Slick 70" EP

Assemble Manual

Wing Span:70in/1778mm;	Prop:17x8, 18x8, 18x9
Wing area:63.3sq.dm;	Radio:4channels 4sevors;
Length:66.3in/1684mm;	Flying Weight:3860-4310g;
Glow & electric RC model;	Motor suggestion:Reaper GR-60XL outrunner motor

CAUTION:This plane is not a toy.

Before use,please carefully read this manual.

- First-time builders should seek advice from people having building experience in order to assemble the model correctly and to produce its Performance to full extent.
- Assemble this kit only in places out of children's reach!
- Take enough safety percautions prior to operating this model. You are responsible for this model's assembly and safe operation!
- Always keep this instruction manual ready at hand for quick reference,even after completing the assembly.

FLIGHT
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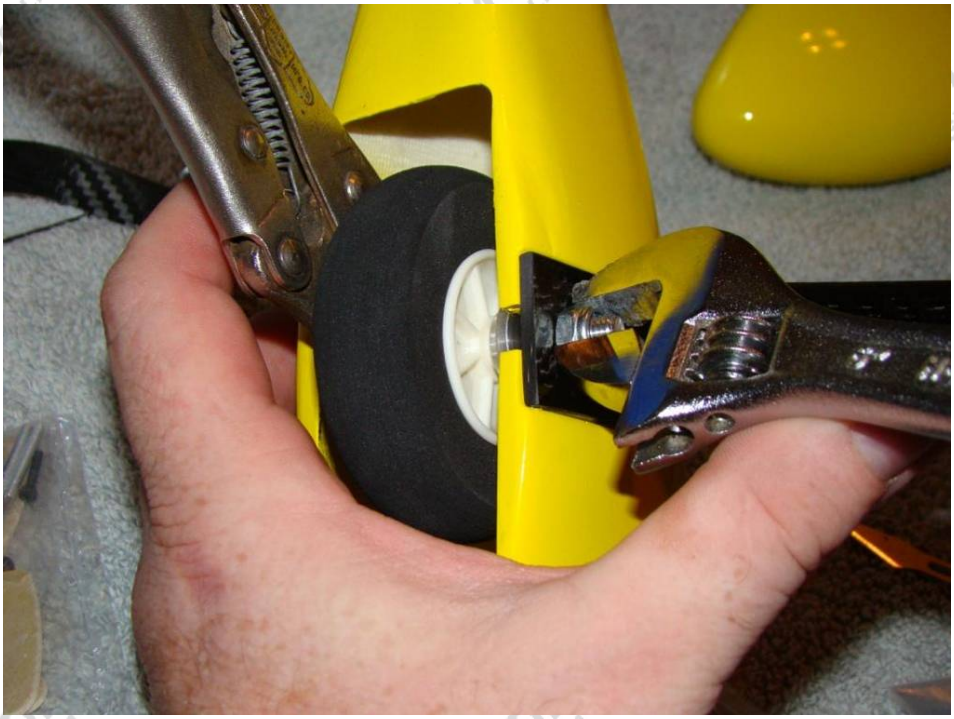
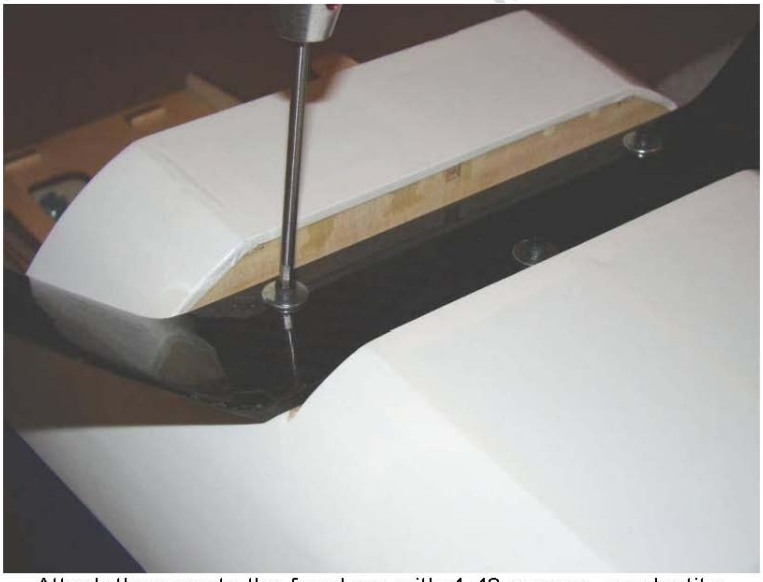
Install the wheels onto the axles and secure with the wheel collars, as shown.



