

ElectriFLY
by Great Planes

L-39

INSTRUCTION MANUAL



Wingspan: 25 in [635mm]
Wing Area: 141 sq in [9.1 dm²]
Weight: 17.5–18.5 oz [500–520g]
Wing Loading: 17.9–18.9 oz/sq ft [55–58 g/dm²]
Length: 31 in [780mm]
Radio: 3-Channel Minimum with 3 Micro Servos, Micro Receiver

WARRANTY

Great Planes® Model Manufacturing Co. guarantees this kit to be free from defects in both material and workmanship at the date of purchase. This warranty does not cover any component parts damaged by use or modification. **In no case shall Great Planes' liability exceed the original cost of the purchased kit.** Further, Great Planes reserves the right to change or modify this warranty without notice.

In that Great Planes has no control over the final assembly or material used for final assembly, no liability shall be assumed nor accepted for any damage resulting from the use by the user of the final user-assembled product. By the act of using the user-assembled product, the user accepts all resulting liability.

If the buyer is not prepared to accept the liability associated with the use of this product, the buyer is advised to return

this kit immediately in new and unused condition to the place of purchase.

To make a warranty claim send the defective part or item to Hobby Services at the address below:

Hobby Services
3002 N. Apollo Dr., Suite 1
Champaign, IL 61822 USA

Include a letter stating your name, return shipping address, as much contact information as possible (daytime telephone number, fax number, e-mail address), a detailed description of the problem and a photocopy of the purchase receipt. Upon receipt of the package, the problem will be evaluated as quickly as possible.

READ THROUGH THIS MANUAL BEFORE STARTING CONSTRUCTION. IT CONTAINS IMPORTANT INSTRUCTIONS AND WARNINGS CONCERNING THE ASSEMBLY AND USE OF THIS MODEL.



Champaign, Illinois
(217) 398-8970, Ext 5
airsupport@greatplanes.com

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INTRODUCTION

Welcome to the exciting world of EDF (Electric Ducted Fan) airplanes! The L-39 is sure to please with its scale appearance paired with the convenience of being constructed from light weight foam. In addition, the L-39 also includes a painted stand and removable missiles and drop tanks (for display only) that will allow the plane to double as a display model. Using the included brushless motor, the L-39 achieves incredible speeds, being clocked at 78 mph coming out of a dive! The L-39 is a great, stable flyer too and can comfortably fly at slower speeds.

For the latest technical updates or manual corrections to the L-39 ARF visit the Great Planes web site at www.greatplanes.com. Open the "Airplanes" link, then select the L-39 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.

AMA

We urge you to join the AMA (Academy of Model Aeronautics) and a local R/C club. The AMA is the governing body of model aviation and membership is required to fly at AMA clubs. Though joining the AMA provides many benefits, one of the primary reasons to join is liability protection. Coverage is not limited to flying at contests or on the club field. It even applies to flying at public demonstrations and air shows. Failure to comply with the Safety Code (excerpts printed in the back of the manual) may endanger insurance coverage. Additionally, training programs and instructors are available at AMA club sites to help you get started the right way. There are over 2,500 AMA chartered clubs across the country. Contact the AMA at the address or toll-free phone number below.

Academy of Model Aeronautics

5151 East Memorial Drive

Muncie, IN 47302

Tele: (800) 435-9262

Fax (765) 741-0057

Or via the Internet at:

<http://www.modelaircraft.org>



IMPORTANT!!! Two of the most important things you can do to preserve the radio controlled aircraft hobby are to avoid flying near full-scale aircraft and avoid flying near or over groups of people.

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

1. Your L-39 ARF should not be considered a toy, but rather a sophisticated, working model that functions very much like a full-size airplane. Because of its performance capabilities, the L-39, if not assembled and operated correctly, could possibly cause injury to yourself or spectators and damage to property.

2. You must assemble the model 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.

3. You must take time to build straight, true and strong.

4. You must correctly install all R/C and other components so that the model operates correctly on the ground and in the air.

5. 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 pushrod connectors or servo arms often and replace them if they show any signs of wear or fatigue.

6. If you are not an experienced pilot or have not flown this type of model before, we recommend that you get the assistance of an experienced pilot in your R/C 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.

We, as the kit manufacturer, provide you with a top quality, thoroughly tested kit and 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.

LITHIUM BATTERY HANDLING & USAGE

WARNING!! Read the entire instruction sheet included with the battery. Failure to follow all instructions could cause permanent damage to the battery and its surroundings, and cause bodily harm!

- ONLY use a LiPo approved charger. NEVER use a NiCd/ NiMH peak charger!
- NEVER charge in excess of 4.20V per cell.
- ONLY charge through the "charge" lead. NEVER charge through the "discharge" lead.
- NEVER charge at currents greater than 1C.
- ALWAYS set charger's output volts to match battery volts.
- ALWAYS charge in a fireproof location.
- NEVER trickle charge.
- NEVER allow battery temperature to exceed 150° F (65° C).
- NEVER disassemble or modify pack wiring in any way or puncture cells.
- NEVER discharge below 2.5V per cell.
- NEVER place on combustible materials or leave unattended during charge or discharge.
- ALWAYS KEEP OUT OF REACH OF CHILDREN.

DECISIONS YOU MUST MAKE

This is a partial list of items required to finish the L-39 EDF ARF that may require planning or decision making before starting to build. Order numbers are provided in parentheses.

Radio Equipment

The L-39 EDF ARF requires a 3+ channel transmitter, a micro receiver, and three micro servos (9g or less). If you already have a transmitter you are going to use to fly the L-39, you can get the receiver and servos separately:

- Futaba® R114F 4-Channel FM Micro Receiver w/o Crystal (Low Band: FUTL0442; High Band: FUTL0443)
- Futaba FM Single conversion receiver crystal for R114F (Low Band: FUTL62**; High Band: FUTL63**)
- Futaba S3114 Micro HT Servo (FUTM0414)
- Two Futaba 150mm Slim Wire Extensions (FUTM4506)
- Futaba 6" Dual Servo Extension J (FUTM4130)

A lithium-polymer battery pack and suitable charger are also required. Although there are different battery packs and chargers available that will work with the L-39 ARF, the economical choices recommended by Great Planes are:

- Great Planes LiPo 11.1V 910mAh 20C Discharge w/Balance (GPMP0605)
- Great Planes LiPo 11.1V 1250mAh 20C Discharge w/Balance (GPMP0609)
- Great Planes ElectriFly DC peak charger (GPMM3010)
- Great Planes Equinox™ Cell Balancer (GPMM3160)

Note: Battery choice will affect the balance of the plane. The 1250mAh pack will result in a forward C.G. position, and the 910mAh pack will provide a more aft C.G. position.

Speed Control

A 25A brushless electronic speed control with BEC (Battery Eliminator Circuitry) is required. The BEC allows both the motor and the radio system to be powered by the same battery (thus eliminating the on-board receiver battery). The Great Planes Silver Series 25A Brushless ESC (GPMM1820) is recommended.

ADDITIONAL ITEMS REQUIRED

Adhesives and Building Supplies

Foam safe CA glue and 30-minute epoxy are used in the assembly of the L-39 ARF. Order numbers are provided below.

