



Sbach Instruction Manual

Our airplane model:

- 1 All of our planes come with carbon fiber parts (Spinners, Gear, Arms, tubes). They are high quality with most features done for you already.



- 2 Pre-glued cowling ring with blind nuts mounted.



- 3 Canister installation position in Fuselage



- 4 Removable wings and stabs



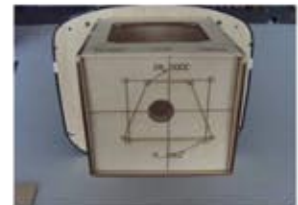
5 Pre drilled servo control horns



6 Laser cut engine mounting templates



7 Pre installed firewall



8 Pre install pull pull wire with ball links on rudder



9 Carbon Fiber wing tube include



10 Floor and dashboard for cockpit



Caution!

- 1 You should not regard this plane as a toy!
- 2 To ensure safety, please read this instruction manual thoroughly before assembly.
- 3 Building and operating a model plane requires diligent practice and correct guidance. An inexperienced flyer can cause serious injury and property damage.
- 4 Seek the assistance of an experienced RC pilot or model airplane club for help with assembly, operation and maintenance to ensure your flying experience is both enjoyable and safe.
- 5 Fly only in AMA (Academy of Model Aeronautics) approved areas. Approved areas or areas approved by the Model Association of your country.

Main Landing Gear and Tail Wheel Unit

Tail Wheel Unit

- 1 Drill a hole and make it fit the steering tube.

Do not glue it into position until the tail wheel installation step is completed.



- 2 Assembly photo for the tail wheel parts.



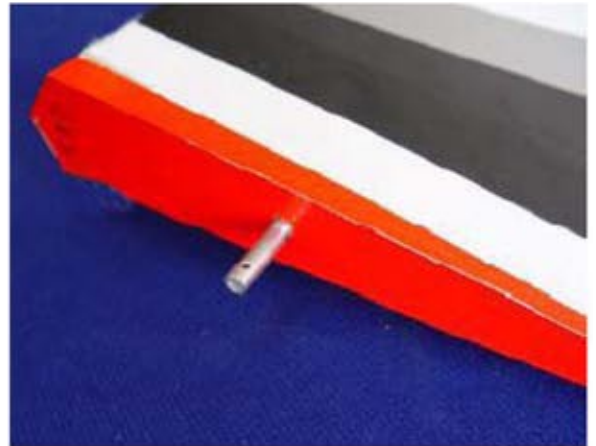
- 3 Use the tail wheel bracket as a template and drill holes for the mounting bolts.



- 6 Insert the steering arm into the rudder steering tube and position the tube ready for gluing. Tighten the set nuts.



- 7 Epoxy the steering tube in place as shown.



Main Landing Gear Installation

All parts for the main landing gear



- 1 Install the landing gear in the pre-drilled holes with the supplied bolts and locking nuts.

Secure the bolts with Blue Loctite



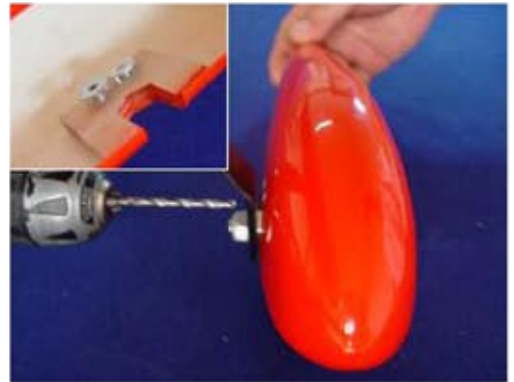
- 2 Install the landing gear axles with lock nuts but do not tighten yet.



- 3 Install the wheel and tighten the collar set screw using a drop of Blue Loctite. Make sure the wheel rotates freely.



- 4 Slipping the wheel pant over the axles and mark the position for the two attached bolts.



- 5 Drill the holes for the attached bolts and install the blind nuts as shown.



- 6 Mount the wheel pants and secure the bolts with a drop of Blue Loctite.



