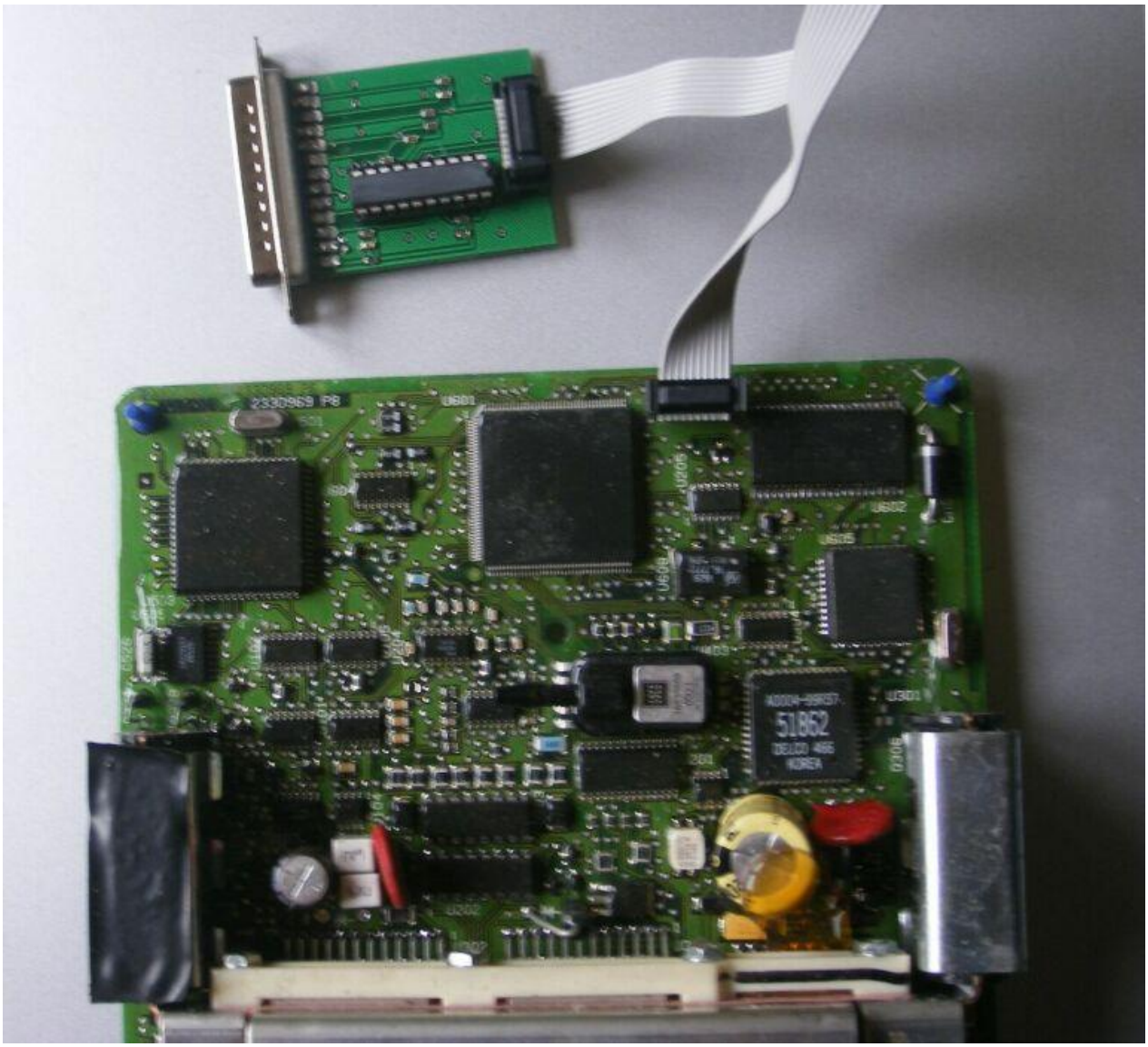
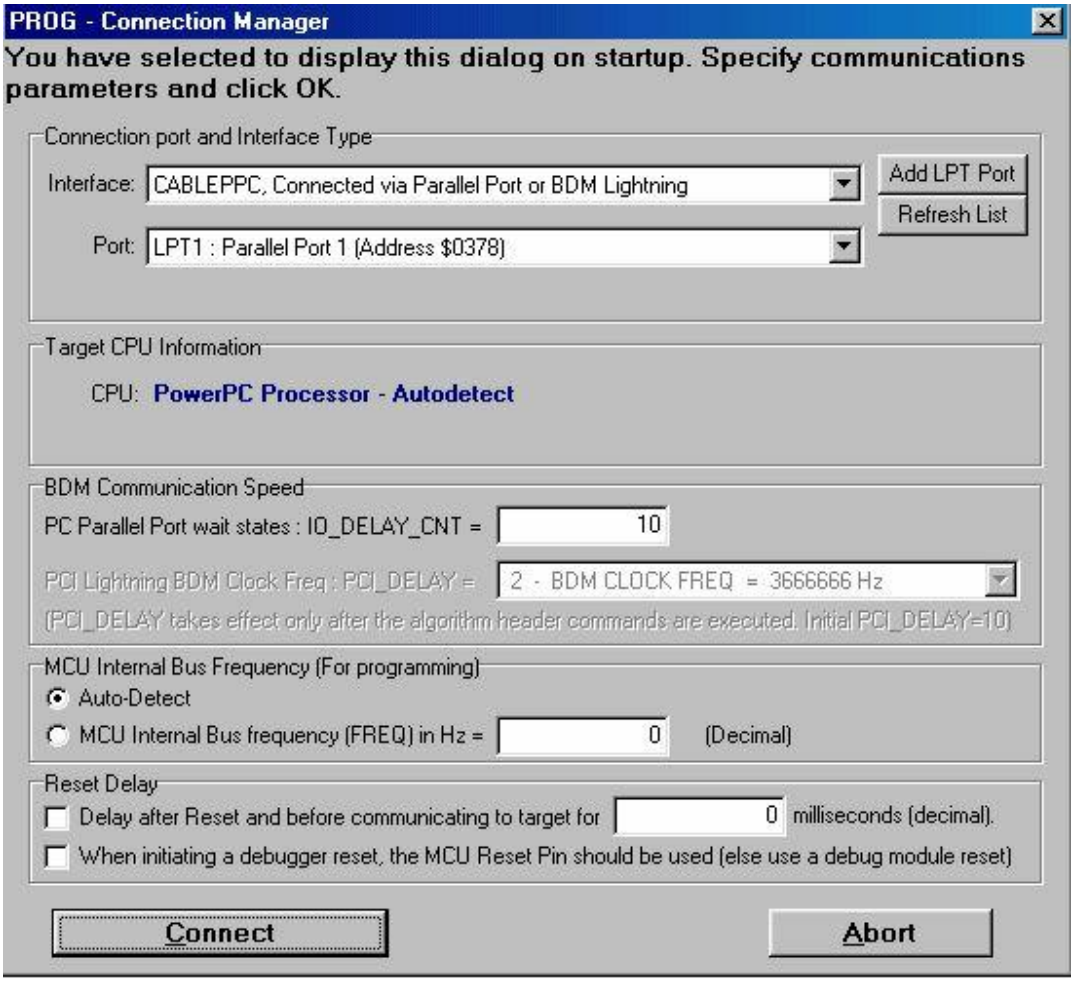
MPCProg 5xx

USER MANUAL



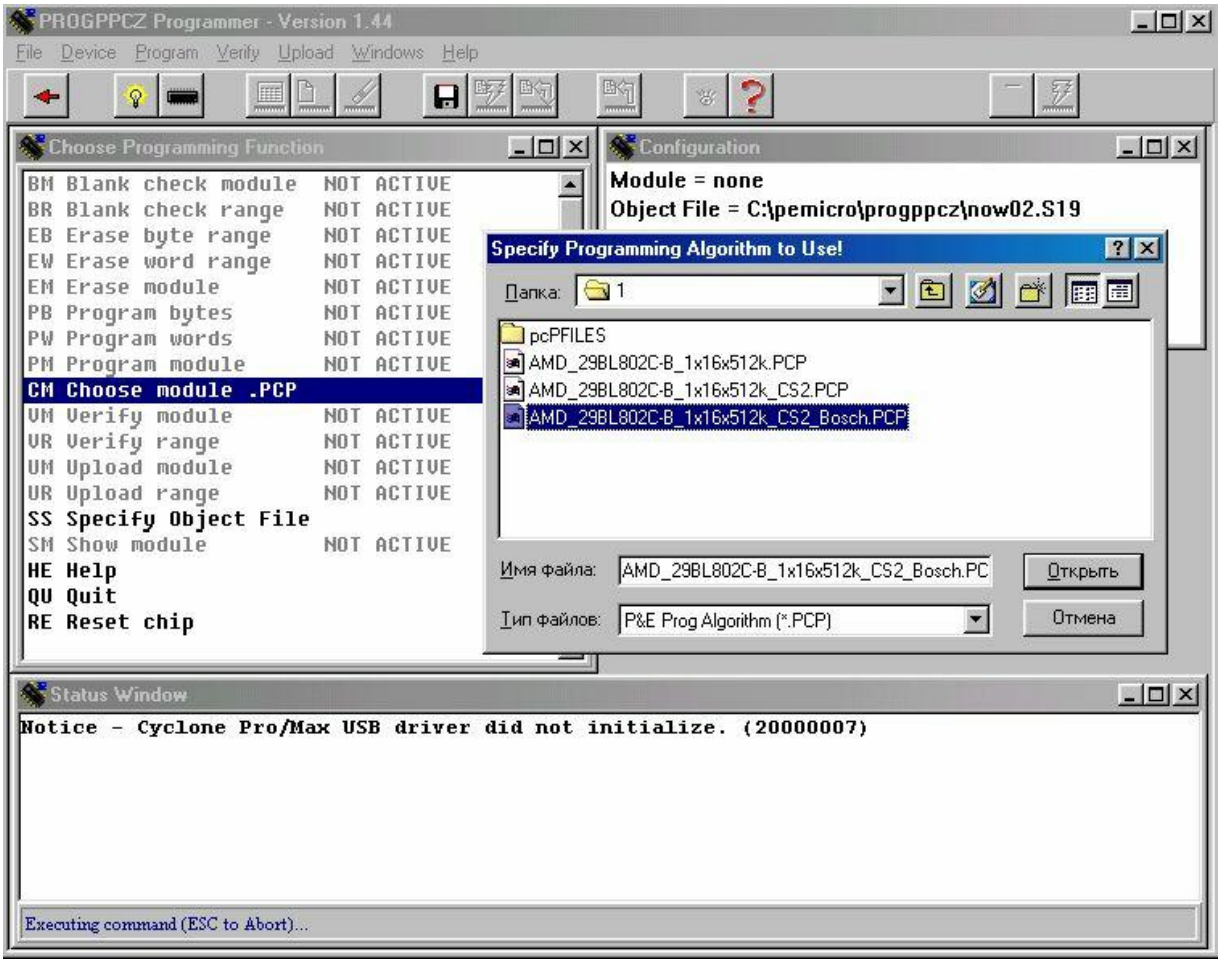
Operations sequence

1. Open folder progppcz, launch progppcz.exe file.



Press Connect.

