

R/C Flugmodell

R/C Airplane Model

# TIGER MOTH

## DH-82



*ALL Balsa, PLYWOOD CONSTRUCTION AND ALMOST READY TO FLY*

## Anleitung / Instructions

VQ No: VQA139R/Y/DK

### TECHNISCHE DATEN

Spannweite .....1400mm  
Länge .....1180mm  
Elektroantrieb..... 750W  
Verbrennerantrieb .....7.45cc - 11.5cc  
Fluggewicht .....3,5Kg  
Fernsteuerung ..... 5 Kanal / 4 .. 5 Servos

### SPECIFICATIONS

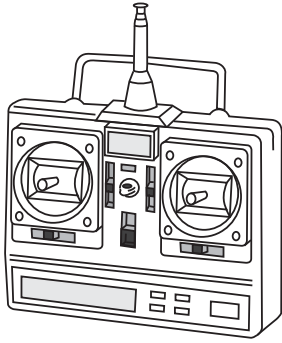
Wingspan:.....1400mm  
Length:.....1180mm  
Electric Motor:.....750W  
Glow Engine:..... .46 2-T / .70 4-T  
RTF Weight: 3.Kg (will vary with equipment use)  
Radio:.....5 Channel / 4-5 Servos  
Function: Ailerons-Elevator-Rudder-Throttle



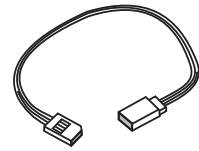
**WARNING!** This radio controlled model is NOT a toy. If modified or flown carelessly it could go out of control and cause serious human injury or property damage. Before flying your airplane, ensure the air field is spacious enough. Always fly it outdoors in safe areas and seek professional advice if you are unexperienced.

**ACHTUNG!** Dieses ferngesteuerte Modell ist KEIN Spielzeug! Es ist für fortgeschrittene Modellflugpiloten bestimmt, die ausreichende Erfahrung im Umgang mit derartigen Modellen besitzen. Bei unsachgemäßer Verwendung kann hoher Personen- und/oder Sachschaden entstehen. Fragen Sie in einem Modellbauverein in Ihrer Nähe um professionelle Unterstützung, wenn Sie Hilfe im Bau und Betrieb benötigen. Der Zusammenbau dieses Modells ist durch die vielen Abbildungen selbsterklärend und ist für fortgeschrittene, erfahrene Modellbauer bestimmt.

## Für den Betrieb erforderlich / Items needed



Luftschraube 12x5 (Holz), # C9714  
Propeller 12x5 (Wooden)



Servokabelverlängerung x2, # C2036  
Servo Extensionwire

Servokabelverlängerung x2, # C1393  
Servo Extensionwire

Fernsteuerung GigaProp 6  
# C8802

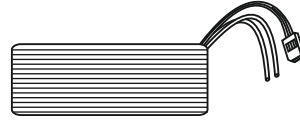
Radio Set GigaProp 6



Brushless Power Set  
BOOST 40 # C9109



MASTER SERVO  
DS3012MG x2, # C7578



LiPo Akku 4500 - 11,1V # C9421  
LiPo Battery 4500- 11,1V



MASTER SERVO  
DS4020 x2, # C4994

Akku Klettbänder  
# C4738

Battery Straps

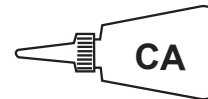
Passendes Zubehör finden Sie hier:  
Find all suitable accessories here:

[www.pichler-modellbau.de](http://www.pichler-modellbau.de)

### Klebstoff /Glue (separat erhältlich - available seperately)



5-Minute Epoxy, # X3598-120



Sekundenkleber / CA Glue, # X3572

### Werkzeug / Tools (nicht im Lieferumfang / not included)

Hobby knife

Phillip screw driver

Hex Wrench

Needle nose Pliers

Scissors

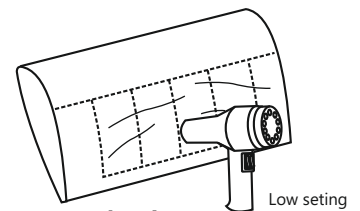
Awl

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 edges by using a hot iron.



Bei Sonneneinstrahlung und/oder Wärme kann die Folie erschlaffen bzw. Falten entstehen. Verwenden Sie einen Haartrockener, um die Folie ggf. zu spannen. Die Kanten können Sie vorsichtig mit einem Bügeleisen behandeln. Nicht zuviel Hitze anwenden!

Symbols used throughout this instruction manual, comprise:

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

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

Löcher bohren mit dem angegebenen Bohrer (hier 1,5 mm)

Hier besonders aufpassen

Schraffierte Stellen, Besspannfolie vorsichtig entfernen

Während des Zusammenbaus immer prüfen, ob sich die Teile auch reibungslos bewegen lassen

Epoxy-Klebstoff verwenden

Sekundenkleber auftragen

Linke und rechte Seite wird gleichermaßen zusammengebaut

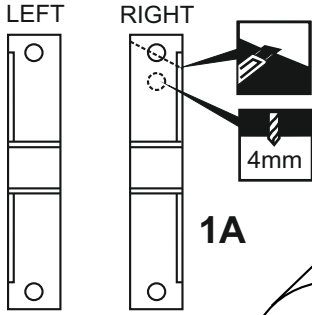
Nicht enthalten. Teile müssen separat gekauft werden.

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

### CONVERSION TABLE

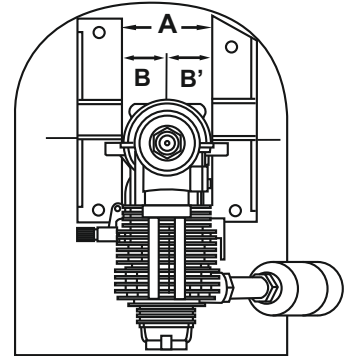
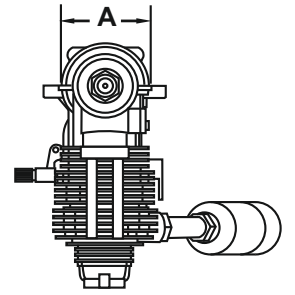
1.0mm = 3/64"	3.0mm = 1/8"	10mm = 13/32"	25mm = 1"
1.5mm = 1/16"	4.0mm = 5/32"	12mm = 15/32"	30mm = 1-3/16"
2.0mm = 5/64"	5.0mm = 13/64"	15mm = 19/32"	45mm = 1-51/64"
2.5mm = 3/32"	6.0mm = 15/64"	20mm = 51/64"	

# 1- Engine installation

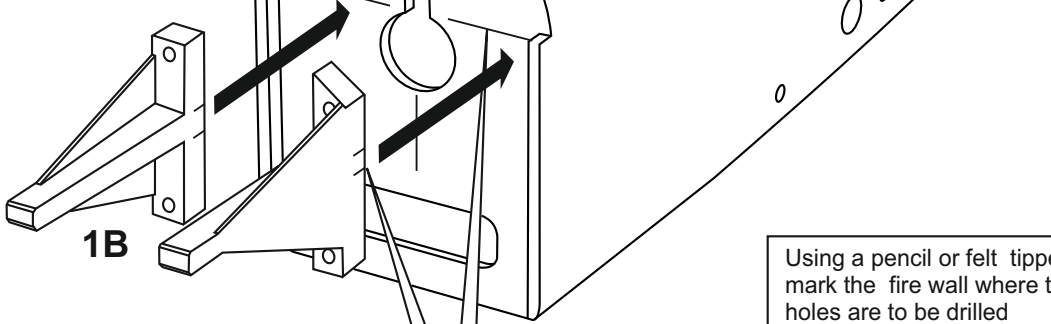


Engine mounts  
Front-view

1A



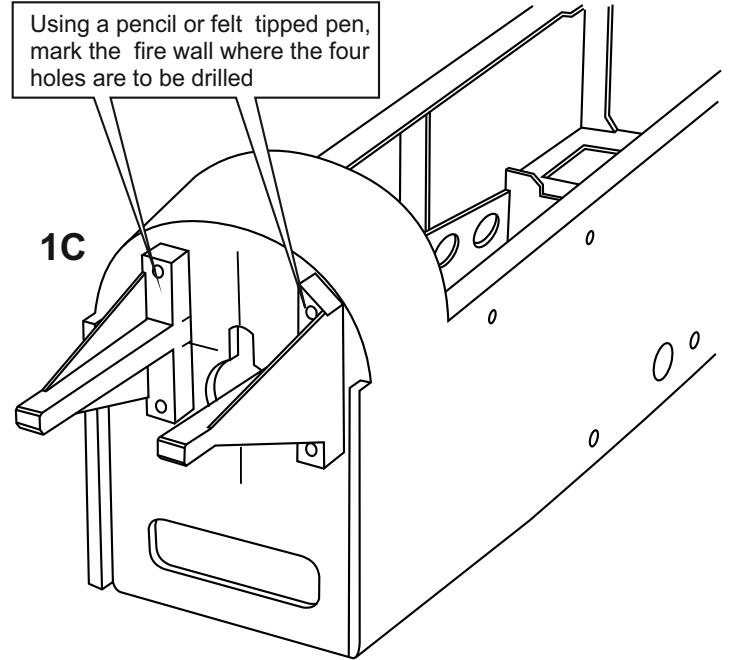
B=B'



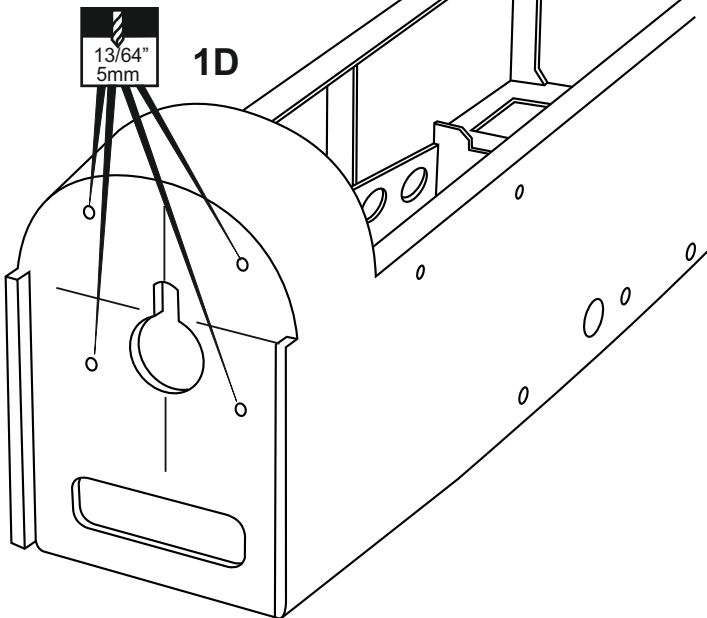
! Engine thrust on balk head is already adjust at factory

! Align the mark on both mounts with the mark on the fuselage

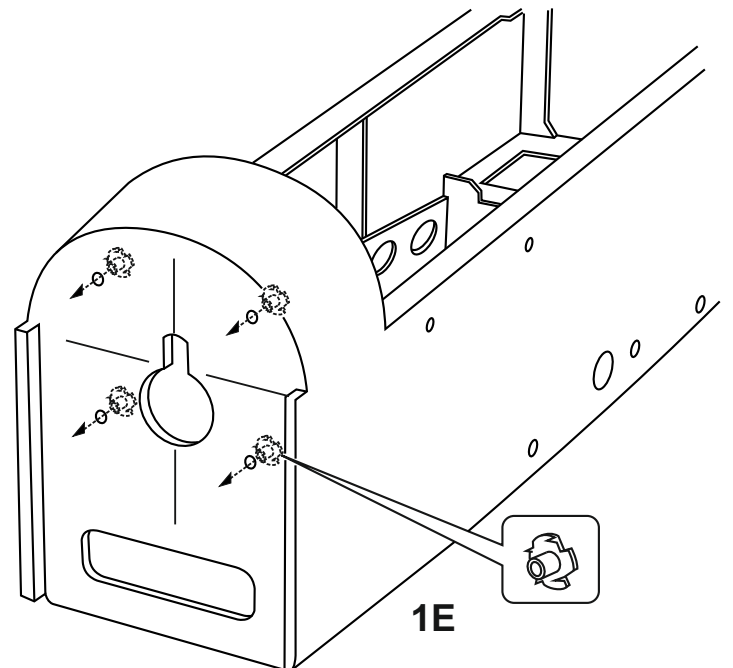
Using a pencil or felt tipped pen, mark the fire wall where the four holes are to be drilled



Remove the engine mount and drill a 13/64" (5mm) hole through the fire-wall at each of the four marks marked.



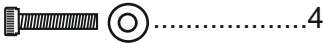
4mm Blind-nut



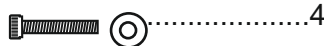
Attach the four blind-nut to the fire-wall as show

## 2- Engine installation

4x25mm screw - washer

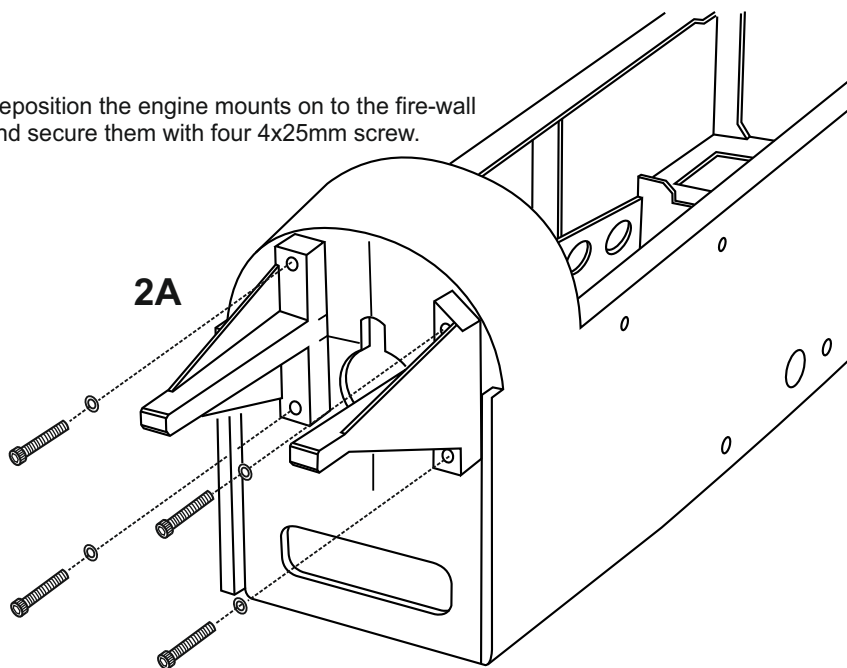


3x25mm screw - washer

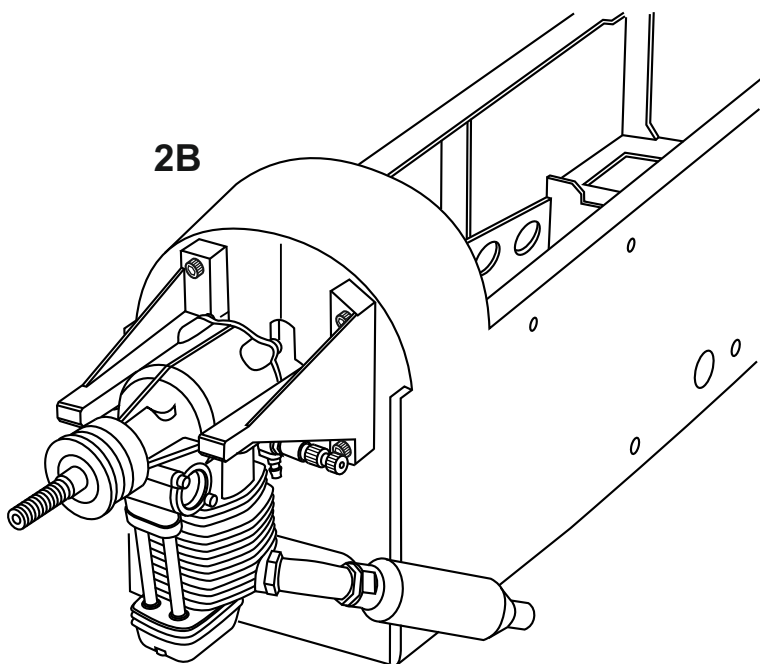


Reposition the engine mounts on to the fire-wall and secure them with four 4x25mm screw.

