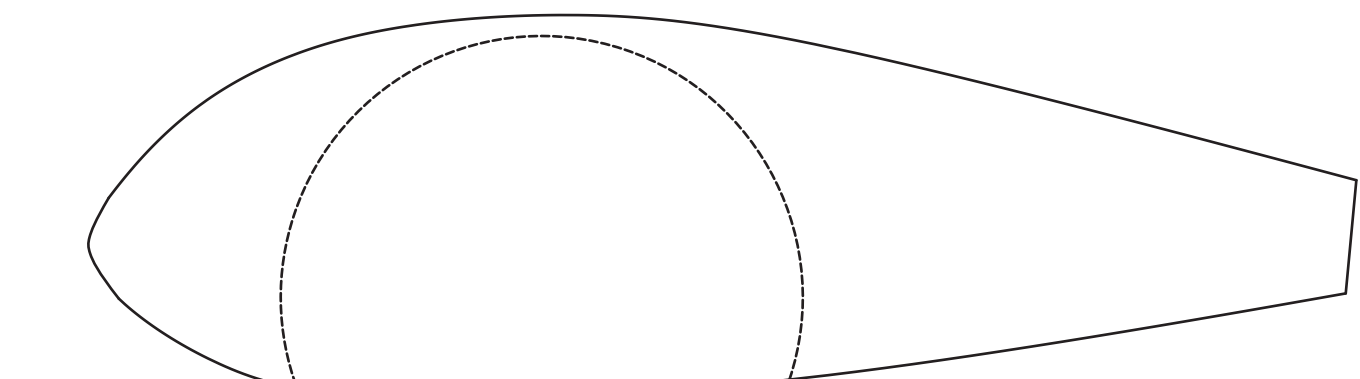


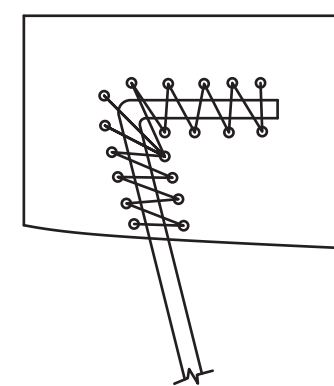
Tape hinges are used to save weight. Use clear packing tape for hinges

1. Apply a piece of tape to the top of the control surface first.
2. Make sure full deflection is used when lining up both surfaces.
3. Smooth down tape.
4. Now, fold control surface upward all the way as shown.
5. Apply tape to bottom surface and smooth down.
6. Check for freedom of movement.
7. You are done. Easy huh?



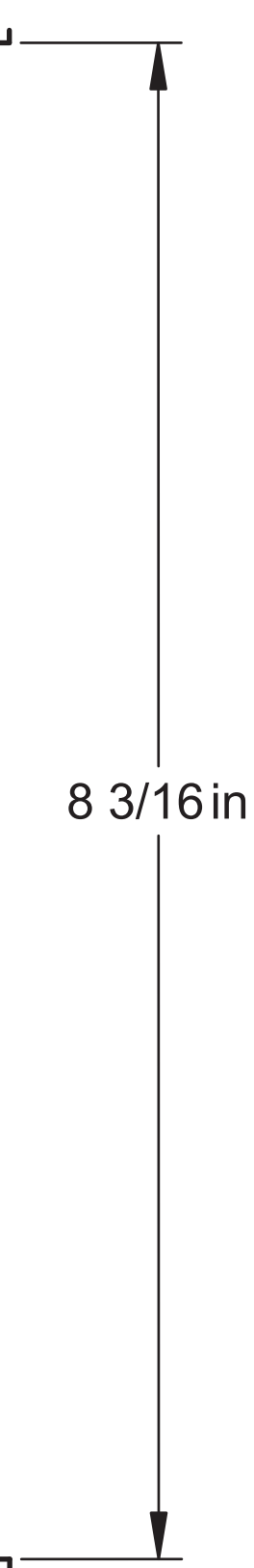
Wheel Pants: Cut out 8 wheel pant shapes from Fan Fold. Cut out wheel clearance areas in 4 of them. Peel the plastic off of the foam, then laminate 2 outside solid pants and 2 cut out inner pants together. Sand the edges round. You now have lightweight foam wheel pants.

Cut 2 strut covers
Groove foam at dotted line.
Use clear silicone glue to attach to gear wire.



