

Please prepare following parts and tools:

1. A minimum 4 channel transmitter
2. A mini receiver
3. four mini servos (9 gram)
4. A Y harness
5. one brushless motor, for example # 2836
6. brushless electronic speed controller
7. 11.1V, 1700mAH, Li-Poly battery
8. glue
9. assembly tools, such as screwdriver, nipper pliers and so on
10. charger
11. 12V power supplier for charge

(parts list)

(serial number)	(name)	(specification)	(quantity)	(remark)
1	(main wing)		(one set)	Upper
2	(fuselage)		(one piece)	
3	(horizontal tail)		(one piece)	
4	(vertical tail)		(one piece)	
5	(cowling)		(one piece)	PVC
6	(canopy)		(one piece)	PVC
7	(wheel casing)		(one set)	




8	(undercarriage)		(one piece)	
9	(support of wing)		(one set)	(left and right)
10	(linkage steel wire for aileron)	Φ1*152mm	2	
11	(linkage steel wire for aileron servo)	Φ1*147mm	2	
12	(linkage steel wire for elevator)	Φ1*557mm	1	
13	(linkage steel wire for rudder)	Φ1*572mm	1	
14	(steel wire for tail pry bar)	Φ1	1	
15	(metal adjuster)	Φ1.1	2	
16	(sponge wheel)	Φ46*H9mm	2	
17	(wheel fixer)	Φ3.1*H5.5	2	
18	(control horn)	9*13	4	
19	(control horn)	14*17(3)	4	
20	(block)	Φ1*Φ4*11	4	
21	(male Velcro)	30*285mm		Fixing battery, controller, receiver
22	(inclined support of wing)		(one set)	(left and right)
23	(servo board of aileron)		(one set)	(left and right)
24	(fixing board for aileron servo)		4	(combine with servo board of aileron)
25	(fixing board of wing)		1	
26	(inner hexagon screw)	Φ3*10	4	(for fixing motor)
27	(washer)	Φ3	8	(for fixing motor)
28	(self-lock nut)	M3	4	(for fixing motor)
29	(self-tapping screw w/shoulder)	Φ2*8	4	(for fixing servo)
30	(self-tapping screw w/shoulder)	Φ2*8	4	(for fixing support of wing)
31	(screw)	Φ2*10	2	(for fixing support of wing)
32	(nut)	M2	4	(for fixing support of wing)
33	(screw)	Φ3*10	2	(for fixing undercarriage)
34	(washer)	Φ3	2	(for fixing undercarriage)
35	(screw)	Φ3*25mm	2	(for fixing wheel casing)
36	(washer)	Φ3	4	(for fixing wheel casing)
37	(self-lock nut)	M3	2	(for fixing wheel casing)
38	(self-tapping screw w/shoulder)	Φ2*8	4	(for fixing canopy)
39	(screw)	Φ3*25mm	2	(for fixing wing)
40	(washer)	Φ3	2	(for fixing wing)
41	(screws)	Φ2*10	8	(for fixing inclined support of wing)
42	(nut)	M2	16	(for fixing inclined support of wing)
43	(self-tapping screw w/shoulder)	Φ2*8	1	(for fixing tail pry bar)
44	(self-tapping screw w/shoulder)	Φ2*8	4	(for fixing cowling)
45	(self-tapping screw w/shoulder)	Φ2*8	8	(for fixing cover board of servo)

45	(nut)	M3	4	(for fixing wheel casing)
44	(decorative sticker)		(one set)	

(spare parts)

(serial number)	(name)	(specification)	(quantity)	(remark)
1	(self tapping screw w/shoulder)	Φ2*8	8	
2	(screw)	Φ3*20	1	
3	(washer)	Φ3	4	
4	(hinge)		4	
5	(inner hexagon screw)	Φ3*10	1	
6	(screw)	Φ2*10	5	
7	(nut)	M2	5	
8	(nut)	M3	1	
9	(self-lock nut)	M3	2	

<p>1</p> 	<p>Check all parts. If you find an defective or missing parts, Please contact your local dealer.</p>
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<p>2</p> 	<p>Please prepare these tools. (purchase separately)</p>
<p>3</p> 	<p>Changes in weather, temperature and humidity may cause the covering film to slacken. If necessary, use an iron to tighten the covering film. (Attention: iron should be covered with cloth, and start at low temperature. Increase temperature to proper temperature step by step. If it is too high, you may damage the film.)</p>
<p>4</p> 	<p>Fixing aileron to main wing.</p>
<p>5</p>	<p>Align the center line of main wing with aileron.</p>



6



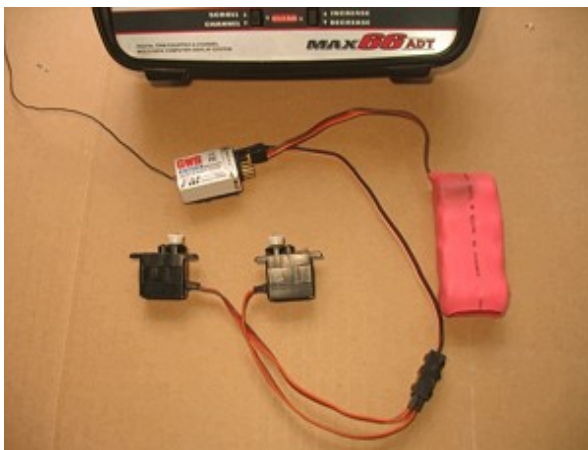
Adjust aileron, and make the aileron to be centered.

7



Deflex aileron over 35 degree, apply instant glue to both sides of the hinge. Ensure aileron can freely move, i.e. swing aileron up and down at 120 degree at least. (Assemble left and right sides at the same way.)

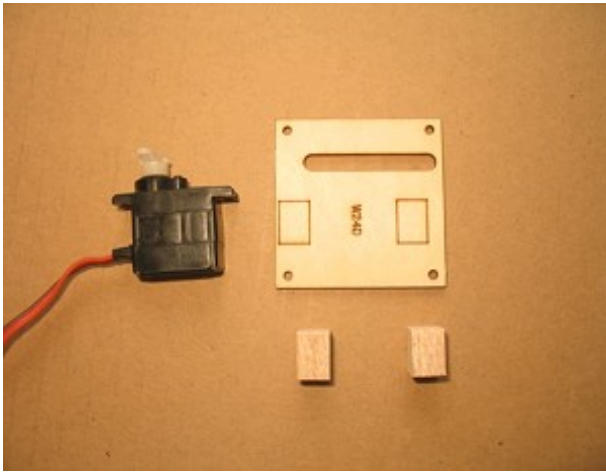
8



Please prepare following radio remote control equipments:

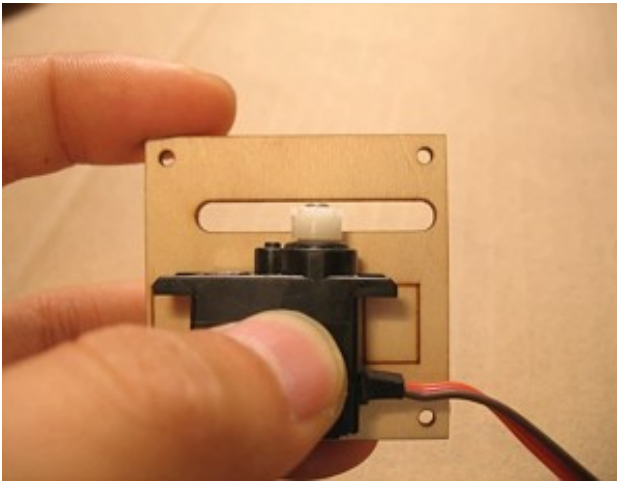
1. A minimum 4 channel transmitter
2. A mini receiver
3. two mini servos (9 gram)
4. A 4.8V battery (for receiver)

9



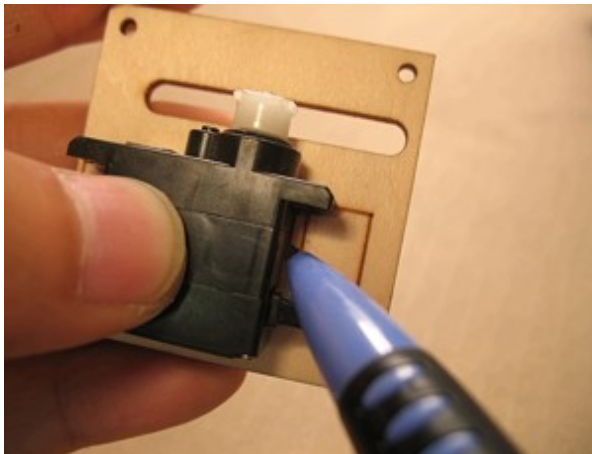
Prepare the parts and servo as the picture shows.

