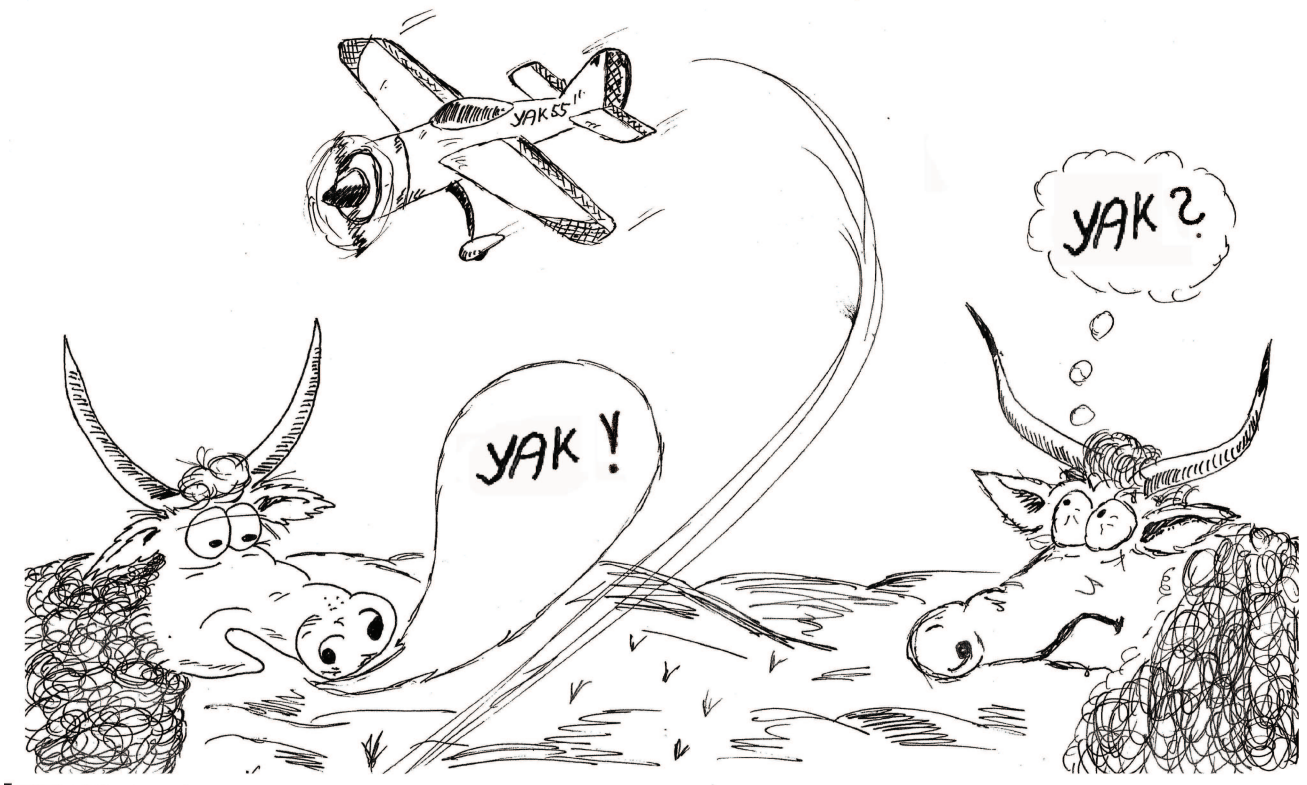




YAK-55M 2.2

Assembly instructions



Forget the rest - a YAK ist the best!

Gernot

Table of contents:

| | |
|--|----|
| 1.Specifications (metric units)..... | 2 |
| 1.Recommended Setups..... | 2 |
| 2.Required tools and adhesives:..... | 2 |
| 2.Warning..... | 3 |
| 3.Using the manual..... | 3 |
| 4.Warranty Information..... | 3 |
| 5.Before starting assembly..... | 3 |
| 1.Ailerons, wing fillet, servos and linkage..... | 4 |
| 2.Rudder installation..... | 6 |
| 3.Rear landing gear..... | 7 |
| 4.Rudder linkage..... | 8 |
| 5.Elevator..... | 9 |
| 6.Main landing gear installation..... | 10 |
| 7.Electric motor installation / example..... | 11 |
| 8.Gas Engine – Example Pics DA-50r..... | 13 |
| 9.Bauabschnitt: Cowling, canopy..... | 14 |
| 10.Control throws and CG..... | 14 |
| 11.Preflight..... | 15 |

Thank you for your purchase of the GB-Models YAK 55m 2.2 It was designed by Gernot Bruckmann and delivers maximum 3D performance. With reduced rates the YAK performs precision aerobatics remarkably well and allow you to improve your flying skills.

As any high performance aircraft, care must be taken to avoid excess speed.

Never attempt to make full throttle dives!

