

VII. Installing

Notes :

- ① Please removed the blades during installing, to avoid any injury from motor accidental start !
- ② QQ-S and KK-P support all standard receiver, S.BUS, DSM2 and DSMX satellite, but you can only use one of these, **absolutely forbidden to install receiver together or mix !**
- ③ Controller must be securely mounted in as close as the barycentre of the multi-rotor, in order to provide better flight performance, we suggest to take some measures to avoid vibration.
- ④ The ESC's travel midpoint is at 1520us, DO NOT use 700us travel midpoint ESC, as it may lead aircraft to fly away or cause injury and damage.
- ⑤ After controller power on, the status LED showing green and constant on means motor has been locked, green light fast blink means motor unlocked, then motor will enter idling mode and low speed spinning !

1. ESC(Electronic Speed Controller)

Please calibrate ESCs one by one through the receiver directly before connect them to your controller and make sure all of them into Governor off .Break off to get best experience, then according to **[VI. Installation Instruction]** assemble to flight controller ,according to **[V. DIP Switch]** to set the DIP switch.

2. Transmitter (TX) and Receiver (RX)

User needs to use the transmitter which at least 4 channels, and using S.BUS receiver or independent DSM2, DSMX satellite can greatly simplify the installation. Please according to your receiver type to set the DIP switch position follow **[V. DIP Switch]** . Create a new airplane mode on your transmitter, if this is the first time to install, user need reset the model's data as default and shut off all mix control, set all channels range to -100%~+100% , below are some examples for reference :

	AIL	ELE	RUD	THR
FUTABA	Channel reverse	Channel reverse	Channel reverse	Channel reverse
JR/SPEKTRUM	Channel obverse	Channel obverse	Channel obverse	Channel obverse

The FUTABA, JR, SPEKTRUM transmitter and receivers above had been tested, users need to test if you are using other transmitter !

If you are using S.BUS or DSM2/DSMX satellite, you should also check their output channel's order as default shown below:

	AIL	ELE	RUD	THR
S.BUS	Channel 1	Channel 2	Channel 4	Channel 3
DSM2/DSMX	Channel 2	Channel 3	Channel 4	Channel 1

3. Receiver connecting

If you are using the standard receiver or S.BUS receiver, please follow the transmitter manual to connect. If you are using the DSM2 or DSMX satellite, please refer to the instruction as shown below :

Operating instructions	
First step	Connect the satellite to flight controller, set the receiver type to standard receiver or S.BUS using the DIP switch, power on the controller 2 seconds then power off.
Second step	Set the DIP switch according to your satellite mode and power on, the indicator light of satellite will start blink, turn on your transmitter to bind and complete finish the connecting.
<ol style="list-style-type: none"> 1. If the indicator light of satellite did not blink, please re-try from the first step, this problem maybe due to the poor contact during power-on. 2. DSMX satellite can binding and working under DSM2 mode, but DSM2 can not binding and working under DSMX mode. If your transmitter support DSMX mode, please stay on DSMX mode. 3. During our testing of a few SPEKTRUM transmitter, try different distance when binding can make connecting quickly. 	

4. Transmitter calibration

First install or after changing a new receiver, you have to calibrate the transmitter. Make sure removed all blades, move the throttle down and other channels in the centre. First turn on the transmitter then power on the flight controller, the status LED will lighten 2 times after power on, different color lighten is showing you the currently receiver type and mixed type, you can refer to **[IV. Status LED]** . When the status LED becomes constant green(means motor has been locked), press and hold the setting button of receiver start transmitter calibration and the LED will go off, the LED will light up until transmitter calibration is successful complete. The flight controller will record the centre point of AIL, ELE, RUD and the lowest point of THR, please don't use the throttle holding function during the calibration !

5. Sensor Calibration

KK-P required to maintain in a rest state during sensor adjusting, QQ-S not only needs to keep in a rest state but also required to rest on horizontal and firm ground. When controller's indicator green light constant on(means motor has been locked), push throttle stick to the highest position and rudder stick to the most left (you can refer to the appendix at the end of this manual) Green light will go out means sensor is adjusting, when the green light flash on again means sensor has been successful adjusted.

6. Gain

When controller's indicator green light constant on (means motor has been locked), user can rotate the knob to adjust the sensitivity of flight. Sensitivity increases by clockwise, decreases by counterclockwise. For first fly, we suggest sensitivity being middle and adjust depends on your demand during flight. Adjust sensitivity can be only adjusting during the indicator green light constant on (means the motor has been locked), new parameters record no need to re-power, it can be automatic update in the next green light blink (means motor has been unlocked).

7. Motor unlock and lock

Notes : The green light is fast blink after motor unlock, motor will enter idling mode and low speed spinning, please don't get too close during unlock !

Pull the throttle stick down and rudder stick at the most right to unlock motor (you can refer to the appendix at the end of this manual), after unlock, the green light will fast blink, motor will enter idling mode and low speed spinning. Pull the throttle stick down and rudder stick at the most left to lock motor (you can refer to the appendix at the end of this manual), after lock the motor, the green light will constant on, motor will not spin.

8. Before the first time to flight

Before the first time to flight, please test your fly kit and transmitter control's direction, to make sure all direction are correct and avoid any improper install cause danger !

9. Precautions

1	The range value of rudder suggest to -100%~+100% , rudder channel works with throttle channel are for lock and unlock motor. If you set the range < 85%, since different transmitters , you may not be lock and unlock the motor. If you think the stick range too wide, we suggest you to reduce the range of AIL and ELE only.
2	If you think the throttle control value too low, but the throttle channel range already be -100%~+100% ,then you should consider to check, you might be turn on the throttle holding when calibrate the transmitter. Please re-set the transmitter calibration and make sure you turn off the throttle holding.
3	Obvious shift happened during flight, please recalibrate transmitter and sensor. KK-P unable to provide self-leveling, so it may have a little shift happen, you can adjust via corresponding button to correct.

Appendix :

Stick operation instruction of Motor unlock, Motor lock, Sensor calibration :