10



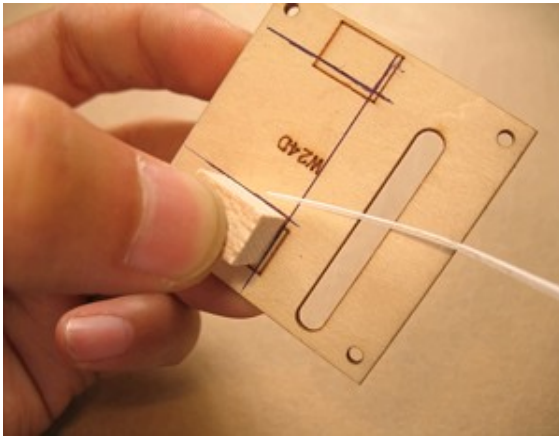
Place the center of servo arm in the middle of the center of the slot on servo board.

11



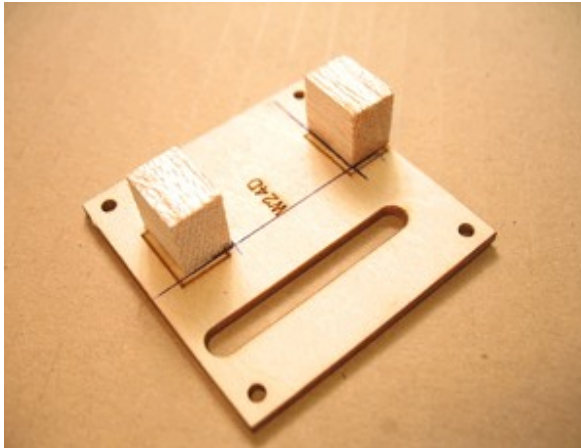
Mark the fixing position.

12



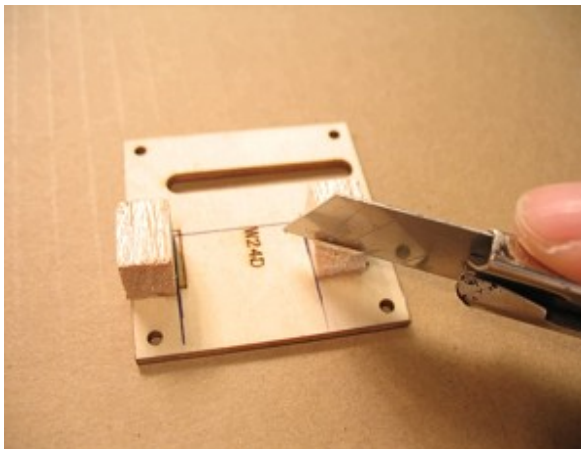
Glue the servo fixing block according to the mark.

13



Assembled servo fixing block.

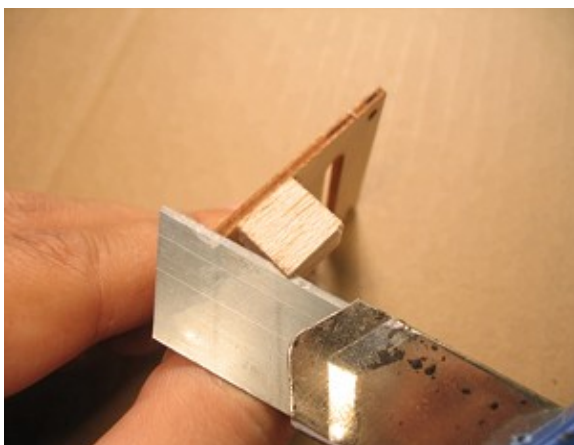
14



Trim servo fixing block so that servo can well into the space of the two blocks.

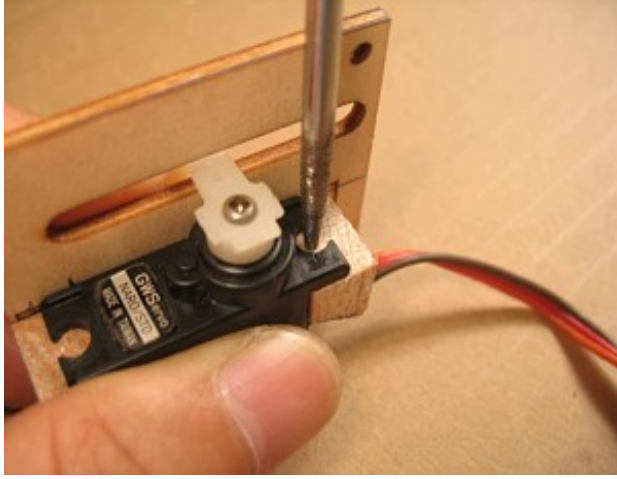
Attention: you have to trim servo fixing block according to the assembly size of your servo. Different servos have different sizes.

15



Cut off the excess part of servo fixing block than servo board.

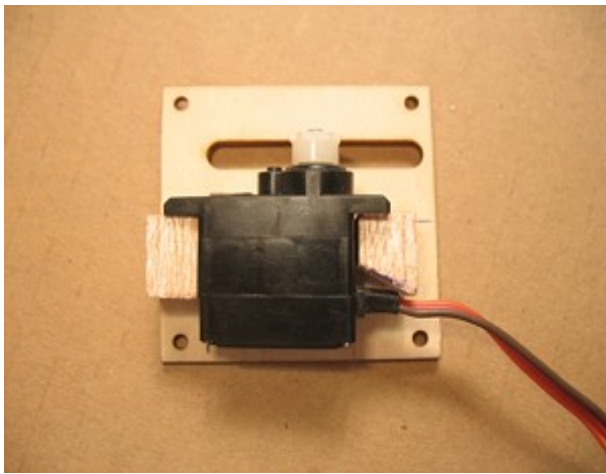
16



Make assembly hole with wimble.

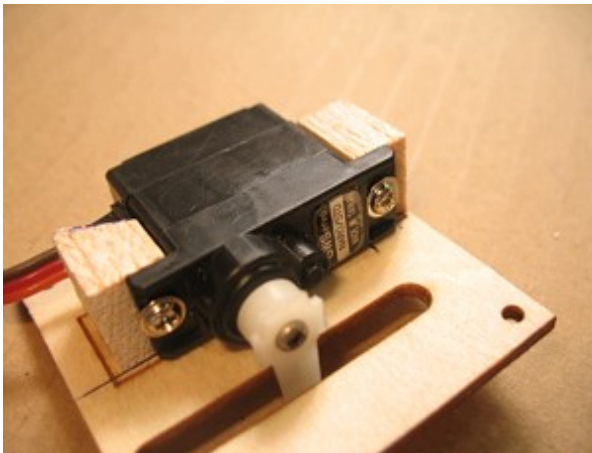
Attention: before assembly, please use remote controller to make the servol horn is restorable

17



Assemble aileron servo with $\Phi 2 \times 8$ self tapping screw w/shoulder.

18



Assembly result.

19



Assemble control horns on the bottom of aileron.

