

LiddleRod^{2.4}

Micro RC Model for Spektrum / ParkZone 2.4 systems



Length 12.5 inches | Span 14.75 inches | Wing Area 57 inches² | Flying Weight 1.1 oz.

Photo Supplement for Plans Dated 03.08.2010



Product Support

WARRANTY

Stevens AeroModel guarantees this kit to be free from defects in both material and workmanship at the date of purchase. This warranty does not cover any component parts damaged by use or modification. In no case shall Stevens AeroModel's liability exceed the original cost of the purchased kit. Further, Stevens AeroModel reserves the right to change or modify this warranty without notice.

LIABILITY RELEASE

In that Stevens AeroModel has no control over the final assembly or material used for final assembly, no liability shall be assumed nor accepted for any damage resulting from the use by the user of the final user-assembled product. By the act of using the user-assembled product, the user accepts all resulting liability.

If the buyer is not prepared to accept the liability associated with the use of this product, the buyer is advised to return this kit immediately in new and unused condition to the place of purchase.

THIS PRODUCT IS NOT INTENDED FOR CHILDREN 12 YEARS OF AGE OR YOUNGER

WARNING: This product may contain chemicals known to the State of California to cause cancer and or birth defects or other reproductive harm.

PRODUCT SUPPORT

This product has been engineered to function properly and perform as advertised with the suggested power system and supporting electronics as outlined within this product manual. Product support cannot be provided nor can Stevens AeroModel assist in determining the suitability or use of electronics, hardware, or power systems not explicitly recommended by Stevens AeroModel.

For product assembly support, replacement parts, hardware, and electronics to complete this model please contact Stevens AeroModel on-line at www.stevensaero.com.

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Project Checklist

Kit Contents

- Laser cut wood (5 Sheets - See inventory on following pages)
- Illustrated instruction manual - [Available for Download Only](#)
- Computer drawn 11x17 plan set (2 Pages)
- Laser cut profile pilot figure, assorted color (Courtesy of Kris Cartwright)

- Taped to Back of Wood Brick
 - 2 - 12 in. Length of 0.015 in. dia. Wire
 - 1 - 12 in. Length of 0.025 in. dia. Wire
 - 1 - 12 in. Length of 0.020 in. dia. Carbon Rod

- Hardware Bag (4 x 6 in.)
 - 1 - 1.5 in. Length of 1/16 in. dia. heat shrink tube
 - 1 - 3.0 in. Length of 1/2 in. Velcro (non sticky back)
 - 2 - Delrin Wheels

Required Electronics *(Available at StevensAero.com)*

- Spektrum compatible radio with servo reversing. We suggest the DX5e (DX6i if using AR6400).
- ParkZone [PKZ3351] or Spektrum [AR6400] Ultra Micro Receiver/ESC/Servo System.
- ParkZone Motor and Gearbox [PKZ3624] (Same motor as used in the Sukhoi and UM P-51)
- ParkZone UM P-51 Propeller [PKZ3601] or E-Flite [EFL9051] 130mm x 70mm propeller.
- ParkZone [PKZ1035] or E-Flite [EFLB1201S] 110-120mAh 3.7V LiPo Battery

Required Building Supplies and Tools

- 1/2 oz. Medium CA Glue
- 1/2 oz. Thin CA Glue
- CA glue accelerator (kicker)
- Hobby Knife with ample supply of #11 blades
- Sanding block with 400 and 600 grit paper
- Covering Iron and Heat Gun
- Small Needle Nose Pliers
- Small Round "Rat-Tail" file.
- 1 in. x 2 in. length sticky back velcro
- 3/4 in. wide clear tape
- 1 Roll AeroLITE (solite)

Suggested Building Supplies

- CA glue de-bonder
- Long sanding bar
- Low Tack Painters Masking Tape
- Dubro Servo Tape [DUB-634]

General Assembly Instructions

Thank you, for purchasing this Stevens AeroModel LiddleRod™. An indoor micro RC model developed for the popular Spektrum and ParkZone 2.4ghz micro receiver/esc/servo “brick” or “puck” systems. This model has been developed and manufactured using state of the art CAD/CAM systems and features a unique interlocking construction process that, when compared to traditional methods found in other model aircraft kits, save countless hours of measuring, cutting, sanding, and fitting. We are certain that you'll find our kit to offer a truly exceptional build experience. At any time should you run across a term or technique that is foreign please don't hesitate to contact our staff with your questions.

