

Cruise control retrofit on 2005 118d Part 2 – The coding!

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Again, neither I nor the forum can accept any responsibility for any damage you might cause whilst following this procedure. I am not a mechanic, nor am I BMW trained. I figured out this process and it worked for me.

Part 2 – The coding

Having followed the first part, you will now have the hardware installed and your dash will be lit up like a Christmas tree! Now it is time to code the retrofit to the car.

Tools you need

You will need a lead to connect to your car, the type required depends on when your car was born. If it was 2007 onwards, you will need a D-CAN lead, which you can source for about £70 from eBay.

If it was born prior to 2007 you can use a modified VAGCOM lead, which is far cheaper. J1mmy on here sells them with some software for about £30 delivered.

You will also need the following

A 32 bit laptop with the following software installed

INPA 5.0.2

NCS expert 3.1.0

DIS v57

I'm not going to provide links telling you where to download or how to install the software, so please don't ask! Google is your friend!

A power supply. You will have the car sat with it's ignition on for a fair while, so I highly recommend that you connect an external power supply. To put this into context, during coding, with the ignition switched on, the car was drawing anything between 5 and 25 amps. If you chose to risk it and not hook up an external power supply, then PLEASE read through this process several times and get the procedure straight in your head before you give it a go for real. The procedure is fairly straight forward, but it can take a little time.

Power supply hooked up to the car.



I set the voltage at 13.86v and you can see at this point it is pulling 16.45A from the power supply.

If you chose do this without a power supply, you must be quick and not have the ignition on unless needed. If you are fast, the NCS part can be done in about 3 minutes, 5 for a newbie to it. The DIS

part takes the same amount of time. Don't turn the ignition on till I tell you to, to save battery power.

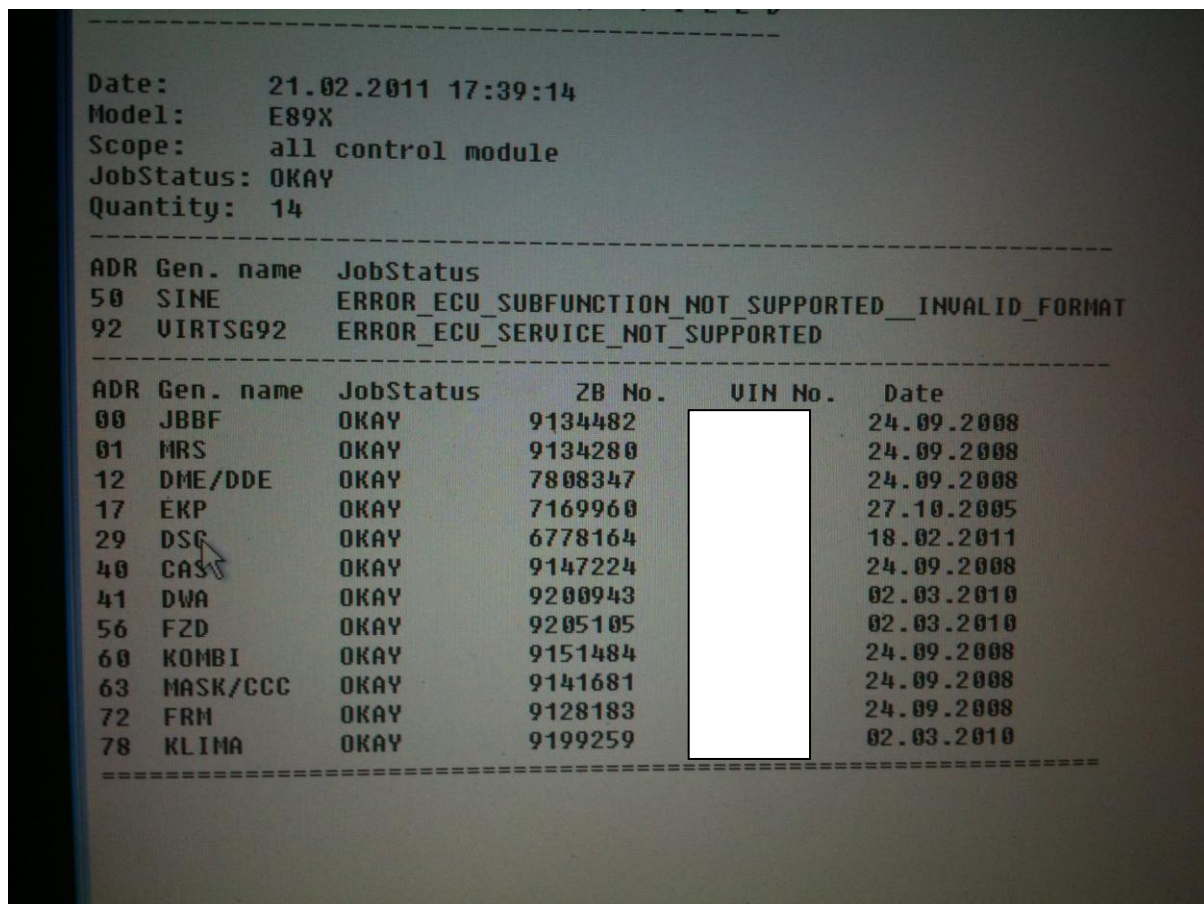
Step 1. First we need to make sure that INPA can talk to the car. Open the drivers side front door and locate the OBD connector. It is at the bottom of the A pillar, near the bonnet release catch. There is a little plastic cover that has OBD on it, remove this and remove the blanking plug that will be fitted to the socket.

Step 2. Connect your lead to it and power on the laptop. Once windows is up and running, put the key in the car and press the start stop button to switch on the ignition, DO NOT DEPRESS THE CLUTCH!! We do not want the engine running!

Step 3. At this point it is a good idea to shed any un-required electrical load, so turn off the radio, blower fans, interior light etc.

Step 4. Start INPA, you should get a little program box called ediabas server appear on your task bar, this is the means that INPA uses to talk to the car, DON'T close it!

Once INPA is up and running, select E87 from the bottom menu (F2 I think) and in the box that pops up, select 'functional jobs' on the right hand side, then select 'READ UIF'. This should bring up a list of all the control units fitted to your car. Mine is shown below. If you can see this list, then the software is talking to the car, well done! If you can't see the list and get an error of some kind, stop at this point and fix the software before you continue.

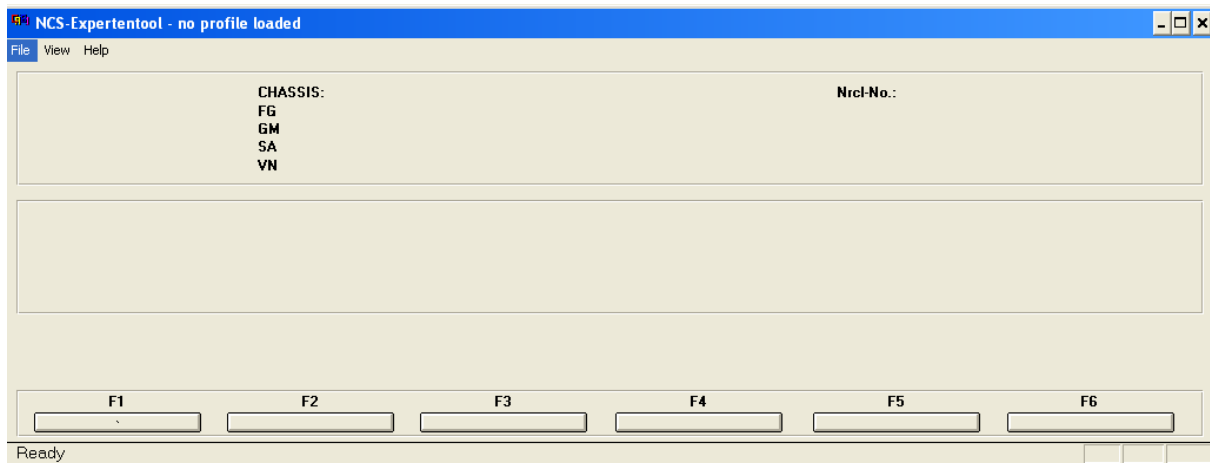


Step 5. Close INPA and run NCSExpert.

The pictures that follow are the work of me, the BMW group and Mario Lange from Germany, He did this retrofit at the same time as me and was very helpful. We bounced ideas off each other and both managed to achieve the goal! You will see that in some of the pictures, NCS expert is in German, those are Mario's ones! I will explain the steps in English.



