

Build Instructions

Buzz 100



Toon Buzzard Bombshell

Length 16 inches | Span 21 inches | Area: 100 inches² | Flying Weight 1.8 oz.

Version 02/20/2012



Build Instructions

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.

Stevens AeroModel
PO Box 15347 - Colorado Springs, CO 80935 - USA
719-387-4187 - www.stevensaero.com

Build Instructions

Project Checklist

Kit Contents

- Laser cut wood (6 Sheets)
- Build Instructions (Photo Supplement Available for Download at StevensAero.com)
- Computer drawn plan set (2 Pages)
- Acetate Windscreen

Taped to back of wood brick:

- 1 - 0.032 in. x 12 in. wire
- 2 - 0.015 in. x 18 in. wire

- Hardware Bag
 - 1 - Delrin Receiver Tray Clip
 - 1 - 1-1/2 in. length of 1/16 in. heat shrink tube
 - 1 - 3 in. length of 1/8 in. dia. hardwood dowel
 - 6 - #16 Rubber Bands

Suggested Electronics (Available at StevensAero.com)

- Spektrum DSM2 2.4ghz transmitter with at least 3 channels*
- Parkzone or Spektrum ultra micro receiver/esc/servo "brick" [PKZ3351] or [SPMAR6400]**
- Parkzone motor and gearbox [PKZ3624]
- 130mm x 70mm Propeller [EFL9051]
- 3.7V 120-160mAh LiPo compatible with Parkzone / Spektrum "brick"

**While the game control style transmitters that ship with most ready to fly models are adequate, a full size transmitter such as the DX5e, DX6i, DX7 etc. offers superior control and performance.*

***The six channel SPMAR6400 servos are internally mapped to "Rudder" (Yaw) and "Elevator" (Pitch). For three channel usage, the user is required to utilize a computer radio capable of mixing. User must implement a +/-100% mix of Aileron to +/-100% Rudder to relocate the roll axis control for this model to the transmitters Aileron (Roll) channel. When using the PKZ3351 or PKZUA1151 the use of a computer radio and this mix is not required as the servos on this unit are internally mapped to "Aileron" (Roll) and "Elevator" (Pitch).*

Required Building Supplies and Tools

- 1-1/2 in. Mini Lite Wheels [DUB150MW]
- 1/4 oz. Medium CA Glue [PAAPT04]
- 1/4 oz. Thin CA Glue [PAAPT10]
- CA glue applicator tips [PAAPT21]
- Hobby Knife with ample supply of #11 blades
- Sanding block with 240/120 grits [SB120240]
- Heat Gun and Covering Iron
- Small Needle Nose Pliers
- 1/2 in. wide clear or hinge tape [DUB916]
- Soldering Iron
- AeroLITE Film (3 Patch Packs or 1 Roll)

Optional Building Supplies and Tools

- CA glue accelerator [PAAPT15]
- 1oz. Thick CA Glue [PAAPT20]
- Balsa filler [HCAR3401]
- Modeling Clay for Ballast
- CA glue de-bonder [PAAPT16]
- Long sanding bar
- Masking Tape (Low tack painters tape)

Build Instructions

General Assembly Instructions

Thank you, for purchasing this Stevens AeroModel **Buzz™ (100)**. A micro indoor flyer based upon the Buzzard Bombshell. This product 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. As this kit is recommended for the novice model builder and pilot; we invite beginners who have purchased this kit to seek the help of a seasoned builder and pilot. At any time should one 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 120-240 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 sequence 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 we find it easier to tack glue parts (temporarily bonding parts in assembly using a small dot of glue) using medium CA glue applied with a fine-tip CA glue applicator tip. Tight fitting joints should be bonded using thin CA glue applied, sparingly, with a CA glue applicator tip.

Never force the fit!

Remember this is a precision cut kit, our machines cut to within 5 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. With this in mind, consider lightly sanding, or lightly pinching, 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 airframe.

Manual Updates

Please check our web-site for updates to these instructions prior to commencing the build.

