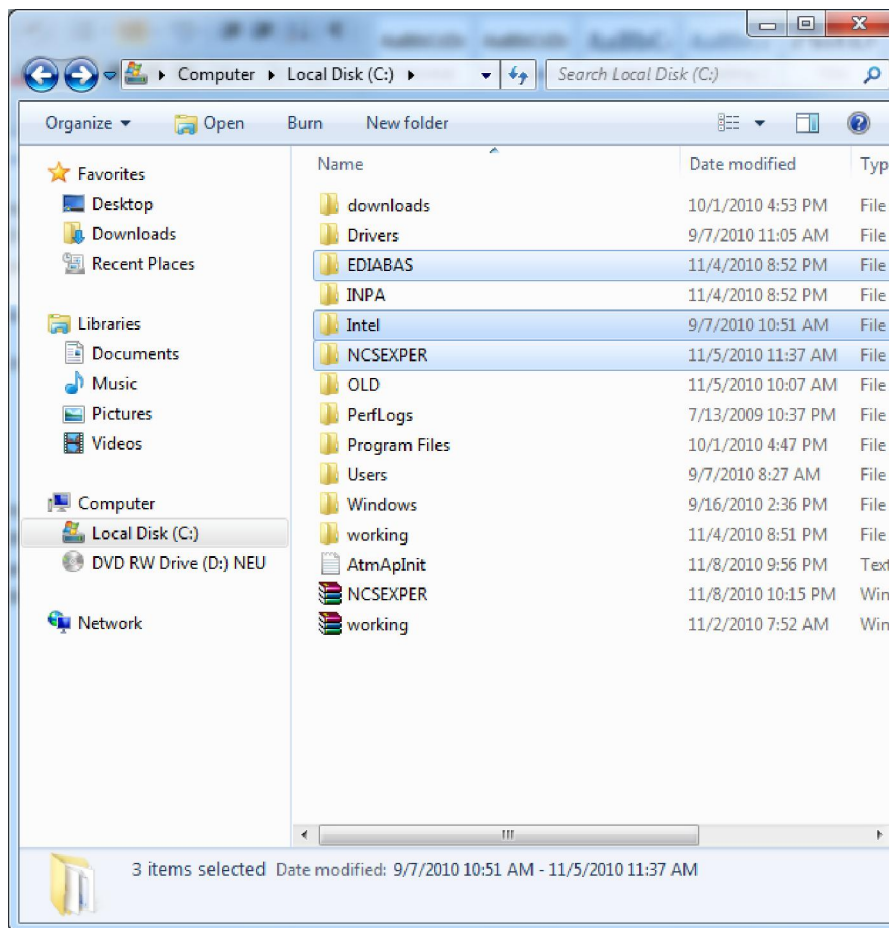


Hello my name is Junior and I am no expert at this so I will do my best here, there are something I do not fully comprehend yet but hey we all have to start somewhere. After about 2 months I have successfully learned how to code my own car using an OBD to serial cable and NCS expert (2006 325i) Usually you have to install all these programs from a cd but I have compressed them directly from my hard drive and I think it should work this way. This setup assumes you are using an OBD interface there is a file in C:\ediabas\ediabas.ini that you can set which interface you would like to use.. a little more advanced

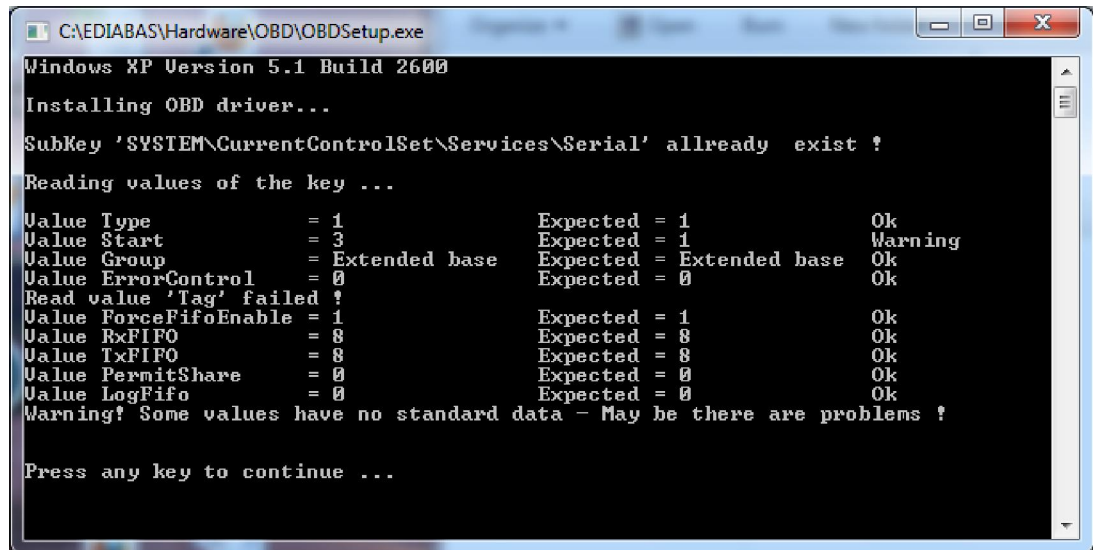
#### Over-view

1. Unzip "NCS EXPERT.rar" to C:\
  - a. We are looking for three folders, EDIABAS, INPA and NCS EXPERT
  - b. folders should look like this



2. Navigate to C:\INPA\BIN
  - a. Right click on INPALOAD.exe and create a shortcut to desktop
3. Navigate to C:\NCS EXPERT
  - a. Create a shortcut to your desktop of the "WORK" folder
4. Navigate to C:\NCS EXPERT\BIN
  - a. Create a shortcut to desktop of "NCSEXP.EXE"

5. Navigate to C:\Ediabas\hardware\OBD and run the OBDsetup.exe. Your screen will look something like this, since I have ran this script previously it might look a little different the first time you run it. YOU MUST RESTART after this!!

