X35 V/STOL
说明书
X35 V/STOL
MANUAL

SHENZHEN RCSCOPE TECHNOLOGY CO., LTD.

深圳远景航模有限公司

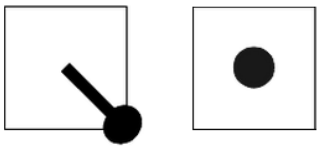
2016-5-13

Note：

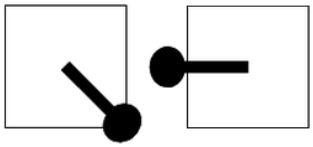
1. Please assemble this model with the guidance of an experienced modeller.
2. Operation of this model requires both helicopter and fixed wing piloting experience.
3. A minimum 6 channel transmitter and receiver is required to operate this model. The transmitter must have a 3-position switch and expo and dual rate capability.
4. This model requires a 14.8V, 2200mah 40C lithium battery that weighs no more than 250g.

TRANSMITTER CONTROL STICK COMBINATIONS

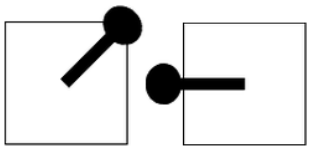
MODE 2



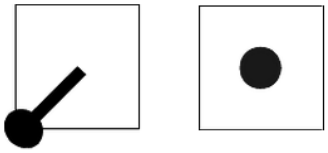
1ST Mode 2 Throttle lock: Left Stick down and to the right, Right Stick centered.



2ND Mode 2 Gyro Calibration: Left Stick down and to the right, Right Stick to the left.

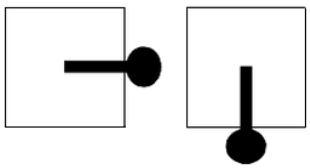


3RD Mode 2 Accelerometer Calibration: Left Stick up and to the right, Left Stick to the left.

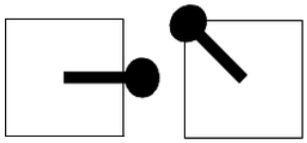


4TH Mode 2 Throttle unlock: Left Stick down and to the left, Right Stick centered.

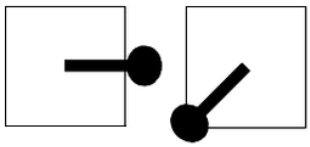
Mode 1



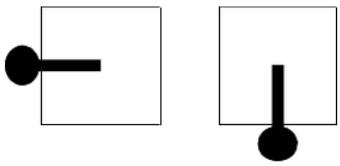
1ST Mode 1 Throttle Lock: Left Stick to the right, Right Stick down.



2nd Mode 1 Accelerometer Calibration: Left Stick to the right, Right Stick up and to the left.



3rd Mode 1 Gyro Calibration: left Stick to the right, Right Stick down and to the left.



4th Mode 1 Throttle Unlock: Left Stick to the left, Right Stick down.

Flight Modes

This aircraft has three flight modes; VTOL (Helicopter), Forward Flight(FLYINGWING) and STOL (Short Take Off and Landing). The flight stabilization gyro works in all three modes. During your flight, you can switch from Forward Flight to Helicopter or to STOL mode, switch from VTOL or STOL to Forward Flight mode. You cannot switch from VTOL to STOL mode directly. If you try, the aircraft will remain in its previous mode.

Each time you power up the aircraft, it will start in the flight mode in which it was turned off. You may switch between Forward Flight and Helicopter modes on the ground by placing the throttle stick at its lowest point, pushing the elevator stick to its highest point and selecting the desired mode with the switch .it is a fast change modes way.

If you pushing the elevator stick to its lowest point and switch the flight modes switch, the transition from VTOL to Forward Flight mode may take 25 seconds.

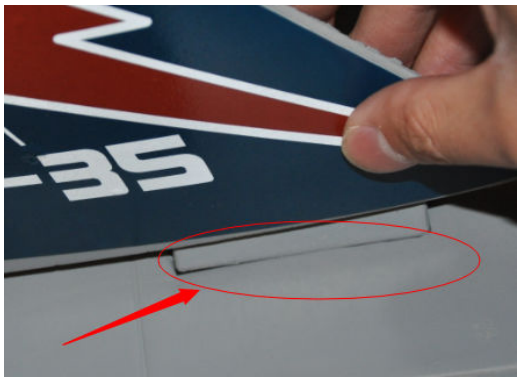
Helicopter mode should only be used in slow wind or no wind conditions.