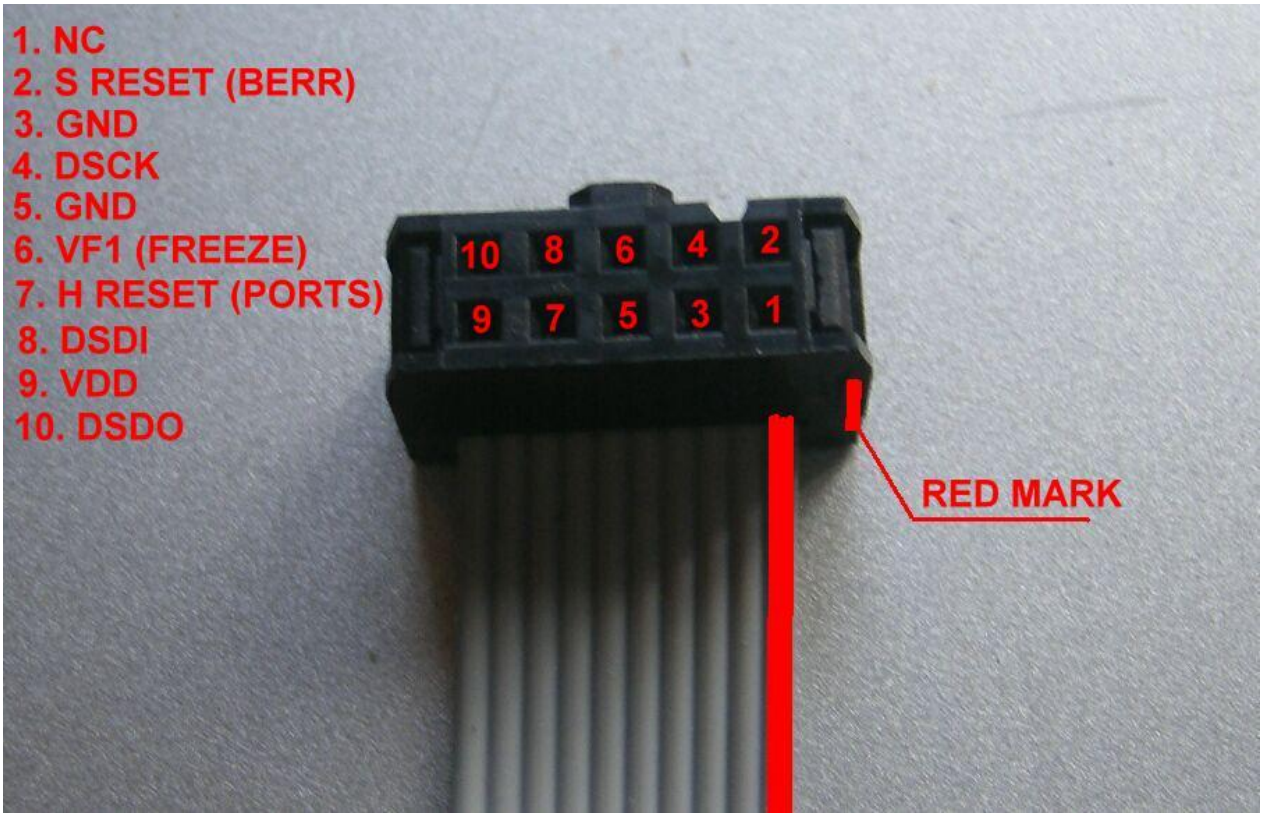
2.Select programming algorithm.
Select File from algorithms folder or NEW algorithms (on disk).



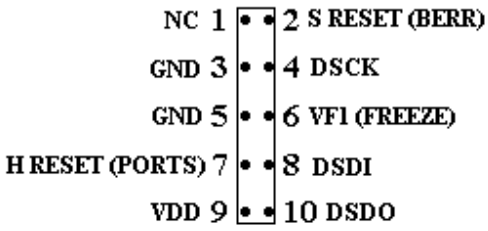
3. Enter base address- 00000000

4.File reading
File is been reading in Motorola S19 standard and to convert it in bin use MOT2BIN.exe utility. Easy drag the file which has been read into the MOT2BIN.exe file and get result file with bin extension.

5.Write to file operation.
Before writing the file Erase must be done.
File intended to be written must be in Motorola S19 standard. To convert Bin file use Bin2s19.exe utility. Start utility, enter file name and press Enter.
If while erase or write operating program freezes it should be restarted and pin WP (**Write Protect Pin)** of programming chip state should be checked.
For example, for writing into the control unit of BOSCH ME9 BMW with flash memory M58bw016 it is necessary via 2 KOhm resistor connect +3V from the board to pin 77 of M58bw016 chip.



This is the BDM connector pinout.



.

This is the standard BDM-port pinout.

On the most ECU Boards the location of pin 1 of the BDM-port pads are not marked in any way. This application note will demonstrate how you can estimate the location of Pin1 of the BDM-port pads in the very most cases.
The figure on the right shows the Motorola (TM) standard pinout of the BDM-port:

Regarding the pinout of the standard BDM-port it is obvious that two of them are grounded. These are the pins 3 and 5. So the pin 1 is above them.
Which of the pads are grounded you can find out simply using an ohmmeter or a diode - tester.

Finally let us demonstrate this again in the next three steps using a SMD footprint of the BDM-port pads:

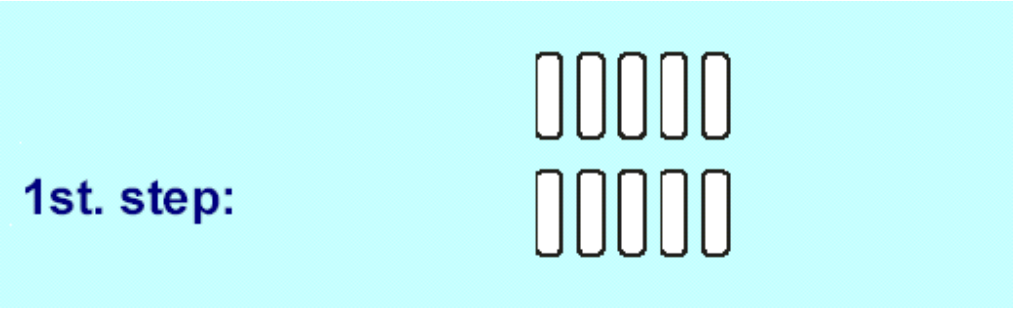


Fig. 2: This the typical arrangement of the BDM pads.

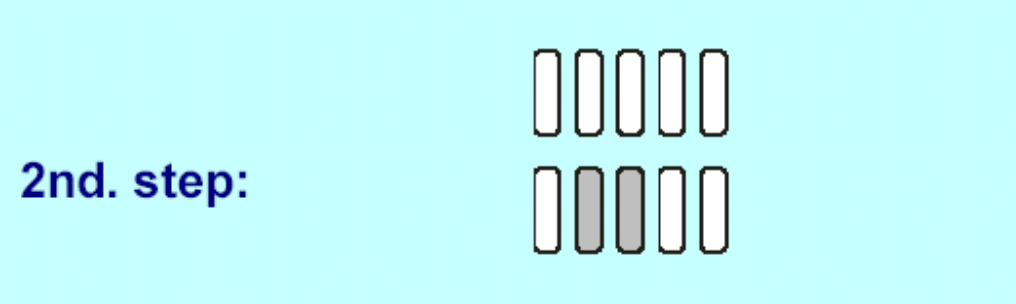


Fig. 3: Then estimate which pads are grounded

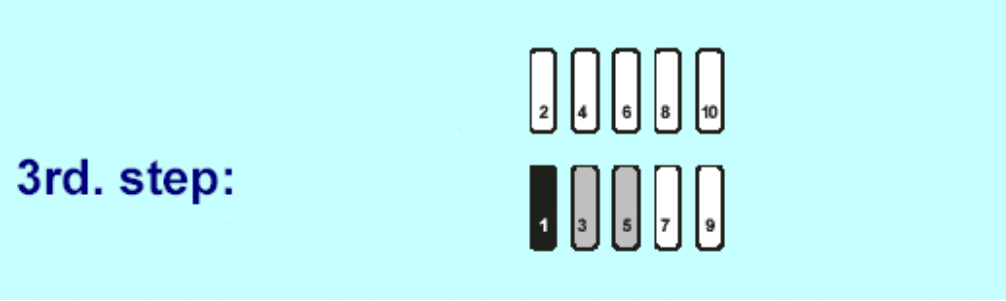
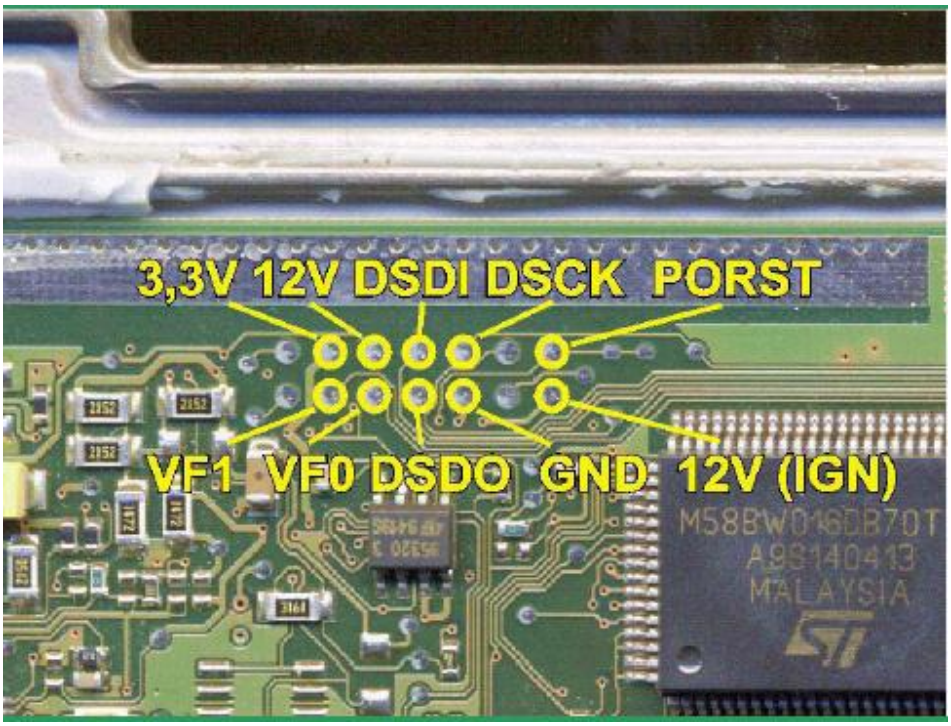


Fig. 4: The pin1 is left of the two grounded pins, as agreed.

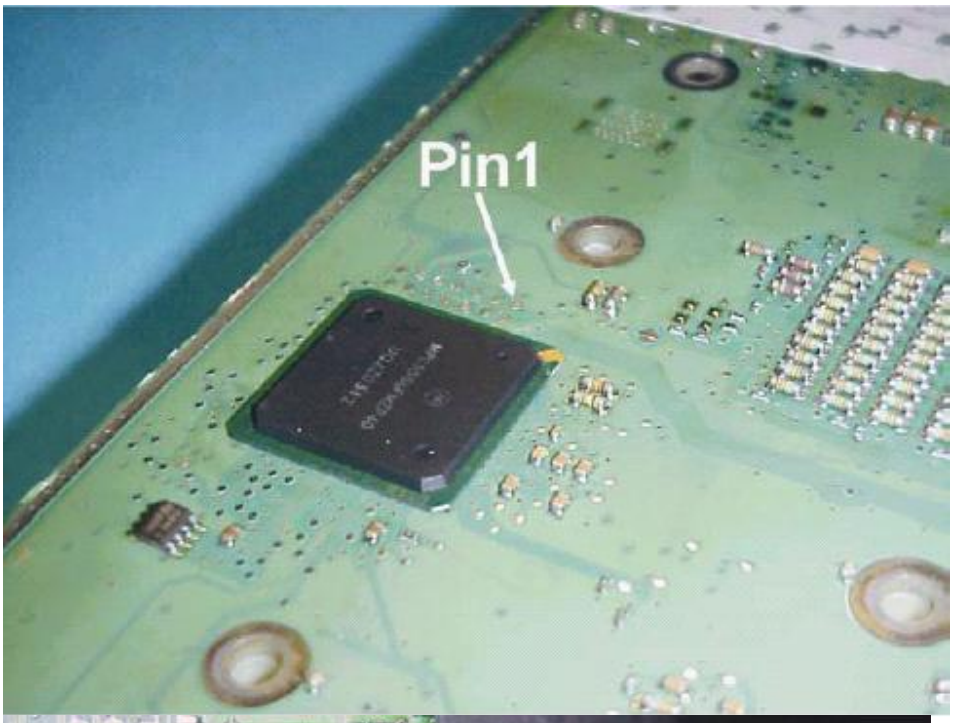
PIN OUT BOSCH PROGRAMMING PADS

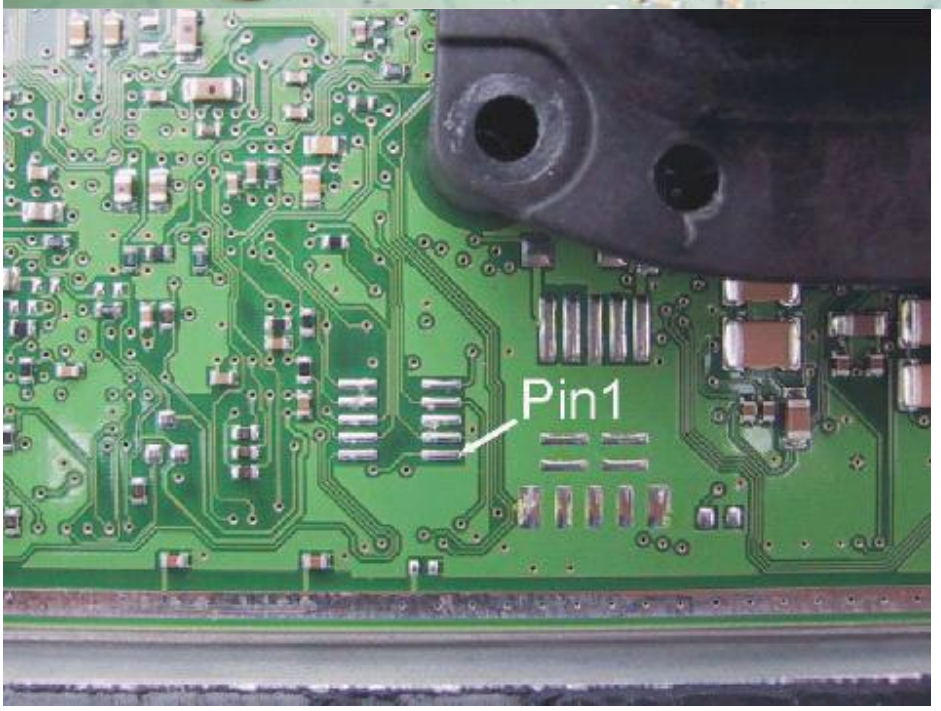


The pin out of the BOSCH programming pads.
The pad arrangement of the BOSCH ECUs differs from the MOTOROLA standard. The 12Vcc clamp voltage from the battery and also the 12Vcc from the Ignition or wake up circuit are present in that pad array.
Please consider that in early EDC16 ECUs the 3.3V pad is driven by a 5V circuit.