Slide one wheel/axle assembly into a wheel pant, and install the wheel assembly on the landing gear leg. Tighten the locknut as shown to secure the assembly onto the gear leg.

Repeat for other side. Install wood screws through gear into pants as shown .

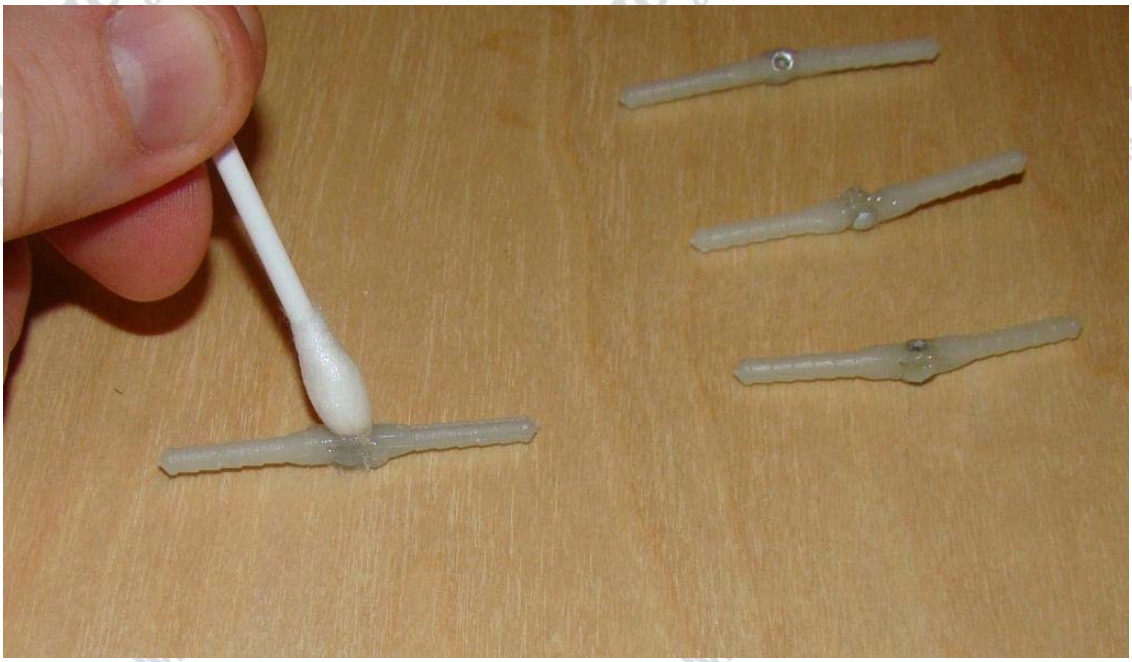


Attach the gear to the fuselage with 4-40 screws, use loctite.

Install gear cover plate as shown, using thick CA or epoxy glue.

Install tailwheel onto fuselage as shown,

Remove the covering over the pre-fabricated cooling holes in the bottom of the fuselage, as shown.



Remove the hinges from the tail surfaces. Use a q-tip to apply Vaseline to the center area of the hinge. We do this to keep glue out of the rotating part of the hinge. We use Vaseline, instead of oil, so that we can contain the Vaseline to only the center part of the hinge. We need the ends of the hinges to remain dry and clean so that the glue will bond them securely.

Place several drops of either polyurethane glue (gorilla glue – honey-colored) or epoxy (30 minute is preferred) into the hinge holes on both the vertical stab and rudder. Wipe away any excess which drips out with rubbing alcohol on a paper towel. Insert the rudder hinges into the holes in the stab, making sure they are aligned correctly so that the rudder can swing back and forth.

Insert the rudder onto the hinges and tail-wheel tiller wire as shown. Swing the rudder back and forth several times to make sure it swings easily 45 degrees each way. Clean any glue which seeps out of the hinges and allow to dry. If using polyurethane glue, you may see more glue seeping out as it dries. Wipe this away with alcohol. Allow to dry.

