



MISS VINTAGE

Designed around .25 to .35 size engines, George Jennings vintage type aircraft will help you capture the yesteryear of aviation . . . the romance of flying wires singing, the permeating smell of exhaust, and the sting of the wind to keep you company.

machines must have wrought with flying wires singing, empennage vibrating and the smell of hot engine exhaust permeating the nostrils. Yes, that was really flying! Imagine what it must have been like to fly with no airspeed indicator, engine monitoring devices, or other modern-day instrumentation. Just a stick, rudder bar, throttle, deafening roar, and the sting of the wind in the face were all the pilot had to keep him company.

Those days are gone forever and we can only thrill to the written accounts of those aerial pioneers or reconstruct such bold and daring ventures in our own daydreams. Unless we fly R/C! Through the medium of of R/C, we can re-create such an exciting era. Miss Vintage will help you capture that feeling, that romance, that return flight to nostalgia.

Miss Vintage is a thoroughly tested and practical machine. Designed around the economical .25 to .35 sized R/C engines, it duplicates the looks, slow, deliberate, flight characteristics and realism of an old-timer. It is completely reliable, easy to fly and designed to look complicated and yet be quick and economical to construct.

Wing construction is a snap with a high lift flat bottom airfoil for easy building on a flat surface. Half ribs and diagonal braces are used for strength as well as looks. They require very little time to install and, as a plus, you don't have to sheet the leading edge of the wing. Ailerons are of the simple and effective strip type, making the choice of three or four channels an easy one for the builder. Very little extra effort is required to add ailerons.

The fuselage is constructed almost entirely of hardwood. Fuselage sides are cut from 1/8" Sig Lite Ply and are almost as light as balsa with far greater strength. The open framework is built from 3/16" square spruce which is also very light and strong. The only balsa contained in the fuselage is one bulkhead and the top block. The main advantage to this type structure, in addition to its ruggedness, is economy!

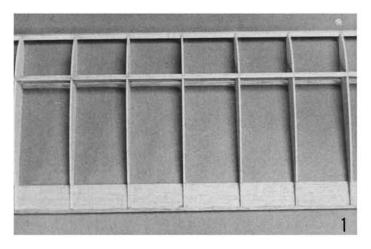
The tail surfaces are primarily constructed of laminated spruce and provide protection from warping and, again, are economical to build as well as rugged and light.

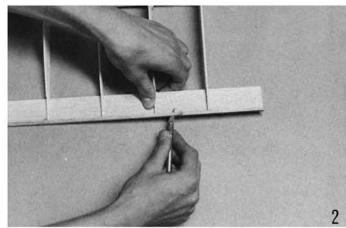
Finished with see-through covering, Miss Vintage is a real show stopper guaranteed to attract attention from fellow RC'ers and spectators alike. Flying capabilities are extremely good. Miss Vintage is capable of many aerobatics including inverted flight and yet is very gentle and easy to fly. Because of the easy take-off and landing characteristics, Miss Vintage could be used as a trainer and first airplane. If you have built at least one R/C plane and understand basic construction techniques, you can build Miss Vintage — so let's get started!

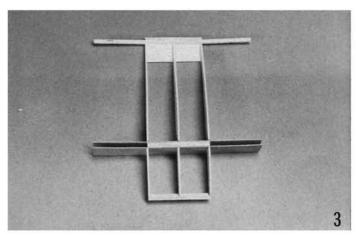
Before beginning, it is best to secure all materials needed for the job. You can probably find most materials at your local hobby shop, however some shops don't stock spruce and Lite Ply. These items can be purchased directly from Sig Manufacturing Company in Montezuma, Iowa. (See complete materials list.)

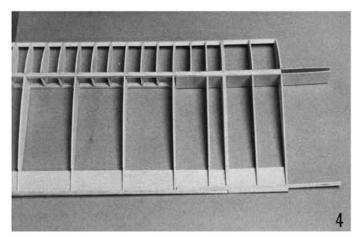
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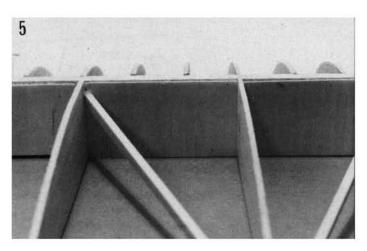


