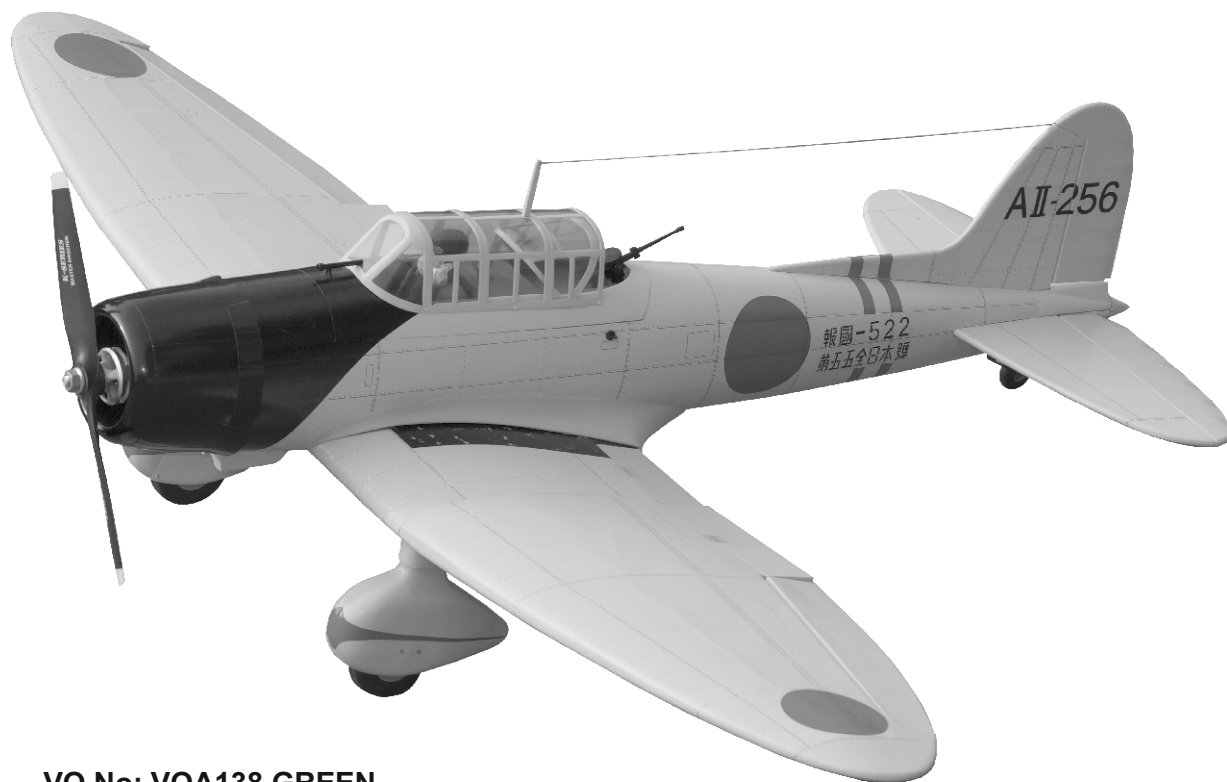


Radio control model / Flugmodell

JAPANESE DIVE BOMBER

# AICHI D3A1 "VAL"



VQ No: VQA138 GREEN

VQ No: VQA138 GRAY

ALL Balsa, PLYWOOD CONSTRUCTION AND ALMOST READY TO FLY

## Instruction manual / Montageanleitung

### SPECIFICATIONS

Wingspan:.....1540mm  
Length:.....1120mm  
Electric Motor:.....See next pager  
Glow Engine:......46 2-T / .70 4-T  
RTF Weight: 3.5Kg (will vary with equipment use)  
Radio:.....6 Channel / 8-9 Servos  
Function: Ailerons-Elevator-Rudder-Throttle Flaps.

### TECHNISCHE DATEN

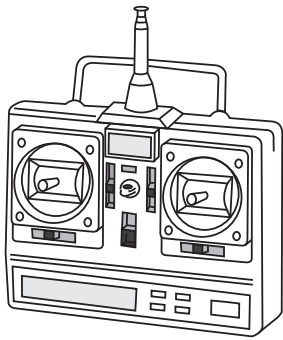
Spannweite:.....1540mm  
Länge:.....1120mm  
Elektroantrieb.....(siehe nächste Seite)  
Verbrennerantrieb:.....7.45cc - 11.5cc  
Fluggewicht:.....3.5Kg  
Fernsteuerung.....6 Kanal / 8-9 Servos



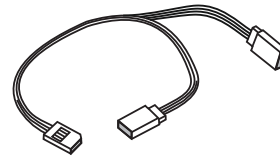
**WARNING!** This radio controlled model is NOT a toy. If modified or flown carelessly it could go out of control and cause serious human injury or property damage. Before flying your airplane, ensure the air field is spacious enough. Always fly it outdoors in safe areas and seek professional advice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

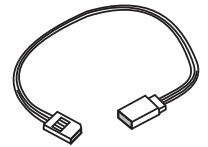
## REQUIRED FOR OPERATION (Purchase separately)



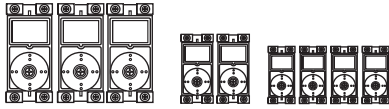
10.5x6 for .40 - 2 cycle engine  
 11x6 for .46 - 2 cycle engine  
 12x6 for .60 - 4 cycle engine  
 12x7 for .70 - 4 cycle engine  
 13x7 - 13x8 for electric motor



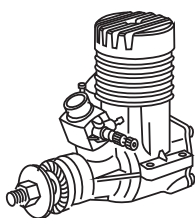
Flap: "Y" x2 pcs  
 Aileron: "Y"x1pcs



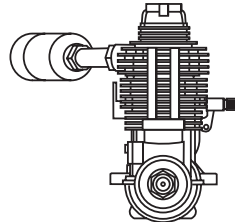
Aileron: 50cmx2 pcs  
 Flap: 30cmx2 pcs  
 Rx battery pack: 20cmx1 pcs



Standard Mini Micro  
 Minimum 6 channel radio  
 Elevator : 1 standard servo  
 Rudder: 1 standard servo  
 Aileron: 2 mini servo  
 Flaps: 4 micro servo  
 Throttle: 1 standar servo (for glow engine only)



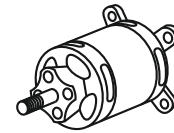
.46 ~ .50 - 2 cycle



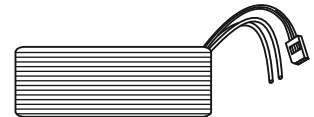
.60 ~.70 - 4 cycle



Silicone tube



700-800W Brushless Motor

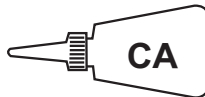


5 cell 4500mAh LiPo battery

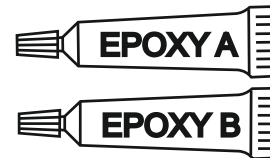
## GLUE (Purchase separately)



Silicon sealer



Cyanoacrylate Glue (thin type)



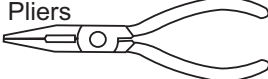
Epoxy Glue  
 (30 minute type)

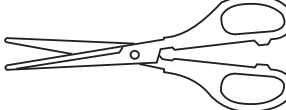
## TOLLS REQUIRED (Purchase separately)


Hobby knife 


Phillip screw driver 

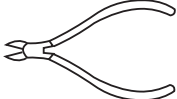
Hex Wrench 

Needle nose Pliers 

Scissors 

Awl 

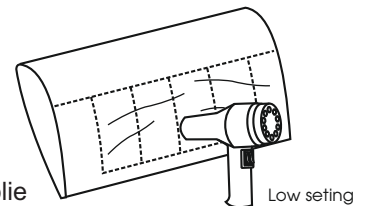
Sander 

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 !



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, Bespannfolie 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 zusammengesetzt	 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.

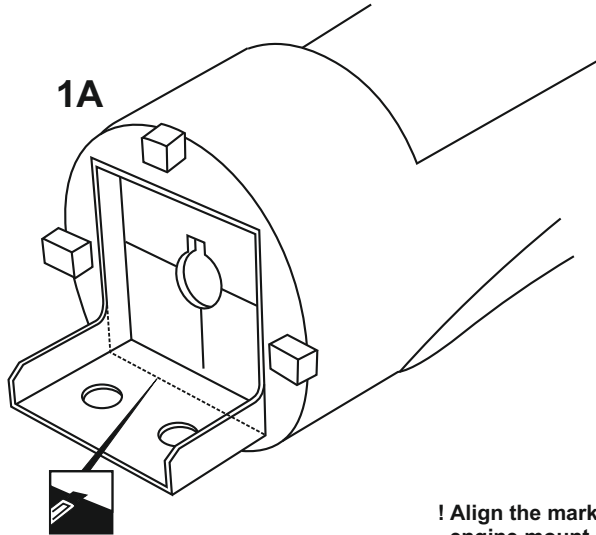
## CONVERSION TABLE

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 MOUNT

Push left (or right) the magnetic fuel tank hatch and full it out of the fuselage.

Cut the wood along the line as shown  
**(1A) in case of 4T engine using**

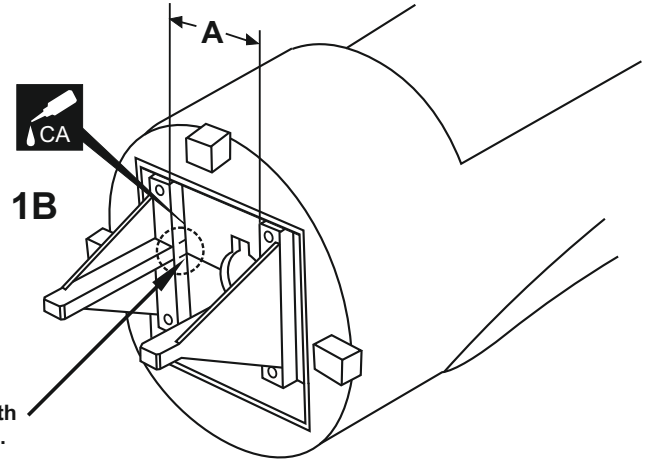


Attach the engine mount beams onto the fire-wall so the distance between of two engine mount beams is "A", and B=B' as show.

Secure the engine mount beams onto the fire-wall with litter CA glue (1B)

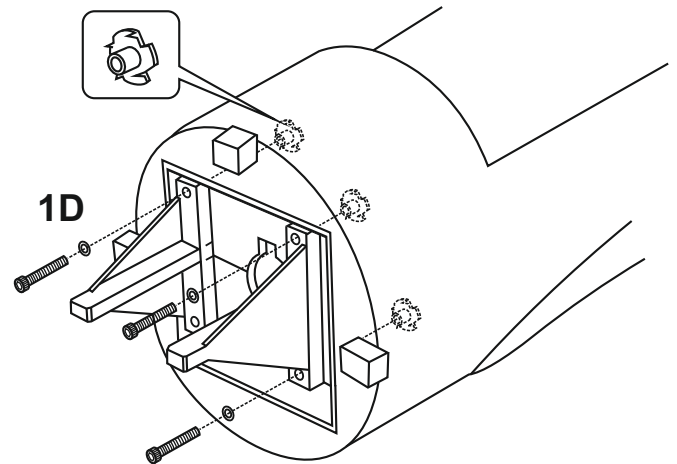
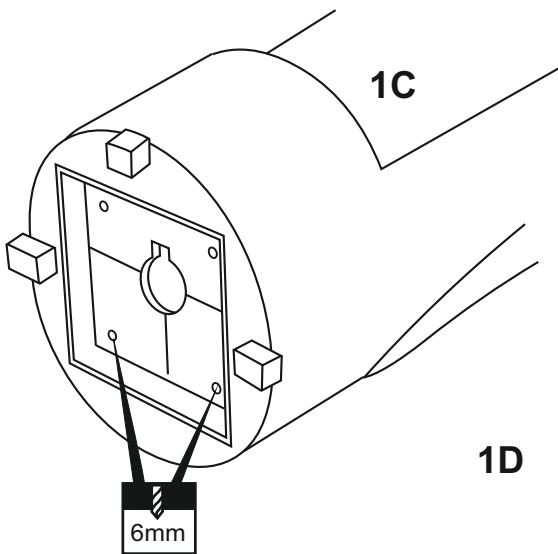
**! Align the mark on both engine mount beams with the mark on the fuselage**

Using a pencil or felt tipped pen, mark the fire wall where the four holes are to be drilled(1B)



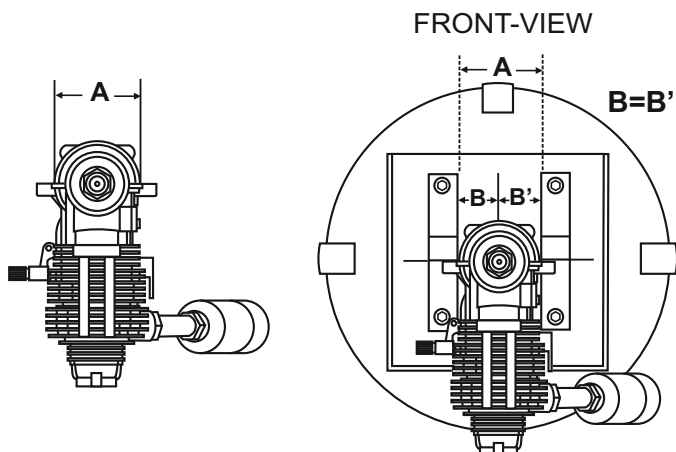
**! Align the mark on both engine mount beams with the mark on the fire-wall.**

Carefully remove the engine mount beams and drill a 6mm hole through the fire-wall at each of the four marks made above (1C)



Insert the blind-nut onto each of the four holes make above (1D).