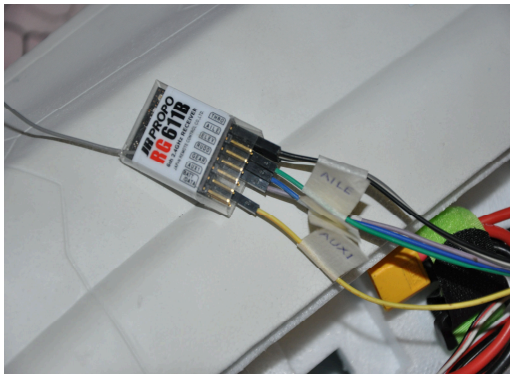
You must calibrate the gyro and accelerometer each time before take off.

When calibrating the gyro and accelerometer, the plane must be in Helicopter mode, with the throttle locked.

If the aircraft is in Helicopter or STOL mode and is upside down or severely tilted, the throttle will automatically lock. This auto-lock feature does not work in Forward Flight mode.

Assembly and Testing



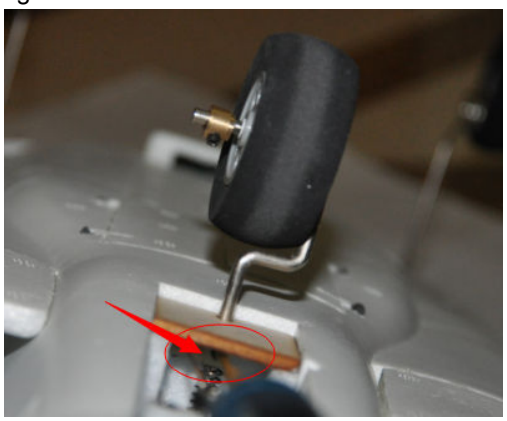
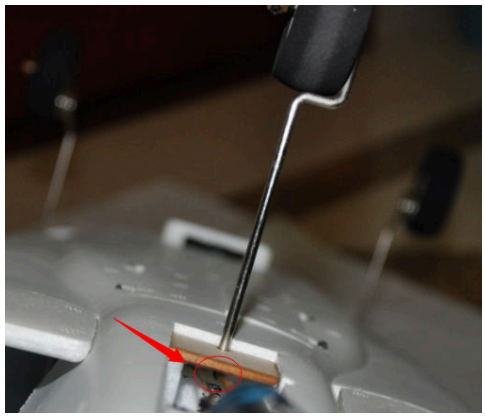


1. Glue both vertical stabilizers to the fuselage.
2. Connect all cables from the Primary Control Board (PCB) to the receiver, according to the labels.
3. Place the aircraft upside down over a work surface, suspended so that the ducted fan door can open normally.
4. Turn on your transmitter. Assign the AUX1 channel to the 3-position switch of your choice on the transmitter. The travel adjustments for Position 0 (VTOL), 1 (Forward Flight) and 2 (STOL) should be +100%, 0% and -100% respectively.
5. When the Aux1 switch is at Position 0 (VTOL mode), the ducted fan should be pointing straight down. At Position 1 (Forward Flight mode), the ducted fan should be facing rearwards. At Position 2 (STOL mode) the ducted fan should be at a 45 degree angle to the fuselage.
6. Check aileron, elevator, front wheel and throttle directions are correct.
7. Set Expo and Dual Rate values;

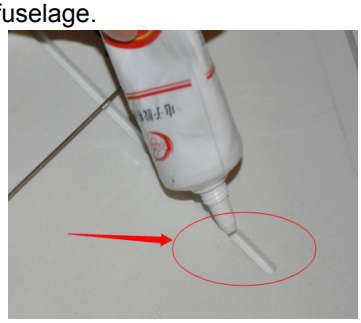
Aileron	Expo +30%	D/R 125%
Elevator	Expo +30%	D/R 115%
Rudder	Expo +50%	D/R 100%