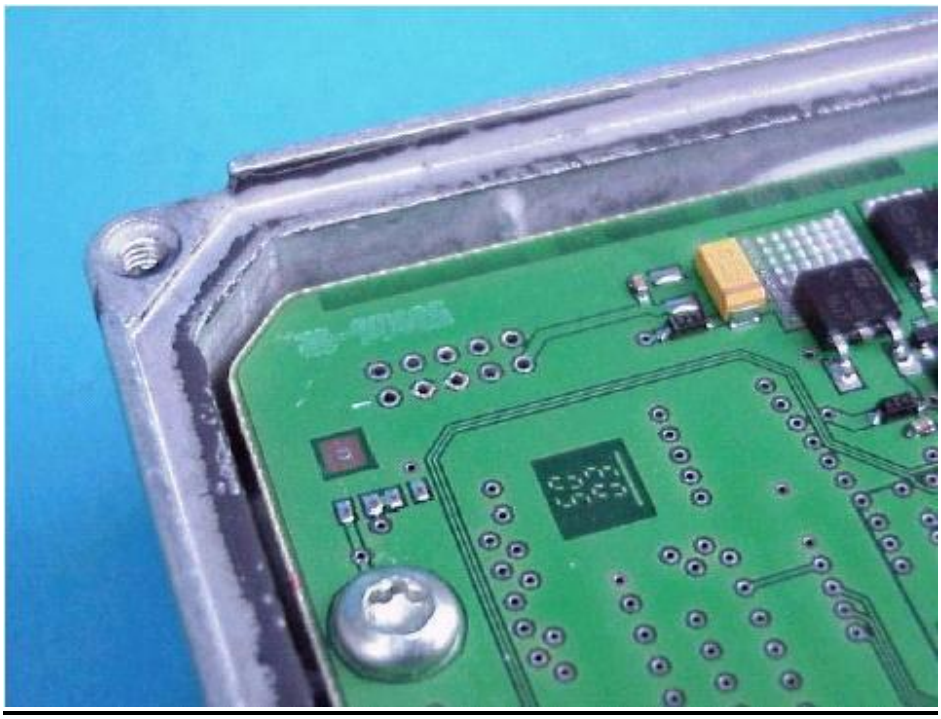
EDC7
IVECO, MAN

GND BAT+ IGN
B2 B12 B39
A15 A7 B36

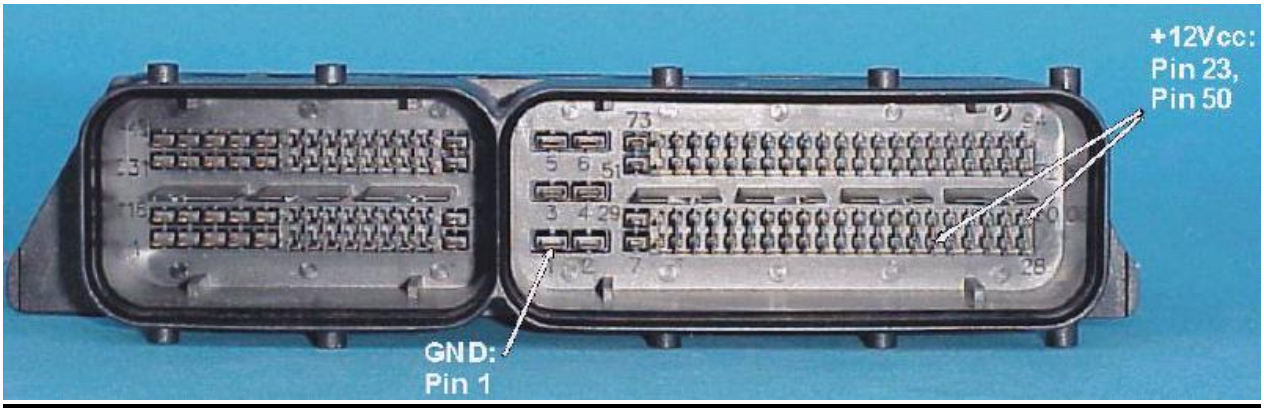


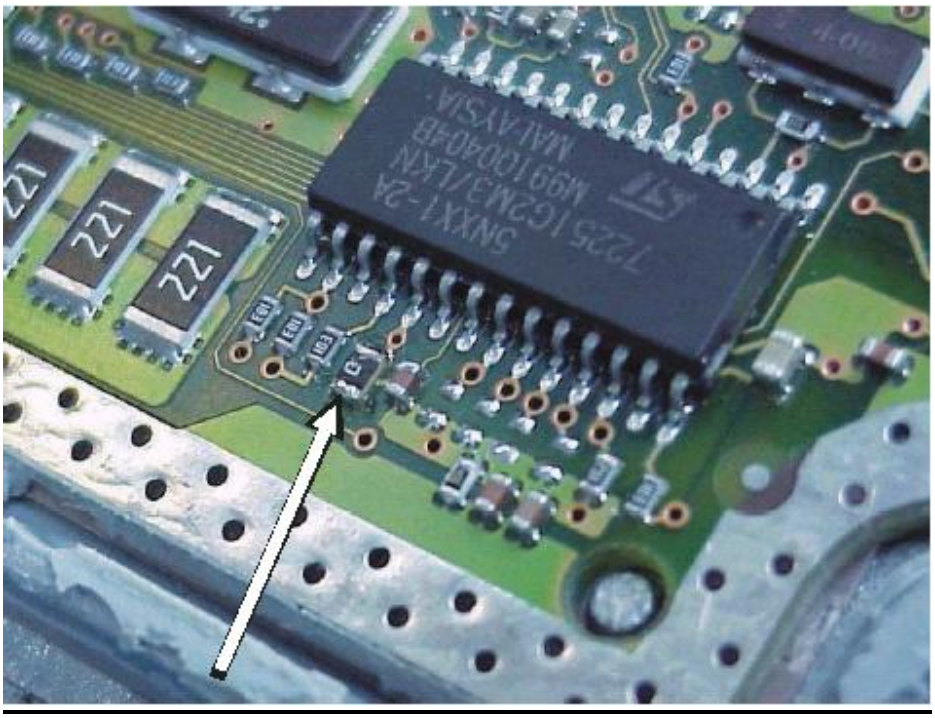


DELPHI ECU



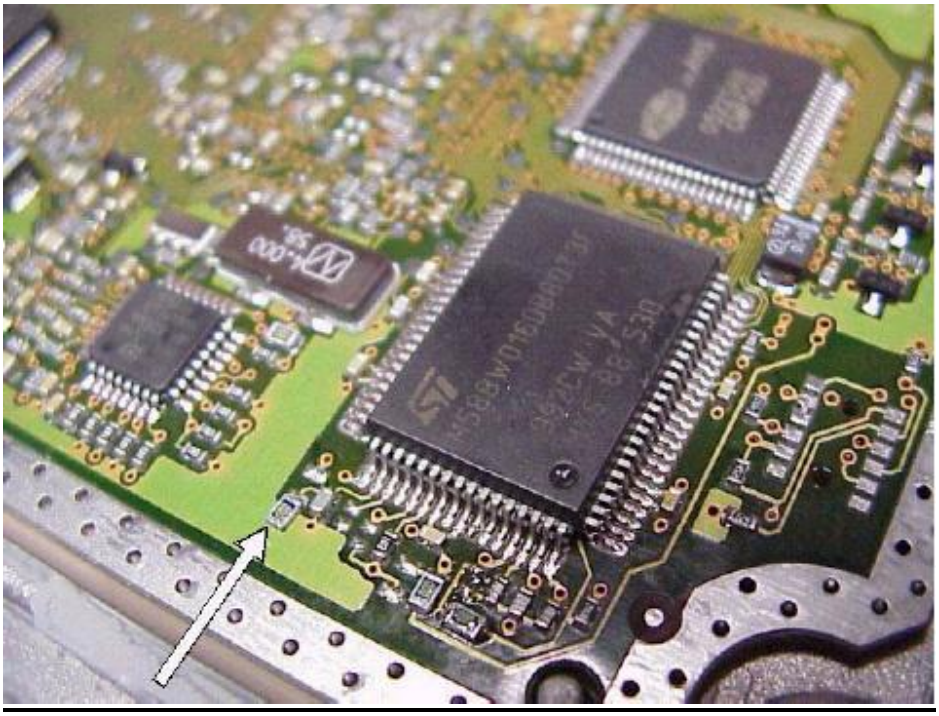
MARELLI ECU





The location of the zero-ohm resistor witch will be out-soldered.

Before you can start to read out or program a Marelli ECU, you must solder out the zero ohm resistor witch is next pin19 of the component with SO28 package in the top right corner of the ECU board.

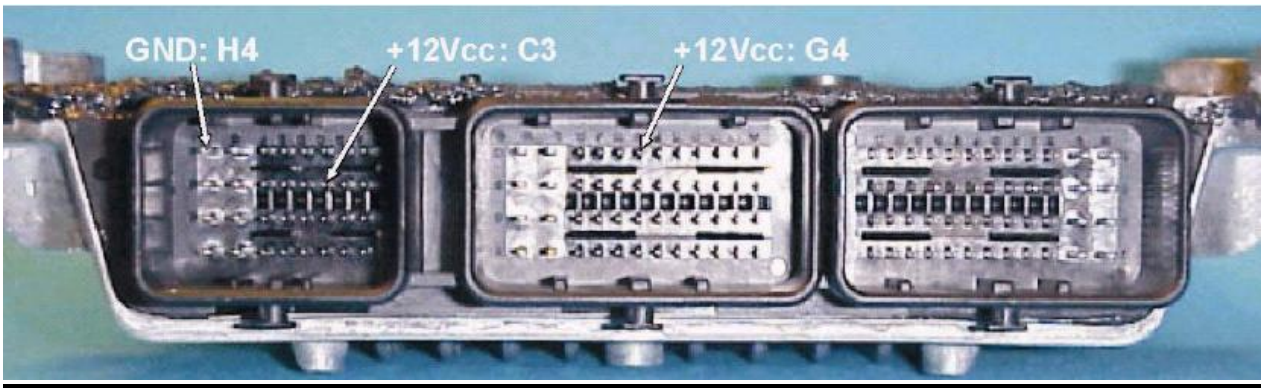


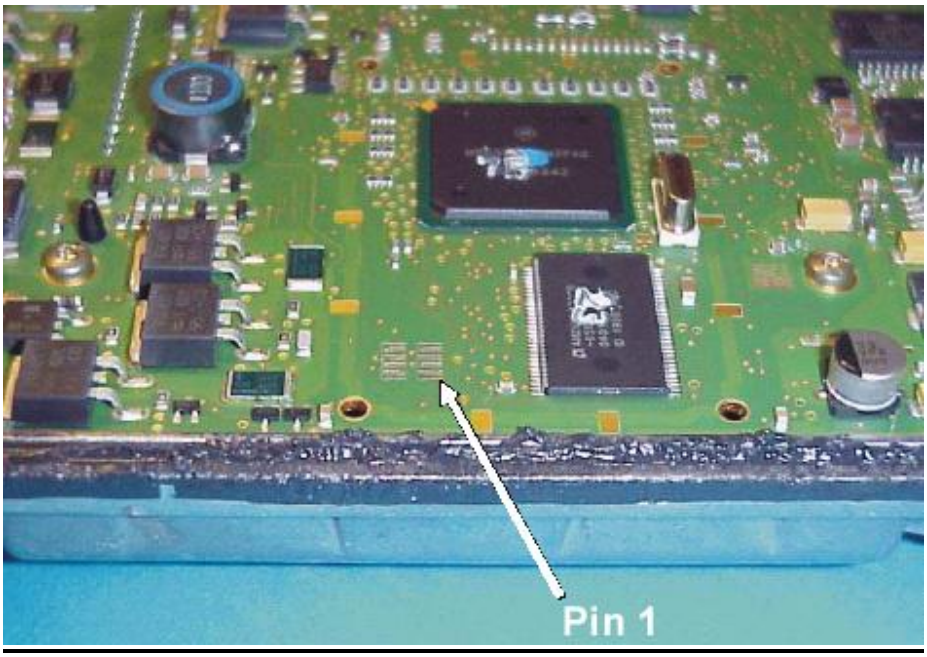
On this Marelli MJD-ECU (with another PCB-design) the resistor is already out-soldered.