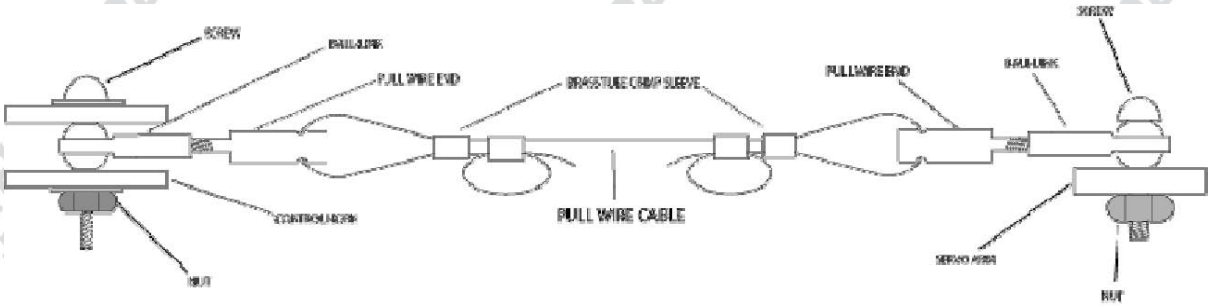
Note about rudder servo: For virtually all setups, you will use a pull-pull cable rudder system. The following instructions describe this. If you install a very heavy power system, however, you can use a push-pull rudder system. Photos are included at the end of the manual.

Remove covering over the rudder control arms slots, as shown, on both sides of the rudder.

Using plenty of epoxy or polyurethane glue, install the rudder horns as shown, on both sides of the rudder. Use the ball-joint and pull-cable end, as shown, to hold the rudder horn in perfect alignment while the glue dries. Clean up any excess glue with alcohol. Allow to dry.

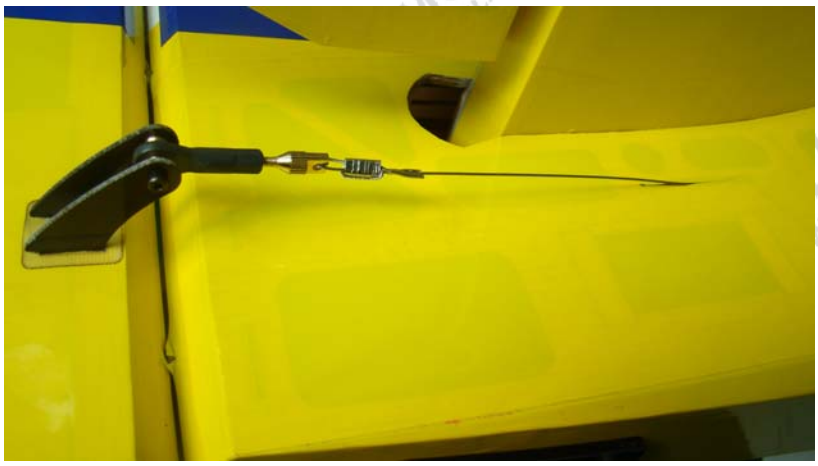
A NOTE about servo arms on the 70" Slick. The Slick uses ball-links on its controls for precise control-surface motion. It is extremely important to make sure that the ball-links have free motion throughout the servo travel, and do not touch the servo arms. For example, when using Hitec servo arms, this is easily accomplished by cutting or sanding away the corner of the arm as shown.

Install the rudder servo, servo arm, and ball links with locking nuts as shown.



The rudder pull-pull cables are assembled as shown in the diagram. Crimp the crimp tubes firmly with pliers, and use a drop of thin CA glue on each crimp tube after you are done crimping.

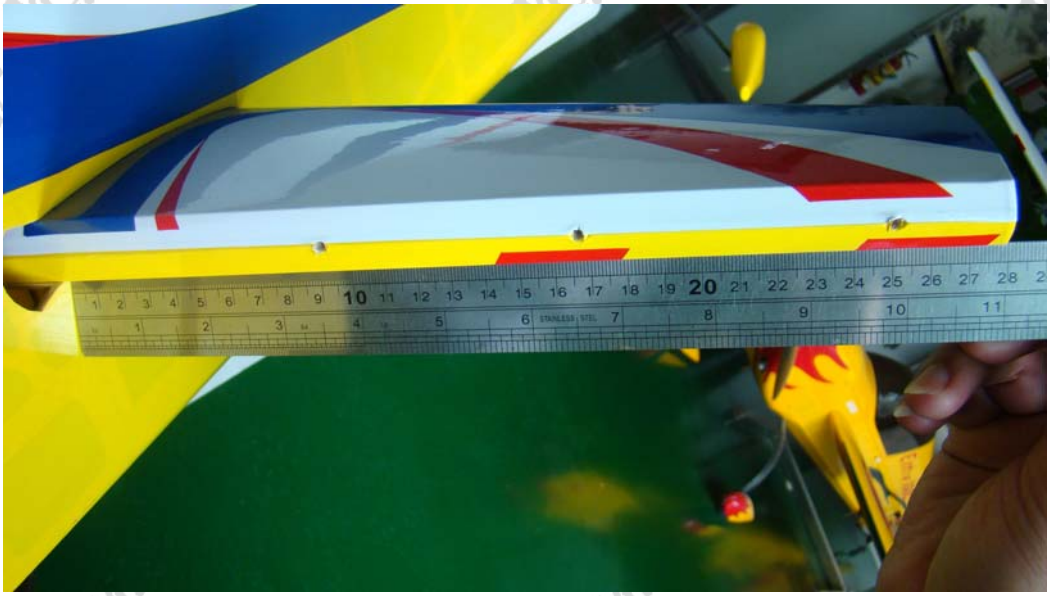
Crimp the servo end of the cables first. The cables cross once inside the fuselage to form an “X”.



