

Radio control model / RC Flugmodel

Star Light 50

Aerobatic model



INSTRUCTION MANUAL / MONTAGEANLEITUNG

VQA172RW / VQA172BW

SPECIFICATIONS

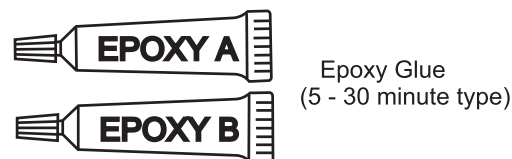
Wingspan: 1430mm.
Length: 1450mm.
Electric Motor: See next page
Glow Engine: .55 - 2stroke
Radio: 5 Channels / 5 Servos
Weight (ready to fly): 2900g approx.

FEATURES

All balsa and lite plywood construction
Fiber glass cowling
Fully covered with NEW PVC covering
Removable Canopy
Including 51mm plastic spinner



GLUE (Purchase separately)

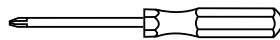


TOLLS REQUIRED (Purchase separately)

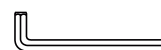
Hobby knife



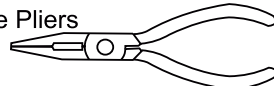
Phillip screw driver



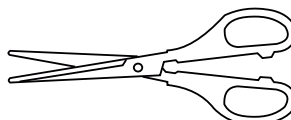
Hex Wrench



Needle nose Pliers



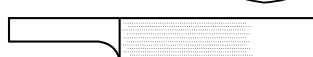
Scissors



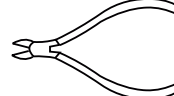
Awl



Sander



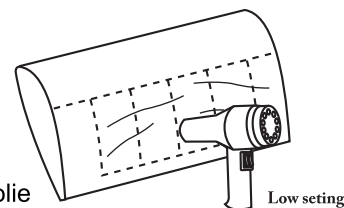
Wire Cutters



Masking tape - Straight Edged Ruler - Pen or pencil - Drill and Assorted - Drill Bits

If exposed to direct sunlight and/or heat, wrinkles can appear. Storing the model in a cool place will let the wrinkles disappear. Otherwise, remove wrinkles in covering film with a hair dryer, starting with low temperature. You can fix the corners by using a hot iron.

Bei Sonneneinstrahlung und/oder Wärme kann die Folie erschlaffen bzw. Falten entstehen. Verwenden Sie ein Warmluftgebläse (Haartrockner) um evtl. Falten aus der Folie zu bekommen. Die Kanten können Sie mit einem Bügeleisen behandeln. Nicht zuviel Hitze anwenden !



Drill holes using the stated size of drill
(in this case 1.5 mm Ø)



Take particular care here



Hatched-in areas:
remove covering
film carefully



Check during assembly that these parts move freely, without binding



Use epoxy glue



Apply cyano glue



Assemble left and right sides the same way.



Not included.
These parts must be purchased separately

CONVERSION TABLE

1.0mm = 3/64"	3.0mm = 1/8"	10mm = 13/32"	25mm = 1"
1.5mm = 1/16"	4.0mm = 5/32"	12mm = 15/32"	30mm = 1-3/16"
2.0mm = 5/64"	5.0mm = 13/64"	15mm = 19/32"	45mm = 1-51/64"
2.5mm = 3/32"	6.0mm = 15/64"	20mm = 51/64"	

CAUTION !

This model construction kit is not a toy and is not suitable for children under the age of 14.
Incorrect use of this material could cause material damage or personal injury.
You are fully responsible for your actions when you use this model.
Fly at a safe distance from occupied zones.
Be sure that no one else is using the same frequency as you.

SAFETY NOTES BEFORE ASSEMBLING

This model is highly pre-fabricated and can be built in a very short time. However, the work which you have to carry out is important and must be done carefully.

The model will only be strong and fly well if you complete your tasks competently - so please work slowly, accurately and check every joints, maybe apply more glue to be safe.

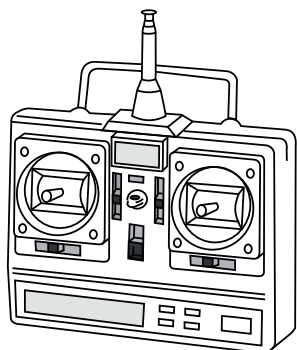
Read through the manual before you begin, so you will have an overall idea of what to do.

Note: The aileron control surfaces have already been pre-hinged and pre-glued at the factory. However, it is recommended that you check integrity of each of these control surface. To do so, grasp the respective item, in this case the wing halves, and apply medium pressure, trying to separate the aileron from the wing.

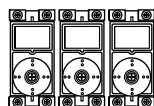


The painted and plastic parts used in this kit are fuel roof. However, they are nottolerant of many harsh chemicals including the following: paint thinner, CA glue accelerator, CA glue debonder and acetone. Do not let these chemicals come in contact with the colors on the covering and the plastic parts.

REQUIRED FOR OPERATION (Purchase separately)



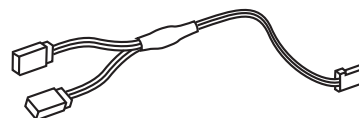
Minimum 5 channels radio



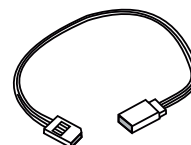
3 standard servos
for rudder and aileron.
MASTER DS8040, # C8449



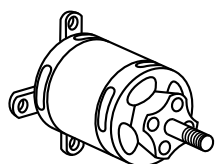
2 mini servos for elevator
MASTER DS3012MG, # C5638



Extension cord "Y" for aileron servos: 150mm



Extension cord for aileron servos: 100mm(x2)
Extension cord for elevator servos: 600mm(x2)



Brushless Motor
BOOST 60 + XQ65 ESC

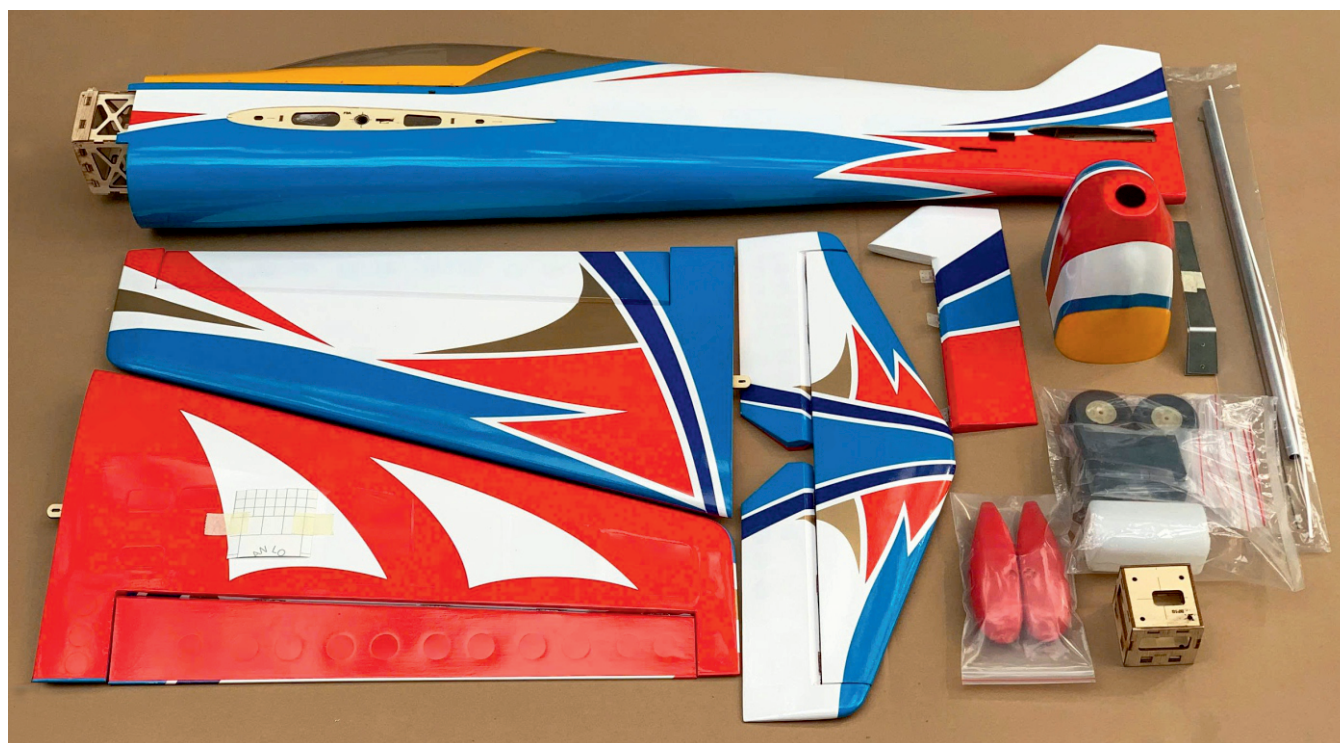


Li-po battery pack:

