Jazz 2.0
Building instructions
Please read slowly and carefully!

Thank you for purchasing this kit. It was designed to be an evolution (and hopefully improvement) of the Jazz, already a very competitive F6P (AEROMUSICALS) plane. Please refer to the Diagram Sheet while building this model.

One notable technoclogical change is that the front part of the fuselage is made from EPP. This has several advantages, the main one is improved resistance to (for most of us inevitable) crashes. EPP is much more flexible than Depron and can absorb quite a good deal of impact.

Note: Gluing Depron – there are several different types of glue available. One of them is foam friendly ("styro") CA (Cyano-acrylate). The CA is often used, admittedly making the parts joint somewhat fragile. Our preferred option is contact glue - one brand tested to satisfaction is foam UHU-Por. You have to apply the glue on both parts (one useful trick is to apply more of it to one glued part and to "stamp" this part to the other one to transfer some of the glue) and wait about 5 minutes, until the glue is almost dry (yet still a bit tacky), then stick the parts firmly together. You have to be precise; once glued, the parts are very difficult to take apart, such attempt sometimes resulting in damage to one or both of them.
Sometimes polyurethane glue is used where extra strength is required. One such brand is Purex (available in the Czech republic; equivalents should not be difficult to find).
Any new type of glue should be always tested on a scrap piece of Depron… you never know…

Note#2: To cut Depron, use a very sharp hobby knife (and a steel straight edge). Depron tends to wear out the edge of the knife quite fast – change your blades often.

Ok, let's start the building…

Step 1: glue all carbon strips (3x0.5mm) into their respective Depron parts. Those are: upper fuselage (reinforcement of the tail), bottom fuselage (reinforcement of the tail, plus one at the very bottom of the belly – protruding 1 or 2 mm below the fuselage), elevator (the spanwise slit), leading edges of wings (some of the carbon is extending towards the fuselage "backbone"). Now please check that you have glued 6 pieces of carbon strip to Depron parts.
Also glue the EPP canopy into the upper fuselage part, using contact glue.

Diagram 1 - 2

Dry assemble the middle part of the fuselage (the "backbone") and the wing halves on a straight building board. The wings are "upper side – up", i.e. not inverted. You can see that the backbone fits with the wings in only one way – it is not symmetrical – so by fitting to the wings you determine the upper side of the backbone. Do not glue the wings as yet.

Cut a bevel to all edges where elevator meets the stabilizer and ailerons meet the wing (always to both facing parts). The controls are to be top hinged! Attach the controls using clear adhesive tape (we recommend priming the Depron under the tape with a thin layer of contact glue). Be sure that your tape holds well on Depron (try with a scrap piece first).
It is important to keep at least 0.5 mm separation between the parts (you can "see through" the hinge), this will help you to have a very easy deflection without twist to the parts and strain to the servo.

As a final step, you can now glue the wings (already with the carbon leading edge) to the backbone.

Diagram 3

Turn the whole thing upside down. Locate the EPP front part of the backbone. Glue it to the backbone – note that it is not symmetrical and that it can be fixed in only one way.
Glue the lower part of the fuselage to the backbone.

Diagram 4

Install the strut anchor (small cf part, as per the Diagram). Glue the strut supports into the bottom of the wing. Locate 4 carbon rods of 1mm diameter and 250 mm in length. These will make the wing struts. Install them as per the diagram, one end into the wing (there are precut slots) and the other end should rest easily in the corresponding slot in the strut anchor. Make sure that the wings are flat on the board and that the fuselage is perpendicular to the wing plane. If you are satisfied, glue the struts into the wing (styro CA or better Purex, this time no UhuPor) and into the strut anchor (styro CA or, if you are careful, non-styro CA). Last thing, glue them into the strut supports. Check three times before applying the glue, remember that you are fixing the future geometry of the model!

Diagram 5 + 6

Locate the two 1,5 mm carbon rods – those are your landing gear legs. On one end, CA glue the wheel axle joint as per the diagram. Use 1,5mm drill bit to skew the axle hole in the joint by 45°. Find the 15 mm long pieces of 1,5mm carbon and glue them into the skewed hole in the joint. The angle of the axle should be 135° with respect to the gear leg. Slide your wheel and the T-shaped stopper on the axle. Use small drop of CA to fix the stopper on the end of the axle. Repeat for the second LG leg.