Reposition the engine mount beams on to the fire-wall and secure them with four 4x25mm screw (1D)

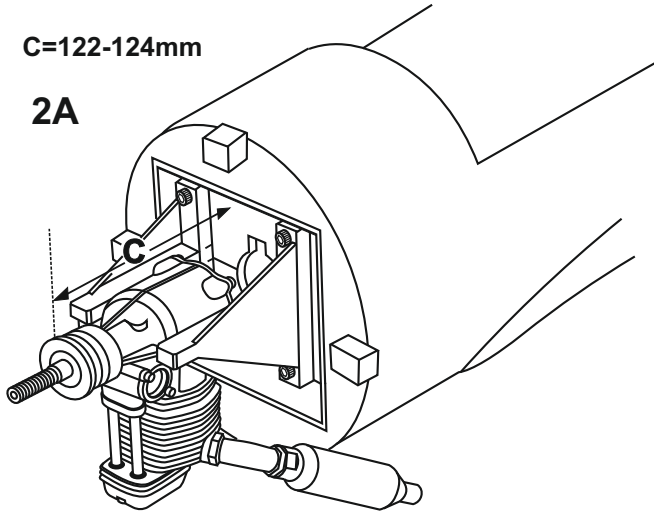


4x25mm screw - washer		.....4
Blind-nut		.....4

## 2- ENGINE

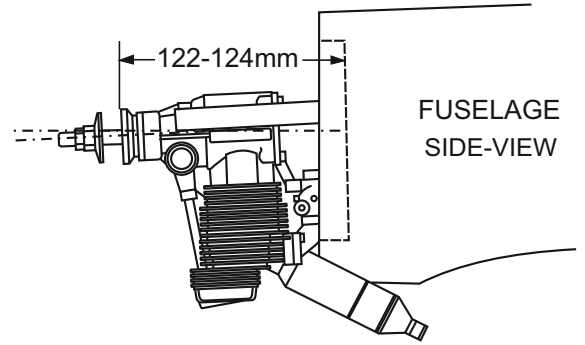
C=122-124mm

2A



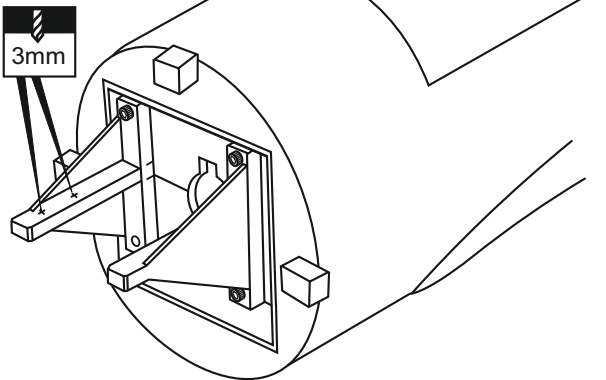
Position the engine to the engine mounts so the distance from the prop hub to the fire-wall is 122 - 124mm.  
Mark the engine mounting plate where the four holes are to be drilled (2A)

! Engine thrust on balk head is already adjust at factory

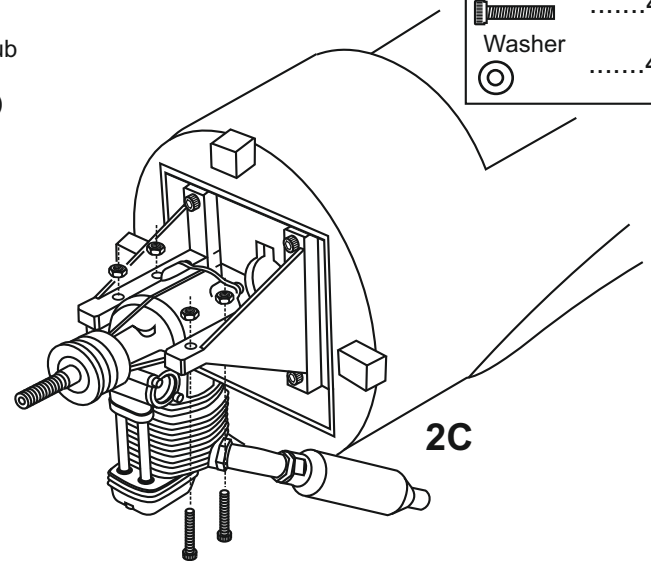


3x25mm screw	.....4
Washer	.....4

2B



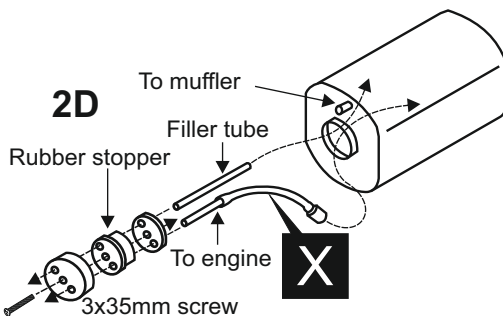
Remove the engine and drill a 3mm holes through the beam at each of the four marks made above (2B)  
Marking sure that you drill the hole perpendicular to the beam of the engine mount.



Reposition the engine on the engine mount beams, aligning it with the holes. Secure the engine to the engine mount using four 3x25mm screws (2C)

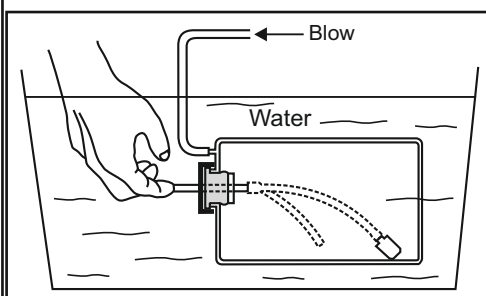
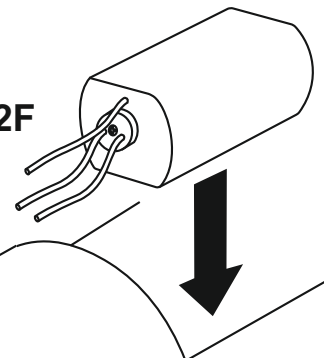
Note: Apply Silicon sealer to each of the 3x25mm screw and nut.

2D



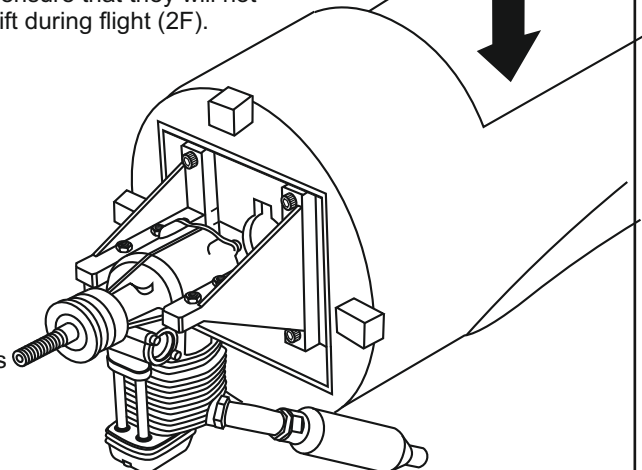
2F

Carefully install the fuel tank to ensure that they will not shift during flight (2F).

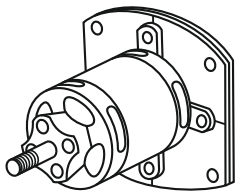


2E

Checking for leaks - block the vents and blow into the feed - if in doubt submersing the tank in a blow of water will show up any problems.

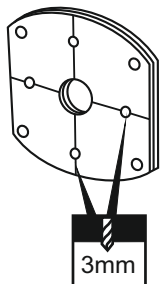


### 3- ELECTRIC MOTOR



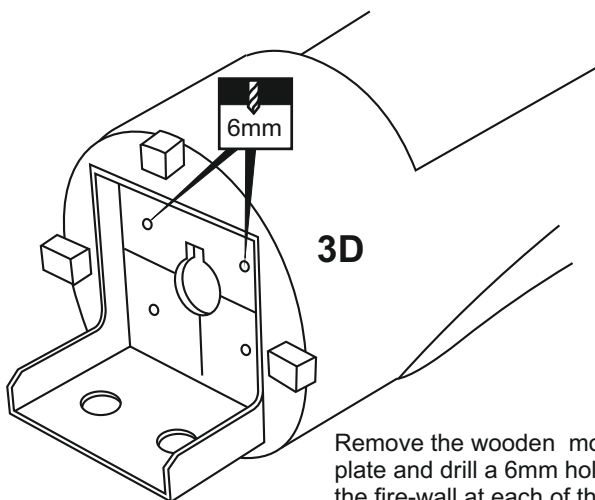
Using an aluminum motor mounting plate as a template, mark the plywood motor mounting plate where the four holes are to be drilled.

**3A**



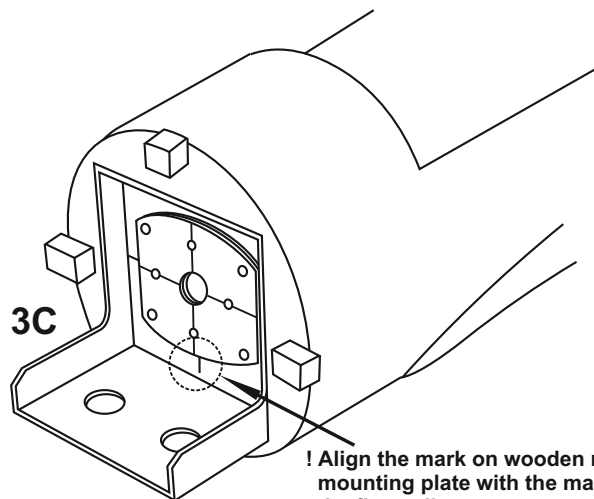
Remove the aluminum motor mounting plate and drill a 1/8" (3mm) hole through the plywood at each of the four marks marked.

**3B**



Remove the wooden motor mounting plate and drill a 6mm hole through the fire-wall at each of the four marks marked (3D).

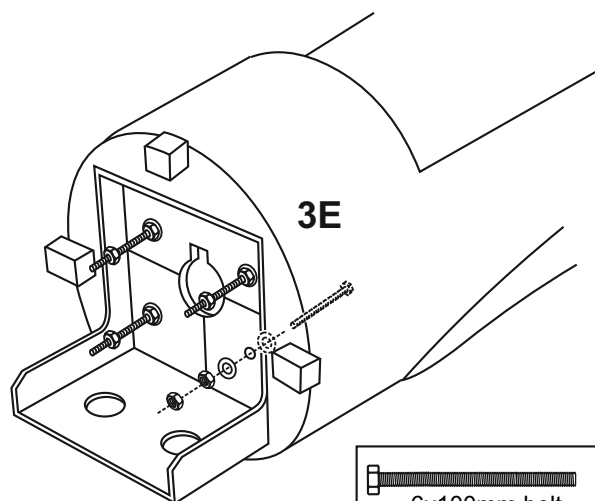
**3D**



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

Using a wooden motor mounting plate as a template, mark the fire-wall where the four holes are to be drilled (3C).

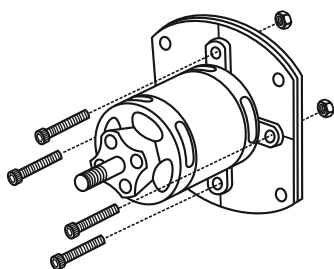
**3C**



Attach the four 6x100mm bolts and nuts to the fire-wall as shown (3E).

**3E**

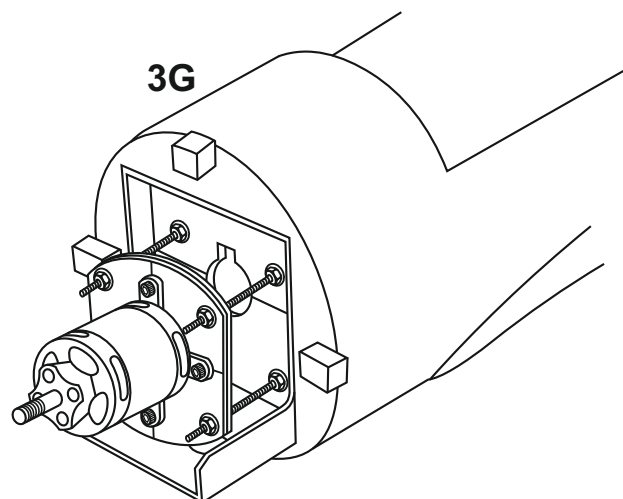
	6x100mm bolt....4
	6mm nut.....12
	6mm washer...16



**3F**

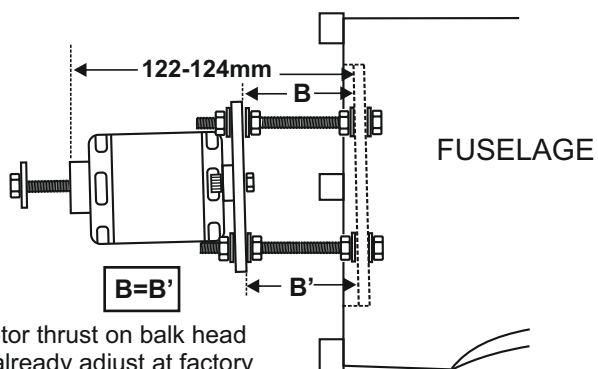
Secure the Motor to the wooden motor mounting plate using the four 3mm bolts.

3mm bolt / nut...4	



**3G**

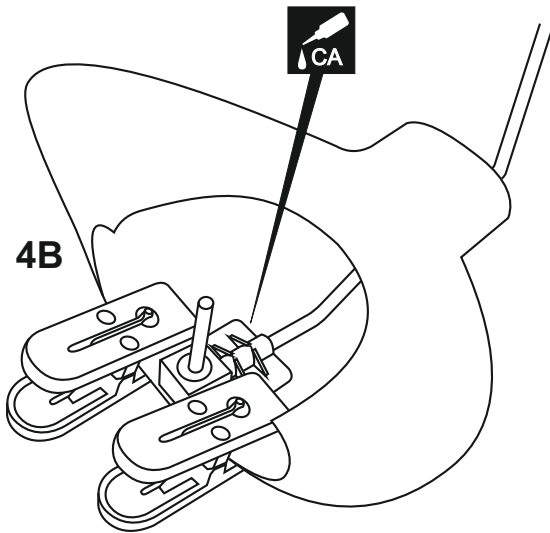
#### SIDE-VIEW / Seitenansicht



**! Motor thrust on balk head is already adjust at factory**

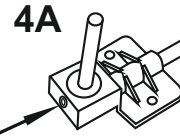


# 4- WHEEL PANT

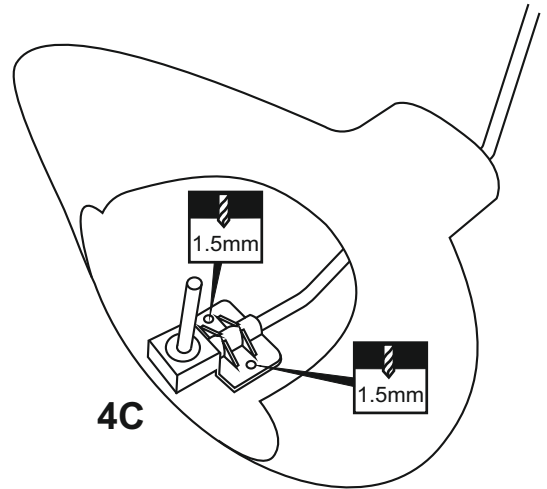


Slide the landing gear with the wheel pant into the fiber glass wheel pant and secure it in place using the two clothespin and litter thin CA glue as shown (4B).