2A

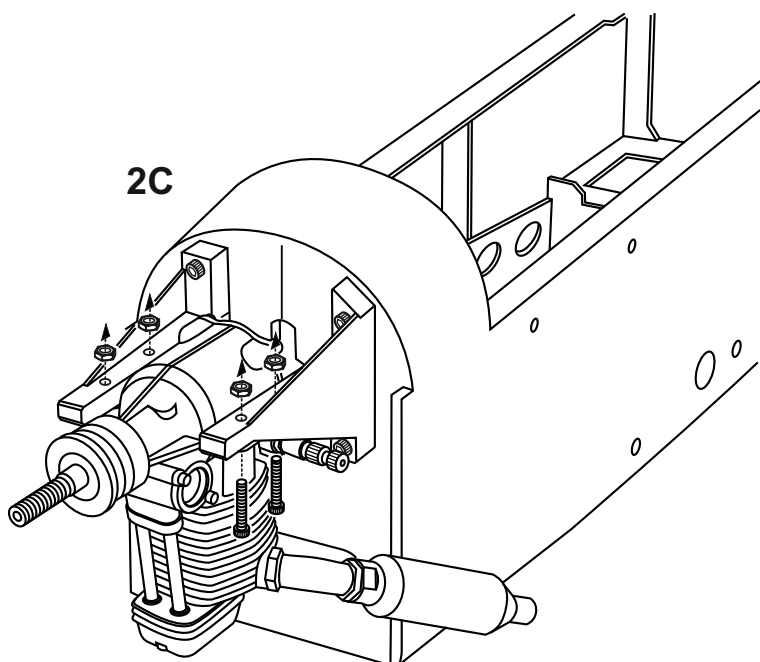


2B



Reposition the engine on to the engine mounts so the distance from the prop hub to the fire wall is 130mm.

2C

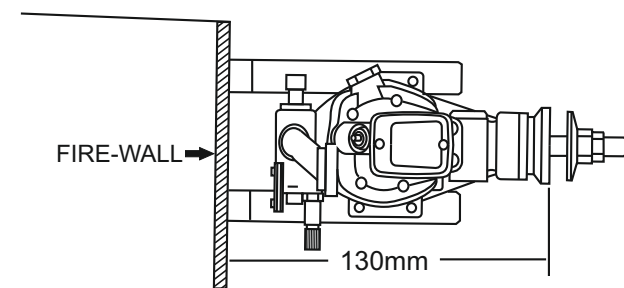


- Mark the engine mounting plate where the four holes are to be drilled.

Note: Mark the mounting plate through the engine mounting flanges.

- Remove the engine and drill a 1/8" (3mm) holes through the beam at each of the four marks made above.

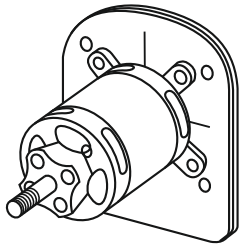
- Reposition the engine on the engine mount beams, aligning it with the holes. Secure the engine to the engine mount using four 1/8x51/64" (3x25mm) screws.



FUSELAGE - BOTTOM VIEW

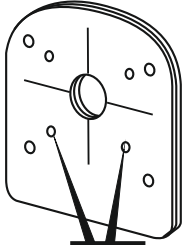
Note: Apply Silicon sealer to each of the 3x25mm screw.

### 3- Electric Motor installation



Using an aluminum motor mounting plate as a template, mark the plywood motor mounting plate where the four holes are to be drilled.

**3A**



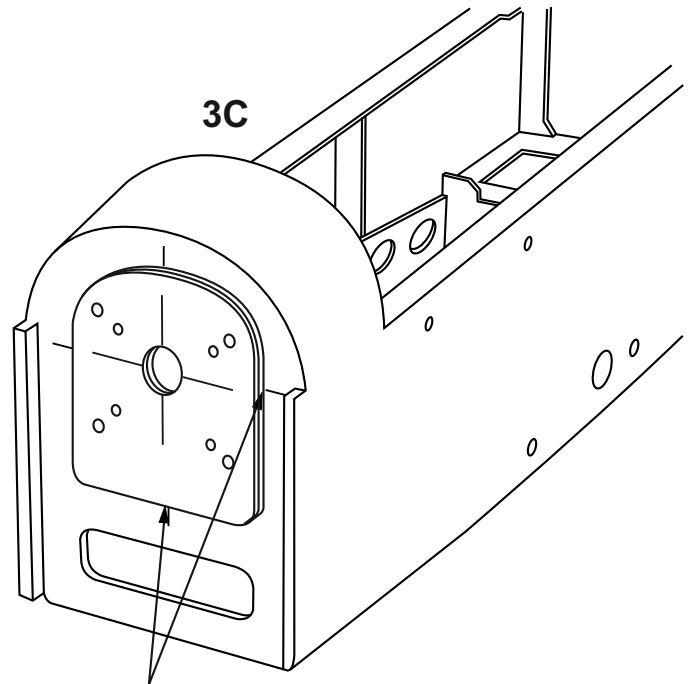
Remove the aluminum motor mounting plate and drill a 1/8" (3mm) hole through the plywood at each of the four marks marked.

**3B**

3mm

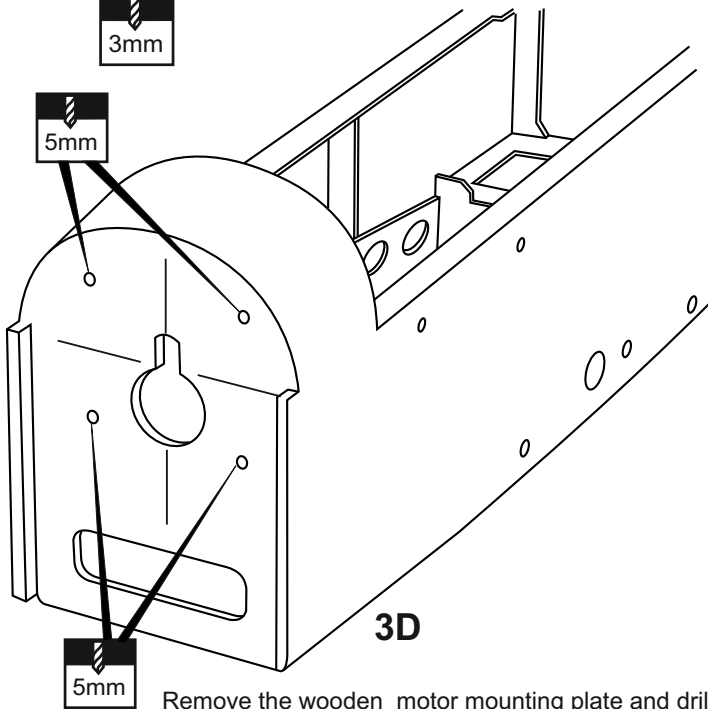


5mm



**3C**

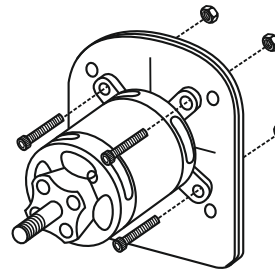
**! Align the mark on wooden motor mounting plate with the mark on the fire-wall.**



**3D**

5mm

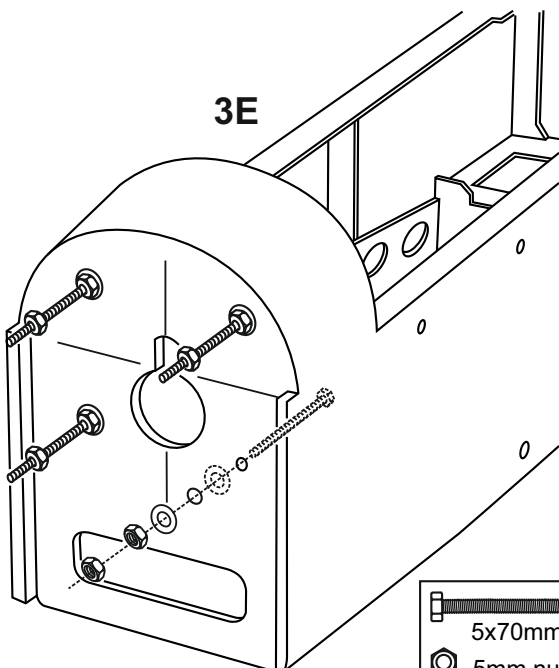
Remove the wooden motor mounting plate and drill a 5mm hole through the fire-wall at each of the four marks marked.



**3E**

3mm bolt / nut...4

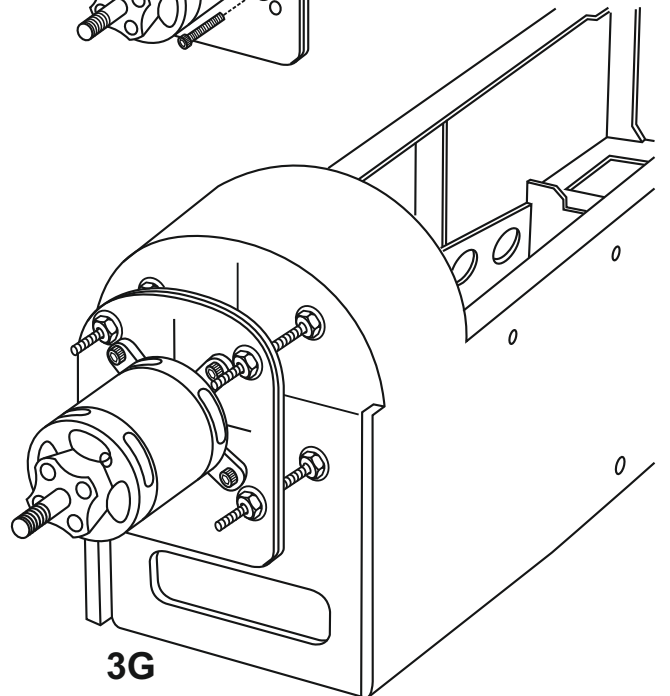
Secure the Motor to the wooden motor mounting plate using the four 3mm bolts.



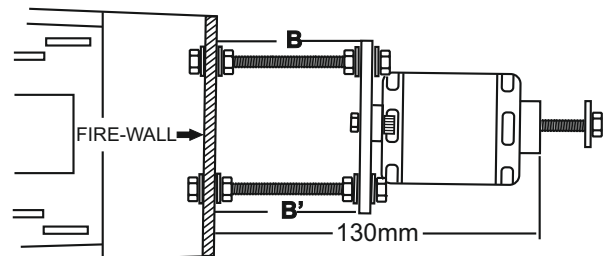
**3F**

Attach the four 5x70mm bolts and nuts to the fire-wall as shown.

5x70mm bolt....4  
5mm nut.....12  
5mm washer...16



**3G**

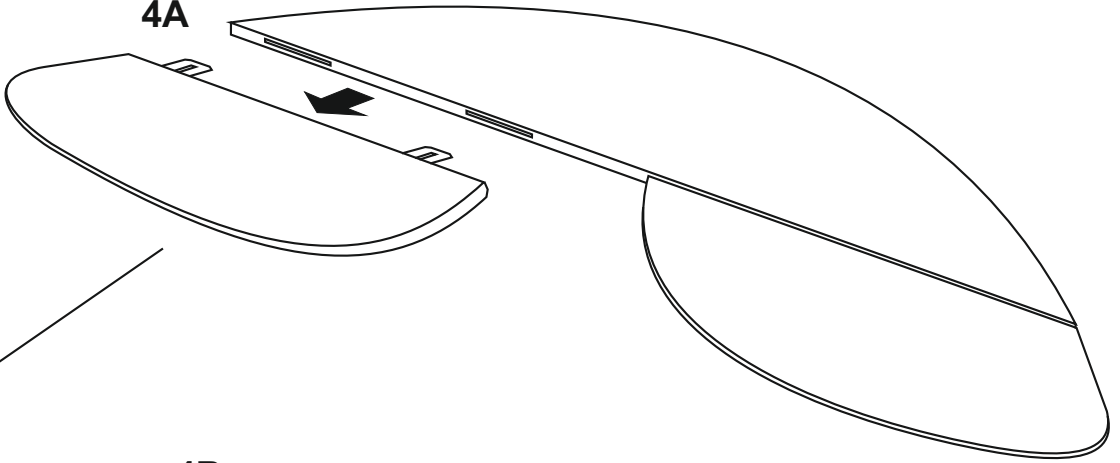


**FUSELAGE - TOP VIEW**

## 4- Horizontal Stabilizer

Full the elevator out of the horizontal stabilizer.

