60 Class
2-cycle engine

90 Class
4-cycle engine

Cap 10

AEROBATIC MODEL

INSTRUCTION MANUAL / MONTAGEANLEITUNG



RADIO CONTROLED ALMOST READY-TO-FLY ENGINE POWERED ALL BALSA PLANE

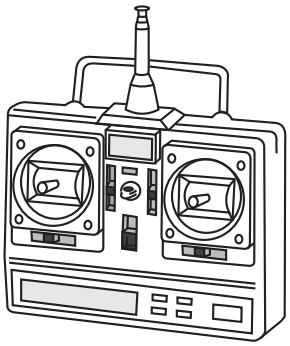
SPECIFICATION

Wingspan approx.	1500mm
Fuselage lenght approx	1205mm
Electric Motor	870 Watt (PULSAR 60)
Glow Engine	.61 2T / .91 4T
Radio	5 Channel / 6 Servos

TECHNISCHE DATEN

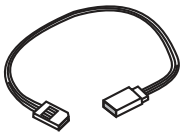
Spannweiter ca.	1500mm
Lange ca.	1205mm
Elektroantrieb	870 Watt (PULSAR 60)
Verbrennerantrieb	10cc 2Takt / 15cc 4Takt
Fernsteuerung	5 Kanal / 6 Servos

REQUIRED ITEMS / Zum Betrieb wird benotigt

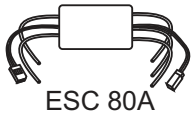




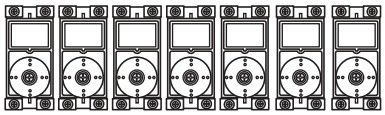
12x6 for .58 - 2 cycle engine
12x7 for .61 - 2 cycle engine
12x7 for .70 - 4 cycle engine
14x6 for .91 - 4 cycle engine



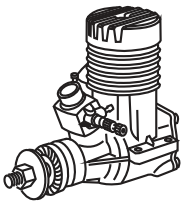
Extension for aileron servo.(x2)



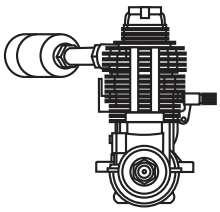
ESC 80A



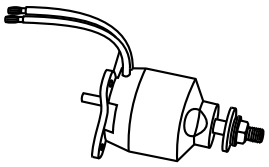
Minimum 6 channel radio
for airplane with 7 servos
.Motor control x1 .Aileron x 2
.Flap x 2 .Elevator x1 .Rudder x1



.58 ~ .61 - 2 cycle



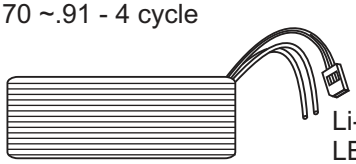
.70 ~.91 - 4 cycle



Motor Brushless
870Watt (PULSAR 60)



Silicone tube



Li-Po Battery
LEMONRC 4500 - 18.5v

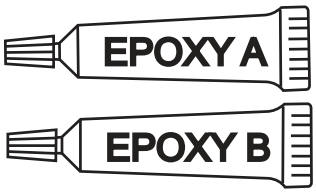
GLUE / *KLEBSTOFF*



Silicon sealer

Cyanoacrylate Glue



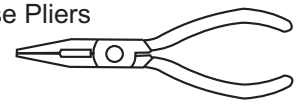


Epoxy Glue (5 minute type)
Epoxy Glue (30 minute type)

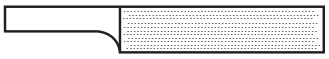
Hobby knife



Needle nose Pliers



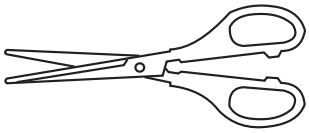
Sander



Phillip screw driver



Scissors



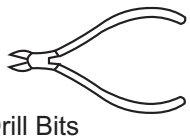
Hex Wrench



Awl

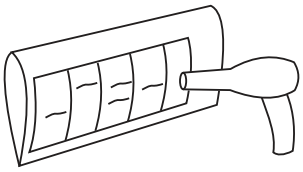


Wire Cutters



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

If exposed to direct sunlight and / or heat, wrinkles can appear. Storing the model in a coll 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 Warumluftgebläse (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



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 zusammengebaut



Nicht enthalten. Teile müssen separat gekauft werden.

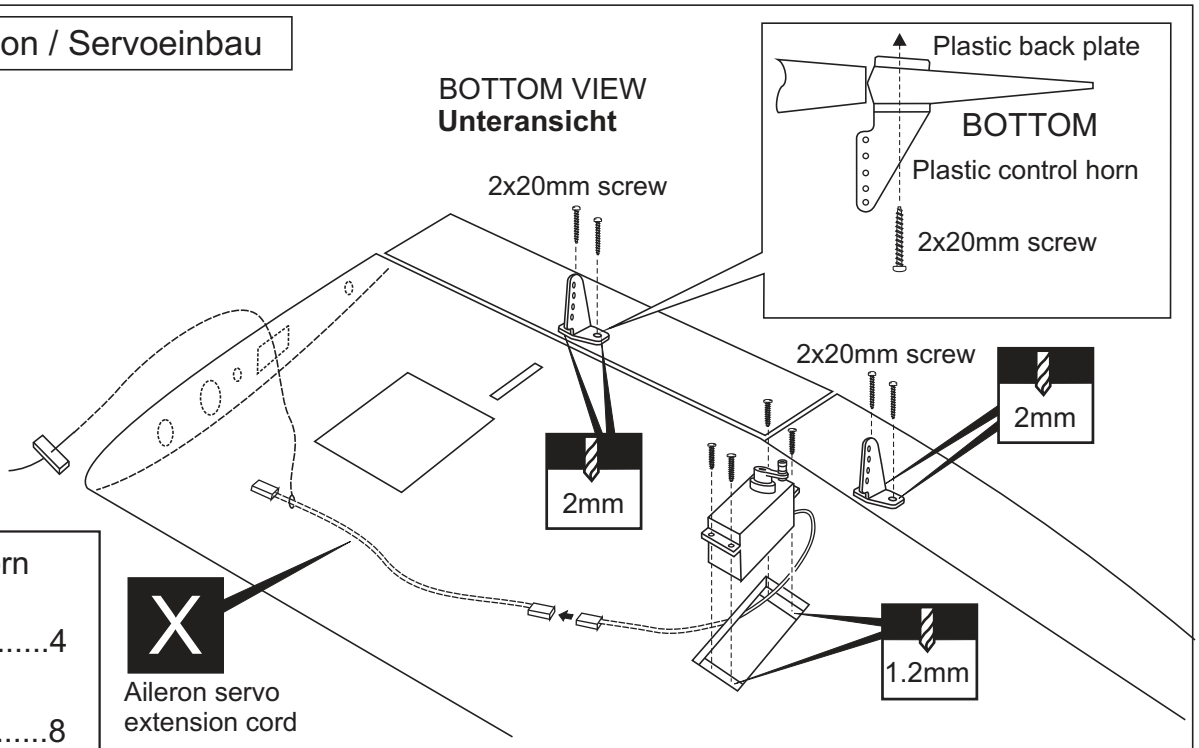
Read through the manual before you begin, so you will have an overall idea of what to do.

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- Servo installation / Servoeinbau

L/R



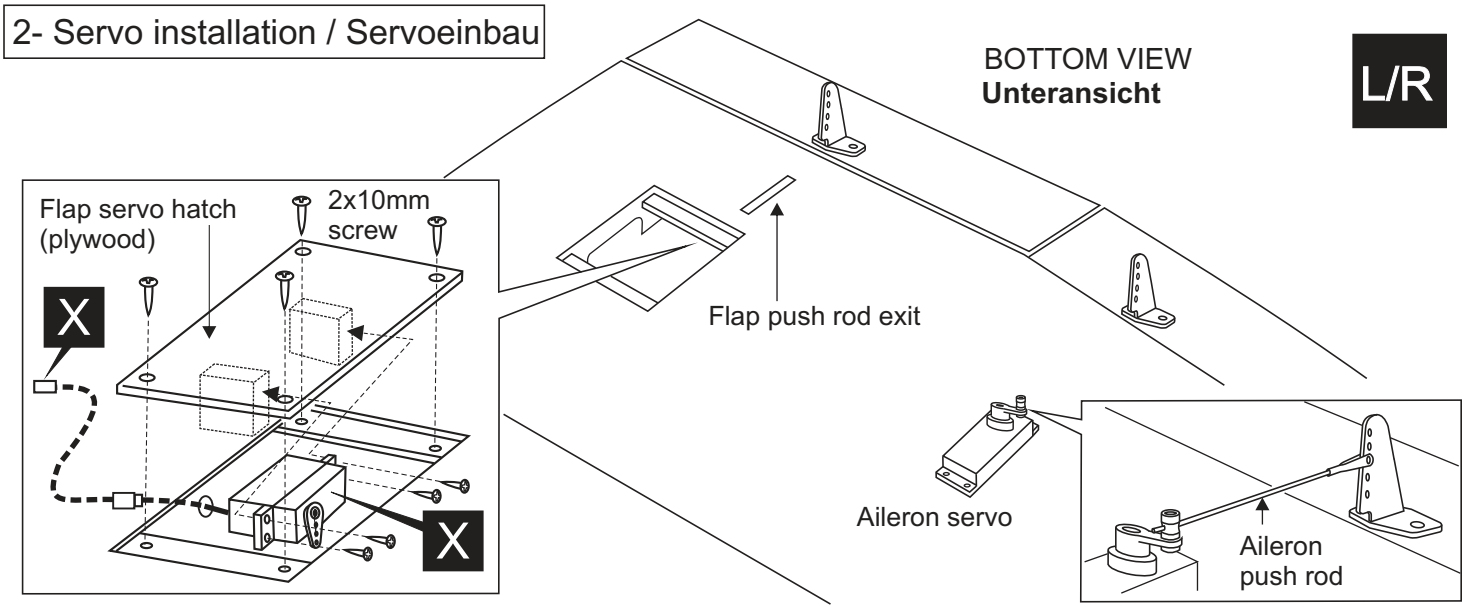
Plastic control horn 4

2x20mm screw 8

Linkage Stopper set 2

1-When you are satisfied with the alignment of the control horn mark the mounting hole positions with a felt tipped pen or a pencil.
2-Remove the control horn and drill two 2mm (5/64") holes through the ailerons and flaps.
3-Attach the control horn using two 2x20mm screw and a back plate.

