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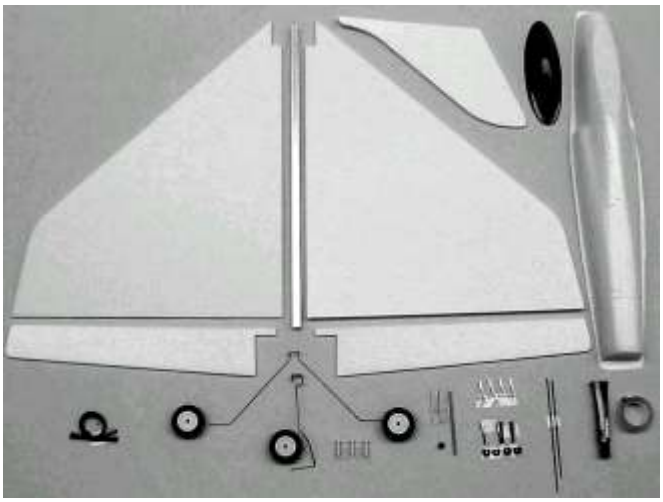
Mach 3 building instruction

The MACH 3 is a Slow and Park flyer that shows fantastic flight characteristics due to its light weight. It can be flown at extreme speeds either very slow or really fast.
Fun is guaranteed since it`s feature make aerobatics are no problems even when there is little space.



Mach 3 kit contents

Battery pack No. 160607

Motor-/Gear set
No. 160611

CA glue , Epoxid glue

Micro controller (No. 160533)
Mini receiver (No. 160565)
Micro servos (No. 720367)

Additional items (not included in the set)

Knife, scissors, tongs

Assembly

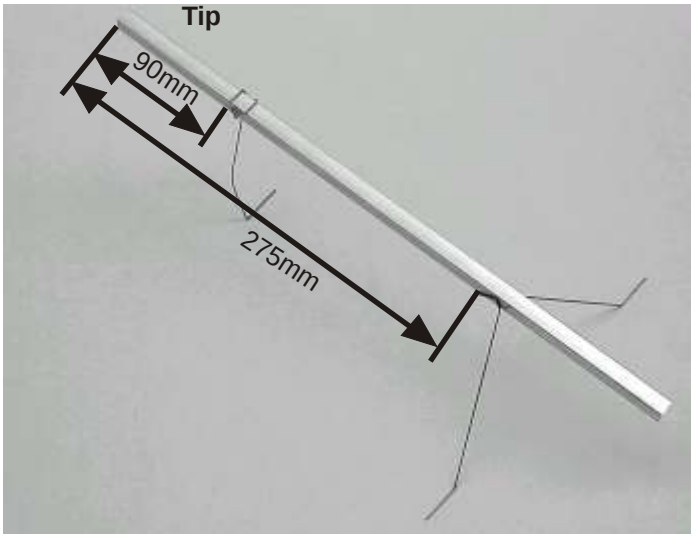
Please read the following instructions carefully before you start to built the Mach 3.

Attention: Take your time to read the instructions for the glue used for the construction of your new flight object:

Cyanoacrylate glue
This glue needs to be kept away from children. No contact should be allowed for children. It works in seconds and glues skin and eyes. After eye-contact please rinse carefully and see a doctor immediately. Do not use with Styrofoam parts.

UHU-Por
This is a contact type glue. Cover both surfaces meant to be glued together as thinly as possible with the glue and leave to try 10-60 minutes before carefully joining the surfaces together.

Building the fuselage

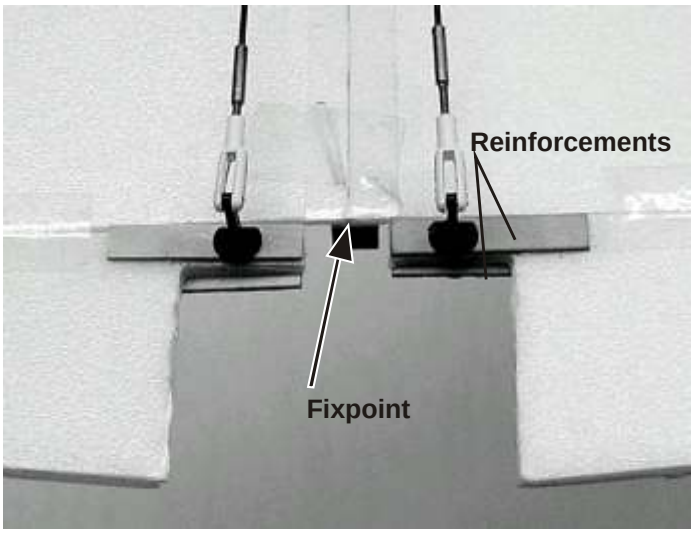


Mark the aluminium boom (acc. to the picture) in distances of 90 mm and 275 mm from the tip of the boom for adhering the chassis at this places later on.