4A



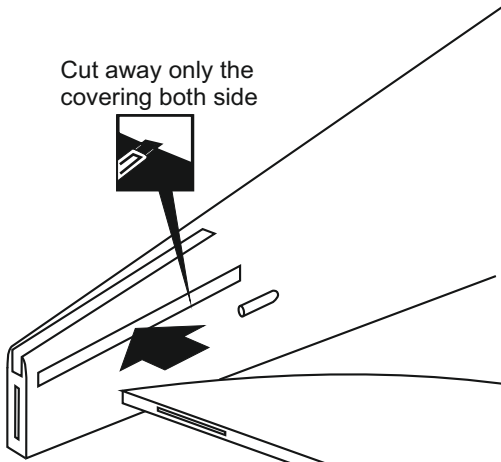
Cut away only the covering both side



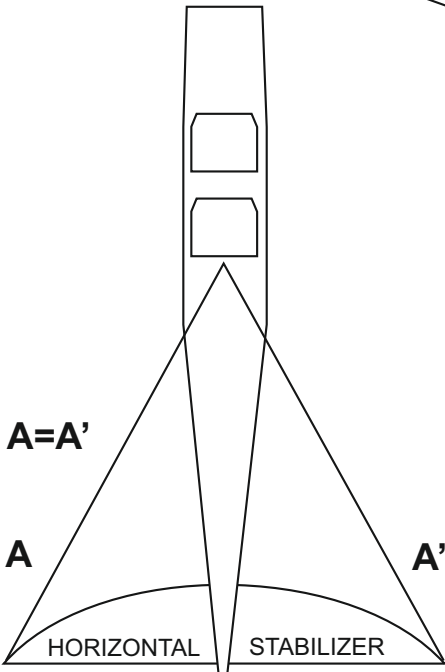
4B

Trial fit the horizontal stabilizer in place. Check the alignment of the horizontal stabilizer.

If the parts will join, but with a gaps, sand or the rectangular hole on the fuselage a little at a time until the parts meet exactly with no gaps.



When you are satisfied with the alignment, use a pencil to trace around the top and bottom of the stabilizer where it meets the fuselage.



TOP VIEW

4C

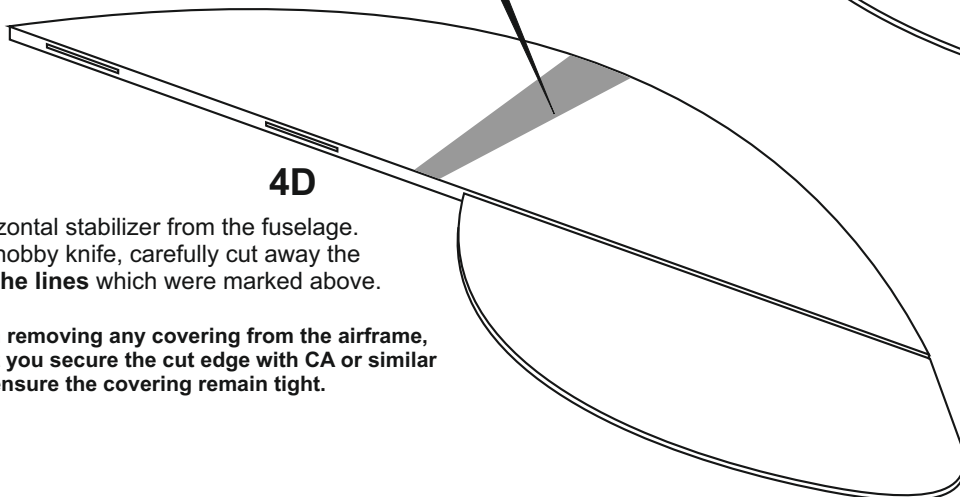
Cut away only the covering both side



4D

Remove the horizontal stabilizer from the fuselage. Using the sharp hobby knife, carefully cut away the covering **inside the lines** which were marked above.

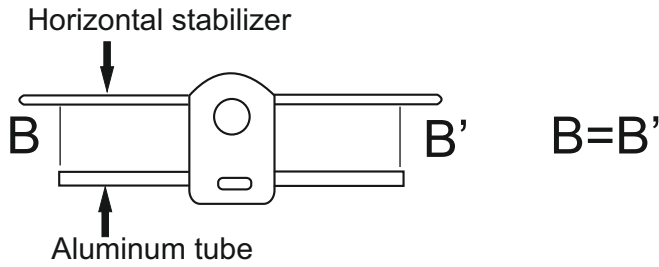
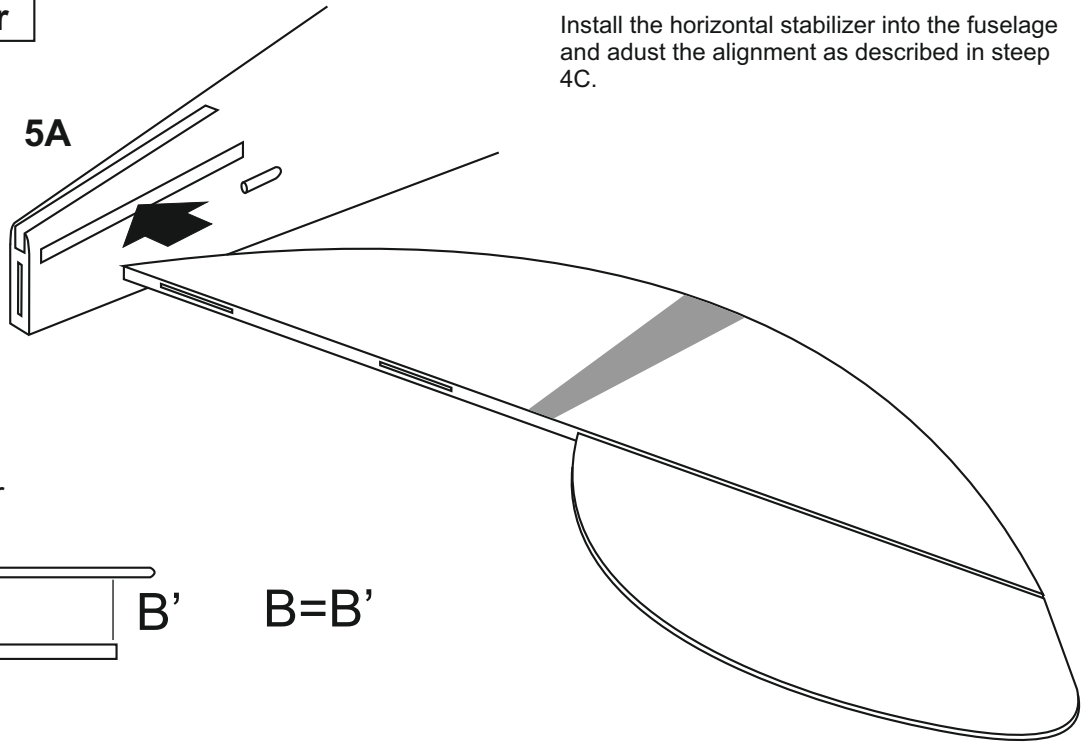
**\* WARNING:** When removing any covering from the airframe, please ensure that you secure the cut edge with CA or similar cement. This will ensure the covering remain tight.





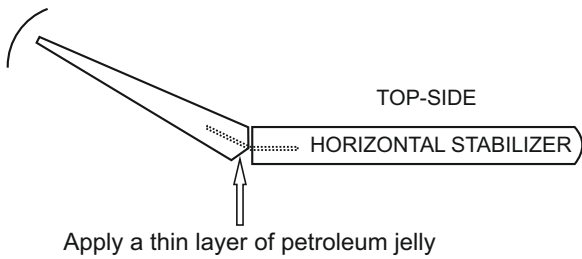
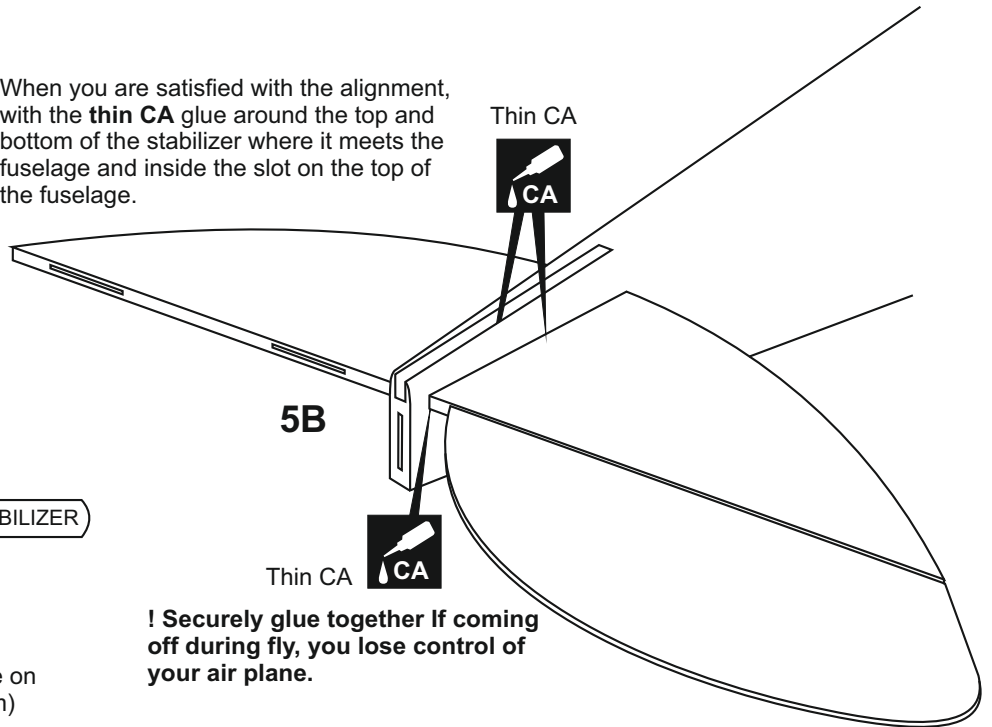
# 5- Horizontal Stabilizer

Install the horizontal stabilizer into the fuselage and adjust the alignment as described in steep 4C.

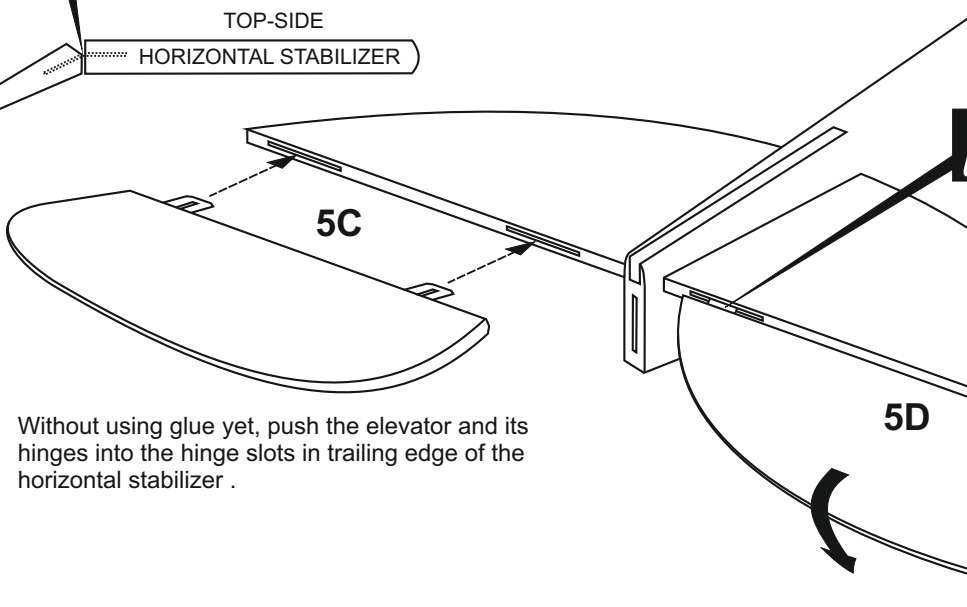
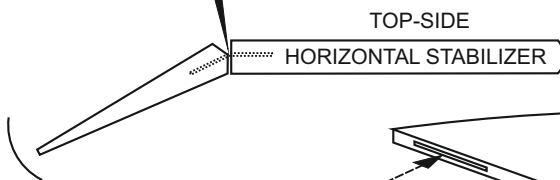


**FRONT VIEW**

When you are satisfied with the alignment, with the **thin CA** glue around the top and bottom of the stabilizer where it meets the fuselage and inside the slot on the top of the fuselage.



Apply **thin CA** glue on the top (and bottom) of the hinge



Without using glue yet, push the elevator and its hinges into the hinge slots in trailing edge of the horizontal stabilizer .

Apply **thin CA** glue on the top and bottom of the hinge

## 6- Vertical Stabilizer

Pull the rudder out of the vertical fin.

Carefully, push the vertical fin into the slot on the fuselage as shown .

6A

6B

6C

6D

6E

Trial fit the vertical fin in position. Using a 90 degree triangle, ensure that the vertical stabilizer is perpendicular to the horizontal stabilizer .

Using a pencil, trace around the vertical stabilizer where it meets the fuselage. Remove the vertical stabilizer from the fuselage.

Using a sharp hobby knife, carefully cut away the covering **below 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 .

Cut away only the covering

Insert the vertical fin into the fuselage, precisely align the vertical stabilizer as described in step 6C.

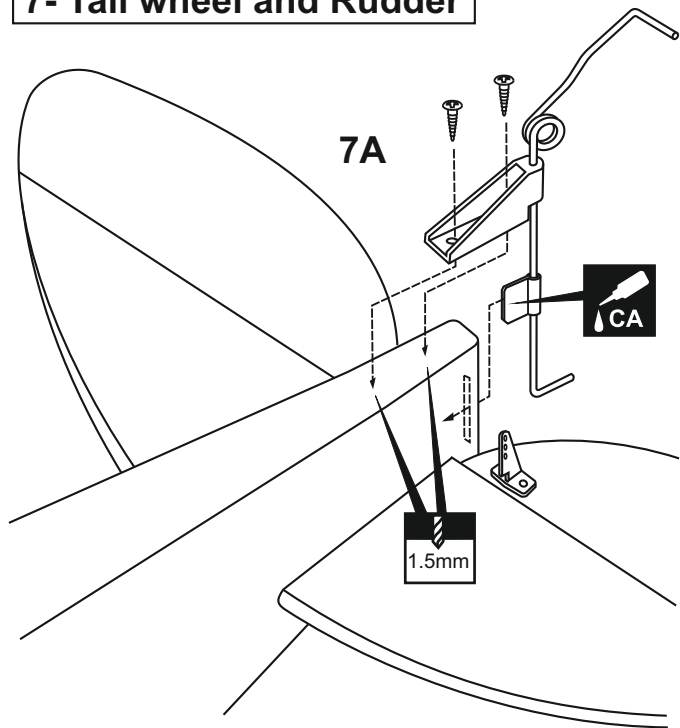
Apply the thin CA glue on the vertical stabilizer where it contacts the fuselage.