Drill holes in ply plates along the gear outline. Glue gear wire to plate. Use thread to "sew" the gear to the plate. Coat the thread with foam safe Ca. or a light coat of epoxy.

Aileron interconnect push rod
Use suitable stiff wire.



Interplane Strut
Make 2

Use 3/32" music wire for gear or suitable substitute.

Front view

Gear wire patterns

Side view

Solder washer to gear wire

Note: Depending on motor and prop used, you may need to adjust motor for 2-5 degrees UP thrust. Test knife edge and full power vertical climbs. If the plane tends to pull toward it's belly, add UP thrust to motor. You can use paper shims under the front of the motor to adjust the thrustline.

*** Denotes cut-line to clear motor mount and motor

Hacker B20-15L (4.4:1)/Razor RZ 2500a
Note: Mount speed controller as close as possible to motor.

3/8" square hardwood block
motor mount

1 1/16in
CG Starting Point

1/32" Ply landing gear plate
Make 2 and laminate one on each side of fuse. Peel plastic from the foam under plate for a good bond.

Aileron servo. Make a cut-out in fuse for servo, or place one servo on each side of fuse for 2 servo aileron control. Use hot glue to attach servos to fuse.

Elevator servo
Rudder servo
(Servo locations are approximate)

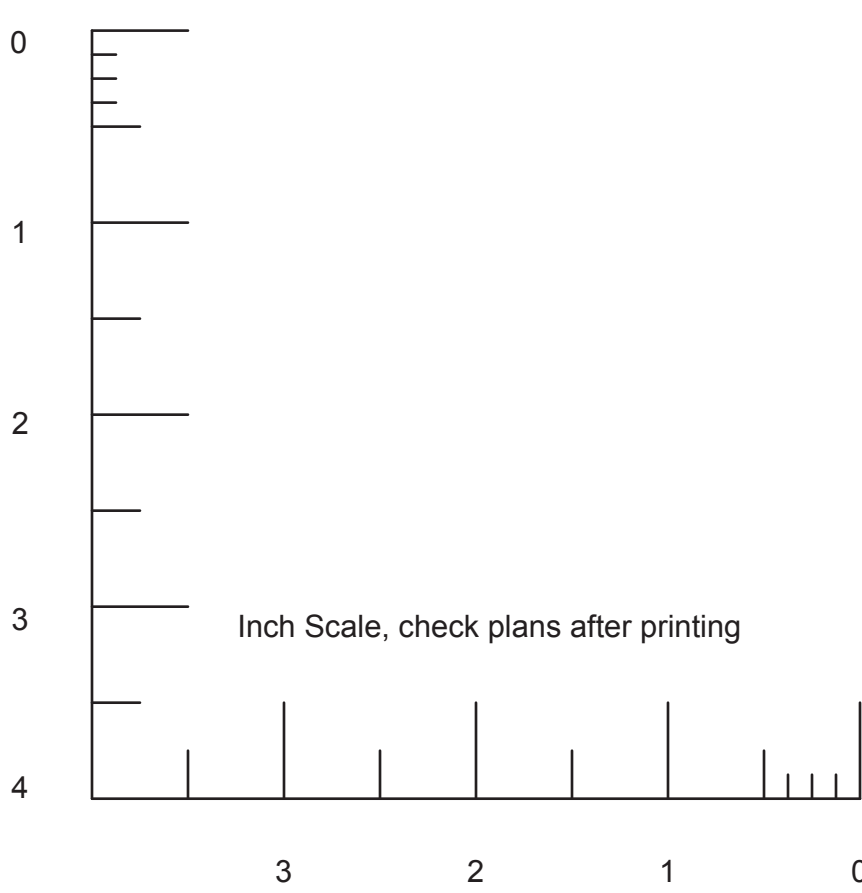
Horizontal stabilizer cut out

Push rod location and type are dependant on servo location and are up to the builder.

Rudder cut line

Control horn

Note: All airframe parts shown are cut from Fan Fold Foam, also known as Dow Bluecore. 6mm Depron may be used and is actually lighter.



Groove motor mount block so that motor will rest in the groove with motor shaft along fuselage center line. Groove allows zip ties to be used as motor mounting straps. This also allows easy adjustment of up-down thrust by placing masking tape shims under the front or rear end of the motor.