Select 'file'



Then select load profile

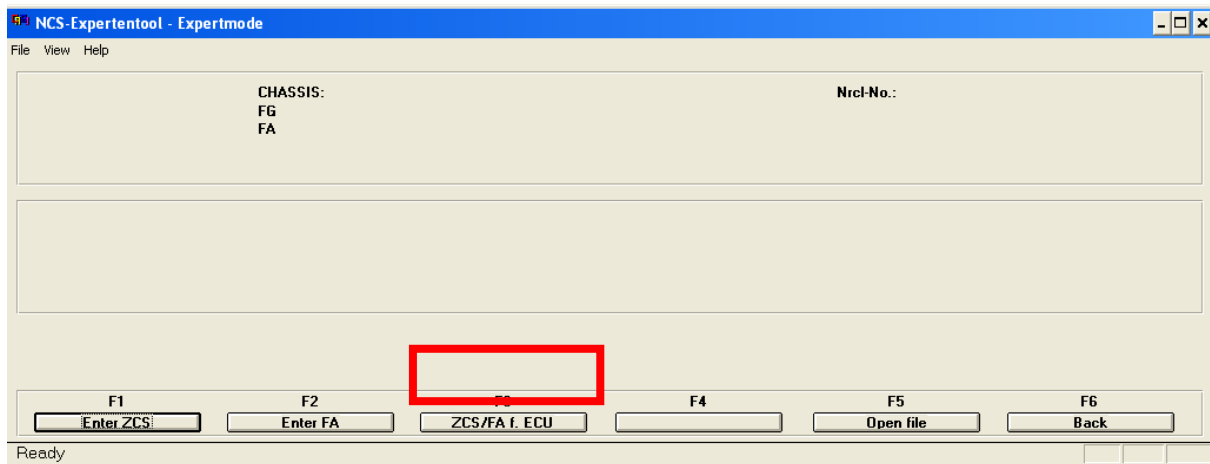
From the box that pops up select 'Expertmode'



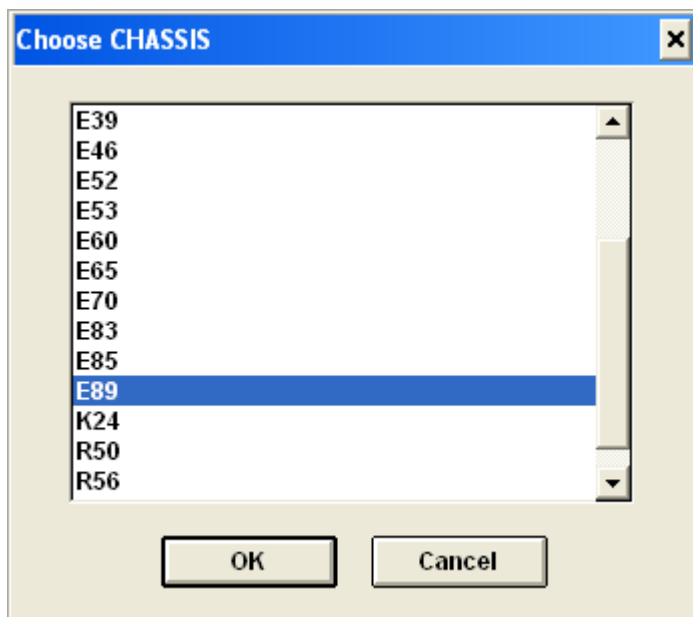
Select F1 'VIN/ZCS/FA'



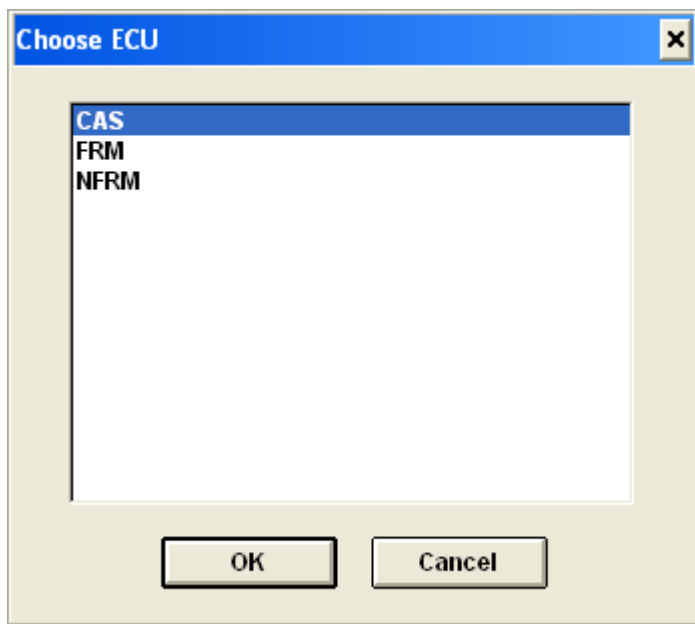
Select F3 'ZCS/FA f.ECU'



In the box that pops up select 'E89'

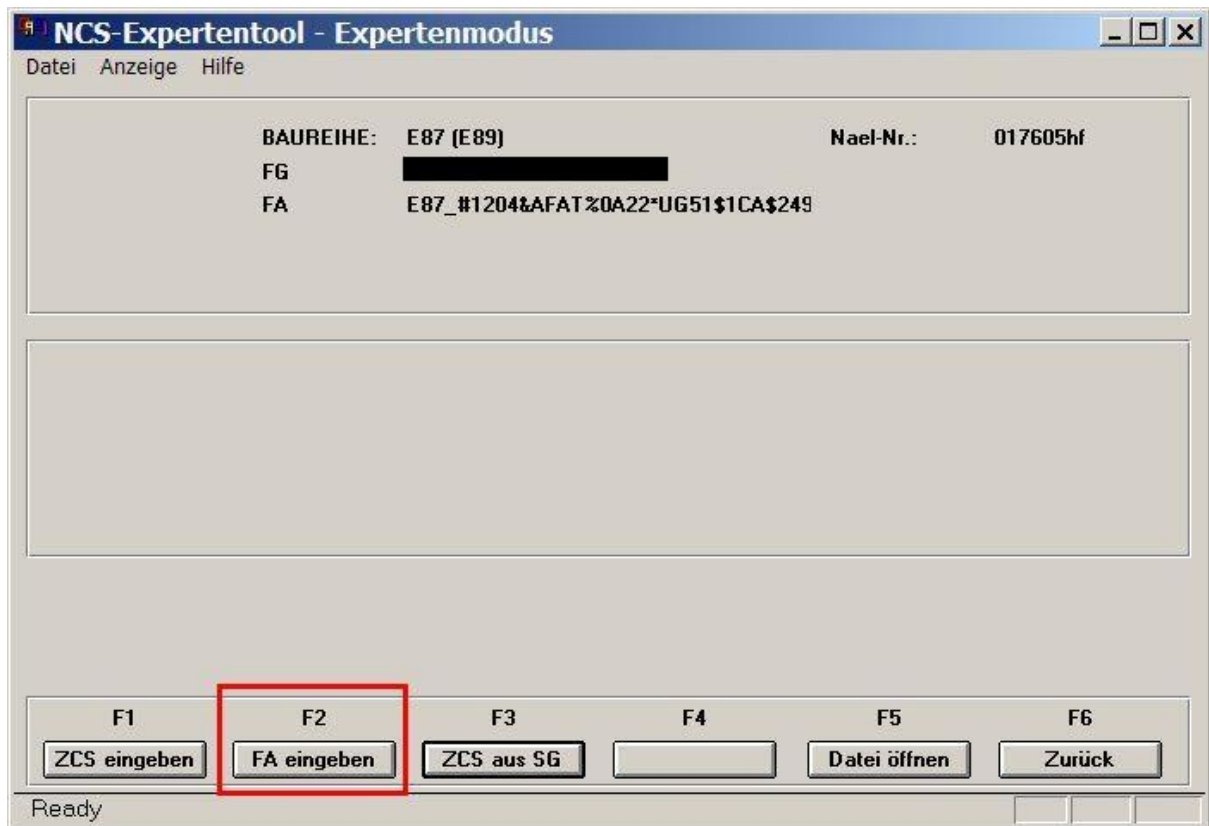


In the next box select 'CAS'



This will bring up a screen showing details of your car. The model and VIN should be displayed. The pictures that follow were taken by Mario Lange and remain his copyright! I forgot to take pictures at this point. You will see his version of NCS is in German, but I will explain the steps in English!

Select F2 'Enter FA'



In the model selection box, chose 'E87' if it is there, if not chose 'E89'



In the next box that pops up, ensure the VIN is correct for your car

Fahrgestellnummer eingeben

FG:

☐ Checksumme berechnen

OK **Cancel**

Next the FA enter box will appear. Enter FA code '\$540' then hit add, to add cruise control to the vehicle order.

FA eingeben

Merkmal: Baureihe:

Add

- #1204
- \$1CA
- \$249
- \$255
- \$320
- \$321
- \$354
- \$411
- \$423
- \$428
- \$441
- \$450
- \$473

OK

I also added '\$249' for MFSW. Once you have hit add, scroll down the list and make sure \$540 is there.

