

## Manual of 4Ch RC EP Balsa Wood Built Scale J-3 Club Piper

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	
2	fuselage		one piece	
3	horizontal tail		one piece	
4	vertical tail		one piece	
5	cowling		one piece	PVC
6	canopy		one piece	PVC
	skylight		1	PVC
7	inner hexagon screw	$\Phi 3*10$	4	for fixing motor
8	washer	$\Phi 3$	10	for fixing motor and main wing
9	self-lock nut	M3	4	for fixing motor
10	self-tapping screw w/shoulder	$\Phi 2*8$	13	for fixing servo and cowling
11	self-tapping screw w/shoulder	$\Phi 2*12$	6	for fixing inclined support of wing
12	screws	$\Phi 2*10$	8	for fixing undercarriage baffle
13	nut	M2	8	for fixing undercarriage baffle
14	screws	$\Phi 3*25mm$	2	for fixing main wing
15	male Velcro	30*150mm	1	assembled
16	female Velcro	30*95mm	2	for fix battery
17	male/female Velcro	30*40mm	1	for fixing speed controller
18	male/female Velcro	30*30mm	1	for fixing receiver
19	undercarriage steel wire	$\Phi 2mm$	1	

20	linkage steel wire for aileron servo	Φ1mm	2	
21	linkage steel wire for elevator	Φ1*558mm	1	
22	linkage steel wire for rudder	Φ1*558mm	1	
23	linkage steel wire for horizontal tail	Φ2mm	1	
24	sponge wheel	Φ46*H9mm	2	
25	wheel fixer	Φ2.1*H55	4	
26	control horn	14*17(3 holes)	4	
27	block	Φ1*Φ4*11	2	
28	metal adjuster	Φ1.1	2	
	inclined support of wing			
	servo board of aileron			
	fixing board for aileron servo			
	fixing board of wing			
29	C15A wood parts		4	landing skid fixing board
30	C13A laser cut parts		1	landing skids fixing parts
31	fixing board of wing		1	
32	inclined support of wing		2	
33	accessories of back wheel		1	

spare parts

serial number	name	specification	quantity	remark
1	self tapping screw w/shoulder	Φ2*8	8	
2	self tapping screw w/shoulder	Φ2*12	2	
3	screw	Φ3*25	1	
4	washer	Φ3	2	
5	hinge		2	
6	inner hexagon screw	Φ3*10	1	
7	screw	Φ2*10	2	
8	nut	M2	2	
9	self-lock nut	M3	1	

1



Check all parts. If you find an defective or missing parts, Please contact your local dealer.

2



Please prepare these tools. (purchase separately)

3



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.)

4



Fixing aileron to main wing.

5



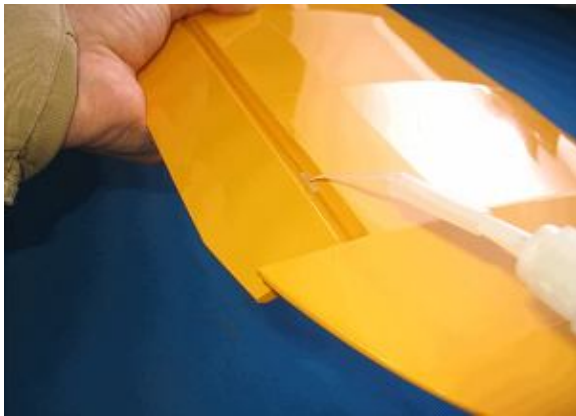
Align the center line of main wing with aileron.

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 wheel fixer and cotton line as the picture shows

10



Pull cotton line through wheel fixer and fix

11



Prick up main wing for insert the cotton line reach to aileron servo.

12



Pull out the cotton line from main wing.



13



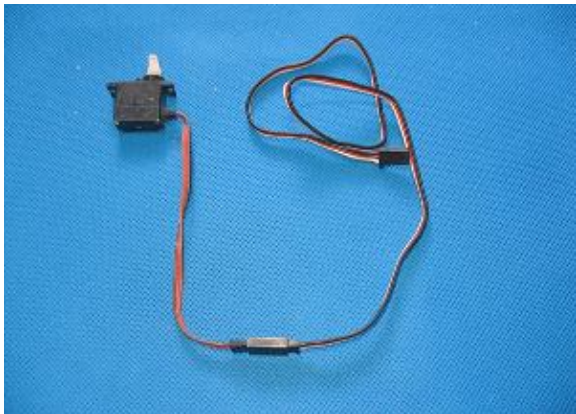
The exit of cotton line.

14



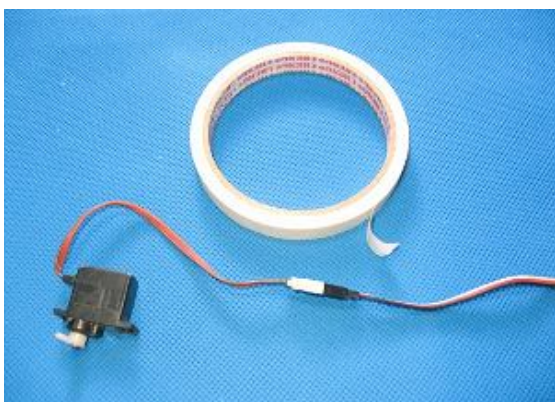
Prepare aileron servo and servo extension cords

