

condition to the place of purchase. liability. If the buyer is not prepared to accept the liability associated with the use of this product, the buyer is advised to immediately return this kit in new and unused nor accepted for any damage resulting from the use by the user of the final user-assembled product. By the act of using the user-assembled product the user accepts all resulting the right to change or modify this warranty without notice. In that Top Flite has no control over the final assembly or material used for final assembly, no liability shall be assumed not cover any component parts damaged by use or modification. In no case shall Top Flite's liability exceed the original cost of the purchased kit. Further, Top Flite reserves WARRANTY.....Top Flite Models guarantees this kit to be free of defects in both material and workmanship at the date of purchase. This warranty does

Top Flite Models P.O. Box 788 Urbana, II 61803

Technical Assistance Call (217)398-8970 productsupport@top-flite.com

READ THROUGH THIS INSTRUCTION BOOK FIRST. IT CONTAINS IMPORTANT INSTRUCTIONS AND WARNINGS CONCERNING THE ASSEMBLY AND USE OF THIS MODEL.

Entire Contents © Copyright 2003 TOPA1000 V1.0

TABLE OF CONTENTS

INTRODUCTION

Thank you for purchasing the Top Flite Model's Flite Streak ARF. The Flite Streak is a lightweight, high-performance model that can be used as a Stunt Trainer or for Slow Combat. It is a classic model, a timeless design that always draws a crowd of admirers wherever it is flown. It is largely pre-built and requires only a couple of hours to complete. We found the Flite Streak ARF flew best with a .25 engine on 60 foot lines. We hope you will enjoy your Flite Streak.

For the latest technical updates or manual corrections to the Flite Streak, visit the web site listed below and select the Top Flite Model's Flite Streak ARF. If there is new technical information or changes to this model, a "tech notice" box will appear in the upper left corner of the page.

http://www.top-flite.com/airplanes/index.html

PROTECT YOUR MODEL, YOURSELF & OTHERS FOLLOW THESE IMPORTANT SAFETY PRECAUTIONS

- 1. Your Flite Streak should not be considered a toy, but rather a sophisticated, working model that functions very much like a full-size airplane. Although the Flite Streak is a light weight model, just the same as any model plane, it should still be flown with care. Even while gliding at slow speeds, the Flite Streak could possibly cause injury to yourself or spectators and damage property.
- 2. You must assemble the Flite Streak according to the instructions. Do not alter or modify the model, as doing so may result in an unsafe or unflyable model. In a few cases the instructions may differ slightly from the photos. In those instances the written instructions should be considered as correct.

- You must take the time to build straight, true and strong.
- 4. You must use control lines that are in first-class condition. Do not use lines that are bent, frayed or knotted
- 5. You must correctly install all components so that the model operates correctly on the ground and in the air.
- 6. You must check the operation of the model before **every** flight to insure that all equipment is operating and that the model has remained structurally sound. Be sure to check control components often and replace them if they show signs of wear or fatigue.
- 7. If you are not already an experienced pilot, you should fly the model only with the help of a competent, experienced pilot.
- 8. Do not fly near overhead power lines.

NOTE: We, as the kit manufacturer, provide you with a top quality kit and great instructions, but ultimately the quality and flyability of your finished model depends on how you build it; therefore, we cannot in any way guarantee the performance of your completed model, and no representations are expressed or implied as to the performance or safety of your completed model.

Remember: Take your time and follow the instructions to end up with a well-built model that is straight and true.

If you have not flown this type of model before, we recommend that you get the assistance of an experienced pilot in your club for your first flights. If you're not a member of a club, your local hobby shop has information about clubs in your area whose membership includes experienced pilots.