Main Wing Assembly

Parts for Main wing installation



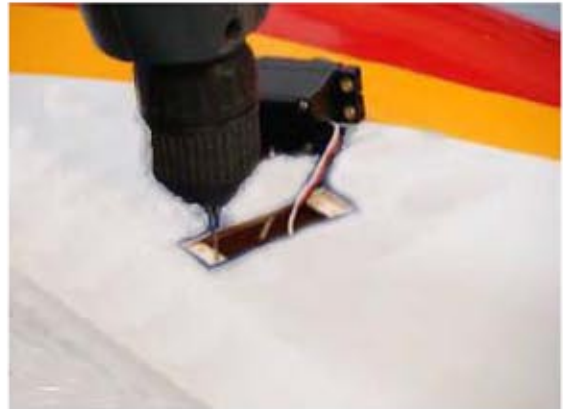
1 Remove the covering from the servo position. Find out the slot pre-opened for rudder control horn, remove the film. as shown.



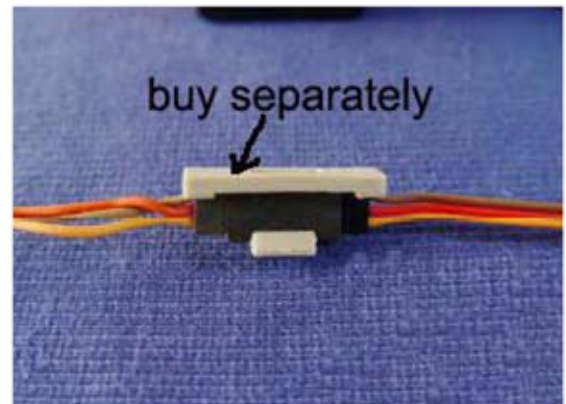
2 Fit the control horn into the slot, glue the horns into the aileron of each side.



- 3 Drill holes for the servo mounting screws and harden the wood around the holes with a drop of thin CA.



- 4 Use the safety clips (buy separately) to secure the servo and servo extension connected.



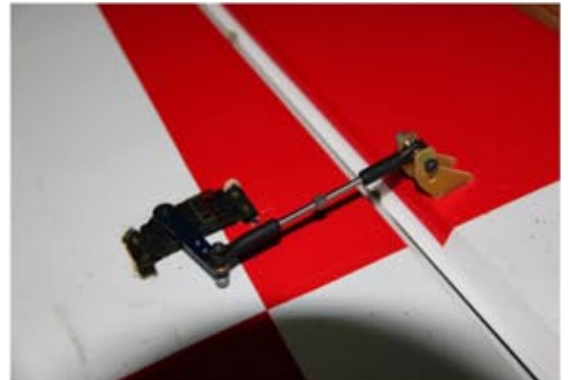
- 5 Put the servo into the servo hole, and mark the position for the screw to fixup the servo. Pull the extension lead through to the root of the wing.



6 Drill holes for the servo mounting screws and harden the wood around the holes with a drop of thin CA.



7 Install the control horn. Adjust the horn and servo arm. Fix the horn in place firmly. Install the ball link and push rod. Make sure it's firm and flexible.



8 Repeat the previous steps for the other wing. Please install the wing tube and wing bolts in the final assembly.

Attn:



9 Connect the two wings with carbon fiber tube and four nylon screw supplied.



Rudder Installation

Parts for Rudder installation



1 Find out the slot pre-opened for rudder control horn, remove the film



2 Fit the control horn into the slot, measure the correct length for it



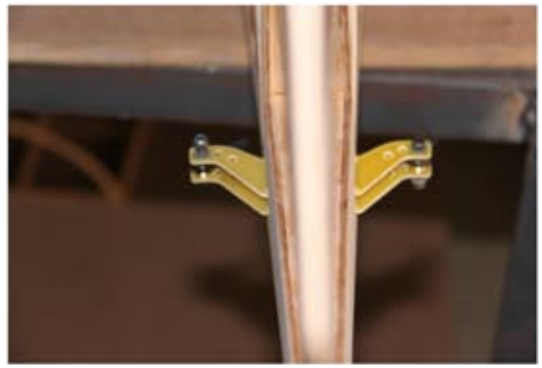
3 Cut the longer part



4 Glue the horns into the rudder of each side



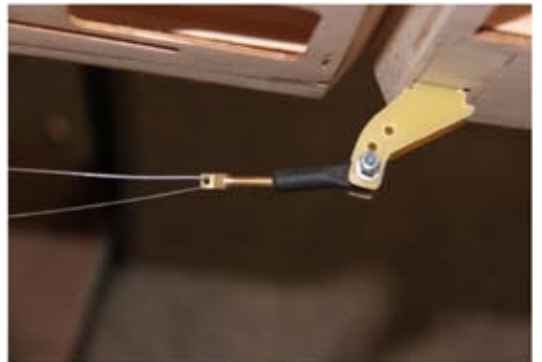
5 Repeat the same method on the other side of the rudder.



6 Thread the cable connector halfway into the ball link .



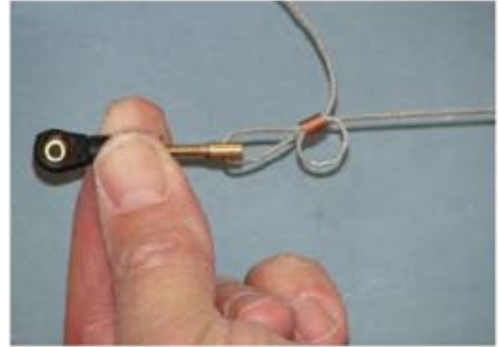
7 Connect the pull-pull wire and control horn with ball link



8 Drill holes for the mounting screws. Fit the servos as shown with the servo label facing the rudder. Harden the area around the holes with a drop of thin CA.



9 Use brass crimps on each cable and thread, the cable through the end of the pull-pull connector.



10 Crimp the brass tube with a crimping tool or pliers



11 A drop of thin CA may be applied to the brass tube to help secure the cable



12 Install the rudder ball links with bolts and locking nuts. Check the pull-pull cables. Rudder and the rudder servo should both be in the neutral position.



Stabilizer Installation

Parts for stabilizer



1 Connect the pushrod and control horn as shown



2 Put the control horn into the slot pre-opened, glue it to the stab, on each side



30cc Exterior Mount

- 3 Install the servos in the fuselage in precut locations on both sides.



- 4 Connect the control horn and servo arm with ball link



50cc Interior mount

- 3 Install the elevator servo as shown



- 4 Connect the servo and the pushrod as in the photo



- 5 Repeat the previous steps for the other wing.
Install the stabilizer tube and bolts.



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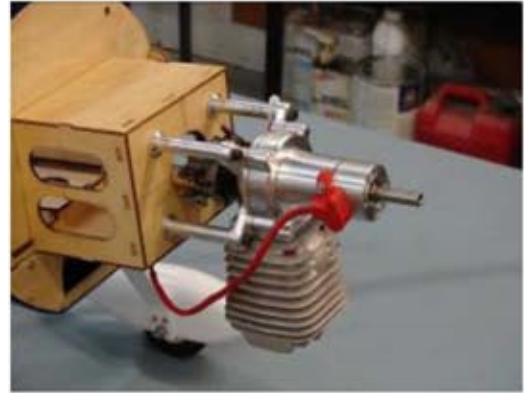


Engine Installation

- 1 Use a drill to drill screw holes for engine installation.
The holes position for 3W & DL have been lased on the firewall.



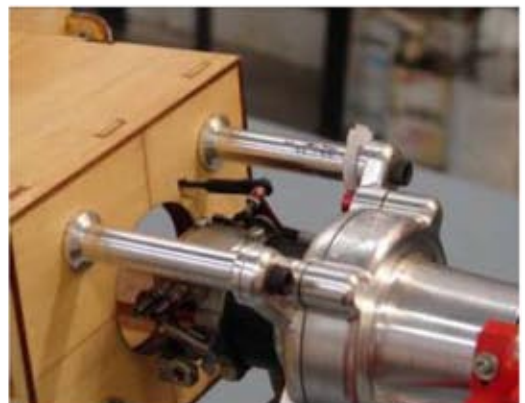
- 2 Insert the bolts through flat fender washers, the firewall and into the engine stand offs. Tighten firmly. Secure mounting bolts nuts with Blue Loctite.



