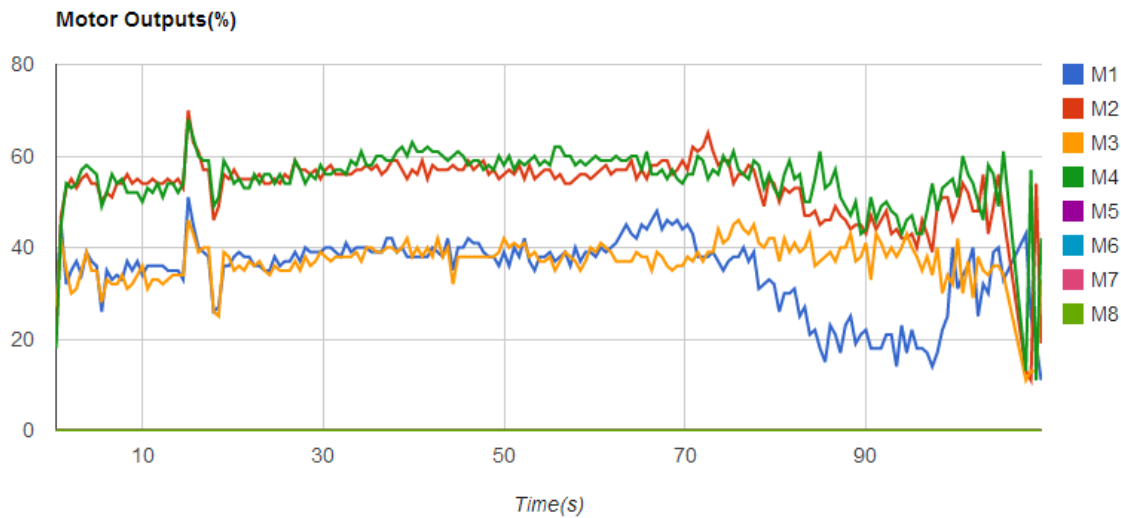# Crash Report

First, there's an installation problem of the motor mount.

M1 and M2 are always lower than M2 and M4. That means the blades are not all blowing wind down straightly. The installation has this problem as picture shows:

In this report, I can deduce that, the copter has a tendency to yaw to right. In real flight, users will feel when yaw to right, it's so easy; but when yaw to left, the copter seems try very hard.
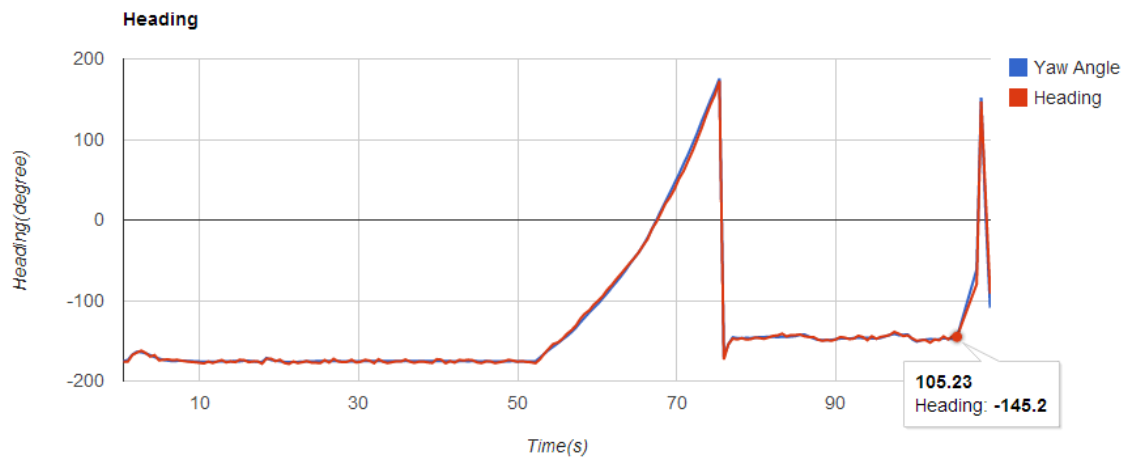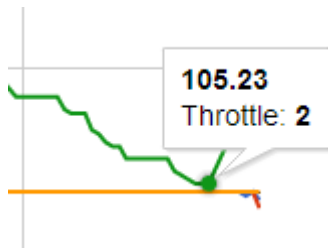
It's GPS ATT Mode in whole flight. The main problem is the throttle operation.

