ASSEMBLY MANUAL

SIG

Somethin' Xtra TRA

EG

KIT NO.: SIGRC76EGARFG - *(Green and White)*
SIGRC76EGARFR - *(Red and White)*

ALMOST READY TO FLY

BALSA WOOD ARF

Fly with Electric or Glow Power!

SPECIFICATIONS:

Wing Span:	51.5 in.	(1308 mm)
Wing Area:	725 sq. in.	(46.7 dm^2)
Length:	48.25 in.	(1226 mm)
Flying Weight:	5 - 5.5 lbs.	(2268 - 2495 g)
Wing Loading:	16 - 17.6 oz./sq.ft.	(48 - 53 g/dm^2)
Radio Required:	4-Channel with 5 Standard Servos (Glow)	
	4-Channel with 4 Standard Servos (Electric)	
Glow Power:	2-Stroke .40 - .46 cu. in.	(6.5 - 7.5 cc)
	4-Stroke .53 - .65 cu. in.	(8.6 - 10.7 cc)
Electric Power:	700 - 1000 watt Brushless Motor (550-800 kv);	
	75A Speed Control (ESC);	
	4S-6S 3000 - 4000 mAh Lipo Battery Pack	
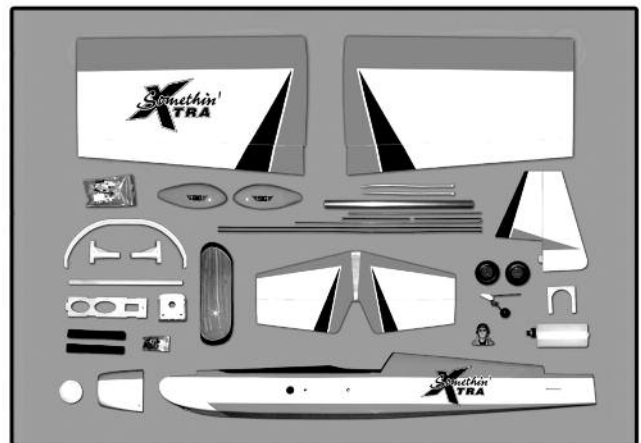
SIG MFG. CO., INC.   PO Box 520   Montezuma, IA 50171-0520
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INTRODUCTION

Congratulations on your purchase of the Somethin' Xtra EG ARF. We hope you will enjoy this R/C sport aerobatic model.

Assembly of your Somethin' Xtra is fast and simple when following the detailed instructions in this manual. We urge you to read this assembly manual completely before assembly. Familiarize yourself with the parts and the assembly sequences. The successful assembly and flying of this airplane is your responsibility. If you deviate from these instructions, you may wind-up with problems later on.

Good luck with the Somethin' Xtra . Let's get started!

ADDITIONAL ITEMS YOU WILL NEED TO PURCHASE

In addition to this kit, you will need the following items to complete your Somethin' Xtra and make it flyable.

❏ RADIO SYSTEM

The Somethin' Xtra requires a standard 4-channel radio system and either four or five standard size servos (four servos is using electric power, or 5 servos if using glow engine power). "Standard" size servos typically have 40-60 oz. of torque. In addition, you'll need two 3"-6" long Servo Extension Cords and one Y-Harness Chord for connection of the two aileron servos to the receiver. (The length of extension cord you will need depends on how long the wires are coming off your servos. With Hitec® standard servos we used 6" long extension cords. Check your servos and plan accordingly.)
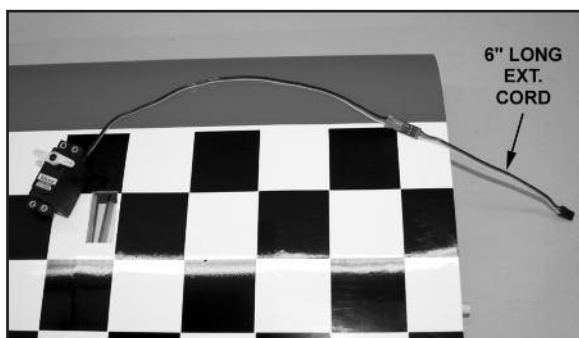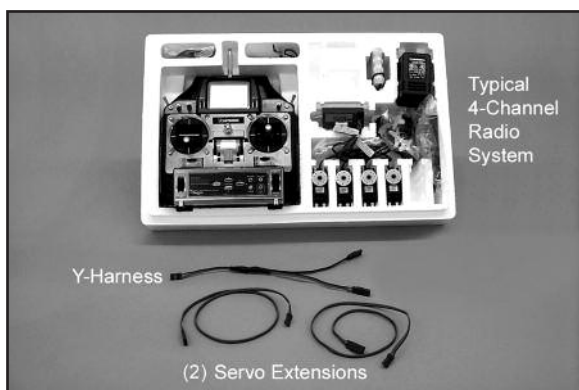
❏ POWER SYSTEM - GLOW OR ELECTRIC?

The biggest decision you will have to make is whether to power your Somethin' Xtra with a glow engine (2-stroke or 4-stroke) or an electric motor. We have flown the Somethin' Xtra with both types of power systems, and we make the following recommendations based on our successful on-field experience.

GLOW POWER RECOMMENDATIONS

❏ ENGINE

We recommend the following engines for the Somethin' Xtra.

2-STROKE - .40 to .46 cu. in.
4-STROKE - .53 to .65 cu. in.

Whatever brand engine you choose, take the time to carefully break it in according to the manufacturer's instructions. A good running, reliable engine is a minimum requirement for the enjoyment of this or any R/C model aircraft.

❏ PROPELLER FOR GLOW

Refer to the engine manufacturer's instructions for recommendations on proper propeller size for their engine. In our experience, most .46 size 2-stroke glow engines will fly the Somethin' Xtra very nicely with a 10x6 or 11-6 prop.

ELECTRIC POWER RECOMMENDATIONS

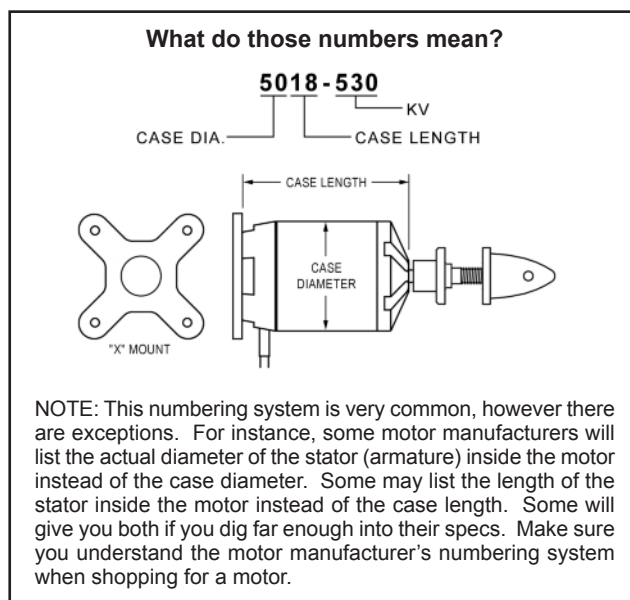#### ❏ 700 - 1000 watt BRUSHLESS OUTRUNNER MOTOR

The Somethin' Xtra is designed to be powered with a 700 to 1000 watt electric brushless outrunner motor. This size motor is sometimes referred to as a "46" class motor to those who like to make a comparison to a glow motor. Also, the motor you choose should be rated at 550-800 kv, in order to turn an appropriate propeller.

These motor sizes have worked well in the Somethin' Extra :

5018-530
5055-670
5052-610

What do those numbers mean?

NOTE: This numbering system is very common, however there are exceptions. For instance, some motor manufacturers will list the actual diameter of the stator (armature) inside the motor instead of the case diameter. Some may list the length of the stator inside the motor instead of the case length. Some will give you both if you dig far enough into their specs. Make sure you understand the motor manufacturer's numbering system when shopping for a motor.

❏ MOTOR MOUNT

A laser-cut plywood adjustable motor mount is included in this kit. It should work perfectly for any suitable brushless outrunner motor which has an "X" or "cross" motor mount plate on the back.

❏ 75 amp ESC (Electronic Speed Control)

We used the Castle Creations® 75 amp ESC in our Somethin' Xtra prototypes. This is an excellent "switching type" ESC that has a built-in BEC (Battery Eliminator Circuit).

Note: BEC allows you to use the same battery pack to power both your motor and your radio system, eliminating the normal radio battery pack. When the single battery pack runs down in flight to a prescribed point, the BEC circuit in the ESC will shut down the motor and leave enough power to operate the radio while you land the model. Note that the BEC feature in some cheaper ESCs does not work with 4 cell and larger lipo battery packs - only 3 cell packs. Check carefully to make sure you know all the specifications of the ESC that you are buying.

❏ 4-6 cell 3000-4000mah LIPO BATTERY PACK
With a motor like those mentioned you can fly your Somethin' Xtra with a 4 cell (4S1P) or 6 cell (6S1P) lipo battery pack. Pack capacity should be 3000-4000 mah for good flight duration. Typically a 4S pack with fly the model, but with limited aerobatic performance. The majority of you will be happiest with a 6S battery pack. We find that 6s 4000mAh lipo packs provide between 8 to 10 minutes of flight time, depending on propeller selection and other factors (quality of pack, throttle management, outside temperature, etc.).

CAUTION: You must match your propeller size to the cell count of your lipo pack, to avoid drawing too many amps and damaging your ESC or motor.

❏ PROPELLER FOR ELECTRIC
With electric powered models there are many factors that have a bearing on what propeller to use. The best place to start answering that question is in the instructions that come with your motor. Another fine source of information is one of the <u>electric flight calculators</u> that are available for you to use free online (there is a good one on Castle Creations web site).

OUR FLIGHT TEST REPORT
One of our favorite setups for the Somethin' Xtra was a Maxx Products® HC5018-530 motor with a 75 amp ESC, a 6-cell (6S1P) 22.2v lipo pack, and an APC® 12x8E propeller. An APC 13x6.5E propeller also worked well. Both sizes delivered good performance, reminiscent of a 2-stroke .46 glow engine. For a starting prop we recommend the APC 12x8E. Other brand propellers of same size and similar design can also be used.

This combination gave outstanding flight performance. When using a 6S 4000 mah lipo, we had flight times around 8-10 minutes, depending of course on throttle management. Your results may vary. Prop size, size and quality of the battery pack, throttle management, air temperature, etc., all have a bearing on electric flight performance and flight time. Experiment to find the best combination for your setup.

❏ BATTERY CHARGER
FOR SAFETY AS WELL AS PERFORMANCE, CHARGE LIPO BATTERIES <u>ONLY</u> WITH A LIPO BATTERY CHARGER!
In addition to providing the critical charging profile needed to safely charge lipo batteries, a lipo battery charger also includes the capability of "balancing" the available voltage in the cells, ensuring that the battery pack is at peak capacity at the end of the charge cycle. This translates to better flight times and a longer life from the battery pack.