This professional ARF kit can truly be assembled in about 35 hours, but take a few minutes to read the instructions before beginning assembly.

1. Specifications (metric units)

Wingspan: 220 cm

Length: 204cm (w/o Spinner)

Weight: ~6500g, depending on setup and components

1. Recommended Setups

Radio: 6 channel with digital, metal gear Servos

Electric Setup:

10S LiPo ~5000 mAh:

Motor AXI 5345/12HD

ESC: Jeti Spin 125 Opto

Airscrew: 22x10“

12S LiPo ~4500 mAh:

Motor AXI 5345/14HD

ESC: Jeti Spin 125 Opto

Airscrew: 22x10“

Gas Engine:

Desert Aircraft DA-50

Airscrew: 22x10 / 23x8 CFK

2. Required tools and adhesives:

Tools

- Hobby knife
- Drill and drill bits
- Phillips screwdriver
- Sand paper
- Masking tape
- Soldering iron

Adhesives:

- 5-minute epoxy
- CA
- blue Loctite ®

2. **Warning**

This aircraft is not a toy! If misused, it can cause serious injuries and damage to property.

Fly only in official flying sites and follow all instructions included with your equipment.

3. **Using the manual**

This manual is divided into sections to help make assembly easier to understand and to provide breaks between each major section.

4. **Warranty Information**

We guarantee this kit to be free from defects in both material and workmanship at the day of purchase.

This warranty does not cover any parts damage by use or modification, and in no case shall our liability exceeds the original cost of the purchased kit.

Further, we reserve the right of change or modify this warranty without notice.

As we have no control over the final assembly or material used for the final assembly, no liability shall be assumed or accepted for any damage of the final user-assembled product. By the act of using the product, the user accepts all resulting liability.

If the buyer is not prepared to accept the liability associated with the use of this product, the buyer is advised to return this kit immediately in new and unused condition to the place of purchase.

5. **Before starting assembly**

Before starting assembly of your YAK, closely inspect the parts for damage. If you can find any damage please contact the place of purchase.

Wrinkles in the covering can be easily removed, use a covering iron or a heat gun to remove.

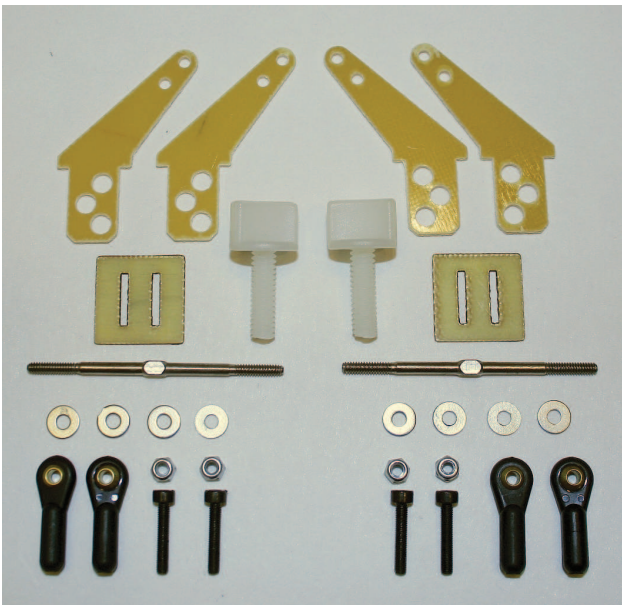


Happy Landings!

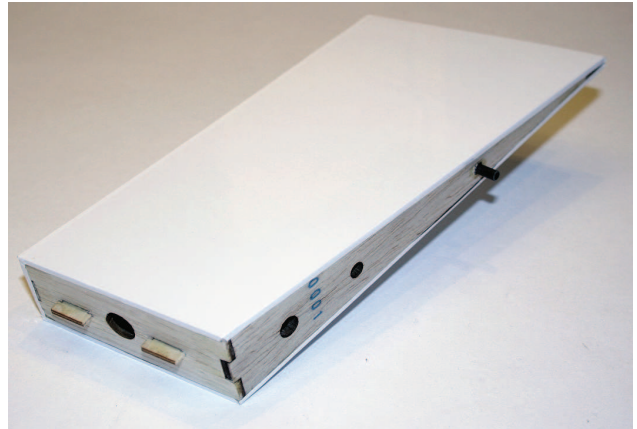
1. Ailerons, wing fillet, servos and linkage

Locate following items:

- 5x hinge
- 2x aileron control horn
- 2x ball link M 3
- 4x allen screw M3x18
- 2x stop nut M3
- 4x washer M3
- 1x linkage M3 x 60mm
- 2x Nylon screw