FLYING

9

In addition to joining a club, we strongly recommend you join the AMA (Academy of Model Aeronautics). AMA membership is required to fly at AMA sanctioned clubs. There are over 2,500 AMA chartered clubs across the country. Among other benefits, the AMA provides insurance to its members who fly at sanctioned sites and events. Additionally, training programs and instructors are available at AMA club sites to help you get started the right way. Contact the AMA at the address or toll-free phone number below:



Academy of Model Aeronautics

5151 East Memorial Drive Muncie, IN 47302-9252 Tele. (800) 435-9262 Fax (765) 741-0057

Or via the Internet at: http://www.modelaircraft.org

ADDITIONAL ITEMS REQUIRED

- ☐ Engine, .25 to .40 (.25 recommended) ☐ Propeller
- □ Prop safety nut
- ☐ Fuel tubing (GPMQ4131)

☐ Control handle (SULP2866)

- ☐ Control lines, .015 x 60' (SULP2632)
- ☐ Control lines combat, .018 x 60' (SULP2635)
- ☐ Line connectors (SULP2948)

BUILDING SUPPLIES

In addition to common household tools and hobby tools, here is the list of items used to build the Flite Streak. **Great Planes Pro**TM CA and epoxy glue is recommended.

- ☐ 6-minute epoxy (GPMR6042)
- ☐ 1 oz. Medium CA (GPMR6008)

- ☐ Hobby knife (HCAR0105)
- ☐ #11 blades (5-pack, HCAR0211)
- ☐ Small Phillips screwdriver (#1)
- ☐ Drill Bits: 1/16" [1.6mm], 3/32" [2.4mm], 1/8" [3.2mm]
- ☐ Threadlocker (GPMR6060)

OPTIONAL SUPPLIES & TOOLS

- ☐ Sandpaper and sanding block
- ☐ Small T-pins (HCAR5100) or craft pins
- ☐ CA applicator tips (HCAR3780)
- ☐ CA debonder (GPMR6039)
- ☐ Mixing cups (GPMR8056)
- ☐ 36" metal ruler (HCAR0475)
- ☐ Rubbing alcohol (for epoxy clean up)
- ☐ Accu-Throw™ Deflection Gauge (GPMR2405)
- ☐ CG Machine[™] (GPMR2400)
- ☐ Sealing Iron (TOPR2100)
- ☐ Dead Center[™] hole locator (GPMR8130)
- ☐ Hot Knife[™] (HCAR0770)

IMPORTANT BUILDING NOTES

There are two types of screws used in this kit:

Sheet metal screws are designated by a number and a length.

For example #6 x 3/4" long [19.1mm]



Machine screws are designated by a number, threads per inch, and a length.

For example 4-40 x 3/4" long [19.1mm]



- When you see the term test fit in the instructions, it means that you should first position the part on the assembly without using any glue, then slightly modify or custom fit the part as necessary for the best fit.
- When you get to each step, read that step completely through to the end before you begin.
 Frequently there is important information or a note at the end of the step that you need to know before you start.
- Photos and sketches are placed before the step they refer to. Frequently you can study photos in following steps to get another view of the same parts.
- The Flite Streak is factory-covered with Top Flite MonoKote® film. Should repairs ever be required, MonoKote can be patched with additional MonoKote purchased separately. MonoKote is packaged in six-foot rolls, but some hobby shops also sell it by the foot. If only a small piece of MonoKote is needed for a minor patch, perhaps a fellow modeler would give you some. MonoKote is applied with a model airplane covering iron, but in an emergency a regular iron could be used. A roll of MonoKote includes full instructions for application. Following are the colors used on this model and order numbers for six foot rolls.

