Giantscaleplanes.com

Decathlon

Thank you for purchasing the giant scale Super Decathlon. The Decathlon is terrific for regular flying as well as mild aerobatics. To get maximum performance and enjoyment from your Decathlon, please read these instructions carefully before completing the model. In addition, we advise the use of high quality servos, particularly on all flying surfaces. We use one servo for each aileron, one or two servos for the elevators, and one for the rudder. Be certain that the servos do not exceed proper travel limits. This will cause a heavy load on your batteries and a short-lived battery charge. Although there are very few steps left for you to complete, do your best to keep the tail end of the airplane as light as possible. A little excess weight in the tail will add 4 to 5 times that amount in the nose for proper balance. If you need to place your receiver in the rear of the fuselage, adding a light plywood hatch to the rear bottom is exceptionally easy due to the construction of the fuselage. After building and flying our giant scale models we hope that you will not hesitate to purchase another one of our kits.

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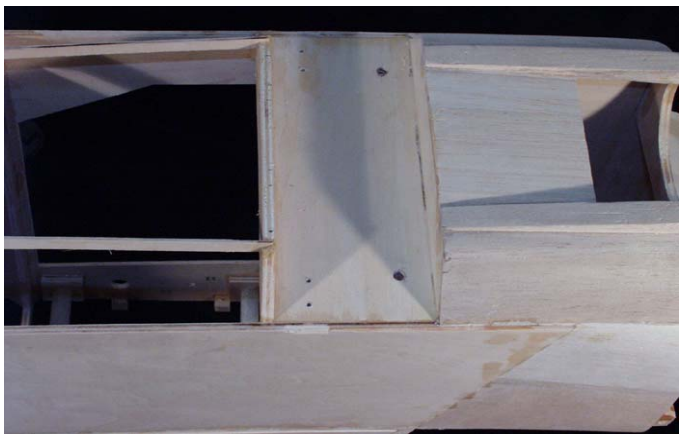
Fuselage:

1. Place the fuse upside down on your workbench. With a fine tooth razor saw, separate the landing gear/wing strut cover assembly from the airframe. It comes attached so the assembly can be sanded and blended into the shape of the fuse. Set-aside until later.

2. Locate the aluminum landing gear and place it against the front edge of this uncovered compartment. Mark the location of the two boltholes.

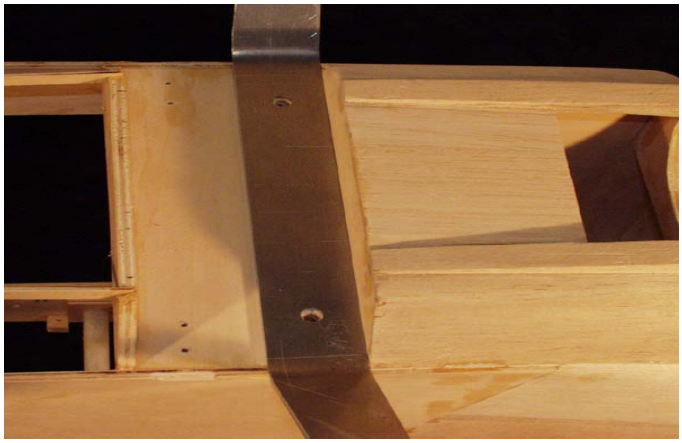
3. In the parts bag, you will find F8A , the landing gear doubler. Epoxy this piece onto the landing gear mounting piece on the inside of the cabin. After this sets, drill your holes to attach the landing gear. You can choose two methods:



A. You can tap the two holes for ¼-20 bolts, hardening these threads in the wood with thin CA before the bolts are attached.

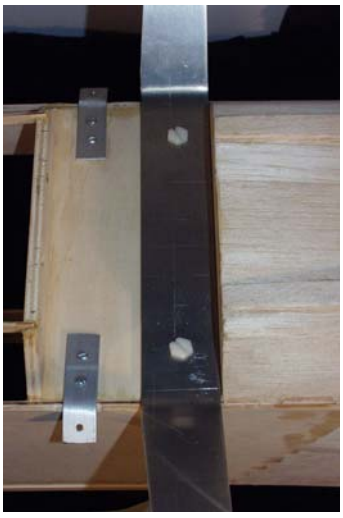
B. Drill out these two holes for ¼-20 blind nuts. Either method works well.