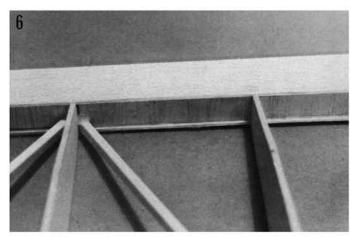




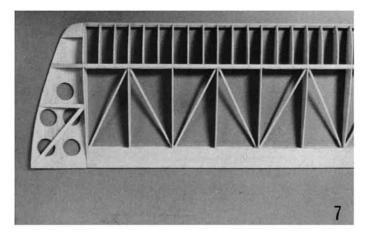


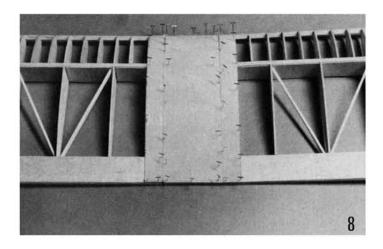


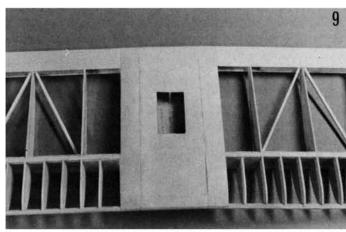


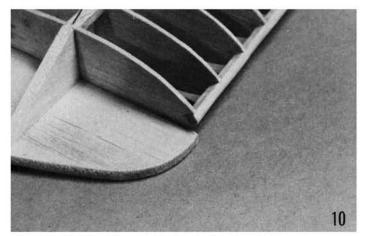


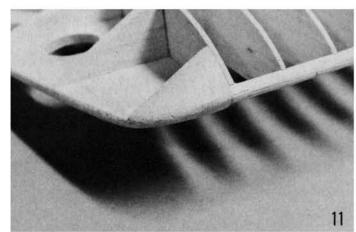
(1) Pin 1/16" trailing edge sheet and 1/4" square main spar over your plan. Add 3/16" square rear spar and then R-2 ribs. Then add top spar and 1/4" square leading edge. (2) 3/16" square rear spar is tapered to match rear of ribs. (3) Center section shown completed ready to join to wing panels. (4) Left wing panel joined to center section with extra R-1 & R-1A ribs in place. (5) Webbing for main spar is 1/16" vertical grain balsa butted against rear of main spars. (6) Webbing for trailing edge 1/16" vertical grain balsa inserted between top and bottom trailing edge sheeting. (7) Left wing panel shown completed ready to cover. Lightening holes are cut in the soft 1/4" balsa wing tip.

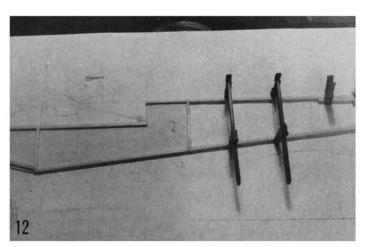




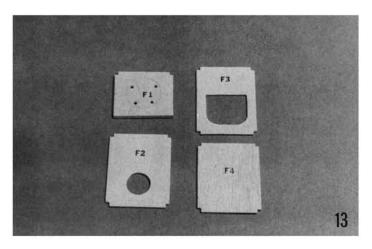


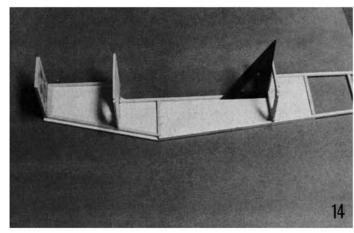


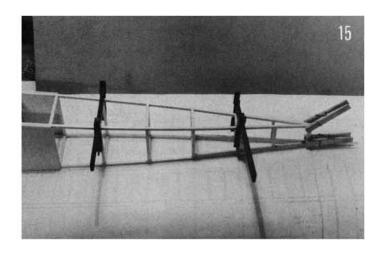


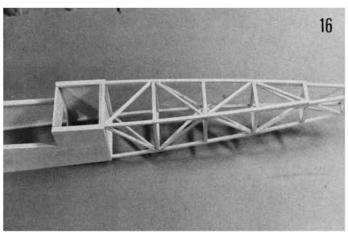


(8) Wing center section is sheeted with 1/32" plywood directly over trailing edge sheet. (9) If strip allerons are used, a hole is cut in the bottom of the wing to accept the alleron servo. (10) Wing tip is installed flat even though it does not meet the upsweep on the bottom of the airfoil near the leading edge. (11) Soft scrapblock is glued in place, sanded and carved to blend front of wing tip and bottom of airfoil. (12) Right fuselage side is built directly over the plan. (13) F-1 firewall is cut from 3/16" plywood, F-2 & F-3 from 1/8" Lite Ply and F-4 from 1/8" balsa. Blind nuts for mounting engine mount are now added. (14) Former F-2 & F-3 as well as firewall are epoxied to right fuselage side.

