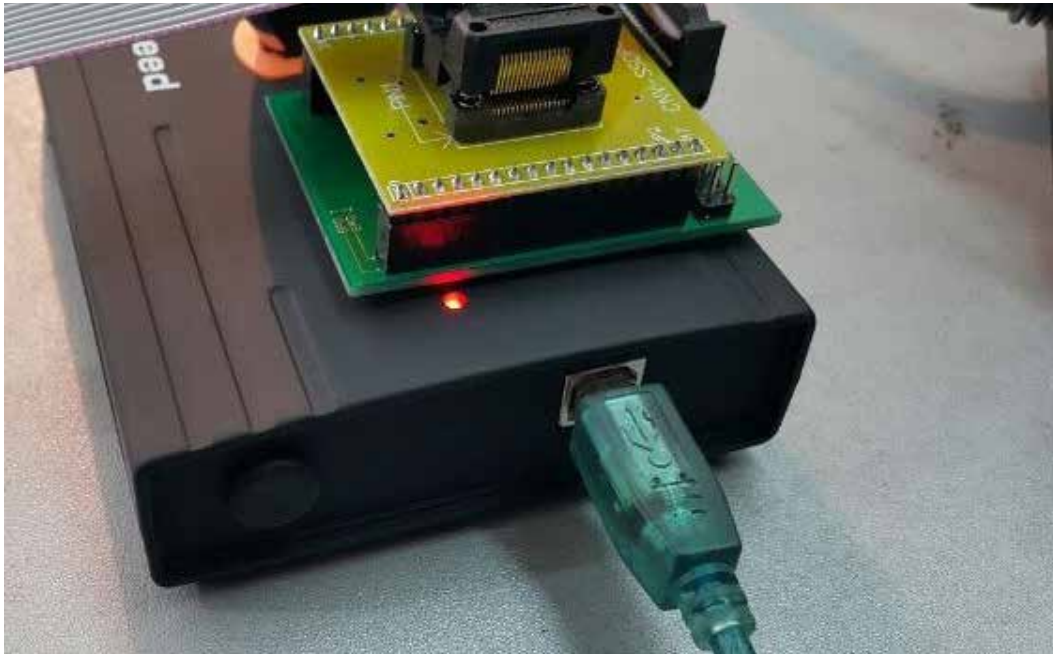


7- Special IR Key





2- Installation



**1- Install drivers USB FTDI D2XX (if you not have installed) .
USB should work not to emulate com port**

2- Connect Device to USB and Power Supply from OBD2

3- Find MB Tools icon on your desktop and run.



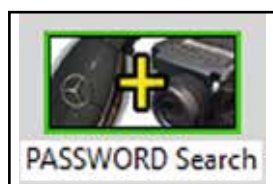
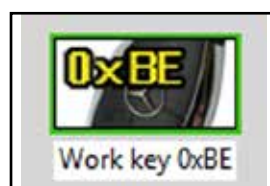
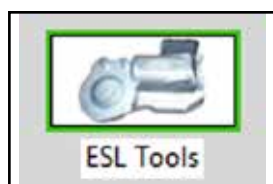
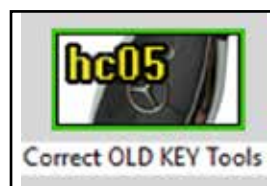
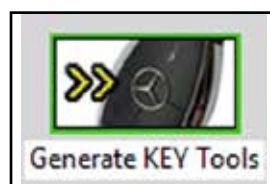
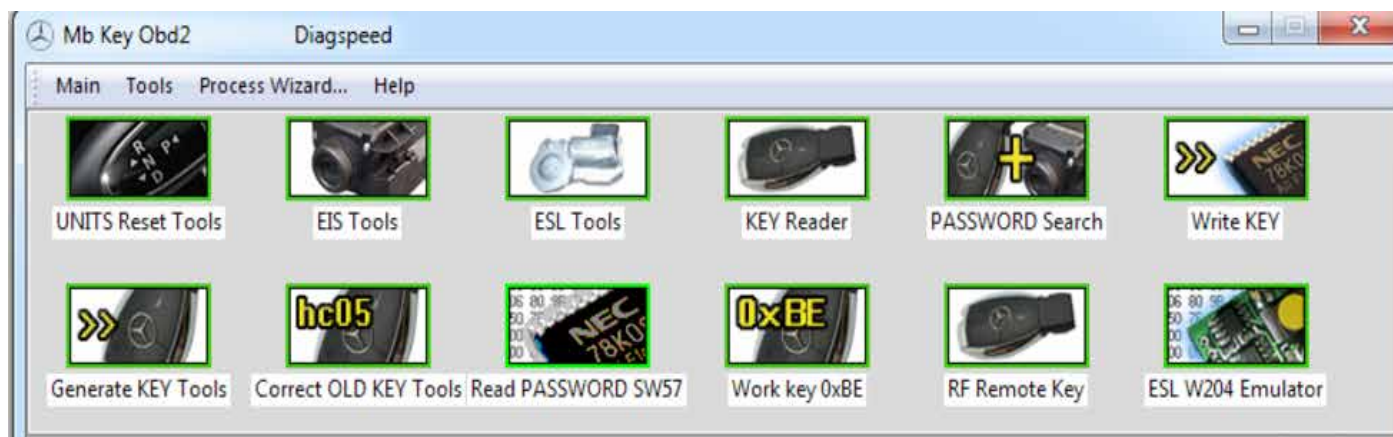


Part 2

Interface



1- Interface





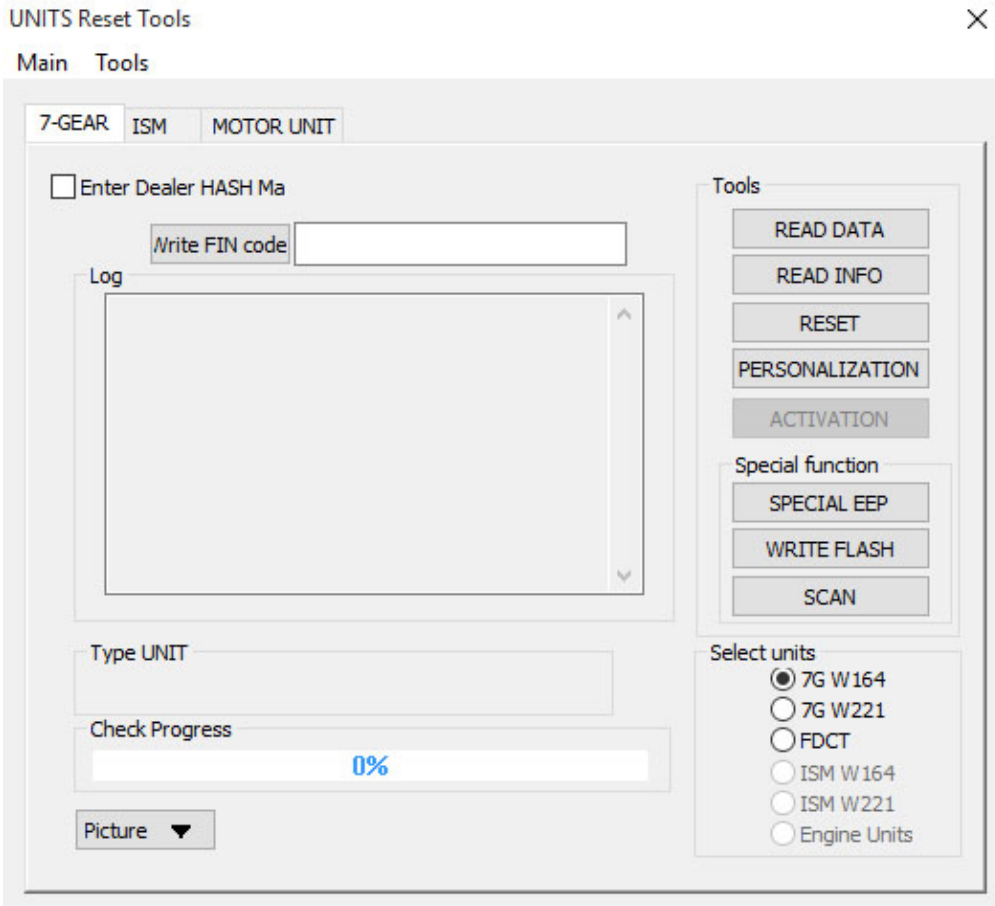
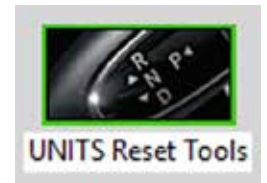
Part 3

Software Use



1- Unit Reset Tools.

1a- 7G Gear Box



IS NOT POSSIBLE TO INSTALL A USED GEARBOX TO A CAR WITHOUT RESETTING.

Read data - read Block data from gearbox ecu
Read status - read gearbox ECU status New used

Reset gear - reset to "0 - new" used gearbox ecu (need to connect with server)

Write flash - flash gearbox from "own data file"

Scan - at this moment this button it's not active

Example if you select 164 it work on old car like 203 220 209 219 211 230
if you select 221 it work on all new car like 204 212 166 176 117 218 172.....

... if you want Read Data / Status from Gearbox ECU

- 1) --- "Read Data"
- 2) --- "Reset"
- 3) --- "Read Info"
- 4) --- "Write Vin"

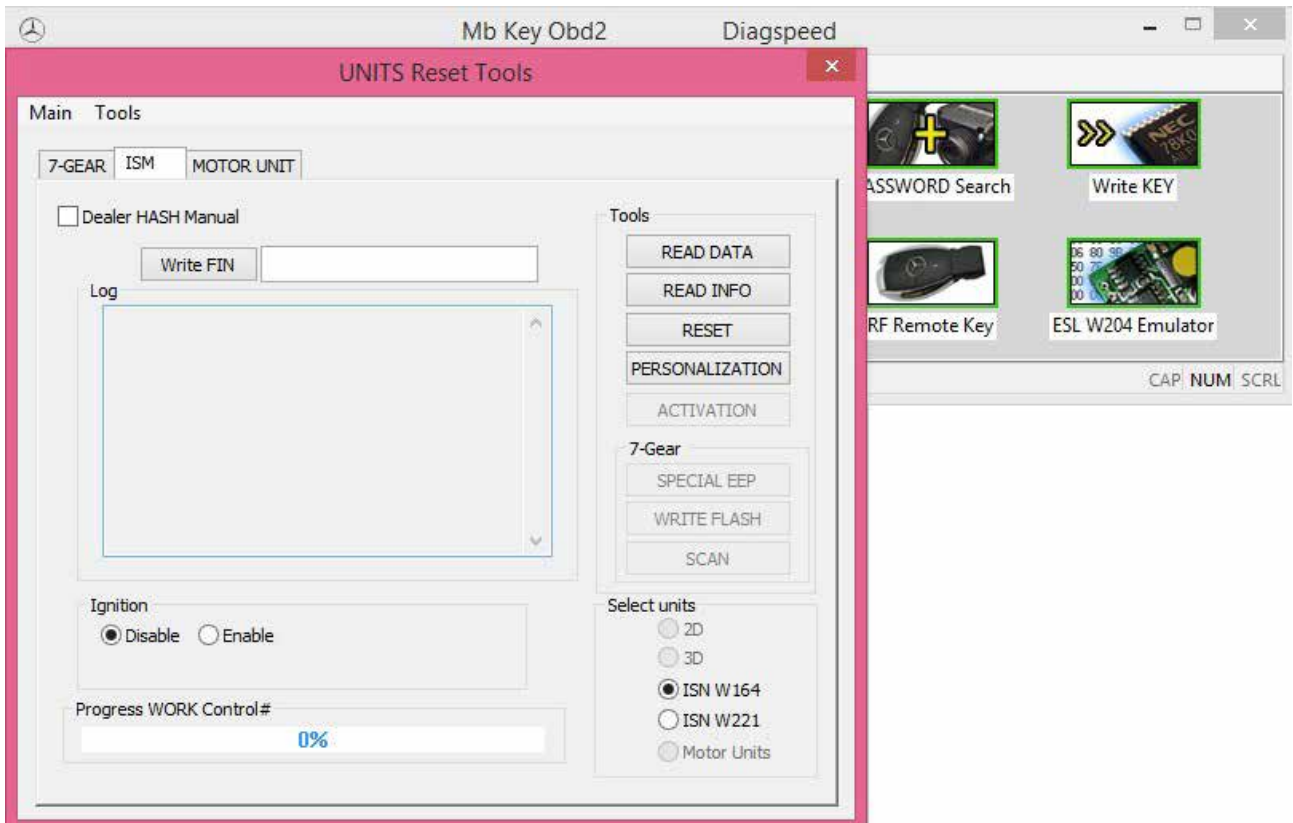
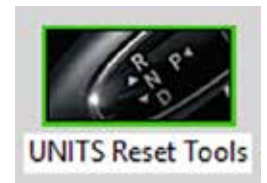


<https://www.youtube.com/watch?v=cBazqQNv-4c>



1- Unit Reset Tools.

1b- ISM



ISM

- 1) "Read data"
- 2) "Reset"
- 3) "Read info"

If ism siemens you select 164 or 221 depend on vin inside ism .you can select read info you will see vin If ism continental slect 221 and read data reset you can change vin if you want if you reset ism you dont need to make personalization it will work direct

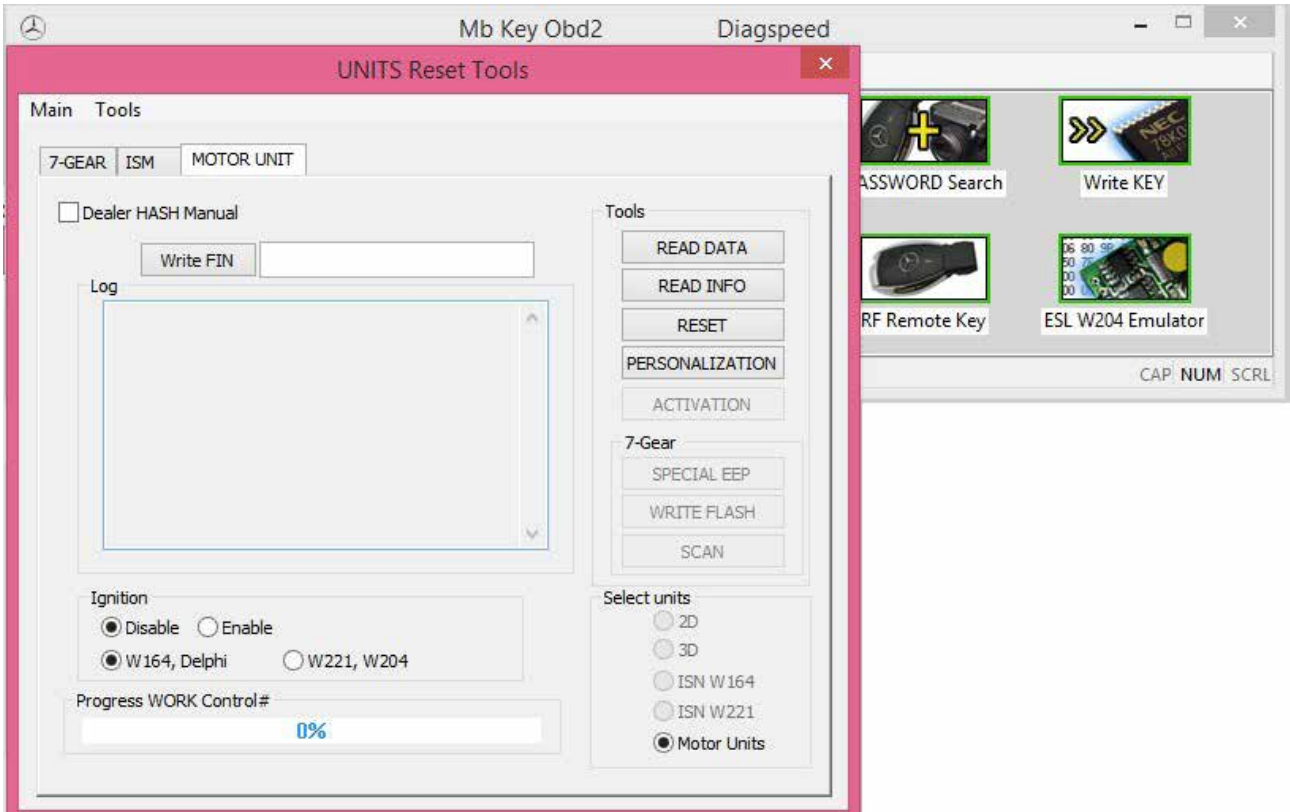


<https://www.youtube.com/watch?v=iMNdHZIhYU4>



1- Unit Reset Tools.