Attention: the fixing hole of control horn was preset, only need to assemble control horns on the fixing holes.

20



Cut only film along the edge of control horns.

Attention: only cut the film, not harm the wood beneath.

21



Take away the film.

22



Apply instant glue to assemble control horns on the places that the film was cut away

23



Assemble upper and lower aileron control horn with the same way of assembly for aileron servo.

24



After assembly.

25



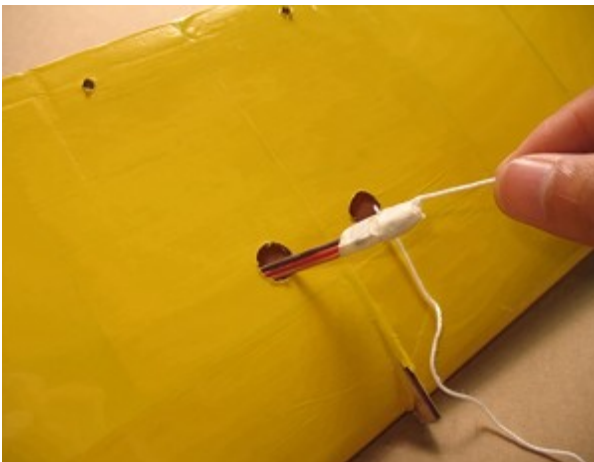
Connect aileron control horn harnesses and Y harness, and then tie servo connector with down-lead.

26



Tie the servo connector with adhesive tape.

27



Pull out Y harness from the bottom of wing by the down-lead.

28



Assemble steel wire for aileron servo.

29



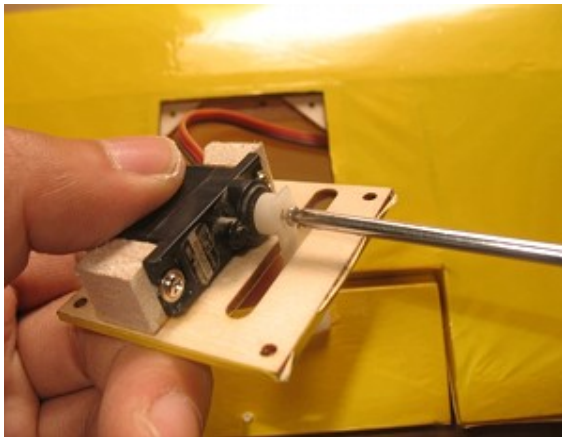
After assembly.

30



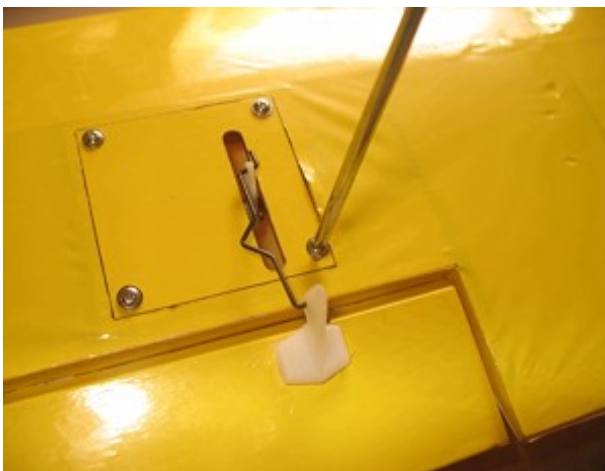
Change the open angle of “V” to adjust the length of linkage rod so that aileron can restore.

31



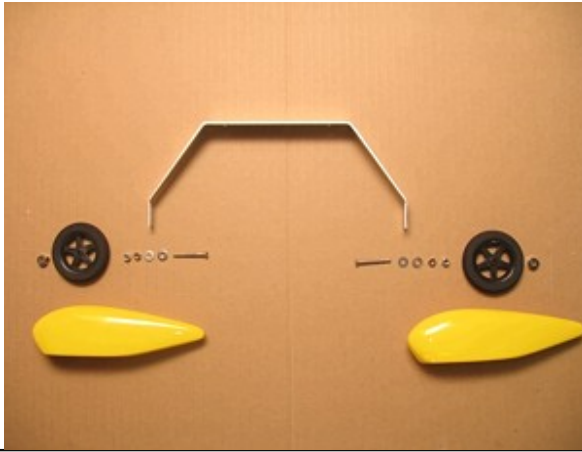
Fix servo arm with screw.

32



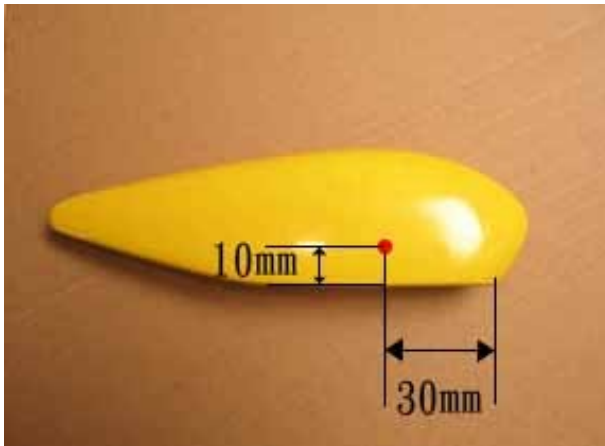
Fix servo board with $\Phi 2 * 8$ self-tapping screw w/shoulder.
Attention: assemble left and right aileron servo at the same way.

33



Parts of undercarriage.

34



Make mark on wheel casing as the picture shows.

Attention: make mark on inner side surface of left and right wheel casing.

35



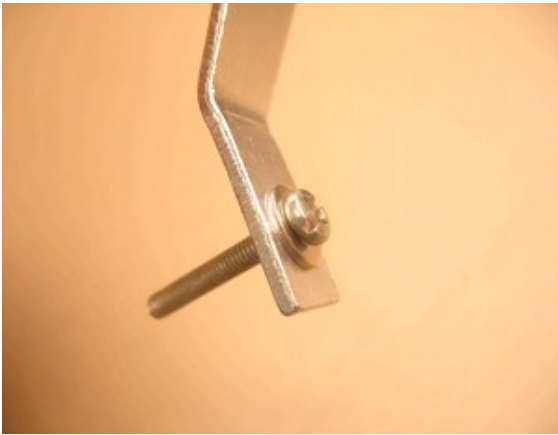
Drill hole with $\Phi 2$ aiguille.

36

Enlarge the hole with $\Phi 3$ aiguille.



37



Assemble $\Phi 3 \times 25$ screw and $\Phi 3$ washer on the holes of undercarriage.

38



Assemble wheel casing and $\Phi 3$ washer as the picture.

39

Assemble M3 self-lock nut as the picture.
Attention: screw down the nut only in the middle of screw.



40

Assemble two pieces of M3 nut as the picture.



41

Assemble sponge wheel and wheel fixer



42

Fix wheel casing by M3 self-lock nut, and then make sponge in the middle of wheel casing by adjust M3 nut.



43



Correct position of sponge wheel as the picture.

44



Fix the wheel fixer with inner hexagon screwdriver.

45



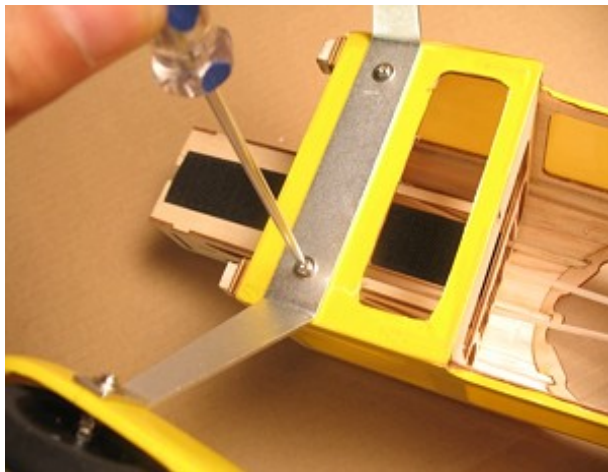
After assembly.