To remove an option code, hi-light it in the list and press delete on your keyboard.

Once you are happy \$540 is there, select OK. You will see the following screen, select F6 'Back'

NCS-Expertentool - Expertenmodus

File View Help

CHASSIS: Nrcl-No.: E3366.U
FG
FA

F1 F2 F3 F4 F5 F6
Enter ZCS Enter FA ZCS/FA f. ECU Open file Back

Ready

Then on the next screen select F4 'Process ECU'

NCS-Expertentool - Expertenmodus

File View Help

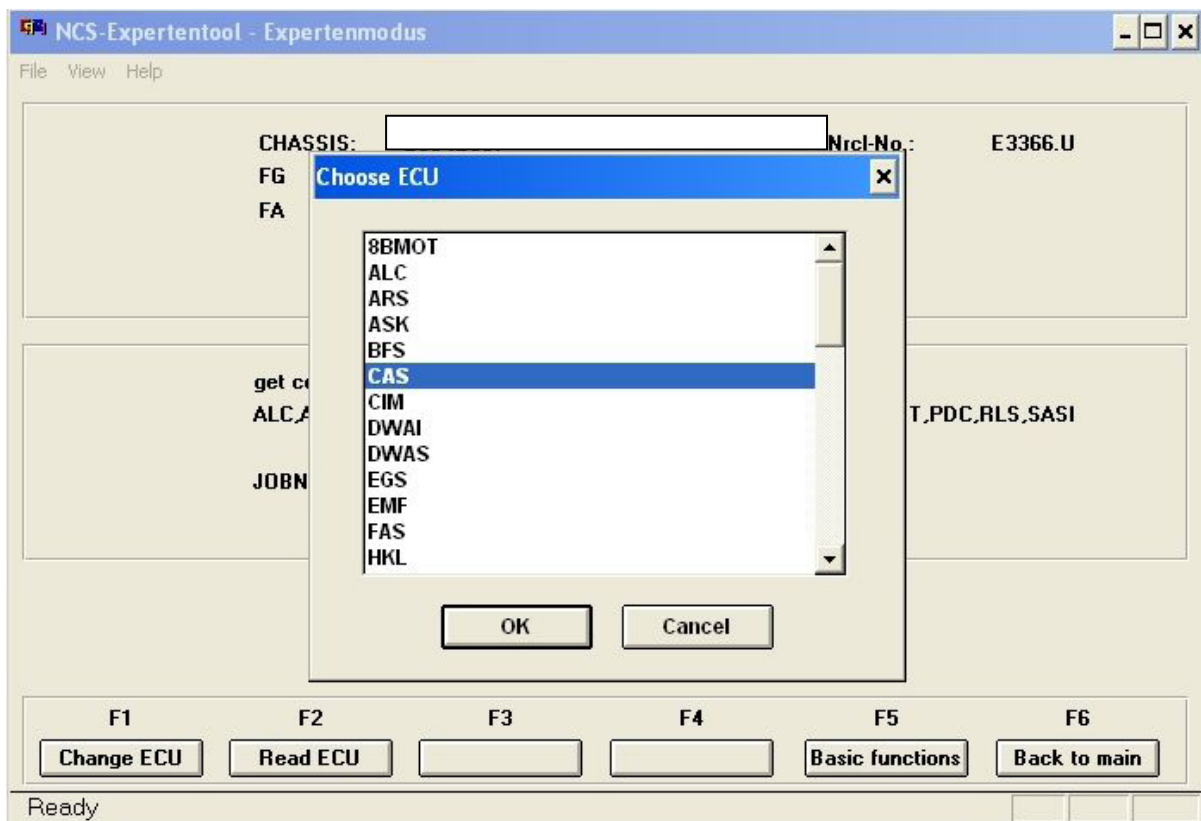
CHASSIS: Nrcl-No.: E3366.U
FG
FA

get coded:
ALC,ARS,ASK,CIM,DWAI,DWAS,FAS,BFS,HKL,IHKA,KOMBI,8BMOT,PDC,RLS,SASI
JOBNAME = SG_CODIEREN

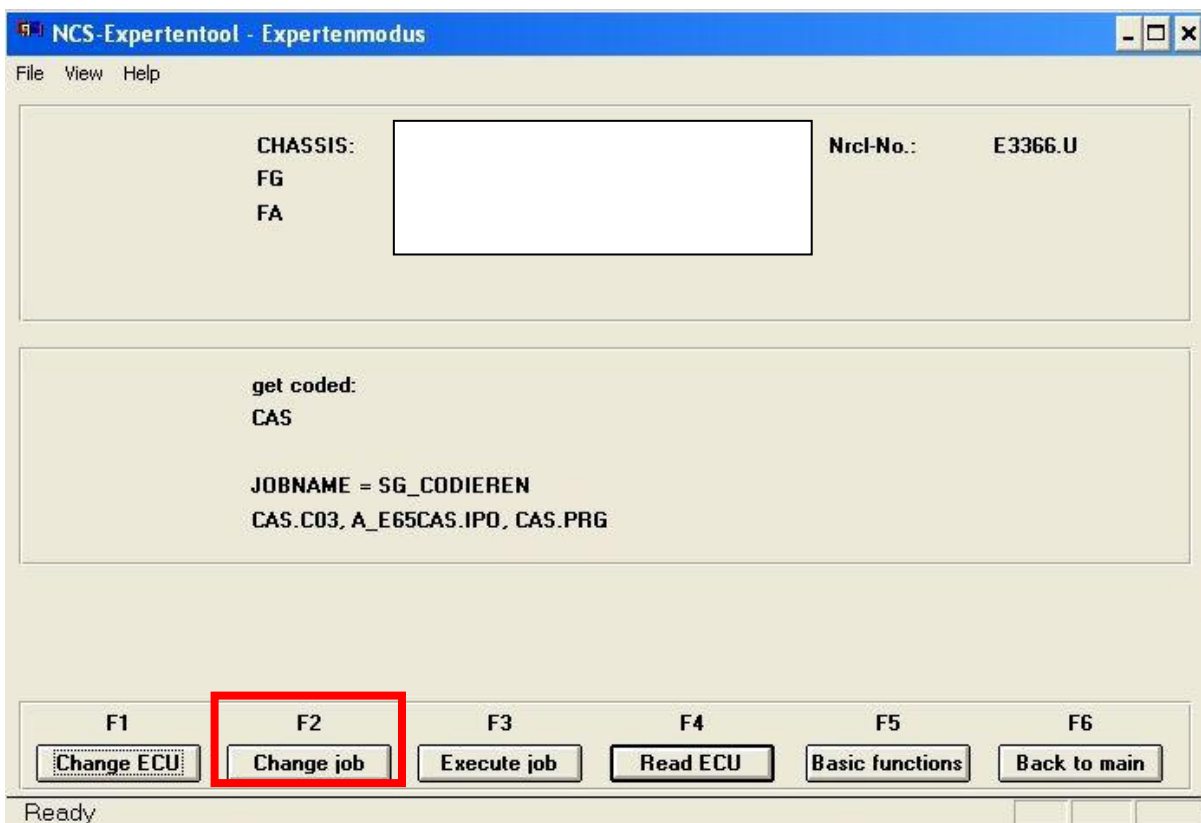
F1 F2 F3 F4 F5 F6
VIN/ZCS/FA CHASSIS Process car Process ECU