4. Locate the two wing strut aluminum brackets. You will notice three holes are drilled in this piece. The two holes closest together are for the mounting of this bracket to the landing gear plate. The separate hole is for attachment to the wing struts.



5. Using a vice, place the wing strut end into the vice and carefully bend an angle of approximately 15 degrees. The bend should be 3/8" in from the outer hole. Do this on both brackets.

6. Take the bottom fuse landing gear cover that you separated in Step 1 and reposition into place. With a pencil, note the location of the cutouts provided for the clearance of the two metal straps. Mark these locations on the fuselage and remove the LG cover piece.

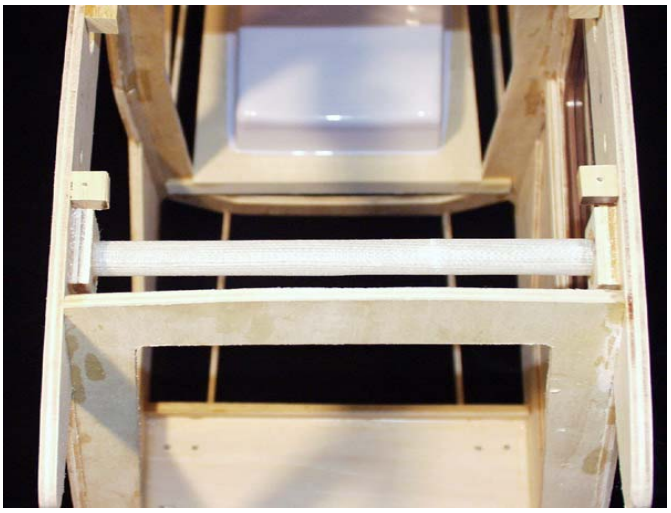


7. Carefully place the two metal straps onto the landing gear/mounting plate and position the two straps so that the 15 degree bends over hang the edge of the fuselage, are pointed toward the top of the cabin, and the straps are centered between the pencil marks you just made.

8. When satisfied with their position, drill small holes into the plywood plate and mount these two straps with four machine screws.

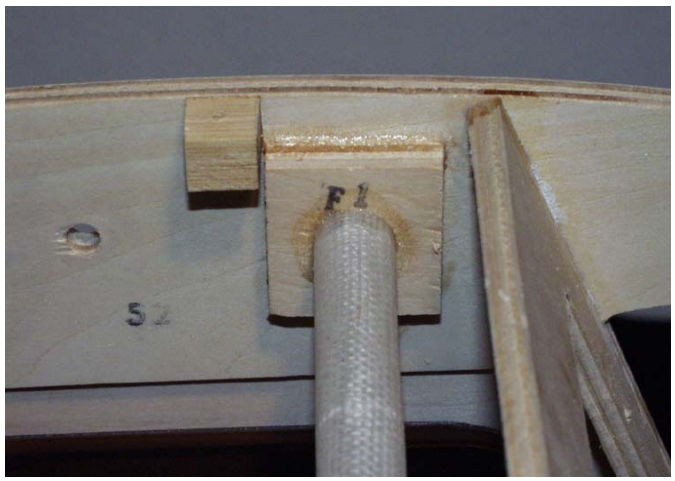
Wing Tube Fitting

9. Locate the two fiberglass wing tube sleeves and their four support formers. Place these sleeves into their support formers and push the formers to the nside edges of the top cabin wing root supports.

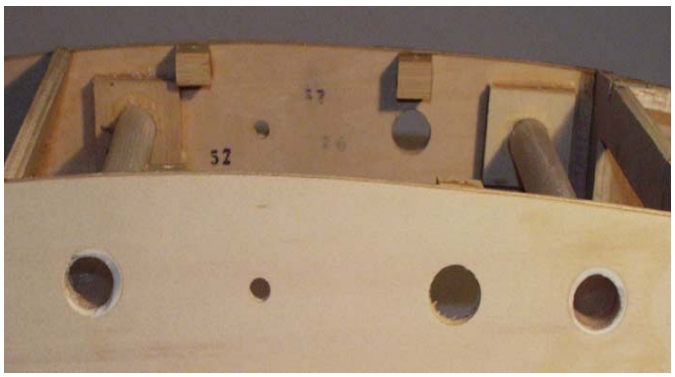


10. Locate the two aluminum wing tubes and the two wing halves. Slide the wing tubes into top cabin area and slide the wings onto the tubes and against the fuselage sides. Note: there are three large holes in the top sides of the cabin area. The outermost are for the wing tubes while the inner hole is for your wing servo wires.