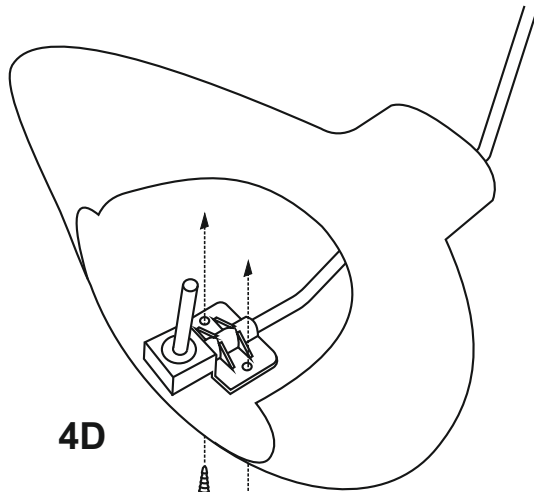
Slide the wheel pant mount onto the landing gear



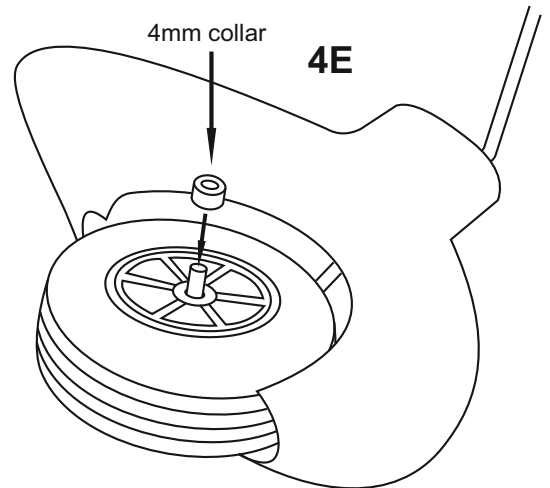
Secure the wheel pant mount in place using the 3mm screw set.



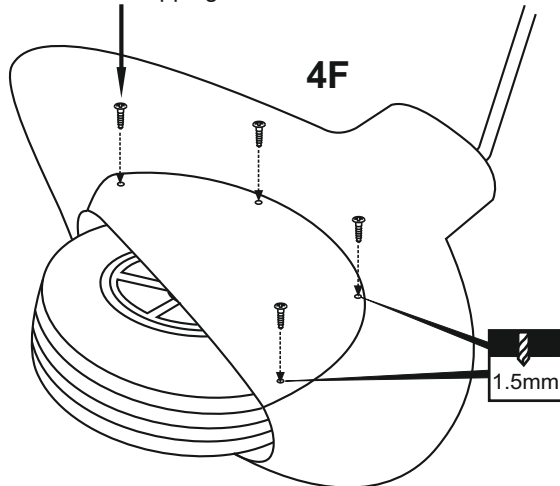
Remove the clothespin and drill the two 1.5mm holes as shown (4C).