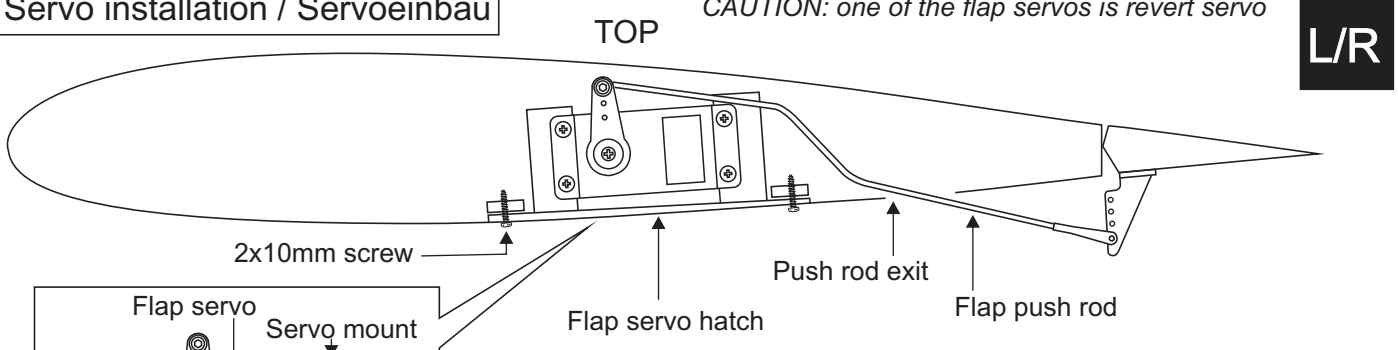
2- Servo installation / Servoeinbau

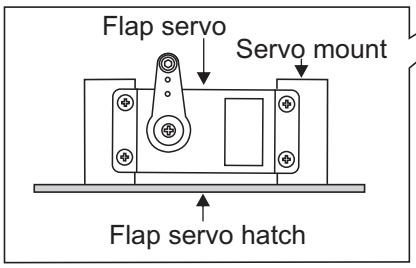


3- Servo installation / Servoeinbau

CAUTION: one of the flap servos is revert servo

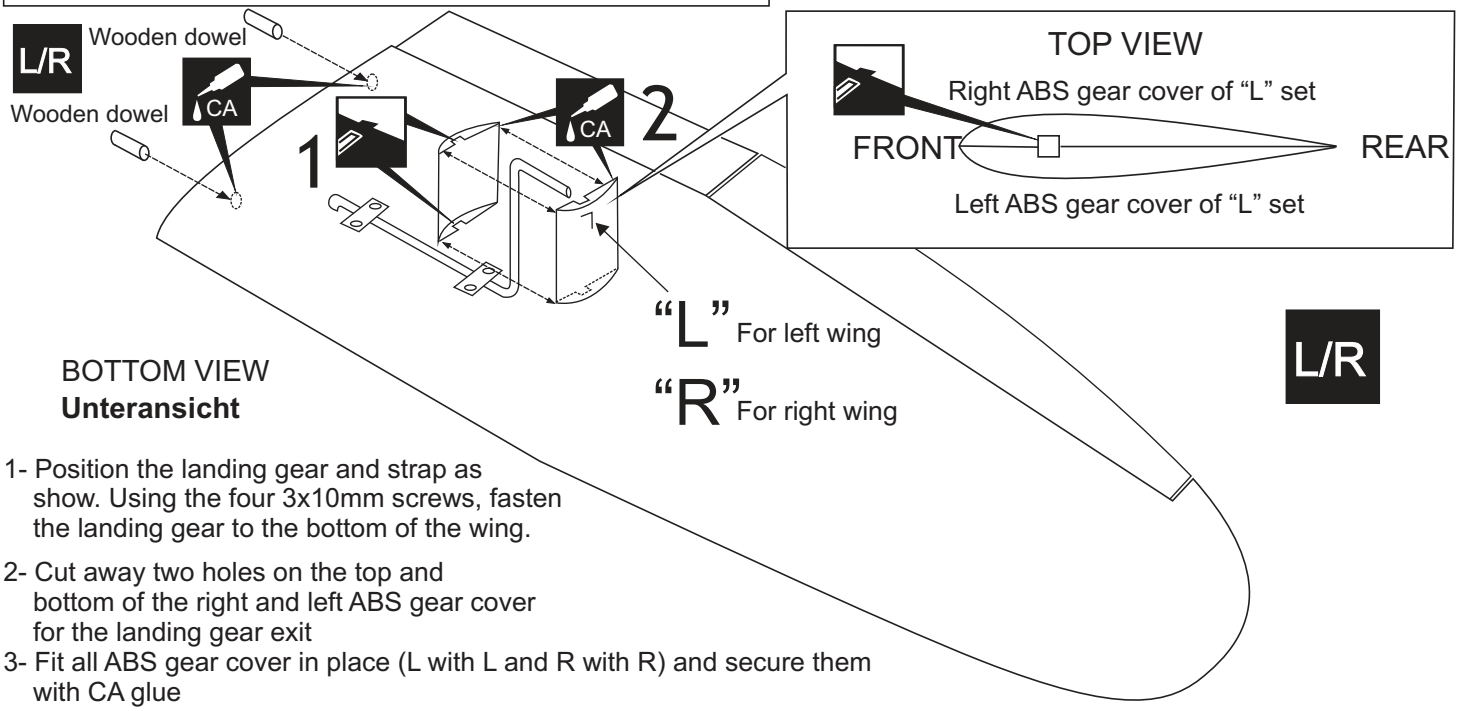
L/R





1- Place the flap servo onto the servo mounts and secure it in place using the four screws included with the servo.
2- Install the flap push rod connector onto the hole in the flap servo arm and insert the push rod through the push rod connector.
3- Place the flap servo hatch in its mount and secure it in place using four 2x10mm screws.

4- Wheel pants installation / Fahrwerkseinbau

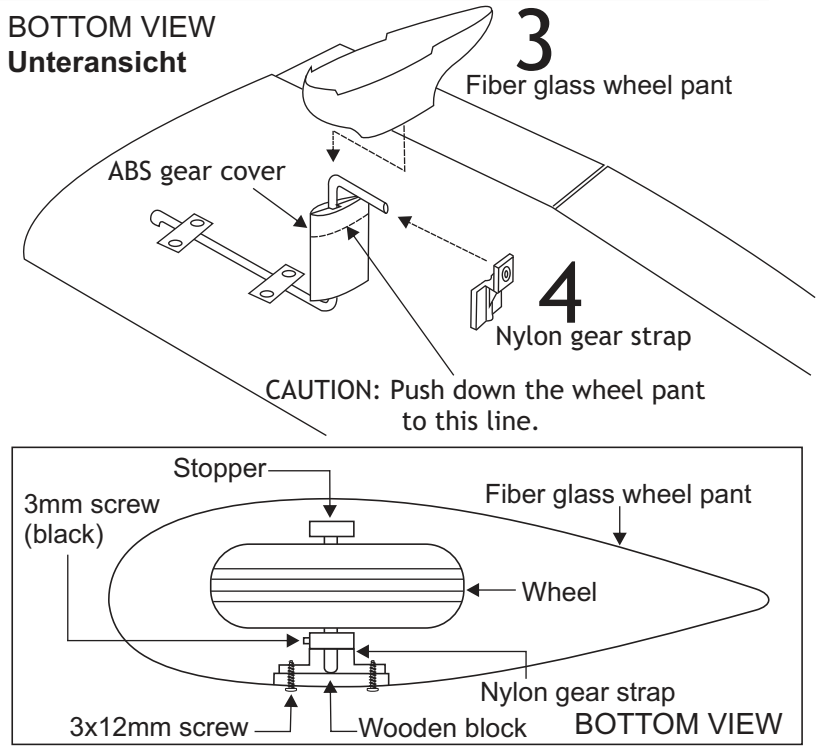


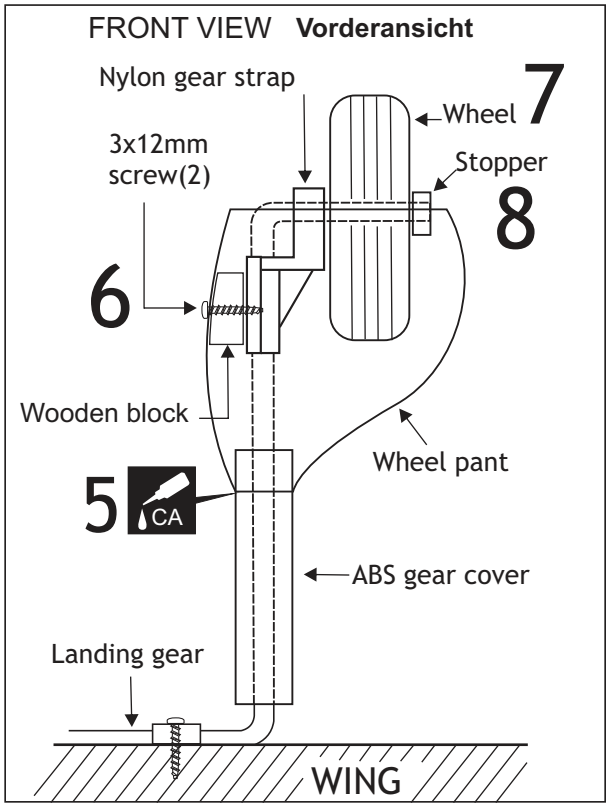
1- Position the landing gear and strap as show. Using the four 3x10mm screws, fasten the landing gear to the bottom of the wing.