- 3 Use a bit to drill a pushrod exit hole on the firewall in line with the engine carburetor throttle arm.



- 4 Attach the ball link to the throttle pushrod and secure to the carburetor throttle arm with a bolt and nylon lock nut.



- 5 Insert the throttle servo into the servo mounting tray with an output arm forward.
Insert the throttle pushrod into the servo arm easy link.



- 6 Mark a line for the throttle servo tray, then glue it to the fuselage.



- 7 Use a drill to drill the servo mounting holes.
Install the servo with servo screws.



- 8 Insert the throttle pushrod into the servo easy link.
Move the servo arm to the center position. So that carburetor is half open.
Tighten the easy link set screw.



- 9 Use self-tapping screw to fixup the wood to lock the hatch of the engine box.

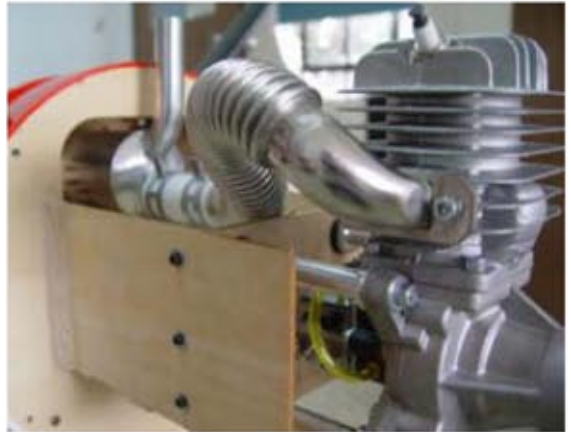


Muffler and Canister

- 1 Remove the cover from the pre-cut canister and exit opening and ensure the edge has been sealed.



- 2 Bend the flexible manifold to connect to the canister muffler. Trim the excess pipe to fit.
Tighten the manifold bolts and secure with blue loctite.

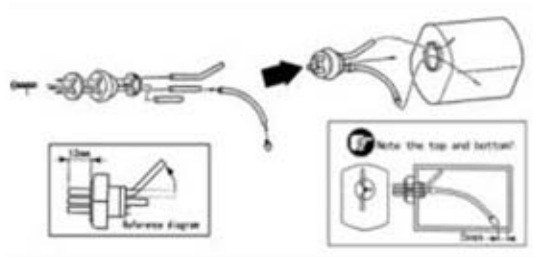


- 3 Use the silicone coupler and clamps to join the manifold and the canister muffler as shown.

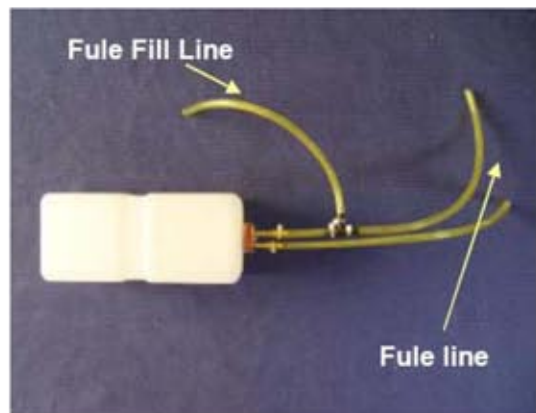


Fuel Tank

- 1 Install the inside parts of fuel tank as shown.



- 2 Assemble the outside fuel pipe as shown.



- 3 Tighten the velcro ties secure the fuel tank.



Cowl Assembly

- 1 Use a paper template to measure where the cowl will need to be cut for the exhaust and spark plug. Trial fit to make sure there is a minimum of $\frac{3}{8}$ " clear space around the engine for cooling.