1c- Motor Unit



Motor Unit

Select "motor unit"
Select "w164" or "w221, w204"
It will automatic detect ecu

- 1) "Read data"
- 2) "Reset"

Example if you select 164 it work on old car like 203 220 209 219 211 230
If you select 221 it work on all new car like 204 212 166 176 117 218 172.....



<https://www.youtube.com/watch?v=fEbltMhXTcI>



https://www.youtube.com/watch?v=b2_aTOR8WdA

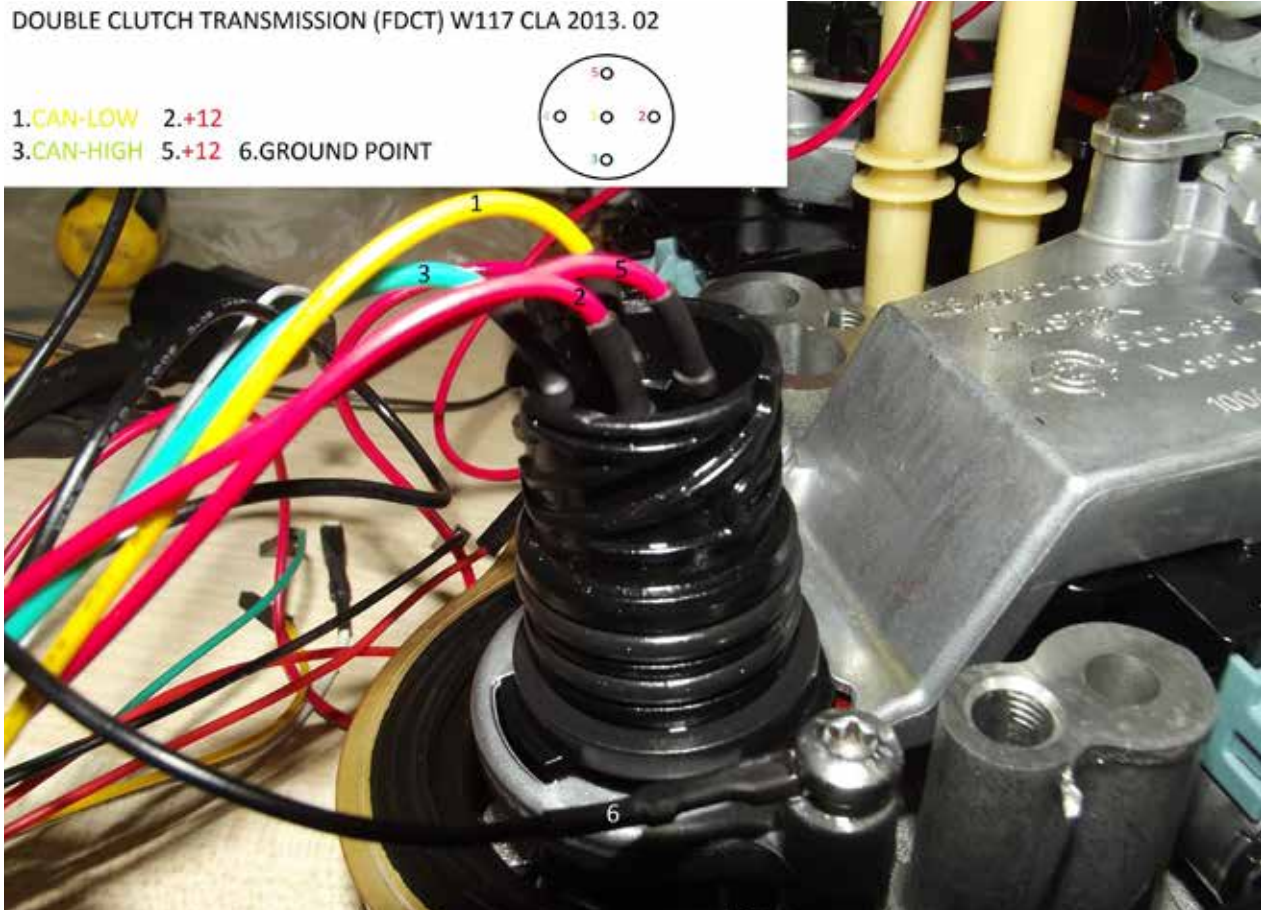
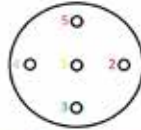


1- Unit Reset Tools.

1d- FDCT W117

DOUBLE CLUTCH TRANSMISSION (FDCT) W117 CLA 2013. 02

- 1. CAN-LOW 2.+12
- 3. CAN-HIGH 5.+12 6.GROUND POINT

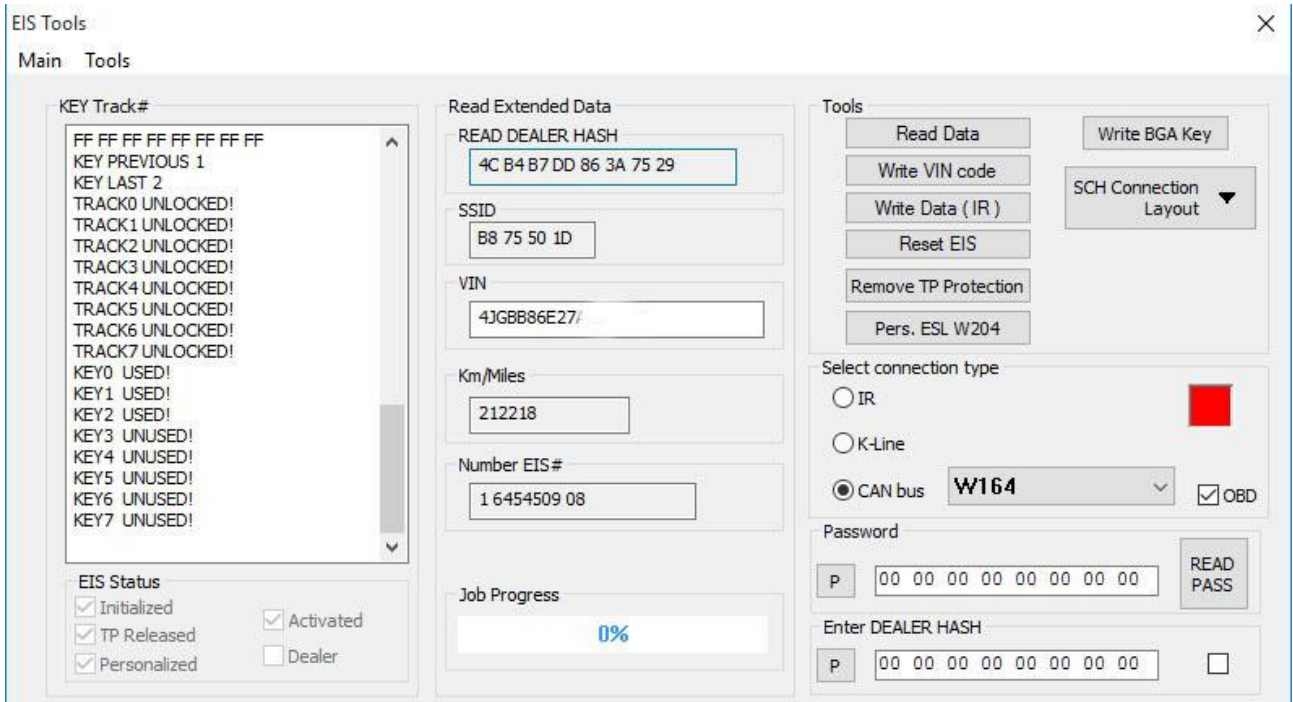


FDCT W117

- 1) "Read data"
- 2) "Reset"
- 3) "Read info"



2- EIS Tools.



EIS Tools

EIS Tools is designed to work with electronic ignitions modules (MOTOROLA & NEC)

Connect EIS to power and to device connect "special key" to device select read EIS method...

Note : after year 2008 all ezs read by can or direct to car by obd2 or on bench



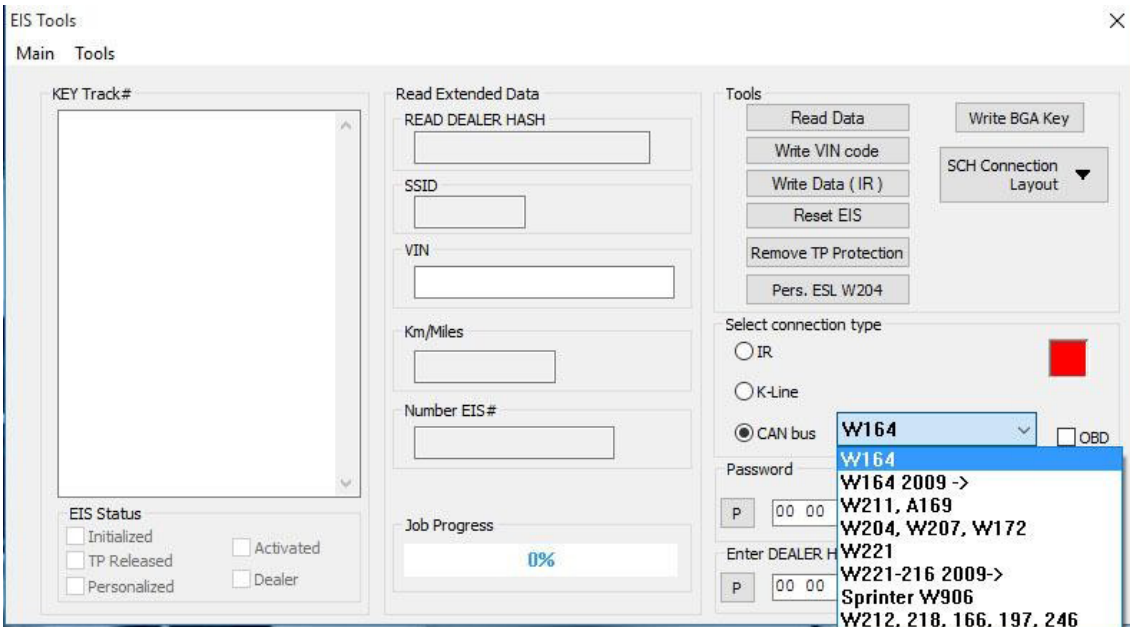
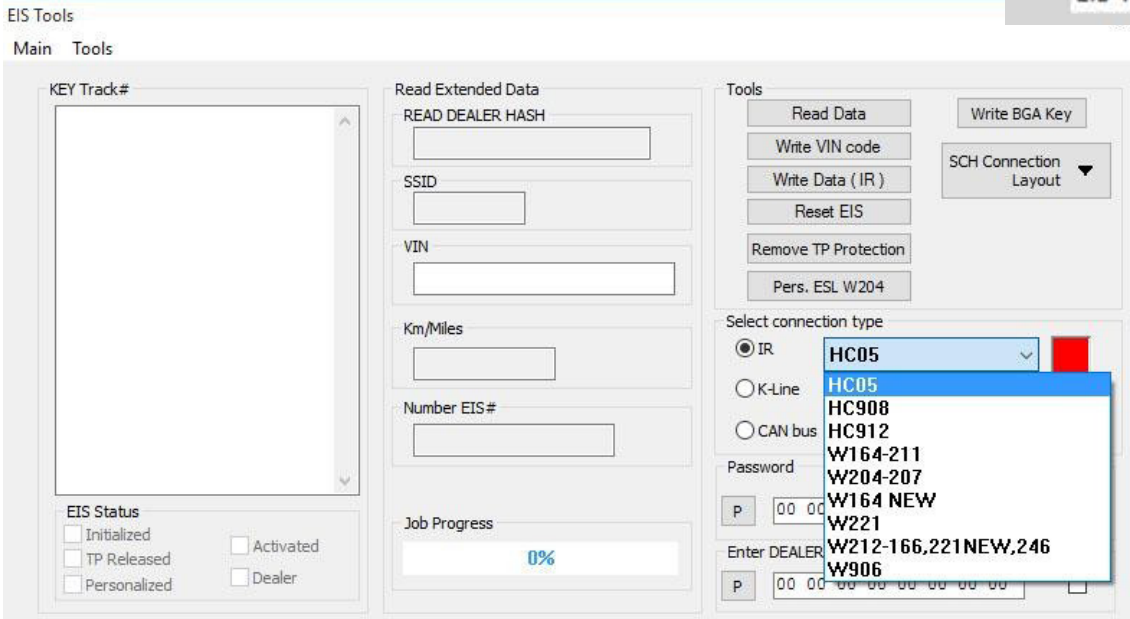
<https://www.youtube.com/watch?v=eJ18dsTsxDE>



2- EIS Tools.



EIS Tools



Read Data - read data from EIS Write Data (IR) -

write data to EIS only via IR

Reset EIS - make reset EIS (if you know password and special hash) Change VIN - change VIN number in EIS



<https://www.youtube.com/watch?v=qCSZ1DvxBKE>



<https://www.youtube.com/watch?v=k1N0DQP5LV4>



<https://www.youtube.com/watch?v=qaaRmjYyyrI>



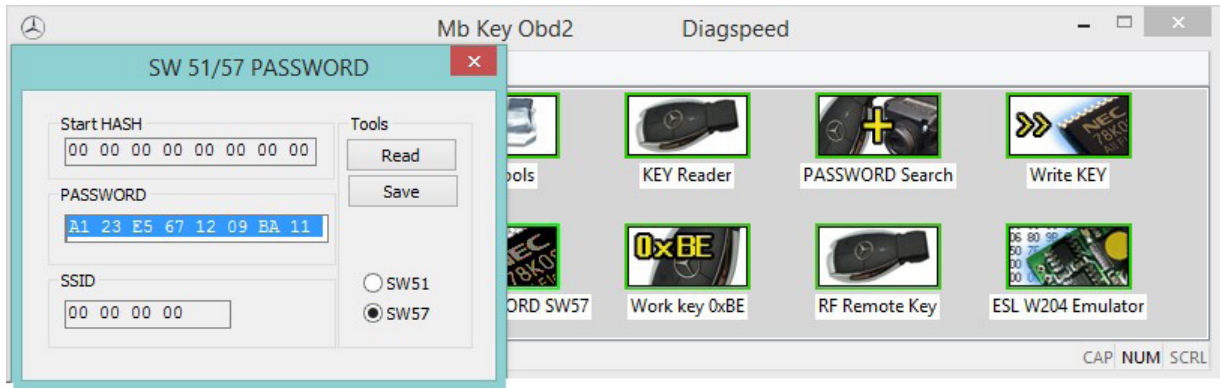
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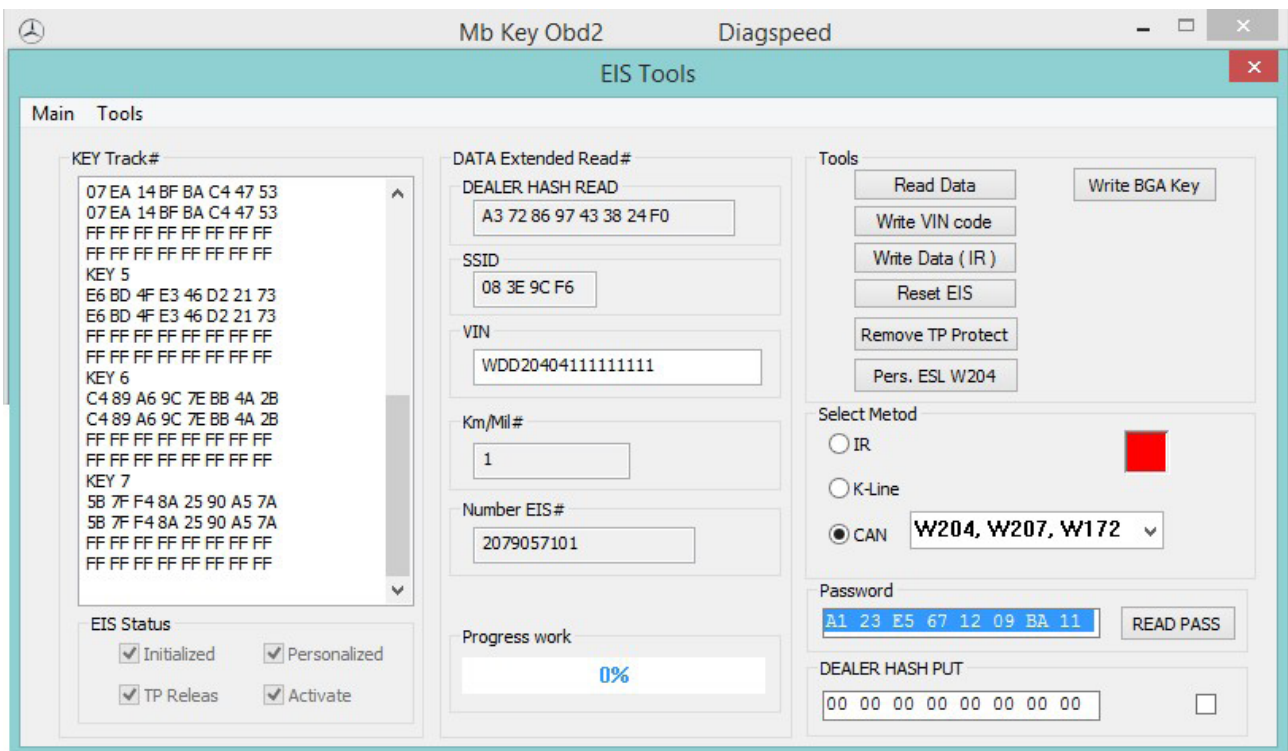
2- EIS Tools.