8. Install landing gear to fuselage as shown in the picture. Make sure it 扭 attached firmly with glue.

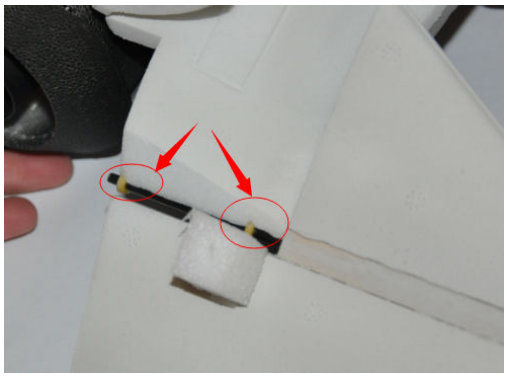
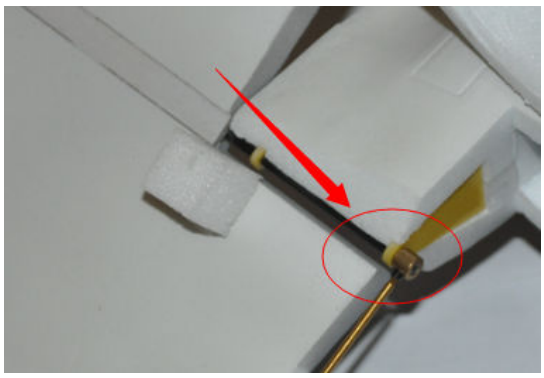
9. Nose gear: push the gear strut through the first mounting hole. slip the steering arm, then the spring on the strut. Adjust the steering arm so the strut can't come out of the upper hole and tighten it.

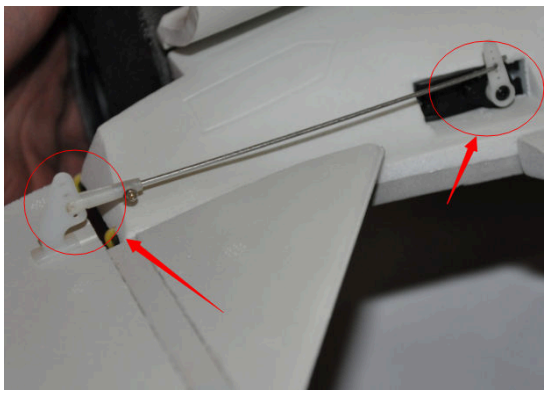
10. Apply glue to the wing reinforcement rod groove, insert the rod, then press the wing into the fuselage.

