

Jazz Xtreme

Canterbury Sailplanes

Thank-you for buying the Jazz Xtreme. We are pretty confident that you will *really* enjoy flying this Model. The Jazz Xtreme has evolved from our original Jazz. It features a new wing section designed specifically for EPP Slope Flying wings. The section is a lot thinner than the previous Jazz, which means faster flight and better energy retention in turns and loops.

Construction is very simple; if you do find any points you are not sure of or which could have been explained better, please contact us. We are happy to help and appreciate your feedback.

GENERAL NOTES

1. The kit contains nearly everything you will need to build your model. To get it flying all you need is a radio set. If you are using a non-computer radio you will also need a mixer. This can be either mechanical or electronic. These instructions assume use of either a computer radio or electronic mixer. Electronics mixers are available from Canterbury Sailplanes.
2. The Kit includes Bostik Clear Bond. The product is well suited for all gluing requirements on the Jazz. CA (Cyano-acrilate / Super Glue or instant) is OK on EPP. However, note that CA is NOT to be used on Polystyrene, as it will dissolve it.
3. The kit includes coloured Polypropylene tape and strapping tape (fibreglass reinforced) make sure you use the correct tape as specified in the instructions. There are 50 meters of coloured tape and only 30 feet (10 meters) of strapping tape. There is only enough strapping tape to complete the model as described in these instructions. Other Colours of tape are available - Blue, Green, Red & Yellow, contact Canterbury Sailplanes.
4. If your kit has been purchased outside New Zealand, unfortunately postal regulations prohibit sending 3M Spray 77, so it is not included in the kit. Spray 77 comes in several

sizes; we use the small 50gm/2oz cans. You can locate Spray 77 in your country by calling 3M and asking for the nearest stockist. (In Australia Call toll Free 136136, or try an office supplies shop, Home Depot or similar store)

5. It is worthwhile investing in a Lost Model Alarm, if you land/crash in trees, bushes or long grass, your model may be hard or even impossible to find. With a lost model alarm you can walk straight to your model. The alarm will sound for up to 2 days. Ask your model shop or check out our website.
6. Use a flat battery pack (that is 4 cells side by side, not 2 x 2) as small as you can get, but with at least 250mah capacity. (That's about 1.5hours battery life) (Your local model shop or Canterbury Sailplanes can supply this if you need one)
7. When applying tape, take great care not to apply it under tension, as this will cause the wings to bend and twist.
8. When applying the SPRAY 77 to the model; apply by spraying onto the model and leave it a minute or two, waiting until the glue on the surface is "aggressively" tacky, before laying the tape onto the glued surface. Once it is on however, it is difficult to remove - so take care. Only a light mist of Spray 77 is required, you should expect to use about 1/2-3/4 of the can building the Jazz.
9. We are continually improving these instructions, the very latest version instructions, including colour photos is available online at: <http://www.flycs.co.nz>
10. An electric conversion pod is now available for the jazz so you can fly it parks etc or on those calm days at the slope. Is it possible to mount this permanently or make it removable. If you think you would like to mount it permanently consider leaving the battery pack out of the nose of the jazz.

SOME EXPLANATIONS:

- The bottom of the wing is the flatter of the upper and lower surfaces.

- The spar slots are the grooves cut in the top and bottom surfaces of the wings.
- The spars are the 4 longest rods in the package
- ELEVON is the name for the control surfaces on a flying wing, derived from Elevator & Ailerons

BEFORE YOU BEGIN ASSEMBLY

- 1) Check that all the parts as per the parts list page are packed in the box. You will note that the parts list page also has pictures of some items to help you identify them. This will help you later when reading the assembly instructions.
- 2) Other tools that you will need include:
 1. Small drill with 1.5 mm & 2.5mm drill bits
 2. Small ruler or tape measure
 3. Sharp knife, scalpel or modelling knife
 4. Scissors (if you'd rather use them) to cut tape
 5. Marker (a ballpoint pen will do)
 6. Small phillips head screwdriver (for the servo's)
 7. Small screwdriver (for the control horn screws)
 8. Needle / point nose pliers (or good tweezers)
 9. Soldering iron for melting out foam(not 'needed' but can be helpful)
- 3) It's probably also a good idea while you're getting all these items ready; to make sure you have enough batteries for both your Transmitter and for the radio gear which is to be mounted in the Jazz. If you have rechargeable batteries, put them on charge now as they will probably need to charge overnight and you will need them to be ready prior to fitting the servos into the Jazz.