While not required for proper assembly of this model, full-color photos following the build sequence given in this instruction manual are available to download at StevensAero.com

To obtain downloads and updates relative to this model aircraft kit, please visit the corresponding product page at StevensAero.com

Build Instructions

Fuselage

Fuselage parts are designated with an "F" followed by a number. Parts have been numbered so that the fuselage assembly and required parts follows in numeric order from F0 to F26. With part F26 being utilized in the final assembly process.

The fuselage is of traditional sheet side with central crutch assembly. Many of the formers will need to be installed in a forward and top orientation. Unless otherwise specified, formers should be installed with the etched part number facing the front of the assembly and any top or bottom designations followed.

You will dry fit the majority of this fuselage assembly together only gluing at the final instructional steps. When parts cannot easily be retained with friction, use a single tiny drop of medium CA glue applied sparingly through a CA glue applicator tip to "tack glue" the part in place. Should you commit an error in assembly it will be easier to recover from the mistake and remove or correct the part fit in error if you do not slather the assembly in glue after each step! Further, this method of assembly will allow our interlocking design to do it's job as each successive part installed within the fuselage will help pull the entire structure square and true.

1. Fit two 1/32 in. ply parts marked "F0" to the slots within the Delrin receiver tray clip (located in your parts bag). See "Receiver Tray Detail" on the fuselage plan page for more detail.
2. Now fit and bond the receiver tray to the central crutch F1, on the side with the etching marked "Bottom". Ensure the long tab on the clip is oriented towards the rear of the crutch, to later allow for easy installation/removal of the receiver.
3. Fit and tack glue former F2 perpendicular (square) to *front* of central crutch F1. Ensure the marked "Bottom" of former F2 and Central Crutch F1 are both located to the bottom of the assembly.
4. Fit and tack glue battery tray F3 perpendicular to former F2 as illustrated on the plan.
5. Fit and tack glue former F4 perpendicular to the *rear* of the central crutch F1. Observe the

proper "Top" / "Bottom" orientation as marked on parts.

6. Fit 3/16 in. balsa fuselage doubler F5 to battery tray F3 and former F2. Note: Tab on F3 battery tray will extend beyond outside surface of F5 by 1/20th in. Now, tack glue F5 only at tab/notch points where it contacts the fuselage formers F2 and F3.
7. Dry fit the assembled central crutch to *right* fuselage side F6. Ensure that all tabs of central crutch assembly seat properly within their corresponding slots in the fuselage side.
8. Fit 1/32 in. ply motor mount F7 to fuselage by sliding tabs through the doubler F5 and the fuselage side F6.

Now, tack glue the crutch assembly only at tab and notch locations at fuselage sides.

Tack glue F7 motor mount to retain.

Now wick thin CA around doubler F5 and lightening holes within doubler to thoroughly bond it to the *right* fuselage side.

9. Fit instrument panel F8 to fuselage side behind doubler F5.
10. Fit remaining 3/16 in. balsa fuselage doubler F9 to battery tray F3 and ply motor mount F7. Tack glue within fuselage assembly only at tab and notch locations to retain.
11. Fit 1/32 in. ply landing gear brace F10 to slots in *right* fuselage side F6 immediately behind former F2 and straddling F3 battery tray. Tack glue part at tab/notch location at fuselage side to retain.
12. Fit 1/32 in. ply landing gear brace F11 to slots in fuselage side immediately behind F10 leaving a 1/32 in. spacing between parts F10 and F11 and straddling F3 battery tray. Tack glue part at tab/notch location at fuselage side to retain.

Build Instructions

13. Fit *left* fuselage side F12 to *left* side of completed assembly. Ensure all tabs nest completely within the corresponding slots cut to fuselage side. Square the assembly on a flat surface and tack glue at all tab/notch locations to retain.

DO NOT bond the fuselage sides to the upper half of former F4! This will be done in a later step.

Finally, wick thin CA around doubler F9 and lightening holes within doubler to thoroughly bond it to the *left* fuselage side F12.

