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Article



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## MINIMUM SETTING OF THE FLIGHT CONTROLLER FOR FPV

**Abstract:** The factory settings of the FPV flight controller cause the parts to overheat. The article provides a solution to this problem.

**Key words:** FPV, SpeedyBee, overheat.

**Language:** English

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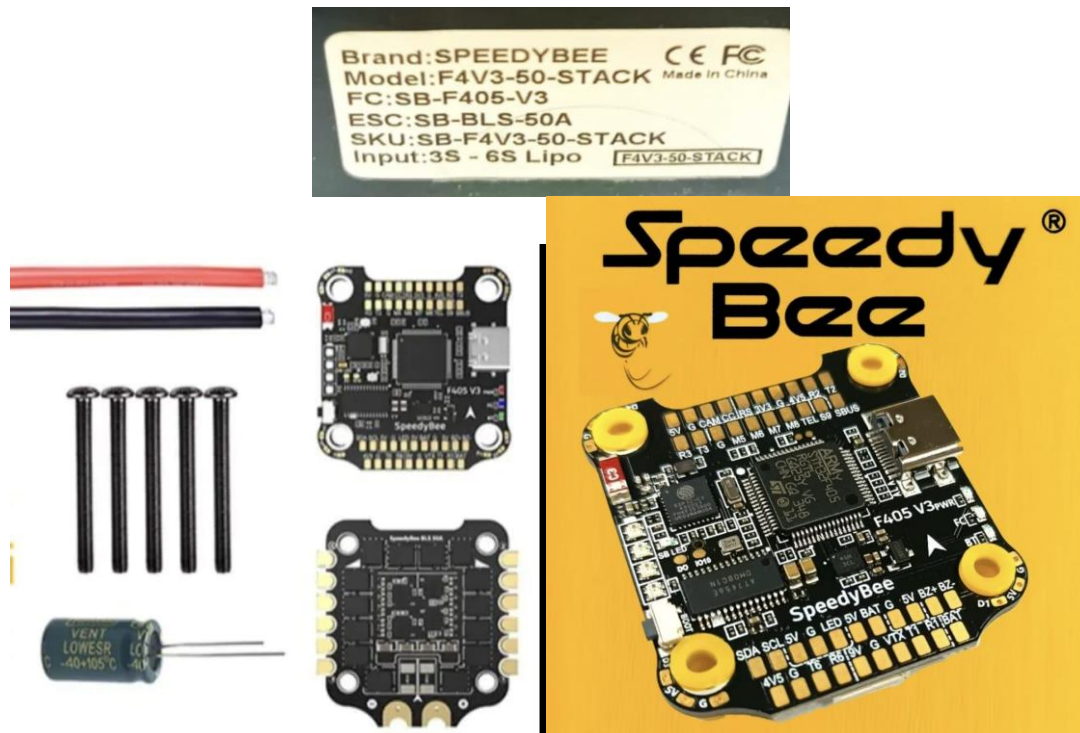
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### Introduction

The flight controller is equipped with an electrolytic capacitor that smooths voltage

fluctuations on the power supply. The characteristics of the flight controller are shown in Fig.1.



Picture 1. The complete set of the flight controller.

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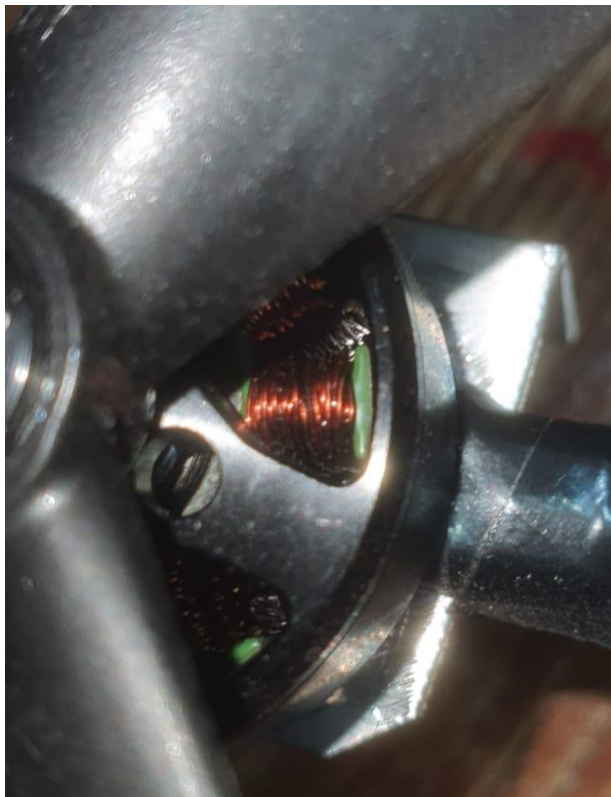
The manufacturer recommends using a 1000mF 35v capacitor (Pic.2).



Picture 2. Electrolytic capacitor.

When using this capacitor, heating its legs after 10 seconds leads to overheating of the motors with burning of the winding varnish and burning of the

condenser legs. This indicates an increased current and the need to use a capacitor designed for high currents (Pic.3-4).