Reset EIS ESL



- 1) Select SW57 read copy password after save
- 2) Read EIS & write password after save as HC05X32

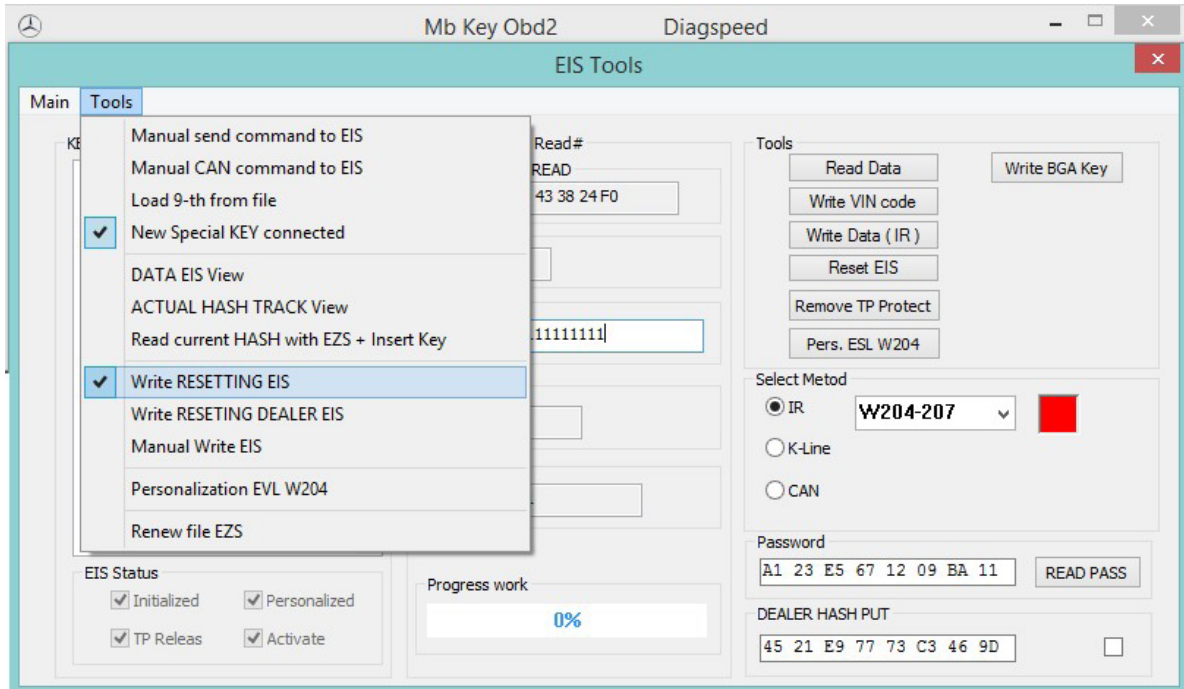
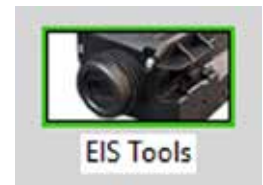


- 3) Select IR, select car & press reset EIS after put special IR key and press yes
- 4) Open tools select write resetting EIS after load save HC05X32 after write data IR

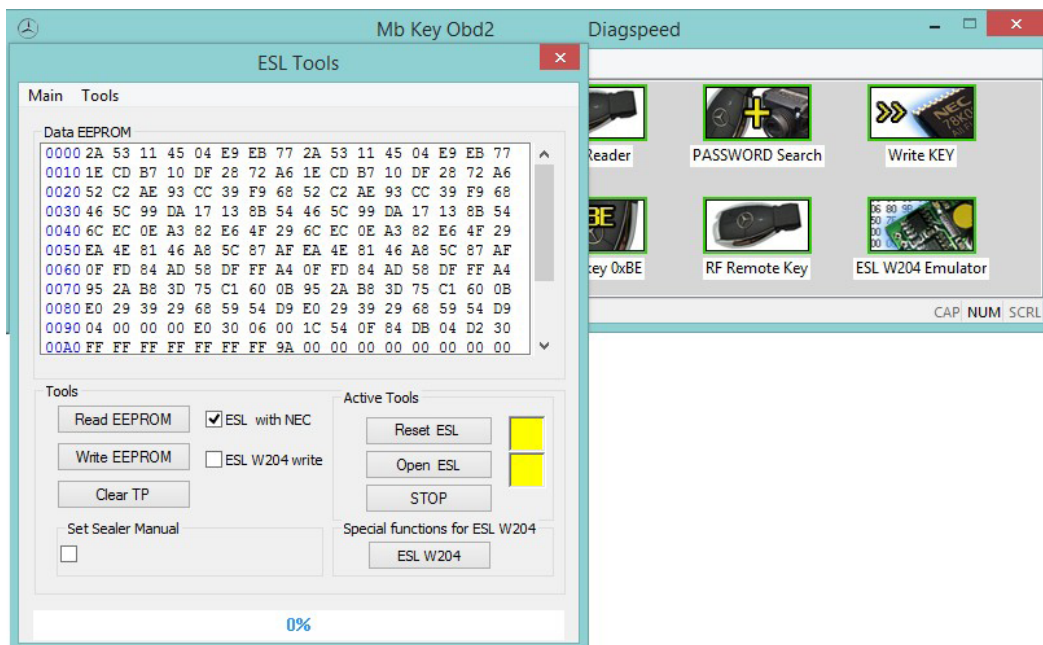


2- EIS Tools.

Reset EIS ESL



5) Go to ESL

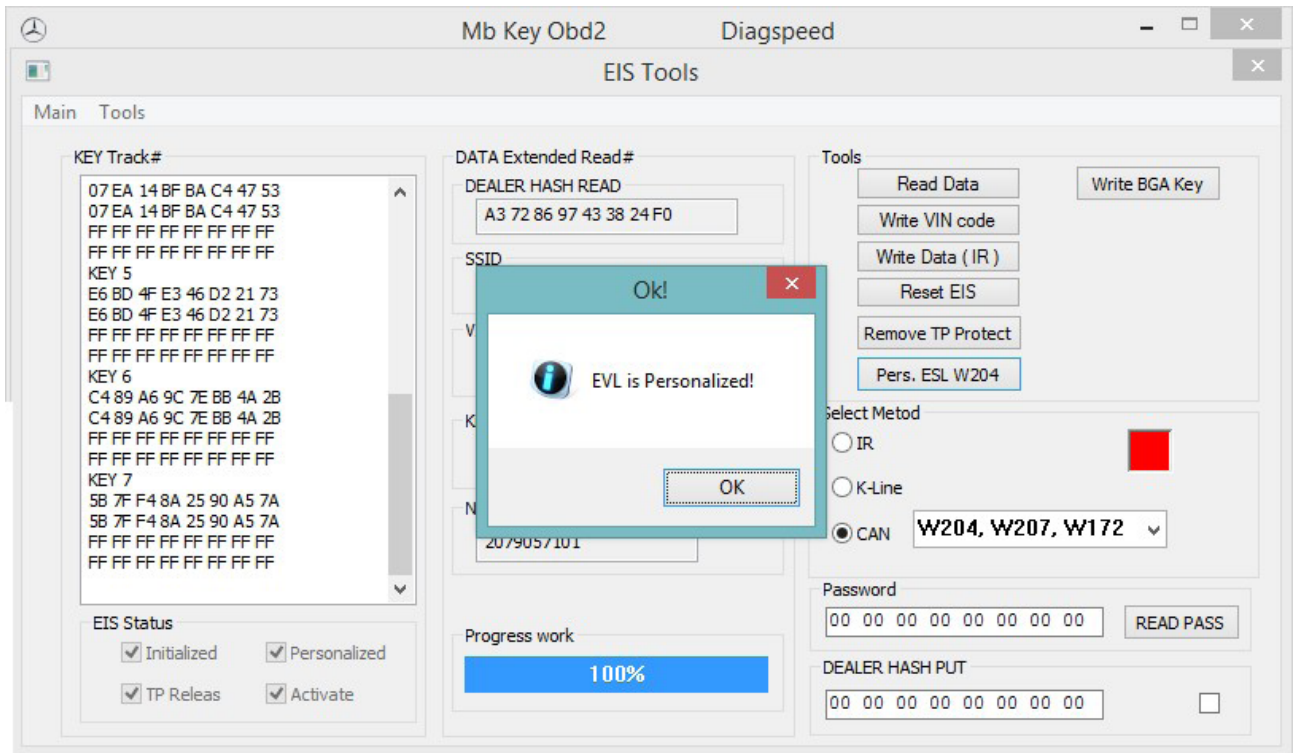


6) Select ESL with NEC, read eeprom after reset ESL after press clear TP

7) Go to EIS tools read EIS by can select pers. ESL W204



2- EIS Tools.



8) Write back win number

9) After open generate tools load save file & generate Key

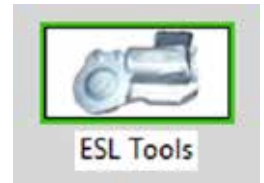


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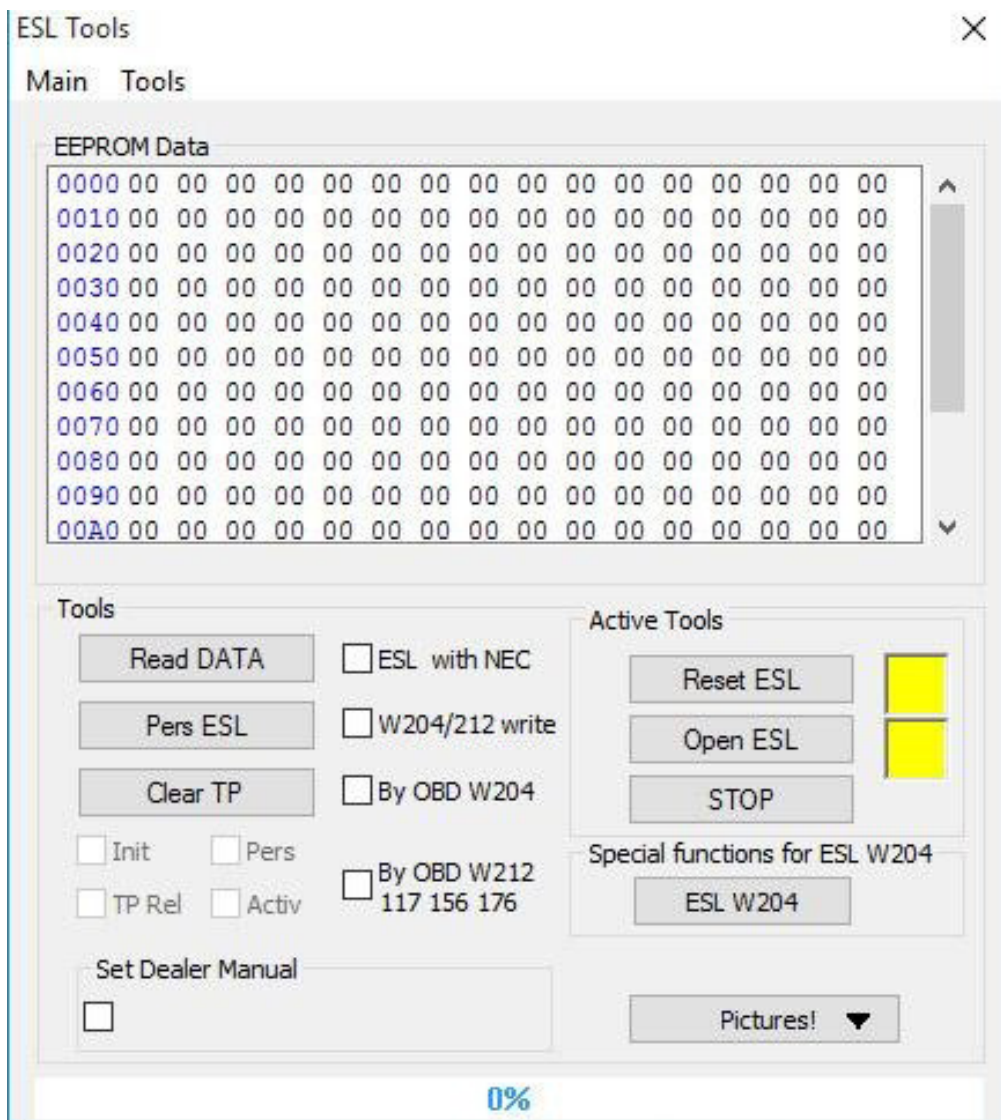


3- ESL Tools.

3a- Reset Tools



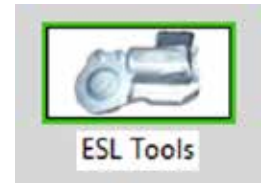
1:For motorola esl read data select reset esl only dont need to personalized
2:For nec esl like 204 212 select esl with nec.
If you work on car you connect obd2 cable and kline wire yellow to pin 3 esl or select by obd2 w204 and read without connect kline wire after reset select reset esl and clear tp



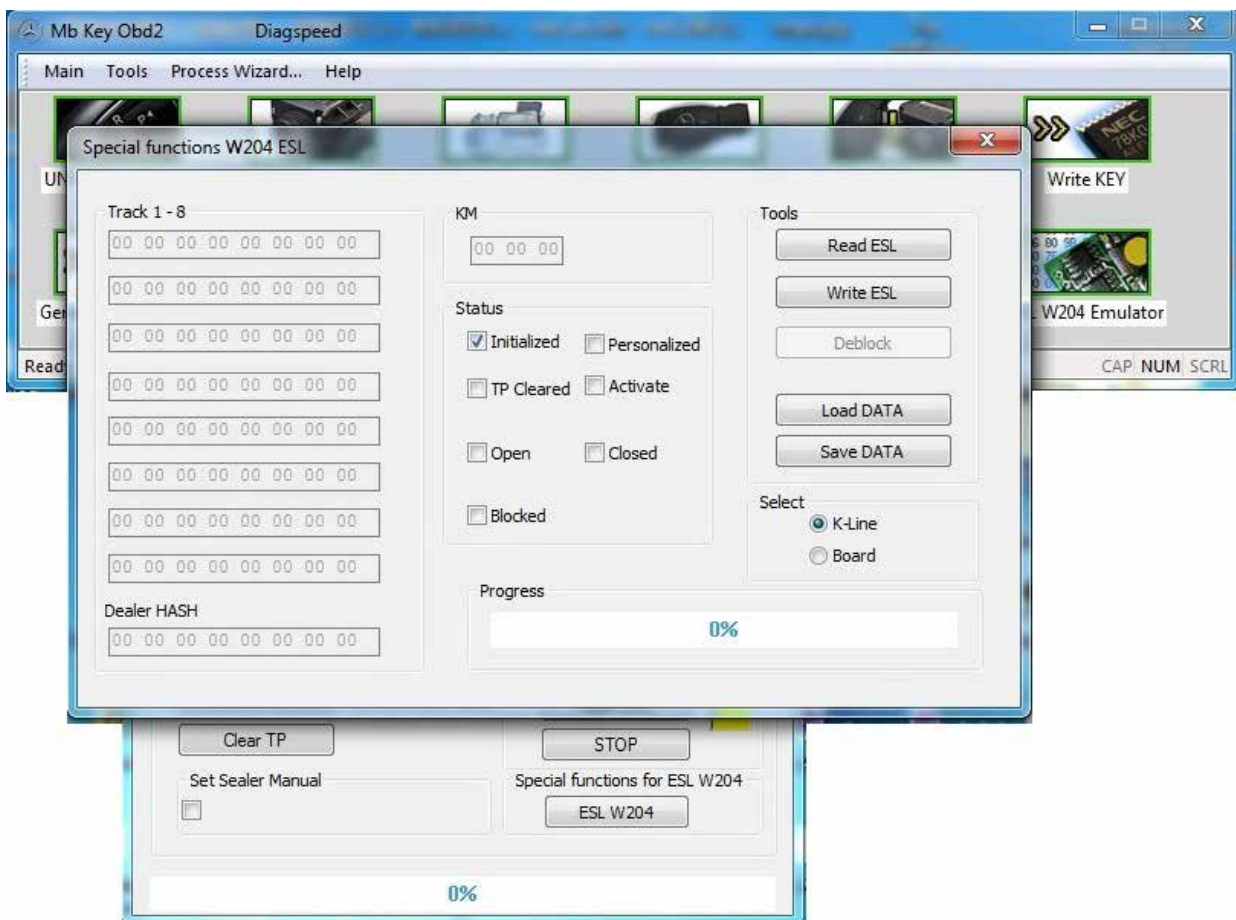


3- ESL Tools.