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



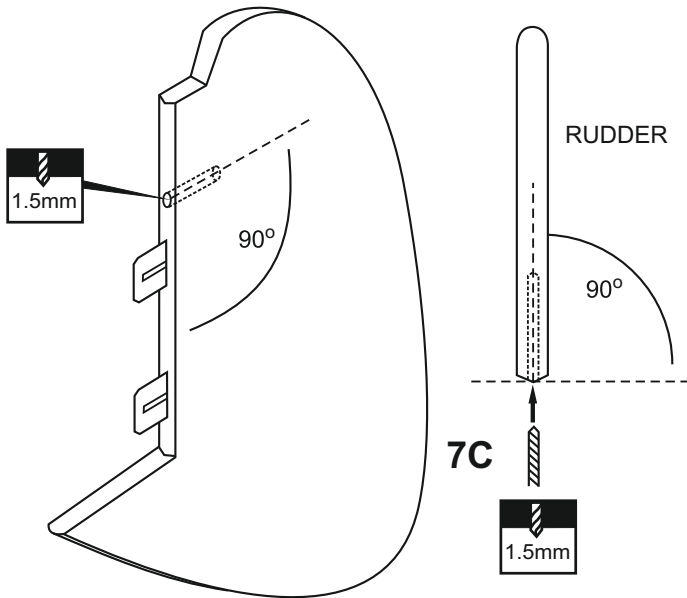
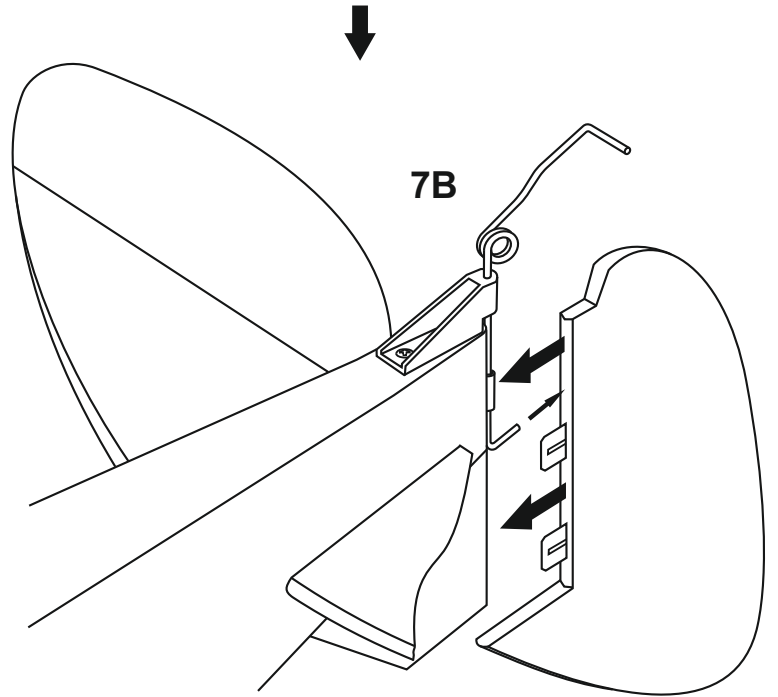


## 7- Tail wheel and Rudder

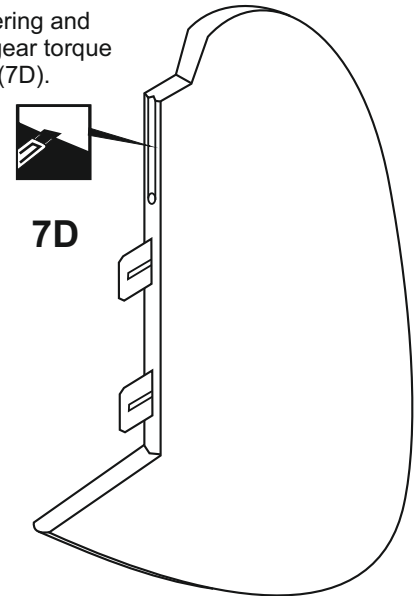


Without using glue yet, push the rudder and its hinges into the hinge slots in the trailing edge of the vertical stabilizer. There should be a minimal hinge gap and the bottom edge of the rudder should not rub against the vertical stabilizer.

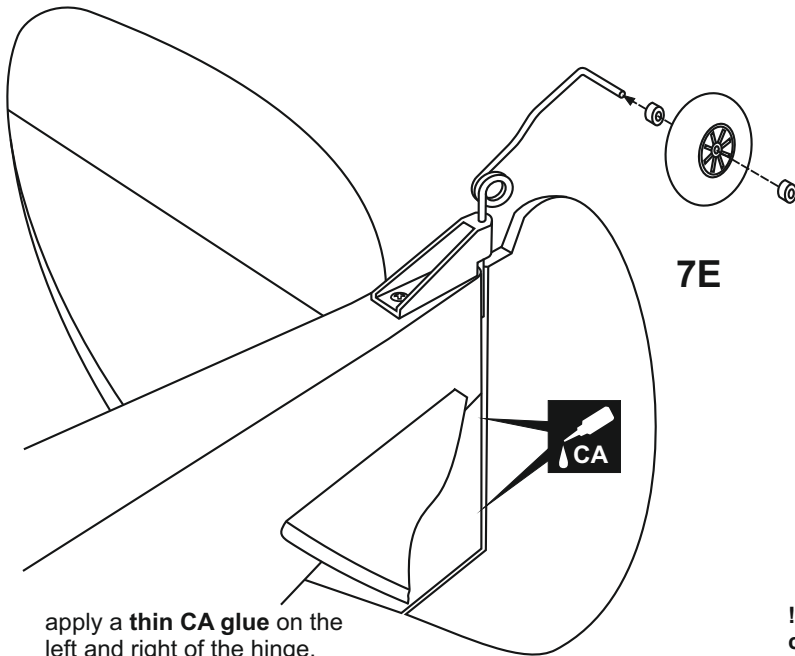
When satisfied with the alignment, mark the mounting hole position, where the tail gear torque rod meets the rudder with a pencil.



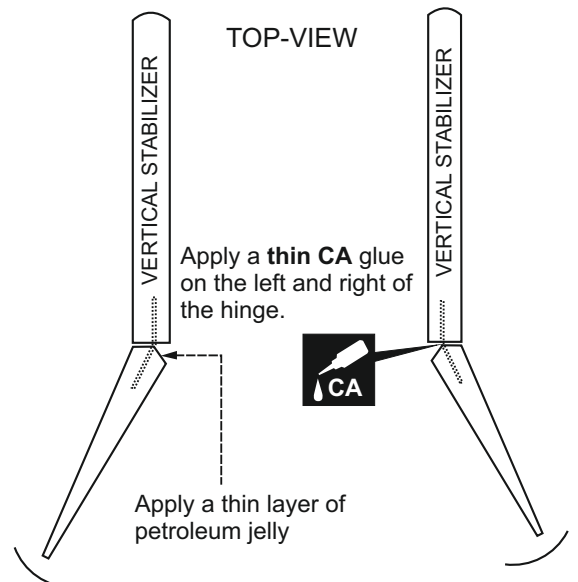
Cut away the covering and balsa for the tail gear torque rod mounting slot (7D).



Remove the rudder and drill 1.5mm hole at the mark marked before. Marking sure that you drill the hole perpendicular to the leading edge of the rudder (7C).



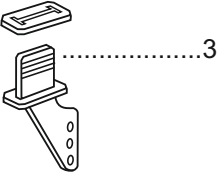
apply a **thin CA glue** on the left and right of the hinge.



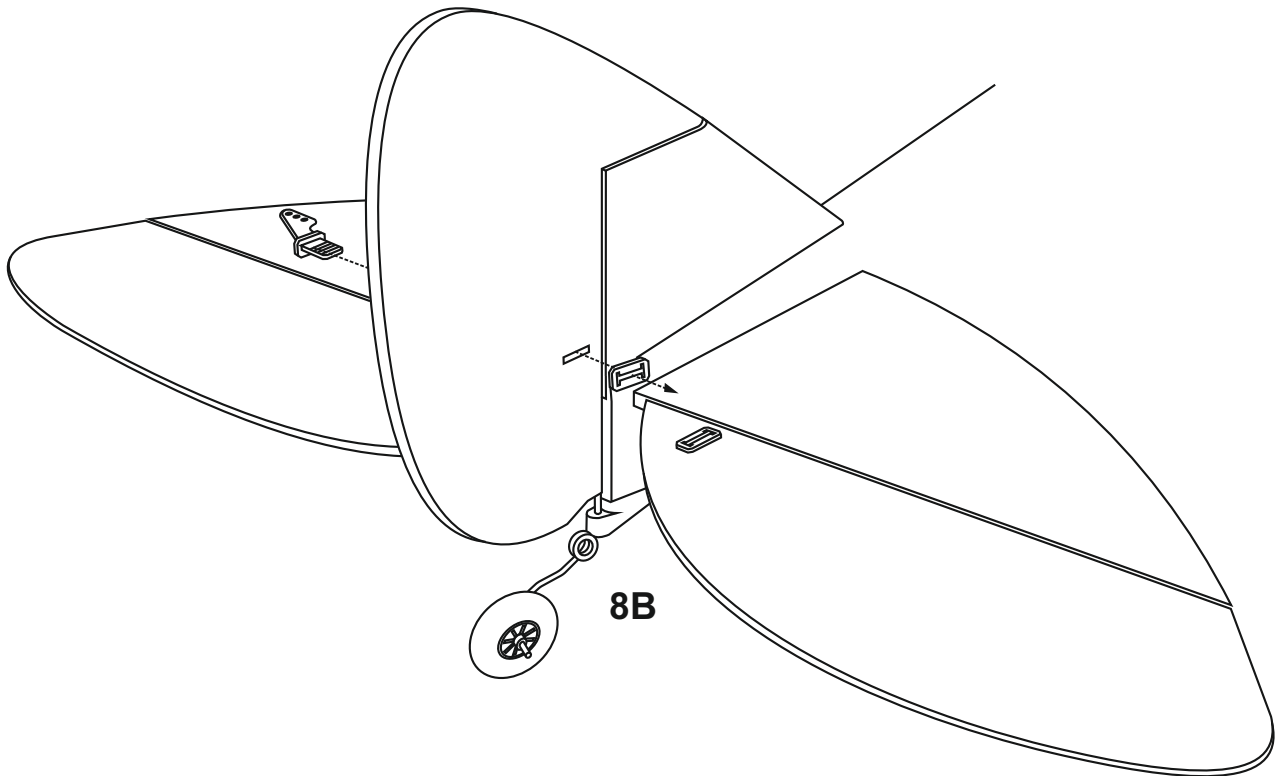
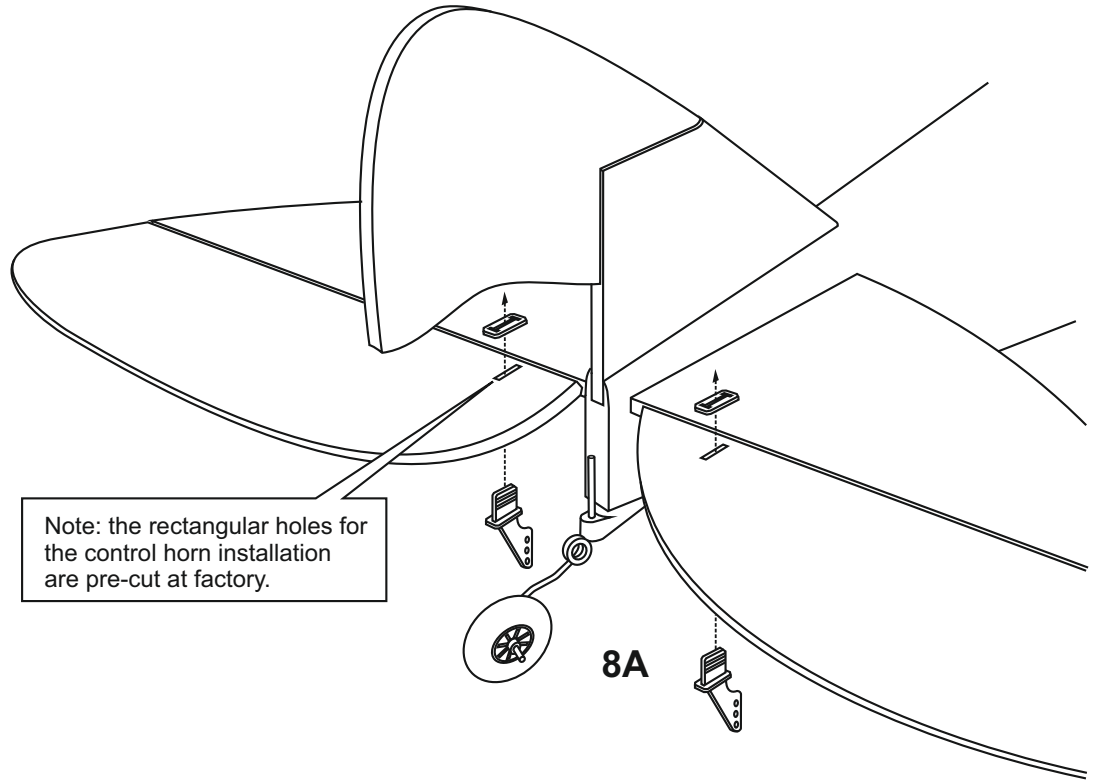
**! Securely glue together. If coming off during fly, you lose control of your air plane.**

## 8- Control horn

Plastic control horn

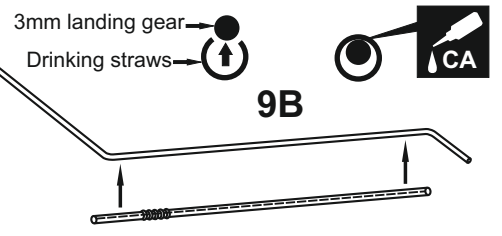
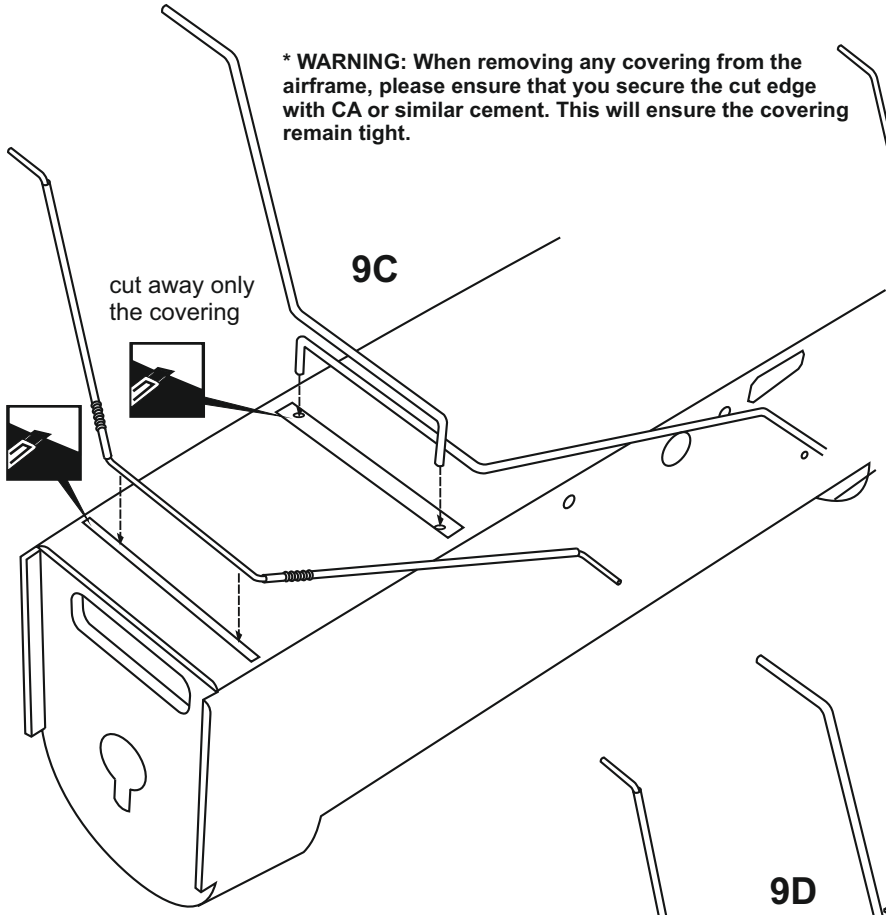
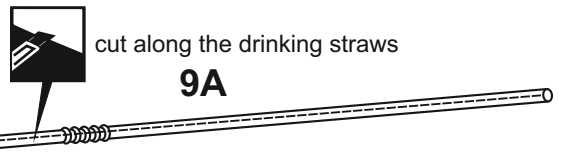


Note: the rectangular holes for the control horn installation are pre-cut at factory.