2- Cut away two holes on the top and bottom of the right and left ABS gear cover for the landing gear exit

3- Fit all ABS gear cover in place (L with L and R with R) and secure them with CA glue

5- Wheel pants installation / Fahrwerkseinbau





6- Engine mounts / Motorträger

1- Set the engine on the engine mounts

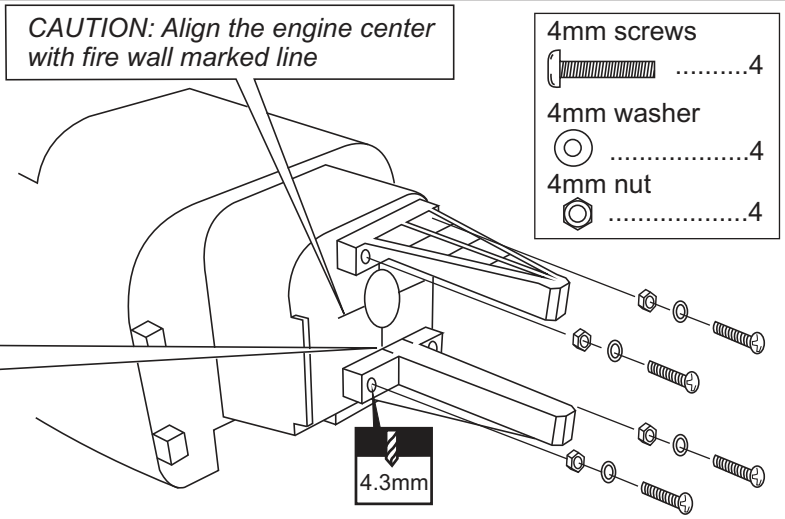
2- Place the engine mounts with the engine to the fire wall and secure it with tittle CA glue.

3- Using a pencil or felt tipped pen, mark the engine mounting plate where the four holes are to be drilled

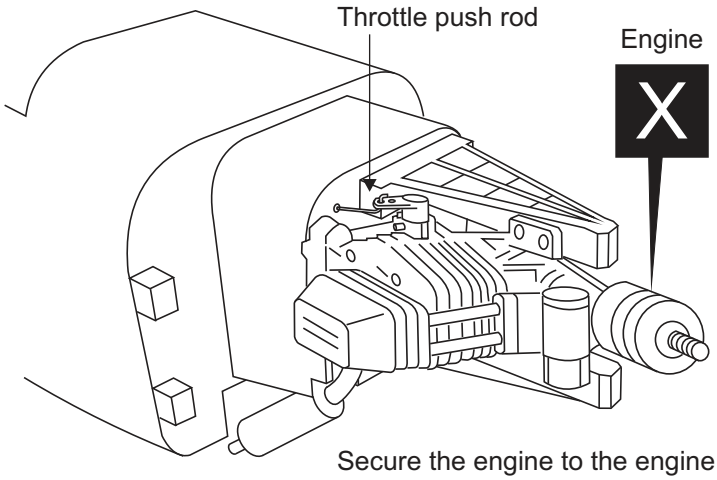
4- Remove the engine and drill a 11/64" (4.3mm) hole through the fire wall at each of the four marks made in Step 3 above.

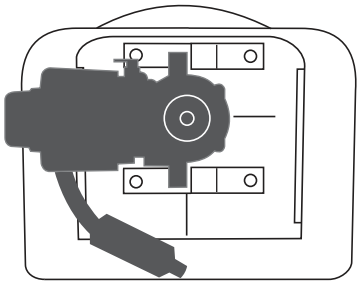
CAUTION: Align the mark on both mounts with the center mark on the fire wall

