

## Hobby King 20A ESC 3A UBEC (F-20A, Atmel chip) Brushed mod

### Requirements

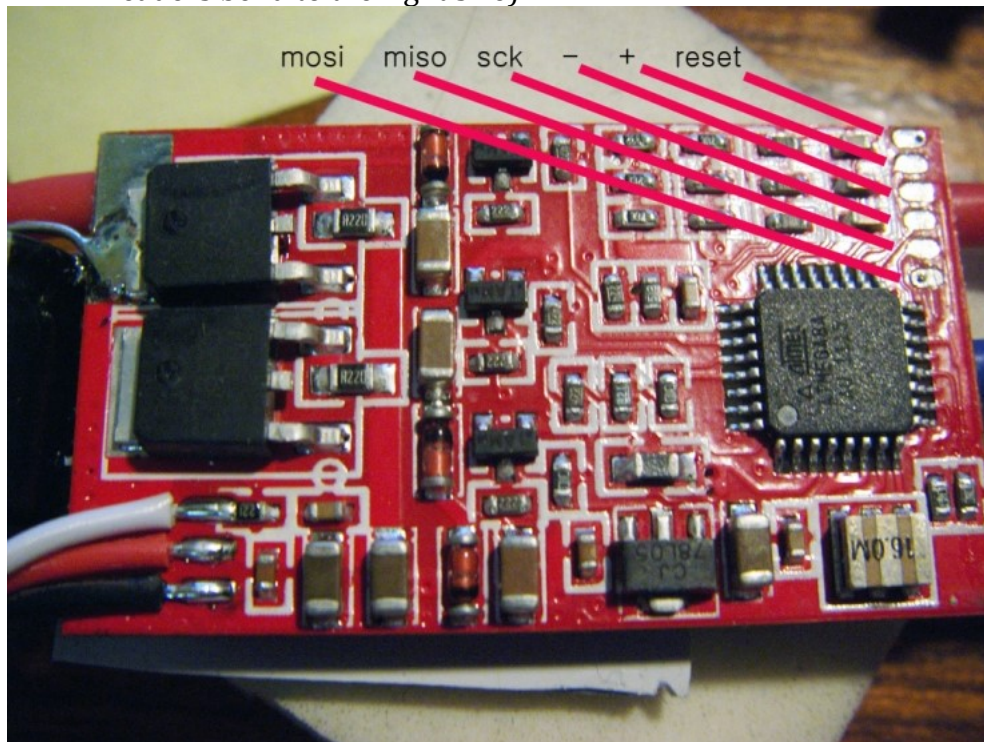
- ESC: [Hobby King 20A ESC 3A UBEC](#)
- Controll board programmer: [USBasp AVR Programming Device for ATMEL processors](#)
- Wire/plugs/solder tools

### Downloads

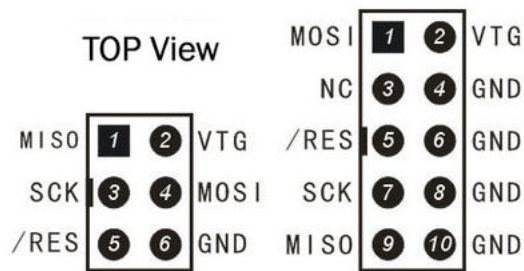
- <https://launchpad.net/brushed> (Get the F20A\_r40.hex file on the right)
- <http://www.olliw.eu/2012/owsilprog/> (Scroll down to the downloads section and download the owsilprog zip file, **this includes AVRBurnTool**)

### Connect

- Remove part of shrinkwrap (part in the corner of the red motor wire)
- Solder wires to the contacts or use an home made clamp (clothespin with 6 pin headers bend to the right size)



- Connect wires to the correct USBasp cable pins, see below (**WARNING: Please note that the images shows the top of the connector, so wires must be mirrored when looking at the pin side of the connector**)



## Programming

- Make sure the esc is connected to the programmer, and the programmer is connected to the PC
- Power and turn on ESC (Maybe not needed if programmer provides power, just try without first)
- Open avrburntool
- Choose ISP AVR (programmer) / USBasp / Atmega 8 / F20A-r40.hex
- Click Check Connection
- Click Burn All
- Done, disconnect everything, and test the ESC.