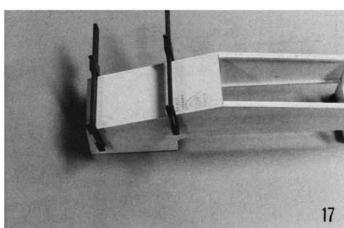


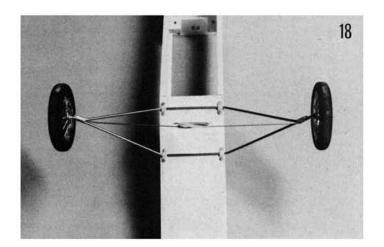


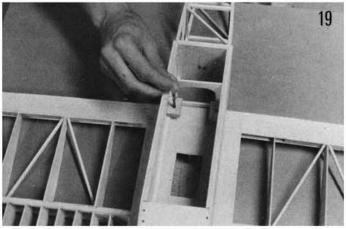


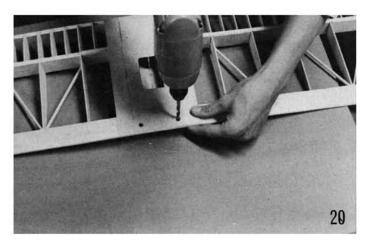


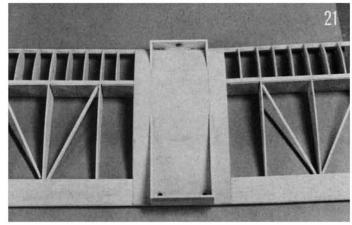
(15) After building left fuselage side, join to formers you have added to right side. Tail post is joined and 3/16" square spruce cross members are added. (16) 1/8" x 3/16" spruce is used for diagonal bracing. (17) 3/16" plywood forward fuselage bottom is glued in place. (18) Landing gear is fabricated from 1/8" music wire with 1/16" wire shock absorber crosspieces. (19) Mark drill location for nylon wing hold-down bolts from the bottom of the fuselage. (20) Hold-down bolt holes are drilled with a 1/4" drill. (21) Cockpit section is built directly on wing center section with 1/8" Lite Ply. Note: the 4-40 blind nut installed as a hold-down for the front of wing.

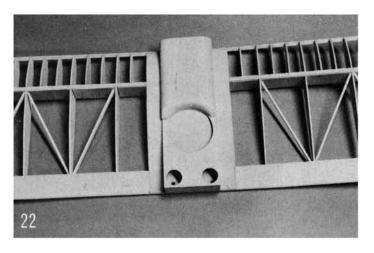


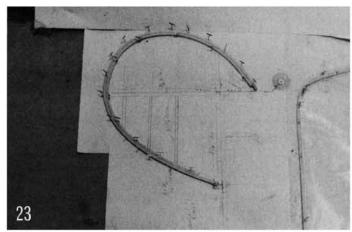


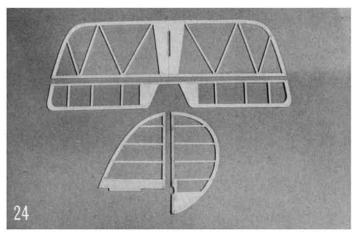


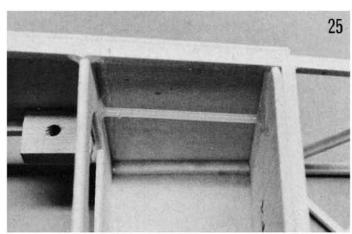


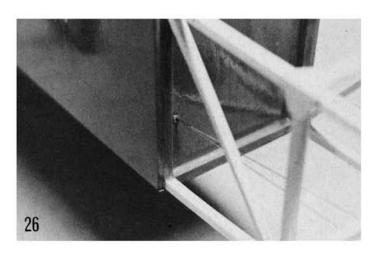


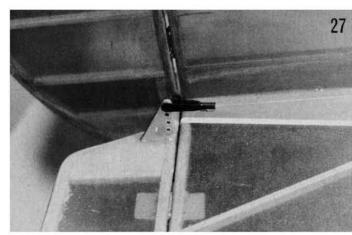


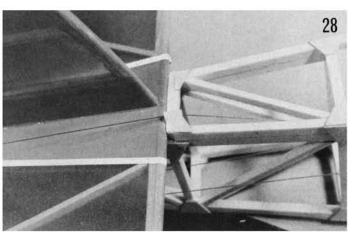




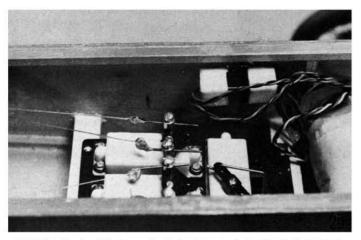




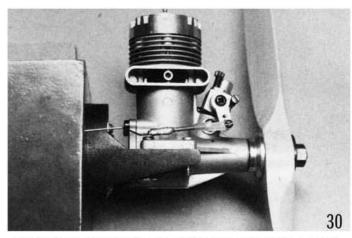




(22) Cockplt top is cut from 1/32" plywood and then soft 3/4" balsa block is added. (23) Tall surfaces are constructed from 1/8" x 3/16" spruce strips soaked in water overnight and laminated with Kwick Tak glue. Leave pinned in place until thoroughly dry. (24) Tall surfaces are completed by adding 3/16" balsa and 1/8" x 3/16" spruce cross members. (25) Sullivan Gold'N Rod inner rods are epoxied in place as a guide for nylon covered braided wire control cables entering fuselage. (26) Both nylon covered control cables from one control enter one guide. Because of their smooth properties, there is practically no friction. (27) Control cable is tied on clevis and permanently secured with epoxy. Clevis is shown attached to 3/32" ply elevator horn. (28) Small sections of Sullivan inner rod are used as guides where cable enters the fuselage to prevent rubbing on fuselage framework.