Ready

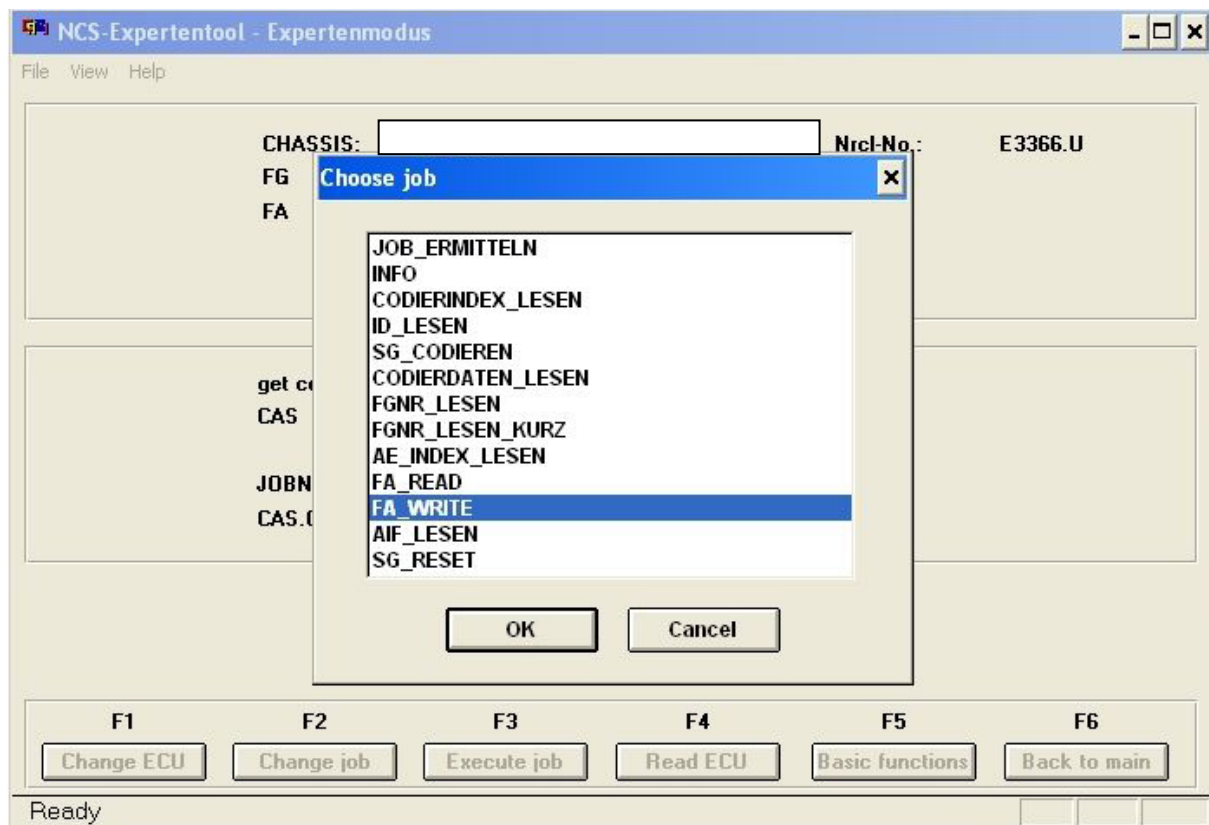
From the next box select 'CAS'



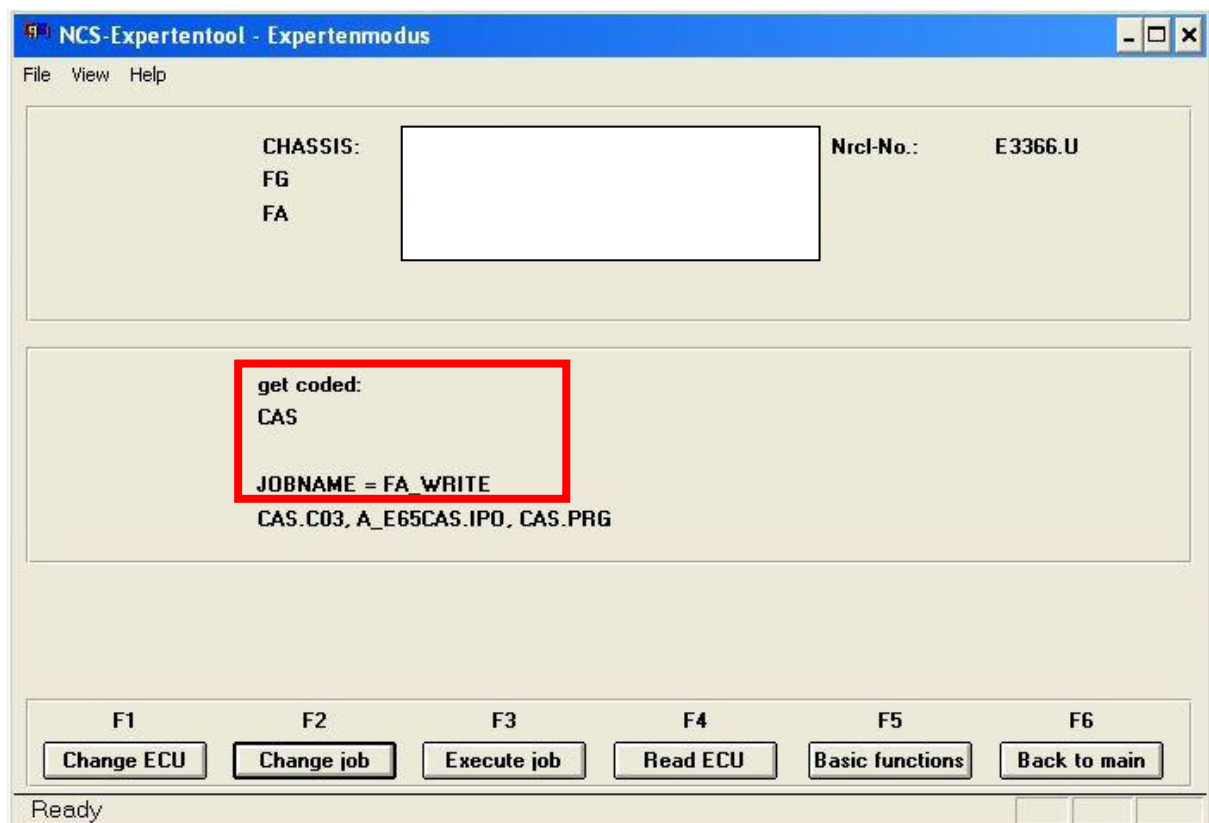
Then select F2 'Change job'



From the box that pops up, select 'FA_WRITE'



In the next box, verify that the job is shown as 'FA_WRITE' and get coded shows 'CAS'



Once you have confirmed these details, hit F3 'Execute Job'

NCS-Expertentool - Expertenmodus

File View Help

CHASSIS: Nrcl-No.: E3366.U
FG
FA

get coded:
CAS

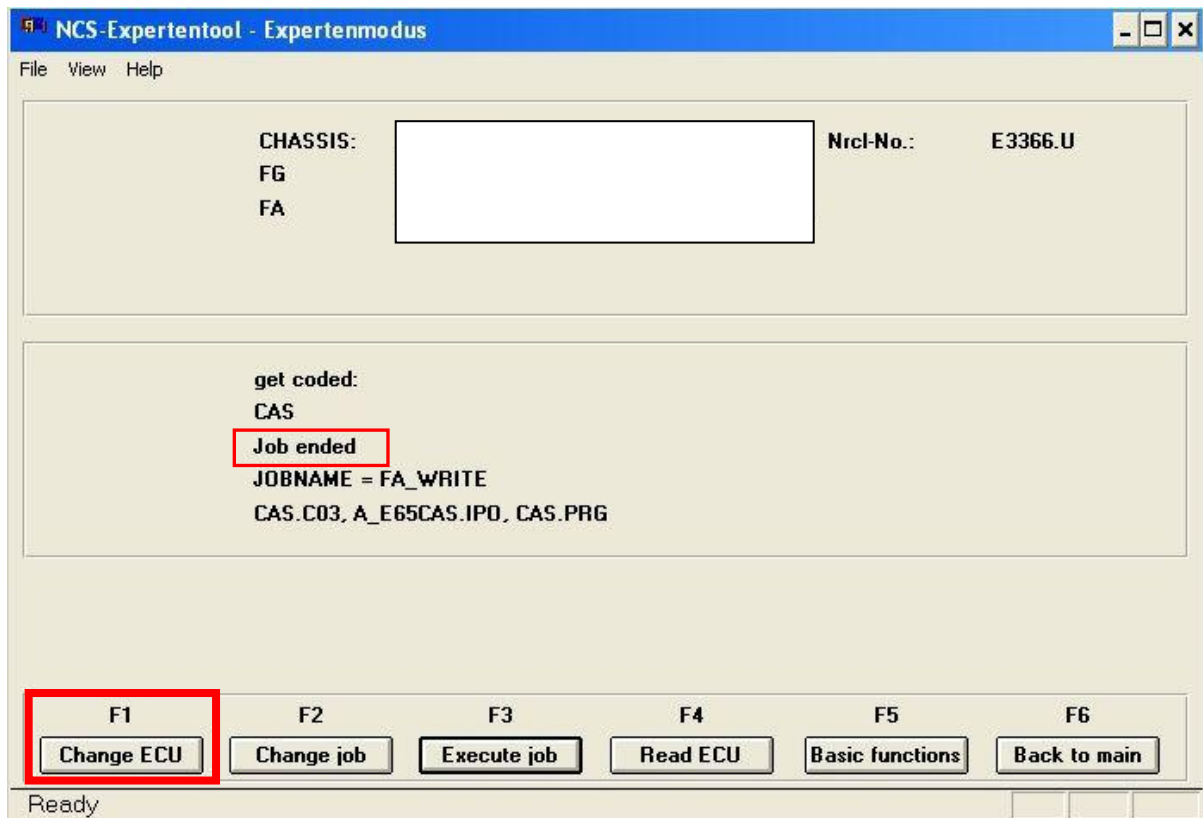
JOBNAME = FA_WRITE
CAS.C03, A_E65CAS.IPD, CAS.PRG

F1 F2 F3 F4 F5 F6
Change ECU Change job Execute job Read ECU Basic functions Back to main

Ready

Once the job has ended, you need to select the other module that holds the Vehicle Order, on a 1 series it is the FRM. Once you see the job has ended, select F1 'Change

ECU'



From the box that pops up select 'FRM' and hit ok.