LEMONRC or RED POWER
4300-5000mAh 18.5V



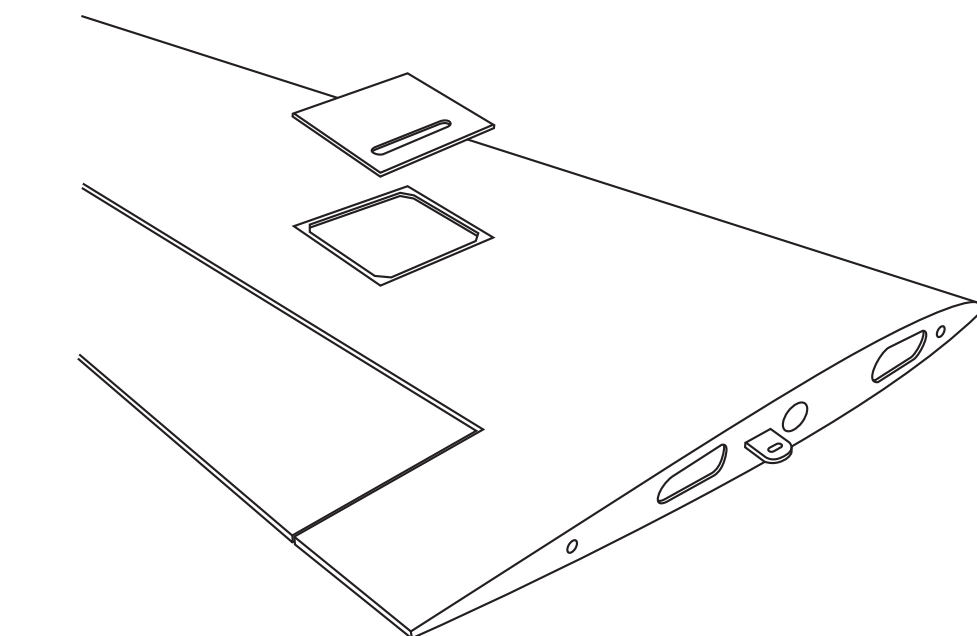
Propeller APC 14x7, 13x8



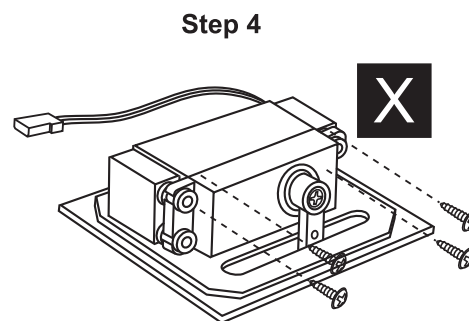
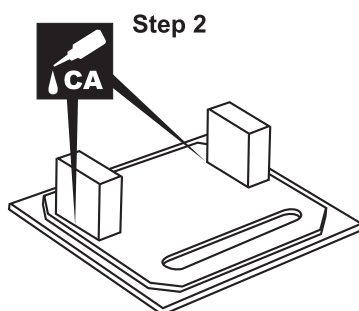
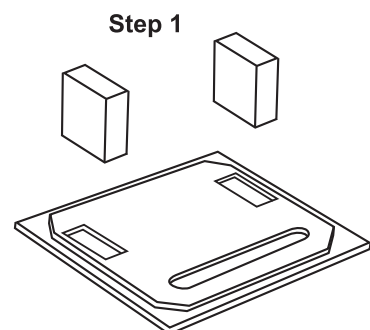
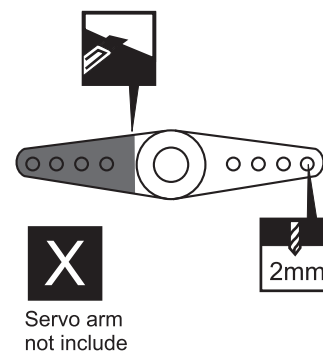
CONTENTS OF KIT

1. Fuselage
2. Right wing half with aileron
3. Left wing half with aileron
4. Rudder
5. Horizontal stabilizer with elevators
6. Pushrods and aluminum wing joiner
7. Cowling
8. Main landing gear
9. 65mm dia. wheels
10. Tail landing gear mount / wheel
11. Motor mount set
12. 52mm dia. spinner
13. Plastic wheel pants
14. Hardware bags

STAR LIGHT 50 1 Aileron servo

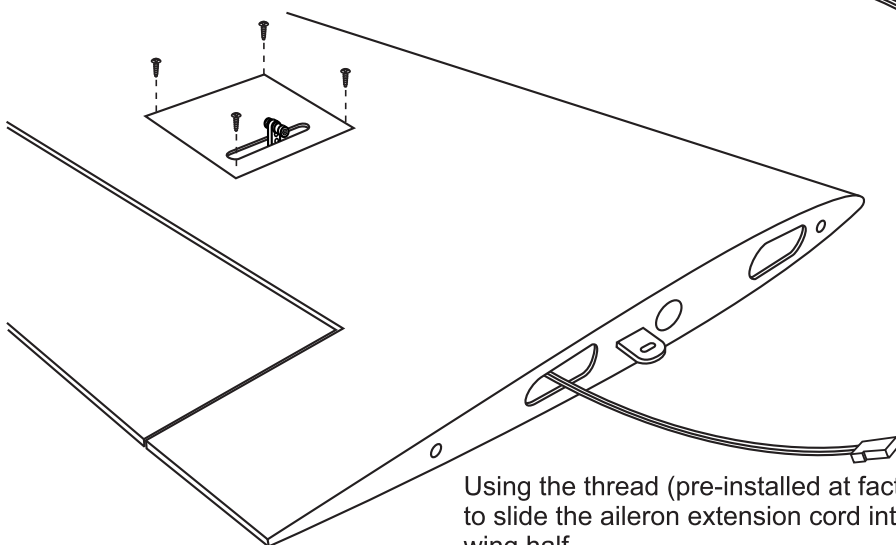
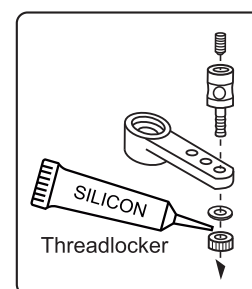
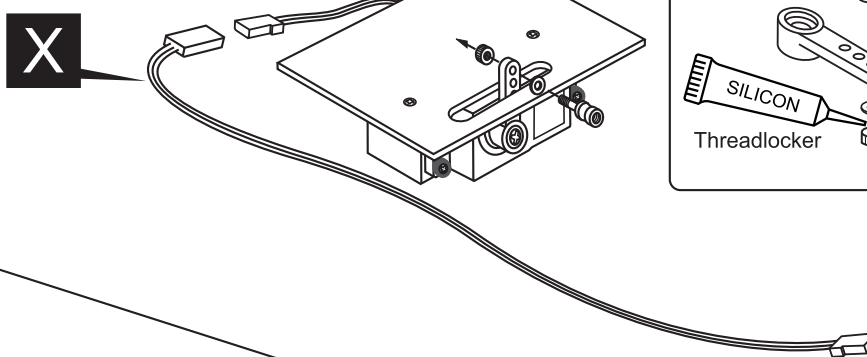


Step 3



! Securely glue together. If coming off during fly, you lose control of your air plane.

Step 5



Using the thread (pre-installed at factory) to slide the aileron extension cord into the wing half.

Linkage stopper

.....2

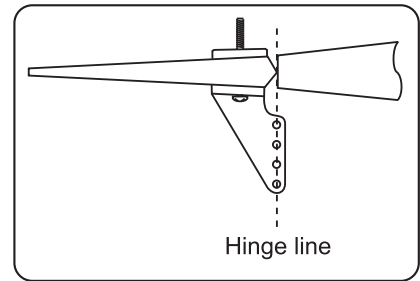
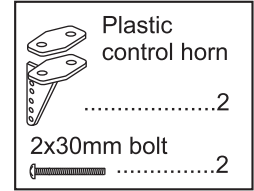
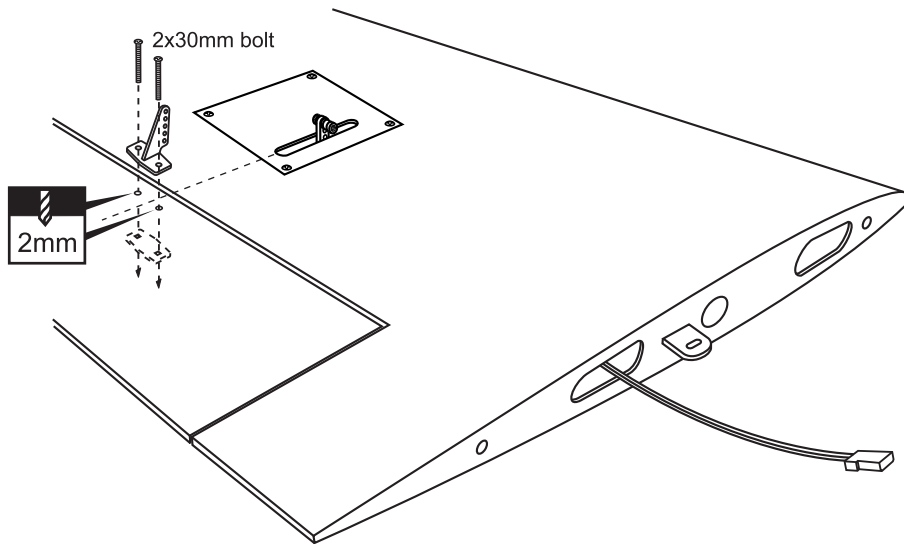
2x8mm screw

.....4

STAR LIGHT 50 2 Aileron control horn - dowel - linkage

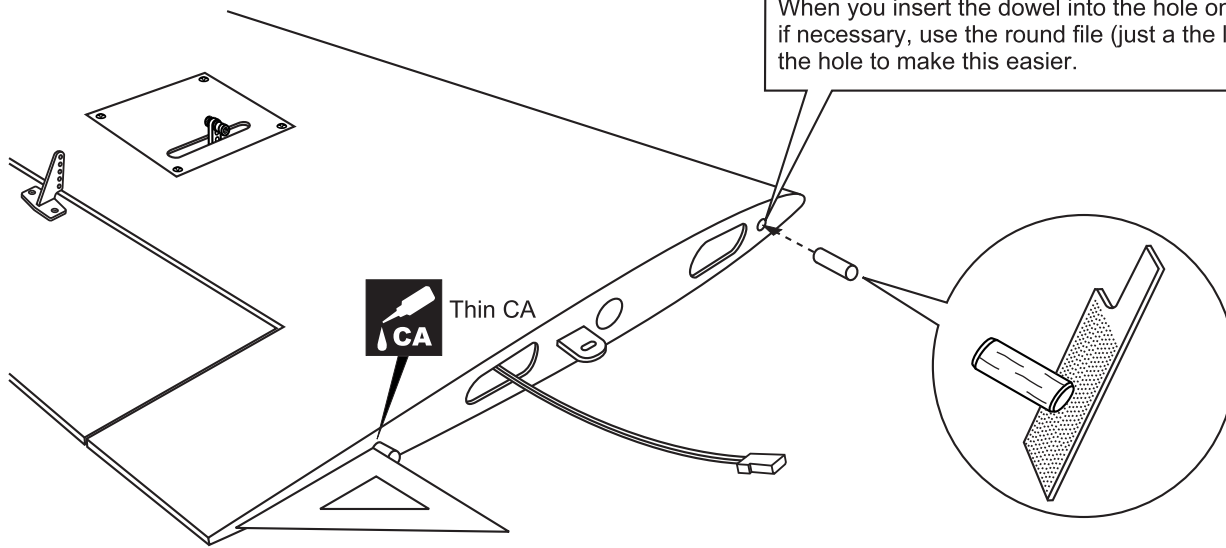
Using a marker pen to draw a straight line parallel with the aileron push rod exit as shown in below drawing.

Using a 2mm drill bit to drill two holes throughout the aileron as show in below drawing.

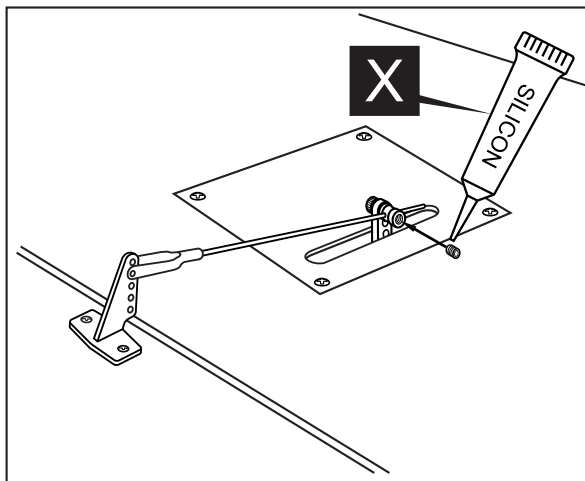


Attention:

When you insert the dowel into the hole on the wing root, if necessary, use the round file (just a the little bit) to widen the hole to make this easier.