READ THIS

Please **READ** and **RE-READ** these instructions along with any other included documentation prior to starting your build and or contacting our staff for builder support.

Pre-sanding

Do not skip this step. Prior to removing any parts from the laser cut sheet wood use a sanding block loaded with 250-400 grit paper and lightly sand the back side of each sheet of wood. This step removes any residue produced as a result of the laser cutting process and, as we have found that most stock wood sizes run several thousandths of an inch over sized, slightly reduces the thickness of each sheet.

Leave your pre-sanded parts in the sheet until required in the assembly process.

Protecting your worktable

Use the poly tube that this kit was shipped in as a non-stick barrier between your worktable and the product assembly. Promptly clean up any epoxy spills with rubbing alcohol and a disposable towel.

Bonding the assembly

As this product tabs, notches, and otherwise interlocks like a 3D puzzle we suggest that when fitting parts you dry fit (use no glue) the parts together first. It's advised to work 1-2 steps ahead in the instructions using this dry-fit technique which allows ample opportunity to inspect the fit and location of assembled components and realizes a benefit as each successive part contributes to pulling the entire assembly square. Once you arrive at the end of a major assembly step(s) square your work on top of a flat building table and revisit the dry fit joints with glue. Using the dry-fit process you'll be able to recover from a minor build mistake and will ultimately end up with a more square and true assembly.

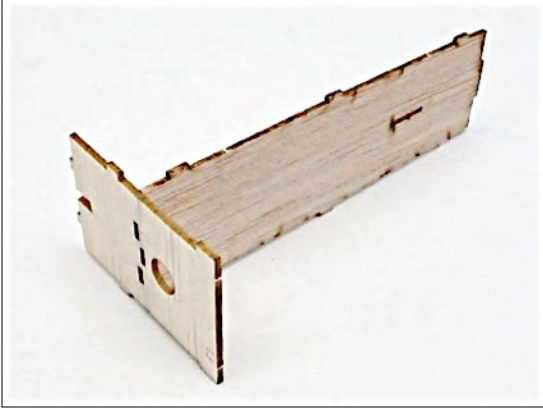
Unless otherwise noted in the instructions, always use medium CA glue for bonding parts.

Never force the fit!

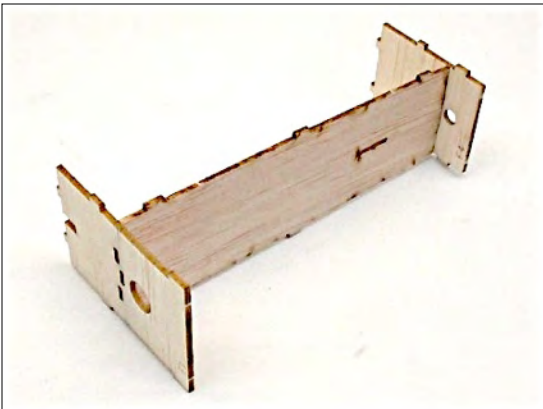
Remember this is a precision cut kit our machines cut to within 1 thousandth of an inch in accuracy. Yet the wood stock supplied by the mill may vary in thickness by up to 20 thousandths. This variance in the wood stock can cause some tabs/notches to fit very tight. Hey, dad always said it was easier to take away material than add it back. With this in mind, should you find a joint or two to fit rather snug consider lightly sanding a tight fitting tab rather than crushing and forcing your parts together. You'll break fewer parts in assembly and will end up with a more square and true assembly.