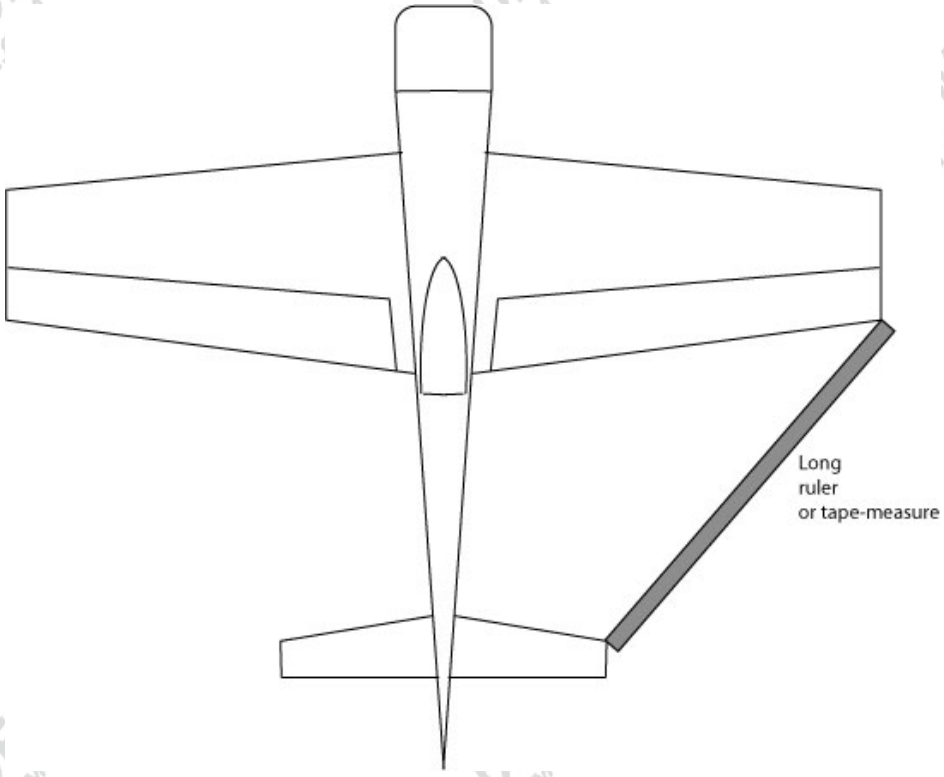
Use a lock nut to tighten the ball link into the rudder control horn. Assemble the cables onto the pull-wire ends, pulling the cables snug before crimping. We do not need the cables to be extremely tight, just snug and without sagging. Use the threaded pull-cable ends, screwing them into the ball joints as necessary, to tighten the cables.

Find out the holes in each sides of fuselage, then remove the covering. Insert the carbon joiner in place, then put on wings.

Remove covering over the horizontal stabilizer opening. Insert horizontal stabilizer – DO NOT GLUE YET**. Temporarily install the wings onto the fuselage**.