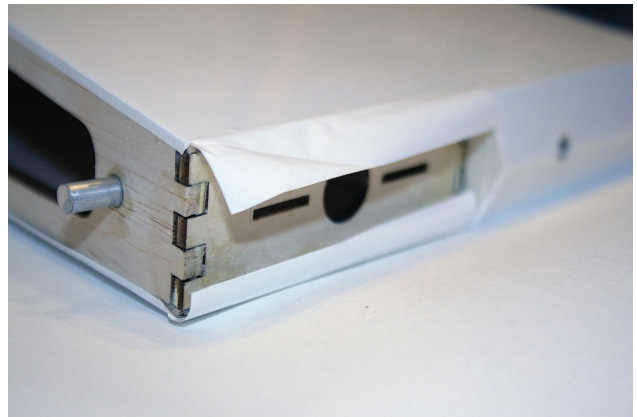
Picture 1: Aileron / linkage



Picture 2: wing fillet

Note: Each wing fillet must be attached on his correct wing panel! Before to glue, be sure that the alignment of the wing, with the located wing fillet, respect the center line of the airfoil and respect the fuselage line.

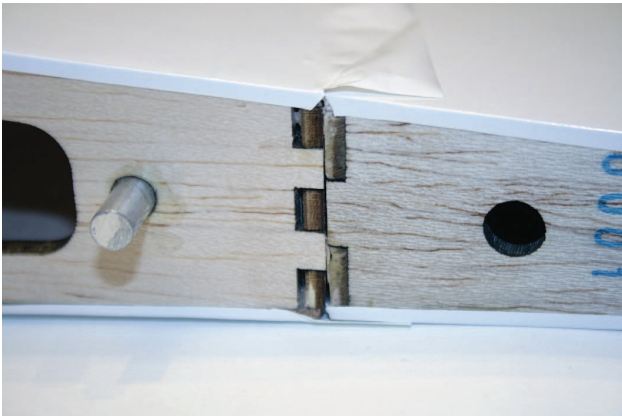
If necessary sand the wing fillet until it fits perfectly.



Picture 3: Wing fillet / detail

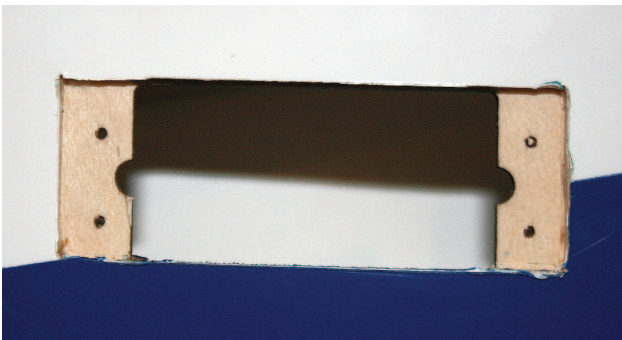
Glue the wing fillet to the wing using 5 minutes epoxy or medium CA.

Use a covering iron at medium temperature and glue the overlaps.

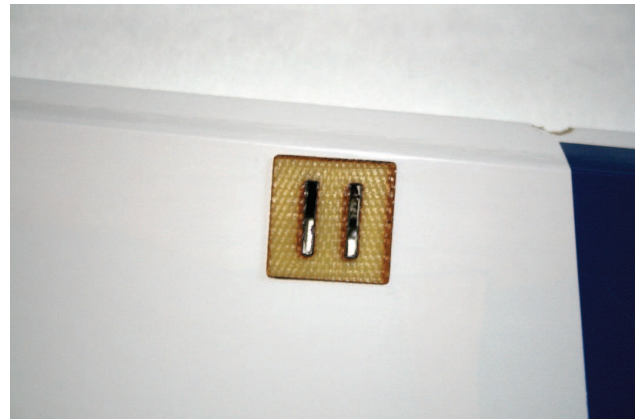


Picture 4: Covering / overlap

Use a hobby blade to remove the covering over the mounting hole for the aileron control horns if necessary.

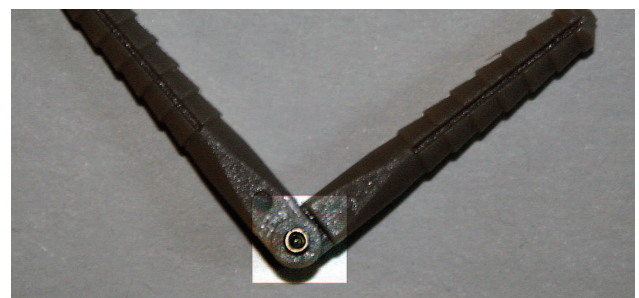


Picture 5: Aileron / Mounting holes



Picture 6: Aileron / Detail

Prepare the hinges for the application. Apply one drop of synthetic oil in their center of movement.



Picture 7: Hinge / Oil

Use 5 minutes epoxy to glue the hinges. Glue them in the aileron before and check the correct sense of work for every hinge.