15



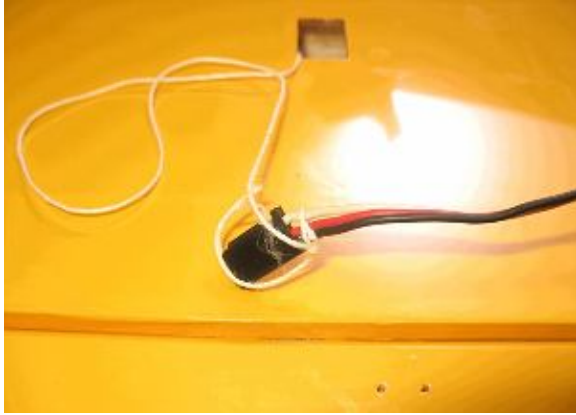
Connect servo with extension cords

16



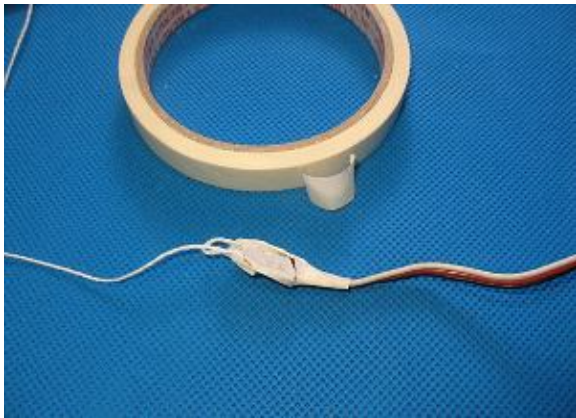
Wrap the joint with adhesive tape, to avoid come away.

17



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

18



Tie the servo connector with adhesive tape.

19



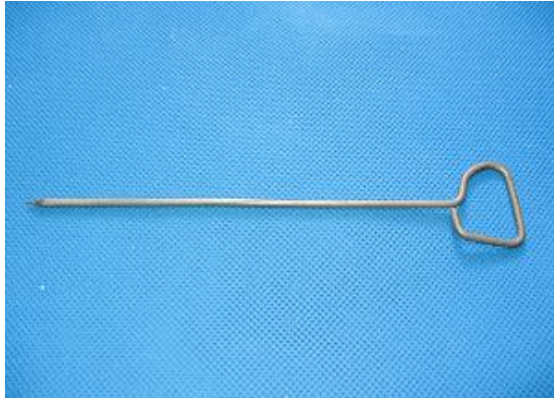
Pull out the servo extension cords from main wing by cotton line

20



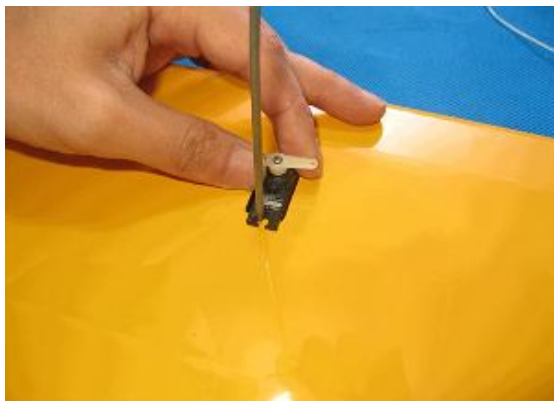
Assembled aileron servo

21



Prepare a wimble

22



Make assembly hole with wimble

23



The assembly hole of servo

24



Fix aileron servo with  $\Phi 2*8$  self tapping screw w/shoulder.



25



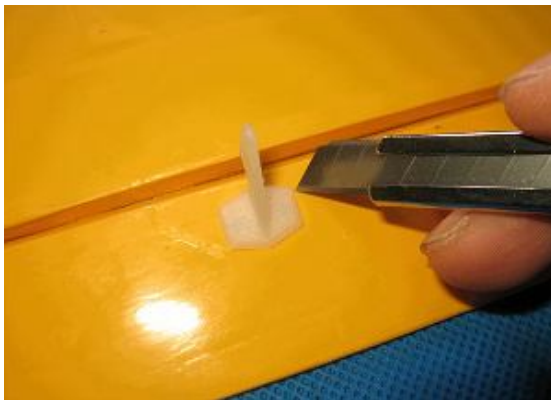
Assemble control horns on the bottom of aileron.  
Attention: the fixing hole of control horn was preset, only need to assemble control horns on the fixing holes.

26



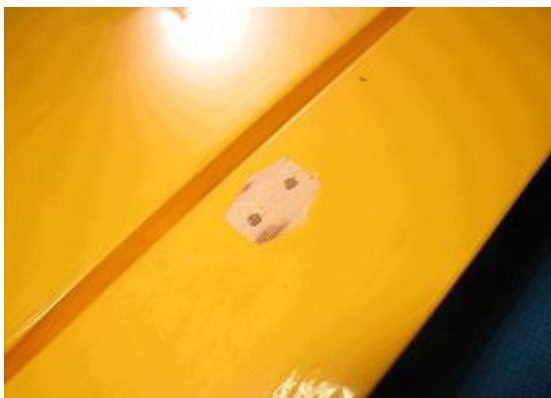
Assembled control horn

27



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.

28



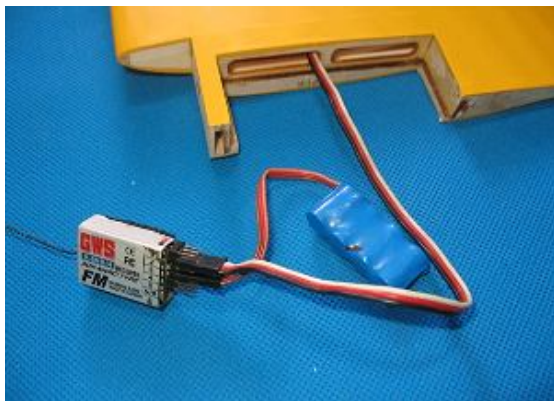
Take away the film under control horn

29



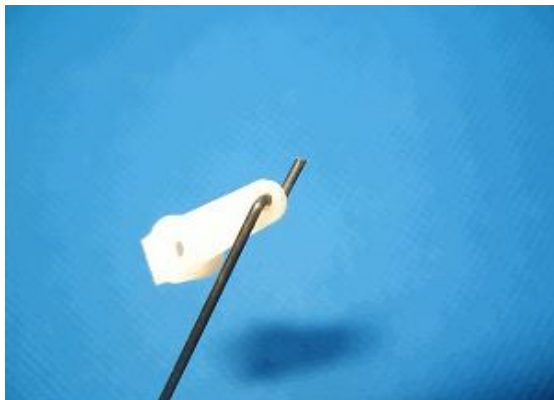
Apply instant glue to assemble control horns on the places that the film was cut away