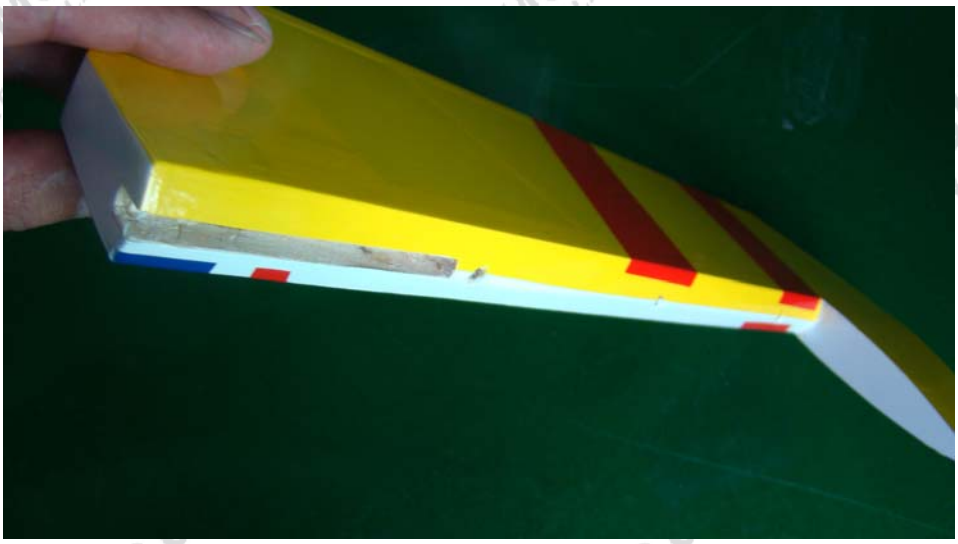
Use a ruler to align the stab side-to-side.



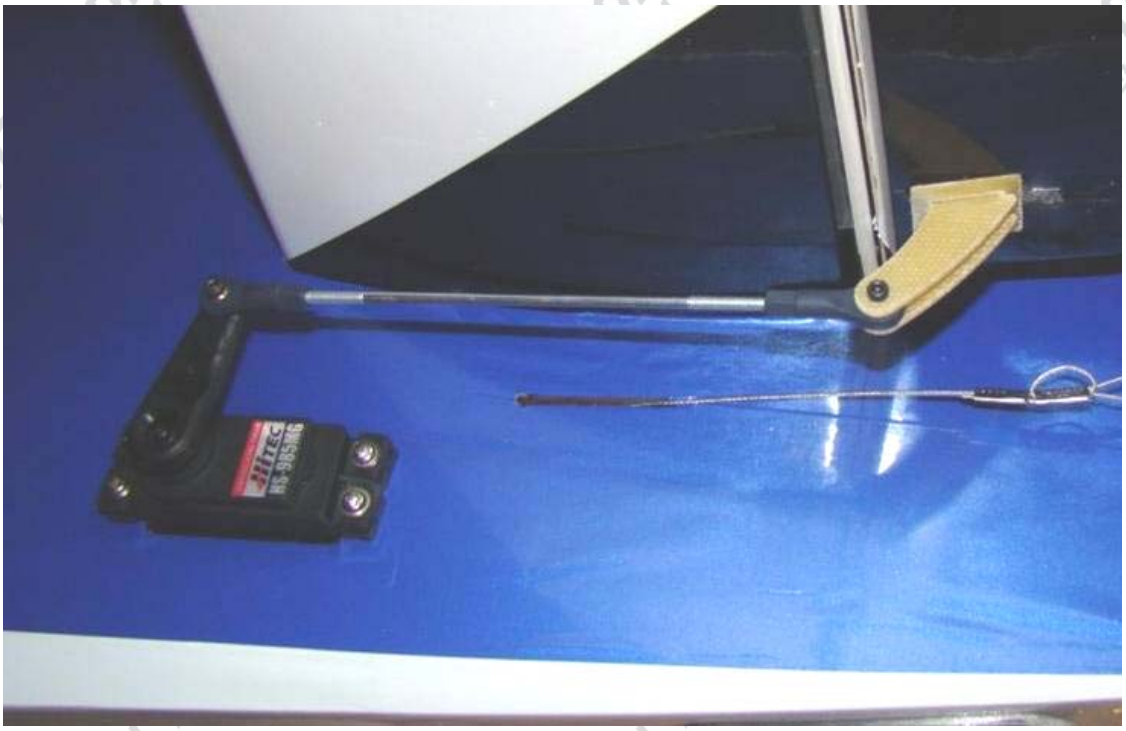
Using a tape measure or long ruler, measure from the stab to the wing tips as shown in the diagram. Equalize that measurement right and left to be sure your stab is aligned.

When stabilizer is centered and aligned, drip Thin CA glue onto the stab-to-fuselage joint top and bottom. NOTE: We do not remove any covering form the horizontal stabilizer. This keeps the stabilizer strong, and thin CA makes an excellent joint to covering material. If your stab joint is not tight enough for thin CA glue, or if you have to trim the opening to align the stab, you can use thick CA glue as well.

Hinge the elevators onto the horizontal stabilizer, starting with the elevator which has the joiner attached. Use the same procedure as on the rudder. Make sure the elevator can swing 45 degrees up and down, minimum.