46

Assembly result.



47



Fix undercarriage on bottom of fuselage with $\Phi 3*10$ screw and M3 washer.

48



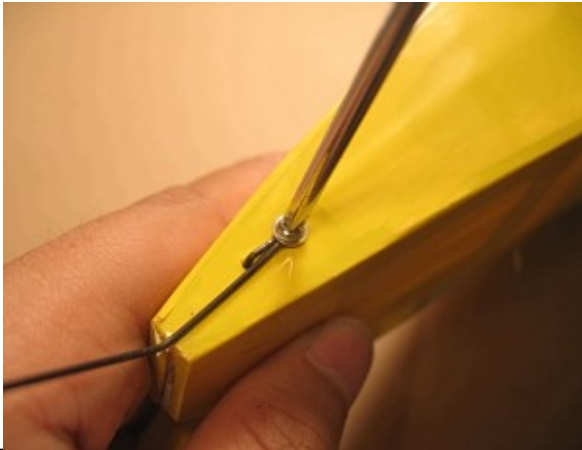
Assembly result

49



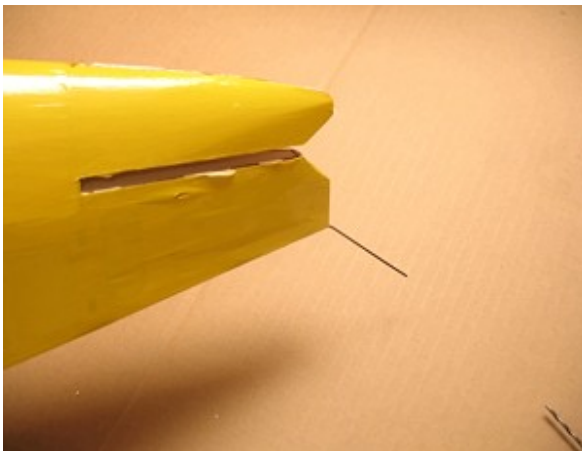
Insert steel wire for tail pry bar into the preestablished hole as the picture.

50



Fix steel wire for tail pry bar with $\Phi 2 \times 8$ self-tapping w/shoulder screw.

60



Assembly result.

61



Align bolt of lower wing with the slot of fuselage.

62



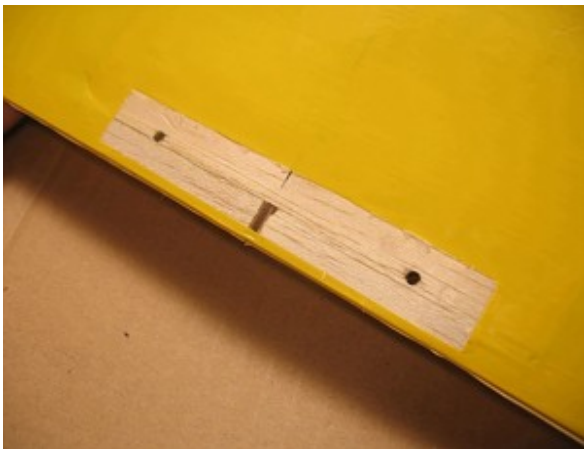
Assemble fixed board on lower wing as the picture.

63



Cut only film along the fixed board.

64



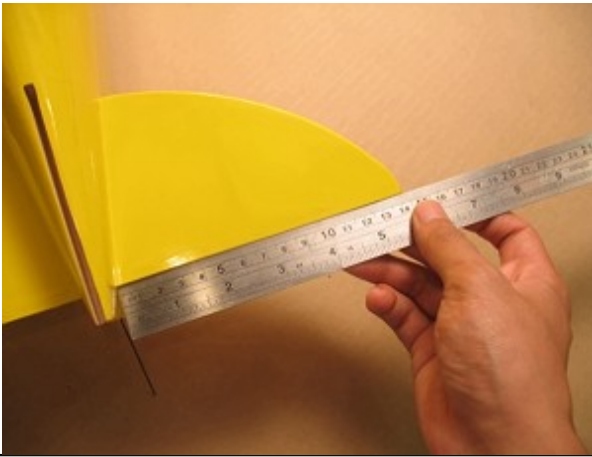
Take away the cut film.

65



Fix the fixed board with instant glue.

66



Insert horizontal tail into fuselage. After assembly, exserted horizontal tail should be symmetrical on left and right.

67



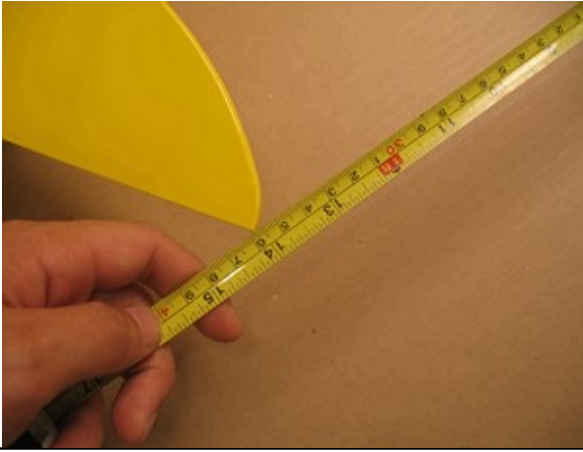
Horizontal tail is vertical with the axis of fuselage.

68



Please refer to this place when you assemble horizontal tail.

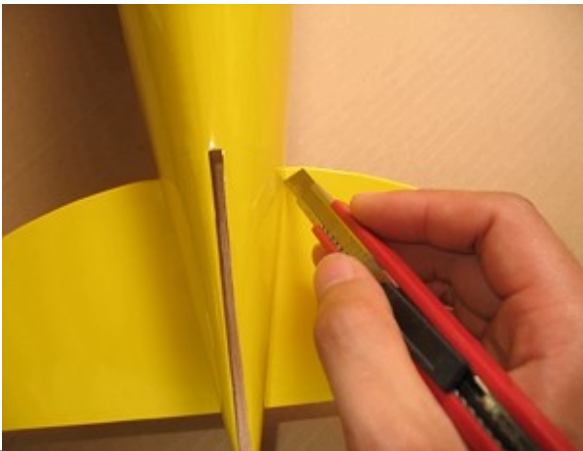
69



Please refer to this place when you assemble horizontal tail.

The distance from the end of horizontal tail to the referred position should be same at left and right.

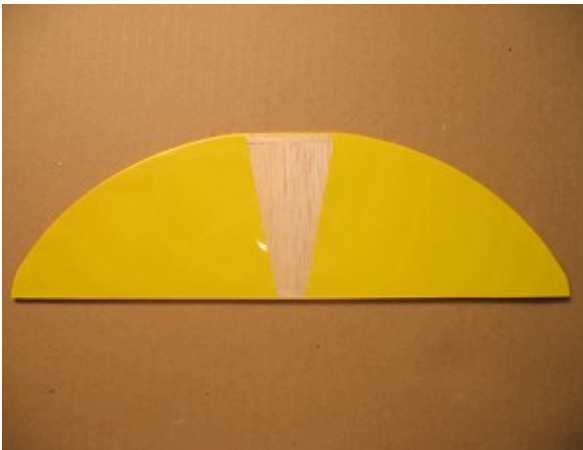
70



Cut the film on horizontal tail along fuselage.

Attention: only cut the film, not harm the wood beneath.

71



Take away cut film.

