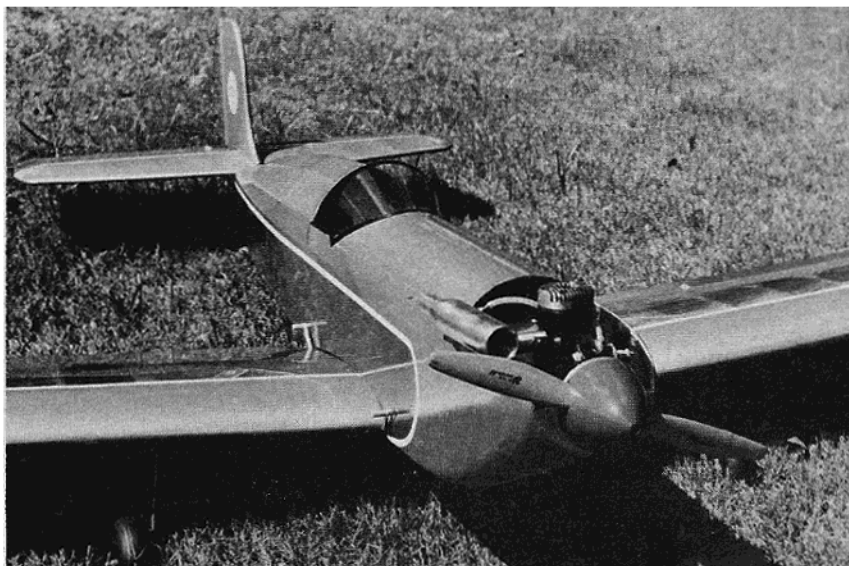
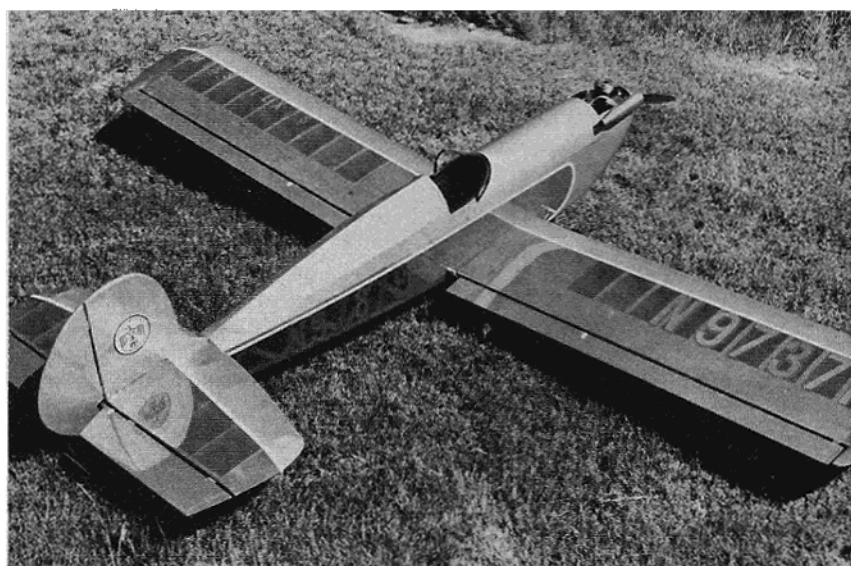




Miss Texas is a bigger than average model designed for bigger than average fun flying. She is a good looking throw-back to the light planes of the thirties in looks, and yet has modern lines. She is an open cockpit babe that simply cries out for you to jump in and fly her. Miss Texas is a .60 powered model that sports an 84" wing span and a 62" fuselage, carries almost 1100 square inches of wing area and yet flies with the greatest of ease. Like the Lazy Ace, she sports a slightly lifting tail section which makes her extremely docile on both landings and take-offs. Her wide spaced landing gear allows her to track straight down the run way on take-off, and lift into the air is accomplished in about sixty or seventy feet on a paved strip. I am flying my Miss Texas with a HP .61 for power. Any of the Schnuerle engines will fly her just great, and the less powerful standard sixties will yank her along very well. She

If you have built Chuck's Lazy Ace, then this is the perfect mate to go with it. 84" span, open cockpit low wing that will make you want to climb in it and go.