Drill 3/16" (4mm) hole in end of hardwood block to fit carbon tube. Drill hole just a bit big to allow for adjustment while mounting. Glue motor mount block to carbon tube after tube is mounted to fuselage. Adjust block for 2-3 degrees right thrust. Make sure to use epoxy for this step.

Cut out for bottom wing

Foam wheel pants, see note above

2 1/2" Park flyer wheel

Note: Placement of Elevator and Rudder servos on plans is approximate. Due to differing weights of components, mount servos so that airplane will balance at CG without battery mounted (temporarily mount the motor and speed controller) This allows for battery movement fore and aft to adjust CG. and the use of different types of batteries. (servo locations are not critical and may also be adjusted for the use of pull-pull cables) Cut holes in fuse and hot glue the servos in place.

Battery and servo locations: These locations are entirely dependant on the equipment you choose. Build the entire airframe. Then tape it together and temporarily mount the motor, prop, and speed controller. Locate your servos so that the model balances about 1" behind the CG shown on the plans. Now, locate the battery so that the model will balance at the CG on the plans. Lighter batteries will have to go farther forward. This method allows you to move the battery aft in small increments to adjust the CG to your preferred flying style. Equipment location is completely flexible, and is up to the builder.

Ultimate 10-300 3D Aerobatic Park Flyer

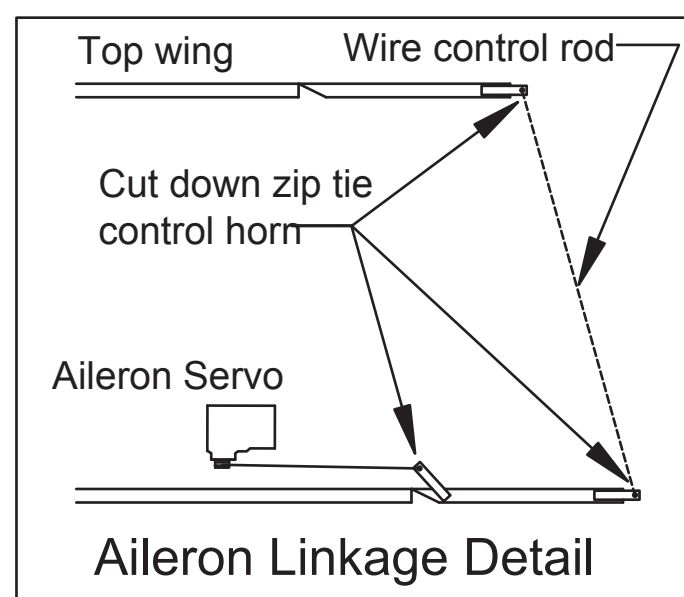
Wing Span: 40"
Weight: 18-20oz.
Power: Hacker B20-15L (4.4:1)/Razor 2500a
Propeller: APC 11.4.7 SlowFlyer
Battery: 3s2p E-Tec 1200ma LiPoly

Designed and Drawn By:

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Aileron push rod setup: Make 4 zip-tie control horns and locate them as shown on plans. Cut a slot in the foam for the horns. Glue zip-tie control horns to top ailerons only. Fit the control rod into the top horns. Next, fit the bottom horns onto the control rod. Then, fit the bottom horns into the bottom ailerons, but do not glue in place. Temporarily tape all 4 ailerons in the neutral position. Apply a bit of glue to the bottom horns and fit into slots in bottom ailerons. Adjust bottom horns as necessary so all 4 ailerons are neutral. Let the glue dry without disturbing the alignment.

Note: Carbon spar only on bottom wing

Carbon tube spars are available from
www.nyblimp.com

4mm carbon tube wing spar
Use a "wrapped" carbon tube for extra strength. Groove foam for spar, then epoxy into place. Place groove for spar on underside of wing.

Notch alignment tab on inter plane strut to clear carbon tube spar

Aileron control horns made from "zip-ties"

Bevel horizontal stabilizer, not elevator.
(other surfaces, bevel the control surface)

Aileron to aileron control horns.
Cut a slot for horn and embed the horn in the foam aileron. See aileron connection diagram.

Cut down Zip-Ties are used for control horns, or use your favorite method. The Zip-Tie can also be used for push rod standoffs to support the small dia. wire push rods.

Wire elevator joiner