White - TOPQ0204 Black - TOPQ0208

Red - TOPQ0201

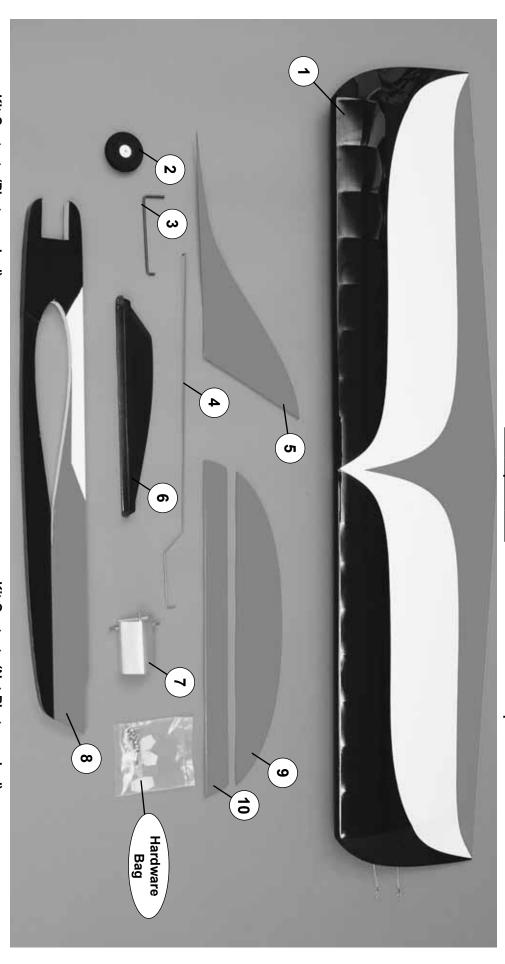
REPLACEMENT PARTS

There are no replacement parts available for the Top Flite Models Flite Streak ARF. If this kit is missing parts, contact **Top Flite Models Product Support**. (Please see **Kit Contents**)

KIT CONTENTS

quality. If any parts are missing or are not of acceptable quality, or if you need assistance with assembly, contact Top Flite Models Product Support. When reporting defective or missing parts, use the part names exactly as they are written in the Kit Contents list on this page. Before starting to build, use the Kit Contents list to take an inventory of this kit to make sure it is complete, and inspect parts to make sure they are of acceptable

You can also check our web site at www.top-flite.com for the latest Flite Streak updates Top Flite Models Product Support • Telephone: (217) 398-8970 • Fax: (217) 398-7721



Kit Contents (Photographed) Canopy

3. Wire Landing Gear 8. Fuselage 7. Fuel Tank w/bracket

2. 1-3/4" Wheel

- 9. Horizontal Stabilizer 10. Elevator

Vertical Fin 4. Elevator Pushrod

Hardware Bag

- (4) CA Hinge

(1) Nylon Control Horn

- (1) Landing Gear Strap
- (2) Pushrod Retainer
- (2) 1/8" Wheel Collar

Kit Contents (Not Photographed)

- (4) #4 Lock Washer (4) 4-40 x 1" Machine Screw
- (8) #4 Flat Washer
- (1) 90 Degree Metal Bracket
- (3) 2-56 x 1/2" Machine Screw

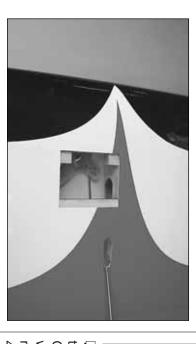
(2) Set Screw

- (3) Large Wood Screw
- (4) Small Wood Screw
- (4) 4-40 Hex Nut

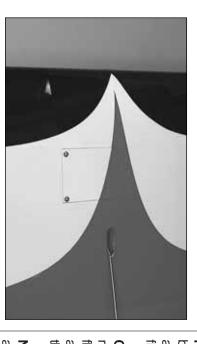
ASSEMBLY

Use a model covering iron to tightly shrink the covering on the model as required. Be sure all seams are tightly sealed.

Prepare the Wing



□ 1. Loosen the screw that holds the bellcrank in place. Insert the elevator pushrod into the middle hole in the bellcrank as shown in the photo. Remove the screw, then reinstall it with a drop of thread locker.



□ 2. The ply bellcrank hatch is attached with two small wood screws. Drill a 1/16" [1.6mm] pilot hole for each screw. Enlarge the holes in the hatch with a 3/32" [2.4mm] drill bit. Mount the hatch with two small wood screws.

Note: Only one side of the hatch is secured with screws. The other end slides under the fuselage.

Mount the Engine and Tank

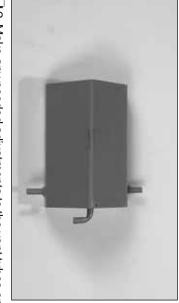


□ 1. Position the engine on the fuselage and mark the location of the mounting holes for the engine. The Great Planes Dead Center hole locator (GPMR8130) works well for this. Drill 1/8" [3.2mm] holes at the marks. Mount the engine to the fuselage with four 4-40 × 1" [25mm] machine screws, lock washers, flat washers and hex nuts. The cutout for the engine is sized for an O.S. .25 LA-S engine. If you are using a different engine, you may need to adjust the cutout.

