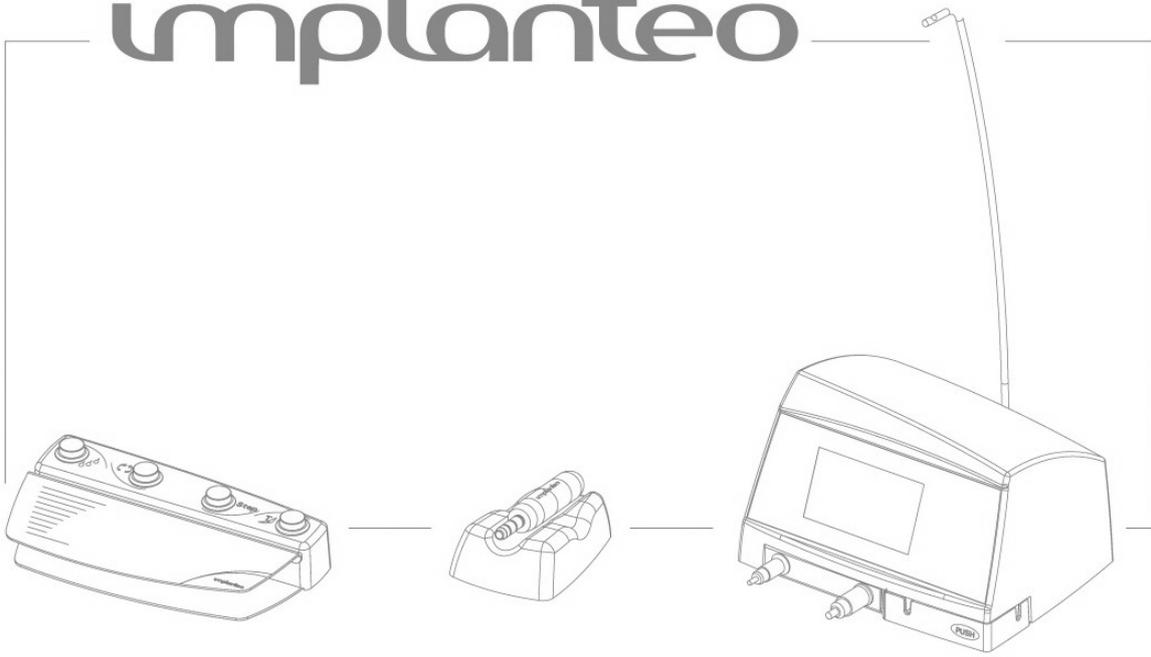


Software Update Protocol

implanteo



1. Présentation

Before you begin, please read this notice completely and make sure that you understand it

To update the software embedded in the implanteo unit, the programs of three microprocessors must be changed.

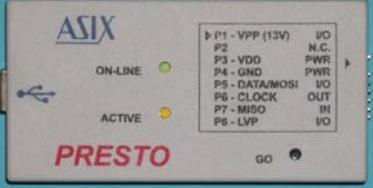
Microprocessor AM188ES: user interface program (IHM).

Microprocessor PIC 16F873A moteur: motor steering program (MOTEUR)

Microprocessor PIC 16F873A dalle: touch screen management program (DALLE)

We have provided you with a program transfer kit that should contain the following elements:

Items required for the update :

<ul style="list-style-type: none"> • This update protocol 																	
<ul style="list-style-type: none"> • A user interface software transfer module (IHM) 																	
<ul style="list-style-type: none"> • A PRESTO transfer module for the software of the motor and screen microcontroller (PIC MOTEUR & PIC DALLE) 	 <table border="1" data-bbox="957 1512 1284 1646"> <tr><td>P1 - VPP (13V)</td><td>IO</td></tr> <tr><td>P2</td><td>N.C.</td></tr> <tr><td>P3 - VDD</td><td>PWR</td></tr> <tr><td>P4 - GND</td><td>PWR</td></tr> <tr><td>P5 - DATA/MOSI</td><td>IO</td></tr> <tr><td>P6 - CLOCK</td><td>OUT</td></tr> <tr><td>P7 - MISO</td><td>IN</td></tr> <tr><td>P8 - LVP</td><td>IO</td></tr> </table>	P1 - VPP (13V)	IO	P2	N.C.	P3 - VDD	PWR	P4 - GND	PWR	P5 - DATA/MOSI	IO	P6 - CLOCK	OUT	P7 - MISO	IN	P8 - LVP	IO
P1 - VPP (13V)	IO																
P2	N.C.																
P3 - VDD	PWR																
P4 - GND	PWR																
P5 - DATA/MOSI	IO																
P6 - CLOCK	OUT																
P7 - MISO	IN																
P8 - LVP	IO																
<ul style="list-style-type: none"> • A USB cable 																	
<ul style="list-style-type: none"> • A transfer cable 																	

<ul style="list-style-type: none"> • An Allen key for disassembly and reassembly of the casing 	
<ul style="list-style-type: none"> • 5*20 T4AL fuses to be replaced 	

Items that may need to be replaced :

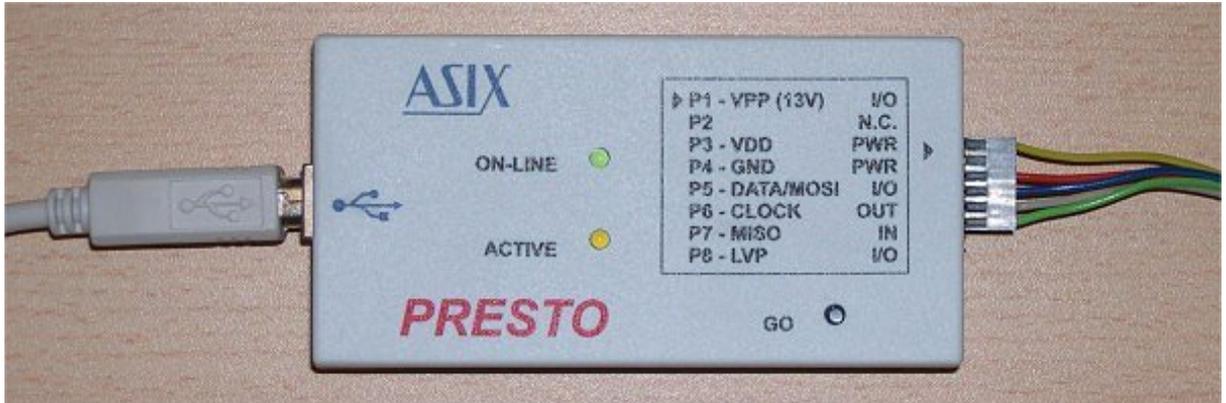
<ul style="list-style-type: none"> • Screws BHC M3-10 	
<ul style="list-style-type: none"> • Washers 	
<ul style="list-style-type: none"> • Jumper 	
<ul style="list-style-type: none"> • Inserts 	
<ul style="list-style-type: none"> • Adhesive 	

To use this equipment, you must have a PC with a serial port and a USB port. This PC is not supplied.