Diagram 7

Glue the wheel pants on the T-shaped stoppers. Now you have fully assembled LG legs. Install them in the model as per the Diagram – note the precut slots in the lower fuse. Make sure that your wheels are parallel to the direction of flight and that both wheels are in equal elevation above the building board. The leg should be angled 45° from the fuselage. If you are satisfied, use CA glue to fix the landing gear in place. Slide the fiberglass reinforcements over the place where the legs enter/exit the fuselage and (styro CA) glue them in place.

Diagram 8

Turn everything around (put the model on wheels) and attach (contact or CA) the upper fuselage part to the “backbone”. Glue the upper EPP nose part in place.

Diagram 9
Time to prepare the torsion strips (the ones with hexagonal holes and “Jazz 2” openings). They were beveled by us, but you have to manually sand the bevel also along the front part (the one with the pointy tip). Use fine sandpaper and be careful not to damage the part or overdo it.
Curve gently the material at the front part by rubbing it against a (reasonably rounded!) edge of a desk.
Glue the torsion strips in place (see Diag 11). This is one of the most tricky parts of the building – take your time, make sure to keep the airplane true and not to get a twisted tail. Using UHU Por or similar glue and joining the parts immediately (without waiting) gives you some time to perfectly adjust the trueness of the tail.

Diagram 10

Shows possible ways how to mount the motor – but you may have your preferred method. The EPP parts were made with the correct right thrust, but you may have to think about a way how to adjust it (and the up-down thrust) minutely when later trimming your plane.

Diagram 11

Attach the rudder to the fuselage using clear adhesive tape (and maybe also a bit of contact glue first). Do not forget to make sure that the leading edge of the rudder is beveled at some 45°.
Deflect your left aileron and insert the side force generator. Repeat for your right aileron.

Diagram 12

Now, install the control horns (after first cutting appropriate slots for them). Install your servos (using Purex, Hot Glue or your favourite method) and make the connections – using either the included hardware or again your favourite method.

Setup of the plane

We expect that you know how to connect the receiver to the ESC and to the servos, the ESC to the motor etc. If not, please refer to the respective instructions or better ask some more experienced friend. After you determine your correct C of G, use adhesive velcro tape to attach the battery pack to the side of the fuselage (or use some more neat method).

For first flights, your C of G should be in the position of the strut anchor. Set 35° deflections on all controls. Check all systems and go fly. To trim the plane correctly, you have to be indoors or it has to be absolutely calm outdoors. First, trim all controls coarsely to make the plane appear to fly straight. You should need about the same amount of elevator for both inverted and normal flight. Certain experienced pilots use so much aft Center of Gravity that the plane flies hands off in both positions. If you have enough clearance, you may try vertical dive to trim the neutral elevator.

Your aileron trim should be the same in normal flight and inverted. If it is not, you may have a lateral balance issue. Try to move the battery pack sideways (say to the opposite side of the fuselage), if you can, to fix this problem.

If necessary, you may experiment with the thrust line to setup for clean and effortless hover without any tendency to “pull out” to any side. This may take a while and require quite a few tests.

Next thing, the C of G. We prefer the plane to fly almost (some of us fully) “hands off”, just the slightest bit (or none) of elevator needed for level flight. Move the C of G vertically (by moving the battery pack) to get a perfect knife edge without any tendency to roll.

For clean rolls, without any coupling to yaw (we prefer to test this on 45° upline, like in the climbing parts of the reverse Cuban eight), you may want to play with aileron differential (different up and down deflection of ailerons). Our prototypes needed some differential (more up than down). To change the differential, you can use the included extension servo arm (the bigger “butterfly” with many holes). If your aileron pushrods are on the bottom of the wing, you get more differential when you use holes more to the front of the servo arm.

For F6P (AEROMUSICALS) flying, we use about 45° throws on ailerons, with 40% of exponential. Elevator and Rudder throws are set to the maximum mechanically possible.