30



Connect aileron servo with the receiver

31



Assemble linkage steel wire of servo on aileron servo arm

32



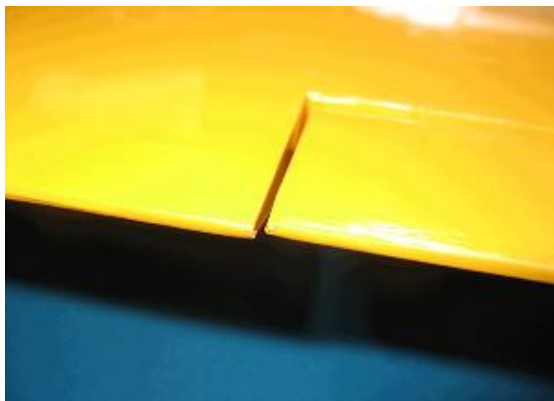
Assemble linkage steel wire on aileron control horn

33



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

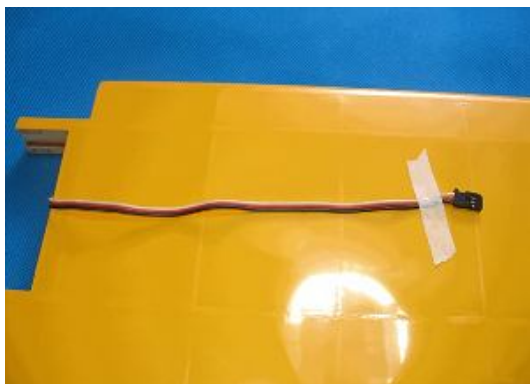
34



Restored aileron

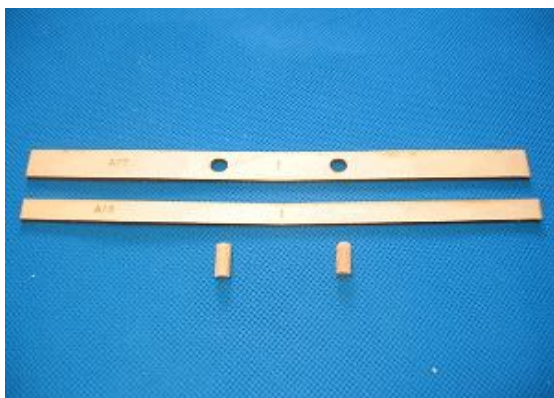
Attention: please pay attention to the turn direction of aileron. If there is wrong on the direction, please refer to the manual of remote controller and reset

35



Fix the servo cords by adhesive tape

36



Prepare main wing latches and fixing bars

37



Make a small chamfer angle on one end of main wing fixing bars

38



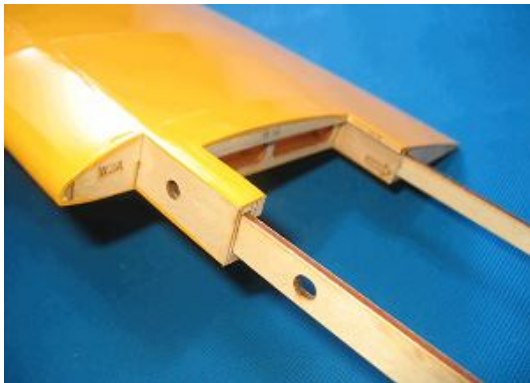
small chamfer angle

39



Try on main wing and check the clearance

40



Insert the latch into the hole until the center point is flush with the end of wing

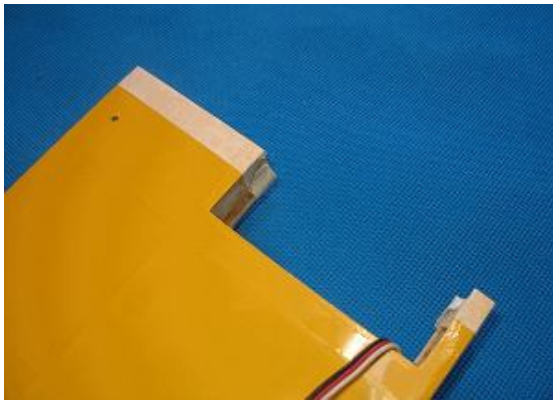
Attention: If it is too tight during inserting the latch, please stop the insert and polish the latch, and then try again until the latch is well interference with the hole. Both right and left wing is so.

41



The clearance should be proper between right main wing and left main wing

42



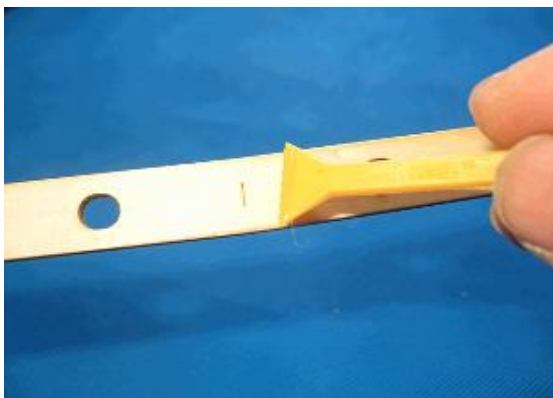
Wrap the end of main wing with adhesive tap

43



Prepare AB glue that can solidify within 30 minutes  
Attention: AB glue should be applied within 3 minutes.  
Please refer to the manual of the glue.