There are also another Series of the Marelli MJD- ECU which have another PCB-layout and some other components. There the zero-ohm resistor is placed near the flash-EPROM Don't forget to solder the zero-ohm resistor on its place again when the work with the BDM equipment is done.

The BDM pads of the Marelli ECU.

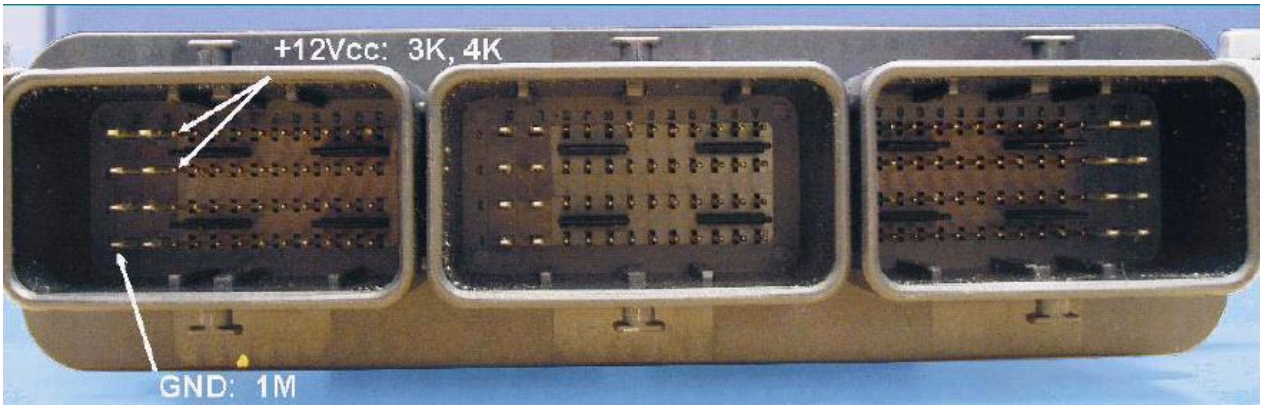
SIEMENS SID803 ECU

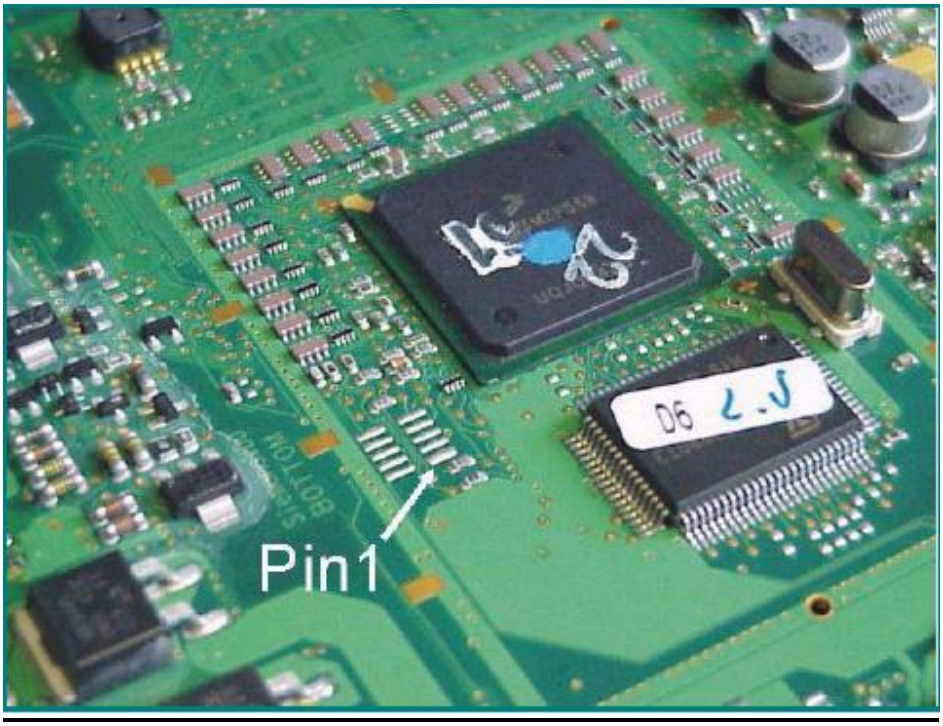




The location of the BDM- Pads on the board of the Siemens SID803 ECU.

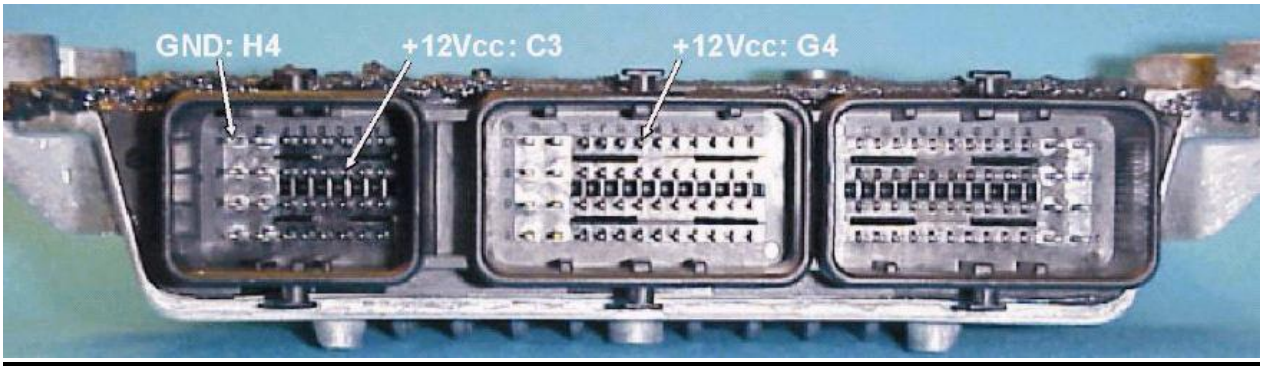
SIEMENS SID201 ECU

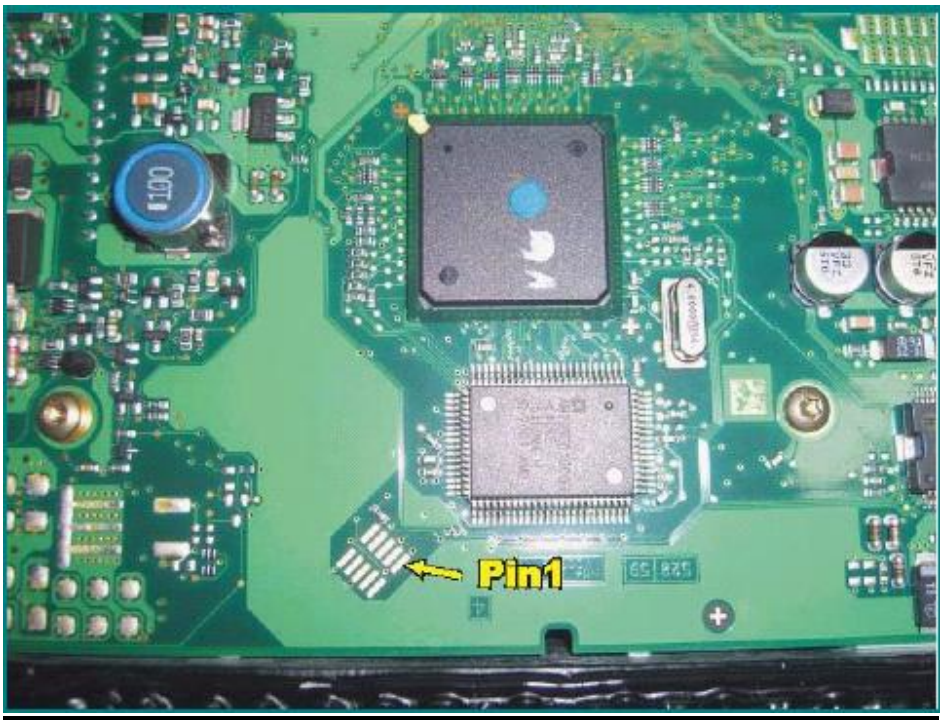




The location of the BDM- Pads on the board of the Siemens SID201 ECU.

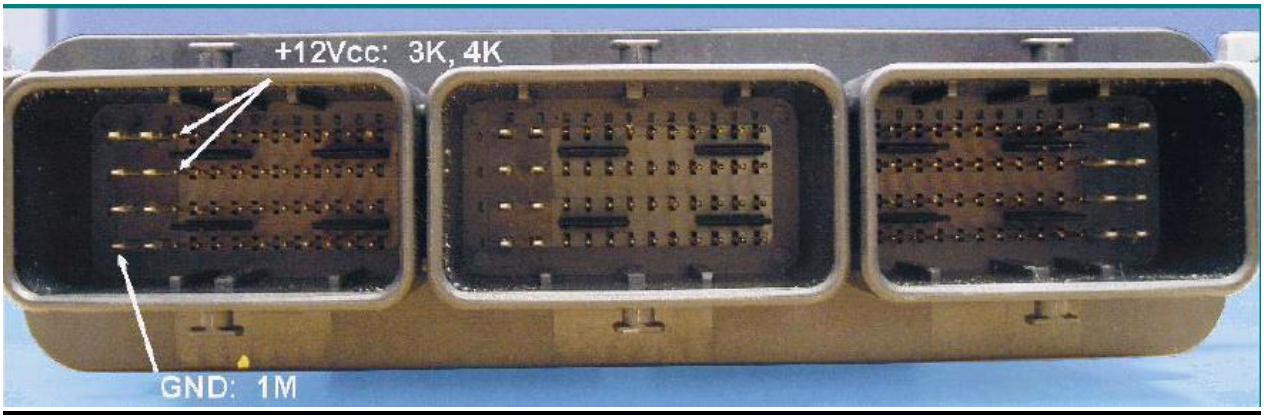
SIEMENS SID202 ECU

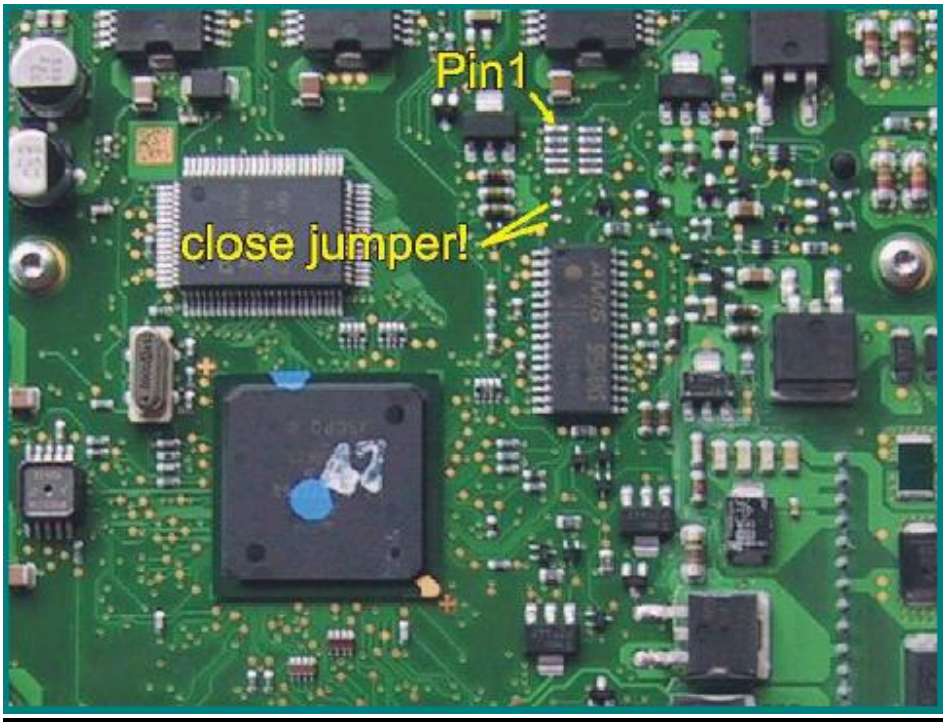




The location of the BDM- Pads on the board of the Siemens SID202 ECU.