Fuselage Construction

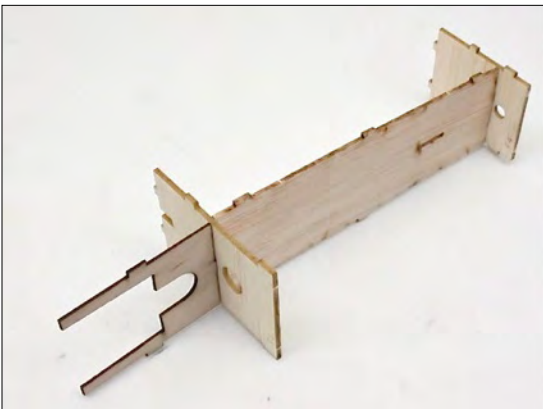
- Dry fit parts F2 and F3 together. Position parts so the marked "top" faces up. DO NOT GLUE.



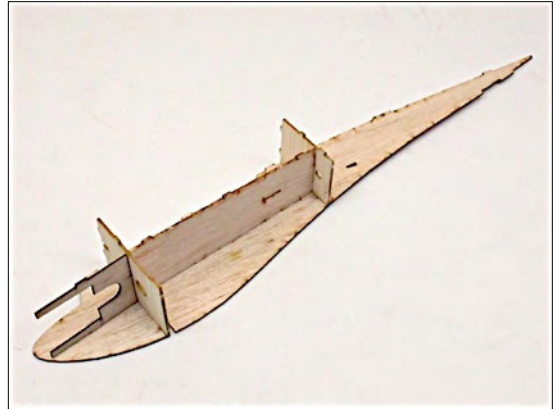
- In the same manner dry fit F4...



- ...Then F1 to the assembly.



- Fit assembly to the right fuselage side FL and tack glue at tab and notch locations.



- Fit left fuselage side FR to assembly and tack glue.

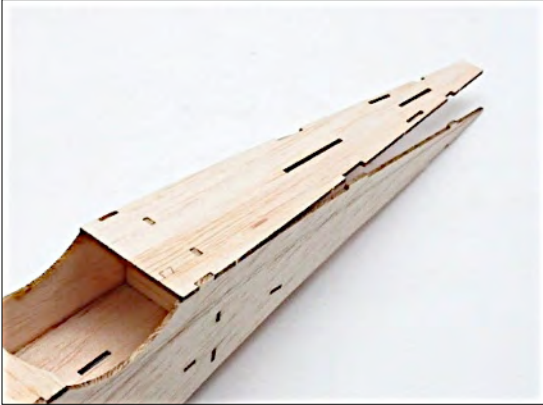


- Fit and tack glue part F5 to top of fuselage.

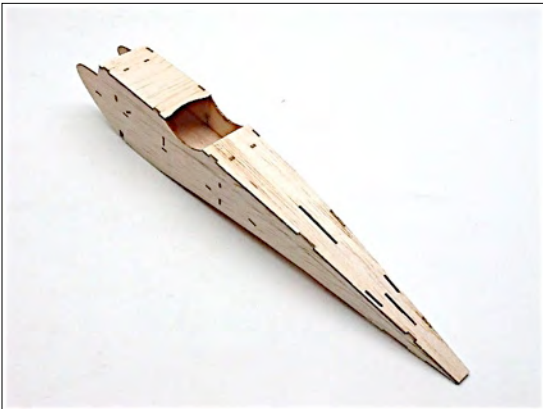


Fuselage Construction

- Fit and tack glue F6 to top of fuselage, starting at the rear edge of the cockpit.



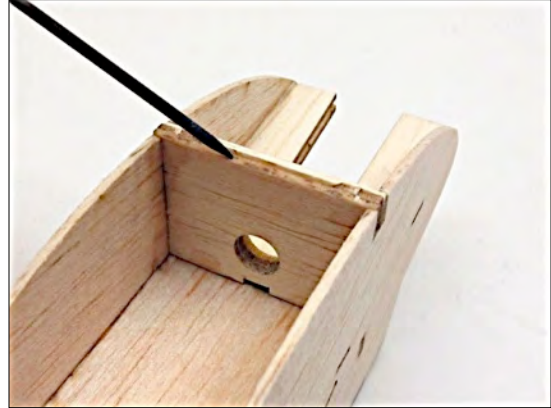
- Bring fuselage sides and F6 together at the rear and tack glue. Square fuselage on flat surface and glue all joints with thin CA.



