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Tx-R
TRANSMITTER-READY

RTF
READY-TO-FLY



Cessna[®] 182 SKYLANE[®]

INSTRUCTION MANUAL

SPECIFICATIONS

Wingspan:	47.5 in [1205 mm]
Wing Area:	339 sq in [21.9 dm ²]
Weight:	37 oz [1050 g]
Wing Loading:	15.7 oz/sq ft [48 g/dm ²]
Length:	39 in [990 mm]
Radio:	5-channel (included)

WARRANTY

Flyzone 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 Flyzone's liability exceed the original cost of the purchased kit.** Further, Flyzone reserves the right to change or modify this warranty without notice.

In that Flyzone 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.

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INTRODUCTION

Thank you for purchasing the Cessna Skylane RTF. This is a beautiful model that flies well. It is perfect for flying on calm evenings or mornings.

For the latest technical updates or manual corrections, visit www.flyzoneplanes.com. Open the Airplanes link and select the Cessna Skylane. Then, click the Parts & Tech Info link at the right-hand side 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 47302-9252

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 Cessna Skylane 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 Cessna Skylane, 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. 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.

4. While this kit has been flight tested to exceed normal use, if the plane will be used for extremely high stress flying, such as racing, or if an engine larger than one in the recommended range is used, the modeler is responsible for taking steps to reinforce the high stress points and/or substituting hardware more suitable for the increased stress.

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.

ADDITIONAL ITEMS REQUIRED

This is the list of items required to assemble the Cessna Skylane.

- (8) AA batteries (SANP3501)
- Thread-locking cement (GPMR6060)
- Great Planes Stick-on lead weights (GPMQ4485)
- Fine-point felt-tip pen
- Masking tape
- Hobby knife
- #1 Phillips screw driver
- #2 Phillips screw driver
- Needle-nose pliers or hemostats

ORDERING REPLACEMENT PARTS

Replacement parts for the Flyzone Cessna 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 Flyzone web site at www.flyzoneplanes.com. Click on the Storefront icon at the top of the page to load the Flyzone Dealer Locator. 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
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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 e-mail at productsupport@flyzoneplanes.com, or by telephone at (217) 398-8970.

REPLACEMENT PARTS LIST		
Order Number	Description	How to purchase
	Missing pieces	Contact Product Support
	Instruction manual	
	Full-size plans	Not available
		Contact your hobby supplier to purchase these items
FLZA6068	Nose Gear Assembly Cessna 182 Select Scale	
FLZA6069	Fuselage w/Pushrods Cessna 182 Select Scale	
FLZA6070	Main Landing Gear Cessna 182 Select Scale	
FLZA6071	Vertical Stabilizer Cessna 182 Select Scale	
FLZA6072	Horizontal Stabilizer Cessna 182 Select Scale	
FLZA6073	Main Wing w/Accessories Cessna 182 Select Scale	
FLZA6074	Hardware Set Cessna 182 Select Scale	
FLZA6075	Wing Struts Cessna 182 Select Scale	
FLZA6076	Battery Hatch Cessna 182 Select Scale	
FLZA6077	Cowl Cessna 182 Select Scale	
FLZA6078	Spinner Cessna 182 Select Scale	
FLZA6079	Propeller Cessna 182 Select Scale (2)	
FLZA6080	Screw-Lock Connector Cessna 182 Select Scale (5)	
FLZA6081	Servo w/Hardware Cessna 182 Select Scale	
FLZA6082	Brushless Motor Cessna 182 Select Scale	
FLZA6083	Light Control Module Cessna 182 Select Scale	
FLZA6084	Flyzone LiPo 11.1V 1800 mAh Battery	
GPMM3109	Power Connectors	
GPMM3318	3S LiPo Balancing Smart Charger w/ AC & DC Adapter	
GPMM3319	3S Lipo Smart Charger w/ DC Car Adapter	
TACJ1501	Tactic TTX501 5-Channel FM Radio 72MHz	
TACL6101	Tactic TR601 6-Channel Receiver 72MHz	
TACM6610	Tactic BL-18 Brushless ESC	

KIT INSPECTION

Before starting to build, take an inventory of this kit to make sure it is complete, and 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.

Flyzone Product Support
3002 N Apollo Drive, Suite 1
Champaign, IL 61822

Telephone: (217) 398-8970, ext. 5
Fax: (217) 398-7721
E-mail: airsupport@flyzoneplanes.com

KIT CONTENTS



Kit Contents

1. 72 MHz transmitter (w/o batteries)

2. Fuselage assembly

(factory-installed motor w/battery connector, cowl, windows, dashboard/instrument panel, nose landing gear, battery hatch cover, main landing gear cover, elevator-rudder servos/connectors/pushrods, 72 MHz receiver, hook-and-loop battery strap)

3. Wing assembly

(factory-installed ailerons, flaps, flap/aileron servos, pushrods, hinges)

4. Horizontal stabilizer (stab)

w/elevators, elevator joiner wire

5. Vertical stabilizer (fin)

w/rudder, light

6. Main landing gear

w/wheel pants, wheels

7. FlyZone 1800mAh 11.1V LiPo battery

8. Battery charger

w/AC connector, DC connector

HARDWARE

9. Painted aluminum wing struts

10. Propeller

11. Spinner, back plate

12. (2) antennas

13. (2) wing mount bolts

Not
pictured

Light control module

Wing mount tube donut

Cushions (4)

Tail clip

3 x 12mm screws (2)

2.5 x 8mm screws (6)

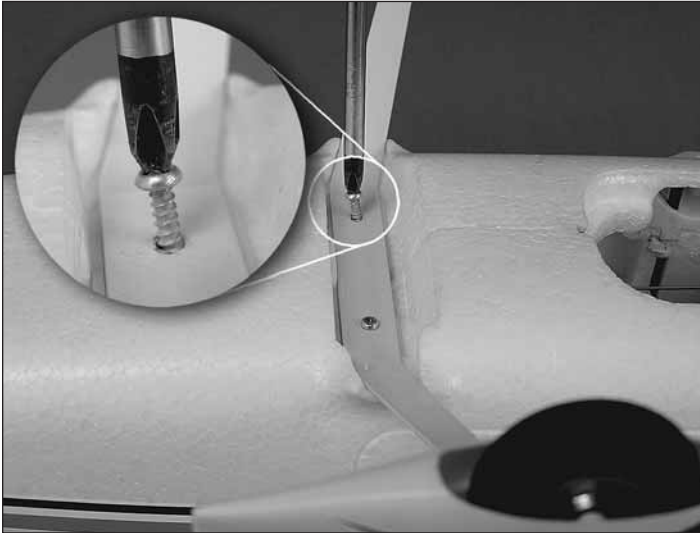
2mm set screws (2)