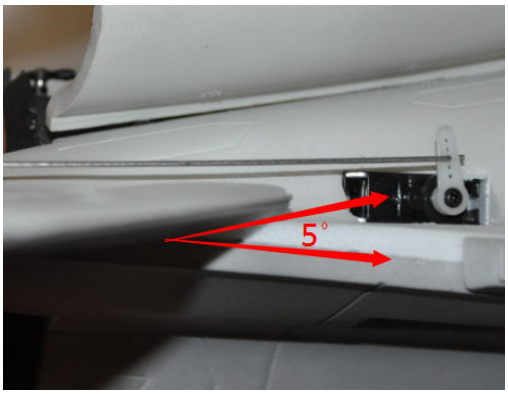



11. Attach the horizontal stabilizer to the fuselage as shown in the picture; secure the stabilizer with a wheel collar.

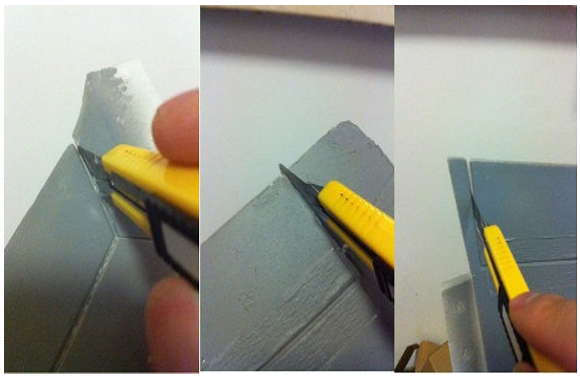



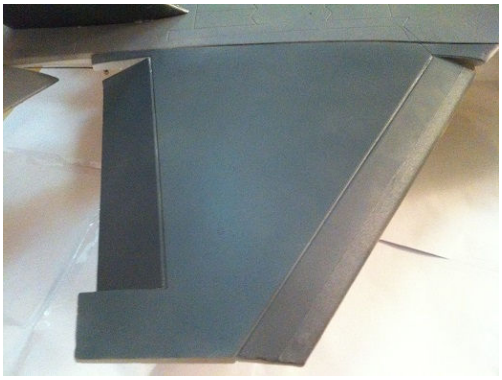
12. Assemble pushrods as shown in the picture; attach the pushrod clevis to the next to last hole of the rudder horn. Adjust the length of pushrods to make a 5 degree angle between stabilizer and fuselage.





13. Separate the ends of the leading edge slats and the flaps with a hobby knife, bend them down and glue them in place.





Operation Instructions

1. When first operating the aircraft, we recommend you get familiar with each flight mode first, before switching modes. Try VTOL mode first, then try STOL mode. It will act like a normal airplane in this mode. Finally, try taking off in Helicopter mode, then switching to Forward Flight mode.
2. VTOL mode vertical thrust is 1.3kg, Forward Flight mode thrust is 1kg and thrust to weight ratio 0.98. Do not conduct intense maneuvers.
3. When flying in VTOL or STOL modes, use small flight inputs.
4. When taking off in VTOL mode, jump off the ground quickly, then climb slowly to at least 1.5m before switching to Forward Flight mode. Transition from VTOL mode to forward flight will take about 25 seconds. The main fan will slowly rotate up to the horizontal position while the front fan maintains stability. Adjust the throttle to maintain acceleration while climbing. The whole switch process will take 25 seconds. Once the main fan is up, the lift doors will close and the front fan shuts down.
5. When switching from Forward Flight to VTOL mode for a vertical landing, make sure you are a minimum of 5m above the ground. During the transition, the aircraft will shut down its motor to glide for 1 second while the main fan rotates down, and then the two motors will turn on automatically.
6. When including VTOL or STOL modes in your flight, limit your flying time to 3 minutes, or you may not have enough energy to land vertically under control.
7. When taking off in STOL mode, climb to 10m, then switch to Forward Flight mode. The main fan will rotate to horizontal, as in the VTOL transition. This will take about 10 seconds.
8. When switching from Forward Flight to STOL mode for a short field landing, bring the plane to 5m over the ground, then switch the mode. The motor will stop and the plane will glide until the motor is in STOL mode, when both motors will start up. This transition takes 1 second.
9. VTOL mode should only be attempted in little or no wind. STOL mode should only be attempted in light winds, under Level 2.
10. The smaller intake port is not functional. It should be closed in all modes.

SUMMARY

TAKING OFF:

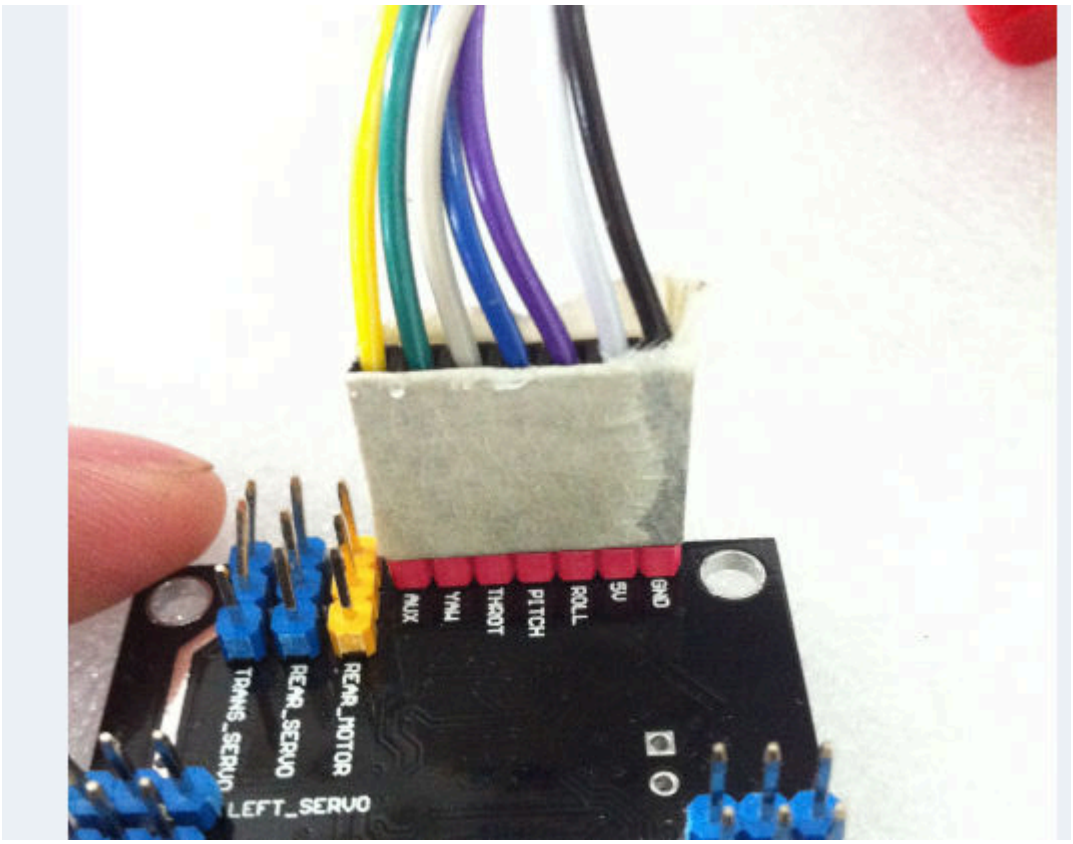
1.Turn on Transmitter, set switch to VTOL/heli mode.
2.With the throttle locked, calibrate gyro and accelerometer.
3.Fly the plane above the floor 1.5m
4.Switch the 3 position switch to Forward Flight mode, push throttle to 100%. Keep the aircraft stable while climbing and accelerating.
5. After 25 seconds, the aircraft will be flying normally. At the last second of transition, it is normal to find out the plane has a bit head up and then become normal flight forward.
6. This aircraft is not designed for extreme maneuvers.

Landing:

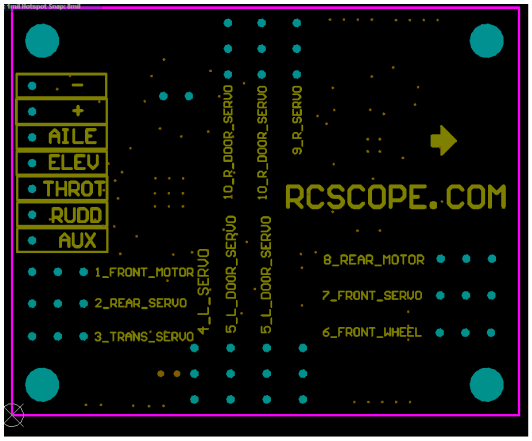
1. Bring the plane to 5m above the ground, then move the 3 position switch to the VTOL mode position.
2. The plane transition from Forward Flight mode to VTOL mode will be finished in 1 second. After 1 second, the aircraft will fly like a helicopter. Please do not make intensive maneuvers.
3. Pull back your throttle to lower the plane to the ground slowly.

NOTE: There is no need to control the elevator servos during transitions. The PCB will handle this itself.