Picture 3. Overheating of the motors.

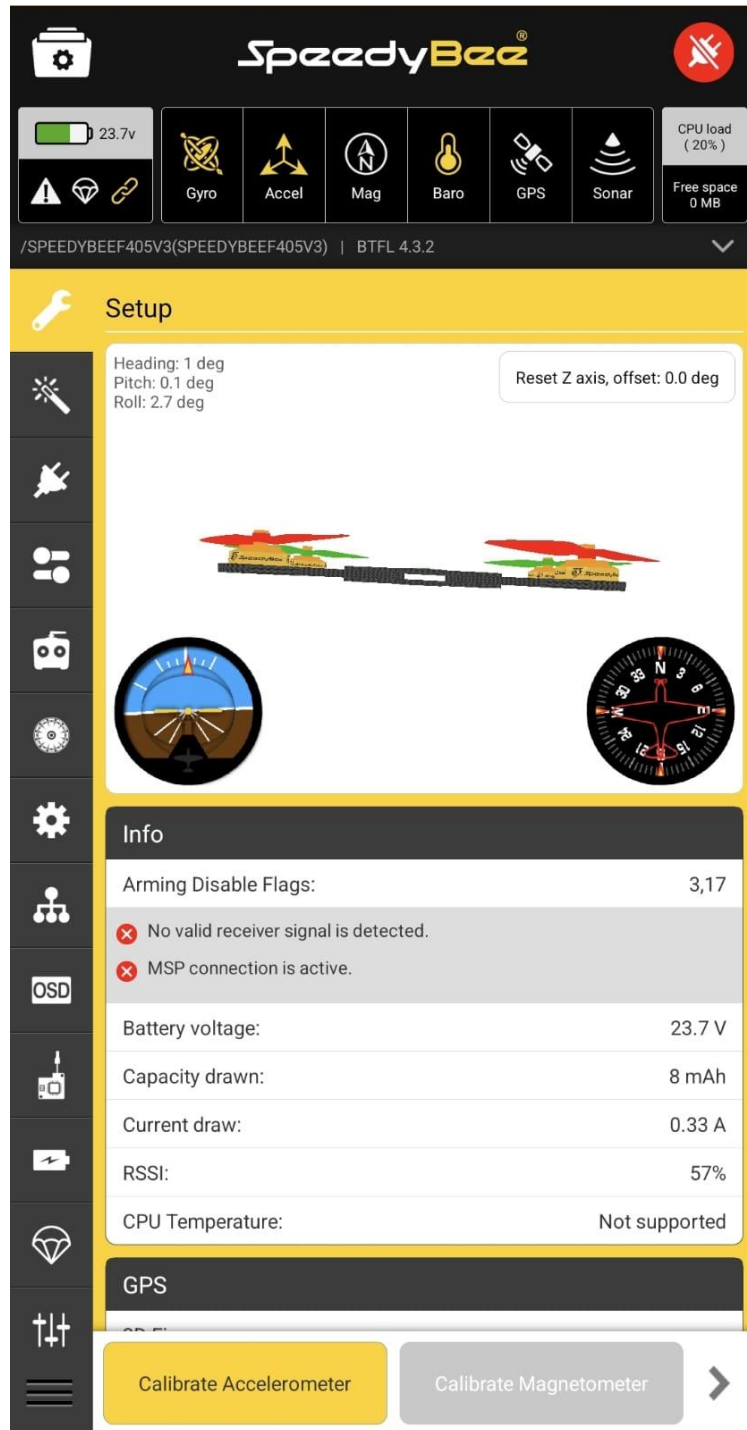
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**Picture 4. Overheating of the motors.**

A long flight on this FPV is, for obvious reasons, impossible and requires some kind of solution.