44



Apply the mixed AB glue on the latch  
Attention: Apply AB glue on only half of the latch, glue cannot cover the center line on latch



45



Insert the latch into main wing. Clean the glue and keep the center line flush with the end of wing end

46



Apply AB glue on the rest parts of latch and the end of wing

47



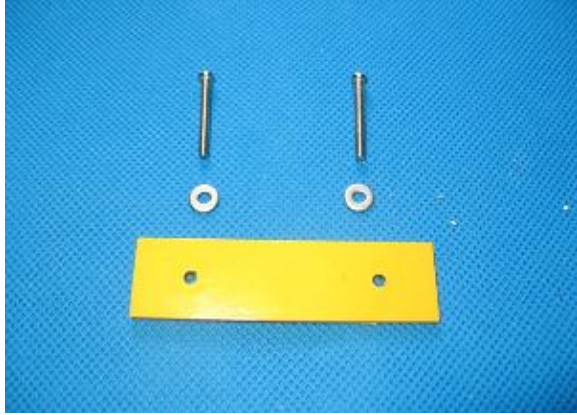
Wrap the joint of right and left wing with adhesive tapes after cleaning the glue

48



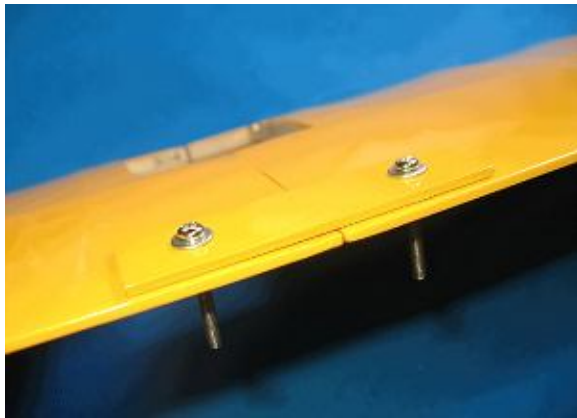
Take away the adhesive tape and clean the joint after the glue solidify  
Assemble the fix bars on the latch

49



Prepare wing fix board and tightness parts

50



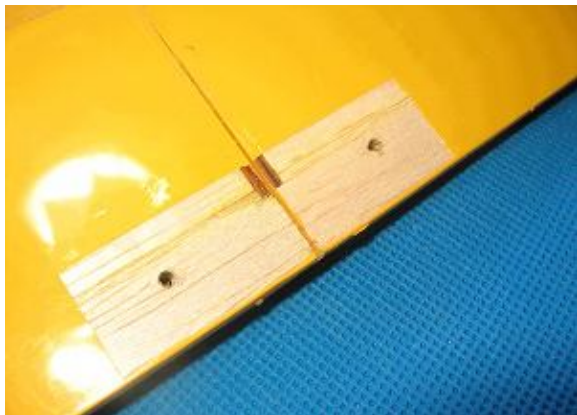
Assemble wing fix board on the jointed wings

51



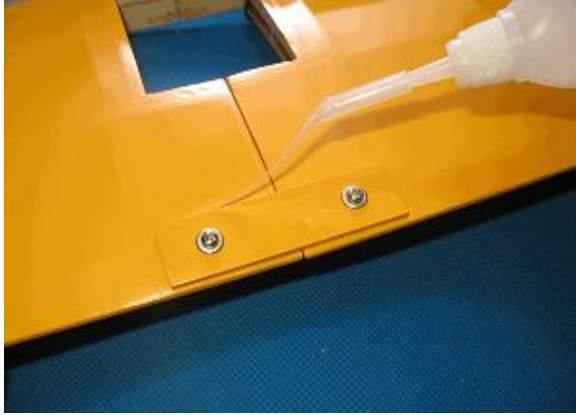
Cut only film along the fix board.

52



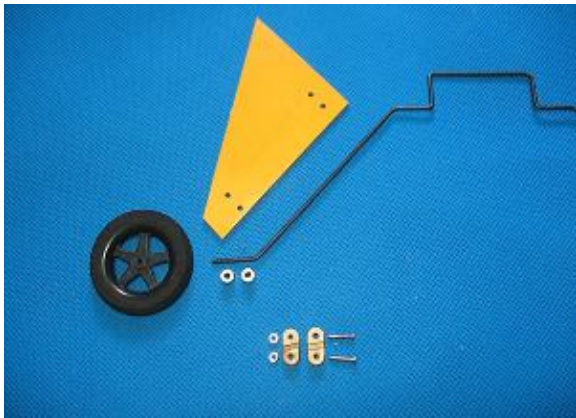
Take away the film under the fix board

53



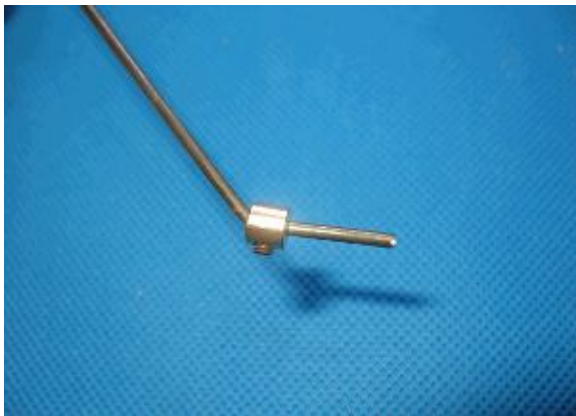
Fix the fix board with instant glue.

54



Parts of landing skid

55



Assemble wheel fixer

56



Assemble sponge wheel and another wheel fixer on another side  
Attention: the wheel must can turn freely

57



Top view after assembly

Attention: from top view, the two wheels should be slightly towards each other from front. If not, it is difficult to keep the plane move straightly when it takes off. Adjust the steel wire can get the result.

58



Side view after assembly

59



Assemble undercarriage baffle as the picture shows

Attention: the baffle is directional, the straight side should towards front and film joint should towards inner.

