

WARNING

WARNING: Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not use with incompatible components or alter this product in any way outside of the instructions provided by Gustav Staufenbiel GmbH. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.


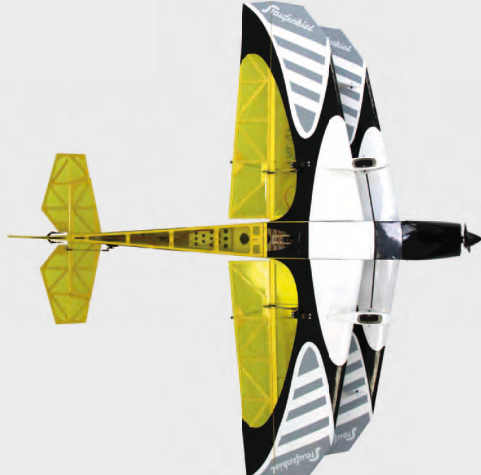


SAFETY PRECAUTIONS AND WARNINGS

As the user of this product, you are solely responsible for operating in a manner that does not endanger yourself and others or result damage to the product or the property of others. This model is controlled by a radio signal subject to interference from many sources outside your control. This interference can cause momentary loss of control so it is advisable to always keep a safe distance in all directions around your model, as this margin will help avoid collisions or injury.

Age Recommendation: Not for children under 14 years. This is not a toy.

- Always keep a safe distance in all directions around your model to avoid collisions or injury. This model is controlled by a radio signal subject to interference from many sources outside your control. Interference can cause momentary loss of control.
- Always keep aircraft in sight and under control.
- Always operate your model in an open area away from cars, traffic or people.
- Avoid operating your model in the street where injury or damage can occur.
- Never operate the model in the street or in populated areas for any reason.
- Avoid operating your model in the street where injury or damage can occur.
- Never operate your model with low transmitter batteries.
- Always use fully charged batteries.
- Always remove batteries after use.
- Always let parts cool after use before touching.
- Carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.) you use.
- Keep all chemicals, small parts and anything electrical out of the reach of children.
- Moisture causes damage electronics. Avoid water exposure to all equipment not specially designed and protected for this purpose.
- Never lick or place any portion of your model in your mouth as it could cause serious injury or even death.

SPECIFICATIONS

	
1200 mm (47 in)	1315 mm (52 in)
 dm	
64,0 dm ² (992.0 in ²)	1600 - 2000 g (56 - 70 oz)

ACCESSORIES

PNP-VERSION

Built-in:



GTX-3546 (760KV)



(4x) DS 3510 MG

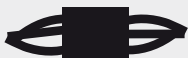


14x7"

Needed:



45 mm Spinner



Smart 60A BEC



LiPo 3200mAh 4S



LiPo Charger



min. 5-Channel

ARF-VERSION

Needed:



GTX-3546 (760KV)



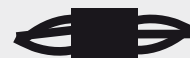
(4x) DS 3510 MG



APC E 13x6,5" - 14x7"



45 mm Spinner



Smart 60A BEC



LiPo 3200mAh 4S



LiPo Charger



min. 5-Channel

PREFACE

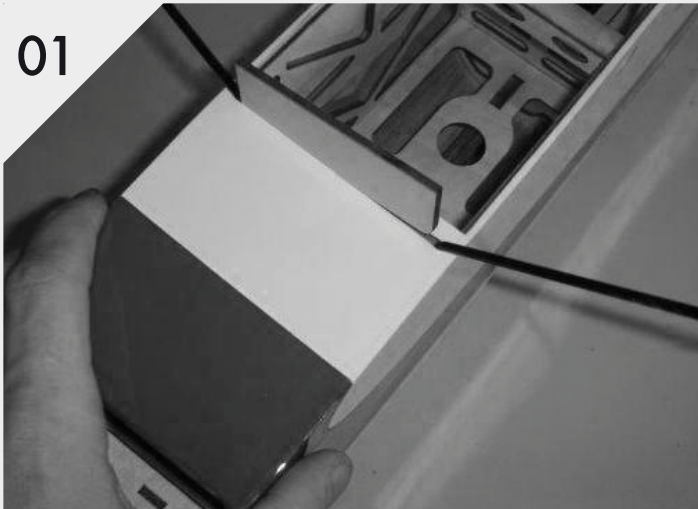
The Outlaw is an pure Aerobtatic and 3D Biplane in a high quality Plywood and Balsa construction. The Outlaw is available in PNP and ARF Version. Some steps in this manual are done in the PNP Version and only needs to be finsihed in ARF Version. Tese steps are marked with -ONLY-ARF-Version.