72



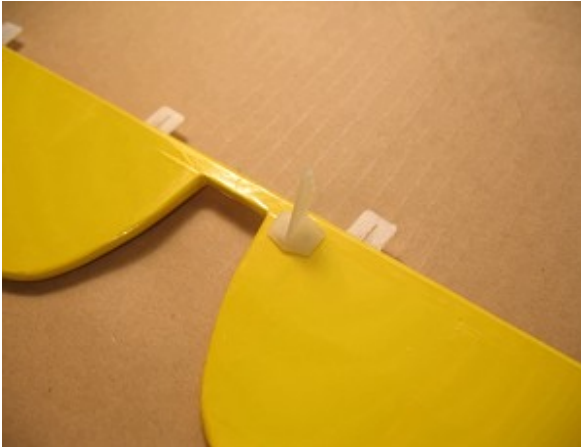
Horizontal tail and wing should be parallel

73



Apply instant glue to fix horizontal tail.

74



Assemble servo horn on elevator.

75

Assemble elevator on horizontal tail.
Attention: the servo horn is on left side of fuselage.



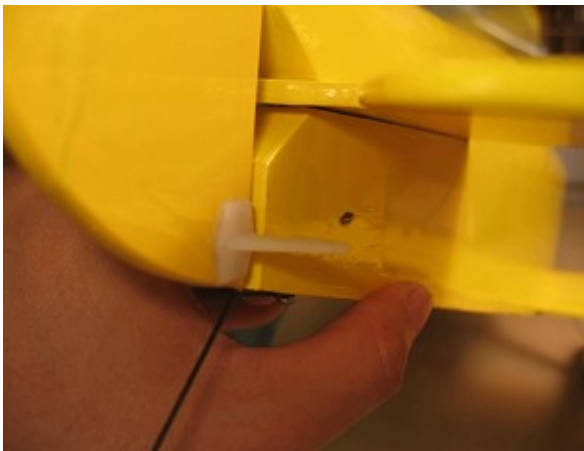
76



Make sure rudder can move freely.

Attention: Please refer to the assembly way of aileron rudder.

77



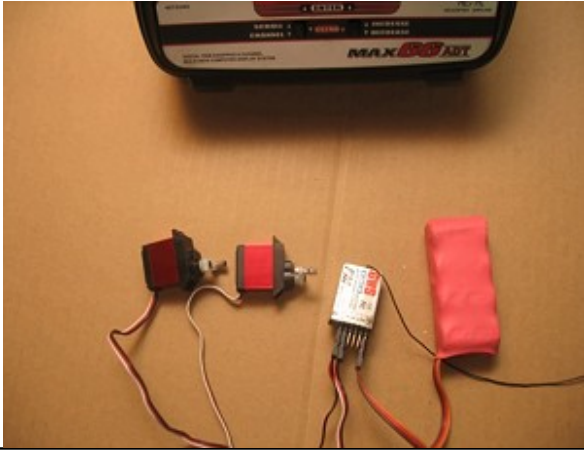
Assemble rudder on vertical tail.

Attention: the servo horn should be on right side of fuselage.

78

Please prepare following radio remote control equipments:

1. A minimum 4 channel transmitter
2. A mini receiver
3. two servo extension cords
4. two mini servos (9 gram)
5. A 4.8V battery (for receiver)



79

Assemble servos on servo shelf as the picture.
Attention: servo arm should towards back.



80

Enlarge the hole of servo arm with $\Phi 2$ aiguille.
Attention: enlarge inner end' hole will not impact the strength of servo arm.



81

Assemble metal adjuster on servo arm.



82



Assemble nut

Attention: the assembly cannot be too tight so that you can make sure the metal adjuster can move freely.

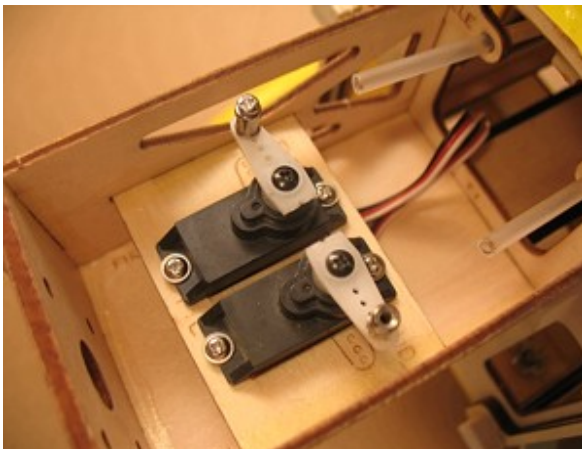
83



Glue the nut and screw with little instant glue.

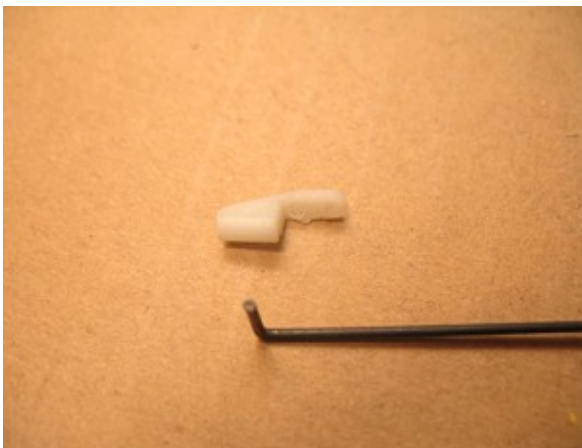
Attention: only little instant glue, for example apply glue with toothpick.

84



Assemble servo arm on the servo, screw down the nut after restoring servo arm.

85



prepare $\Phi 1$ *557mm linkage steel wire for elevator and the block.

86



The steel wire should be able to be inserted in the hole of block.

87



Insert the steel wire into fuselage from the preestablished hole on left end of fuselage. The angled end of steel wire connect with servo horn. Attention: another straight end of steel wire should be through from the hole of metal adjuster.

88



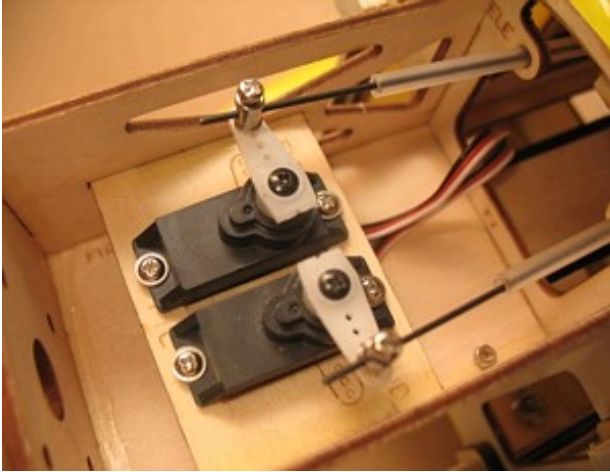
Assemble the block that is prepared for elevator servo Horn as the picture.

89



Assemble the steel wire for rudder and block as the picture.

90



Make sure the steel wire thru metal adjuster.

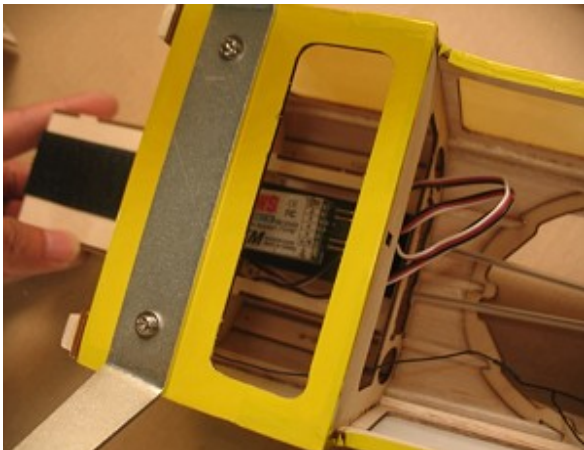
91



Restore servo and servo arm, and then screw down screw to fasten steel wire..

Attention: this step is important. It is concerned with flying security. Please apply instant glue into the hole of metal adjuster so that the steel wire will not come off.