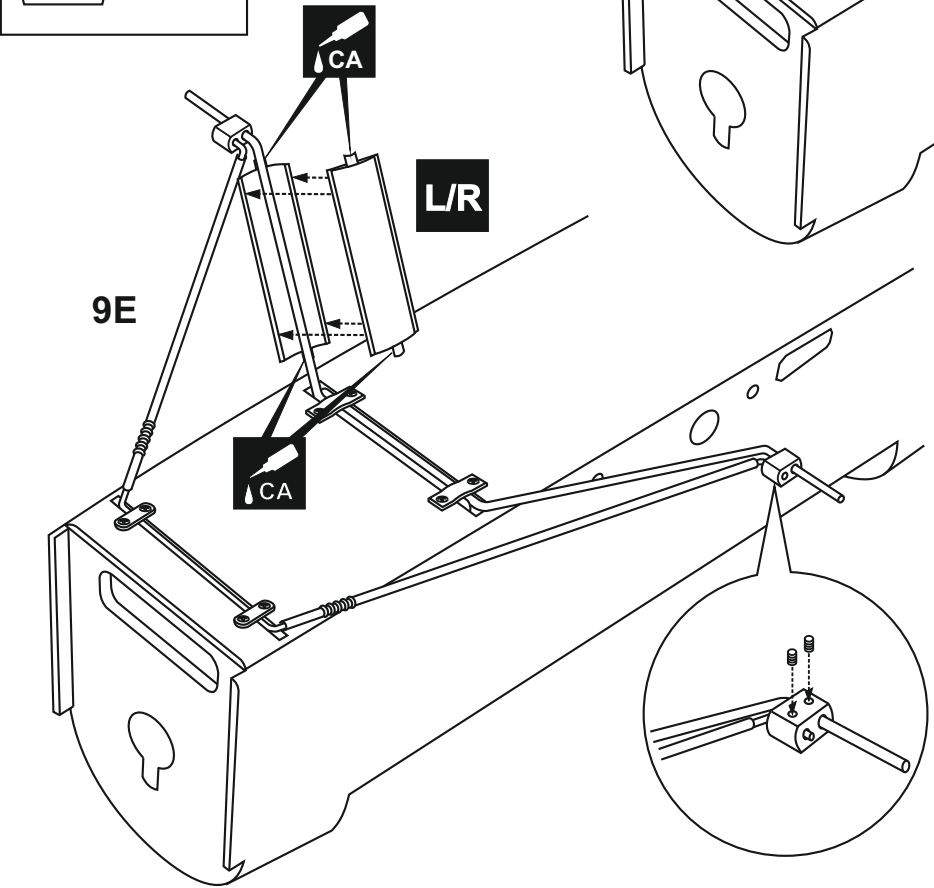
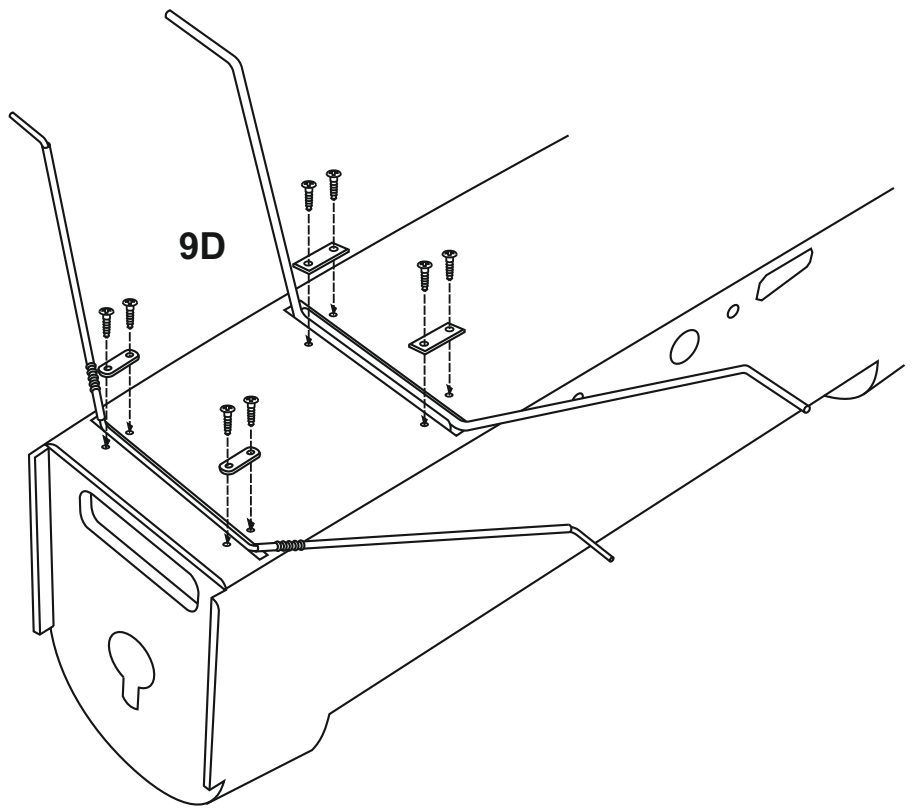


# 9- Main landing gear

**\* WARNING:** When removing any covering from the airframe, please ensure that you secure the cut edge with CA or similar cement. This will ensure the covering remain tight.