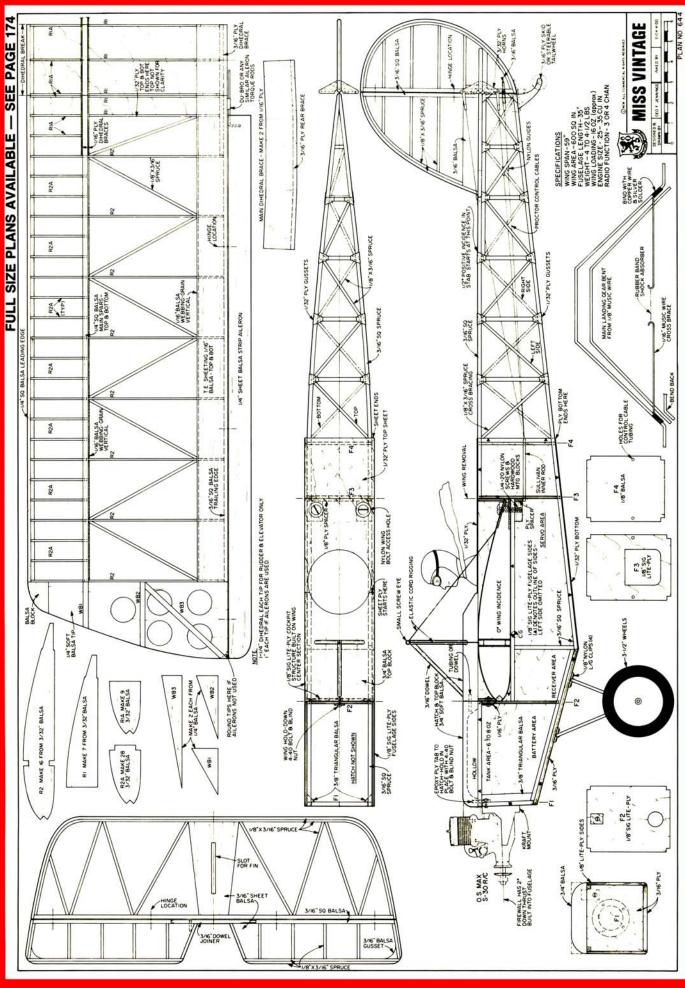
(29) Control cables are fastened to eyelets made from solder and wire and secured with epoxy. Cables then slide in to Du-Bro connectors fitted to servo arms. Control surfaces are fully adjustable.



(30) Engine throttle wire is 1/32" music wire with a small nylon clevis silver soldered in place. Half of the clevis is cut off and drilled out large enough for a 2-56 bolt which is then tapped into throttle arm for a fully adjustable no noise installation.

MISS VINTAGE
Designed By: George F. Jennings
TYPE AIRCRAFT
Vintage Sport
WINGSPAN
59 Inches
WING CHORD
111/4**
TOTAL WING AREA
600 Square Inches
WING LOCATION
Shoulder Wing
AIRFOIL
Flat Bottom
WING PLANFORM
Constant Chord
DIHEDRAL, EACH TIP
1¼ Inch
O.A. FUSELAGE LENGTH
35'' — 42''
RADIO COMPARTMENT AREA
(L) 10" X (W) 314" X (H) 258"
STABILIZER SPAN
18 Inches
STABILIZER CHORD (incl. elev.)
71/4 Inches
STABILIZER AREA
130 Square Inches
STAB AIRFOIL SECTION
Flat
STABILIZER LOCATION
Top of Fuselage
VERTICAL FIN HEIGHT
6 Inches
VERTICAL FIN WIDTH (incl. rudder)
VERTICAL FIN WIDTH (incl. rudder) 7½" (Avg.)
REC. ENGINE SIZE
.25 — .35 cu. in.
FUEL TANK SIZE
6 — 8 Ounce
LANDING GEAR
Conventional
REC. NO. OF CHANNELS
4
CONTROL FUNCTIONS
Rudder, Elevator, Ailerons & Throttle
BASIC MATERIALS USED IN CONSTRUCTION
Fuselage Balsa, Ply, Sig Lite-Ply
Wing Balsa
Empennage Balsa & Spruce
Weight Ready-To-Fly 64 — 72 Oz. Wing Loading 15.4 — 17.3 Oz/Sq. Ft.
Wing Loading 15.4 — 17.3 Oz/Sq. Ft.

MATERIALS LIST				
Amount	Description	Use		
Balsa				
9	3/32" x 2" x 36" med. balsa	wing ribs		
1	1/4" x 4" x 36" soft balsa	wing tips, braces		
1	1/4" x 3" x 36" med. balsa	ailerons		
3	1/16" x 3" x 36" med. balsa	wing trailing edge sheet, vertical grain webbing		
1	3/16" x 2" x 36" med. balsa	tail surfaces		
1	3/4" x 4" x 12" soft balsa	fuselage top block		
6	1/4" x 1/4" x 36" med. balsa	main spars, leading edge		
4	3/16" x 3/16" x 36" med. balsa	rear spars, tail surfaces		
1	1/8" x 4" x 4" scrap balsa	F-4		
1	3/8" x 36" triangular balsa stock	firewall backup brace		
Spruce	AND AND A THE STORY OF THE AND A STORY OF A PART OF A PA			
8	3/16" x 3/16" x 36" spruce	fuselage longerons, and cross members		
13	1/8" x 3/16" x 36" spruce	diagonal braces, tail surfaces		
Plywood				
1	1/8" x 12" x 24" Sig Lite Ply	fuselage sides, cockpit stucture, F-2, F-3		
1	1/32" x 12" x 24" aircraft plywood	wing center section, fuse, sheeting gussets		
1	1/16" x 6" x 12" aircraft plywood	main dihedral brace		
1	3/16" x 6" x 12" aircraft plywood	fuse. firewall, bottom, rear dihedral brace		
1	3/32" scrap 2" x 2" aircraft plywood	control horns		
Miscellane				
1	3/16" x 36" hardwood dowel	flying wires tripod		
1	1/8" x 36" music wire	landing gear		
1	1/16" x 36" music wire	landing gear cross brace tail wheel wire		
1	1/32" or 3/64" x 36" music wire	throttle control		
13	hinges	for hinging control surfaces		
1	set of strip aileron hardware	if ailerons are used		
4	control clevises	rigging elevator and rudder		
1	10 ft. roll Proctor Enterprises control cable	rigging elevator and rudder		
1	steerable tail wheel bracket	if used		
6	4-40 blind nuts & bolts	engine mounting and wing hold-down		
2	1/4" x 20" nylon wing bolts and threaded nut blocks	wing hold downs		
4	1/8" nylon landing gear clips	to attach landing gear		
1	scrap of Sullivan inner Gold'N-Rod	control cable guides		
1	6-8 oz. Sullivan fuel tank	 A stay is not the actions to a volumencies to a for it 		
1	.25 to .35 RC engine & mount			
1	set 31/2" to 4" main wheels			