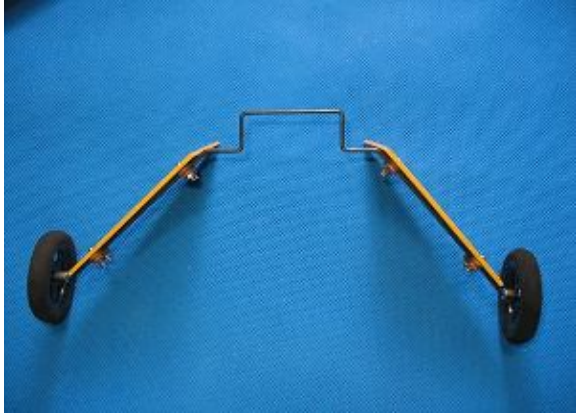
60



Assembled one side



61



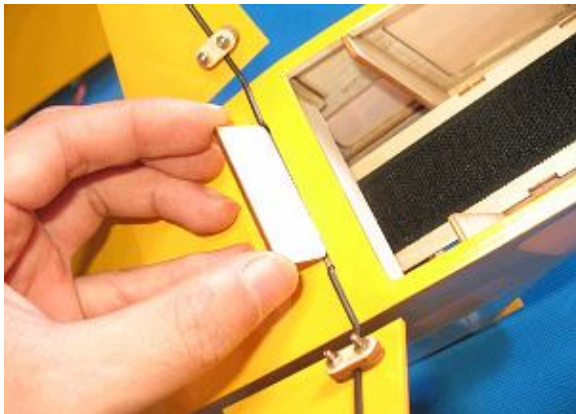
After assembly of both sides

62



Insert assembled undercarriage into the slot on fuselage.

63



Assemble undercarriage fix board

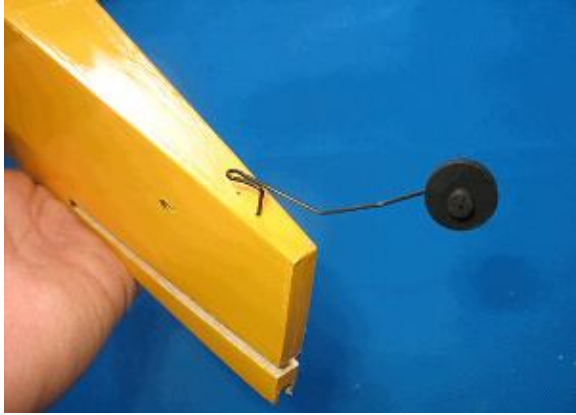
64



Fix the undercarriage board with glue

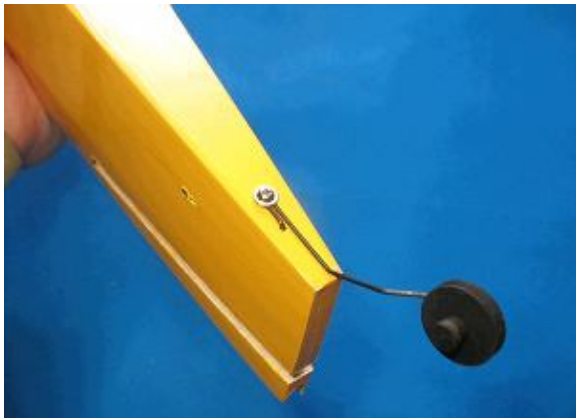


65



Assemble back wheel on fuselage

66



Fix steel wire of back wheel with  $\Phi 2*8$  self-tapping w/shoulder screw. Adjust the steel wire to make the back wheel in correction position otherwise the plane will have excursion when it is sliding for taking off or landing

67



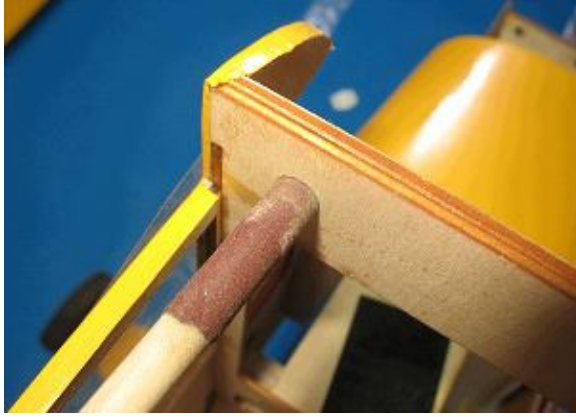
Assemble main wing on fuselage

68



If the fixed holes on fuselage are too small, please use a bar with sandpaper to enlarge the holes as the picture

69



Enlarge the hole

70



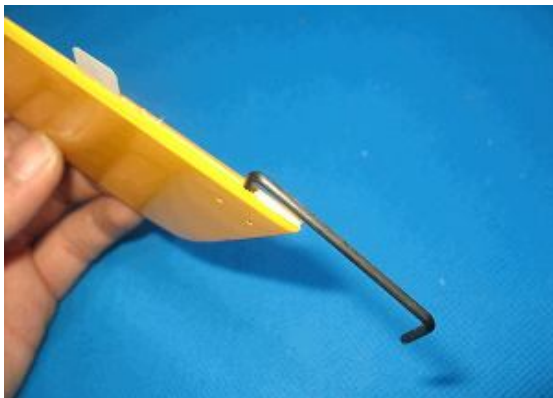
Assembled main wing  
Attention: main wing cannot press the servo harness