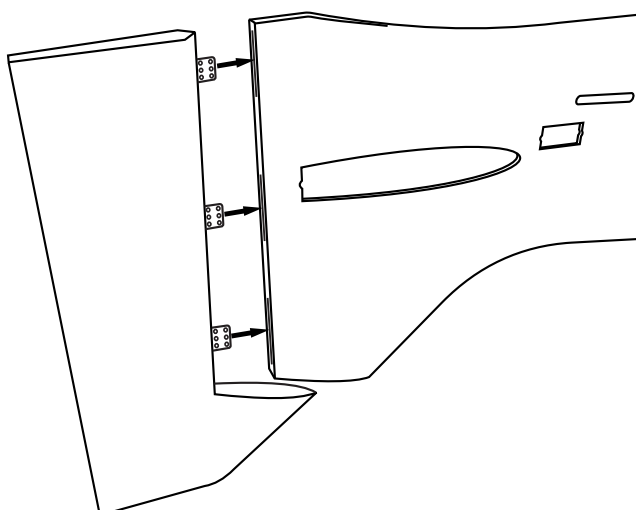
Attention: Make sure that the dowel must be perpendicular with the wing root before glue.



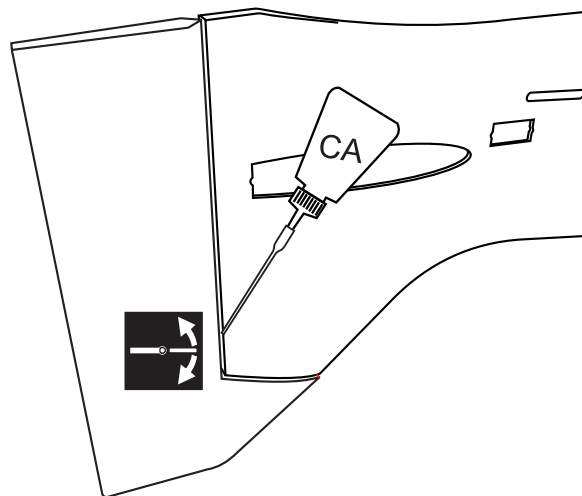
Make sure the aileron and aileron servo arm in the neutral position before cut of the excess of the aileron push rod.



STAR LIGHT 50 3 Rudder and Tail wheel

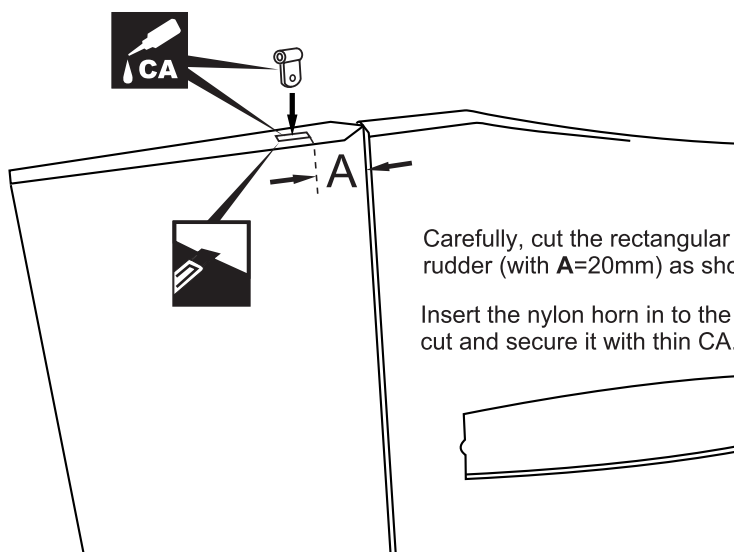


Insert the rudder hinges into the hinge slots.



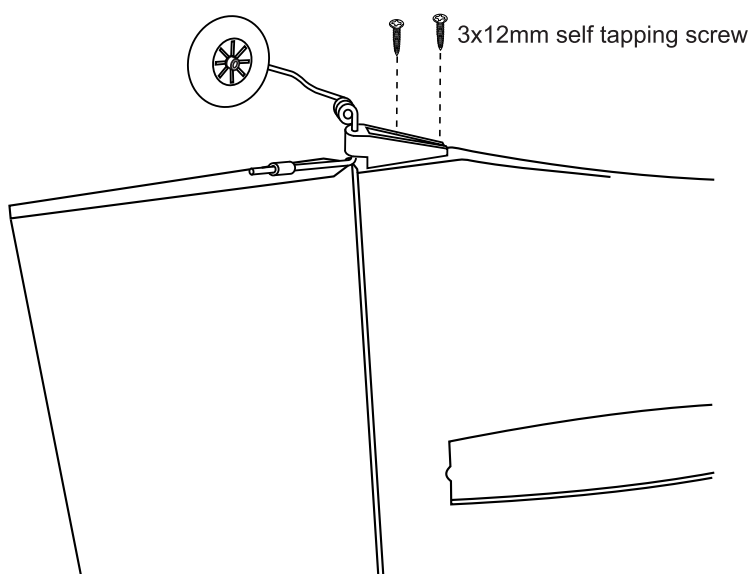
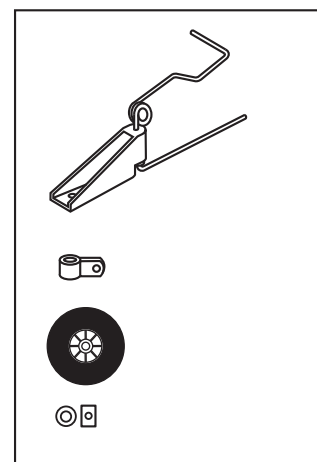
When satisfied with the fit and alignment, use a small faucet (not include), carefully, some drop of thin CA on both sides of the hinge.

! Securely glue together. If coming off during fly, you lose control of your air plane.

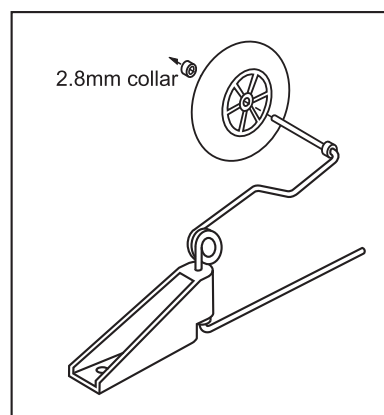


Carefully, cut the rectangular hole on the bottom of the rudder (with $A=20\text{mm}$) as shown.

Insert the nylon horn in to the rectangular hole you just cut and secure it with thin CA.



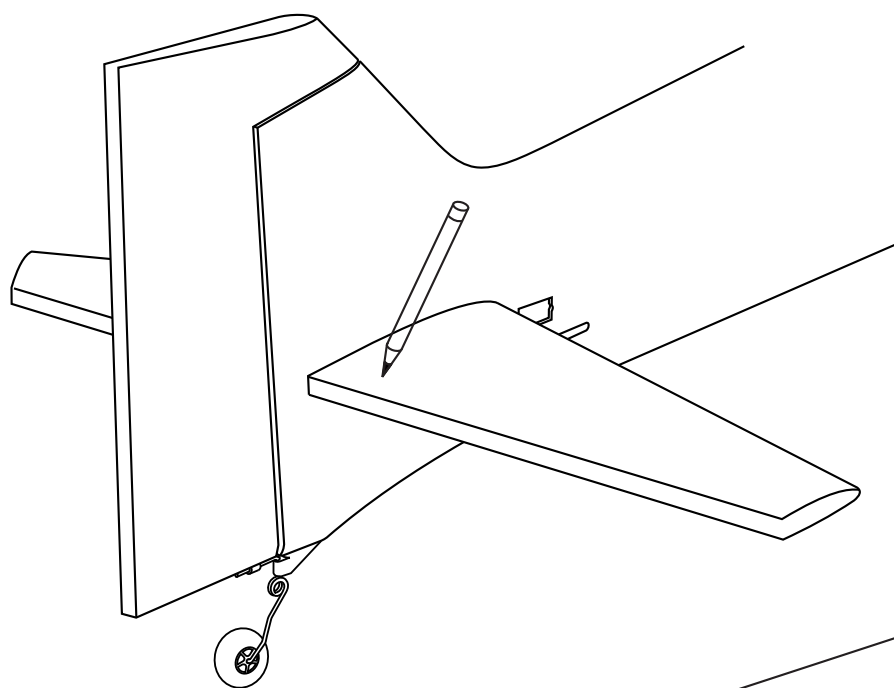
3x12mm self tapping screw



2.8mm collar

Insert the tail gear into the hole of the nylon horn and secure the tail gear mount in place using two 3x12mm self tapping screws.

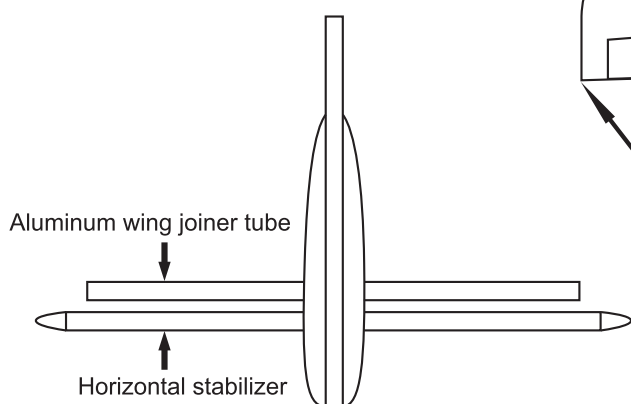
STAR LIGHT 50 4 Horizontal stabilizer



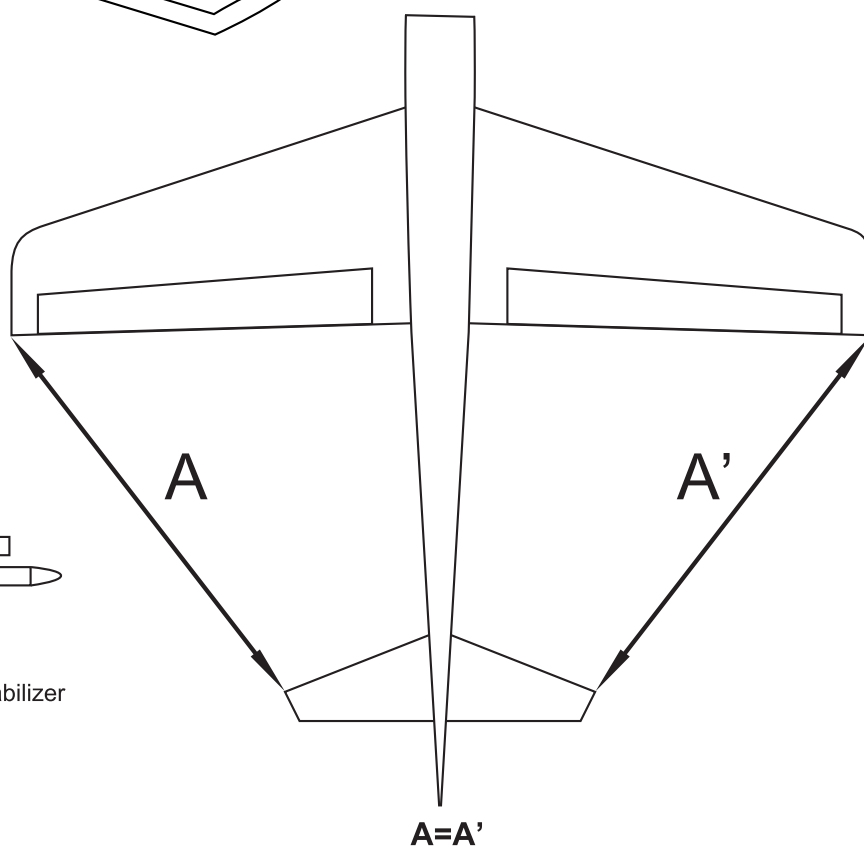
Insert the aluminum wing joiner tube into the fuselage.