14. Bring the rear of the fuselage sides together and fit stabilizer mount F13 to slots at the end of the fuselage. Tack glue with medium CA.
15. Fit and tack glue former F14 to fuselage side immediately in front of F13.
16. Fit and tack glue former F15 to fuselage sides where indicated on the plans.
17. Fit 3/32 in. balsa spine F16 to formers F4, F15 and F14. Tack glue with medium CA.
18. Fit the front edge of wing saddle F17 to former F2 and fuselage sides. Tack glue with medium CA glue ONLY at former F2 and *forward* most *right* and *left* tab and notch locations.
19. Wrap the *upper rear* portion of the fuselage sides together along the back of the wing saddle F17 and at F4. The fuselage sides should rest against the contoured edges of F17 and F4. Ensure the tabs in F17 fit properly within the slots of the fuselage sides, and that there are no gaps. Tack glue parts with medium CA.
20. Temporarily fit the provided 2 in. dowel through the hole in the spine F16. Slide a total of six *rear* wing mount dowel supports F18 onto the dowel, three each to *right* and *left* side of the F16 spine. Lightly tack glue the supports to each other and the spine.

Now, REMOVE THE DOWEL then more thoroughly bond the F18 supports to the spine, former F4 and each other with thin CA.

21. Fit and bond *forward* wing retention dowel mount F19 to wing saddle F17 and fuselage sides.

22. Fit fuselage bottom F20 in place between the fuselage sides and to former F4. Square assembly on a flat surface and bond bottom to the sides from the inside of the fuselage. Now, bond formers F14, F15, and spine F16 to fuselage assembly at this time.

23. Fit and bond part F21 to fuselage sides and landing gear brace F11.

24. Moisten one side of nose sheeting F22 with glass cleaner to facilitate bending it around the nose. See plan set for part location, now fit to tabs in fuselage sides and former F2 - moist side out - and tape in place and allow to dry. Once part has dried, remove tape and bond in place.

25. Follow the procedure in step 24 to fit and shape nose sheeting F23 to the *top* of the nose. When dry, bond with thin CA.

26. Fit and bond one stringer to *right* and *left* side of formers F4, F14, and F15. These should go in easily, however, two extras stringers are supplied just in case one should break during installation.

27. Fit pushrod guide F24 to the RIGHT outside edge of former F15 and extending to the aft of the fuselage spanning stringer and fuselage side.

Note: Ensure the relief in the edge of F24 is oriented to the top, against the stringer, forming a slot for the pushrod to pass through. When satisfied with the fit, bond F24 in place. *Ensure no glue enters the slot between stringer and F24 as this will interfere with the operation of the pushrod.*

28. Slide ply part F25 between landing gear braces F10 and F11, creating a pocket to receive the wire landing gear. Wick a small amount of thin CA glue within and around the pocket to secure F25. Ensure that the pocket does not fill with glue. Set ply part F26 aside until landing gear is installed during final assembly.

Build Instructions

29. Revisit all tack glued joints between and along parts with thin or medium CA glue to more thoroughly bond the assembly. Go easy on the glue as this can add significant weight to the completed model.

Now, lightly sand fuselage smooth. Remove excess from any tabs that protrude through the fuselage sides, especially around the wing mount. Trim and sand the rear dowel supports F18 to flow smoothly from former F4 into the contours of the aft fuselage. *Tip: When shaping parts, protect the areas that you do not wish to sand, or reduce through sanding, with masking tape.*

30. Lightly sand the edges of the nose to a pleasing, rounded shape. Leaving the fuselage square where the wind screen will be installed. Set fuselage aside until final assembly.

Tail Group

The horizontal and vertical stabilizers, rudder, and elevator are cut from the 3/32 in. balsa sheet and designated with a "H", "V", "R", or "E" as appropriate, followed by a numeric. Parts have been numbered so that the assembly and required parts follows in numeric order. *Assemble components over the plan sheets, protecting the plan from glue spills with the poly bag that this kit shipped in.*

31. Assemble the Horizontal Stabilizer over the plan, from parts H1 through H6. Bond with CA. Lightly sand stabilizer following the sanding instructions given on the plan set.
32. Assemble Elevator over the plan, from parts E1 through E5. Bond with CA. Lightly sand Elevator following the "Stabilizer and Elevator Tape Hinge Diagram" and sanding instructions given on the plan set.
33. Assemble the Vertical Stabilizer over the plan from parts V1 through V5. Bond with CA. Lightly sand stabilizer following the sanding instructions given on the plan set.
34. Assemble the Rudder over the plan from parts R1, R2, and R3. Bond with CA. Lightly sand Rudder following the "Stabilizer and Rudder Tape Hinge Diagram" and sanding instructions given on the plan set.