2.5x10mm self tapping screw



2x6mm self tapping screw



2x6mm self tapping screw

.....8

Wheel pant mount

...2

4mm collar

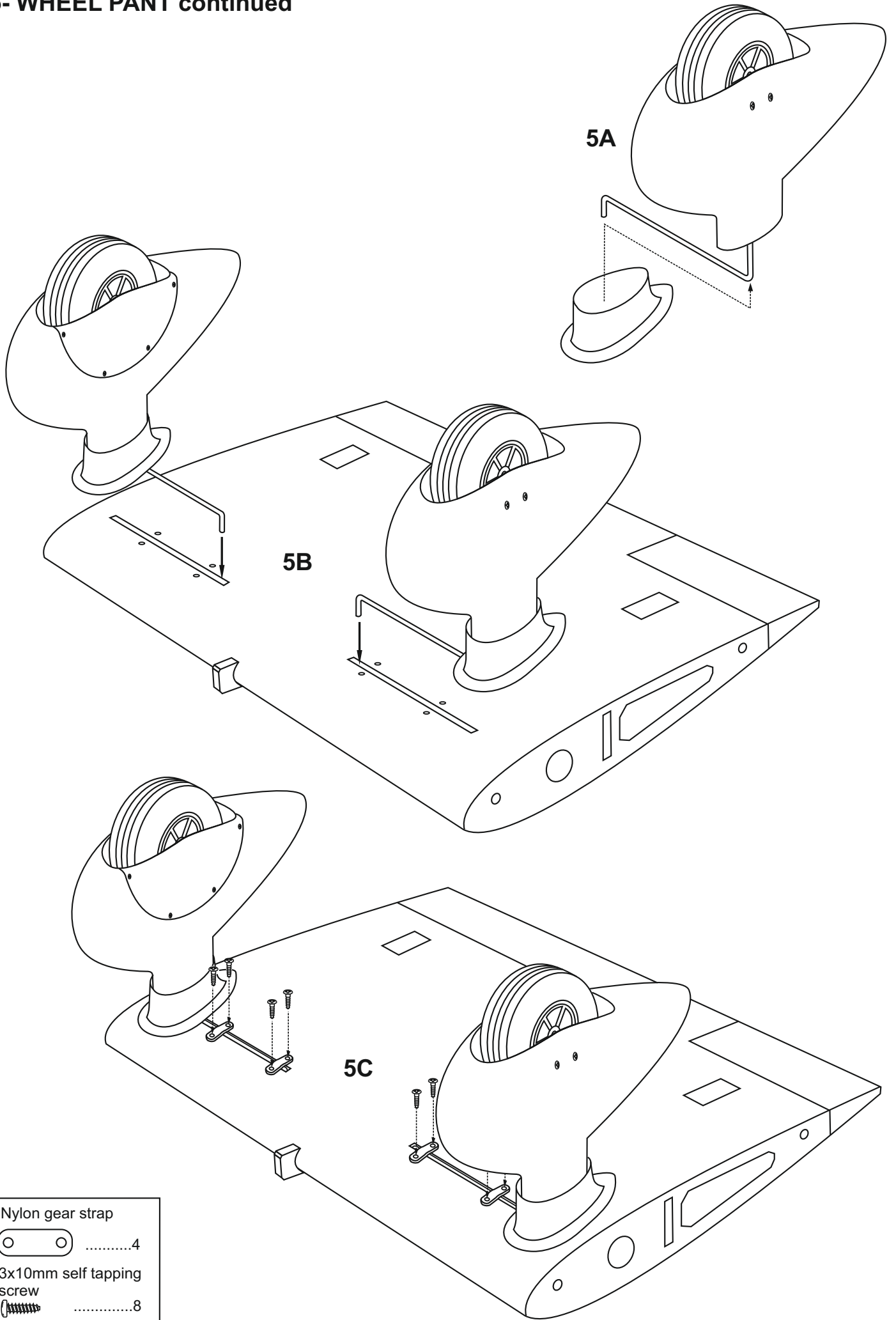
.....2

2.5x10mm self tapping screw

.....4

1.5mm


# 5- WHEEL PANT continued



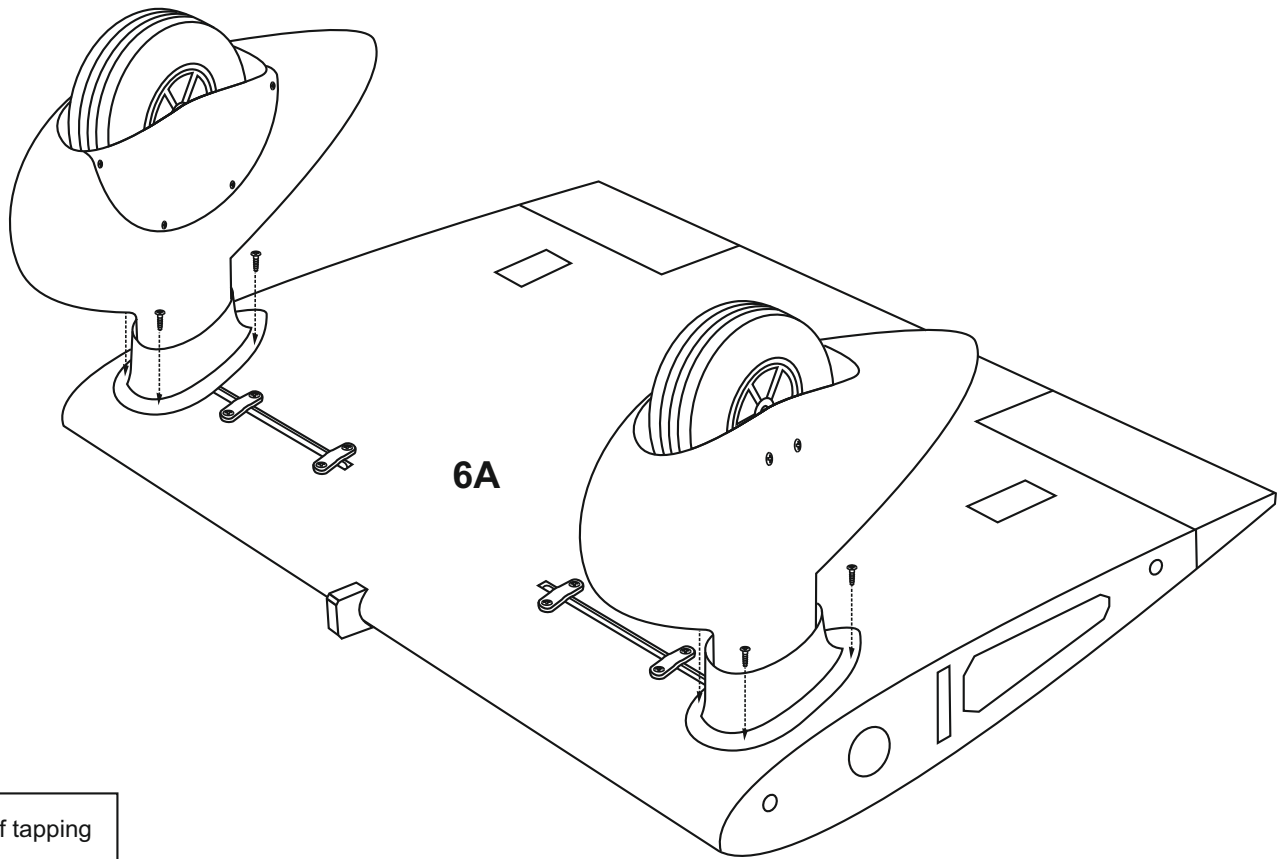
Nylon gear strap


 .....4

3x10mm self tapping screw

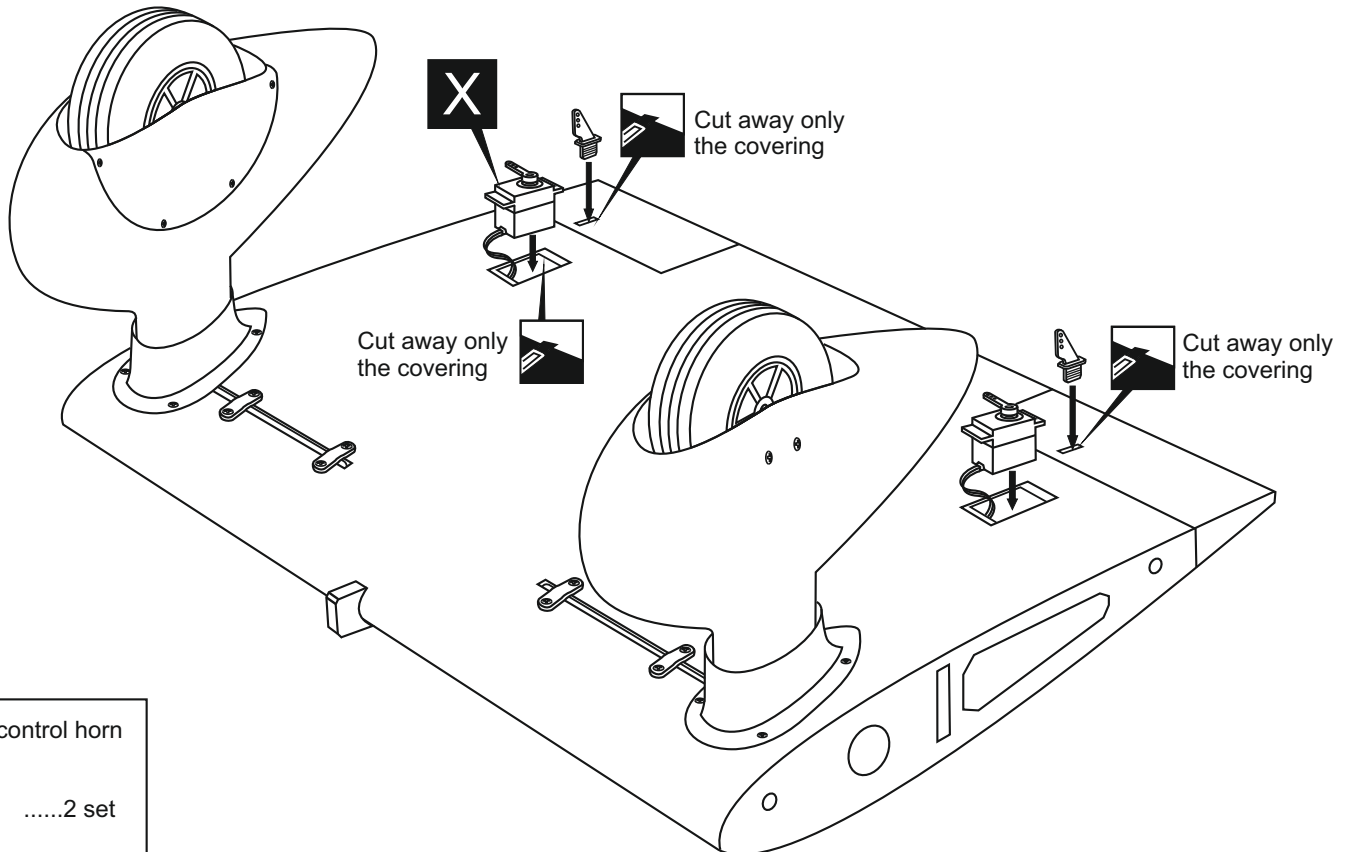
 .....8

## 6- WHEEL PANT continued

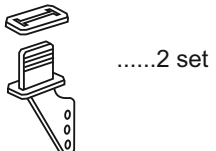


2x6mm self tapping  
screw  
 .....8

## 7- SERVO & CONTROL HORN



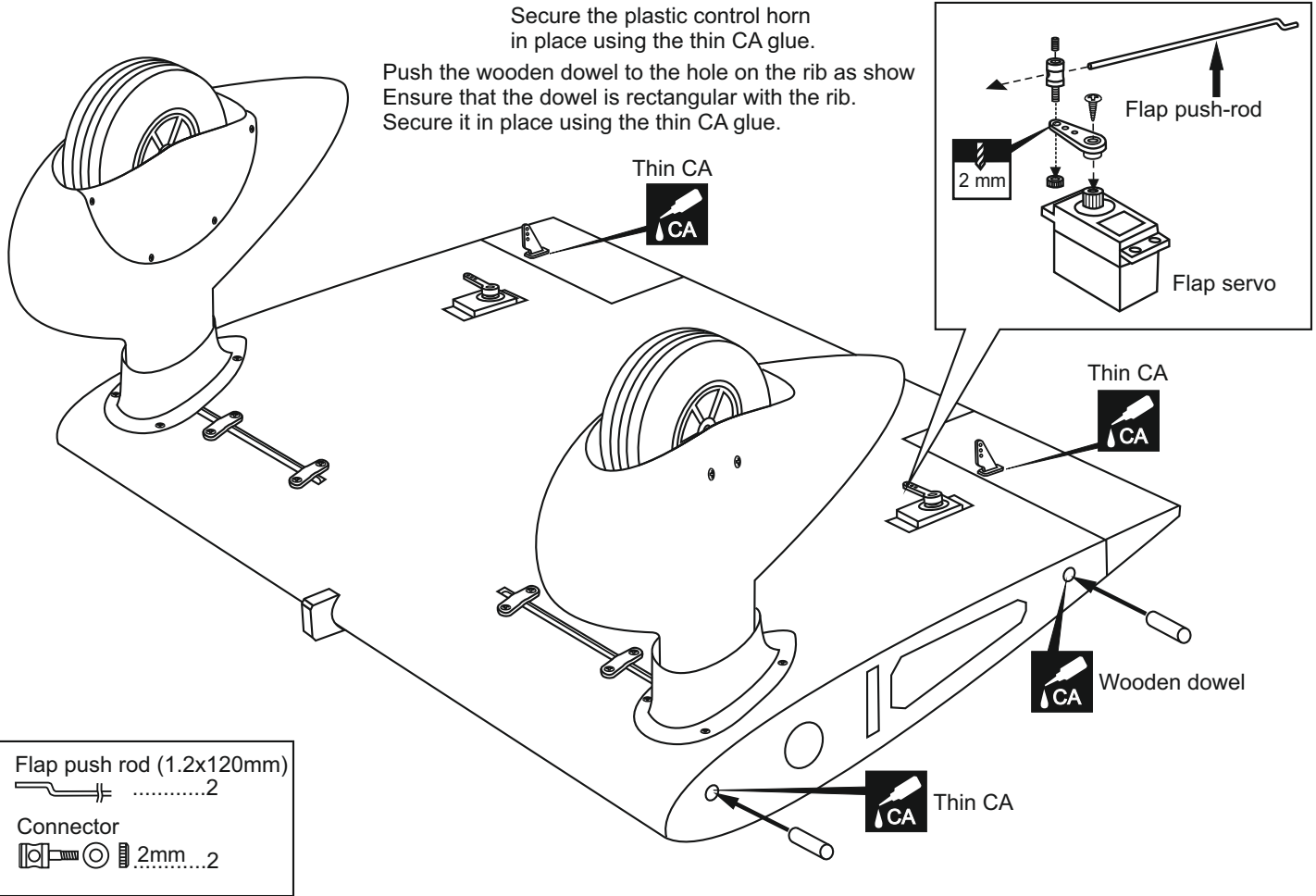
Plastic control horn



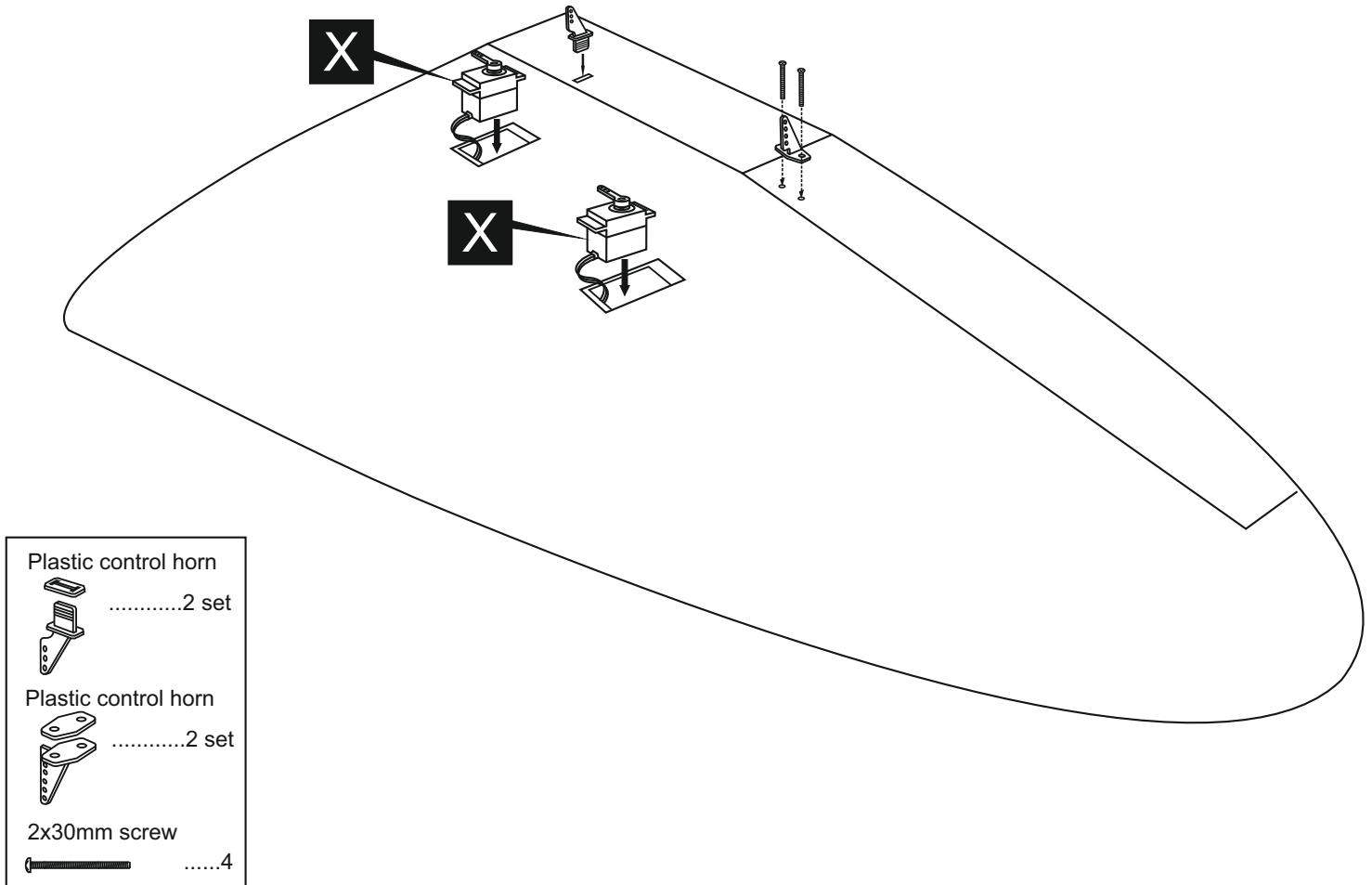


## 8- LINKAGES

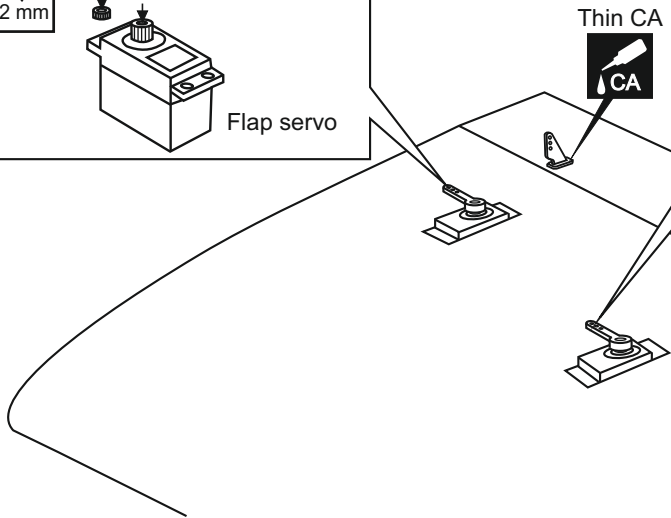
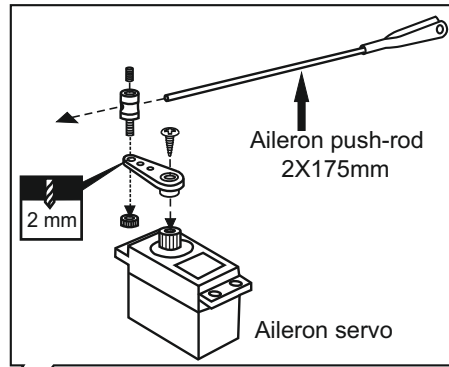
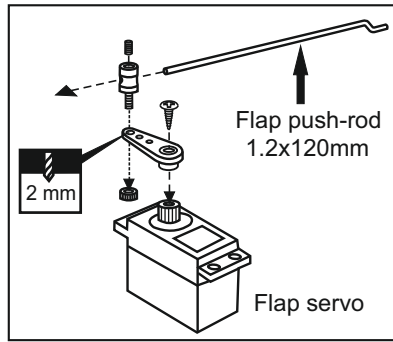
Secure the plastic control horn in place using the thin CA glue.  
 Push the wooden dowel to the hole on the rib as show  
 Ensure that the dowel is rectangular with the rib.  
 Secure it in place using the thin CA glue.



## 9- OUTER WING: SERVO & CONTROL HORN

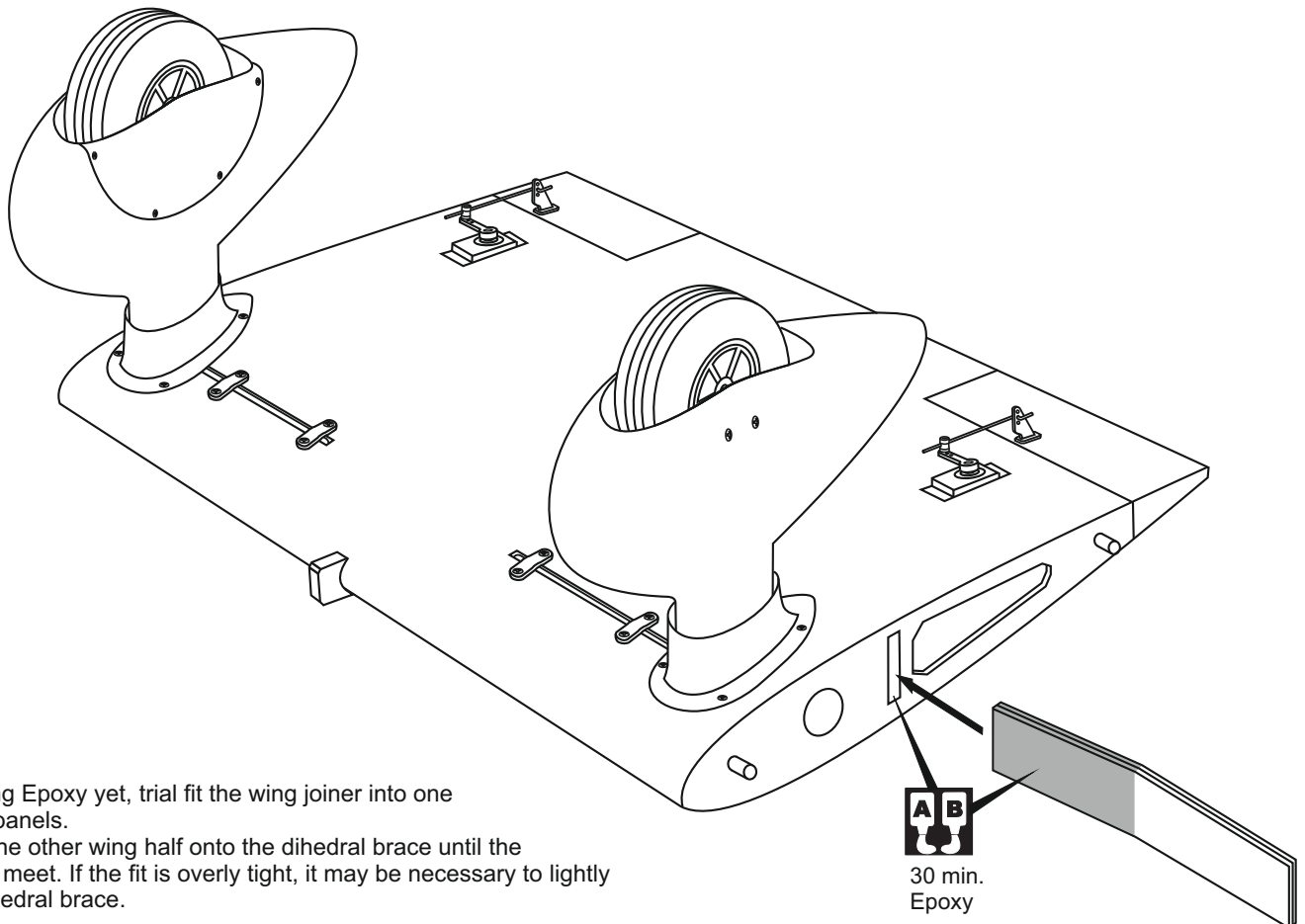


## 10- OUTER WING: LINKAGES



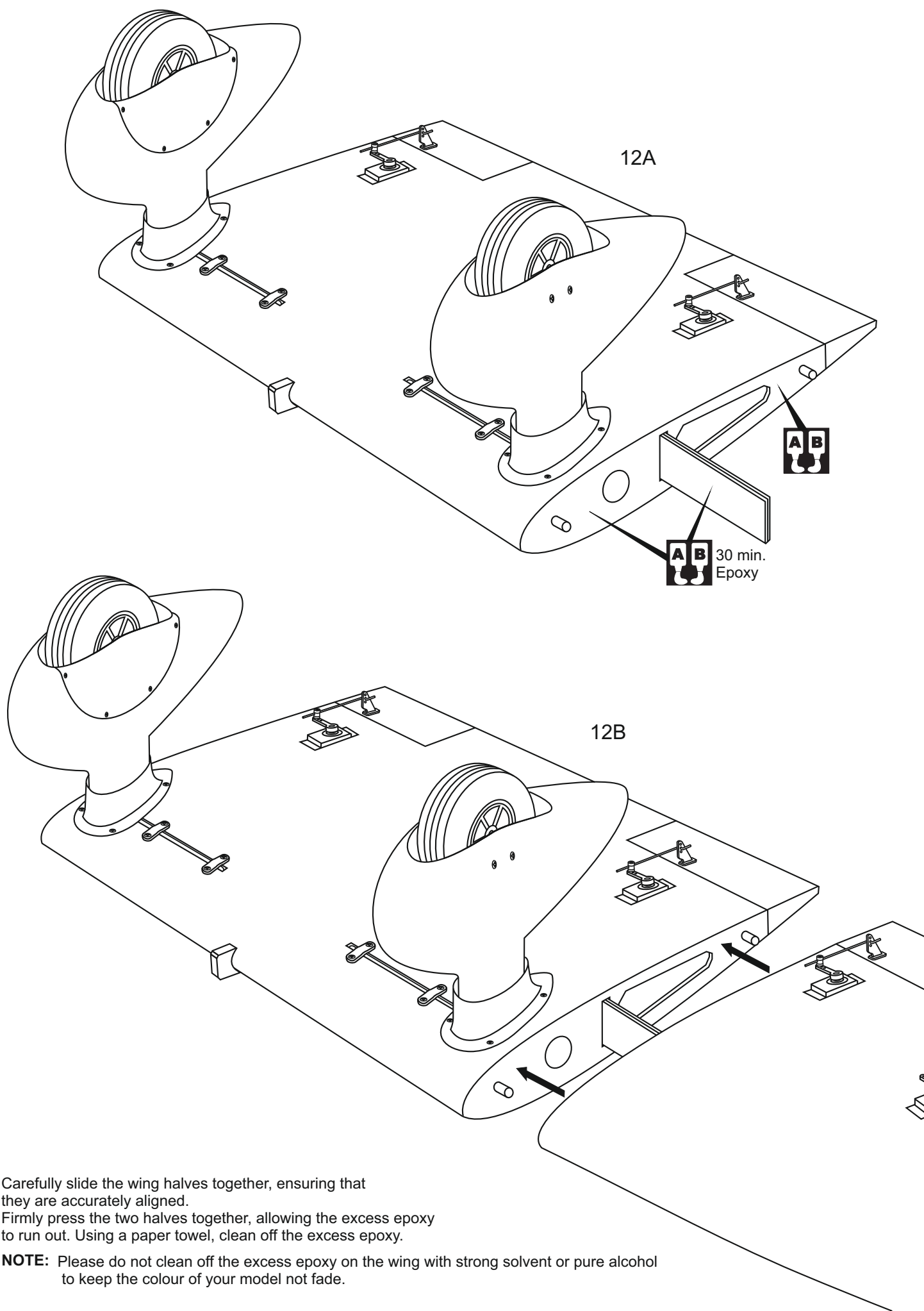
Steel clevis .....2	Plastic control horn .....2 set
Aileron push rod 2x175mm .....2	Plastic control horn .....2 set
Flap push rod 1.2x120mm .....2	
2x30mm screw .....4	
Connector .....4	
2mm .....4	

## 11- JOINING THE WING



Without using Epoxy yet, trial fit the wing joiner into one of the wing panels.  
 Next, slide the other wing half onto the dihedral brace until the wing panels meet. If the fit is overly tight, it may be necessary to lightly sand the dihedral brace.