Trial fit the horizontal stabilizer in position, ensure that the horizontal stabilizer must be parallel with the aluminum wing joiner tube.

Using a pencil, trace around the horizontal stabilizer where it meets the fuselage (top and bottom). Remove the horizontal stabilizer from the fuselage.

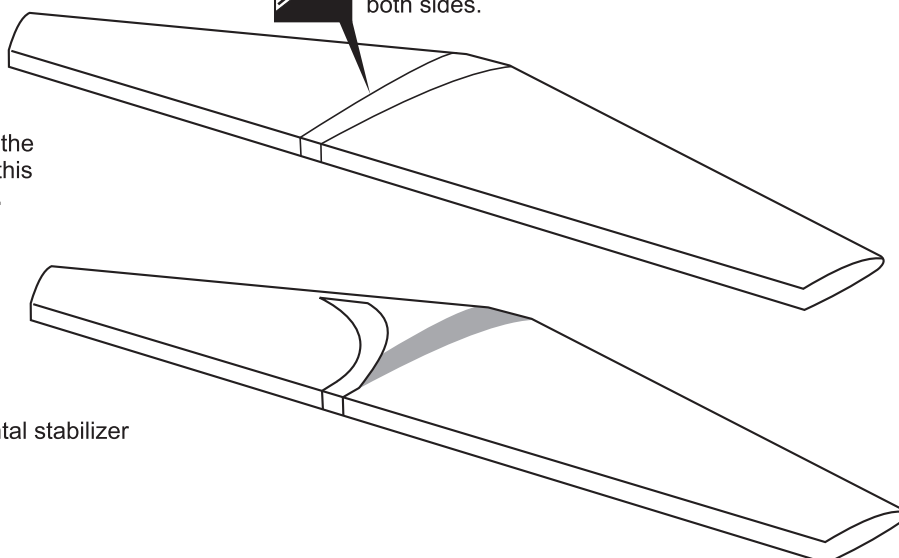


The aluminum wing joiner tube and the horizontal stabilizer must be parallel to each other.



Cut away only the covering both sides.

Using sharp hobby knife, carefully cut away the covering **in side the lines** which were drawn in the previous step. **Do not cut into the woods** as this will affect the structural integrity of the stabilizer.



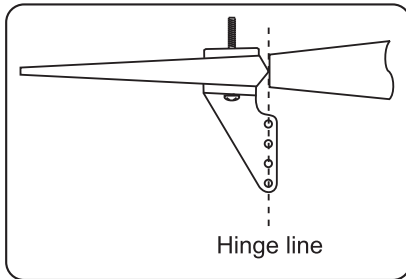
Carefully separate the cut film from the horizontal stabilizer as shown in the drawing.

STAR LIGHT 50 5 Horizontal stabilizer - Rudder control horn - Elevator



Plastic control horn
.....2

2x30mm bolt and nut
.....2



Using a 2mm drill bit to drill two holes throughout the rudder as show in be side drawing.

2x30mm bolt



42mm

Thin CA



CA

2x30mm nut

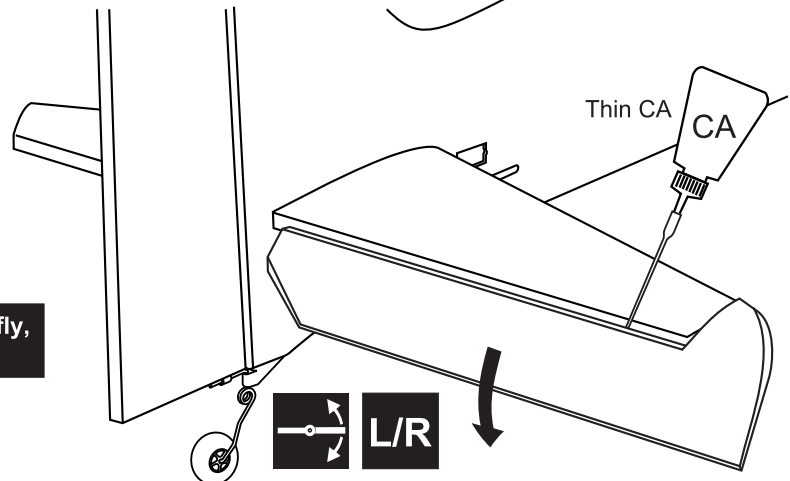
Without using glue yet, push the elevator and its hinges into the hinge slots in the trailing edge of the horizontal stabilizer, there should be a minimal hinge gap and the end of the elevator should not rub against the horizontal stabilizer.

When satisfied with the fit and alignment, hinge the elevator to the horizontal stabilizer.

Use a small faucet (not include), carefully, some drop of thin CA on top and bottom of all hinges

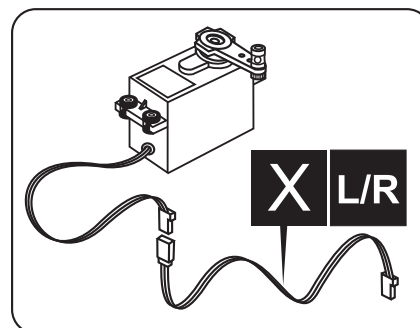
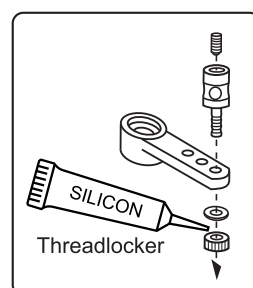
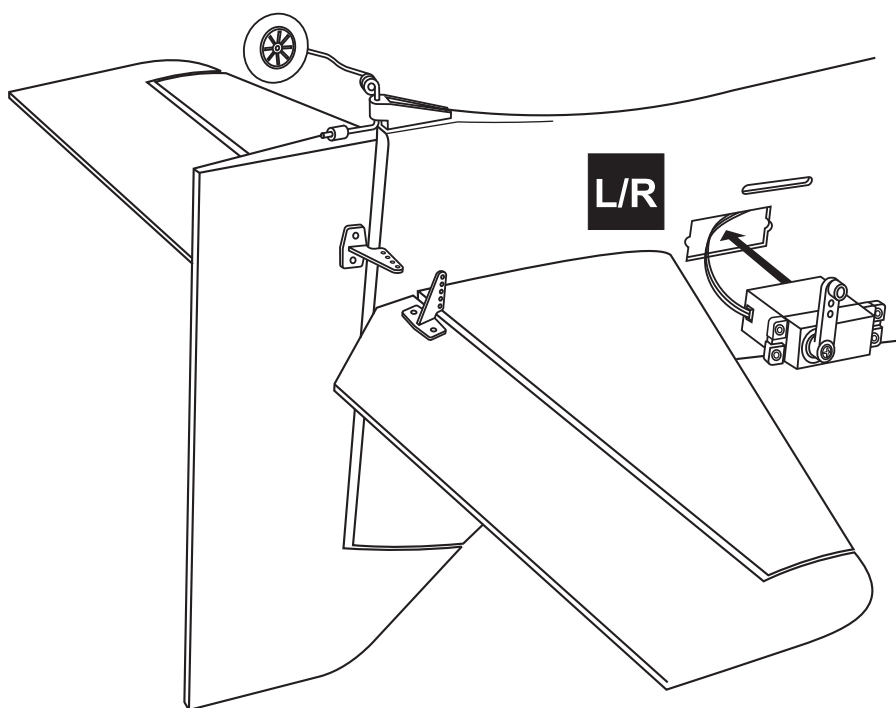
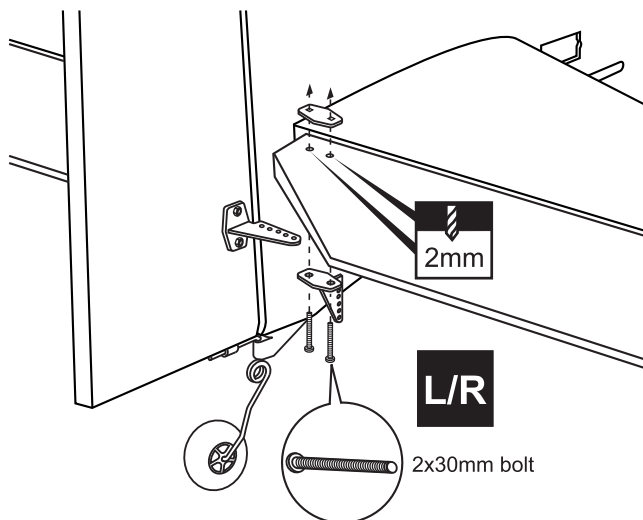
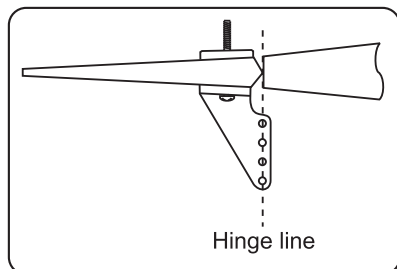


Securely glue together. If coming off during fly, you lose control of your air plane.