3mm nut

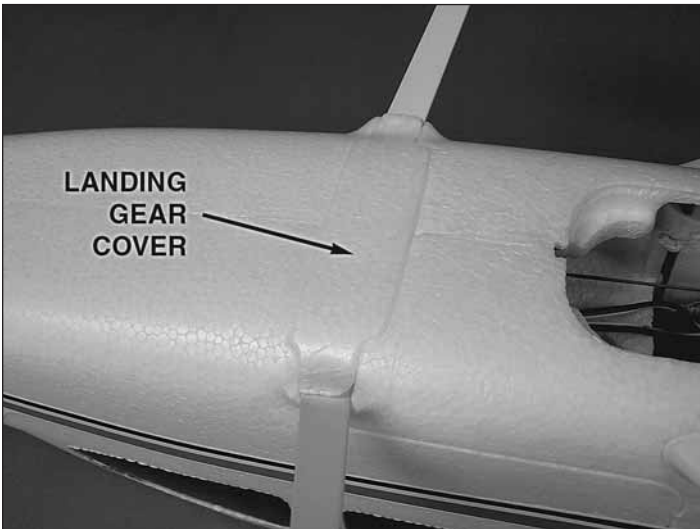
3mm washer

ASSEMBLE THE MODEL

Mount the Main Landing Gear

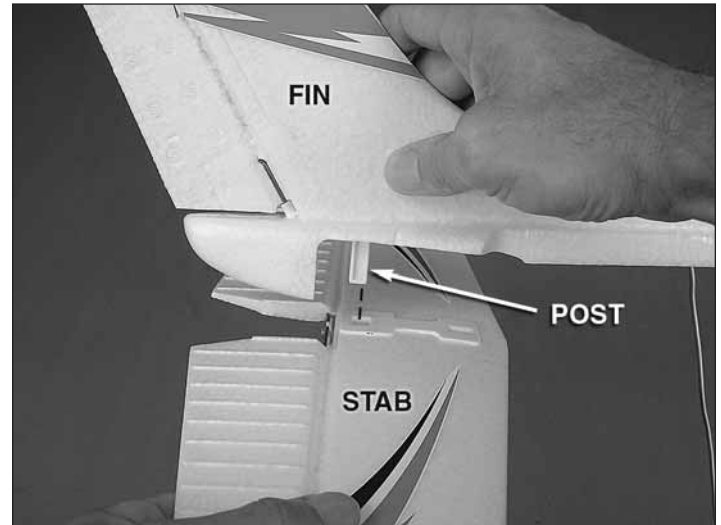


❑ 1. Place the fuselage upside-down on your workbench. Remove the **landing gear cover** (shown below) from the bottom of the fuselage. Fasten the main landing gear with the two, larger (3mm) Phillips screws included with this kit and a Phillips screwdriver (a #2 works best, but a #1 Phillips screwdriver is also suitable).

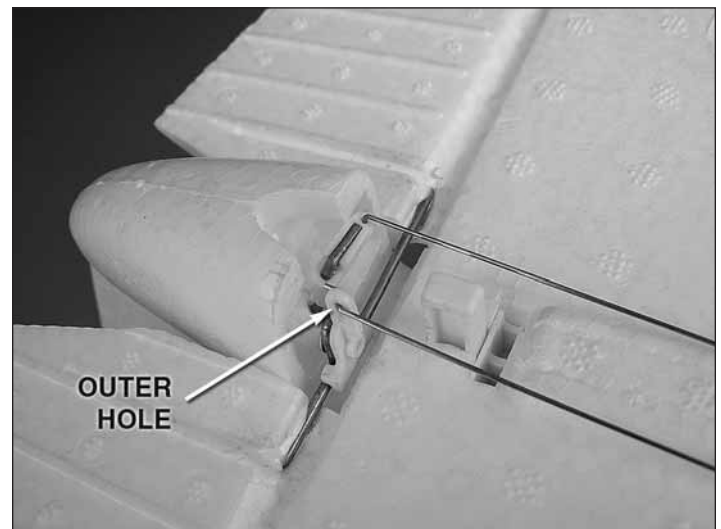


❑ 2. Remove the protective strip from the double-sided tape on the inside of the landing gear cover. Stick the landing gear cover into the fuselage over the landing gear.

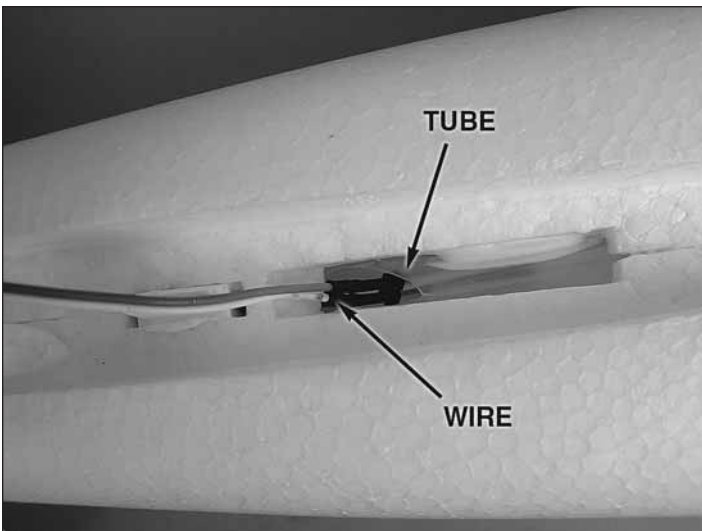
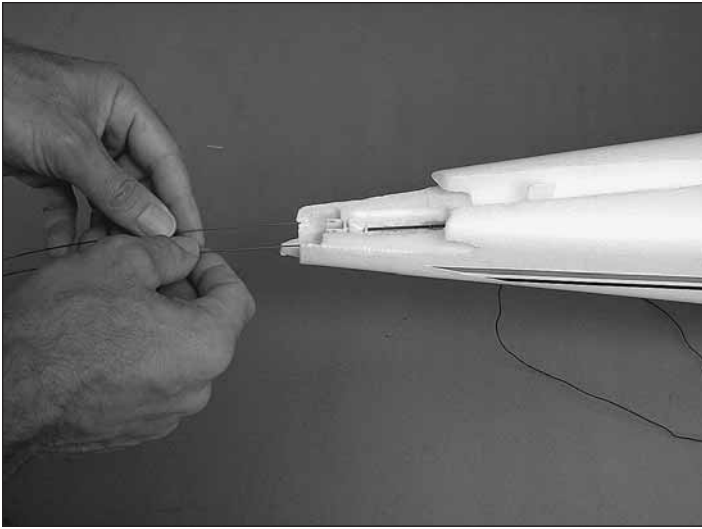
Mount the Vertical and Horizontal Stabilizers (Fin and Stab)