92

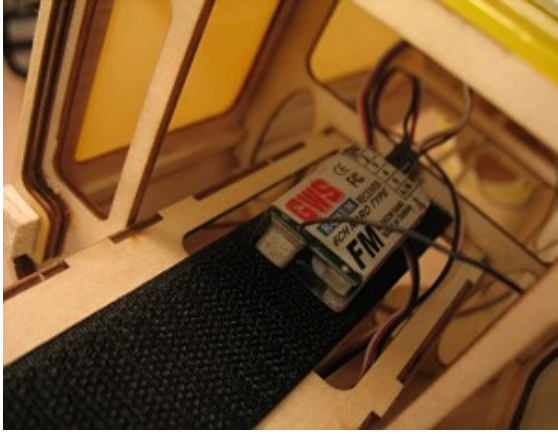


Please refer to the picture for the assembly position of receiver.

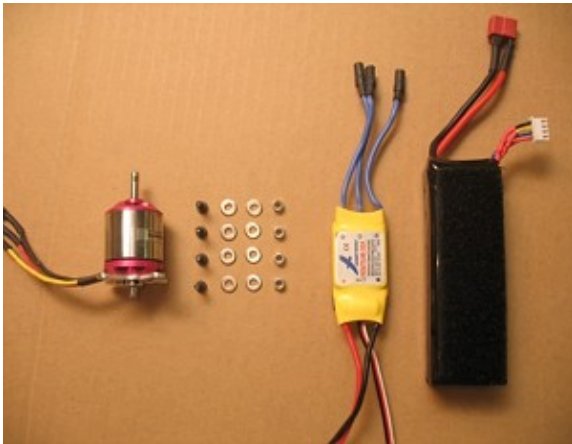
Attention: attach nylon Velcro on the back of receiver

93

Assembled receiver.



94



1: 2836 280W

2: 30A

3: 3S1P 11.1V/1700mAh 15C

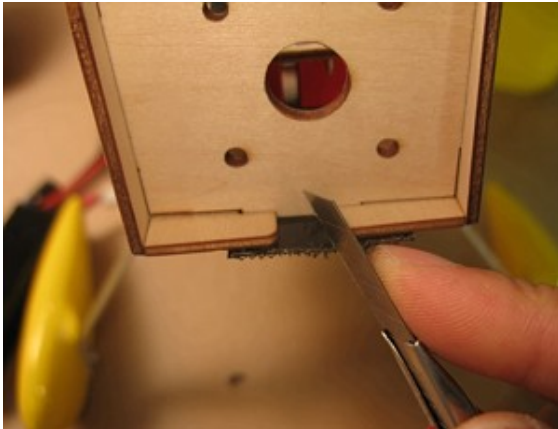
Please prepare following powder equipments:

1. 2836 brushless motor, the powder cannot lower than 280W.

2. 30A brushless motor electronic speed controller.

3S1P 11.1V/1700mAh 18C Li-Poly battery.

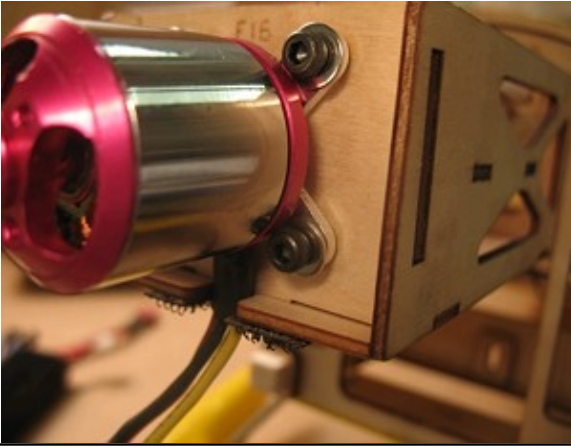
95



Clean velcro on the exit of motor wires with knife so that motor wires can be pulled out easily.

96

Assemble motor as the picture shows.



97

Fix motor on fuselage with fasteners.



99

Assembly result of motor (front view)



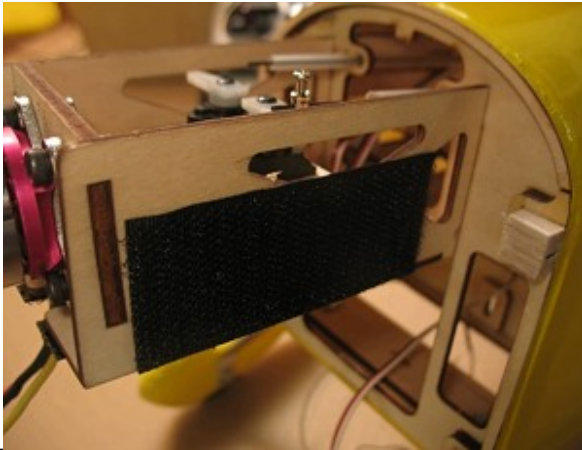
100

Assembly result of motor (back view).



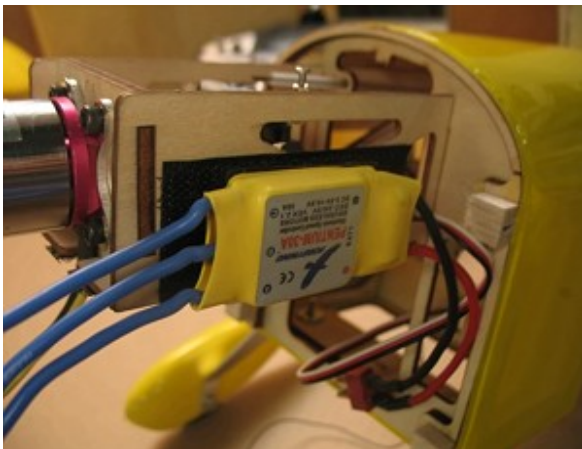
101

Attach Velcro on the left side of motor shelf.



102

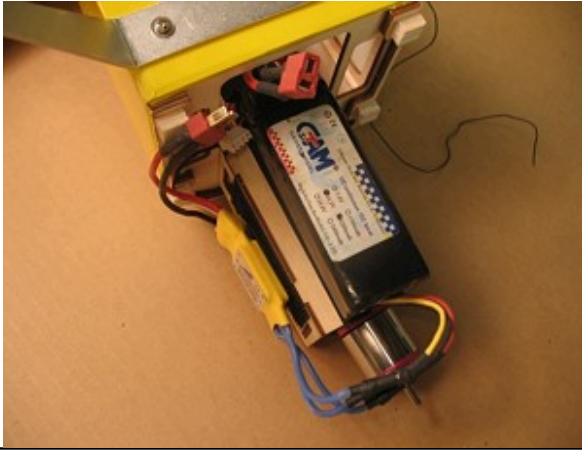
Correct assembly of brushless electronic speed controller
And brushless motor.



Attention: Please refer to the guide of brushless
electronic speed controller and brushless motor.

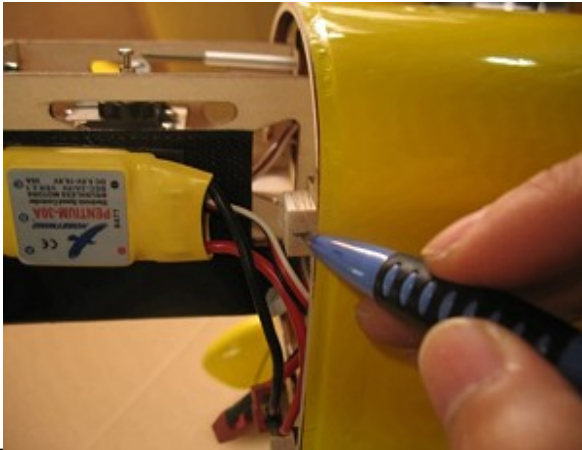
103

Fix battery on fuselage by Velcro. Start motor after starting
remote control system and connecting batteries on
brushless electronic speed controller. Check if motor can
run at correct direction. The correct direction is counter
clockwise. If the run direction is incorrect, please
exchange two pieces cords that connect brushless speed
controller and motor. Break the circuit between battery
and brushless speed controller when you are sure motor
will run at correction direction.
Attention: Please break the circuit between battery and



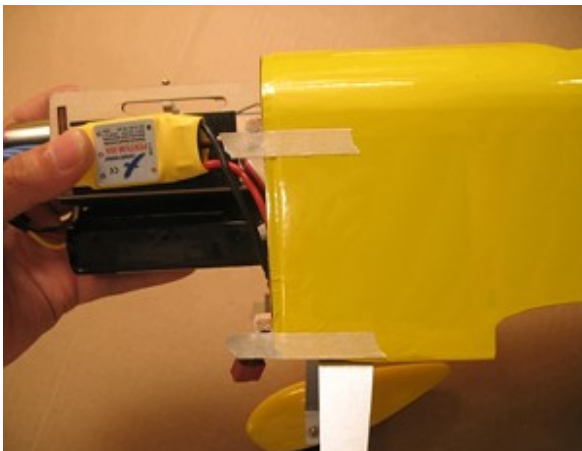
brushless speed controller after flying, otherwise, battery will be damaged due to excessive discharge.