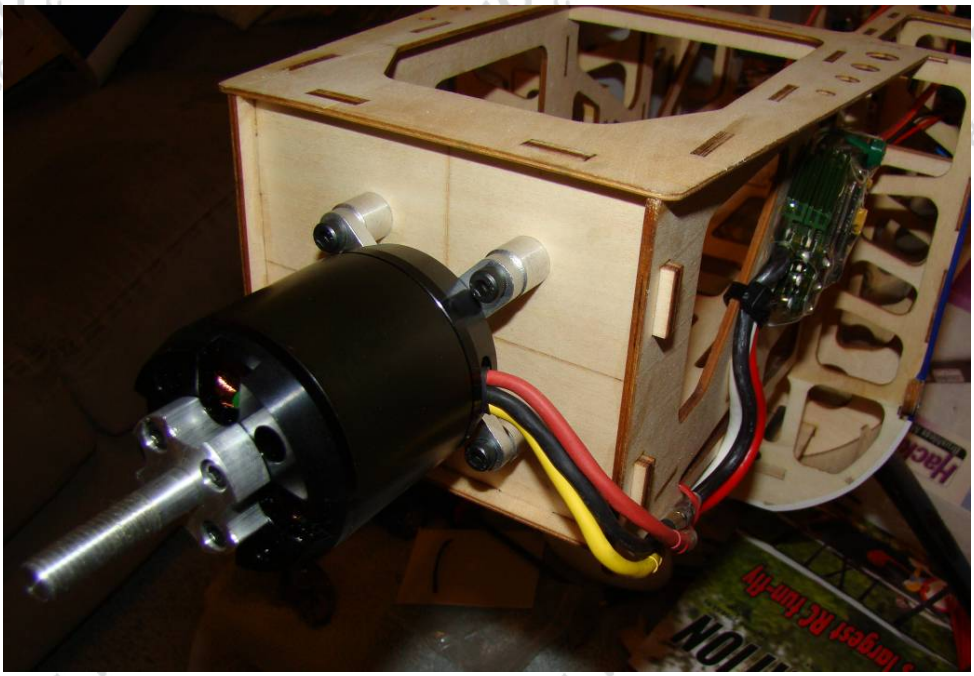


Before installing the elevator with the slot which accepts the joiner, practice fitting it once, the joiner is very tight in the slot. Use plenty of polyurethane or epoxy glue in the slot, and install the elevator. Make sure it can swing freely at least 45 degrees up and down. Allow to dry.



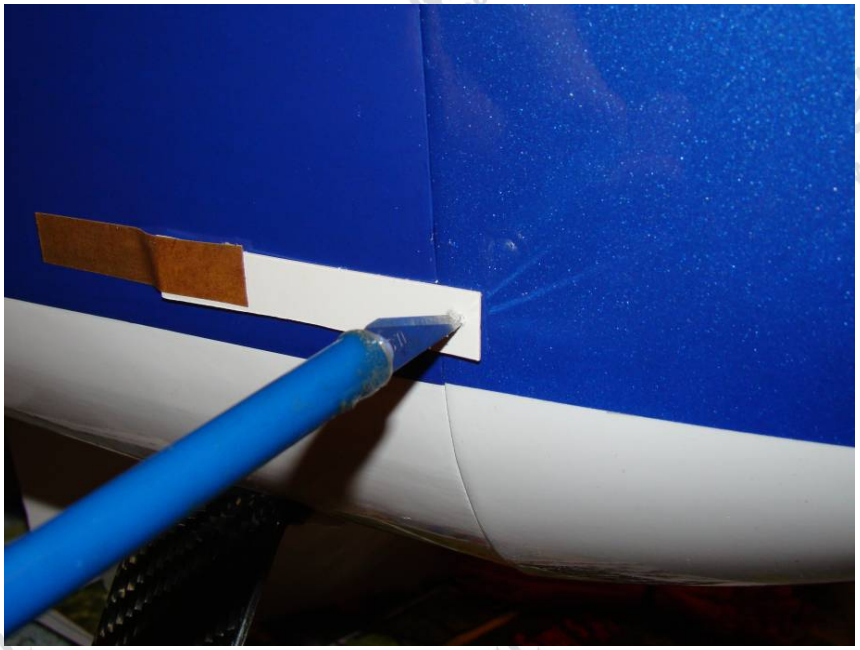
Install elevator horn as shown, using the same technique as for the rudder horns.

NOTE: The firewall of the Slick is pre-drilled for popular motor types. If your motor uses a different bolt pattern, mark and drill the firewall as shown.



Attach the motor using the provided 4mm screws and blind nuts. Use loctite on the mounting bolts.
Mount the speed control to the side of the motor box as shown using Velcro and/or Zip ties.