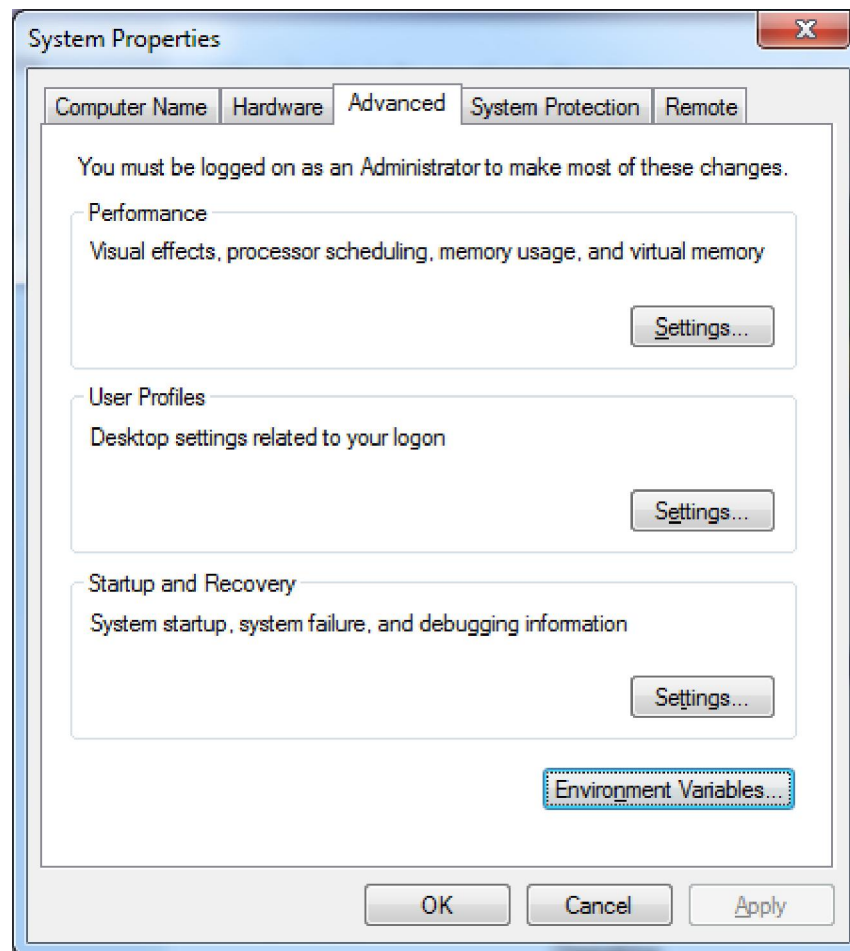


```
C:\EDIABAS\Hardware\OBD\OBDSetup.exe
Windows XP Version 5.1 Build 2600
Installing OBD driver...
SubKey 'SYSTEM\CurrentControlSet\Services\Serial' already exist !
Reading values of the key ...
Value Type          = 1          Expected = 1          Ok
Value Start         = 3          Expected = 1          Warning
Value Group         = Extended base Expected = Extended base Ok
Value ErrorControl   = 0          Expected = 0          Ok
Read value 'Tag' failed !
Value ForceFifoEnable = 1          Expected = 1          Ok
Value RxFIFO         = 8          Expected = 8          Ok
Value TxFIFO         = 8          Expected = 8          Ok
Value PermitShare    = 0          Expected = 0          Ok
Value LogFifo        = 0          Expected = 0          Ok
Warning! Some values have no standard data - May be there are problems !

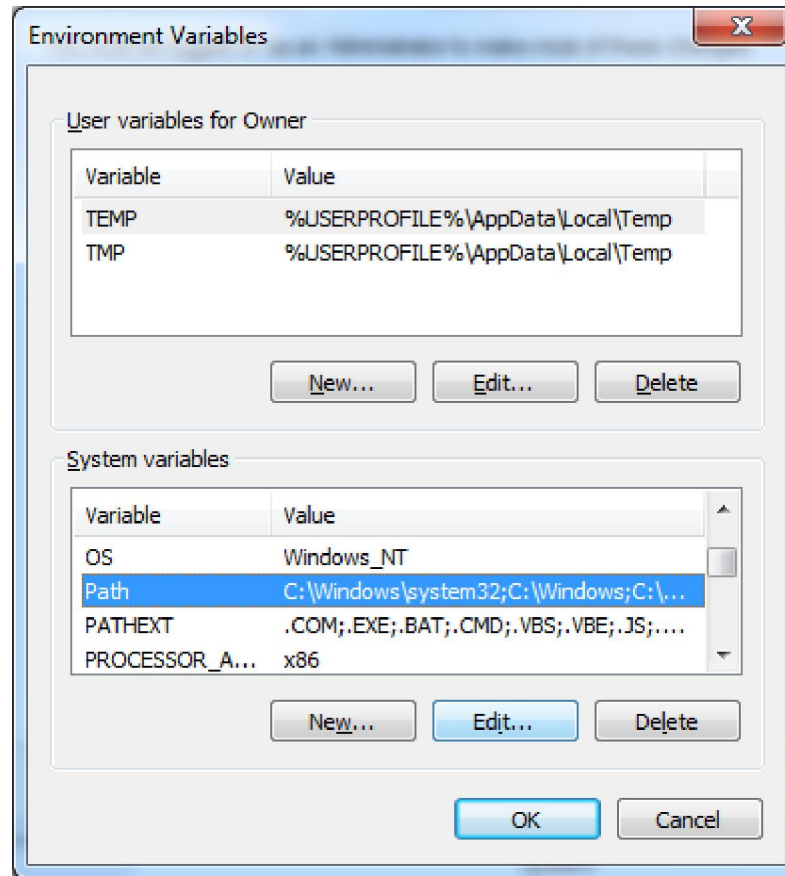
Press any key to continue ...
```

a.

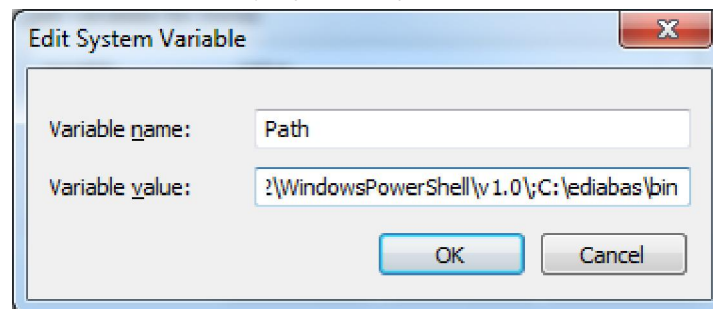
6. Right click on my computer > properties
  - a. Windows 7
    - i. Click on Advanced system settings
    - ii. click on Environment Variables