## 12- JOINING THE WING continued



Carefully slide the wing halves together, ensuring that they are accurately aligned.  
Firmly press the two halves together, allowing the excess epoxy to run out. Using a paper towel, clean off the excess epoxy.

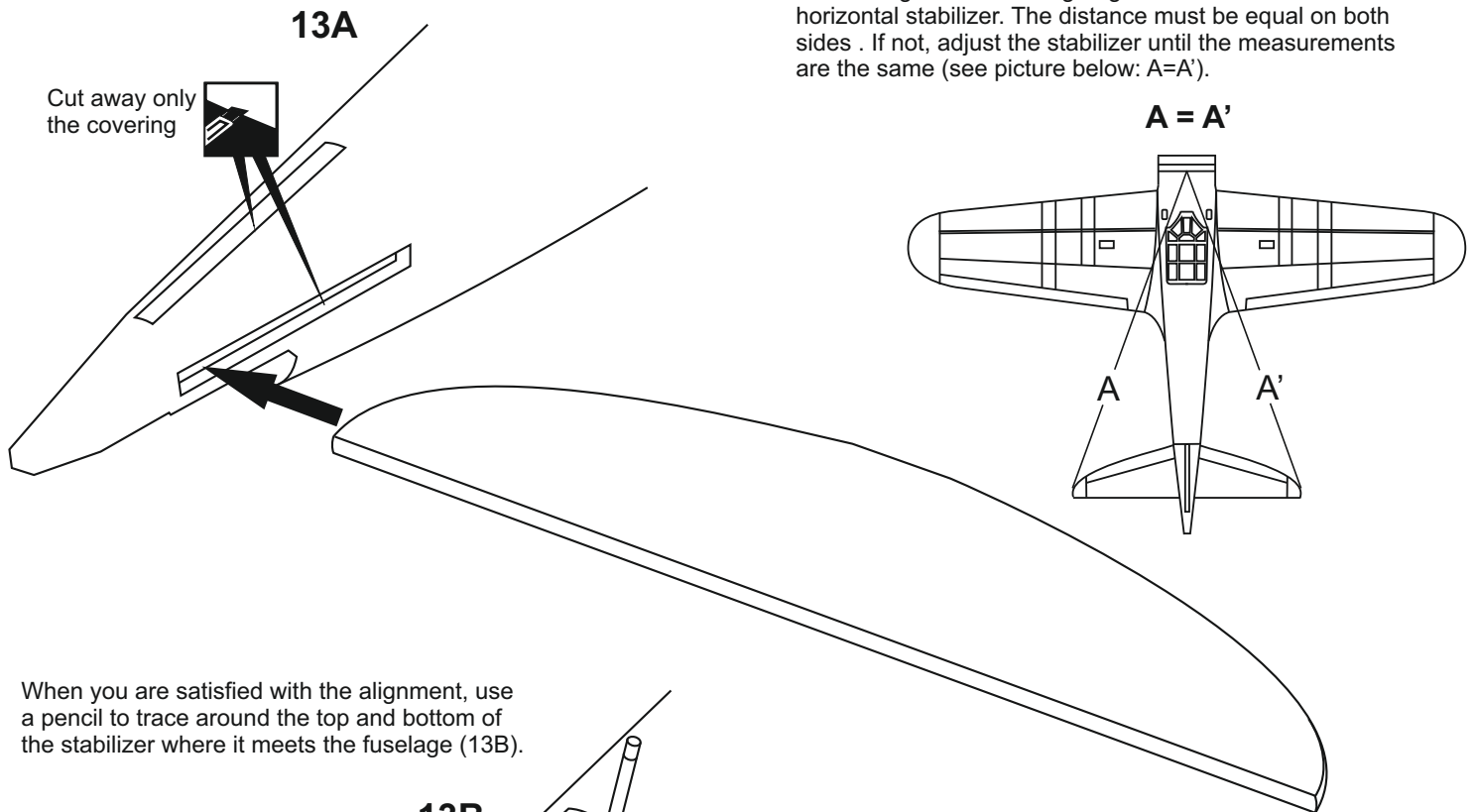
**NOTE:** Please do not clean off the excess epoxy on the wing with strong solvent or pure alcohol to keep the colour of your model not fade.

## 13- HORIZONTAL STABILIZER

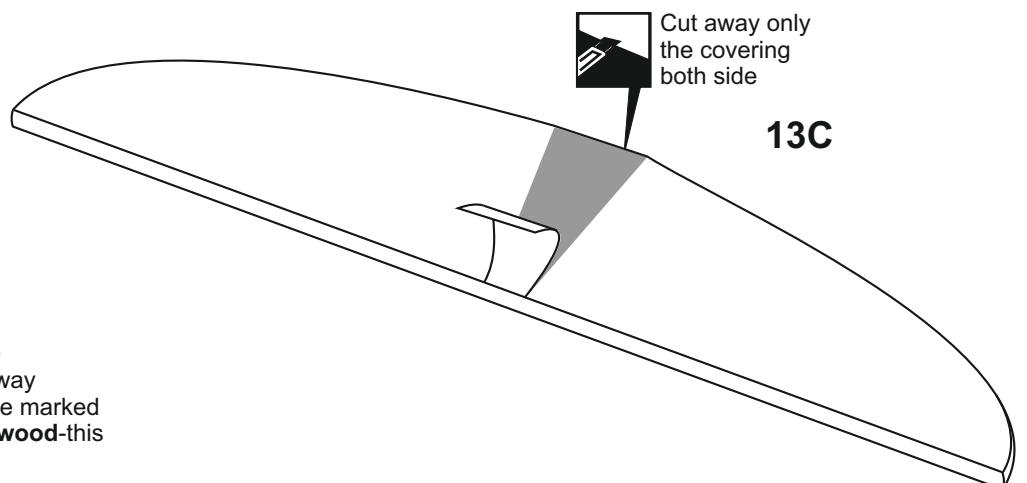
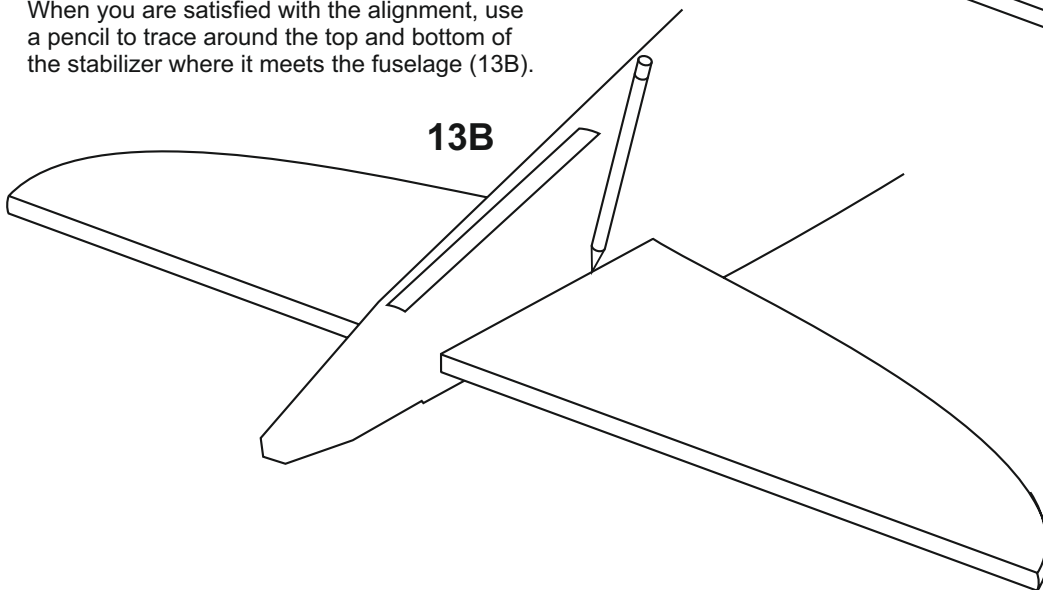
Using a sharp hobby knife, carefully cut away the covering around of all slots for the horizontal stabilizer and vertical fin installation.

Remove the left and right elevator out of the horizontal stabilizer.

Push the horizontal stabilizer into the slot on the fuselage as show. Check the alignment of the horizontal stabilizer by measuring from a fixed point along the center line of the fuselage to the leading edge on each side of the horizontal stabilizer. The distance must be equal on both sides . If not, adjust the stabilizer until the measurements are the same (see picture below:  $A=A'$ ).



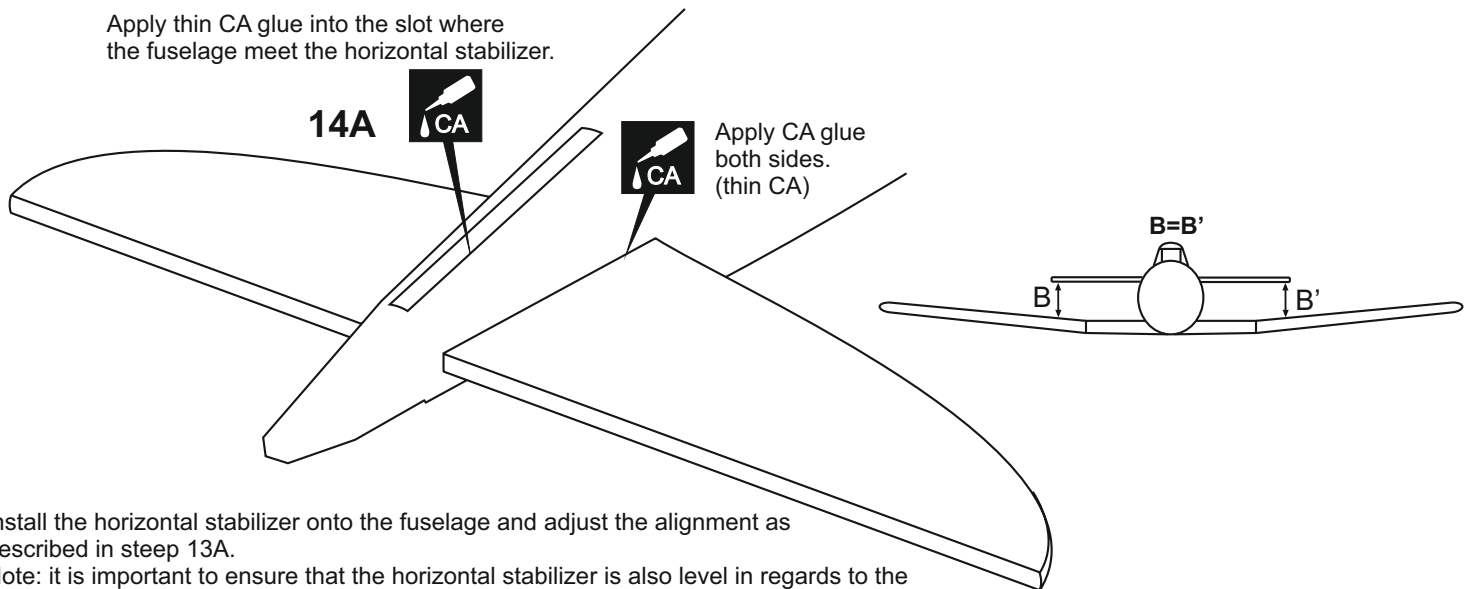
When you are satisfied with the alignment, use a pencil to trace around the top and bottom of the stabilizer where it meets the fuselage (13B).



Remove the horizontal stabilizer from the fuselage. Using a straight edge and a sharp hobby knife, carefully cut away the covering **inside the lines** which were marked above. Be cautious **not to cut into the wood**-this will weaken the structure (13C).

## 14- HORIZONTAL STABILIZER & VERTICAL STABILIZER

Apply thin CA glue into the slot where the fuselage meet the horizontal stabilizer.



Install the horizontal stabilizer onto the fuselage and adjust the alignment as described in steep 13A.

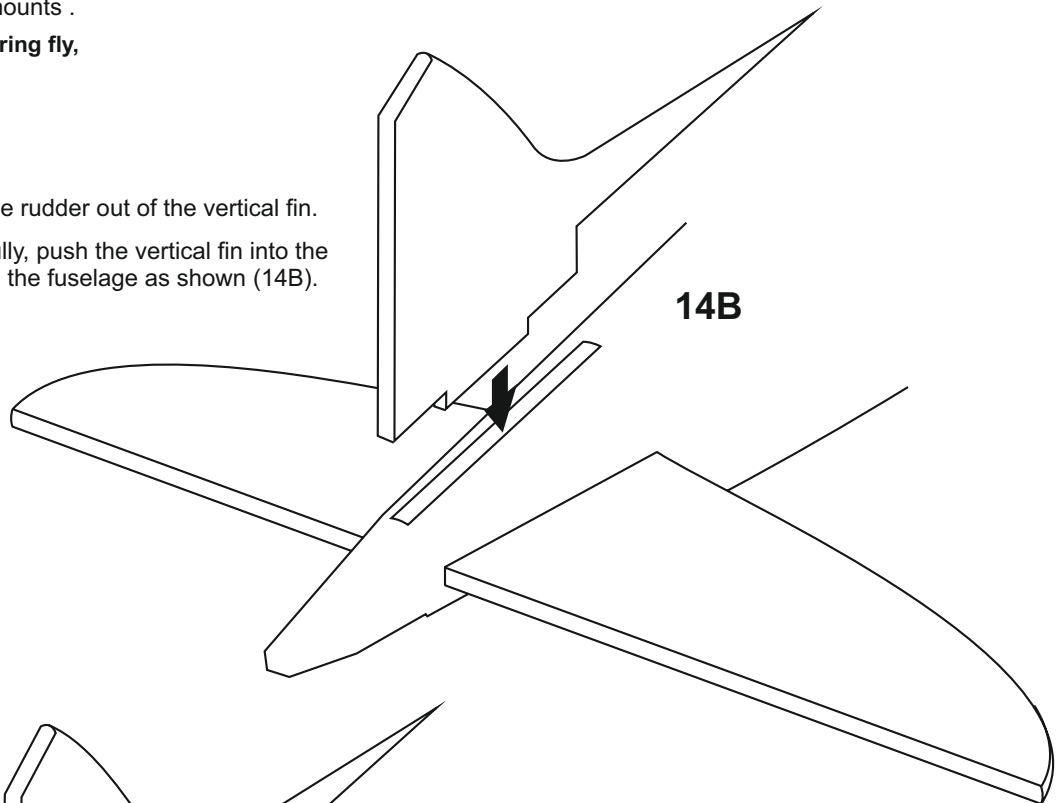
Note: it is important to ensure that the horizontal stabilizer is also level in regards to the fuselage.