Remote Control

Legend: Pitch, Roll, Heading, Throttle

Callout: **98.47** Throttle: 8
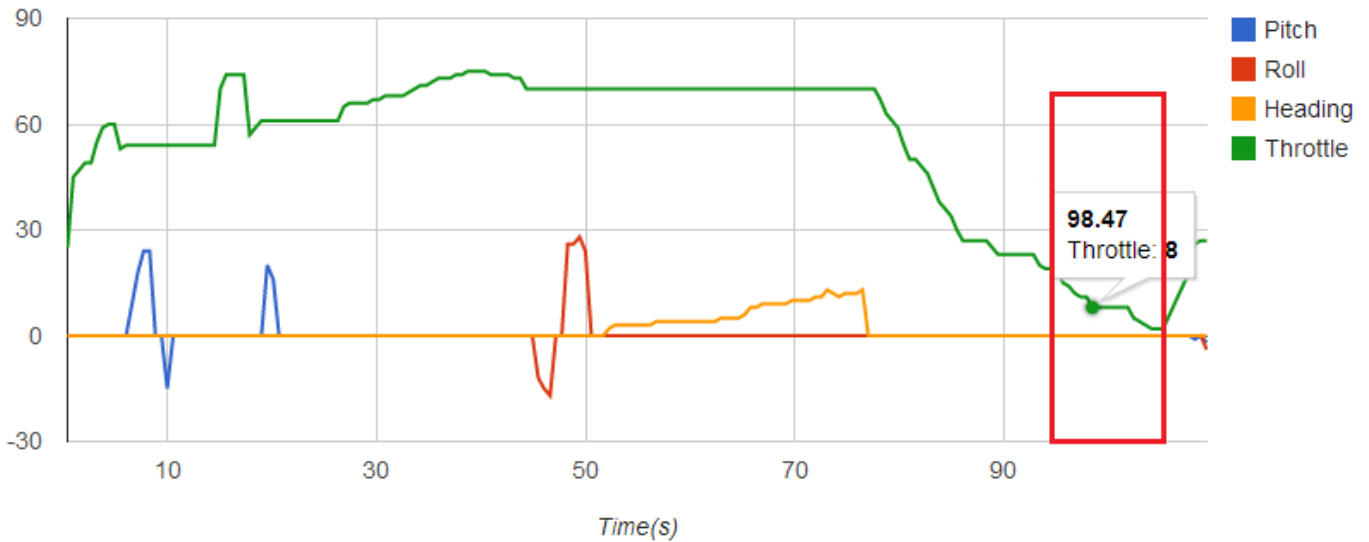
Don't push the **throttle too low** in the air. When throttle is lower than the copter can maintain it's attitude, normally 15% is suggested as minimum in the air. The minimum throttle in the air depends on the power components: motor, blade and battery. After the throttle keep in too low level, the copter can't keep its attitude.

At 105 seconds:

Callout: **105.23** Throttle: 2

Heading

Legend: Yaw Angle, Heading

Callout: **105.23** Heading: **-145.2**

North:0 degree East:90 Degree South:+/-180 Degree West:-90 Degree
Heading:from compass

Copter Attitude

	ATT Angle	Angle Rate
Pitch	8.0	2.30
Roll	-2.4	8.50
Heading	-145.8	0.00

Input / Output

Input		Output			
A 0%	M GPS	M1 33%	M5 0%		
E 0%	S OFF	M2 47%	M6 0%		
T 2%	G 0%	M3 34%	M7 0%		
R 0%	X 0	M4 61%	M8 0%		

You can see, the pitch is 8.0(backward), and M3 and M4 is outputing greater than M1 and M2 to maintain the attitude, but without any result. At the next moment, the copter fliped over.

Copter Attitude

	ATT Angle	Angle Rate
Pitch	-26.1	90.20
Roll	177.7	173.50
Heading	-61.1	0.50

Input / Output

Input		Output	
A 0%	M GPS	M1 43%	M5 0%
E 0%	S OFF	M2 13%	M6 0%
T 18%	G 0%	M3 11%	M7 0%
R 0%	X 0	M4 13%	M8 0%

The roll is 177.7 degree, that means the copter is **upside down**. At this moment, no matter how hight user pushed the throttle, the copter is falling down.

Conclusion:
Throttle at the level too low and too long which cause the copter can't maintain the attitude.

Suggestion:
1. Don't keep the throttle too low for long(seconds). If you real want to do this, you have to try it at low height to be familiar that you can see how the copter falls and the motor when to restart/speed up.
2. Loosen the screw of motor mount and correct it. The picture shows well tuned.

Motor Outputs(%)
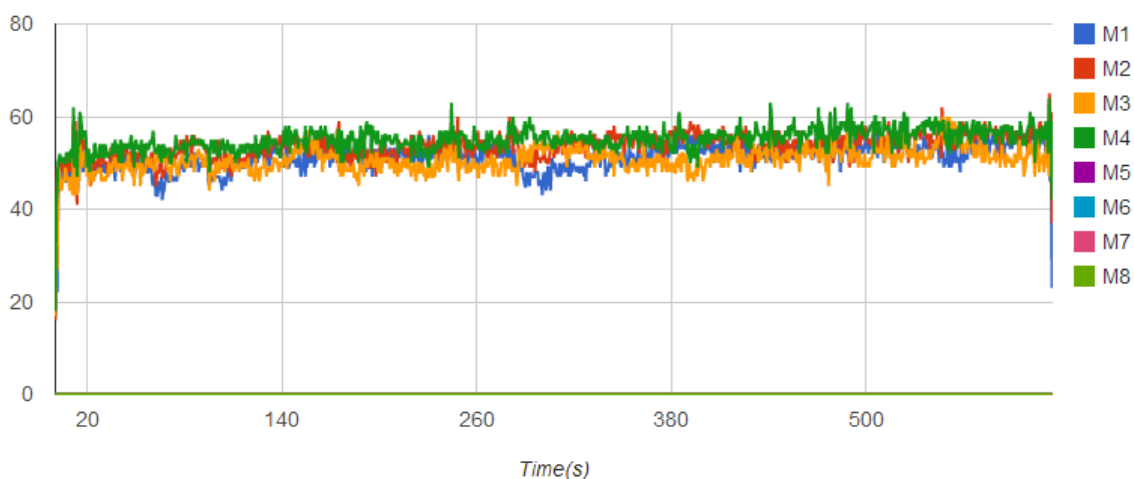
And you can easily find that the average are similar.

	Voltage	M1	M2	M3	M4	M5	M6	M7	M8
Max.	16.60V	60%	65%	62%	64%	0%	0%	0%	0%
Min	14.30V	17%	16%	17%	18%	0%	0%	0%	0%
Avg.	14.97V	51%	54%	51%	55%	0%	0%	0%	0%