- iii. Highlight "Path" and click edit

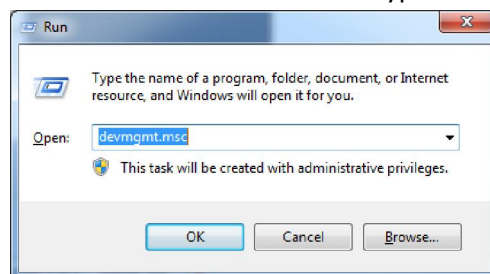


- iv. Add this to the end “;C:\ediabas\bin”



- v. Click ok and exit all windows to desktop

7. From desktop press the WINDOWS KEY + R and type devmgmt.msc or just type in to search

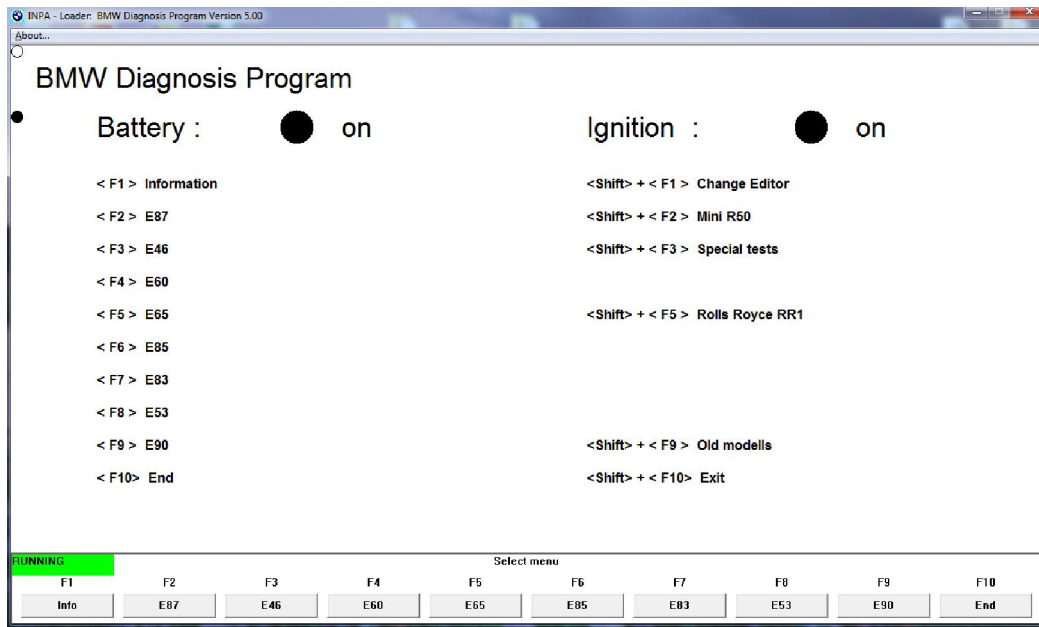


8.

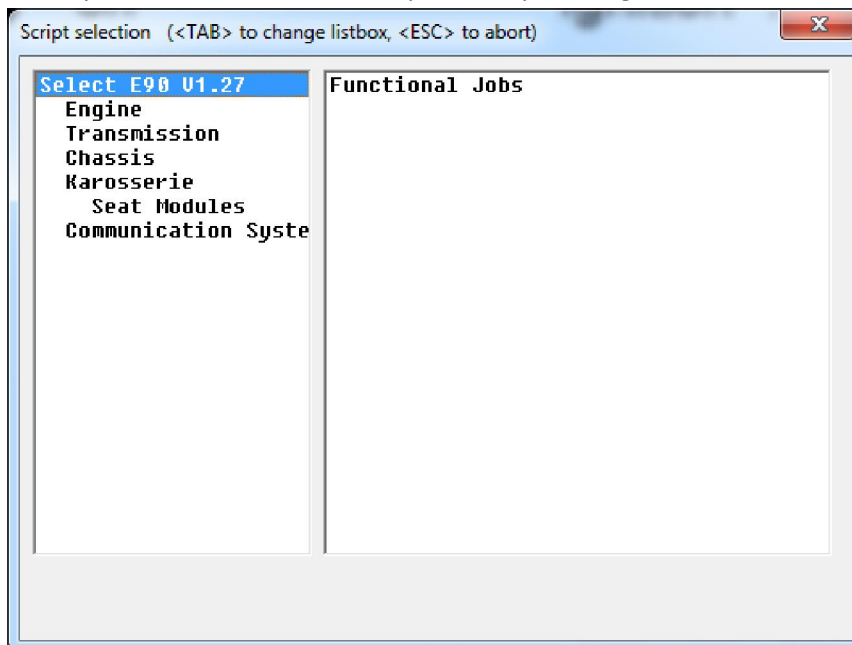
9. This will open device manager.

- a. Go to PORTS> double click on com1 > port settings tab > advanced

- b. Ensure “use fifo offers” option is marked and receive buffers and transmit buffers are both set to 8. Once that is finished press ok and exit all windows.
10. Take a second, double check everything you just did. Trust me when I say you can’t skip steps!
11. Connect your obd cable to car and computer we are going to test functionality with INPA.
12. Put key in slot and press the START STOP button but not to start car.
13. Go to desktop and click on “INPALOAD” (shortcut we created previously)
  - a. Both circles are black then continue, if not double check all previous steps make sure serial is set to com1