Apply the thin CA along the area where the covering was removed in the previous step and to the fuselage where the horizontal stabilizer mounts .

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

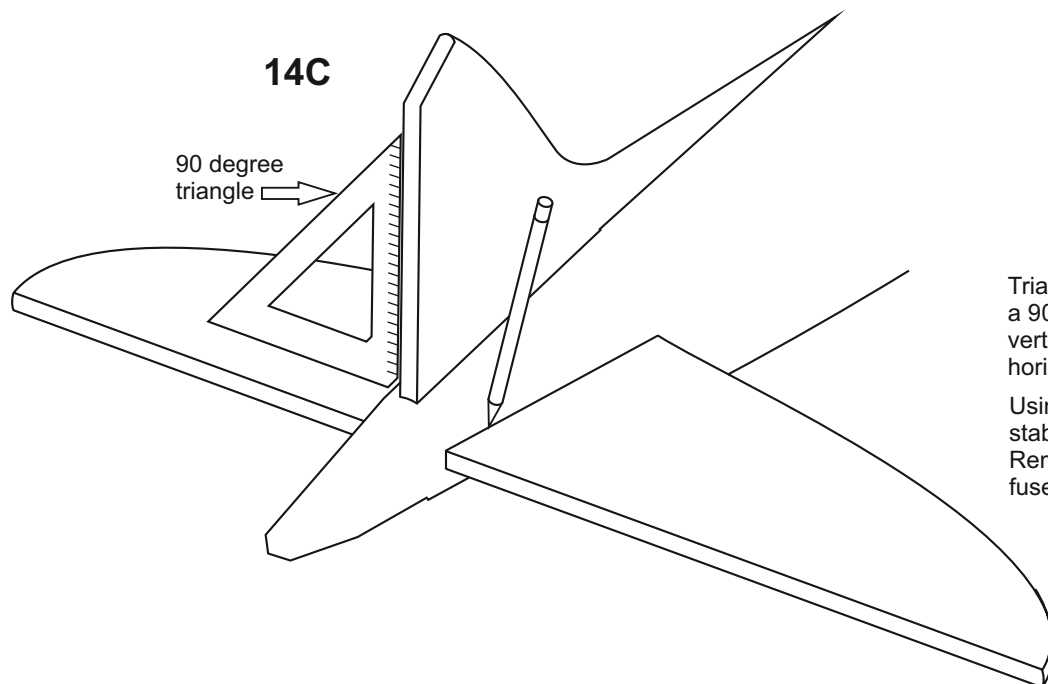
Pull the rudder out of the vertical fin.

Carefully, push the vertical fin into the slot on the fuselage as shown (14B).



14C

90 degree triangle



Trial fit the vertical fin in position. Using a 90 degree triangle, ensure that the vertical stabilizer is perpendicular to the horizontal stabilizer (14C).

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

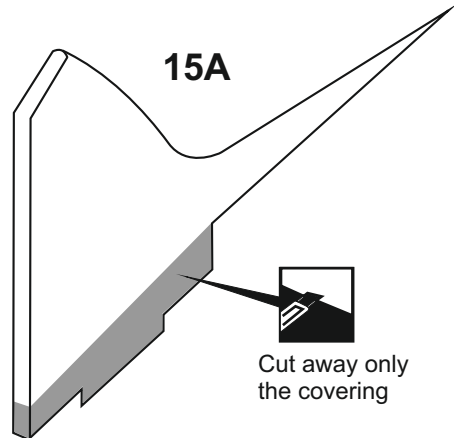
# 15- VERTICAL STABILIZER

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 (15A).

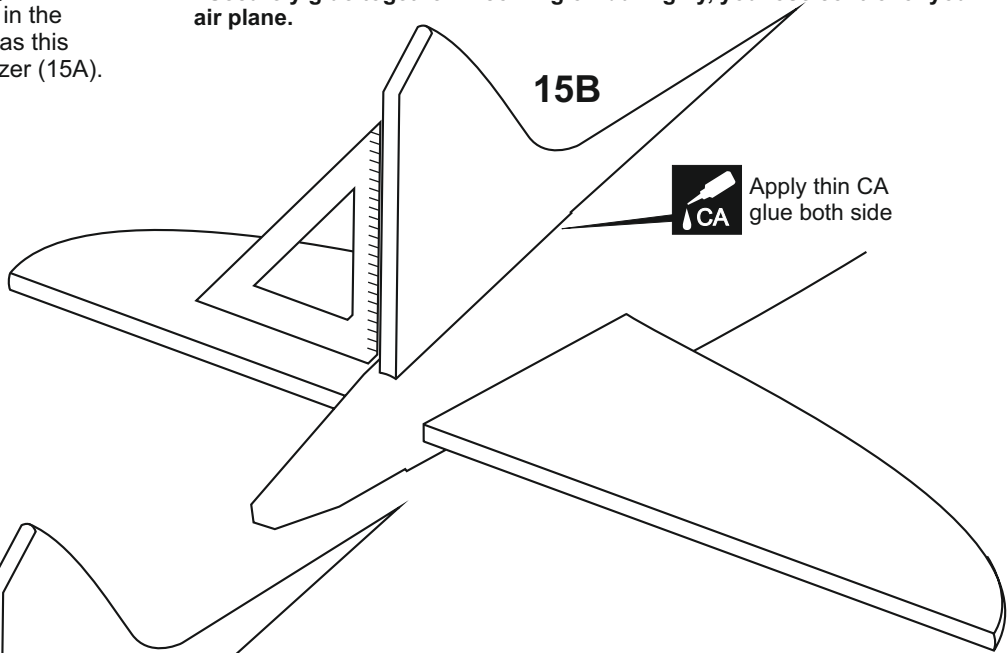
Insert the vertical fin into the fuselage, precisely align the vertical stabilizer as described in step 14C.

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

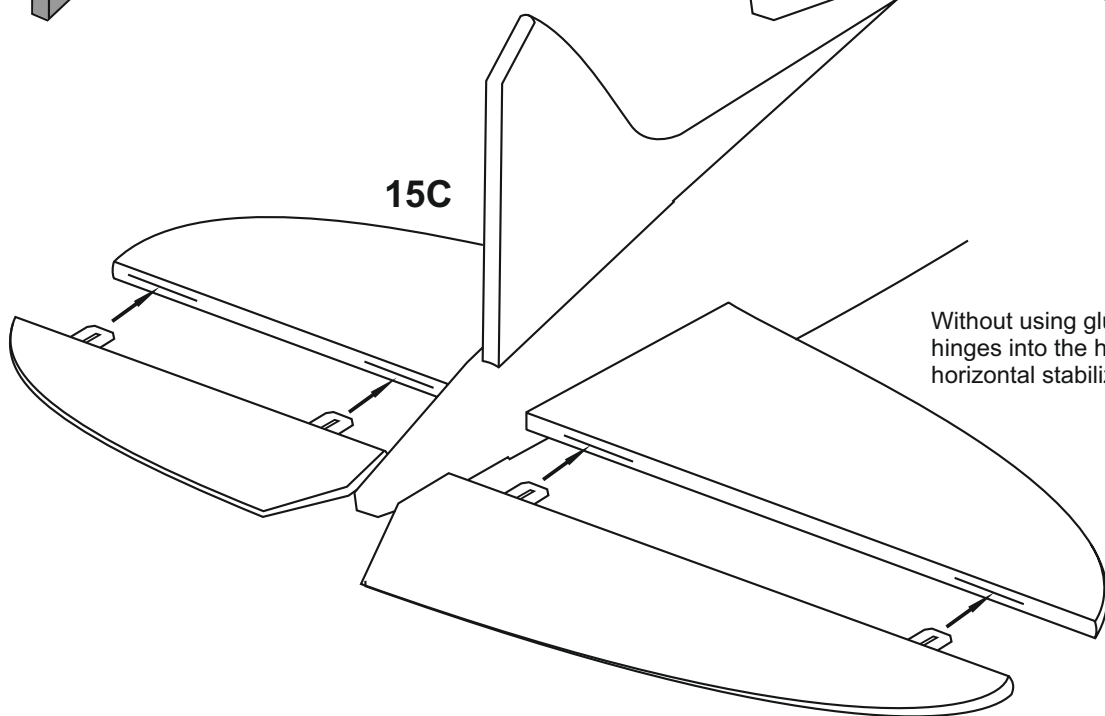
**! Securely glue together. If coming off during fly, you lose control of your air plane.**



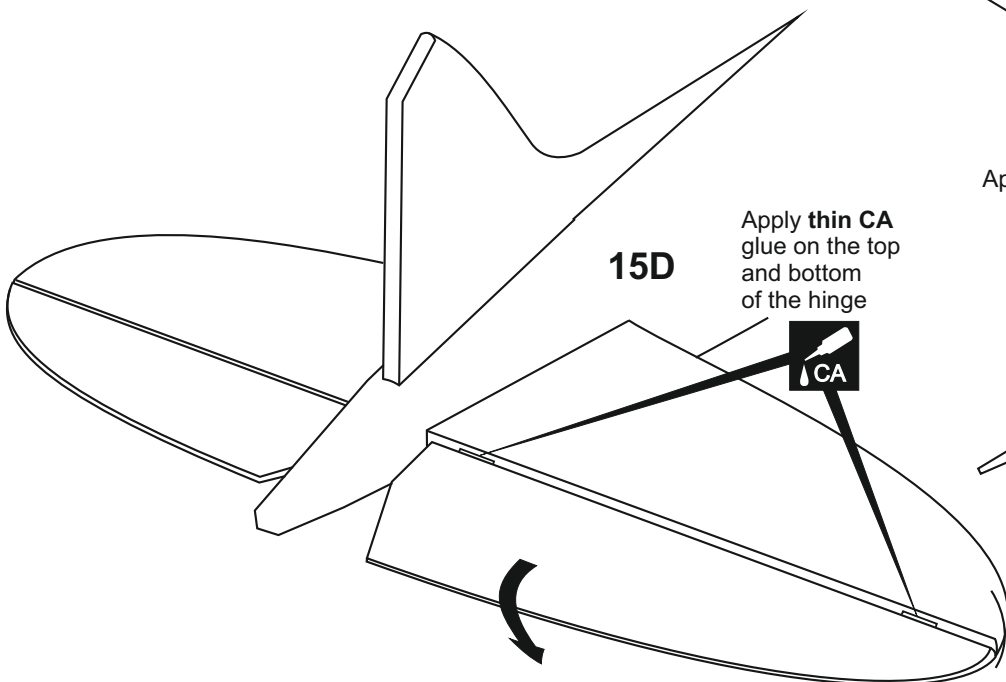
Cut away only the covering



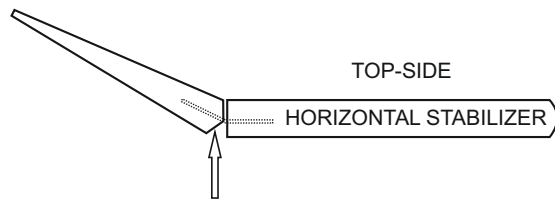
Apply thin CA glue both side



Without using glue yet, push the elevator and its hinges into the hinge slots in trailing edge of the horizontal stabilizer (15C).