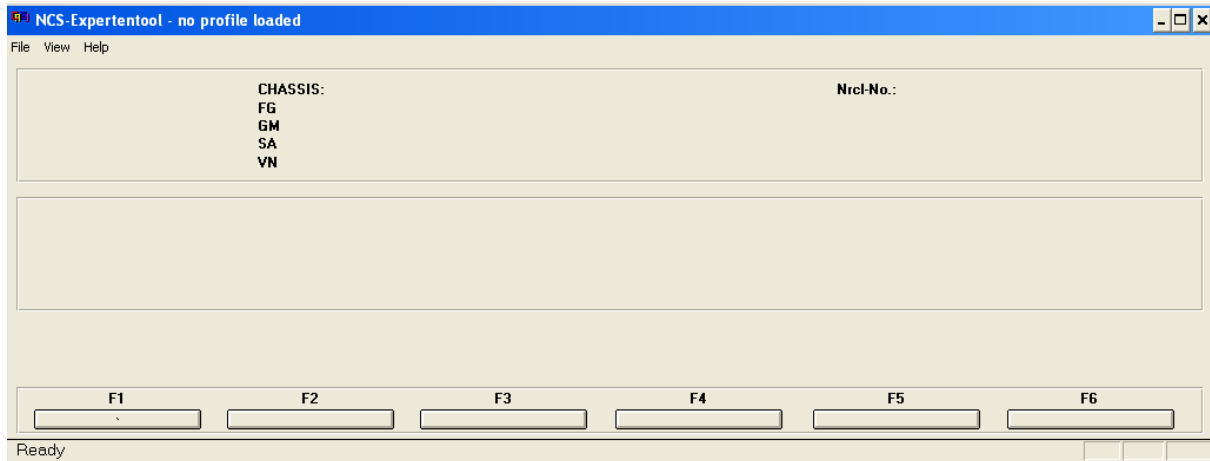


Verify that the FRM is selected and that the job is FA_WRITE again, and hit F3 'Execute Job'

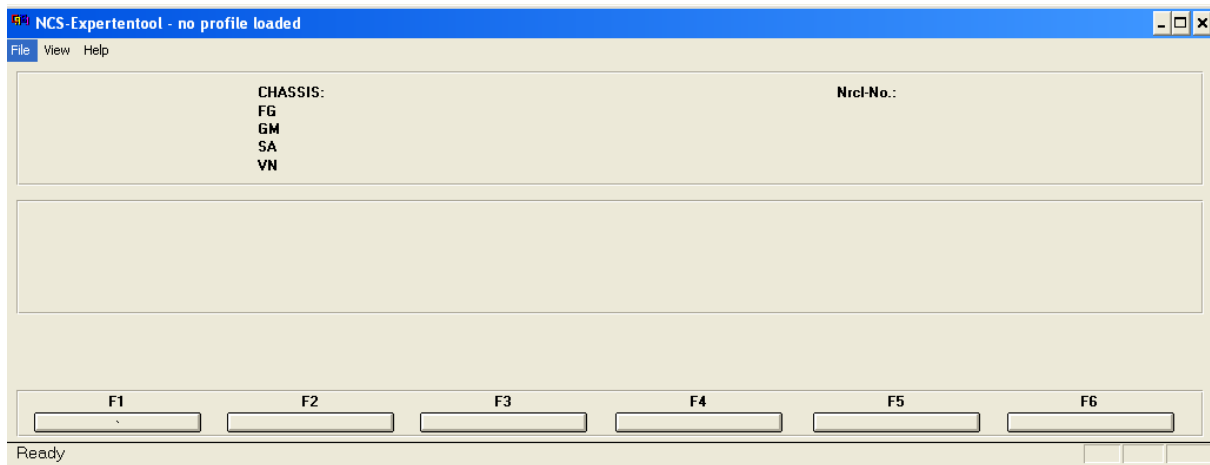
Now we need to tell the DSC system and the rest of the modules that we have installed the retrofit.
I have no pictures for this part so I have doctored some of the earlier ones.

Close NCS expert and then start it up again.

Follow the steps as you did at the beginning



Select 'file'

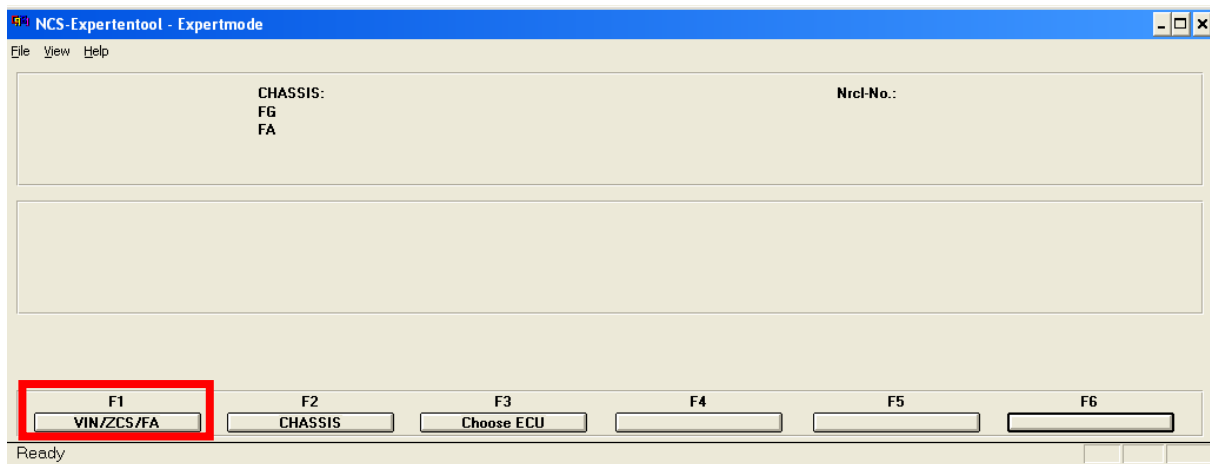


Then select load profile

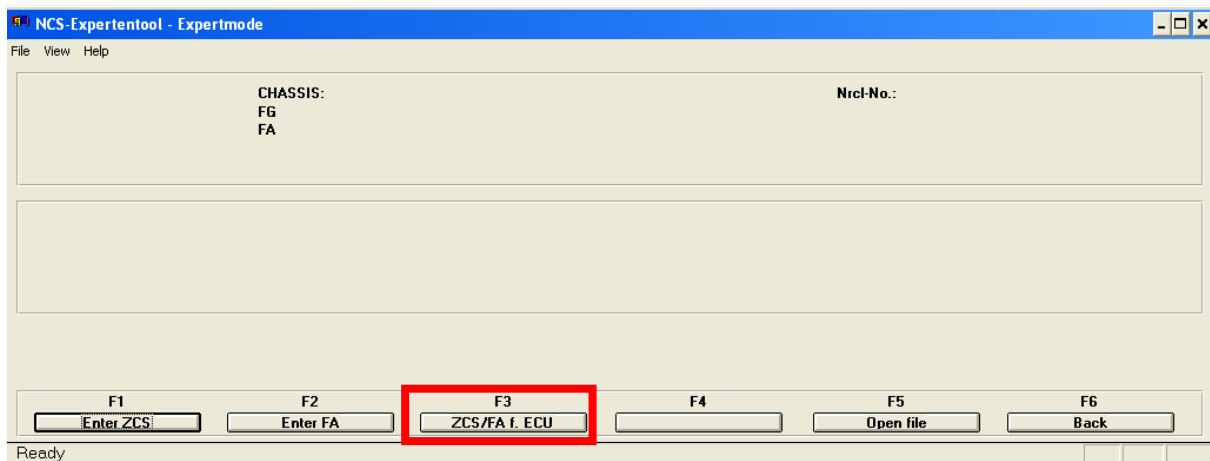
From the box that pops up select 'Expertmode'