Note: Four extra flat washers are included and can be used to establish some out-thrust on the engine as in the above photo. Out-thrust will help increase flying line tension.

Caution: Be sure you are mounting the engine on the right side of the fuselage. The top of the fuselage has a flat area on it for mounting the horizontal stabilizer. Note also the white arrow shape in the covering on the top of the fuselage just aft of the engine.

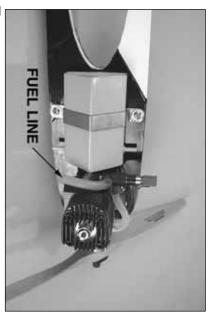
Note: An R/C engine can be used if the carburetor arm is held in the full throttle position with some type of linkage. (not supplied)



☐ 2. Make any needed adjustments to the vent tubes on the fuel tank so they do not interfere with the engine.



□ 3. Mount the fuel tank to the model using the supplied strap and two large wood screws. Make sure that the tank will clear the wing when it is installed.



☐ 4. Install the fuel line (not included) from the tank to the engine.



□ 5. Mount the muffler onto the engine. Install the pressure line from the muffler to the tank. The bottom vent line on the tank can be used for filling and draining the tank, but it should be plugged when the engine is running.

Install the Landing Gear



- □ 1. Mount the landing gear wire to the model with the Nylon Strap and two small wood screws.
- ☐ 2. Enlarge the hole in the wheel with a 1/8" [3.2mm] drill bit. Mount the wheel to the landing gear wire with two 1/8" [3.2mm] Wheel Collars and two Set Screws.

Mount the Wing To the Fuselage



□ 1. Use a tape measure to locate and mark the exact centerline of the wing with a felt-tip pen. Draw a line 1/4" [6.4mm] to the right of the centerline. (Do not rely on the covering being exactly centered.)

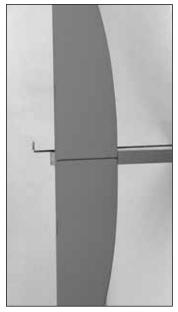


- □ 2. Slide the wing into the fuselage. Align the right side of the fuselage with the line that you drew 1/4" [6.4mm] to the right of the centerline. Use a string or tape measure to check the alignment of the wing. The distance from the tail to the left and right wing tips should be the same. Adjust the wing as needed. Mark the sides of the fuselage on the top and bottom of the wing with a felt-tip pen.
- □ 3. Remove the wing from the fuselage. Use a hobby knife with a sharp #11 blade to cut and remove the covering 1/16" [1.6mm] inside the lines marking the fuselage sides. Be very careful not to cut into the balsa under the covering as this will weaken the wing.

Note: The Hobbico Hot Knife" (HCAR0770), or a soldering iron, works well for this as it allows cutting the covering without cutting into the balsa.

- □ 4. Use a paper towel and alcohol to remove any felt-tip pen marks.
- □ 5. Use medium CA or Epoxy to glue the wing to the fuselage. If you use medium CA, align the fuselage carefully first, then wick the CA into the joint.

Install the Horizontal Stab

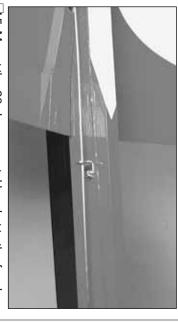


- □ 1. Use a tape measure to locate and mark the center of the trailing edge of the horizontal stabilizer. Use a square or right triangle to mark the centerline of the stab. Position the stab on the fuselage and align it with the centerline. Use a string or tape measure to check the alignment using the same technique you did with the wing. Mark the outline of the fuselage on the bottom of the stab.
- □ 2. Remove the stab from the fuselage. Use a hobby knife with a sharp #11 blade to cut and remove the covering 1/16" [1.6mm] inside the lines marking the fuselage sides. Be very careful not to cut into the balsa under the covering as this will weaken the stab. Use a paper towel and alcohol to remove any felt-tip pen marks.