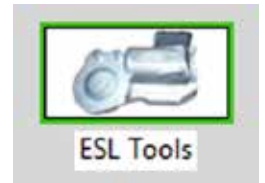
3b- Deblock Tools



Deblock esl elv special function for ESL W204 W207 W212 Desolder nec from esl elv put on specail adapter esl on brd1 .
select board not kline read esl after press deblock wait to finish it will take time

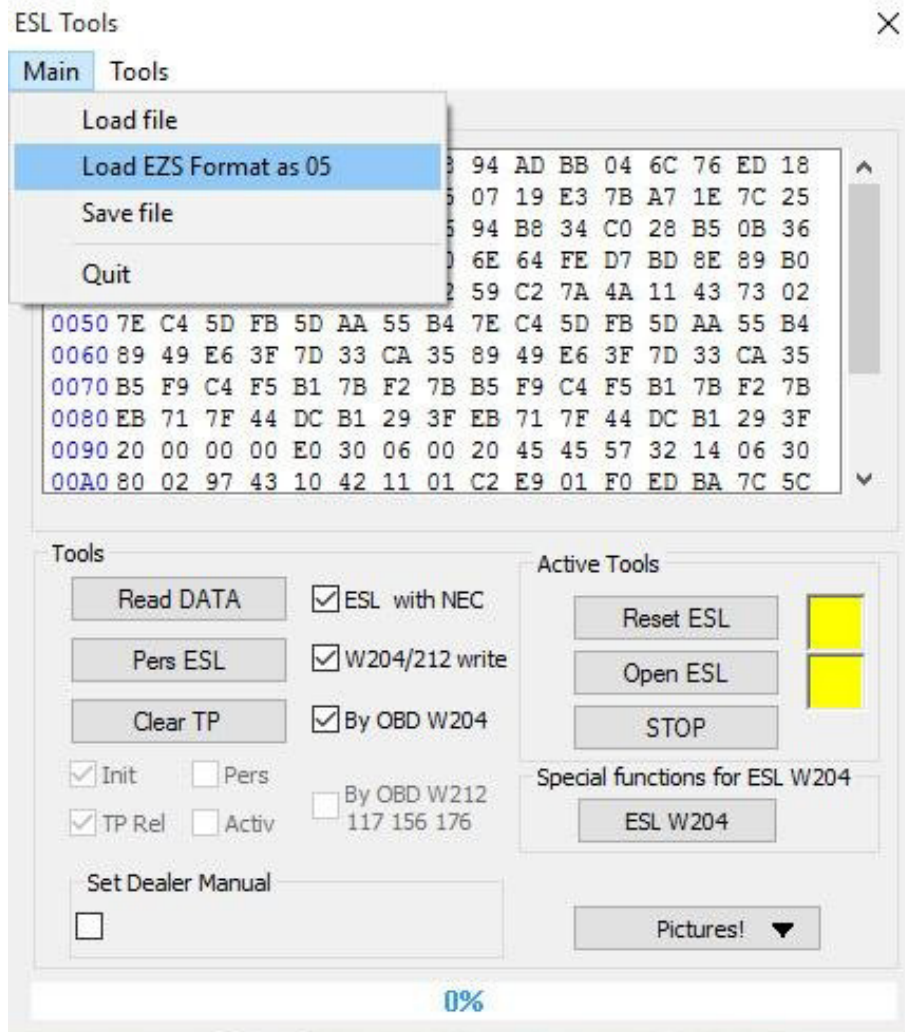


Wait To Finish



3- ESL Tools.

3c- Personalization esl elv without reset ezs



1: You must read esl elv after reset esl and clear tp

2: Load ezs data with password

3: Select 204 212 and press pesl esl

https://www.youtube.com/watch?v=s9B_F7iQOUM

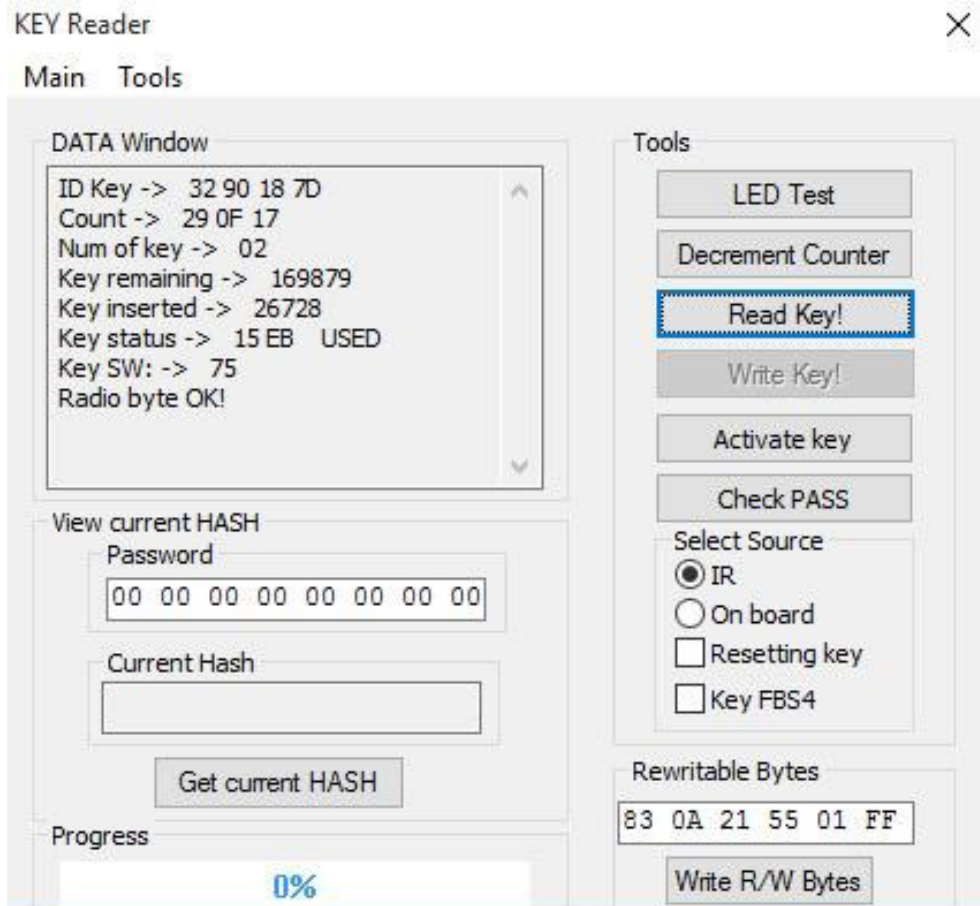
 <https://www.youtube.com/watch?v=-HHK2hQIidQ>

 <https://www.youtube.com/watch?v=DEKqda1F4Qs>

 https://www.youtube.com/watch?v=_wqbtjqvG0E



4- Key Reader

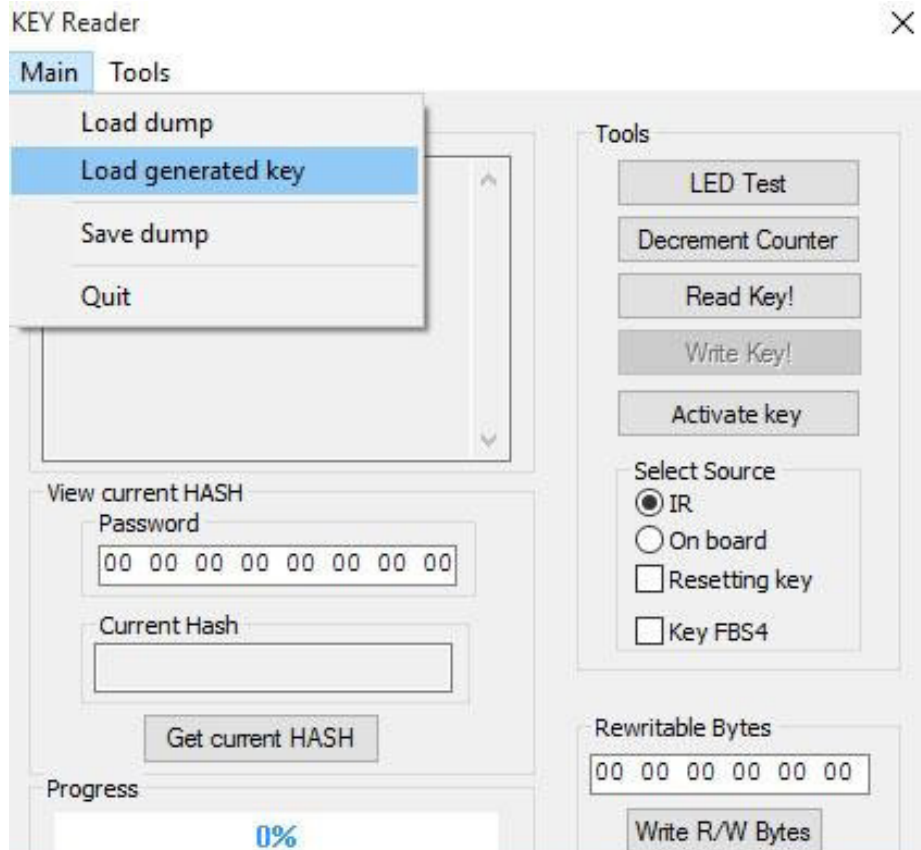


Key Reader

- ID Key : SSID (Serial System Identification) has a 4-byte pattern, some kind of VIN for the key and lock match
- Count : designed for checking how many starts are left. The counts reduce the value by one with every start
- Num of key : key number from 00 to 07. The total of 8 keys
- Key remaining :
- Key inserted :
- Key status : all info here (Used / Unused)
- Key SW : ROM processor version
- Always after read key you can save your data



4- Key Reader



How to write key or by IR or on Board

How to write key or by IR or on Board

Load generate key select key number if you are working on ezs nec select 41 .if on motorola select 51 under read key select write key .if you want to write on board select on board or write by ir select IR

IMPORTANT

You cannot write used (non clear) key via IR first you must Reset NEC ! if you want write data to NEC , first you must load fil



<https://www.youtube.com/watch?v=7LsUgrsGrV8>



4- Key Reader

key Status Info

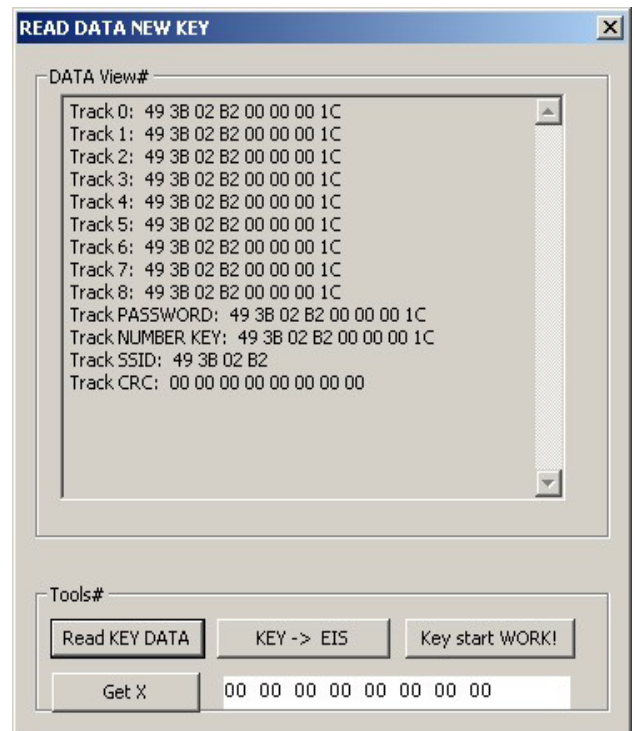
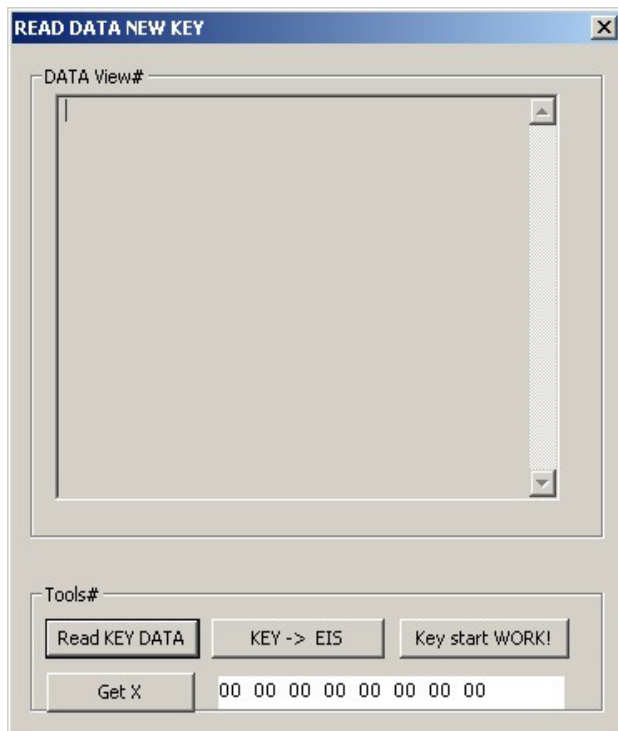
Some examples of Status field

- 14 EC : Faultless, adapted and activated key with the NEC or MOTOROLA processor
- 15 EB : Faultless, adapted and activated key with the NEC processor
- 04 FC : Adapted but non activated key with MOTOROLA processor
- 05 FB : Adapted but non activated key with NEC processor
- 21 DF : Key status with NEC processor ready for programming via IR (erased key)
- 00 00 : Key status with MOTOROLA processor ready for programming via IR (erased key)
- 0C F4 : "Orange" Key status which will be discussed later



4- Read New Key

How To Work With "Pairs of Keys" ?