REQUIRED TOOLS
For proper assembly, we suggest you have the following tools and materials available:
A selection of glues - SIG Thin, Medium, & Thick CA Glue
CA Accelerator, CA Debonder
SIG Kwik-Set 5-Minute Epoxy
Screwdriver Assortment
Pliers - Needle Nose & Flat Nose
Diagonal Wire Cutters
Small Allen Wrench Assortment
Pin Vise for Small Dia. Drill Bits
Hobby Knife with Sharp #11 Blades
Small Power Drill With Selection of Bits
Dremel® Tool With Selection of Sanding & Grinding Bits
Scissors
Sandpaper
Covering Iron & Trim Seal Tool
Masking Tape
Paper Towels
Alcohol and/or Acetone For Epoxy Clean-up

COMPLETE KIT PARTS LIST
The following is a complete list of all parts contained in this kit. Before beginning assembly, we suggest that you take the time to inventory the parts in your kit. Use the check-off boxes ❏ provided in front of each part description. Please also note that the bolts and nuts required to mount your engine to the motor mounts are not included and must be purchased separately.

❏ (1) Fuselage
❏ (1) Right Wing Panel & Aileron, hinges not glued
❏ (1) Left Wing Panel & Aileron, hinges not glued
❏ (1) Stabilizer & Elevator, hinges not glued
❏ (1) Fin & Rudder, hinges not glued
❏ (1) Fiberglass Cowling
❏ (1) Plastic Canopy
❏ (1) Aluminum Main Landing Gear
❏ (2) 2-1/2" dia. Main Wheels
❏ (2) 4mm dia. Steel Axles
❏ (4) Hex Nuts; for axles
❏ (4) 4mm ID Wheels Collars; for axles
❏ (1) Right Fiberglass Wheel Pant
❏ (1) Left Fiberglass Wheel Pant
❏ (4) M3 x 10mm Socket-Head Bolts, for wheel pants
❏ (1) Tailwheel Assembly, including Wheel, Formed Wire, Nylon Bearing, & Wheel Collars(2)
❏ (1) Nylon Rudder Steering Clasp, including M2 x 15mm Bolt & M2 Hex Nut
❏ (2) M3 x 12mm Screw; for tailwheel assembly
❏ (1) Aluminum Tube Wing Joiner
❏ (2) Plastic Cinch Straps
❏ (1) Plywood Electric Motor Mount Assembly
❏ (1) Balsa Triangle Stock; for motor mount reinforcement
❏ (1) Plywood Battery Tray
❏ (2) Velcro® Straps
❏ (7) M4 x 20mm Socket-Head Bolts; for electric motor mount(4) & main landing gear(3)
❏ (7) M4 Flat Washers; for electric motor mount(4) & main landing gear(3)
❏ (4) M4 x 16mm Socket-Head Bolts; for electric motor
❏ (4) M4 Split-Ring Lock Washers; for electric motor
❏ (4) M4 Blind Nuts; for mounting electric motor
❏ (1) M3 x 12mm Socket-Head Bolt; for battery tray
❏ (1) M3 Flat Washer; for battery tray
❏ (2) Glow Engine Mounts
❏ (4) M4 x 25mm Mounting Bolts, for glow engine mounts
❏ (4) M4 Flat Metal Washers, for glow engine mounts
❏ (1) Fuel Tank
❏ (1) Fuel Tank Rubber Stopper Assembly
❏ (1) Fuel Tank Pick-Up Weight, Metal
❏ (1) Fuel Line Tubing, for inside tank
❏ (1) Plywood Fuel Tank Rear Mount
❏ (2) M6.5 Nylon Wing Bolts
❏ (4) Nylon Control Horns; for ail(2); elev(1); rud(1)
❏ (12) M2 x 15mm Screws; for control horns
❏ (4) M3 x 10mm Screws, for cowling
❏ (4) Metal R/C Clevis; for ail(2), ele(1), rud(1)
❏ (4) Small pieces of Fuel Tubing; for R/C clevis keepers

❏ (4) Nylon Pushrod Keepers; for ail(2), ele(1), rud(1)
❏ (1) Pushrod Connector w/Set Screw, for throttle
❏ (1) Small Balsa Block; for glow throttle pushrod
❏ (2) 7-1/8" long Wire Pushrods, threaded on one end, with M2 Hex Nuts(2); for ailerons
❏ (2) 28" long Wire Pushrods, threaded on one end, with M2 Hex Nuts(2); for elevator & rudder
❏ (1) 19-1/2" long Wire Pushrod, with Z-bend; for throttle
❏ (1) 14" long Nylon Pushrod Tube, for throttle
❏ (1) Pilot
❏ (1) 2-1/4" dia. Spinner

CHECK LENGTH OF METRIC BOLTS HERE
0   5   10   15   20   25   30   35   40   45   50
millimeters
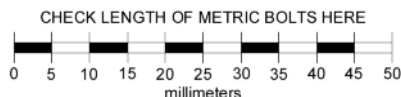
COVERING MATERIAL

Your Somethin' Xtra ARF is covered with ORACOVER®, a premium quality covering made in Germany, and sold in the U.S. by Hanger-9 as Ultracote®.

<u>Colors</u> <u>Used</u> <u>On</u> <u>Your</u> <u>Airplane</u>
ORACOVER® #10 White (Ultracote® #HANU870 White)
ORACOVER® #71 Black (Ultracote® #HANU874 Black)
ORACOVER® #23 Ferrari Red (Ultracote® #HANU866 True Red)
or
ORACOVER® #10 White (Ultracote® #HANU870 White)
ORACOVER® #71 Black (Ultracote® #HANU874 Black)
ORACOVER® #43 May Green (Ultracote® #HANU903 Apple Green)

If sometime in the future you need replacement covering or matching paint for repairs, they are available from your local hobby dealer or online from Hanger-9.

How To Tighten Loose Covering

After you open your Somethin' Xtra and take all the covered parts out of their plastic bags, the covering may begin to wrinkle. This is not unusual and is no cause for alarm. Your airplane was built and covered in a part of the world which has relatively high humidity and therefore, the wood was likely carrying a fair amount of moisture. When exposed to drier air, the wood typically loses this moisture, dimensionally "shrinking" in the process. In turn, this may cause some wrinkles. However, wrinkles are easy to remove by just using a hobby type heat iron.

Caution: Trying to remove the wrinkles by hastily going over them with a heat gun can lead to more problems. You should take your time to carefully go over the entire model with a covering iron, as we will describe.

We suggest using a model airplane covering iron for this process. Cover the iron's shoe with a thin cotton cloth, such as an old t-shirt, to prevent scratching the covering as you work.

After covering your iron, the next step is to set the iron to the correct temperature. This is critical for achieving a good result! The iron should be set to about **220ºF - 250ºF (104ºC - 121ºC)** as measured on the bottom of the iron using a thermometer.

If you do not have a thermometer, you can find the correct temperature by trial and error. Set your iron to a medium setting. Glide the iron over some of the covering that is over solid wood, such as the sheeted wing center section. Observe the covering to see if any bubbles appear. If bubbles appear, the covering is getting too hot! Turn down the temperature and repeat the test.

If no bubbles appear, turn up the heat slightly and repeat the test. Keep adjusting until you "zero in" on the correct temperature. Find the temperature that will get the covering to stick down without forming bubbles or causing the seams to pull away.

Once your iron is set to the correct temperature, go over the entire framework of the airplane, making sure that the covering is securely bonded to the structure everywhere the covering comes in contact with the wood underneath. This takes some time, but is worth the effort.

After you have all the covering secured onto the solid areas, turn the temperature of the iron up to approximately **300ºF - 320ºF (149ºC - 160ºC)**. This is the correct temperature for shrinking the covering material.

Use the iron to tighten up any wrinkles in the "open" areas of the model (no wood underneath the covering). Glide the iron over the wrinkle for a few seconds, then remove. Repeat until the covering is tight with no wrinkles.

If wrinkles keep coming back on the tail surfaces, you may need to "ventilate" the areas between the ribs. Otherwise the air that is sealed in those relatively small areas will expand when the heat is applied and actually cause the covering to stretch instead of shrink. Use a pin to poke a tiny hole in the covering between each rib, on the bottom of the part. That will let the expanding air escape and the covering to shrink properly.

<u>Caution When Using Heat Guns:</u> You can also use a hobby-type heat gun to shrink the covering, but you must be careful around seams or color joints. Getting too much heat on the seams may cause them to "creep" or come loose. You must also be careful when using a heat gun when working around the windshield and side windows - heat will distort the clear plastic material.

Recommended Temperatures:
To adhere the covering - 220ºF - 250ºF (104ºC - 121ºC)
To shrink the covering - 300ºF - 320ºF (149ºC - 160ºC)

NOTE: In this manual, any references to right or left, refer to your right or left as if you were seated in the cockpit of the airplane.

Also, some of the photos in this manual may show a Somethin' Xtra with a different color scheme. The steps are still the same.

WING ASSEMBLY

The wings are designed as a 2-piece system, with separate right and left wing panels joined by an aluminum tube Wing Joiner and a hardwood locating Pin at the rear. Due to the high strength of the wing joiner tube, the wing panels do not need to be permanently glued together. Gluing them permanently together is optional - your call. The obvious benefit to leaving the wing panels separate is the fact that they can be easily transported or stored, requiring a minimum of space.

To help protect your wings during the following steps we recommend that you cover your work surface with a soft cloth or piece of foam.

INSTALLING THE AILERON SERVOS
For the following steps you will need:
   (1) Right Wing Panel
   (1) Left Wing Panel
   (1) Aluminum Tube Wing Joiner
   (2) Servos with Mounting Screws (not furnished)
   (2) 6" Servo Extension Cords (not furnished)
   (1) Servo Y- Harness (not furnished)

❏ 1) Mount the aileron servos in the bottom of each wing panel.
   a) The servo bays are precut for you but you'll want to double check the covering around the cutout to make sure it is sealed down tight.
   b) Install the rubber grommets and brass eyelets (supplied with your radio system) into each aileron servo.
   c) Install the control arms on the two aileron servos. The arms should be at 90 degrees to the servo when the aileron control stick on the transmitter is in neutral and the transmitter trims are in neutral as well.
   d) Before installing the aileron servos in the wing panels you must attach a servo extension cord to the aileron servo wire. The typical combined length required is approximately 15". A 6" extension chord will usually provide sufficient length. Plug the servo plug into the extension cord and tape the plugs together for added security.
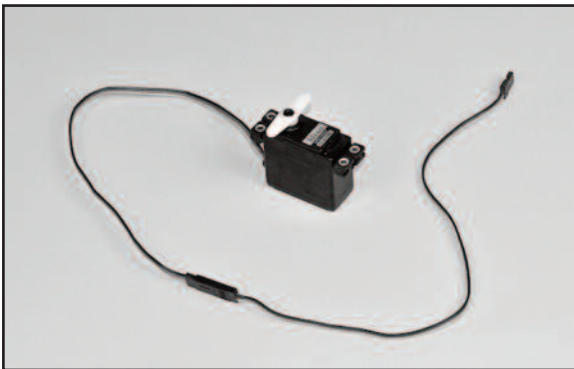
   e) Holding the wing panel with the wingtip UP, drop the end of the extension chord into the servo mount cutout and then thru the openings in the wing ribs, working it towards to the center end of the wing panel. The plug on the end of the extension chord will occasionally get hung up on the ribs, however by turning or gently shaking the wing panel you can get it to fall through the openings in the ribs, until it emerges at the end rib. Once you've got the plug to the end rib, direct it through the round hole in the bottom surface of the wing panel. By that time, the servo itself should be next to the servo mount cutout and ready for mounting.
   f) Fit the servo into the servo mount in the wing panel, (note that the servo is positioned so that the servo arm is at the forward end toward the wing leading edge). Take up any slack in the servo chord as you insert the servo in the mount. Use a pin vise and a small drill bit to drill small pilot holes in the servo mount for the servo mounting screws. Use the screws supplied with your radio

