COUNTRY SQUIRE

PHOTOS AND TEXT BY

DON DEWEY

If you're wondering what the colorful pastoral scene on the opposite page has to do with this article, I will hasten to explain.

First of all, we are **not** buying filler photographs from Arizona Highways – the picture is simply to lend some small degree of credibility to the ugly little sheet balsa box shown on the plans accompanying this article. Secondly, it happens to be a photograph I took at my mother-in-law's ranch, and why it ended up here should be self evident to any of our married readers!

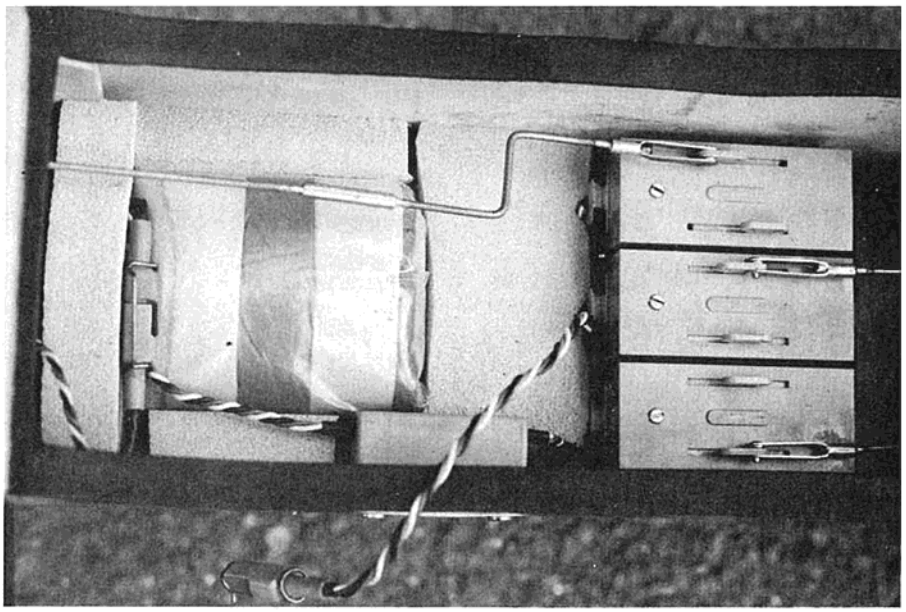
The design of this model came about in answer to a challenge from Phil Heller and the Cordova Model Masters who recently created an RC combat event. Designed for 400 sq. inch aircraft with a maximum engine displacement of .19, the event consists of one aircraft, designated as a target plane, towing a 20 foot crepe paper streamer about a pylon course. At a given signal, the aggressor aircraft has 2 minutes to make as many passes as possible in an attempt to cut the streamer. Scoring is accomplished by giving one point for each pass and 15 points for a cut. After the combat event is completed, a Rat Race is held around the same pylon course. This is a 100 lap event (or any other designated amount) with a mandatory refueling stop. As each aircraft lands, it must be returned to the starting line for refueling and restart. Obviously, then, an aircraft designed for these two fun events must be expendable, dictating a rugged and quickly built model that can withstand the rigors of this type of flying. With this design criteria in mind, and since RCM is a fulcrum for the dissemination of the outpourings of genius (?) for our various writers, I proceeded to read the latest offerings from the firm of Herman and Capehart, which happens to appear in this issue. This months ravings consists of a discussion on the controversy over the low drag fast aircraft versus the high drag slow aircraft. Since, in some circles; the middle of the road approach is considered to be the safest and most expedient, I was convinced that I needed a half-fast model – which, I have been told on numerous occasions, when said rapidly, describes my abilities as a designer, builder, and pilot.

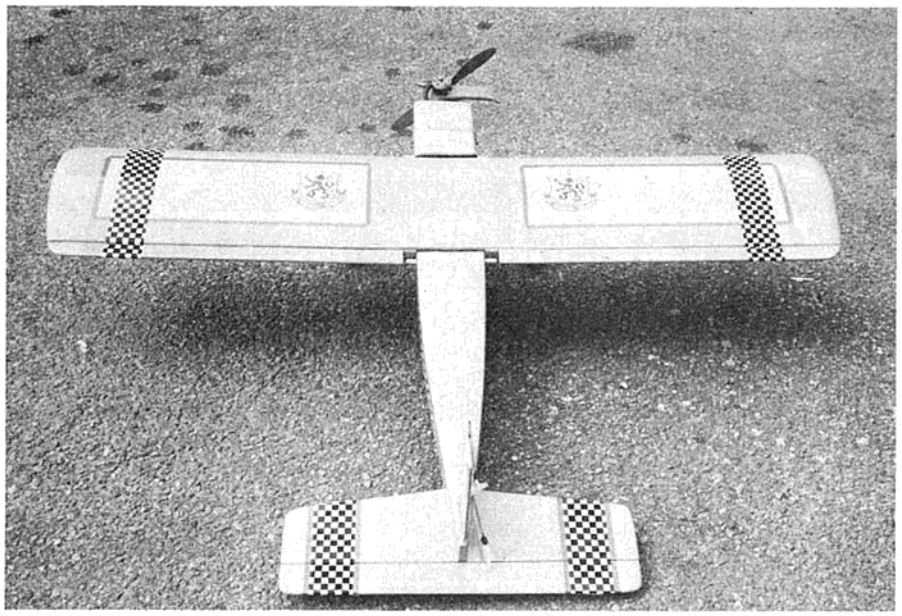
Obviously, the box shape fuselage is the quickest and easiest to build, and, since this new design would obviously carry the Basic Box to an all new dawn of glory, it had to have a name befitting its forthcoming splendor. With our staff aerodynamicists and design experts spending months of time and expensive typesetting on the intricacies of fine design points, I would like to spend a moment or two on the most difficult part of aerodynamics – selecting the proper name for your new design. This facet of aircraft design is not to be scoffed at, since there are many hidden ramifications that are not immediately apparent. If you are married, and come up with a girls name for your new design, you may find yourself in a somewhat untenable position at home. If, on the other hand, you end up with a name that leans towards the masculine gender, you may find yourself in an even more indefensible position when you show up at the local flying field!