Wing

The wing is composed of one spar, leading edge, trailing edge, ribs and tip sheeting. Wing parts are designated with a "W" followed by a numeric. Parts have been numbered so that the wing assembly and required parts follows in numeric order from W1 to W28.

The wing is assembled one section at a time - left, then right inner sections, center section, and the wing tips separately. When a part is required in the build sequence (for instance "W3") refer to the plan set for part placement.

You will dry fit the majority of this wing assembly together only gluing at the final instructional steps. When parts cannot easily be retained with friction, use a single tiny drop of medium CA glue applied sparingly through a CA glue applicator tip to "tack glue" the part in place. Should you commit an error in assembly it will be easier to recover from the mistake and remove or correct the part fit in error if you do not slather the assembly in glue after each step! Further, this method of assembly will allow our interlocking design to do it's job as each successive part installed within the wing will help pull the entire structure square and true.

Wing Center

35. Begin by building left half of wing. Locate parts W1 (main spar), and one each of ribs W2, W3, and W4. Using the plan set as a guide, dry fit ribs W2, W3, and W4 to deeper slots within spar W1.
Note: The bottoms of all ribs should seat flush with bottom of spars, if they do not, double check your rib installation over the plan set.
36. Fit trailing edge W5 to ribs W2, W3, and W4 with the arrow marked on W5 pointing to wing rib W2. Tack glue part to retain.
37. Fit and bond gusset W6 to trailing edge and rib W2.
38. Fit leading edge web W7 to ribs W2, W3, and W4 with the arrow marked on W7 pointing to wing rib W2. Tack glue part to retain.
39. Fit leading edge W8 to leading edge web W6 with arrow marked on W8 pointing to wing rib W2. Tack glue part to retain.
40. Fit and tack glue sub-ribs W9 and W10 to W1 spar and W7/W8 leading edge.

Build Instructions

41. With wing held flat against your building board, fit and glue diagonals W11, W12, W13, and W14 between ribs and sub ribs as indicated on plan.

Note: W11 differs slightly to allow for the dihedral break, and must be located between rib W2 and sub-rib W9.

With all diagonals in place, bond all mating surfaces between diagonals, ribs, spar, leading edge, and trailing edge with CA glue.

42. Block and support the *left* side of the wing to allow for the *right* side spar to sit flat on your building board. Now, repeat steps 35 through 41 to build the *right* half of the wing.
43. With *center* section (narrow portion between *left* and *right* ribs W2) held flat against the building board, fit and glue trailing edge W15 between ribs W2.
44. Fit the *center* section leading edge parts W16 and W17 between center ribs W2. *Note: that arrows on W16 should face forward.*
45. Fit and glue ply trailing edge reinforcement W18 to the recess at the trailing edge of wing spanning parts W5 and W15.

Wing Tips

46. Build the *left* wing tip first. Fit spar W19 to rib W20.
47. Support the wing so that the *left* wingtip will lie flat on the building board. Fit and tack glue W19 to rib W4.
48. Fit trailing edge W21 with arrow marked on part W21 pointing to rib W4 and spanning ribs W4 and W20. Tack glue to retain.
49. Fit leading edge web W22 with arrow marked on part W22 pointing to rib W4 and spanning ribs W4 and W20. Tack glue to retain.
50. Fit leading edge W23 on top of W22 with arrow marked on W23 pointing to rib W4 and spanning ribs W4 and W20. Tack glue to retain.
51. Fit sub-rib W24 to leading edge and spar.

52. With wing tip held flat atop your building board, fit diagonals W25 and W26 between ribs as indicated on the plan.

Note: W25 differs slightly to allow for the dihedral break and spar pass through. W25 must be located between ribs W4 and sub-rib W24.

With all diagonals in place, bond all mating surfaces between diagonals, ribs, spar, leading and trailing edges with CA glue.