Please note that some of the steps and ways to build are on the decision of the modeller and should be seen as proposal.

Please read this manual carefully before start assembling the modell.

THE FUSELAGE

01

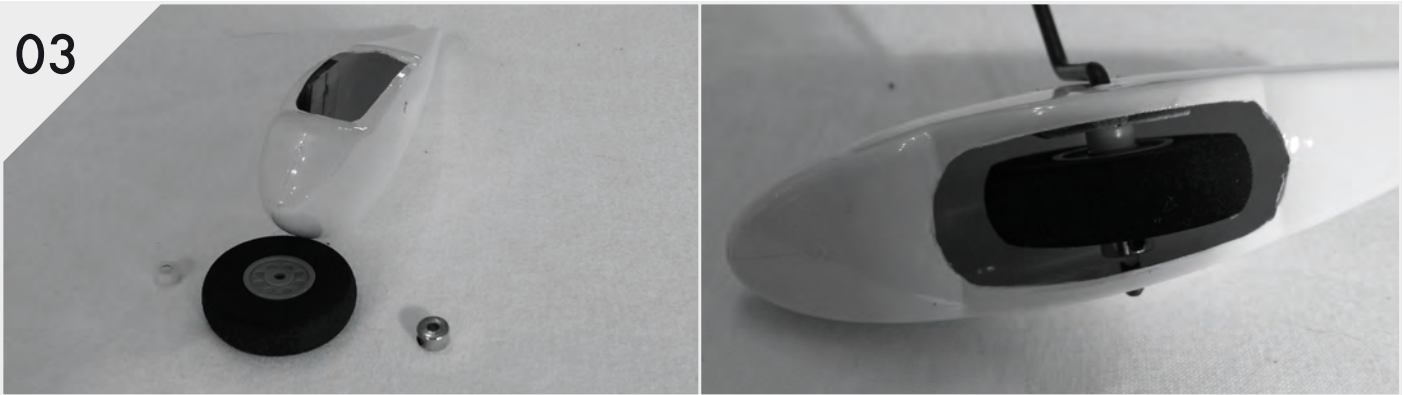


Glue the rod of the main gear in the fuselage. Close the gap with the plywood parts to fix the rod.

02



03



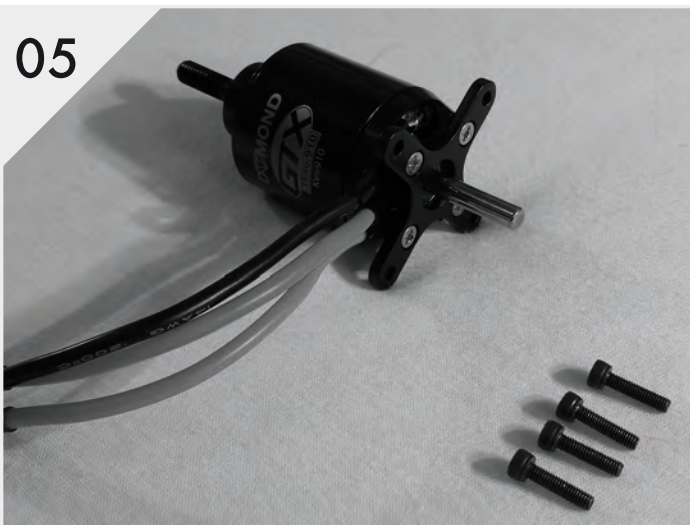
Install the wheels and the wheel shoes as shown on the pictures.