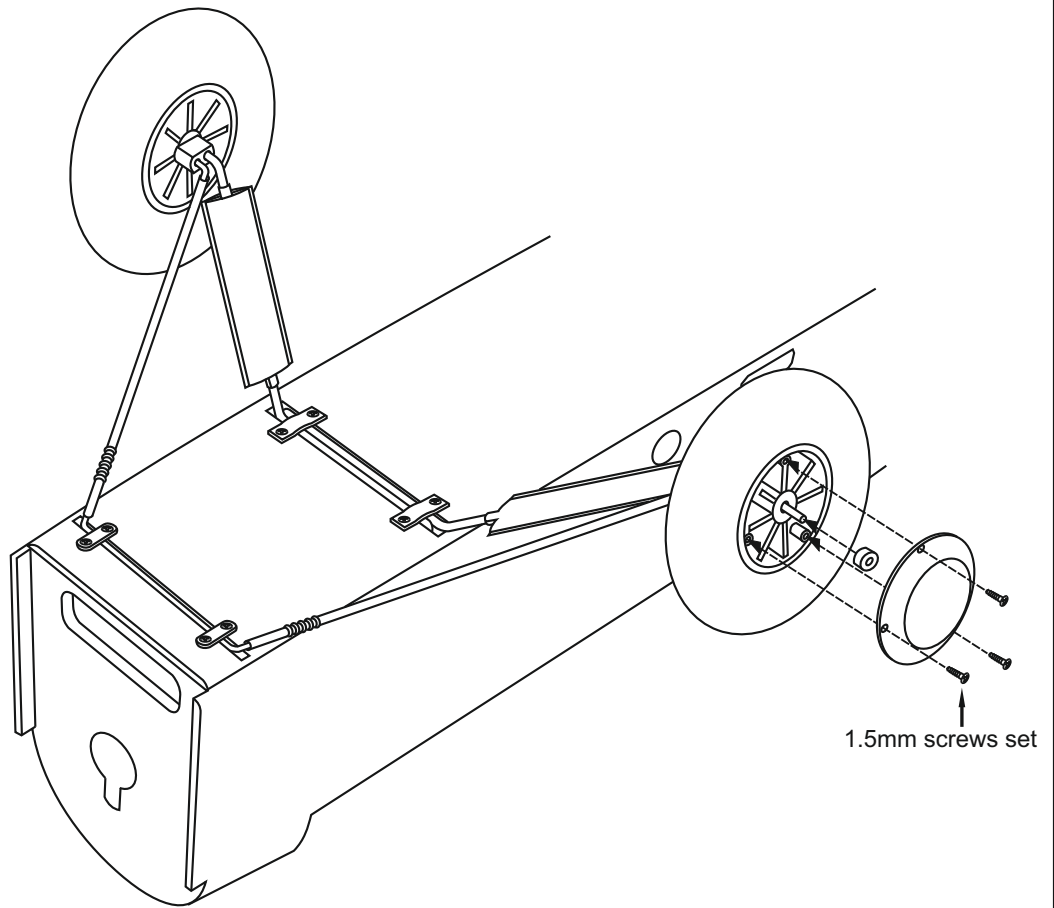


- ..... 2
- ..... 2
- 3x10mm ..... 8
- ..... 2



## 10- Main landing gear

2mm ID collar



1.5mm screws set

## 11- Servo and linkages

Connector

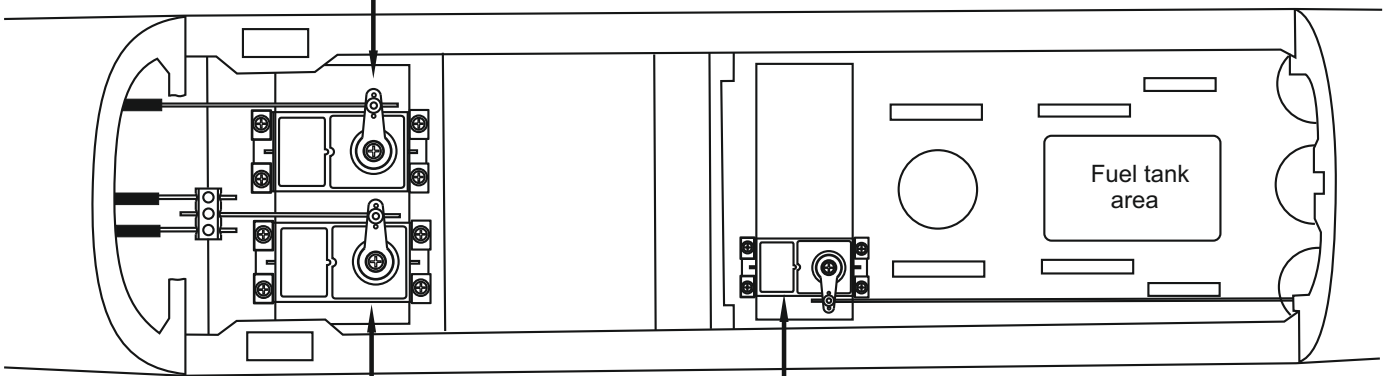


Connector



IN CASE OF GLOW ENGINE USING

Rudder servo



Elevator servo

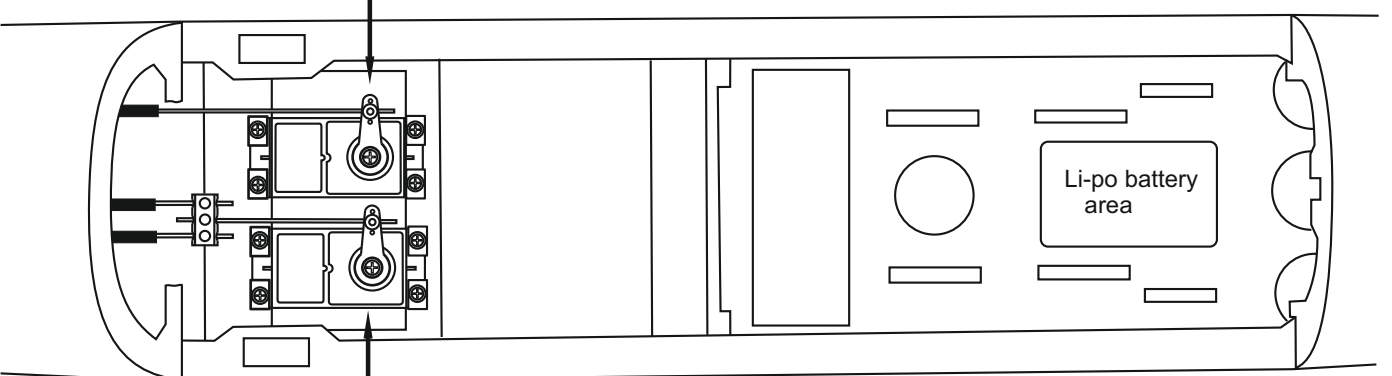
Throttle servo

FUSELAGE - TOP VIEW

Fuel tank area

IN CASE OF ELECTRIC MOTOR USING

Rudder servo



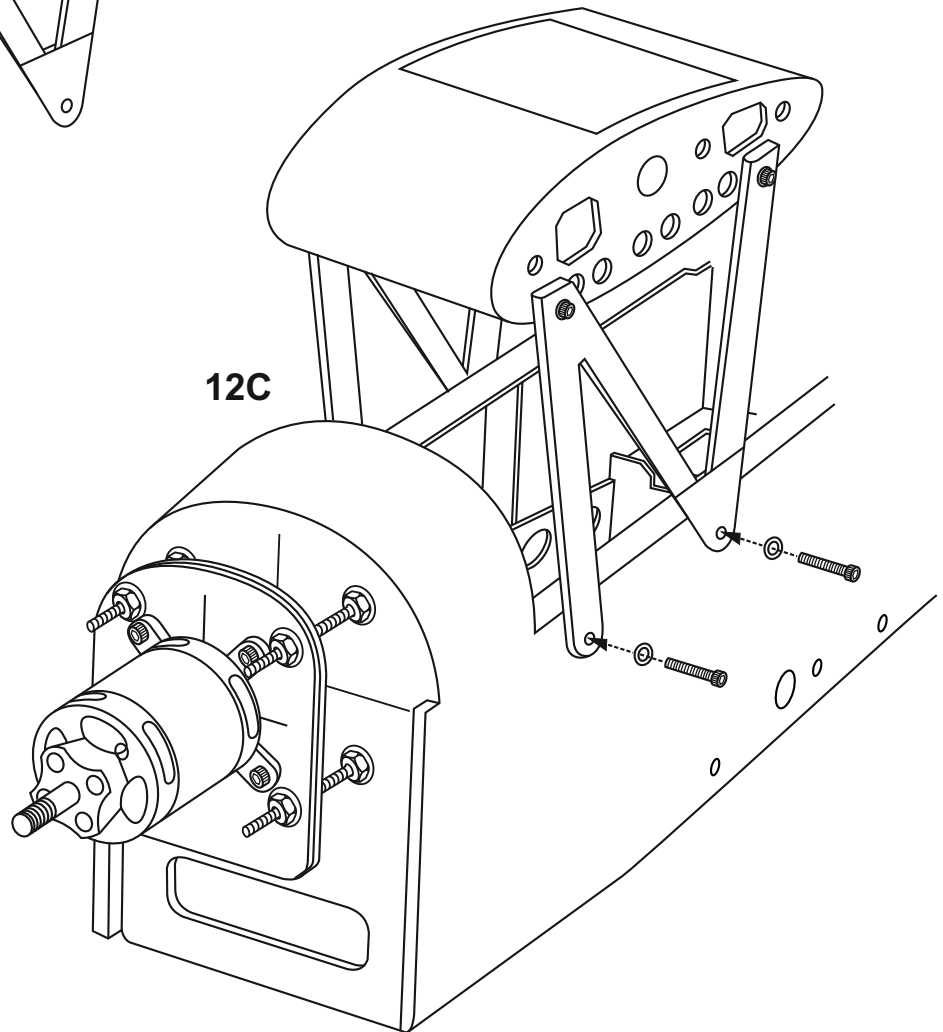
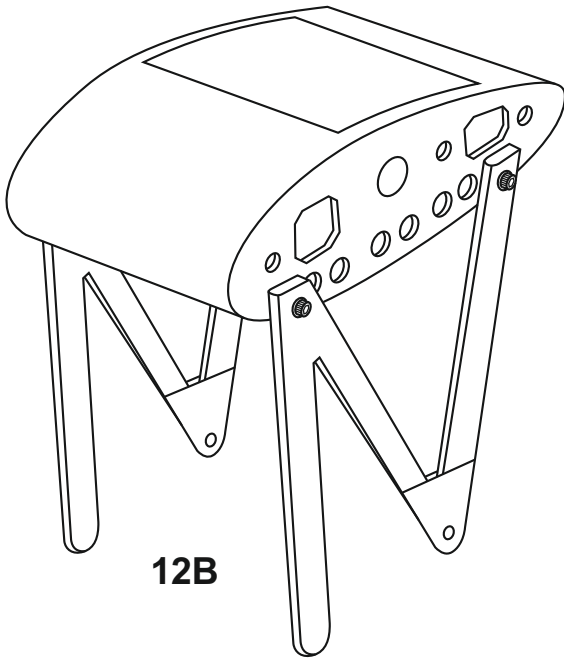
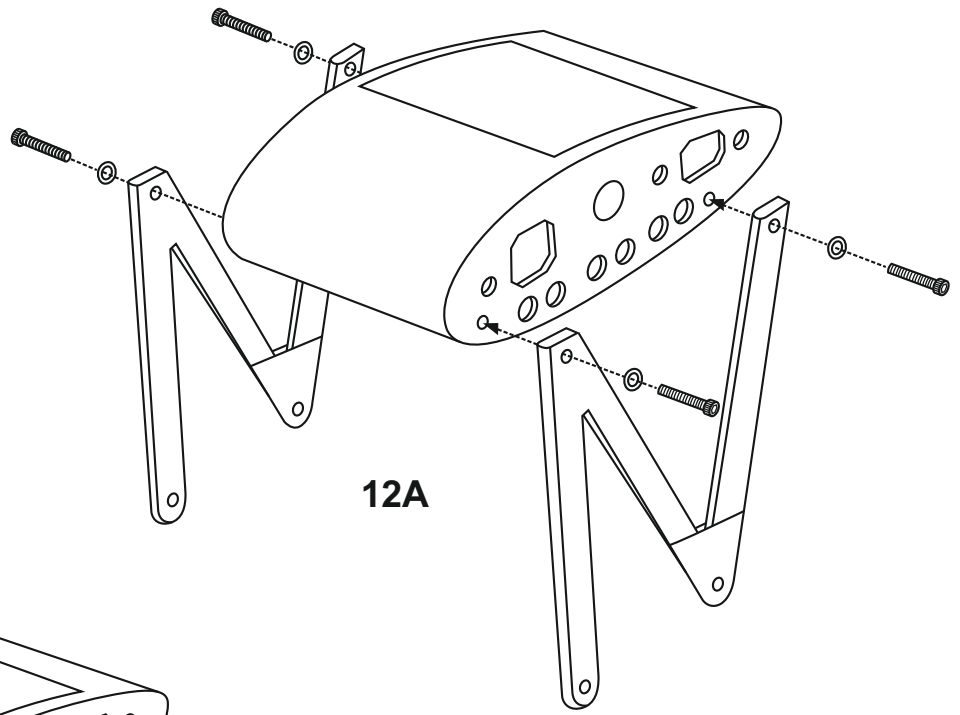
Elevator servo

FUSELAGE - TOP VIEW

Li-po battery area

# 12- Wing Strut

3x25mm screw

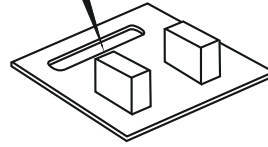


# 13- Aileron servo

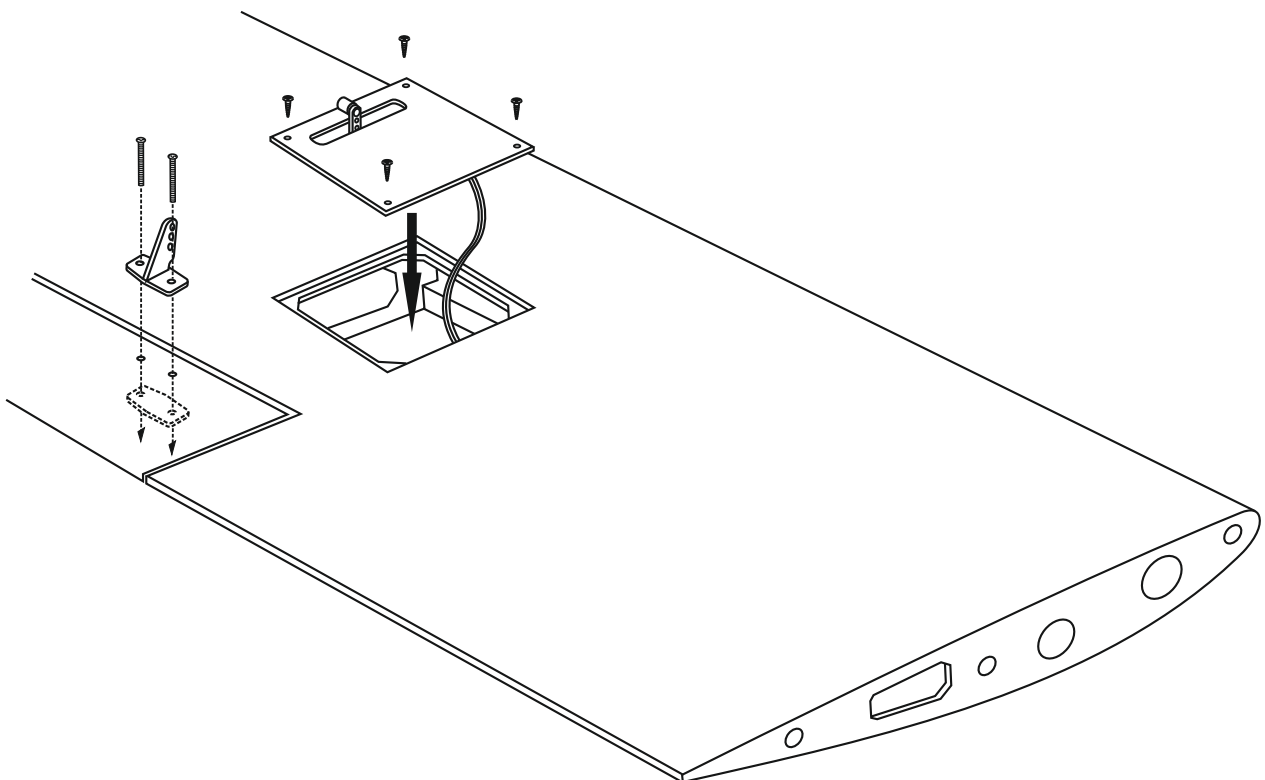
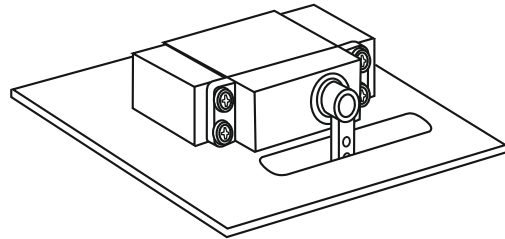
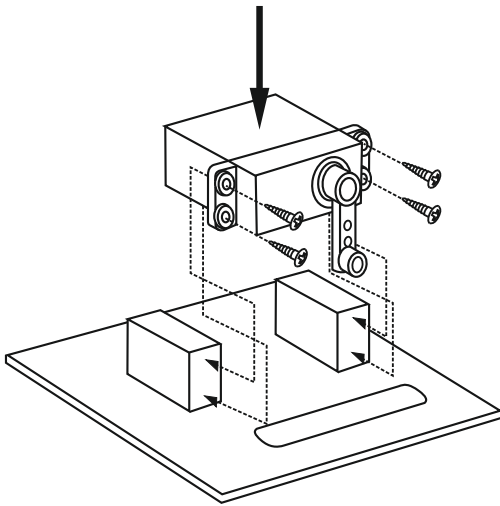
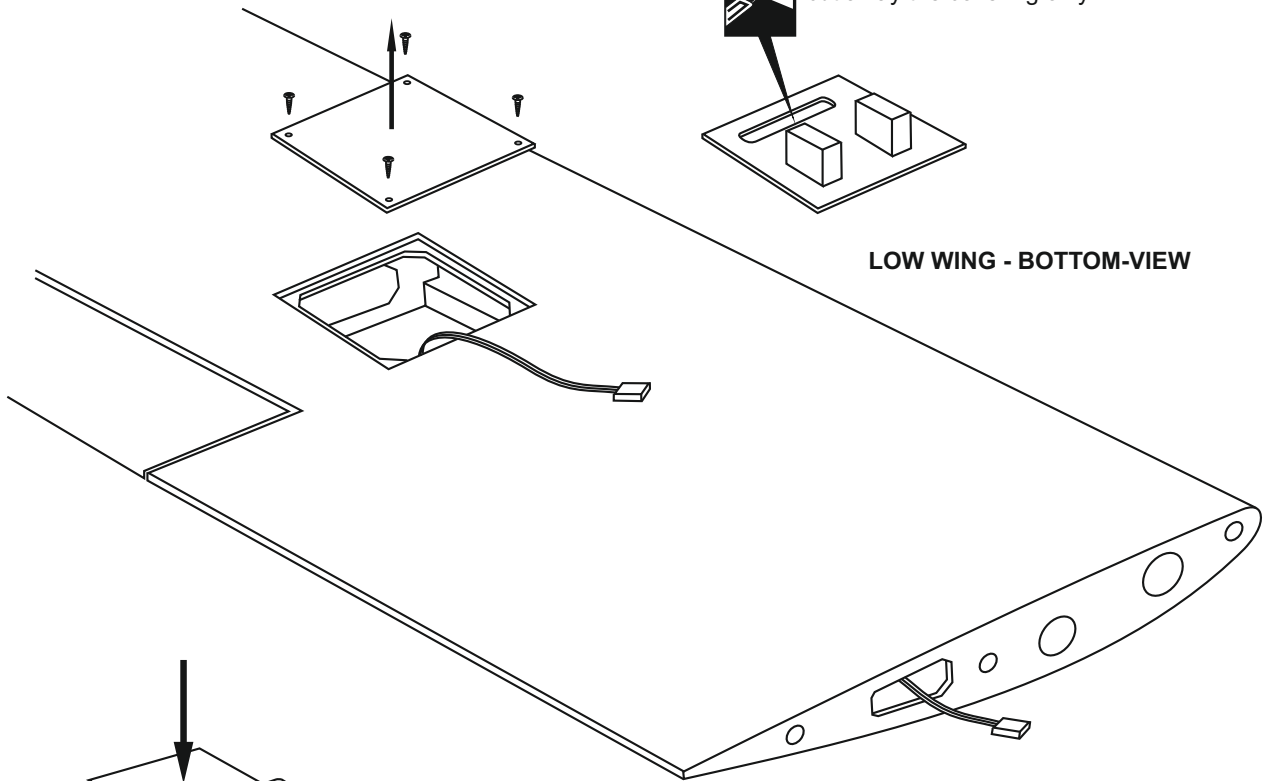
Remove the aileron hatch