- Great Planes Pro™ Epoxy 30-Minute Formula 4 oz. (GPMR6043)
- Great Planes Pro Foam Safe CA- Thick Glue 1 oz. (GPMR6072)
- Denatured alcohol (for epoxy clean up)

This manual also refers to using a 1/16" [1.6 mm] drill bit:

- Hobbico® Pin Vise 1/16 Collet w/6 Bits (HCAR0696)

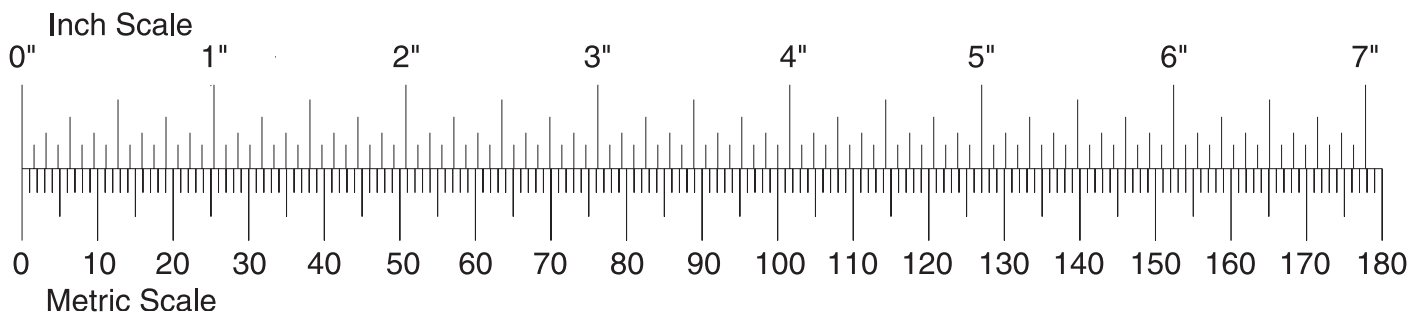
Optional Supplies and Tools

Here is a list of items that will help you build the L-39 ARF.

- CA debonder (GPMR6039)
- Epoxy brushes (6, GPMR8060)
- Mixing sticks (50, GPMR8055)
- Mixing cups (GPMR8056)
- CG Machine™ (GPMR2400)
- Hobbico Flexible 18" Ruler Stainless Steel (HCAR0460)

IMPORTANT BUILDING NOTES

- 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.
- Whenever the term **glue** is written you should rely upon your experience to decide what type of glue to use. When a specific type of adhesive works best for that step, the instructions will make a recommendation.
- Whenever just **epoxy** is specified you may use **either** 30-minute (or 45-minute) epoxy **or** 6-minute epoxy. When 30-minute epoxy is specified it is **highly** recommended that you use only 30-minute (or 45-minute) epoxy, because you will need the working time and/or the additional strength.
- **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.



ORDERING REPLACEMENT PARTS

Replacement parts for the L-39 ARF are available using the order numbers in the Replacement Parts List that follows. The fastest, most economical service can be provided by your hobby dealer or mail-order company.

To locate a hobby dealer, visit the Great Planes web site at www.greatplanes.com. Choose "Where to Buy" at the bottom of the menu on the left side of the page. Follow the instructions provided on the page to locate a U.S., Canadian or International dealer.

Parts may also be ordered directly from Hobby Services by calling (217) 398-0007, or via facsimile at (217) 398-7721, but full retail prices and shipping and handling charges will apply. Illinois and Nevada residents will also be charged sales tax. If ordering via fax, include a Visa® or MasterCard® number and expiration date for payment.

Mail parts orders and payments by personal check to:

Hobby Services

3002 N. Apollo Drive, Suite 1
Champaign, IL 61822

Be certain to specify the order number exactly as listed in the **Replacement Parts List**. Payment by credit card or personal check only; no C.O.D.

If additional assistance is required for any reason, contact Product Support by telephone at (217) 398-8970, or by e-mail at productsupport@greatplanes.com.

Replacement Parts List

Order Number	Description	How to Purchase
	Missing pieces	Contact Product Support
	Instruction manual.....	Contact Product Support
	Full-size plans	Not available

Contact your hobby supplier for the following parts:

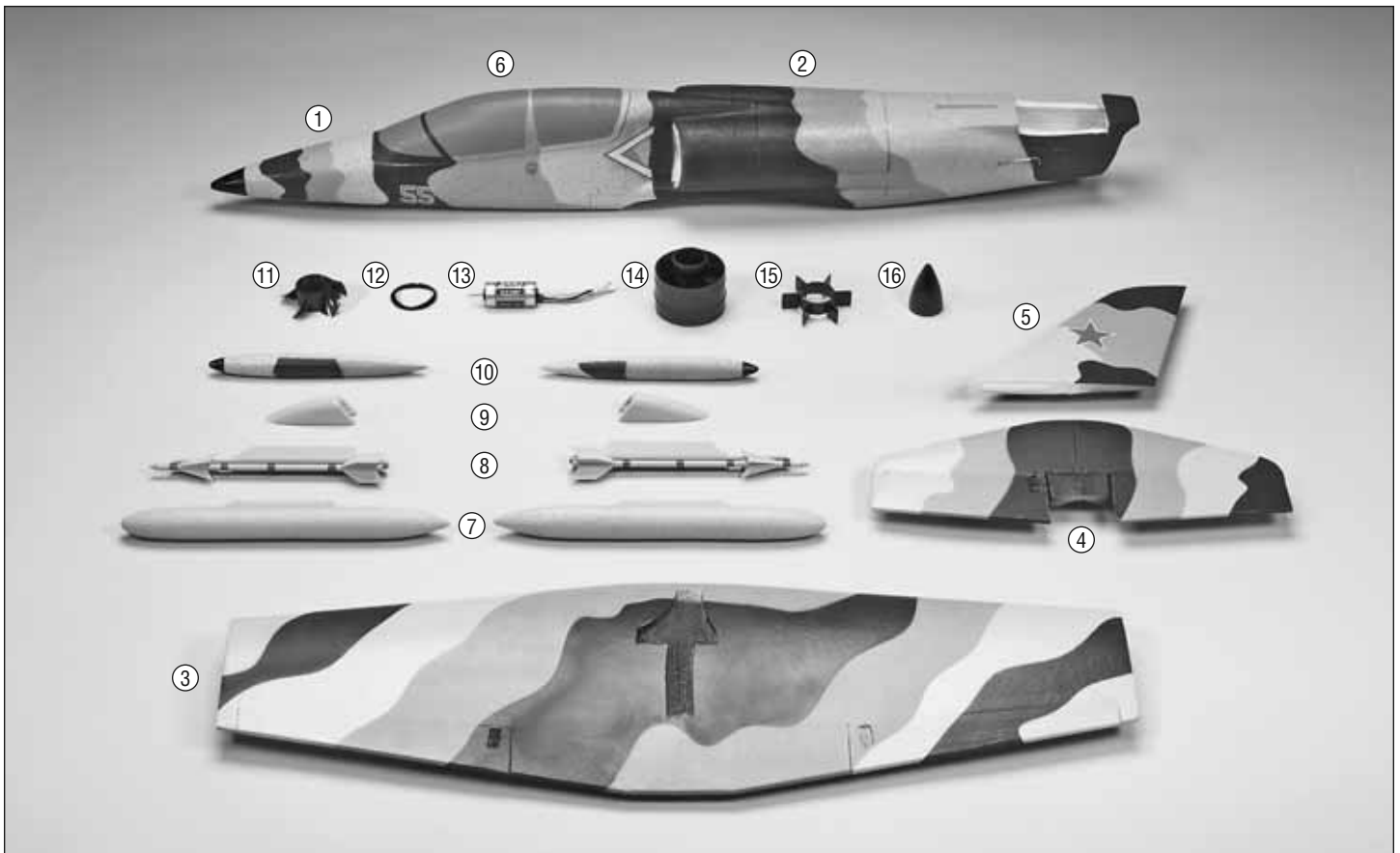
GPMA2772	Wing Set with Tip Tanks
GPMA2773	Fuse Kit with Hatch
GPMA2774	Tail Set
GPMA2775	Canopy Hatch
GPMA2776	Armament Set
GPMA2777	Display Stand
GPMA2778	Tip Tanks (2)
GPMA2779	Decal Sheet
GPMA3124	Motor Lead Extension
GPMG3900.....	HyperFlow Ducted Fan Unit
GPMG3940.....	Ducted Fan Rotor Blade
GPMG3941.....	Ducted Fan Miscellaneous Parts
GPMG3942.....	Ducted Fan Outer Duct
GPMG3943.....	Ducted Fan Adapter

KIT INSPECTION

Before starting to build inspect the parts to make sure they are of acceptable quality. If any parts are missing or are not of acceptable quality, or if you need assistance with assembly, contact **Product Support**. When reporting defective or missing parts, use the part names exactly as they are written in the Kit Contents list.