CAUTION: Engine thrust on fire wall is aleady adjust at factory



7- Four-stroke engine installation / Einbau Viertarktmotor

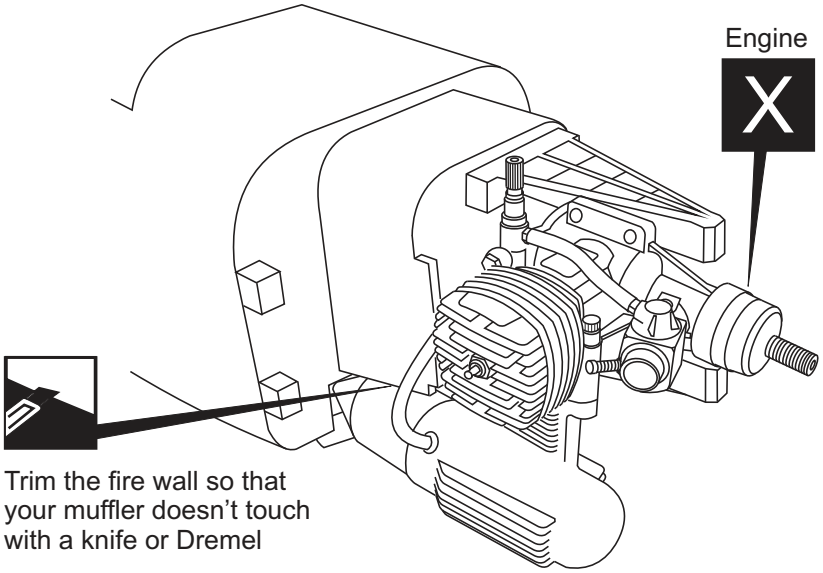


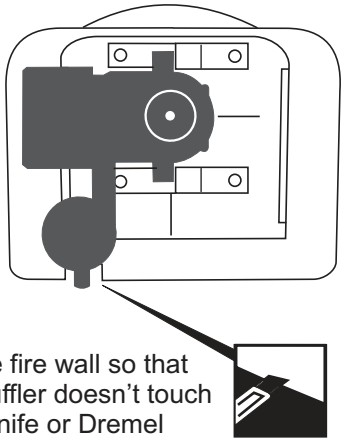


FRONT VIEW
In case of four-stroke engine

Secure the engine to the engine mounts using fous 3x25mm screws and nuts

8- Two-stroke engine installation / Einbau Zweitarktmotor

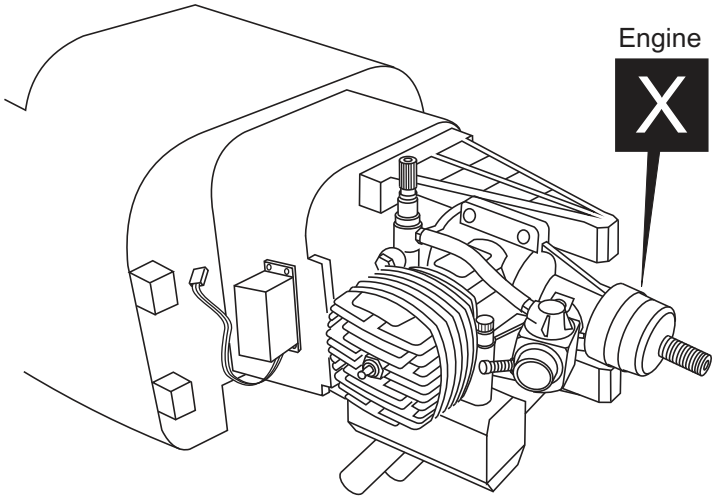


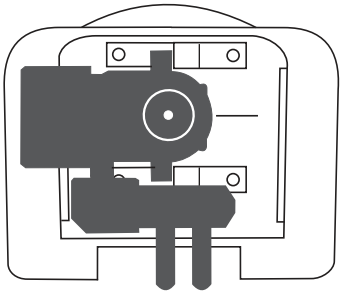


FRONT VIEW
In case of two-stroke engine

Secure the engine to the engine mounts using
fous 3x25mm screws and nuts

9- Two-stroke engine installation / Einbau Zweitarktmotor



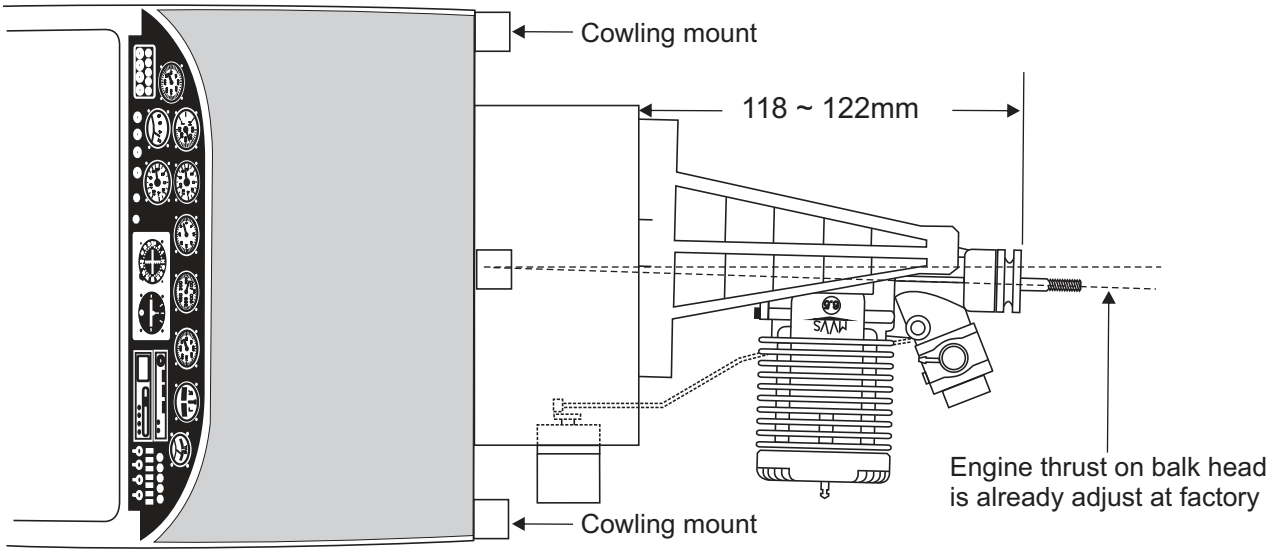


FRONT VIEW
In case of two-stroke engine

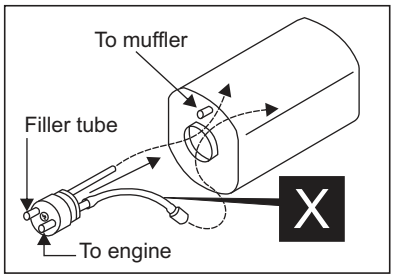
Two-stroke engine with manifold

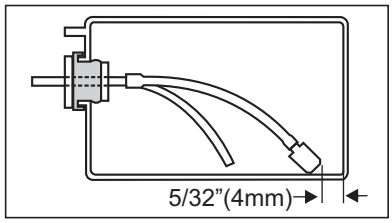
10- Engine installation / Motoreinbau

TOP VIEW **Draufsicht**



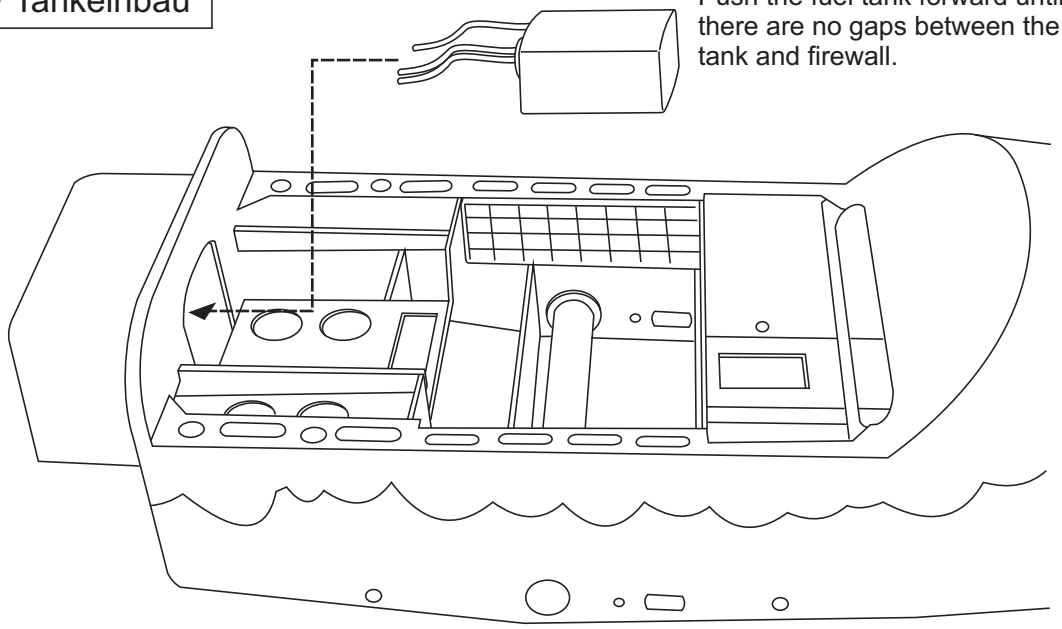
11- Fuel tank installation / Tankeinbau





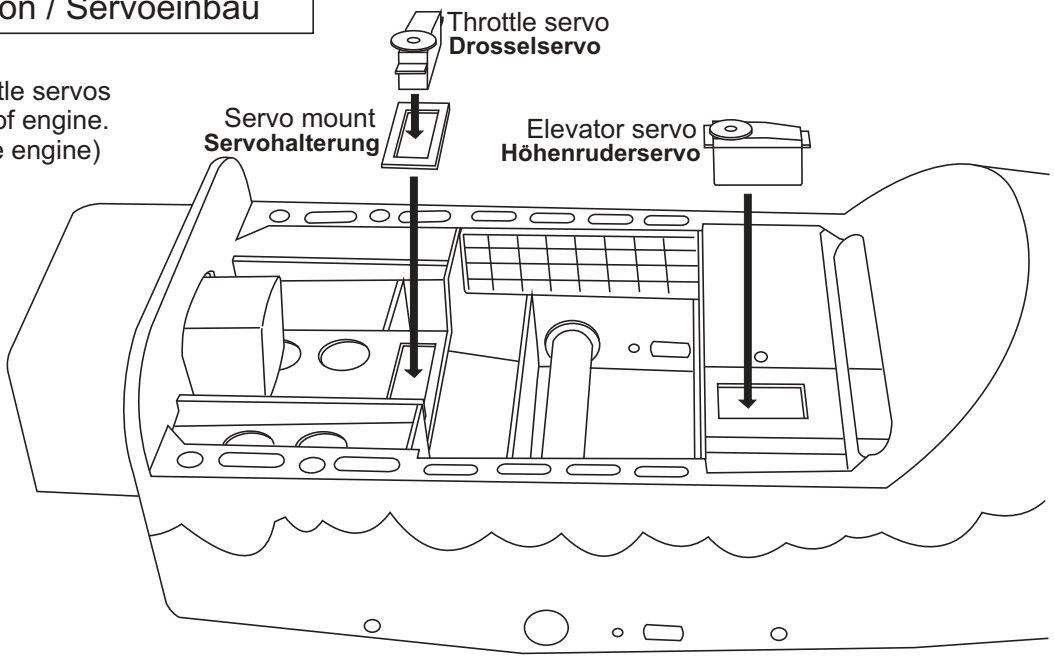
After confirming the direction . Insert and tighten the screw.

Push the fuel tank forward until there are no gaps between the tank and firewall.



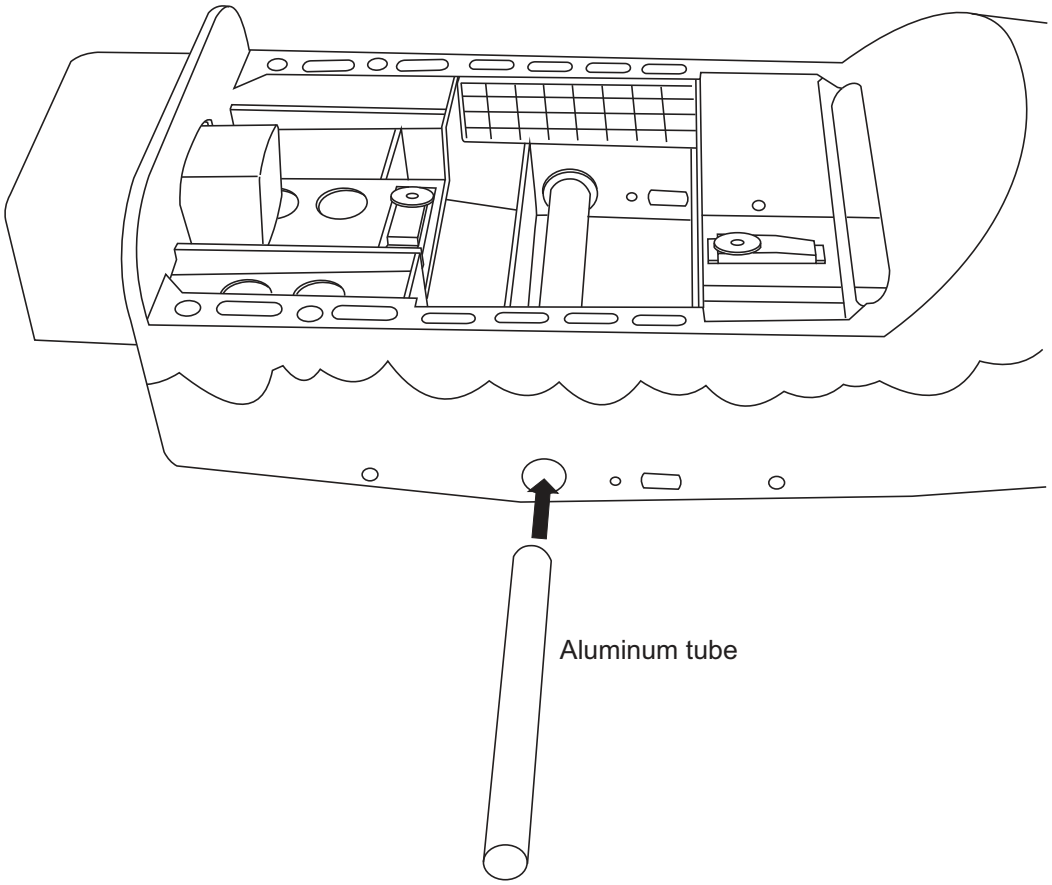
12- Servo installation / Servoeinbau

NOTE: Place of the throttle servos may be change depend of engine. (Four-stoke or two-stroke engine)