- Fit G1 behind F2...



- ...then G2 behind G1 to form landing gear pocket. When satisfied with fit, wick thin CA around assembly and in gear pocket.



- Fit motor mount doubler F8 to top of ply motor mount.



- Match profile of F8 with that of F1 and glue in place.

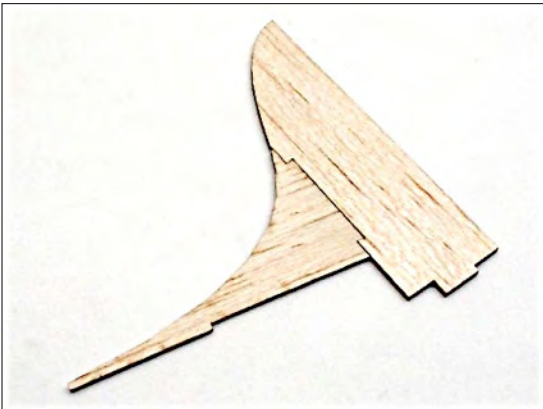


Fuselage Construction

- Fit and glue F7 to notches in front of fuselage assembly.



- Fit and glue vertical stabilizer parts V1 and V2 together.



- Fit vertical stabilizer to slots in fuselage assembly. Align stabilizer perpendicular to fuselage top and glue.



- Fit horizontal stabilizer H1 to bottom of fuselage using tabs on fuselage and bottom of vertical stabilizer to align. Square stabilizer to vertical fin and glue.



- Fit/glue lower fin V4 to horizontal stabilizer and V2. Double the fake tailwheel/skid with two V5 1/32 in. ply disks.

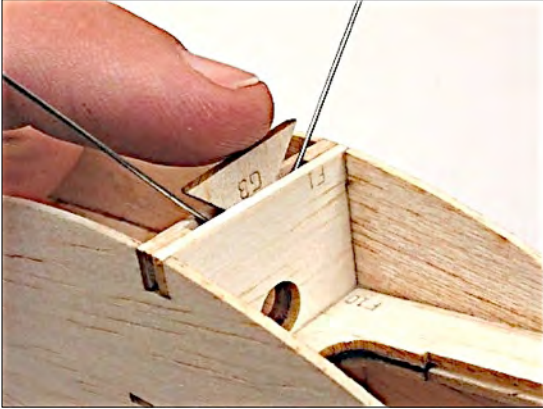


- Bend landing gear per plan sheet and fit to gear block.

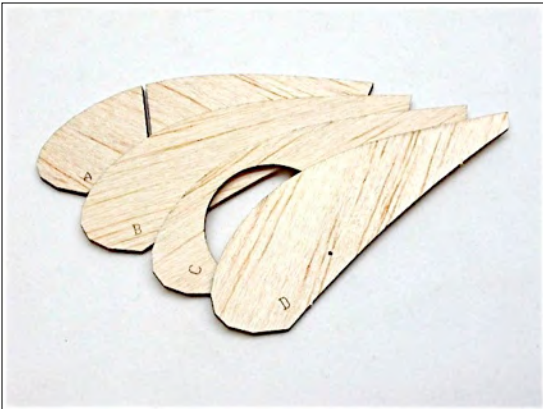


Fuselage Construction

- Secure landing ear within slot with part G3 and glue.



- Assemble right and left wheel pants. Locate wheel pant parts 1 - 4 and A - D.



- Tack parts in ascending order from work table up. Align edges and glue.



- Sand edges of pants round and taper to a pleasing shape.



- Fit wheel pants and nylon wheels to landing gear. secure with medium CA. Do not allow glue to contact nylon wheel within pants.

