

## THE MOORMAN FILES: YOUR SECOND AIRPLANE

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Let's say you have mastered your trainer and want to move on. You are flying at full power most of the time and doing some aerobatics. The trainer just doesn't give you the performance you want: it won't fly inverted, or if it does, it is a real chore, rolls look like a duck wallowing and outdies are out of the question. Maybe you have a second plane, another high winger, but you still want something better, something with low or mid wings that will let your skills take that quantum leap into "real" flying.

Here's my recommendations for you:

\*First, don't go too far too fast.

\*Second, stick with a straight wing airplane.

\*Third, get a plane which is relatively easy to build.

\*Lastly, don't overlook a Stick.

Don't get in over your head with a complicated and hard to fly project for your second airplane. You probably aren't ready for something with retracts and a tuned pipe.

Likewise, you probably can't handle something heavy that lands pretty fast and tip stalls if you get too slow on final approach. Still, you want to do acro.

Next, stick with a straight wing airplane. I mean one with a rectangular plan form, no sweep and no, or very little, taper. Why? Planes with rectangular wings have the best stall characteristics. They will land just about as easily as your trainer, but they will also do aerobatics. The reason you see pattern planes, and scale acro planes with swept or tapered wings is they do cleaner, more axial rolls. They do, however, stall quicker and the more taper or sweep, the more the initial stall area moves out toward the wing tip. For your second plane or first low winger, stick with the rectangular wings.

Don't get me wrong, there are some great flying planes with rectangular wings, they just haven't been optimized for precision aerobatics. The planes I'll list will let you do just about anything you want and probably more than you are capable of at this point in your RC development.

There are planes which might make a good second plane like the Uproar or the Ultra Sport, but they are really aimed at a more experienced pilot. If you have someone who can work directly with you, these are viable choices, but I normally don't recommend them for a first time builder on his second plane.

Third, select a kit which is relatively easy to build. Especially, if you learned to fly on an ARF trainer, this may be your first real construction project. All of the good kit manufacturers have checklist type instructions for you to follow. Look for these, or ask if the kit has written instructions if you mail order. Better yet, check with someone in your club who flies one, or has built one. He can tell you if the construction is suitable for a novice builder.

Finally, don't overlook one of the Sticks or other shoulder wing type airplanes. I know you probably think your second airplane should be a low winger, but there are many planes which fly just as well as a corresponding low wing plane, so do not restrict yourself.

Let's now look at some of the kits which fit my recommendations and would be a good choice for your second airplane or your first low winger.

**STICKS:** Phil Kraft's original Ugly Stick, from the 60's expression, "It looks like it was hit with an ugly stick," has to be the most copied and cloned RC plane ever. It has to fly well or no one would buy the thing! Any of the "Stick" type planes, Big Stick, Sweet Stick, Little Stick, Middle Stick, Joss Stick, Ugly Stick, Super Stick, will be a great flier. They can change their spots from mild to wild depending on the engine and control set up. You can learn to fly on one and then you can change to a larger engine and do anything you want and still land like a trainer. I like them built without dihedral and with a 60 in the 40 sized version. Sticks can also be customized into just about anything from look alike fighters to fantasy planes like the Bat Plane. A later column will cover how to customize a Stick.

**EASY SPORT:** The Great Planes Easy Sport is a shoulder wing plane which comes in 40 and 60 size as well as an ARF. You might say they are a Stick with a modern fuselage and tail, and a canopy. There are a couple flying at my field and both are second airplanes and both fliers love them.

**MID STAR:** The Sig Mid Star is really a shoulder wing plane disguised to look like a mid wing plane. It has a semi-symmetrical airfoil and lands like a trainer, but don't discount it. Several guys in my club have found the Mid Star with a hot .46 and beefed up wings is a snapping fool, capable of flat spins, lomcevaks and cartwheel spins, things Sig never dreamed the Mid would do. I mention beefed up wings because we had a couple fold wings on high speed dive(max power, straight down and full up) pullouts. For you old timers, I think that's something Humphrey Bogart did in the movie "Test Pilot." Anyway, hardwood spars in place of the original balsa ones or carbon fiber epoxied on both sides of the spars will cure that little problem. The guys did just that and are back tearing up the sky.