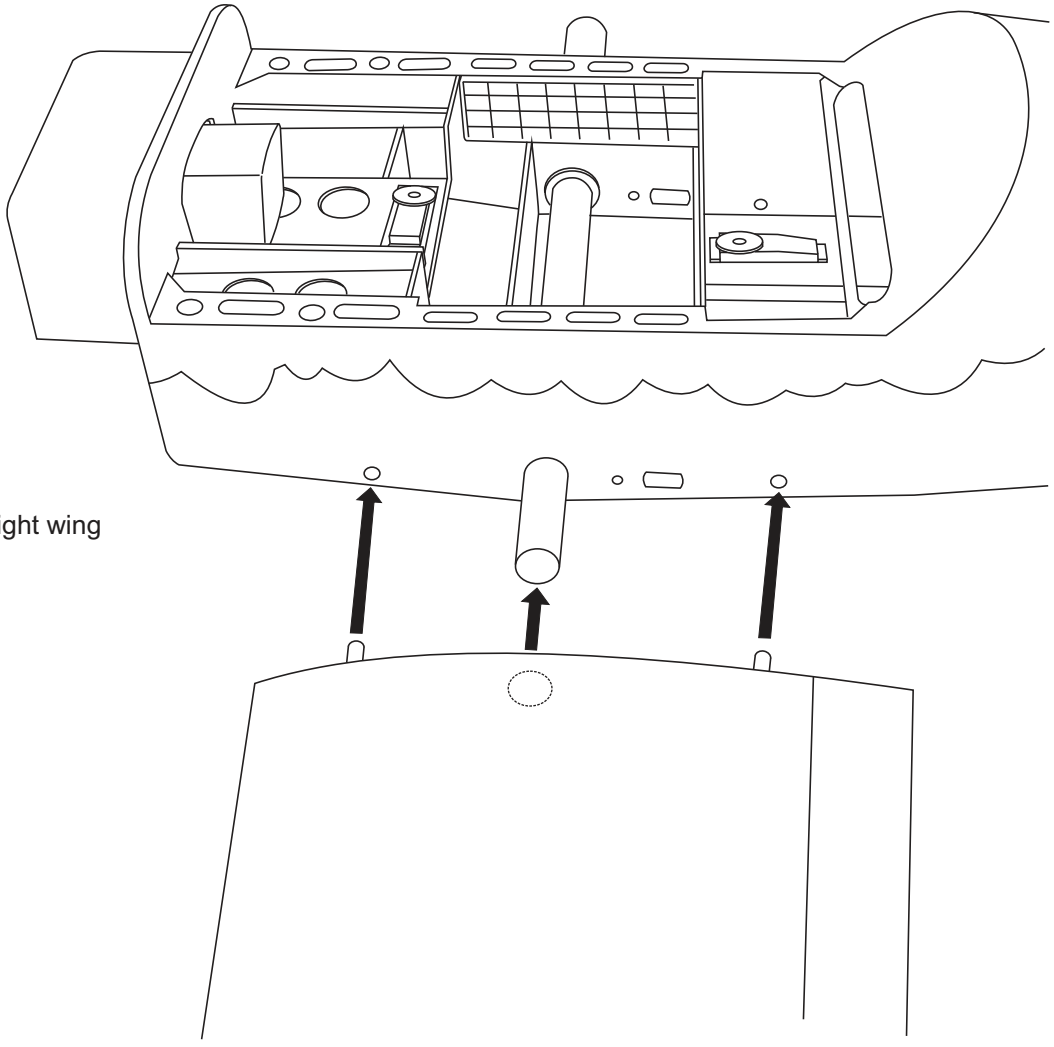
13- Joining the wing
Flächenverbindung

TOP VIEW **Draufsicht**



14- Joining the wing
Flächenverbindung

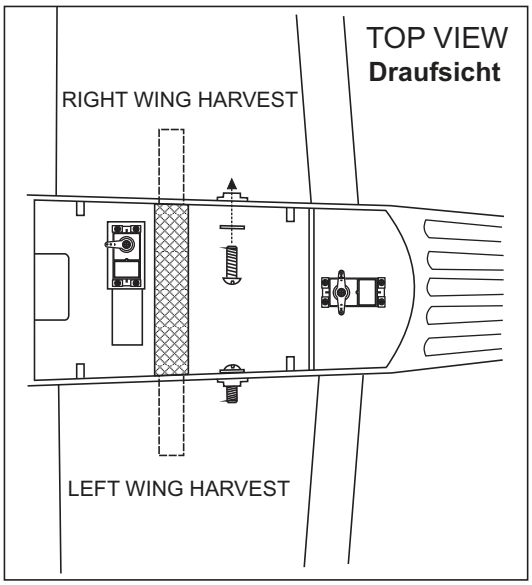
TOP VIEW **Draufsicht**

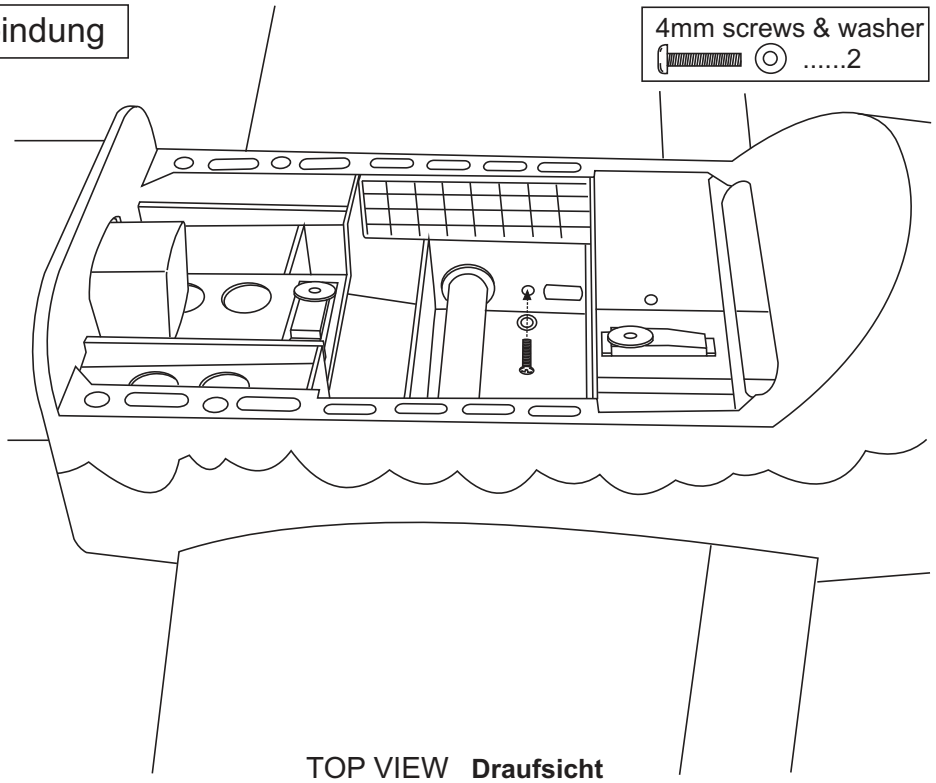


L/R Asemble the Left and Right wing the same way.

15- Joining the wing / Flächenverbindung

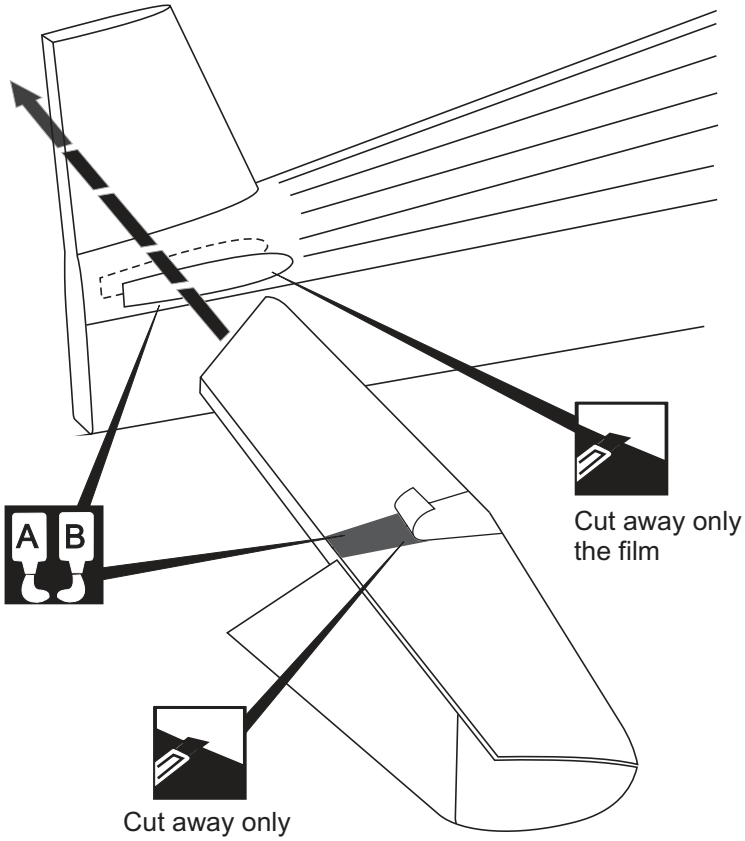
4mm screws & washer 2

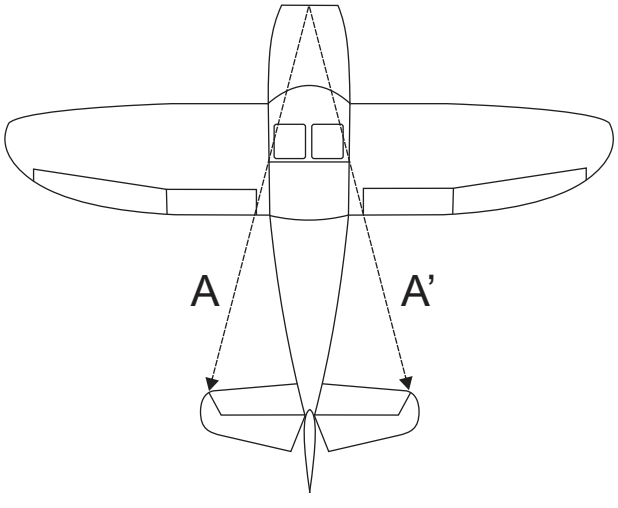




TOP VIEW **Draufsicht**

16- Horizontal Tail / Höhenleitwerk





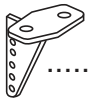
A = A'

B = B'

Warning: Securely glue together. If coming of during flights, you lose control of your plane which leads to accidents!

1- Trial fit the horizontal stabilizer in place
2- Using a pencil, trace around the vertical stabilizer where it meets the fuselage. (both sides).
3- Remove the horizon stabilizer from the fuselage.
4- Using a sharp hobby knife, cut away the covering inside the lines which were marked in step 2. Do NOT cut into the wood as this will affect the structural integrity of the stabilizer
5- Using a mixing stick, spread the epoxy on the horizontal stabilizer and fuselage where it meets the horizontal stabilizer.
6- Insert the horizontal stabilizer into the fuselage and secure it in place using masking tape and allow the epoxy to cure completely. Using rubbing alcohol and paper towel, clean the excess epoxy.

17- Horizontal Tail
Höhenleitwerk

Plastic control horn

.....2

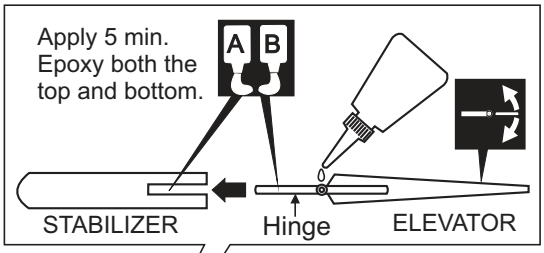
Plastic back plate

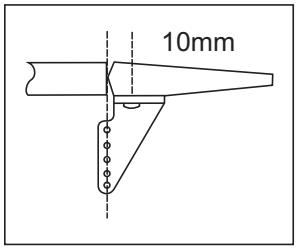
.....2

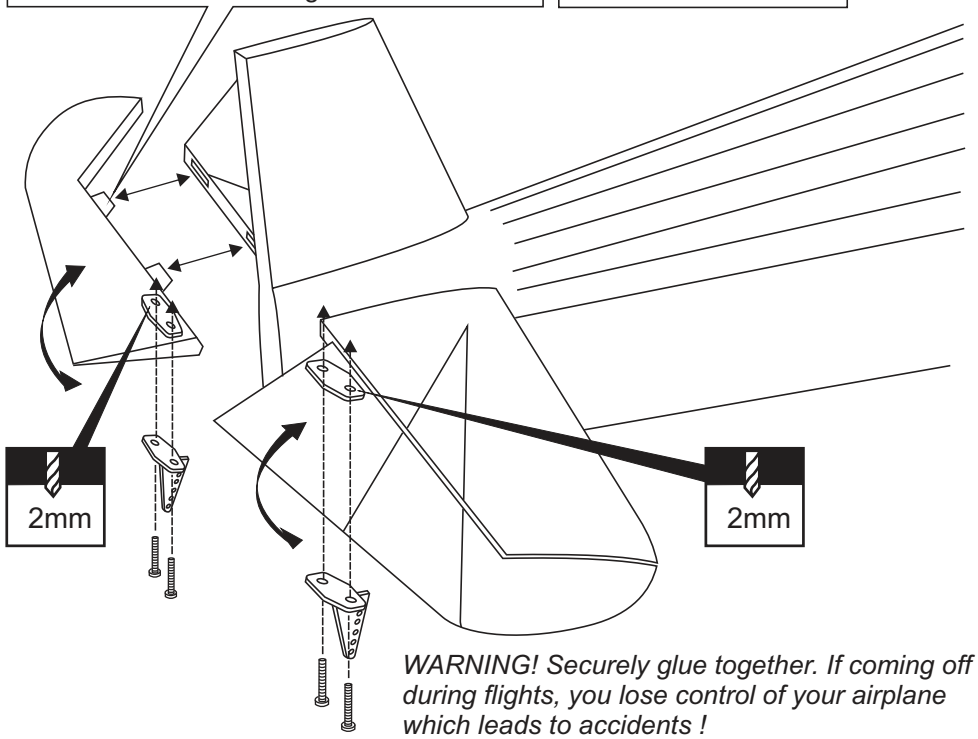
2x20mm screw

.....4

When you are satisfied with the alignment of the control horn mark the mounting hole positions with a felt tipped pen or a pencil.
Remove the control horn and drill two 2mm (5/64”) holes through the elevator
Insert the elevator push rod into the elevator control horn. Attach the elevator control horn using two 2x20mm screw and a back plate.