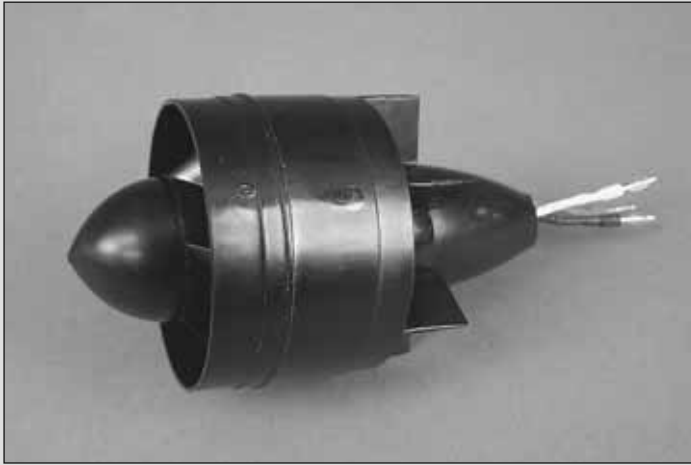
Great Planes Product Support
3002 N. Apollo Drive, Suite 1
Champaign, IL 61822
Telephone: (217) 398-8970, ext. 5
Fax: (217) 398-7721
E-mail: airsupport@greatplanes.com

KIT CONTENTS

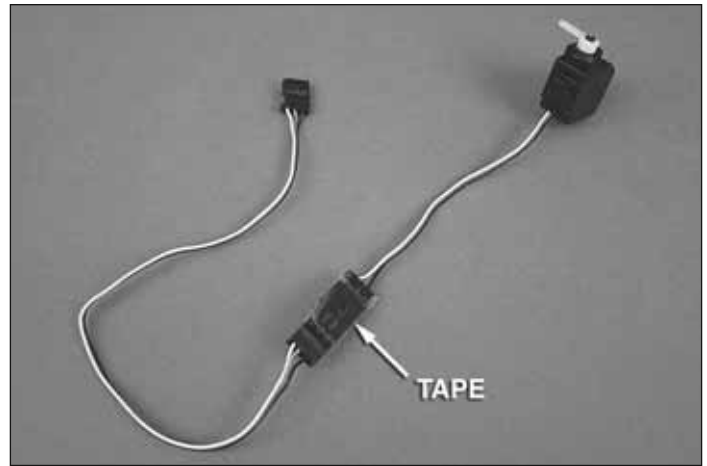


- | | |
|--------------------------------------|-------------------------------|
| 1. Fuselage | 9. Aileron Pushrod Covers (2) |
| 2. Ducted Fan Access Hatch | 10. Wing Tip Tanks (2) |
| 3. Wing w/Ailerons | 11. Rotor |
| 4. Horizontal Stabilizer w/Elevators | 12. 20mm Motor Adapter |
| 5. Vertical Fin | 13. Brushless Motor |
| 6. Canopy Hatch | 14. Ducted Fan Housing |
| 7. Drop Tanks (2) | 15. Stator Extension |
| 8. Missiles (2) | 16. Aft Cone |

BEFORE YOU BEGIN

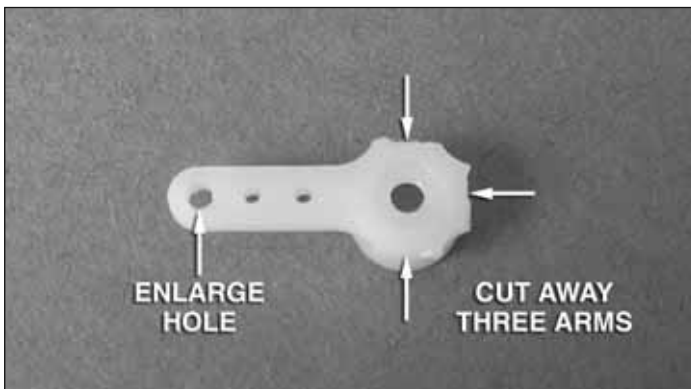


Before building the model, please follow the assembly and break-in instructions that can be found in the manual that accompanies the included ducted fan unit. Two 2.5mm x 5mm machine screws and two 2.5mm flat washers are included to mount the Ammo™ 20-40-3500kV brushless motor inside the fan housing.



❑ 2. Attach a 6" [150mm] servo extension to each aileron servo. Use tape or heat shrink tubing (not included) to secure the connectors.

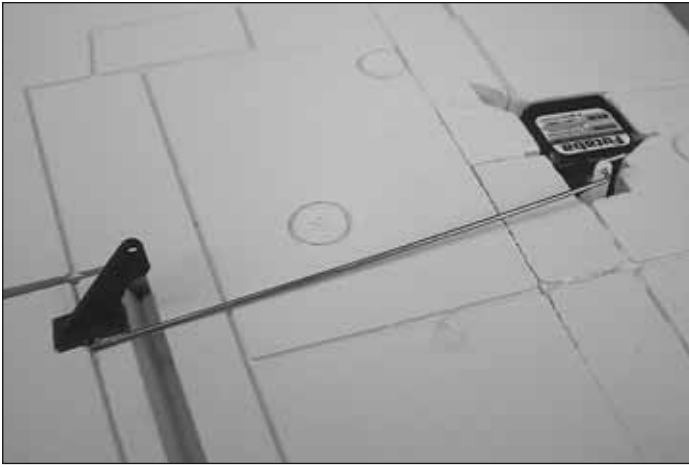
ASSEMBLE THE AIRPLANE



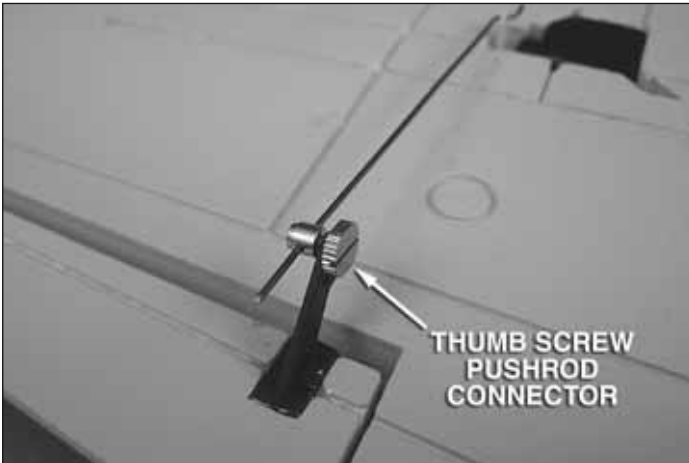
❑ 1. Begin by centering the aileron servos with your radio system. Cut three arms from two four-armed servo arms. Enlarge the outer holes in the servo arms with a 1/16" [1.6mm] drill bit. Attach the servo arms perpendicular to the aileron servo cases using the servo arm screws (be sure to make a left and right aileron servo).



❑ 3. Glue the servos into the aileron servo bays using CA glue or epoxy. Route the servo leads down the servo lead channel and through the slots near the center of the **wing**.



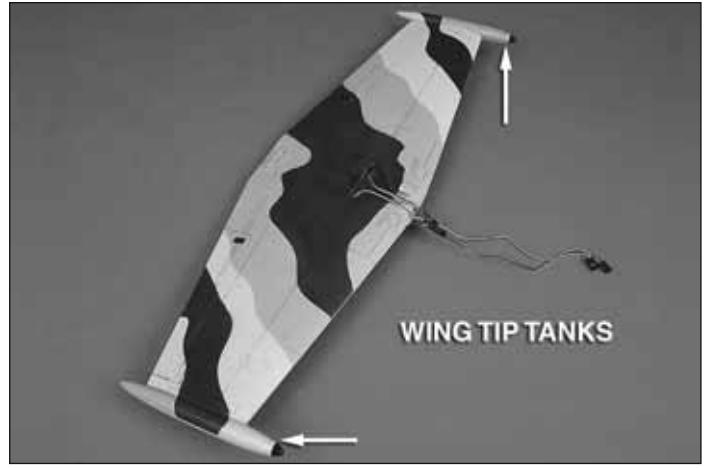
❑ 4. Connect a pushrod wire with Z-bend to each of the aileron servo arms.