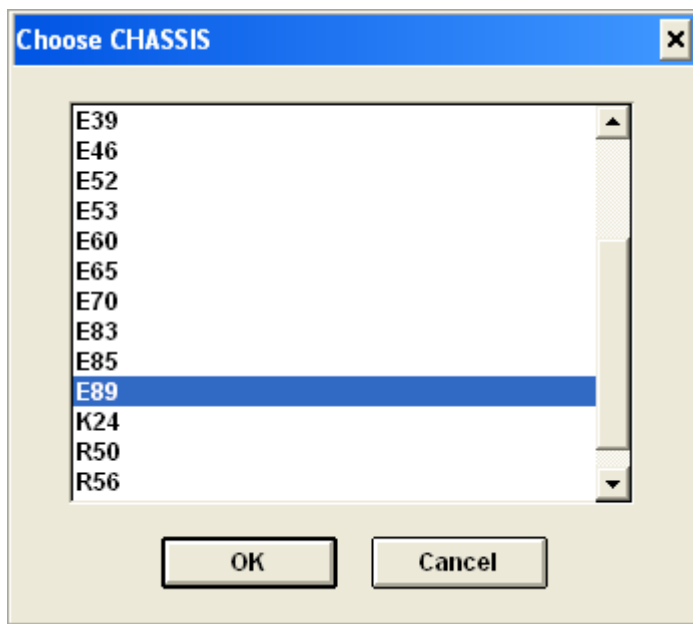
Select F1 'VIN/ZCS/FA'



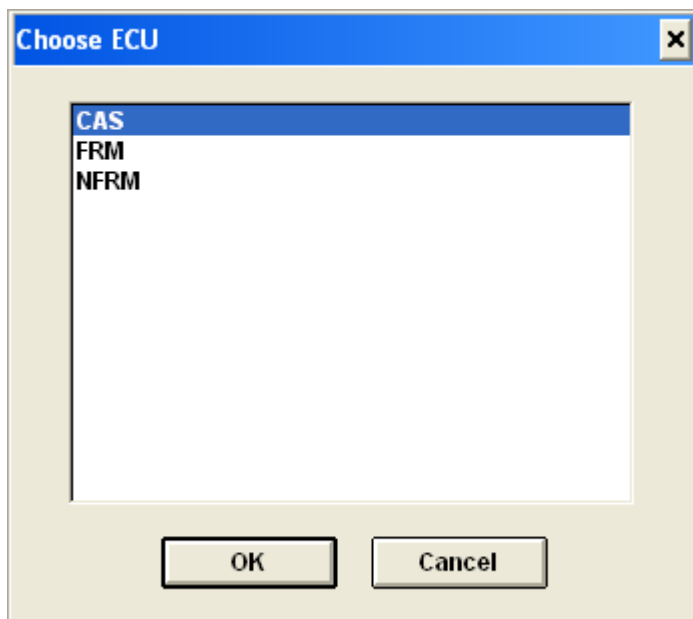
Select F3 'ZCS/FA f. ECU'



In the box that pops up select 'E89'



In the next box select 'CAS'



This will bring up a screen showing details of your car. The model and VIN should be displayed.

Hit F6 'back'

NCS-Expertentool - Expertenmodus

File View Help

CHASSIS: Nrcl-No.: E3366.U
 FG
 FA

F1 F2 F3 F4 F5 F6
 Enter ZCS Enter FA ZCS/FA f. ECU Open file **Back**

Ready

On the next screen ensure that you see that job as 'SG_CODEIREN' and get coded shows a big list of modules. Once you are happy, hit F4 'Process car'

NCS-Expertentool - Expertenmodus

File View Help

CHASSIS: E65 (E65) Nrcl-No.: E3366.U
 FG WBAGL63565DP750922
 FA E65_#0904&U6SW%0668\$1CA\$202\$2161

get coded:
 ALC,ARS,ASK,CIM,DWAI,DWAS,FAS,BFS,HKL,IHKA,KOMBI,8BMOT,PDC,RLS,SASI

JOBNAME = SG_CODIEREN

F1 F2 F3 F4 F5 F6
 VIN/ZCS/FA CHASSIS **Process car** Process ECU

Ready

You will see the job running as it codes the various modules. It takes a couple of minutes, don't worry, the butterflies in your stomach are normal! I was nervous too!

WARNING! You will see all manner of failures and warning lights switch on and off on your dash board, EG, DTC, Tyre pressure warning, Airbag Warning, etc. This is normal, do not panic! On mine, one of the minor modules failed it's coding, I don't remember which, as it didn't affect the retrofit, possibly IHKA? The important one to get coded is the DSC, as long as this passes you have completed this part of the retrofit!

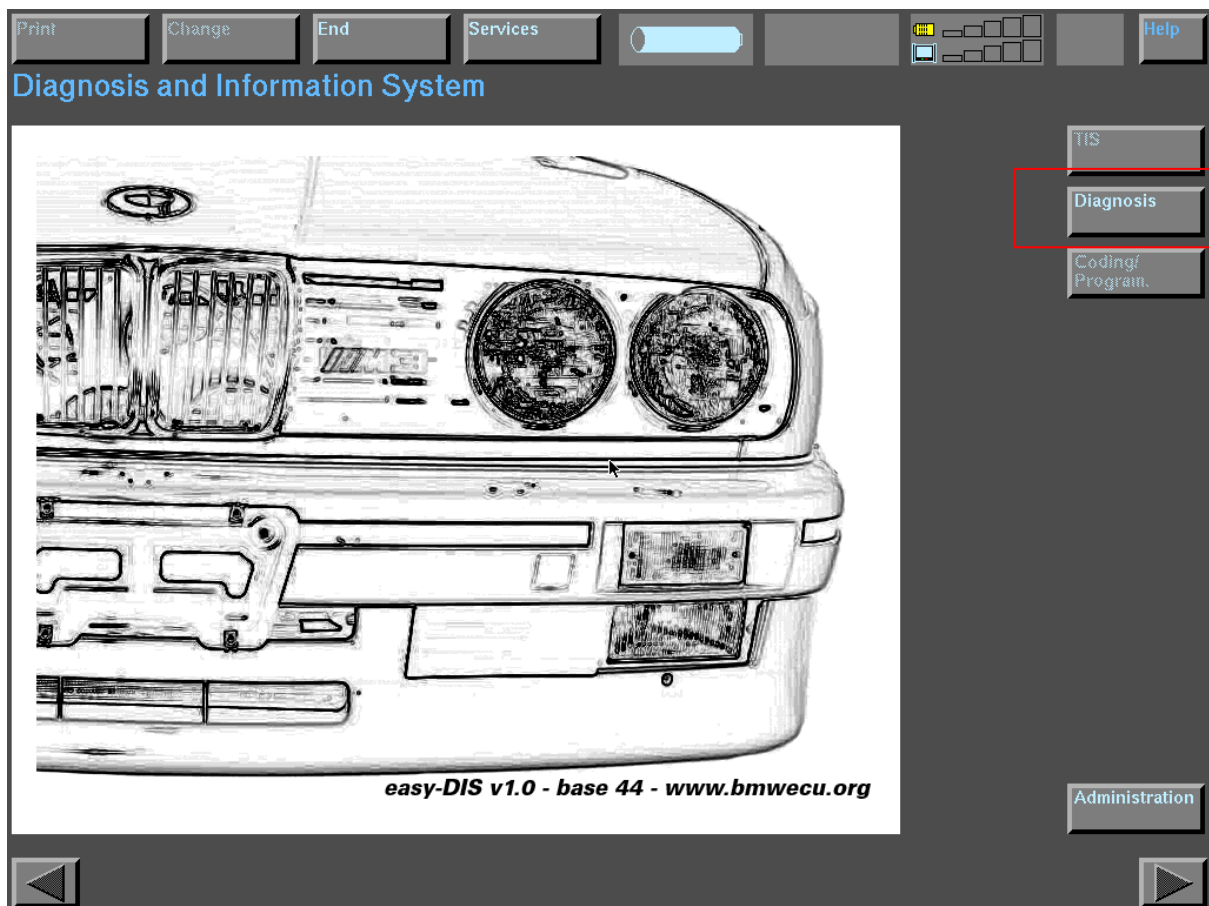
Close NCS expert down and switch off the ignition, take a well earned breather and get a brew/tab/beer on the go!

The only thing left to do is to recalibrate the steering angle sensor with DIS.