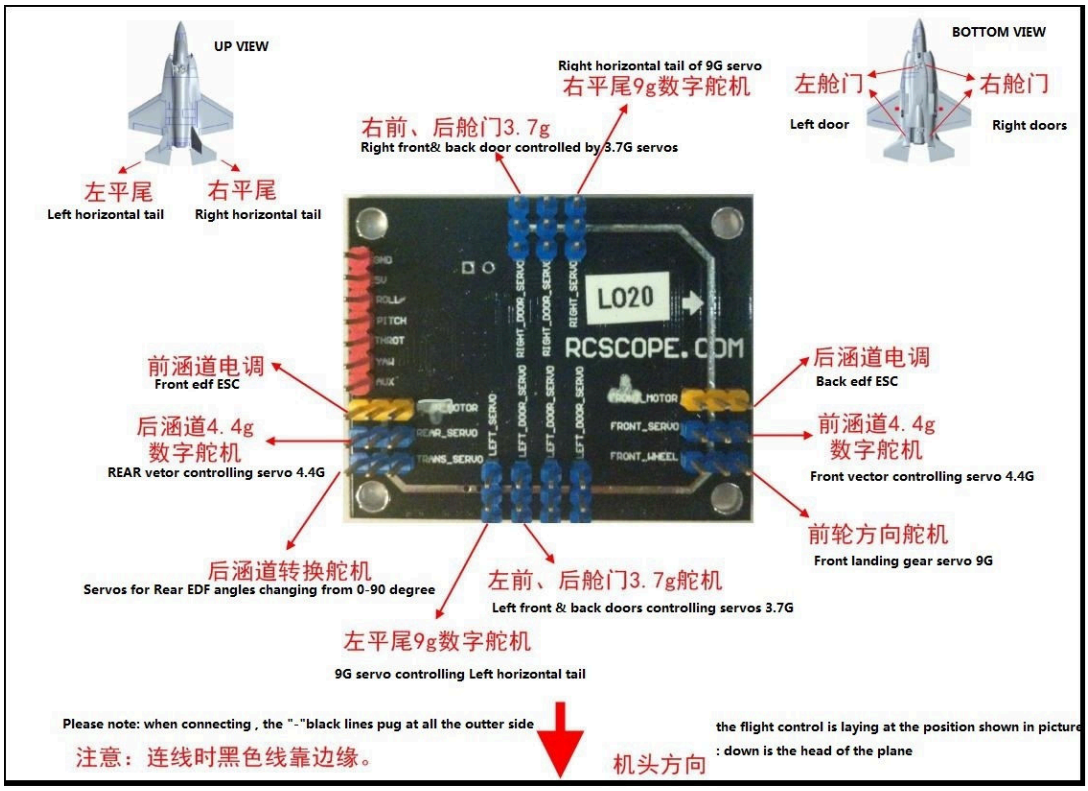
Flight Control PCB CONNECTING INSTRUCTION



The BLACK WIRE connects to the negative "—" plug of the receiver.
The White WIRE connects to the positive "+" plug of the receiver.
The Purple WIRE connects to the aileron signal plug of the receiver.
The Blue WIRE connects to the elevator signal plug of the receiver.
The Grey WIRE connects to the throttle signal plug of the receiver.
The Green WIRE connects to the rudder signal plug of the receiver.
The Yellow WIRE connects to the modes transforming channel of the receiver. (example: JRXC7 's AUX1 plug)



1_前涵道电调	1_FRONT_MOTOR
2_后涵道4.4G舵机	2_REAR_VECTOR_SERVO
3_后涵道转换舵机	3_TRANS_SERVO
4_左平尾9G数字舵机	4_L_ELEVATOR_SERVO
5_左前舱门3.7G舵机	5_L-F_DOOR_SERVO
5_左后舱门3.7G舵机	5_L-R_DOOR_SERVO
6_前轮方向舵机	6_FRONT_WHEEL
7_前涵道4.4G数字舵机	7_FRONT_VECTOR_SERVO
8_后涵道电调	8_REAR_MOTOR
9_右平尾数字舵机	9_R_ELEVATOR_SERVO
10_右前舱门3.7G舵机	10_R_F_DOOR_SERVO
10_右后舱门3.7G舵机	10_R_R_DOOR_SERVO