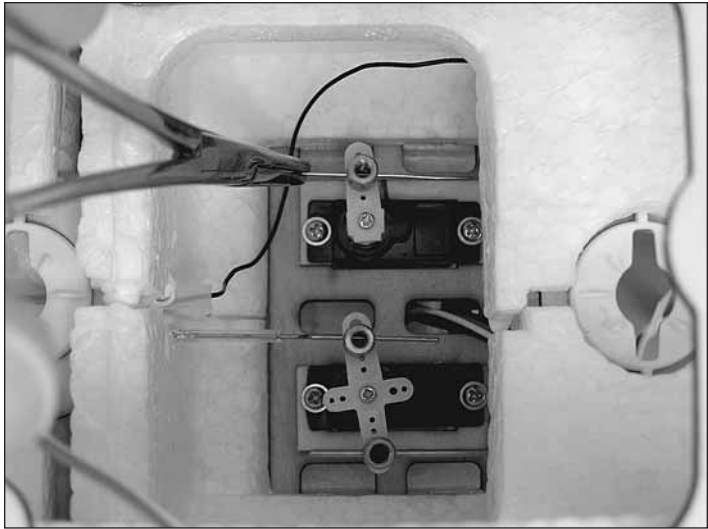
❑ 1. Key the post coming out of the bottom of the **vertical stabilizer (fin)** into the hole in the plastic plate on the top of the **horizontal stabilizer (stab)** and join the two for a tight fit.



❑ 2. Slide the wire elevator and rudder pushrods out of the back of the fuselage—the pushrods are identical to each other, so don't worry about keeping track of which is which. Connect the "Z" bend on the end of the pushrod wires to the holes in the control horns for the rudder and elevator—note that there are two holes in the elevator horn—the pushrod goes into the outer, or bottom hole.



❑ 3. With the pushrods connected to the elevator and rudder, and making certain the pushrods are not crossed, feed the pushrods up through the guide tubes in the fuselage as you simultaneously slide the stab/fin assembly forward (but not yet all the way into position). When you get about halfway, guide the wire for the light in the fin up through the tube in the fuselage as well.

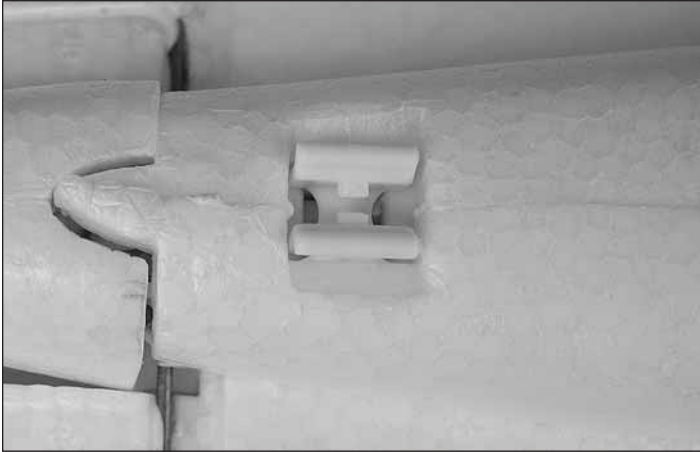
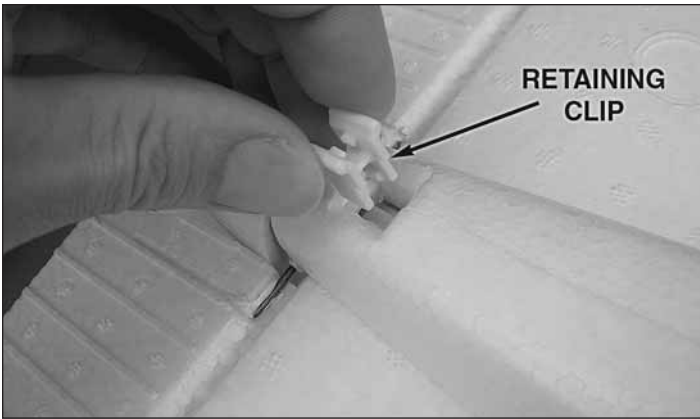


❑ 4. Just before the fin and stab are all the way into position, reach inside the fuselage with small needle-nose pliers or hemostats and feed the pushrods into the pushrod connectors already mounted on the servos.

❑ 5. Fit the fin and stab assembly the rest of the way into position on the back of the fuselage and tightly push them down into position.

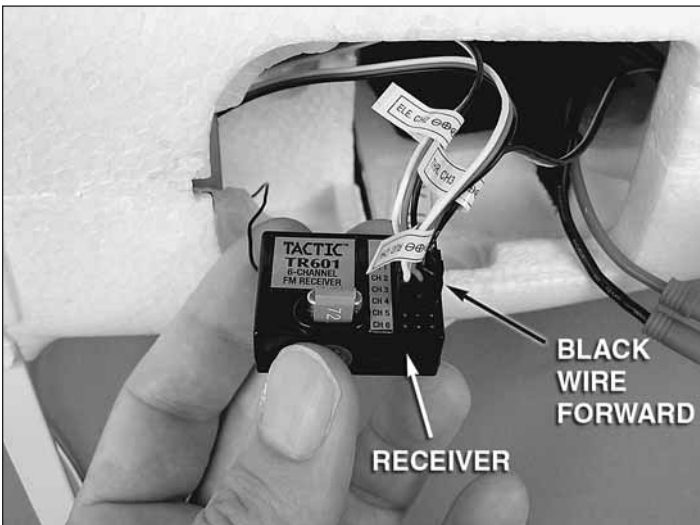


❑ 6. Move the rudder back-and-forth and the elevator up-and-down to make certain everything is operating smoothly. If there is much resistance or if something doesn't seem right, remove the fin and stab from the fuselage and make sure you have the pushrods hooked up correctly. Then reinstall and try again.



□ 7. Snap the plastic **retaining clip** into position over the bottom of the fin post. Pull up on the base of the fin to make sure the assembly is securely clamped into position.