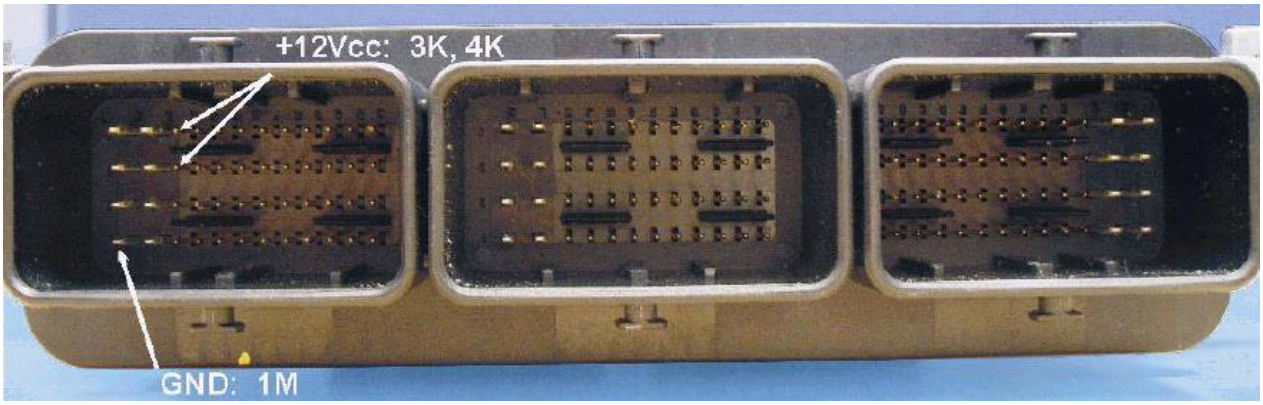
SIEMENS SID203 ECU

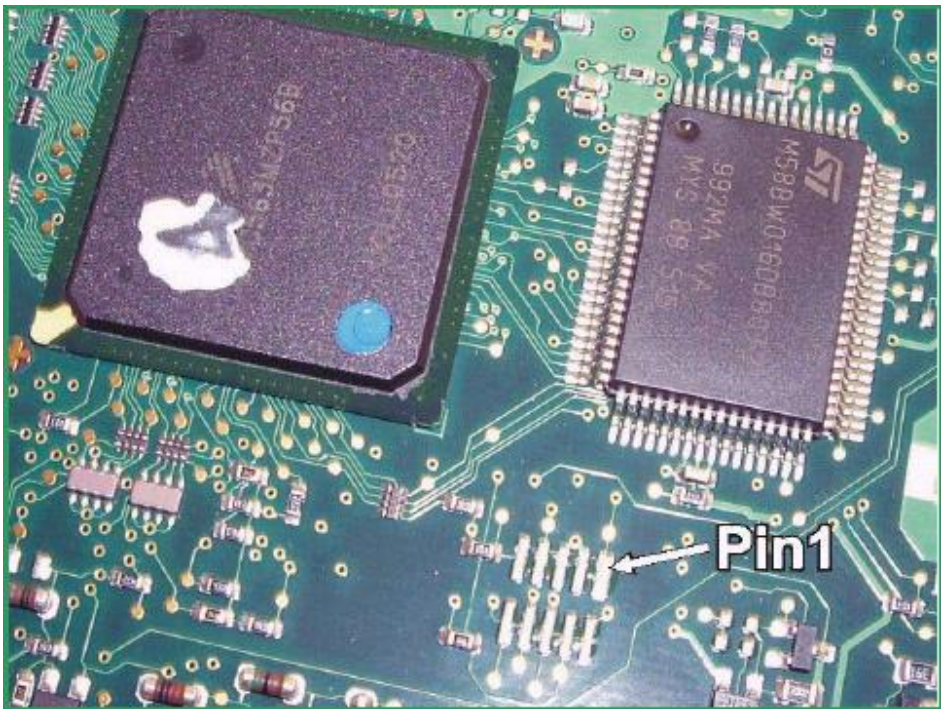




The location of the BDM- Pads on the board of the Siemens SID203 ECU.
Don't forget to close the jumper!
For the BDM module this is necessary to recognize the ECU.

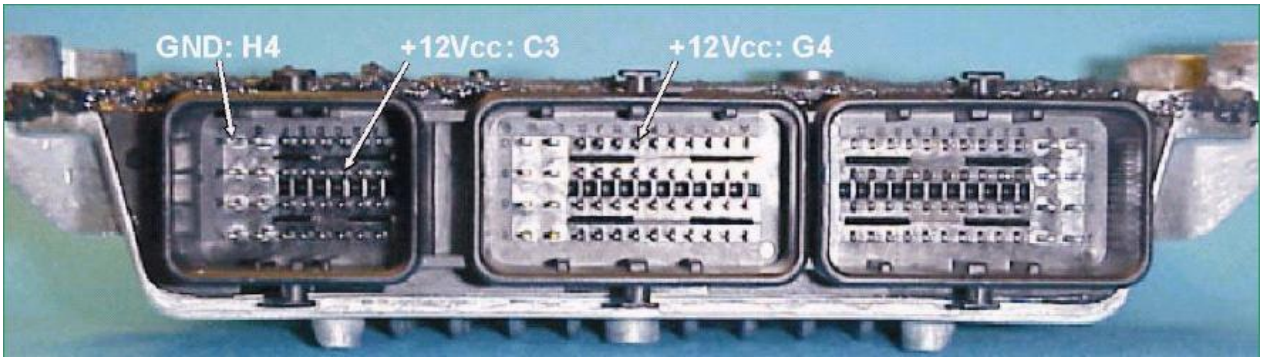
SIEMENS SID203 ECU

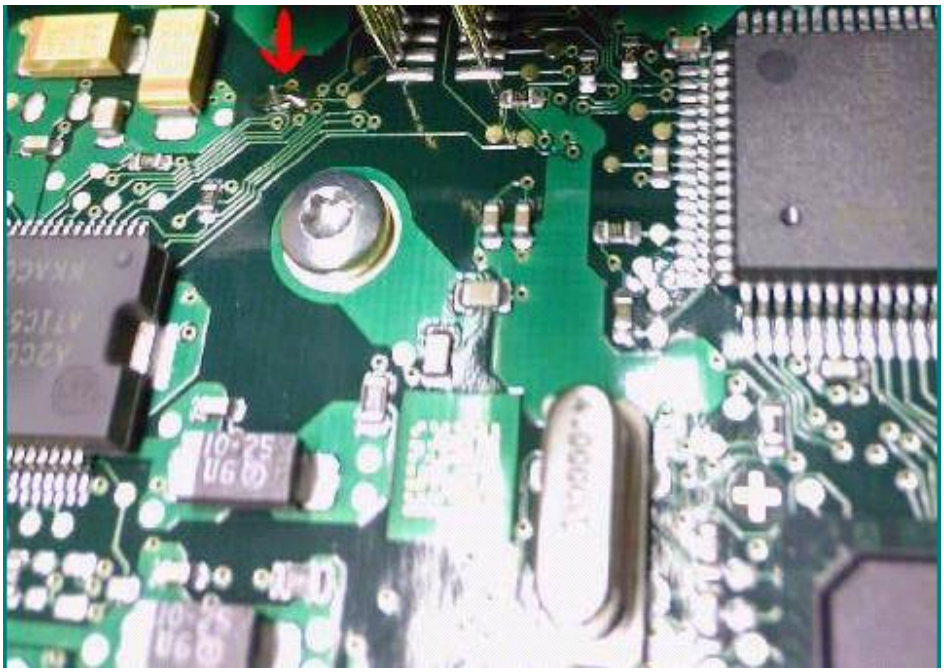




The location of the BDM- Pads on the board of the Siemens SID204 ECU.

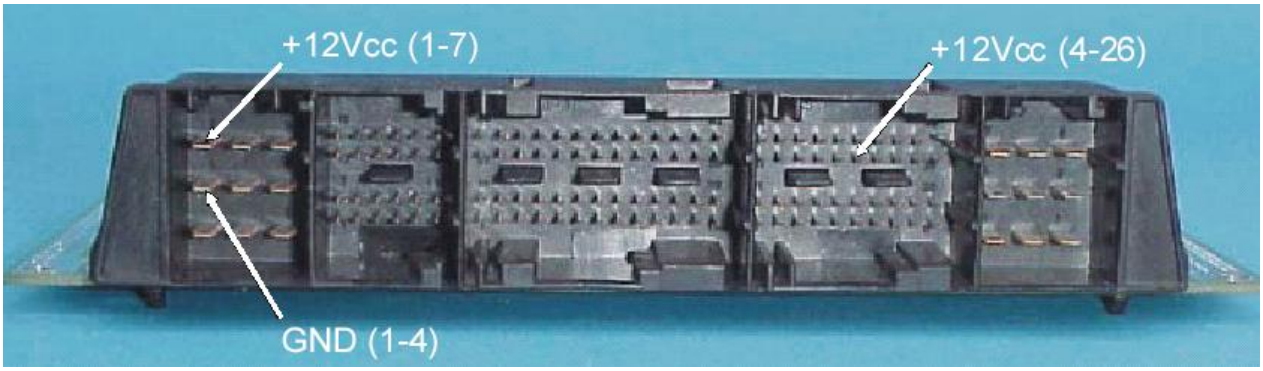
SIEMENS SID206 ECU

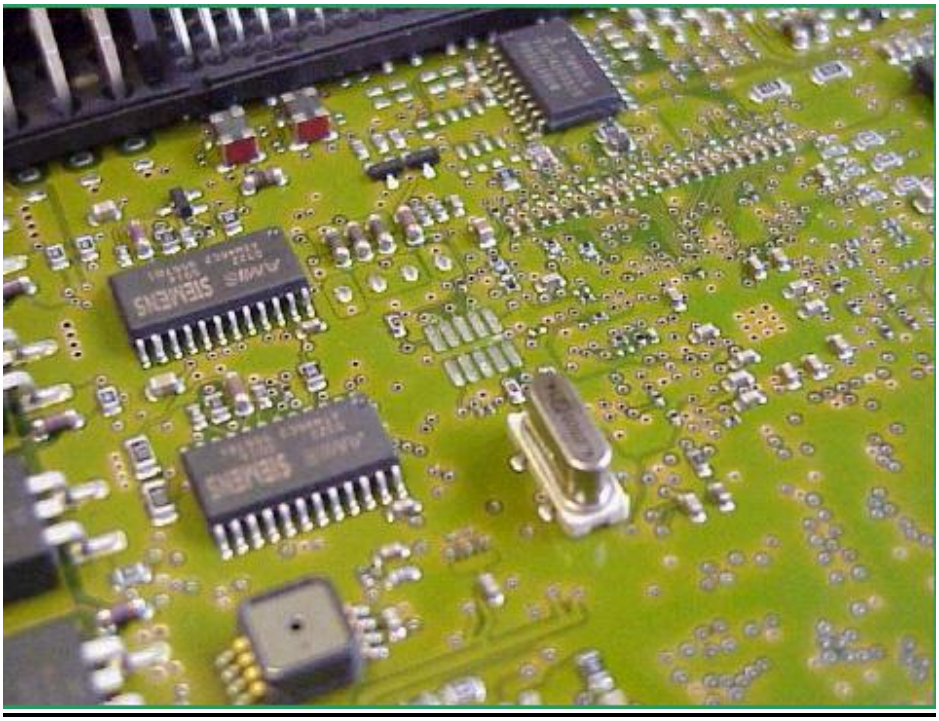




The BDM141 probe contacting the BDM pads on the board of the Siemens SID206 ECU
The position of pin1 you can infer from the BDM141 probe above the pads.
Don't forget to close the jumper (red arrow).