On with the construction!

1. Join the wings.
 - Remove the wings from the surrounding EPP foam.
 - Cut the surrounding foam apart so you have the two surrounds from the bottom of the wings.
 - Lay the wings bottom surface down on your bench or table. Butt the two wing roots together to check the alignment.

- Join using Spray 77, apply a liberal amount to both surfaces, wait 5 minutes and push together. – *Be careful handling the wings until the wing is covered in tape.*

2. Join the fibreglass rods to make a top and bottom spar.

- Insert a fibreglass rod into the middle of the alloy joiner tube and glue with Clear Bond or CA.
- Repeat the process to complete 2 spars.
- Carefully crimp the alloy joiner onto the spars with pliers.

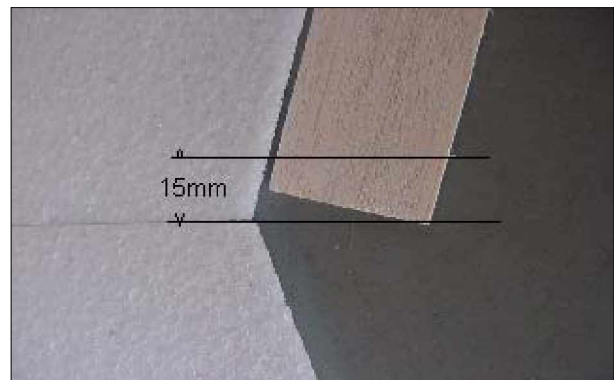


3. Lay one spar on the bottom of the wing, mark the location of the joiner tube in the centre of the wing and cut away a minimal amount of foam to allow it and the spar to sit in the slot in the wing. Repeat for the other side.

4. Glue the spars in place with Clear Bond. Then leave the wing over night while the glue sets.

5. Select one of the balsa elevons and position it next to the trailing edge of one half of the wing.

- Mark and cut the inner end of the elevon about 15mm from the extended chord line.
- Lay a ruler along the tip; draw a line on the Elevon about 3 mm in from then tip. Cut the balsa at this line.



6. Cover both elevons with coloured tape or coloured material of your choice.

Plug in your Servos, Elevon mixer (if required), battery and receiver, and turn on.

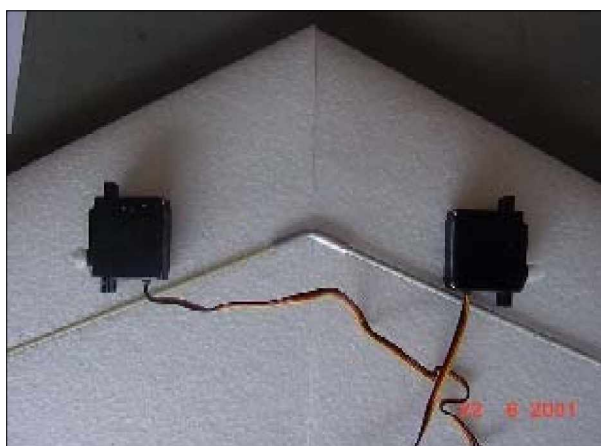
7. Select one servo horn for each servo. You need a straight horn about 15mm long for each servo. It will be necessary to cut arms off the horns if they have more than one arm.

8. Use a 2.5mm drill to drill enlarge the outer most hole in the servo arm.



9. Position the 2 servos in on the wing.

- Lay the servos on their sides with the horns pointing toward the tips and the leads towards the trailing edge. Check that with the trims neutral, your servo horns are pointing vertically upward - adjust the position of the horns on the servo so both are point in exactly the same direction



- Check that the directions of travel are correct. When you pull the elevator stick back (or towards bottom of transmitter case) both servo horns should move toward the leading edge. Moving the stick towards the top of the case should produce the opposite reaction. Moving the Elevon stick left will cause the left servo horn to move towards the leading edge, the right horn towards the trailing edge. Right Elevon should cause the opposite reaction. Refer to your Transmitter or mixer documentation for instructions on programming. When satisfied the servos are correctly set up install the screw to keep the horn on.
- *It is very important that the servo horns are both the same length, both are set at the same angle, and both move the same amount when you move the elevator stick on the transmitter. If you don't get this right the model will not loop straight.*

Refer to the plan on the back page for the next steps.