□ 3. Position the stab on the fuselage and align it as before. From the rear of the model, check that the stab is parallel with the wing. If it is not, lightly sand the stab mount on the fuselage as needed. When you are satisfied with the alignment, glue the stab in place with medium CA or epoxy.

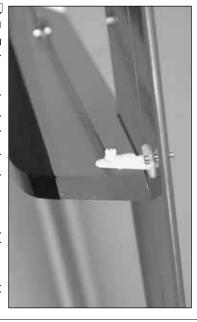
□ 4. Insert the four CA hinges in the precut slots in the elevator. Trial fit the elevator to the stab. Make any adjustments needed to the hinge slots. When satisfied with the fit, glue the hinges in place with three drops of thin CA on the top and bottom of the hinges. DO NOT use any CA accelerator.



☐ 5. Mount the 90-degree metal bracket to the fuselage left side using a large wood screw. There is a pilot hole already drilled in the fuselage at the correct location. Be sure to insert the elevator pushrod into the bracket before you mount it into position.

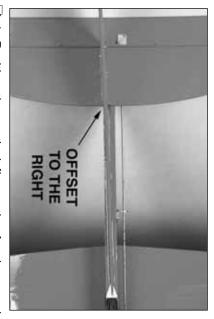


☐6. The nylon control horn is mounted to the bottom of the elevator inline with the pushrod. Mark the location of the mounting holes and drill 3/32" [2.4mm] holes. Mount the control horn using the supplied 2-56 x 1/2" [12.7mm] machine screws and nylon backplate.

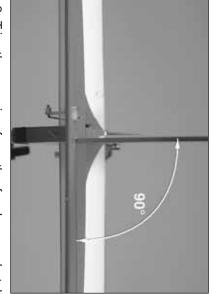


☐ 7. Enlarge the holes in the control horn with a 3/32" [2.4mm] drill bit. Insert the elevator pushrod into the second hole from the end. Use a plastic retainer to hold the pushrod in place.

Install the Vertical Fin



□ 1. Position the vertical fin on the fuselage and horizontal stab. Note that the leading edge of the fin is centered on the fuselage just aft of the canopy, but the rear of the fin is off center to the right. This will help increase the flying line tension. Mark the outline of the fin on the fuselage and stab.



□ 2. Trim the covering from the fuselage and stab inside the lines. Remove any felt-tip pen marks. Glue the vertical fin in place with epoxy. Be sure the fin is perpendicular to the horizontal stab. After the epoxy hardens, reinforce the joint as needed.

Mount the Canopy



☐ 1. Cut the canopy to fit the fuselage. The canopy can be held in place with epoxy or small wood screws.

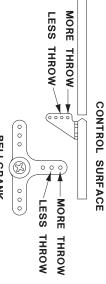


☐ 2. If you would like to add a tailskid to your Flite Streak this can be done with a wood or sheet metal screw or with a nylon tailskid. The photo shows a Great Planes Wing Tip Skid (GPMQ4445).

PREPARE THE MODEL FOR FLYING

Set the Control Throws

Use a Great Planes AccuThrow (or a ruler) to accurately measure and set the control throw of the elevator as indicated in the chart that follows.



BELLCRANK

To **increase** the control surface throw, move the pushrod to a hole that is closer-in on the control horn on the control surface, or move the pushrod to a hole that is farther out on the bellcrank. To decrease the control surface throw, do the opposite.

Set up the Flite Streak so it has the following control surface throw:

ELEVATOR: 3/8" [10mm] up and down

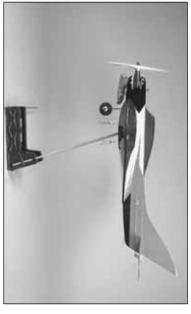
Set the elevator throw as close to this setting as possible. If you have too much control throw the model may respond too quickly. If you do not have enough throw, you may not be able to maneuver the model or have enough control to land it.

Balance the Model (C.G.)