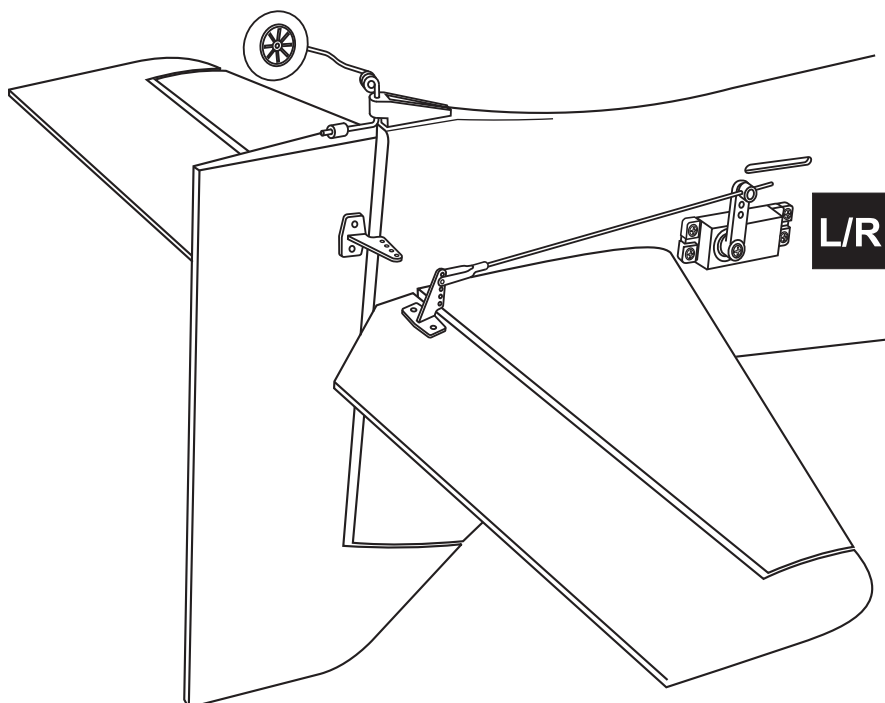
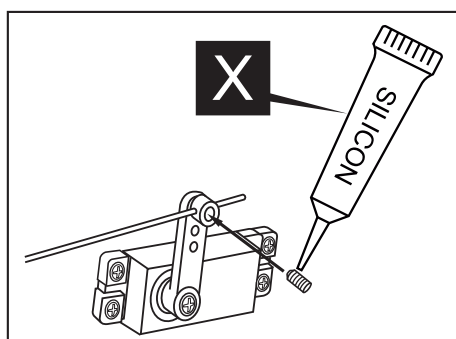


STAR LIGHT 50 6 Elevator control horn - servo - linkage

- Plastic control horn2
- 2x30mm bolt2



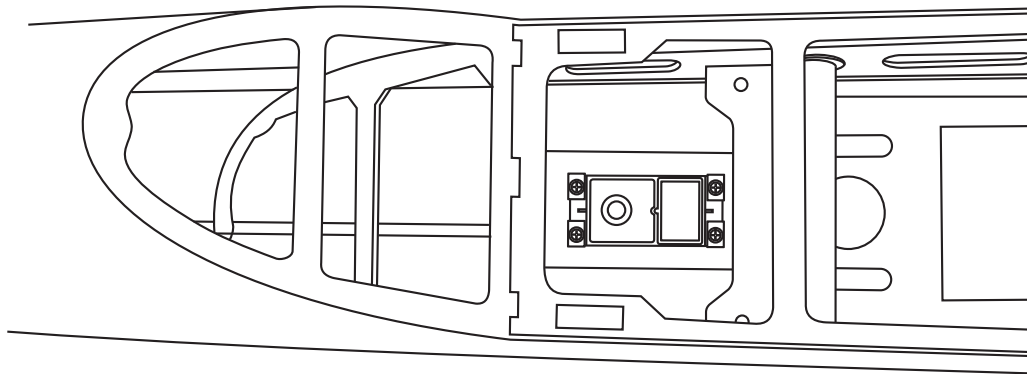
- 2mm connector2
- 2x175mm push rod with clevis one end2



STAR LIGHT 50 7 Rudder servo - linkage

Step 1

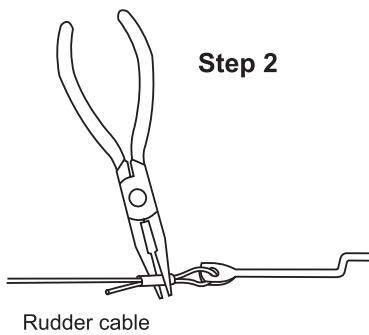
Insert the rudder servo (without servo arm) in place.



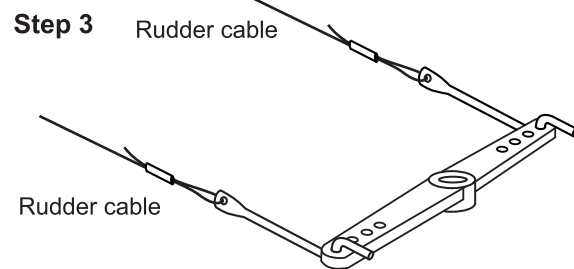
-2
-2
-2
- 2x8mm metal tube
-4
- 0.7mm dia x1200mm Cable.....1 roll



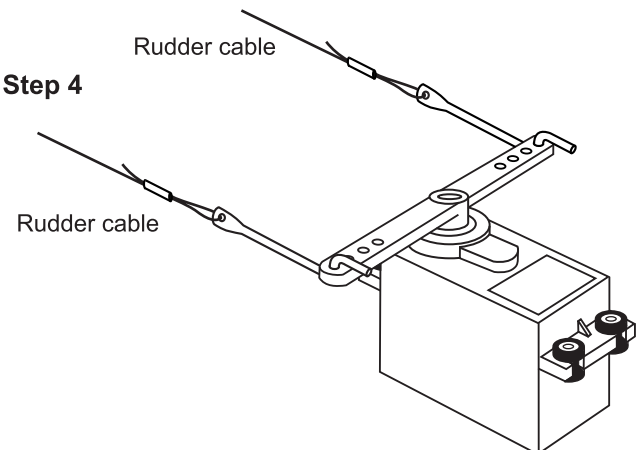
Step 2



Step 3



Step 4

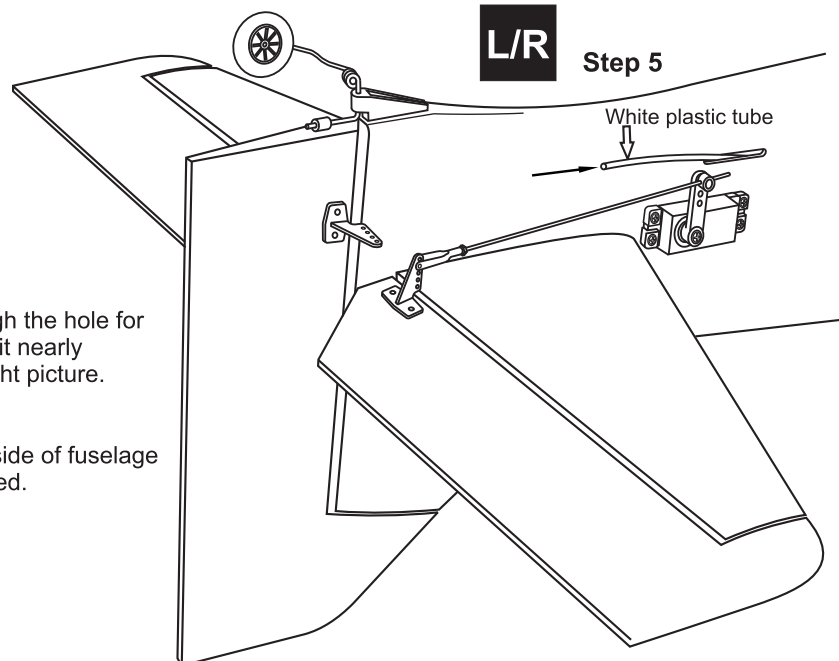


Attach the rudder servo arm with two rudder cables to the rudder servo as shown in the drawing.

Note: The rudder arm servo must be in neutral position.

L/R

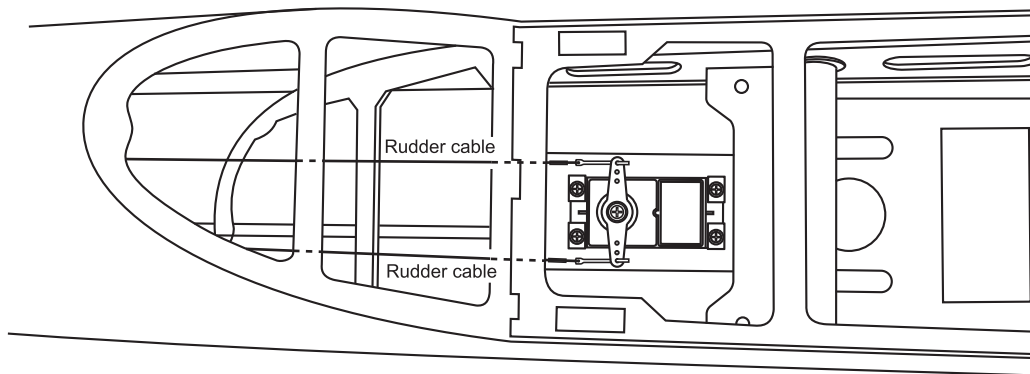
Step 5



Insert the black plastic tube (included) through the hole for the rudder cable to exit on the fuselage until it nearly reaches the rudder servo as shown in the right picture.

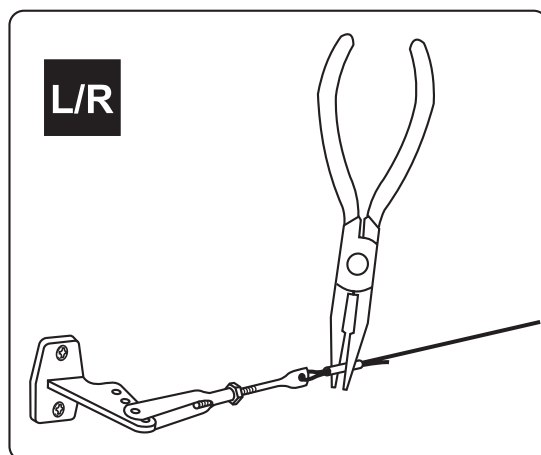
Next, you thread the rudder cable to the outside of fuselage through the black plastic tube you just inserted.

STAR LIGHT 50 8 Rudder linkage



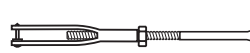
Next, you thread the rudder cable to the outside of fuselage through the black plastic tube you just inserted.

Remove the black nylon tube from the fuselage.



 **X** WRONG

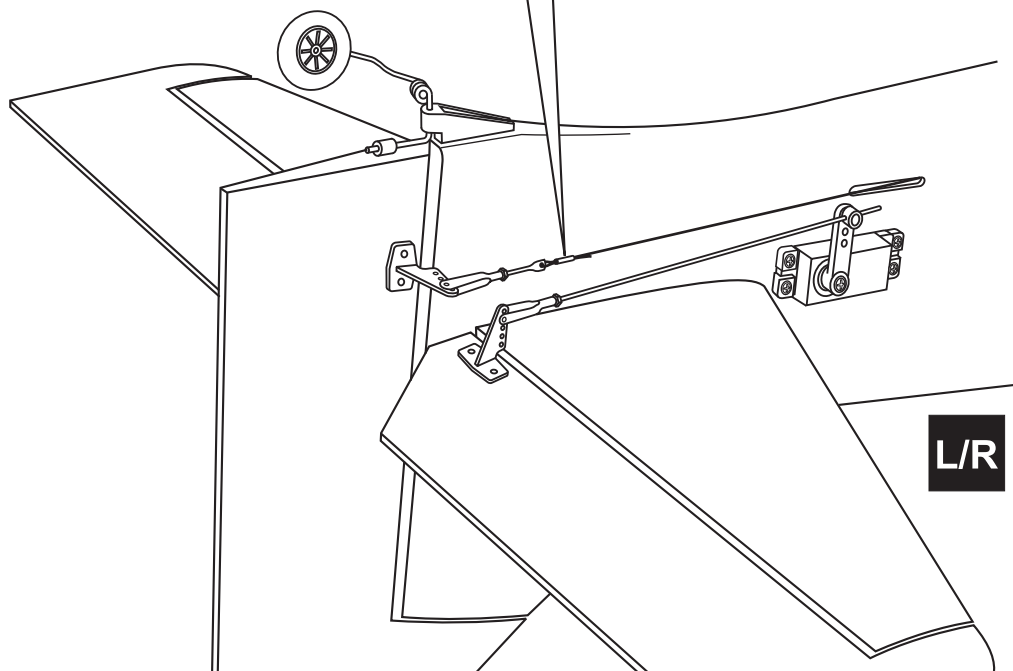
 **X** WRONG

 **O** RIGHT

Important note: Before you lock the rudder steering cable, the arm of the rudder servo and rudder **must be in neutral position**.