There are very good flight reports from people using 2 aileronservos, in flaperon configuration, and mixing elevator to flaps slightly (10 to 15%).

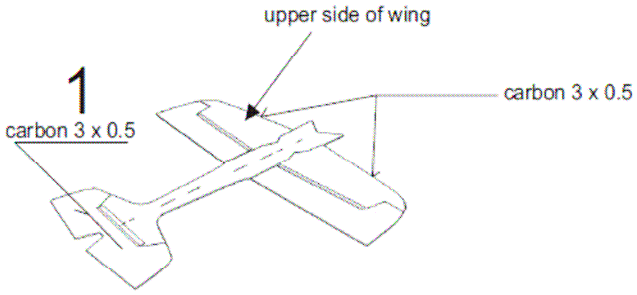
The rest is up to you, remember that training makes perfect!

Enjoy your new F6P (AEROMUSICALS) and 3D plane!
Your RC Factory team.

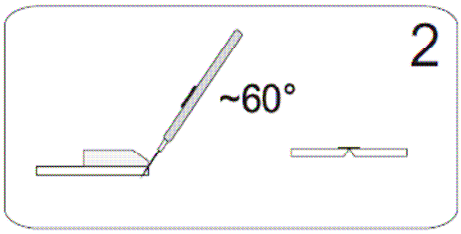
Technical specs:

Wingspan:	85 cm
AUW:	135 - 155g
Motor:	any 18 to 30g type that can produce at least 150% of the AUW in thrust
Battery:	2s 250 to 450 mAh lipo
Servos:	good quality 4,8 – 6 g servos (we found that the cheapest servos of obscure origins very often not center well or have a “skipping” motion – if you want satisfactory results, do not try to save here).
ESC:	brushless, 10A or more (as light as possible)