system to mount the servo in place on the servo mount. Repeat this procedure to mount the servo in the opposite wing panel.
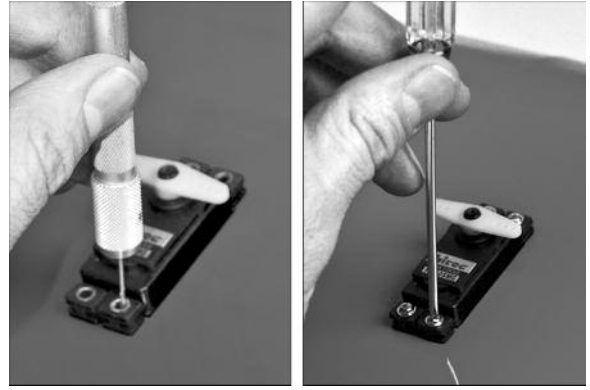
HINGING THE AILERONS
❏ 2) Note that the CA Hinges are installed, but not yet glued, in the ailerons and wing panels. The installation process for the hinges is the same for all of the control surfaces on this model.
   a) If you removed the ailerons and hinges from the wing panels when you tightened the covering material, reinstall them now. First insert the four CA Hinges into the slots in the aileron. Put two pins in the center of each hinge, up against the leading edge of the aileron, to keep the hinges centered during the next step.
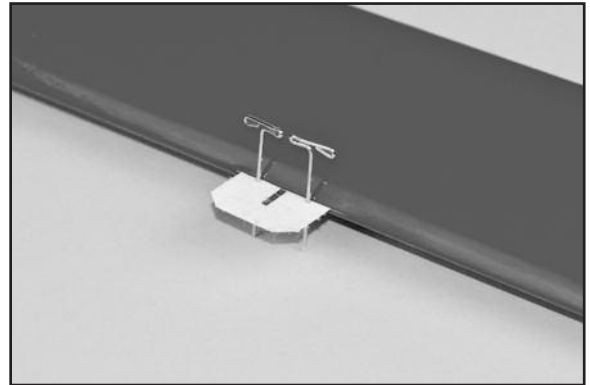
   b) Now carefully insert the exposed portion of the five hinges into the trailing edge of the wing. You will find it easiest to slide the hinges into the slots at angle, one hinge at a time, instead of trying to push it straight onto all the hinges at once.
   c) Adjust the aileron so that the tip of the aileron is flush with the wing tip. The ailerons should be tight against the pins in the hinges to minimize the gap between the wing and the aileron. The aileron is now in the proper position for permanently gluing them in place with thin CA glue.
   d) Flex the aileron down and hold it in this position. Remove the pins from one hinge and then carefully apply 3-4 drops of Thin CA glue directly onto the hinge in the gap. You will notice that the glue is quickly wicked into the slot as it penetrates both the wood and the hinge. We suggest using a fine tipped applicator on the glue bottle to better control the flow of glue.

e) Turn the part over and glue the other side of the hinge. Continue this process until you have glued both sides of all the hinges! Keep a rag handy to wipe off any excess Thin CA glue. (If you get some glue smears on the plastic covering, don't worry about them right now. Once all the hinging is done, you can clean the smears off the covering with CA Debonder).

f) Let the glue dry 10-15 minutes before flexing the hinges. At first you might notice a little stiffness in the joint. This will go away after the hinges have been flexed back and forth a couple dozen times.

INSTALL AILERON CONTROL HORNS & PUSHRODS
From the kit contents locate:
- (2) Nylon Control Horns
- (6) M2 x 15 mm Screws
- (2) Short Pushrod Wires with M2 Hex Nut
- (2) Metal R/C Clevis
- (2) Nylon Pushrod Keepers
- (2) small pieces of Fuel Tubing

❏ 3) Look closely and you will see three holes pre-drilled in the bottom of the ailerons for mounting the nylon control horns. Screw the control horn in position on the bottom of the aileron using three M2 x 15mm screws.
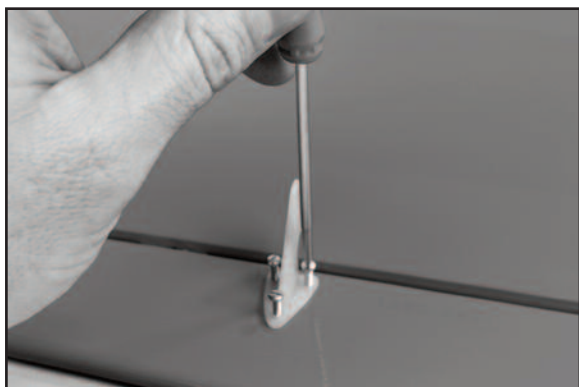
When the tips of the screws begin to emerge at the top surface of the aileron, add the control horn's nylon retaining plate. The aileron will be sandwiched between the control horn on the bottom and the retaining plate on the top. Continue turning in the screws until the horn and retaining plate are snug against both surfaces of the aileron. Do not over tighten the screws and crush the wood.

The excess length of the screws that is extending past the retaining plate can be cut off with a pair of side cutting pliers or ground down with a rotary tool with a cutoff disc.

❏ 4) Next assemble and install the aileron pushrods.

a) Slide a short piece of Fuel Tubing onto the small end of the Metal R/C Clevis. Screw the Hex Nut on the Aileron Pushrod Wire all the way up to the end of the threads. Then screw the metal clevis halfway onto the threaded end of the Aileron Pushrod Wire.

Metal R/C Clevis
Aileron Pushrod Wire
Fuel Tubing
Hex Nut
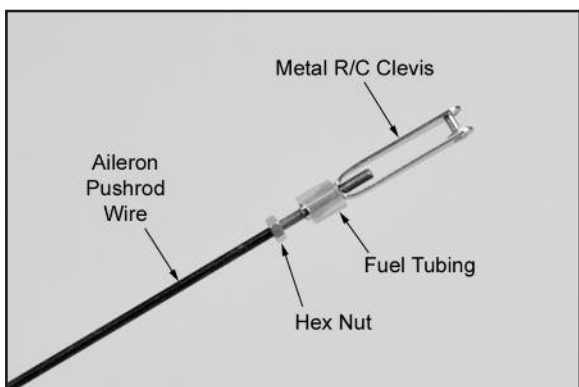
b) Clip the metal clevis into the last hole in the nylon control horn. Lay the other end of the pushrod wire over the outer hole in the servo arm. Use a felt tip pen to mark the wire where it crosses the hole. Use a pair of pliers to put a sharp 90-degree bend in the wire at the mark.
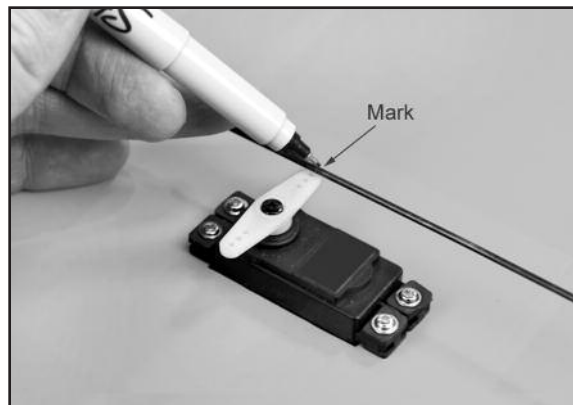
Mark

c) Insert the bent end of the pushrod into the servo arm, from the top. Note: You will most likely need to use a 1/16" dia. drill to open the hole in the servo arm to accept the pushrod wire.

d) Mark and cut off the excess end of the pushrod wire, leaving 1/8" of wire protruding below the bottom of the servo arm.

e) Clip a Nylon Pushrod Keeper in place on the servo end of the pushrod wire. Snap the free end of the keeper up and over the protruding end of the pushrod wire, underneath the servo arm.

Nylon Pushrod Keeper
Fuel Tubing
Hex Nut
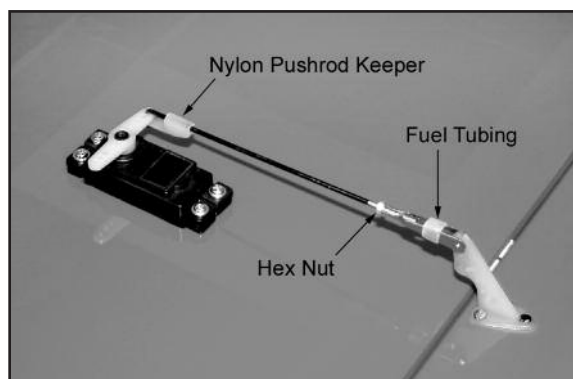
f) Check that the aileron servo is in neutral position and adjust the metal clevis as needed to get the aileron in neutral position.

g) Once the ailerons are properly adjusted, insure that the metal clevis can't open up and come loose from the control horn by sliding the piece of Fuel Tubing over the arms of the clevis. Also tighten the M2 Hex Nut up against the back of the clevis.

FUSELAGE ASSEMBLY

### INSTALL THE MAIN LANDING GEAR
Locate the following parts from the kit contents:
- (1) Fuselage
- (2) Aluminum Main Landing Gear
- (3) M4 x 20mm Socket-Head Bolts
- (3) M4 Flat Washers
- (2) 2-1/2" dia. Main Wheels
- (2) 4mm dia. Steel Axles
- (4) Hex Nuts; for axles
- (4) 4mm ID Wheels Collars; for axles
- (1) Right Fiberglass Wheel Pant
- (1) Left Fiberglass Wheel Pant
- (4) M3 x 10mm Socket-Head Bolts

NOTE: We suggest you use a thread locking liquid (like Locktite®) on all bolts and nuts used in the assembly of the landing gear.

❏ 5) Install a Threaded Axle into the large hole of the landing gear leg, with the plain end of the axle shaft pointing to the outside.