Suggest:

You can connect the rudder servo to the receiver and turn on the radio so that the rudder servo arm always in neutral position while you lock the rudder steering cable as shown in the drawing beside.



STAR LIGHT 50 9 Main gear - wheel - wheel pant

4x40mm bolt...2



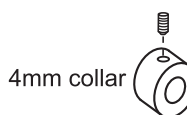
4mm washer



4mm nut



4mm collar



4mm collar

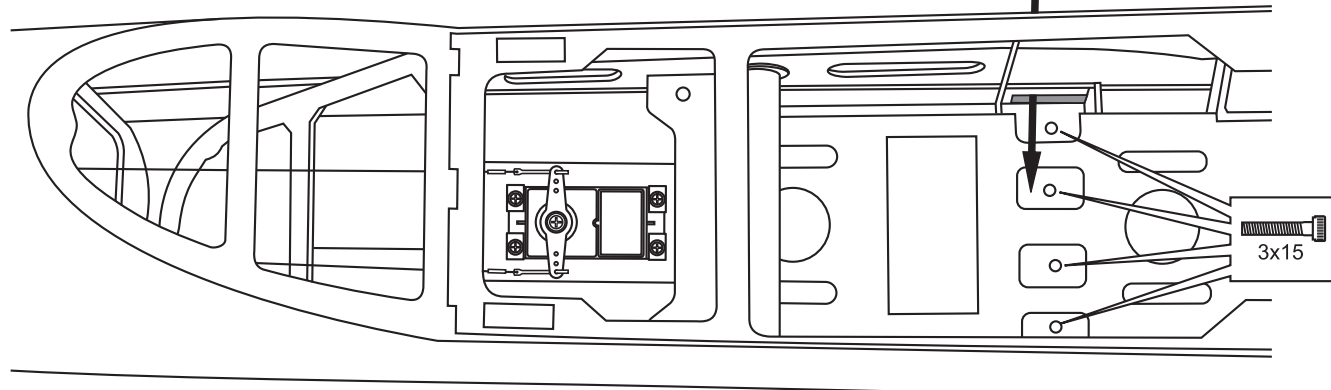
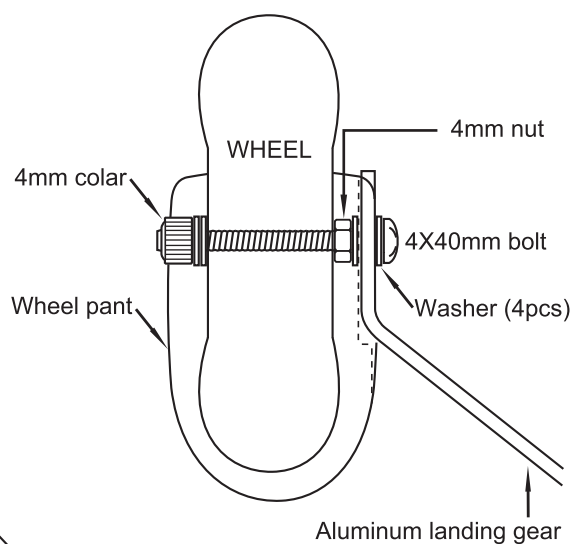
4mm collar



3x15mm hex bolt



.....4



STAR LIGHT 50 10 Motor mount - Motor

4x20mm hex bolt



.....4

4mm washer



.....4

Attention: Adjust the line on the fire-wall display to match the line on the motor mount.

Attention: Adjust the line on the fire-wall display to match the line on the motor mount.

Attention: Adjust the line on the fire-wall display to match the line on the motor mount.

4x20mm hex bolt



.....4

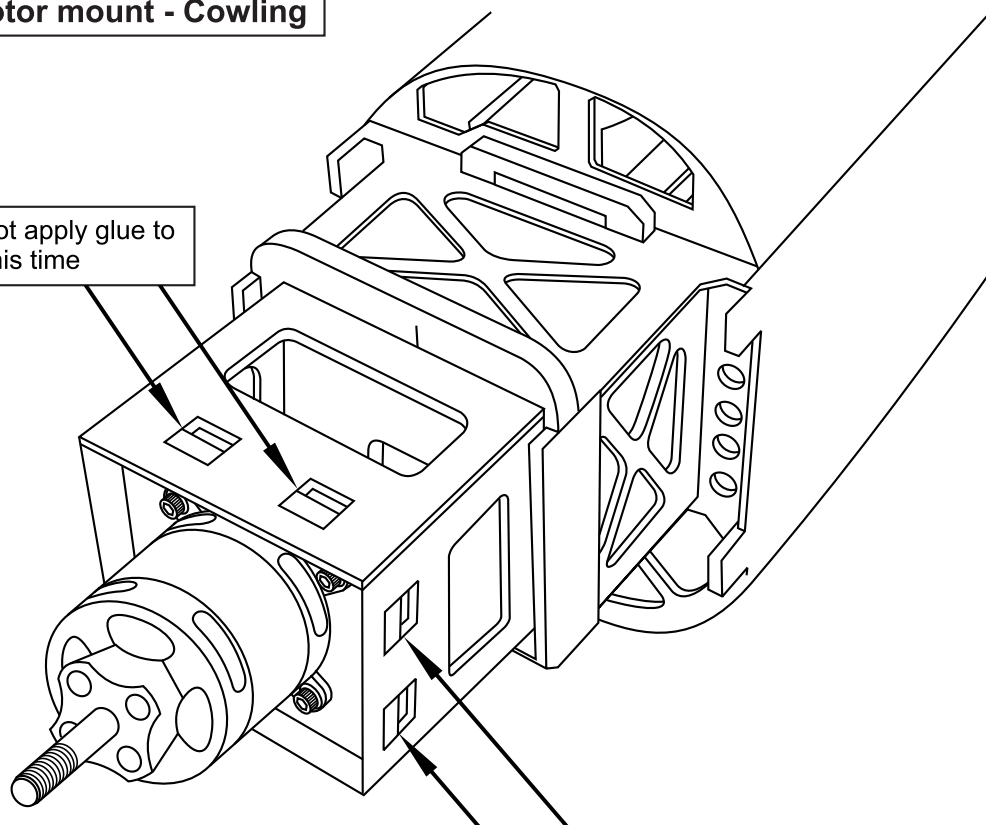
4mm blind nut



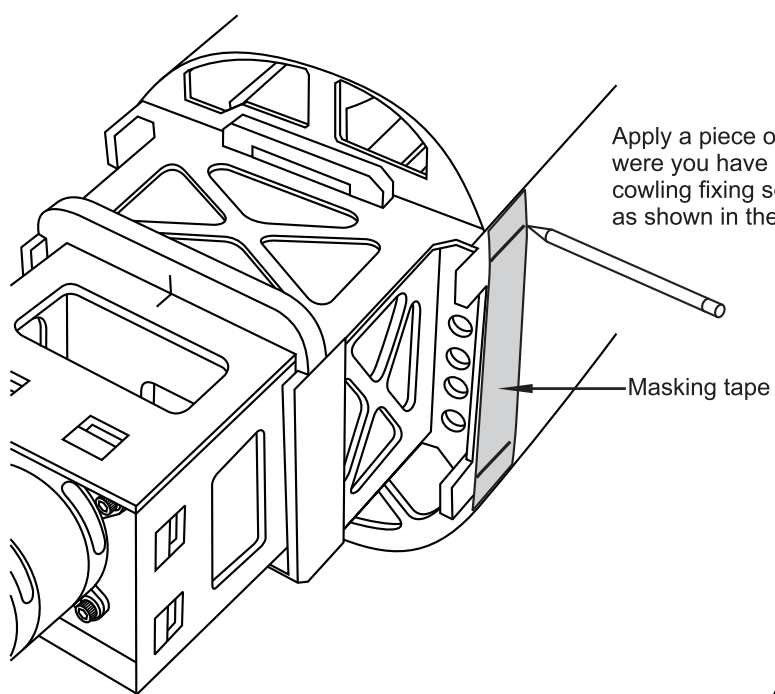
.....4

STAR LIGHT 50 11 Motor mount - Cowling

Attention: Do not apply glue to these areas at this time

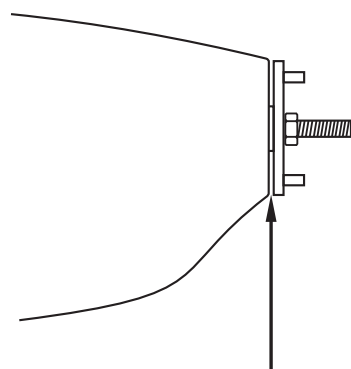


Attention: Do not apply glue to these areas at this time



Apply a piece of masking tape on the line where you have to make the holes for the cowling fixing screws, then mark the position as shown in the picture.

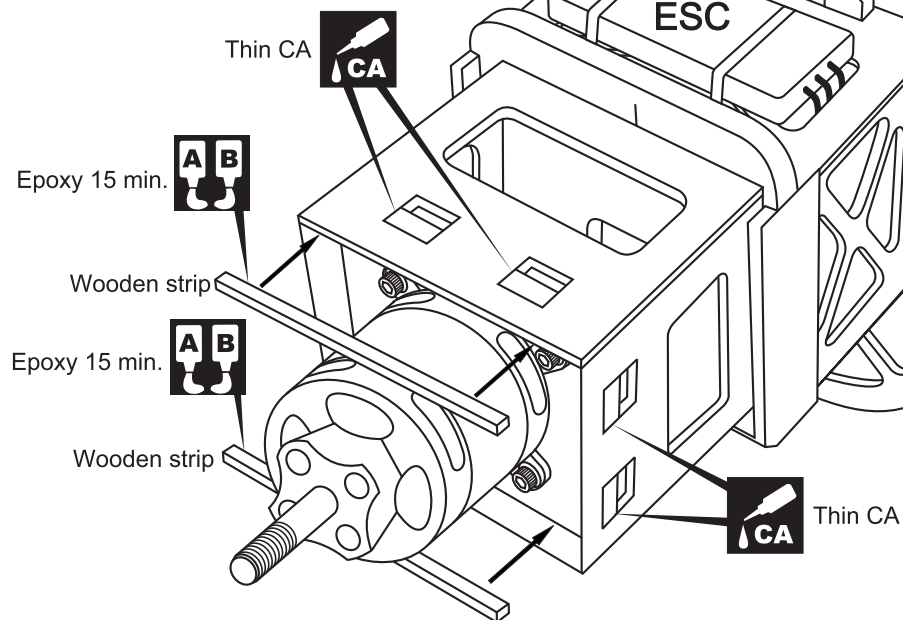
Masking tape



Attention: Adjust the cowl so that the distance from the front of the cowl to the spinner back flat is 2mm.