**4-STAR:** Sig's main man in the first low wing airplane arena is the 4-Star. The 4-Star comes in .40, .60 and 1.20 sizes. The 4-Star 40 really seems to be a gentler plane than the Mid Star. At least, I don't see anyone hot dogging it like I do the Mids. It also has a semi-symmetrical airfoil, but it is very nearly symmetrical. It builds easily, can be handled by someone who has just mastered a trainer. It also lands nice and slowly. It also comes in three sizes from .40 up to 1.20. I have flown a buddy's 4-Star 120 several times and it is an excellent first giant. The 4-Star is a winner from Sig and an excellent choice for a second plane.

**STARDUSTER:** The Midwest Starduster has been called a clone of the Sig 4-Star 40. I have only seen one fly, but it looked great and reports from other people on RC Online say it, too, is a good choice. A recent magazine review on the Starduster compared it to the 4-Star. The only differences they noted were the higher price of the Starduster. Sounds like pay your money and take your choice to me.

**TIGER:** The Tiger 2 and Tiger 60 are Goldberg's entries into the first low winger wars. Both are great planes. The first version of this kit had a flat bottom airfoil on the wing. Actually, the wing was the same as the one on the Eagle trainer. The new Tiger 2 has a thick symmetrical section. It is fully aerobatic and lands at a walk. We have a couple of these in my club and the owners love them. One man brings his ARF trainer and his Tiger. If he feels rusty, he puts in a flight on the trainer first, then switches to the Tiger. Excellent airplane.

**SPORSTER:** The Great Planes Sporster planes are another good choice. The Sportster comes in a lot of sizes and also in an ARF version. They have a symmetrical airfoil the classic rounded wing tips and tail to simulates a 30's style plane. The 120 version only has a 72 inch wing which is too bad. If it was 80 inches (the IMAA giant lower limit) I'd buy one. I have only seen Sportsters as a tail dragger. I have seen many of them fly, and fly great, but I haven't seen anyone fly one for his first low winger. I don't know why as they land slowly and seem pretty gentle. Maybe Great Planes has other kits they push as the "next-plane-after-a-trainer."

**STINGER:** Another good choice is the Lanier Stinger. This great flying plane comes in all sizes from .10 up to gas engine powered giant, with the .40 size being the most popular in my club. I had a giant Stinger which was a ball to fly until a mid air at a giant meet killed it and the other plane. I am working on the replacement right now, although slowly since I had a couple of other projects under way. The Stinger is a mid wing plane which is really a disguised shoulder wing, Stick type plane. It has a simple box fuselage with the wing on top. This is cleverly covered with ABS plastic parts to make a mid wing plane. The ABS parts include the turtledeck, wing cover, fuel tank cover, cowl and wheel pants. There is also a clear canopy. I have often wondered why Lanier only makes the one style ABS for the Stinger. With different style plastic, the plane could be anything from a jet like plane to a 30's racer to a WW II fighter. I guess they sell all the can make of the original style. The wing is foam with a very thick, symmetrical airfoil. It flies great does anything you can do and you can touch it down anywhere from full power to walking speed. It is a tail dragger, but handles well on the ground. If you like the Stinger, but

aren't sure about doing a foam wing, you will need to find someone experienced in foam in your club to assist you in your first one. Once you get the technique down, I think foam wings are actually easier to build.

The planes I have listed are popular choices which shouldn't give the average flier any trouble in building or flying. Any of them would be a good choice. I am also sure there are other planes which are suitable for your second project, but right now I can't recall them. I also don't have one I can recommend over the others as they are all great flying planes. I will say in my club, there are more 4-Stars than any of the others with the Tigers and Mid Stars coming in next. There are several Stingers, but they are owned by experienced pilots. There is no aerodynamic reason for this, but like the Sporster, the manufacturer touts it as a full acro plane. Your club may be different. Check around the flight line and see what the other guys are flying and talk to them about their likes and dislikes concerning building and flying the kit.

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