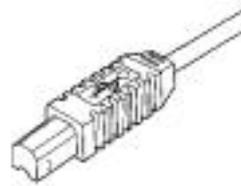
To install the software associated under Windows NT, 2000 and XP pro, you must have administrator rights

2. Operation of the programmers

a. PIC PROGRAMMER

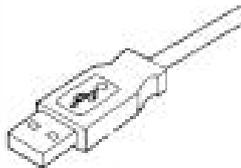


- Connect the USB cable to the programmer



Series-B connector

- Connect the transfer cable to the programmer
- Install the software (see annexe A)
- Connect the other end of the USB cable to the computer



Series-A connector

b. IHM (USER INTERFACE) PROGRAMMER



- Connect the programmer to serial port COM1 of the computer

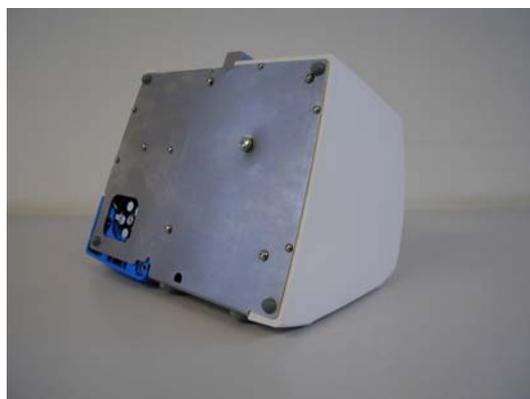


- Install the software (see annexe B)

3. Opening the unit

Unscrew the six screws that retain the plastic cover by means of the Allen key.

- If needed, disconnect the pedal, the motor and the power cord
- Put the unit in the position indicated in the next photo

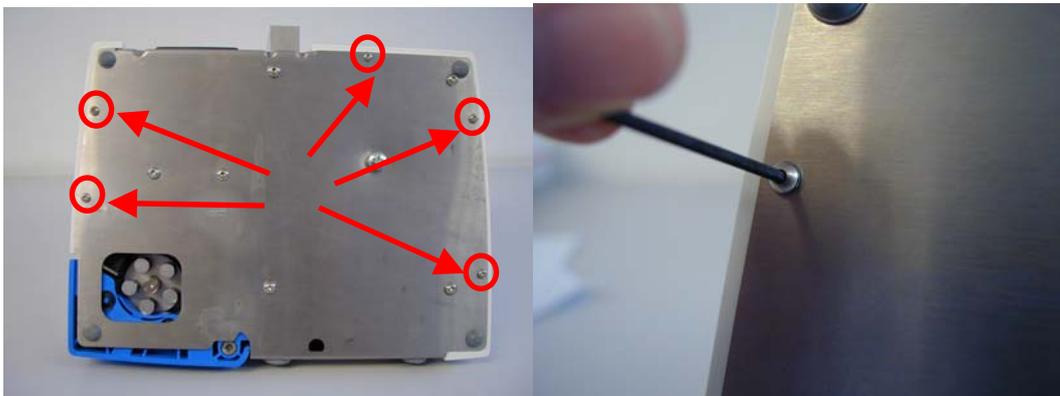


Start by removing the screw located in the opening

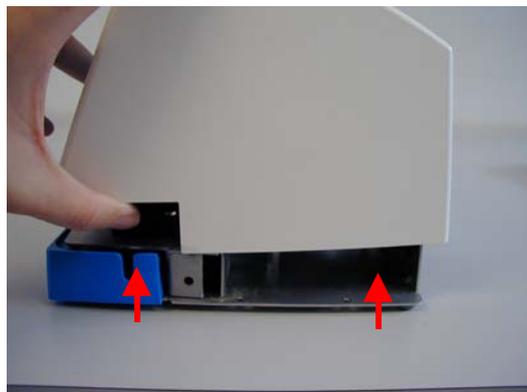




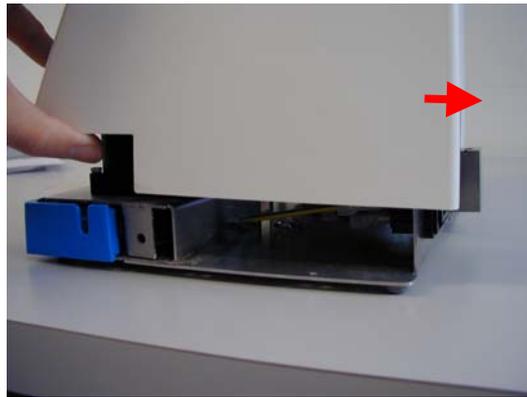
- Then, unscrew the five other BHC M3-10 screws



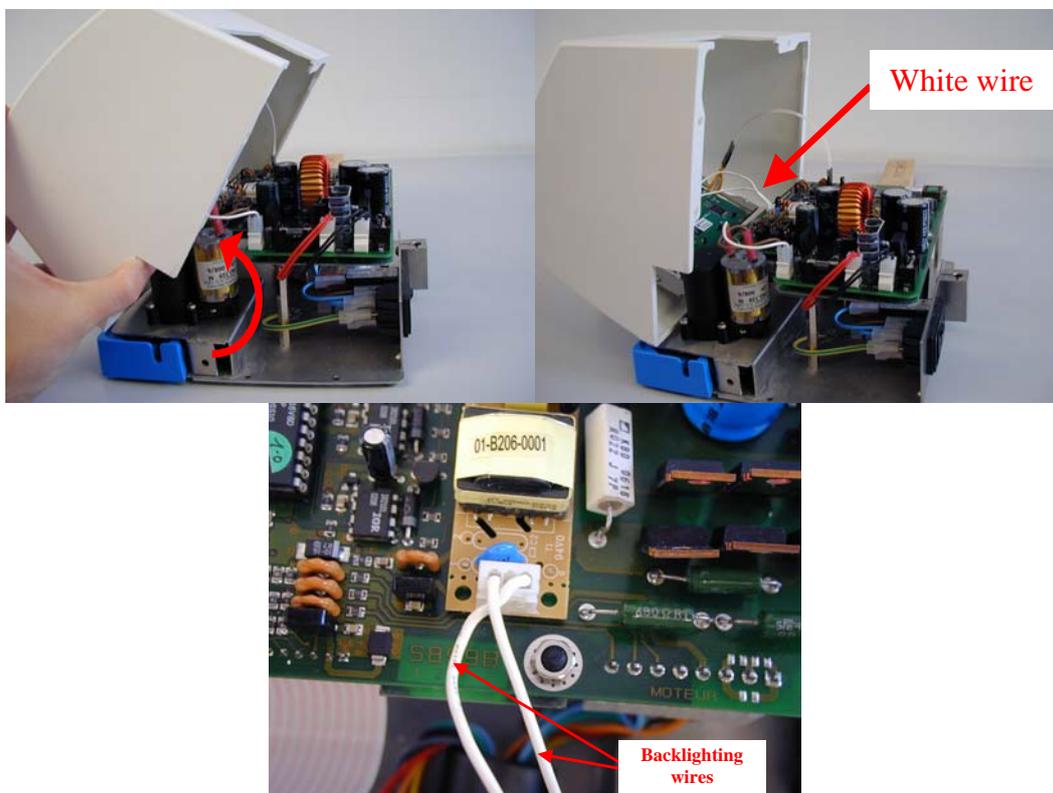
- Put the unit back in its normal position
- Be careful not to damage the cables when removing the plastic cover
- To facilitate this operation, you may use a small shim that you place at the front of the unit
- Place yourself in front of the unit (screen facing you)
- Place your hand on the side of the unit
- Lift the cover about two centimetres



- Push the cover slightly backwards

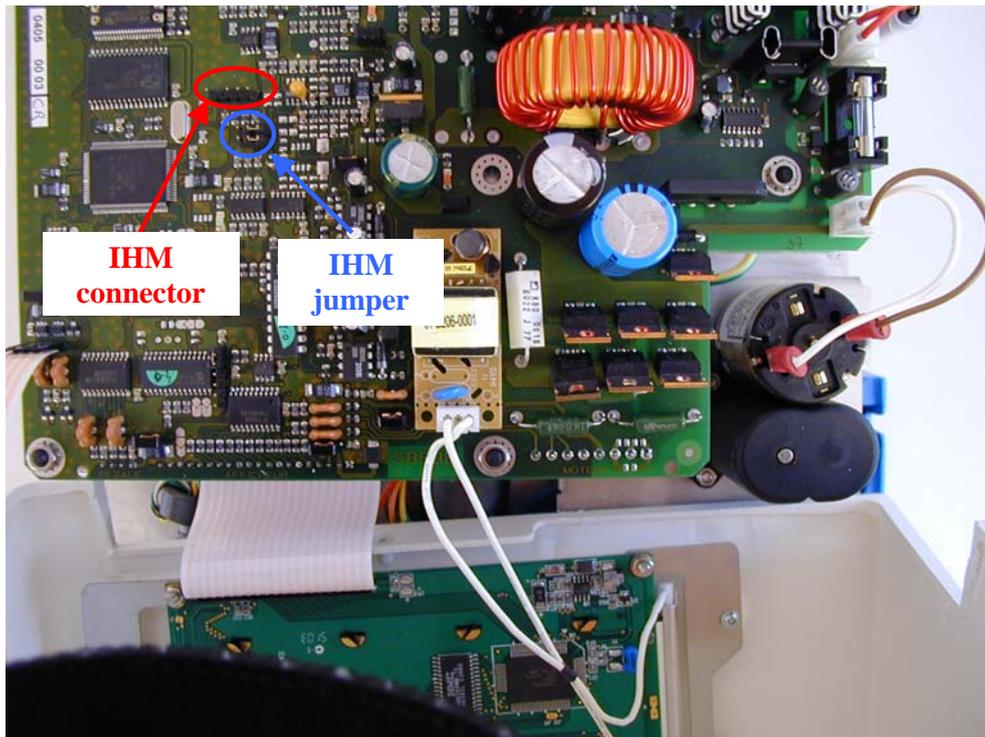


- Tilt the cover towards you. Pay attention not to damage the white wire of the backlighting wires

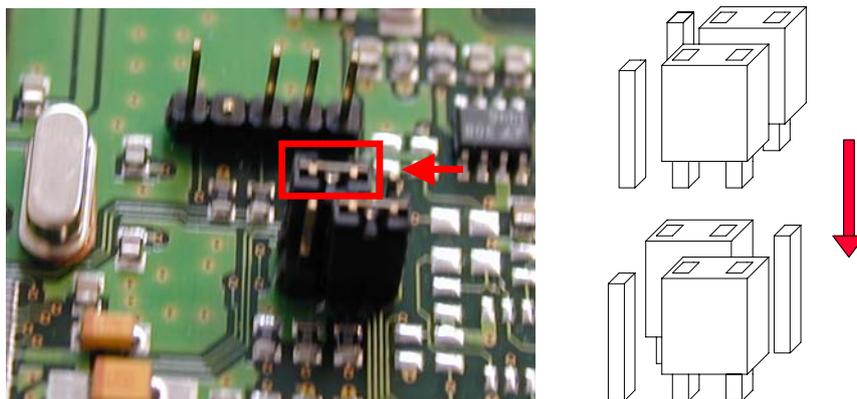


4. Loading of the user interface (IHM) software

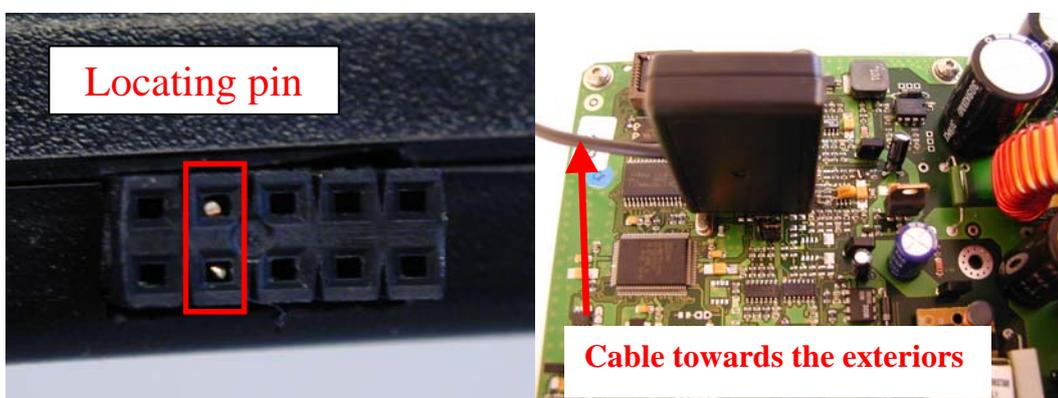
- Identify the IHM connector and the IHM jumper



- Put the IHM programming jumper in the indicated position



- Connect the programming connector of the IHM programmer. Pay attention to the locating pin.



- Verify if the voltage selector indicates the correct voltage



- Connect the unit to the power supply



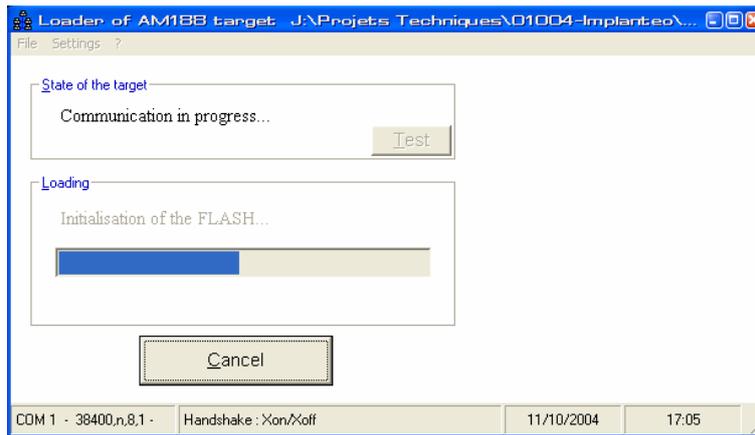
- Switch on the unit

WARNING : The unit is energized. Switch off the unit before handling the jumpers or the connections

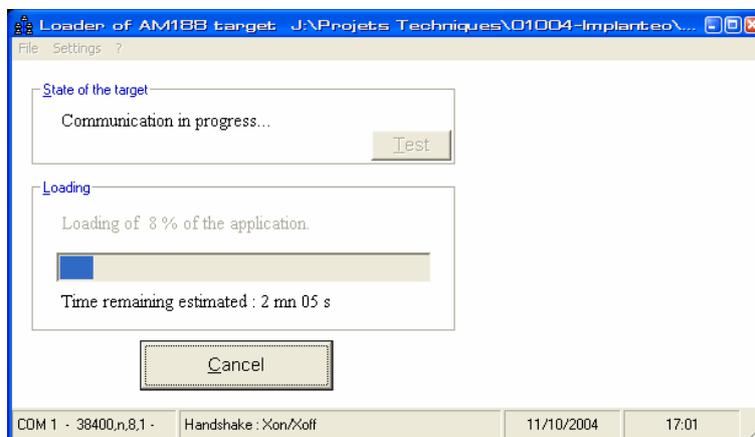
- Launch the loader188 program



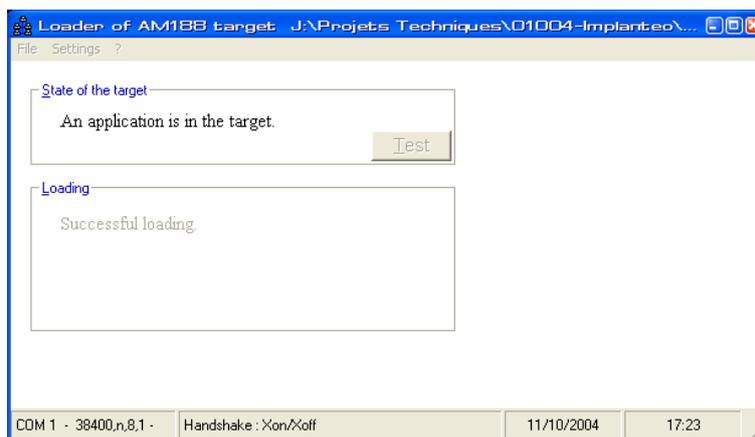
- Double-click on the loader 188 icon



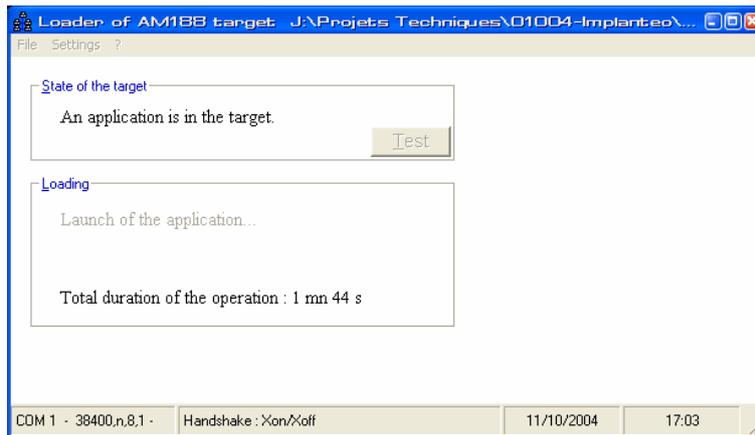
- The program checks if the programmer is enabled



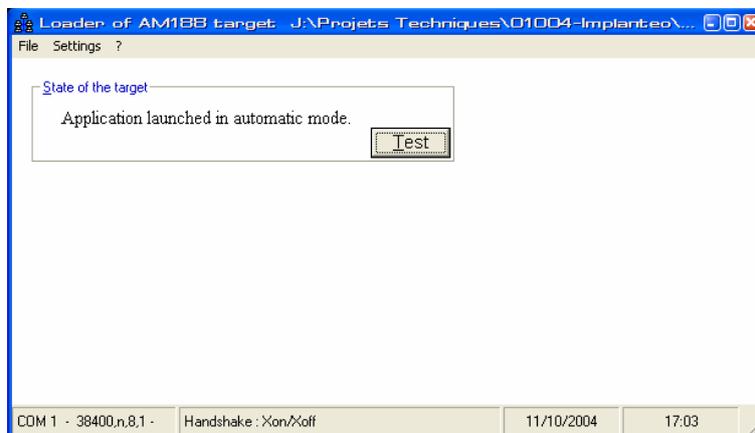
- The program automatically starts the transfer



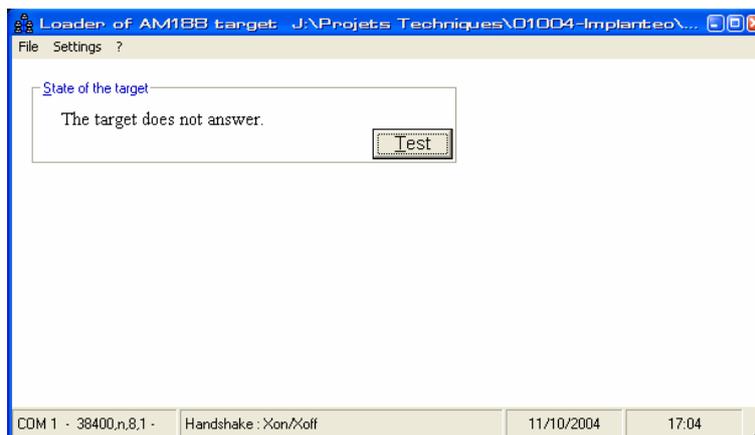
- The program checks if loading was successful



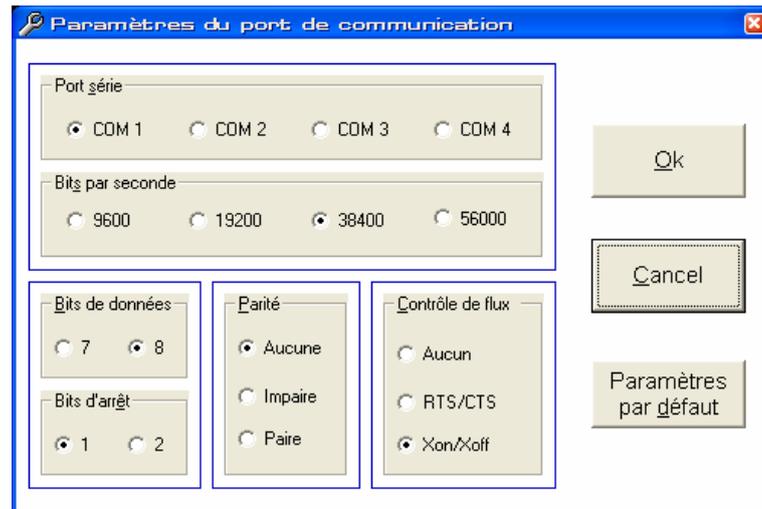
- The implanteo is launched in automatic mode



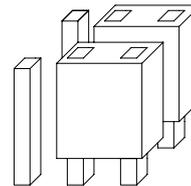
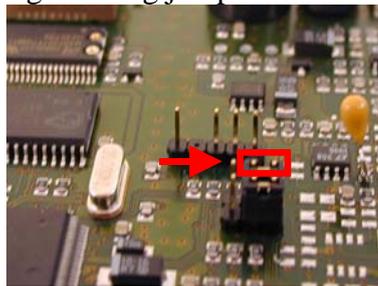
- If this screen appears, the transfer was successful



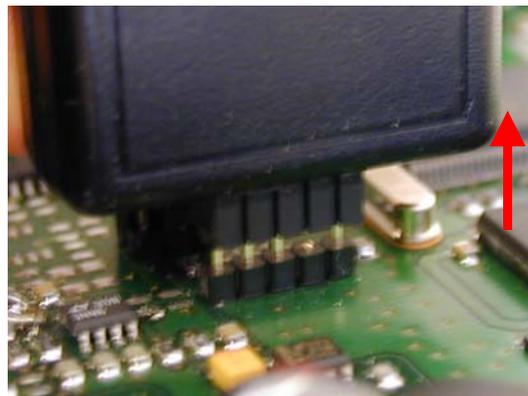
- Otherwise, this screen appears, then :
 - verify if the jumper is properly connected
 - verify if the connector is connected
 - verify if the IHM programmer is properly connected to the PC
 - verify if the unit is switched on
 - configure the utilized COM port if it differs from COM1
 - to configure the COM port, select the settings menu



- select the utilized COM port (COM1, COM2, COM3 or COM4)
 - to check again, switch off the unit and switch it on again
- Switch off the unit
 - Put the IHM programming jumper back in its initial position



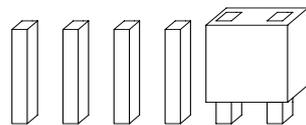
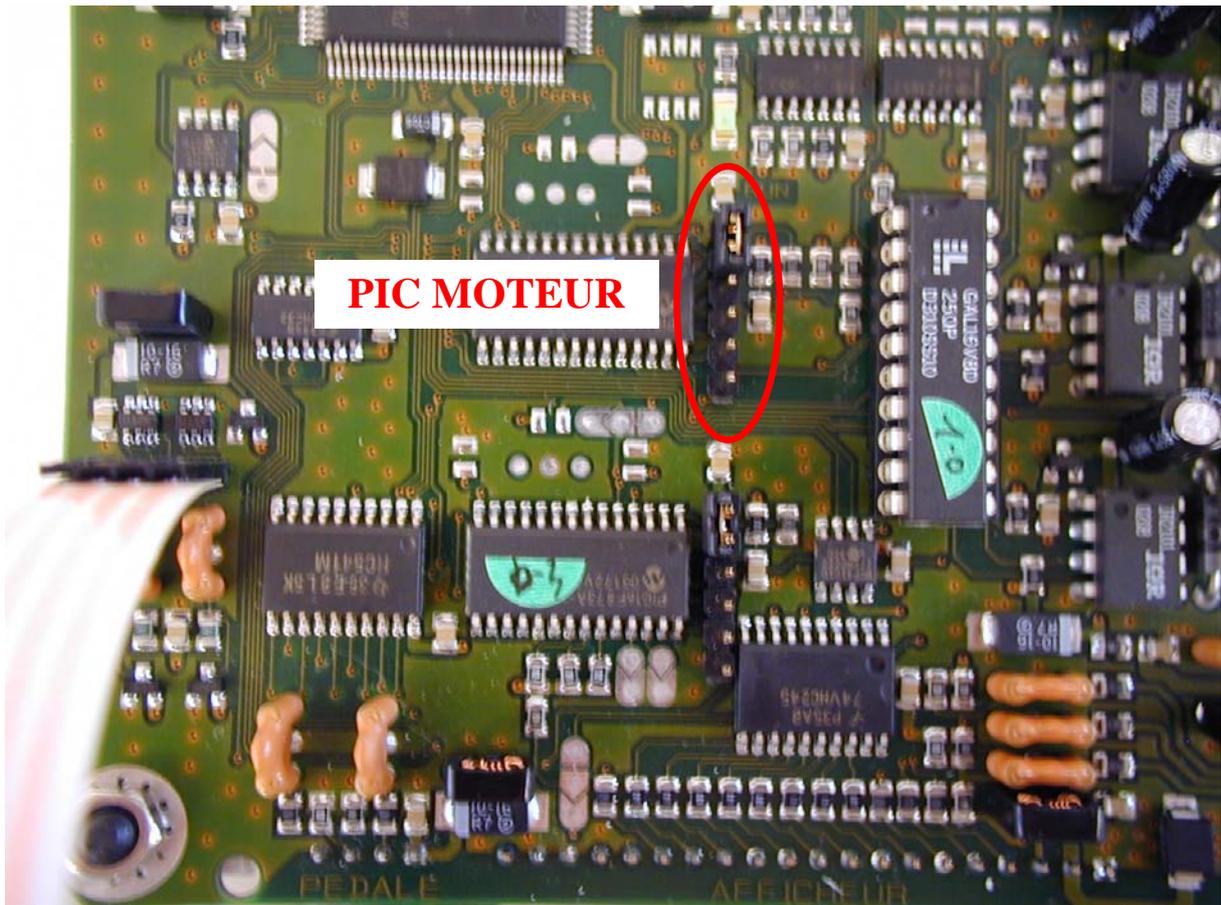
- Remove the programming connector from the board



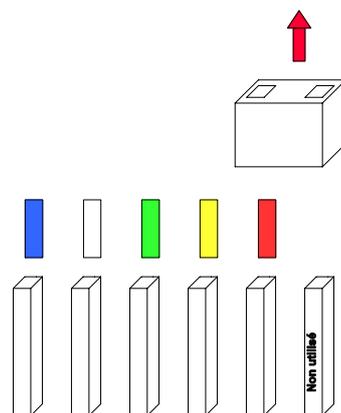
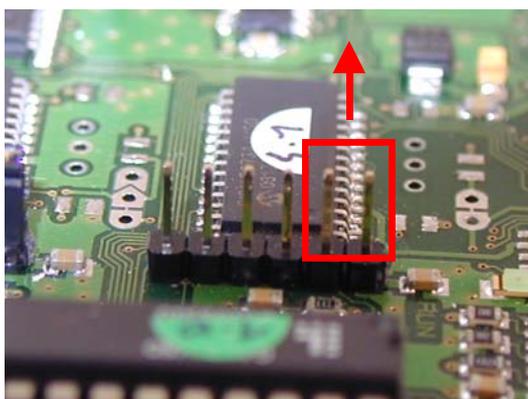
- Close the loader 188 program

5. Loading of the PIC Moteur software

- Identify the PIC MOTEUR connector

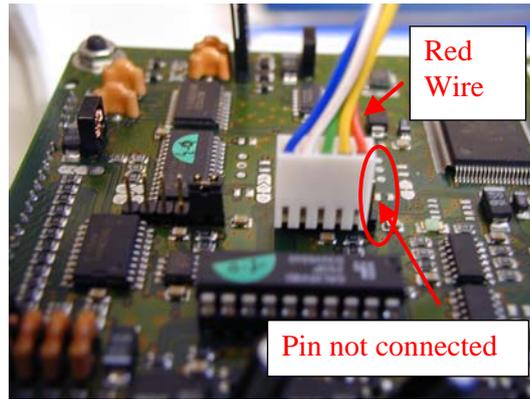


- Make sure that the unit is switched off
- Remove the jumper



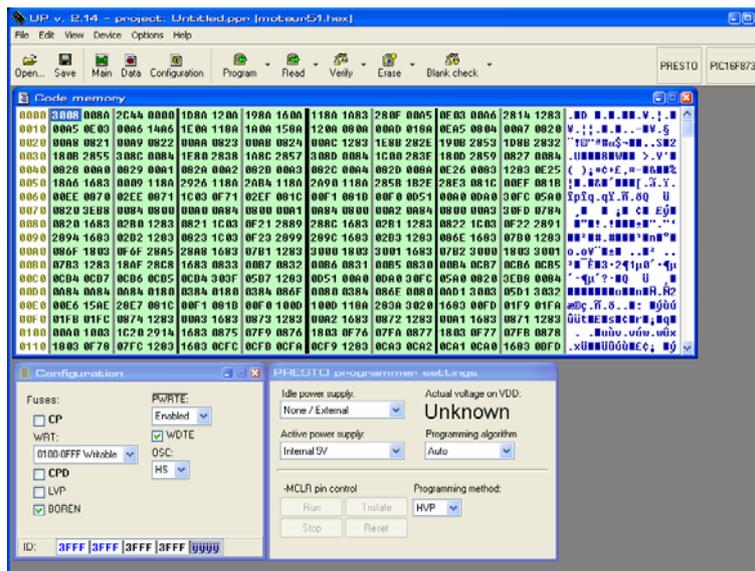
- Connect the programming connector of the PRESTO programmer on the PIC Moteur connector. Pay attention to the direction (see photo)

WARNING : There is no locating pin



The right pin on the right of the connector must remain unconnected!
Red wire near the unconnected pin side

- Launch the program ASIX UP(PRESTO)



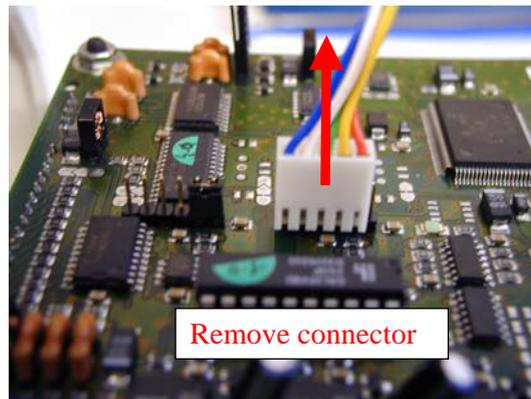
- Select the moteur.hex file locate on CD ROM In IMPV6_3 directory



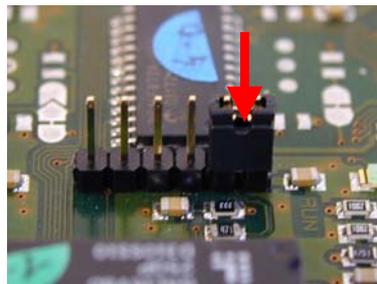
- Click the Program icon on the menu bar or push GO button, on the Programmer.



- Verify if loading was successful
- Remove the programming connector

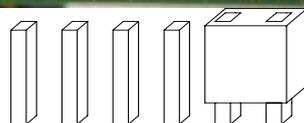
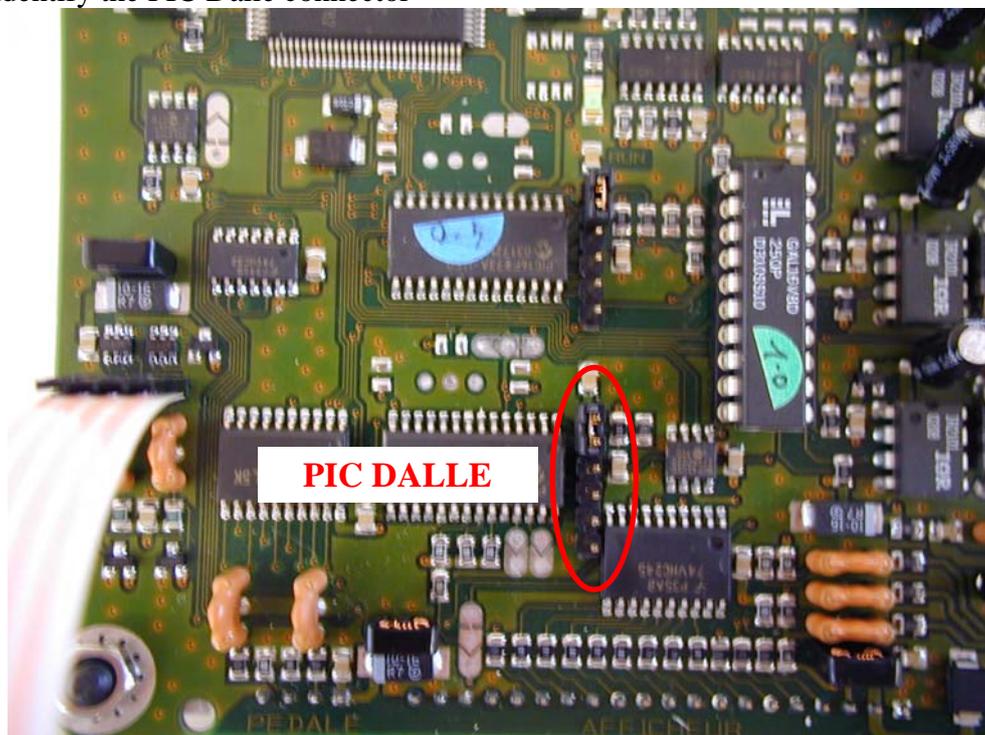