Thus, I decided to name this plane after my 1968 station wagon (leased). And if you think that closes the subject, you're wrong, for I owe a lot to my Ford Country Squire. Everyone expects the editor of an RC publication to be an expert flyer but with a seven day work week, flying, to me, is a bi-annual affair. Which is quite fortunate, really, since a proficient flyer I am not! To be quite frank about the whole thing, the thought of flying a low wing, .60 powered competition aircraft terrifies the hell out of me, and requires the immediate remedial action of a couple of Black Russians. Our advertisers, however, could care less about this unknown terror, and insist that their products show up in the pictures that we take at our secluded flying spots. For many modelers, their field equipment consists of a cigar box with starting battery and prop wrench – not so, here at RCM! Picture, if you will, going to the flying site dressed in an RCM shirt (naturally) which has to be open at the front to show the "Curse You Red Baron" T-shirt from Hobby Lobby International; a Snoopy flying hat, from Capt. Jan Sakert in Vietnam; a highly polished fuel box from G & K complete with wing rack; an electric starter from Rand and another from Penford Plastics (we don't play favorites); a Jiffy Bag on each transmitter; a gallon of fuel hidden in a Quik-Fill fuel pump (so we don't offend one or more fuel manufacturers); several starting batteries of various manufacture; a portable field soldering iron; a portable field battery charger; a frequency monitor; a belt mounted pocket from Tatone with prime bottle and another starting battery; a copy of 'How To Fly Small RC Models' by Ken Willard and another on flying the larger versions by Kazmirski – both published by Top Flite; a Pilots Log Book from Fox Mfg. Co.; a Chicken-Stick (in case your electric starters don't work); and various other assorted and sundry items which all

adds up to the absolute necessity for maintaining an extra long station wagon. When you add to this the fact that we're usually toting along a 4x5 Crown Graphic with Polaroid back and color film pack; a 2¼ x 2¼ twin lens Reflex; a 35mm camera; and various tripods for all of the above, you get a rather ludicrous picture of what we're up against!

Despite the fact that we may look like we're on safari, we traveled down to the Van Meter ranch in the mountains above San Diego for a weekend of flying with the Country Squire (the airplane, not the car). To say that this little airplane, with an OS Max .19 engine up front is fast would be an understatement! It is quite agile, and can turn on the proverbial dime. It is **not** an airplane for the beginning flyer. I emphasize this





were put in place that evening, in order to resume test flights the following day.

Sunday was a beautiful clear day with unlimited visibility (common to the San Diego area, but quite uncommon to the Los Angeles basin) and we spent most of the afternoon flying in the face of a 20 mph wind. This little aircraft penetrates the wind with absolutely no difficulty and has no tendency to flit, or be blown, around the sky. In fact, its penetration qualities are almost identical to its larger cousins. Nearing the end of the day, the Micro-Avionics proportional system suddenly went completely haywire (pilot error), and we found we had only minimum control at full throttle. We managed to bring the aircraft in for a full power landing (crash) right into the side of our highly