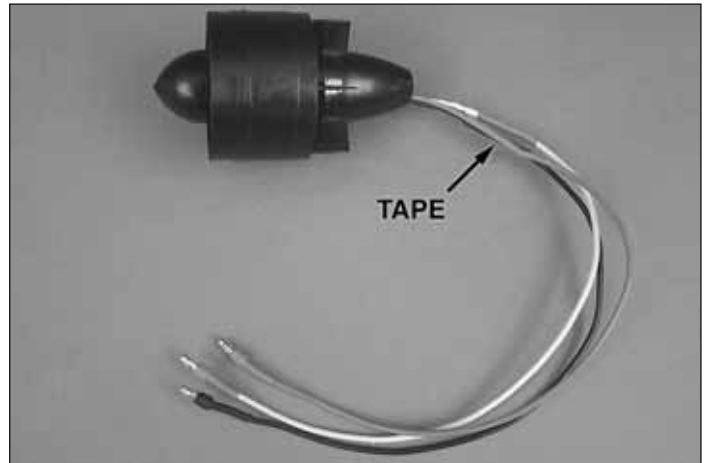
❑ 5. Use the included thumb screw pushrod connectors to connect the aileron pushrods to the outer holes in the control horns as shown. Center the ailerons in the neutral position and tighten the thumb screws against the pushrods.



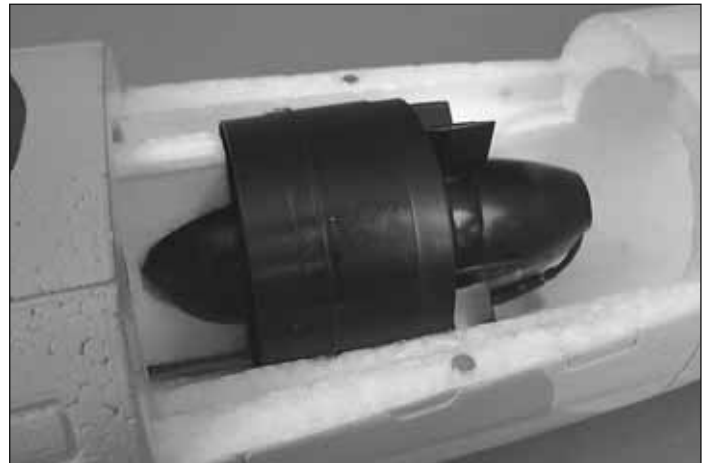
❑ 6. Glue the **aileron pushrod covers** over the servo arms. Be sure that the covers are positioned so that they will not interfere with the pushrods when the ailerons are deflected up and down.



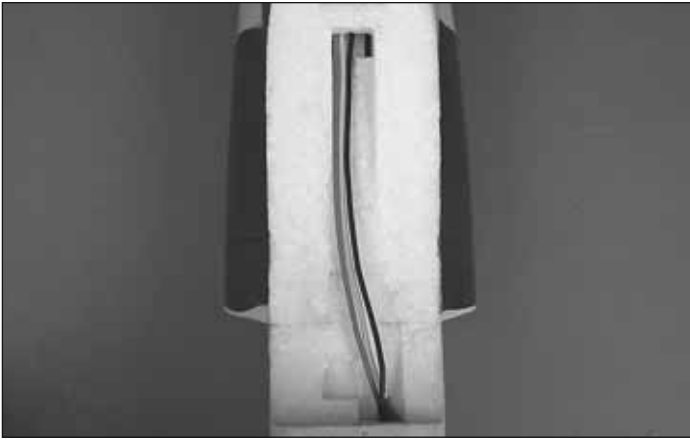
❑ 7. Attach the **wing tip tanks** to the wing as shown. The magnets will hold them in place during flight.



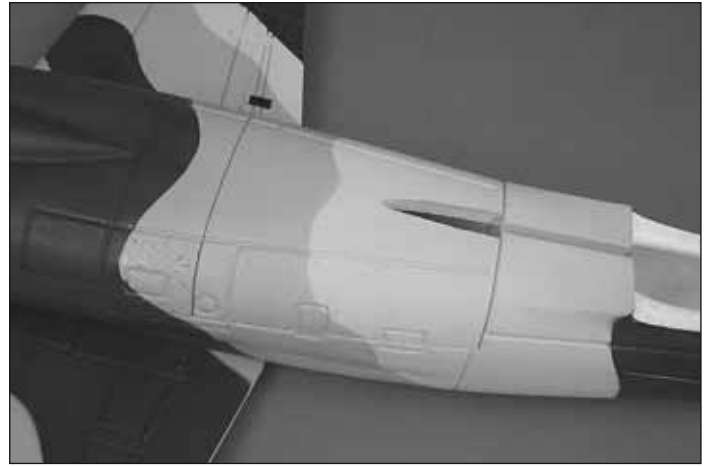
❑ 8. Connect the included motor lead extensions to the three wires on the motor. Secure the extensions using tape (not included).



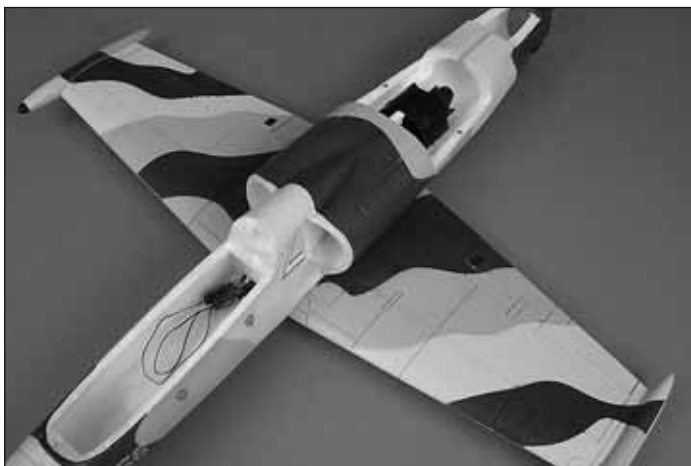
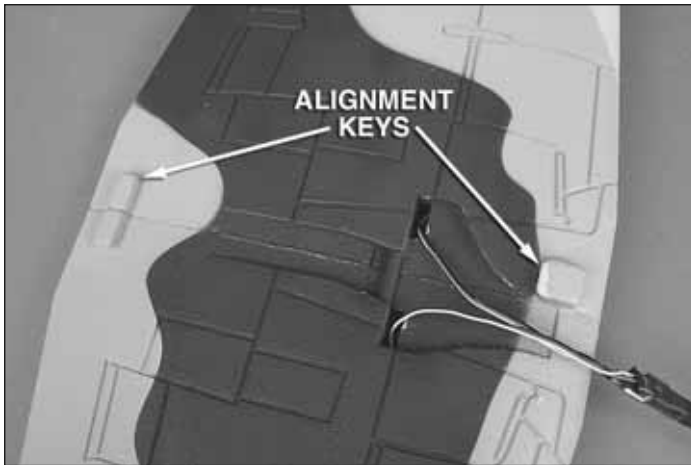
❑ 9. Test fit the ducted fan unit into the **fuselage** channel by feeding the motor lead extensions through the hole in the bottom of the channel and aligning the unit with the molded grooves in the channel. Confirm that the rotor cone does not contact any part of the fuselage. If necessary, use a hobby knife to carefully trim the contacting area away from the fuse. When satisfied, use 30-minute epoxy to glue the ducted fan unit into the duct channel. Clean up any excess epoxy with a dry paper towel.