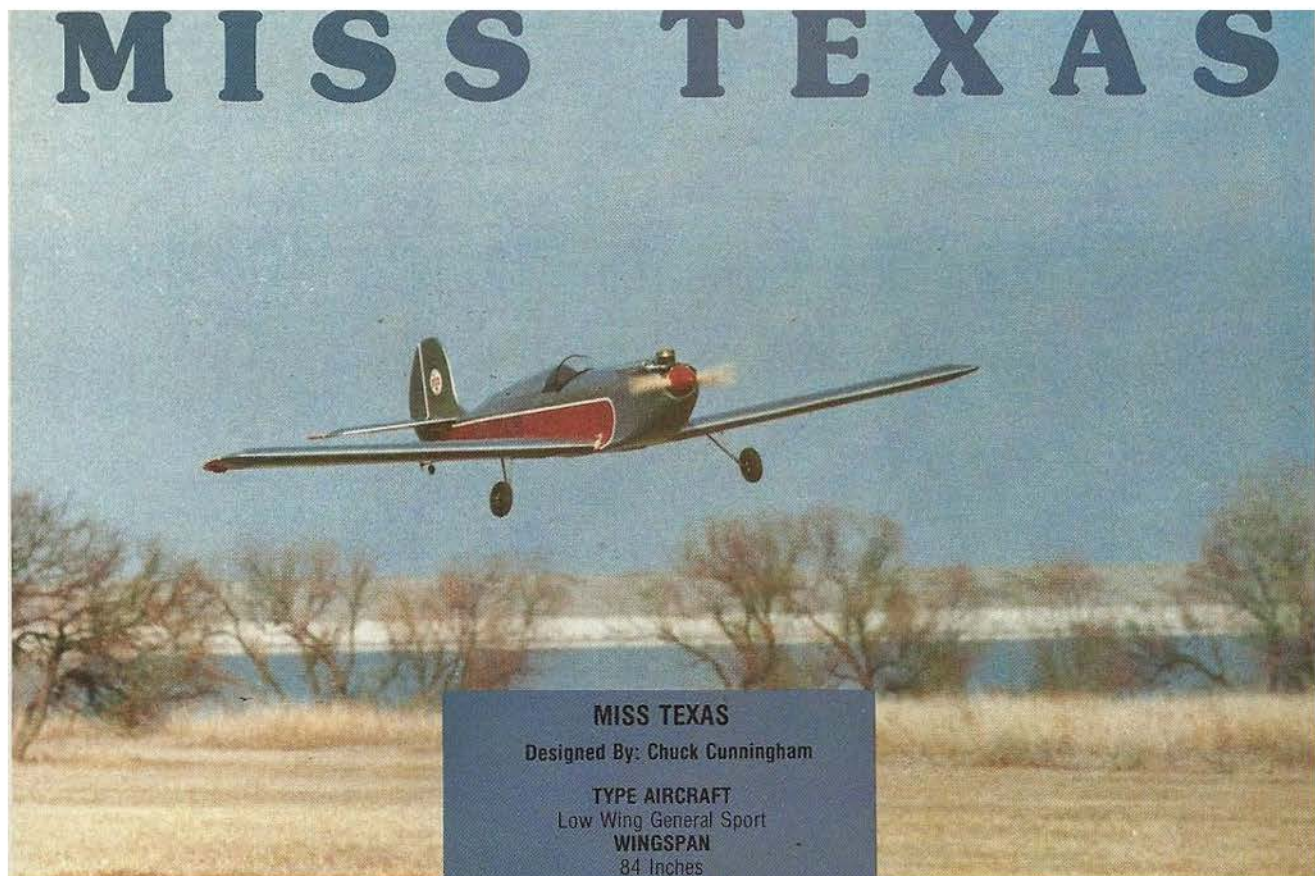
**By
Chuck
Cunningham**



was designed to fly on her wings rather than on engine power alone. She does this very well. I have been using both a 12/6, and a 13/5 prop on the engine and I feel that she does even better on the larger prop. A 13 ounce tank is fine, but due to all of the area up front, you could use just about any size fuel tank that you have pocketbook enough to fill. The radio compartment is large enough to allow a builder wearing boxing gloves to install the equipment, and yet with all of her size, and built-in strength, covered with MonoKote, my Miss Texas weighs in at 8 3/4 lbs. The construction techniques used on both the wing and the fuselage make for a reasonable light aircraft, but one that is very strong.

