

Introduction & Description

Hi! I'm Jonas, the designer of the OMPHOBBY M4. Below you will find my EVO setup I have successfully been flying on my OMPHOBBY M4. The numbers in this document, especially gains, are not applicable to NEO. This setup is tailored to the OMPHOBBY components and RotorTech 385 Ultimate included with the PNP version of the M4, and is to be understood as a suggestion and a starting point for your own setup. Your values may vary greatly if using other components, especially servos and rotor blades. Always exercise the greatest caution and double-check your setup when using someone else's values. I assume no responsibility or liability for damage to your helicopter or damage caused by your helicopter when using my setup values. With that out of the way, enjoy the most capable 380 size helicopter ever made on EVO!

OMPHOBBY



Revision

1

Setup Item	Parameter			Notes
Swashplate Type	HR-3 (120° Reverse)			-
Servo Reverse	Reverse	Reverse	Reverse	Verify correct servo travel direction
Collective Pitch	Negative ~-78	-	Positive ~+78	Measure your collective to be symmetrical, ±14° recommended
Cyclic Reference	~60			Low numbers here are expected due to high mechanical gain
Cyclic Servo Type	333Hz	1520 us	-	Higher frequency allows for slightly higher swash gain
Tail Servo Type	333 Hz	760 us	Normal	Verify correct servo travel direction. 500Hz possible but sketch
Tail Throw Limits	Left Limit ~88	-	Right Limit ~88	Tail throws should be maximized to either side
Governor Setup	Extern 100 100	Gearing 1.0	21 Poles	Teach ESC throttle limits as described in the manual
Flight Parameter	Bank1	Bank2	Bank3	Notes
Main Rotor				
Expo	20	20	20	Set as per personal preference
Agility	130	130	130	Set as per personal preference, adjust Optimizer value in conjunction
Gain	100	80	60	Low numbers here are expected due to high mechanical gain
Style	70	90	100	Ratio P:D of the control loop. Higher value means more D
Lightness	35	0	0	Allows for more collective pitch against the gravity vector
Elevator Precomp	25	20	15	Straightens the helicopter's climb on large collective inputs
Paddle Sim	10	10	10	Sharpens the helicopter's response on fast inputs
Integral	60	60	60	-
Pitch Pump	0	0	0	Can be used to sharpen collective response on fast moves
Heli Size	40	40	40	Can be increased slightly to reduce stop wobbles
Collective Balance	35	35	35	-
Optimizer	62	57	55	Set manually, needs to be lowered from default for RT-385U
Tail Rotor				
Expo	50	50	50	Set as per personal preference
Yaw Rate	130	130	130	Set as per personal preference
Gain	50	40	30	Low numbers are expected due to high mechanical gain
P	80	80	80	-
I	60	60	60	Increase I if piro rate is not consistent at high speed
I Limit	0	0	0	-
I Discharge	0	0	0	-
D	5	3	0	A small amount of D gain helps the tail stay calm at low RPM
Collective Precomp	40	35	30	Tune as necessary for your tail to stay calm on pitch changes
Cyclic Precomp	0	0	0	Cyclic precomp is not needed due to aeroelastic effects of the blades
Optimizer	Auto	Auto	Auto	Leaveing this on continously works
Wag Suppression	0	0	0	-
Tail Acceleration	55	55	55	-
ESC				
ESC Output	46	63	72	Refer to the M4's manual to set your desired rotor speed
Headsped	1850	2500	2850	If using different headspeeds, adjust other parameters accordingly