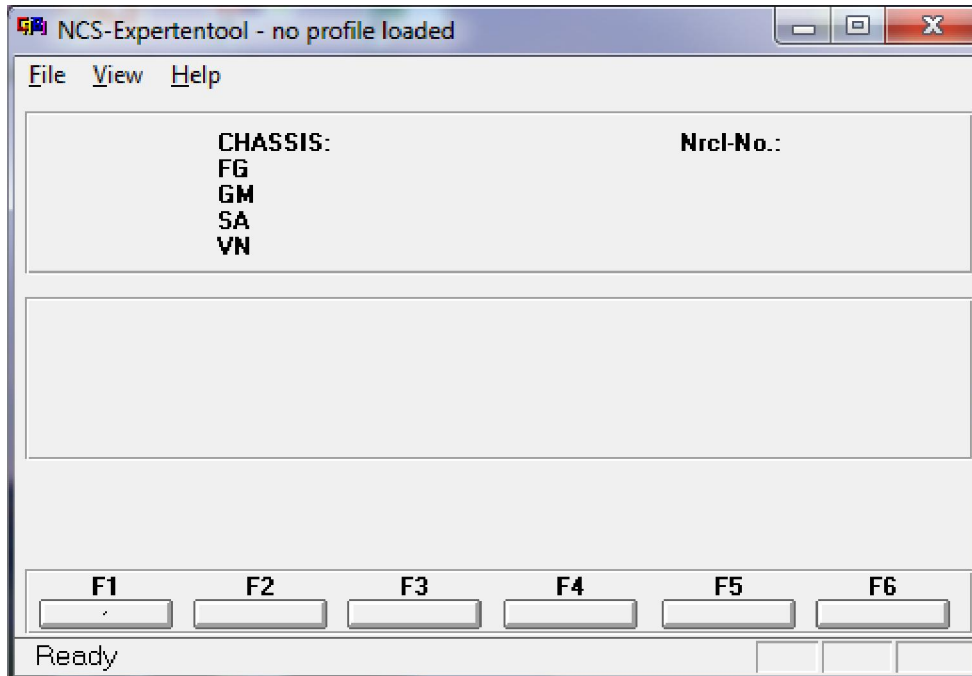


14. Select your chassis mine is E90 so press F9, you will get this box

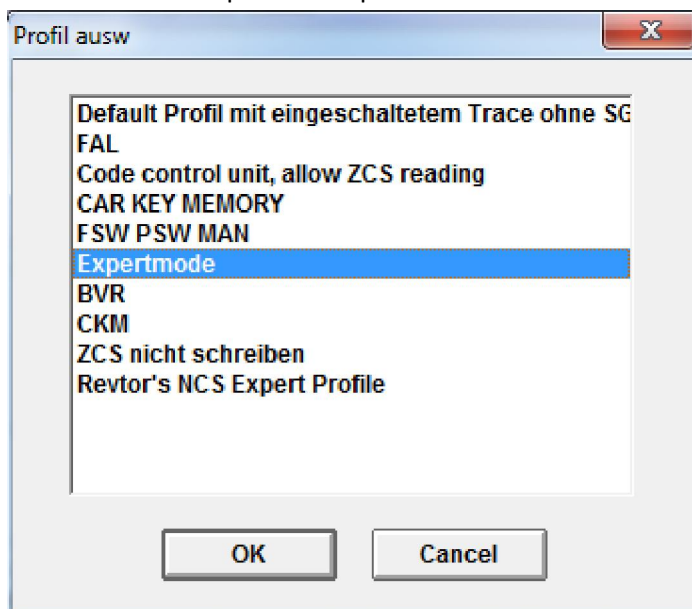


15. Select “Karosserie” now you will see another menu to the right. Select “airbag”
16. Press F5 to read status.. if it continues without any errors we are ready to run NCS Expert

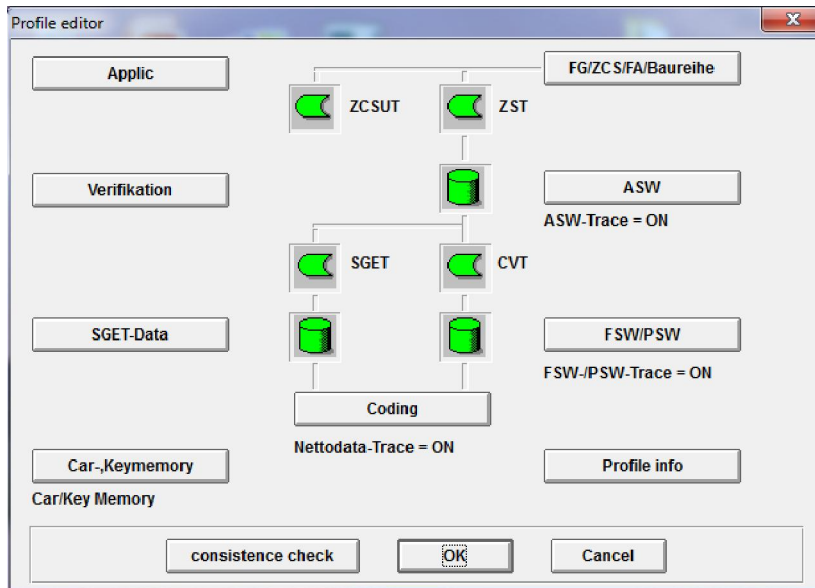
17. Close INPA and start NCS EXPERT.exe from desktop shortcut.
18. Follow instructions very very very carefully, you can screw up your car starting now. If you don't know how to follow directions stop immediately . ok now for the fun part.
19. Should start off looking like this..



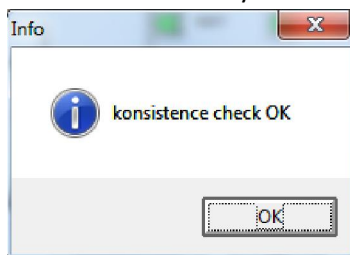
- 20.
21. Remember to follow directions closely....
22. Select "File > Load profile > Expertmode > OK"



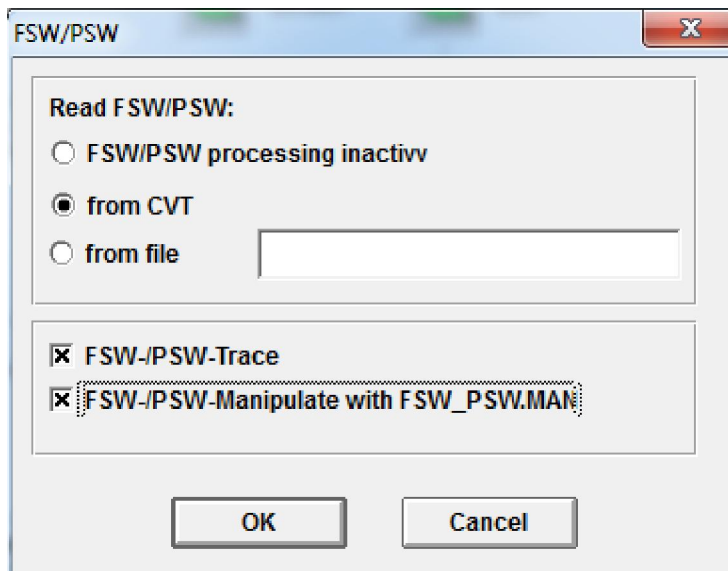
- 23.
24. File > edit profile password is "repxet"



- 25.
26. Select car-keymemory > check all three boxes > press ok
27. Click on "consistency check" should get this .. press ok