71



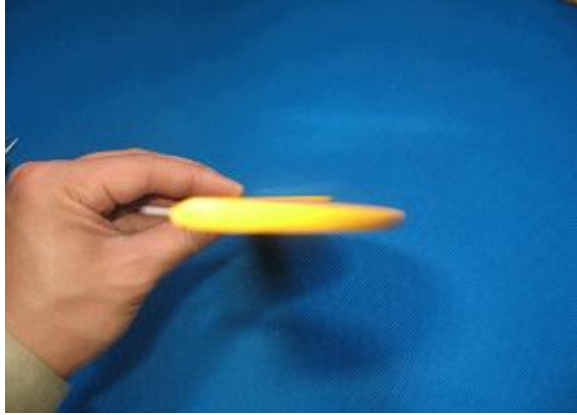
Parts of horizontal tail

72



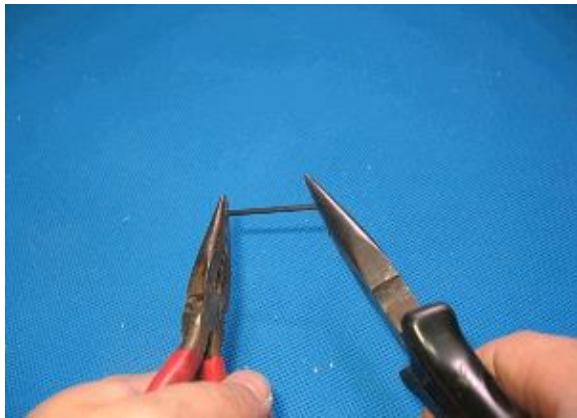
Take on the linkage steel wire

73



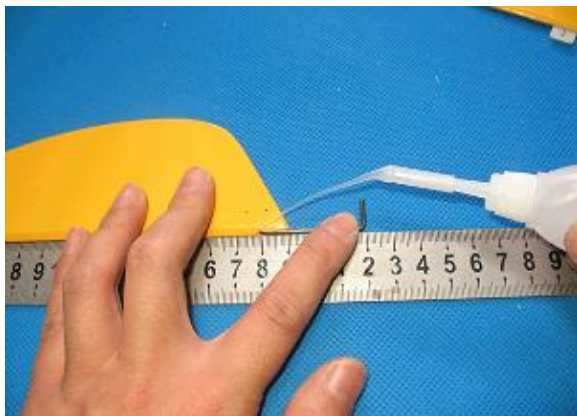
The two rudders should be flush after inserting the linkage steel wire

74



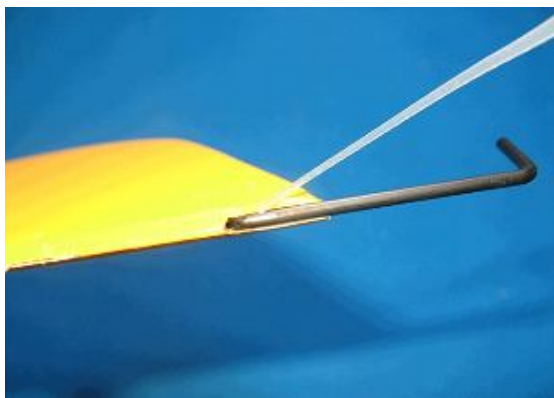
Make sure the linkage steel wire to be enough flat

75



Glue the linkage steel wire on rudders

76



Apply glue

77



Assemble another rudder and make the two rudders are flush

Attention: the assembly must be done on a planar surface

78



Apply glue on another rudder and make sure the two rudders are flush

79



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

Attention: the joint of film should be on bottom

80



Horizontal tail is vertical with the axis of fuselage.



81



Fix the elevator tail wing.

82



Cut the film on horizontal tail along fuselage.  
Attention: only cut the film, not harm the wood beneath.

83



Take away cut film.

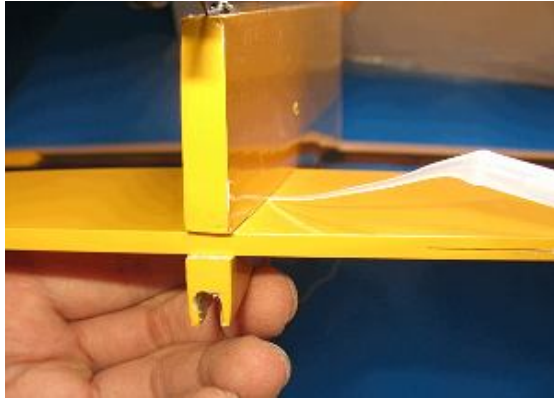
84



Horizontal tail and wing should be parallel



85



Apply instant glue to fix horizontal tail.  
Attention: the horizontal tail must be parallel with wing

86



Prepare to assemble vertical tail.

87



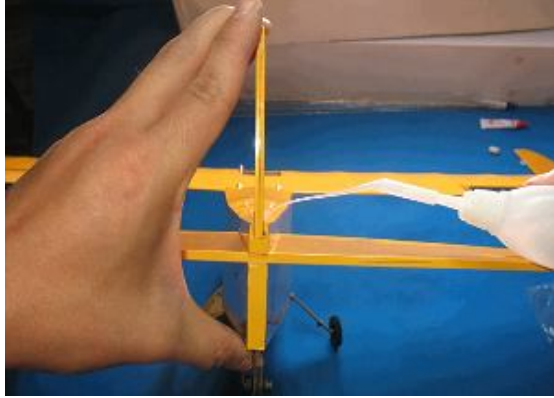
Take away the film on vertical tail where the vertical tail connect with fuselage

88



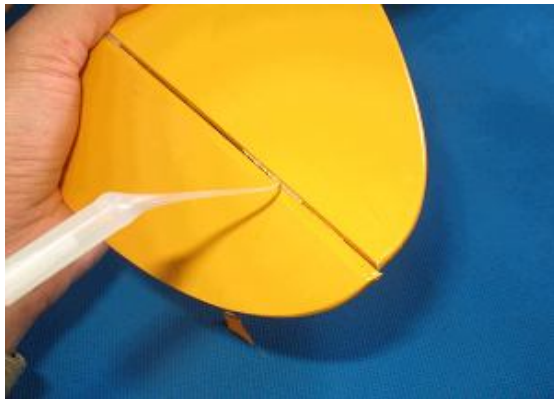
Vertical tail must be vertical with horizontal tail

89



Apply instant glue

90



Assemble elevator

Attention: the joint of film should be on bottom

91



Assemble rudder

92



Assemble elevator control horn

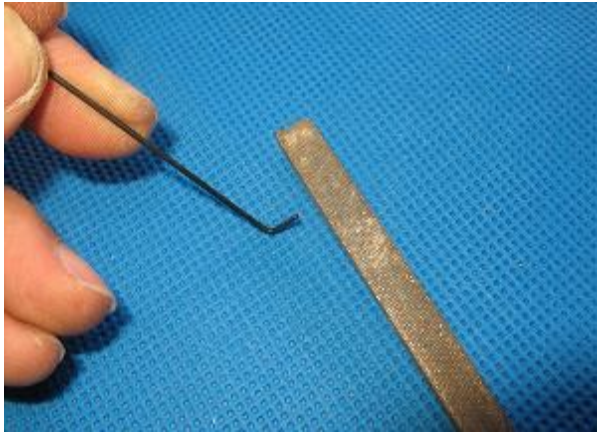
Attention: please refer to the assembly way of aileron control horn