10. Install the battery so that its centre is on the join line of the wings, about half way between the point of the nose and spar joiner.

- Draw a pen line around the pack on the foam.
- Use a knife blade to cut down to the depth required and then pick the foam out with your knife or pliers. Work slowly and carefully, to make

a flat-bottomed cut out, slightly undersize so the battery is a push fit into the hole.

11. It is easier to install servos with the mounting lugs cut off (don't worry replacement servo cases are cheap). Cut the lugs off with side cutters or a very fine saw, DON'T CUT THE LEADS!! If you don't wish to cut the lugs off, just cut out space for them when installing the servos.
12. The servos will be mounted in the wings just in front of the spars. Place the servos on the wing, mark around them and cut a tight hole for the servos to fit into. Test fit the servos; when you are satisfied, glue the servos in place. Use a minimal amount of glue.
13. Now install the receiver, just behind the spar joiner, depending on the depth of the receiver used, it may be easiest to cut a hole right thru the wing.
 - Don't glue the receiver or battery in place; just make them a push fit.
14. If you are using an electronic mixer install this in a similar manner just behind the receiver.
15. Make a shallow knife cut from the battery and servos to the mixer and receiver and push the wires into it. Cut a small tunnel under the spar for the wires to pass through.
16. Curl up the aerial on top of the receiver for now to keep it out of the way.

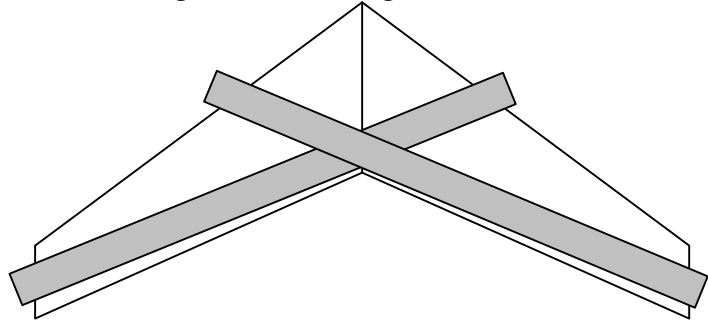
Taping

The kit includes 30 feet of strapping tape (yep, I know we use Metres but the tape is made in the USA!) We are going to use all of it and we don't want to run out! Follow these instructions carefully.

17. Spray the top of the wings with a light mist of Spray 77; this is best done outside or with newspaper on the floor to catch any over spray.
18. Refer to the plan (not the drawing below!) first apply pieces 1 & 2 on the top of the wing, take care not to stretch the tape as it goes on! This will cover servo horns, cut small slots for the horns so the tape can be pressed on to the EPP and servos. Then apply the rest of the strapping tape in the order shown (3-11). When complete, turn the wing over repeat on the bottom side.
19. Cover the wings with coloured tape. Apply the tape without stretching!

- Starting at the trailing edge of the tip lay a length of tape parallel to the trailing edge, across the opposite wing panel and about 20mm around the leading edge onto the underside of the wing.

- Repeat for the opposite half of the wing. *See the diagram for location of the first two lengths of tape.*



- Now work forward across the wing with layers of tape overlapping by about 3-5mm. Lay one strip on each half of the wing alternately. As the wing is tapered, you will cover the tip before the centre area is all covered. When you get to this point start taping from where the previous layer stops, and wrap the excess around the leading edge. Around the tip area where the wing top is more curved it may be necessary to slit the tape slightly to get around the curve. Try not to leave any creases in the tape as you attach it. If any occur quickly lift the tape from that area and smooth it on again.

- Now cover the bottom of the wing with one layer of tape using the same techniques.

20. Cover the wings with one more layer of coloured tape or coloured material of your choice, such as coloured tape, Iron On Film or self-adhesive vinyl.

21. This will have covered the servos, battery and receiver. Cut minimal holes for the servo horns to exit and for the battery lead to plug into the receiver. Most fliers prefer not to use a switch, preferring to plug the battery lead straight into the receiver. This makes it easy to charge the battery pack.

22. Hinge the Elevons to the trailing edge of the wing.

- Temporarily attach the elevons with 2 small pieces of tape on the underside of the wing and elevon.
- Apply coloured tape along the top of the hinge line.
- Remove the 2 temporary pieces of tape.
- Fold then elevons onto the top of the wing and apply a layer of tape along inside of the hinge line. Check that the Elevons travel freely up and down.