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MISS VINTAGE

from page 33

During construction, much time can be saved by using one of the new instant adhesives such as Zap or Hot Stuff. I, personally, like to stick parts together with Hot Stuff and then re-glue with Hobby Shack Kwik Tak yellow glue.

The parts shape can easily be transferred from the plan to your wood by putting the wood under the part outline on your plan and perforating the outline with a pin about every 1/8". Remove the wood, join the pin holes with a ballpoint pen and you are ready to cut out the part, plus you have the added advantage of having a complete plan still intact.

Finally, think light! Do not use 5 minute epoxy except in high stress areas as firewall installation. Use high strength aliphatic resin glue (Kwik Tak or Titebond) unless epoxy is called for. Miss Vintage should weigh in at no more than 41/2 pounds ready to fly. The prototype weighs 4 pounds ready to fly and the resulting wing loading is between 15 and 16 ounces per square foot, which makes for a beautiful flying airplane! Wing:

- ☐ Cut 4 pieces of trailing edge sheeting from
- 1/16" balsa 1½" x 24".

 □ Cut two (2) 1/4" square medium balsa leading edge pieces 24" long.
- ☐ Cut 4 main spars from 1/4" medium balsa 24" long.
- ☐ Make all ribs from 3/32" balsa sheet. You will need (16) R-2's, (7) R-1's, (28) R-2A's and (9) R-1A's. If you have the use of a band saw, simply stack up rib blanks and hold them together with straight pins. Mark the outline on with a ballpoint pen and saw out. An alternato page 134

EXCLUSIVELY

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KP-SC	359.95	279.95	40 Fr R/C		
KP-7C	499.95	384.95	Sch. pumper	89.50	57.75
KP-7CS	499.95	384.95	61 R/C	85.00	58.75
			61 R/C pumper	110.00	65.85
1976 PROLINE			.21 R/C marine	69.50	46.50
PL-50	485.00	377.95	.21 R/C plane	67.50	44.95
PL-70	525.00	396.95			
Pt-5S	505.00	389.95	KRAFT ENGINES		
PL-7S	535.00	414.95	61 R/C	119.95	88.88
PLC-5	345.00	267.95		the transfer	1
Retrocts 3-gear	49.95	42.50	JENSEN		
			Das Ugly Stik	62.50	44.25
KRAFT SOUTHEAS			Wing Kit	26.00	19.75
KSE sport 5 ch.	349.95	229.95	Fuse Kit	28.75	21.50
FIFTADA 1074			Free Hot Stuff and	Bidl Su	per Stik
FUTABA 1976	319.95	239.95	Glue with purchase	of any Bri	di kit.
6-channel	309.95	239.95	BRIDI	March 1	
5-channel	264.95	The second second second	RCM Sportster	39.95	28.75
4-channel	179.95	198.75	RCM Basic Trainer	39.95	28.75
3-channel	The state of the s		RCM Trainer 40	49.95	34.75
2-channel	129.95	97.50			
2-ch. wheel	139.95	104.95	RCM Trainer 60 Kacs 60	59.95	42.75
MODIO PHONICO	TVOTOT			59.95	42.75
WORLD ENGINES			Super Koos 60	69.95	48.75
For 1976 - with 4			Super Koos 40	52.95	37.75
5 channel	359.00	215.00	T-20 Trainer	44.95	31.95
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Two stick	265.00	159.00	(fiberglass)	119.95	89.95

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HOBBYIST POWER PANEL

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MISS VINTAGE

from page 130/33

tive method is to make two 1/16" plywood templates and sandwich the rib blanks in between and hold together with 4-40 bolts and nuts. Rough carve and then sand the ribs to shape with a sanding block.

☐ Pin down the 1/4" square main spar over the plan on your wax paper covered building board, as well as the bottom 1/16" trailing edge sheet.

☐ Glue the 3/16" square balsa rear spar on the

trailing edge of the wing.

☐ Glue all 8 R-2 ribs in place.

- ☐ Glue the 1/4'' square leading edge in place.
 ☐ Add the top 1/4'' square main spar.

☐ Glue in all R-2A half ribs.