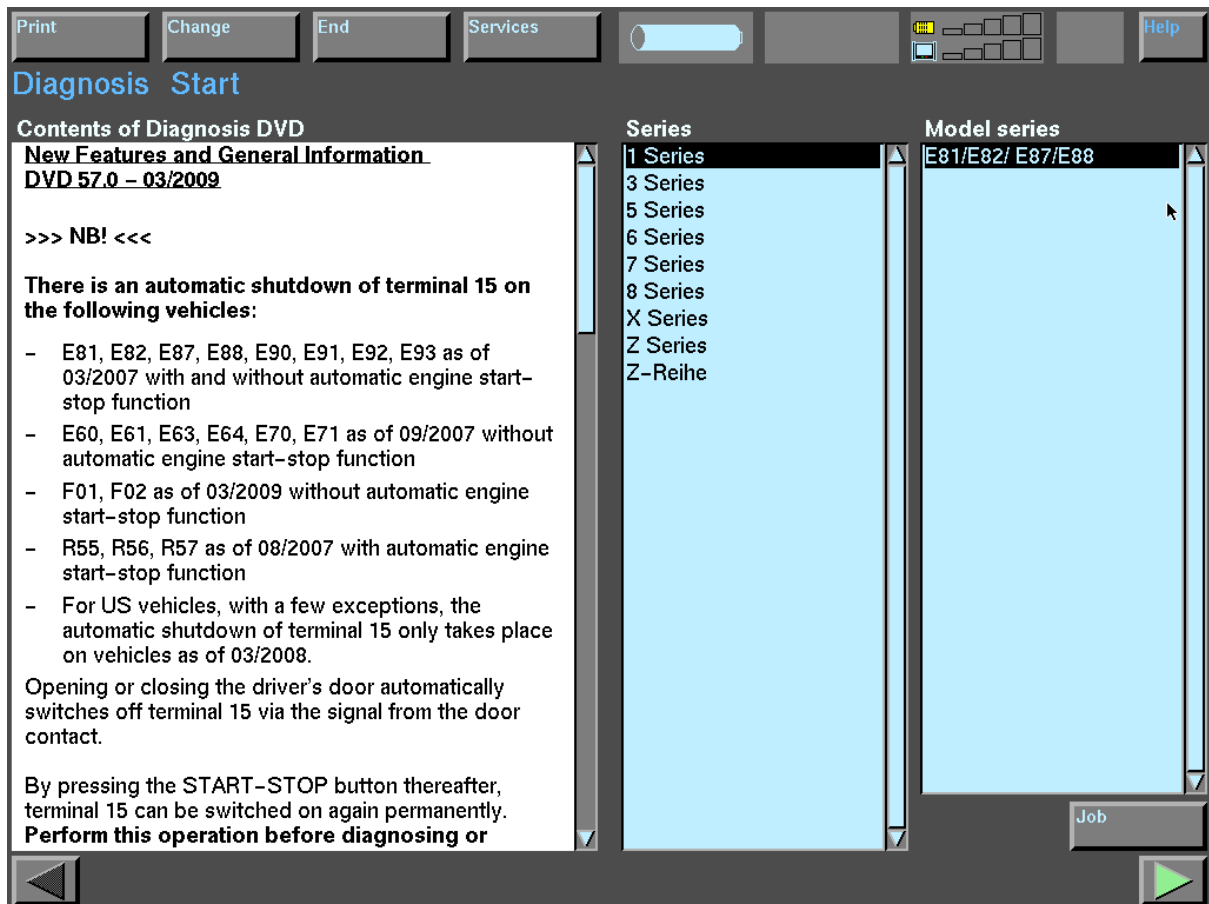
DIS v57

Before starting your VMware virtual machine, browse to c:\ediabas\bin and double click 'ifhsrv32' to start it. Ensure your OBD lead is still connected to the car!

1. Power on your virtual machine.
2. Once DIS is up and running, select Diagnosis from the front page.



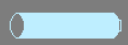

Chose your model And click the green right arrow in the bottom right of the screen



At this point, switch on the car's ignition and it should auto detect it.





If not, enter the model manually

Print Change End Services   Help

Diagnosis Vehicle identification, manual

Series selection: 1 Series_E81/E82/ E87/E88

Model	Version	Model year
116i_N43_SH	EUR_LHD	2004_03
116i_N43_HC	EUR_RHD	2004_09
116i_N43_CABRIO		2004_12
116i_N45_SH		2005_03
116i_N45T_SH		2005_09
116i_N45T_HC		2006_03
116d_N47DK0_HC		2006_09
118i_N43_SH		
118i_N43_HC		
118i_N43_CABRIO		
118i_N46_SH		
118i_N46T_SH		
118i_N46T_HC		
118i_N46T_CABRIO		
118d_M47/TU2_SH		
118d_N47_SH		
118d_N47_HC		
118d_N47_CABRIO		
120i_N43_SH		
120i_N43_HC		
120i_N43_CONV		
120i_N46_SH		
120i_N46T_SH		
120i_N46T_HC		

Navigation:  

My E87 was born in 11/05, so select the nearest previous date to your cars birthday.

DIS will then run a short test to detect what modules are fitted to your car.

Print	Change	End	Services				Help
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Diagnosis
Vehicle identification

Vehicle equipment

Model series
1 Series_E81/E82/
E87/E88

Model
118d_M47/TU2_SH

Version
EUR_RHD

Model year
2005_09

Vehicle ident. number

Drive
CAS Car Access System
DDE Diesel Electronics
EKPS Fuel-pump control

Chassis
DSC (Conti) Dynamic Stability Control

Body
AHM4 Trailer module 4
AHM Trailer module
AMP Amplifier
CCC-BO User interface
M-ASK-BO User interface
RAD2-BO User interface
RAD Radio
CCC-GW Gateway
M-ASK-GW Gateway
RAD2-GW Gateway
CCC-A Applications
CCC-ANT Aerial tuner
CCC-ASK Audio system controller
DAB Digital tuner
CDC CD Changer
CA Comfort access system
CID Central Information Display
CON Controller
DWA anti-theft alarm system
SINE Siren with tilt sensor
FRM Footwell module
FRM2 Footwell module 2

Quick delete

Quick test

Function selection

Documents

Test schedule

Measuring system

Control unit functions

Diagnosis Vehicle identification

Vehicle equipment

Model series	Drive	Body
1 Series_E81/E82/E87/E88	CAS Car Access System	AHM4 Trailer module 4
	DDE Diesel Electronics	AHM Trailer module
	EKPS Fuel-pump control	AMP Amplifier

Model

118d_M47/TU2_SH

Version

EUR_RHD

Model year

2005_09

Vehicle ident. number

Question

Should the individual quick test be carried out DSC (Conti) Dynamic Stability Control for the system?

OK Cancel

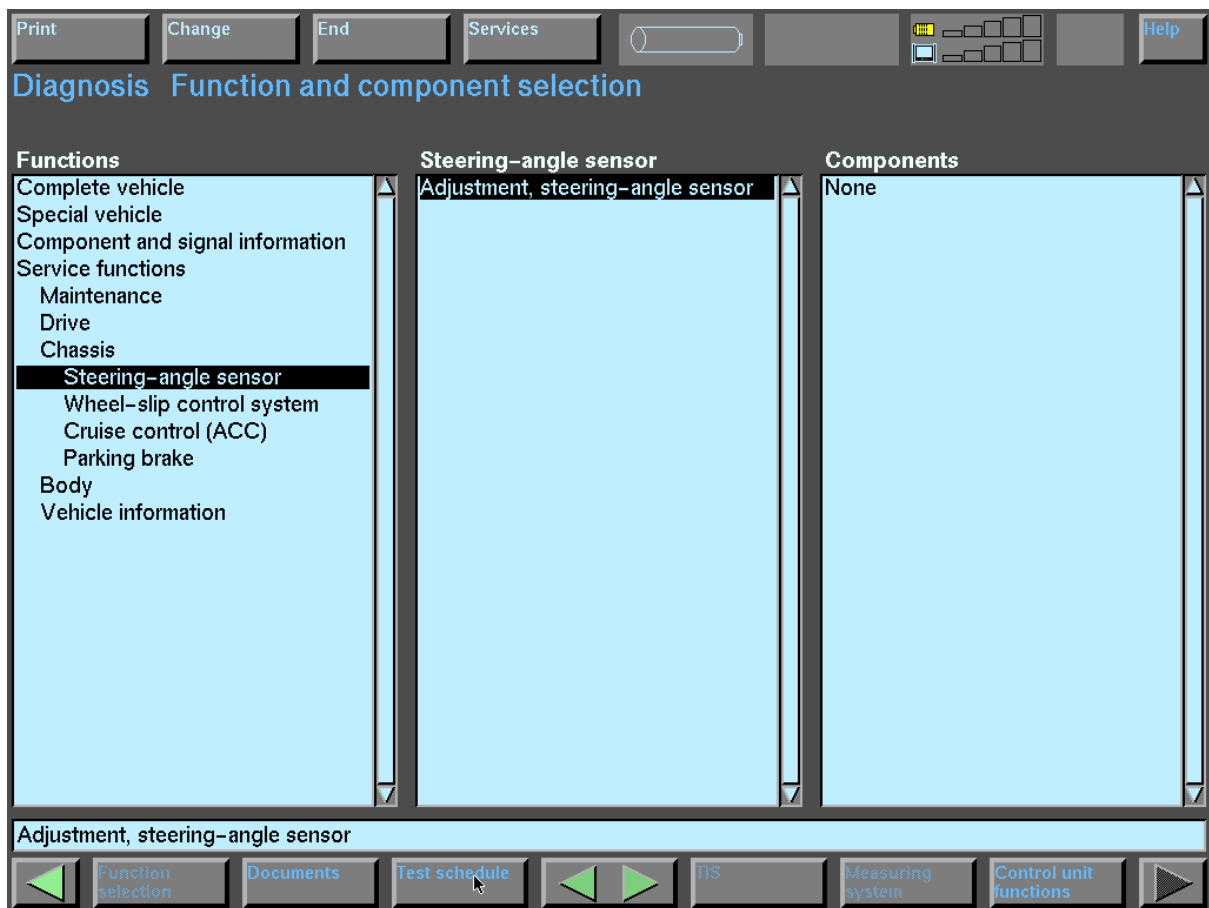
er interface
User interface
er interface
ateway
Gateway
ateway
cations
erial tuner
udio system controller
uner
nger
ccess system
nformation Display
er
DWA anti-theft alarm system
SINE Siren with tilt sensor
FRM Footwell module
FRM2 Footwell module 2