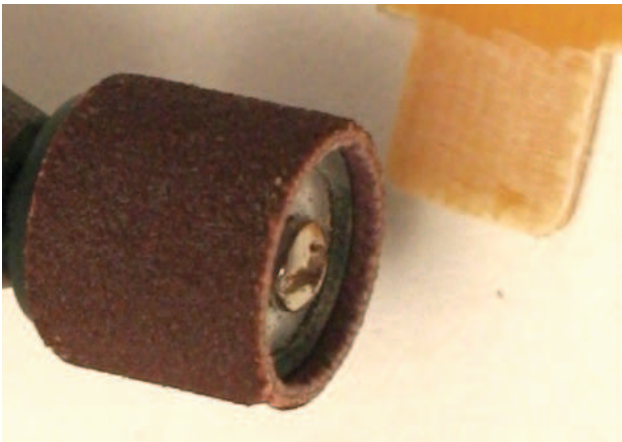
Check alignment/movement and glue the hinges into the wing panel. Mask the zone of the hinges, if necessary clean the zone with paper towels and rubbing alcohol.

Electronically center your servo, install the aileron servo using the manufacturer supplied mounting screws, gommets and eyelets and

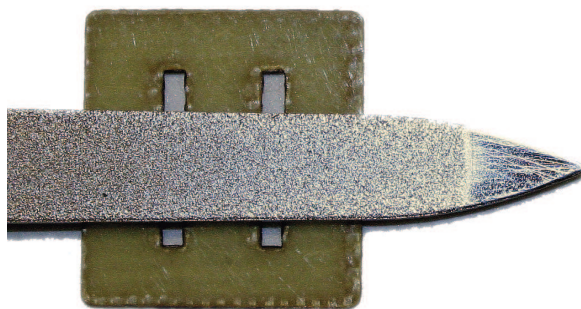
route the servo lead out of the wing.

If necessary attach ~300mm servo extension leads and servo lever extensions.

Grind the part of the control horns that will glue into the aileron slot and glue the control horns in place with epoxy.



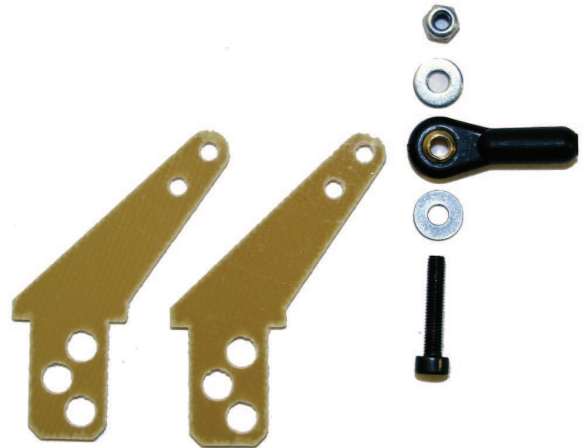
Picture 8: Icon image



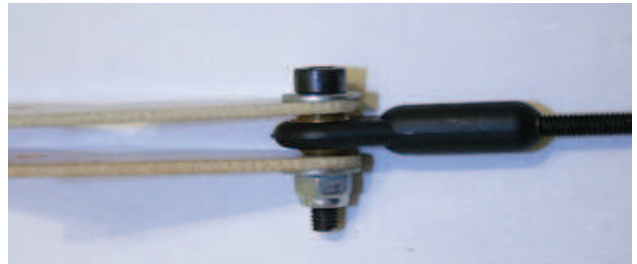
Picture 9: Icon image

Thread the ball links onto the pushrod and secure it to the composite levers with screws/nuts/washers.

Install and adjust the linkage so the aileron is centered .



Picture 10: Aileron control horn



Picture 11: Aileron control horn



Picture 12: Detail Querruderanlenkung

2. Rudder installation

Locate following items:

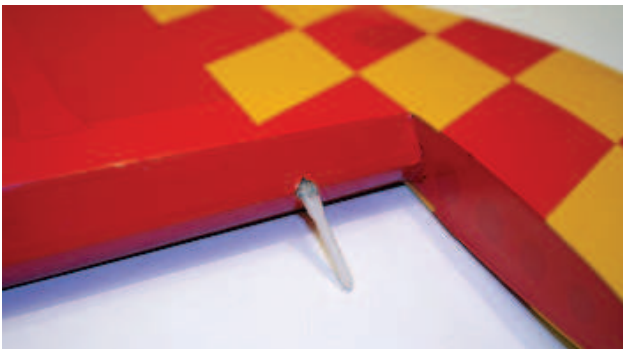
- 4x hinge

Verify the correct position and alignment of the rudder with the vertical stabilizer.

As described in the aileron section, grind the part of the control horns that will glue into the rudder slot. Glue the control horns in place with medium CA or Epoxy – observe symmetry and turning point.

Glue the hinges into the vertical stabilizer – work the rudder left and right and check for proper movement.

Avoid adhesives on the covering.