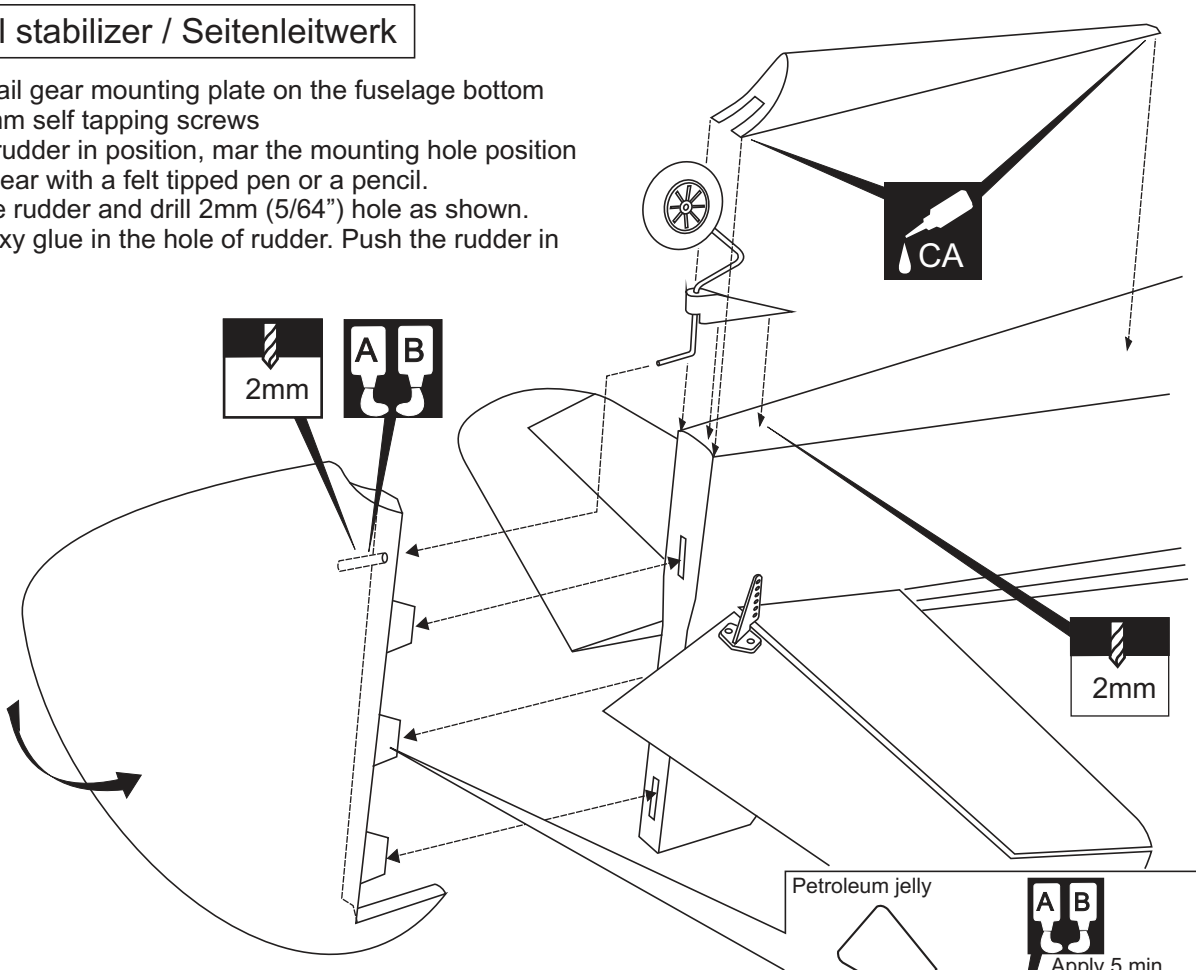


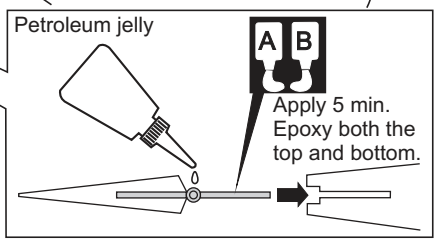


WARNING! Securely glue together. If coming off during flights, you lose control of your airplane which leads to accidents !

18- Vertical stabilizer / Seitenleitwerk

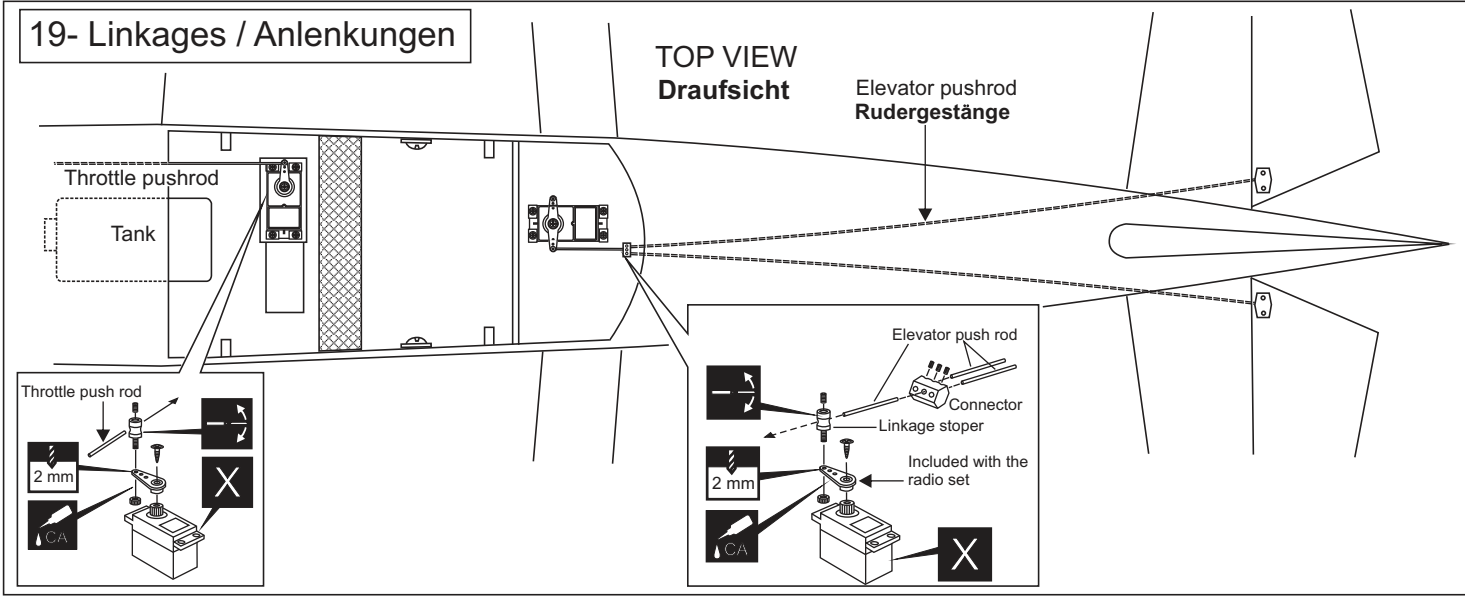
1- Attach the tail gear mounting plate on the fuselage bottom with 3x10mm self tapping screws
2- Trial fit the rudder in position, mar the mounting hole position for the tail gear with a felt tipped pen or a pencil.
3- Remove the rudder and drill 2mm (5/64”) hole as shown.
4- Put the epoxy glue in the hole of rudder. Push the rudder in place





WARNING! Securely glue together. If coming off during flights, you lose control of your airplane which leads to accidents !