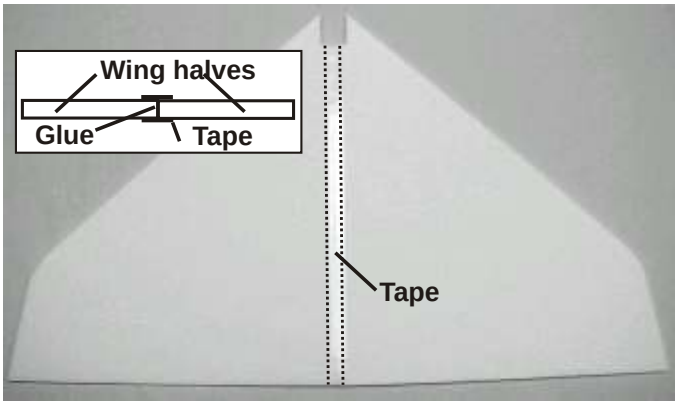
Roughen the boom where the chassis is going to be affixed to the boom and fix the chassis-wire with CA Glue.
Now wind the carbon fibre firmly around the chassis and the boom. Afterwards moisten the material with CA Glue and let it become hard.

Slide the wheel onto the nave and both on the chassis wire.

Then bend the wire as close to the nave as possible.

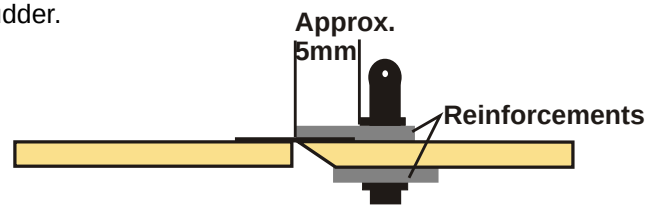


Wing assembly

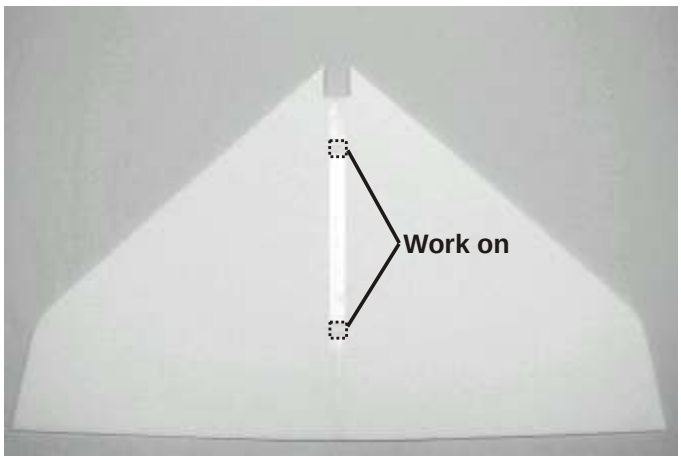


Glue the halves of the wing together using contact glue. Reinforce with self-adhesive tape.

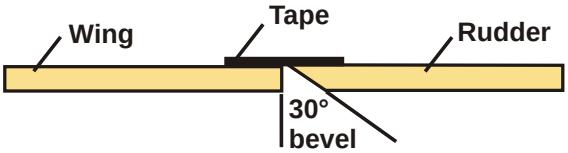
Glue the rudder reinforcement onto the interior of the rudder.



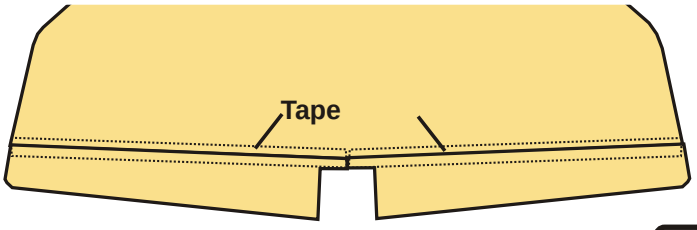
Mark the position of the rudder horns and drill a 3 mm whole at this point. Glue the rudder horns in connection with the rudder horn – disk. Now the completed wing can be glued to the fuselage stick. Check the balance by keeping an eye on the edges of both wings.