Secure the axle with one of the large Hex Nuts. When tightening the hex nut, keep the flats of the nut on the axle side of the gear leg parallel to the front edge of the leg - see photo. This allows the hex nut to fit inside the narrow notch in the wheel pants when they are added later.
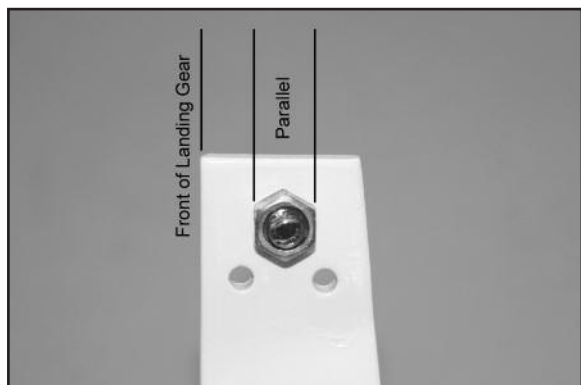
❑ 6) Slide a 4mm Wheel Collar onto the axle shaft, but leave approximately 1/8" of space between it and the nut, to provide proper spacing of the wheel in the wheel pant. Tighten the wheel collar set screw securely.
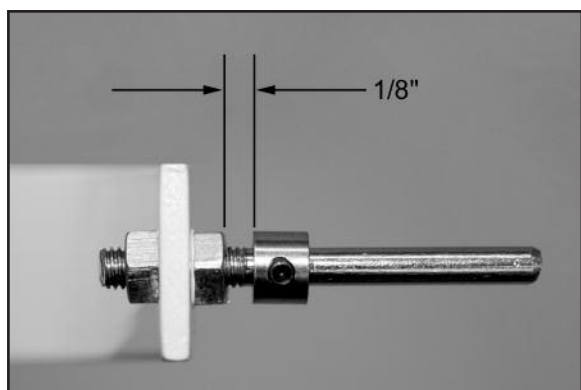
❑ 7) Next slide one of the Main Wheels onto the axle and test to make sure it spins freely. If it does not turn freely, drill out the plastic hub of the wheel with an 11/64" or #17 drill bit.

❑ 8) Slide a second Wheel Collar onto the axle and up to the wheel. Leave a small gap between it and the wheel, so the wheel will turn freely, and then tighten the wheel collar set screw.

❑ 9) Check the orientation of the landing gear to make sure you know which way is forward. The two outer holes for mounting the gear to the fuselage go to the front. Once you know which way is forward, test fit the wheel pants over the wheels and line up the mounting holes. Screw the wheel pants in place with two M3 x 10mm socket head bolts on each pant.

❑ 10) Using three M4 x 20mm Socket-Head Bolts and three M4 Flat Washers, bolt the landing gear onto the fuselage.
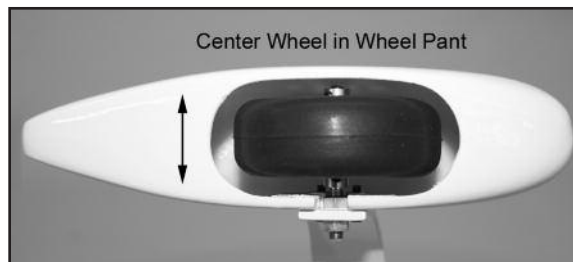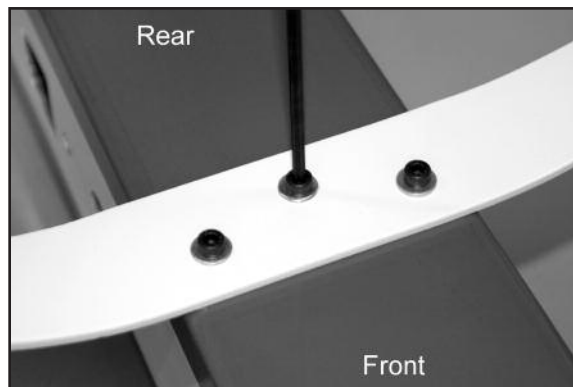
TAIL SURFACE INSTALLATION
For the following steps you will need:
    (1) Fuselage
    (1) Wing
    (1) Stabilizer & Elevator set.
    (1) Vertical Fin & Rudder Set
    (2) M6.5 Nylon Wing Bolts
    (1) Tailwheel assembly, including Wheel and Wheel Collars
    (2) M3 x 15mm Screws
    (1) Nylon Rudder Steering Clasp with Bolt and Hex Nut
    (2) Nylon Control Horns
    (6) M2 x 15mm Screws

❑ 11) Just like the aileron hinges, the elevator hinges are factory installed, but not yet glued. Hinge the elevator assembly to the stabilizer, using the same techniques you did for the ailerons - refer to page 5 of this manual. Let the hinges dry adequately before proceeding.

❑ 12) Look closely and you will see three holes pre-drilled in one of the elevators for mounting a nylon control horn. Screw the control horn in position on the bottom of the right elevator, using three M2 x 15mm screws. When the tips of the screws begin to emerge at the top surface of the elevator, add the control horn's nylon retaining plate. Continue turning in the screws until the horn and retaining plate are snug against both surfaces of the elevator. Do not over tighten the screws and crush the wood.


❑ 13) Bolt the wing in place on the fuselage with the Nylon Wing Bolts provided. Then pin the stabilizer and elevator assembly in place on the fuselage. It's time to check the alignment of the stabilizer to the wing.

a) First view the model from directly in front. Check to see if the stabilizer is level with the wing. You should find it to be very close. If necessary use a sanding block to fine tune the stabilizer platform to level the stabilizer to the wing.

b) Next use a tape measure to measure the distance from each stab tip to the back edge of the wing - the distance should be equal on both sides. Adjust if necessary. When you are satisfied with the alignment, proceed to the next step

❑ 14) The horizontal stabilizer is now glued in place into the rear of the fuselage. We suggest using slow drying epoxy glue for this job to allow time to position the stab accurately and make any final adjustments that might be needed. Apply the glue to both sides and reset the stab in place. Use pins to hold it in place. Recheck the alignment. Wipe away any excess epoxy with rubbing alcohol and a soft paper towel. Allow the glue to set completely.
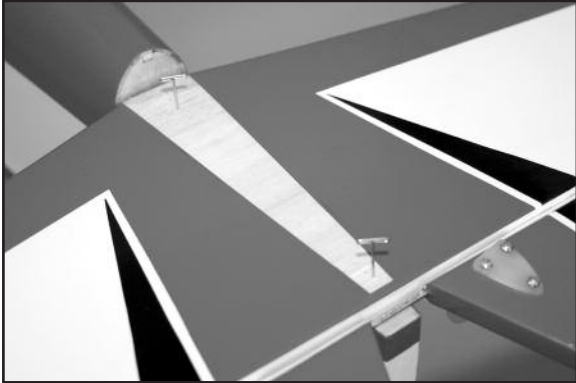

❑ 15) Pull the Fin and Rudder off their hinges and set the rudder aside for now. Test fit the fin in place on top fo the fuselage and stabilizer. Check to see that the fin sits flush and perpendicular to the stabilizer.

❑ 16) Glue the fin in place using slow drying epoxy glue. Apply a thin coat of glue to the bottom of the fin and to the exposed wood on the stab. With the fin in place, sight the model from the front to make sure the fin is absolutely 90 degrees upright to the stab. If needed, use a little masking tape to hold it in alignment. Wipe off any excess glue rubbing alcohol and a soft paper towel.
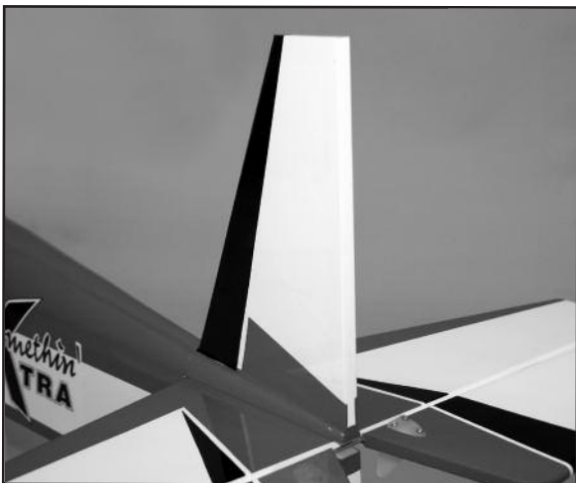
❑ 17) Hinge the rudder to the fin and the rear of the fuselage using the same techniques you did for the other hinges - refer to page 5 of this manual. Make sure to line up the top of the rudder flush with the top of the fin. This will ensure the tail wheel bracket lines up correctly. Let the hinges dry adequately before proceeding.

❑ 18) Look closely and you will find three holes pre-drilled near the bottom of the rudder for mounting a nylon control horn. Install the control horn on the left side of the rudder, with the retaining plate on the right, using three M2 x 15mm screws.
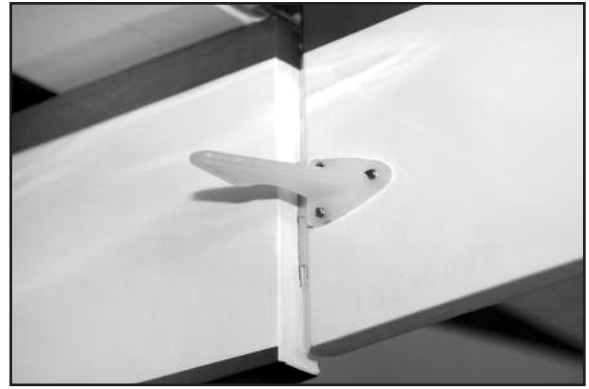

TAILWHEEL INSTALLATION

❑ 19) Mount the Tailwheel assembly in place on the lower rear end of the fuselage, using two M3 x 12mm screws. Note that there are two pilot holes already in the fuselage for the screws.

❑ 20) Adjust the wheel collar shown to set the height of the tailwheel wire. Then check to see if the long steering leg of the tailwheel wire is parallel to the bottom of the rudder. The wire may need to be tweaked slightly to make it parallel.

❑ 21) Slide the Nylon Rudder Steering Clasp onto the bottom of the rudder and onto the tailwheel wire at the same time. Locate
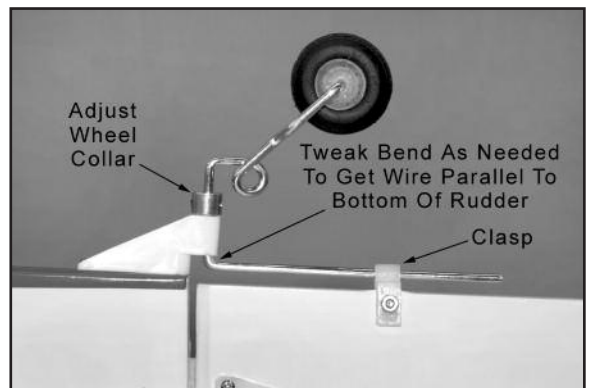

the clasp a little over halfway back on the wire, and then drill a hole for the M2 x 15mm Bolt. Insert the bolt through the hole and tighten down the M2 Hex Nut to clamp the bracket in place.

RADIO INSTALLATION

For this section you will need:
   (1) Radio Receiver (not furnished)
   (2) Servos with Mounting Screws (not furnished)

❑ 22) Install the rudder and elevator servos inside the fuselage in the built-in plywood radio mounting tray. Note that the rudder servo goes on the right side of the airplane, and the elevator servo goes on the left side. Be sure to drill pilot holes through the plywood tray for the mounting servo mounting screws.
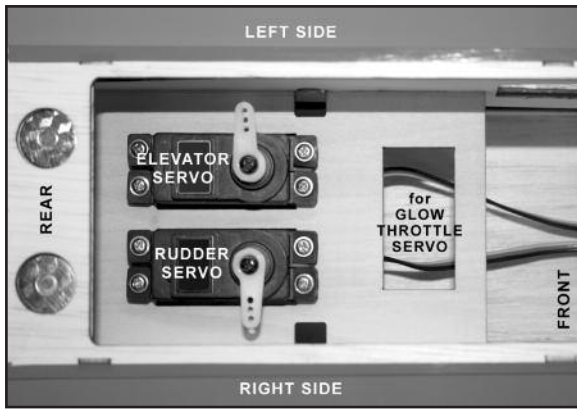
❑ 23) Figure out where and how to mount your receiver. This can depend on several factors, starting with whether you are using a glow engine or an electric motor for power. We decided to mount the receiver of our photo model, which will be electric powered, on the left side of the fuselage, using a short piece of common Velcro® tape (not furnished).