04



Install the wheelshoes with the bracket on the main gear rod.

05

**ARF VERSION ONLY:**

Install the backmount motor mount on the Dymond GTX3546 and use Loctite to fasten the screws.

06

**ARF VERSION ONLY:**

Install the motor in the fuselage with the cables down. Use Loctite to fasten the screws.

07



Connect the Dymond Smart 60 Esc to the motor. Check the direction and switch in case of wrong direction two of three motor cables.
Secure the ESC and cable with velcro and fastener.

08



Install the cowling.

09



Install the spinner and propeller. We recommend to balance the propeller to reduce vibrations.

10



Glue the cabane of the upper wing with 5 minute epoxy in the fuselage.

11



Slide the elevator from the back in the fuselage and align them correct. Mark the glued areas with a felt tipped pen and remove the cover. Align the elevator exactly and glue it with thin CA. We recommend using an applicator for the CA.

12



Slide the elevator from the back in the fuselage and align it correct. Mark the glued areas with a felt tipped pen and remove on the inner side of the marking the cover. Align the elevator exactly and glue it with thin CA. We recommend using an applicator for the CA.

13



Sand the rudderhorn slightly and glue them as shown on the picture with 5 min epoxy.

Insert the tailskid into the fuselage and bolt it.



14



ARF VERSION ONLY:

Extend the elevator servocable with a 50cm extension. Use a commercial fastener or tape to secure the connector.

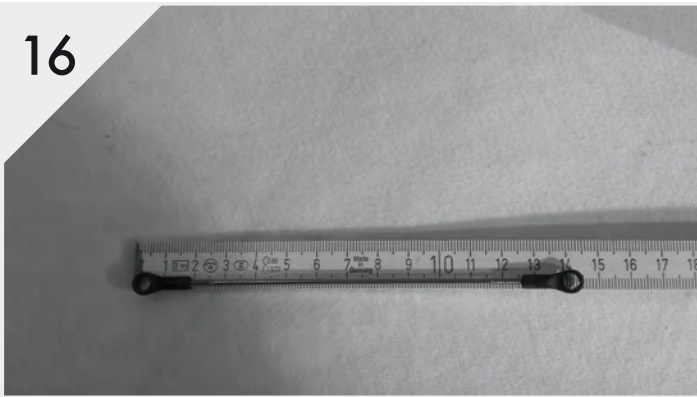
15



ARF VERSION ONLY:

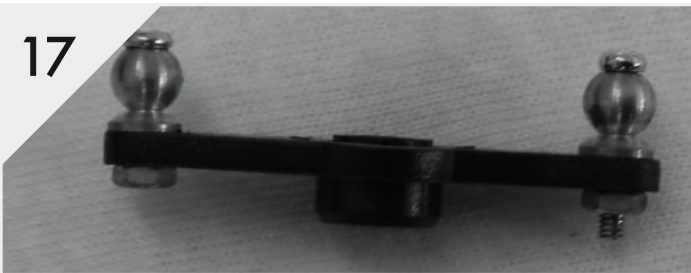
Route the cable through the fuselage and install the elevator servo. Set the servo with the transmitter to neutral and install the servohorn. Use Loctite.

16



Assembly the elevator linkage. Adjust the length for the first step to 145mm. The fine adjustment should be done with neutral servohorn and neutral rudder.

17



Install the rod end to the servo horn of the rudderservo. Use Loctite.