Hook Up the Controls



□ 1. Temporarily take the receiver part way out of the fuselage just enough so you can hold it in your fingers. Connect the elevator, throttle and rudder servo wires to the receiver according to the labels on the end of each wire. The wire labelled “2” is the elevator and goes to the receptacle in the receiver labeled “2.” “3” is the electronic speed control (ESC) for channel 3 (throttle), and “4” is the rudder. Note that the black wire in each connector goes forward.



□ 2. Temporarily replace the receiver into its molded-in *cubby* in the fuselage (but don't remove the backing from the adhesive foam tape on the back of the receiver yet—there will be more wires to connect later when mounting the wing).



□ 3. Read the following battery cautions. Then, install eight AA batteries in the transmitter.

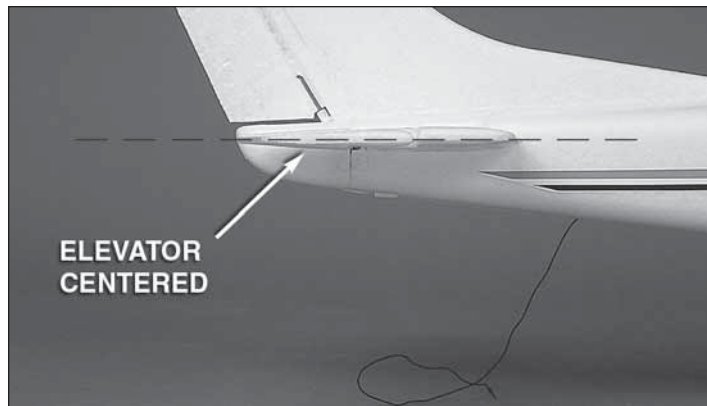
- Do not use rechargeable (NiCd) batteries in this transmitter.
- Do not mix old and new batteries.



□ 4. Center the aileron, elevator and rudder trims on the transmitter, but lower the throttle trim and the throttle stick (so the motor will not turn).

❑ 5. Turn on the transmitter. Be certain the light on the front is glowing green indicating that the batteries have adequate power. If the light is yellow this indicates that the batteries may be old or used and do not have enough power. If necessary, replace the batteries in the transmitter with new ones.

IMPORTANT: For the following procedure the propeller must **not** be mounted to the motor. If you have skipped ahead and already mounted the propeller, remove the propeller before proceeding. Otherwise, you may inadvertently start the motor and the spinning propeller could cause damage or injury.



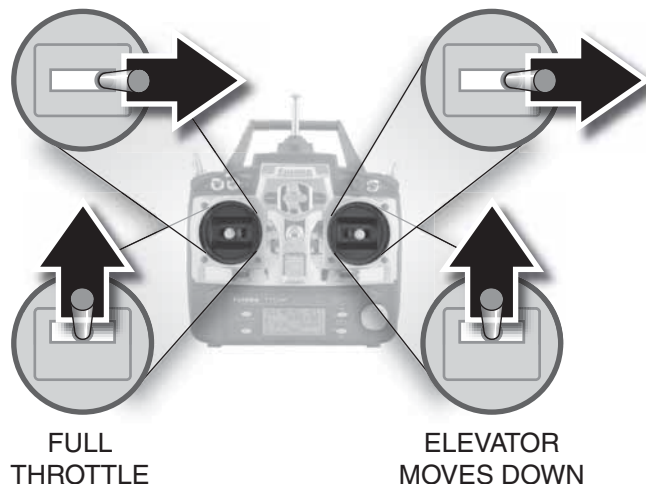
❑ 8. With the radio system operating and the trims centered, center the elevator and tighten the screw in the connector to lock the pushrod down.

Refer to the following illustration while setting up the controls.

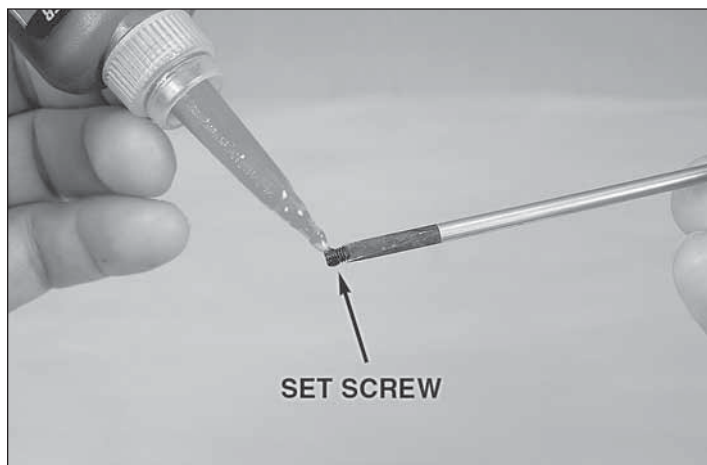
4-CHANNEL RADIO SET UP (STANDARD MODE 2)

RUDDER MOVES
RIGHT, NOSE
WHEEL TURNS
RIGHT

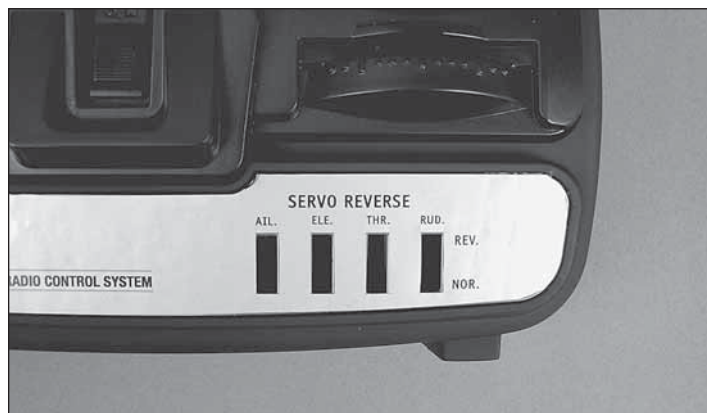
RIGHT AILERON
MOVES UP
LEFT AILERON
MOVES DOWN



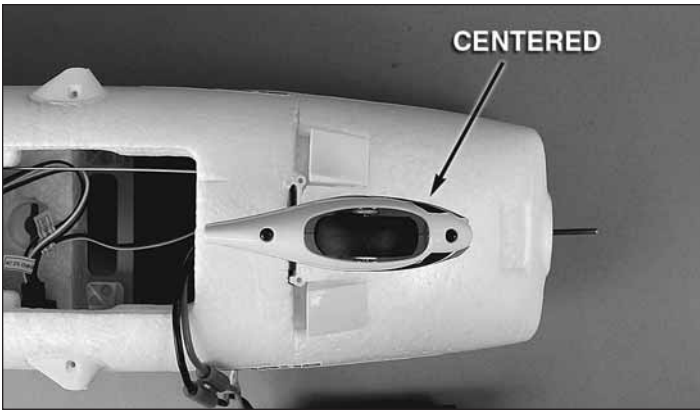
❑ 6. With the transmitter on, connect the included battery pack to the battery wire coming from the fuselage. When the connection is made you will hear two beeps coming from the ESC. **IMPORTANT:** The beeping sound alerts you that the system has power and the motor is “armed.” This means whenever the throttle control stick is advanced the propeller will turn. So later, when the propeller is mounted and you are ready to fly, **keep clear of the propeller while handling the model** and do not inadvertently advance the throttle stick. If you do, the propeller will turn and damage or injury could be caused.



