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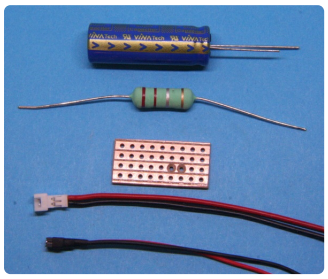
Micron Capacitor-Power Kit

These assembly instructions apply to the 10F size capacitor power kit supplied by Micron R/C. This is available as an option for the Stevens Aero micro Hawk kit but may be used with other similar sized models.

A web page version of this document can be found at http://www.micronradiocontrol.co.uk/product/micron/cap_pwr_kit.html where you will be able to view larger versions of the images.



kit

The kit contains a 10F 3V 'super capacitor', a 0.22ohm resistor for limiting the charge current, a prepared Veroboard, a 'UM' charge lead and a motor lead with 2 pin 1.27mm pitch socket. The completed unit is suitable for powering many small coreless motors - e.g. the 8.5mm diameter PKZ3616 or CL-0820-15-9T.

Please check that all components are present in the kit bag and contact Micron if anything is missing.

Construction

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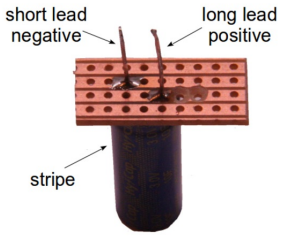

Position the Veroboard as shown in the image and pass the positive (long) and negative (short) capacitor wires through the board as illustrated. The capacitor has a stripe running down the body to identify the negative lead; sometimes this stripe also has chevrons along its length. The negative wire is the one closest to the stripe. **Take care to get this correct as reversing the polarity of the capacitor will result in its destruction when the battery is attached.**

Once you are certain that the capacitor is inserted correctly, solder its wires to the Veroboard tracks, ensuring that the capacitor body is pressed firmly against the board. Snip the capacitor leads close to the solder joint and keep the pieces you have cut off.

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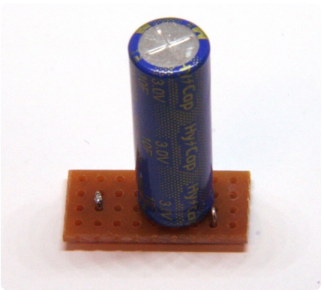

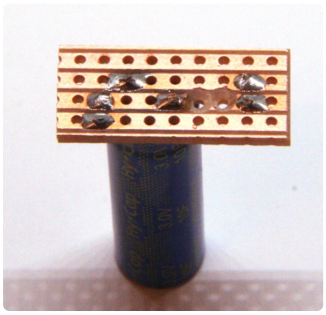

Using the leads you cut off in the previous step, install 2 jumpers as shown in the image.

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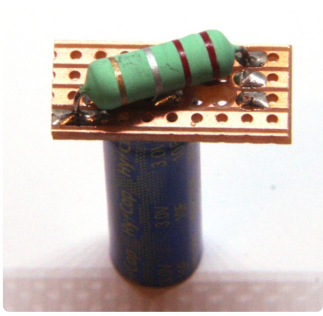
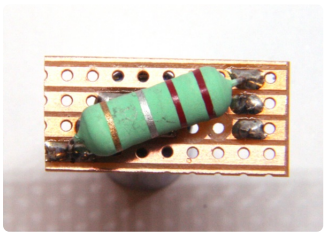
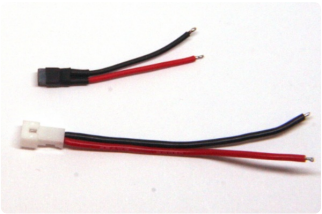
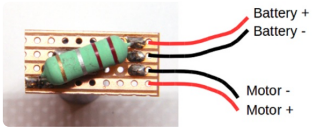




Install the resistor. Bend the wire leads perpendicular to the resistor and solder to the copper track side of the board as shown in the images. Trim any excess lead length on the capacitor side of the board so that the resistor leads are flush with the surface of the board.

☐ 

Trim the motor and battery leads to the required length: for the Stevens Aero microHawk, these should be 50mm for the battery lead and 25mm for the motor lead. Strip approx 2mm insulation from the end of each wire and tin.

☐ 

Attach the motor and battery leads to the board as shown in the image. The wires are inserted from the capacitor side of the board. Trim any excess bare wire after making the solder joint.

Installation and Use

The completed power module can be friction fit into the microHawk airframe or taped/glued into other airframes.

The capacitor typically reaches full charge in 12-15 seconds – charging longer than this is of no benefit. First flights in any new model should use approx half charge to give a shorter flight for trimming. To determine half charge count out 6 or 7 seconds and listen to the propeller/motor noise to decipher the relative amount of power you've added to the system by the audible pitch of the system under power.