19- Linkages / Anlenkungen



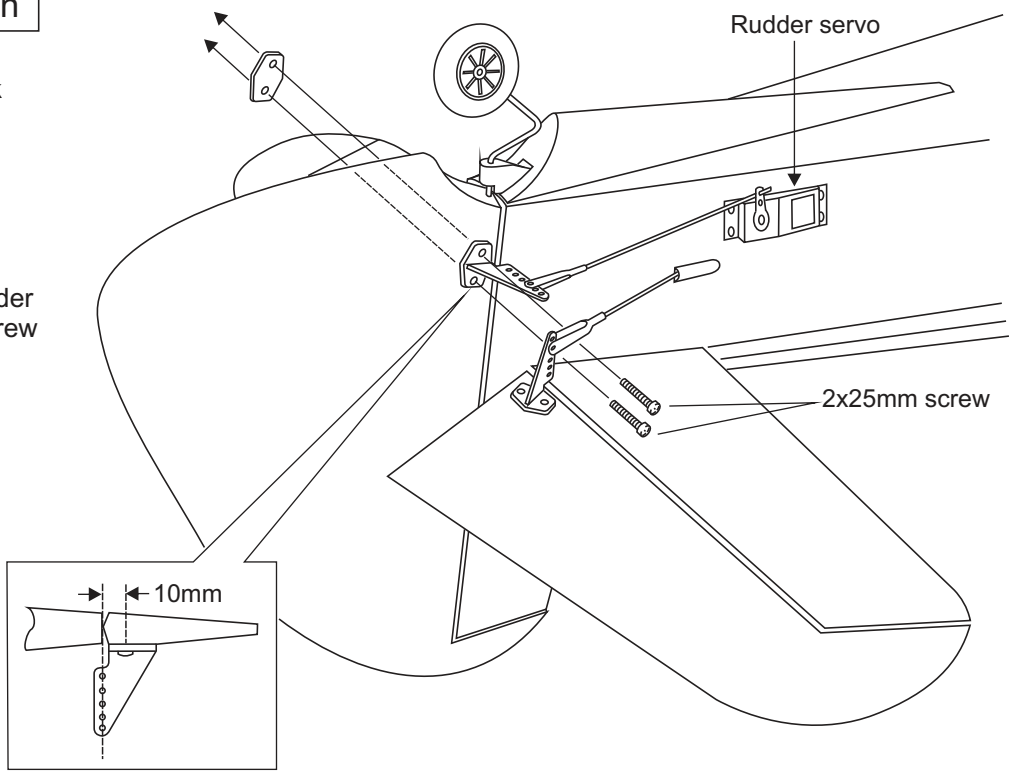
20- Linkages / Anlenkungen

When you are satisfied with the alignment of the control horn, mark the mounting hole positions with a felt tipped pen or a pencil.
Remove the control horn and drill two 2mm (5/64") holes through the rudder
Insert the rudder push rod into the rudder control horn. Attach the rudder control horn using two 2x25mm screw and a back plate.