IMPORTANT: More than any other factor, the **C.G.** (balance point) can have the **greatest** effect on how the model flies, and may determine whether or not your first flight will be successful. If you value this model, **DO NOT OVERLOOK THIS IMPORTANT PROCEDURE.** A model that is not properly balanced will be unstable and possibly unable to fly correctly.

The C.G. (center of gravity) must be checked when the model is ready to fly. All components should be installed with the fuel tank empty.

□ 1. Use a felt-tip pen or narrow strips of tape to mark the balance point on the **bottom** of the wing 3-1/4" [82.6mm] from the leading edge of the wing on both sides of the fuselage.



□ 2. Lift the model, right side up, at the balance point you marked on the bottom of the wing. We use the

Great Planes CG MachineTM. If the nose drops the model is nose-heavy and you must add weight to the tail. If the tail drops, the model is tail-heavy and you must add weight to the nose.

- □ 3. If additional weight is required to balance the model, use small pieces of Great Planes stick-on weight (GPMQ4485). Our prototype model required one ounce of weight on the tail.
- ☐ 4. After placing weight on the model where necessary, recheck the C.G. to confirm that it is correct.
- ☐ 5. Attach the weight with screws or glue securely in place.

Identify Your Model

No matter if you fly at an AMA sanctioned club site or if you fly somewhere on your own, you should always have your name, address, telephone number and AMA number on or inside your model. It is **required** at all AMA club flying sites and AMA sanctioned flying events. Fill out one of the identification tags on page 11 and place it on or inside your model.

Ground Inspection

Before you fly you should perform one last overall inspection to make sure the model is truly ready to fly and that you haven't overlooked anything. If you are not thoroughly familiar with the operation of control line models, ask an experienced modeler to perform the inspection. Make certain the elevator is secure, the pushrod is connected, the elevator responds in the correct direction and the C.G. is correct.

Be sure to conduct a pull test as specified by the AMA for the type of use you intend to use the Flite Streak for. When this manual was written, the requirements were:

Combat - 35 lbs, 0.18" control lines Aerobatics - 30 lbs, 0.15" control lines

AMA Safety Code (excerpts)

Read and abide by the following Academy of Model Aeronautics Official Safety Code:

GENERAL

- 1.1 will not fly my model aircraft in sanctioned events, air shows or model flying demonstrations until it has been proven to be airworthy by having been previously, successfully flight tested.
- 3. Where established, I will abide by the safety rules for the flying site I use, and I will not willfully and deliberately fly my models in a careless, reckless and/or dangerous manner.
- 5. I will not fly my model unless it is identified with my name and address or AMA number, on or in the model.

CONTROL LINE

- 1. I will subject my completed control system (including safety thong, where applicable) to an inspection and pull test prior to flying. Pull test will be in accordance with the current Competition Regulations for applicable model category. Models not fitting a specific category as detailed shall use those pull test requirements for Control Line Precision Aerobatics.
- I will assure that my flying area is safely clear of all utility wires and poles.
- 3.1 will assure that my flying area is safely clear of all non-essential participants and spectators before permitting my engine to be started.
- 4. I will not fly a model closer than 50 feet to any electrical power line.

FIND A SAFE PLACE TO FLY

The **best** place to fly **any** model is at an AMA chartered club field. Club fields are set up for C/L flying, making your outing safer and more enjoyable. We recommend that you join the AMA and a local club so you can have a safe place to fly and have insurance to cover you in case of a flying accident. The AMA address and telephone number are in the front of this manual.

If there is no club or C/L flying field in your area, find a suitable site that is clear of trees, telephone poles, power lines, buildings, busy streets and other obstacles.

In addition to obstacles, it is important to be aware of people who may wander into the area once you begin flying. At AMA club flying sites it is a severe rule infraction to fly over others, and this is a good practice if flying elsewhere. C/L models tend to attract onlookers whose numbers can soon multiply, forming small, uncontrolled crowds. Onlookers pose two main problems. First is the danger of actually crashing your model into a person, causing injury. Second is the distraction while you are trying to concentrate on flying. To minimize or avoid this problem, have an assistant standing by who can spot people who wander into your flying site (so you can avoid flying over them) and who can perform "crowd control" if people start to gather.