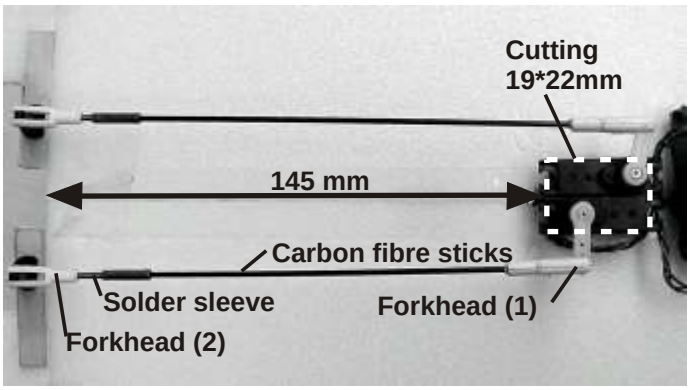


Use a sharp knife to work on the downward side of the wings in the area of the chassis reinforcement, so that the wings can lay smoothly on the fuselage.



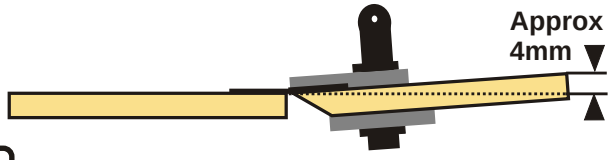
Bevel the rudder about 30°. Attach the rudder as shown on the wing using tape.

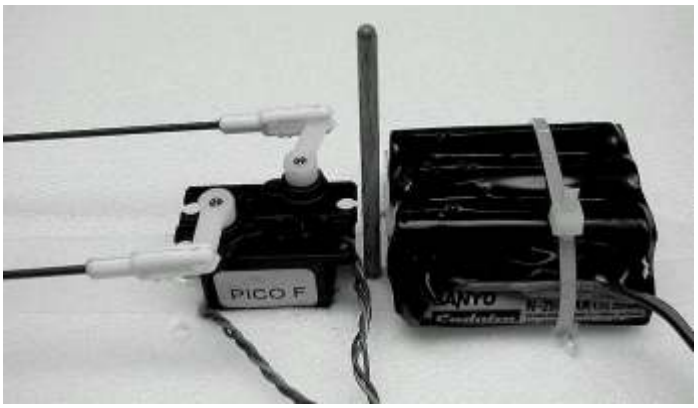




If the Pico Servos (No. 720367) are used, there should be a cutting in the body of 19 x 22 mm in a distance of 145 mm from the end-ledge. In this cutting the servos need to be integrated using glue. Use CA Glue to fix a fork-head each on the carbon fibre sticks. Roughen the place where the glue has to be used.

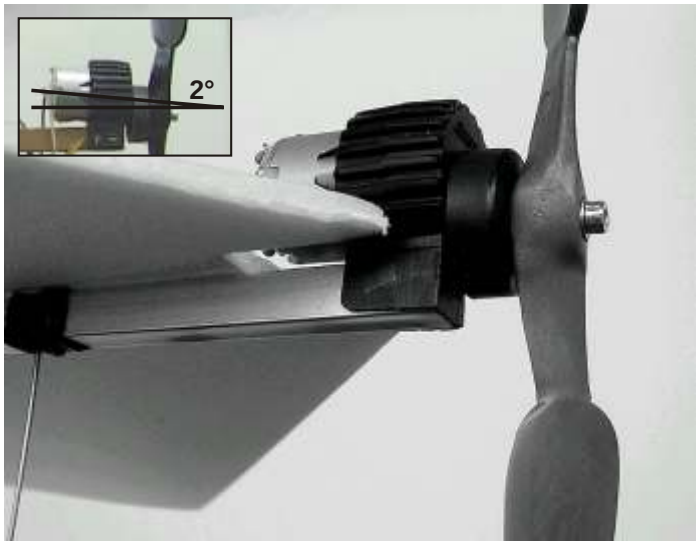
Screw the two remaining fork-heads on the solder sleeves until the middle of the thread. Attach the fork-heads to the horns of the rudder and adjust the rudder that the rudder deflection points upwards 4 mm at the deepest point. If necessary shorten the carbon-fibre sticks that they reach into the solder-sleeves 1 cm. Use CA-Glue to attach the sticks to the sleeves.