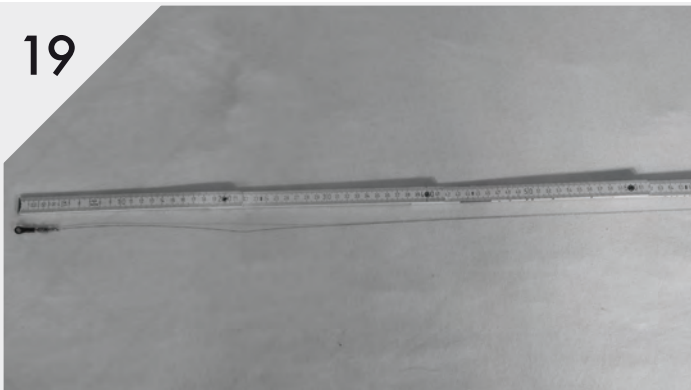
18



ARF VERSION ONLY:

Set the servo with the transmitter to neutral and install the servohorn. Use Loctite. Install the rudderservo in the fuselage.

19



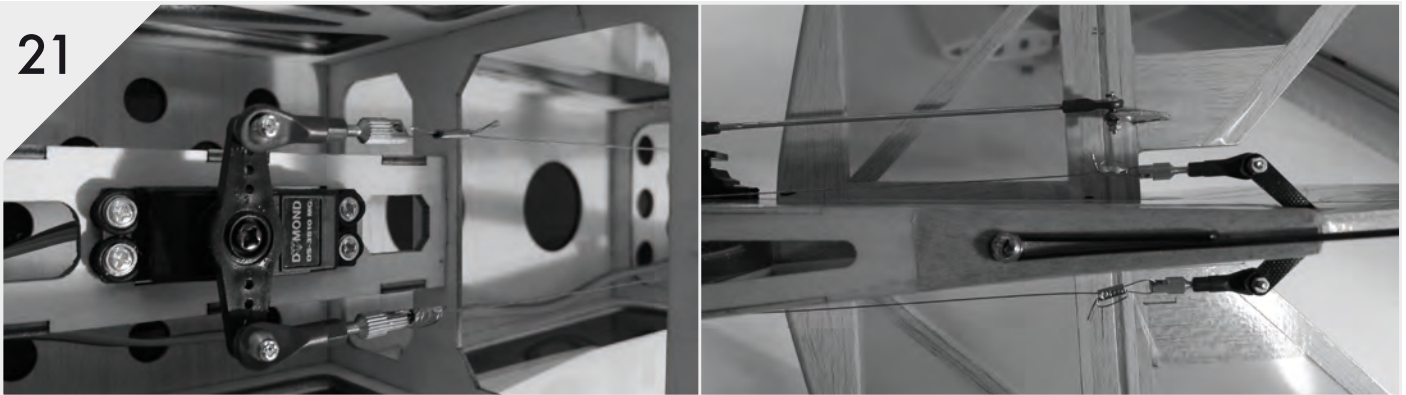
Assembly the cable for the pull /pull installation to 730mm. Please note that before you cut the cable the eyelit should be only half way inserted in the ball link to adjust the tension.

20



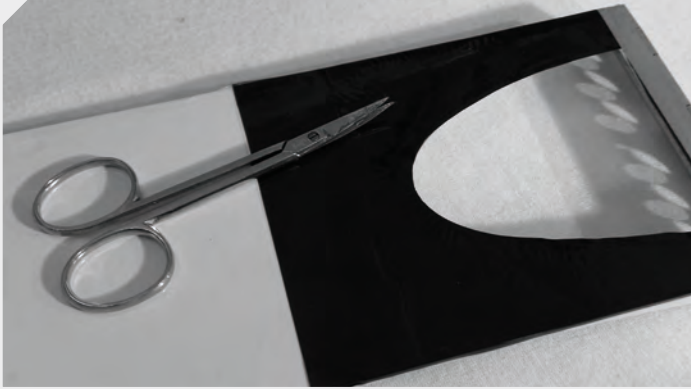
Route the assembled cable from the back into the fuselage.