11. Locate the two machine screws and washers that are used to secure the wings onto the top cabin. Remove the cabin door, hand screw these screws into the wing root blind nuts and tighten the assembly with a small screwdriver.



12. Check the alignment of the wing panels from a top view and a front view to ensure everything is straight. When satisfied, slide the glass sleeve formers away from the cabin sides. Make sure the glass tube sleeves remain perfectly centered between the sides of the fuselage. Very carefully, apply thick CA to the side of the tube supports that mate the top side of the cabin. Keep the CA to the outside of these formers and without changing the alignment, press and hold these 4 formers against the fuse side until secure. Make sure you do not get CA onto the aluminum wing tubes. Be careful and work slowly.



13. When secured, remove the wing panels and the tubes. As the holes in the fuse top are oversized for adjustment, there will be space around the sleeves inside the fuselage sides. Mix a small amount of epoxy and micro balloons and carefully dab this mixture around the sleeves and in the fuselage side opening. Do one side at a time. When dry, sand this area flush with the outside of the fuse for a nice finish.

14. Use the remaining mixture to finally secure the sleeve formers inside the fuselage top. Let this assembly dry completely before sanding. We recommend the use of 10-12 minute epoxy for these steps.

15. Three plywood plates,F38, are provided for the cabin area. F39 is for the main cabin floor and also serves as a fuel tank mount. The other two plates are for servo and receiver mounting. Their positioning and method of attachment is up to you based on the location of your radio components.

Radio Installation:

16. The Decathelon is designed for one servo in each wing panel and four in the fuselage: one for throttle, one for rudder (pull-pull cable setup) and one for each elevator half. The rudder servo should be located in the center of the cabin area with an elevator servo on either side. Access to the radio compartment is through the door, which must be hinged, to open and close. The position of your battery is dependent upon the weight of your motor of choice and your CG location.

17. If the Rx battery must be located toward the rear of the airplane, you should fabricate an access door. With the open framework of the fuselage, this is not a difficult task and can be made to have a scale-like appearance.

18. The tail wheel and bracket (not included) are mounted to the provided plywood plate on the rear bottom of the fuselage. The use of machine screws and blind nuts are recommended.

19. The cowling is attached to the fuse by machine screws tapped into the F4A blocks. Position one block on the top centerline of the fuselage (top view) with the remainder equally positioned around the cowling top and sides. Position these blocks about 3/32 of an inch below the edge of the front former thus allowing the cowl to fit flush with the front of the fuselage, not on top of the former.

Fitting of Windshield and Windows

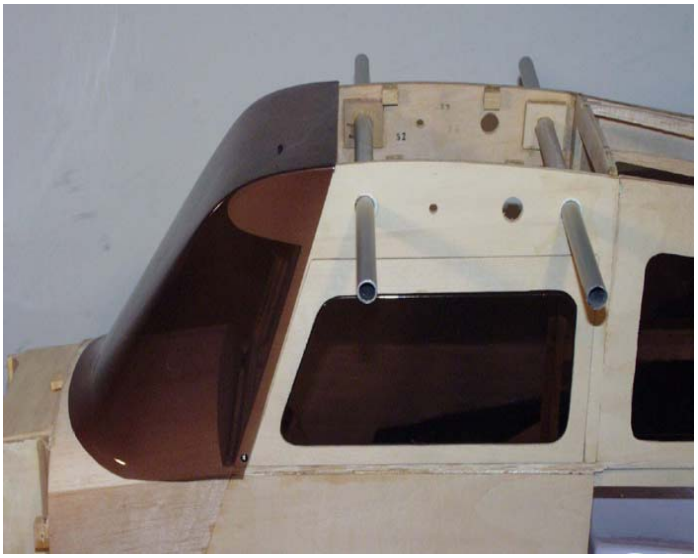
20. The windshield is preformed and must be trimmed to final shape. Using sharp scissors, carefully cut along the guide lines to achieve your final fit. The front side windows are press fit into their openings and only need to be trimmed to achieve a 3/16" lip around the window.