A word about the lifting tail section. With the slightly lifting horizontal stab and the semi-symmetrical wing section set at zero to the thrust line the balance point is just a bit further aft than is the normal practice, balance at about 33%

MISS TEXAS



MISS TEXAS

Designed By: Chuck Cunningham

TYPE AIRCRAFT

Low Wing General Sport

WINGSPAN

84 Inches

WING CHORD

13 Inches

TOTAL WING AREA

1092 Square Inches

WING LOCATION

Low Wing

AIRFOIL

Semi-Symmetrical

WING PLANFORM

Constant Chord

DIHEDRAL, EACH TIP

3 Inches

O.A. FUSELAGE LENGTH

62 Inches

RADIO COMPARTMENT AREA

(L) 11" X (W) 4 1/2" X (H) 3 1/2"

STABILIZER SPAN

28 Inches

STABILIZER CHORD (incl. elev.)

12 Inches

STABILIZER AREA

288 Square Inches

STAB AIRFOIL SECTION

Flat Bottom

STABILIZER LOCATION

Top of Fuselage

VERTICAL FIN HEIGHT

9 Inches

VERTICAL FIN WIDTH (incl. rudder)

12 Inches

REC. ENGINE SIZE

60-61 cu. in.

FUEL TANK SIZE

13-16 Ounce

LANDING GEAR

Conventional

REC. NO. OF CHANNELS

4

CONTROL FUNCTIONS

Rud., Elev., Throt., Ail.

BASIC MATERIALS USED IN CONSTRUCTION

Fuselage	Balsa, Ply & Spruce
Wing	Balsa, Ply & Spruce
Empennage	Balsa & Spruce
Weight Ready-To-Fly	136 oz.
Wing Loading	18 oz./sq. ft.

of the wing chord. The lift of the tail keeps Miss Texas flying at a much slower speed than you would expect for such a large aircraft. Landings can be made by buzzing in for a hot main gear only landing, or the tail can be dropped and slowed down for a "kiss the ground ever so lightly" three wheel landing. When taking off, I taxi out to the runway, turn into the wind, and shove the throttle to high. She picks up her tail into a flying attitude in about three or four feet, tracks straight down the runway and lifts cleanly into the air with just a gentle bit of back pressure on the stick. I have made zoom take-offs, and stall landings, with no loss of control. This is a big aircraft that will make you think that you're flying a small one. That is until you taxi up along side just about anything other than another Miss Texas or a Lazy Ace - - - then you'll know that you're flying one of the big ones. Try it, you'll like it. What else could a big beautiful gal be named, but Miss Texas?

As in past construction articles about my larger than normal aircraft, I'd like to mention the code word "adhesives". I use three different - - - nope, make that four different - - - types of glues when working on these larger models. I use the cyanoacrylics to tack pieces in place, or to laminate two sheets together. I use Titebond to glue most of the pieces, and to reinforce joints tacked by the super glues. Then, I use epoxy at the firewall, the dihedral brace, and the landing gear

block. Finally, I use Borden's contact cement for holding the cap strips in place on the wing, and for gluing the fuselage doublers to the fuselage sides. Use any combination of glues that you wish, but remember, your aircraft will be only as strong as the glue joints that you construct. So, glue well, and glue carefully.

CONSTRUCTION

Let's begin building Miss Texas by attacking her body first. (That doesn't sound quite right, but let's do it anyway.) The fuselage is a combination of slab sides and doublers, and an open truss construction that saves weight (and money for that matter) and is very strong. Make one fuselage side right over the plan, after first covering the plans with waxed paper or Saran Wrap. Cut the pieces carefully and make all of the glue joints well. Do not add the fuselage doublers now, that will come later. When the first side is dry, remove the pins, but do not remove the side from the building board. Spread another piece of wax paper over the constructed side, and then build the second side right over the first. This will insure that you will make both sides exactly the same. If you have screwed up and built in an error on the first side, then you will build in an error on the second side, but this is better than having two sides that are not even similar. After both sides are dry, remove from the plan and use a felt marker and mark the inside of each

fuselage half. Be sure that you have one right half, and one left half. Next, add the 3/16" doublers to the inside of each half. I use Borden's contact cement for this as it sets up quickly and does not cause the fuselage to warp in any way. When these doublers have been added, draw on the inside of each half with a felt or nylon marker, the location of all of the formers, the firewall, and the tank floor support, and the servo rail support. Use 1/4" square spruce for the servo rail support, and 1/4" balsa for the tank floor support, and glue both of these in place.