Go here and read info about Read NEW

 <https://www.youtube.com/watch?v=IUpOLbpTBII>



5- Password Search

BGA or all lost Keys



New key generator is designed to work with electronic ignitions modules (NEC)

- 1) Connect device by OBD2 to car or on bench
- 2) Put any key BGA or Nec KeyLessGo on device
- 3) Select type EIS
- 4) To Read BGA key

Connect ezs or on bench or connect obd2 on car select type ezs press read bga. times read bga 5 minutes after save data load to server and wait 3to 5 minutes load again same data you will get password

<https://www.youtube.com/watch?v=vd9j1k47VUA>

<https://www.youtube.com/watch?v=y92uVIRn-Gk>

https://www.youtube.com/watch?v=_wqbtjqvG0E

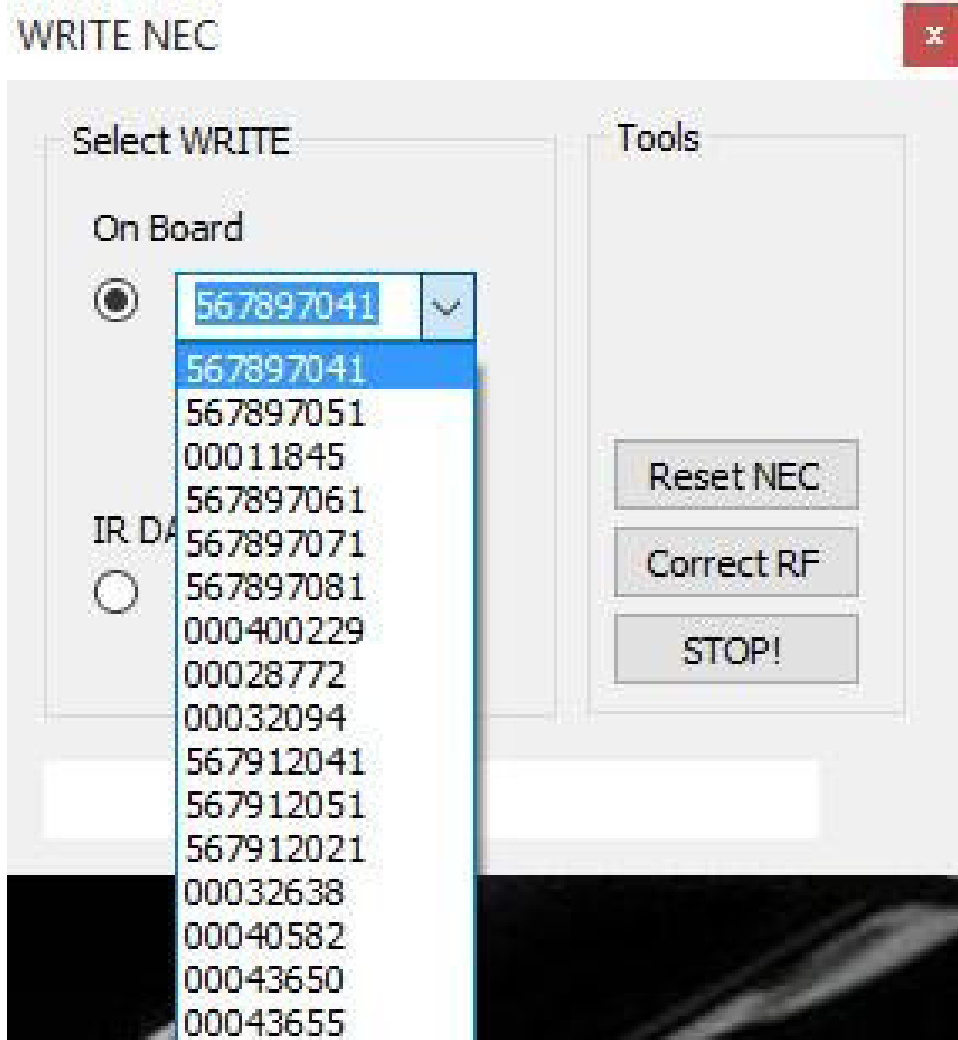
- 5) For all key lost work on fbs3

select ezs and select type car press read ezs and follow

<https://www.youtube.com/watch?v=vJ5vkOoJWrQ>



6- Write Key



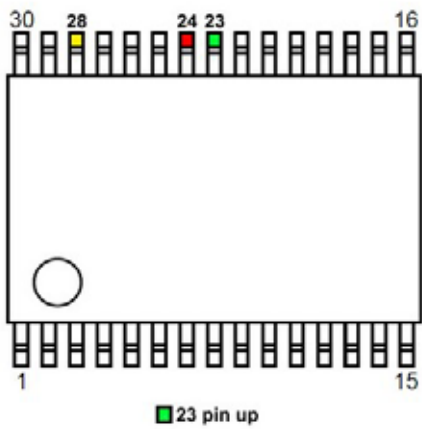
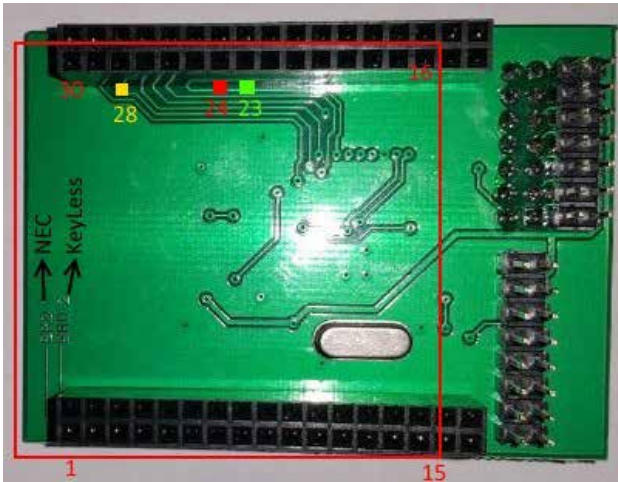
Reset NEC
Select mask on nec and reset nec
if you want write a used key by IR

Correct RF
Select mask nec and press correct RF
It will correct Radio byte remote control

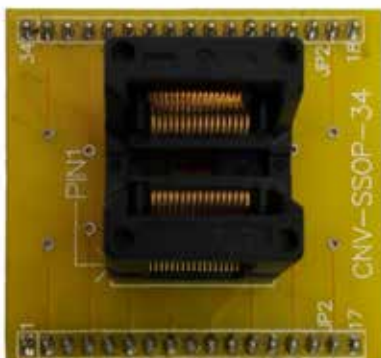


6- Write Key

How to connect used key to device ?
To use keyLess put socket on BRD2
To use normal NEC put socket BRD1

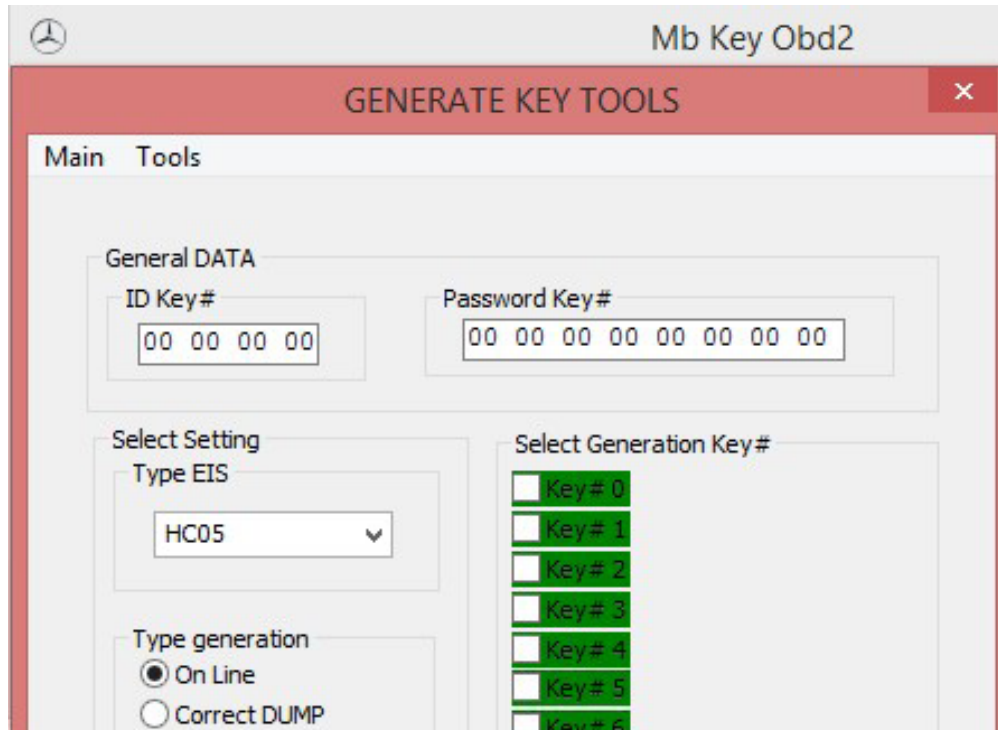
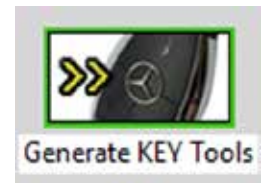


NEC MCU adapter it's in set with device

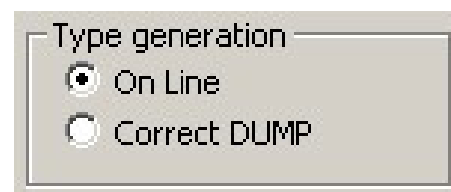
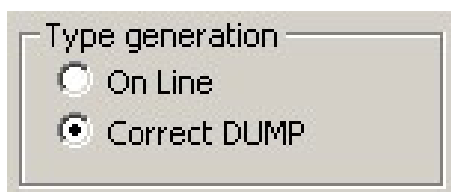




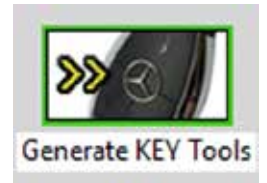
7- Generate Key Tools



Generate KEY Tools is designed to generate keys in two ways



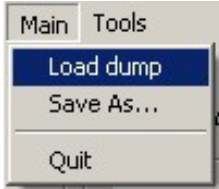
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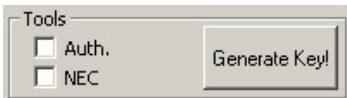
7- Generate Key Tools

Online generation

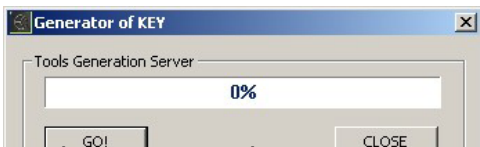
Important software automatically seek eis type & key type



Go to Main and Load



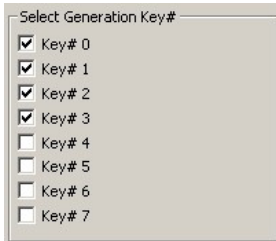
Push Generate Key !



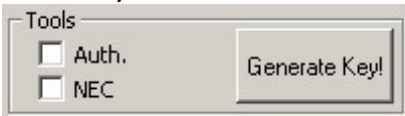
Push GO ! ...and WAIT



Push OK



Tick keys...



Push again Generate Key ! ...and WAIT



WARNING!

Key generation rate depends on your computer !

In slow processor it can take up to 10 minutes !

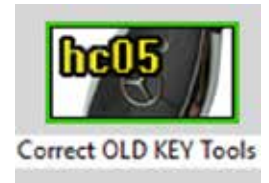


Push OK dumps keys are stored in folder with your EIS file

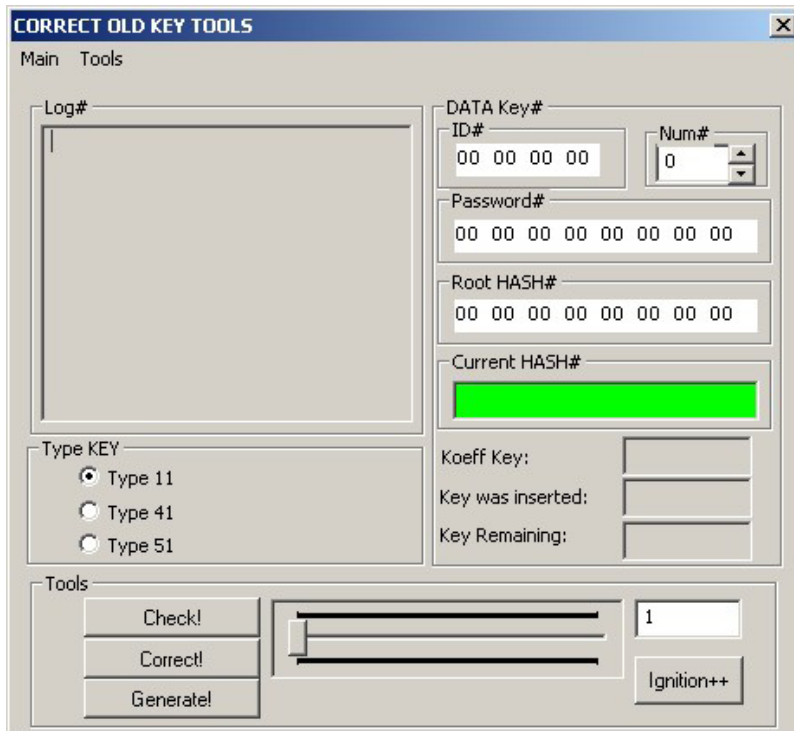
now you must program new keys no need change data IN EIS / ECU / ESL ect.



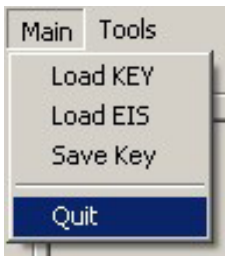
Go here and read info about Data EIS view



8- Correct Old Key Tools

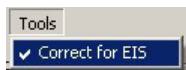


Correct old key tools is designed to work with keys on MOTOROLA MCU (HC05) "OLD BIG FISH



Load dump key Press the "Check" and see the result. If it is not satisfactory - then remember factor that is responsible for Inserted key click "Generate" and then enter stored factor in the window above the "Ignition + +" Load dump EIS on a given key

In the Tools menu, select the "Correct for EIS" and then click "Correct"

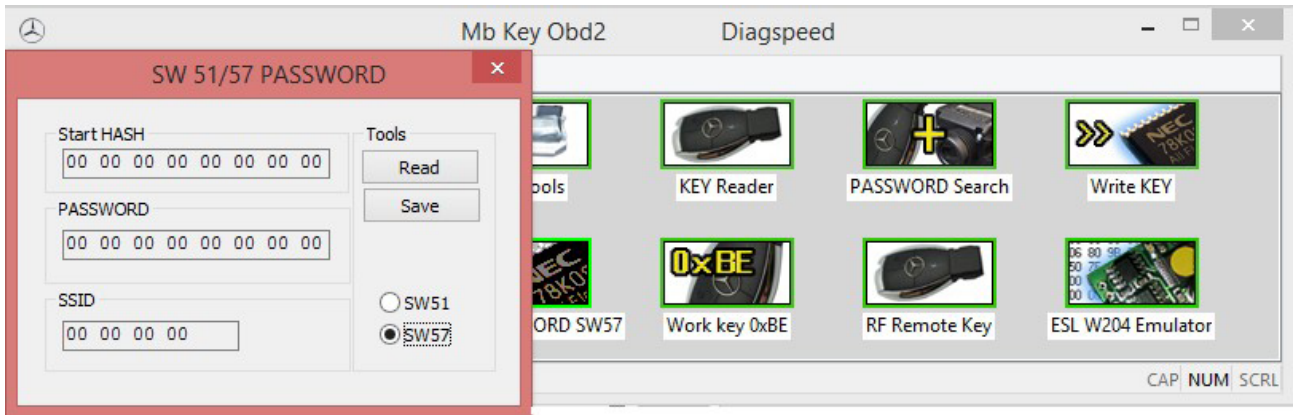


Save the resulting dump key corrected and fill in the key Change EIS dump is not necessary For this operation, you can use EIS Tools and read EIS via IR or K-line and save the dump. Main > Save As HC05



9- Read Password SW57

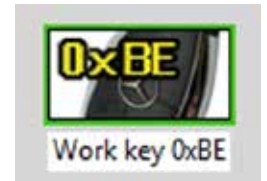
Read Password



Select "SW57" or "SW51" depend on the nec key "Read" after "Save"



10- Work Key 0xBE



Key state 0xBE work

×

Data

```
0000 01 4B 02 99 31 A3 0D C3 25 33 90 18 7D 97 D3 85
0010 CF 01 47 4F 81 61 9C E9 45 8A 50 74 92 9C EA EC
0020 E4 DA 5E 81 DF D6 36 1C AD E4 63 D8 9C A2 FB 7F
0030 27 52 26 0B 7C 2E 2C AE C1 14 73 A0 5C E0 5C 2F
0040 67 83 99 EF 8F 8B 1D 20 30 1E E2 AF 1B FA 69 99
0050 DA A8 12 1F C1 FF A3 A5 7D 87 A0 E6 6C 7C 55 2A
0060 09 E4 AE 8E 55 CC 3C 78 3A 7F FF FF FF FF FF
0070 FF FF FF F0 21 8E 17 FB 29 DB 05 7F FF 00 00 02
0080 FF FF FF FF FF FF FF 37 B8 4F 44 C8 97 26 06 AD
0090 02 01 01 01 00 FF FF FF 73 0C 00 62 36 6B 05 FB
```