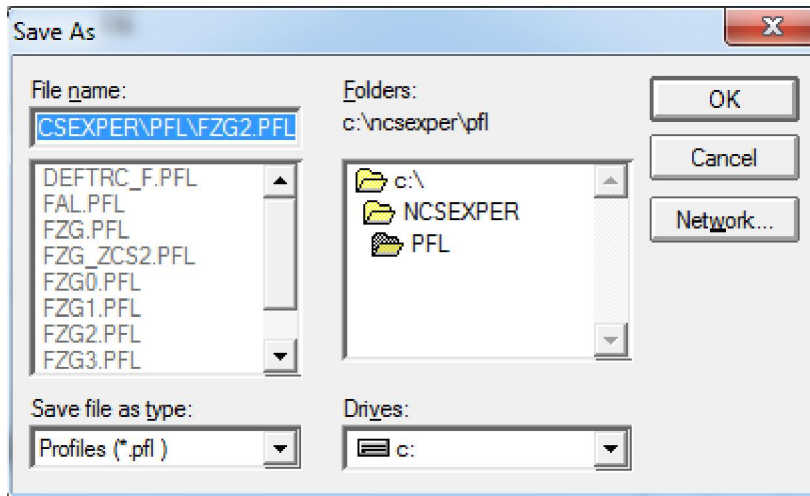


- 28.
29. Then select "FSW/PSW"
30. Make sure both check boxes are checked and top part only has "from CVT" selected .. should look like this



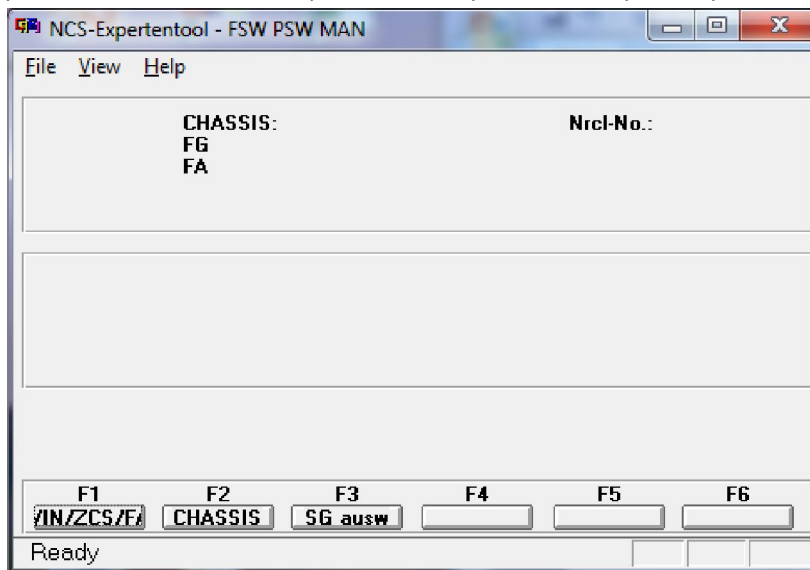
- 31.
32. Press ok, select consistency check again.. if no errors then press ok
33. File > save profile as > FZG4.PFL "mine is name GZG2.PFL" press ok

34. Example



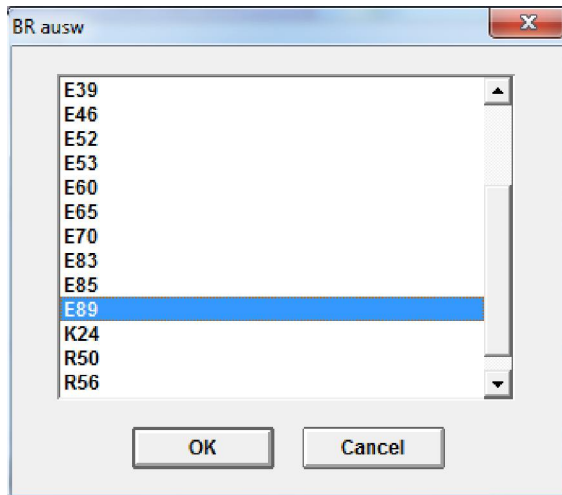
35. File>edit profile>repext>profile info> set profile name to “FSW PSW MAN”

36. We have just created a profile to write to car via a .man file. Every time you start NCS expert you will need to load this profile. After you load the profile you will see options like this



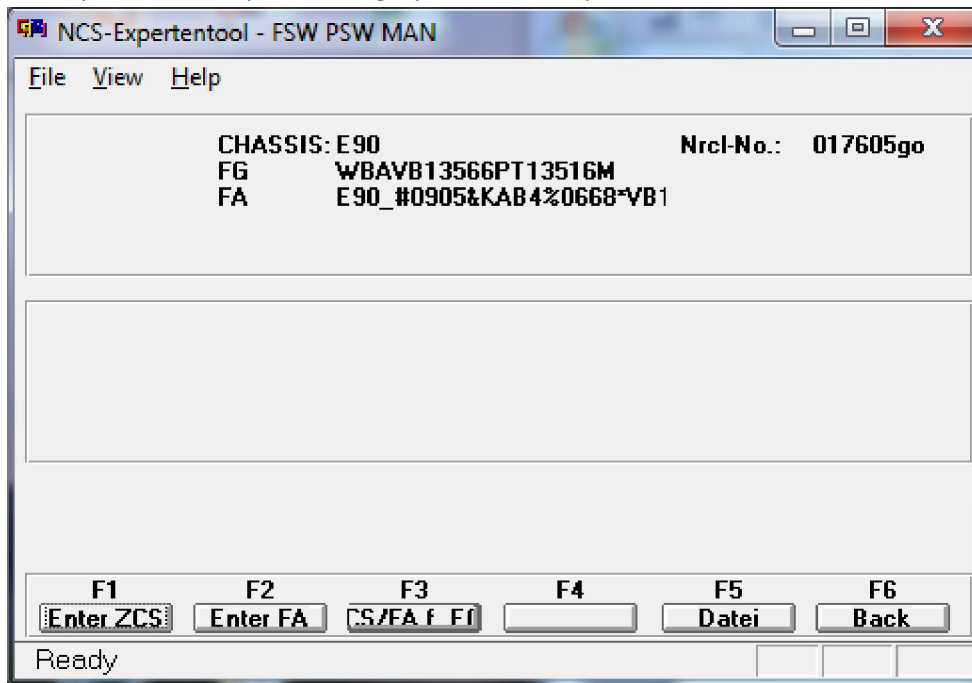
- 37.
38. Select F1 > select F3 here we can choose our chassis. We are going to select E89 (again we are assuming you are working on an E90)





39.