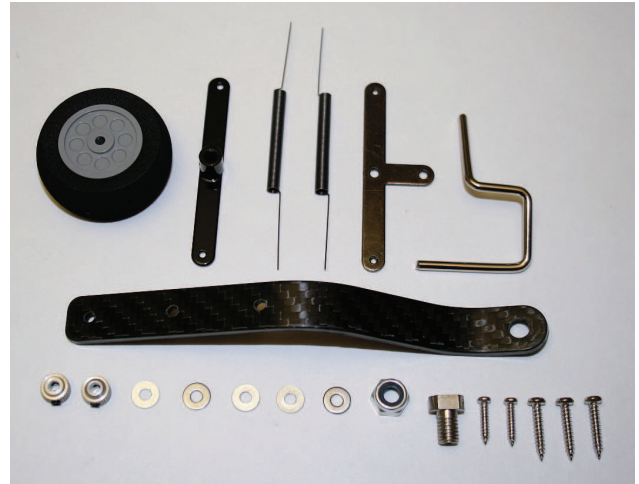
Picture 13: Rudder / Hinge

3. Rear landing gear

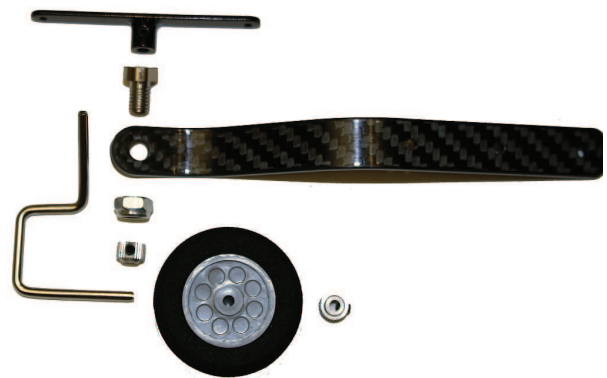
Please note and follow the enclosed instructions in the packaging of the tail landing gear!

The following pictures are only to be seen as

example and may differ in details.



Picture 14: Rear landing gear / parts



Picture 15: Rear landing gear / overview



Picture 16: Detail 1



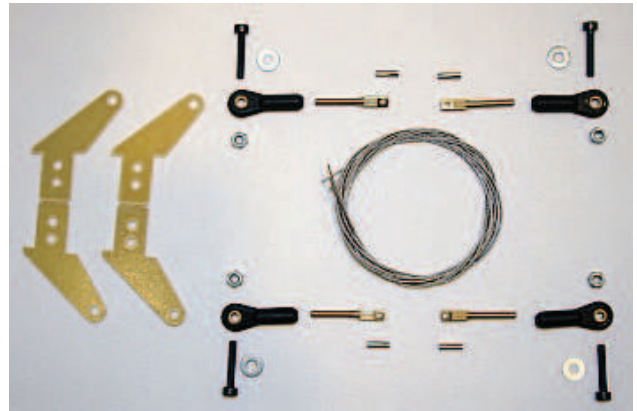
Picture 17: Detail 2

4. Rudder linkage

Locate following items:

- 4x control horn GFK
- 4x ball head M3
- 4x eye screw M3

- 8x washer 3/8mm
- 2x wire 0.6mm
- 4x clamping sleeve
- 4x allen screw M3 x 18mm
- 4x stop nut M3
- Servo lever extension (96-98mm) – not included



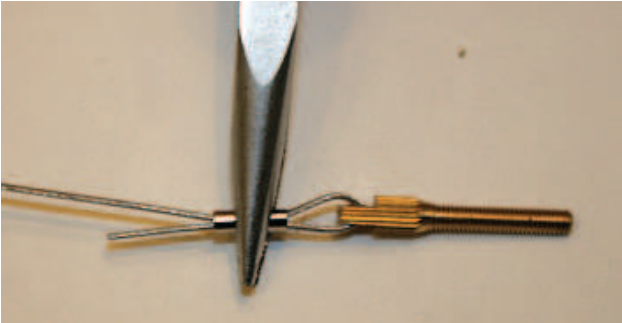
Picture 18: Rudder linkage

Electronically center your servo, install the rudder servo using the manufacturer supplied mounting screws, gommets and eyelets and route the servo lead.

Grind the part of the control horns that will glue into the rudder slot. Glue the control horns in place with medium CA or Epoxy – observe symmetry and turning point.

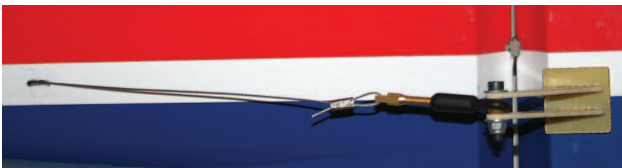
Prepare the wire linkage.

Install the rudder wires, attach the ballheads to the eyescrews and connect them to the rudder and servoarm.



