

SPECTRA™

READY-TO-FLY 2-METER ELECTRIC SAILPLANE *Select*

INSTRUCTION MANUAL



WARRANTY

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

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

If the buyers are not prepared to accept the liability associated with the use of this product, they are 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.



P.O. Box 788 Urbana, IL 61801 (217) 398-8970
productsupport@greatplanes.com

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

Your SPECTRA™ SELECT is not a toy, but rather a sophisticated, working model that functions very much like a full-size sailplane. Because of its realistic performance, the SPECTRA SELECT, if not assembled and operated correctly, could possibly cause injury to yourself or spectators and damage property.

To make your R/C modeling experience totally enjoyable, we recommend that you get experienced, knowledgeable help with assembly and during your first flights. You'll learn faster and avoid risking your model before you're truly ready to solo. Your local hobby shop has information about flying clubs in your area whose membership includes qualified instructors. You can also contact the national Academy of Model Aeronautics (AMA), which has more than 2,500 chartered clubs across the country.

Through any one of them, instructor training programs and insured newcomer training are available. 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>

1. Build the plane according to the plan and instructions. Do not alter or modify the model, as doing so may result in an unsafe or unflyable model. In a few cases the plan and instructions may differ slightly from the photos. In those instances the plan and written instructions are correct.
2. Take time to build straight, true and strong.
3. Use an R/C radio system that is in first-class condition, and a correctly sized motor and components (batteries, etc.) throughout your building process.
4. You must properly install all components so that the model operates properly on the ground and in the air.
5. You must check the operation of the model before **every** flight to ensure that all equipment is operating and that the model has remained structurally sound. Be sure to check nylon clevises or other connectors often and replace them if they show 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.

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

Please inspect all parts carefully before starting to build! If any parts are missing, broken or defective, or if you have any questions about building or flying this airplane, please call us at:

(217) 398-8970

or e-mail us at:

productsupport@greatplanes.com

If you are calling for replacement parts, please reference the part numbers and the kit identification number (stamped on the end of the carton) and have them ready when calling.

The **SPECTRA SELECT** is a very stable and predictable aircraft, allowing pilots of differing skill levels to enjoy it. It is easy to build, flies great, and would be a great selection as your first R/C airplane.

PREPARATIONS

Building Supplies and Tools

These are the building supplies and tools that are required. We recommend Great Planes brand accessories.

- Phillips Screwdriver
- Pliers
- Great Planes Pro™ Threadlocker (GPMR6060)

Optional Supplies and Tools

- Top Flite® Sealing Iron (TOPR2100)
- Top Flite Hot Sock™ Iron Cover (TOPR2175)
- Top Flite Heat Gun (TOPR2000)

Other Required Items

- 8-AA Alkaline Batteries
- Charger for 7-cell, 2100 mAh NiCd Battery.

General Inspection

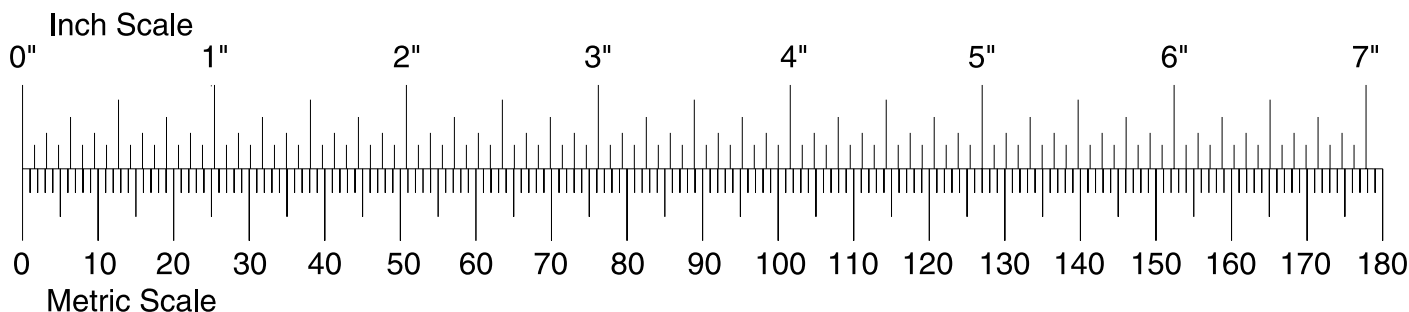
Remove the fuselage, wing panels, rudder assembly and stabilizer assembly from their individual bags. **Inspect all items closely to check for any damage.** If any damage is found, **contact the place where your SPECTRA SELECT was purchased, or Hobby Services,** to obtain a replacement for your damaged items.