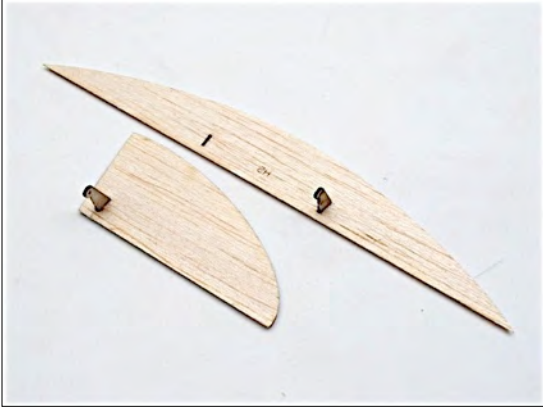


- Bevel leading edges of rudder and elevator.



Fuselage Construction

- Glue one control horn to the RIGHT side of the rudder. Glue the other horn to the UPPER LEFT side of the elevator.



- Install rudder and elevator with small strips of clear tape.



- Clip prongs from motor gear box and lightly sand tabs smooth.



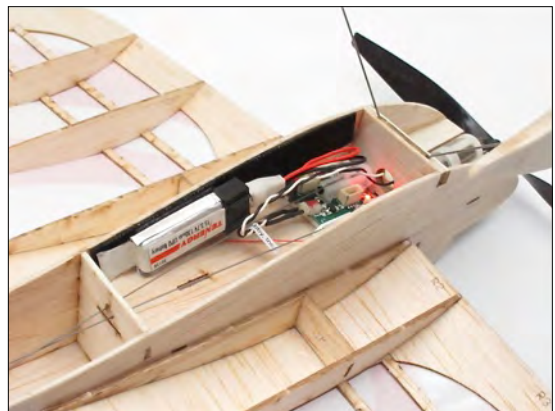
- Install motor so shaft points slightly to the right of the aircraft centerline. Secure with medium CA.



- Feed power lead through hole in fire wall and into radio compartment.



- Install receiver/servo brick to bottom of F3 with double sided tape. Make and install push rods per push rod detail on wing assembly plan page.

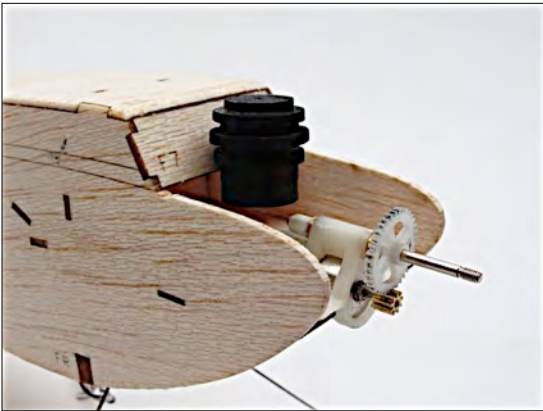


Fuselage Construction

- Create faux glow engine by stacking disks A through J on a scrap piece of .025 wire.



- Paint cylinder black and glue to front of F7 with medium CA.



- Glue pilot cut-outs to balsa figure part P with contact cement.



- Fit and glue pilot to part F3.

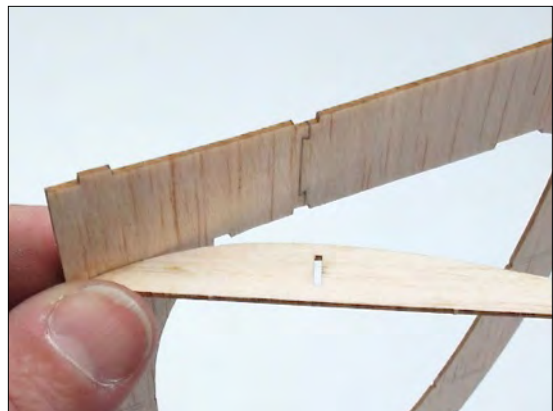


Wing Construction

- Fit and glue parts W1a and W1b together.