53. Fit and bond wing tip support W27 to rib W20. Marked arrow and tab on W27 should be oriented to top of wing.
54. Bond one each W28a and W28b to create part W28 wing tip sheeting.
55. Tack glue W28 to the leading edge and forward most flat (area on rib just forward of front tab) of rib W20.
56. With wing tip on a flat surface, slowly wrap tip sheeting over rib W20 from front to back, fitting to tabs on rib and wing tip support W27, to slots in sheeting. Tack glue assembly as you proceed. Once properly positioned, bond all mating surfaces between wing tip at rib, spar, leading edge, wing tip support, and trailing edge.

57. Repeat steps 46 through 56 to build *right* wing tip. **Caution! Ensure that you build a mirror image wing tip, and NOT two left wing tips!**

Building Tip: Turn plan over and place on a light colored surface - the back side of the other plan sheet works well - so that you can see the wing tip plan through the paper. Build your right wing tip over this "mirror image" of the left wing tip.

58. Revisit all tack glued parts with CA glue to thoroughly bond and retain parts within assembly.
59. Trim and sand leading edge to flow smoothly into tip sheeting. Now, sand wing lightly, rounding leading edge to match the profile on the fuselage plan sheet. Leaving the trailing edge square.

Build Instructions

Final Assembly

60. Cover model in a snazzy scheme with a *lightweight* material. We suggest AeroLITE, available at StevensAero.com.

Note: Leave underside of the rear of the fuselage uncovered for now. This will be covered later after pushrods have been installed.

61. Following "Landing Gear Detail" on plan set, accurately bend landing gear using a small pair of needle nose pliers and the included 1/32 in. wire.
62. Trim covering on fuselage to expose landing gear pocket. Test fit landing gear within gear pocket of fuselage. Remove.
63. Install wheels of your choosing to landing gear. We suggest Du-Bro 1-1/2 in. mini lite wheels [DUB150MW] available at stevensaero.com. Retain wheels by making a 90 degree bend in gear axle and trimming excess wire as illustrated on plan set.
64. Install landing gear within fuselage and retain with 1/32 ply part F26 as illustrated on plan set. Friction alone should be sufficient to retain F26 allowing easy removal of landing gear. If desired, retain F26 and landing gear within fuselage using thin CA glue.
65. Cut the provided 3 in. length of 1/8 in. hardwood dowel to 1 and 1-1/4 in. lengths forming front and rear wing retention dowels. If desired, paint these dowels to match your trim scheme.
66. Use a hot soldering iron or knife to open oval pocket at top/center of wind screen to allow for installation of previously cut 1 in. length of dowel (step 65). Reference plan set for installation of forward wing retention dowel. Bond within fuselage assembly from behind wind screen, through former F2, and underneath wing saddle F17.

67. Use a hot soldering iron or knife to open circular pockets immediately aft of rear former F4 to allow for installation of previously cut 1-1/4 in. length of dowel (step 65). Center dowel between fuselage sides through holes spine F16 and dowel supports F18. Make certain equal amounts of dowel protrude beyond fuselage sides on both right and left of fuselage. Once centered, bond dowel with thin CA glue to secure rear wing retention dowel.
68. Follow the Push Rod Detail on the plan to make and install the pushrods. The elevator pushrod will pass through the exit slot in the **left** fuselage side, the rudder pushrod through the slot in F24 on the **right** side of the fuselage. Keep pushrods from sliding out by applying a small amount of tape to each end.
69. With pushrods in place, cover the rest of the lower portion of the fuselage.
70. Connect the pushrods to the receiver [PKZ3351 or SPMAR6400]. The rudder pushrod connects to the servo nearest the antenna, the elevator pushrod to the servo farthest from the antenna. Refer to Receiver Brick Detail on the plan.
71. Fit the receiver to the receiver tray by engaging the circuit board in the slot in the shorter post first, then gently press down on the receiver until it snaps into place in the notch in the longer post. To remove the receiver, gently pull back on the longer post to release the circuit board and lift up on the receiver.
72. Follow tape hinge diagrams on plan for the elevator and rudder to attach them to the horizontal and vertical stabilizers.
73. Open up slot on LOWER LEFT side of elevator to receive one laser cut control horn. Fit and bond control horn as illustrated on plan.
74. Open up slot on RIGHT side of rudder to receive one laser cut control horn. Fit and bond control horn as illustrated on plan.