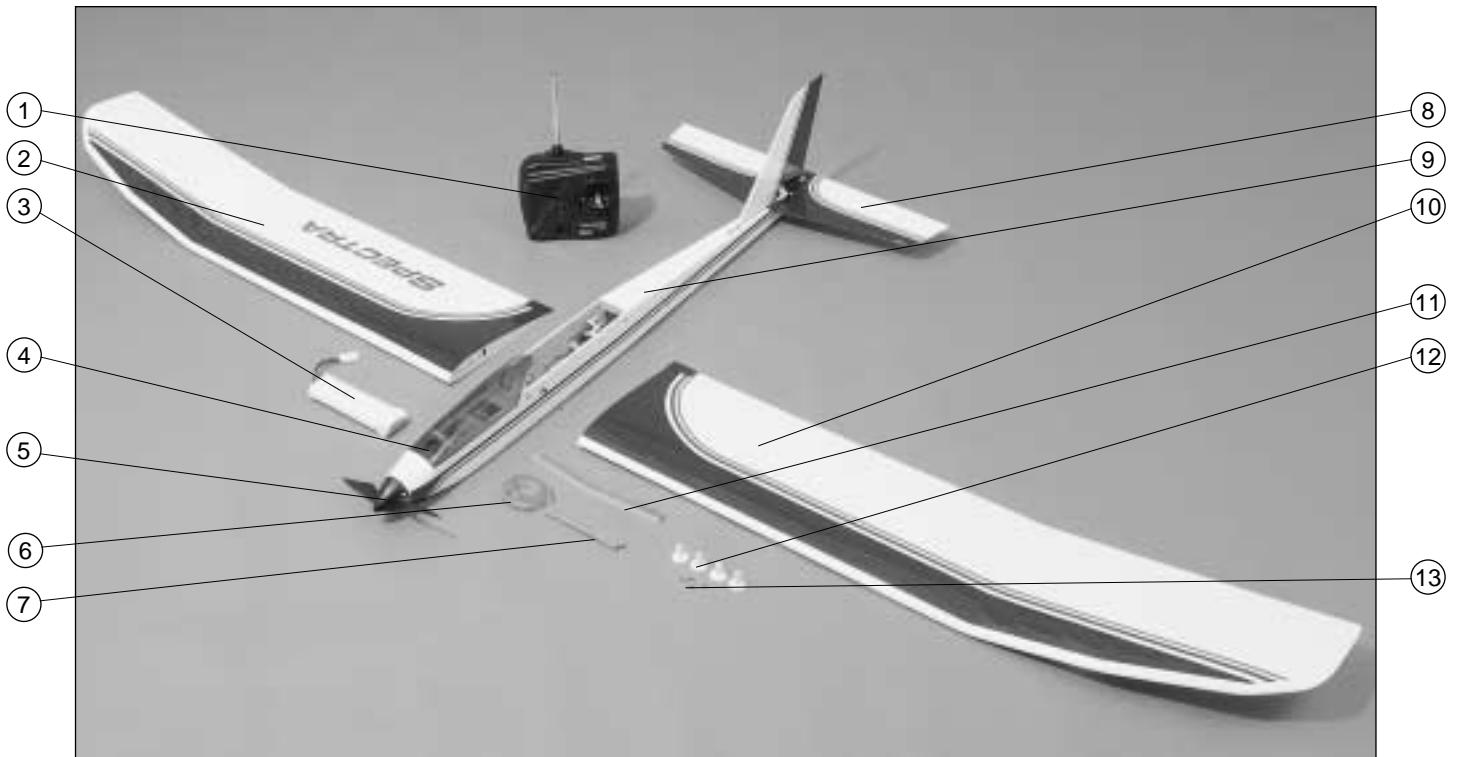
Your **SPECTRA SELECT** is covered using **Top Flite® MonoKote®** covering. Eliminate any wrinkles you find in the covering by shrinking them away with a **heat gun.** Then, **apply pressure to the area with a covering iron and a hot sock.** This will securely bond the covering to the wood so the wrinkles will be less likely to reappear in the future.

Important Building Notes

Several times during construction we refer to the **“top”** or **“bottom”** of the model or a part of the model. It is understood that the **“top”** or **“bottom”** of the model is as it would be when the airplane is **right side up** and will be referred to as the **“top”** even if the model is being worked on upside-down.

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





PARTS LIST					
Key #	Description	Qty	Key #	Description	Qty
1	TRANSMITTER	1	9	FUSELAGE	1
2	RIGHT WING PANEL	1	10	LEFT WING PANEL.....	1
3	BATTERY	1	11	WING JOINER.....	1
4	CANOPY.....	1	12	PLASTIC WING DOWEL CAPS	4
5	SPINNER/PROPELLER	1	13	METAL HARDWARE	
6	RUBBER BANDS	4			
7	WING DOWELS	2			
8	STAB & ELEVATOR.....	1			

REPLACEMENT PARTS

If needed, replacement parts for your Spectra Select are available through your hobby supplier.