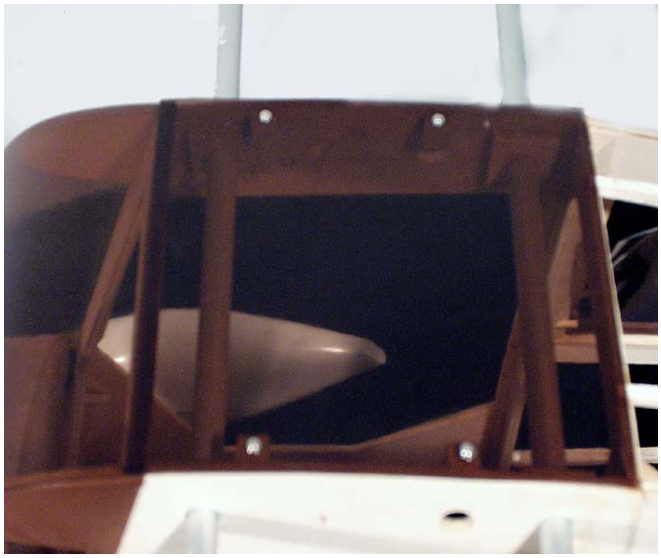
21. The side rear windows are slide into position into their channels and must be marked for final fit.

22. The top observation window must be cut to size from the stock that is provided. It is designed to fit under the top lip of the windshield and on top of the rear cabin plywood former.

23. In all cases, do not install the windows until the airplane is covered and painted. Once your model is completed, a clear glue (such as RC 56) can be used for final assembly. Scale details can be added by using the supplied small screws.

24. The left side window can be functional by being top-hinged and installing a simple latch to hold the unit flush with the fuselage side. Hinging is also required on the door as this provides access to your radio, wing attachment bolts, and fuel tank.





Positioning of your Motor

25. We have found this procedure to be the simplest method of mounting your motor. Take your fuselage and place foam rubber or similar cushioning on the floor. Place the tail end of the fuse on this cushion and prop the fuselage vertically. Place your motor on the firewall and temporarily position your cowl in place. Move the motor until the crankshaft is perfectly centered at the opening of the cowl. Carefully remove the cowl, mark the locations of the mounting holes, mark them and drill the appropriate holes into the firewall.

26. If your motor is too long to use the location of the existing firewall, carefully measure your engine's length from the rear of the motor mount to the thrust washer on the crankshaft. Measure the length of the cowl. Subtract this length from your motor dimensions and carefully mark the fuselage completely around.

27. Using a band saw or hand saw, carefully cut the firewall off the fuselage front. You can either clean up the provided firewall or cut another from good quality plywood of similar thickness. Epoxy the firewall into the shortened engine box and add 1-2 degrees of right thrust. Epoxy balsa or hardwood triangles all around the interior of this new joint with medium setting epoxy.

28. Once this step is complete, redo Step 25 to find the center mounting position of your motor.

Attachment of Tail Feathers

1. The horizontal and vertical stabilizers are ready for hinging and any final touch up sanding. For ease of covering, install the horizontal stab after it is covered but before it is hinged.

2. We recommend the use of CA-type hinging on the rudder and vertical stab. These slots can be nicely prepared with the use of the Great Planes Hinge Slotting Tool. Specific hinging instructions come with the hinges. The slots are made before covering and the hinges are installed after covering.

3. We recommend the use of independent elevator servos, each driving one elevator half. Prepare each half for your choice of control horn. On the rudder, also provide a hard point for the tail wheel steering linkage.

4. Small vacuum-formed exit guides are included in your kit to use where your pushrods exit the rear of the fuselage.

5. Servos could be mounted in the rear of the plane but this installation may create a nose heavy airplane.

6. After the fuselage is covered, remove any covering material from the stab where it is mounted within the fuselage. Do this very carefully and lightly as to not detract from the strength of the horizontal stab.

7. Slide the stab in and view the airplane from the front, top, and rear to ensure it is being mounted straight. This can be made easier if the wings are mounted with their struts attached.

8. Noting that the vertical stab interlocks with the horizontal stab, both pieces should be epoxied in together. Do not use excessive epoxy, as this will add extra weight without adding extra strength. Use an epoxy that gives you ample working time to ensure the tail feathers are properly attached.

9. Holes have been provided in the stab for tail support wires. You can use either rigid rods or kevlar cable. Sullivan Products makes a nice light set that can be used very successfully.