Picture 19: Clamping sleeve

Adjust the linkages so the rudder is centered and stays in a central position. Check alignment in knife-edge position and don't put too much strain on the wires / servo gear.



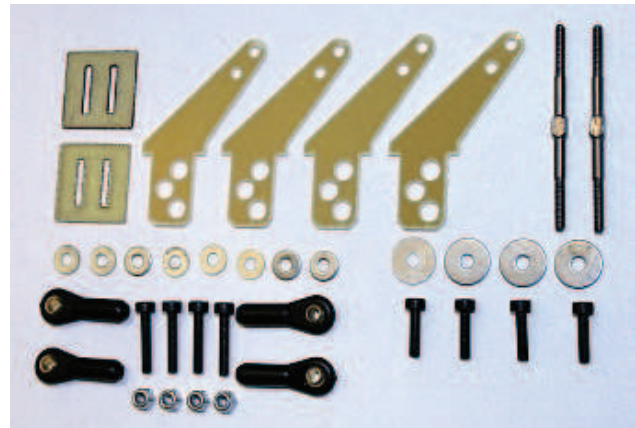
Picture 20: Rudder

5. Elevator

Locate following items

- 6x hinge
- 4x control horn
- 2x pushrod 50 mm
- 4x ball head M3
- 8x washer 3/8 mm
- 4x allen screw M3 x 15mm
- 4x stop nut M3

- Servo lever extension – not included

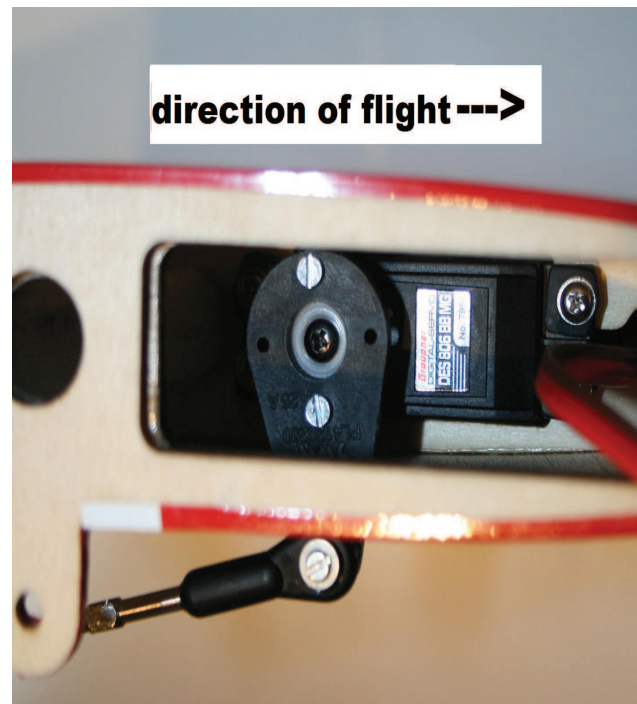


Picture 21: Elevator / parts

Grind the part of the control horns that will glue into the slot. Glue the control horns in place with medium CA or Epoxy – observe symmetry and turning point.

Glue the hinges as described before.

Electronically center your servo, install the rudder servo using the manufacturer supplied mounting screws, gommets and eyelets and route the servo lead – mind orientation!



Imagine the deflections:



6. Main landing gear installation

Locate all the necessary items:

- 1x main landing gear
- 2x wheel pant
- 2x wheel / 95mm
- 2x axle 5 x 68 mm

- 2x stop nut M5
- 2x collar M5
- 2x washer 5/12mm
- 2x self tapping screw M3 x 10mm

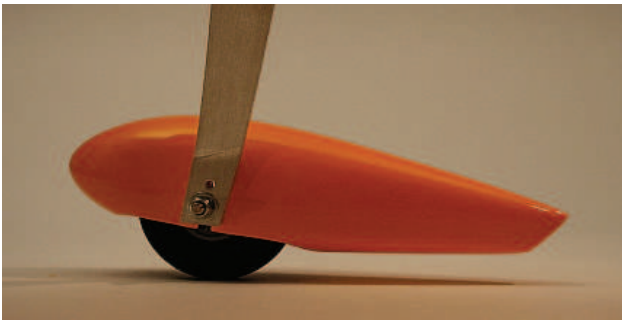
- 1x cover
- 4x stop nut M4
- 4x washer M 4 / 9.5mm
- 4x allen screw M4 x 20mm



Install the axle. Place the wheel on the axle followed by the wheel collar. Slide the wheel pant over the axle with the retention ring inside the wheel pant – check direction

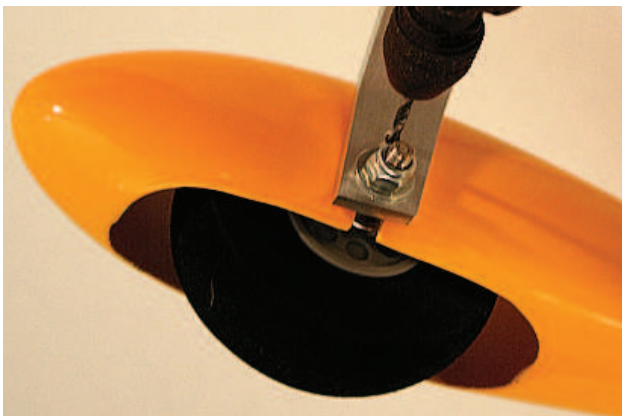
Fix the gear to the fuselage using screws and washers.