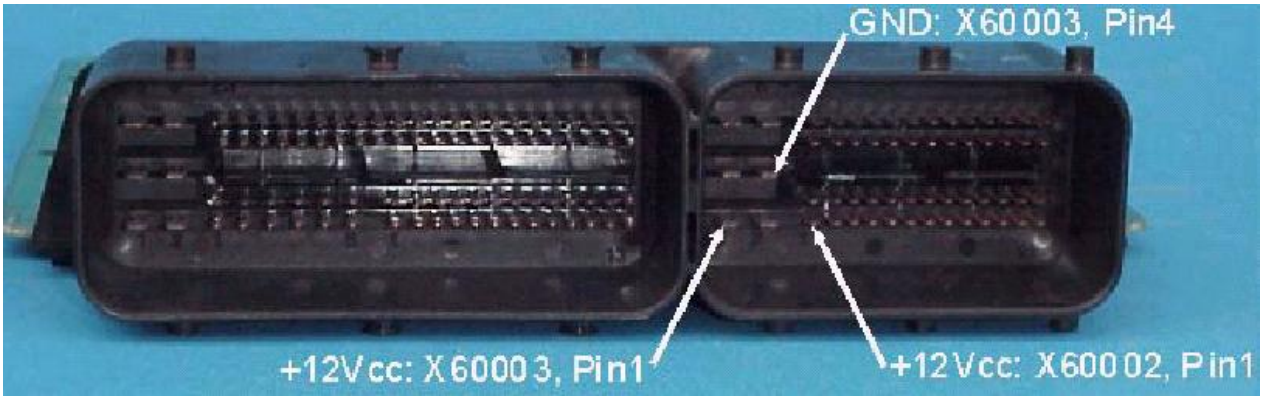
SIEMENS MS45 ECU

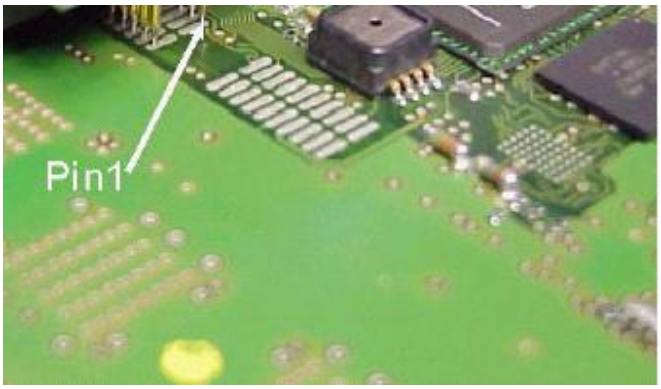




On the MS45 board the BDM-Pads are arranged very centrically.

SIEMENS MSS65 ECU

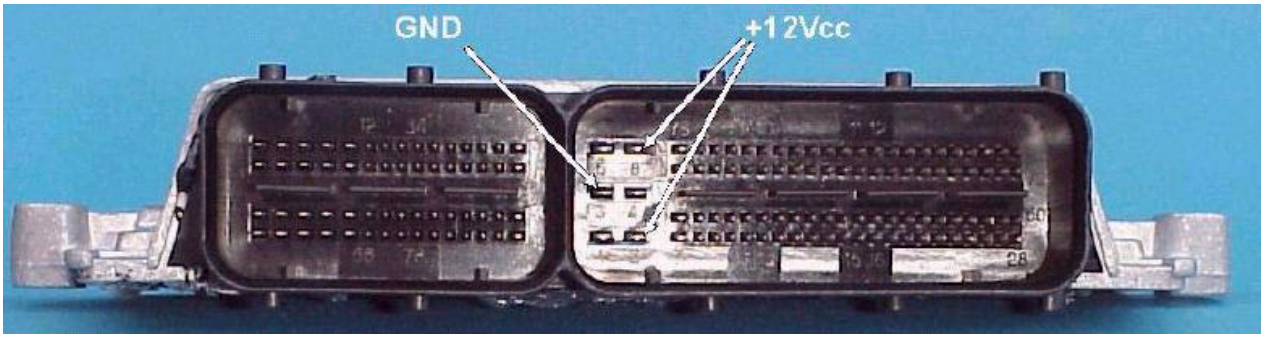


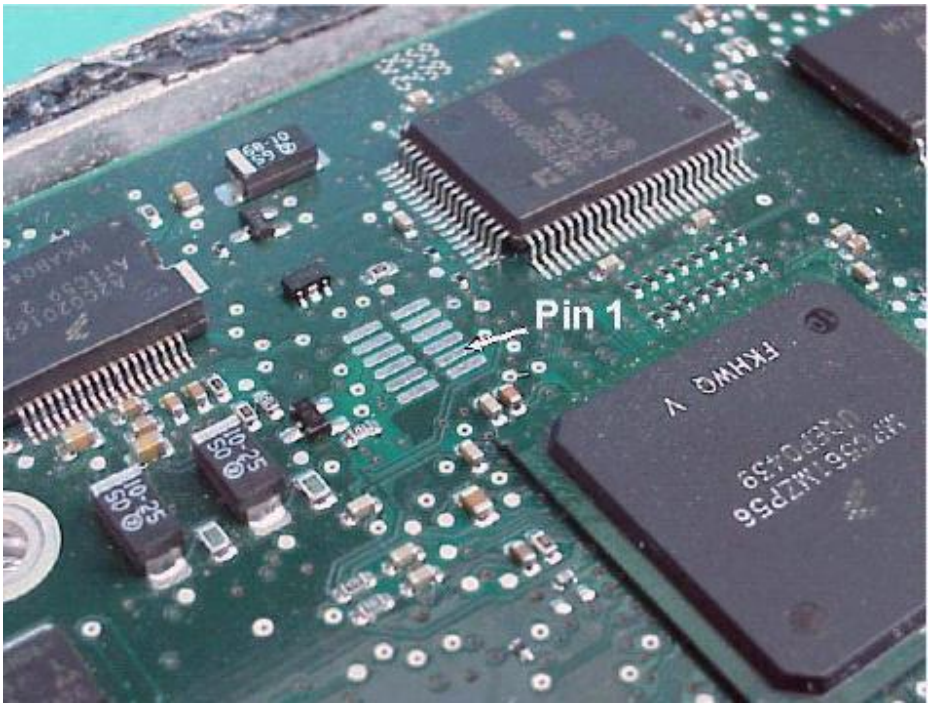


Contacting the BDM pads of the second processor..

On the MSS65 board there are two processors which each own programming port pad arrays. Each array consist of 30 pads but only the first 10 of them are used for BDM purposes.

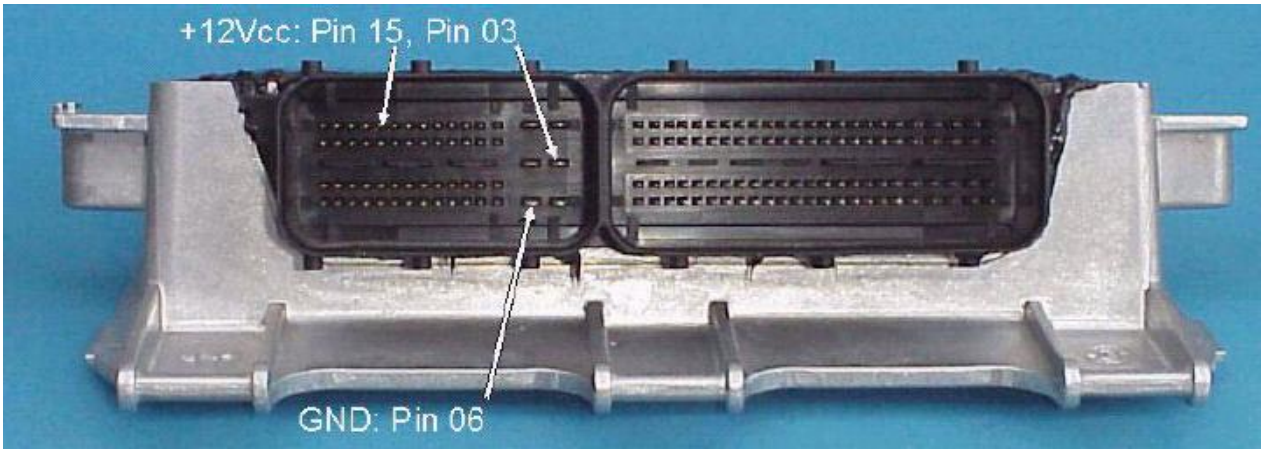
SIEMENS HMC Theta PI ECU

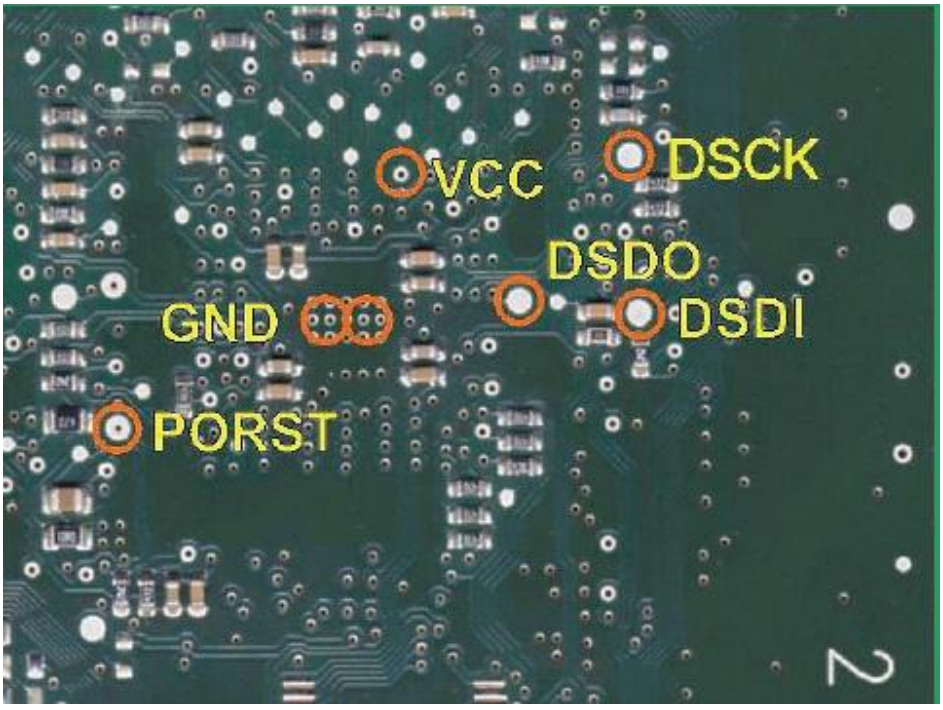




Only ten of the present 12 pads will be used. The extra both are not connected.

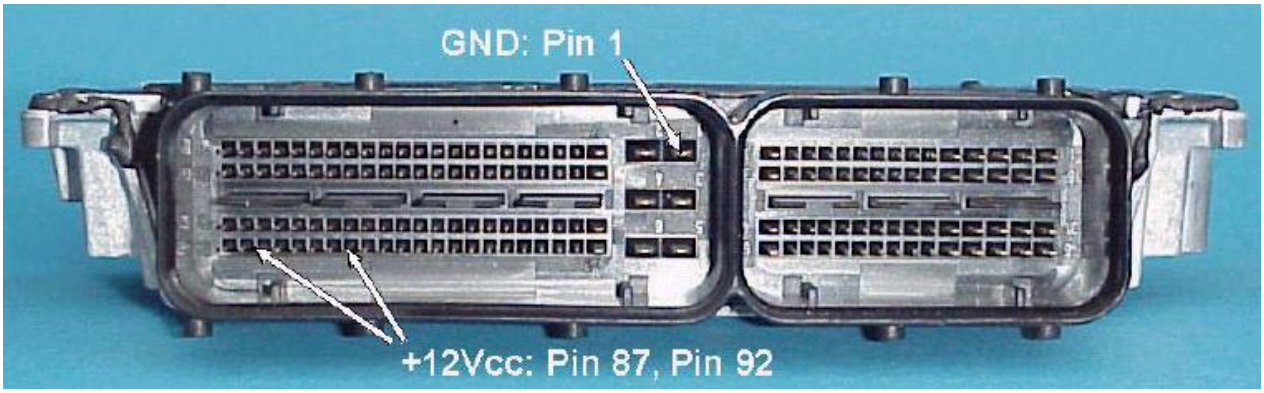
SIEMENS SIM266 ECU

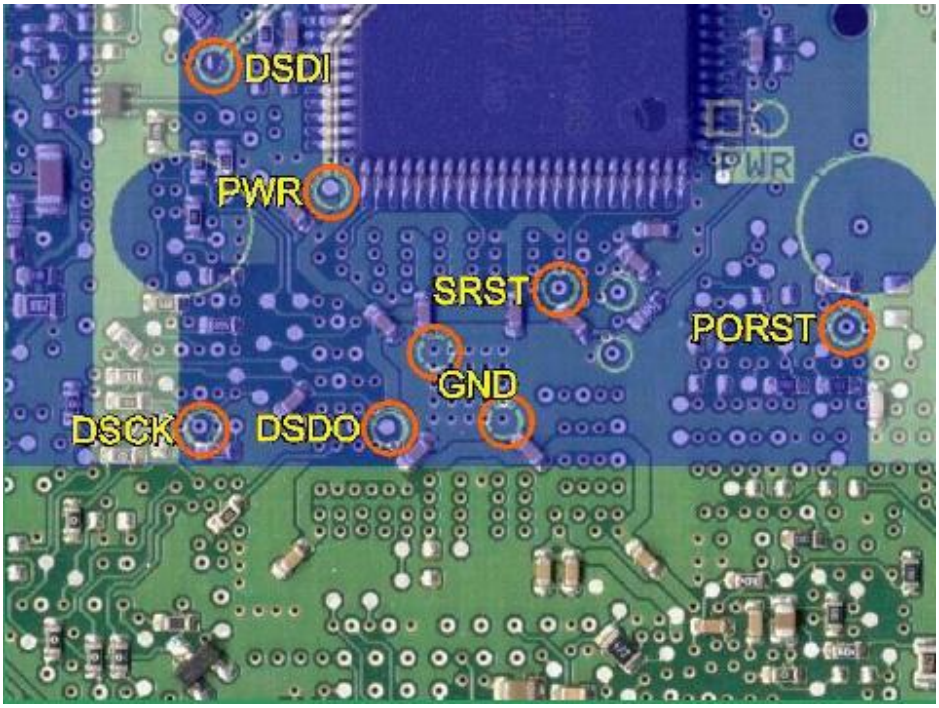




This are the pads which are required for the BDM interface.