Quick delete Quick test

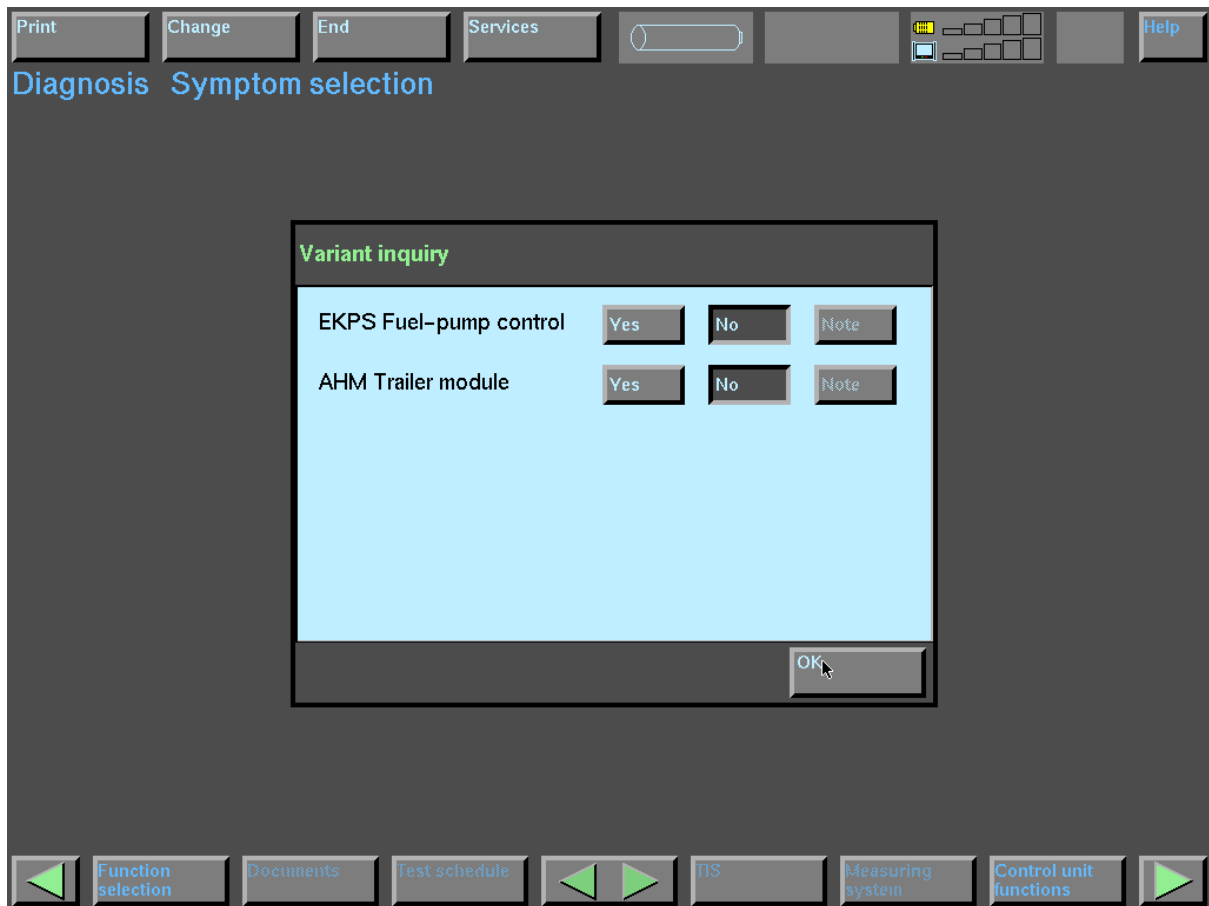
Function selection Documents Test schedule TIS Measuring system Control unit functions



Then chose Service functions/chassis/steering angle sensor and selet the test schedule button at the bottom.

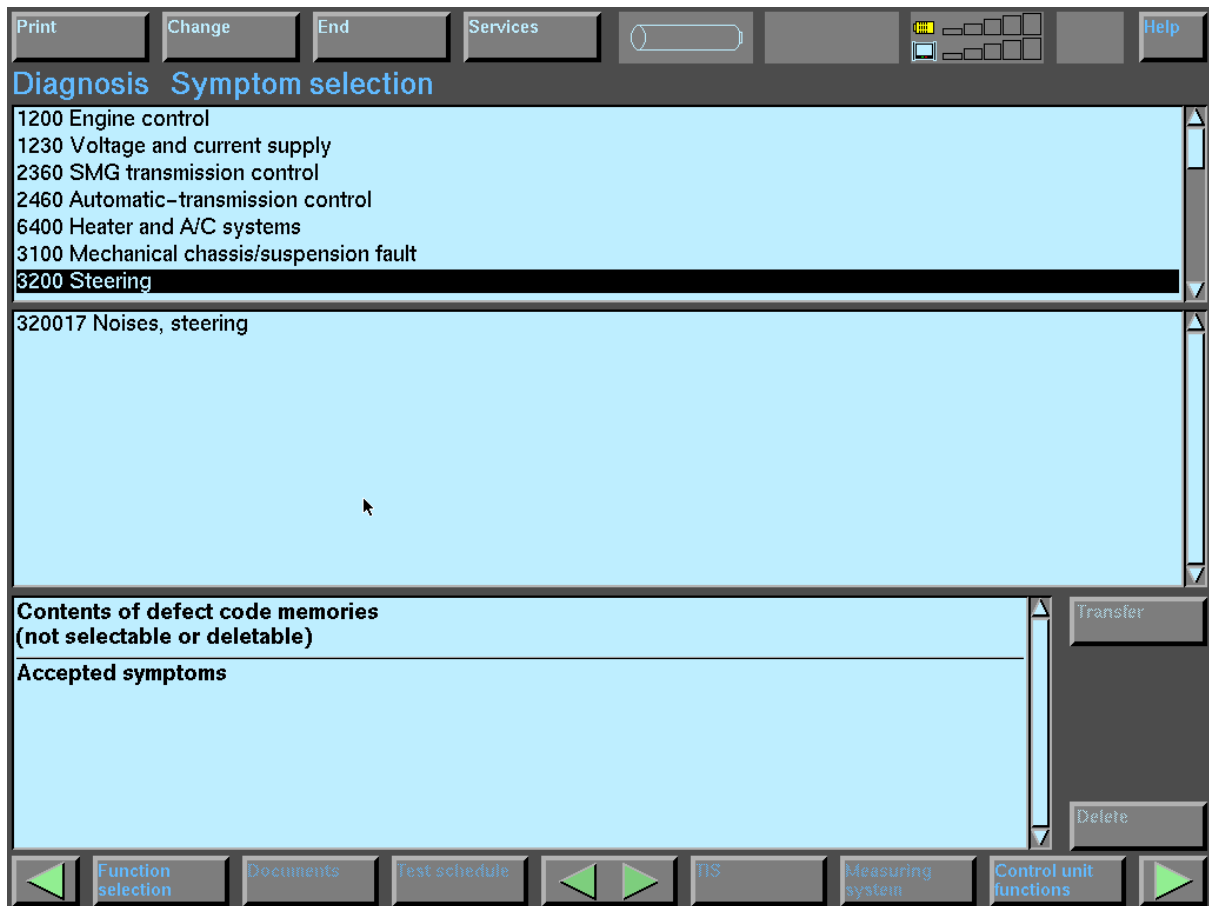


You might get this box popping up, just OK it.



Then on the following screen you will see the fault codes on the car in the box at the bottom half of the page, select the steering angle fault and run the calibration, hit test schedule at the bottom of the page, and following the instructions for steering angle sensor at the right hand side of the page.

Ensure the wheels are in the straight ahead position for this!



Once the steering angle sensor is calibrated, the DTC/ABS/Tyre pressure warnings should disappear from your dash board, you now have completed the retrofit!

Shut down DIS, select end/quit from the top buttons, then administration/calibrating touch screen/password 12345/'0' shut down DIS.

Switch off ignition, disconnect OBD lead, remember to refit the little jumper block to the OBD socket!

Take your car out and check that cruise control is working!