23. Make and fit the Elevon Pushrods and Control Horns

- Thread a clevis onto each end of the wire pushrods



- Attach the clevises to the servo horns.
- Ensuring the pushrod wires are parallel to the wing join line, mark the location on the Elevon for the Elevon Control Horn.
- Place a control horn over this mark, with the horn upright parallel to the centre join line of the wing. Mark and drill 2mm holes for the screws. Install the control horn with the screws and backing plate provided. Repeat for the other Elevon.
- Clip the clevises into the Elevon Control Horns 4 holes down from the top of the horn.
- Adjust the pushrod length by threading the clevises on or off the wire to set the elevons to the correct angle. Place a ruler under the rear flat section of the wing; for your first flights set the Elevons up so there is a 3mm gap from the ruler (measured at the trailing edge) Both must be set at the same angle.
- For more control movement move the clevis hole closer to the Elevon, for less movement move it to a further out hole.

24. Cover the lower end of the tiplets with strapping tape laid 90° to the grain of the corflute; this strengthens the cutouts in the corflute.



25. Cut a 150mm length of strapping tape and split down the grain of the tape to about 15mm wide. Slide one piece thru a hole in the corflute to secure the tip to the wing. Slipping the tip of the knife thru the hole to help slide the tape thru.



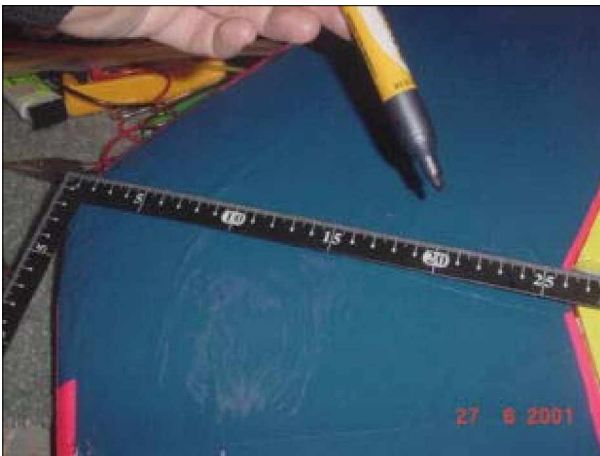
26. Repeat for the other holes and tip.

27. Apply coloured tape around the front of the tips to finish off the fitting of the tiplets and seal any gaps where grass might catch.

Final balancing and control set up.

28. First balance the model laterally. Suspend the model between your fingertips placed on the centre join line at the leading and trailing edge. If one half is heavier than the other add a small amount of weight to balance. A nail pushed into the tip works well

29. Mark the Centre of gravity 195mm from the leading edge at the centre of the wing. Now balance the model on your fingertips placed at this point. It is best to balance a flying wing with a your fingertips close together on the panel join line. It will be necessary to add weight (lead is best) to the nose to balance, fit this into a small hole in the underside about 20mm from the nose and tape over.







30. Set up the elevons so that the when you move the transmitter stick to the left (applying roll control) The left elevon moves 12mm up and the right 8mm down. Move the transmitter stick to the right and the right elevon should move up 12mm and the left down 8mm. When you move the Transmitter stick up and down (Pitch control) both elevons move 10mm up and down. (Measured at the trailing edge)

31. Lay the receiver aerial from the receiver back the trailing edge of one elevon, and along its trailing edge...tape in position

OK, that's about it. It is time to get flying, before you do, some Words Of Caution:

- If you don't know how to fly, try to get some help, it will make learning easier. Try to find out where your local model club flies, most likely someone there will be very happy to help you learn to fly.
- Model Aircraft, even those made from foam like the Jazz, can be dangerous if you hit someone, be careful, think about where you fly and the safety of yourself and those around you.
- Don't fly near Para-gliders, you can injury or kill these people easily. Wait till they land or fly somewhere else.

Parts list

Wings	1 Set	
Balsa Elevons	2	
Tiplets	2	
Spars	4	
Elevon Horns	2	
Screws	4	
Backing plates	2	
Clevises	4	
Alloy wing joiners	2	
Spray 77 (NZ Only)	1	
Strapping tape	1	
Coloured Tape	1	
Clear Bond Adhesive	1	
Instructions	1	
Graphics	1	

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www.canterburysailplanes.co.nz