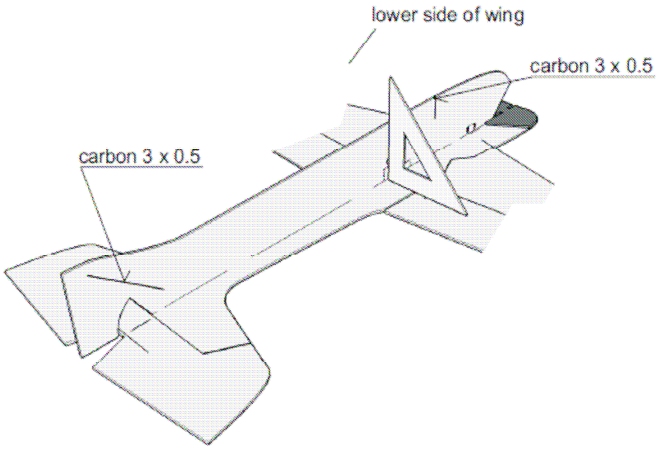
1


upper side of wing
carbon 3 x 0.5
carbon 3 x 0.5

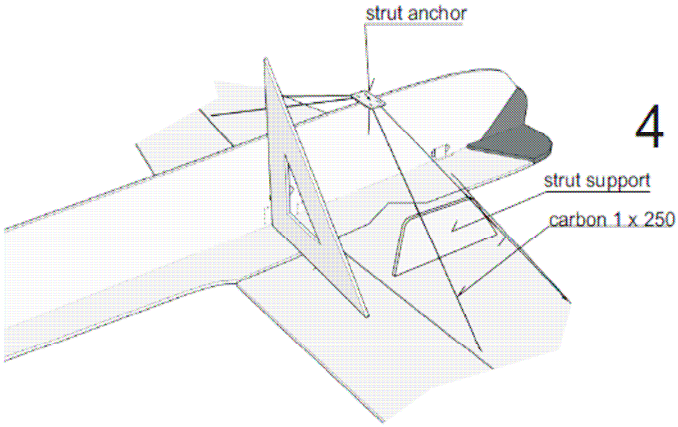
2


~60°

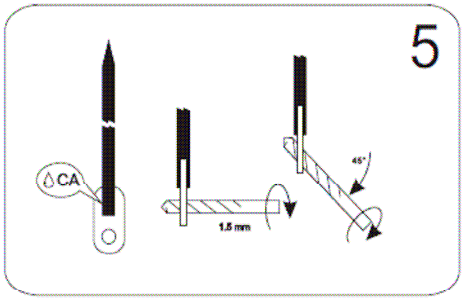
3


lower side of wing
carbon 3 x 0.5
carbon 3 x 0.5

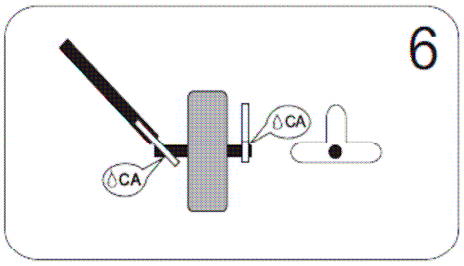
4


strut anchor
strut support
carbon 1 x 250

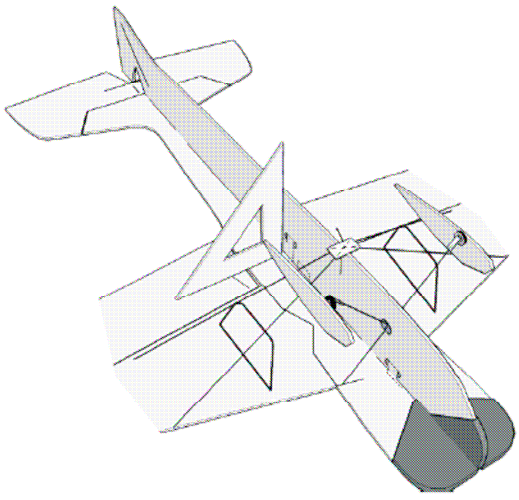
5


CA
1.5 mm
45°

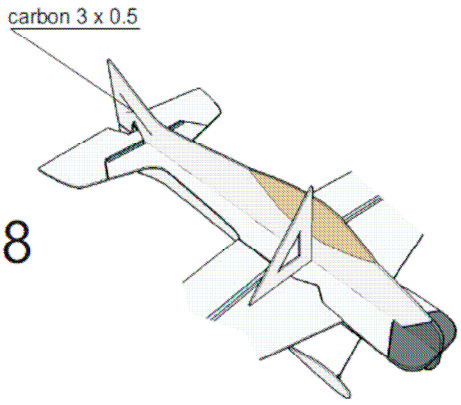
6


CA
CA

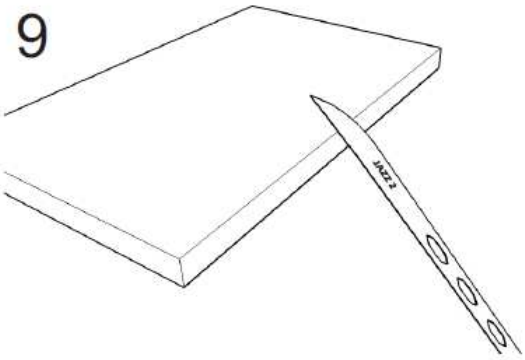
7

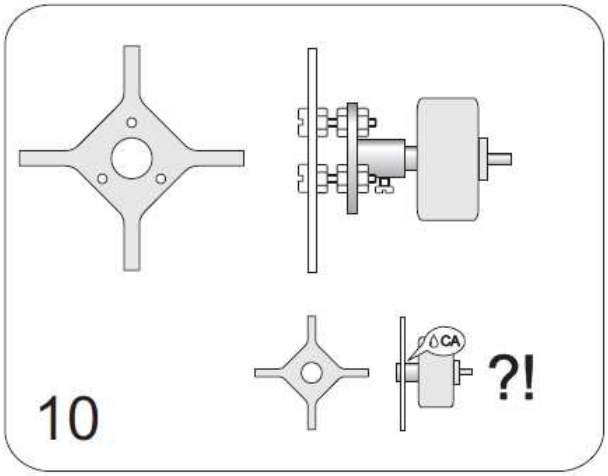


8


carbon 3 x 0.5

9





11