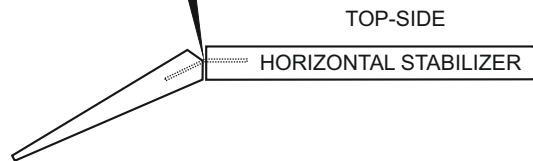


Apply thin CA glue on the top and bottom of the hinge



Apply a thin layer of petroleum jelly

Apply thin CA glue on the top of the hinge

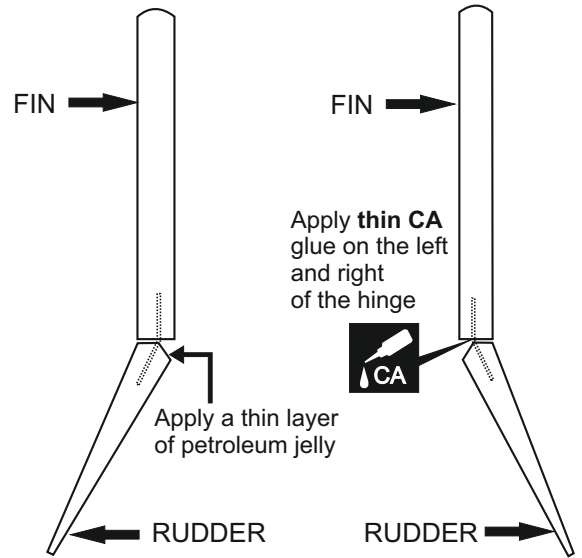
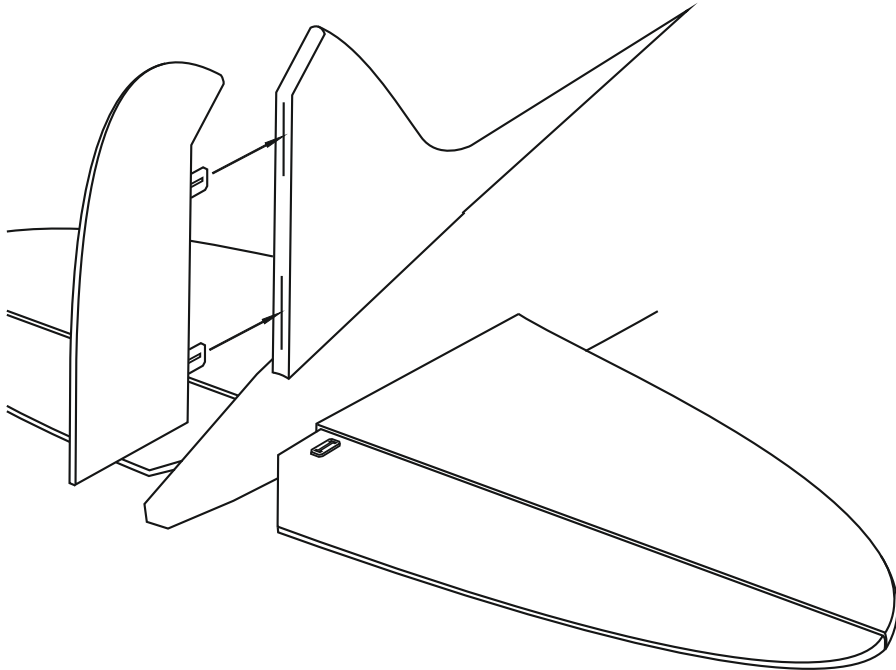
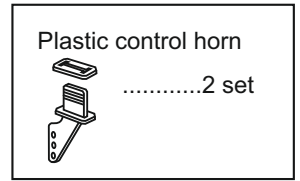
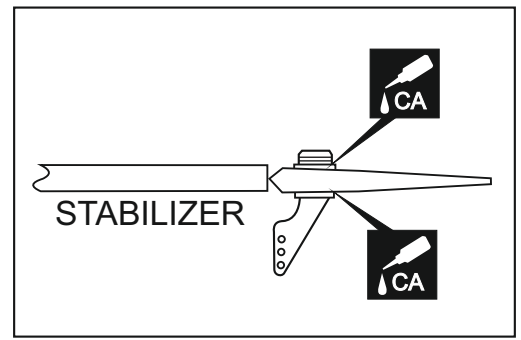
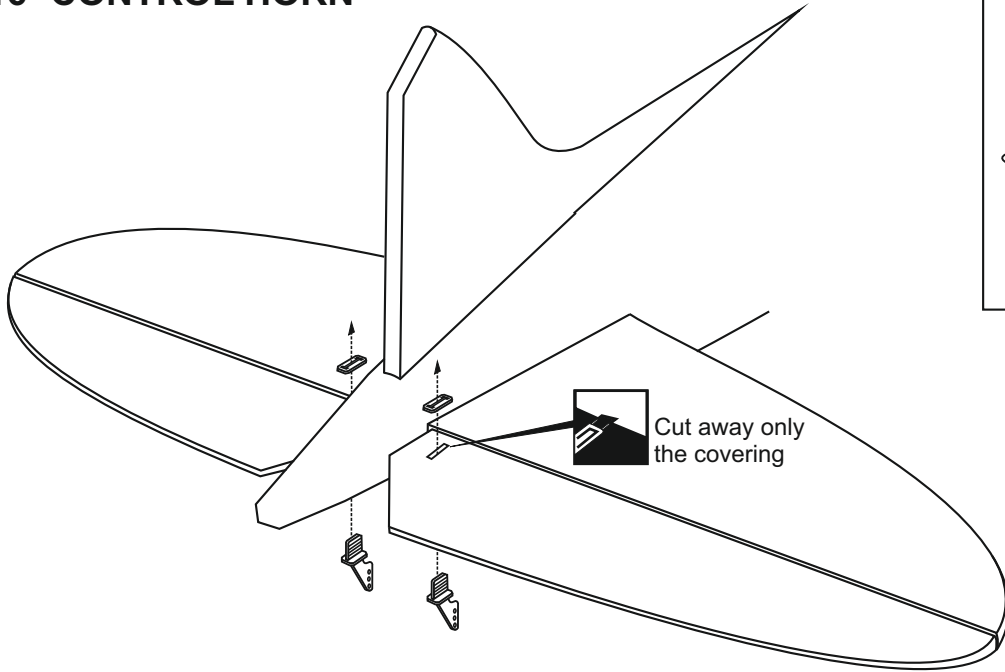


Do the same way with the bottom side of elevator and with the second elevator.

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

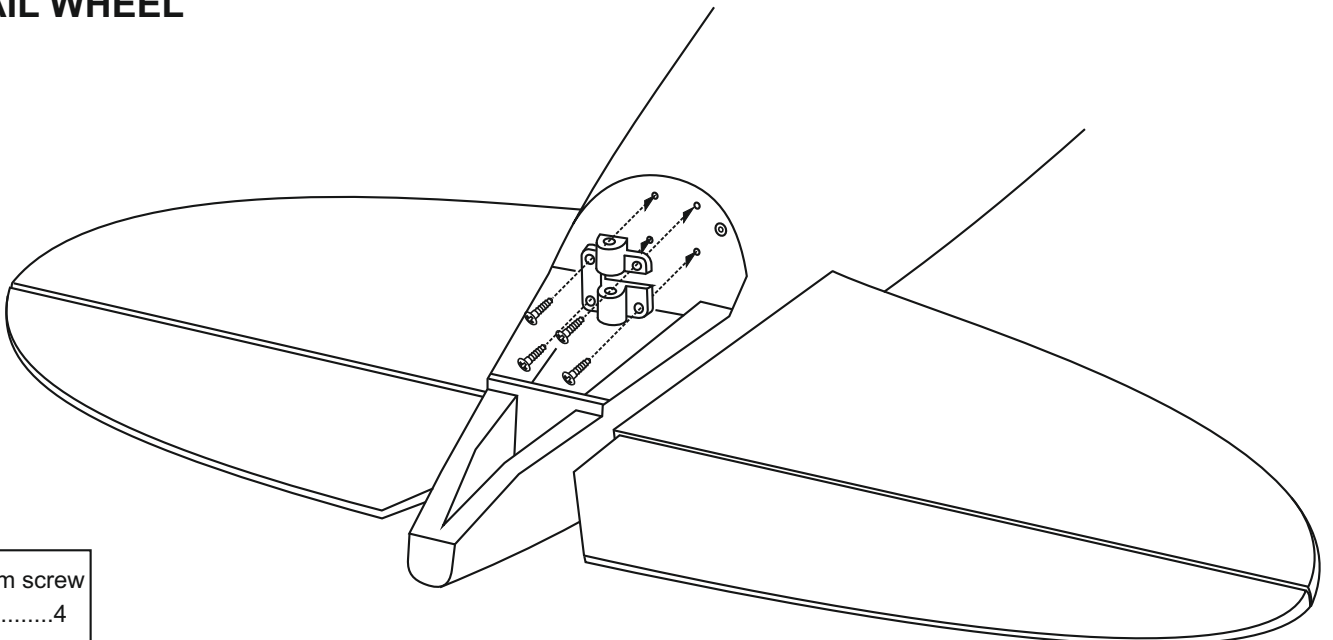


## 16- CONTROL HORN



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

## 17- TAIL WHEEL



3x10mm screw

.....4

## 18- TAIL WHEEL continued

Insert the tail wheel push-rod into the hole on the tail gear control horn as show (18A).

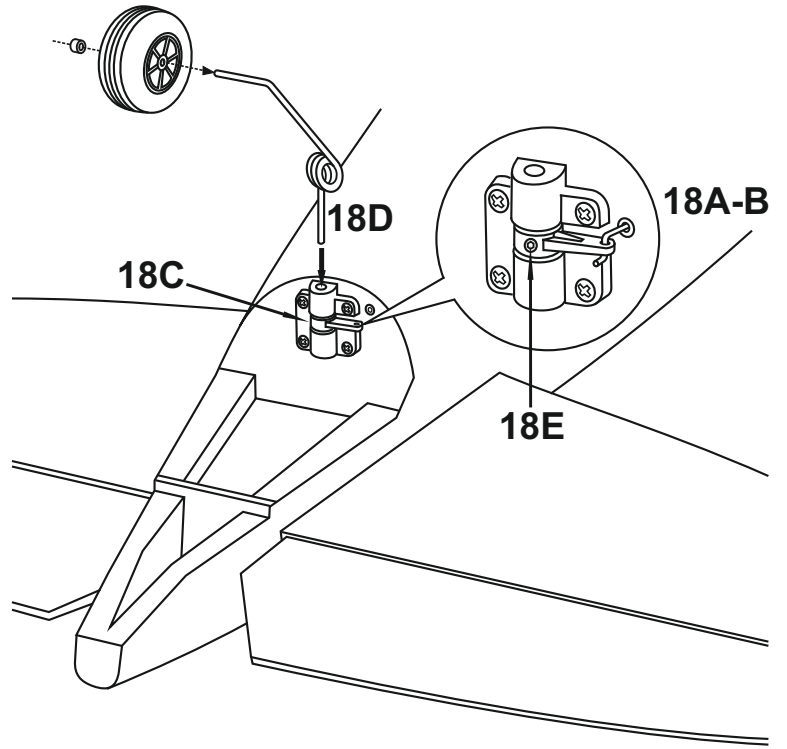
Insert the tail wheel push-rod with the tail gear control horn connected into the fuselage (18B).

Install the tail wheel control horn in place (18C).

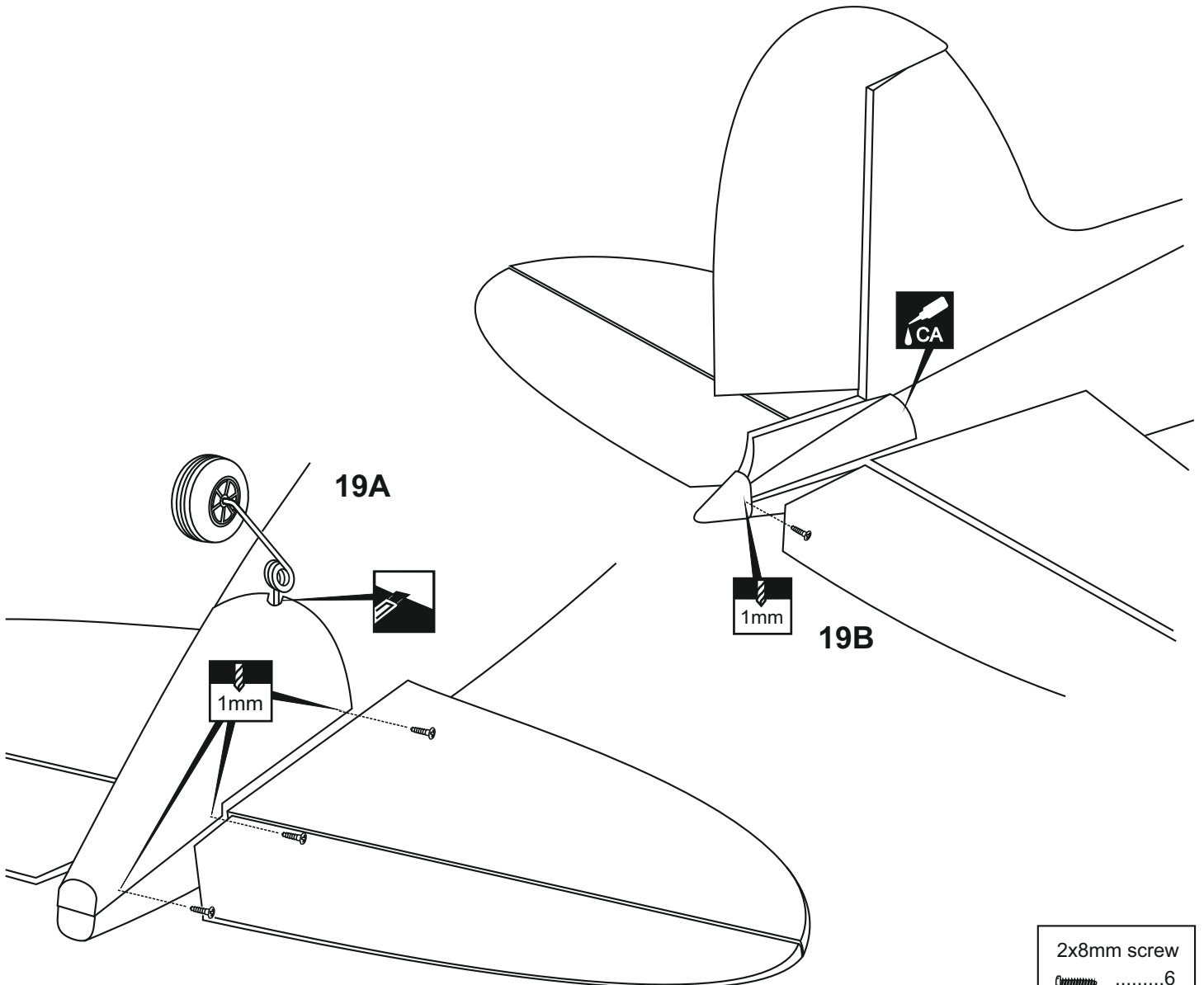
Instal the tail wheel gear in place (18D).

Secure the tail wheel control horn in place using a 2mm screw set (18E).

1.2x800mm rod	.....1
3x3mm screw	.....1
3x10mm screw	.....4
Tail wheel control-horn	.....1
Tail landing gear	.....1
2mm I.D collar	.....1
25mm wheel	.....1

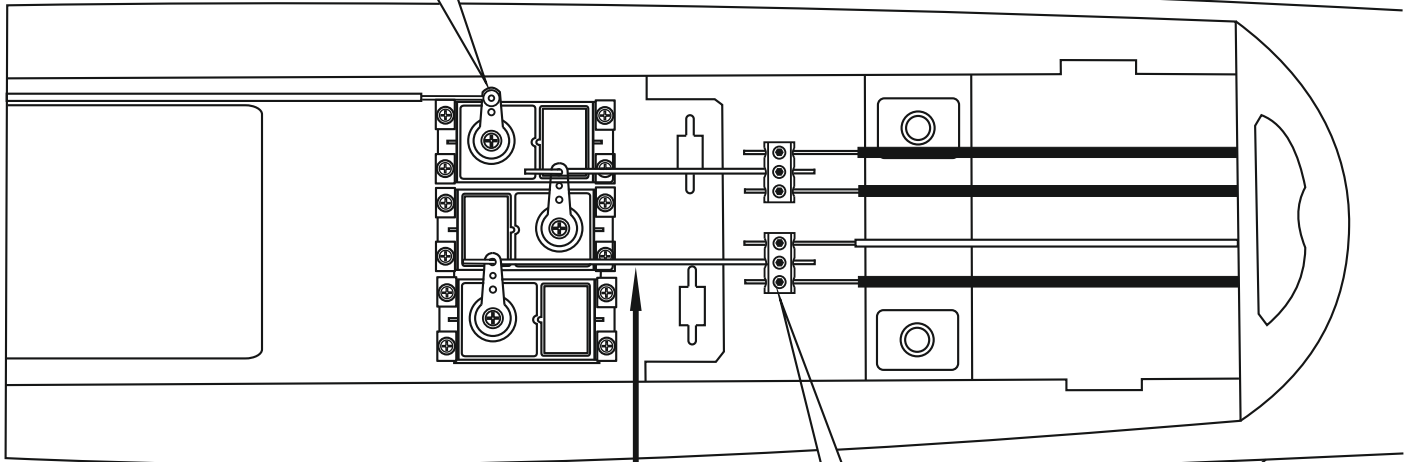
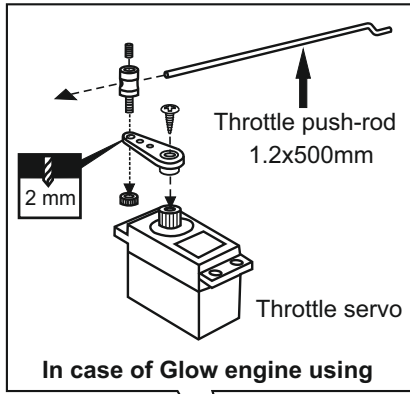