93



Assemble rudder control horn

94



clean the burr on the ends of steel wire

95



Assemble rudder control steel wire

96



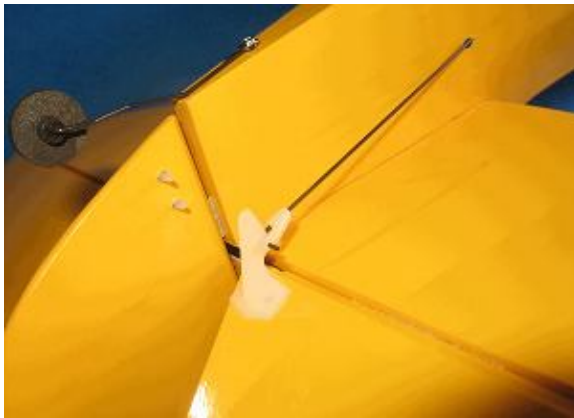
Assemble block

97



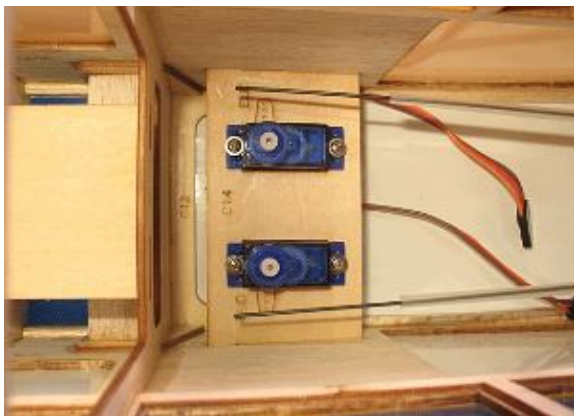
Assembled block

98



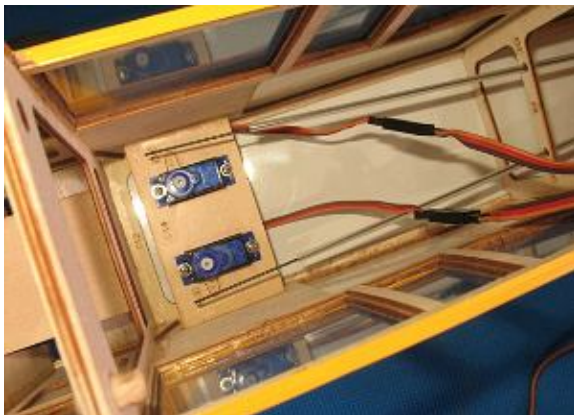
Assembled elevator control steel wire and block

99



Assemble servos on the shelf of servo  
Attention: the arms of servo direction should accord with the marks on the shelf. The direction of harness should towards front (reversed in the picture)

100



Use extension cords to extend the servo harness until receiver so that it is convenient to adjust the servo



101



Prepare servo arm, metal adjuster,  $\Phi 2$ mm aiguille

102



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

103



Enlarged hole

104



Assemble metal adjuster on servo arm

105



Assemble nut

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

106



Glue the nut and screw with little instant glue.

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

107



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

108



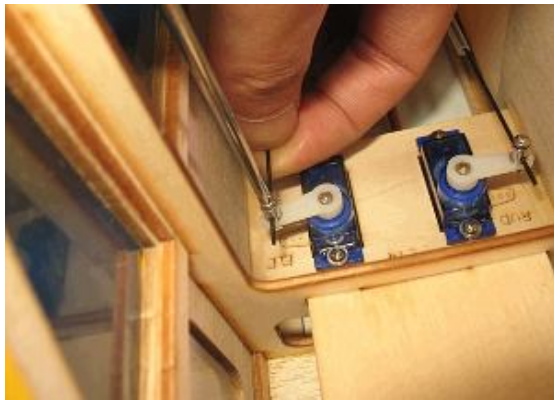
Attach adhesive tape on two sides of rudder to locate the center point of rudder

109



Attach adhesive tape on two sides of elevator to locate the center point of elevator

110



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

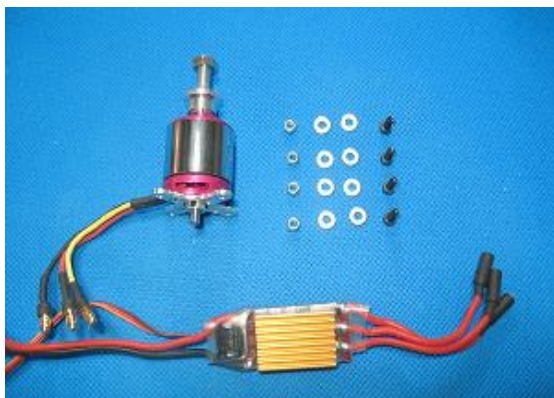
Attention: this step is important. It is concerned with flying security.

111



Please apply instant glue into the hole of metal adjuster so that the steel wire will not come off.

112

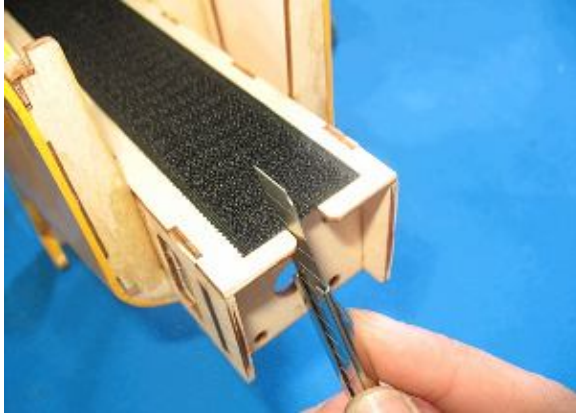


Please prepare following powder equipments:

1. 2836 brushless motor, the powder cannot lower than 280W.
2. 30A brushless motor electronic speed controller.