STAR LIGHT 50 12 Reinforce Motor mount - Cowling

Attach the ESC in place as shown in the drawing and secure it using the two nylon capble ties.



Attention: Only proceed to this step after ensuring the motor's position is suitable for the cowling

Slide the cowling onto the fuselage and install the spinner back flat. Drill the location for the four self-tapping screws using a 1.2mm drill bit.

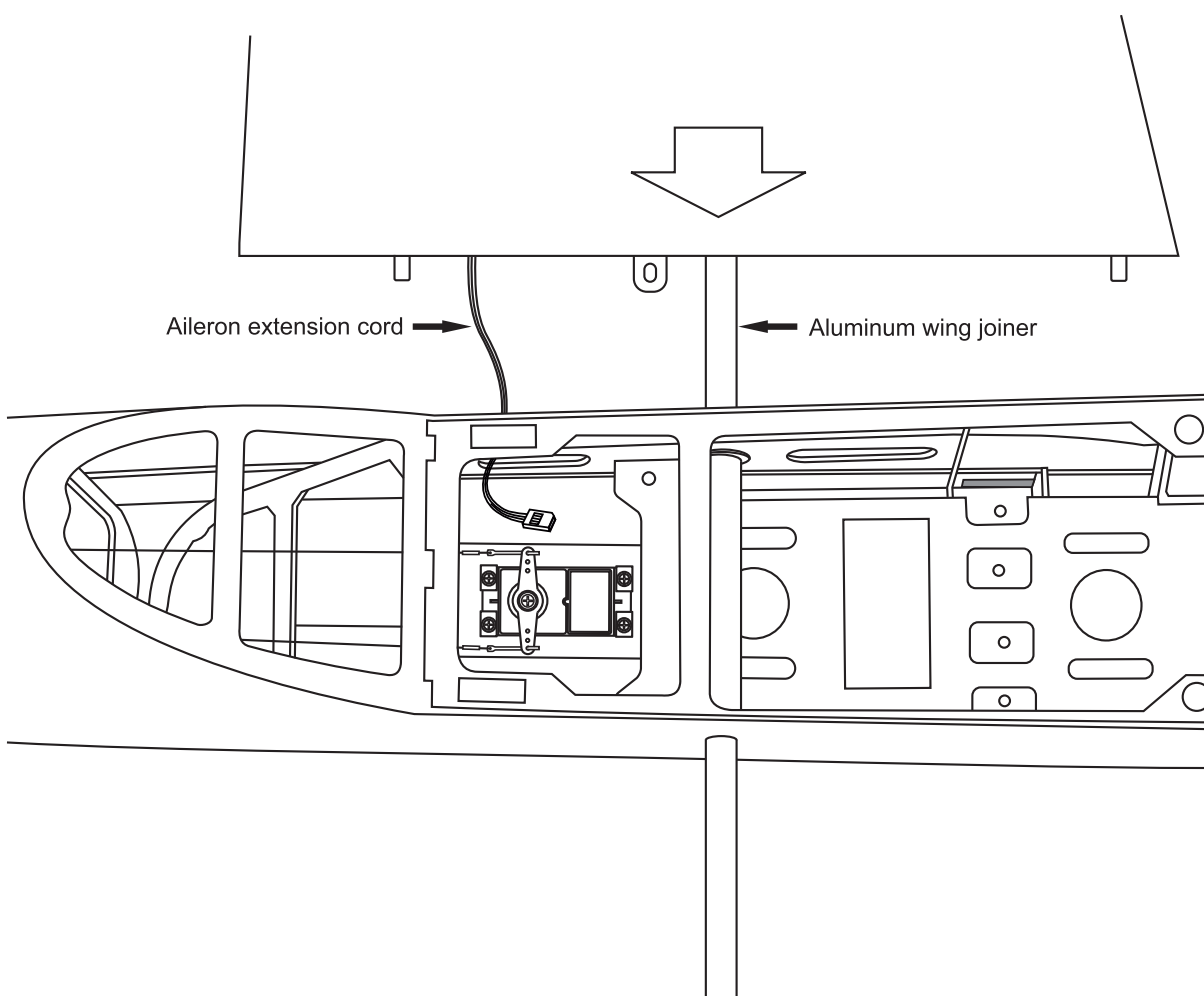
Attach the cowling using the four self tapping screws included in hardware bag.

2.5x10mm screw



1.5mm

STAR LIGHT 50 13 Joining the wing panels

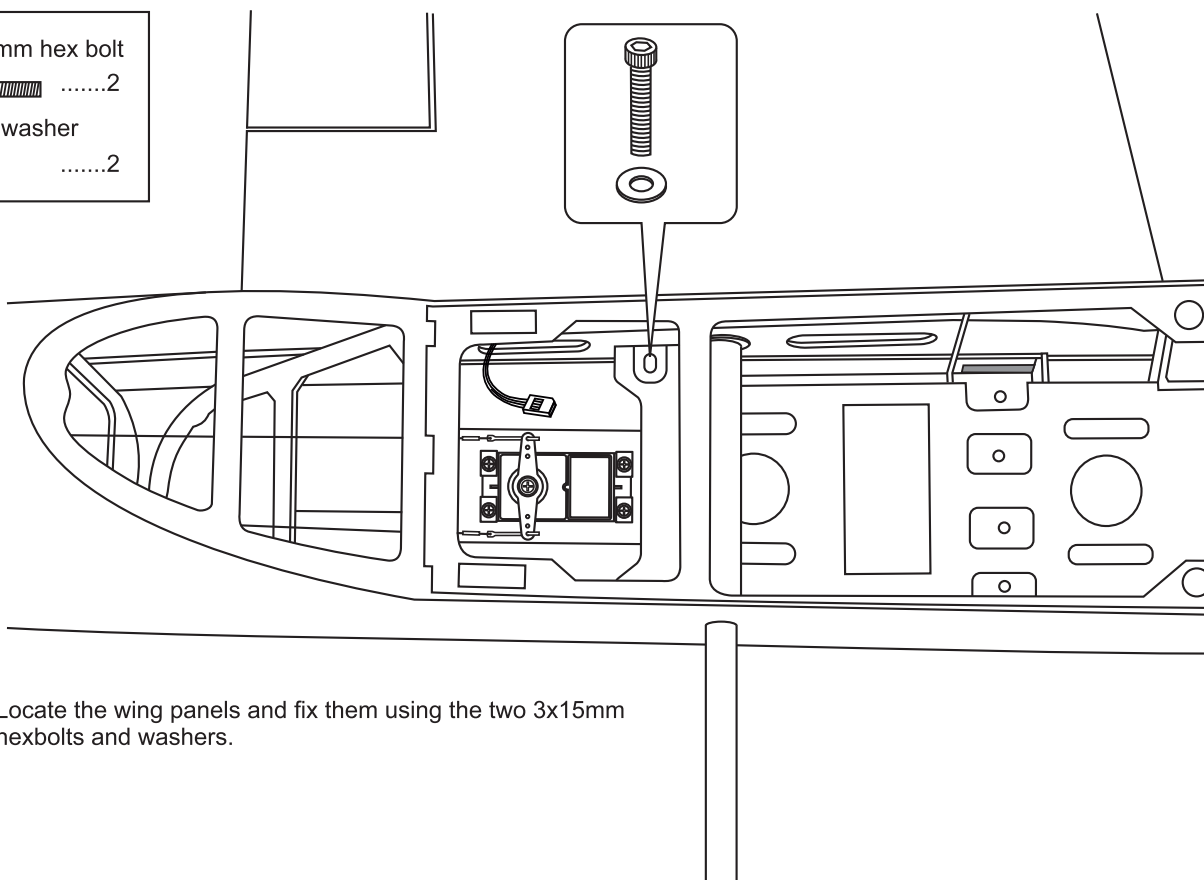


3x15mm hex bolt

.....2

3mm washer

.....2

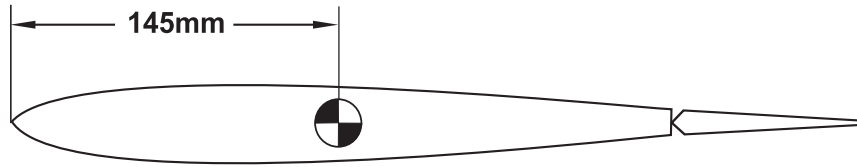


Locate the wing panels and fix them using the two 3x15mm hexbolts and washers.

STAR LIGHT 50 14 Center of gravity - Control throws

Recommended CG

The recommended Center of Gravity location is 145mm behind the leading edge of the wing against the fuselage. Use the Flight Power battery pack, moving it forward or backward, to achieve the correct balance.



WARNING ! Securely install the receiver and power pack, ensuring they will not come loose or rattle during flight.
Never fly before checking the Cg's required position.