21



Install the cable. Please take care that the cables are not twisted in the fuselage. Turn the eyelits to light tension. Please loosen after adjusting the connection to derotate the cable.

22



Remove the covering at the battery hatch to create an air exhaust.

23

**RECEIVER**

Use velcro to fasten the receiver in front of the rudder servo.
Fix the battery with velcro und safe it with an additional velcro loop.

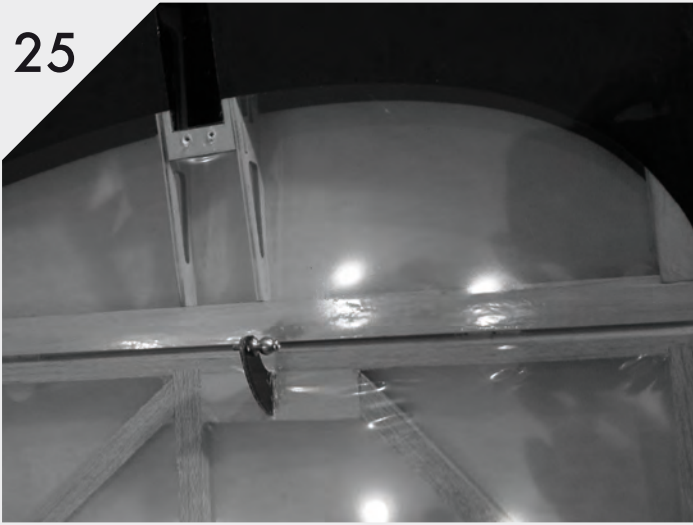
24



Open and close of the battery hatch with the quick fastener.

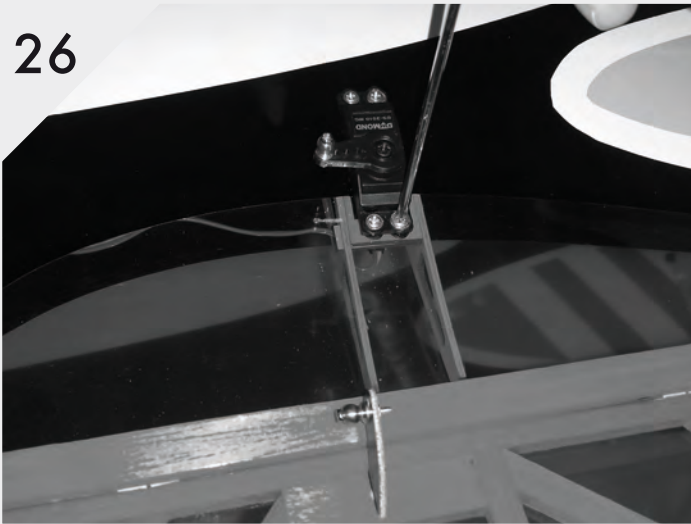
THE WINGS

25



Sand the rudderhorn and glue it with 5 min epoxy. Install the ball link and safe it with 5 min epoxy.

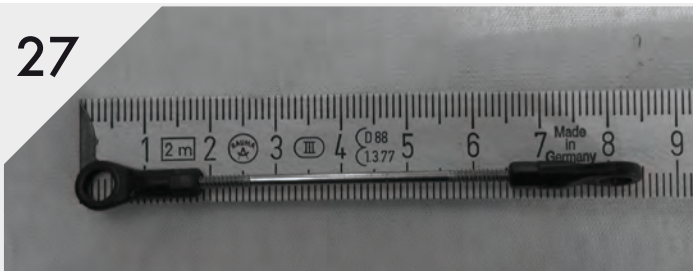
26



ARF VERSION ONLY:

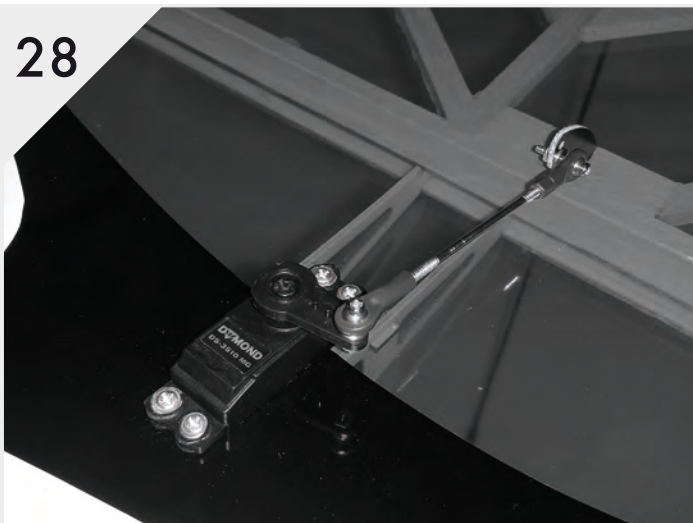
Route the aileron servo cable through the wing and install the servo. Use Loctite.

27



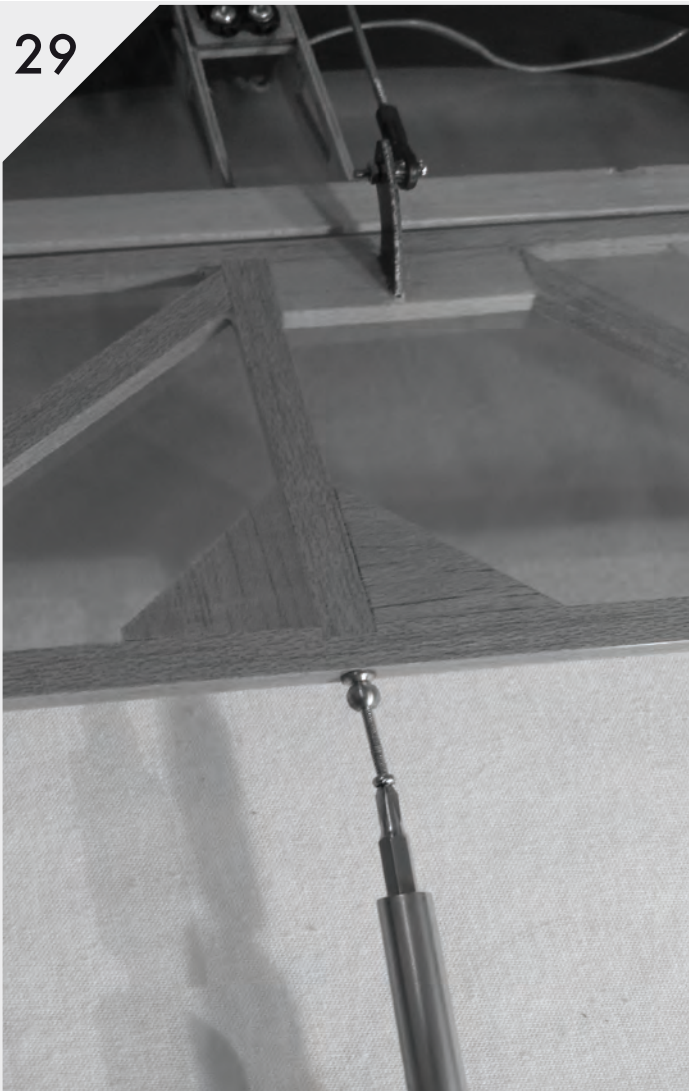
Assembly the elevator linkage. Adjust the length for the first step to 85mm. The fine adjustment should be done with neutral servo-horn and neutral rudder.

28



Install the linkage.