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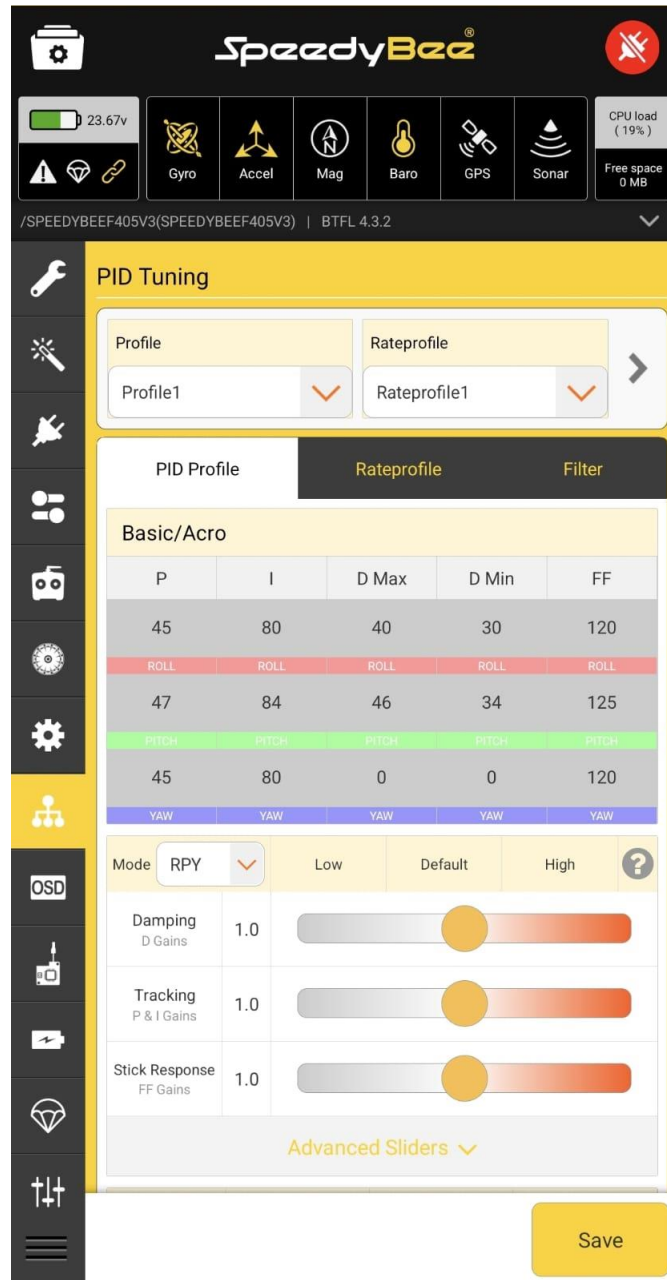
Picture 5. SpeedyBee application.

When using the application, the original application SpeedyBee is used to configure the flight controller (Pic.5).

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The manufacturer recommends using the Damping parameter equal to 1.0. (Pic.6)



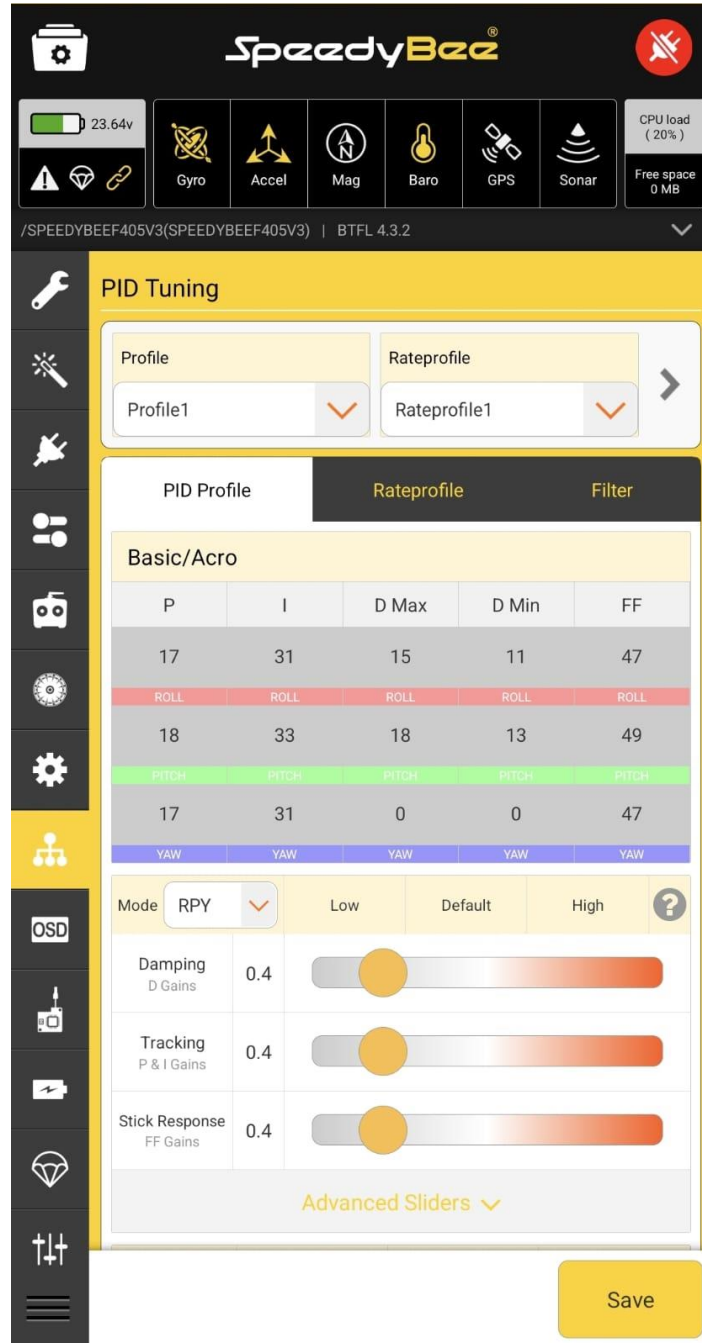
**Picture 6. Default settings.**

It is this parameter that leads to overheating of the engines at idle, without load. Setting the engine braking speed when the FPV returns to its previous state according to the accelerometer data.

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**Conclusion**

It is necessary to reduce this parameter to 0.4 and there will be no overheating (Pic.7). In this project, 2807 1300kv brushless motors were used



Picture 7. Corrected settings.

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