Plastic control horn
.....1

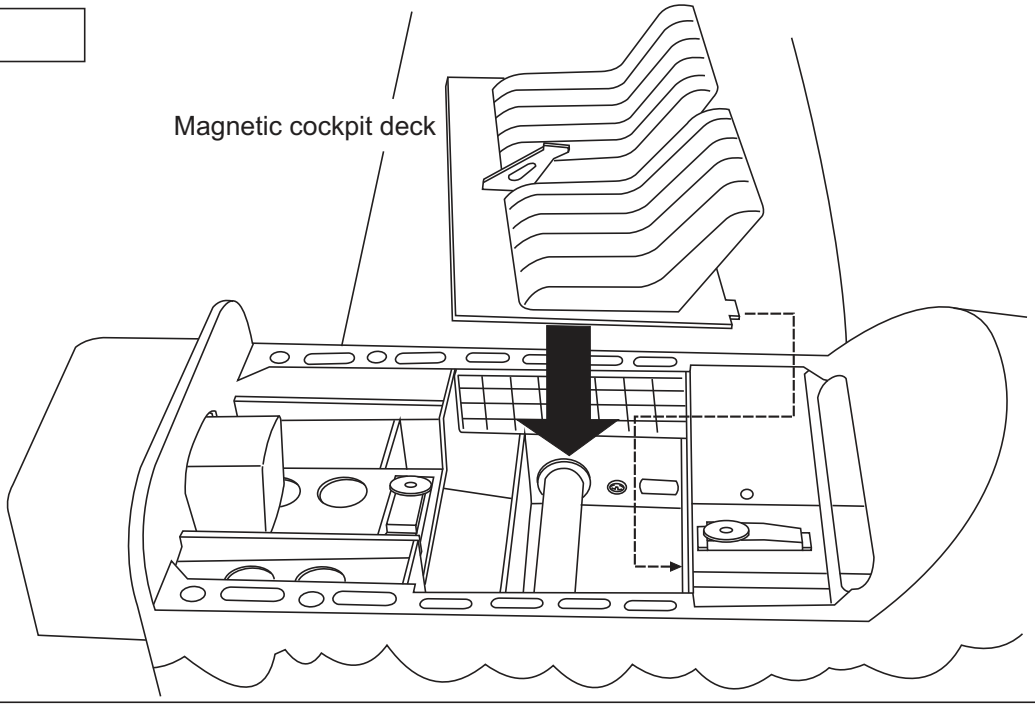
Plastic back plate
.....1

2x25mm screw
.....2



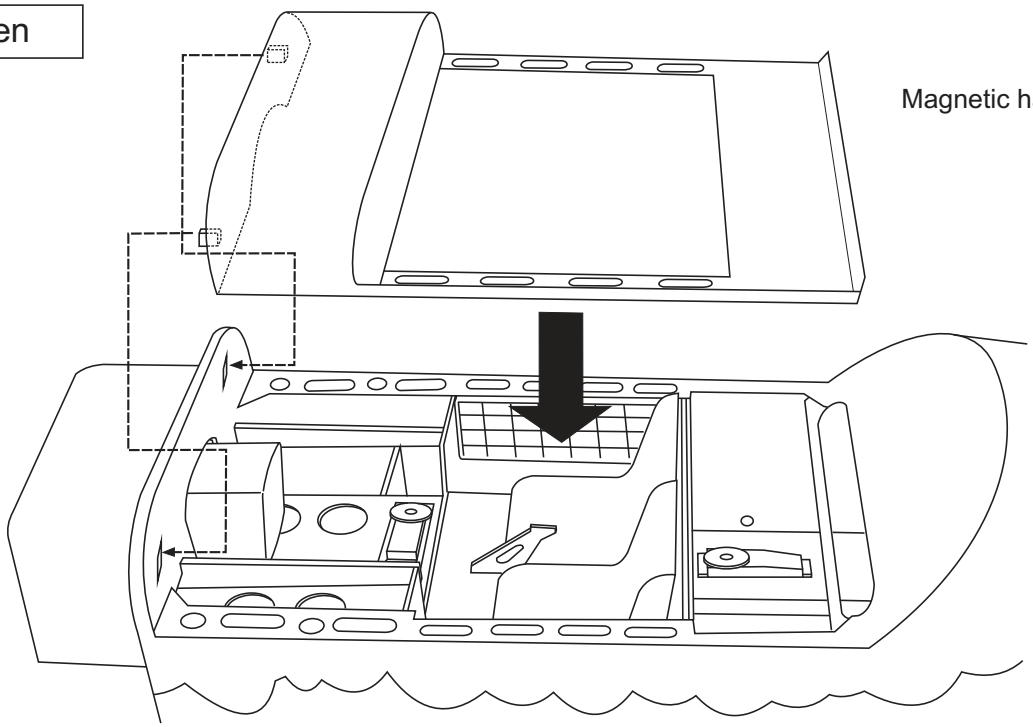
21- Cockpit

TOP VIEW
Draufsicht



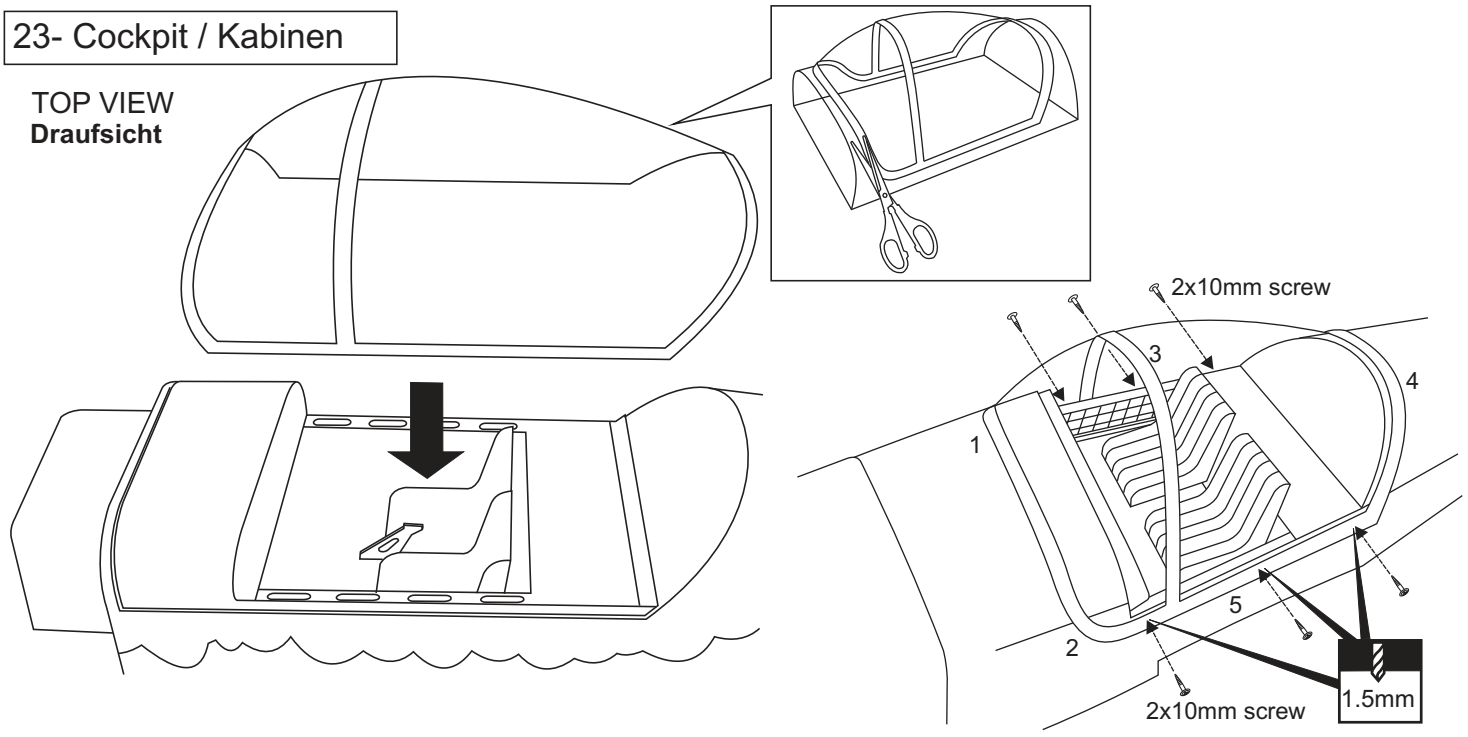
22- Cockpit / Kabinen

TOP VIEW
Draufsicht

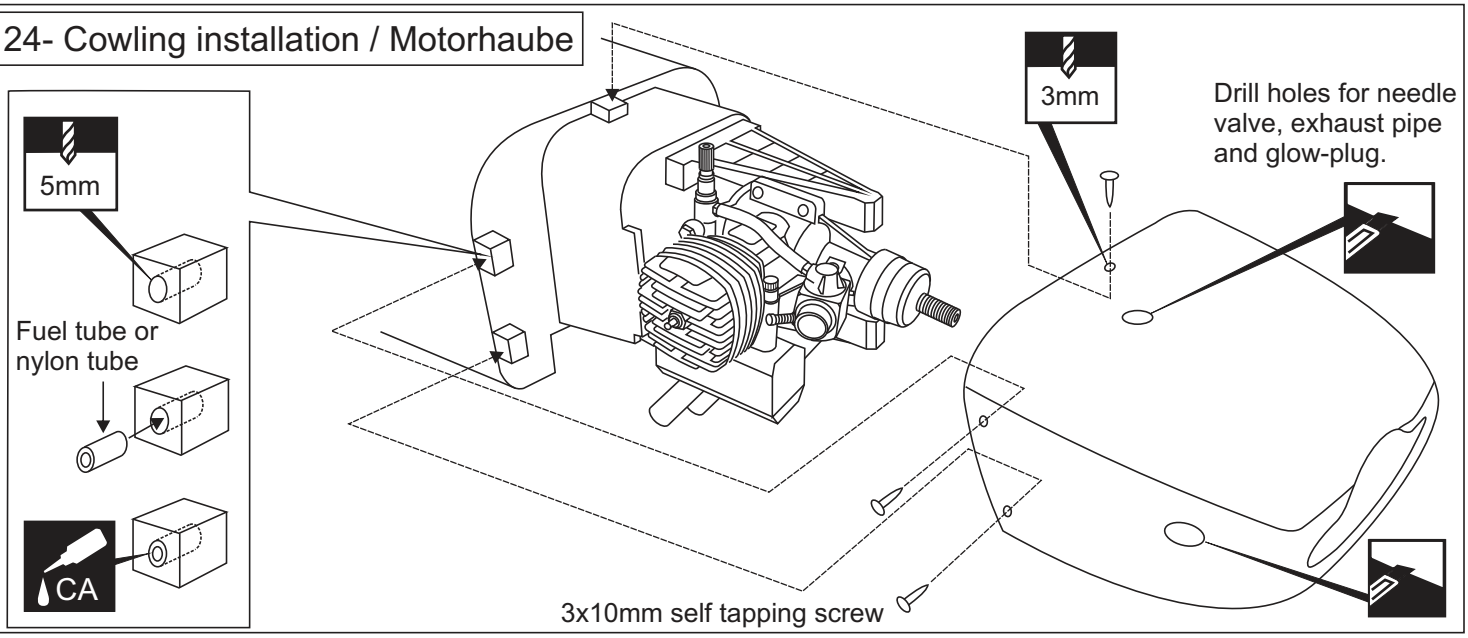


23- Cockpit / Kabinen

TOP VIEW
Draufsicht



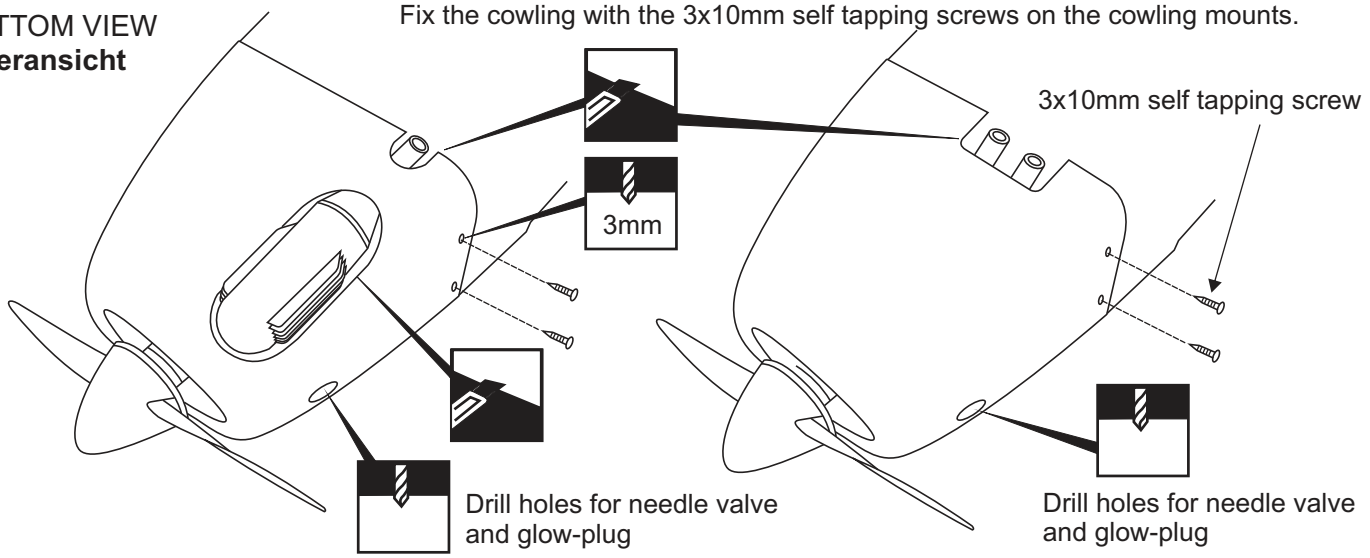
24- Cowling installation / Motorhaube



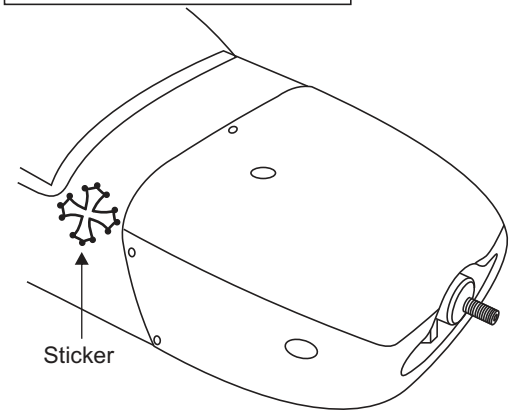
25- Cowling installation / Motorhaube

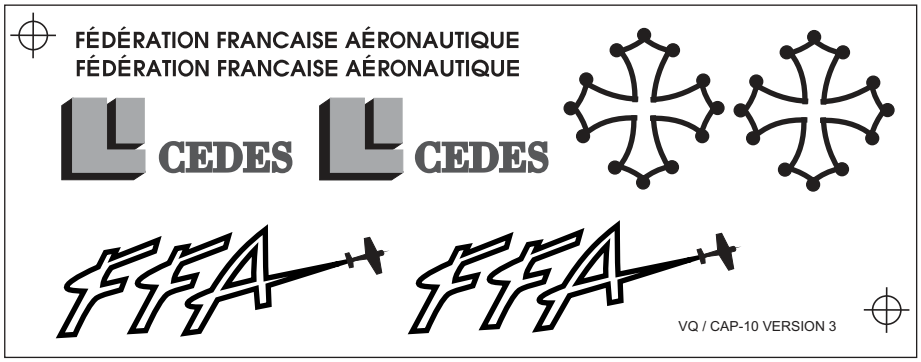
Trim the cowl with a knife or Dremel so that your engine and muffler don't touch
Fix the cowling with the 3x10mm self tapping screws on the cowling mounts.

BOTTOM VIEW
Unteransicht



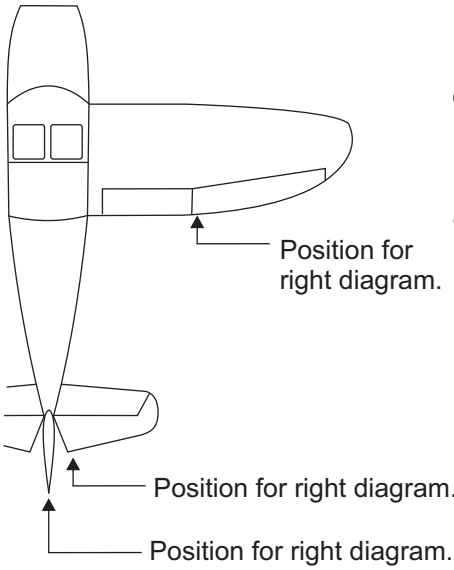
26- Decor / Aufkleber

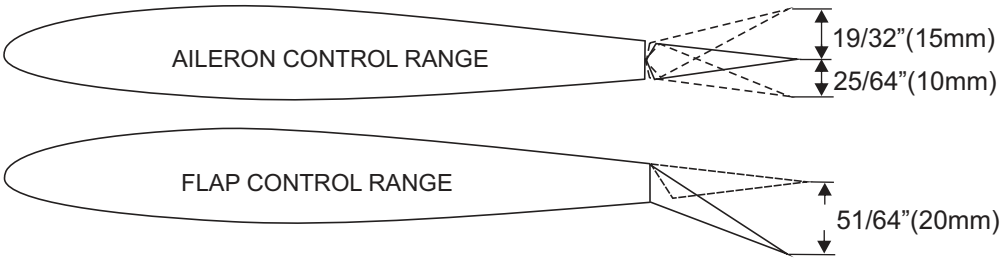




27- Balance and control range
Schwerpunkt - Ruderausschläge

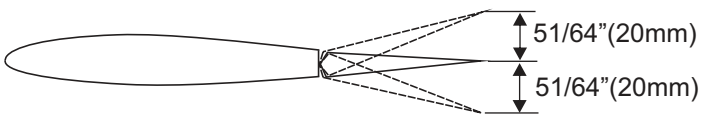
Adjust the travel of each control surface to the values in the diagrams these values fit general flight capabilites. Readjust according to your needs and flight level.



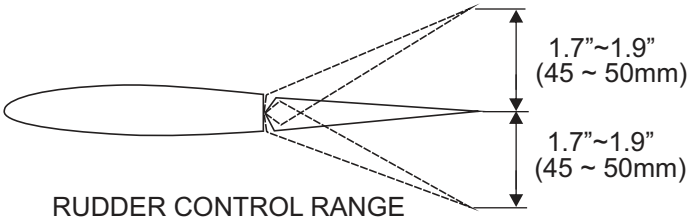




NEVER FLY BEFORE CHECKING THE CG'S REQUIRED POSITION.



ELEVATOR CONTROL RANGE



RUDDER CONTROL RANGE