Now, spread yet another piece of wax paper over the top view of the fuselage on the plan and then cut to length all of the cross pieces. Pin each one down to the correct location on the top view of the plan. Remember, when installing the fuselage double sheeting, let it run past the spruce longerons, then, when making the cross braces, cut them to fit inside of the doubled fuselage side. Pin the fuselage sides to the top view of the plan, and cement them to the cross pieces. This is a good place to use epoxy glue for quick drying. Glue the sides to the cross braces only back as far as the fuselage sides are straight. Do not pull in at the tail yet. Glue in the bottom sheet balsa formers. Check everything with a drafting triangle, or a small square to be sure that the sides are square with the building board and each other.

When the forward section is dry, then bring the rear of each fuselage piece together right over the centerline on the plan and glue in place, and to the cross braces. Install the bottom cross braces and let everything dry completely. Remove from the plan, glue the plywood firewall in position with epoxy glue. Glue all of the fuselage formers in place, and add the stringers from the headrest to the tail. Install the gross grain bottom sheeting, and all of the nose blocks. Now, we are ready to install the top 1/32" ply covering. First, cut and trim this sheeting to fit, then make the cockpit cut-out. Then, wet the inside of the plywood with a damp sponge and watch the plywood begin to form the top curve. Mix up some epoxy glue and smear it all over the formers, stringer, and longerons where the plywood will fit. Place the plywood in position, and hold it in place with rubber bands, pins, or masking tape, or a combination of all three. When this is dry, you can add the cockpit floor - - - come to think about it, add the floor before you put on the plywood top deck covering. Then, sand everything to shape and set aside to cover later. Right now is a good time to paint the inside of the fuselage nose with some type of fuel proof paint to protect it if you're going to cover this aircraft with plastic film.

Okay, now that the fuselage is completed, let's take a look at the wing.

Make a tracing of the wing rib outline, all of the wing ribs are exactly alike except for the ones with the landing gear block cut-outs. Glue this tracing to a piece of 3/32" balsa wood and cut out this rib. Mark this as your master rib. Then draw around this master rib on sheets of 3/32" balsa 29 times to make twenty nine wing ribs. Don't bother to make the cut-out for the spars, we will do that later. Now, cut out all of the wing ribs and then pin them together to form one giant block of wing ribs. Be sure to line them up very carefully when pinning. Next sand them all to the same configuration with 120 grit sandpaper. Use care, and get them as near to the original outline as possible. Don't remove the pins. Mark out the location for the forward and rear spars on each end of the stack and then cut the spar slots with a razor saw. Cut to the correct depth with the saw, and then prick out the bits of balsa with a razor point or other sharp instrument. Test fit a spar

into the slot, and if it is a bit small, increase its size with a small metal file. You can make very neat, close fitting spar slots this way.

Now, take the rib stack apart and save all of the ribs from each end for the wing panels and use the center three ribs for the center section. Mark the correct ribs for the landing gear blocks, and cut these slots. Make the landing gear brace ribs from 3/32" plywood and cement them to the correct ribs with epoxy cement. Next, build the center section of the wing in one piece, complete with the dihedral braces built in as you go along. Next, we come to each wing panel. Pin down the lower spar to the plan, then put several ribs in place and pin a 1/4" square (use one of the trailing edge spars) to the plan so that the aft ends of the wing ribs are resting on top of this piece of balsa, and they will all line up

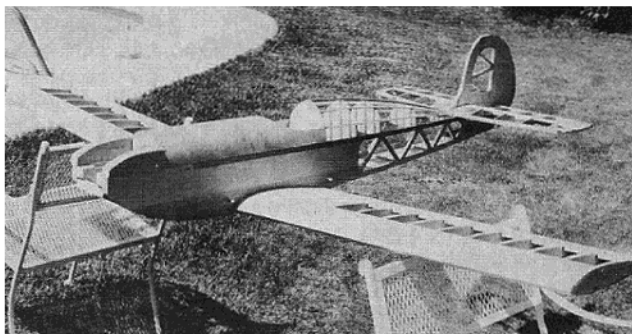
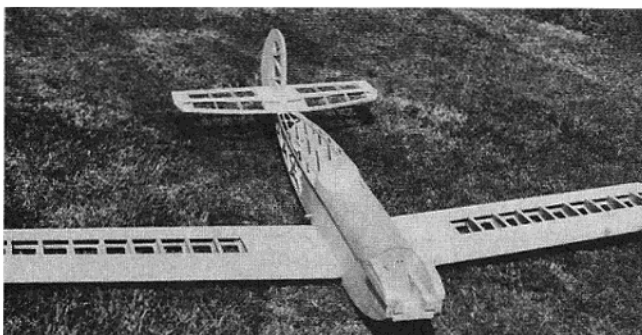