Password

4B 02 99 31 A3 0D C3 25

Copy

Tools

Read Reset

Save Write

Load

BE Key

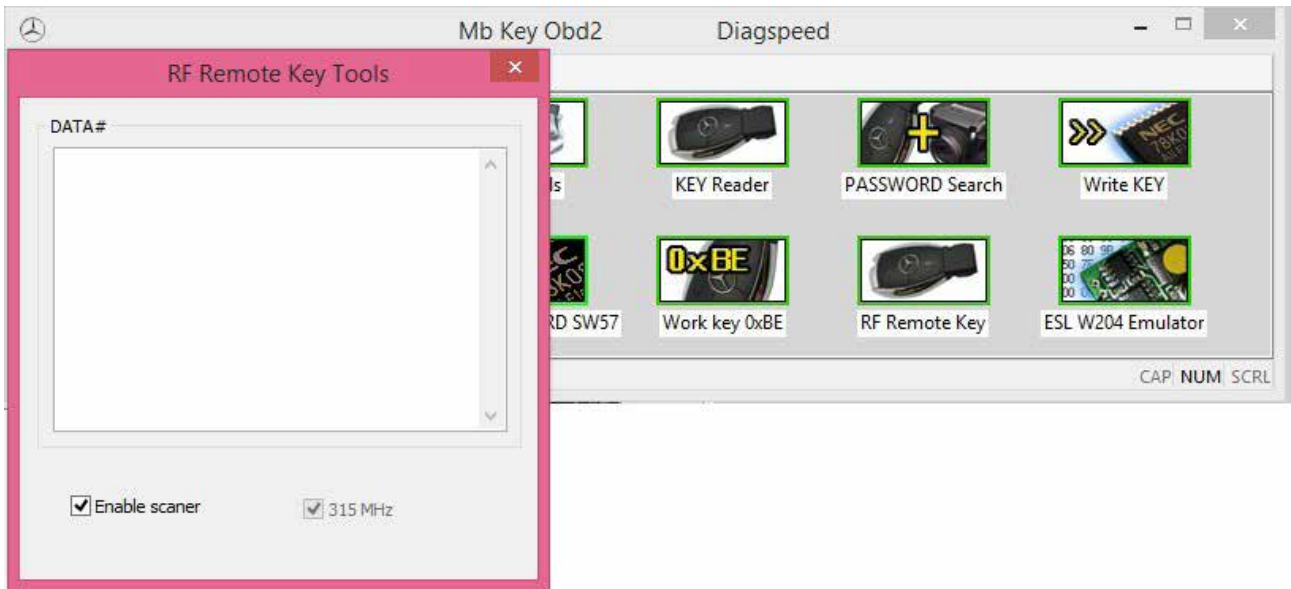
You can read reset and write many times by ir without soldering key and key password



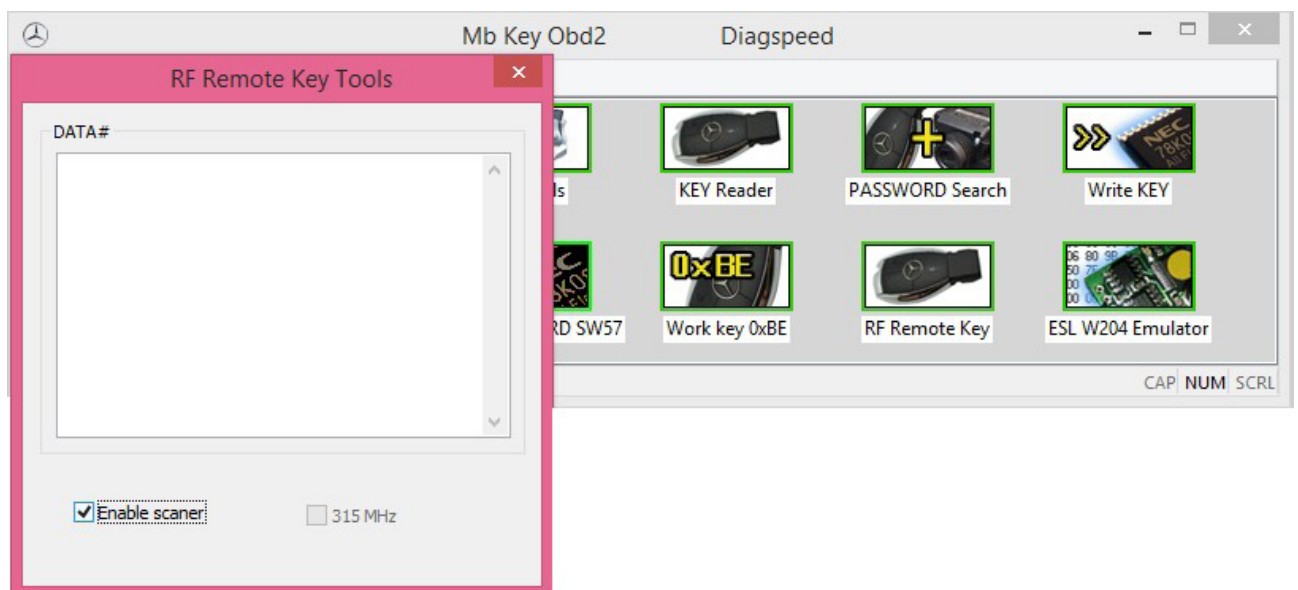
<https://www.youtube.com/watch?v=gYrixKw4mno>



11- RF Remote Key



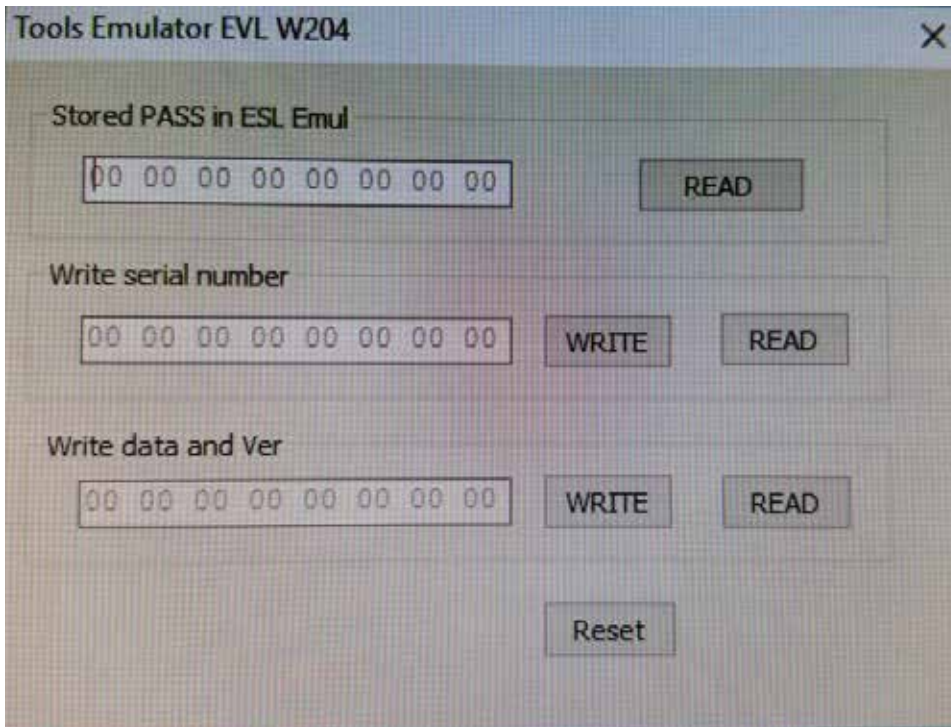
For test RF Remote Key "315 MHz" put check on "315 MHz" & check "Enable scanner" press remote key for test RF Remote Key for "433 MHz" remove check from "315 MHz" & "Enable scanner" press remote key



<https://www.youtube.com/watch?v=ZcHJqASOSH4>



12- ESL W204 Emulator



ESL W204 Emulator

- 1) "Read"
- 2) "Reset"



<https://www.youtube.com/watch?v=LLR-BgVo1uM>



Part 4

Updates



1- How To Update

- 1) Open software
- 2) Go to tools
- 3) Find update...
- 4) After you will see new update setup

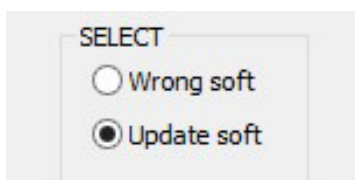


2- General Update Main Device

Go to tools
Press on-line update general device



Select update soft

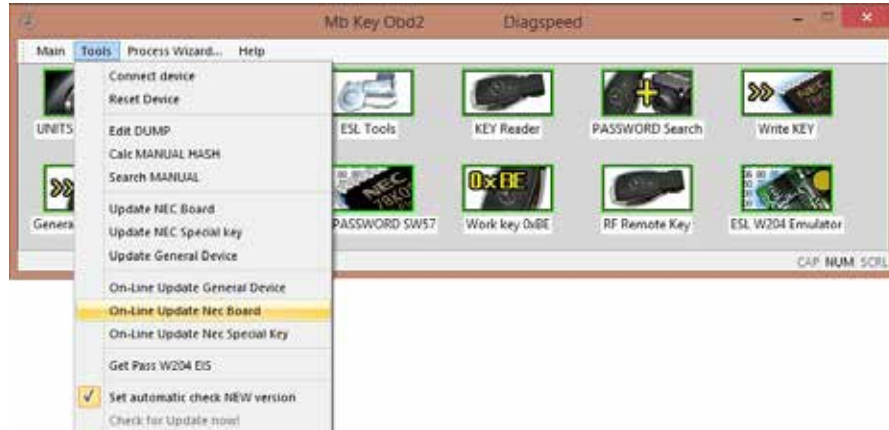


Push flash! Button ...And wait
When update finished - push ok button



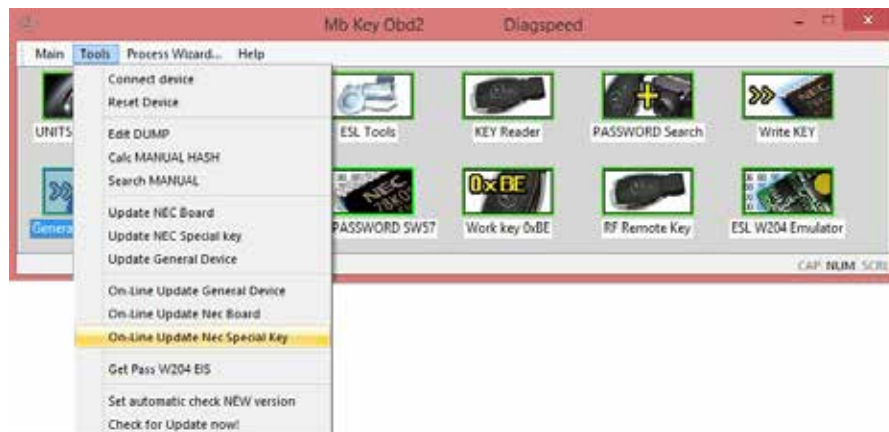
3- Online NEC Board Update

Go to tools
On-line update NEC Board



Press flash! Button ...And wait
When update finished - push ok button

4- Online NEC Special Key



Select on-line update NEC special key
After press flash



Part 5

Connections



1- Device Socket Connections



Socket.

DBH-15M	Wire	Color	OBD-II
11	K-Line	Green	7
12	VS+12V	Red	16
13	GND	Black	4+5
14	CAN_L	Dark Blue	14
15	CAN_H	Yellow	6

OBD-II Connector.

- pin 4 : GND
- pin 5 : GND
- pin 6 : CAN H
- pin 7 : K-LINE (1)
- pin 14 : CAN L
- pin 16 : +12V



2- EIS Connections.

- 2a- HC705
- 2b- HC908
- 2c- HC912
- 2d- HC9S12
- 2e- NEC

2a- HC705

W210 / W208 / W202

A - Connector

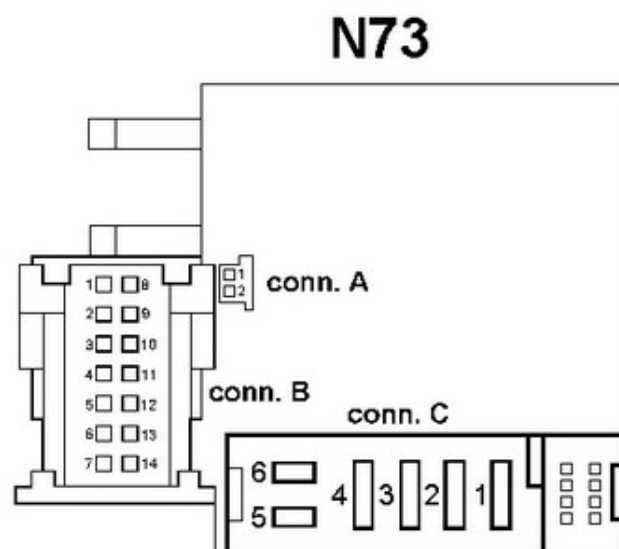
- pin 1 : CAN H (Green)
- pin 2 : CAN L (White)

B - Connector

- pin 3 : GND
- pin 4 : ESL 1
- pin 5 : ESL 2
- pin 7 : +12V (30)
- pin 14 : K-Line

C - Connector

- pin 2 : +12V (30)
- pin 4 : +12V (15)
- pin 5 : ELV B+
- pin 6 : +12V (30)





2a- HC705

W220 / W215

A - Connector

pin 1 : +12V (15)

pin 3 : +12V (30)

B - Connector

pin 1 : +12V (30)

pin 2 : K-Line

pin 3 : CAN L

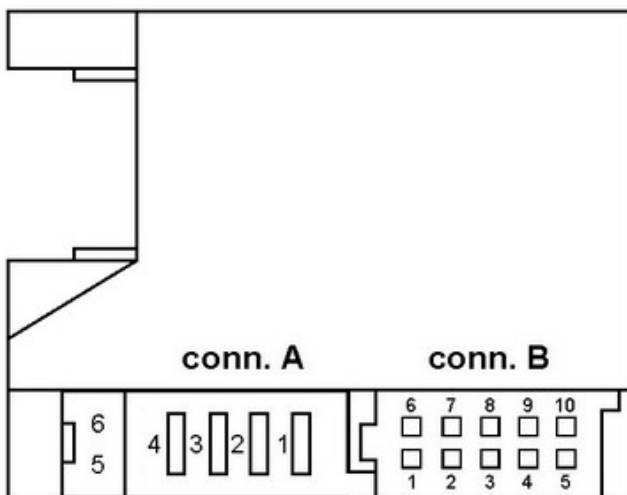
pin 4 : CAN H

pin 5 : GND

pin 7 : CAN H (Green)

pin 8 : CAN L (White)

N73





2b- HC908

W203 / VITO W639

A - Connector

pin 7 : ESL 2

pin 9 : +12V (30)

pin 10 : ESL 1

B - Connector

pin 2 : GND

pin 3 : +12V (30)

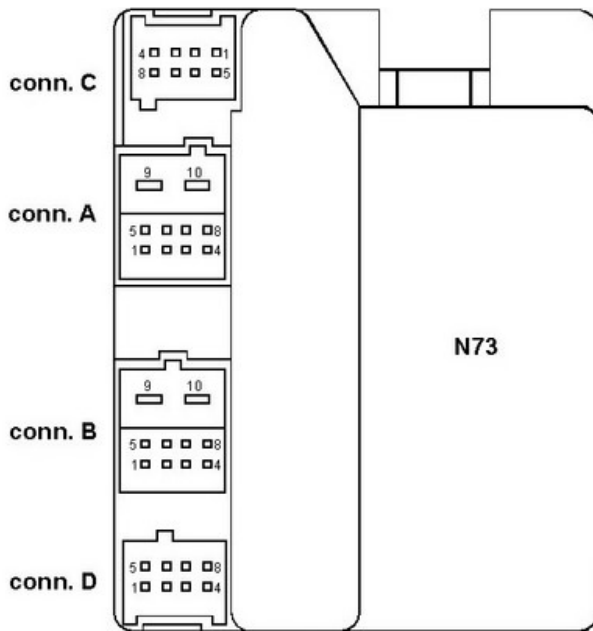
pin 4 : K-Line

pin 5 : CAN L (White)

pin 6 : CAN H (Green)

pin 7 : CAN L

pin 8 : CAN H





2c- HC912

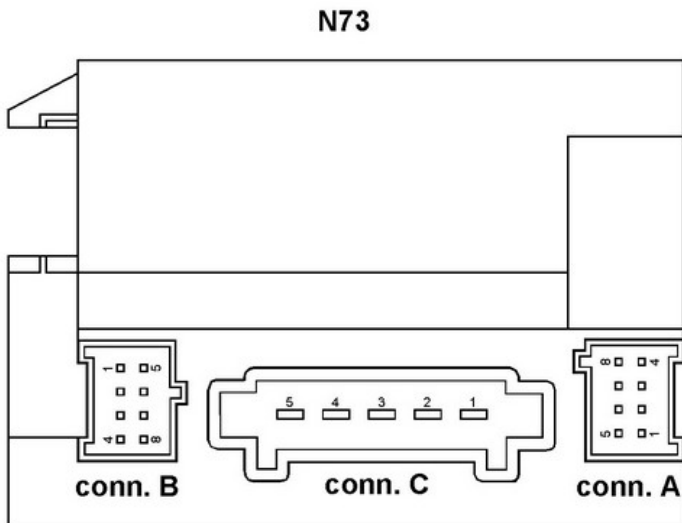
W203

B - Connector

- pin 1 : ESL 1
- pin 2 : GND
- pin 3 : +12V (30)
- pin 5 : CAN L (White)
- pin 6 : CAN H (Green)
- pin 7 : CAN L
- pin 8 : CAN