## 19- PLASTIC SHIELD

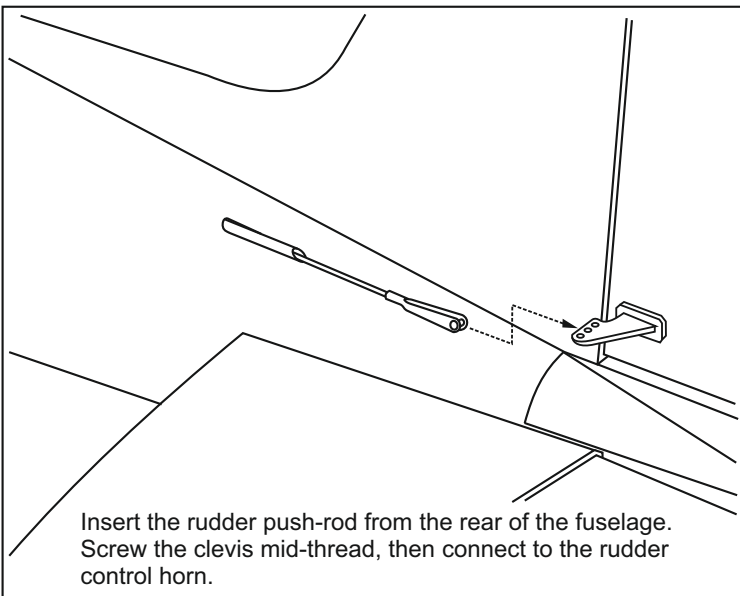
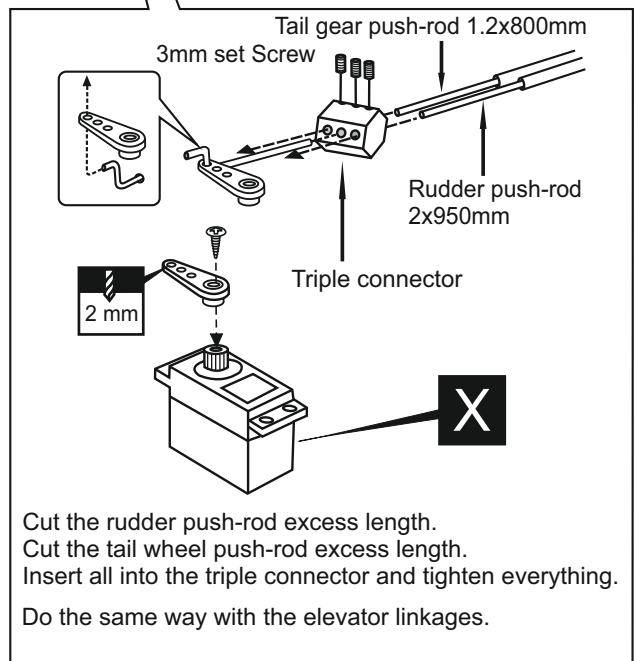


2x8mm screw  
.....6

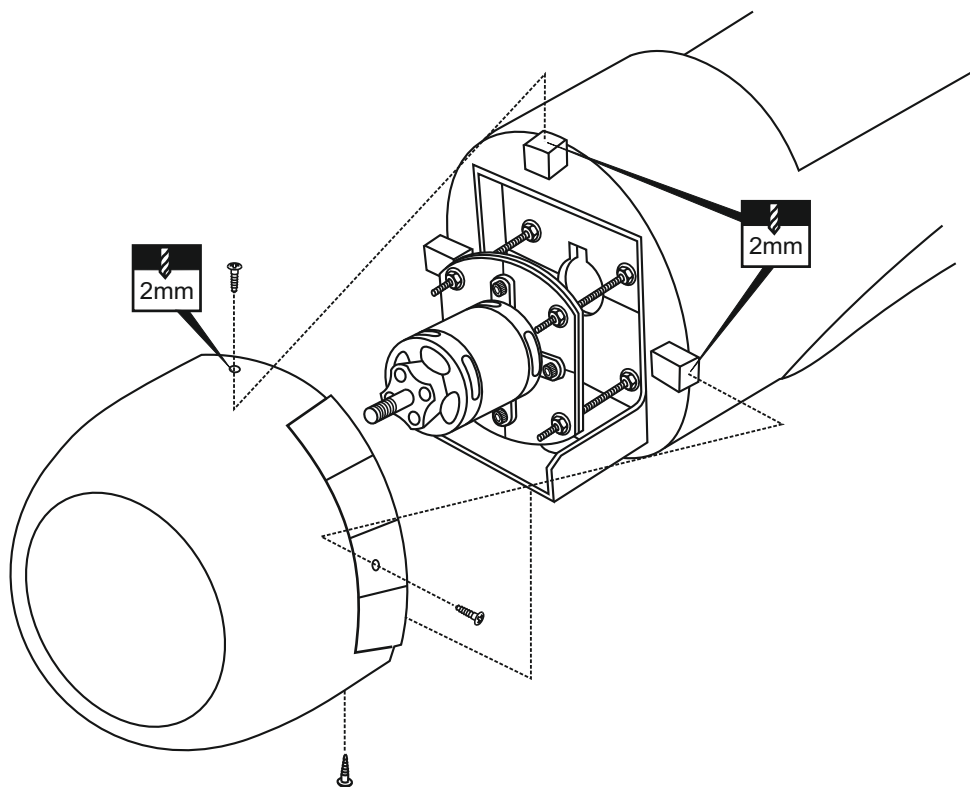
## 20- SERVO & LINKAGES



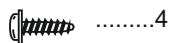
- Steel clevis .....3
- 2x950mm rod .....3
- (2 x120mm) rod .....2
- (1.2 x500mm) throttle rod .....1
- Triple connector .....2
- 3mm set screw .....1



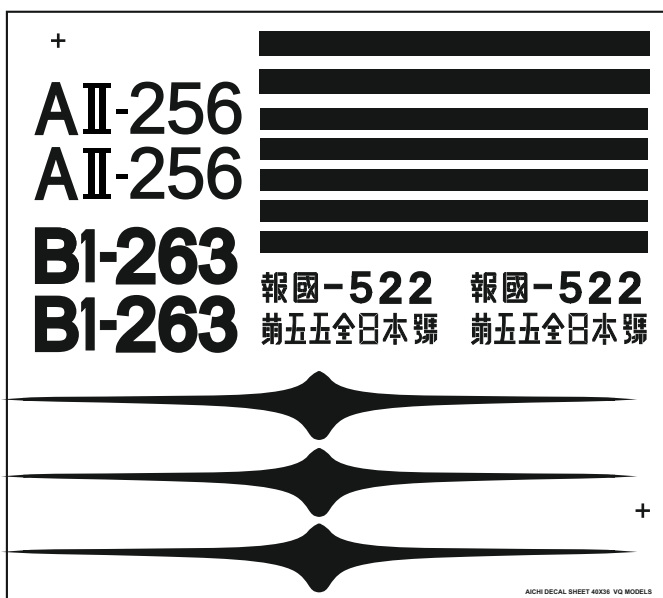
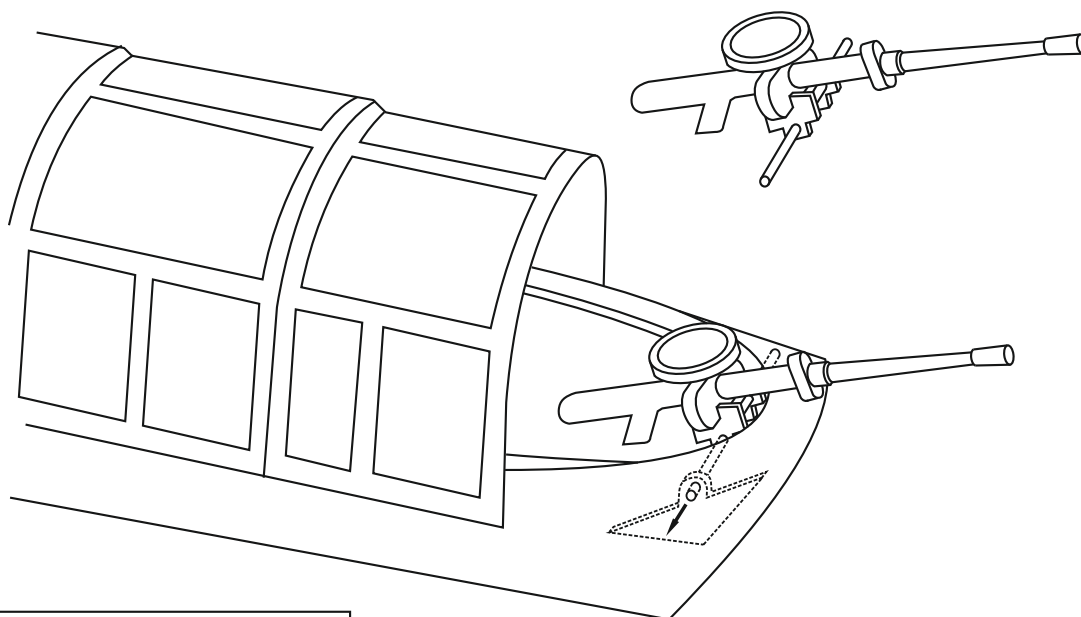
## 21- COWLING



2.5x10mm screw



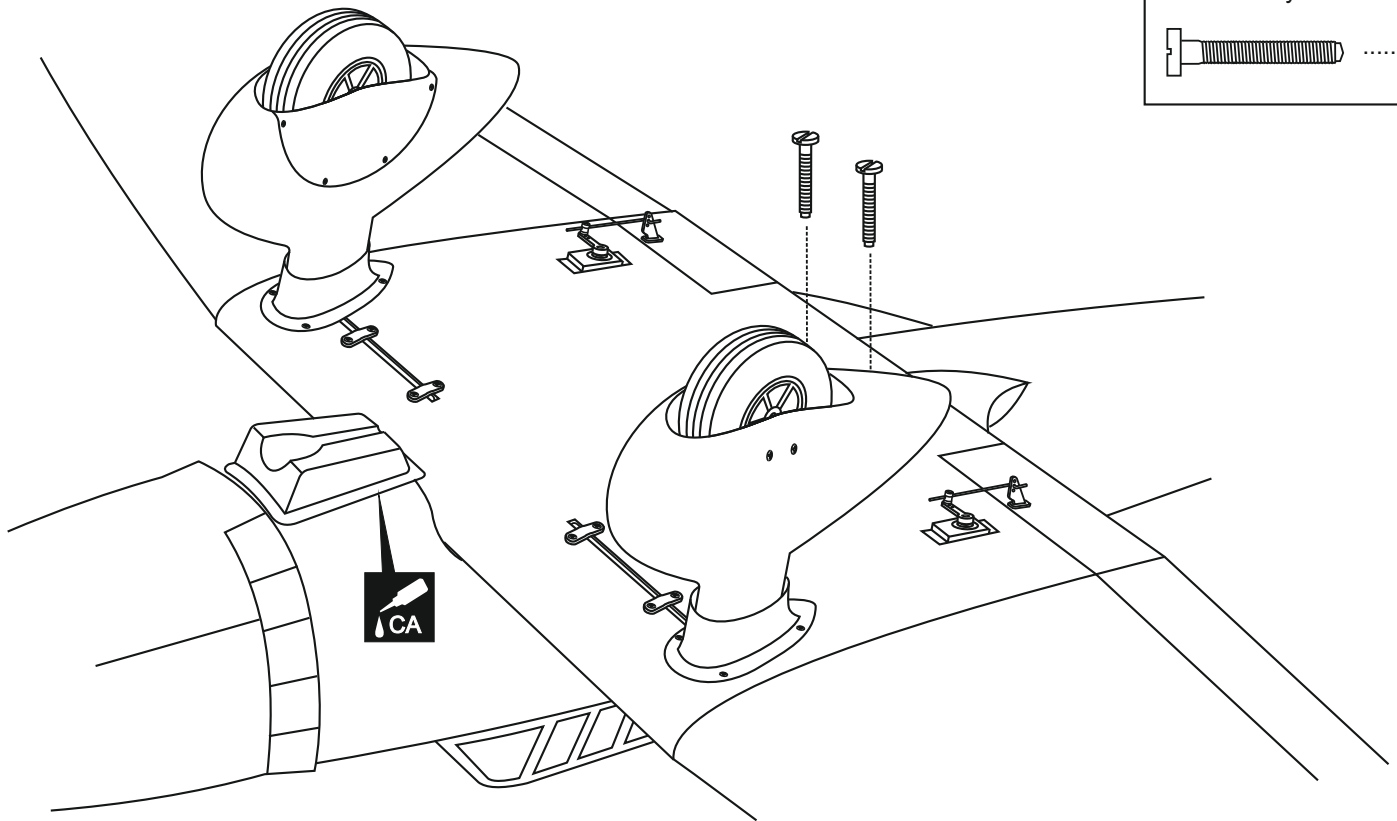
## 22- GUN & DECAL



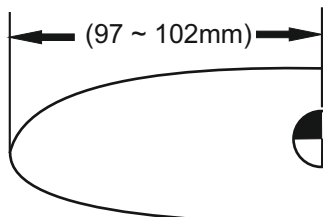
Note: Cut out the stickers and apply them in the proper area. Do not peel the backing paper off all at once. Peel off one corner of the backing and cut off with scissors. Arrange sticker on model and when satisfied adhere the corner without backing. Carefully peel back the rest of the backing while at the same time adhering the rest of the sticker. Try not to make air bubbles, if there are some, carefully puncture sticker (center of bubble) but not model surface with the tip of the knife or sharp pin and squeeze out the air. At curves stretch sticker and apply a little heat so that no creases occur. Cut off the excess that is produced.

## 23- INSTALLATION THE WING

6x50mm nylon bolt



## 24-BALANCE

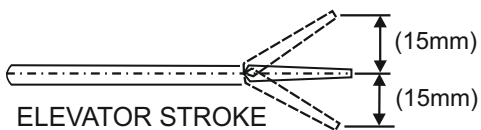


Note: Adjust the location of the battery pack to achieve this C.G location.

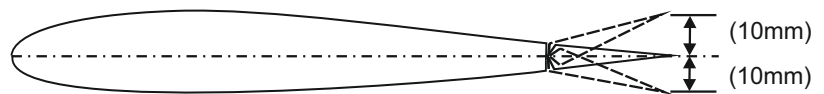
DO NOT try to fly an out-of balance model!

Wing center section

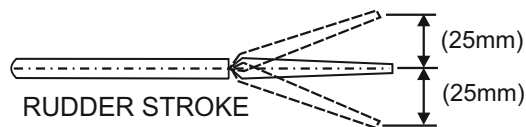
## 25-CONTROL SURFACE



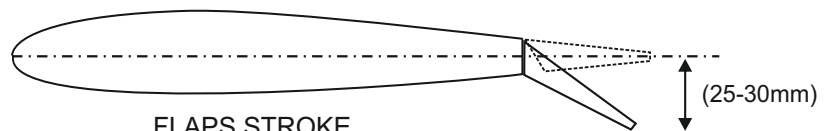
ELEVATOR STROKE



AILERON STROKE



RUDDER STROKE



FLAPS STROKE

Adjust the travel of the control surfaces to achieve the values stated in the diagrams. These value will be suitable for average flight requirements. Adjust the values to suit your particular needs.

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