29



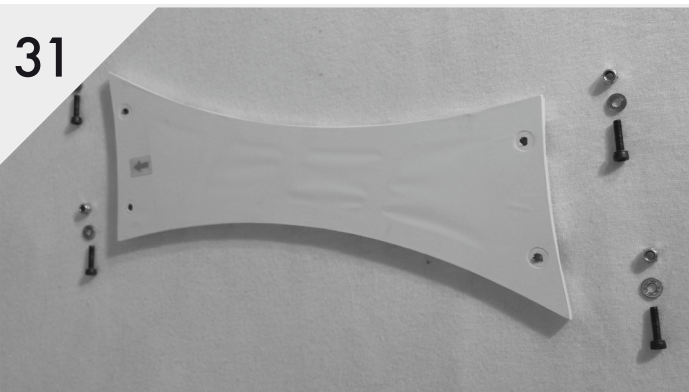
Install the pivot ball at the trailing edge for the aileron linkage. Use 5 Min epoxy

30



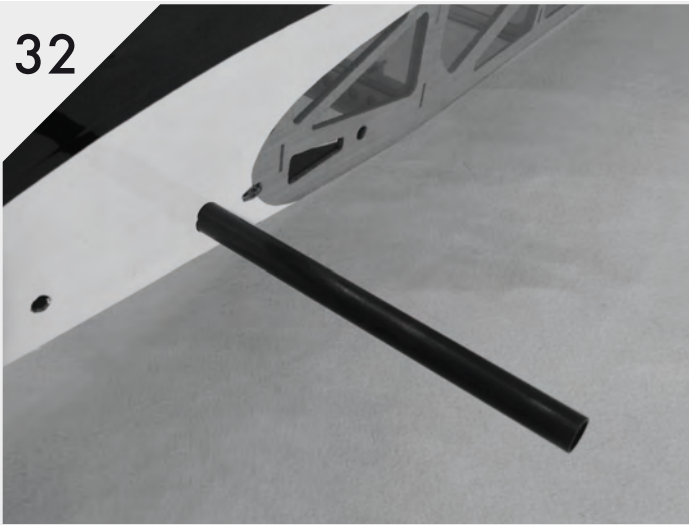
Assembly the elevator linkage. Adjust the length for the first step to 250mm. The fine adjustment should be done with neutral servo-horn and neutral rudder.

31



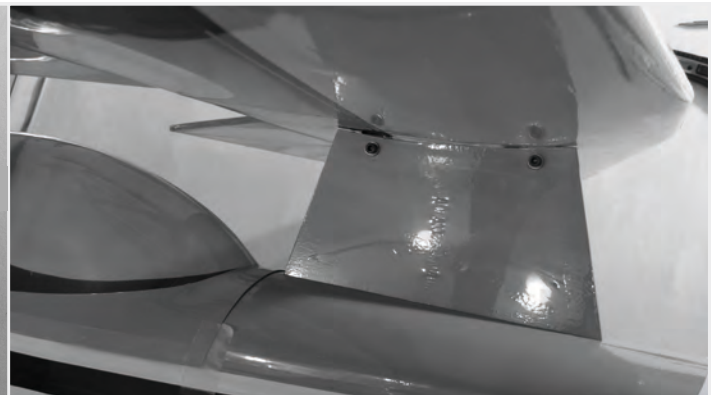
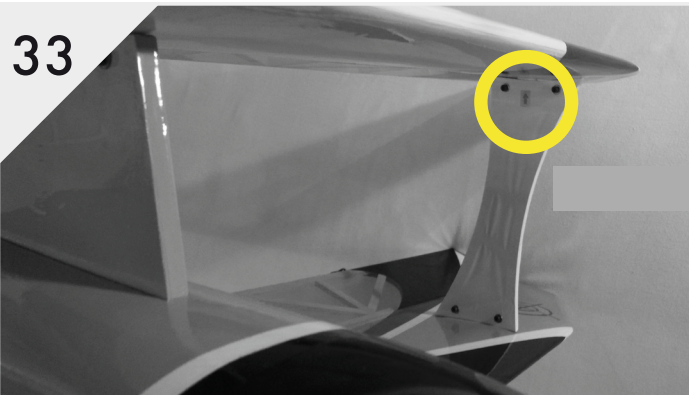
Prepare all parts for the wing assembly.
The long M3 screws are for the middle section the short one for the outer parts.