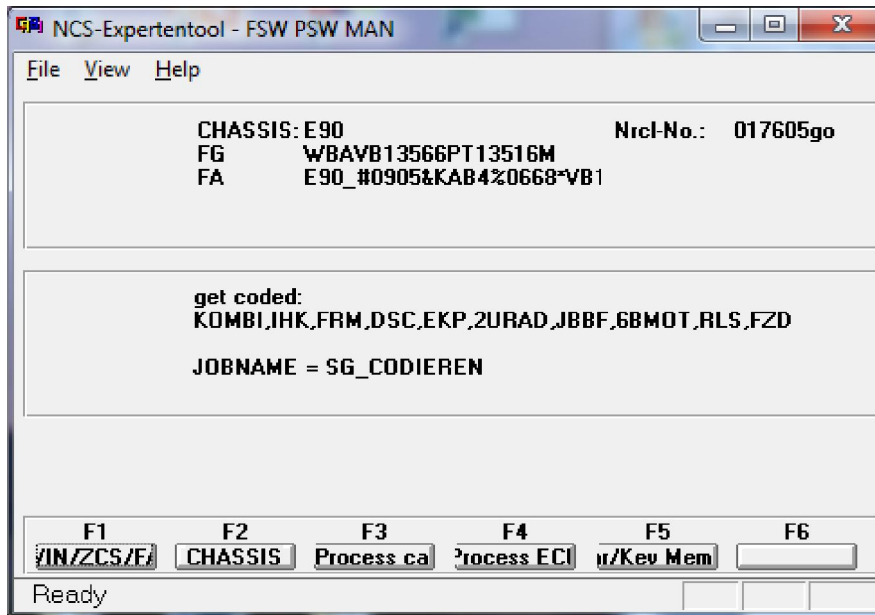
40. Press ok. Now it is asking which computer we want to code.. we are going and always select "CAS" press ok. All options will gray out for a couple seconds and then it will look like this.



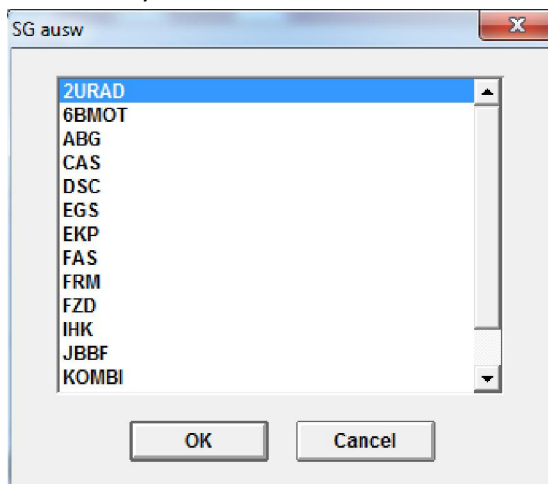
41.

42. Notice that now our vin is there along with "FA" FA is like a single string that tells the car everthing that it came with from the factory. More advanced users can change this but not really needed. I have provided a pdf for that if you are interested.

43. Now select "F6" for back will gray out then will look like this

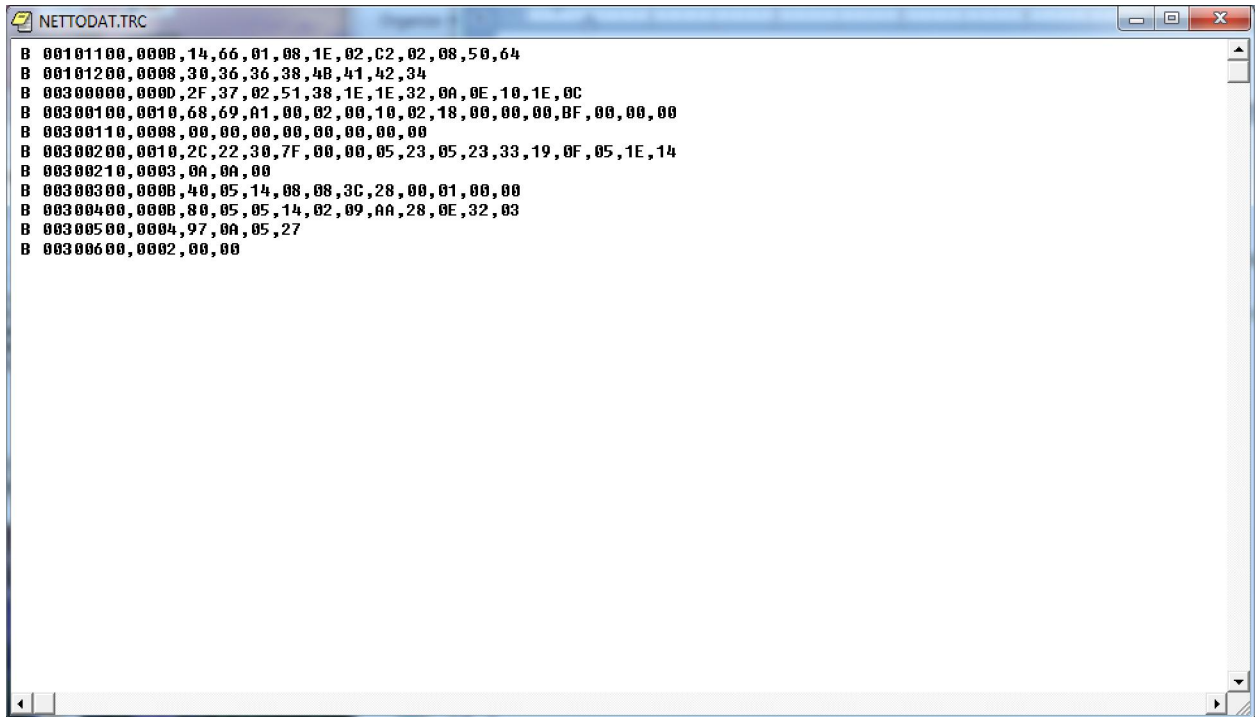


- 44.
45. We are going to start by making a backup of the car.
46. WARNING this initial step will reset your ECU and replace any settings you have coded previously since we have just “coded nothing” to the ECU.
47. The whole point of this was for the ECU to read all the settings from every module and place them in a file called FSW\_PSW.TRC.
48. Navigate to the “WORK” shortcut we created on the desktop.
49. Open the file FSW\_PSW.TRC with notepad. Make a copy of it in a safe place. This is your backup of all the settings.
50. Ok now for the fun.. coding.. lets code the famous “digital speed on cluster”
51. Just to avoid any mistake close NCS we are going to start from the beginning.
52. Load NCS >File>load profile “FSW PSW MAN”
53. F1>F3>select your chassis>select “CAS”
54. Press F6 for back
55. Press F4 to select a specific module “process ecu” then you get a list of all modules on your car.. will and may be different.