C - Connector

- pin 1 : +12V (30)
- pin 2 : +12V (15)
- pin 4 : ESL 2 - MAS





2c- HC912

W211 / W219 / W209

B - Connector

pin 1 : ESL 1

pin 2 : GND

pin 3 : +12V (30)

pin 5 : CAN L (White)

pin 6 : CAN H (Green)

pin 7 : CAN L

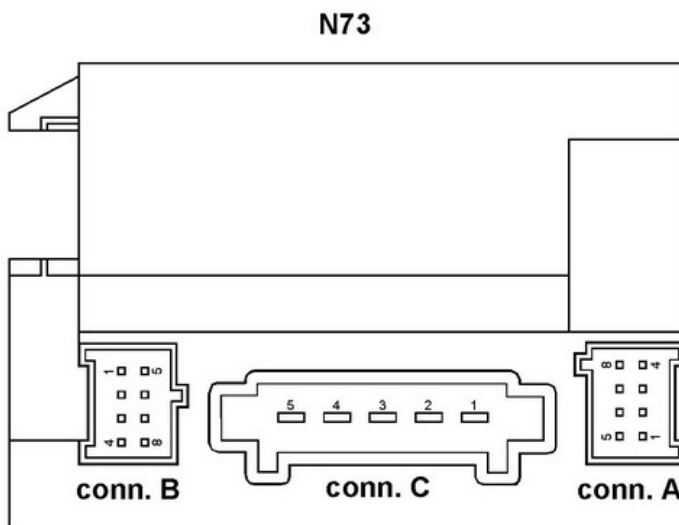
pin 8 : CAN H

C - Connector

pin 1 : +12V (30)

pin 2 : +12V (15)

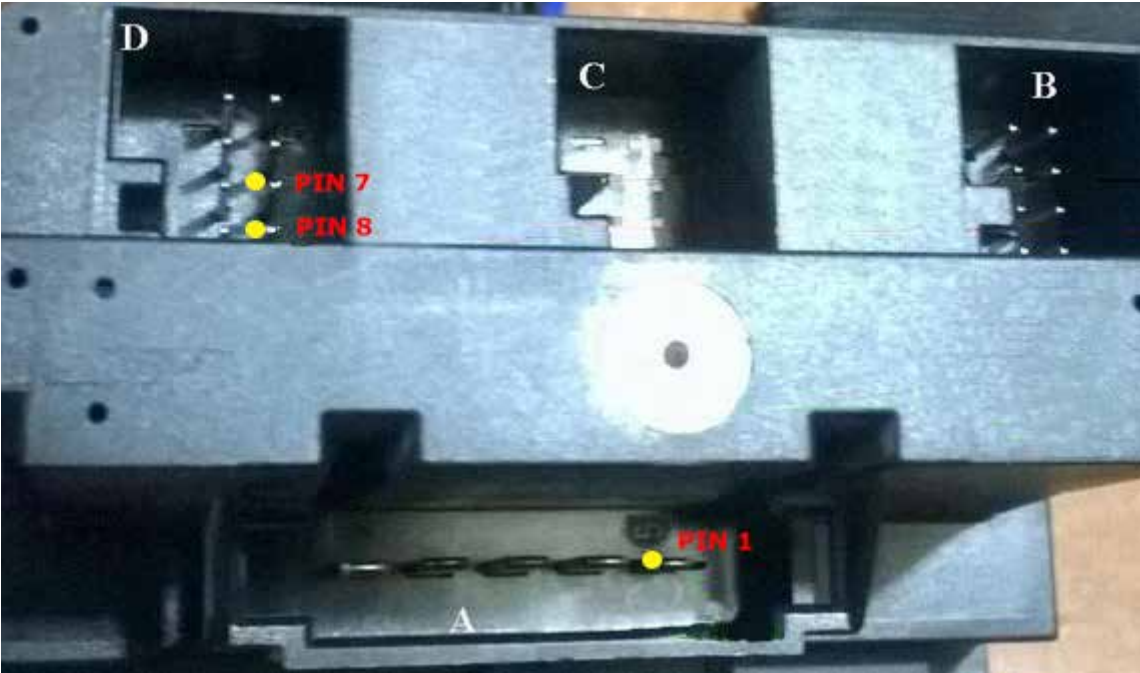
pin 4 : ESL 2





2d- HC9S12

SPRINTER W906



Connector

A Section: See Image Above
pin 1 : K-Line

D Section: See Image Above
pin 7 : GND
pin 8 : +12V



2e- NEC

W164 / R251 / W221 / W216

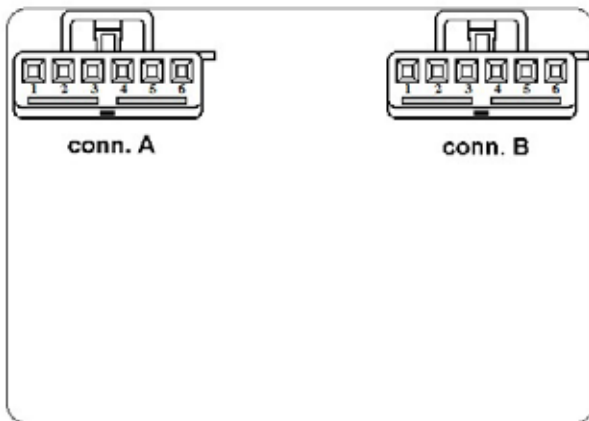
A - Connector

- pin 5 : GND
- pin 6 : +12V (30)

B - Connector

- pin 3 : CAN L 164
- pin 4 : CAN H 164
- pin 5 : CAN H (Green) 221
- pin 6 : CAN L (White) 221

N73



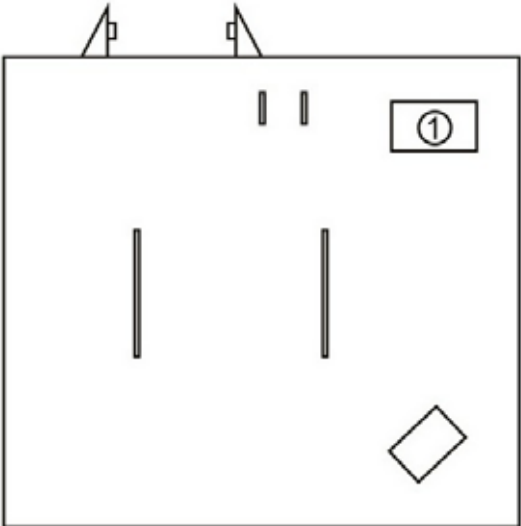


2e- NEC

W204 / W207 / W212

1- Connector

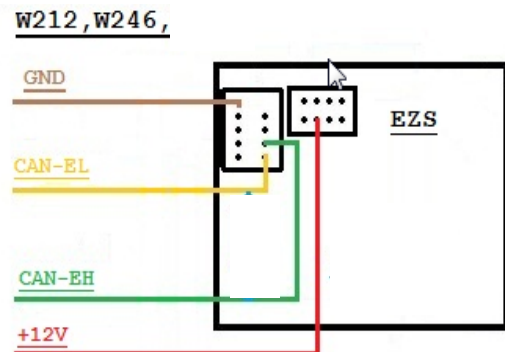
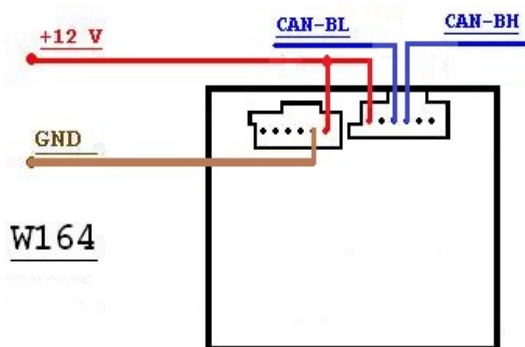
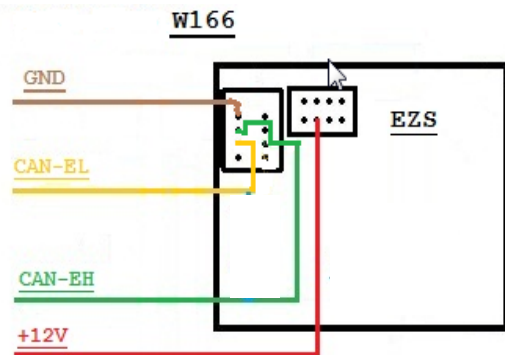
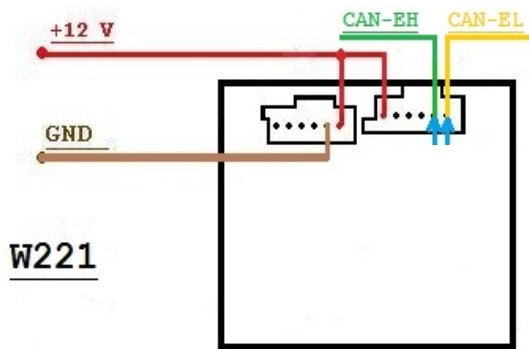
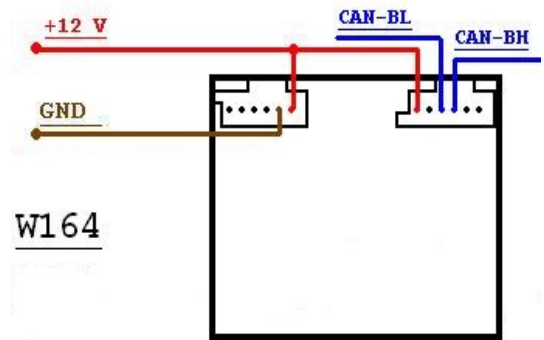
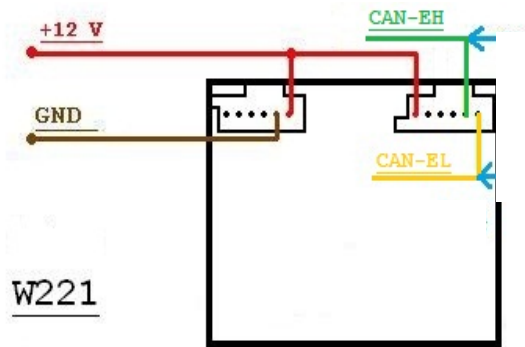
- pin 1 : CAN
- pin 2 : CAN
- pin 3 :
- pin 4 :
- pin 5 :
- pin 6 :
- pin 7 : +12V
- pin 8 :
- pin 9 :
- pin 10 : GND





2e- NEC

W164 / W221 / W166 / W212 / W246





3- ESL Connections.

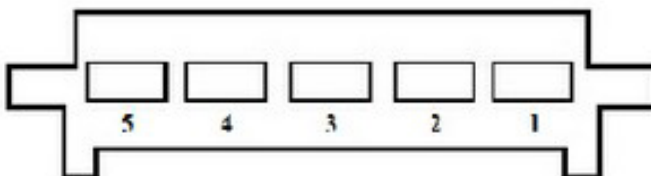
- 3a- W210 / W208 / W202
- 3b- W203 / W639
- 3c- W211 / W219 / W209
- 3d- Sprinter W906
- 3e- W212 / W207 / W204 / W906
- 3f- W169/W245 - ESL
- 3f- Emulator

3a- W210 / W208 / W202

Connector

- pin 1 : +12V (30)
- pin 2 : GND
- pin 3 : K-Line
- pin 4 : K-Line
- pin 5 : N/C

N26/5





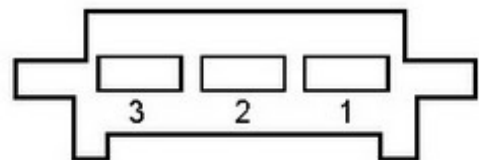
3b- W203 / W639



N26/5

CONNECTOR W203 - 3 Pins EVL

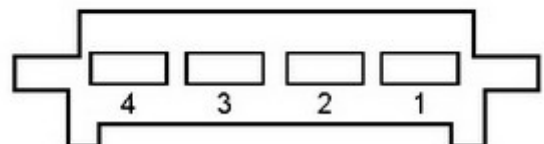
- pin 1 : +12V (30)
- pin 2 : GND
- pin 3 : K-Line



N26/5

CONNECTOR W203 - 4 Pins EVL

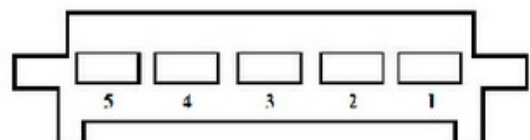
- pin 1 : K-Line
- pin 2 :
- pin 3 : GND
- pin 4 : +12V (30)



N26/5

CONNECTOR W203 - 5 Pins EVL

- pin 1 : K-Line
- pin 2 :
- pin 3 : GND
- pin 4 : +12V (30)
- pin 5 : N/C



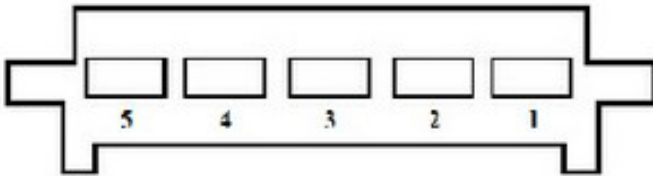


3c- W211 / W219 / W209

CONNECTOR W211/W219/W209 - EVL

- pin 1 : K-Line
- pin 2 :
- pin 3 : GND
- pin 4 : +12V (30)

N26/5



3d- Sprinter W906

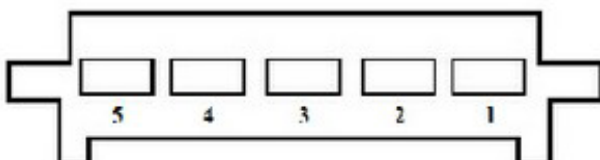
CONNECTOR W906 (SPRINTER) - ESL



CONNECTOR

- Pin 1 : K-Line
- Pin 2 :
- Pin 3 : GND
- Pin 4 : +12V (30)
- Pin 5 :