ELEVATOR & RUDDER PUSHROD INSTALLATION
For this section you will need:
- (1) Fuselage
- (2) 28" Long Pushrod Wires with M2 Hex Nut
- (2) Metal R/C Clevis
- (2) Nylon Snap Keepers
- (2) small pieces of Fuel Tubing

❑ 24) Assemble and install the elevator pushrod.
   a) First slide a small piece of Fuel Tubing onto the small end of the Metal R/C Clevis. Next screw the Hex Nut that is on the Pushrod Wire all the way up to the end of the threads. Then screw the metal clevis halfway onto the threads.
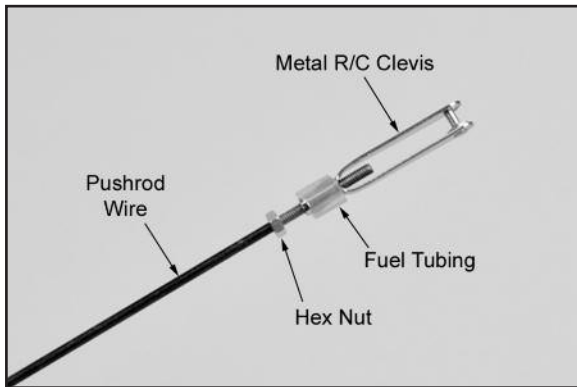
   b) Locate the pre-cut pushrod exit hole for the elevator on the right side of the fuselage at the back of the plane. Slide the pushrod into the exit hole and inside the pushrod sleeve built into the fuselage. Slide it in until you can clip the clevis into the middle hole of the control horn. Lock the elevator in neutral position with tape, or with two small balsa wood sticks held together with small rubber bands.
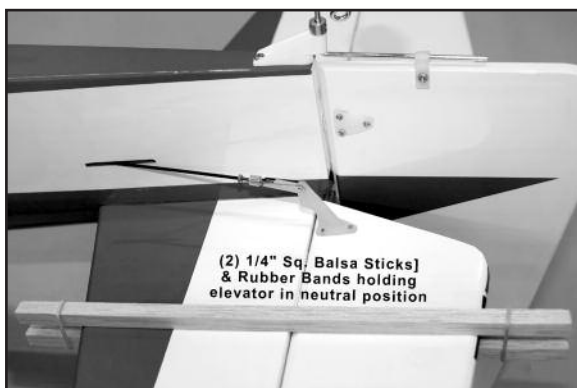
   c) Inside the fuselage, hold the pushrod wire over the elevator servo output arm and mark the wire where it crosses over the outer hole in the servo arm.

   d) At the tail end, unlock the elevator from neutral position, and then unclip the clevis from the control horn. Remove the clevis and the hex nut completely off of the pushrod and set them aside. Now pull the pushrod out of the fuselage from the servo end. It will be easier to complete the next three steps with the pushrod out of the airplane.
   e) Cut off the pushrod wire 1/4" past the mark made at the servo end in step c). Then put a sharp 90-degree bend in the wire at the mark.
   f) Remove the servo arm from the elevator servo. Drill out the last hole in the servo arm with a 1/16" dia. drill so it will accept the pushrod wire. Then insert the bent end of the pushrod wire into the servo arm, from the top.
   g) Clip a Nylon Snap Keeper in place to hold the pushrod wire in the servo arm. Snap the free end of the keeper up and over the protruding end of the pushrod wire, underneath the servo arm.


   h) Now slide the pushrod back inside the pushrod sleeve in the fuselage, from the front. When it is in far enough, put the servo arm back in place on the servo.
   i) Make sure that the elevator servo is in neutral position and then adjust the metal clevis at the tail end as needed to get the elevator in perfect neutral position.
   j) After the elevator is properly adjusted, insure that the metal clevis can't open up and come loose from the control horn by sliding the small piece of fuel tubing over the arms of the clevis. Also tighten the M2 Hex Nut up against the back of the clevis.

9

❏ 25) Locate the pre-cut pushrod exit hole for the rudder on the left side of the fuselage at the back of the plane and repeat step 24) in its entirety to install the rudder pushrod.
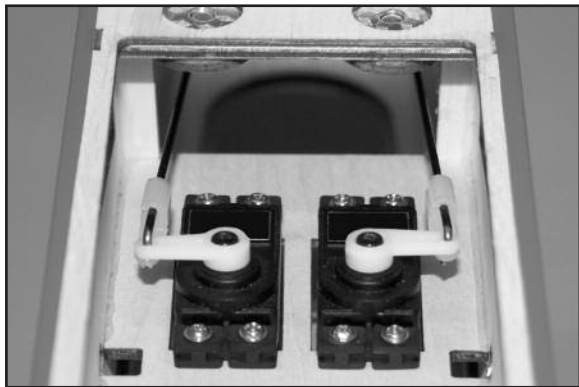
ELECTRIC POWER SYSTEM

Skip this section if your using a glow engine power setup

ELECTRIC MOTOR & ESC INSTALLATION
For this section you will need:
- (1) Fuselage
- (1) Plywood Electric Motor Mount
- (1) Balsa Triangle Stock
- (4) M4 x 20mm Socket-Head Bolts
- (4) M4 Split-Ring Lock Washers
- (4) M4 Flat Metal Washers
- (4) M4 x 16mm Socket-Head Bolts
- (4) M4 Split-Ring Lock Washers
- (4) M4 Blind Nuts
- (2) Plywood Battery Tray
- (1) M3 x 12mm Socket-Head Bolt for battery tray
- (1) M3 Flat Washer for battery tray
- (1) Velcro® Strap
- (1) set Electric Motor, ESC, Prop, Lipo Battery (not furnished)

NOTE: The mounting of the electric motor in the Somethin' Xtra assumes that your motor has a typical "X" or "cross" mounting plate on the back of the motor. Also note that the firewall portion of the laser-cut plywood motor mount is adjustable fore and aft to accommodate different length motors. Next we will determine where you should set the firewall for your particular motor.

❏ 26) Assemble your motor according to the manufacturer's instructions. Then carefully measure the distance from the back of the mounting plate to the front of the thrust washer*.

* The "thrust washer" is the part of the prop adaptor where the back of the propeller will be located.
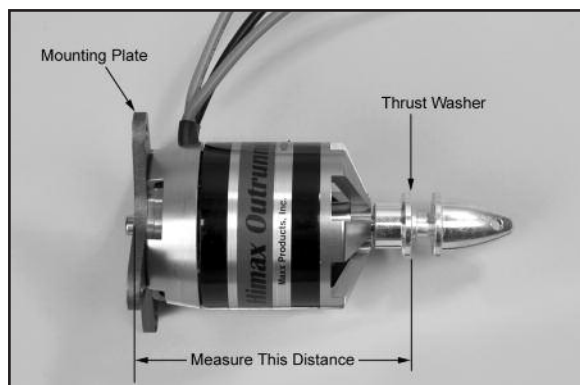
❏ 27) For the Somethin' Xtra, you need a distance from the back edge of the motor mount to the motor's thrust washer to end up exactly 4-1/4", in order for the cowling will fit properly.

a) So what you need to do is to <u>subtract the measurement taken in the previous step (26) from 4.25"</u>. The result is the distance you need to set the front of the firewall from the back edge of the plywood motor mount box. *(With the motor we are using in these photos, the motor measurement is 2.77". So 4.25" minus 2.77" = 1.48". Your result may be different depending on your motor.)*
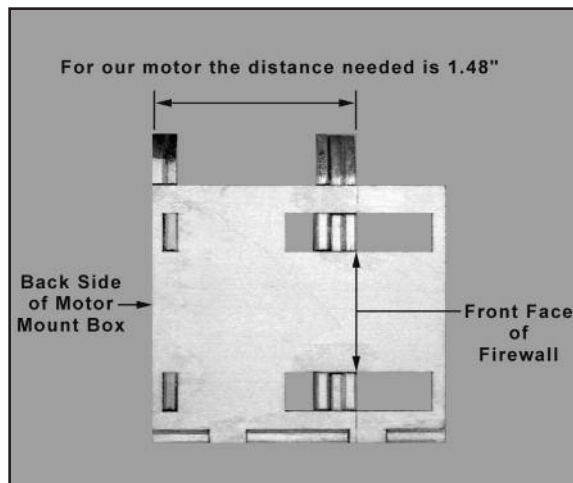

b) Carefully measure and mark the distance determined in the previous step from the back side of the motor mount box towards the front. Do this along side each of the adjustment slots on both sides of the box.

c) After you have the box marked, carefully align the front face of the firewall to line up with the marks. Make sure you end up with the firewall straight and square in the box. If it is not, recheck your marks and adjust as necessary.

d) Tack glue the firewall in place. Recheck once more to make sure that the front of the firewall is at the correct distance from the back of the motor mount box. That distance plus the length of your motor must equal 4-1/4". When satisfied it is correct, glue the firewall securely to the rest of the motor mount box.

❏ 28) Remove the X mount plate from the back of your motor and center it on the firewall. Once you are sure it is properly located, mark the mounting holes with a pencil. Remove the X mount and drill out the mounting holes with a 7/32" dia. drill. Install four M4 Blind Nuts in the holes, on the back side of the firewall. Put a couple drops of glue on the flanges of the blind nuts to secure them to the plywood. Be careful not to get any of the glue in the threads.