104



Make a mark on the center of cowling fixing block
Attention: four places

105



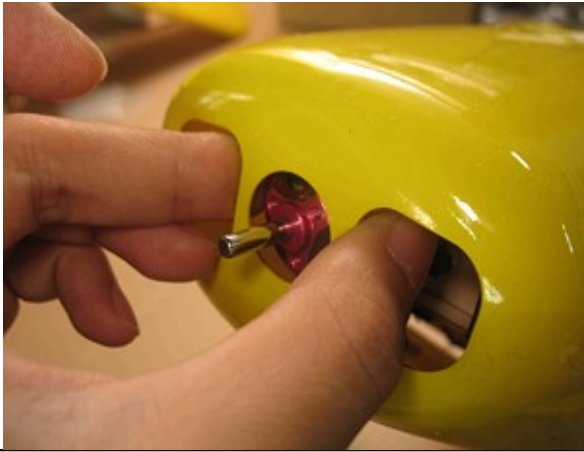
Attach adhesive tape on fuselage according to the marks
Attention: four places

106



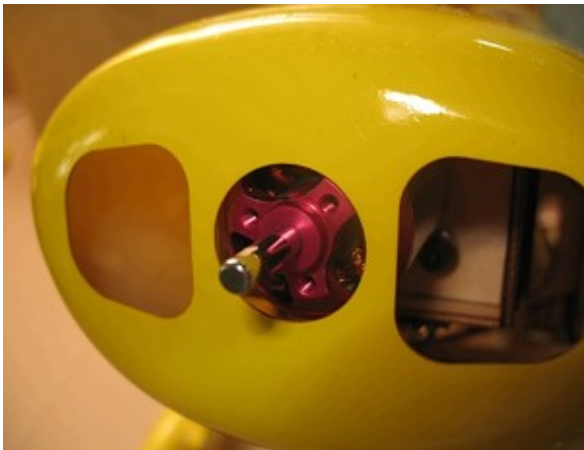
Locate cowling on the head of fuselage by the four adhesive tapes.

107



Adjust the position of cowling.

108



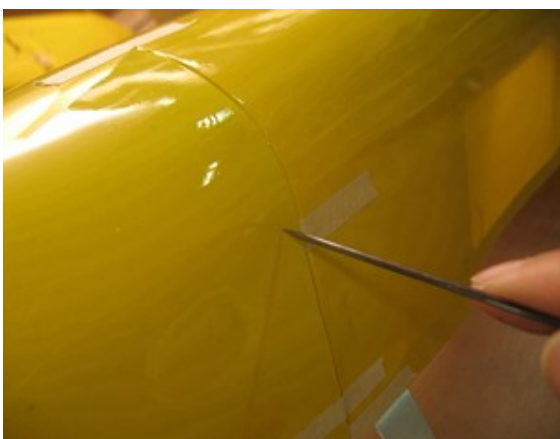
Correct position of cowling.

109



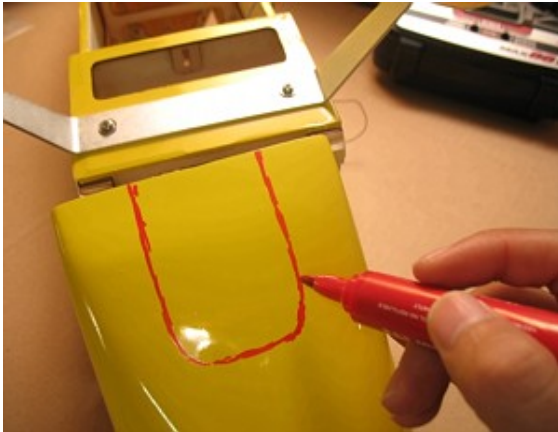
Locate cowling with adhesive tapes to make sure cowling will not move

110



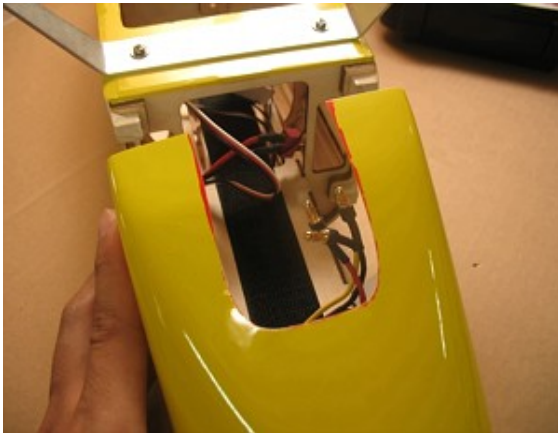
Drill holes according to the center mark of cowling fixing block
Attention: the holes should be around the center of cowling fixing block.

110



According to the length and width of battery, make marks on cowling.

111



Cut off some cowling according to battery sizes.

Attention: the remained mark can be cleaned by alcohol

112



Fix cowling with four pieces of $\Phi 2 \times 8$ self-tapping w/shoulder screws

113



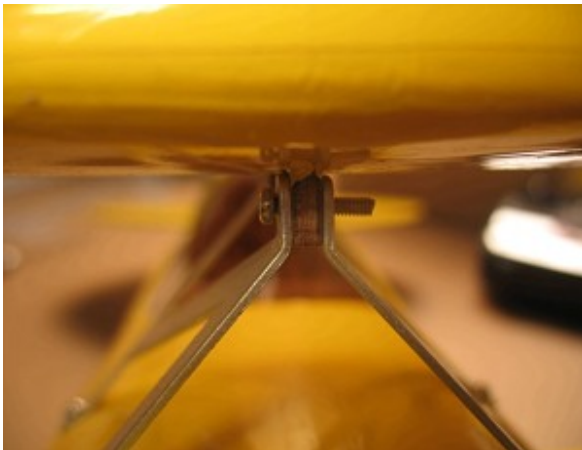
Prepare to assemble support of wing

114



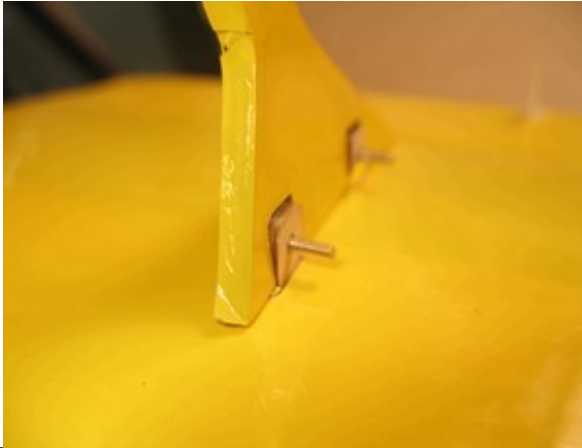
With four pieces of $\Phi 2*8$ self-tapping w/shoulder screws, fix the two supports of wing as per the preestablished fixing holes

115



Locate upper wing on support of wing with two pieces of $\Phi 2*10$ screws.