Build Instructions

75. Remove covering from the tab on the Vertical Stabilizer, and from the slot in the Horizontal Stabilizer and rear of the fuselage deck. Dry fit Vertical Stabilizer through Horizontal Stabilizer, and fit assembly to fuselage. The tab on the Vertical Stabilizer will fit the slots in F13.
76. Temporarily fit wing to wing saddle on fuselage. Check and adjust square of Horizontal and Vertical Stabilizers relative to fuselage and wing assembly until both are perpendicular to each other and the fuselage (see the "Stabilizer Alignment Diagram" given on the plan sheet). When in doubt, stand back from model and trust your eye, it's far more accurate than you give it credit. With stabilizers squared to fuselage, retain by tack gluing with medium CA glue at several points along Horizontal Stabilizer and Fuselage. When satisfied that everything is square, bond the tail group with a small amount of medium CA glue along contact points between Horizontal and Vertical Stabilizers and the Fuselage.
77. Trim pushrods to length and attach to control horns at control surfaces per diagram on plans. Prior to setting final length of pushrods (by securing parts "A" and "B" with heat shrink), power up your radio equipment and center the trims for channels controlling elevator and rudder. Once centered at transmitter, mechanically center the rudder and elevator. After determining the final position of the pushrods during flight testing secure with a small drop of medium CA glue.
78. Open covering over the slot on the bottom of the fuselage, and mount the tail skid as illustrated on the plan. Bond with medium CA.
79. Trim the mounting pins from the PKZ3624 gearbox (these pins are for use on foam models Yuck!). Now route motor wire from PKZ3624 through the opening at the nose of the model and over the landing gear pocket. Connect motor wires to receiver. Set motor and gearbox within slot at F6. Secure gearbox with a drop of glue under each "ear" to retain proper right offset to thrust line.

Note: CA glue is perfectly acceptable to use here. Just remember that CA glue is semi permanent and motor replacement will be a challenge. White glue, hot glue, and silicone adhesives (caulk) are also acceptable.

Secure the motor within the assembly using the glue with the retaining properties and set time that you are most comfortable with. Personally I use CA... but then again I never crash and have never lost a motor.... (sarcasm).

80. Fold the pre-cut acetate windscreen along the perforations and install in position indicated on plan. Temporarily retain windscreen with several small pieces of masking tape. Now permanently retain by lifting the edge of the wind screen and applying small drops of medium CA at several points (spaced maybe 1-2 inches apart) along the long edges of wind screen. Use only enough glue to "spot weld" that windscreen in position. Remove the masking tape once the glue has cured.
81. Install a small piece of velcro to the battery, and on the battery tray F3 (or to alternate location within fuselage to achieve proper model balance). The battery may be moved *fore* and *aft* to adjust the final balance of the model.
82. Mount the propellor EFL9051 on the motor. The EFL9051 prop simply threads onto the motor shaft. This part ships with a foam rubber spinner that may be retained to the prop using a drop of medium CA glue.
83. Mount wing using two new and fresh #16 rubber bands. Refresh rubber bands before each flying session.
84. Adjust the balance of your model by moving the battery or adding a bit of modeling clay within nose of model. Model should balance on the spar to 3/8 in. behind main spar.

Build Instructions

Flight Control Setup

- Inspect the wing for any warps that may have worked their way in when covering, or while the model was in storage, and remove prior to flight. **DO NOT ATTEMPT FLIGHT IF WING IS WARPED. Lack of aileron control on this model will make contending with a warped wing very difficult. FIX THE WARP.**
- Center control surface, then set direction, rate of travel, and dampening (expo).

Rudder servo should be controlled by the Aileron (roll) channel of your radio as rudder on this model also controls roll of the aircraft. Rudder should follow Aileron stick travel (i.e. moving Aileron stick to *right* should move Rudder to *right* of aircraft). Likewise, *left* Aileron stick input will move Rudder *left*.

Elevator servo will be controlled by Elevator (pitch) channel of your radio. Pulling back on the Elevator stick should result in the Elevator moving *up*. Likewise, *forward* stick results in the Elevator moving *down*.