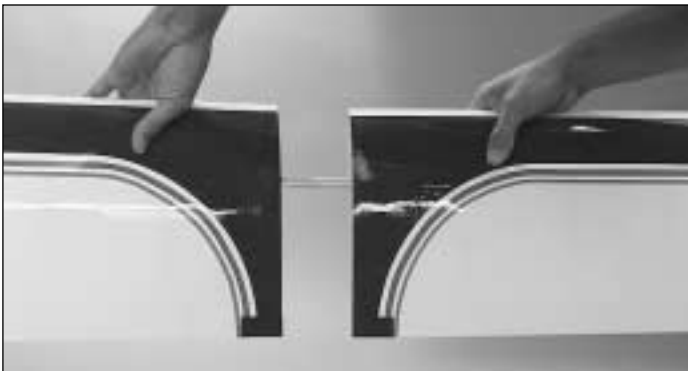
GPMA2340.....Wing Kit
 GPMA2341.....Fuselage
 GPMA2342.....Tail Set
 GPMA2343.....Motor
 GPMA2344.....Battery
 GPMA2345.....ESC
 GPMQ1690Propeller

ASSEMBLY

Wing Assembly



- ❑ 1. Locate the wing joiner and insert it into the right wing joiner pocket as shown in the above picture.

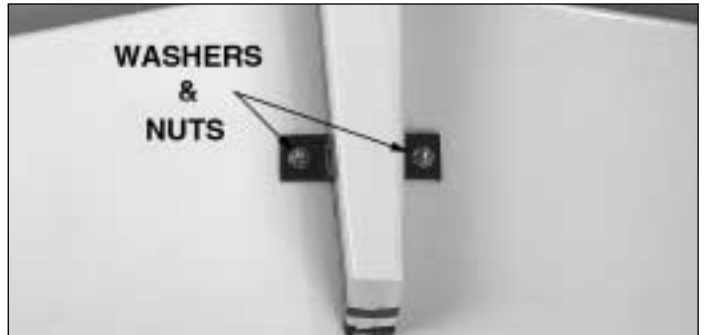


- ❑ 2. Insert the other side of the wing joiner into the left wing joiner pocket and slide the **wings** together.



- ❑ 3. Completed wing

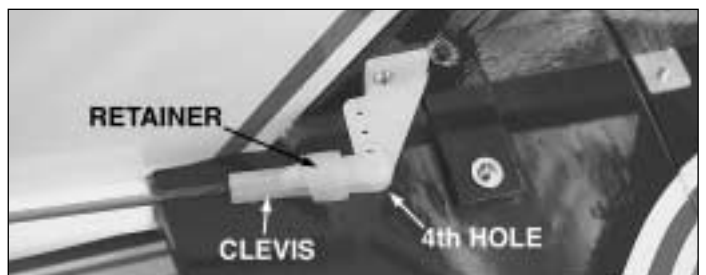
Tail Assembly



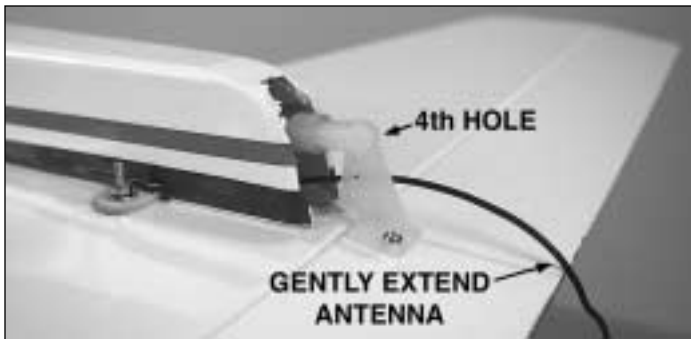
- ❑ 1. Find and open the holes in the stabilizer covering for the attachment bolts. Attach the **stabilizer** to the **fuselage** using two 2mm x 15mm bolts, two 2mm nuts and four 2mm washers. Use thread lock on the nuts to prevent loosening. **Note:** The fin was removed on these images for clarity.



- ❑ 2. The **fin** comes pre-installed on the Spectra Select, but you should check that the hex nuts are tight. Also, you should use some Great Planes Pro Threadlocker to prevent the nuts from coming loose.

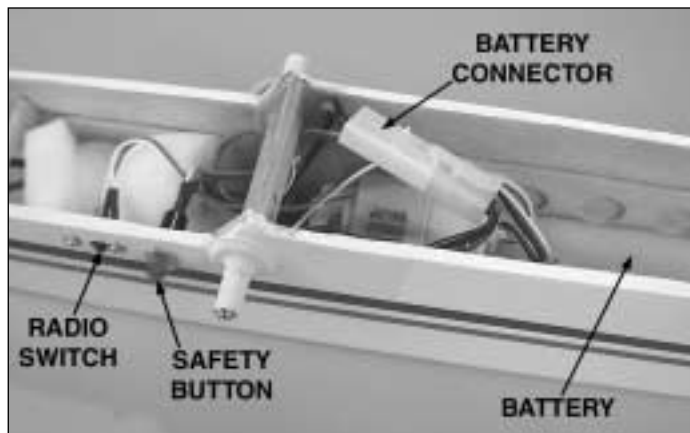


- ❑ 3. Verify that the **rudder** clevis is attached to the 4th hole from the inside of the rudder's control horn. Also, make sure that the silicone retainer is properly installed on the clevis.



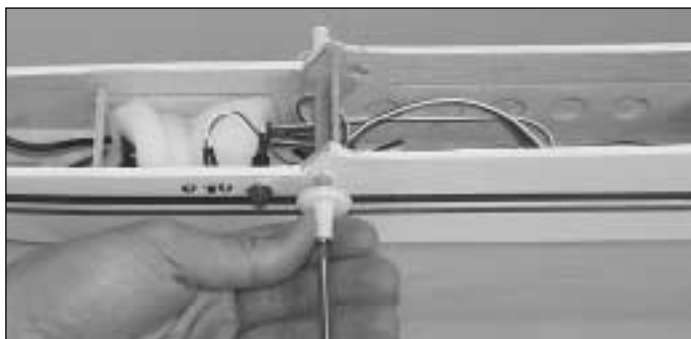
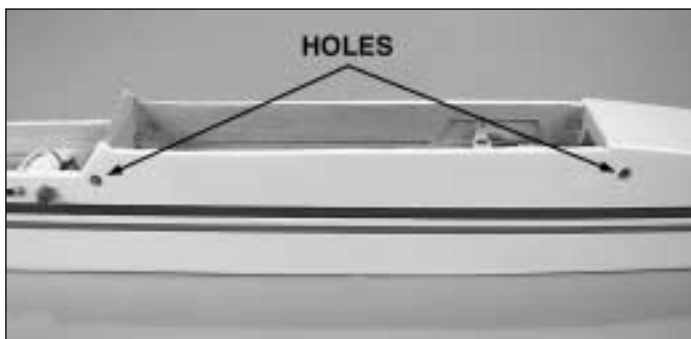
□ 4. Completely undo any antenna knot. Gently extend the antenna and let it dangle freely out the end of the aft fuselage. Connect the elevator clevis to the elevator control horn at the 4th hole from the inside. **Note:** Never cut or shorten the antenna wire.

Radio Settings



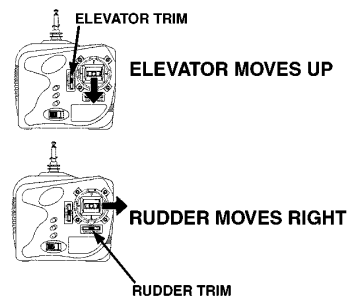
Turn the transmitter switch on. Install the motor battery in the airplane under the speed control and connect it to the receiver. Turn the receiver switch on. Mark the "ON" position of the switch. **Note:** The position of the receiver switch and safety button may vary slightly from what you see in the above image.

Wing Dowel Installation



□ 1. Install the wing dowels into the wing dowel holes as shown. Be sure that the smaller dowel (7mm x 90mm) should be installed into the aft holes. **Note:** The canopy was removed in this image for clarity.

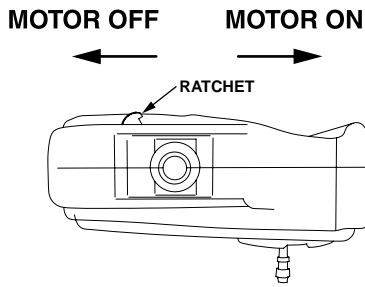
RADIO SETUP



Center the surfaces using the trims on your radio transmitter. Use the sketch above to make sure the control surfaces are moving in the correct directions.

The control throws are as follows:

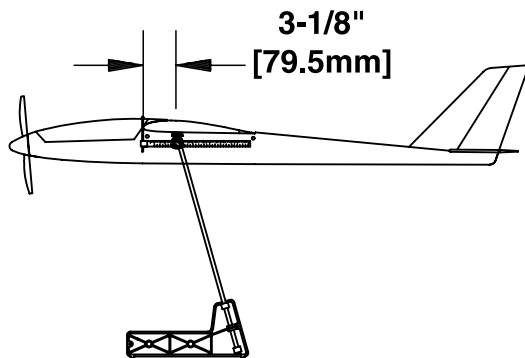
	UP	DOWN
Elevator	1/2" [13mm]	1/2" [13mm]
	LEFT	RIGHT
Rudder	1-1/2" [38mm]	1-1/2" [38mm]



To start your Spectra Select motor you need to follow this procedure:

- Make sure the motor ratchet on the transmitter is in the “Off” position.
- Move the prop away from any objects.
- Switch on the transmitter.
- Connect the motor battery and switch on the receiver.
- Press the safety switch once.
- The motor is now armed. If you move the motor ratchet to the right, the motor will turn on.

Balance the Model



Note: This section is very important and must not be omitted! A model that is not properly balanced will be unstable and possibly unflyable.

The C.G.—Center of Gravity—range for this airplane is located 2-3/4" to 3-1/2" [70mm to 88mm] from the LE. If your model balances anywhere within this range, it will fly fine. Generally if the C.G. is in the forward part of the range, the model will have extra stability but its overall performance will decrease slightly and the stall speed will increase. If the C.G. is in the aft side of the range, the sailplane will be more agile with a lighter and “snappier” feel. The aft C.G. also improves the Spectra Select’s response to air currents. The downside of the aft C.G. is that it makes the Spectra Select less stable and it can cause the model to “tuck under” or dive when its flying speed increases. **Do not fly the Spectra Select with the C.G. outside the recommended range.**

To balance your model, attach the wings to the fuselage with the rubber bands included. The model should now be ready to fly, with all parts installed. Make two marks on the underside of each wing 2-3/4" and 3-1/2" [70mm and 80mm]

from the leading edge. Pick up the model with your fingers under the wing within the C.G. range. Move your fingers under the wing (always within the C.G. range) until the stabilizer of the Spectra Select stays horizontal when you pick it up. If your model balances within the C.G. range, then you are safe to fly. If you need to pick up the model at a point outside the C.G. range, then you need to add weight to the nose or to the tail to get it to balance. Moving the radio components inside the fuselage may help too.

DO NOT ATTEMPT TO FLY WITHOUT FIRST ACHIEVING THE PROPER BALANCE.

Checking for Warps

This is a very important step and should be done occasionally throughout the flying season. A sailplane’s wing is most efficient when it is not twisted or warped at all. “Washout” (wing trailing edges twisted up at the tip) helps make a poor wing design fly better by adding some stability (preventing stalls) at slow speeds but it cuts down on the wing efficiency at normal speeds. The Spectra Select’s wing is designed to fly well at slow speeds without any washout, and therefore we recommend you check to make sure the wings are “flat” using the following procedure:

Set the wing so an inner panel is resting on a flat surface. Any warp (twist) will show up by causing a corner of the panel to rise off the work surface.

To remove the warp, gently twist the wing in the opposite direction while a helper glides an iron or heat gun over the covering on both the top and the bottom of the panel to re-shrink the covering. Hold the twist until the covering cools and then recheck for warps. It may take several tries to get a warp out but it is worth it as you will end up with a sailplane that flies straight and true and responds to air currents like a high performance sailplane should.

Follow the same procedure to check all four wing panels and then go back and double check them. Sometimes you put a warp in one panel while trying to fix another. You should also look at the tail surfaces as they too can warp.

PREFLIGHT

Batteries

The radio supplied with the Spectra Select uses non-rechargeable dry batteries. We recommend you to use good quality Alkaline batteries for better performance. The motor battery supplied with the Spectra Select is a 7-cell 2100 NiCd battery. You should use a charger adequate for charging this battery. Follow the charger’s instructions to charge the motor battery.

Find a Safe Place to Fly

The best place to fly your R/C model is an AMA (Academy of Model Aeronautics) chartered club field. Ask your hobby shop dealer if there is such a club in your area and join. Club fields are set up for R/C flying which makes your outing safer and more enjoyable. The AMA can also tell you the name of a club in your area. We recommend that you join AMA and a local club so you can have a safe place to fly and also have insurance to cover you in case of a flying accident. (The AMA address is listed on page 2 of this instruction book).

If a club and its flying site are not available, you need to find a large, grassy area at least 6 miles away from any other R/C radio operation and away from houses, buildings and streets. A schoolyard may look inviting but it is usually too close to people, power lines and possible radio interference.

If you are not thoroughly familiar with the operation of R/C models, ask an experienced modeler to check to see that you have the radio installed correctly and that all the control surfaces do what they are supposed to.

Range Check Your Radio

Wherever you do fly, you need to check the operation of the radio before every time you fly. This means with the transmitter antenna collapsed and the receiver and transmitter on, you should be able to walk at least 100 feet away from the model and still have control. Have someone help you. Have them stand by your model and, while you work the controls, tell you what the various control surfaces and your motor are doing.

AMA SAFETY CODE (EXCERPT)

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

General

1. I will not fly my model aircraft in competition or in the presence of spectators until it has been proven to be airworthy by having been previously successfully flight tested.
2. I will not fly my model aircraft higher than approximately 400 feet within 3 miles of an airport without notifying the airport operator. I will give right of way to, and avoid flying in the proximity of full-scale aircraft. Where necessary an observer shall be utilized to supervise flying to avoid having models fly in the proximity of full-scale aircraft.
3. Where established, I will abide by the safety rules for the flying site I use, and I will not willfully and deliberately fly my models in a careless, reckless and/or dangerous manner.

Radio Control

1. I will have completed a successful radio equipment ground check before the first flight of a new or repaired model.
2. I will not fly my model aircraft in the presence of spectators until I become a qualified flyer, unless assisted by an experienced helper.
3. I will perform my initial turn after takeoff away from the pit, spectator and parking areas, and I will not thereafter perform maneuvers, flights of any sort or landing approaches over a pit, spectator or parking area.

FLYING

First of all, if you are flying with other modelers check to make sure they are not flying or testing on the same frequency as your model.

Try to find an experienced pilot to help you with your first flights. Although the SPECTRA SELECT is very easy to fly, an experienced pilot can save you a lot of time and possible aggravation by helping you get your model in the air smoothly.

Trim Flights

It is a good idea to do a couple of trim flights, without the motor running, before each flying session to make sure the plane is still in trim and the radio is working properly. The model will survive a hard landing from 5 feet much better than it will one from several hundred feet. The first few trim flights should be done over a grass field. The longer the grass the better (more cushion).



Turn on the transmitter first and then the receiver. Hold the SPECTRA SELECT under the wing with the nose pointed slightly down and directly into the wind. Do not run the motor for these test flights. It is very important that you launch the model

with the wings level and the nose pointing at a spot on the ground about 50 feet in front of you. Have a friend stand off to the side of you and tell you whether the nose is pointing up or down. Show your friend the previous picture so he will know what to look for. If the SPECTRA SELECT is launched with the nose up or launched too hard it will climb a few feet, stall and fall nose first straight down. With the nose pointed down slightly the sailplane will accelerate down until it picks up enough flying speed, then level off and glide forward. The plane should be launched with a gentle push forward. With a little practice you will be able to launch it at just the right speed so it soars straight ahead in a long and impressive glide path. Adjust the elevator and rudder trims on your transmitter to get the plane to fly straight ahead in a smooth glide path.

Once you get the hang of launching it you can try turning the plane during the trim flights by gently applying a “touch” of right or left rudder. You can also try “flaring” the landings by slowly applying a touch of up elevator (pull the stick back) as the plane nears the ground. The SPECTRA SELECT will continue to fly just a few inches off the ground for a surprisingly long distance. It is important you don’t “over-control” the model. Make any control inputs slowly and smoothly rather than moving the transmitter sticks abruptly.

First Flights

Find a BIG, OPEN field for your first flights. The bigger the better as you won’t have to worry about where you need to land. Ground based objects (trees, poles, buildings, etc.) seem to attract model airplanes like a magnet. **Again, we would like to recommend that you find an experienced pilot to help you with these first flights.**

Note: You need to remember that your radio control responds as if you were sitting in the cockpit. When you push the transmitter stick to the right, the rudder moves to the plane’s right! This means that when the plane is flying towards you it may seem like the rudder controls are reversed (when you give “right” rudder the plane turns to your left—which is the plane’s “right”). It is sometimes easier to learn to fly the plane if you always face your body in the direction the plane is flying and look over your shoulder to watch the model.

Turn on your transmitter and then your receiver and hold the model as you did for the hand launched test flights. Hold it firmly and move the throttle stick up to test the motor operation. When satisfied that everything is responding as it should, launch the model straight into the wind just as you did without the motor running. It is important that you do not throw the airplane up or it may stall and hit the ground. If you launch it level or slightly down the airplane will accelerate and start climbing on its own.

Don’t worry about accomplishing very much on your first flights. Use these flights to get the “feel” of the controls and the SPECTRA SELECT’s flying characteristics. For the first few seconds of the flight allow the airplane to gently climb

straight ahead. Try to keep the plane upwind and just perform some gentle “S-turns” (always turning into the wind) until it is time to set up for landing. Have a helper adjust the trims on your transmitter (a little at a time) until it has reached a comfortable soaring altitude (200’ - 300’). Turn the motor off and allow the SPECTRA SELECT to soar around, keeping the airplane upwind of yourself. When you feel it’s getting too low, turn the motor back on and climb back to altitude. It can be very hard for a beginner to fly a plane straight towards him as he would have to do if the plane were downwind. While the SPECTRA SELECT is gliding have a helper to adjust the trims on your transmitter (a little at a time) until the plane will fly straight and level with the transmitter sticks in their neutral position.

When you can hear the motor starting to die off and/or the plane does not want to climb anymore it is time to shut off the motor for the last time (especially if you have BEC.) It is important to remember that you no longer have enough power to climb out again, so you only get one chance at landing. When it is time to land, just continue performing the gentle “S-turns” upwind and let the plane glide onto the ground. Don’t worry about where the plane lands—just miss any trees, etc. If you need to “stretch” a landing you can switch the motor back on but do not expect it to be able to carry you very far. When NiCd batteries start going dead, they really go dead in a hurry. An alternative to allowing the battery to become weak before shutting the motor off for good is to time the motor runs so you can leave enough “juice” in the battery for a couple of “go arounds” if needed.

Note: BEC is a system offered by most modern speed controls that allows you to get rid of the radio battery and use the motor battery as the means for supplying power to the radio. The BEC will cut power to the motor when the motor battery is low on charge but it will still give the modeler enough power to use the radio normally for a short time until landing. Keep in mind that while there is still enough charge to use the radio the motor battery is low, so you should land within 10 to 15 minutes of motor cut out time.

Practice flying directly into the wind (upwind of yourself) without letting the plane get off course, and then turn and come downwind until the plane is even with you and try it again. When you are comfortable with flying directly into the wind, start letting the plane go behind you (downwind) a little before you start back upwind. Continue this until you can fly directly towards you from downwind without getting disoriented. At this point you can start to establish a “landing pattern” and bring the sailplane in for a landing from downwind. **Always land into the wind.** This enables the plane to be flown as slowly (ground speed) as possible for accurate and damage free landings.

It is probably not a good idea to try and fly around at a low altitude with the motor on during your first flights. This will cause the airplane’s speed to increase and make the controls more responsive which is just what a beginner does not need.

The SPECTRA SELECT will climb to altitude several times on a single charge allowing you to have flights well over ten minutes without finding any "lift." You should be able to get two full climbs above 500' on a single charge although there are many factors that figure into this.

Thermal Flying

Thermal soaring is one of the most intriguing of all aspects of flying and the SPECTRA SELECT was designed to excel at thermal soaring even in the hands of a novice. It can be hard for the average person to understand how a plane can fly for a long time and gain altitude **without a motor!**

Facts About Thermals

Thermals are a natural phenomenon that happen outside, by the millions, every single day of the year. Thermals are responsible for many things including forming several types of clouds, creating breezes, and distributing plant seeds and pollen. If you have ever seen a dust devil (which is nothing more than a thermal that has picked up some dust), you have seen a thermal in action. Their swirling action is very similar to that of a tornado but of course much gentler. Most thermals have updrafts rising in the 200 – 700 feet per minute range but they have been known to produce updrafts of over 5,000 feet per minute (that's over 50 miles/hour straight up!) These strong thermals can rip a plane apart or carry the plane out of sight before the pilot can get out of the updraft.

Thermals are formed by the uneven heating of the earth and buildings, etc. by the sun. The darker colored surfaces absorb heat faster than the lighter colors which reflect a great deal of the sun's energy back into space. These darker areas (plowed fields, asphalt parking lots, tar roofs, etc.) get warmer than the lighter areas (lakes, grassy fields, forests, etc.). This causes the air above the darker areas to be warmer than the air over the lighter areas and the more buoyant warm air rises as the cooler, denser air forces its way underneath the warmer air. As this warm air is forced upward it contacts the cooler air of the higher altitudes and this larger temperature difference makes the thermal rise quicker. The thermal is gradually cooled by the surrounding cooler air and its strength diminishes. Eventually the thermal stops rising and any moisture contained in the once warm air condenses and forms a puffy cumulus cloud. These clouds, which mark the tops of thermals, are usually between 2000 and 5000 feet high.

Thermal Soaring

It takes a lot of concentration to thermal soar effectively. An electric sailplane can fly along the edge of a thermal and unless the pilot is carefully watching the model he may not realize the opportunity to gain some altitude. Because most thermals are relatively small (a couple hundred feet in

diameter or less at 400' altitude) compared to the rest of the sky, the sailplanes will rarely fly directly into the thermal and start rising. Generally, the electric sailplane will fly into the edge or near a thermal and the effects the thermal has on the plane may be almost unnoticeable. As the electric sailplane approaches a thermal, the wing tip that reaches the rising air first will be lifted before the opposite wing tip. This causes the plane to "bank" and turn away from where we would like the plane to go.

When you are thermal soaring, try to fly as smoothly and straight as possible. Trim the plane to fly in a straight line and only touch the controls when you have to. Watch the electric sailplane carefully and it will tell you what it is encountering. When the electric sailplane flies directly into a thermal it will either start rising or stop sinking. Either case is reason enough to start circling (especially in a contest where every second counts). Fly straight ahead until you feel like you are in the strongest lift, fly a couple of seconds farther (so your circle will be centered in the strongest lift) and then start circling in a fairly tight but smooth turn. When the electric sailplane is low the turns have to be tighter to stay in the strongest lift. As the plane gains altitude, the turns can be larger and flatter. The flatter the turn, the more efficient the plane is flying, but don't be afraid to really "crank" it into a steep bank when you are low. If you see the plane falling off on one side of the turn, move your circle over into the stronger lift. Thermals move along with the wind so as you circle you will be swept along with it. Be careful when thermaling, that you don't get so far downwind you can't make it back to the field to land.