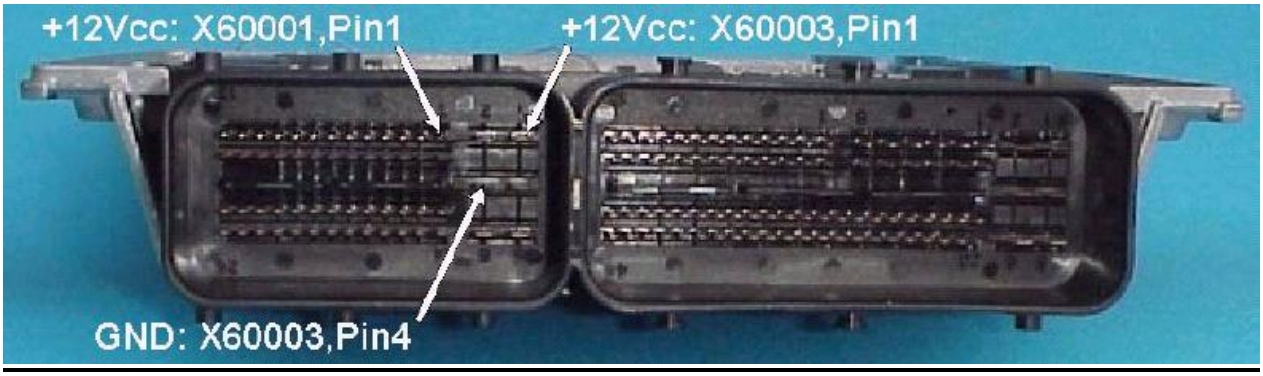
SIEMENS SIMOS – 6.x ECU

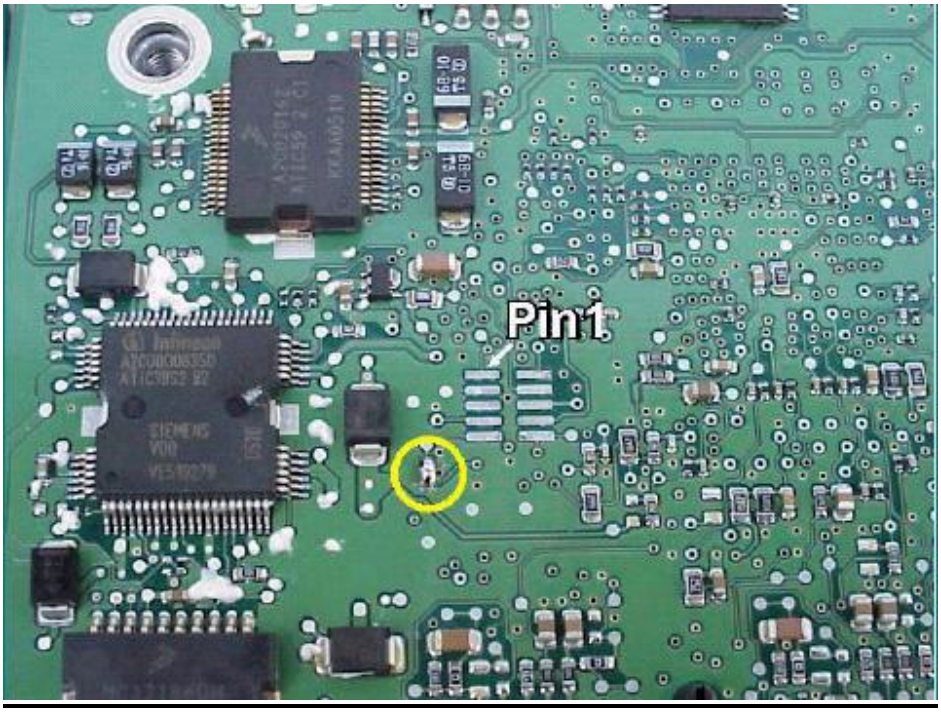




This are the pads which are required for the BDM interface.

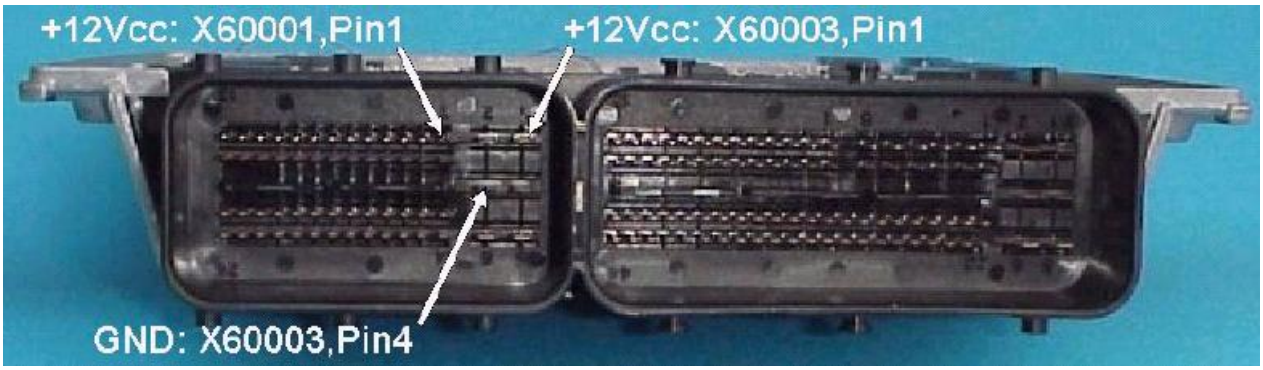
SIEMENS MSV70 ECU

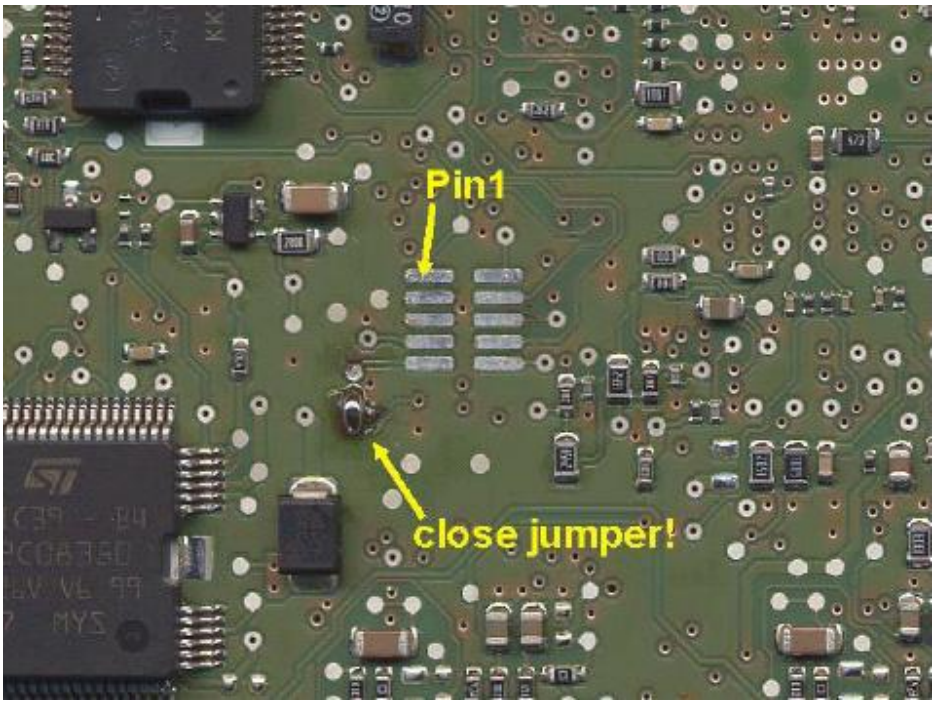




This are the pads which are required fo the BDM interface.
The required jumper is marked by a yellow circle.

SIEMENS MSS70 ECU

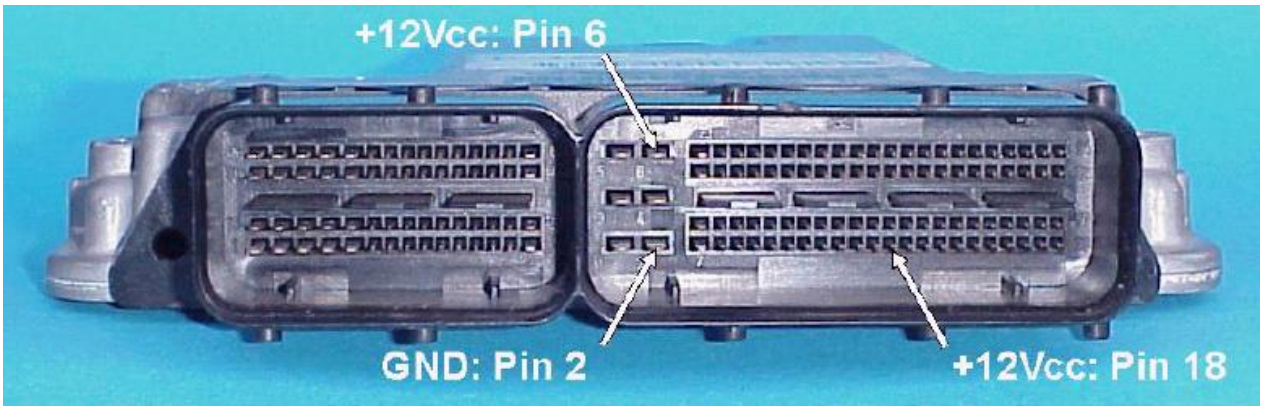


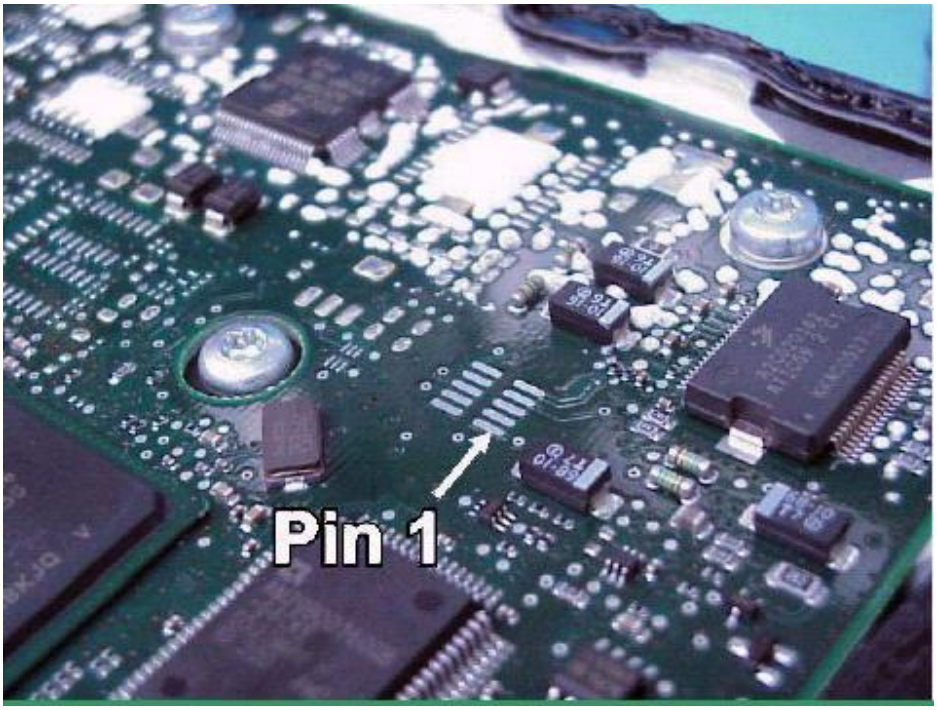


This are the pads which are required fo the BDM interface.