116



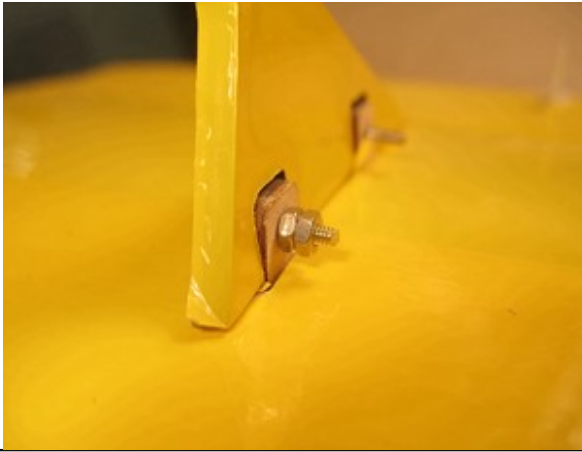
Assemble inclined support of wing with 8 pieces of $\Phi 2*10$ screws.

117



Assemble inclined support of wing

118



Fasten the $\Phi 2 \times 10$ screws with two M2 nut for each screw

119



Assembly result

120



Assemble linkage steel wire of upper and lower aileron as the picture. Make upper and lower aileron exactly restore by adjusting the open angle of "V"

121



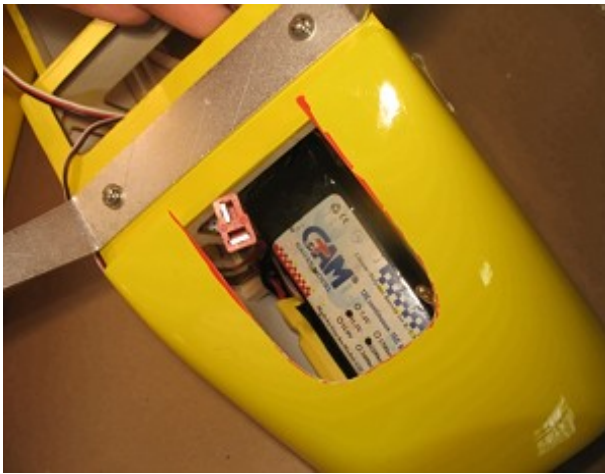
Assemble canopy as the picture

122



Please refer to the picture to place antenna, fix the tail with clear adhesive tape

123



Assemble battery as the picture

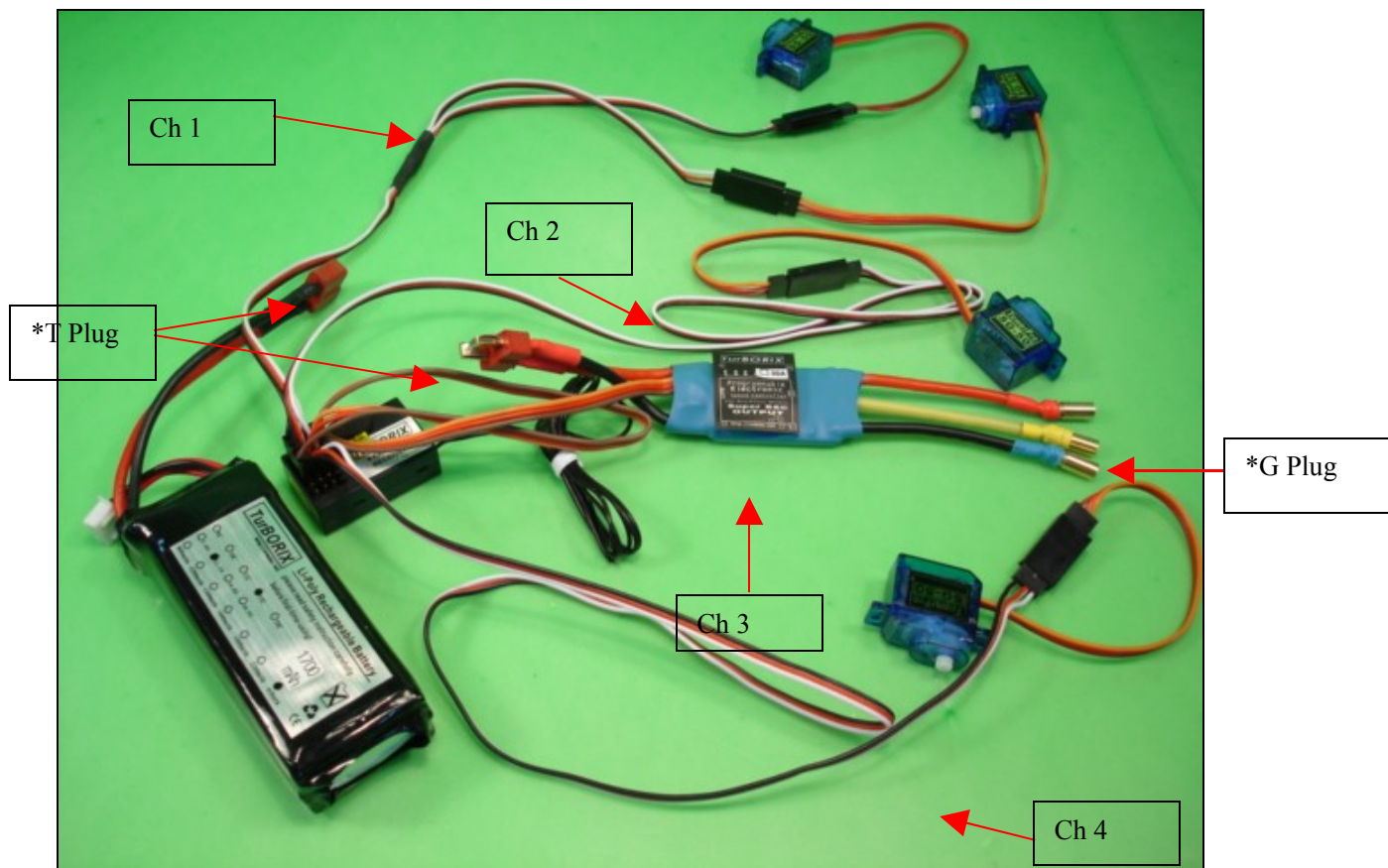
Attention: attach Velcro on the back of battery

124



Assemble 10*4.7 airscrew

C.G. of Pitts is 5cm behind the front edge of bottom main wing



Remark:

Ch1 is connected to 2 Servo and Y Cable

Ch2 is connected to 1 Servo and Extension Wire

Ch3 is connected to Speed Controller

Ch4 is connected to 1 Servo and Extension Wire

*T Plug for the connection of Speed Controller and the Battery

*G Plug for the connection of Speed Controller and the Brushless Motor



Channel 1: Aileron Action

Control the right-and-left lean of the aircraft. To level the slantwise aircraft, you must make the control rod act in reverse direction. Otherwise, it will make the aircraft overturn.

Channel 2: Elevator Action

Control the aircraft to descend or ascend. Pulling the control rod down will drive up the head, and the aeroplane will ascend. Boosting it up will make the head downhill, and the aeroplane will descend.

Channel 3: Throttle Operation

Control the power. Pulling the control rod down will minish down the power group, and boosting the control rod up will increase the power group.

Channel 4: Rudder Action

Control the swerve of the aircraft. Turning the control rod to left will make the head of the aircraft turn left, and turning it to right will make the head turn right.

Channel 5: Landing Gear/Gyro Action

This channel is for switch variable. It is a switch to control landing gear when used for airplane state, but it will be a switch for gyroscope when used for helicopter.

Channel 6: Screw-pitch/Flaperon Action

The angle adjusting of the flaperon is for the airplane state, and the adjusting of the main screw-pitch is for helicopter state.