N26/5

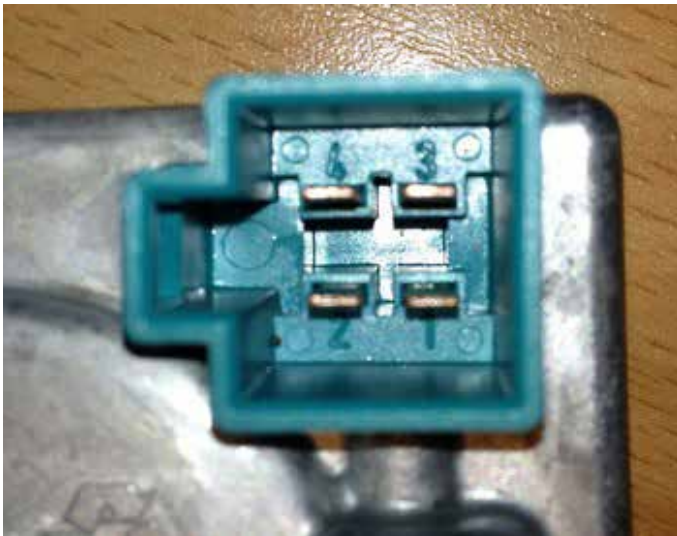




3d- W212 / W207 / W204 / W906

CONNECTOR W204/W207/W212 - ELV-ESL

- pin 1 : GND
- pin 2 : +12V
- pin 3 : ESL LINE / K-LINE
- pin 4 : +12



3e- W169/W245 - ESL

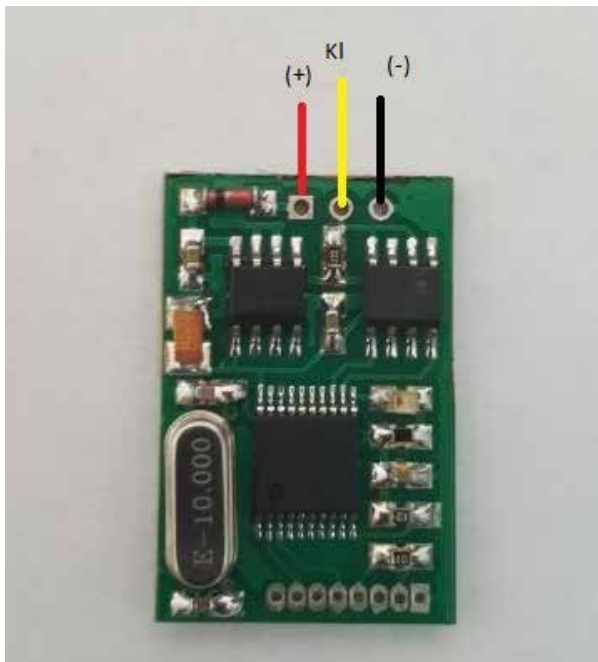


CONNECTOR

- Pin 1 : +12V (30)
- Pin 2 : GND
- Pin 4 : k line



3f- Emulator



CONNECTOR

pin 1 : Black GND

pin 2 : red +12V

pin 3 : Yellow K Line



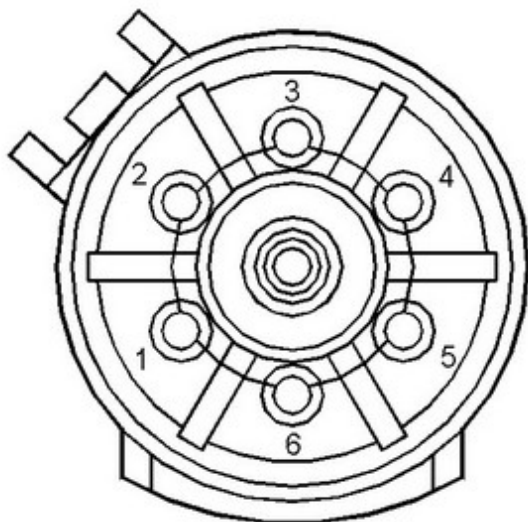
4- Unit Reset Tools Connections

- 4a- 7G Tronic
- 4b- ISM
- 4c- ECU Motor
- 4d- FDCT W117

4a- 7G Tronic

CONNECTOR

- pin 1 : CAN H
- pin 2 : CAN L
- pin 3 :
- pin 4 : +12V
- pin 5 : GND



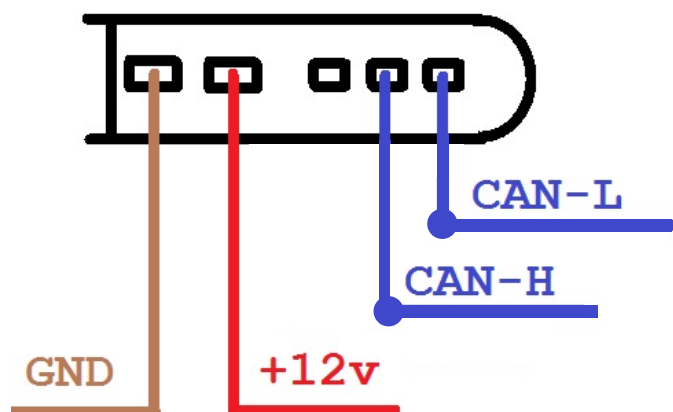
Support Part Numbers For 7G ETC renew

- 033 545 6632
- 033 545 6732
- 033 545 7332
- 033 446 0310
- 033 446 0610



4- Unit Reset Tools Connections

4b- ISM



CONNECTOR

- pin 1 : CAN L
- pin 2 : CAN H
- pin 3 :
- pin 4 : +12V
- pin 5 : GND

Support Part Numbers For ISM

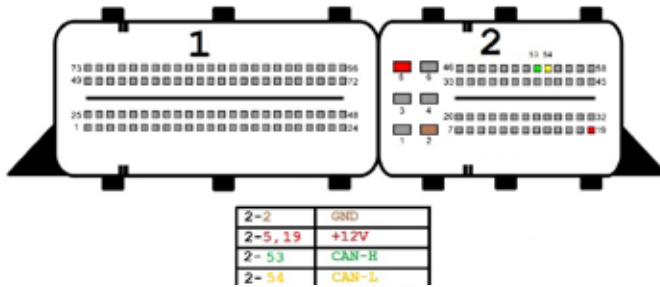
- A 164 446 0710
- A 000 270 1852



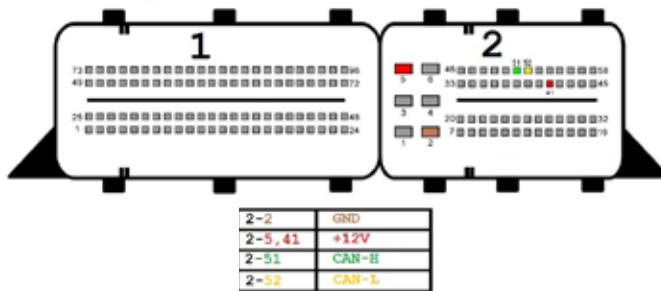
4- Unit Reset Tools Connections

4c- ECU Motor

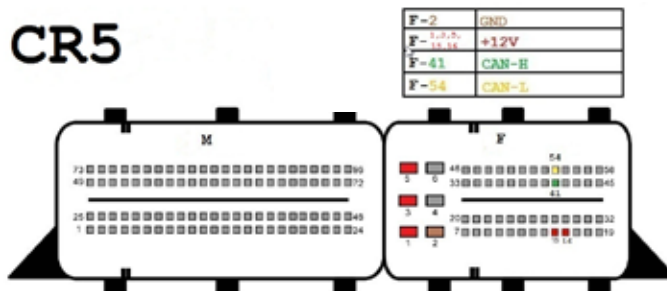
CR3 . xx



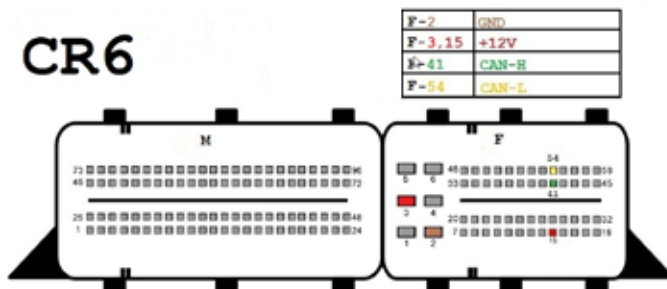
CR4 . xx



CR5



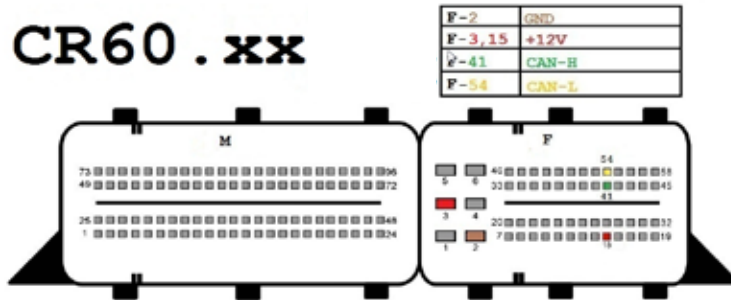
CR6



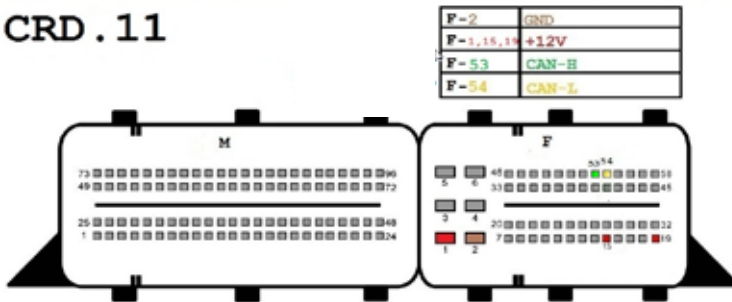


4c- ECU Motor

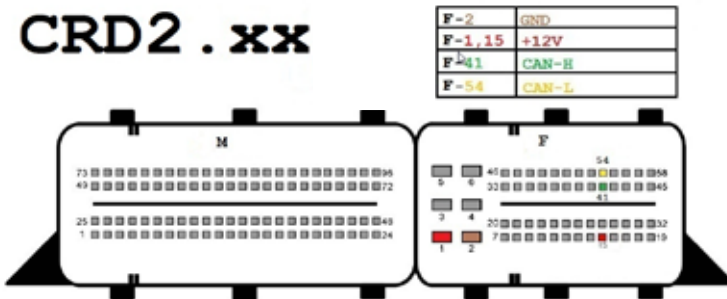
CR60 . xx



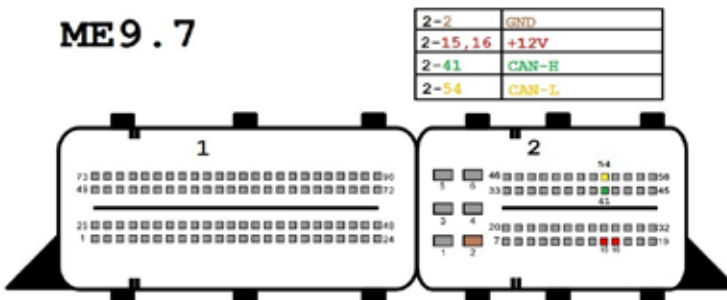
CRD . 11



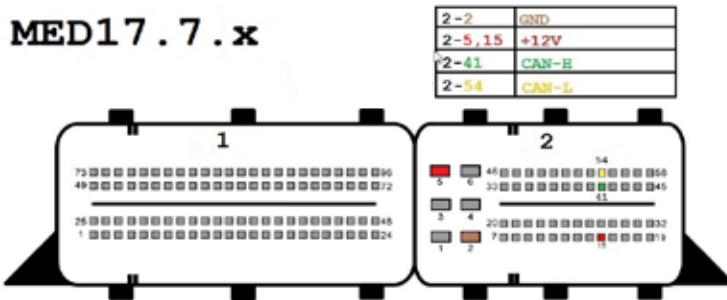
CRD2 . xx



ME9 . 7

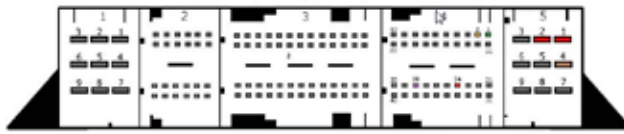


MED17.7.x





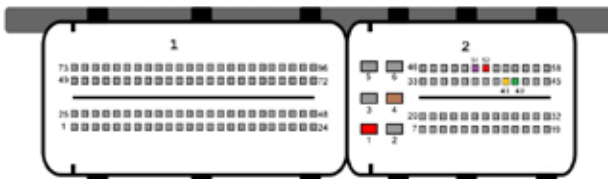
4c- ECU Motor



SIM4LE

5-1,2,24	+12v
5-4	GND
4-26	K-LINE
4-1	CAN-H
4-2	CAN-L

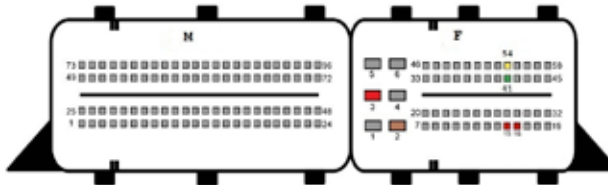
SIM4LKE



2-4	GND
2-1,52	+12V
2-51	K-Line
2-42	CAN-H
2-41	CAN-L

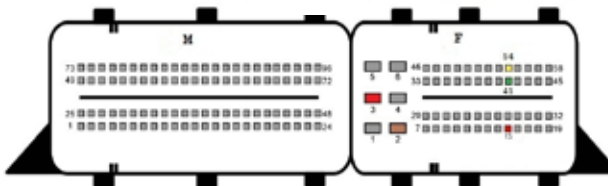
SIM266

F-2	GND
F-3,15,16	+12V
F-41	CAN-H
F-54	CAN-L

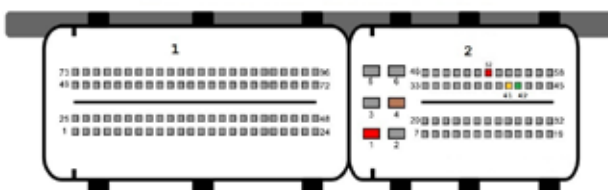


SIM271DE2.C

F-2	GND
F-3,15	+12V
F-41	CAN-H
F-54	CAN-L



SIM271KE2.0



2-4	GND
2-1,52	+12V
2-42	CAN-H
2-41	CAN-L

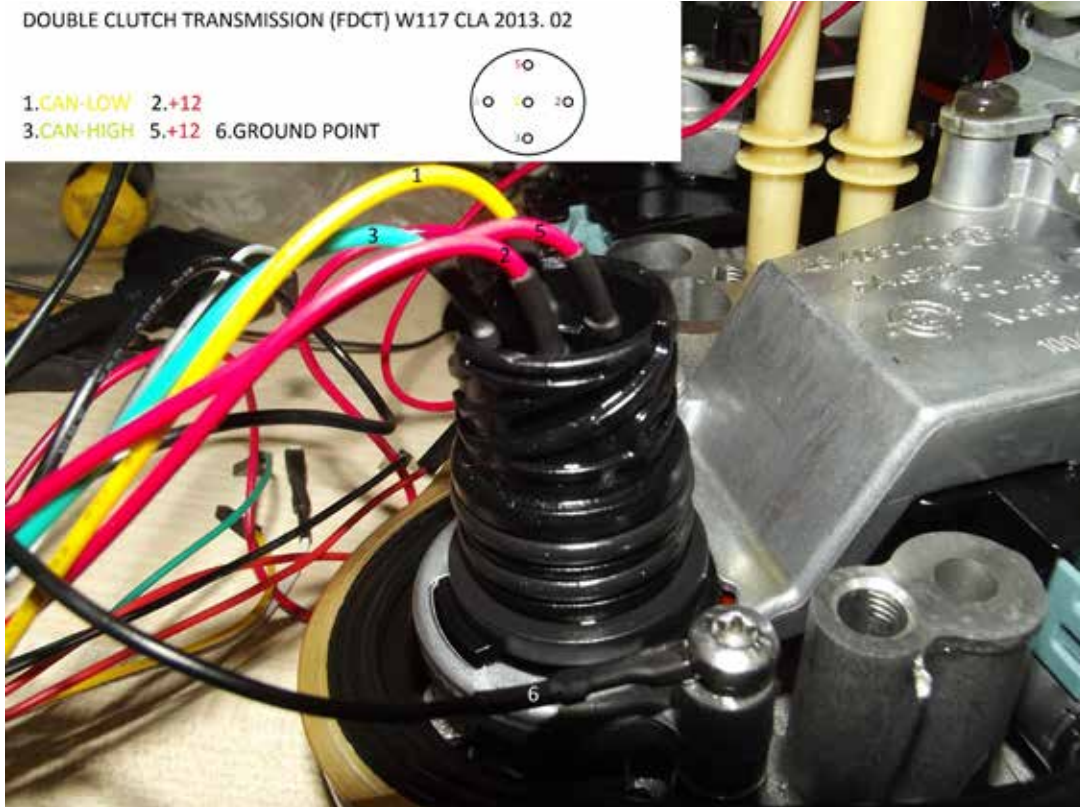


4- Unit Reset Tools Connections

4d- FDCT W117

DOUBLE CLUTCH TRANSMISSION (FDCT) W117 CLA 2013. 02

- 1.CAN-LOW 2.+12
- 3.CAN-HIGH 5.+12 6.GROUND POINT



CONNECTOR

- pin 1 : CAN L
- pin 2 : +12V
- pin 3 : CAN H
- pin 4 :
- pin 5 : +12V
- pin 6 : GND



Diagspeed