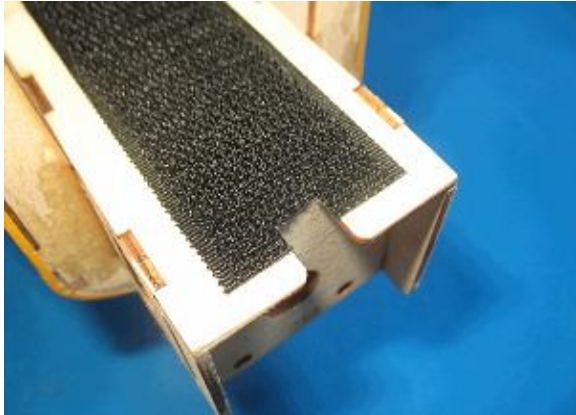


113



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

114



Cleaned velcro

115



Assemble motor

116



Assembly result of motor (front view)



117



Correct assembly of brushless electronic speed controller  
And brushless motor.

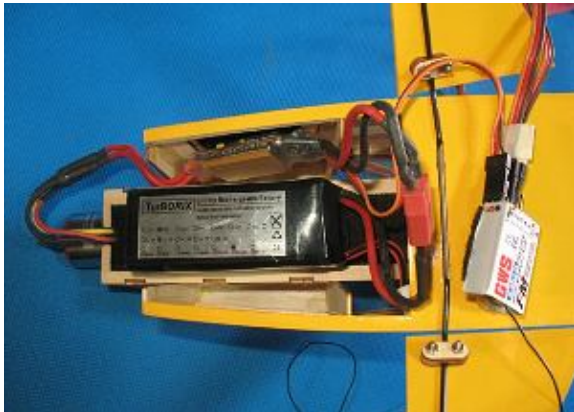
Attention: Please refer to the guide of brushless  
electronic speed controller and brushless motor.

118



Attach Velcro on the back of battery

119



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.

120



Fix receiver with Velcro

121



Fix antenna on fuselage with clear adhesive tape  
Attention: please spread the antenna completely for better receiver result

122



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

123



Adjust the position of cowling

124



Drill holes according to the center mark of cowling fixing block

125



Fix cowling with one piece of  $\Phi 2*8$  self-tapping w/shoulder screws

126



Fix another corner according to diagonal

127



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

128



Take away the cover of adhesive tape on canopy



129



Attach canopy on fuselage

130



Attach the yellow pattern on the top of canopy

131



Engine pattern

132



Attach the engine pattern on two sides of cowl



135



Decorative pattern of fuselage

136



Put the decorative pattern on proper position and fix it with adhesive tape

137



fix the tail with adhesive tape

138



Take away the cover paper of the decorative pattern

139



Attach the decorative pattern on fuselage

140



Take away cover paper of decorative paper

141



Attached decorative pattern  
Another side is so

142



Decorative pattern of vertical tail

143



Attach the pattern on vertical tail

144



Decorative pattern for vertical tail rudder

145



Attached on vertical tail

146



Attach skylight on main wing

147



Put the decorative pattern on correct position of main wing

148



take away the cover paper

149



Attach the pattern on main wing

150



Correct assembly

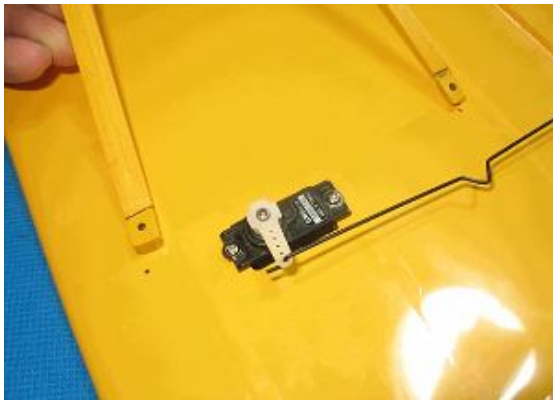


151



Connect aileron servo cords with receiver

152



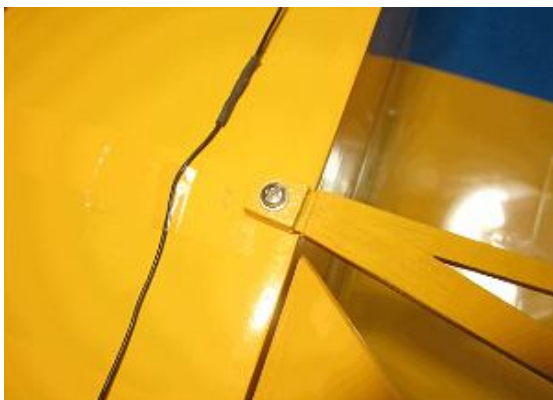
Prepare to assemble wing support on the preset holes on main wing  
Attention: More inclined side should towards front

153



Fix wing support on main wing with  $\Phi 2*12$  self-tapping w/shoulder screws

154



Fix the tail of wing support on fuselage

155



Adjust undercarriage block as the picture shows

156



Glue the undercarriage steel wire with fix board

157



Assemble battery on fuselage as the picture shows  
Attention: the harness direction of battery should be same s the picture shows

158



Assemble 10\*4.7 airscrew

159



Make a dot on wing where is 55mm away from the front edge of wing

Attention: adjust the position to make the center of gravity is on the point

160



Find out the center of gravity by this way

161



Correct movable distance of aileron is 6-8mm. Test the distance by this way

162



Correct movable distance of elevator is 15-18mm

163



Correct movable distance of rudder is 22-25

164



Assembly finished. Have a nice flying!