- 2 Use a fiber cutting tool to rough out the cowl and finish with a round sander.



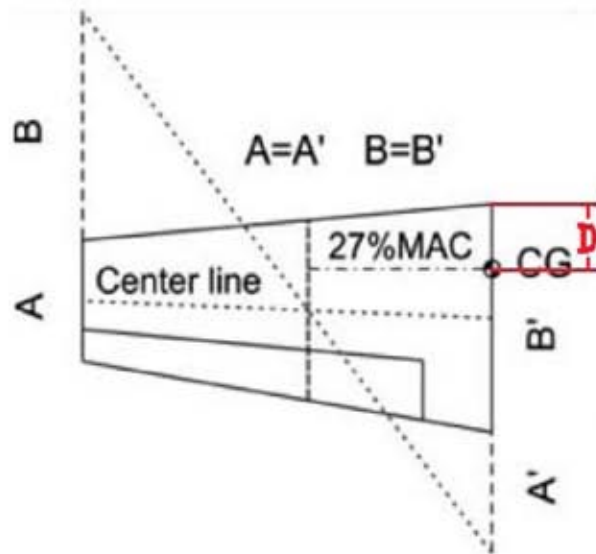
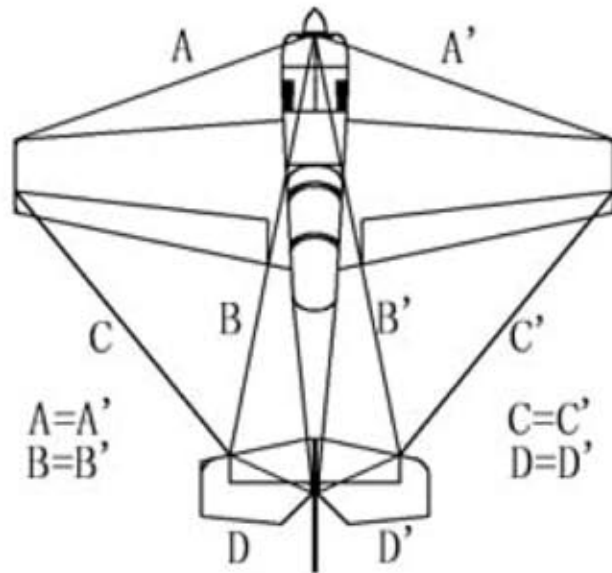
- 3 Use templates to cut out other openings in the cowl for manifolds if fitted.

Note: Check the engine temperature. More cut holes may be required if the engine temperature is too high.

Center of Gravity

The center of gravity is on the rear of the wings tube.

Your balance at the CG will determine the final mounting location for batteries. Mount batteries and secure with Nylon zip ties.



Measure the CG from the leading edge of wing root rib. Adjust the battery pack location. For CG proper position should be at 27% MAC. This recommendation balance point is for your first flights. The CG can be moved around later to fit your personal taste.

30cc	Sbach	MXSR	Yak54	Yak55	Slick
27% Mac					
CG Location	132mm	100mm	142mm	138mm	132mm

50cc	Sbach	MXSR	Yak54	Yak55	Slick
30% Mac					
CG Location	170mm	145mm	182mm	158mm	172mm

Power on to trim your plane.

1. Range check the radio (test whether the Engine/Motor is running or not).
2. Ensure that the servos and control surfaces move smoothly and in the correct direction.
3. Adjust the servo throw. The chart below is the recommended throws for the first flight. You can adjust the servo arms and control horn length later to fit your flying style.

Control Throw:

	Surface	Throws	Exp
Common flying	Ailcron	20 degrees	25%
	Elevator	20 degrees	25%
	Rudder	30 degrees	30%

3 D flying	Aileron	40 degrees	45%
	Elevator	40 degrees	45%
	Rudder	45 degrees	45%

Trail run the Engine to check its stability at high speed and low speed to ensure there are no problems with vibration on the model. Run the motor at high speed about 30 min, check the Engine and make sure the temperature is below the prescription of manufacturer. Once everything is right.