## **007 - UPDATING FIRMWARE**

The firmware that runs on the controller board of the printer is open source. This means everybody who wants can download, change, compile and upload changed code to the printer.

(Velleman will only give support to the stock firmware and to updates of the firmware that Velleman issues. You will NOT void your warranty if you change your firmware. You can always revert back to the stock firmware following the instructions below.)

To view, change, compile and upload the firmware to the controller board you will need the Arduino software.

You can find the download link and install instructions on this page:

## http://arduino.cc/en/Main/Software

You will also need the source code of the firmware, you can download it in the download sections of this website.

When you start the Arduino software make sure the board is powered and connected to the computer (driver must be installed) and that the Repetier software is closed.

You should see something like this:



Click File -> Open and in the firmware folder you downloaded select the "Marlin.ino" file.

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<pre>/* -*- c++ -*- */ /*     Reprap firmware based on Sprinter and grbl. Copyright (C) 2011 Camiel Gubbels / Erik wan der Zaim This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version. This program is distributed in the hope that it will be useful, but WITHOUT ANY WARANTY; without even the implied warranty of MEPCHANTABLITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details. You should have received a copy of the GNU General Public License along with this program. If not, see <a href="https://www.gnu.org/licenses/&gt;">https://www.gnu.org/licenses/&gt;"/"/"&gt;https://www.gnu.org/licenses/&gt;"/"/"</a> This firmware is a mashup between Sprinter and grbl. (https://github.com/slment/Sprinter) (https://github.com/simen/grbl/tree)</pre>							. 8
<pre>It has preliminary support for Hatthew Roberts advance algorithm     http://reprap.org/pipermail/reprap-dev/2011-May/003323.html */ finclude "Marlin.h" finclude "ultralcd.h" finclude "planner.h" finclude "stepper.h" finclude "temperature.h" finclude "motion_control.h" finclude "wastchdoy.h"</pre>							
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Before making any changes make sure that you selected the right board. This setting can be found under:

Tools - > Board -> Arduino Mega 2560 or Mega ADK



Now you can check if the source code compiles correctly, press the "Verify" button.



If everything went correct you should see a "Done compiling" message at the bottom of the window.



Now select the correct COM port your board is on. This setting can be found under:

## **Tools -> Serial Port**

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Before we can flash the board we need to short the pins on the JPROG connector. You can do this by putting a screwdriver between the pins. **Be sure to do this continually while the Arduino software is programming the board.** 



Press the "Upload" button to program the board via USB.



You should see the LEDs flash for a while and when it's all done the Arduino software should show "Done uploading"

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Reprap firmware based on Sprinter and orbl.			
Copyright (C) 2011 Camiel Gubbels / Erik van der Zalm			
Due program is free software: you can redistribute it and/or modify			
it under the terms of the GNU General Public License as published by			
the Free Software Foundation, either version 3 of the License, or			
(at your option) any later version.			
This program is distributed in the hope that it will be useful,			
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You should have received a copy of the GNU General Public License			
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This firmware is a mashup between Sprinter and grbl.			
(https://github.com/kliment/Sprinter)			
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