飞行故障检修指导

FREQUENTLY ASKED QUESTIONS AND HANDLING QUIDE

故障 PROBLEMS	Reasons	Solutions
1.电机不工作 Motor not working	A) 电池电量耗尽 battery no power	A) 充电 charge your lipo/change your lipo with a qualified lipo
	B)radio no power 发射机电量耗尽	B) 更换或者充电 replace or charging
	C)发射机开关没开 Radio did not turn on	C) 打开发射机开关 Turn on your transmiter
	D)电池没有连接好 Lipo did not connect well	D) 检查并连接好电池 Check lipo and connect it again well
	E)电机连接错误 Motor connecting wrong	E) 检查并正确连接电机 Check and connecting the motor right
	F)因为摔机等原因损坏 Broken because of crash	F) 更换 Change the motor
	G)飞控板接线不正确 Flight control connecting wrong	G) 检查飞控板接线 Check the flight control to see if it plugs right
	H)飞控未解锁 Flight control did not unlock	H) 解锁飞控 Unlock the flight control
	I)其它或者 ESC 故障 Wrong ESC	I)检查 ESC 或者其他 Check ESC or other parts
2.飞机难以控制 It is hard to control the plane	A)飞行中遇到强风或者乱流	A）无风的时候起飞
	B)电池电量耗尽	B)需要充电
	C)发射机电池电量耗尽	C)更换电池或者给电池充电
	D)发射机天线没有完全展开	D)展开发射机天线
	E)舵面控制过量	E)使用小舵量进行飞行
	F)平衡舵机损坏	F)更换平衡舵机
	G)传感器未校准	G)校准传感器
3.在没有控制发射机时，飞机总是向上、向下；或者飞机总是向左、向右倾斜 The plane automatically flies forward, backward, or turn left or right without your control	A)没有对升降舵、副翼进行微调	A)适当调节一些微调
	B)飞行时遇到太大的自然风力	B)先降落，旋转无风天气飞行
	C)传感器未校准 Collebrating the gyro and accelimeter again	C)校准传感器 Collebrating the gyro and accelimeter again
4.地面滑跑时方向会跑偏 Run not straight on ground	A)前轮没有居中	A)居中前轮
	B)方向舵没有居中	B)居中方向舵

	C)方向舵拉杆孔位安装不合适	C)将方向舵拉杆安装到合适的孔位
5.起飞困难 Difficult to take off	A)油门没有推到最大	A)油门推到最大
	B）滑跑助飞距离不够	B)尽可能滑跑得更远些
	C)电池电量不足	C）更换电池
6.飞机爬升困难 Plane is hard to climb	A)电池电量不足	A)更换电池
	B)涵道风扇损坏	B)确认并重新更换
	C)电机损坏	C)确认并重新更换
	D)电调过热保护，功率降低	D)先降落，确认并选择更大功率的电调
	E）爬升角度过大	E)减小爬升角度
7.电机震动 Motor vibrating	A)涵道风扇损坏	A)确认并更换
	B）马达损坏	B)确认并更换
	C)涵道需要调节动平衡	C)调节动平衡
	D)高速运转时，可能产生轻微震动	D)轻微震动是正常的，可以使用
8.飞控不能上锁和解锁 Flight control can not be locked or unlocked	A)飞机在飞翼模式 plane in Flight forward mode	A)切换飞机到垂直起降模式或者短距模式 switch to heli mode
	B)飞机没有水平放置 Plane is not position horizon	B)将飞机水平放置 please lay the plane in horizon
	C)飞控与接收机连线不正确 The flight control PCB and receiver wires connect wrong	C)检查飞控与接收机连线
	D)操作方式不正确 did not work as the manual shows.	D)使用正确的操作方式
	E)遥控器通道正反设置不正确 Radio sets wrong with the reverse	E)正确设置遥控器通道正反
	F)遥控器舵量设置过小 The radios sets servo angles too small.	F)适当增大遥控器舵量 Add more servo angles.
9.不能切换飞行模式	A)飞控与接收机连线不正确	A)检查飞控与接收机连线
	B)操作方式不正确	B)使用正确的操作方式
	C)开关通道舵量位置设置不正确	C)设置正确的开关通道舵量位置
	D)开关通道舵量设置过小	D)适当增大开关通道舵量
10.尾涵道不能正确放下或收起	A)转换舵机接线不正确	A)检查转换舵机接线
	B)转换时有障碍物阻碍	B)排除阻碍
	C)电池电量不足	C)更换电机
	D)转换舵机故障	D)更换转换舵机