❏ 29) Locate the balsa triangle stock provided. Measure, cut and glue in pieces of the triangle stock to reinforce as many of the corner joints of the motor mount box as possible, as shown in the following 2 photos (see arrows). Then set the mount aside to dry.
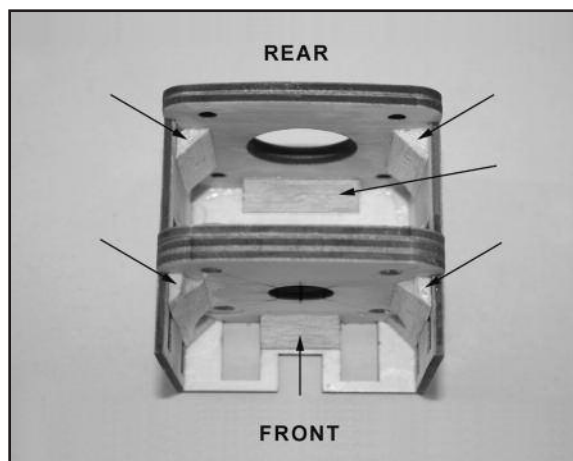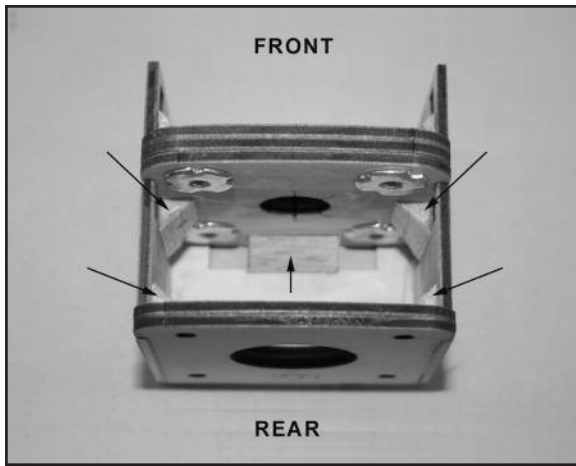
FRONT

REAR
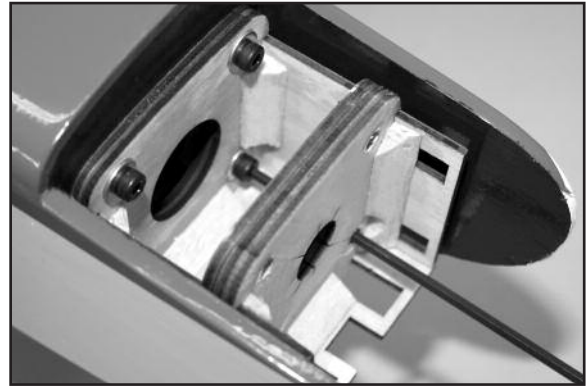
❑ 30) Install your ESC now, before mounting the motor permanently. Note that ESCs can vary a lot in size and shape, so it is difficult to give "one size fits all" instructions on the best mounting location and method. This step describes how we mounted our Castle Creations 75A ESC in the top of the nose, which still left plenty of room for the lipo battery pack below the ESC.

a) First solder appropriate battery connectors to the battery leads of your ESC. The connectors for the battery leads are normally supplied with the ESC.

b) The next thing we did was to remove the secondary former that is right behind the main plywood firewall. This former provides a stop for the front of the glow fuel tank, which you obviously don't need in your electric motor installation. Removing the former will provide a little more room in the nose for the ESC and battery pack. Working through the round hole in the main firewall, simply push on the secondary former with a screwdriver or dowel, and it should pop loose.

c) Next locate the small balsa wood block that is provided in this kit. Epoxy glue the block inside the nose, at the top, tight against the top stringer and in front of the middle nose former (see drawing below).

d) When dry, mount the ESC onto the balsa block with common Velcro® tape (not furnished).

e) Now route the ESC's servo wire back to the receiver and plug it in.

f) Connect the ESC's motor wires to the motor. Operate the motor and check the direction of rotation. Always do this without a propeller attached! If you need to reverse the rotation, refer to the instructions that came with the motor and ESC. Changing the direction of rotation is normally a simple matter of swapping two of the motor wires.

❑ 31) Next bolt the motor mount box on to the front of the airplane, using the M4 x 20mm Socket-Head Bolts and Flat Washers provided.

NOTE: The best tool for this job is a "hex ball driver" (not furnished). With the hex ball driver you can easily access the top two bolts over the top of the front firewall. And you may be able to access the bottom two bolts by going through the bottom two

blind nuts in the front firewall. If that does not work for the bottom bolts, then you will need to drill two additional holes in the bottom of the firewall that line up better with the two bottom bolts.
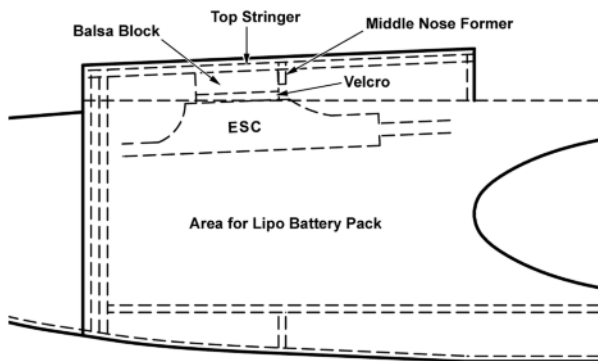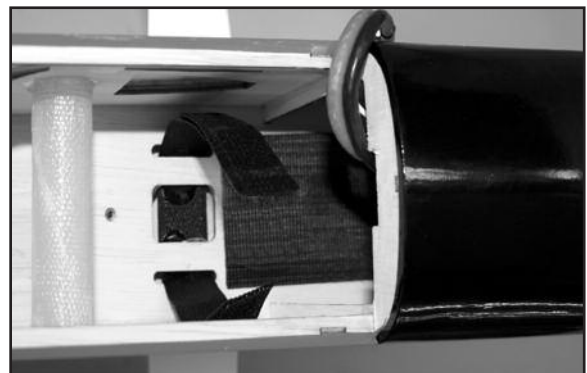

❑ 32) If you have not already re-attached the X mount plate to the back of your motor, do so now. Then use (4) M4 x 16mm Socket-Head Mounting Bolts and Lock Washers to bolt your motor in place on the plywood motor mount box.

HOW TO SECURE YOUR LIPO BATTERY PACK

❑ 33) The lipo battery pack will ride in the nose of the airplane. The exact location fore and aft is important for balancing the airplane, and thus the best location will depend on the actual weight of your battery pack. In most instances you will find that you need to put the battery pack as far forward as possible.
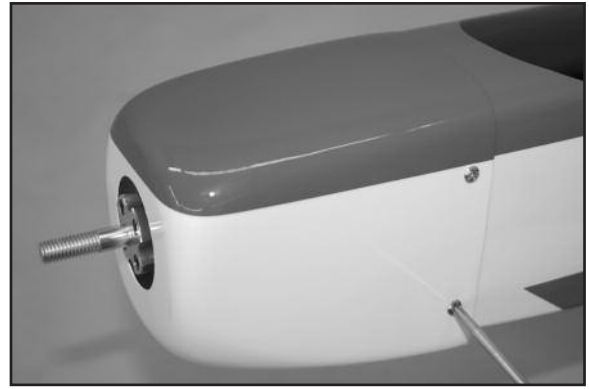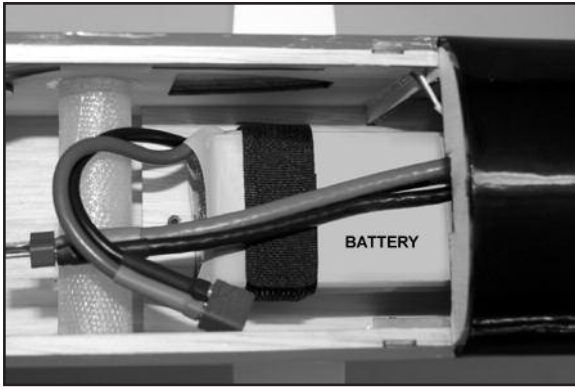
The space in the nose is not huge, so the method you use to secure your pack from shifting in flight can vary depending upon the actual physical measurements of your battery pack.

METHOD 1 (6 cell pack): When a tall battery pack is being used, we recommend that you mount your battery pack directly onto the plywood floor piece that is built into the fuselage. Use a long strip of Velcro® (not furnished) along the entire bottom of the pack, with the matching piece stuck on the plywood floor in the fuselage. Along with that, use one of the supplied Velcro® straps to hold the battery down against the plywood floor. Fish the Velcro® strap thru the two slots in the plywood floor.
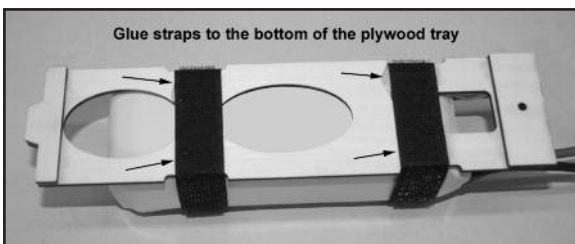
METHOD 2 (4-5 cell pack): If your battery pack is small enough in height you can use the supplied plywood Battery Tray. This allows you to secure your battery to the tray while it is outside the airplane, and then slide the entire unit in place in the nose. Note that there is a tapered tab at the front of the plywood battery tray that will slide into a matching slot in the back of the firewall. An M3 x 12mm Socket-Head Bolt and M3 Flat Washer are provided bolting down the back end of the battery tray - notice that a M3 Blind Nut is already installed in the fuselage for this.

COWLING INSTALLATION
For this section you will need the fuselage and:
(1) Fiberglass Cowling
(4) M3 x 10mm Screws

❏ 34) Mount the cowling on the fuselage with the four M3 x 10mm Screws provided. Notice that the holes for the four cowl mounting screws are already pre-drilled in the cowling - two on each side.
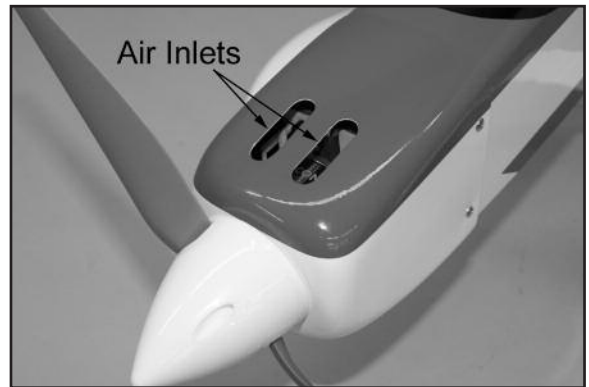
a) First test fit the cowling on the fuselage. As you pass it over the motor, make sure all the wires are out of the way. Carefully adjust the exact position of the cowling. Make sure you have adequate clearance between the front of the cowl and the back of the propeller, and that the prop shaft is centered in the hole. Use low tack tape to hold the cowling in place for the next step.

b) Use a 5/64" or #45 bit to drill a pilot hole for the top left cowl mounting screw. Center the drill in the hole in the cowling and drill into the fuselage side. Install an M3 x 10mm screw in the pilot hole - do not over-tighten the screw.

c) Recheck the position of the cowling and make any adjustments needed to get it back in position.

d) Now drill another pilot hole for the upper screw on the other side of the cowling. Install the screw.

e) Repeat this process to install the two bottom cowl mounting screws. Remove all the tape.

COOLING IS VERY IMPORTANT!
❏ 35) With a fully cowled motor, it is very important to make sure your motor is getting properly cooled. Air must be able to flow into the cowling, past the motor, and then back out. It is not enough to have a lot of air going into the cowling. The flow of air must also have a way to get out. In fact it's a good rule of thumb to always have more air exit area than inlet area to create a positive air flow through the cowling - an actual suction effect - drawing the heated air out of the cowling so that more cool air can come in. This positive air flow keeps your motor running cool.
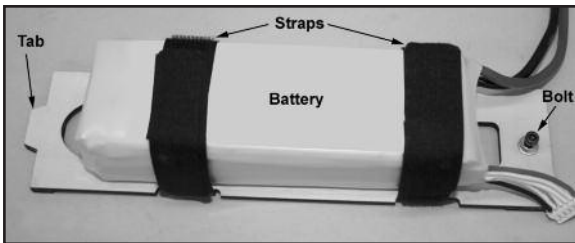
a) The first thing to do is to figure out how air will get into the cowling. Some electric flyers decide against using a big spinner, and simply use the small acorn style prop nut that comes with most electric motors. This allows plenty of cooling air to enter through the space around the prop hub.