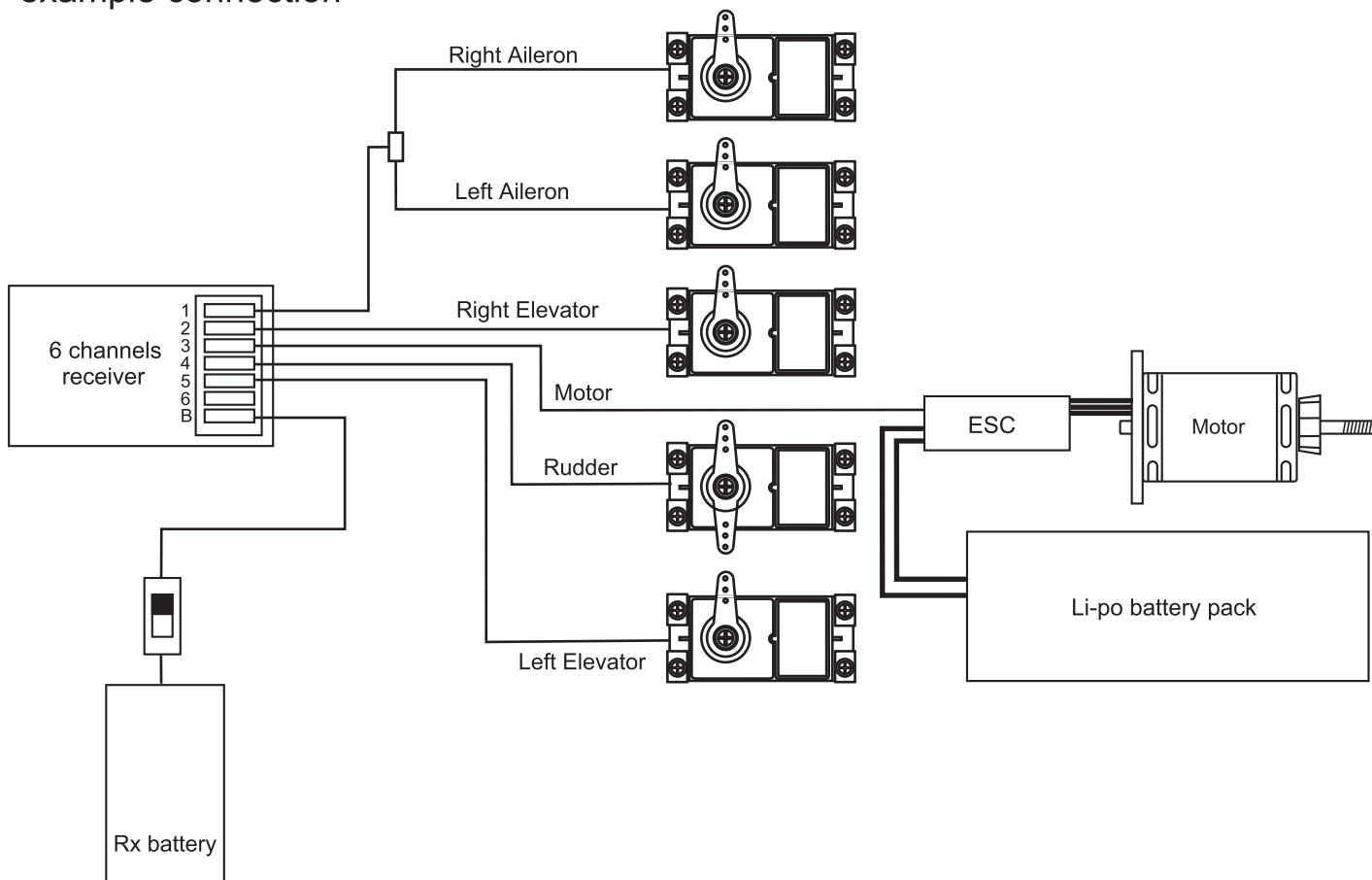
Control throws

Please, follow carefully the recommended linkage setups for ailerons, elevators and rudder .

For Aileron	Low rate	20 up	20 down	Expo: 40%
	High rate	40 up	40 down	Expo: 80%
For Elevator	Low rate	20 up	20 down	Expo: 20%
	High rate	45 up	45 down	Expo: 50%
For Rudder	Low rate	30 left	30 right	Expo: 30%
	High rate	45 left	45 right	Expo: 60%

Note: the **Expo** is (+) for JR systems, and (-) for Futaba systems.

example connection

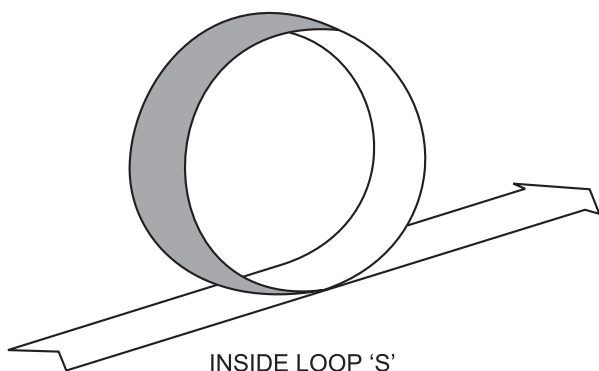


Mixing: For best performance, we recommended a linear-mix*: **Rudder — Elevator UP**
When you give full to rudder to right or left side, the elevator have to go up (positive) approx. 6%
*If you have a programmable computer radio.

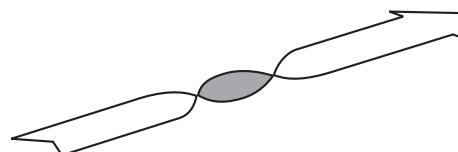
STAR LIGHT 50 15 Individual maneuvers recognized by the AMA

The Star Light 50 can do it all....it is ready for any pattern sequence as for unbelievable easy torque rolls, slow speed knife-edge and almost anything else you can dream up are waiting you!

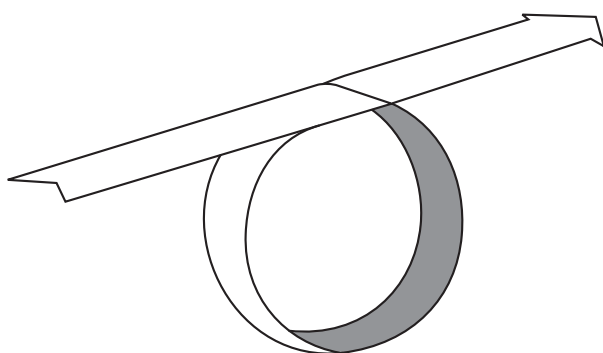
Below this individual maneuvers recognized by the AMA which you can fly with Star Light 50.



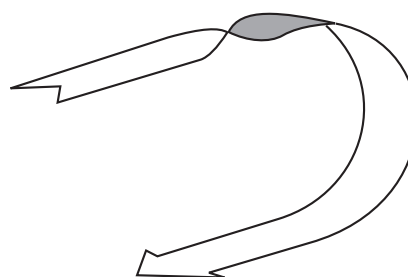
INSIDE LOOP 'S'



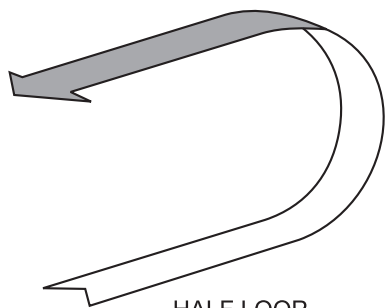
ONE HORIZONTAL ROLL



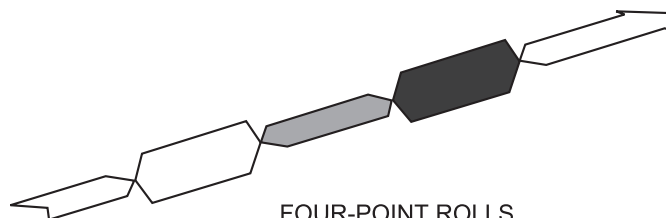
OUT SIDE LOOP 'S'



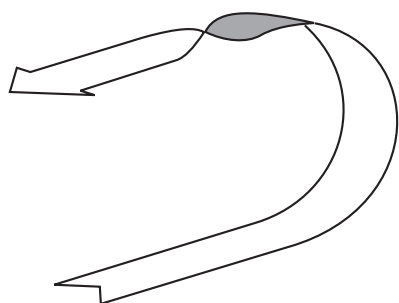
SPLIT 'S'



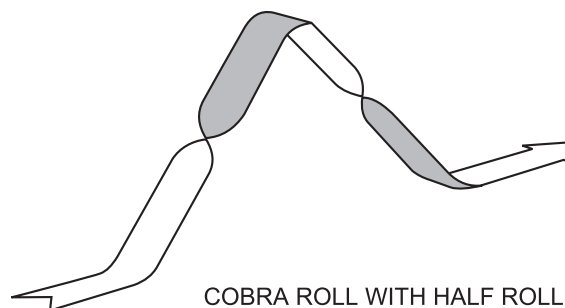
HALF LOOP



FOUR-POINT ROLLS

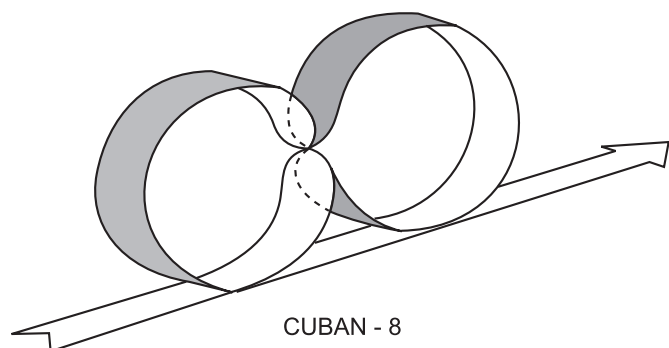
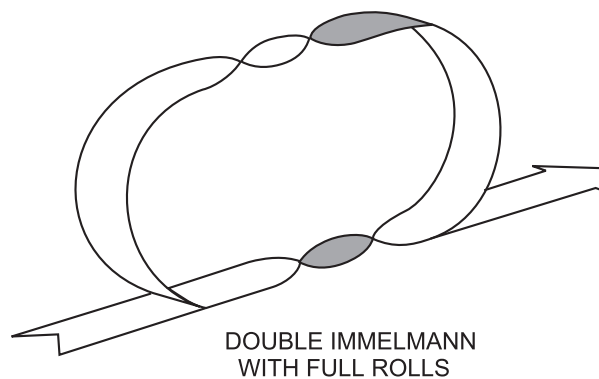
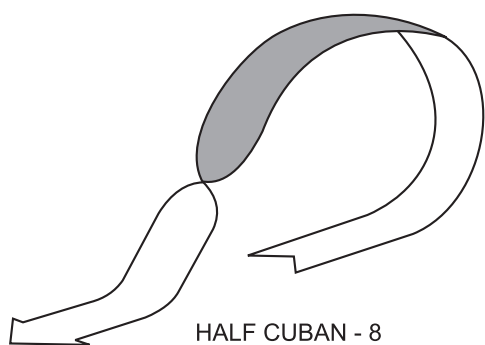
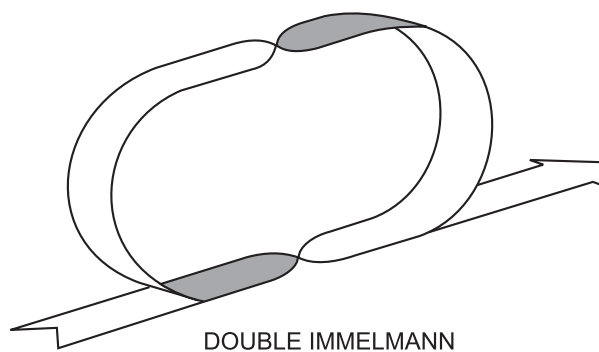
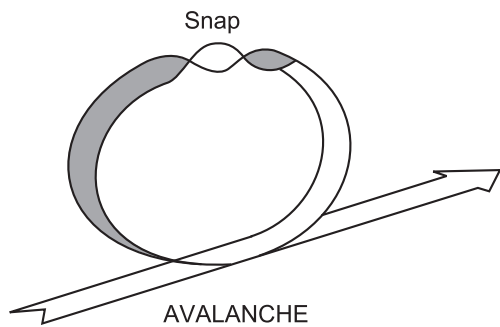


IMMELMANN TURN



COBRA ROLL WITH HALF ROLLS

STAR LIGHT 50 16 Individual maneuvers recognized by the AMA



*Without any aerobatic limit
when you fantasy to do it !*