Adjust the wheel pants on a flat surface.



Picture 22: Wheel pant / icon image

Using a ~1.5mm drill bit carefully drill a hole and insert a self tapping screw as shown.!



Picture 23: Wheel pant / Detail 1

7. Electric motor installation / example

To get the best flight characteristics, we recommend the use of an AXI 5345/12 HD or AXI 5345/14 HD motor and a Jeti Spin 125 Opto ESC.

The following pictures matches basically to that setup and are intended as an example.

See additional informations at www.gb-models.com.

All mounting points are already prepared for these drives and no additional adaptors are required.

Strictly follow the manufacturer's rules when mounting your drive and ESC and note the necessary airflow for cooling!

Note: Mind the distance cowling – airscrew to avoid roaring sound – Minimum 15-20 mm (metric units)



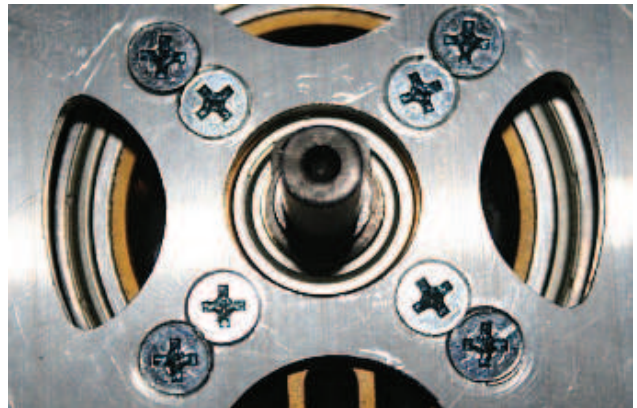
Picture 24: Distanz Motorhaube - Luftschraube



Picture 25: AXI 5345HD / Jeti Spin 125 opto



Picture 26: AXI 5345 HD



Picture 28: Motor mount

Locate and fix the included standoffs – check the distance airscrew / cowling like shown on picture 24.



Picture 27: Firewall / markings

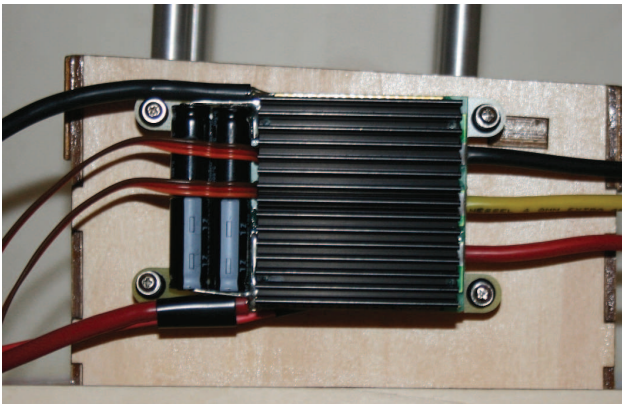


Abbildung 29: AXI 5345 HD standoffs

Carefully fix the motor – never overstress the screws and follow the manufacturers rules!

Connect motor and ESC – mind vibrations, quality of connectors and airflow!

Check motor/ESC/batterytemperature of you battery/ESC and motor after the first flights and – if necessary enhance the airflow of the cooling.



Picture 30: ESC Jeti SPIN 125 Opto

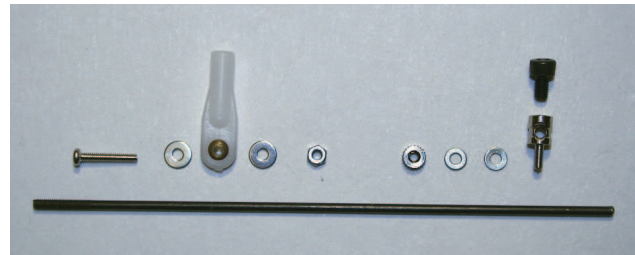
8. Gas Engine – Example Pics DA-50r

In combination with the included standoffs, the marked mounting points and also the (included) standoffs are already prepared for using this engine and comparable - and no additional adaptors are basically required.

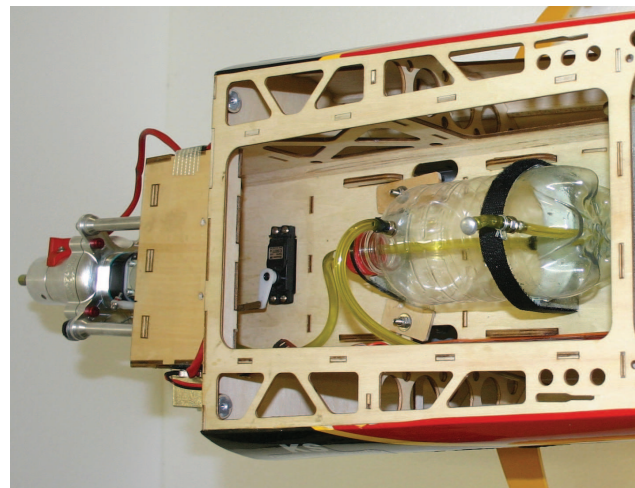
Depending on your preferred exhaust system, some adjustments can be necessary – so the following pictures are intended as an example, see additional informations at www.gb-models.com.



Picture 31: DA-50



Picture 32: Throtte linkage



Picture 33: Fuel tank



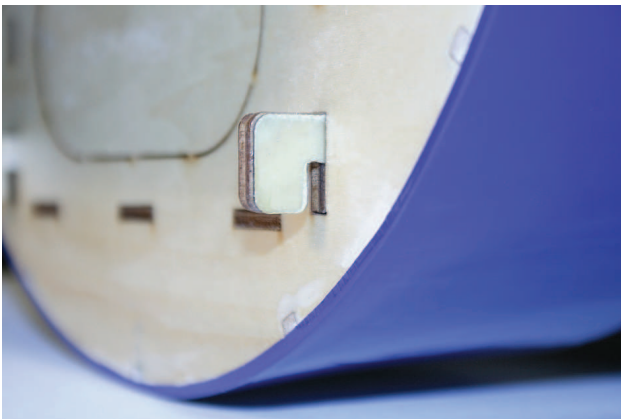
Picture 35: YAK 220 / DA 50

9. Bauabschnitt: Cowling, canopy

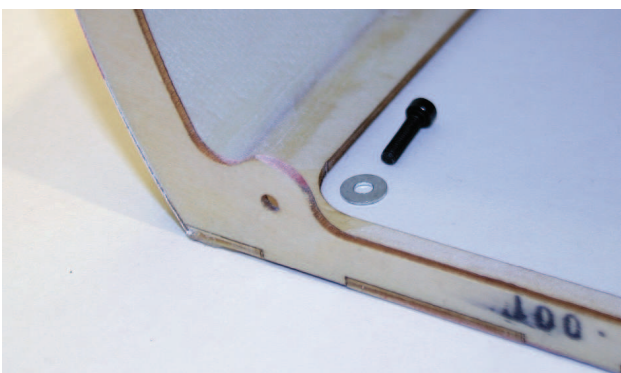
Locate following items

- 2x allen screw M3 x 20
- 2x washer M3
- 2 thumbscrew M3

First fix the cowling into the locking – then tighten the allen screws.



Picture 36: cowling / locking

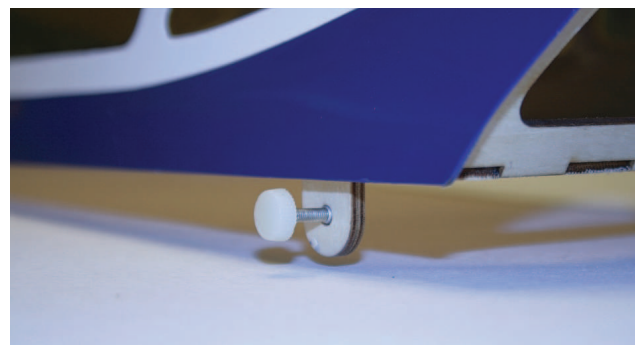


Picture 37: cowling screw



Picture 38: cowling / icon image

Attach the canopy using the thumbscrews:



Picture 39: canopy / thumbscrew

10. Control throws and CG

Recommended CG: 220mm (~8.5") behind the leading edge of the wing against the fuselage

Use deflections and expo accordingly to your habits – we strongly recommend to use the „pattern style“ settings for the first flights!

Pattern style:

- Aileron 90mm, 45% Expo
- Elevator 40mm, 40% Expo
- Rudder 80mm, 50% Expo
- MIX Rudder left/right → Elev 7% UP

3D and Showflight:

- Aileron 140mm, 45% Expo
- Elevator 105mm, 40% Expo
- Rudder 100mm, 50% Expo
- MIX Rudder left/right → Elev 7% UP

11. Preflight

Before the flight, be sure to RANGE CHECK THE RADIO following the manufacturer instructions, doublecheck all controls, motor and prop, charge your battery and ...



...HAVE A NICE FLIGHT!