Chuck trying to hide behind his Miss Texas. We knew he started designing these large airplanes for a good reason. His excuse is they're fun to fly.

just about horizontal. Starting at the rib next to the inside end rib, start glueing the ribs and webbing in place. Glue a rib to the spar, then put in a piece of webbing, then glue in another rib, then the next piece of webbing, and so on until you get to the end of the wing. Then go back and glue in the center rib to the correct dihedral angle, and the piece of webbing between this rib and the next rib. Now, glue the top spar to the ribs and to the webbing. Use lots of Titebond for all of these joints. Glue the leading edge in place and the top rear spar, and the trailing edge piece. Shape it, as shown, with sandpaper. Now, glue the leading and trailing edge top sheeting in place and let it all dry overnight. At the next building session, unpin this wing half from the plans, turn the plans over and build the other half on the back side. While this half is drying, take the time to make the cut-outs for the dihedral braces, and to glue the lower spar in place. When both wing halves are done, then work from the center of a reasonably long surface. Pin down the center section, propping it up so that it is exactly level from the center of the leading edge to the center of the trailing edge. Trial fit each wing panel to this center section and, when you are satisfied that everything is a good, perfect fit, glue the wing panels to the center section and to the dihedral brace with lots of epoxy glue. Be sure to block up each tip to the correct dihedral. When all of this is dry, remove from the building board and install the landing gear blocks with epoxy cement. One other point that I forgot to mention earlier, when you have all of the wing ribs in the sanding stack drill a 1/4" hole through all of them in the correct location for the aileron pushrod. Now, back to the construction sequence.

Install the bottom sheeting, the aileron bellcranks, etc., and then sheet the entire center section. Also at this time, install the aileron pushrods and the floor for the aileron servo well. Glue the cap strips in position (contact cement works great here) and the tip pieces, along with all of the tip braces. Sand everything smooth, and be sure to round the leading edge to the large radius as shown on the plan. A rounded leading edge makes for a much smoother and saner flying aircraft than does a sharp leading edge.

The horizontal stab is a cinch to build as is the vertical fin. Just take care to build them strong and straight. Glue the elevator halves together with the hardwood dowel, and pin to the building board, while drying, so that the elevators will not be misaligned. Be sure that when you make the slot for the vertical fin in the elevator that you build it straight so that the fin will not be installed in a crooked manner.



Sand everything lightly and get ready to cover. If you're going to cover with MonoKote or other plastic films be sure to go over all of the structure with a vacuum cleaner to remove all of the sawdust. This sawdust, if left on the aircraft, will keep the covering from fitting tightly and adhering correctly. I even use a slightly damp towel to go over all of the aircraft just one more time after vacuuming it. Cover Miss Texas in any color scheme that you want, since you will probably have better ideas on how to dude her up than I have. Install the radio equipment, using 1/4" spruce spars as pushrods. These are strong, straight, flexible, and pretty lightweight. I always use spruce spars for pushrods on any aircraft of the large size. Slip the fuel tank floor in place, pad the tank area with foam rubber, determine the correct location of the CG from the plans and install the radio and the battery so that the CG falls in the correct location. Make the tail wheel installation, and the landing gears and install them. Be sure to make good solder joints on the wire. Install engine, muffler, etc., and check everything out to see that all controls and pushrods work freely and that everything is square and ship shape.

FLYING

Not much needs to be said about flying Miss Texas. She is a very easy girl to fly, and responds well to all commands. She can do just about anything that you, as a pilot, can ask her to do. If you have constructed her according to the plans, and have balanced where shown, you are going to have a bird that will give you many many hours of flying pleasure. And all of the guys flying Ugly Sticks will wish that they had taken the time to build a big Miss Texas. □

**From
RCModeler
June 1978**