❑ 7. Add a drop of threadlocker to one of the included 3mm set screws. Install the screw into the pushrod connector on the elevator servo, but do not tighten it yet.



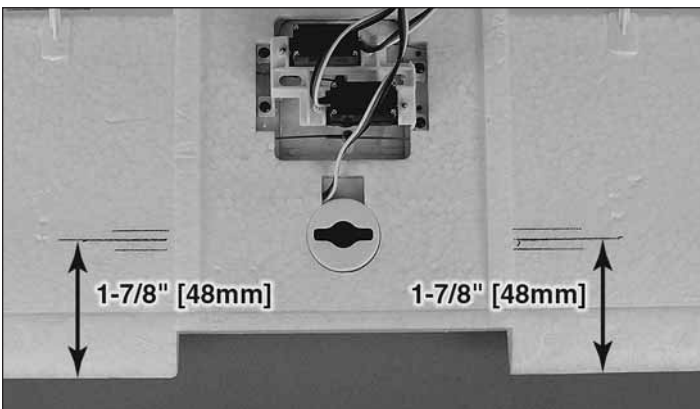
❑ 9. Move the elevator stick on the transmitter up and down to make sure the elevator responds smoothly and in the correct direction. If the elevator responds the wrong way, switch the elevator servo reversing switch in the front of the transmitter.



❑ 10. Lock the rudder pushrod connector and the nose wheel pushrod connector the same way. Same as the elevator, make certain the rudder and nose wheel are centered before tightening the set screws all the way down.

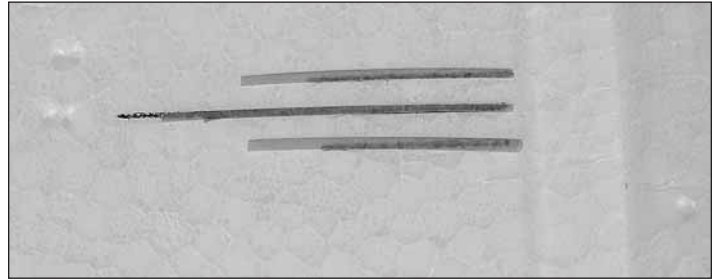
❑ 11. Now the battery may be disconnected and the transmitter turned off. **Note:** Unless the model is being flown or being prepared to be flown, the battery should **not** be stored in the model or connected. Otherwise, the receiver could receive errant radio signals causing the motor to turn or the servos to operate, possibly causing injury or damage.

Mount the Wing

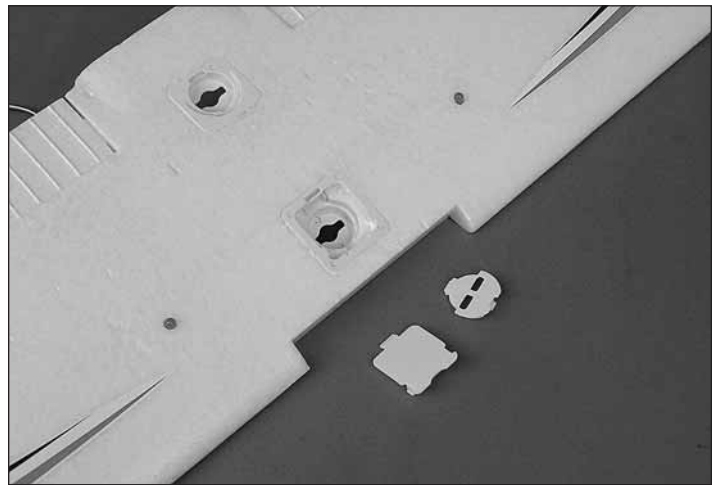


❑ 1. For balancing the model later, the balance point must be marked on the bottom of the wings. It is easier to do this now, before the wing is mounted to the fuselage. Use a fine-point felt-tip pen to mark the balance point on the bottom of the wing on both sides of the fuselage 1-7/8" [48mm] back

from the leading edge. Mark two more lines, one 1/8" [3mm] in front of the first line and another 1/8" [3mm] behind the first line noting the forward and aft C.G. limits.



❑ 2. To make it easier to detect the balance marks for balancing later, place a strip of narrow (1/16" [1mm]) tape over each line. If you don't have narrow tape, you could use a straightedge and a hobby knife to cut strips from a piece of masking tape.



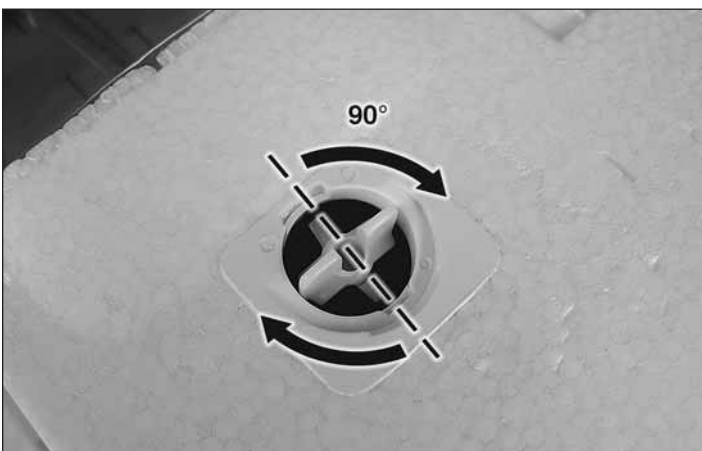
❑ 3. Remove the **wing retainer post hatches** from the top of the wing—they simply snap out.



❑ 4. Dropping the wing into position, guide the servo wires coming from the bottom of the wing down past the elevator and rudder servos and out the bottom of the fuselage. Be certain none of the wires get caught between the bottom of the wing and the fuselage.