☐ Bevel the 3/16" rear spar to match R-2 ribs but leave off the top trailing edge sheeting for now.

Repeat the last 7 steps and build the right hand wing panel.

☐ Cut out three dihedral braces. The main braces are cut from 1/16" plywood and the rear brace is cut from 3/16" plywood.

- ☐ Build the center section over the plan as follows: Pin down the lower trailing edge sheet and glue the 3/16" square rear spar in place. Glue in 3 R-1 ribs. Sandwich the two 1/4" square main spars between the 1/16" main dihedral braces and, when the glue has set, butt the main dihedral brace against the front of the R-1 ribs and glue in place. Add the 3 R-1A ribs. Also add the 1/4" square leading edge. Again, bevel the 3/16" square rear spar to match R-1 ribs.
- ☐ Before joining the wing panels to the center to page 136





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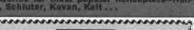
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MISS VINTAGE

from page 134/33

section, decide whether you are going to add ailerons. The dihedral should be 1" if ailerons are used, and 114" for three channel (no ailerons). This measurement is made by pinning the center section flat to the building board and blocking up the wing panels an appropriate amount so that the measurement can be made from the surface of the building board to the bottom of the main spar at the outboard end of each wing panel.

Revolution

- ☐ Join the wing panels by gluing, pinning, and clamping the dihedral braces securely to the spars. Make sure both wing panels are blocked up squarely
- ☐ Add the 3/16" rear dihedral brace in front of the 3/16" square rear spar. It will be necessary to notch the rear of the R-1 ribs to accomplish this. Be sure all glue is thoroughly dry before removing from the building board.
- ☐ Add the remaining R-1, R-1A ribs.
- Pin the left panel flat to your building board and add the top 1/16" trailing edge sheet.

- □ Add the 1/16" balsa vertical grain webbing behind the main spar.
- ☐ Add the trailing edge 1/16" balsa vertical grain webbing, only this time insert between the top and bottom of the trailing edge sheeting. Caution - Do not eliminate the webbing, as the wing gains much of its strength from it.
- ☐ Add the 1/8" x 3/16" spruce diagonal braces between the ribs.
- ☐ When the left panel is thoroughly dry, repeat the previous 4 steps and complete the right wing panel.

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MISS VINTAGE

from page 136/33

- ☐ Cover the center section, both top and bottom, with 1/32" plywood which goes directly over the trailing edge sheeting. Cut the 1/32" plywood by scoring with a sharp model knife or use household scissors.
- Cut out a hole in the bottom of the center section for placement of the aileron servo if you plan to add ailerons.
- ☐ Add the wing tips and tip braces which are cut from soft 1/4" sheet balsa. Lightening holes may be cut from the tips as shown on the plan. The rear of the tip is shaped slightly differently if ailerons are to be added see plan.
- ☐ Add soft balsa blocks at the leading edge of the tip and shape to fit the contour of the airfoil.
- ☐ Round the leading and trailing edge of the wing as well as the wing tip with a sanding block. Go over the entire wing lightly with fine sandpaper using extreme care so as not to destroy the airfoil by sanding the ribs too much.
- If you plan to use strip ailerons make them from 1/4" balsa, 1½" wide, and simply round off both the front and rear edges. If you prefer, you can use tapered trailing edge stock. Hinge them temporarily and install the strip aileron horns. Do not permanently install until the wing is covered.

Fuselage:

- ☐ Cut two fuselage sides from 1/8" Sig Lite Ply.
- ☐ Cut F-1 from 3/16" aircraft plywood and install 4-40 blind nuts for the radial engine mount. (The prototype used a Kraft-Hayes mount.)
- ☐ Cut out F-2 and F-3 from 1/8" Lite Ply.
- □ Cut out F-4 from 1/8" balsa.
- ☐ Place the right hand fuselage side over the plan and glue in the 3/16" square spruce braces as well as the 3/8" triangular balsa firewall brace and 3/16" square spruce longerons. Add the vertical 3/16" square spruce braces.
- □ Build the left hand fuselage side directly over the right hand side so that they are matched. Be sure to put wax paper between them so they don't stick together.
- ☐ Pin down the completed right side and glue F-1, F-2, F-3 in place with 5-minute epoxy. Use a 90° triangle to be sure that formers are truly 90° to the fuselage side.
- ☐ Epoxy the left side in place making sure everything is straight and true.
- ☐ Bevel the fuselage sides with a sanding block at the rear of the fuselage where they join.
- ☐ Set the fuselage upside down over the plan and weight down with a brick or other heavy weight so it won't shift. Draw the tail together so that the tail post lines up directly over the plan in perfect alignment. Glue and clamp with spring clothespins until thoroughly dry.
- ☐ While the fuselage is still weighted down, add the 3/16" square spruce cross pieces.
- ☐ Add the 1/8" x 3/16" diagonal spruce braces as shown on the plan.
- ☐ Cut gusset plates from 1/32" plywood scrap with scissors and epoxy in place on the fuse-lage as shown on the plan.
- ☐ Add the forward 3/16" plywood fuselage bottom. Do not add the 1/32" rear bottom sheeting at this time.
- ☐ The top 1/32" ply sheeting, aft of the wing, should be added now.
- ☐ Construct the landing gear from 1/8" music wire. The 1/16" music wire shock absorber crossbar is functional and makes for smoother take-offs and landings. Wrap the joints with

to page 140

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MISS VINTAGE

from page 138/33

soft copper wire and solder with low temperature silver solder. Be sure to use the flux that comes with the solder for a smooth, secure job. Use a rubber band for the shock absorber.