32



Insert the wing joiner into the fuselage and mount the lower wing.

33



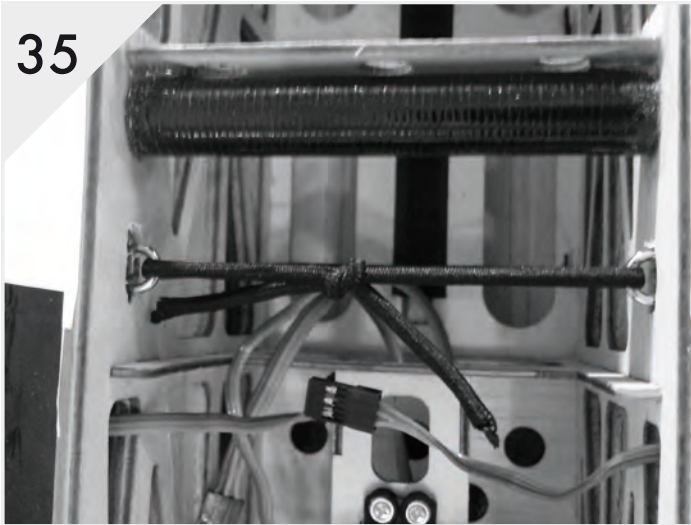
Install the upper wing and fasten it in following order.
(Screw-Shimring-Strut-Nut)
The arrow must show up.

34



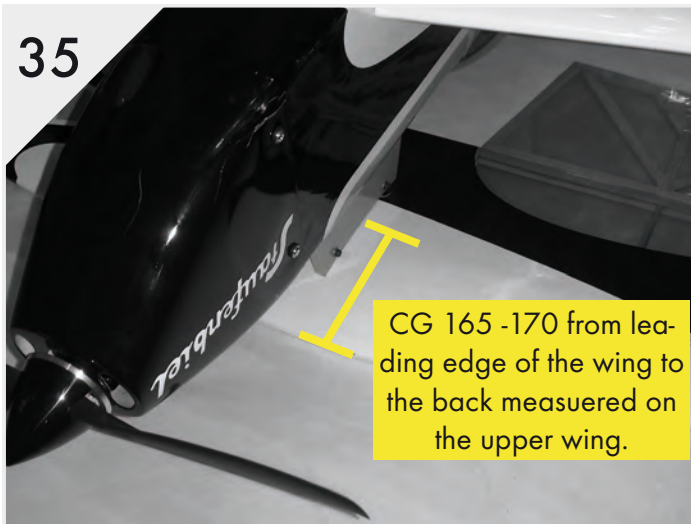
Install the rudder linkage and adjust it as in the steps described before.

35



Fasten the lower wings with the wing bolts or use a rubber as shown on the picture.

35



Check the Center of Gravity (CG) and move the battery if needed. The CG will be measured from leading edge to the back of the upper wing.

During our test flights we reached best flying performance with a CG of 170 mm.

CONTROL THROWS

The assembly of the model is now completed and you can start programming the transmitter. Please check once again the servo direction.

Use the rudder throw and CG Information below.

Please note that all rudder throws are measured at the widest points.

Aileron	▲ 55 mm / ▼ 45 mm
Elevator	▲ 75 mm / ▼ 75 mm
Rudder	◀ 90 mm / ▶ 90 mm
	40% - 60% Expo to all control surfaces

THE END

Now have some fun with the first flight of your new OUTLAW.

If you have done all setting as written here in the manual you will have a fantastic and precise flying model and fun for many hours.