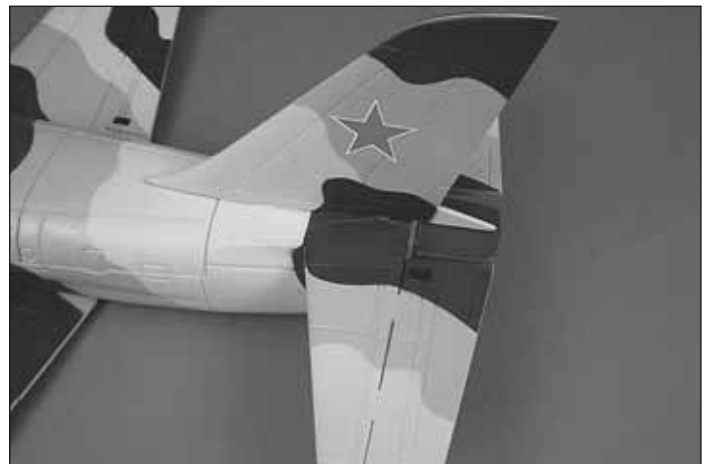
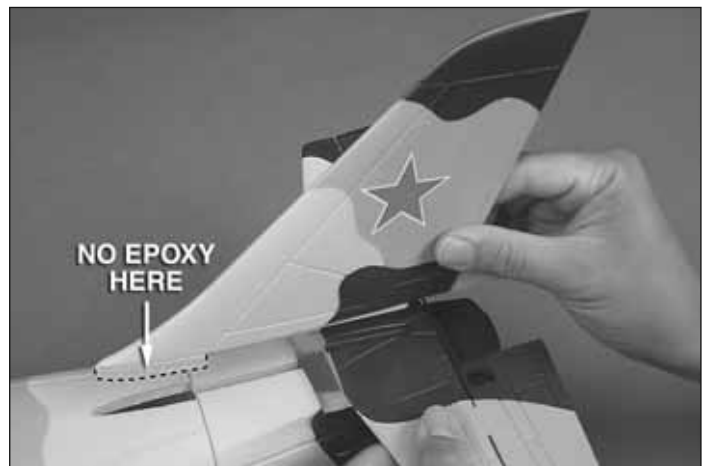
❑ 10. Position the motor lead extensions into the slot in the fuselage, down the channel in the wing saddle, and through the hole to the radio compartment.

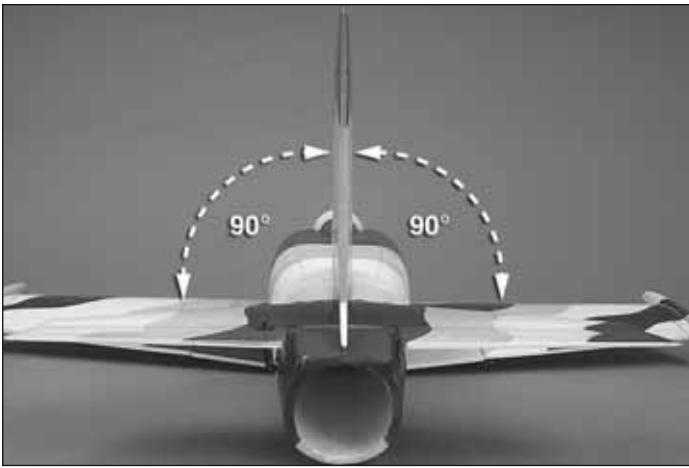


❑ 12. Install the ducted fan access hatch onto the fuselage. The pre-installed magnets will secure it during flight.

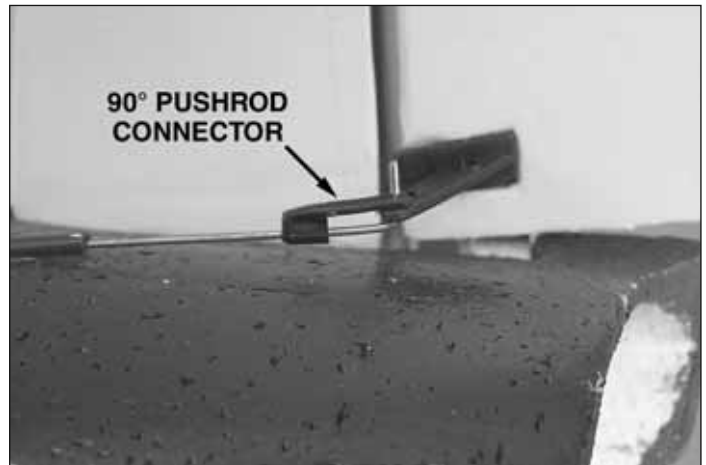
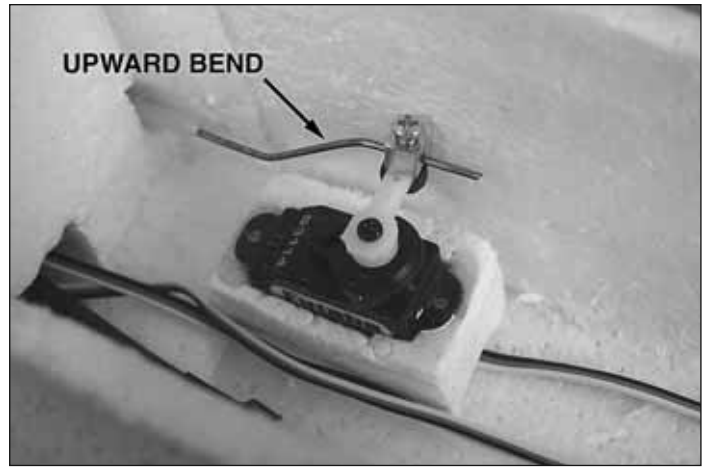


❑ 11. Coat the wing saddle on the fuselage with 30-minute epoxy. Insert the aileron servo wires through the hole in the fuse and into the radio compartment. Place the wing onto the saddle by fitting the alignment keys on the top of the wing into the mating cutouts in the wing saddle. Tape the wing to the fuse while the epoxy cures or place a weight on the top of the fuse to press it against the wing. If using tape, avoid damaging the paint by first lining the outside of the model with sheets of paper or something similar. Wrap the tape tightly around the paper instead of directly onto the model.

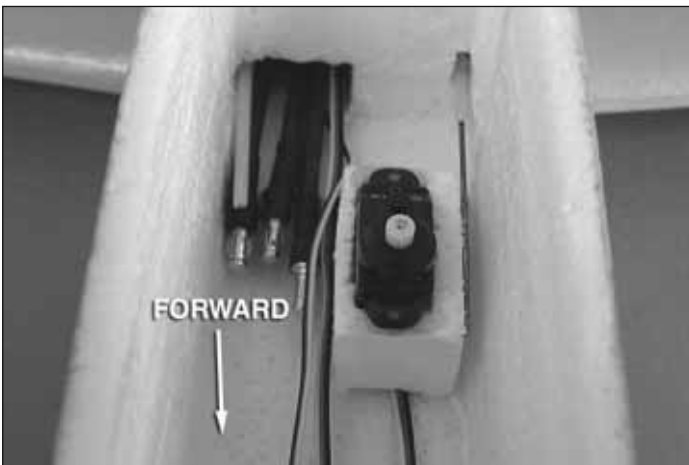




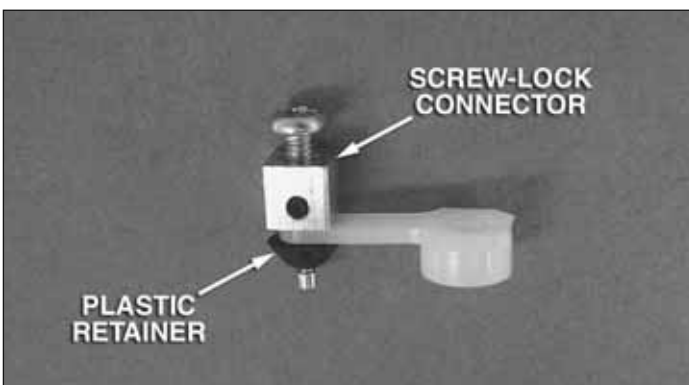
□ 13. The vertical fin and horizontal stabilizer are keyed to fit together and therefore must be glued in place at the same time. Coat with epoxy the key on the bottom of the fin, the slot in the horizontal stabilizer, and the stab saddle on the fuselage. Do not put epoxy on the foam piece glued to the front of the fin that fits into the ducted fan access hatch. Position the parts onto the fuselage, making sure that the vertical fin is being glued square to the horizontal stabilizer. The parts can be taped in place while the epoxy cures.