- ☐ Trial mount the landing gear using 1/8" nylon landing gear clips and wood screws. The placement of the main gear on a tail dragger is critical! With the fuselage in a horizontal, or flying, attitude, line up the landing gear axles so they are perpendicular, and in line, with the
- leading edge of the wing.

 □ Epoxy the wooden 1/4 x 20 nut blocks in place on the fuselage as shown on the plan.
- ☐ Set the wing in place and turn the airplane upside down. Mark the location for drilling 1/4" holes through the wing to accept 1/4 x 20 nylon hold-down bolts by inserting a drill that just fits inside the threaded block hole, twisting with your fingers to make a mark on the wing surface. Now, drill the 1/4" holes.
- ☐ With the wing installed and the nylon bolts in place, glue the 1/8" Lite-Ply side pieces of the cockpit structure on top of the wing center section. Add the front and rear 1/8" Lite-Ply bulkheads. When dry, install a 4-40 blind nut and bolt through F-2 and into the front bulkhead on the cockpit structure. This serves as the front of the wing hold-down. Reinforce F-2 by gluing on a small scrap of 1/16" plywood where the 4-40 bolt enters.
- ☐ Add the top 1/32" ply sheeting to the cockpit after cutting out the cockpit hole and access holes for the wing hold-down bolts.
- ☐ Rough carve the 3/4" soft balsa fuselage top block. When a reasonably good fit is achieved, cut in two with a razor saw on the joint between the fuselage and the front of the wing. Glue the rear portion to the cockpit area. The front portion serves as an access hatch to the fuel tank and battery compartment.
- ☐ The hatch may be attached with a 1/8" dowel, or brass tubing at the rear, and screws, or a 4-40 blind nut and bolt at the front.
- ☐ Before closing up the bottom of the fuselage with 1/32" plywood, plan your servo installation and drill appropriate holes for pushrods, or as on the prototype, nylon covered braided control cable. On the prototype, the cables are run through sections of inner Gold'n-Rod tubing which serve as guides. Install the guides on each side of the fuselage, keeping them toward the outside of the fuselage in order to provide sufficient clearance for the aileron horns.

Tail Surfaces:

- ☐ Soak strips of 1/8" x 3/16" spruce in warm water until they become very pliable.
- ☐ Using modelers T-pins, proceed to pin down the spruce over your wax paper covered plan, following the inside contour of the fin and rudder. When in place, bend the outside piece of spruce and then laminate by gluing with Tak and clamping and pinning tightly together.
- ☐ When the lamination is dry, cut the fin and rudder apart and add 3/16" balsa and 1/8" x 3/16" spruce crosspieces as shown on the plan.
- ☐ The elevator and stab are constructed in the same manner. Pay close attention to the direction of the grain on the balsa parts - see plan.
- ☐ When everything is thoroughly dry, sand all tail surfaces and round the edges of the surfaces. Temporarily hinge the tail surfaces, however the tail surfaces should be covered and the stab and fin installed on the fuselage before permanently hinging.

to page 142



I would like to discuss today the various reasons why some motors seem to have, or develop an appetite for glow plugs and what you can do about it.

- 1. Flooding. Cranking out a flood is murder on the glow plug. Large droplets spraying up from the by-pass can easily crumple a glow plug element. If the element is hot you have thermal shock to boot. A flood can be poured out by positioning the piston at bottom dead center and rolling the model over two or three times. If you must clear the flood by cranking, remove the plug first.
- 2. Overheating. An element that burned in two, when viewed under a microscope will have a lump on each end of the break. This usually occurs when a motor is run full lean with the booster connected. Or when you continue to run with an overlean mixture.
- 3. Vibration. If a motor is permitted to vibrate from side to side with appreciable amplitude, the plug element being springy by nature will want to follow and amplify that motion. It doesn't take too much motion to get the coil swaying quite a bit. It can eventually fail either by bashing the side of the housing or fatiguing from the 24,000 or so stress reversals per minute. A flimsy motor mount or front end is the usual cause of this type failure, although a loose connecting rod is sometimes the culprit. The more the RPM, naturally the greater the vibration. Solution, beef up your motor mounting system-prop your motor down a bit and be sure your con rod play is within .010.
- 4. Contaminants. Minute quantities of iron or aluminum will vaporize and alloy with the element material, this produces an alloy much more brittle than the original, this in turn fails from vibration. Fuels with synthetic oils are harder on plugs than castoroil type fuels, because they wear metal off faster and loosen debris.
- 5. Shock waves. Sonic shock waves from a squish area or squish band will shatter a glow plug wire the same way a sonic boom from a fast aircraft will shatter a window. As a rule an .015 min. clearance from head to piston is safe. Under .010 is guaranteed to knock a plug out every run. The cure is to install an extra head gasket.