- Replace the jumper



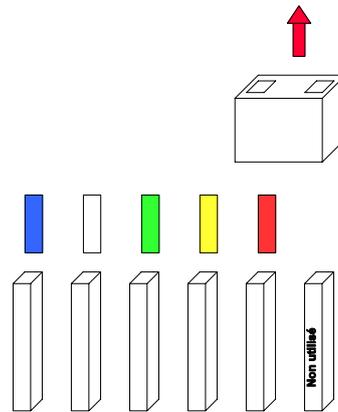
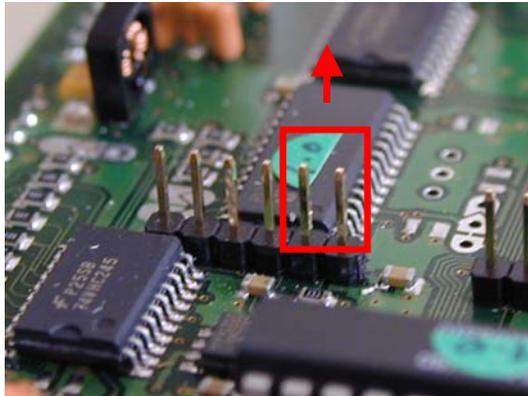
6. Loading of the PIC Dalle software

- Identify the PIC Dalle connector



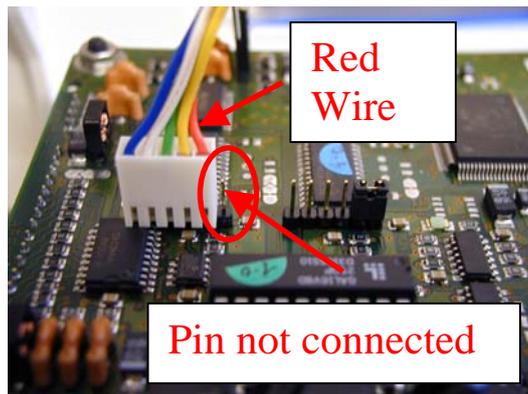
- Make sure the unit is switched off

- Remove the jumper



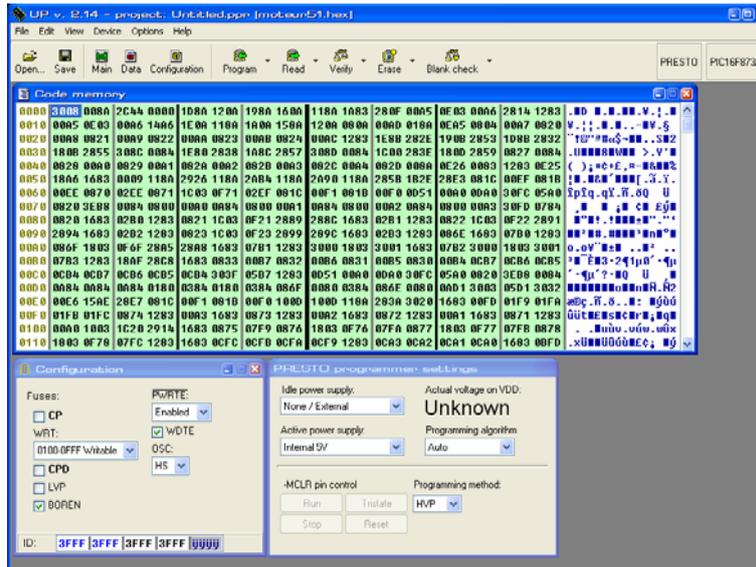
- Connect the programming connector of the PRESTO programmer on the PIC Dalle connector. Pay attention to the direction

WARNING : There is no locating pin



The right pin on the right of the connector must remain unconnected!
Red wire near the unconnected pin side

- Open the program ASIX UP(PRESTO)



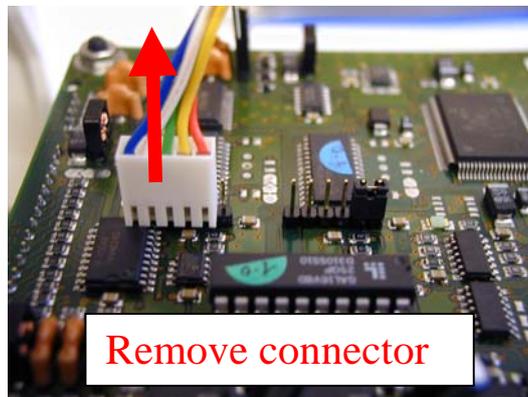
- Select the dalle.hex file locate on CD ROM In IMPV6_3 directory