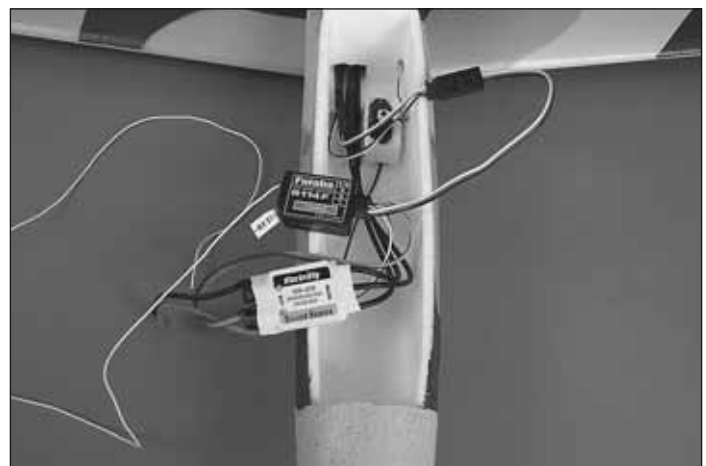
□ 16. Make a small, upward bend in the elevator pushrod as shown. Fit the pushrod through the screw-lock connector and attach the servo arm to the servo using the servo arm screw. Insert the 90° bend (at the aft end) into the outer hole of the elevator control horn. Secure it using the 90° pushrod connector. Use your radio system to center the elevator servo. Position the elevators in the neutral position and tighten the screw-lock connector against the pushrod.



□ 14. Glue the elevator servo into the elevator servo bay inside the radio compartment with the splines facing forward. There is a slot at the bottom of the servo bay for the servo lead.



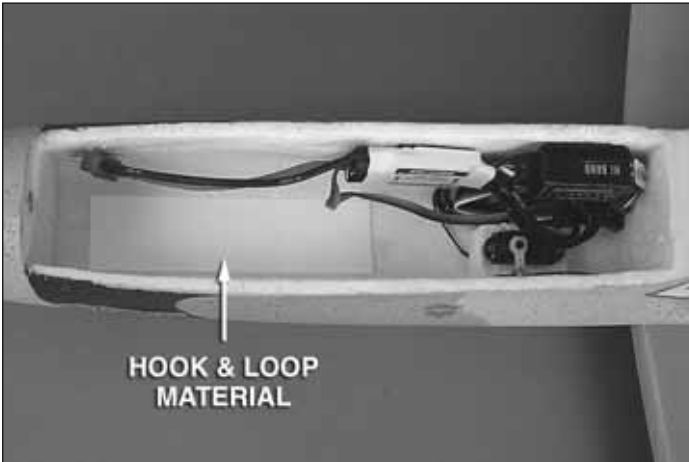
□ 15. Cut three arms from a four-armed servo arm. Enlarge the outer hole of the servo arm with a 1/16" [1.6mm] drill bit. Attach the screw-lock connector to the outer hole of the servo arm and secure it with the plastic retainer.



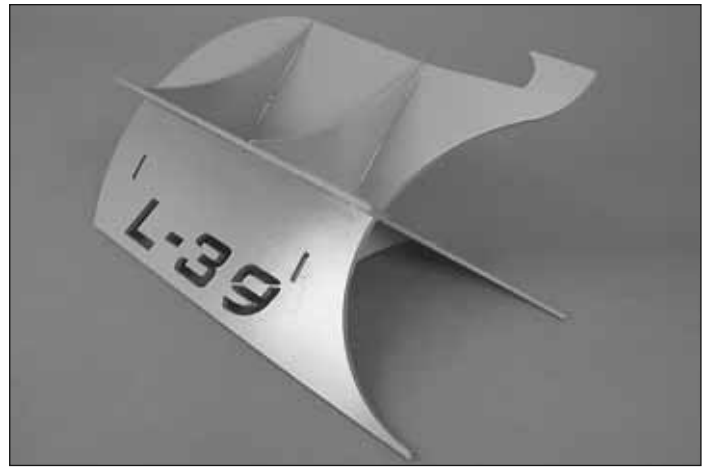
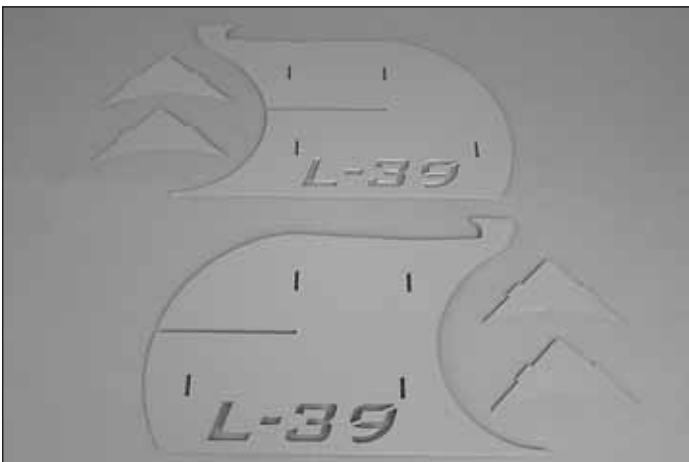
□ 17. Connect your ESC to the motor lead extensions and connect the servos and ESC to the receiver. This is a good time to confirm the correct rotation of your ducted fan unit. If the unit rotates the wrong direction when powered up, disconnect two of the three motor leads and swap their positions.



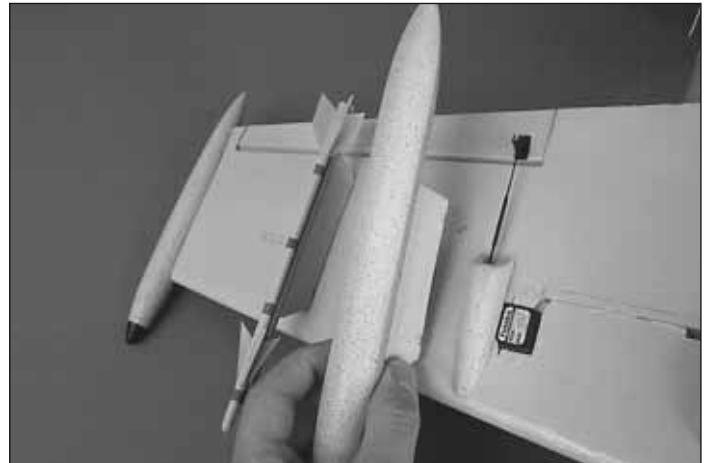
□ 18. Feed the receiver antenna through the antenna tube and out the back of the fuselage. Use the included double-sided tape to secure the ESC and receiver to the side of the radio compartment. Be sure they are positioned at the back of the compartment and that the wires are tucked neatly out of the way.



□ 19. Apply the hook side of the included hook and loop material to the bottom of the radio compartment. Brushing on a thin coat of epoxy and letting it cure before attaching the hook material will help it adhere to the foam. Apply the loop side to your battery pack.



□ 20. Assemble and glue the display stand together as shown using foam-safe glue. The long slots in the two large pieces interlock and the four cross braces are glued into the small slots.

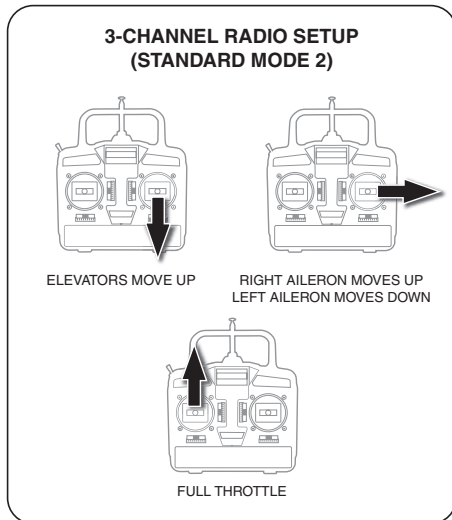


□ 24. Finish the model by test fitting the removable drop tanks and missiles to the underside of the wing. These parts are attached magnetically and are for display purposes only. Be sure to remove them prior to flight!