cut away the covering only

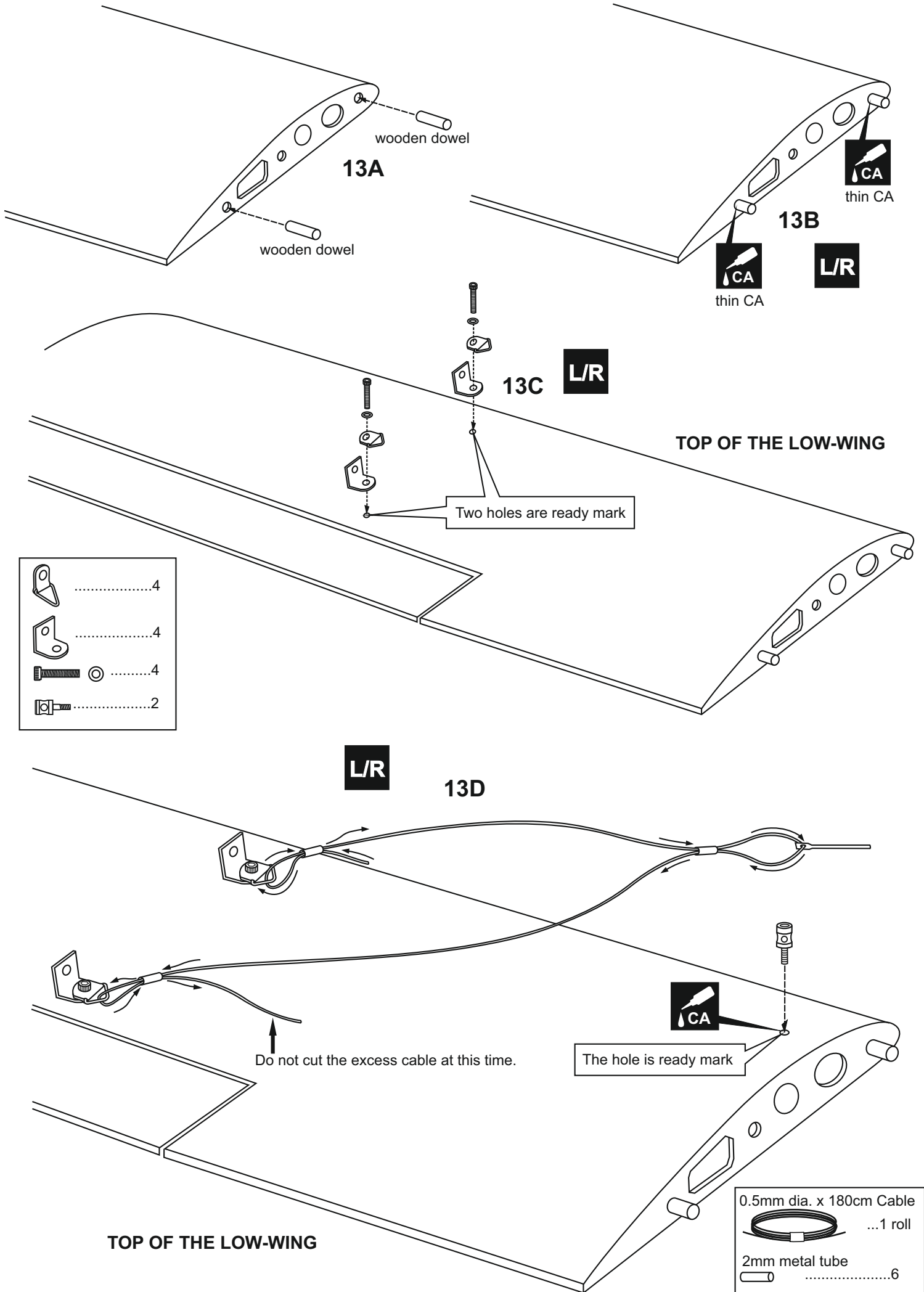


LOW WING - BOTTOM-VIEW





# 14- Low Wing



# 15- High Wing





BOTTOM OF THE HIGH-WING



L/R

Two holes are ready mark

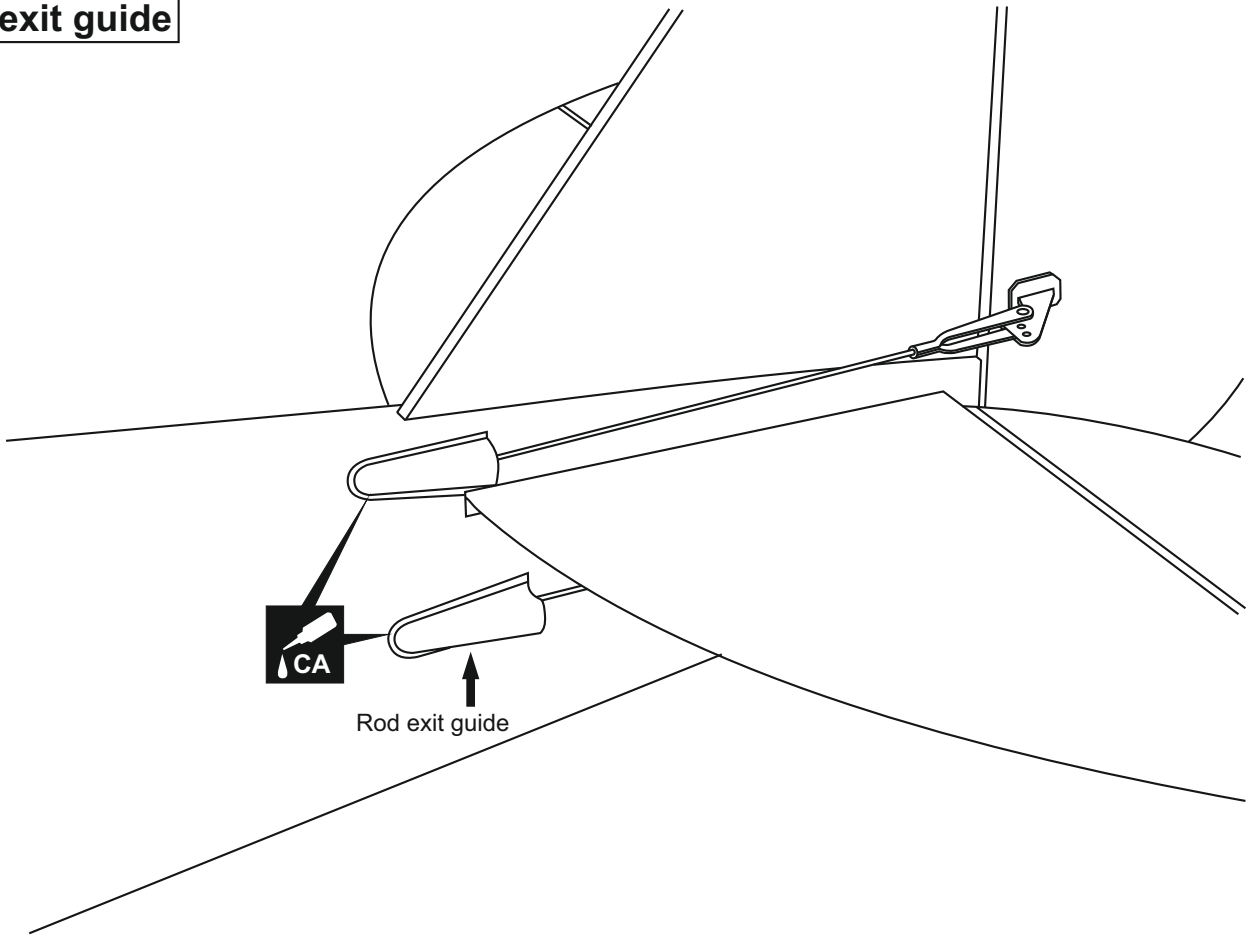
Do not cut the excess cable at this time.

The hole is ready mark

-  .....4
-  .....4
-  .....4
-  .....2

- 0.5mm dia. x 180cm Cable .....1 roll
-  .....1 roll
- 2mm metal tube .....6
-  .....6

# 16- Rod exit guide

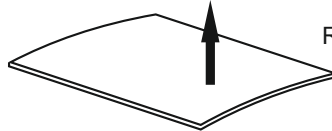


Rod exit guide

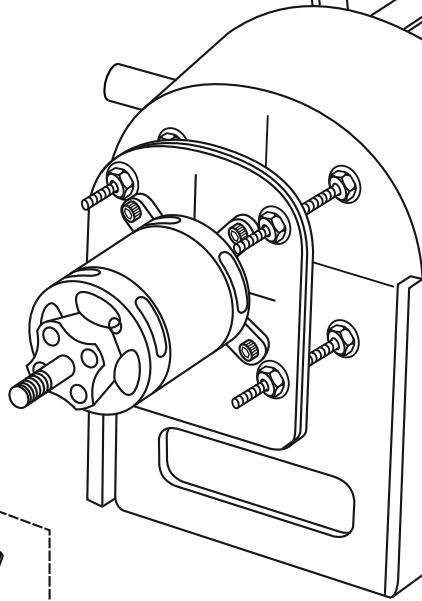
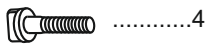
# 17- Wing installation

Remove the magnetic hatch

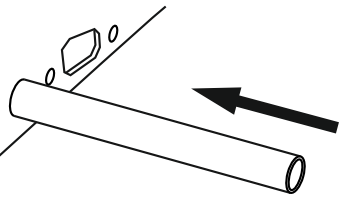
12x318mm aluminium tube



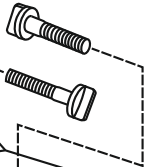
6x25mm nylon bolt



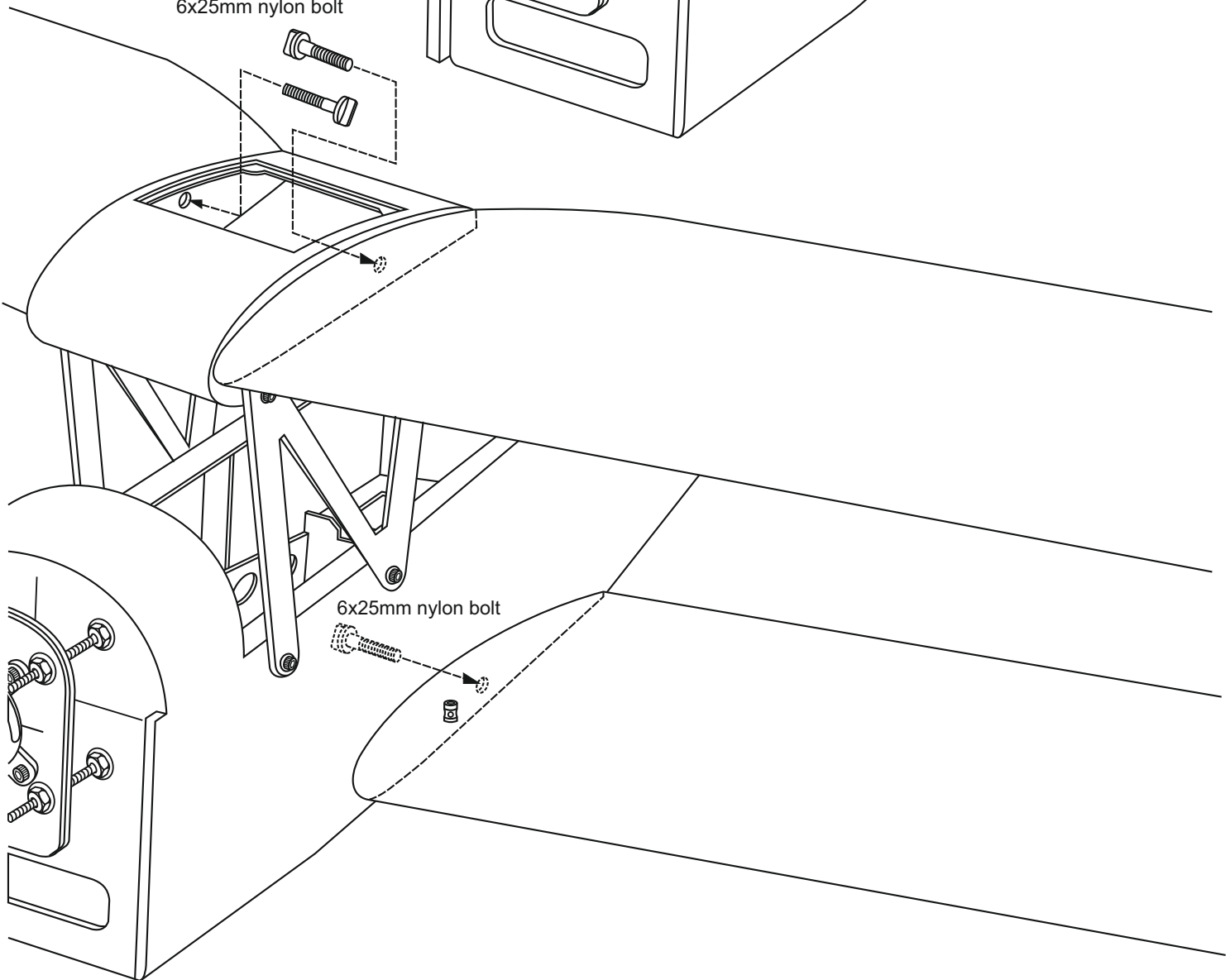
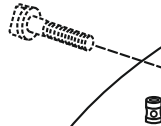
12x318mm aluminium tube