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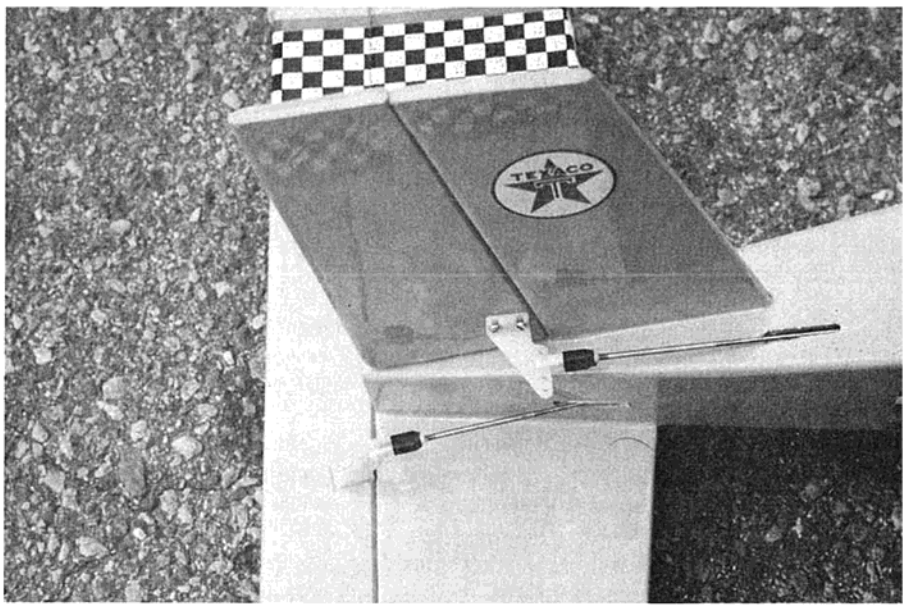
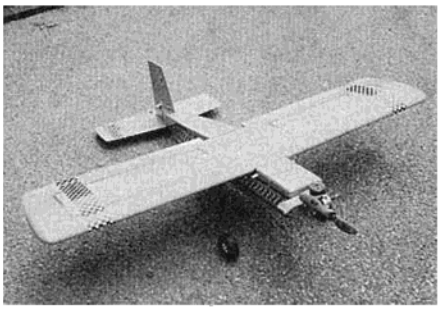
fact simply because this airplane, as set up, requires a faster reaction time than the novice flyer possesses. Upon completing the fourth flight, each of the preceeding flights requiring very little trim correction, the left aileron fell off in mid-air and the Country Squire came down out of the sky like a spent bullet! We sat up late that night repairing the minor damage, having discovered that the polypropylene strip hinges had become brittle during the night during which the temperature had dropped to 39 degrees. It was 42 degrees upon rising that Saturday and had reached 86 degrees by 10:00 in the morning. Apparently, this wide temperature differential had caused the hinges to become brittle and they broke off cleanly at the hingeline along the full length of the aileron. Figure 8 stitch hinges





Front view of the Country Squire. Experimental muffler hangs out in the breeze. O.S. Max .19 with Kavan carburetor and exhaust pressurization adds up to a potent powerplant.

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polished G & K Field Box, totaling out the front end of the airplane, at which time the Crown Graphic, on its tripod, fell over and destroyed the aft section of the aircraft. Adding insult to injury, I noticed that I had inadvertently turned on the Micro Co-Pilot (buddy box) switch at the base of the transmitter, which activated the student transmitter, but which didn't do me much good without someone on the buddy box!

Despite the inabilities of the loose nut on the transmitter, the aircraft performs admirably and fulfills its functions as a combat model. We added a considerable amount of rpm to the Max .19 by a simple utilization of the engines own exhaust pressure as a means of fuel injection. This is accomplished by drilling a hole through the exhaust stack, through which is inserted a 1/8" O.D. length of brass tubing which, in turn, is held in place by a wheel collar above and below the exhaust stack. One side of one wheel collar is flatted so that it rests against the cylinder head and keeps the tubing from revolving. One end of the tubing is soldered closed leaving only one end open. A 1/16" idameter hole is drilled in one wall of the tubing and points directly at the piston. The open end of the 1/8" brass tubing is connected to the overflow vent of the Sullivan 2-vent fuel tank. Thus, the back pressure of the engine is forced into the gas tank and rams the fuel through the other side. This method of pressurization eliminates virtually all of the problems usually associated with the normal method of crankcase pressurization, without affecting the idle, and while adding rpm on the topside. In addition to this, we use a Kavan carburetor up front. This makes an extremely powerful engine which performs more like a .30 than a .19.

Insofar as building the Country Squire is concerned, I'd like to give you the "glue-stick-A-to-stick-B" bit, but quite honestly, I don't remember. I never draw plans when I design a model, and usually give only the remnants to Dick Kidd, our Technical Art Editor. After a prolonged period of crying, he proceeds to draw up a set of plans on my latest innovation using a $60.00 pair of calipers and a drafting instrument, punctuating the silence only occasionally with appropriate, albeit, profane comments. Since it is, as I remember, a very simple airplane to construct, requiring only a few evenings work, and since it is not for the beginner, any reasonably experienced RC'er can build it strictly from the plan without a "glue-A-to-B" explanation.

Our prototype is completely covered with blue and yellow Super MonoKote, which is really keen, particularly in the light of the fact that I get it for nothing for saying nice words in Top Flite's advertisements. Mike, the old grouch at Top Flite, will probably kill me for that last statement, but he knows we usé a lot of MonoKote for its ease of application, its durability and strength, and its ease of maintenance. If you want to do a good job with this material, simply follow Bror Faber's article in the November issue of RCM.

Our prototype of the Country Squire weighed three pounds seven, rarin' to go. We used a 0-0 setup insofar as incidence and engine thrust lines are concerned, but this can be varied according to your own trim conditions. With our particular engine set-up, a Top Flite 9-6 wood proved the best prop combination. We used a foam wing, but the built-up version shown on the plans is quite satisfactory.

Good hunting – go out and chop a streamer or three.