

NexSTARTM Select

READY-TO-FLY RADIO CONTROLLED MODEL AIRPLANE

INSTRUCTION MANUAL



Wingspan: 68-3/4 in [1745mm]
Length: 56 in [1420mm]
Wing Area: 722 sq in [46.6 dm²]
RTF Weight: 6.5lb [2950g]
Wing Loading: 21 oz/ft² [63 g/dm²]
Engine: .46 cu in [7.5 cc]

WARRANTY

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

In that Hobbico 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.

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



Champaign, Illinois
(217) 398-8970

E-mail: airsupport@hobbico.com

HCAZ3079 for HCAC17** V1.0

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INTRODUCTION

Congratulations and thank you for purchasing the Hobbico NexSTAR Select, the next generation in Radio Control Trainers. You've made the right decision by purchasing a "real" model airplane with a .46-size engine, a 4-channel radio, the AFS System, and the latest in aerodynamic and assembly technologies. Once assembled and set up, there will be no fiddling with a temperamental engine or constant troubleshooting to figure out how to get the model to fly. Under the guidance of an experienced flight instructor, all you'll have to do is concentrate on learning to fly. And after you've mastered the NexSTAR Select, the engine and radio may be transferred to your next model!

There are two parts to this manual. The first part, a seven page Assembly section, guides you through a few simple steps to put the model together. The second part, Setup, takes you through initial adjustments and flight preparation. Do not overlook any of the important setup procedures and follow the instructions all the way to the end. Anything skipped in the shop will have to be done at the field anyway.

IMPORTANT

Once mastered, piloting a model aircraft can be one of the most rewarding hobbies around. However, it cannot be stated strongly enough that, if you do not already know how to fly an R/C airplane, you will probably not be able to fly this model by yourself. It may appear to be easy, but over-controlling and disorientation quickly overcome inexperienced fliers, swiftly ending their first flight. The best thing you can do to insure success is to find a flight instructor who will inspect your model for airworthiness and provide flying lessons along with practice on your RealFlight NexSTAR Edition simulator. If you haven't yet done so, contact the local hobby shop and ask them to introduce you to an instructor or an R/C club representative. If there is no club or experienced R/C pilot nearby, it would be worth even a long drive to find one—if only for just a few flight lessons (then you'll have an idea of what to expect).

If there is no hobby shop in your area, contact the AMA (Academy of Model Aeronautics), the governing body of model aeronautics. The AMA can direct you to the closest R/C club whose membership should have qualified flight instructors. With the added benefit of insurance coverage provided by the AMA, most clubs require AMA membership to fly at their field.



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>

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

1. Your NexSTAR Select 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 NexSTAR Select, 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 drawings or sketches. In those instances the written instructions should be considered as correct.

3. 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 clevises or other connectors often and replace them if they show any signs of wear or fatigue.

NOTE: We, as the kit manufacturer, provide you with a top quality kit and great instructions, but ultimately the quality 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.

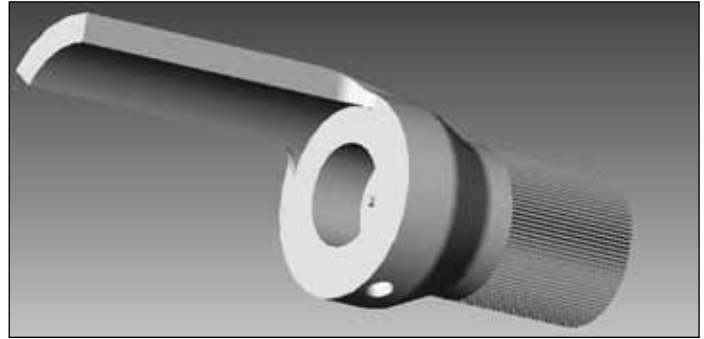
AN INTRODUCTION TO THE NEXSTAR SELECT FEATURES

OS® MAX .46 FXi™ Engine



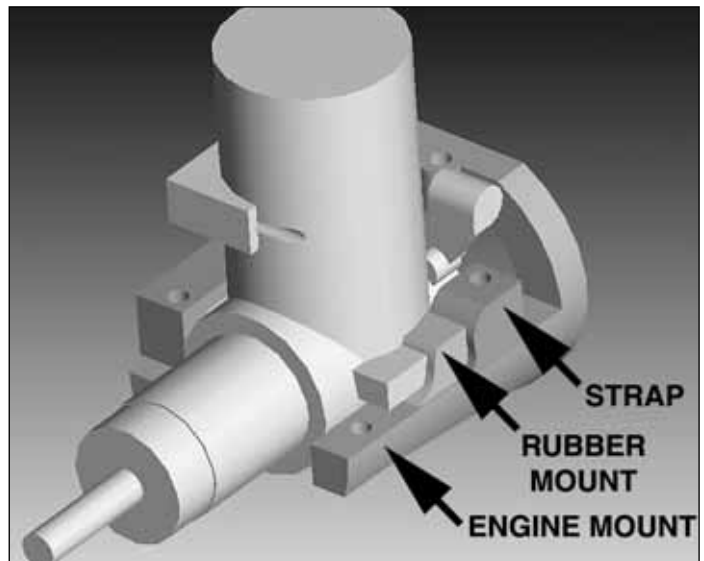
This is a new engine developed specifically for high performance trainers and sport models such as the NexSTAR Select. It is a .46 cu in [7.5cc] engine with two sets of ball bearings offering the same performance as the well known OS .46 FX. This new engine has been optimized to be easy to start while offering great peak RPM performance. Once you have earned your wings, you can install this engine on your .40 size aerobatic airplane for wild aerobatics.

Extender/Limiter



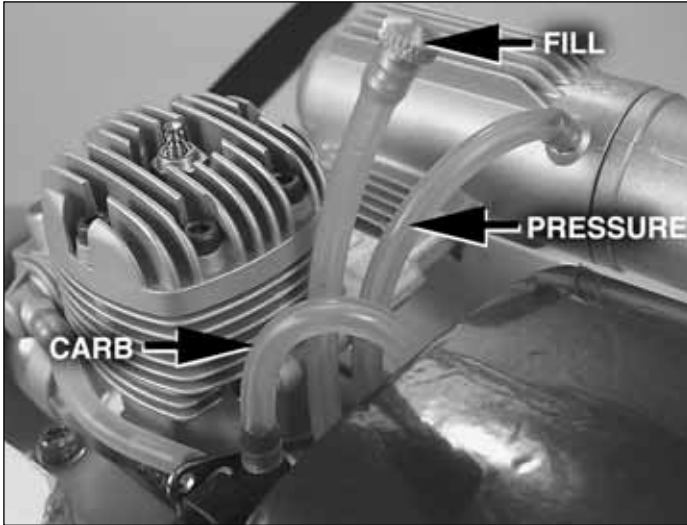
The NexSTAR Select is equipped with a high speed needle valve extender/limiter to make engine adjustments safer and easier. The extender/limiter has been set at the factory to limit the movement of the high speed needle so that it cannot be adjusted out of the optimum range. This way the engine will always work at its peak performance without the worry of engine damage. The extender/limiter will allow the needle to be set from the leanest desired setting for safe operation (fully clockwise) to the richest desired setting for break in (fully counterclockwise).

IsoSmooth™ Engine Mount



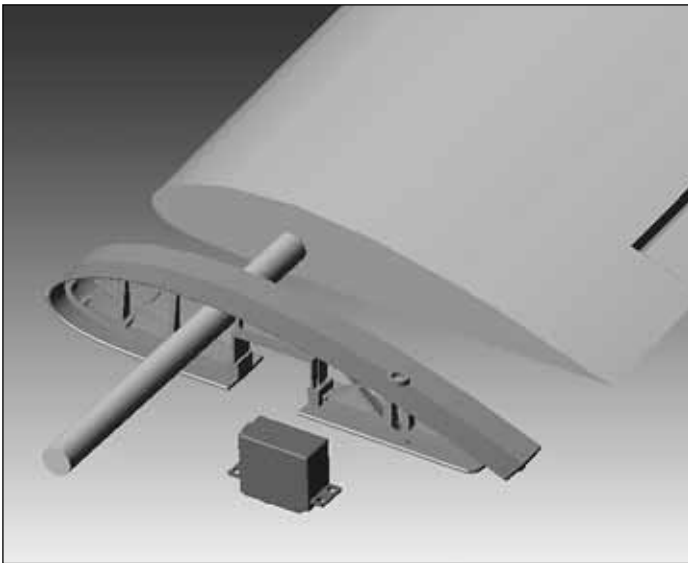
This new mount may look like other aluminum engine mounts, but make no mistake, it is unique. The engine mounting lugs are installed in rubber boots that absorb engine vibration to protect your airframe and radio components, increasing their life span. The IsoSmooth engine mount works so well that you should check your propeller for nicks or cracks, because with this mount, you won't feel a thing.

Three-Line Fuel System



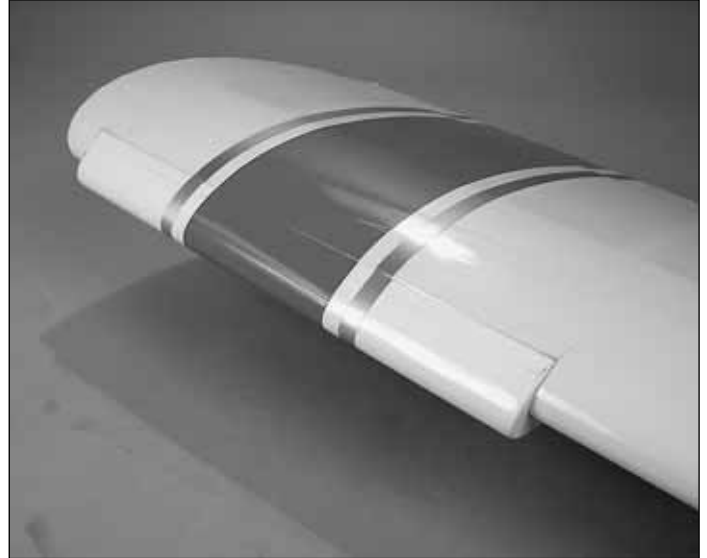
The Hobbico NexSTAR Select uses a three-line fuel line system to simplify fueling and de-fueling.

CenterCore™ Wing Rib



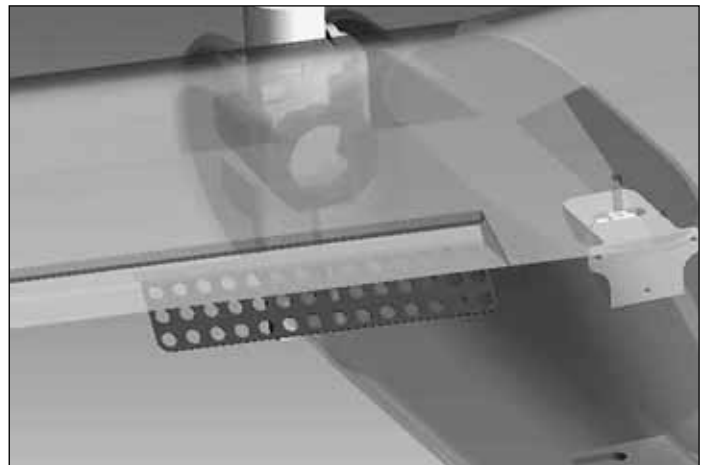
The CenterCore wing rib is a nylon part that comes preinstalled onto one of the wing halves. It performs several functions: it aligns the two wing halves; it is a mount for the aileron servo; the incorporated wing dowel holds the wing in place; and it holds and aligns the wing bolt to the PivotFlex™ Wing Mounting System. Joining the wing halves and wing installation on the fuselage has never been easier.

SpinControl™ Airfoil Extensions



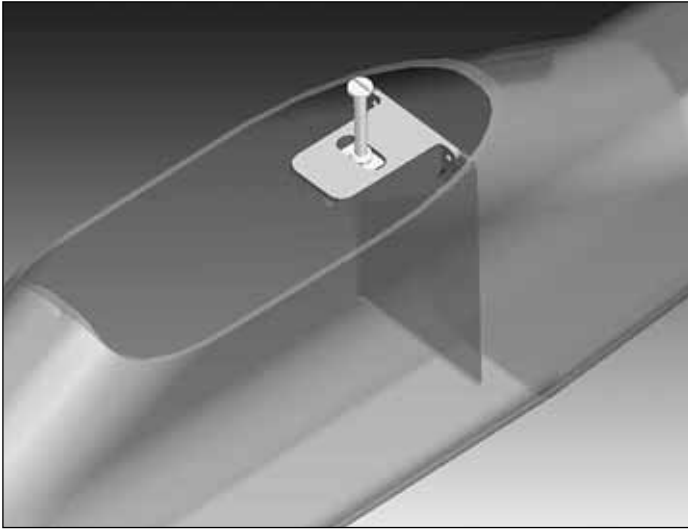
These are the extensions that are installed at the leading edge near the tips of the wings. These extensions were developed by NASA (National Aeronautics and Space Administration) to help light airplanes prevent stalls and spins during landing approaches. That is exactly what they do for your NexSTAR Select. They slow down the airplane, increase its stall resistance and prevent it from spinning, all desired characteristics of a trainer airplane. The wing extensions can be removed after becoming proficient with the NexSTAR Select for faster, more aerobatic performance.

SpeedBrakes™ Training Flaps



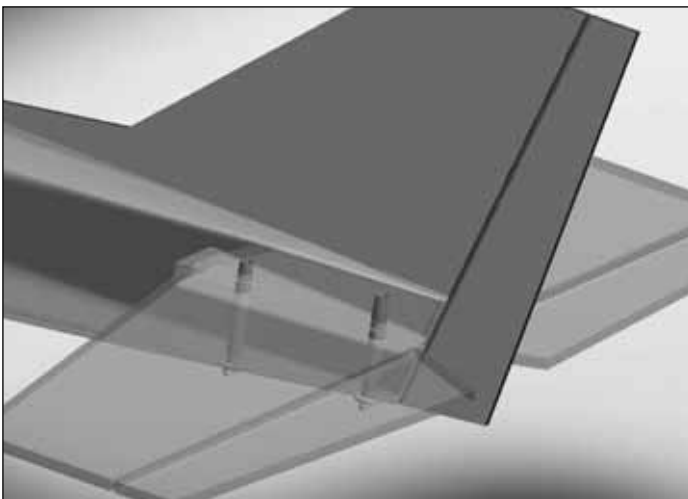
The SpeedBrakes Training Flaps were designed to allow your NexSTAR Select to fly slower, reduce top speed and shorten the landing approach. Thanks to these flaps, your NexSTAR Select will bleed off speed quickly when the throttle is reduced so that long landing approaches are not necessary. Additionally, the top speed is considerably reduced to make the airplane easier to handle. These SpeedBrakes can also be removed after acquiring some experience with the airplane for faster, more aerobatic performance.

PivotFlex™ Wing Mounting System



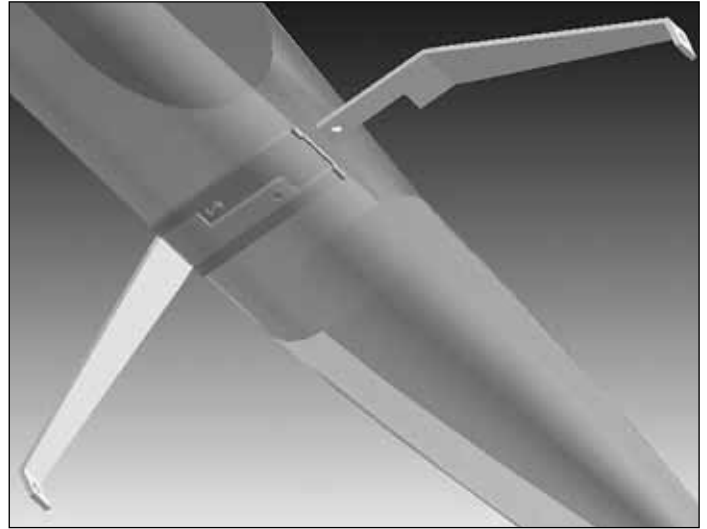
The wings of most trainers are mounted with rubber bands. This allows for some flexibility in case of a hard landing. Rubber bands work well, but they are just plain ugly and a mess. The PivotFlex Wing Mounting System combines the looks of a bolt-on system with the flexibility of rubber bands. The new system allows the wing to move under sudden loads (such as a wing tip hitting the ground) and will release the wing from the airplane under extreme loads such as a crash—all that while looking great.

EasyAlign™ Tail Mounting System



The EasyAlign Tail Mounting System aligns the stabilizer with the fuselage and fin while tightening the tail bolts. The tail bolts slide into blocks in the fuselage under the stabilizer. As the tail bolts are tightened, both the fin and stab are aligned and secured while strengthening the aft area of the fuselage. No tools are necessary for installation.

SnapGear™ Landing Gear



To speed and simplify assembly, the Hobbico NexSTAR Select comes equipped with the SnapGear Landing Gear. This new gear offers effortless and tool less main landing gear installation. It takes only a few seconds to install the landing gear and it can also be removed from the fuselage in seconds.

Active Flight Stabilization™ (AFS) Module



The Active Flight Stabilization module has been designed to help you earn your wings. This module scans for differences in light around the model to know the airplane's flight attitude. When you release the sticks, it returns the model to straight-and-level. Let's say that you are making an aileron turn. The AFS will prevent the airplane from losing or gaining altitude. If you lose sight of the airplane's attitude for a second, release your sticks and your airplane will go back to flying straight and level in about one second. When flying in wind, the AFS will make your plane fly rock solid, even when close to the ground. This is a great learning tool, and as you learn, you can decrease its sensitivity until you do not need it any more. Please see "Setting up the Automatic Flight Stabilization module" section of this manual before using it.

RealFlight® NexStar Edition



On top of the previously mentioned items, there is still one last treat in your Hobbico NexSTAR Select package: A RealFlight NexSTAR Edition CD-ROM. RealFlight is the best RC airplane simulator in the market, and it is a great learning tool. Once installed in your computer, RealFlight will allow you to use your own NexSTAR Select radio transmitter to fly your NexSTAR Select on your computer. Simulators are a great learning tool because they allow you to learn about airplane orientation, flying speed, stalling performance, take off and landing, and the whole spectrum of flight without any risk. The physics of RealFlight are so close to reality that you will feel like you are flying the real model. The RealFlight NexSTAR Edition also lets you practice with your transmitter and all the controls on it. Learn to fly with RealFlight, practice new maneuvers and once you feel confident, get out there and enjoy your Hobbico NexSTAR Select.

KIT INSPECTION

Before starting to build, inspect the parts in this kit to make sure they are all included and all undamaged. If any parts are defective or damaged, or if you need assistance with assembly, contact Product Support.

Product Support

Phone: (217) 398-8970

Fax: (217) 398-7721

E-mail: airsupport@hobbico.com

Field Equipment

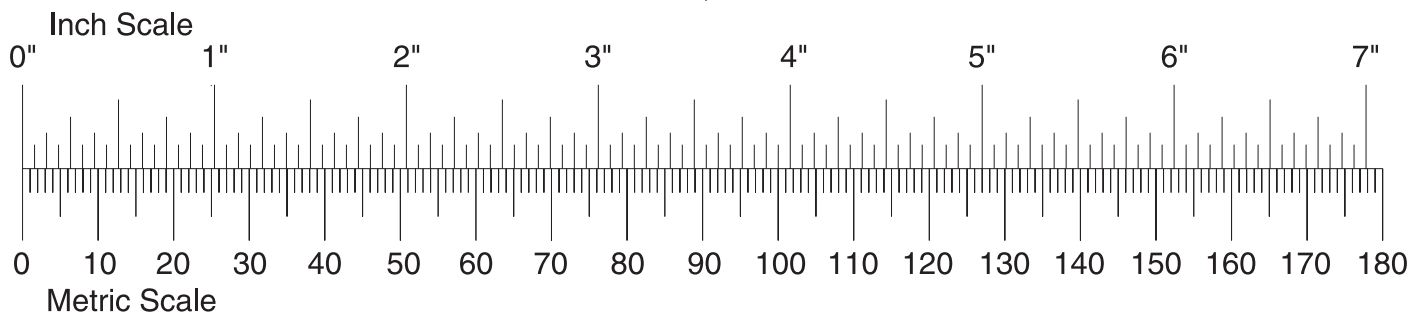


When ready to fly, you'll need some additional equipment to fuel the plane and start the engine. The most important items include an electric starter, 12 volt battery, or chicken stick, fuel pump (electric or hand-crank), fueling lines and fittings and a 1.5 volt glow plug igniter. Your flight instructor will probably let you share his equipment for a while, but eventually you'll need your own. Visit your local hobby dealer or see the Hobbico catalog for a full selection, descriptions and pricing.

Metric Conversions

1" = 25.4mm (conversion factor)

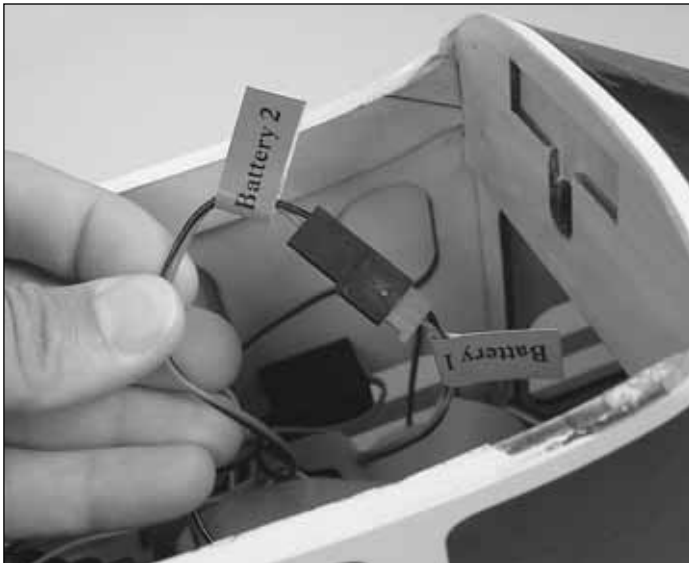
1/64"	=	.4 mm	3/4"	=	19.0 mm
1/32"	=	.8 mm	1"	=	25.4 mm
1/16"	=	1.6 mm	2"	=	50.8 mm
3/32"	=	2.4 mm	3"	=	76.2 mm
1/8"	=	3.2 mm	6"	=	152.4 mm
5/32"	=	4.0 mm	12"	=	304.8 mm
3/16"	=	4.8 mm	18"	=	457.2 mm
1/4"	=	6.4 mm	21"	=	533.4 mm
3/8"	=	9.5 mm	24"	=	609.6 mm
1/2"	=	12.7 mm	30"	=	762.0 mm
5/8"	=	15.9 mm	36"	=	914.4 mm



ASSEMBLY

Charge the Batteries

The NexSTAR Select comes with a receiver battery in the airplane and a transmitter battery. Both of them can be charged at the same time or independently with the Futaba® charger included.



❑ 1. For safety reasons, the model is shipped with the battery pack in the model (the receiver battery) disconnected. In the fuselage, connect the plug from the battery pack, labeled "Battery 1", to the plug from the on/off switch, labeled "Battery 2."



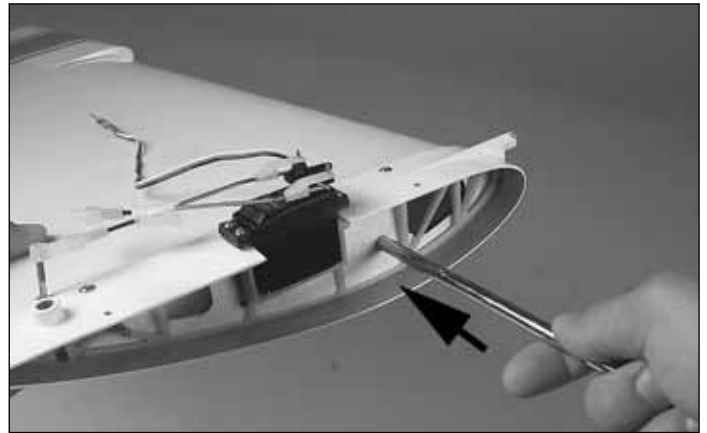
❑ 2. When shipped, the batteries are not fully charged. They must be fully charged before use. If you plan to assemble the plane now, the batteries may be charged later. If you plan to assemble the plane later, charge the batteries following the instructions in the instruction manual supplied for the radio control system. Note: When charging the receiver battery, connect the charger to the plug labeled "Charge" inside the fuselage.

Assemble the Wing

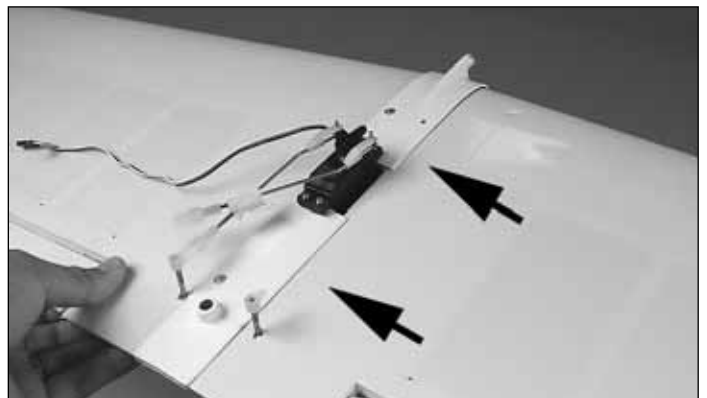
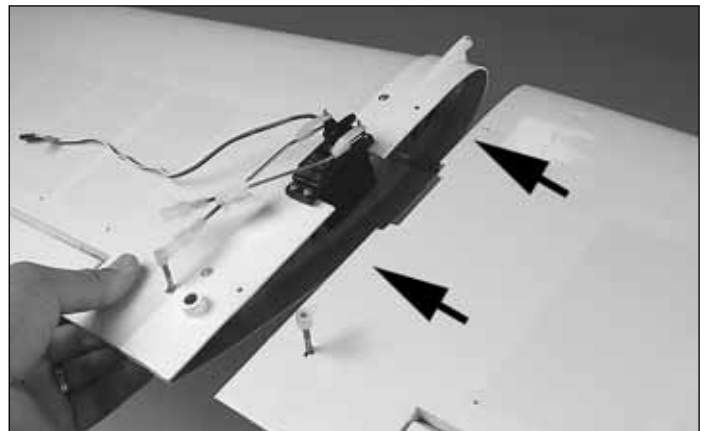
For this section you will need:

1 Left Wing	6 #4 x 8mm Screws
1 Right Wing	2 SpeedBrakes Training Flaps
1 Steel Wing Rod	1 Phillips Screwdriver
2 #4 x 20mm Screws	

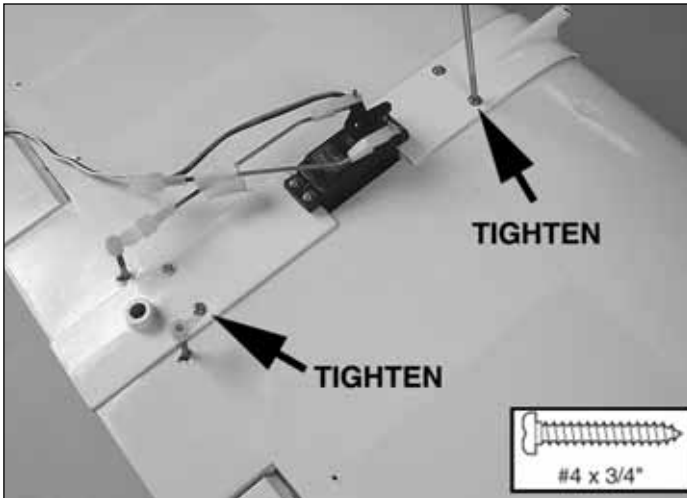
Please note that all images show the bottom of the wing.



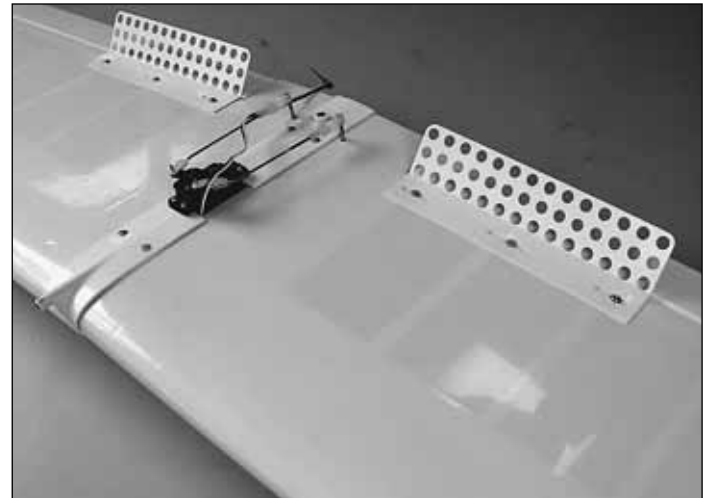
❑ 1. Install the wing rod into the right wing Center Core wing rib. The wire you see coming out of the servo is the servo lead. This servo lead will not be used until the "Radio Setup" section.



❑ 2. Carefully slide the left wing all the way onto the rod and into the Center Core wing rib. The wing needs to be pushed in all the way until it stops.



❑ 3. Use two #4 x 3/4" [19mm] screws to hold the two wing halves together.



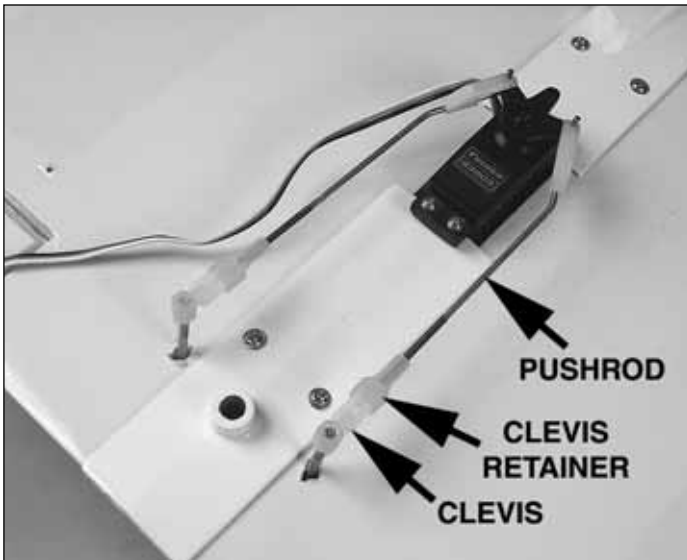
❑ 6. Install the other flap onto the other wing using three more #2 x 6mm screws.

The wing is now complete.

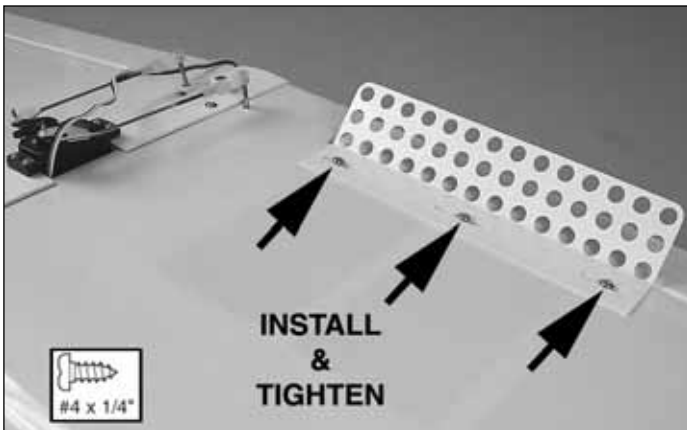
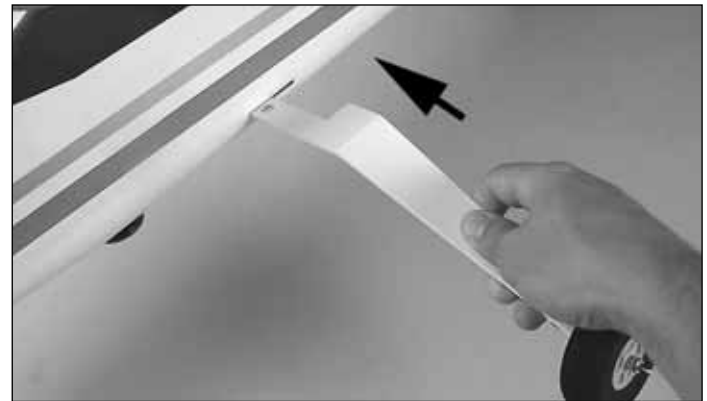
Install the Landing Gear

For this section you will need:

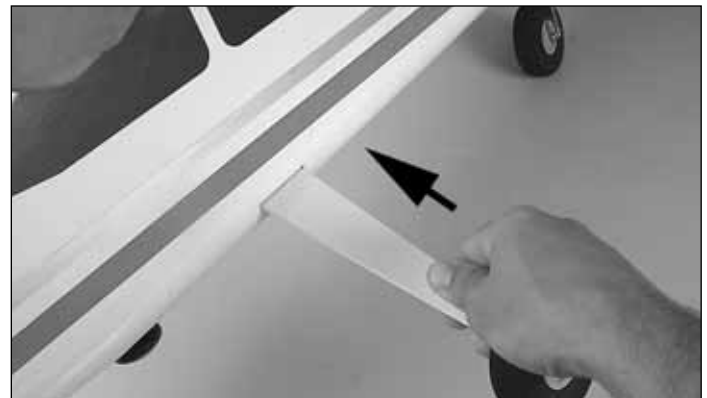
- | | |
|------------|---------------------|
| 1 Fuselage | 2 Landing Gear Legs |
|------------|---------------------|



❑ 4. Remove the tape that holds the aileron pushrods together and install the clevis of the left aileron pushrod on the left aileron horn. Slip the clevis retainer onto the clevis.



❑ 5. Locate one of the SpeedBrakes Training flaps. There are three small holes drilled into the trailing edge of the wing near the center. Install the flap to the wing using three #4 x 1/4" [6mm] screws. The inner end of the flap should align with the end of the aileron.

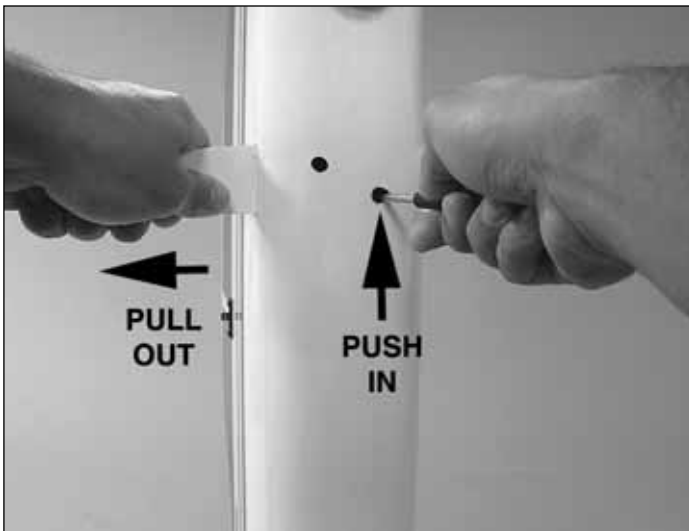


❑ 1. Slide one of the main landing gear legs into the landing gear slot as shown above. Push it in until you hear a "click" or until it does not slide in any more. **Note:** The two landing gear legs are identical, so it does not matter which one you install on the left side or right side of the airplane.



❑ 2. Install the other landing gear leg on the other side of the fuselage the same way. Once they are both installed, apply a light force to pull them out. You should not be able to pull them out. If they do pull out, then push them back in again until they are secured properly. Note: The legs may fit a little loose inside the pocket. This is normal as long as you are not able to pull the landing gear legs out.

Landing gear installation is complete.



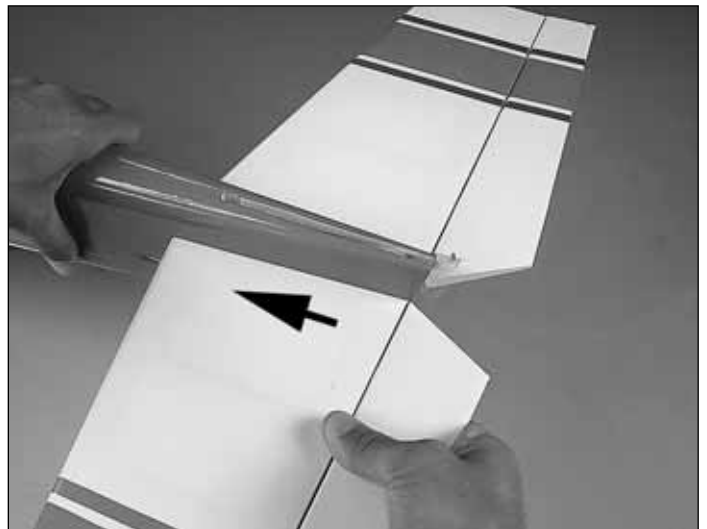
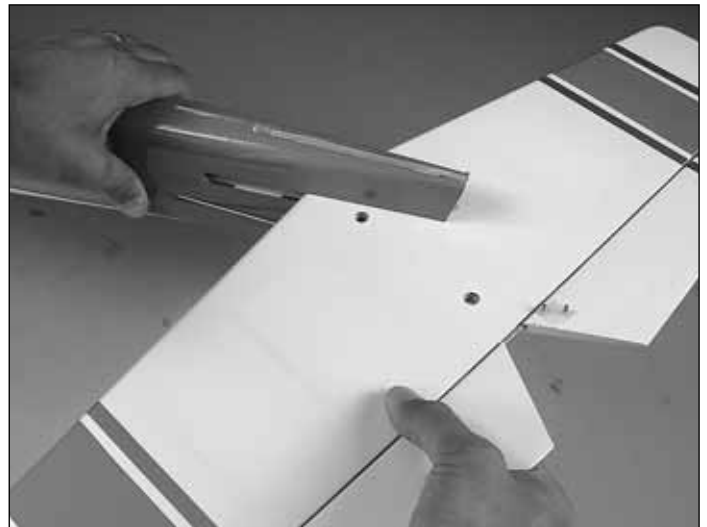
❑ Note: Should you ever need to remove the landing gear from the fuselage, insert a screwdriver into the hole under the fuselage farther from the leg you want to remove. Apply light pressure to the tab inside the hole and pull the landing gear leg out. Once the tab is moved, the screwdriver must be removed to allow the leg to come all the way out. Do the same with the other landing gear leg.

Note: If your landing gear legs spread after a hard landing, remove the legs from the airplane and bend them back to the correct position with a vise. Do not try to straighten the legs while installed in the airplane as that may damage the Snap Gear Landing Gear mechanism.

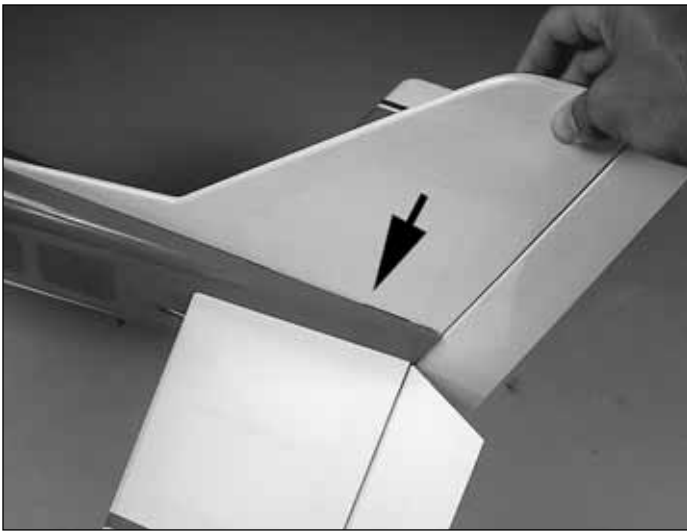
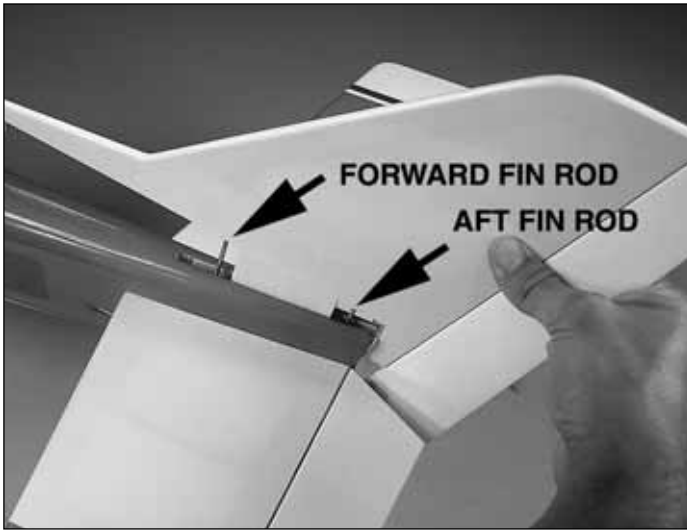
Install the Tail Surfaces

For this section you will need:

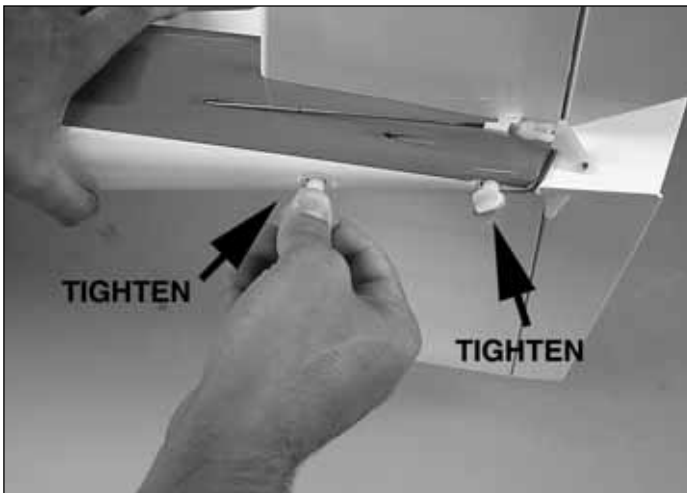
- | | |
|--------------------------------------|-----------------------------------|
| 1 Fuselage | 1 Vertical Stabilizer
(or fin) |
| 1 Horizontal Stabilizer
(or stab) | 2 Nylon Tail Bolts. |



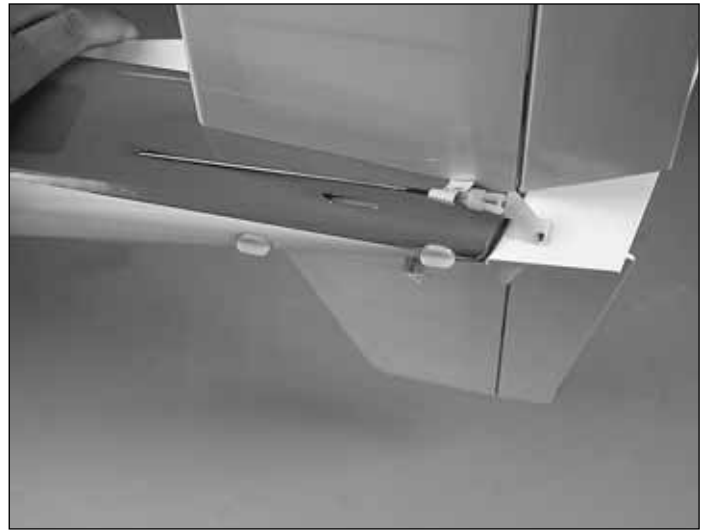
❑ 1. Insert the horizontal stabilizer into the stab slot as shown above. Insert the two nylon fin tail bolts half-way into the bottom fuselage and into the stab to hold it in place.



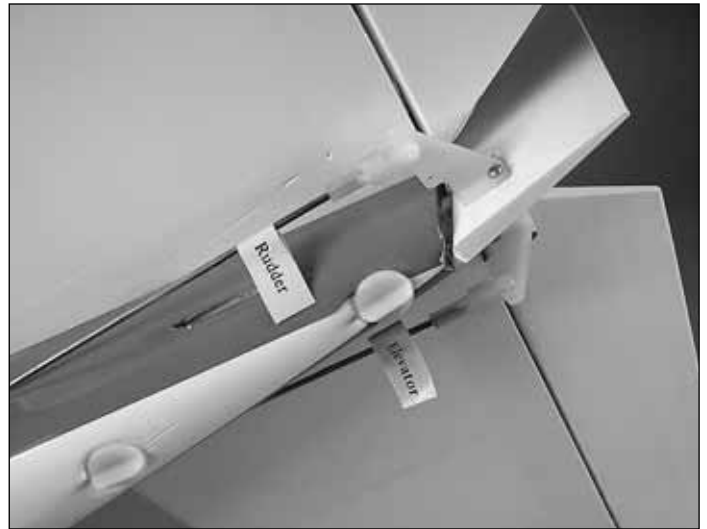
❑ 2. Insert the vertical stabilizer into the fin slot as shown above. During installation, make sure the rudder control horn is below the elevator so that it does not interfere with it. It may take a little maneuvering to slide the aft fin rod in front of the wood block in the fuselage slot.



❑ 3. Slide the two nylon fin bolts into the bottom fuselage openings and through the stab holes. This will align the assembly.



❑ 4. Tighten the bolts until they fit snug against the bottom of the fuselage. Note: Over tightening these bolts will damage the nylon threads and it may cause in flight failure. Do not over tighten these bolts.



❑ 5. Connect both the elevator and rudder pushrod clevises to their control horns. Use the second hole from the outer tip of the control horn for both of them. This will allow you to obtain the recommended throws. Slide the silicone clevis keeper over the clevis.

Tail assembly is complete.

SETUP

Charge the Batteries

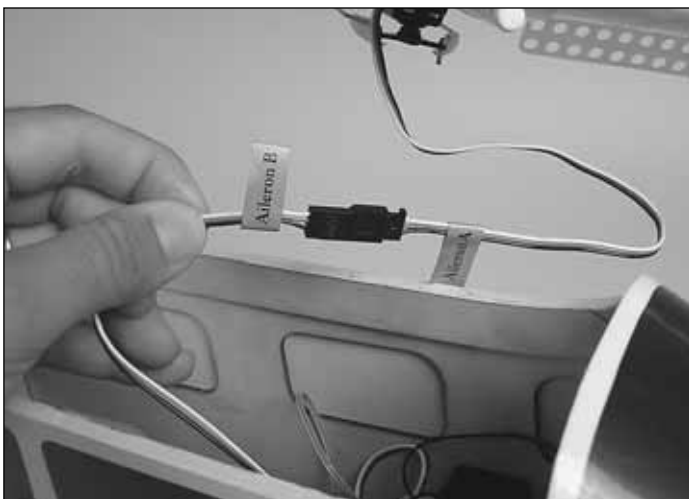
Now the plane is assembled, but there are a few things that must be done before it will be ready to fly. You must carefully perform all of the following Setup procedures. If possible, have your flight instructor assist.

If you have not yet charged the batteries, you may still proceed. However, as the batteries have not yet been fully charged, they may not provide enough power to make it all the way through the setup procedures. If the batteries quit working, set your tools aside and charge the batteries as described in the instruction manual for the Futaba radio control system that came with this kit.

The Active Flight Stabilization (AFS) device should be unplugged at this point to ensure that the following setup is successful. **The AFS unit arrives unplugged from the factory.**

Center the Control Surfaces

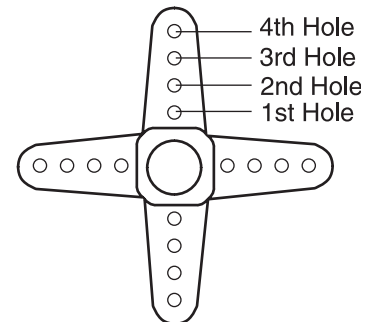
The first thing that has to be done is to make sure all the control surfaces are centered.



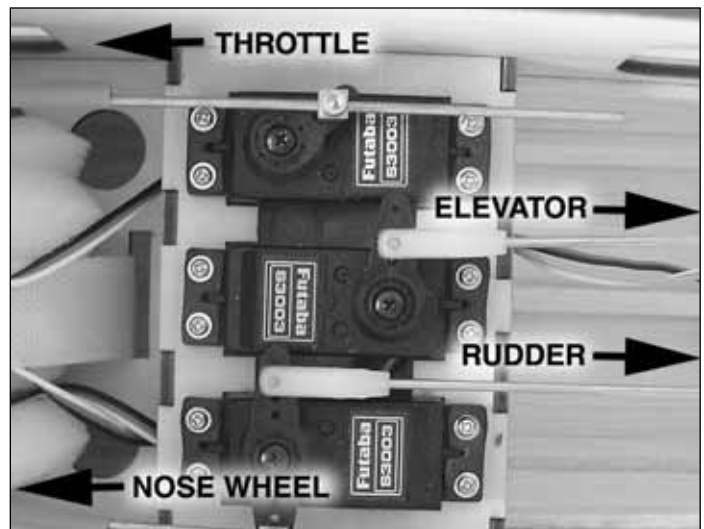
1. Connect the aileron servo wire coming from the wing labeled "Aileron A" to the plug in the fuselage labeled "Aileron B" coming from the receiver. Temporarily mount the wing to the fuselage with a nylon wing bolt.



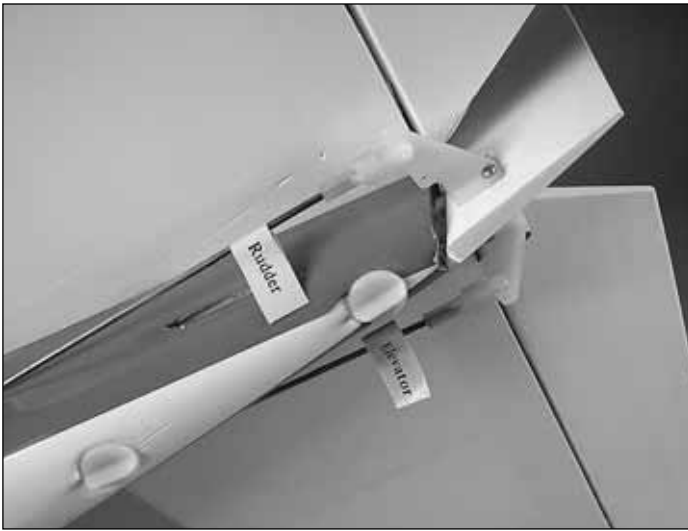
2. Turn on the transmitter and receiver. Center all the trim levers on the transmitter.



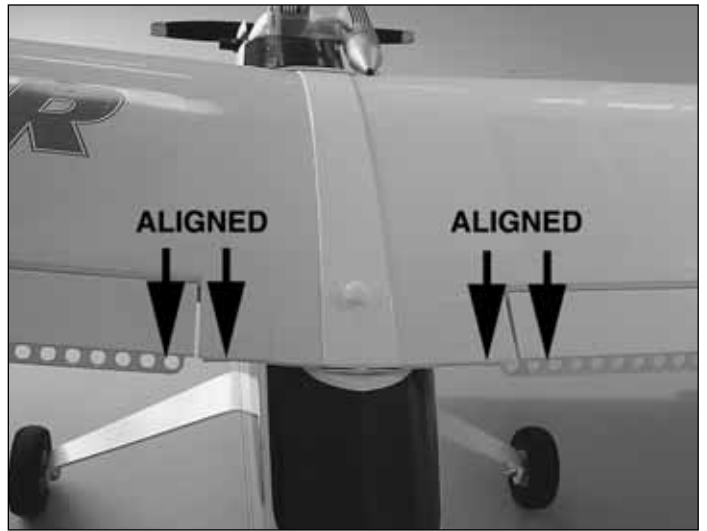
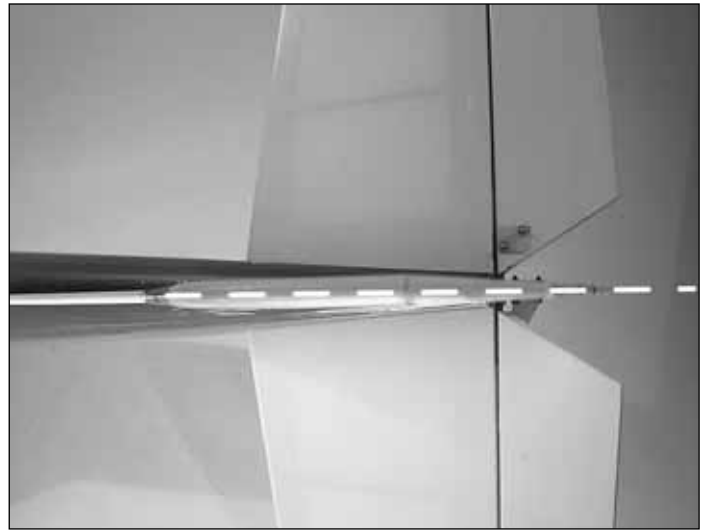
Servo Arm



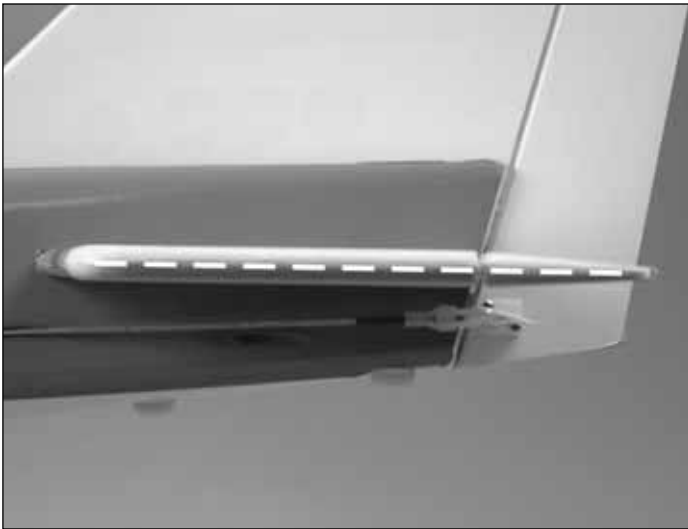
3. Make certain the pushrods are connected to the servo arms as follows: The elevator pushrod should be in the second hole out on the servo arm, the rudder pushrod should be in the third hole out on the servo arm, and the aileron pushrods (not shown) should be in the third hole out on the servo arm. If the pushrods are not connected to the servo arms as described, remove the nylon connector, insert the pushrod in the correct hole, and then reinstall the nylon connector.



❑ 4. The pushrods should also be installed correctly into the control horn. Remember that in step 5, page 10, the rudder and elevator control rods were installed on the rudder and elevator control horns using the second hole from the servo arm center. After connecting the pushrods to the horns, remove the labels.



❑ 6. Center the rudder and ailerons by adjusting the clevises on the pushrods as necessary.

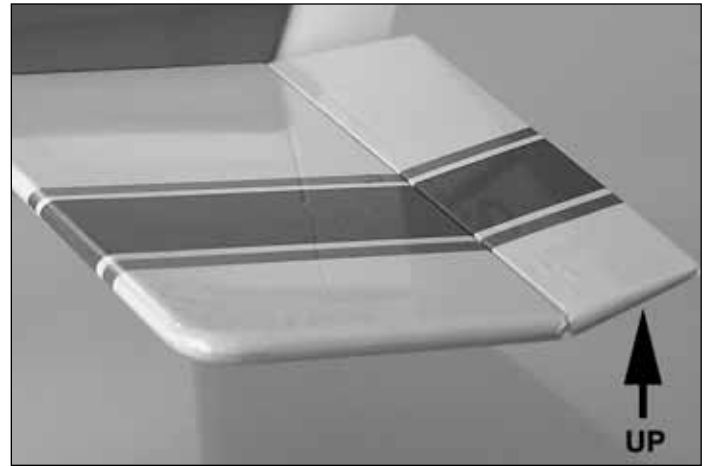


❑ 5. View the elevator and stab from the end. The elevator should be centered as shown in the photo above. If the elevator is not centered with the stab, disconnect the clevis from the elevator control horn. Holding the end of the pushrod with pliers, screw or unscrew the clevis as necessary until the elevator is centered when reconnected to the pushrod.

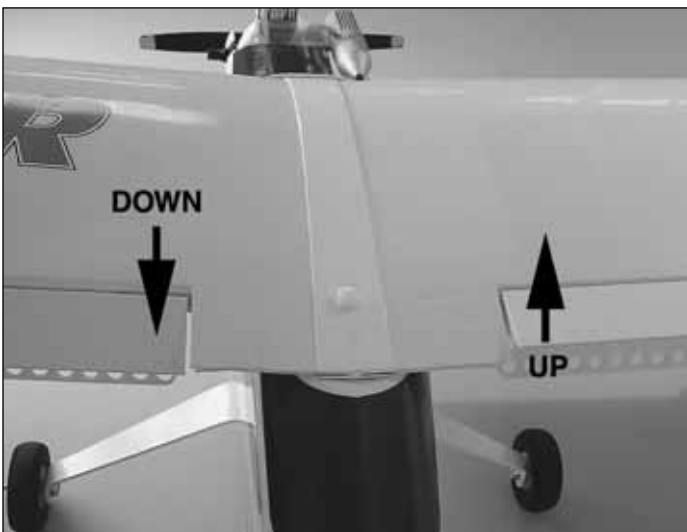
❑ 7. Once the rudder is centered, if necessary, center the nose wheel by loosening the screw in the screw-lock pushrod connector on the rudder servo arm. Move the pushrod forward or back to center the wheel. Securely tighten the screw and then push the airplane forward on a flat surface to verify that the airplane rolls straight.

Check Control Surface Direction

The Second thing that has to be done is to make sure all the control surfaces move in the correct direction.



□ 2. Move the right stick down and observe the direction the elevator moves. Moving the right stick down should make the elevator move up.



□ 1. Move the right control stick on the transmitter to the right as shown in the diagram. Observe the direction the ailerons move. The right aileron should move up and the left aileron should move down. Moving the control stick to the left should make the ailerons move the opposite way. If the ailerons do not respond as described, reverse the direction using the reversing switch for the aileron on the face of the transmitter. If necessary, refer to the instructions in the Futaba instruction manual to identify and operate the reversing switch.

□ 3. Move the left stick to the right and observe the rudder. Moving the stick to the right should make the rudder (and the nose wheel) move to the right. If necessary, use the reversing switches on the transmitter to make the rudder respond in the correct direction.



Note that moving the elevator stick down moves the elevator up (which, in flight, pushes the tail down, thus increasing the angle of the wing and making the model climb). The best way to keep this in mind is to think in terms of a pilot in an airplane. He pulls the control stick back to "pull up" the nose of the plane.

Check the Control Throws

The final thing that has to be done is to make sure the controls move the correct amount. The control throws were setup at the factory, so use the following as a guide to make sure they work correctly.

The control throws are a measure of how far the flight controls (ailerons, elevator and rudder) move. If the controls move too much, the plane will respond too quickly and be difficult to control. If the controls do not move enough, it may not be possible to recover from adverse situations or to level out for landing. Due to the great effect the control throws have on the way a model flies, the control throws must be checked.

Control Throws Chart

Ailerons	1/2" [13mm] up	3/8" [9mm] down
Elevator	1/2" [13mm] up	1/2" [13mm] down
Rudder	3/4" [19mm] right	3/4" [19mm] left

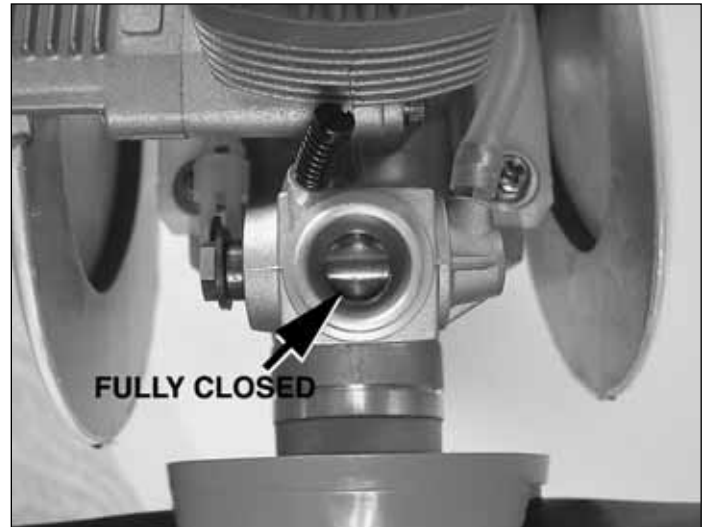
Adjust the Throttle

The throttle is to be set up so that when the throttle stick is all the way down, and the throttle trim lever is all the way up, the carburetor will be nearly, but not fully, closed and the engine will idle at a low RPM. This will keep the engine running when the throttle stick is pulled all the way down (toward you) for landing. When it is time to shut the engine off after landing, move the trim lever down to close the carburetor the rest of the way.

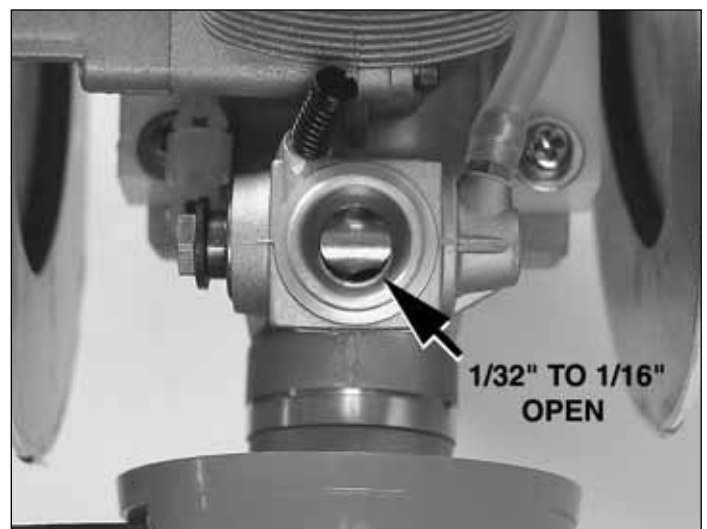
Here's how to set up the carburetor...



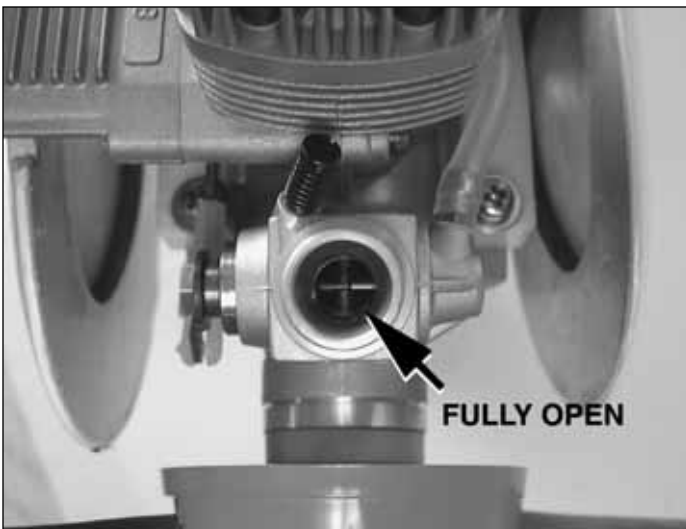
❑ 1. With the transmitter and receiver on, move the throttle trim lever and the throttle stick all the way down.



❑ 2. Observe the opening in the carburetor. If the carburetor is fully closed, proceed to step 3. If the carburetor is nearly, but not fully closed, loosen the screw on the screw-lock connector on the throttle servo arm and move the pushrod back until the carburetor is closed. Securely tighten the screw.



❑ 3. Move the throttle trim lever all the way up, but leave the throttle stick all the way down. Now the carburetor should be partially open (about 1/32" to 1/16" [1 to 1.5mm]).



❑ 4. Move the throttle stick on the transmitter all the way up. The carburetor should be fully open.

❑ 5. If you are not able to achieve these settings, more or less movement may be required from the throttle pushrod. The same as the control surface throws, this is done by relocating the clevis on the carburetor arm to the other hole, or by relocating the pushrod connector on the servo arm to another hole.

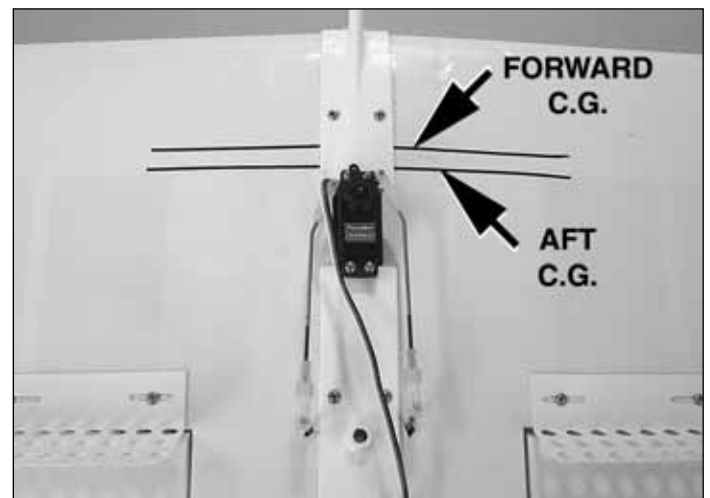
Identify your Model

Whether you fly at an R/C club or somewhere on your own, you should have your name, telephone number, address and AMA number on or in your model so it can be identified and returned in case it lands somewhere away from the flying site. Fill out the I.D. tag found in the back of the manual and use spray adhesive or tape to stick it in the model.

Balance the Model

DO NOT DISREGARD THIS STEP!

This important step is also referred to as “checking the C.G.” (center of gravity). Simply stated, the center of gravity is the point at which the model balances when lifted under the wing. If the C.G. is too far forward, the model will be “nose-heavy” and could be difficult to takeoff and land and lose some of its self-correcting tendencies. If the C.G. is too far aft, the model will be “tail-heavy” and the controls may be too sensitive, making the model too difficult to control—especially for an inexperienced pilot! Follow the instructions to balance the model correctly, thus giving you the greatest chances for success!



❑ 1. There is a decal with two black lines on the underside of the wing. Those mark the forward and aft CG limit for the NexSTAR Select. The forward CG limit is 3-3/16" [81mm]. The aft CG limit is 3-9/16" [90mm] from the LE.

❑ 2. Make certain the model is in “ready-to-fly” condition with all components mounted and installed (propeller, spinner, landing gear, etc.). **The fuel tank must be empty.**



❑ 3. Mount the wing to the fuselage with the nylon wing bolt. Lift the model on both sides of the fuselage with your fingertips between the two lines on the bottom of the wing.

❑ 4. If the fuselage is level when lifting the model with your fingers anywhere between the lines, the C.G. is correct. Proceed to the checklist in the following section. If you cannot find a spot between the two lines where the airplane balances, then either one of the following will happen: If the tail drops when lifting the model, the plane is tail heavy and will require nose weight to balance. If the nose drops, the plane is nose heavy and will require tail weight. Do not be concerned if your model requires a few ounces of nose or tail weight. Almost all models require additional weight to balance and fly correctly!

If additional weight is required to balance the plane, purchase Great Planes® Self Adhesive Lead Weights (GPMQ4485). The weight is segmented in 1/4 oz. increments and is easy to work with. If adding weight to the tail, attach it to the left side of the fuselage (opposite the muffler) under the stab. If adding weight to the nose, attach it to the inside of the fuselage side next to the engine.

❑ 5. If you found it necessary to add weight, recheck the C.G. after doing so.

Setting up Active Flight Stabilization

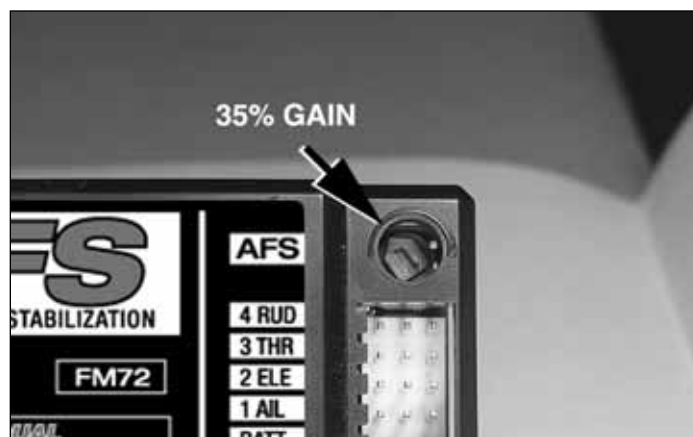
At this point airplane setup is complete except for the Active Flight Stabilization (AFS) module. To activate the AFS module you need to connect the wire labeled “AFS A” with the one labeled “AFS B”, but before you do, please read the following.

The AFS sensor operates by sensing the strength and contrast of sun light. **This unit works best when the sun is at least 25 degrees above the horizon, and on partially cloudy days or overcast. Extremely strong sunlight or light contrast between the sky and the ground may prevent the module from working at its optimum.** The unit's performance decreases as the sun gets lower on the horizon (i.e. in the early morning or late in the evening) and on extremely bright days. You should also be cautious when flying over snow or water. **In these conditions it is best to disable the unit by setting the gain to zero or simply disconnecting the AFS's sensor wires.** After doing this your radio system will work like any other 4-channel radio system but the flight stabilization system will not operate.



To know if the sun is above 25 degrees in the horizon, place the fuselage roughly 90 degrees to the sun and then look at

the shadow of the wing on the main landing gear. If the main landing gear is completely inside the wing's shadow, then it is safe to fly with the AFS module adjusted to the desired gain. If any sun hits the main landing gear, then it is best to set the gain of the AFS to zero or to disconnect it. Flying with the AFS module active under this condition will produce undesired results.



❑ **The AFS is not an autopilot. It will not fly the airplane for you.** What it will do is return the airplane from any attitude to straight-and-level when the sticks are released. The gain determines how fast it stabilizes your airplane. To adjust the gain, rotate the screw adjustment in the AFS module fully counterclockwise (zero gain) and then rotate clockwise to the position you desire. After extensive testing, we have found that the optimum gain for inexperienced pilots is around 35% of the total gain. As you progress in your flying skills, gradually decrease the gain on the unit until you effectively turn it off by setting it to zero gain (fully counterclockwise).

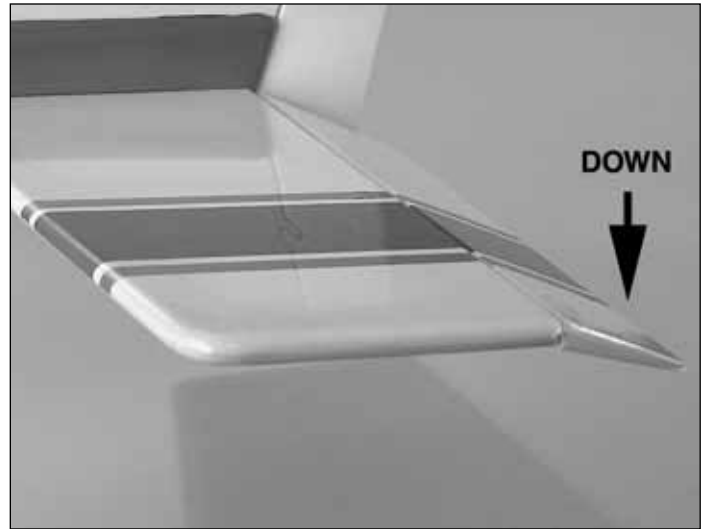
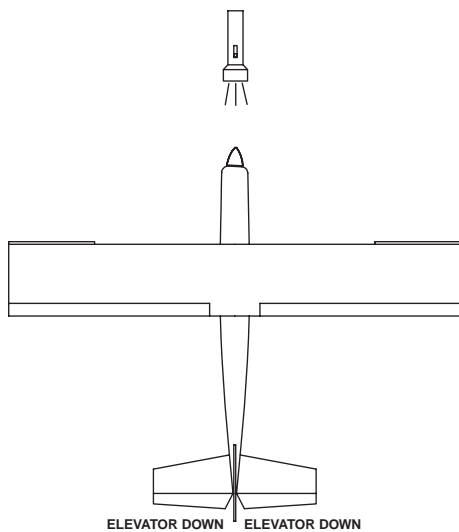
Experienced pilots may feel flying an airplane with AFS a bit awkward. The reason is that experienced pilots usually fly airplanes with neutral stability (or close to neutral). During flight they bank or pitch their airplanes to different attitudes and then they release stick pressure for the airplane to remain in the attitude they put it into. Your NexSTAR Select with AFS wants to fly straight and level, so in order to keep the airplane in a bank or in a pitch attitude the stick needs to be held in a given position. Otherwise, the NexSTAR will try to go back to level. As the gain is decreased, this feeling will also decrease. Because of this, it is recommended that your flight instructor reads this section of the manual. Also, note that the AFS module offers stick-operation priority. That is, when the sticks are operated, the AFS sensitivity decreases accordingly as they have priority in controlling your airplane's servos. The sticks always have control priority.

Because of the constant corrections the AFS tries to make, the receiver batteries will discharge faster than in an airplane without AFS. It is important to check your batteries' voltage before every flight and to recharge them if necessary. As a rule of thumb and after many hours of testing our prototypes were never flown with a receiver battery voltage less than 5.0V. Some radio manufacturers recommend a cut off voltage of 4.8V, but remember that the AFS is making your servos draw current from your battery much more often than on a regular radio system. It is always better to play it safe and recharge. Use a Hobbico Voltmeter (HCAP0356) to check the battery voltage before every flight.

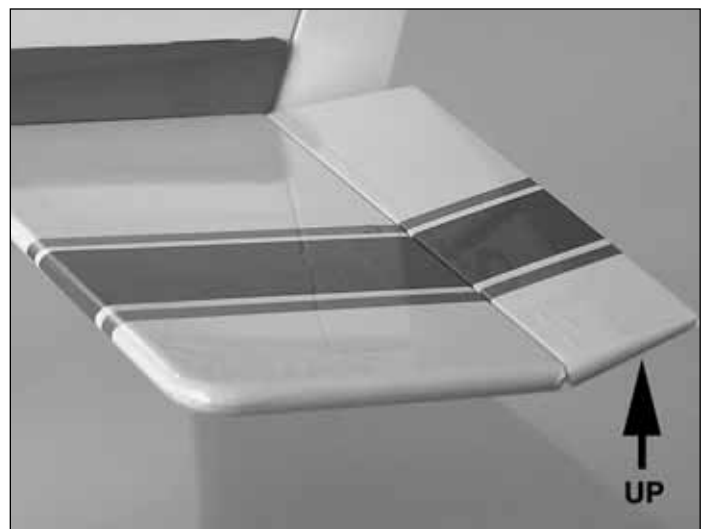
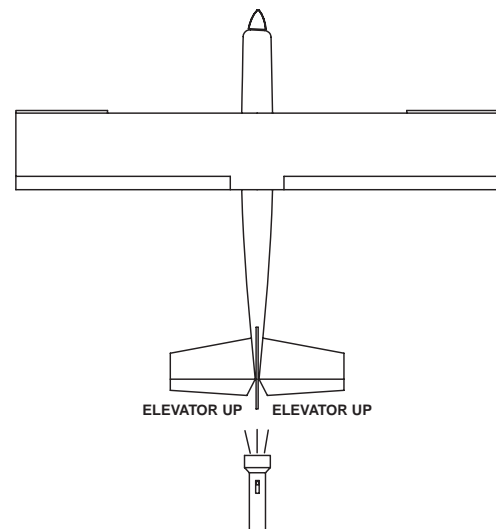
After connecting the AFS sensor to its module and setting its gain, the AFS will be ready for a short test. This test is to ensure that the unit is making corrections in the adequate direction. It is very important that you perform this test before your first flight and after modifying any setting in the AFS module. There are two ways of performing this test. Perform the one you prefer.

Indoor test: For this test you will need a flashlight.

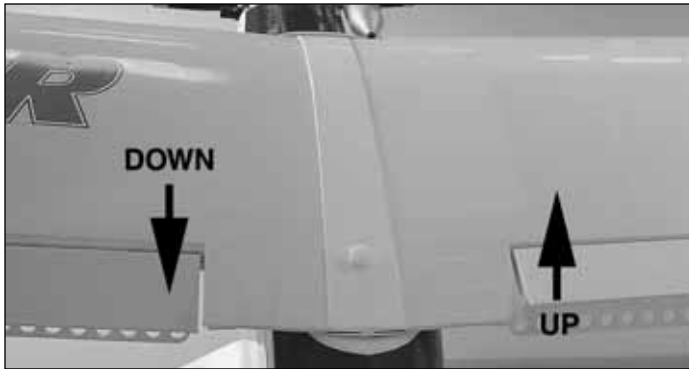
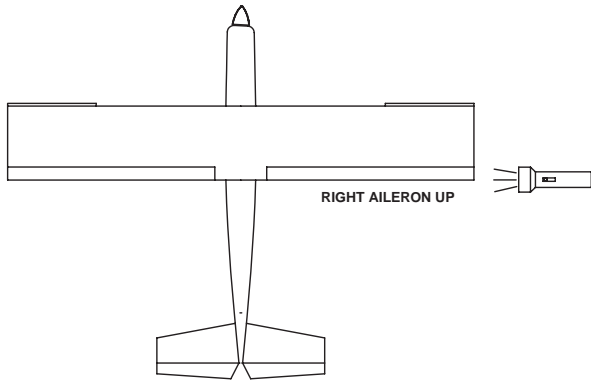
1. Turn on the transmitter and then the receiver.



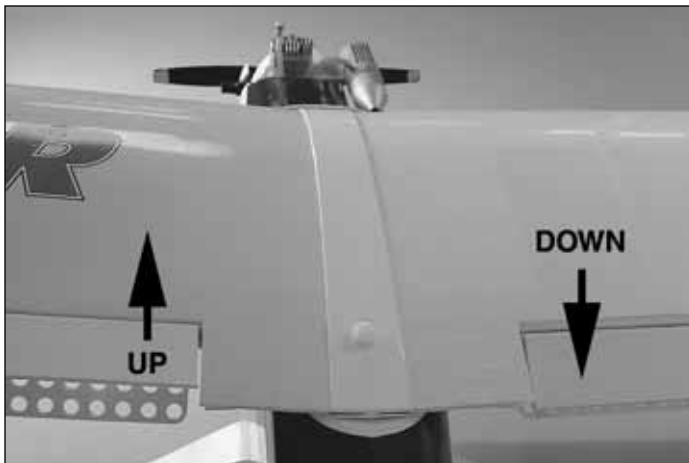
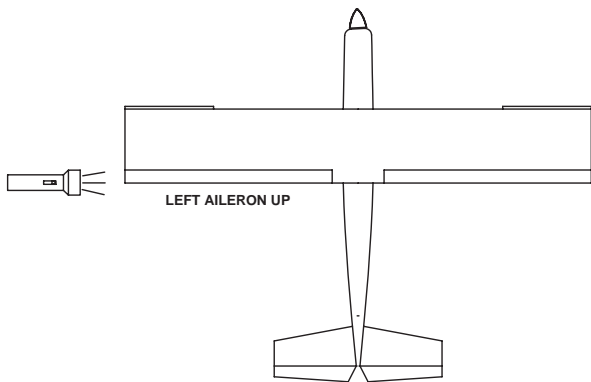
□ 2. Point the flashlight beam toward the front of the AFS sensor. The elevator should move down.



□ 3. Point the flashlight beam toward the back side of the AFS sensor. The elevator should move up.



□ 4. Point the flashlight beam toward the right side of the AFS sensor. The right aileron should move up and left aileron down.



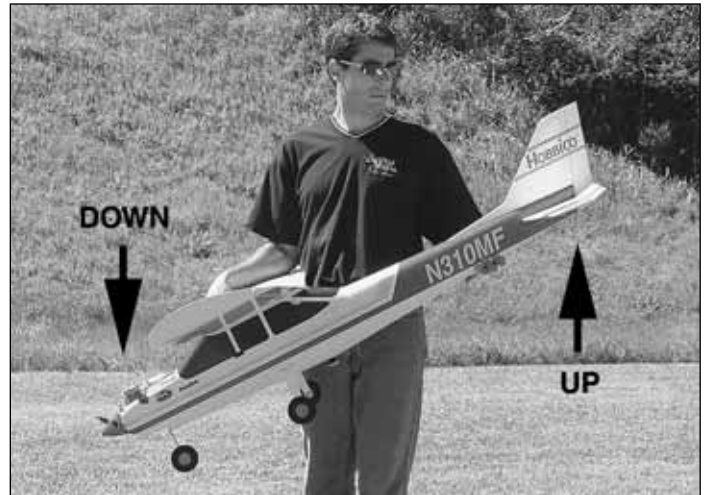
□ 5. Point the flashlight beam toward the left side of the AFS sensor. The left aileron should move up and right aileron down.

Outdoor test:

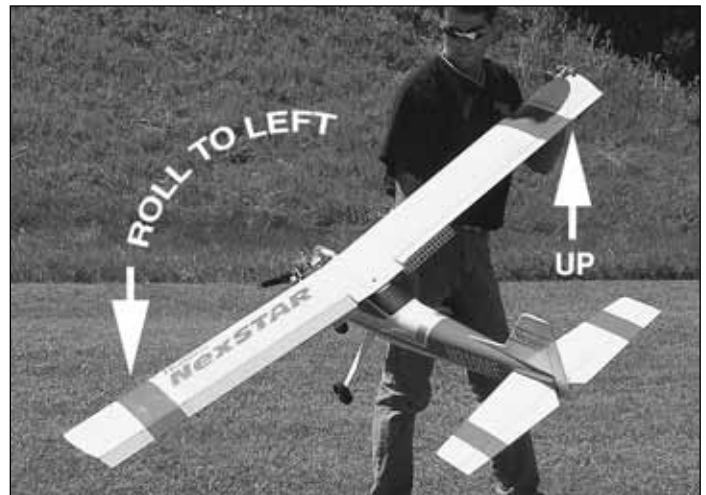
□ 1. Turn on the transmitter and then the receiver.



□ 2. Point the nose of the airplane up. The elevator should move down.



□ 3. Point the nose of the airplane down. The elevator should move up.



□ 4. With the airplane level, point the right wing up. The right aileron should move up and the left aileron should move down.



5. With the airplane level, point the left wing up. The left aileron should move up and the right aileron should move down.

The amount of correction the AFS will induce on your servos will depend on the gain setting of the unit. The higher the gain, the larger the correction.



If any of the corrections made by the AFS are in the wrong direction, you will need to reverse the correction direction using the corresponding reversing switches on the AFS module.

Note: While the airplane is on the ground, the shadows underneath it will cause the AFS to add corrections to the control surfaces. As you taxi, these corrections will change. This is normal and it does not cause any undesired performance from the airplane. Do your normal taxiing and take off routine. As the airplane takes off, those corrections due to the airplane's shadow will go away and the AFS will resume normal operation. Again, those corrections do not cause any irregular, unexpected or undesired take off or landing performance.

Note: Because of the sensing characteristics of the AFS sensor, in bright light days the unit may have a slight tendency to trim the airplane to fly towards the sun. This tendency normally amounts to one or two clicks of aileron trim into the sun. This is normal and you should not worry about it unless it becomes excessive in which case you should land and wait for the conditions to change or disconnect the AFS unit.

FINAL PREPARATIONS

If you haven't already done so, refer to the Futaba instruction manual for the radio control system and charge the batteries in the plane and in the transmitter overnight the night before you go flying.

Gather your Tools

In addition the equipment required to fuel and start the engine mentioned near the beginning of the manual, you should start a collection of tools that may be required for adjustments and maintenance at the flying field. Following is a list of the most important items.

- | | |
|------------------------------------|---|
| 1 Medium (#1) Phillips Screwdriver | 1 5/16" (or 8mm) Socket Wrench (for glow plug) |
| 1 Medium (#1) Flat Screwdriver | 1 7/16" (or 11mm) Wrench or crescent wrench (for propeller nut) |

Spare Parts

Glow plug (OS #8 recommended - OSMG2691)

Propeller (HCAA3744)



Selecting the correct propeller for an airplane is very important. Your NexSTAR Select comes equipped with a specially designed nylon 11x5 propeller (HCAA3744) with painted tips. These are the features explained:

The painted tips are a safety feature that will help you see the propeller arc as the engine is running. Keep away from the propeller while the engine is running. This engine is powerful enough to cause damage if anything (including you) gets in the propeller arc.

The propeller is made out of flexible nylon so that it won't break on light contact with the runway or weeds. If the propeller ever gets in contact with anything while the engine is running, inspect it before running it again. Check for cracks, scuffed tips or unbalanced blades. If necessary, replace the propeller.

The Hobbico NexSTAR Select was designed around an 11x5 propeller for best performance. The 11x5 propeller helps keep the airplane speed down at full throttle; it increases take off performance on any surface, including tall grass; and it acts as a brake when the nose is pointed down. Should you ever need to replace the propeller, replace it with the same or similar 11x5 propeller. There is no benefit to using a larger propeller or one with more pitch.

At-the-Shop Checklist

Now it's time to do a final check before taking the model to the field. These checks are best done in the peace and comfort of your own shop, so take the time now to make certain your model is ready.

- 1. Check to see that the screws on the wheel collars that hold on the wheels are fully tightened.
- 2. Be certain the silicone retainers on all the nylon clevises are in position.
- 3. Make certain the elevator, rudder and ailerons respond in the correct directions.
- 4. Make certain the wing is securely joined.
- 5. Check to see that the fin bolts that hold the fin and stab in position are present and secure. These may become slightly loose after the first 10-15 flights.
- 6. Make certain the propeller and spinner are secure.
- 7. Make certain you have balanced the model according to the instructions.
- 8. Check to see that the screws that hold the servo arms to the servos are present and secure.
- 9. Make certain you have filled out the I.D. card and placed it inside the model.

FLIGHT PREPARATION

Flight preparation is to be done at the flying field.

Check the Frequency

IMPORTANT: Your radio control system transmits a signal on a certain frequency. Be certain you know what the frequency is. This is expressed as a two-digit number (42, 56, etc.), and can be found on the container the transmitter came in and is also located on the transmitter. There are several different frequencies, but there is still a chance that someone else at the flying field may be on the same frequency as you. If you turn on your transmitter while that person is flying, a crash will result. NEVER turn on your transmitter until you have permission from your instructor, and until you have possession of the frequency clip used for frequency control at the flying site.

Check the Controls

Be certain your flight instructor performs these following checks with you.

1. Get the frequency clip from the frequency control board at your flying site.
2. Connect the aileron extension and mount the wing to the fuselage with the nylon wing bolt supplied with this kit.
3. Turn on the transmitter and receiver. One at a time, operate each control on the airplane using the sticks on the transmitter. Make certain each control is responding correctly. This must be done before every flight. There are several types of malfunctions that can be discovered by performing this elementary task, thus saving your model!

Range Check the Radio

A range check must be performed before the first flight of a new model. It is not necessary to do a range check before every flight (but it is a good idea to perform a range check before the first flight of each day). A range check is the final opportunity to reveal any radio malfunctions, and to be certain the system has adequate operational range.

1. Turn on the transmitter and receiver. Leave the transmitter antenna all the way down. Walk away from the model while simultaneously operating the controls. Have an assistant stand by the model and tell you what the controls are doing to confirm that they operate correctly. You should be able to walk approximately 100 feet from the model and still have control without any "glitching" or inadvertent servo operation.

2. If everything operates correctly, return to the model and start the engine. Perform the range check with your assistant holding the plane with the engine running at various speeds. If the servos chatter or move inadvertently, there may be a problem. Do not fly the plane! With the assistance of your instructor, look for loose servo connections or binding pushrods. Also be certain you are the only one on your frequency, and that the battery has been fully charged.

Fueling the NexStar Select

The NexSTAR Select comes with a three-line fuel line system. To fuel the airplane, remove the fuel line plug from the filling line (green) and connect the fuel pump to it. Disconnect the pink line from the exhaust. Fill the tank until fuel comes out the pink line. Re-connect the pink line to the exhaust nipple. Replace the plug to the fill line. The airplane is now fueled.

To remove fuel from the fuel tank, remove the fuel line plug from the filling line (green) and connect the pump to it. Pump out any fuel that may be in the fuel tank. Replace the fuel line plug to the green line. **NOTE:** You may have to lower the nose of the airplane to completely de-fuel the tank.

Starting Your O.S. .46 FXi

Your OS .46 FXi has been optimized to be easy to handle and start. The following comments are not intended to replace the manufacturer's instructions but to complement them. After many hours of testing, this is the best starting procedure we have developed for this engine.

- ✓ Make sure your fuel tank is filled with fuel. Any quality model airplane fuel with 0% to 15% nitromethane content will work well.
- ✓ Make sure none of the fuel lines are kinked or pinched and that fuel is free to flow into the carburetor
- ✓ The high-speed needle should be opened in the limiter's range.
- ✓ Cover the carburetor opening with your finger, grab the propeller and turn it counterclockwise several times until you can see fuel flowing into the carburetor through the carburetor line.
- ✓ Install the glow starter to the glow plug (make sure it is fully charged)
- ✓ Set your throttle to idle (carburetor is about 1/16" [1.6mm] open)
- ✓ To hand start the engine, use a chicken stick or thick gloves to push the propeller blade rapidly through compression in a counter-clockwise direction. Move your hands away from the propeller immediately! It may take several tries to start the engine, especially during the first several runs while the engine is breaking in.
- ✓ After the engine has started, carefully remove the glow driver from the glow plug.
- ✓ Adjust the high-speed needle.

Adjusting the High-Speed Needle

The limiter on the high speed needle has been set at the factory to prevent you from running the engine too rich or too lean, but it allows you certain range of adjustment.



Setting the needle all the way counter-clockwise provides the engine with more fuel, making the engine run on the rich side. Running on the rich side means that your engine will put out a bit less horsepower, but it will run cooler. The OS .46 FXi puts out a lot of horsepower and you do not need to run it at its peak to obtain good flying performance from the NexSTAR Select. Generally, if you run the engine on the richer side, it will last longer. Also, you need to run it this way while breaking in the engine.

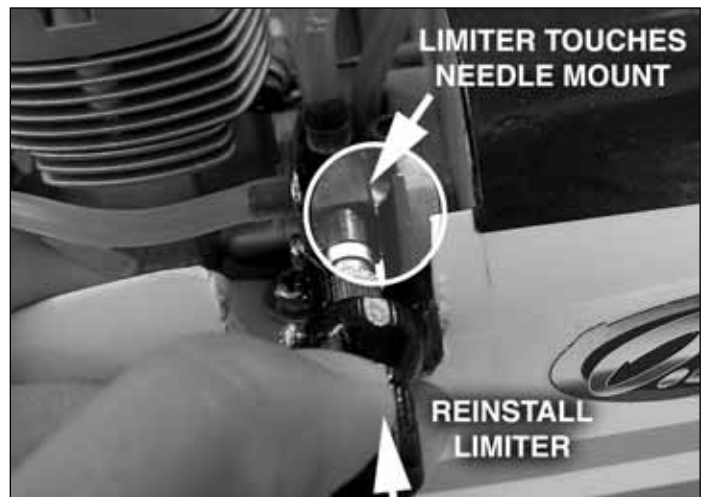


Setting the needle all the way clockwise reduces the fuel to the engine, making the engine run on the leaner side. This setting is not too lean, it is just a setting that will allow you to obtain more horsepower from your OS 46 FXi. After the engine has been broken in, use this setting when at high altitude and if you want to try aerobatics.

If for any reason you need to adjust the limiter travel, find an experienced pilot to do so. Otherwise, you may damage the engine.



Remove the screw that holds the limiter in place and remove the limiter. Adjust the high speed needle to the leanest setting desired.



Reinstall the limiter with its leg rotated all the way against back of the needle holder. Tighten the screw that holds it in place. It would be a good idea to use thread locking compound on the screw.

FLYING

Do not attempt to fly by yourself. The Hobbico NexSTAR Select has many features that make learning to fly R/C an easier experience, but the help from an instructor is invaluable. An instructor is going to be able to inspect your airplane to make sure everything is working correctly and he will also be able to give you a few tips and comments on how to improve your flying. Also, make sure you fly at an AMA sanctioned flying field.

IMPORTANT: Be aware of your proximity to R/C club sites. If there is an R/C site within six miles of where you are flying, and if you are operating your model on the same frequency at the same time as somebody else, there is a strong possibility that one or both models will crash due to radio interference. There is great potential for an out-of-control model to cause property damage and/or severe personal injury. We strongly urge you to fly at an R/C club site where frequency control is in effect so you can be assured you will be the only one flying on your channel.

Taxiing

Remember, it is assumed that your instructor is operating the model for you.

Before the model is ready for takeoff, it must first be set up to roll straight down the runway. With the engine running at a low idle, place the plane on the runway and, if your flying field permits, stand behind the model. Advance the throttle just enough to allow the model to roll. If the model does not roll straight down the runway, shut the engine off and adjust the nose gear pushrod as necessary. Do not use the rudder trim to correct the nose wheel because this will also affect the rudder. **Note:** Crosswinds may affect the direction the model rolls, so this test should be done in calm conditions, or with the model facing directly into the wind.

Takeoff

If possible, takeoff directly into the wind. If you are experienced, taking off in a crosswind is permissible (and sometimes necessary—depending upon the prevailing wind conditions and runway heading). Taking off into the wind will help the model roll straight and also reduces ground speed for takeoff. Taxi the model onto the runway or have an assistant carry it out and set it down, pointing down the runway into the wind. When ready, gradually advance the throttle while simultaneously using the left stick (rudder/nose wheel) to steer the model. Gain as much speed as the runway and flying site will practically allow before gently applying up elevator lifting the model into the air. Be ready

to make immediate corrections with the ailerons to keep the wings level, and be smooth on the elevator stick, allowing the model to establish a gentle climb to a safe altitude before making the first turn (away from yourself). Do not “yank” back the elevator stick forcing the plane into too steep of a climb which could cause the model to quit flying and stall. The Hobbico NexSTAR Select includes a powerful .46 engine that will safely pull your airplane up at a 45 degree angle. If you have the AFS on, it will try to level your airplane as soon as you let go of the elevator stick, so make sure you keep some pressure on the stick to keep the airplane climbing.

Flight

Once airborne, maintain a steady climb and make the initial turn away from the runway. When at a comfortable, safe altitude, throttle back to slow the model, thus giving you time to think and react. The Hobbico NexSTAR Select should fly well at half or slightly less than half throttle. Adjust the trims so the plane flies straight and level. After flying around for a while, and while still at a safe altitude with plenty of fuel, practice slow flight and execute practice landing approaches by reducing the throttle further to see how the model handles when coming in to land. Add power to see how the model climbs as well. Continue to fly around while learning how the model responds. Mind your fuel level, but use this first flight to become familiar with the model before landing.

Landing

When ready to land, pull the throttle stick fully back while flying downwind just before making the 180-degree turn toward the runway. Allow the nose of the model to pitch downward to gradually bleed off altitude. Continue to lose altitude, but maintain airspeed by keeping the nose down while turning. Apply up elevator to level the plane when it reaches the end of the runway and is about five to ten feet off the ground. If the model is too far away, carefully add a small amount of power to fly the model closer. If going too fast, smoothly advance the throttle and allow the model to gain airspeed, then apply elevator to climbout and go around to make another attempt. When finally ready to touch down, continue to apply up elevator, but not so much that the airplane will climb. Continue to apply up elevator while the plane descends until it gently touches down.

The NexSTAR Select has been designed to make steep landing approaches so that the landing approach is short and easy. The Speed Brake Training Flaps excel at maintaining flying speed even in steep dives, and when the airplane is leveled-out, they also help to increase lift. You can also make a long landing approach and use throttle to keep the airplane flying at a very low speed until you reach the runway threshold where you should cut the throttle for the airplane to land.

After you have landed and shut the engine off, adjust the pushrods on the ailerons, elevator and rudder as necessary so the trim levers on the transmitter may be returned to center. This will not be required on any of the controls that did not need trim adjustments.

MAINTENANCE TIPS

Clean Up

- ✓ After flying for the day, use your fuel pump to drain excess fuel from the tank.
- ✓ After each day's flying, use spray cleaner and paper towels to thoroughly clean the model.
- ✓ The Hobbico NexSTAR Select is factory-covered with iron-on model covering film. Should repairs ever be required, the covering can be patched with new pieces of iron-on covering. Among several types of covering that will work, Top Flite MonoKote film may be used to make repair patches to this model. MonoKote is packaged in six-foot rolls, but some hobby shops also sell it by the foot. If only a small piece of covering is needed for a minor patch, perhaps a fellow modeler would give you some. The covering is applied with a model airplane covering iron, but in an emergency a regular iron set to a lower temperature could be used.
- ✓ Check all screws that hold the wings together, tail bolts, engine bolts, wheel collars, etc.
- ✓ Check all the high-stress areas for cracks or fatigue such as the landing gear area, the wing mounting area, stab and fin mounting area.

Change the Propeller

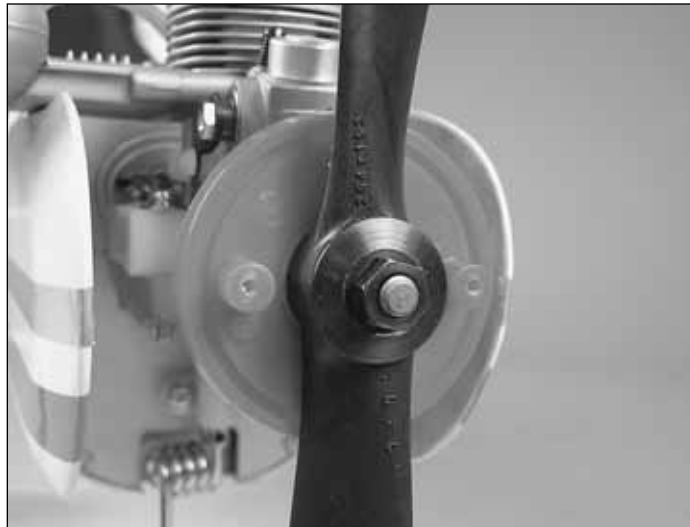
If you need to change your propeller, follow these instructions.

For this section you will need:

1 New Propeller (HCAA3744)	1 7/16" Wrench
	1 #1 Phillips Screwdriver



- ❑ 1. Take off the spinner cone. Remove the propeller nut and washer. Install the new propeller, propeller washer and propeller nut on the crankshaft.



- ❑ 2. Align the propeller with the marks on the spinner backplate and then tighten the engine nut securely.



- ❑ 3. Fit the spinner cone to the back plate, then use a Phillips screwdriver to tighten the spinner screws snug but not over tight.

Your new propeller is installed

AFTER YOU MASTER THE NEXSTAR SELECT IN ITS ORIGINAL FORM

SpeedBrakes Training Flaps

After you feel comfortable flying the Hobbico NexSTAR Select and you want to improve its high speed performance, the first thing you can do is to remove the SpeedBrakes Training Flaps. Remove the six screws that hold them in place. The NexSTAR Select was optimized to fly with the flaps on, so if you remove them, you will have to re-trim the elevator. Without flaps, the NexSTAR Select will try to pitch down (nose down) until you re-trim it. Without the SpeedBrakes Training Flaps, the airplane will fly much faster at any throttle setting and longer landing approaches will be needed. Also, the NexSTAR Select will not slow down as quickly when the nose is pointed down and stall speed will increase slightly.

SpinControl Airfoil Extensions

The second thing you can do to improve the high speed and aerobatic performance of the Hobbico NexSTAR Select is to remove the SpinControl Airfoil Extensions. These extensions at the leading edge of the wings are held in place with tape that can be carefully removed. Once you remove these extensions, you will need to re-trim your elevator to align it with the stabilizer. The SpinControl Airfoil Extensions produce the opposite effect than the SpeedBrakes Training Flaps in pitch, so if you remove both, the net pitch effect would be almost non-existent. After you remove these extensions, the NexSTAR Select will be faster and able to spin and snap. Also, the stall speed will increase slightly.