GET THE MODEL READY TO FLY

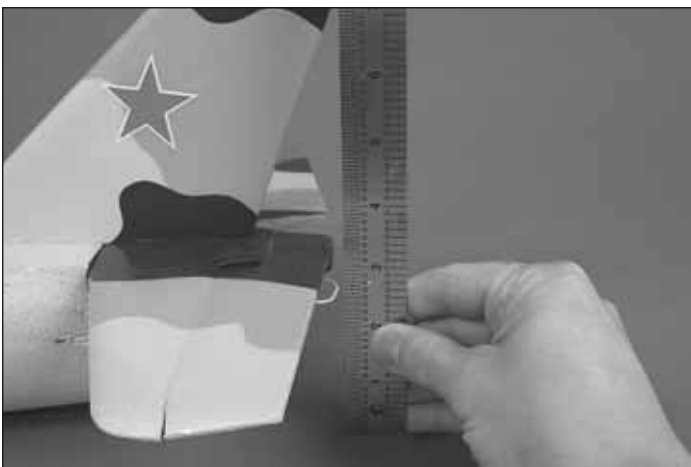
Check the Control Directions

1. Turn on the transmitter and receiver and center the trims.
2. With the transmitter and receiver still on, check all the control surfaces to see if they are centered. If necessary, adjust the pushrod connectors on the control surface pushrods.



3. Make certain that the control surfaces and the throttle respond in the correct direction as shown in the diagram. If any of the controls respond in the wrong direction, use the servo reversing in the transmitter to reverse the servos connected to those controls. Be certain the control surfaces have remained centered. Adjust if necessary.

Set the Control Throws



Use a Great Planes AccuThrow™ (or a ruler) to accurately measure and set the control throw of each control surface as indicated in the chart that follows. If your radio does not have dual rates, we recommend setting the throws at the **low** rate setting.

These are the recommended control surface throws:

	High Rate	Low Rate
ELEVATOR:	5/16" [8mm] up 5/16" [8mm] down	1/8" [3.2mm] up 1/8" [3.2mm] down
AILERONS:	3/16" [4.8mm] up 3/16" [4.8mm] down	3/32" [2.4mm] up 3/32" [2.4mm] down

NOTE: The throws are measured at the **widest** part of the control surfaces.

IMPORTANT: The L-39 ARF has been **extensively** flown and tested to arrive at the throws at which it flies best. Flying your model at these throws will provide you with the greatest chance for successful first flights. If, after you have become accustomed to the way the L-39 flies, you would like to change the throws to suit your taste, that is fine. However, too much control throw could make the model difficult to control, so remember, "more is not always better."

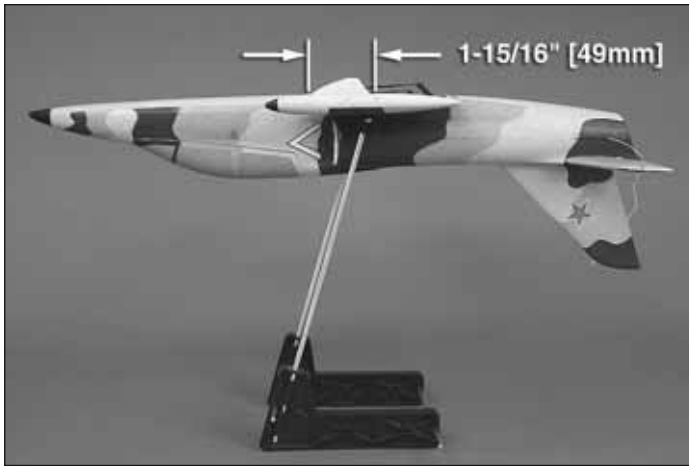
Balance the Model (C.G.)

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

At this stage the model should be in ready-to-fly condition with all of the systems in place including the receiver, ESC, and battery pack.

1. The **C.G.** is located **1-15/16" [49mm] back from the leading edge of the wing at the fuselage** (the seam where the wing panels have been joined to the fuselage). If you mark the C.G. position onto the top of the wing, be very careful if using tape as it could damage the paint when removed. Also, do not attempt to remove felt-tip pen marks with alcohol. We suggest making small marks on the wing beneath the ducted fan inlets.

This is where your model should balance for the first flights. Later, you may wish to experiment by shifting the C.G. up to 3/16" [4.8mm] forward or 1/8" [3.2mm] back to change the flying characteristics. Moving the C.G. forward may improve the smoothness and stability, but the model may be more difficult to slow for landing. Moving the C.G. aft makes the model more maneuverable, but could also cause it to become too difficult to control. In any case, **start at the recommended balance point** and do not at any time balance the model outside the specified range.



❑ 2. With all parts of the model installed (ready to fly), place the model upside-down on a Great Planes CG Machine, or lift it upside down at the balance point you marked.

❑ 3. If the tail drops, the model is “tail heavy” and the battery pack and/or receiver must be shifted to balance. If the nose drops, the model is “nose heavy” and the battery pack and/or receiver must be shifted to balance. This model is very weight sensitive. We do not recommend adding any additional weight to achieve the suggested balance point unless absolutely necessary. Instead, shift the battery pack and receiver forward or aft to alter the C.G.

PREFLIGHT

Identify Your Model

No matter if you fly at an AMA sanctioned R/C 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 R/C club flying sites and AMA sanctioned flying events. Fill out the identification tag on the back cover of this manual and place it on or inside your model.

Charge the Batteries

Follow the battery charging instructions that came with your radio control system to charge the batteries. You should always charge your transmitter and motor batteries the night before you go flying, and at other times as recommended by the manufacturer.

CAUTION: Unless the instructions that came with your radio system state differently, the **initial** charge on **new** transmitter batteries should be done for 15 hours **using the slow-charger that came with the radio system.** This will “condition” the batteries so that the next charge may be done using the fast-charger of your choice. If the initial charge is done with a fast-charger the batteries may not reach their full capacity and you may be flying with batteries that are only partially charged.

Range Check

Ground check the operational range of your radio before the first flight of the day. With the transmitter antenna collapsed and the receiver and transmitter on, you should be able to walk at least 100 feet away from the model and still have control. Have an assistant stand by your model and, while you work the controls, tell you what the control surfaces are doing. Repeat this test **with the motor running** at various speeds with an assistant holding the model, using hand signals to show you what is happening. If the control surfaces do not respond correctly, **do not fly!** Find and correct the problem first. Look for loose servo connections or broken wires, corroded wires on old servo connectors, poor solder joints in your battery pack or a defective cell, or a damaged receiver crystal from a previous crash.

AMA SAFETY CODE (EXCERPTS)

Read and abide by the following excerpts from the Academy of Model Aeronautics Safety Code. For the complete Safety Code refer to *Model Aviation* magazine, the AMA web site or the Code that came with your AMA license.

General

- 1) I 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.
- 2) I will not fly my model aircraft higher than approximately 400 feet within 3 miles of an airport without notifying the airport operator. I will give right-of-way and avoid flying in the proximity of full-scale aircraft. Where necessary, an observer shall be utilized to supervise flying to avoid having models fly in the proximity of full-scale aircraft.
- 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. Note: This does not apply to models while being flown indoors.
- 7) I will not operate models with pyrotechnics (any device that explodes, burns, or propels a projectile of any kind).

Radio Control

- 1) I will have completed a successful radio equipment ground check before the first flight of a new or repaired model.
- 2) I will not fly my model aircraft in the presence of spectators until I become a qualified flier, unless assisted by an experienced helper.

- 3) At all flying sites a straight or curved line(s) must be established in front of which all flying takes place with the other side for spectators. Only personnel involved with flying the aircraft are allowed at or in the front of the flight line. Intentional flying behind the flight line is prohibited.
- 4) I will operate my model using only radio control frequencies currently allowed by the Federal Communications Commission.
- 5) **I will not knowingly operate my model within three miles of any pre-existing flying site except in accordance with the frequency sharing agreement listed** [in the complete AMA Safety Code].
- 9) Under no circumstances may a pilot or other person touch a powered model in flight; **nor should any part of the model other than the landing gear, intentionally touch the ground, except while landing.**

CHECK LIST

During the last few moments of preparation your mind may be elsewhere anticipating the excitement of the first flight. Because of this, you may be more likely to overlook certain checks and procedures that should be performed before the model is flown. To help avoid this, a check list is provided to make sure these important areas are not overlooked. Many are covered in the instruction manual, so where appropriate, refer to the manual for complete instructions. Be sure to check the items off as they are completed.