❑ 5. Install one foam **wing retainer donut** under each of the two **wing retainer posts** as shown—the foam side goes up. Four *donuts* are included—two are used for holding on the wing and two are spares.



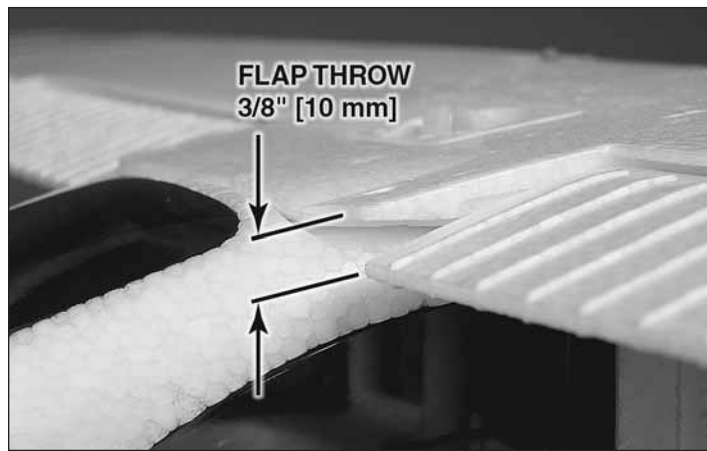
❑ 6. Insert one, then the other wing retainer post down through the top of the wing into the post receptacles in the fuselage. Turn each post 90 degrees to lock down the wing.

❑ 7. Replace the hatches over the posts.

❑ 8. Turn the model upside-down and rest it on a small cardboard box, a couple of thick books or something similar. Connect the wire for the wing lighting and the remaining servo wires coming from the wing into the receiver and the **light control module**. Connect the light control module to the receiver. The same as when connecting the elevator and rudder servos, connect the wires where noted on the label. Note that, unlike the rest of the servo connectors that have three wires, the wire coming from the light control module that goes to the receiver (labeled “LIGHT CH. 6”) has only two wires. Simply connect this plug into the receiver so the black wire is “out”—same as the other black wires for the servos.

❑ 9. Peel the protective backing from the double-sided foam mounting tape on the back of the receiver and mount the receiver into the fuselage.

❑ 10. Still without the propeller mounted, turn on the transmitter and connect the battery. Refer to the sketch on page 8 and use the transmitter to move the ailerons and flaps to make sure they are responding correctly. If necessary, use the reversing switches on the front of the transmitter to get the flaps and ailerons responding correctly.



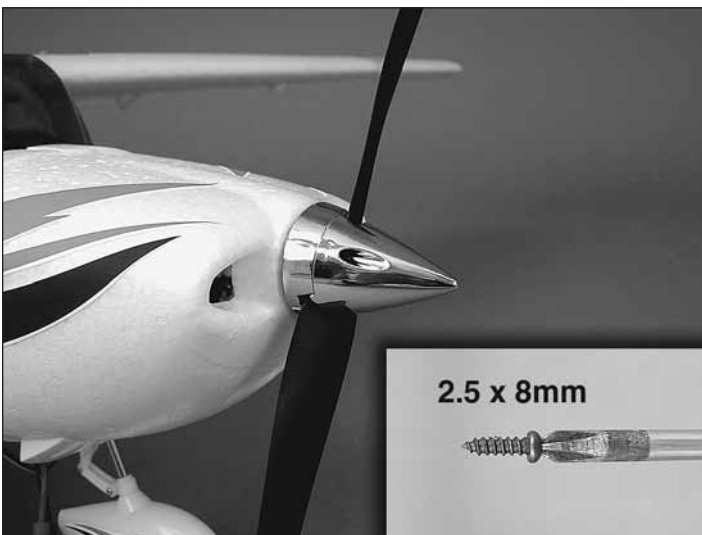
❑ 11. The amount of control surface throw has a great effect on the way the model flies—its agility and response. And the “throws” are factory set. However, the flap throw can be changed by an adjustment screw in the front of the transmitter. Make certain you have the correct amount of flap throw. Move the flap switch on the front of the transmitter to

extend (lower) the flaps. Measure the distance that the flaps move down from their original, “up” position. The flap “throw” should be $\frac{3}{8}$ [10mm]. If necessary, use a small screwdriver to turn the flap adjustment screw in the front of the transmitter to adjust the flap throw so it will be as close as possible to the specified distance.

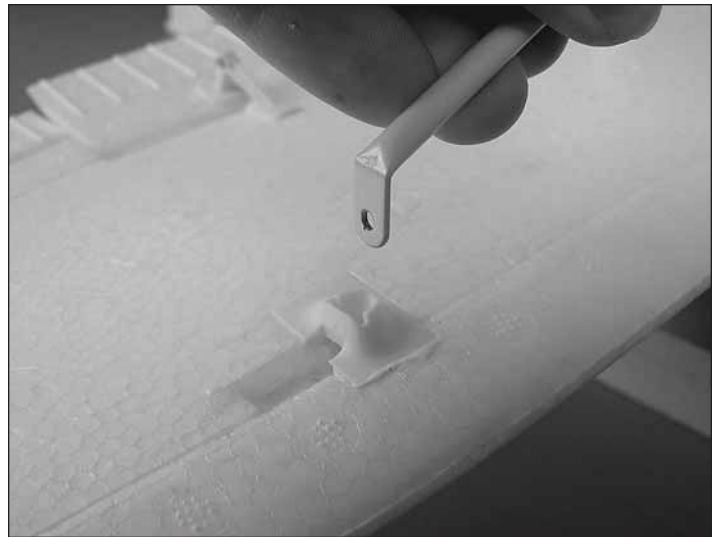
Final Assembly



❑ 1. Slide the propeller back plate onto the motor shaft. Make certain the molded-in cavity captures the nut on the shaft. Add the propeller and washer. Add a drop of threadlocker to the threads. Then, thread on the nut, tightening it with a 5.5mm wrench or a small pliers.

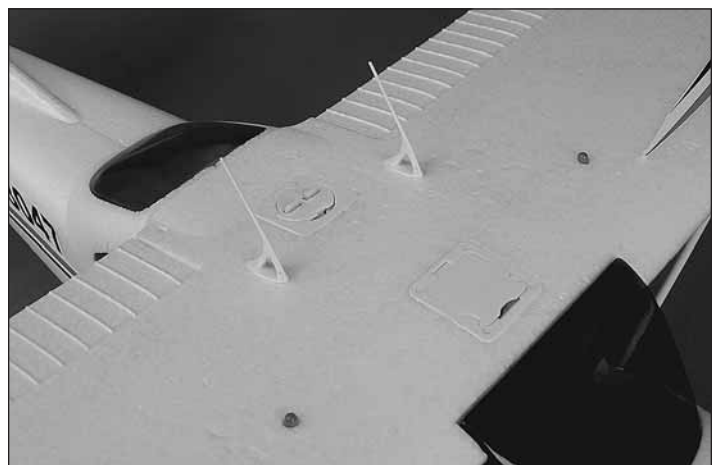


❑ 2. Install the spinner cone and attach with two 2.5 x 8mm Phillips screws.