Don't forget to close the jumper pads shown on picture!

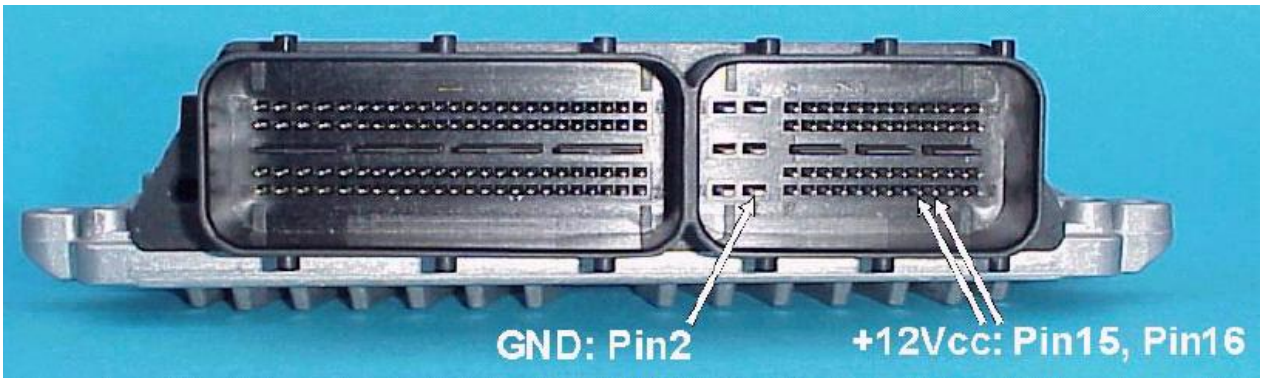
SIEMENS PPD1.1 ECU

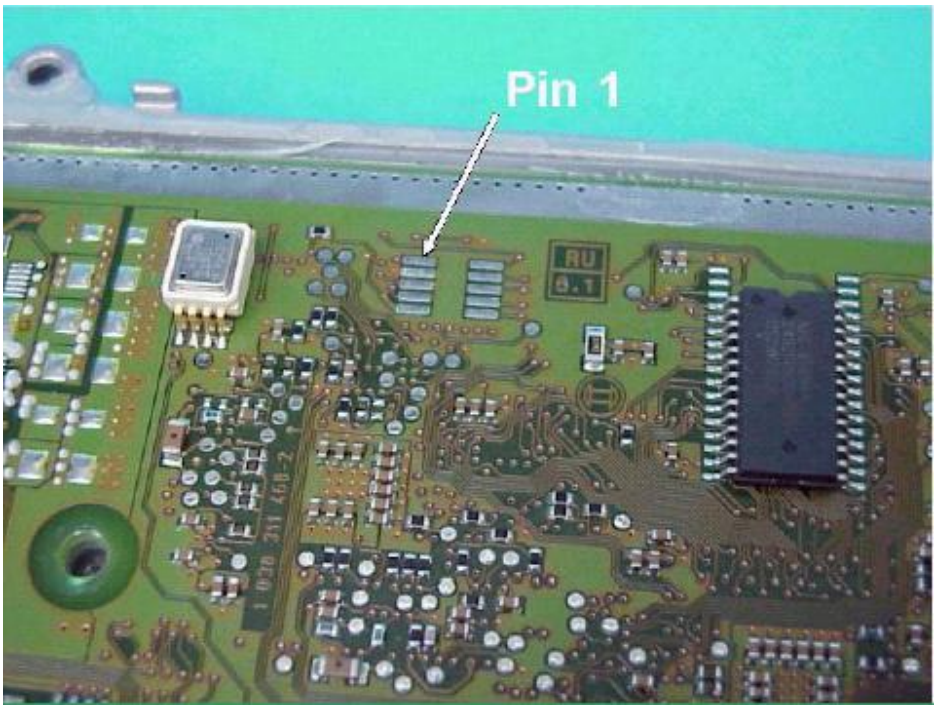




This are the pads which are required for the BDM interface.

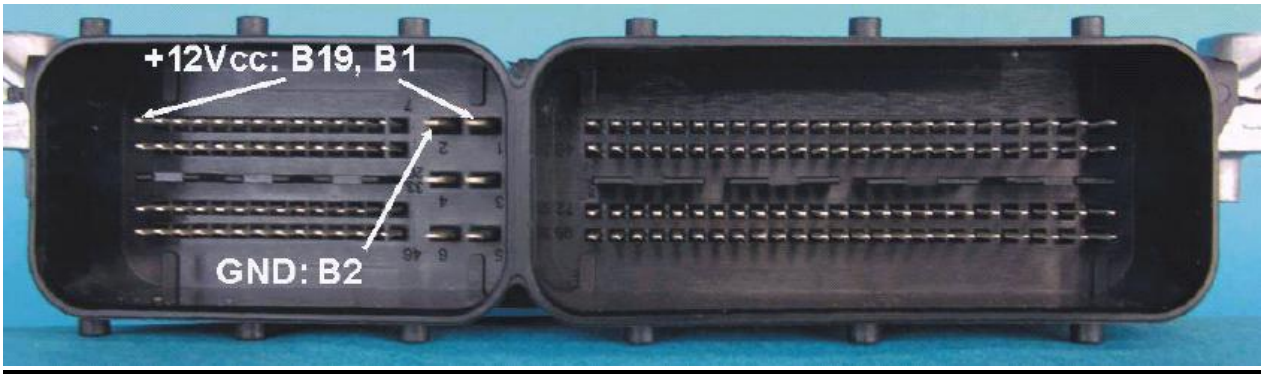
BOSCH ME9.7 ECU

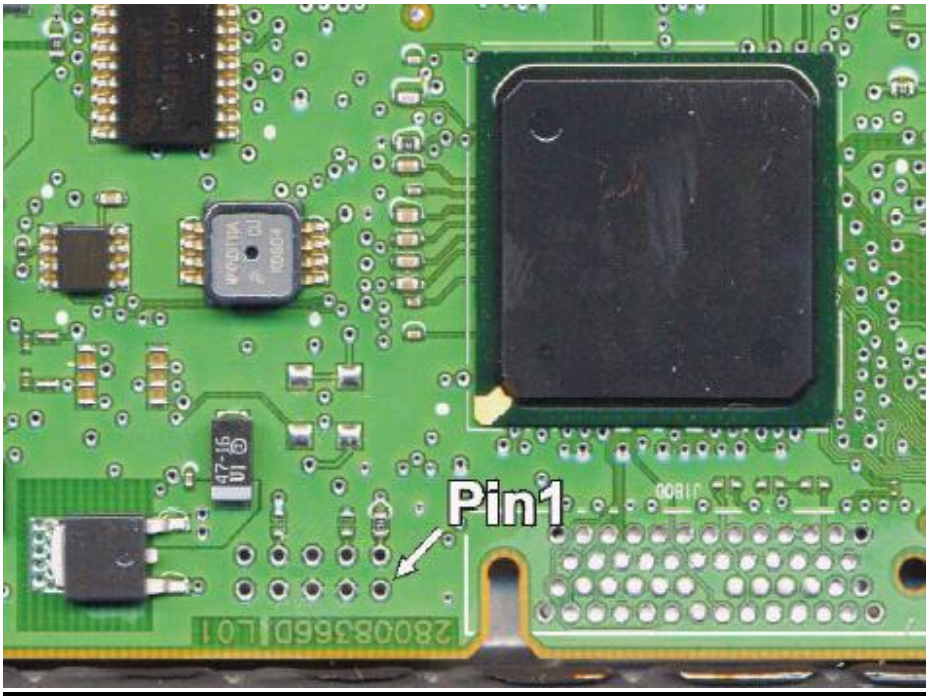




This are the required pads for the BDM Interface.

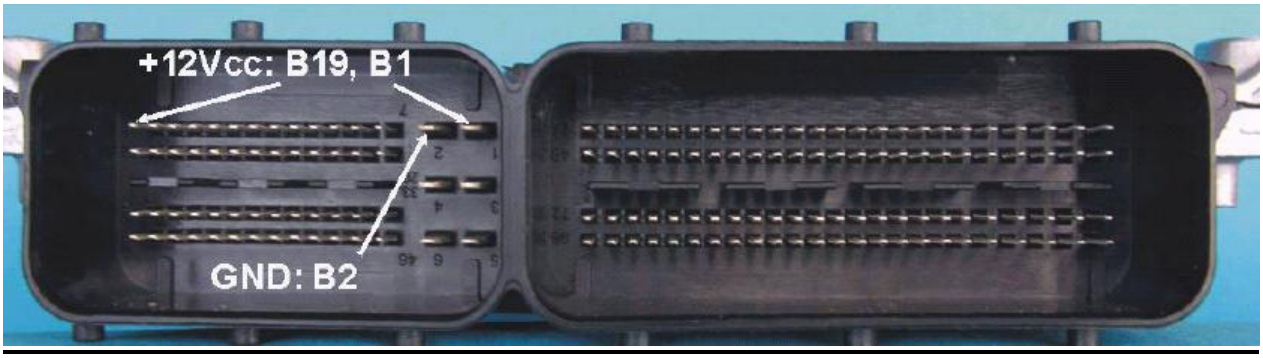
DELPHI DCM3.2 ECU

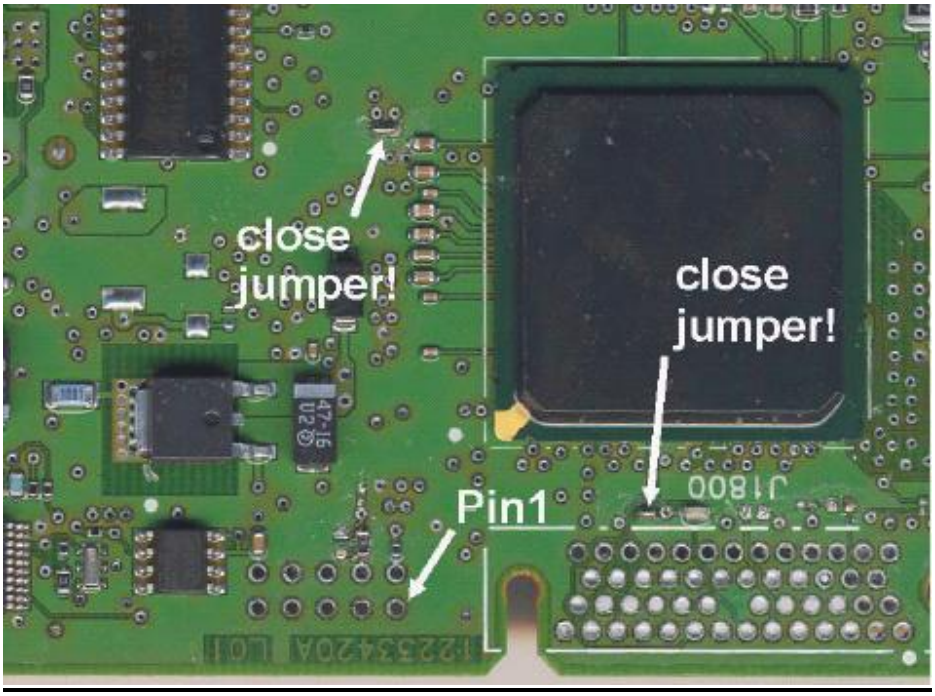




The location of the required Pads.

DELPHI DCM3.X (MB VERSION) ECU





The location of the BDM pads and the two jumpers you have to close first.

The PCB-Layout of the DCM3.2 from MB differs slightly from the other versions.
You have to close two jumpers first before this ECU is readable!

Compared to the standard BDM pin out, the pin out of the BDM-pads on that board is **mirrored**, probably due the board was programmed first in the factory before mounting it into the case.