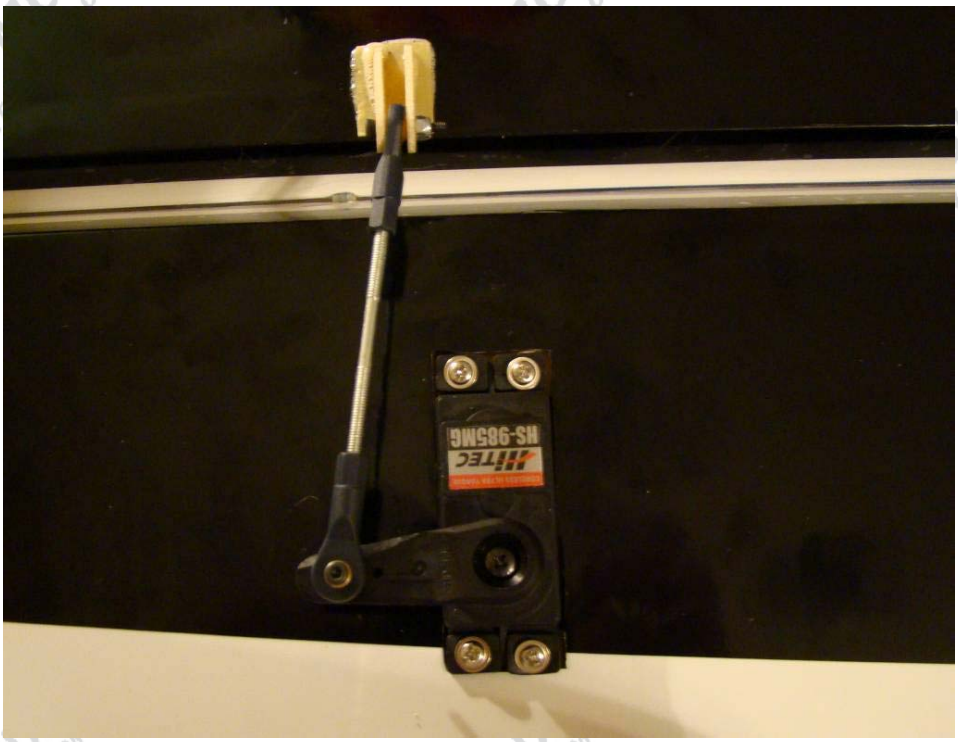
Cut small strips of paper or card stock and use masking tape to affix them to the fuselage as shown, to indicate the exact location of the four cowl-mounting tabs which extend forward form the fuselage.



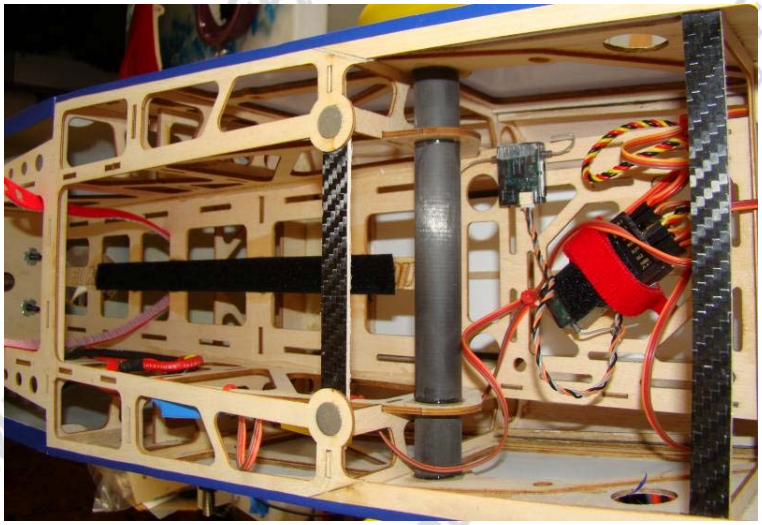
Install the cowl, and use the paper strips as guides to make holes in the cowl over the tabs. You can use a twisting motion with your hobby knife to start these holes. Use a 1/16” or smaller drill bit to finish making these holes. Install wood screws into these holes, and then remove. Remove the cowl and screws and soak the plywood mounting tabs in thin CA glue. This will strengthen the mounting tabs. Reinstall the screws.

Remove the covering over the aileron servo openings and the aileron control horn slots as shown.

Use epoxy or polyurethane glue to install the aileron horns into each wing as shown.