❑ 3. Fit both **wing strut tubes** into the hard, plastic **strut fairings** in the wing and fuselage—the ends of the strut tubes with the sharper bend goes upward, into the wings.

❑ 4. Push firmly on the ends of the struts that go into the fuselage to be certain they fully “click” all the way into the fairings. Secure the struts with a 2.5 x 8mm Phillips screw in each end.



❑ 5. When it's time to fly the model, the antennas may be installed in the wings simply by pushing them down into position. The antennas do not require adhesive and can be removed if ever the model needs to be placed upside-down on its wings (for strut removal, etc.). If, however, you prefer to permanently glue the antennas into place, white glue (such as Elmers) or foam-safe super glue (CA) may be used.

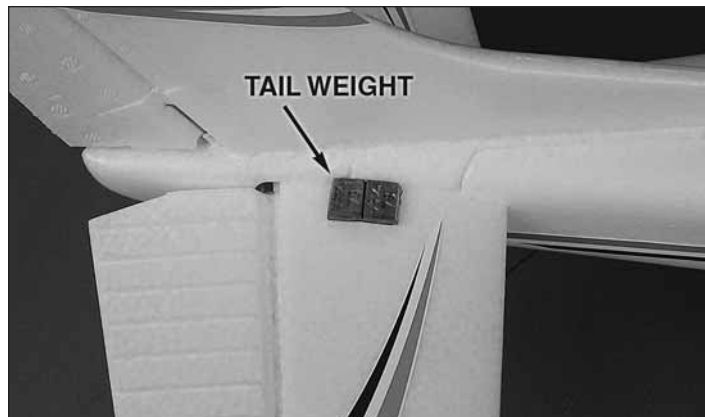
Check the C.G. (Center of Gravity)

The C.G. (Center of Gravity) is the location on the wings, measured back from the leading edge on both sides of the fuselage, where the model balances. In addition to the control surface throws, the C.G. has a **GREAT** effect on the way the model flies. If the C.G. is too far aft (tail heavy), the model will be too responsive and difficult to control. If the C.G. is too far forward (nose-heavy), the model will be too stable and not responsive enough. Follow the instructions to make sure the model is balanced properly and the C.G. is in the correct location.

❑ 1. Install the motor battery (do not connect the wires) and battery hatch. All the rest of the parts of the model should already be in place including the propeller and spinner and the wing struts (it is not necessary to have the clip-on antennas in place as they will have no measurable effect on the C.G.).



❑ 2. You have already marked the balance points on the bottom of the wings. Now place your fingers on the middle balance marks and lift the model. The fuselage should remain level—it may be helpful to have an assistant view the model from the side (or have your assistant lift the model) to see if it is level. If the tail drops, nose weight will be required. If the nose drops the tail weight will be required. The best way to find out how much weight is required to balance the model is to place segments of stick-on lead weight on the fuselage wherever it may be needed. For this, Great Planes stick-on lead weight (GPMQ4485) (or similar) should be used.



❑ 3. Determine the amount of weight required by placing segments over the cowl or tail where shown, but do not attach the lead yet.



❑ 4. Once you can get the model to balance and you know how much lead will be required, permanently stick it into position. If nose weight is required, you could simply stick it to the bottom of the fuselage just behind the nose landing gear. If you prefer the lead to be concealed, remove the spinner cone, propeller and spinner back plate. Use a sharp hobby knife to slice through the decals and pull the cowl off the fuselage. Place nose weight under the motor where shown. Replace the cowl and hold it into position with clear tape. Replace the spinner and propeller.

If tail weight is required simply adhere it to the side of the fuselage under the horizontal stabilizer.

❑ 5. Recheck the C.G. to make certain the model still balances where required. Once finished, remove the battery. Never charge the battery while it is installed in the model.

❑ 6. Later, once you become an expert at flying your Cessna, you may change the flying characteristics by changing the balance point—but do not go beyond the marks you already made on the bottom of the wing. Moving the C.G. forward (nose heavy) will improve the model's stability. This could be an advantage on breezy days. Moving the C.G. aft (tail heavy) will make the model more responsive.

GET THE MODEL READY TO FLY

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 and simply a “good idea” even if flying somewhere else. Write this information on a strip of masking tape and place it on the inside of the battery hatch (or simply write the information directly on the battery hatch).

Charge the Battery

Be certain to refer to the instructions that accompany the charger to properly and safely charge the battery that goes in the model and powers the motor and controls. Read and follow the battery charging precautions that follow.

Battery Charging Precautions

1. Be careful to avoid overcharging the battery!
2. Remember to check the temperature of the battery during the charge. The batteries should not get hot. If they do, unplug them from the charger.
3. If you use a different battery charger, charge this battery pack at a maximum charge rate of 1.8 amps. A higher charge rate will charge the battery pack too quickly and heat up the wires.
4. A properly-cared-for battery pack will last a long time. If the battery pack is continually overcharged or charged at too high of a rate, the life of the battery pack will be shortened.

WARNING: Misuse or malfunction may overheat the battery and charger, resulting in personal injury or damage to surroundings.

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 2.75V per cell.
- NEVER place on combustible materials or leave unattended during charge or discharge.
- ALWAYS KEEP OUT OF REACH OF CHILDREN.

FLYING THE CESSNA SKYLANE

The Cessna Skylane is in the configuration of a standard trainer (light weight, tricycle landing gear, high wing). The Cessna is easy to fly even for pilots with moderate experience. If you have not previously flown a trainer it is strongly suggested that you learn to fly with the assistance of an experienced pilot to help you with the first few flights.

Find a Suitable Flying Site

Find a flying site clear of buildings, trees, power lines and other obstructions. Until you know how much area will be required and have mastered flying your Cessna, a site at least the size of two or three football fields should be adequate—a flying field specifically intended for R/C planes is best. Don't fly within six miles of R/C flying fields and never fly near people—especially children who can wander unpredictably.