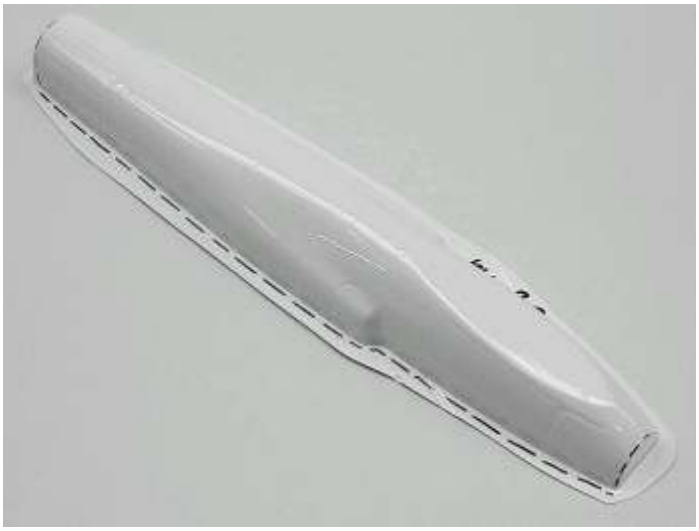


Drill an opening for the fixation stick of the fuselage with a 3 mm borer. Attach this at a 90 degree angle by using glue. Depending on what kind of battery is intended to be used, cut an opening for the cable-binder that is thought to affix the battery.

Inserting the engine

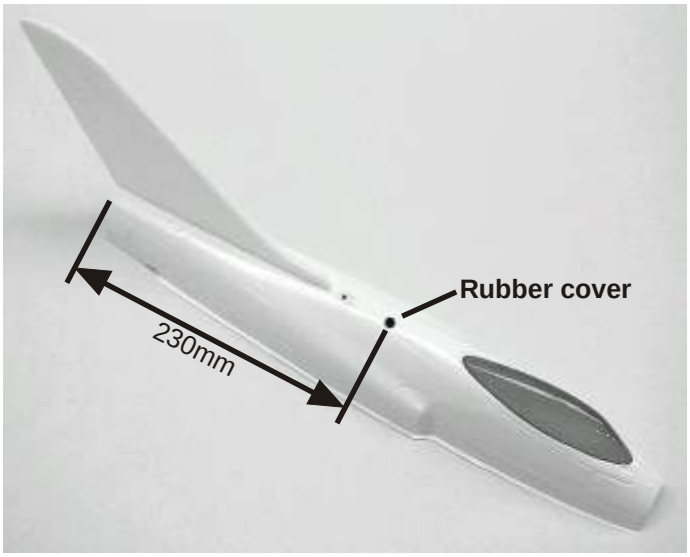


Slide the engine-socle onto the fuselage stick that was roughened and glue it with CA-glue. The axis of the engine should be in a 2° angle downwards which is predetermined by using the Ikarus Engine Set (No. 160611). Please connect the Engine Micro Speed Controler 2000.

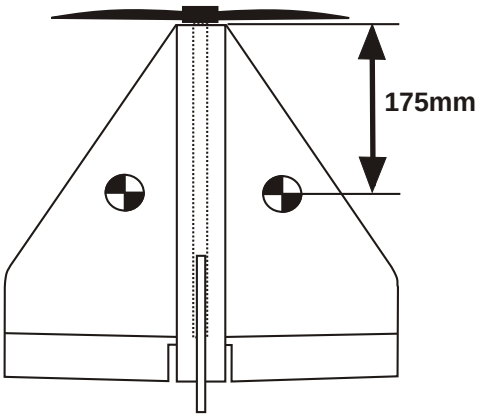


Cut the body and the cabin cover with scissors and a knife along the marked lines. Smooth the edges afterwards for

using fine sandpaper. Please leave some room for this when cutting along the lines.



230mm from the stern, make a 5 mm boring. Insert the rubber cover here, fix the fuselage here. Glue the side rudder on the fuselage as marked on the body of the plane. At the end glue the cabin cover and decorate the model according to the picture on the cardboard. The rivets and tin decoration are made by using an inkpen.



Mark the centre of gravity and hold the model at this point on a fingertip. It should be horizontal now. If this is not the case, use the batteries to balance until the correct horizontal position is achieved.

Pre-flight checks

Now switch on the transmitter, and switch the gear stick to low throttle position. Switch the flight battery on.

Now test the rudder and the mixture, a delta mixer is necessary. (check the manual of your transmitter)

Now pose yourself behind the model and test the altitude rudder. Both rudders should move upwards. If you test the direction and give right, the right rudder should move upwards whereas the left rudder should point downwards.

Control the angle of the rudder movement. 15mm deflection are a good result.

All RC-components need to be fully tested before trying the first practice flight. Especially the reach of the components is of importance. Test this by switching on the transmitter, then the batteries and then move 30 m away from the model with inserted transmitter antenna. There should be no malfunction. If this is not the case, check for the cause of the irritation. Are the batteries recharged? Are the right quartz in the receiver and transmitter?

The first start can be tried from hand or an even ground. Do not use the steering extensively since the model reacts with sensitivity.