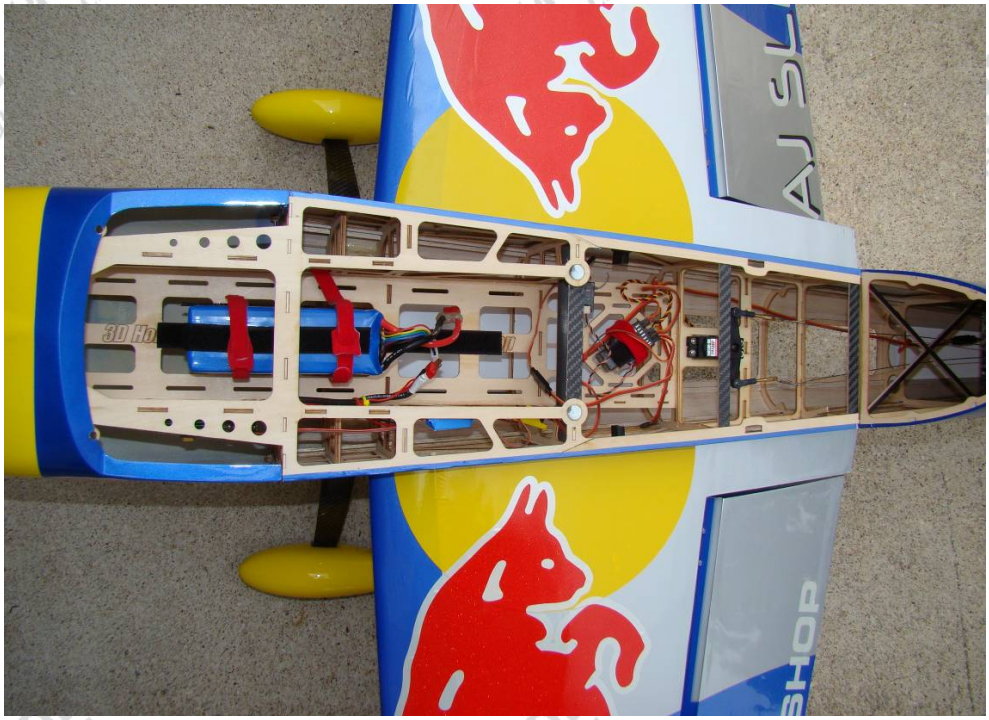


Attach servo extensions to aileron servos. Use the string installed in the wing to pull the servo wire through the wing, then install the servo into the wing as shown. Assemble the aileron pushrod as shown and attach the pushrod to the servo arms and aileron horn with black allen-head screws and lock nuts.



Apply one side of the self-adhesive Velcro tape to the battery tray, the other to your battery. Use the Velcro strap as a “seatbelt” to hold your battery in position. Always make sure your battery is firmly strapped down before flight.

Install your receiver as shown on the receiver tray.



Balancing: The AJ Slick can use a wide range of center-of-gravity locations. For your maiden, we suggest a more forward CG location, since you can always move your CG rearward to suit your flying style if necessary.

For maiden and precision flight - 155-160mm from leading edge of wing at root This is approximately the forward edge of the carbon wing spar tube.

When trimming your CG, keep in mind that a “neutral” CG (one with which you can roll the airplane inverted and the airplane neither climbs nor dives) is good for 3D aerobatics, but a more forward CG (one with which you must hold some “down” elevator to keep the airplane flying straight while inverted) is often better for precision flight and is much easier to land gracefully.

Control Throws -Throws are given both in degrees and in millimeters, measured at the end of the surface (where the throw is greatest). A throw meter is included to measure these angles.

Ailerons-	Low Rate 15 degrees High Rate 30 degrees	30% exponential 70% exponential
Elevator-	Low Rate 15 degrees High Rate Maximum possible throw, at l	30% exponential east 45 degrees 75% exponential
Rudder-	Low Rate 30 degrees High Rate 45 degrees	30% exponential 75% exponential

Make your first flight with the controls set on low rates. During the trimming phase, we recommend landing with some throttle, and not attempting to “dead stick” the airplane. This may mean you need to time your flights and keep them a bit shorter than usual. After your first flights, check all control connections and motor and prop mounts for tightness.

ADDENDUM – Rear rudder servo mount

We have provided a rear rudder servo mount and pushrod for the 70” Slick. Note that unless you are using a very heavy power system, the use of this rear rudder servo mounting location may lead to you being unable to balance your Slick.

Also note that, depending on the type of servo arm you use, it may be necessary to mount the ball joint to the inside face of the servo arm and perhaps also use a spacer to keep the rudder pushrod from contacting the elevator as it swings.

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