11. 电机不工作	A) 电池电量耗尽	A) 充电
	B) 发射机电量耗尽	B) 更换或者充电
	C) 发射机开关没开	C) 打开发射机开关
	D) 电池没有连接好	D) 检查并连接好电池
	E) 电机连接错误	E) 检查并正确连接电机
	F) 因为摔机等原因损坏	F) 更换

	G)飞控板接线不正确	G)检查飞控板接线
	H)飞控未解锁	H)解锁飞控
	I)其它或者 ESC 故障	I)检查 ESC 或者经销商
12.飞机难以控制	A)飞行中遇到强风或者乱流	A）无风的时候起飞
	B)电池电量耗尽	B)需要充电
	C)发射机电池电量耗尽	C)更换电池或者给电池充电
	D)发射机天线没有完全展开	D)展开发射机天线
	E)舵面控制过量	E)使用小舵量进行飞行
	F)平衡舵机损坏	F)更换平衡舵机
	G)传感器未校准	G)校准传感器
13.在没有控制发射机时，飞机总是向上、向下；或者飞机总是向左、向右倾斜	A)没有对升降舵、副翼进行微调	A)适当调节一些微调
	B)飞行时遇到太大的自然风力	B)先降落，旋转无风天气飞行
	C)传感器未校准	C)校准传感器
14.地面滑跑时方向会跑偏	A)前轮没有居中	A)居中前轮
	B)方向舵没有居中	B)居中方向舵
	C)方向舵拉杆孔位安装不合适	C)将方向舵拉杆安装到合适的孔位
15.起飞困难	A)油门没有推到最大	A)油门推到最大
	B）滑跑助飞距离不够	B)尽可能滑跑得更远些
	C)电池电量不足	C）更换电池
16.飞机爬升困难	A)电池电量不足	A)更换电池
	B)涵道风扇损坏	B)确认并重新更换
	C)电机损坏	C)确认并重新更换
	D)电调过热保护，功率降低	D)先降落，确认并选择更大功率的电调
	E）爬升角度过大	E)减小爬升角度
17.电机震动	A)涵道风扇损坏	A)确认并更换
	B）马达损坏	B)确认并更换
	C)涵道需要调节动平衡	C)调节动平衡
	D)高速运转时，可能产生轻微震动	D)轻微震动是正常的，可以使用
18.飞控不能上锁和解锁	A)飞机在飞翼模式	A)切换飞机到垂直起降模式或者短距模式
	B)飞机没有水平放置	B)将飞机水平放置
	C)飞控与接收机连线不正确	C)检查飞控与接收机连线
	D)操作方式不正确	D)使用正确的操作方式
	E)遥控器通道正反设置不正确	E)正确设置遥控器通道正反
	F)遥控器舵量设置过小	F)适当增大遥控器舵量
19.不能切换飞行模式	A)飞控与接收机连线不正确	A)检查飞控与接收机连线
	B)操作方式不正确	B)使用正确的操作方式
	C)开关通道舵量位置设置不正确	C)设置正确的开关通道舵量位置
	D)开关通道舵量设置过小	D)适当增大开关通道舵量
20.尾涵道不能正确放下或收起	A)转换舵机接线不正确	A)检查转换舵机接线

	B)转换时有障碍物阻碍	B)排除阻碍
	C)电池电量不足	C)更换电机
	D)转换舵机故障	D)更换转换舵机

Model Specifications

TYPE: EPS Foam
Wingspan: 800mm
Fuselage Length: 1150mm
Flight Weight: 1250g
Thrust: 1000g (1pcs edf)
Wing Loading:93g/dm^2
Prop Size: ¢64mm EDF Fans (2pcs)
Recommended Battery: 4S 14.8V 2200mAh 40C Li-poly Battery
ESC: 40A ESC (2pcs)
Alieron: No
Elevator: Yes
Rudder: No
Throttle: Yes
Flaps: Yes
Cabin door control: Yes (Contorl by Servo)
Servos: 9g servo (3pcs) ; 4.4g digital servo (2pcs); 3.7g servo (4pcs)

RADIO SETTING MANUAL

Please see the appendix manuals of X35 V/STOL RADIO SETTING INSTRUCTIONS

If you have any questions, please do not hesitate to contact us by :
Email : rcscope@vip.163.com
For more information, please visit our site: www.rcscope.com