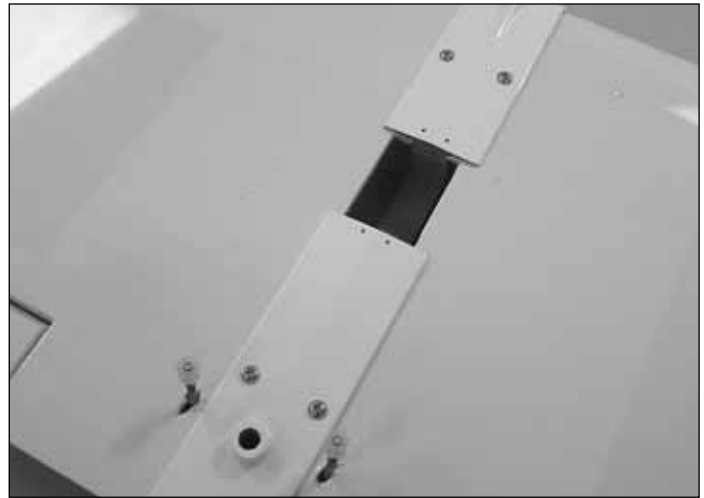
Dual Aileron Servos

Dual Aileron Servos.

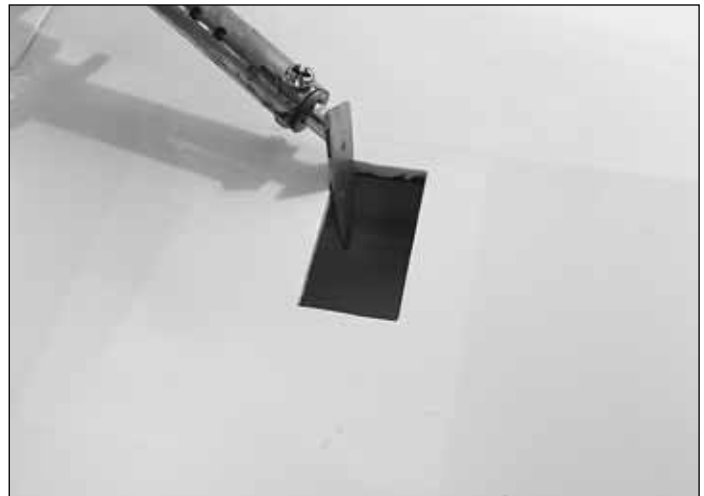
The Hobbico NexSTAR Select comes equipped with dual aileron servo trays for dual aileron servos. If you wish to use flaperons you will need to upgrade your radio system to 6 channels. To install the dual aileron servos, use the following instructions.

For this section you will need:

- | | |
|--|-------------------------------|
| 1 Additional aileron servo (same type as that already installed in your NexStar) | 2 Faslinks |
| 1 "Y" harness | 1 Servo Mounting Hardware Set |
| 2 6"[152mm] Pushrods | 1 Screwdriver |
| 2 Nylon Clevises | 1 Wire Cutter |
| 2 Clevis Retainers | 1 Pliers |
| | 1 Thin CA |



❑ 1. Disconnect the aileron servo pushrods from the aileron horns and remove the original aileron servo.



❑ 2. Locate the dual aileron servo trays in the wing. They are located on the underside of the wing at the 6th bay in from the wing tip. Trim the covering over the opening and use a sealing iron to seal the covering to the tray.



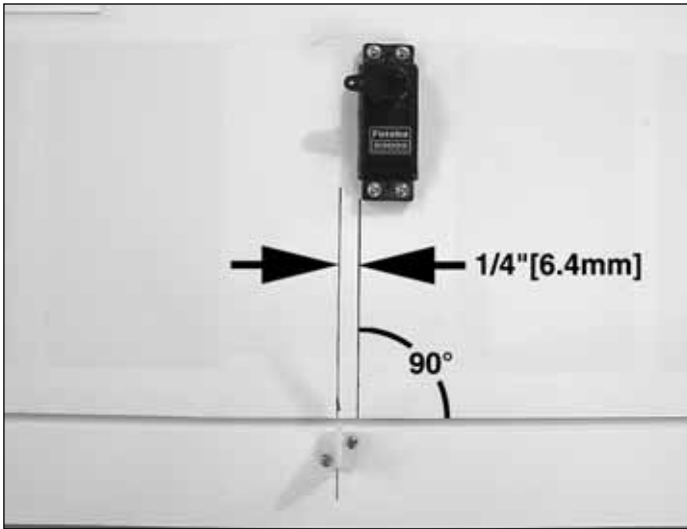
❑ 3. Connect both servos to the "Y" harness. Make sure the "Y" harness exits through the hole in the center of the wing. Use the strings pre-installed inside the wings to pull the servo leads. Install the aileron servos into the trays.

Dual Aileron Servos & Flaps

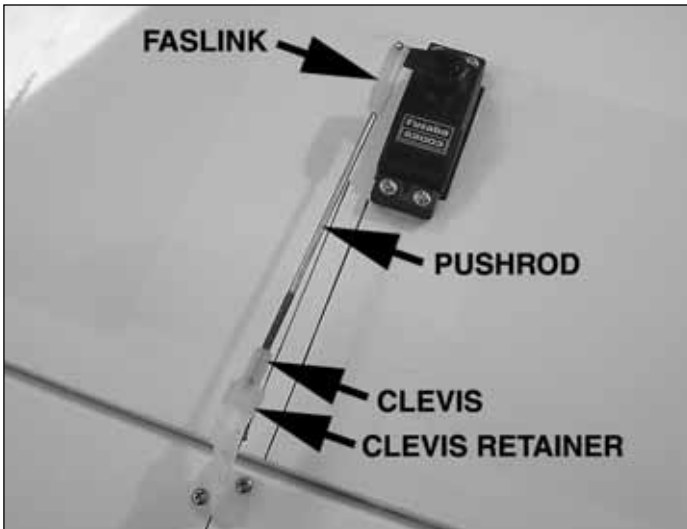
The Hobbico NexSTAR Select can also be equipped with dual aileron servos and flaps. To set up the airplane this way, you need to follow the above instructions for the dual servo installation and then install the flaps as indicated below. The necessary hinges on the wing were located where needed when the wing was built.

For this section you will need :

- | | | | |
|---|--|---|---|
| 1 | Additional servo to be used for flaps. | 2 | 5/32"[4mm] Wheel Collars |
| 1 | 6"[152mm] Servo Extension | 2 | 6-32x1/4" [6.4mm] Socket Head Cap Screws. |
| 2 | 6"[152mm] Pushrods | 1 | Screwdriver |
| 2 | Nylon Clevises | | |
| 1 | Faslink | | |



❑ 4. Install the aileron control horn (not included) on the aileron as shown above. Make sure you use thin CA to reinforce the holes in the aileron.

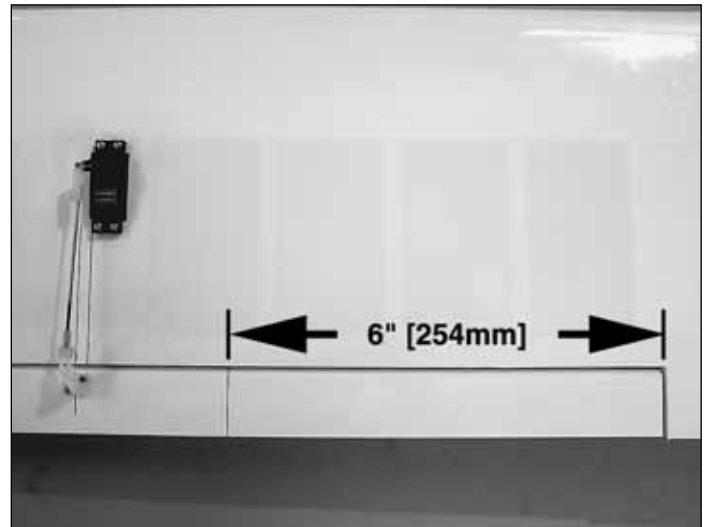


❑ 5. Cut the servo arm as shown above. Use a 6"[152mm] pushrod, a clevis, clevis retainer and Faslink to make the aileron pushrod necessary.

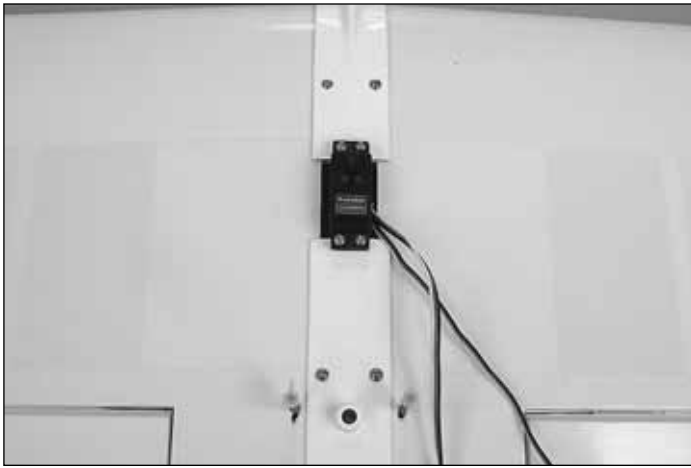
❑ 6. Set up your new dual servos on your radio to have the same aileron throw as the original airplane. Center the servo arms and install the servo arm screws on them.

Your dual aileron servo installation is now finished.

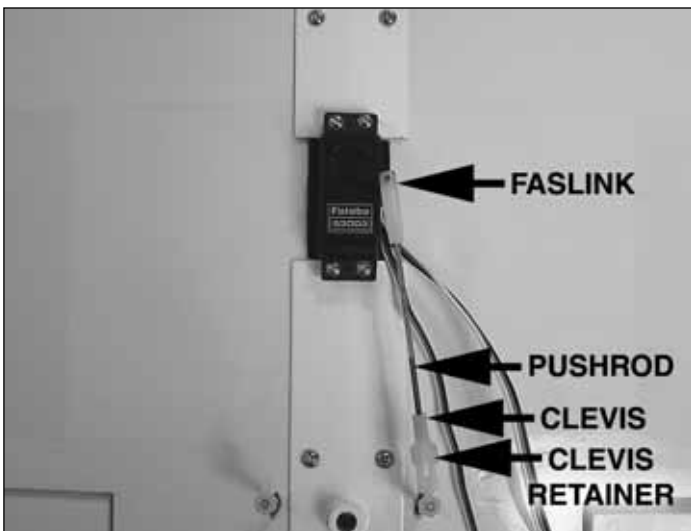
Note: To install flaperons, you will need to upgrade to a radio capable of flaperon mixing. In this case, the two aileron servo leads will connect to two different channels in your receiver. Follow your radio manufacturer's instructions to setup the flaperon mixing in your Hobbico NexSTAR Select.



❑ 1. Draw a line on the aileron 10" [254mm] away from the aileron end at the root and use a hobby saw to cut the aileron at that line.



❑ 2. Install the flap servo in the center of the wing, where the original aileron servo was.



❑ 3. Using one of the 6" [152mm] pushrods, a nylon clevis, clevis retainer and a Faslink make a pushrod and connect it to the flap servo and flap horn as shown above.



❑ 4. Bend the second pushrod as shown above and connect it to the first with two 5/32"[4mm] wheel collars. Tighten the two 6-32x1/4" [6.4mm] socket head cap screws to secure the two flap pushrods together as shown above.

❑ 5. The flaps should only be able to move down 1/2" [13mm]. There is no up movement for the flaps.

Flap installation is finished.

Note: To install dual servo and flaps, you will need to upgrade to a 6 Channel radio. In this case, the two aileron servo leads will connect to two different channels in your receiver and then the flap servo to another channel. Follow your radio manufacturer's instructions to set up the aileron mixing and flaps in your Hobbico NexSTAR Select.

ORDERING REPLACEMENT PARTS

To order replacement parts for the NexSTAR Select, use the stock numbers in the Replacement Parts list that follows. Replacement parts are available only as listed. Not all parts are available separately (an aileron cannot be purchased separately, but is only available with the wing set). Replacement parts are not available from Product Support, but can be purchased from Hobbico. If this kit is missing parts, contact Product Support.

Replacement Parts

Stock Number	Description
HCAA3736.....	Wing set
HCAA3737.....	SpinControl Extensions/Speed Brakes
HCAA3738.....	Fuselage Set w/o engine mount
HCAA3739.....	Engine Mount
HCAA3740.....	IsoSmooth Engine Mount
HCAA3741.....	Tail Set
HCAA3742.....	Landing Gear
HCAA3743.....	Decal Set
HCAA3744.....	NexSTAR Nylon 11x5 Prop
FUTL0995.....	Futaba AFS 4-Channel Receiver 72 MHz Low
FUTL0996.....	Futaba AFS 4-Channel Receiver 72 MHz High
Missing pieces.....	Contact Product Support
Instruction manual.....	Contact Product Support
Plans.....	Not available



Hobbico® TorqMaster™ 90 Deluxe 12V Starter (HCAP3200)

Maximum muscle for fast, easy starts.

Easily start engines of up to .90 cubic inch displacement with the powerful TorqMaster 90 Deluxe. Among its heavy-duty features: an aluminum starter cone with grooved silicone insert; soldered copper contacts; thick carbon brushes; an easy-to-press power switch; and a 5-foot DC input cord. Factory-soldered battery clips add to your convenience. Also available ready for power panel use with banana plugs (HCAP3205). Two-year warranty. Spinners and hubs over 3" in diameter require both a Jumbo Drive Cone (HCAP3325) and Jumbo Rubber Insert (HCAP3330), available separately.



Hobbico® 11 x 5 Nylon Propeller (HCAA3744)

This is a glass-filled nylon propeller designed specifically for the NexSTAR Select. This propeller will shorten your take off runs on asphalt or grass while keeping the top speed of your NexSTAR at bay for easy control. The painted tips help you see the propeller arc when the engine is running while the glass-filled blade material increases prop longevity. No other prop will give you the same performance.



Hobbico® Field Pack Deluxe (HCAP5115)

Perfect for .40-size ARFs and RTFs!

The Field Pack Deluxe brings together ten "must-have" items for flight. They include: Great Planes® standard fuel tubing for your model and a Filling Station™ Fittings Set for your fuel can. Hobbico Recoil Fuel Tubing and a Hand-Crank Fuel Pump for filling the tank. An O.S® #A3 Glow Plug for your engine, a Top Flite® Power Point® 10x6 prop to go on it -- and Hobbico's 4-Way Wrench for installing (or changing) it. Heat up the plug with the Hobbico Hot-Shot™ 2 glow starter, flip the Power Point prop with your Safety Stick and you're ready to go. And when you're ready to leave, you can pack everything up in the final essential: Hobbico's cardboard Field Box!

Fill in an identification tag and place it in your model.

This model belongs to:

Name

Address

City, State Zip

Phone number

AMA number