The alternative, when using a spinner, is to cut a couple air inlets in the top of the cowling, as shown here. We made two inlets, as shown here, each one measuring 3/8" wide x 1-1/2" long, with a 1/2" space between them.

b) Next make an opening at the bottom rear edge of the cowling, as shown, to provide additional air exit area. The exact dimensions are not critical. We made our opening 2" x 2".
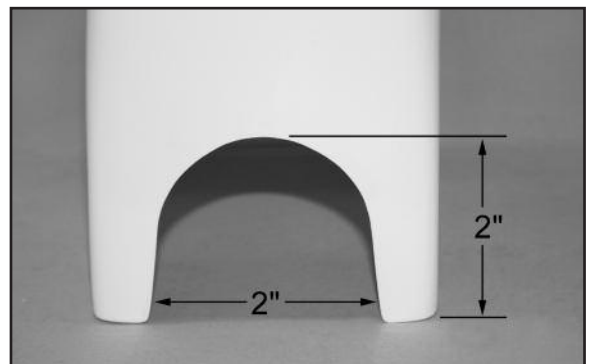
Note: A Dremel® Tool, or similar rotary hand-tool, with an assortment of bits is without a doubt the best tool to use for making cutouts in the fiberglass cowling. However, if you do not have ac-

cess to such a tool, you can cut the opening with a drill, a hobby knife, and a sanding block. First first drill a series of almost touching 1/8" holes inside the pattern lines; then use the knife to cut through the connecting material between each hole; and finally finish the edges of the opening with the file or a sanding block.

c) If after test flying you find that the ESC or battery are getting warmer than you would like, make an air exit hole in the bottom of the fuselage, as shown here. This will improve the air flow through the fuselage.
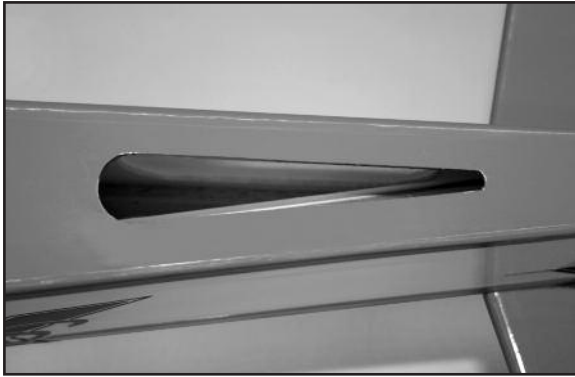
❑ 36) Mount your propeller on your motor.

The installation of your electric motor system is complete. Skip ahead to the section on installing the CANOPY.

GLOW POWER SYSTEM

Skip this section if your using an electric power setup

For this section you will need the Fuselage and:
- (2) Nylon Engine Mounts
- (4) M4 x 25mm Mounting Bolts
- (4) M4 Flat Metal Washers
- (1) Fuel Tank
- (1) Rubber Stopper Assembly
- (1) Fuel Pick-Up Weight (clunk)
- (1) Fuel Line Tubing for inside tank
- (1) Plywood Fuel Tank Rear Mount
- (1) Nylon Throttle Pushrod Tube
- (1) 19-1/2" long Wire Pushrod with Z-bend on one end
- (1) Metal Pushrod Connector with Set Screw and Hex Nuts
- (1) Balsa Block

Note that bolts are not provided for mounting your engine onto the engine mounts. The bolts provided are for bolting the engine mounts onto the airplane. Not all engines suitable for the Somethin' Extra use the same diameter mounting bolts. Many will use 6-32 size bolts, while some may use a smaller diameter bolt. It is up to you to acquire the correct size Bolts(4), Flat Metal Washers)4), and Lock Nuts(4) to fit your engine. For 6-32 mounting bolts the correct clearance hole would be a 5/32" dia. drill bit.

The following instructions show a typical 2-stroke glow engine being mounted UPRIGHT. We found this to be the most trouble free installation in the Somethin' Extra.

❑ 37) Bolt the two Nylon Engine Mounts on the front of the firewall, using M4 x 25mm Bolts and M4 Flat Washers provided.

❑ 38) Set your engine in place on the beams of the engine mounts. Slide the engine forward or aft on the engine mounts until the front of the engine's thrust washer is 4-1/4" from the front of the firewall. Double check to make sure that the engine is pointing exactly straight forward, and then mark the locations of the engine mounting holes onto the beams of the engine mounts, using a center punch or sharpened nail.
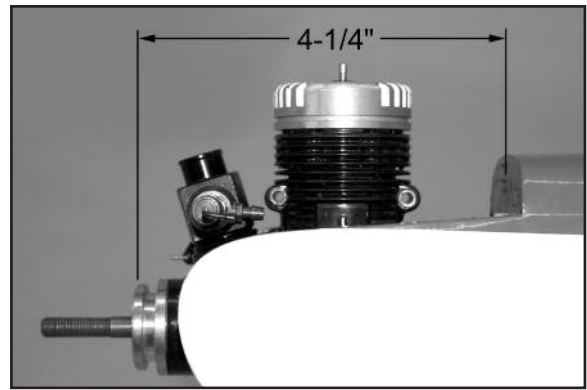
❑ 39) Now set your engine aside and unbolt the engine mounts from the firewall. Drill clearance holes for your engine mounting bolts all the way thru the engine mount beams at the four locations you marked in the previous step. TIP: Secure the engine mounts in a vise while you drill the holes. If at all possible use a drill press instead of a hand drill - the job will be much easier and the holes will be straighter.
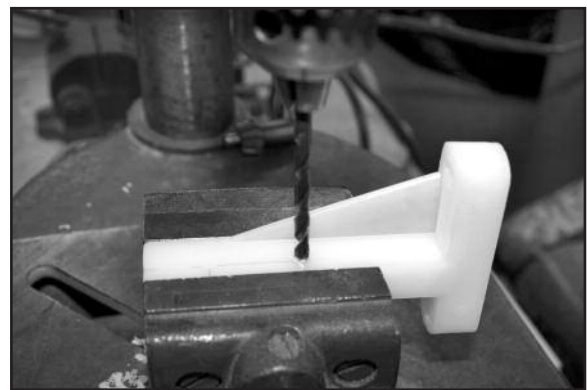
IMPORTANT: DO NOT USE ANY TYPE OF SCREW TO MOUNT YOUR ENGINE TO THESE MOUNTS. ALSO, DO NOT DRILL AND TAP THESE ENGINE MOUNTS FOR BOLTS! Doing so may weaken them and cause failure. Mount your engine to these mounts with steel bolts with flat metal washers and nylon insert lock nuts. Drill clearance size holes for the bolts completely through the mount beams. The mounting bolts should go through the holes without binding.

THROTTLE PUSHROD FOR 2-STROKE ENGINES
The supplied throttle pushrod assembly consists of a wire pushrod running inside a nylon pushrod tube. On one end of the pushrod wire is a Z-Bend. This end of the pushrod will connect to the throttle servo. The plain end of the pushrod wire will connect to the engine throttle arm using a metal Pushrod Connector. Determine which side of the airplane your throttle pushrod will be on. In most cases with an upright 2-stroke glow engine it will be on the right side of the airplane.

❑ 40) The first step is to mount your throttle servo in the fuselage, using the rubber grommets, eyelets, and screws that came with the servo. Put the control arm end of the servo on the same side of the fuselage as you engine's carburetor control arm.

❑ 41) Determine the exact route your pushrod will take between the throttle servo and the engine throttle arm. In most cases you will want the pushrod to run right alongside the engine mount and fuel tank, and then angle over to the throttle servo arm. After determining the proper location, drill a 3/16" diameter hole through the firewall for the throttle pushrod to pass through.

❑ 42) A nylon pushrod tube is supplied to make an outer sleeve for the throttle pushrod wire to ride in. The nylon tube is extra long so it can be adapted to many variations in equipment. Determine how long it should be for your installation. For a typical 2-stroke setup you will want about 1" of tube sticking out in front of the firewall, and the other end of the tube to stop about 1" away from the throttle servo. Mark and cut off the tube to the appropriate length, and then install it in the airplane, gluing it securely to the firewall.

❑ 43) Install the metal pushrod connector in the engine throttle arm, with one hex nut on each sice of the arm. You will need to drill out the hole in the arm with a 5/64" dia. (or #47) drill bit to accept the threaded portion of the pushrod connector. Tighten the two hex nuts of the pushrod connector securely against the throttle arm. If you take the set screw temporarily out of the pushrod connector, you can use a small screwdriver to go down through the connector body to hold the head of the bolt, which makes it much easier to tighten the hex nuts.

❑ 44) Install the throttle pushrod wire.
   a) Slide the plain end of the wire into the plastic sleeve from the servo end. Keep sliding it forward until it emerges from the front of the sleeve. Guide the end of the wire into the pushrod connector on the engine. Do not tighten the set screw at this time.
   b) Remove the arm from the throttle servo and install it on the Z-bend of the pushrod wire. Then re-install the arm on the servo.
   c) Test the operation of the throttle pushrod. Adjust the length of the throttle pushrod using the pushrod connector at the carburetor. Adjust the overall travel of the pushrod using the transmitter's "End Point Adjustment".
   d) Use the supplied small balsa block to make a support for the servo end of the outer plastic pushrod sleeve. Trim the block to fit between the sleeve and the fuselage side. Glue the block to both the sleeve and pushrod side.

Balsa Block Pushrod Support
Nylon Pushrod Tube
Pushrod Wire
Throttle Servo

Pushrod Connector
Nylon Pushrod Tube
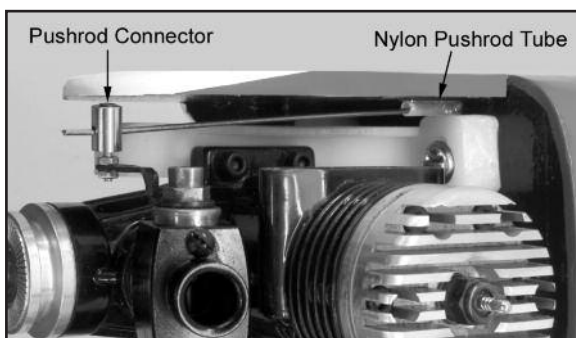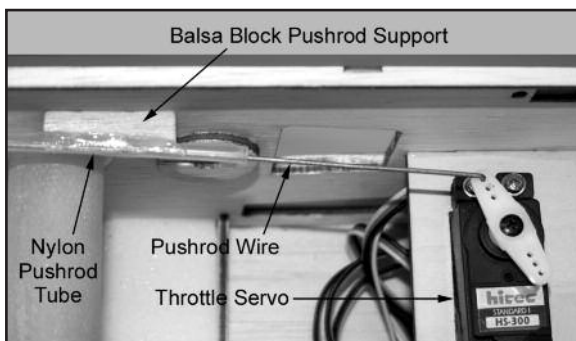
THROTTLE PUSHROD FOR 4-STROKE ENGINES
4-stroke glow engines typically have their carburetor on the back of the engine. This puts the throttle arm very close to the firewall of the airplane, makng the hookup of this end of the throttle pushrod more difficult. If you are using a 4-stroke engine you should take a look at some of the special after-market fittings that are available for this type of installation. For instance Du-Bro® makes a 4-stroke throttle linkage for the carb end of the pushrod, that will work well in conjunction with the wire pushrod parts included in this kit.