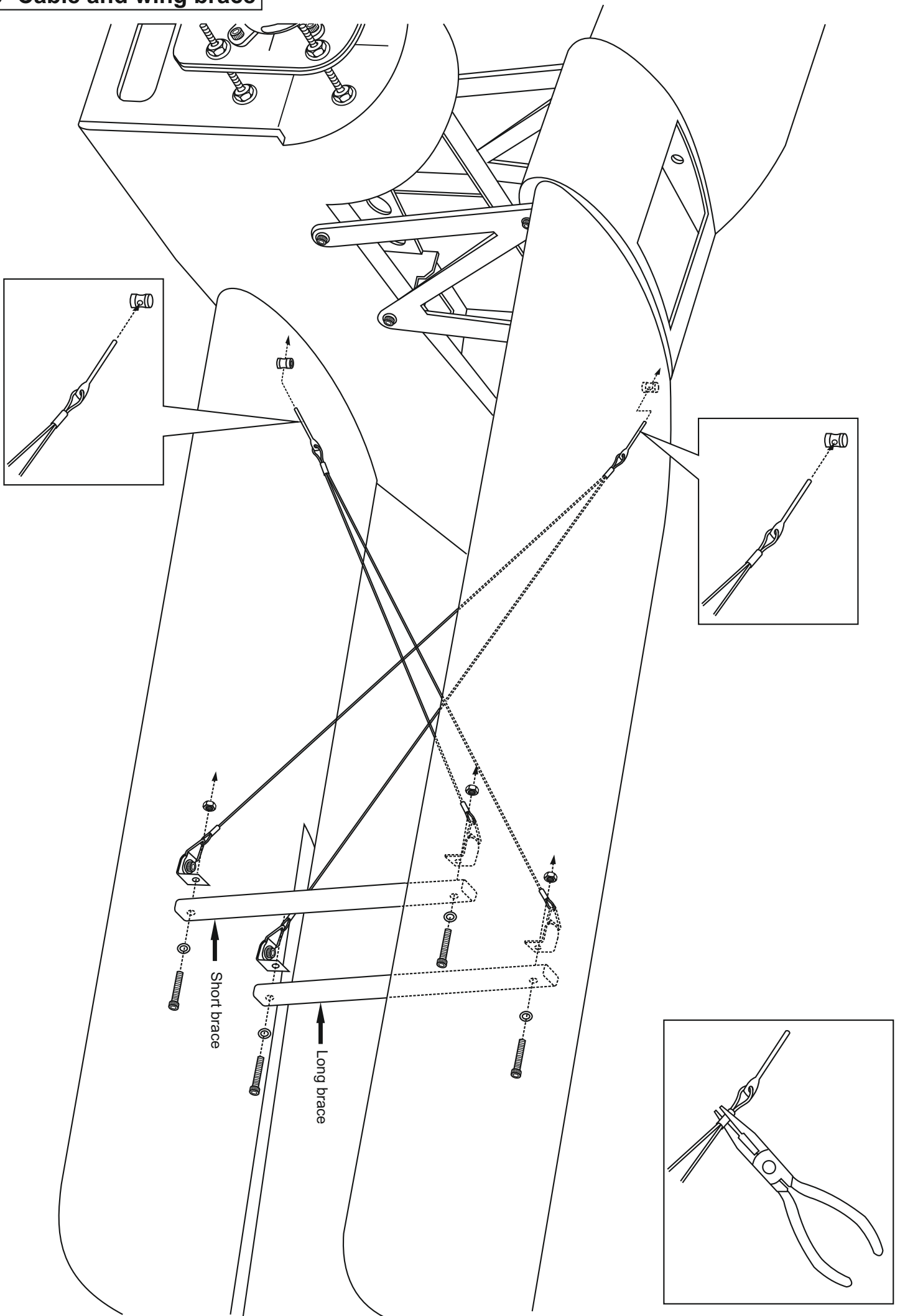
6x25mm nylon bolt



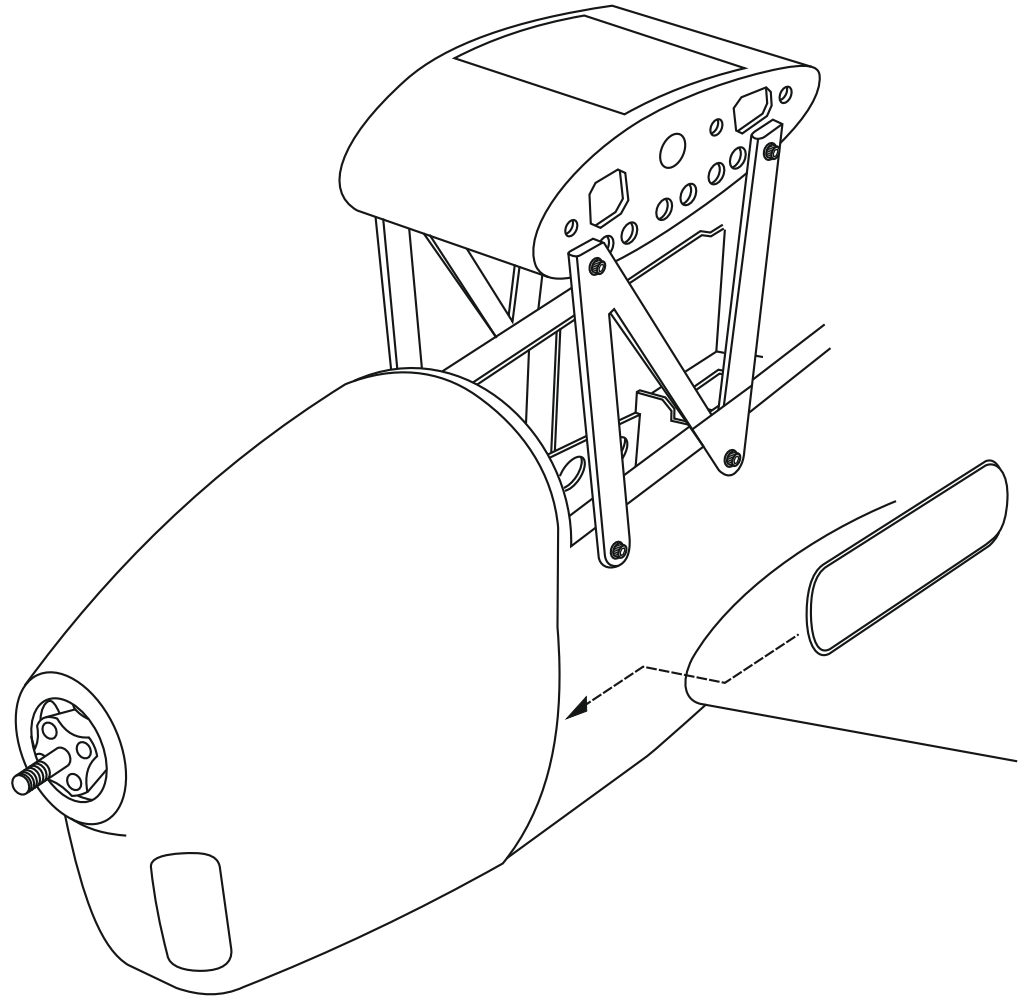
6x25mm nylon bolt



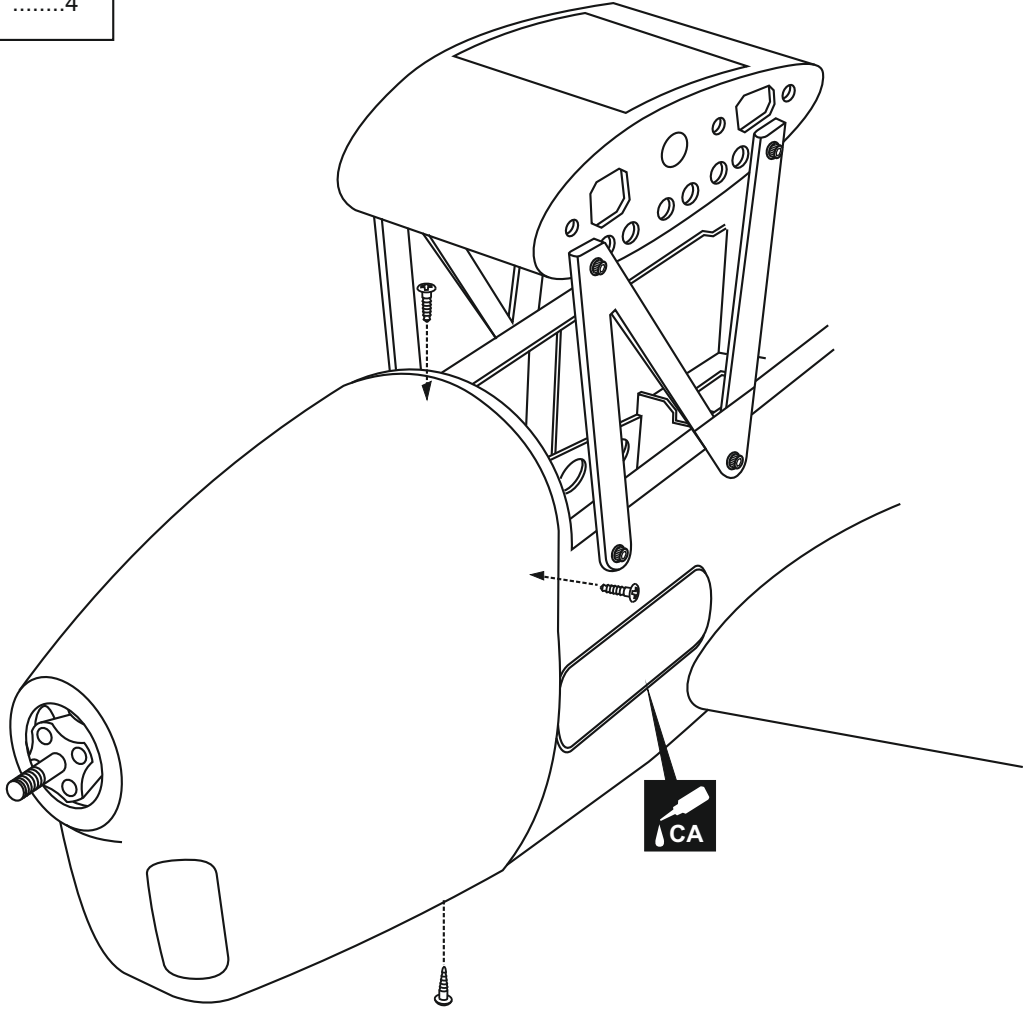
# 18- Cable and wing brace



# 19- Fiberglass Cowl



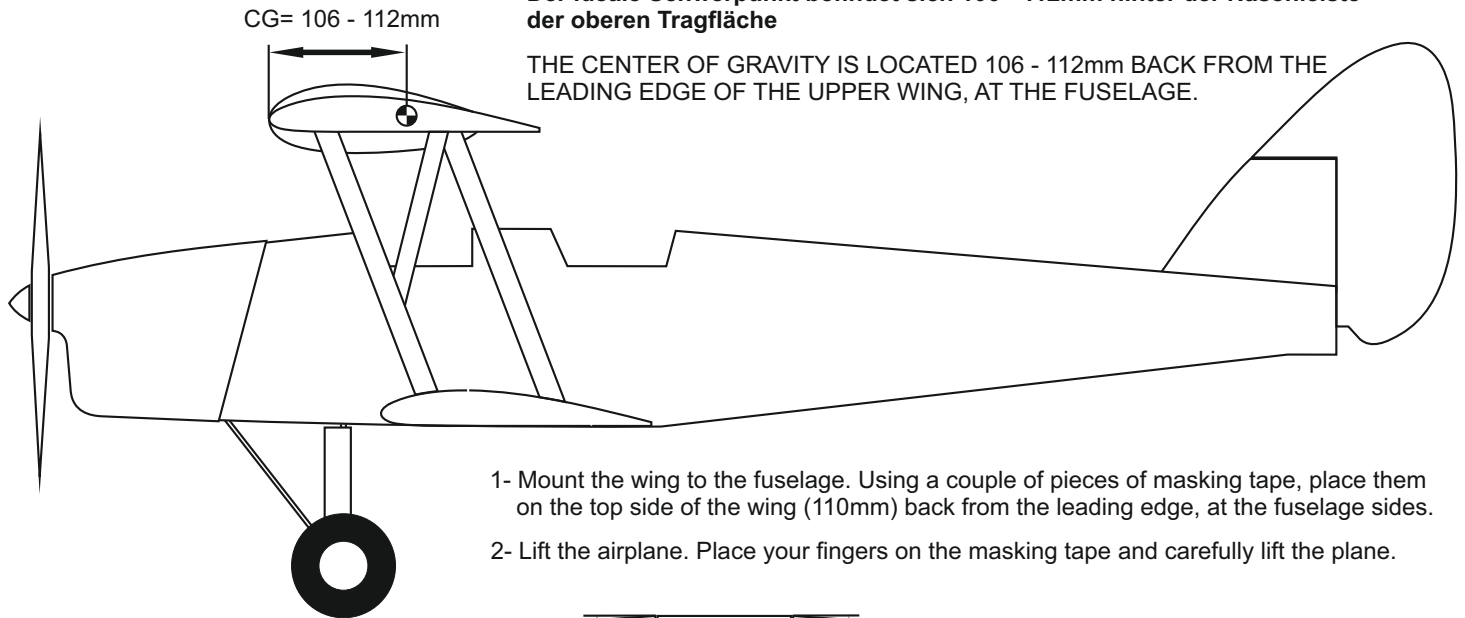
 .....4



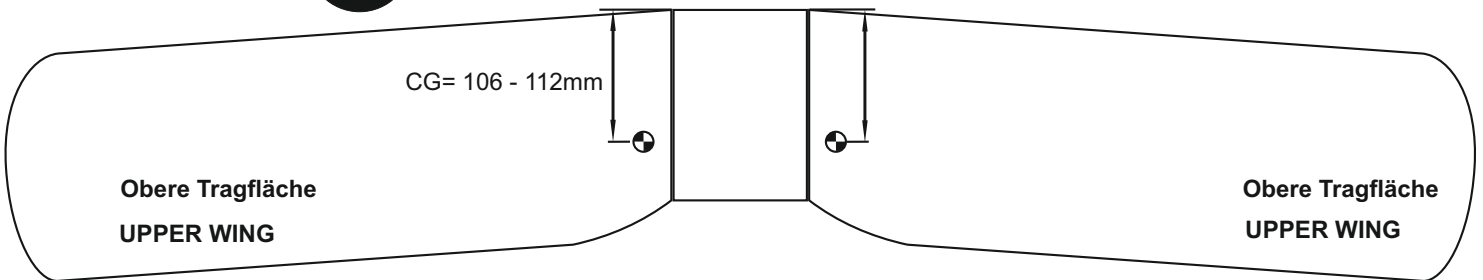
## 20- Balance

Der ideale Schwerpunkt befindet sich 106 - 112mm hinter der Nasenleiste der oberen Tragfläche

THE CENTER OF GRAVITY IS LOCATED 106 - 112mm BACK FROM THE LEADING EDGE OF THE UPPER WING, AT THE FUSELAGE.



- 1- Mount the wing to the fuselage. Using a couple of pieces of masking tape, place them on the top side of the wing (110mm) back from the leading edge, at the fuselage sides.
- 2- Lift the airplane. Place your fingers on the masking tape and carefully lift the plane.



- 3- If the nose of the plane falls, the plane is heavy nose. To correct this, move the battery pack further back in the fuselage. If the tail of plane falls, the plane is tail heavy. To correct this, move the battery forward or if this is not possible, stick weight onto the firewall. When balanced correctly, the airplane should level or slightly nose down when you lift it up with your fingers.

### LATERAL BALANCE:

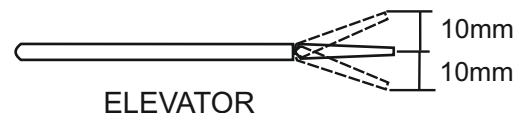
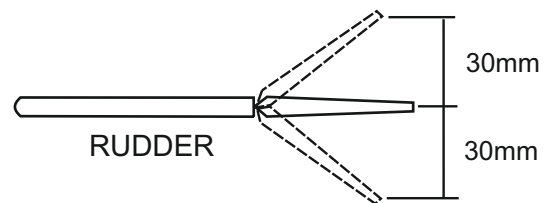
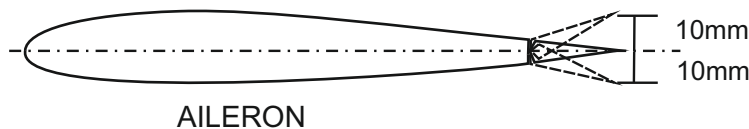
After you have balanced a plane on the CG, you should laterally balance it. Doing this will help the airplane track straighter.

- 1- Turn the airplane upside down. Attach one loop of heavy string to the engine crankshaft and one to the tail wheel wire. With the wing level, carefully lift the airplane by the string. This may require two people to make easier.
- 2- If one side of the wing fall, that side is heavier than the opposite. Add small amounts of lead weight to the bottom side of the lighter wing half's wing tip. Follow this procedure until the wing stays level when you lift the airplane.

**DO NOT try to fly an out-of-balance model !**

## 21- Control surface

### Ruderausschläge



IMPORTANT: Flying your model at these throws will provide you with the greatest chance for successful first flights. If, after you have become accustomed to the way the P-51 flies, you would like to change the throws to suit your taste that is fine. However, too much control throw could make the model difficult to control, so remember, "more is not always better".

**IMPORTANT: Please do not clean your model with strong solvent or pure alcohol, only use kerosene to keep the colour of your model not fade.**