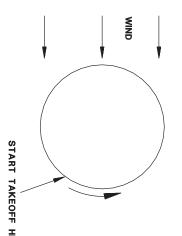
FLYING

IMPORTANT: If you are an inexperienced modeler we strongly urge you to seek the assistance of a competent, experienced C/L pilot to check your model for airworthiness AND to teach you how to fly. No matter how stable or "forgiving" the Flite Streak is, attempting to learn to fly on your own is dangerous and may result in destruction of your model or even injury to yourself and others. Therefore, find an instructor and fly only under his or her guidance and supervision until you have acquired the skills necessary for safe and fully controlled operation of your model.

Takeoff

For your first flights we recommend flying the Flite Streak when the wind is no greater than ten miles per hour. Less experienced flyers should fly only in light wind conditions. Frequently, winds are calm in the early morning and early evening. Often these are the most enjoyable times to fly anyway!

Where you place your model in the flying circle for takeoff can be important. Do not takeoff directly into the wind as this will place the model in a crosswind, pushing the model into the circle, shortly after takeoff, when the line tension is minimal. Takeoff should be made with a quartering downwind/crosswind so that the model reaches flying speed and full line tension as it enters the headwind.



Be sure to confirm with your assistant the signal you will use to have him launch the model. When ready to launch, the assistant should hold the rear of the fuselage while you check the elevator response to be sure you have the control handle oriented correctly.

light

The Flite Streak is a very responsive model. Be prepared for this on your first flight. The main purpose of the first few flights is to learn how the model behaves and to adjust the elevator responsiveness to suit your style of flying. You may also want to adjust line tension by changing the engine out-thrust angle or by adding weight to the outside wing tip.

Best of luck and happy flying!



O.S. Engines® .25 LA-S Control Line Engine with Muffler (OSMG1425)

LA-S control line power plants replace the carburetor with a venturi that keeps the engine running at a constant speed. Other features match those found on O.S. LA engines for R/C planes: a remote needle valve to reduce the chance of injury from spinning props; a nylon backplate mount and ratchet spring to help hold settings against "creep" cause by vibration; and an O-ring to seal the needle from fuel and air leaks. The crankcase has a blue finish and is reinforced in high-stress areas with heavy-duty webbing. Includes #A3 glow plug and 2-year warranty protection.



Hobbico® Hot-Shot™ 2 Glow Starters With Sanyo® cell power!

 Recharge overnight with included wall adapter.

Hot-Shot 2 glo-starters combine a locking glow plug clip designed for standard or 4-stroke plugs with a high-capacity Sanyo rechargeable NiCd. The 2.3" Standard and 3.8" Long boast 1500mA of NiCd power. The Super version delivers 4000mA — enough for an entire day of modeling. All three feature a Twist-and-Lock Connector for safer, faster starts and long-lasting dependability. Their heavy-duty wall outlet adapter with LED indicator lets you recharge the battery overnight. One-year warranty.

HCAP2520 Hot-Shot 2 Standard HCAP2522 Hot-Shot 2 Long HCAP2528 Hot-Shot 2 Super



Hobbico® Ultra-Tote™ Field Box Kit (HCAP5020)

Keep your field gear organized and handy! Hobbico's easy-to-assemble Ultra-Tote kit features sturdy, thick plywood panels, and comes with drawer knob, screws, washers, Velcro®, foam pads, nylon strips and stepby-step instructions. In addition to a full-length drawer with divided compartments, the tote has adjustable foam-padded cradles for safe model maintenance; ventilated storage area for a 12V field battery; and a shelf to hold a 1-gallon can or plastic bottle of fuel. Measures 19" x 8" x 17". Comes unpainted; decals not included. 90-day warranty.

Date Assembly Started:	Date of First Flight:
FLIGHT LOG	

AMA number	Phone number	City, State Zip	Address	Name	This model belongs to:
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AMA number	Phone number	City, State Zip	Address	Name	This model belongs to:
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