If the electric sailplane is flying along straight and all of a sudden turns, let the plane continue to bank (you may have to give it some rudder to keep it banking) until it has turned 270-degrees (3/4 of a full circle). Straighten out the bank and fly into whatever turned the plane. If you encounter lift, and you won't every time, start circling just as you did when flying directly into a thermal.

Thermals are generated all day long, but the strongest thermals are produced when the sun is directly overhead. 10:00 am – 2:00 pm seems to be the best time to get those "killer" thermals. Some of these thermals can be very large and you may find it hard to get out of them. If you find yourself getting too high, don't dive the plane to get out of the lift. Sailplanes are very efficient aircraft and they will build up a lot of speed and could "blow up" in the rough air of a thermal. The easiest way to lose altitude is to apply full rudder and full up elevator. This will put the plane into a tight spin that will not over stress the airframe but it will enable it to lose altitude very quickly. This is especially helpful if the sailplane gets sucked into a cloud or it gets too high to see. The twirling action will give the sun a better chance of flashing off of the wing and catching your attention. When you are high enough and want to leave the thermal, add a little down trim to pick up some speed and fly 90 degrees to the direction of the wind. If you are not real high and want to find another thermal, you may want to look upwind of the last thermal. The same source that generated this thermal is

probably producing another. Just watch out for “sink” which is often found behind and between thermals.

As you might expect, with all this air rising, there is also air sinking. This air is the electric sailplane pilot’s nightmare that can really make soaring challenging. “Sink” is usually not as strong as the thermals in the same area, but it can be very strong. Down drafts of many hundreds of feet per minute are common on a good soaring day. These down drafts can make a sailplane look like it is falling out of the air. Because of this, it is important that you do not let the sailplane get too far downwind.

When encountering sink, immediately turn and fly 90 degrees to the direction of the wind (towards you if possible). Apply a little “down elevator” and pick up some speed to get out of the sink as fast as possible. Every second you stay in the sink is precious altitude lost.

Pointers for Contest Soaring

Pay Attention! – Pay close attention to the electric sailplanes flying before you, watch them and try to establish where and when the thermals are being formed. Thermals are often formed in cycles and can be fairly regular, so if you keep track of the time intervals you will have a pretty good idea of when and where a thermal may be generated.

Watch The Birds! – Thermals suck up small insects that many birds love to eat. A bunch of swallows flying around in one area may indicate a thermal. Soaring birds (hawks, vultures, eagles etc.) are the best thermal indicators. They not only show you where the thermal is but they also show you where the center is. These “Masters of the Sky” will often fly right along with electric sailplanes.

Practice Those Landings! – Most thermal contests are won or lost during the landing. Establish a particular landing pattern and try to stick to it for all landings. Learn to shift your pattern to account for the wind and the particular flying field characteristics.

Concentrate – Keep your eye on your electric sailplane during your contest flights. Have a helper or your counter watch the other planes in the air. Sometimes your electric sailplane will wiggle so quickly or gently that you may miss it if you are not paying close attention. If you find a productive thermal, don’t leave it because your helper tells you that someone else has found a different one.

Know Your Electric Sailplane! – Learn what your electric sailplane will and won’t do and fly within this envelope. This will allow you to ride thermals downwind while knowing when you have to head back to make your landing safely.

Learn From The Wind! – Keep track of which way the wind is blowing. If the wind suddenly shifts, there is some thermal action fairly close to you. The air is probably being either sucked up into a thermal or falling out of some sink. In either case it is often a good idea to fly in the direction the wind is

blowing if your sailplane is in the general area. This will take you towards a thermal if there is one or away from the sink, both of which are desirable.

Have a ball! Remember to always stay in control and fly in a safe manner.

OTHER ITEMS AVAILABLE FROM GREAT PLANES



Great Planes Spectra ARF

The all-wood, preassembled, 2-meter Spectra ARF arrives expertly covered with Top Flite® MonoKote® film. An included Goldfire 550 motor and 8 x 4 folding prop quickly carry it to soaring altitudes following an easy hand-launch. The wing features a triple taper planform and semi-symmetrical airfoil that increases stability for smooth, forgiving flight. Required are a 3-channel radio, NiCd battery and charger. **GPMA1050**



Great Planes Spirit™ Select

The 78.5" span Spirit sailplane offers the ultimate in flying ease and enjoyment! Its all wood airframe has control surfaces built-in. Once the slide-together wing and bolt-on tail are in place, it’s ready to fly. Plus, it’s covered with Top Flite MonoKote, with stripes on the wing bottom to make orientation easy. It’ll delight first-timers with its slow, steady flight, and competitors with its thermal chasing abilities. The Spirit Select RTF comes complete with a 3-channel Hitec® Focus 3 SS radio, with servos and foam-wrapped receiver preinstalled – only a dozen “AA” cells are required! **GPMA16****