1. Check the C.G. according to the measurements provided in the manual.
2. Be certain the battery and receiver are securely mounted in the fuse.
3. Confirm that all controls operate in the correct direction and the throws are set up according to the manual.
4. Check the operation of the ducted fan unit prior to each flight.
5. Make sure that all servo arms are secured to the servos with the screws included with your radio.
6. Place your name, address, AMA number and telephone number on or inside your model.
7. If you wish to photograph your model, do so before your first flight.
8. Range check your radio when you get to the flying field.

FLYING

IMPORTANT: If you are an inexperienced modeler we strongly urge you to seek the assistance of a competent, experienced R/C pilot to check your model for airworthiness AND to teach you how to fly. No matter how stable or "forgiving" the L-39 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

Less-experienced flyers should fly the L-39 only in calm (less than five miles per hour) conditions. Frequently, winds are calm in the early morning and early evening. Often these are the most enjoyable times to fly anyway!

Until you have the L-39 properly trimmed for level flight, we recommend having an assistant hand-launch the model instead of launching it yourself.

Turn on the transmitter and plug the battery into the speed control. Turn on the receiver by following the instructions that came with your speed control. Secure the canopy hatch in place.

IMPORTANT: Confirm that the transmitter operates the controls properly by moving the sticks and watching the surfaces respond.

When ready to launch, the assistant should hold the L-39 behind the canopy hatch, with the model in front of him and pointed into the wind. With the pilot (that would be you!) standing behind the plane, fully advance the throttle to start the motor. When the motor is at full power, the hand launcher should firmly give the model an underhand toss into the air with a slightly nose-up attitude. Be certain the model is being launched into the wind and be immediately ready to make corrections to keep the airplane flying straight, level and into the wind.

When the model has gained adequate flying speed under its own power, gently pull the elevator stick back until the airplane starts a gradual climb. Many beginners tend to pull too hard causing the model to stall, so be gentle on the elevator and don't panic. If you do pull too hard and you notice the model losing speed, release the elevator stick and allow the model to regain airspeed.

Continue a gradual climb and establish a gentle turn (away from yourself and others) until the airplane reaches an altitude of 20 to 30 meters [75 to 100 feet].

Flight

The main purpose of the first few flights is to learn how the model behaves and to adjust the trims for level flight. After the model has climbed to a safe altitude, reduce the throttle slightly to slow the model, yet maintain altitude. The L-39 should fly well and maintain adequate airspeed at about 1/2 throttle.

Adjust the elevator trim so the model flies level at the throttle setting you are using. Adjust the aileron trim to level the wings. It may take a few minutes to get the trims adjusted, but this should be your first priority once at a comfortable altitude. Continue to fly around, executing turns and making mental notes (or having your assistant take notes for you) of what additional adjustments or C.G. changes may be required to fine tune the model so it flies the way you like.

Landing

Begin the landing approach by flying downwind at an altitude of approximately 6 meters [20 feet]. When the airplane is approximately 15 to 30 meters [50 to 100 feet] past you, gradually reduce power and make the "final" 180° turn into the wind aligning the airplane with the runway or landing area. Do not dive the airplane, as it will pick up too much speed. Instead, allow the airplane to establish a gradual descent. Concentrate on keeping it heading into the wind toward the runway. When the plane reaches an altitude of about 3 feet [1 meter], gently apply a little "up elevator" to level the plane, but be careful as too much up elevator will cause it to stall. While holding a slight amount of up elevator the airplane will slow and descend as it loses flying speed, thus touching-down on the runway.

Until you are able to accurately judge how far the L-39 can glide, it may be helpful to reserve some battery power to run the motor so the plane can be flown back to the runway.

Best of luck and happy flying!

OTHER ITEMS AVAILABLE FROM GREAT PLANES



ElectriFly™ Triton™ Jr. DC Computerized Peak Charger, Discharger & Cyclers

Perfect for smaller-sized, electric aircraft!

It's the compact, more affordable version of the Triton2! While it may not have all the features of its big brother, the Triton Jr. can still handle many of your charging needs. It works with all the same types of batteries (NiCd, NiMH, LiPo and lead-acid), and has the same blue backlit LCD screen. The Triton Jr. can charge at up to 5 amps, discharge up to 1 amp, or cycle up to 5 times — and programming is very straightforward on the rugged, 4-direction membrane touchpad. At just over 4-1/2" long, 3-1/2" wide and 13 oz, the Triton Jr. fits easily into any field box, and the unit is enclosed in a durable aluminum case. **GPMM3152**

Battery Types, # of Cells:	1-14 NiCd/NiMH 1-4 LiPo/Li-Ion (3.6 or 3.7V cells) 2, 4, 6, 8, 10, 12V Pb	Discharge Current:	0.1-1.0A (0.01 step, 5W max.)
Fast Charge Current:	0.1-5.0A NiCd/NiMH (0.1A step, 63W max.) 1C rating LiPo/Li-Ion (63W max.)	Cycle Count:	1 only, C>D or D>C
Peak Delay at Start:	3 minutes fixed	Battery Memory:	One
		Display Type:	2 x 16 LCD, blue backlight
		Case Size:	4.7" x 3.6" x 1.2"
		Weight:	13.1 oz.

OTHER ITEMS AVAILABLE FROM GREAT PLANES

ElectriFly Equinox™ LiPo 1-5 Cell Balancer



By regulating the voltage levels from 2 to 5 LiPo cells to within a very tight tolerance of each other, the Equinox ensures the fullest possible safe voltage during charging — which means more power and longer lasting packs! It can handle a maximum current of 3 amps during charge or discharge (up to 6 amps with custom connectors), and includes adapters for 2S and 3S (7.4V & 11.1V) batteries and gold-plated banana plugs. Plus, it automatically checks for poor quality cells, and provides a safe platform for charging*. Choose from two modes for using Equinox: connected directly to the cell in “Quick Balance” mode, or in conjunction with a LiPo-compatible charger/discharge in “Interface” mode. **GPMM3160**

*Equinox cannot be used with LiPo batteries which have built-in charge protection circuits.

ElectriFly™ Silver Series SS25 Brushless Electronic Speed Control

Silver Series ESCs are compatible with NiCd, NiMH, and LiPo batteries, with automatic low-voltage cut-off for all. The SS25 features fully proportional forward and smooth throttle response with on/off brake. Connectors are installed and a 180-day warranty is included. **GPMM1820**

Input Voltage: 7.2-14.8V
Max. Continuous Current: 25A
BEC: 5V/2.0A

Dimensions: 1.58"x0.31"x1.02" (40x8x26mm)
Weight: 0.92 oz (26g)
Battery Connector: Deans Ultra



ElectriFly™ PolyCharge4™

For convenience with multiple LiPo packs, there's the DC PolyCharge4. Each of its four independent outputs can charge a one-to-four cell Lithium-Polymer pack. It's ideal if you don't have the time for one-at-a-time charging - and don't want the expense and hassle of multiple chargers. Each output can handle packs from 300 to 3000mAh. Set the capacity, and PolyCharge4 will automatically set the charge rate to get you started - and use light and sound cues to tell you when your pack is done. **GPMM3015**



Futaba® S3114 High Torque Micro Servo

Ideal for electric planes and small electric helis, the affordable, analog S3114 delivers plenty of power and performance in a compact package.

Torque @ 6.0V: 23.6 oz/in; **Torque @ 4.8V:** 21 oz/in
Speed @ 6.0V: 0.09 sec/60°; **Speed @ 4.8V:** .10 sec/60°

Dimensions: .86"x.43"x.78" (21.8x11x19.8mm)
Weight: .275 oz (7.8 g)

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