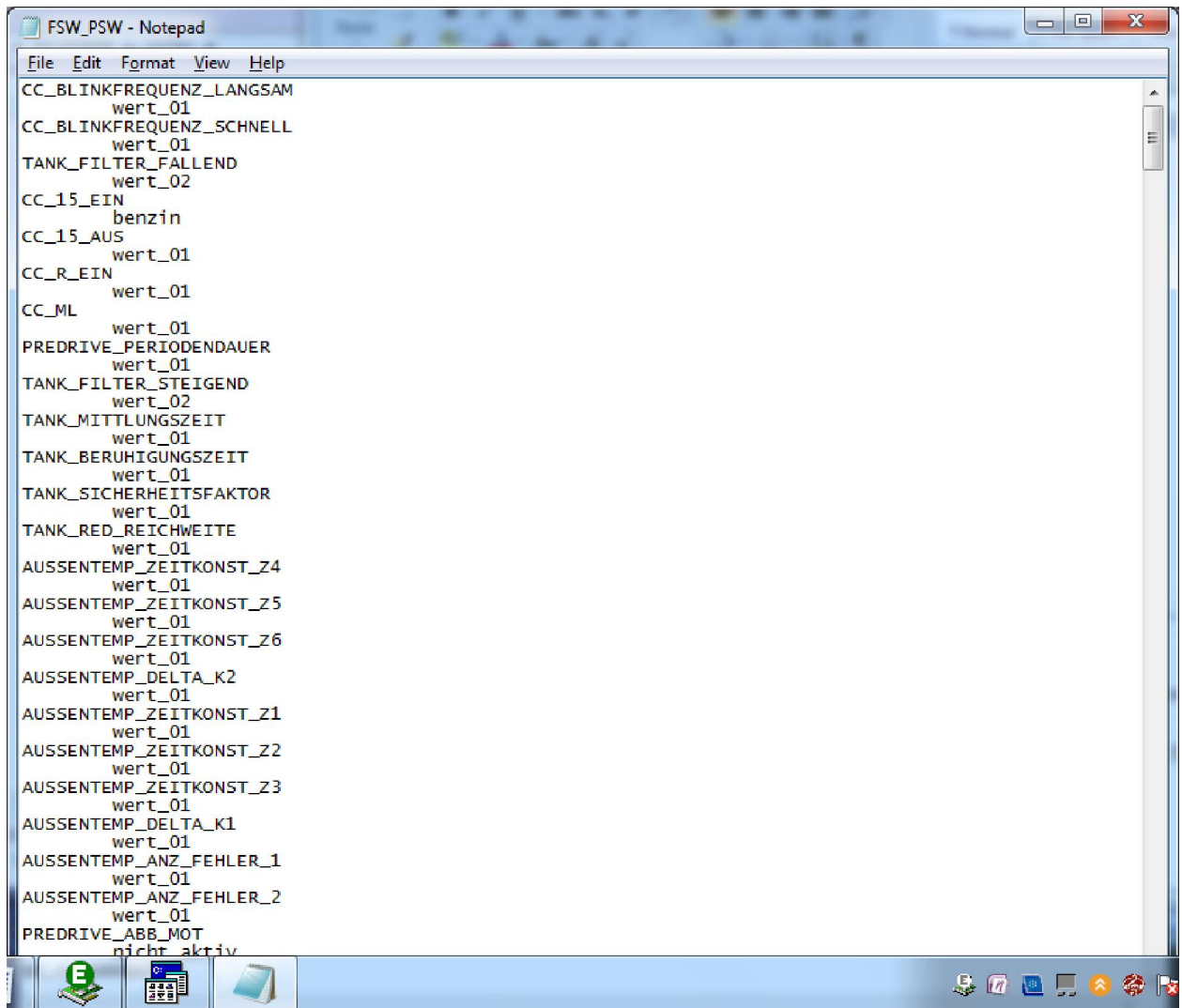
56.

57. Select "CAS" then select "READ ECU" this is going to create another FSW\_PSW.TRC file but only with the values on for the module we select.
58. Select "READ ECU" this will read all the values from the specific module and place them in the file stated above. You will get a screen like this.. you can close it.



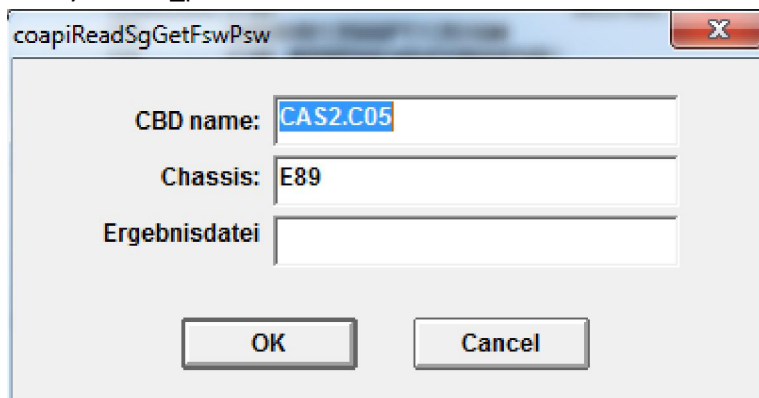
```
B 00101100,0008,14,66,01,08,1E,02,C2,02,08,50,64
B 00101200,0008,30,36,36,38,48,41,42,34
B 00300000,0000,2F,37,02,51,38,1E,1E,32,0A,0E,10,1E,0C
B 00300100,0010,68,69,A1,00,02,00,10,02,18,00,00,00,BF,00,00,00
B 00300110,0008,00,00,00,00,00,00,00,00
B 00300200,0010,2C,22,30,7F,00,00,05,23,05,23,33,19,0F,05,1E,14
B 00300210,0003,0A,0A,00
B 00300300,0008,40,05,14,08,08,3C,28,00,01,00,00
B 00300400,0008,80,05,05,14,02,09,AA,28,0E,32,03
B 00300500,0004,97,0A,05,27
B 00300600,0002,00,00
```