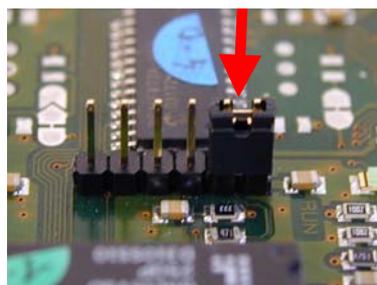
- Click the Program icon on the menu



- Verify if loading was successful
- Remove the programming connector

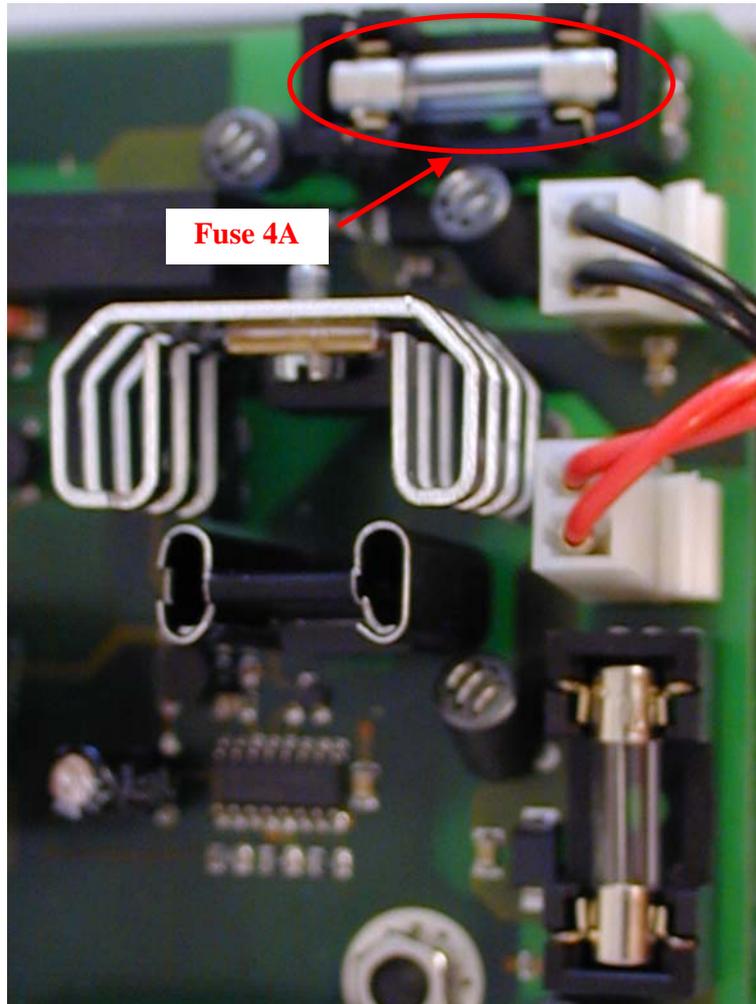


- Place the jumper back



7. Replacement of the fuse 4A

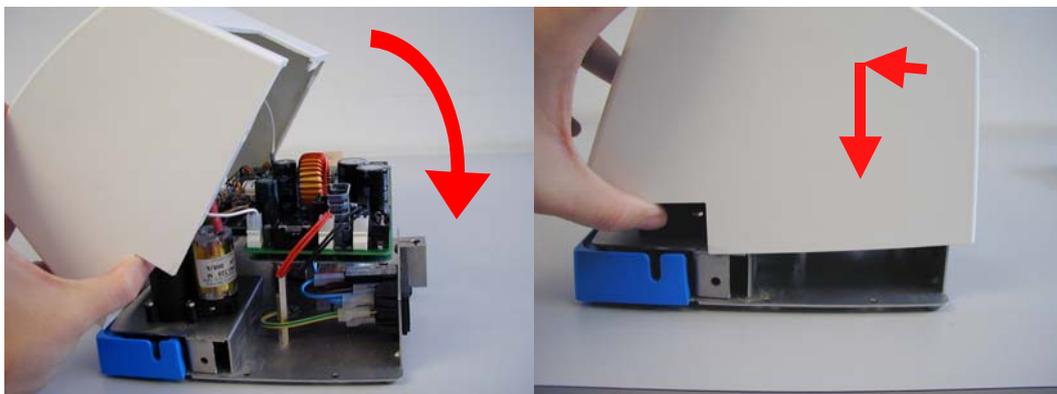
- Make sure the unit is switched off
- Identify fuse 4A



- Pull out the fuse
- Replace it with the supplied fuse T4AL

8. Check

- Replace the plastic cover on the unit



- If necessary, connect the unit to the power supply



- Switch on the unit
- Check the implanteo display



As of version 5.1 of the main implanteo software (IHM), the three software versions appear on the screen in the order IHM / PIC MOTEUR / PIC DALLE
If the system does not display 6.3 for IHM, IHM loading must be recommenced. The same applies to PIC MOTEUR 5.2 or PIC DALLE 4.2



- The protocol selection screen must appear, otherwise, the system locks on the previous screen
- Switch off the unit

9. Reassembly

- Unplug the power cord



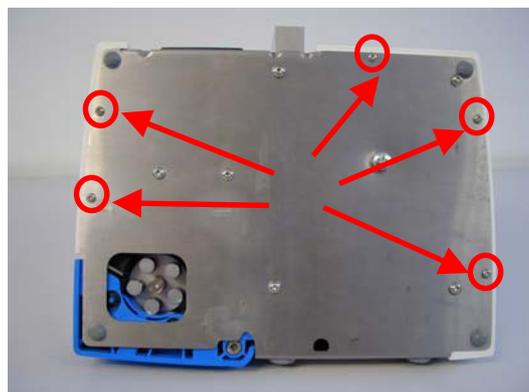
- Put the unit in the position indicated in the next photo



- Make sure the cover fits properly
- Place a screw in the opening. Do not tighten, all screws will be tightened in the end.



- Place the other screws



- Tighten the screws
- Warning / do not overtighten in order not to damage the plastic cover inserts
- If necessary, change the inserts :
 - Remove the insert
 - Replace the insert by gluing it with the Loctite 406 adhesive that came with the kit
- Damaged screws should also be replaced

10. **Pedal setting**

- Connect the power cord to the unit



- Connect the pedal to the unit



- Initialization and check

To commence the initialization stage, press the centre of the screen for about 30 seconds once the unit is energized



- Setup of the touch screen

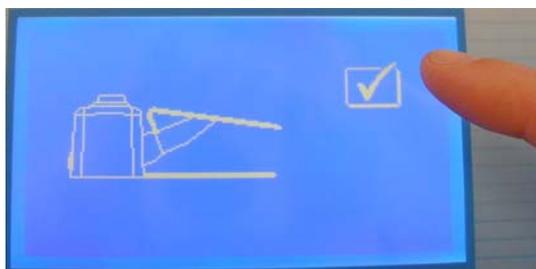
The first step of the initialization stage consists of setting up the touch screen by successively selecting the enabled keys that appear on the screen



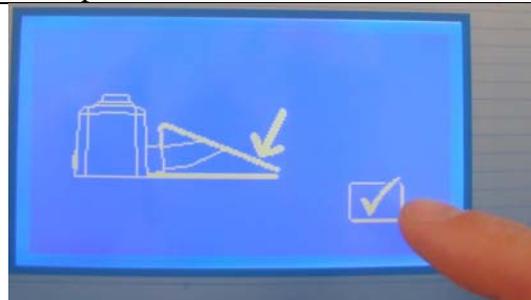
- *Pedal calibration*

The second step is to calibrate the pedal by pressing the enabled key that corresponds with the position of the pedal (down or up)

WARNING : This operation must be performed with the pedal that will be used with the unit



Pedal up



Pedal down



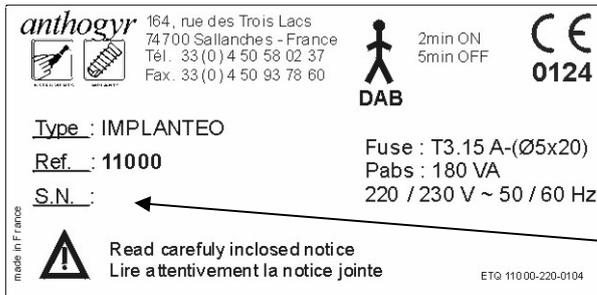
Then set the contrast

- Check

With the power on, check if a 'pedal not present' message appears when you disconnect the pedal

11. **Completing the software-traceability**

- Note the serial number (S/N) located at the back of the unit and fill in the traceability card



Note this number