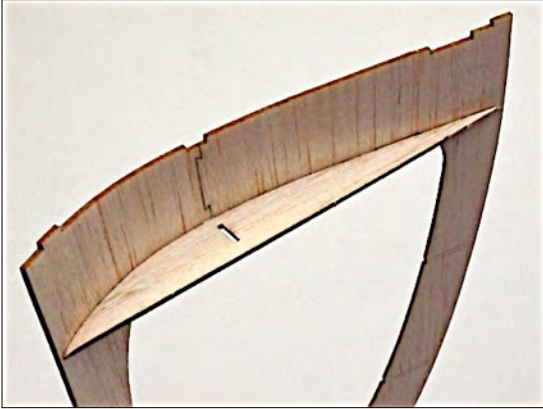


- Fit and glue rib R2 to slot in leading edge of wing.



Fuselage Construction

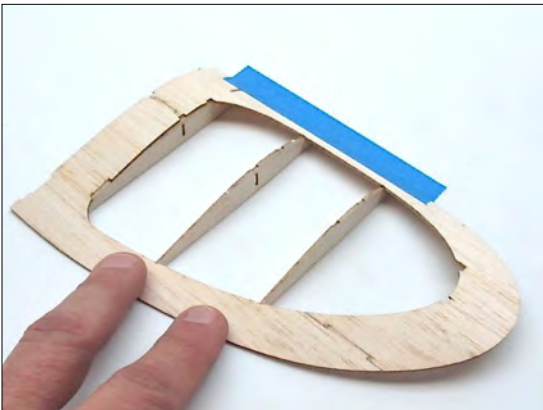
- Wrap frame over rib fitting rear tab in slot and aligning trailing edge with etch marks. Glue.



- Center ribs R3 and R4 to the etch marks on the leading edge of the wing frame and glue.



- tape the leading edge to the work surface, then wrap the frame over the ribs and glue at trailing edge.



- Install S2 and S3 wing spars to corresponding notches in wing frame and ribs R3 and R4.



- Fit S1 to rib R1 - Do not glue.



- Fit S1/R1 assembly to slot in rib R2 and wing frame. Align and secure with thin CA.



Fuselage Construction

- Sight along flats of ribs forward of spar S3 to ensure wings are not warped. If you discover that your wings are warped: Lightly mist wing with glass cleaner solution and pin to a flat work surface. Allow to dry completely before removing. Lightly sand wings to a smooth finish.



- Cover model using small swatches of light weight covering material such as AeroLite. Cover only the TOP surface of the wing. Performance of this model will be reduced SIGNIFICANTLY by covering the underside of the wing.



Final Assembly

- We have found it beneficial to lightly mist the entire airframe, prior to covering, with a lacquer based spray - We recommend Deft, available at your hardware store.

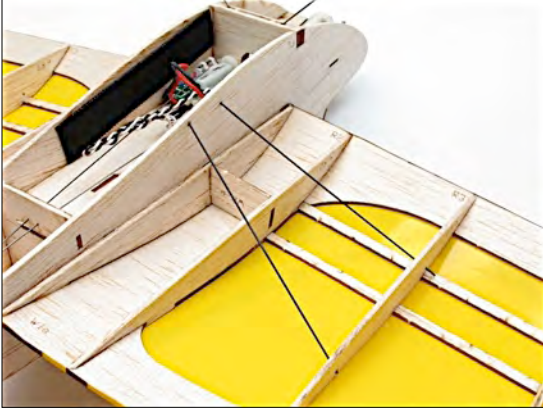


- Fit wings to the fuselage assembly. The wings interlock with the fuselage sides at the spar and the leading and trailing edges. Once satisfied that there are no gaps between the fuselage and the wing root, secure the wing with CA glue along the top and bottom root edge and within the fuselage along the spar tab.



Fuselage Construction

- Struts - while these are not required, we have found them beneficial for controlling wing washout. Follow the directions in step 4 of Final Assembly instructions on plan set for installation.



- Show your completed LiddleRod™ off to friends and family.