- 59.
60. Leave ncs open and head to the "work" folder.
61. Open the FSW\_PSW.TRC file with notepad
62. File>save as FSW\_PSW.MAN (be sure to select "save as type" to all files so that it will accept our ".MAN" extension. If you fail to do so it will just save it as a text file .TXT
63. The "FSW PSW MAN" profile that we used is going to use this "FSW\_PSW.MAN" file . this is where we are going to make any changes and then NCS will write this to ECU.
64. Open the file we just saved with notepad will look like this.



```
File Edit Format View Help
CC_BLINKFREQUENZ_LANGSAM
wert_01
CC_BLINKFREQUENZ_SCHNELL
wert_01
TANK_FILTER_FALLEND
wert_02
CC_15_EIN
benzin
CC_15_AUS
wert_01
CC_R_EIN
wert_01
CC_ML
wert_01
PREDRIVE_PERIODENDAUER
wert_01
TANK_FILTER_STEIGEND
wert_02
TANK_MITTLUNGSZEIT
wert_01
TANK_BERUHINGUNGSZEIT
wert_01
TANK_SICHERHEITSAKTOR
wert_01
TANK_RED_REICHWEITE
wert_01
AUSSENTEMP_ZEITKONST_Z4
wert_01
AUSSENTEMP_ZEITKONST_Z5
wert_01
AUSSENTEMP_ZEITKONST_Z6
wert_01
AUSSENTEMP_DELTA_K2
wert_01
AUSSENTEMP_ZEITKONST_Z1
wert_01
AUSSENTEMP_ZEITKONST_Z2
wert_01
AUSSENTEMP_ZEITKONST_Z3
wert_01
AUSSENTEMP_DELTA_K1
wert_01
AUSSENTEMP_ANZ_FEHLER_1
wert_01
AUSSENTEMP_ANZ_FEHLER_2
wert_01
PREDRIVE_ABB_MOT
nicht_aktiv
```

- 65.
66. The basics are if an option is enabled it will say "aktiv" if its not it will say "nicht\_aktiv"
67. Search for the option "BC\_DIGITAL\_V" and change the value from "nicht\_aktiv" to "aktiv"
68. File > save
69. Back to NCS now hit F5 for basic functions
70. Select "coapiReadSgGetFswPsw" and ok.. you are basically telling NCS to read all the values from your fsw\_psw.man file. You will see a screen similar to this just press ok.



coapiReadSgGetFswPsw

CBD name: CAS2.C05

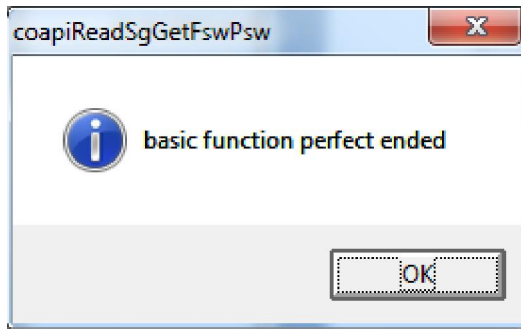
Chassis: E89

Ergebnisdatei

OK Cancel

- 71.

72. Then you should get this.



73.

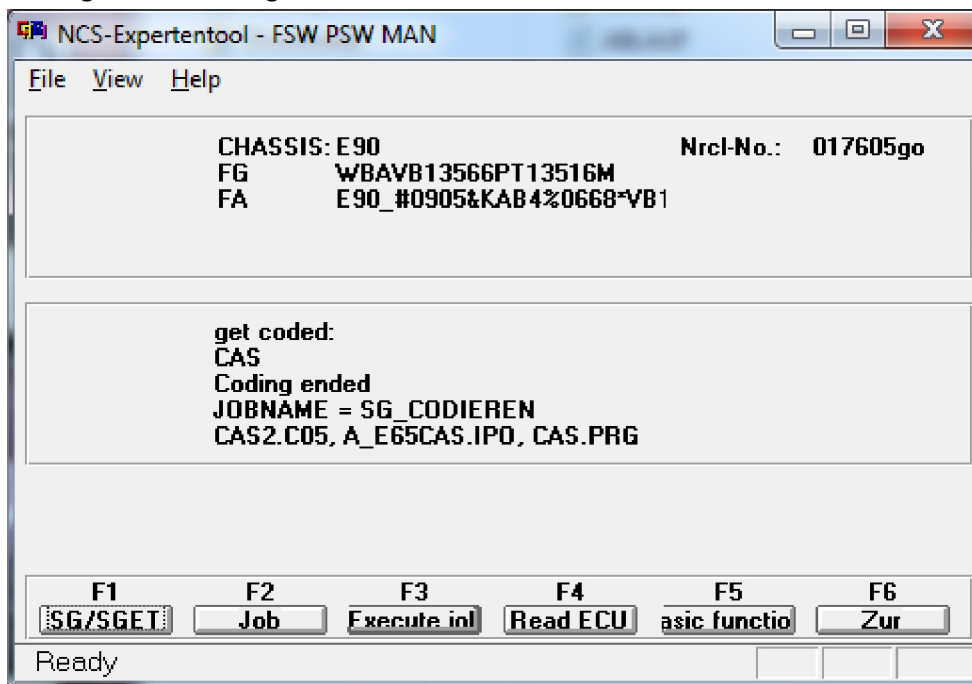
74. Press ok.

75. Ok now take a look where it says "JOBNAME = CODIERDATEN\_LESEN"

76. We need to change that to a coding function because we want to write the changes to the module.

77. Select F2 "job" select SG\_CODIEREN and press ok

78. Then press F3 to execute the job. Will gray out for some time.. now you will see this . notice the "coding ended" message



79.

80. Assuming no errors.. CONGRATS you now have digital speed .

81. Press the BC button to scroll by MPG, MLS and MPH eventually you will see "V= 0 mph"..

82. After a couple of times you will get used to the process.. to code other options you just have to know which module controls them. Which value or values to change. Always do your research.

83. I know this is long as hell I tried to be as descriptive as possible. If this helped you in any way please make a donation as I am offering this knowledge free ☺

84. Any questions visit E90post.com!