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MISS VINTAGE

from page 140/33

Finishing:

- ☐ When covering Miss Vintage, it would be a shame to hide all that pretty framework, so use a transparent covering material on the wing and tail surfaces. Transparent Solarfilm or MonoKote covering can be used. The prototype was covered with red silk and given 5 coats of clear dope allowing 24 hours between coats. After a 72 hour curing period, a coat of K & B Superpoxy clear was sprayed on.
- ☐ After covering and finishing the rudder and elevator, install the 3/32" plywood control horns as shown on the plans if you plan to use control cables. Make a slot in the control surface and slip the horn in place and epoxy securely. The control horns should be finished in natural wood finish using polyurethane clear or Superpoxy clear.
- ☐ Glue the stab and fin in place on the fuselage making sure they are aligned properly.
- All open framework on the tail should be finished in natural wood finish.
- ☐ The main fuselage, ailerons, and wing center section can be covered with opaque Solarfilm or finished with paint or dope. On the original, exposed surfaces were given two coats of surfacing resin, sanding between coats and then sprayed with Superpoxy colored paint.
- ☐ Add the 3/16" dowel tripod on the front of the cockpit and finish in natural wood color.
- ☐ Next, permanently hinge the control surfaces. ☐ Flying wires are non-functional and simply for appearance, but add to the realism. Use elastic cord or heavy elastic thread.

to page 144



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MISS VINTAGE

from page 142/33

☐ Add the dummy pilot.

☐ Attach the tail wheel bracket, main landing gear, wheels, engine, muffler, gas tank, and hatch.

Radio Installation:

☐ Mount the aileron servo in the wing — hook up the ailerons.

☐ Trial fit the battery under the tank and receiver and the servos in the main compartment. Install the wing and shift the servos and battery forward or back until the correct balance is achieved. The balance point should be 3/16" to 1/4" back of the main spar and no further back! When correctly balanced, the plane hangs slightly nose down when suspended on the tips of your index fingers placed under the wing on each side of the fuselage at the balance point.

□ When the position of the radio is found for correct balance, epoxy two pieces of 1/2" square soft pine across the fuselage to support the servo tray. Note: Mount the servos as low as possible in the fuselage so that there will be adequate clearance for the aileron servo.

☐ Wrap the battery and receiver loosely in foam and place in a plastic bag for fuel proofing. String the antenna wire to the tail.

☐ Install nylon control horns if you have not already epoxied in 3/32" plywood horns. On the prototype, Proctor Nylon covered braid control cable was used. Any nylon covered braided wire fishing leader will work equally well as long as you can find it in long enough lengths for a continuous run. It should be at least 25 pound test for peace of mind.

☐ Measure and cut 4 lenghts of control cable several inches longer than needed, running from the control horns to the servos. Attach a clevis to each of the four lengths by tying the cable on and double knotting. Safety in place

with a small glob of epoxy.

☐ Attach clevises to the control horns and, by trial and error, thread the cable through the open part of the fuselage and on through the Sullivan inner rod guides that were installed earlier. On the prototype both control cables from one control surface were run through one guide. Because the guides are nylon, and the control cable is nylon covered, there is no sign of friction and wear. You will need to epoxy several small pieces of Sullivan inner rod approximately 3/16" long on to the open framework back near the tail to serve as guides and to keep the control cable from rubbing on the framework.

Attach the control cable to the servo arms in the following manner: Take four pieces of 2" long, 1/16" diameter, or slightly smaller, music wire and bend the end of each into a tight loop. Fill the loop in with solder and then drill a small hole through the center. The control cable is double knotted on to these cable connectors and saftied with epoxy glue. Du-Bro EZ Connectors are then attached to the servo arms and the cable connectors are slid into the Du-Bro Connectors. This makes a system with easily adjustable control surfaces.

□ 1/32" music wire is recommended for the throttle pushrod as it is easy to bend and yet rigid enough to actuate all but the stiffest throttles. Adjust the linkage accurately so that the servo throw matches the throttle throw.

☐ For your initial flights control throws should be set as follows: Rudder 3/4" each direction;

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MISS VINTAGE

from page 144/33

Elevator 5/8" each direction; and ailerons 3/16" each direction.

☐ Have another competent pilot check your radio installation just to be sure. A lot of good airplanes have been lost on that first flight simply because the control surfaces have a way of getting hooked up backwards, particularly ailerons!

Flying

Miss Vintage is an easy airplane to fly in either the 3 or 4 channel configuration. The prototype was test flown extensively from snow with skiis. In fact, the initial test hop was made with skiis.

Wind penetration is excellent, primarily because of the built-in down thrust, and 1½° positive incidence in the stab.

An O.S. .35 R/C engine with 10/6 prop was used and constitutes the maximum power you would want to use for realistic flight. In fact, a .25 or .30 would be perfectly acceptable. My method of flying is to use maximum power for take-off and, once airborne, throttle back to about 1/3 to 1/2 throttle and putt around the sky, periodically making low fly-bys and occasionally shooting a touch-and-go! That eight ounce tank lasts forever!

Ground handling is good. I cheated and added a steerable tail wheel, however the spectators won't mind as you come chugging in for a super slow landing and then taxi back to your flight box and kill the engine with your throttle trim. Your biggest problem will be the barrage of questions you will have to answer each and every time you show up at the flying field.

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