FUEL TANK
❑ 45) Assemble the Fuel Tank.
   a) Locate the Rubber Stopper Assembly. There are three nylon tubes going through the rubber stopper. Orient the stopper so that one of the tubes is towards the top and then bend that tube up at a 45-degree angle. Do not apply heat to the tube - it will bend without heat. Just overbend it to nearly 90-degrees and then let it relax, to see where it will end up. Repeat if necessary until the tube will stay at 45-degrees.
   b) Attach the metal Fuel Pick-Up Weight on one end of the silicone Fuel Line Tubing that goes inside the tank. Cut the other end of the fuel line tubing to a length that will allow the clunk to reach the back of the tank, without getting stuck on the walls of the tank. Test fit in the tank and adjust as necessary. With the stopper assembly in place, the fuel clunk should sit just in front of the rear of the tank and move freely inside the tank. If not pull the assembly back out and trim the tubing back until the stopper moves freely. The top of the vent tube should rest just below the top of the tank. It should not touch the top of the tank.

   c) Once you are satisfied with the fit of both the fuel clunk line and the vent line you can tighten the machine screw to expand the rubber stopper and seal the stopper in the tank. Do not over tighten the screw as it can cause the tank to split. Attach three 6-inch lengths of silicone fuel tubing (not furnished) to the tank and label them appropriately as FILL, CARB, and VENT so you can identify them after the tank is installed in the airplane.

FILL
CARB
VENT

❑ 46) Install the fuel tank in the fuselage.
   a) Slip the fuel tank in place, poking the neck of the tank into the plywood front support.
   b) Test fit the plywood rear fuel tank mount at the back of the tank, right up against the back side of the front fuselage former. You will have to notch one side to clear the throttle pushrod. Then glue the plywood rear mount permanently to the back of the fuselage former.
   c) Use common silicone bathtub sealer (not furnished) to glue the fuel tank to the front and rear plywood tank mounts.

COWLING

❏ 47) With a glow engine you might prefer to not use the cowling, so that you have quick and easy access for engine adjustments and re-fueling.

If you do elect to use the cowling, large openings will need to be made in the cowling to clear the engine cylinder head and muffler, and to allow access to the needle valve, etc. Don't be tempted to quickly dive in with a knife and start removing large chunks of material. You will achieve a lot better result if you take the time to develope a pattern and mark it on the cowling for guidance when you are cutting.

There are no hard and fast "rules" for the exact perfect shape for openings in a cowling. The best method is to "sneak up" on these openings, continually trial fitting the cowling over the engine until it finally fits properly. Once the opening is big enough for you to slip it over the engine and place it in correct location on the model, then continue modifying as needed.

A Dremel® Tool, or similar powered hand-tool, with a 5/8" dia. coarse grit sanding drum is without a doubt the best tool to use for removing the material quickly, easily and accurately. However, if you do not have access to such a power tool, you can cut the opening with a drill, a hobby knife, and a file - by first drilling a series of almost touching holes inside your pattern lines (1/8" dia. works well); then using the knife to cut through the connecting material between each hole; and finally finishing the edges of the opening with the file or a sanding block.

❏ 48) Mount the cowl to the fuselage with the four M3 x 10mm Screws provided. Step 34 on page 12 of this manual describes mounting the cowling.

COMPLETE THE RADIO INSTALLATION

❏ 49) Wrap your receiver and battery pack in soft foam rubber to isolate them from engine vibrations. Install these parts in the fuselage, making sure they cannot shift in flight. We put them in the space between the back of the fuel tank and the wing joiner tube.

Rx Battery Pack wrapped in foam

❏ 50) Mount the receiver on/off switch in the fuselage side. Notice that there is a cutout for the switch in either side of the fuse-lage. Remove the covering over the cutout you want to use, rhwn bolt the switch in the cutout.

❏ 51) Mount your propeller on your motor.

The installation of your glow engine system is complete.

INSTALL PILOT & CANOPY
Both glow engine and electric motor users resume assembly here.

❏ 52) Glue the Pilot in place with epoxy glue.

❏ 53) Glue the molded plastic Canopy onto the Fuselage Top Hatch. We recommend a flexible RC-56 type glue, sometimes called "canopy glue", for this job. You will also need to have on hand some low tack tape (masking or frosty office tape) to hold the canopy in place, plus paper towels and water to wipe off any excess glue.
a) First test fit the canopy onto the top hatch to familiarize yourself with how it fits on.
   b) Place a narrow bead of glue all around the outside edge of the canopy where it will contact the hatch.

Canopy Glue
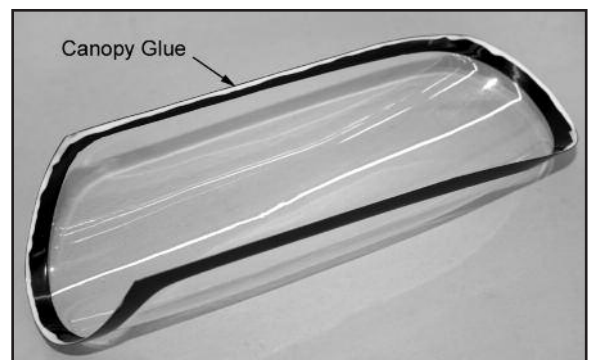
   c) Set the canopy on the hatch and confirm that it is properly aligned. Use a few pieces of tape to hold it in place until dry. Caution: Do not apply any tape along the back edge of the canopy where it mates to the wood rear hatch former. Putting tape on there could put rearward pressure on the rear former, causing it to arch back just enough to keep the top hatch from fitting properly back on the fuselage. Use tape along the front and the bottom sides of the canopy, but not on the back edge. It is not necessary to put a lot of pressure on the canopy. We used only 7 pieces of tape (3 at the front and 2 on each side) to hold the canopy in place with very light pressure.
   d) Use a wet paper towel to clean up any glue that seeps out from the edges. Let dry.

Tape
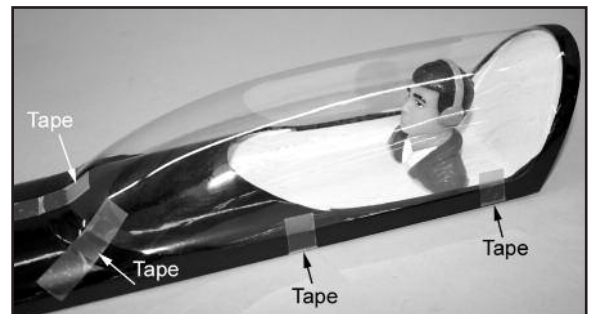
WARNING: Do not use thin CA glue to attach the canopy because it can cloud the plastic.

CONGRATULATIONS!
Your Somethin' Xtra is completely assembled. However, it is NOT ready for flight! There are a few very critical pre-flight tasks we must perform before flying. These are extremely important and should be approached with patience and care.

PRE-FLIGHT

BALANCE

Balancing your airplane may be the single most important step in preparing it for flight. All airplanes, model or full-size, must be accurately balanced in order to fly successfully. An airplane that is not properly balanced will be unstable and will most likely crash.

NOT ALL SOMETHIN' XTRAS WILL BALANCE THE SAME

It is impossible to produce a model airplane kit that will automatically have the correct balance point. Not everyone uses the same motor or radio gear - and all those items can vary in weight! Even propellers of the same size can vary as much as a 3/4 oz. between different brands. That's why every model must be balanced before flying. Don't feel that whatever the balance point your model came out at is "good enough". Check carefully and make whatever adjustments are required. Trying to fly an out of balance model is dangerous!

Preliminary: All the parts and components that will be in the airplane in flight must be installed in their correct positions. This includes all the radio gear, the propeller, battery pack, etc. Every piece of essential equipment must be installed, ready for flight.

**ACCEPTABLE BALANCE RANGE FOR SOMETHIN' XTRA
is from 3-5/8" to 4-5/8"
AFT OF THE LEADING EDGE OF THE WING**

The following table lists several acceptable measurements and the equivalent percent of MAC (Mean Aerodynamic Chord).

DISTANCE		% MAC
3-5/8"	=	26%
3-15/16"	=	28%
4-1/4"	=	30%
4-5/8"	=	33%

A balance point approximately 3-1/2" aft of the leading edge is good for initial test flights. After test flying you can adjust the balance point to fit your flying style.

WARNING! THIS IS NOT A TOY!

Flying machines of any form, either model-size or full-size, are not toys! Because of the speeds that airplanes must achieve in order to fly, they are capable of causing serious bodily harm and property damage if they crash. **IT IS YOUR RESPONSIBILITY AND YOURS ALONE** to assemble this model airplane correctly according to the plans and instructions, to ground test the finished model before each flight to make sure it is completely airworthy, and to always fly your model in a safe location and in a safe manner. The first test flights should only be made by an experienced R/C flyer, familiar with high performance R/C aircraft.

JOIN THE AMA

The governing body for radio-control model airplanes in the United States is the ACADEMY OF MODEL AERONAUTICS, commonly called the AMA. The AMA SAFETY CODE provides guidelines for the safe operation of R/C model airplanes. While AMA membership is not necessarily mandatory, it is required by most R/C flying clubs in the U.S. and provides you with important liability insurance in case your R/C model should ever cause serious property damage or personal injury to someone else.

**ACADEMY OF MODEL AERONAUTICS
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Muncie, IN 47302
Telephone: (765) 287-1256
AMA WEB SITE: www.model aircraft.org**

CONTROL SURFACE TRAVEL

The following control surface data has been flight tested with the Somethin' Xtra. However these numbers are only recommended as a starting point. Your flying style may dictate changes.

	LOW RATE	HIGH RATE
Elevator	1" up	1-1/2" up
	1" down	1-1/2" down
Ailerons	7/8" up	1-3/8" up
	7/8" down	1-3/8" down
Rudder	1-5/8" right	2" right
	1-5/8" left	2" left

FLYING

When it comes to test flying a new model, we always advise modelers to choose a calm day with little or no wind. These conditions allow you to better evaluate and more accurately adjust the trim requirements of your airplane.

Always make it part of your pre-flight routine to check each control on the airplane, making sure the surfaces are moving in the correct directions. Also check each control linkage to be sure they are secure and that nothing is loose. With all the controls checked, make a range check with your radio system, making sure everything is working perfectly.

The Somethin' Xtra is most certainly not a beginner's model. It was designed as an all-out aerobatic aircraft with all of the inherent attributes of those types of airplanes. If this is your first aerobatic model and you have relatively little actual air time, we would urge you to seek the assistance of a qualified R/C pilot to help you through the first few test flights. Keep the ailerons and elevators in their low rates. Once airborne, get to a reasonable altitude before inputting any trim changes. Once the model is trimmed for straight and level flight, begin getting the feel for the way it flies.

We hope that your Somethin' Xtra will provide you with many enjoyable hours of flight. Good luck and safe flying!

CUSTOMER SERVICE

SIG MFG. CO., INC. is committed to your success in both assembling and flying the Somethin' Xtra. Should you encounter any problem building this kit or discover any missing or damaged parts, please feel free to contact us by mail or telephone.

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LIMIT OF LIABILITY

The craftsmanship, attention to detail and actions of the builder/flyer of this model airplane kit will ultimately determine the airworthiness, flight performance, and safety of the finished model. SIG MFG. CO.'s obligation shall be to replace those parts of the kit proven to be defective or missing. The user shall determine the suitability of the product for his or her intended use and shall assume all risk and liability in connection therewith.