Know Your Frequency

CAUTION: The transmitter used to control your Cessna Skylane transmits signals on one of several frequencies that are available. To find out your frequency (or “channel”), look on the transmitter. If your “channel” happens to be the same as another model that is being flown nearby (even within a few miles), one or both models will crash. Know your frequency and be aware of the frequency of other models that are flying nearby—especially if you are flying at a radio control flying site. All flying sites have some sort of frequency control system to avoid this kind of interference, so learn how to use their frequency control system. **Never** turn on your transmitter until you are certain that you will be the only one operating on your frequency.

Perform a Range Check

As a precaution, an operational *ground range test* should be performed before the first flight each time out. Performing a range test is a good way to detect problems that could cause loss of control such as low batteries, defective or damaged radio components or radio interference. This usually requires an assistant and should be done at the actual flying site you will be using.

First turn on the transmitter. Then, install the fully charged battery into the fuselage and hold it in place with the hook-and-loop strap. Connect the battery and install the hatch.

Remember, use care not to “bump” the throttle stick. Otherwise, the propeller will turn, possibly causing damage or injury.

With the antenna on the transmitter collapsed (not extended), begin walking away from the model operating the controls in a predictable pattern (for example: Up, then down elevator. Right, then left aileron. Right, then left rudder). While moving the control surfaces, also vary motor rpm. Have your assistant alert you if the controls fail to respond or if they move suddenly or erratically. You should be able to maintain control up to a distance of approximately 100' [30m].

If the controls respond erratically or if anything else seems wrong, make certain all the servo wires are securely connected to the receiver and that the transmitter and receiver batteries are fully charged. If you cannot find a mechanical problem with the model, it is slightly possible that there is radio interference somewhere in the area. One option would be to try another range check at an alternate flying site.

After the range check, fully extend the antenna.

Monitor Your Flight Time

Monitor and limit your flight time using a timer such as the one on your wrist watch. When the batteries are getting low you will usually notice a performance drop before the ESC cuts off motor power, so when you notice the plane flying slower you should land. Often (but not always!), power can be briefly restored after the motor cuts off by holding the throttle stick all the way down for a few seconds.

To avoid an unexpected dead-stick landing on your first flight set your timer to a conservative 8 minutes. When the alarm sounds you should land your model.

When you learn how much flight time you are getting you can adjust your timer accordingly. Always be conservative so the motor won't quit unexpectedly and you will have enough battery to land under power.

Take Off

Until you have become comfortable with flying your Cessna Skylane, do not fly if the wind speed is greater than 10 mph [16 kilometers/hr].

One final check before takeoff: **always double-check the flight control response to your inputs from the transmitter before every flight.** Be certain the ailerons, elevator and rudder respond correctly and that none of the controls have inadvertently become reversed.

Don't forget to fully extend the transmitter antenna.

If the surface is smooth (such as pavement or blacktop) the Cessna can take off from the ground. But most grass is probably too tall, so if flying from grass the model will have to be hand launched.

ROG (rise off ground) Takeoff

If taking off from the ground, place the model on your “runway” with the nose pointing into the wind—this will reduce the ground speed that must be reached and automatically provide “heading assist” making steering and takeoff easier. Slowly advance the throttle, adding rudder correction as needed to keep the model rolling straight. When the plane becomes “light” continue to apply throttle until you are at full-power—all this will happen in a few seconds. When sufficient liftoff speed has been reached, gradually apply “up” elevator allowing the model to leave the ground. Do not “yank” up on the stick—rather, be smooth and allow the plane to establish a gentle climb.

Once you have reached a safe flying speed at a comfortable altitude (approximately 50' [15m]), work the controls as necessary to establish a gentle turn away from the runway.

Hand-Launch

Until you have become efficient at flying your Cessna, always use an assistant to hand-launch your model.

Have your assistant hold the model by the bottom of the fuselage. When both of you have signaled “ready,” advance the throttle to full power. Your assistant should run a few steps with the plane held high above his head, and then give the model a swift, but **controlled** toss at a level, or **slightly** nose-up attitude. Initially, the model will gently ascend, but within a few seconds it will reach enough speed to climb. Gently add “up” elevator to establish the climb.

Once you have reached a safe flying speed at a comfortable altitude (approximately 50' [15m]), work the controls as necessary to establish a gentle turn away from the runway.

Flying

One thing to remember is that, when the plane is flying away from you, moving the aileron stick to the right will make the plane bank to **your** right. However, when the model is flying toward you, moving the aileron stick to the right will make the plane move to **your** left. Of course, the plane is still responding the same way, it's just that your orientation has reversed. This must be kept in mind while learning to fly (and is also a good reason to take flight lessons from an experienced pilot!).

To establish a turn, “up” elevator (pulling back on the stick) is usually required along with aileron input to get the model into a bank. To stop the turn, apply a small amount of opposite aileron.

Once you get the plane into the air and have climbed to a comfortable altitude, the first “order of business” will be to “trim” the model for straight-and-level flight. The model flies best at approximately 3/4-throttle. Adjust the trims on the transmitter to make minor control surface adjustments as necessary until the plane will fly straight without any control inputs. Often, your assistant can reach over and adjust the trims for you.

Remember to keep the model high enough to give yourself time to make corrections, but don't let it get too far away. Otherwise, it will be difficult to detect its attitude and which way it is going.

One final check before landing: see how the model will react when it's time to land and you cut the power. To do this, while still at altitude, cut the motor power. The model should establish a gentle, downward glide path. This is how the model will react when it's actually time to land. Add power and climb back up to your original altitude. Try again, this time adding flaps. To climb, add throttle and immediately take the flaps back out.

Practice a few of these “climb and glides” to judge how far out you will need to be when its time to land.

Landing

To land, fly down-wind past the landing area. Gently turn into the wind, add flaps and reduce the throttle so that the airplane initiates an ascending glide path. If necessary, add power to extend the glide path to reach the runway. As the model approaches and loses altitude, gradually and proportionally add “up” elevator to control the glide path and altitude. Continue to apply elevator until the model touches down at which time you should be holding full, or nearly full up elevator. This will cause the airplane to slow and settle to the ground.

Later, once you have become more experienced with your Cessna, you can cruise around and perform slow “fly-bys” with the flaps extended.

CAUTION: If, during a rough landing, the propeller becomes jammed and cannot rotate, the battery and speed control will become very hot if you attempt to add power. Immediately move the throttle down to stop the motor. If you fail to do this, the motor, speed control and/or battery will be damaged.

AFTER FLIGHT

Disconnect the battery and remove it from the airplane. Then, turn off the transmitter. Allow the battery to cool before recharging, or allow the motor to cool before installing another battery for the next flight. Inspect the airplane to make sure nothing has become loose or damaged.