The **Buzz™100** is designed to be a very docile flyer, therefore the flight controls are set up for fairly minimal throws. The Rudder and Elevator throws should be as follows:

Rudder Travel		
Low Rate +/- 15 degrees	30%	expo
High Rate +/- 20 degrees	50%	expo

Elevator Travel		
Low Rate +/- 15 degrees	30%	expo
High Rate +/- 20 degrees	50%	expo

The above exponential settings apply only to computer radios.

Pre-Flight

Have an experienced pilot assist you with pre-flighting your new model. Just like having someone proof read something you've written, having a second **fresh** set of eyes to inspect your final product is often helpful at avoiding disaster.

While not an exhaustive pre-flight check these are some of the major items that you should consider using when developing your own pre-flight check list. Get in the habit of always pre-flighting your models before each and every flight.

- Weight and Balance** - Check the **Buzz™100's** balance. The model should balance on or 3/8 inch behind the main spar. Use a permanent marker or trim tape to mark the underside of the left and right wing half at the CG measurement as given above.
- Use your *right* and *left* hand index fingers and suspend the model from below, between the marked CG measurements. Site from profile of aircraft against horizon. If the straight edge of the fuselage side (below the stringers and in-line with the Horizontal Stabilizer) appears to hang level with horizon line, then the **Buzz™100** is properly balanced to fly. If not, move battery within fuselage to obtain proper balance or add ballast to the nose or tail of the model.
- Check Weather** - The **Buzz™100's** first flight should be outdoors and in **zero** wind conditions. The **Buzz™100** is capable of flying in winds up to 5-8 mph so long as the pilot is capable.
- Inspect airframe** for warps and obvious signs of wear or damage. Do not fly a damaged or warped model.
- Inspect control surfaces** for center, proper direction of travel, rate of throw, secure pushrod connections, hinges, and receiver/ servo mounting hardware.
- Check wing attach points** for damage and/ or wear. Inspect rubber bands, that they are installed correctly and in good condition to adequately retain wing.
- Inspect battery for full charge.** Never begin a flight with a partially charged battery.
- Clear prop!** Before applying power to the model, clear and keep clear of the prop arc.
- Range check radio.** Follow the radio makers guidelines for performing a proper range check.
- Check for traffic.** Proceed to the flight line (With your mentor/instructor if you are a novice pilot) and observe other RC traffic. If the runway is clear, and no one is in the pattern to land, loudly announce your intentions to take off. Remember etiquette dictates that all aircraft on ground must yield the runway to those landing.

Build Instructions

- Go flying.** Point model into wind (if present) and steadily advance throttle to full. Use rudder to correct track while on ground roll. Within several feet the model should be airborne. Fly model to a comfortable 1-2 mistake high altitude, reduce throttle to stop climb, then trim model for straight and level flight at a comfortable cruise speed (Depending on speed control responsiveness, the **Buzz™100** typically cruises at just over 1/2 throttle).

- Setup for landing.** Clearly announce your intention to land. Make landings into the wind. With rudder/elevator control and no ailerons setting up landings in cross-winds should be avoided until you are comfortable with the model's in-flight behavior.

E-Mail - support@stevensaero.com

RCGroups.com - Forum Build Threads

Facebook.com - Search for Stevens AeroModel

Stevens AeroModel
PO Box 15347
Colorado Springs, CO 80935
719-387-4187

Congratulations!

You've completed your first flight(s) on your Stevens Aero **Buzz™100**

By now you'll have noticed that the **Buzz™100** is a very stable airplane. When built straight, and trimmed for level flight, the **Buzz™100** should always return to wings level from any attitude. We've found the **Buzz™100** to capture the imagination of prospective pilots both young and old. We never miss an opportunity to allow an on-looker at the field to get some stick time in with the **Buzz™100**. In-fact we've found the **Buzz™100** to be a very capable, instructor assisted, three channel trainer.

If your first flight was a bit more exciting than you'd have liked and are having problems with erratic flight performance; please inspect your equipment and airframe for damage, improper installation, and/or twists and warps. The most common mistake is to try and fly with a warped or twisted wing. With such a fat chord and short moments a small warp can cause big in-flight problems. Make certain that your wing is straight before you fly.

We are committed to improving your build and flying experience and are constantly refining our processes, designs, and manuals to reflect customer feedback. You may correspond with Stevens AeroModel staff using any of the following methods: