By Al Sievers

OLD TIMER

For some relaxed flying and for the less experienced, try the "Old Timer." It's a rendition of the 1930's era free flights. Can be powered with a variety of 2 or 4-stroke engines.

The flying bug has bitten again . . . this time an airplane patterned after vintage free flight models of the 1930's. There seems to be a renewed interest among modelers the world over in vintage model airplanes with R/C assist — especially when powered by a 4-stroke engine. The nostalgic appearance, and slow, stable flying speeds, coupled with the quiet putt-putt-putt of a 4-stroker, is rekindling the reason we love this hobby! At risk of sounding evangelistic, I'm sure you'll agree after building and flying your Old Timer.

Consistent with most designs, certain objectives were set in the quest to create an airplane that is more pilot-friendly. Some popular airplanes advertised as trainers are really not trainers; instead, they should be classed as intermediate aircraft due to their inherent lack of flight stability, fast airspeed, and the need for constant pilot control input. These types of trainers are great for more experienced pilots. However, new pilots with minimal R/C experience often crash, simply because the model requires a skill level beyond what the pilot possesses. Some designers take for granted the fast reflex action we have learned over the years and with hundreds of hours of stick time. A new pilot needs an airplane that "helps" him learn to fly. I'm not saying airplanes like the Old Timer will guarantee that a new pilot won't crash. However, I do believe a slow flying, stable design that is strong, yet lightweight, does have an increased chance of survival over the fast flying,

OLD TIMER
Designed By:
Al Sievers
TYPE AIRCRAFT
Sport Trainer/Basic Trainer
WINGSPAN
84 Inches
WING CHORD
13½ Inches
TOTAL WING AREA
1081 Sq. In.
WING LOCATION
High Wing
AIRFOIL
Flat Bottom
WING PLANFORM
Constant Chord
DIHEDRAL EACH TIP
5½ Inches
O.A. FUSELAGE LENGTH
55¾ Inches
RADIO COMPARTMENT SIZE
(L) 13¼" x (W) 3½" x (H) 9½"
STABILIZER SPAN
28 Inches
STABILIZER CHORD (incl. elev.)
8 Inches (Avg.)
STABILIZER AREA
208 Sq. In.
STAB AIRFOIL SECTION
Flat Bottom
STABILIZER LOCATION
Top of Fuselage
VERTICAL FIN HEIGHT
9½ Inches
VERTICAL FIN WIDTH (incl. rud.)
10 Inches (Avg.)
REC. ENGINE SIZE
.49-.61 Cu. In.
FUEL TANK SIZE
12 Oz.
LANDING GEAR
Conventional
REC. NO. OF CHANNELS
3
CONTROL FUNCTIONS
Rud., Elev., Throt.
BASIC MATERIALS USED IN CONSTRUCTION

Fuselage	Balsa, Spruce & Ply
Wing	Balsa, Spruce & Ply
Empennage	Balsa, Spruce & Ply
Wt. Ready To Fly	**7 Lbs. (112 Oz.)**
Wing Loading	**14.9 Oz./Sq. Ft.**

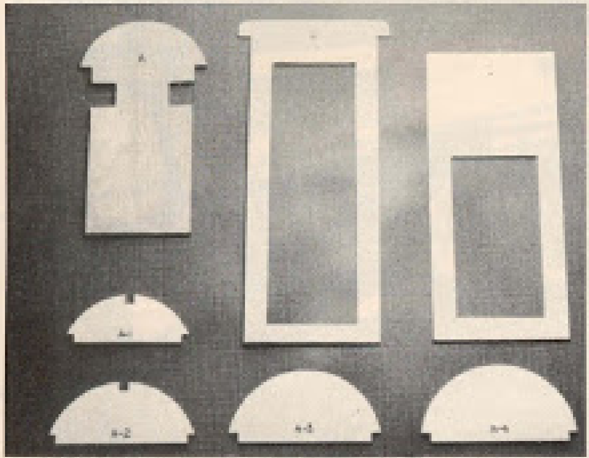
unstable and heavy designs.

The following are the design objectives I set for the Old Timer:

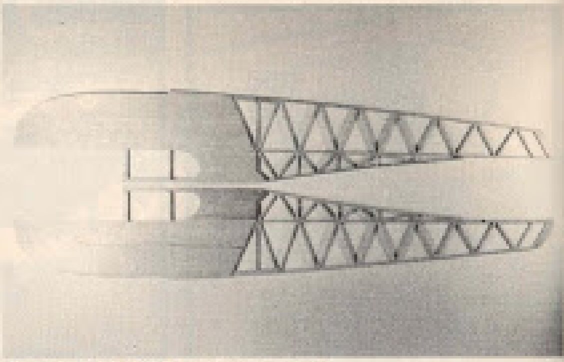
1. Must be very stable in flight.
2. Capable of slow flight 8-12 mph; stalls must be mushy, straight ahead with no tendency to snap.
3. Must be super strong yet have a lightweight airframe (a difficult combination to achieve).
4. Adaptable for 2-stroke or 4-stroke power.
5. Design must be simple and straightforward, easy to build and repair.
6. Must have lifting stabilizer for slower landing, mushy stalls, and tail high flights.
7. Light wing loading for low powered 4-stroke engine and slower airspeeds.
8. Generous nose and tail moments for easy balancing, and smooth control response.
9. Removable hatch for fuel tank accessibility.
10. Larger size airplane for easy tracking and orientation.

Every effort was made to make this design as crash resistant as possible in terms of the structural strength, keeping weight to a minimum. Admittedly, the prototype exceeded my weight limit of 6 lbs.; perhaps I was a bit unrealistic considering the size of this model. However, the total flying weight of the prototype was 7 lbs., yielding a wing loading of 14.9 oz./sq. ft. — very light compared to most other sport trainers of this size.

Since the Old Timer is a 1930's rendition, many positive design qualities of this era were incorporated. Remember, these models initially were free flight, and later were single channel rudder only. They had to have gobs of built-in stability because of minimal means of control. I did deviate from the vintage designs; first, many models of this era had the wheels and landing gear under the engine — no wonder hand launching was often necessary as this set-up would not R.O.G. without ground looping. The Old Timer has the landing gear/wheel axles at the wing leading edge. Another deviation is the length of the nose and tail moments. I adjusted both to modern parameters making balancing simple and easy. Many 1930's era models had very short nose and very long tail moments; the purpose of the long tail was to increase stability around the pitch axis since there was no elevator control (free flight or rudder control only). I'll never guess why the nose moments were so short since it required locating the radio, batteries, and/or the addition of lead ballast in the nose to balance the model. The Old Timer, on the other hand, is easy to balance without adding lead in the nose if you use light wood in the tail. If additional nose weight should be necessary due to heavy building, etc., simply apply an additional coat of fiberglass resin to the engine and tank areas. I call this "working ballast" opposed to dead ballast. Two coats of fiberglass (polyester) resin applied inside and outside the fuselage from the nose to bulkhead C will increase the structural strength and protect the wood against fuel-soak. I use fiberglass resin rather than clear or colored dope to fuelproof my models. The resin costs a fraction of dope and lasts for years; those models coated with dope become fuel soaked in a few months. I used A-1 brand boat resin with 30 drops of catalyst to 4 oz. of resin. This gives a hardening time of



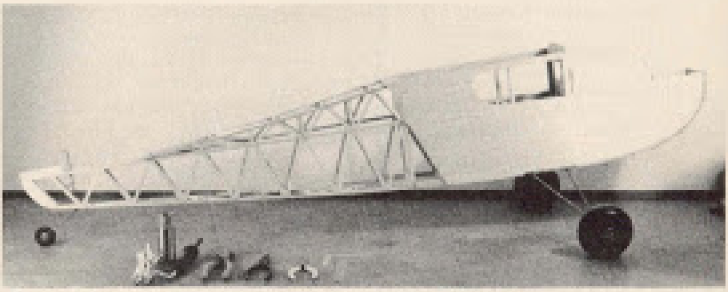
Fuselage bulkheads cut and marked.



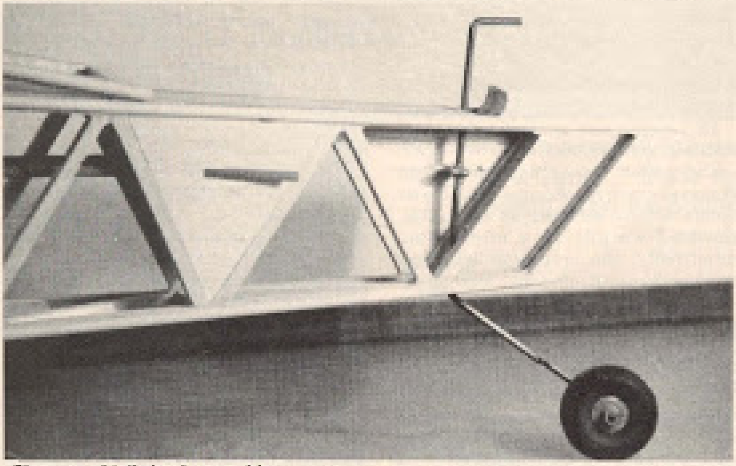
Fuselage sides built and ready to join.

4-5 hours at 70°.

In designing the wing, I chose a lower aspect ratio and larger wing area. The airfoil is an 11% modified Clark Y with the Center of Lift at one-third of the chord from the leading edge. The wing has thinner tips and tip ribs resulting in a lower drag coefficient. The superior lift of this airfoil and low drag, coupled with a lifting stab, makes this airplane quite efficient. To achieve stability into the stall, each wing tip has 3/8" of washout. This allows the root portion to stall first while the tips are still flying and providing lift. With the wing covered using any of the iron-ons, the washout can be warped into it by twisting the tip trailing edges up and reshrinking the covering. The prototype was covered with MonoKote.



Fuselage framed up — bottom nose sheeting glued and pinned.



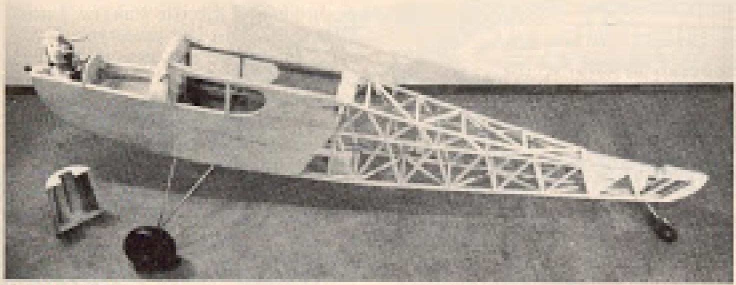
Close-up of tailwheel assembly.

CONSTRUCTION

Begin by cutting out the firewall A, bulkheads B, C, A1, A2, A3, and A4 from the material shown. Make two identical fuselage sides by building one side over the other, separated by waxpaper. The longerons are spruce. Make certain all the longerons are equal in terms of grain structure and stiffness. The uprights, diagonals, and cross members are balsa.

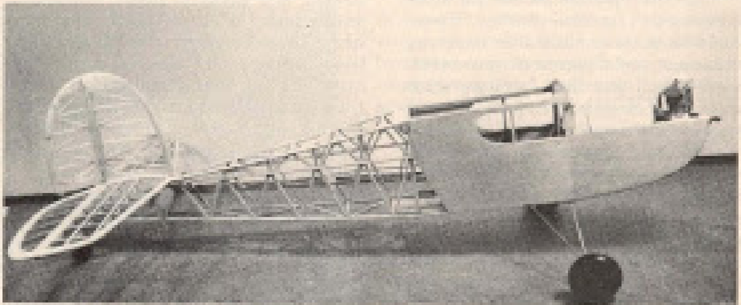
Cut to shape the 1/8" medium balsa fuselage exterior sheeting for the "outside" of each side; make certain you have a left and right hand side! Glue the sheeting in place using your favorite glue. I used white glue here, allowing the sides to remain pinned to the board overnight. Next, mark the bulkhead locations on the inside of the fuselage sides. At this stage I dusted off my trusty RCM fuselage jig. If you don't have one, why not order a reprint of the article and build one? Believe me, it makes building crooked airplanes almost impossible! Using epoxy, install the bulkheads A, B, and C in place. If a centerline is marked on each bulkhead prior to assembly, this can be aligned with the centerline on the fuselage jig, making it simple to keep everything straight and true. Now pull the tail post together and epoxy. Install the 1/2" hard balsa triangle firewall support. Install the 1/8" plywood tank floor. Now glue A3 and A4 in place and sheet with 1/8" balsa.

A1 and A2 make into a removable fuel hatch. Temporarily install them against A3 and the firewall with a few drops of CA glue. Install the 1/4" sq. hard balsa stringers in the notches. Install two additional stringers between the first three. The hatch and A3/A4 are covered with 1/8" balsa

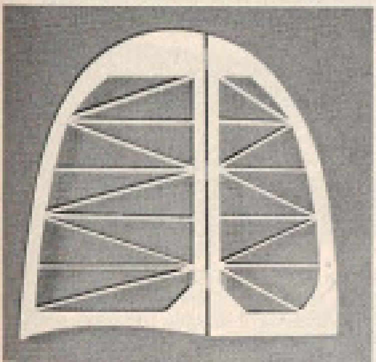


Completed fuselage.

sheet which must be steamed prior to bending over the hatch. White glue works fine on the damp wood. When the glue has dried, carefully pop the hatch loose. A hatch hold-down is made by gluing a 1/8" plywood scrap to the underside of the top hatch stringer and screwing a 1/4" screw eye into it. Two additional screw eyes are installed at the corners of the tank floor as shown. A #64 rubber band is hooked to the two corner screw eyes, then to the underside of the hatch. Make two 1/8" x 1/2" x 1½" plywood



Completed fuselage with tail assembly attached.



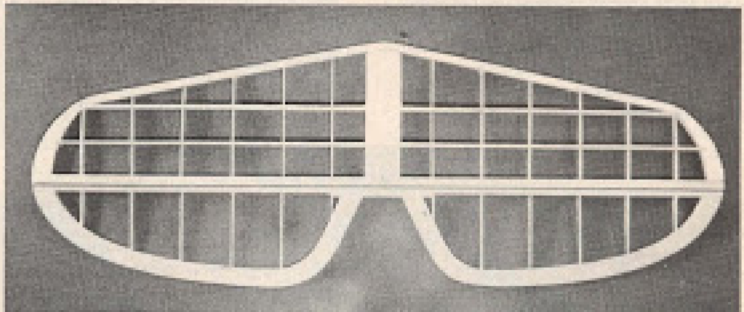
Fin and rudder completed.

guides for the hatch bottom/sides. Epoxy these to the hatch using waxpaper to prevent the guides from sticking to the fuselage sides. The prototype used a 12 oz. tank and this hold-down method worked fine. Sand the hatch and sheeting on A3/A4 to blend, checking hatch for proper fit. The hatch ends should be sanded so a matchbook cover can be slid between the firewall and A3. This assures proper fit when the covering is completed.

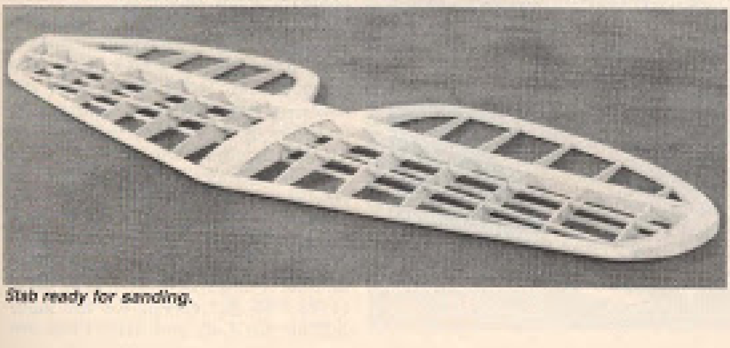
Cut out the 1/2" x 3/4" x 4½" hardwood motor mounts. I used white oak. Trial fit your engine. The motor mounts and engine compartment have been designed to accommodate a 4-stroke engine with the carb in the rear. However, a 2-stroke engine can also be used. Using slow cure epoxy, install the motor mounts. Check to be certain that the thrust angles are correct, and that the mounts are parallel. The prototype had 4° of downthrust and 2° of right thrust. When the epoxy has cured, drill out the motor mounts and secure blind nuts on the bottom side of the mounts with gap filling CA glue.

Cut out and sand to shape the soft balsa nose block, drilling a 1/4" oil drain hole in back of the block. The upper portion of the block will have to be hollowed out to clear the engine case. Epoxy the block to the fuselage sides and to the underside of the motor mounts. **Note:** Don't omit this block as it adds a gob of strength to the nose area and absorbs the engine vibration.

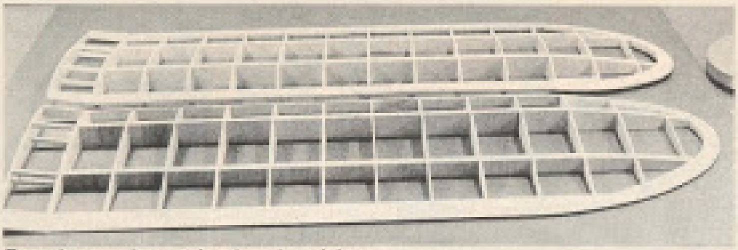
Install the 1/8" hard balsa, rear stab/fuselage stiffening sheet. Install the 1/4" sq. balsa cross bracing and diagonals, top and bottom. **Caution:** Don't install the last bottom diagonal and cross brace until the tail wheel strut has been installed. The reason for this will be evident if one fails to follow these instructions. Now plan and fabricate the tail wheel strut from music wire. I used 1/8" wire on the prototype; however, 3/32" wire could be used and would be easier to bend. Cut out the 1/8" plywood, top and bottom strut plates. Epoxy the upper plate to the underside of the 1/8" stab stiffener sheet. Now mark and drill the top exit hole. Slip the lower plate on the strut and rotate the strut into



Stab and elevator completed.



Stab ready for sanding.

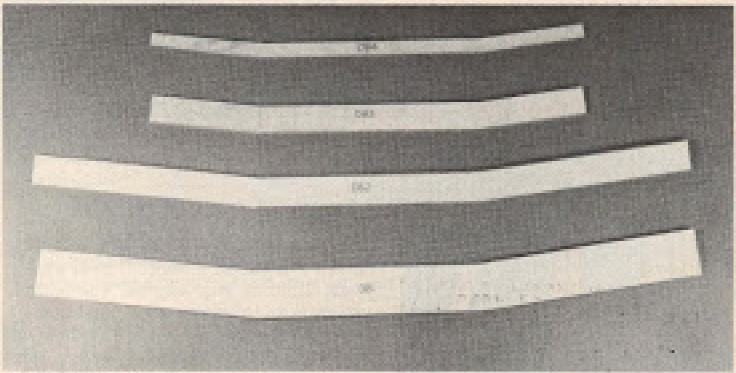


Two wing panels completed ready to join.

the fuselage, inserting the top L-bend through the top plate. Rotate the strut downward to its final position. Epoxy the lower plate in place after checking alignment and freedom of movement. Now install the last fuselage cross brace and diagonal. A load bearing washer is soldered on the strut which removes any pressure on the rudder and prevents upward movement of the strut during taxiing. The tail wheel steering arm is made from .030 brass and is silver soldered to the strut. This solder joint is critical so make certain it's right because of the beating this arm will take during take-offs and landings. After soldering the arm, glue in the 1/8" filler beneath the stab. Install the 3/8" soft balsa filler block under the rudder. Sand the filler and top longerons to clear the elevator tie.

Cut out the 1/4" plywood landing gear plate and epoxy in place. Make the landing gear from 5/32" music wire, binding with soft copper wire and solder. Mount the gear with six Goldberg landing gear clamps. Next, install the 1/4" balsa sheeting, cross grain on the forward fuselage bottom. Install the 1/8" medium balsa rear fuselage bottom sheeting.

Carve and sand to shape the 1" x 1¼" x 4½" medium hard balsa cabin front block, and glue in place. Cut the 3/8" hardwood wing hold-down dowels, and epoxy in place. The rear dowel has 1/4" hard balsa gussets which must be glued into the sides of the fuselage and drilled prior to installing the rear dowel. Install the 1/4" hard balsa rear dowel support behind bulkhead C, also the 1/4" hard balsa front cabin support behind bulkhead B. Install the second 1/4"



Dihedral braces cut to shape.

hard balsa cabin support ahead of bulkhead C. Cut the 1/4" spruce cabin/wing rest doublers to length and install using epoxy.

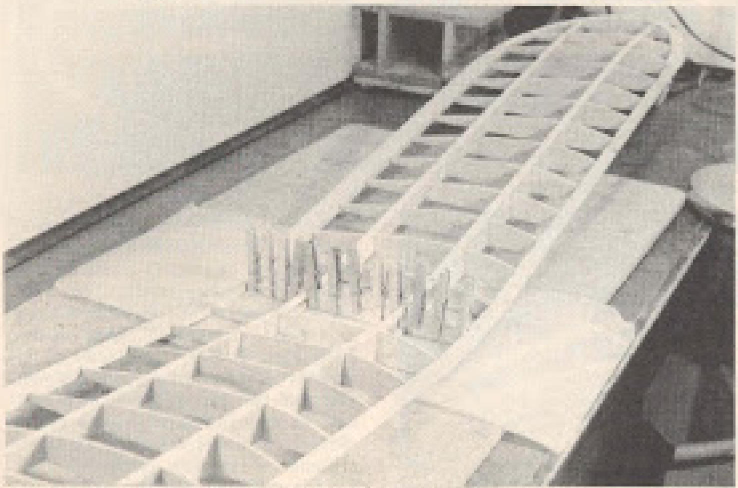
Plan and install your favorite pushrods and throttle linkage. I used Gold-N-Rods in the prototype. Next, cut the pushrod exit slots in the 1/8" balsa sheets, and glue the 3/8" sq. hard balsa servo tray supports in place. These run the length of the cabin thus allowing the servo tray to be positioned for balance. **Note:** A second 1/8" plywood pushrod exit plate must be glued over the 1/8" balsa; this allows the covering to be flush due to the presence of the flattened dowels on the fuselage longerons. The prototype had 3/16" hardwood dowels, sanded flat on one side and glued to the outside of the spruce longerons. The dowels give a rounded appearance to the longerons and they bring the covering out even with the fuselage sides. By sanding the dowels flat on one side, the thickness is reduced to 1/8" and a flat gluing surface is provided. I used Goldberg Super Jet which worked fine. Should small gaps exist, simply stuff some of the sanding dust from the dowels in the crack and hit it with the Super Jet. Taper the last 3-4" of the dowels to nothing at the tail post.

Sand the entire fuselage with 100 grit, ending with 400. Give the inside and outside of the fuselage two coats of fiberglass resin from the nose to bulkhead C. Allow the resin to cure for at least eight hours between coats. Repeat this sanding procedure until the resin is smooth. Remember, any surface imperfections left now will show up in the covering.

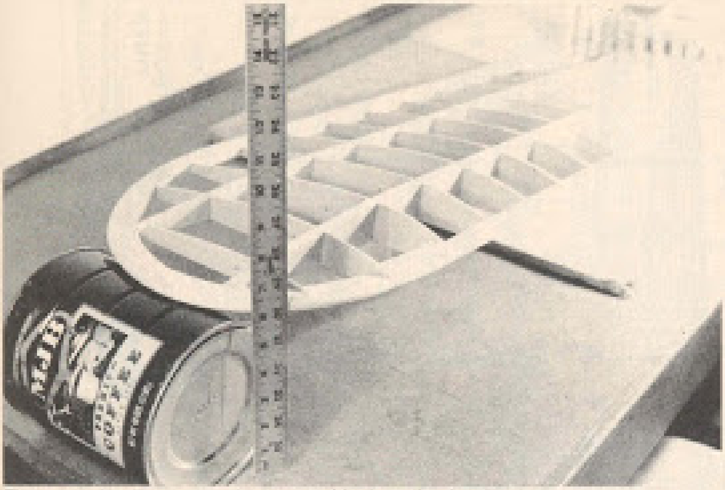
Cut out the windshield and side windows from .020 clear acetate sheet; trial fit, allowing 1/8" overlap. The windows can be installed after the covering is completed. Lightly sand the edge of the window opening and install the windows using Super Jet or any gap filling CA glue. The white residue on the windows can be removed with water and ammonia.

Empennage:

Construction of the fin and rudder is simple. I used contest grade balsa (4 lbs./ cu. ft.) except for the main 3/8" sq. fin L.E. and T.E. These are



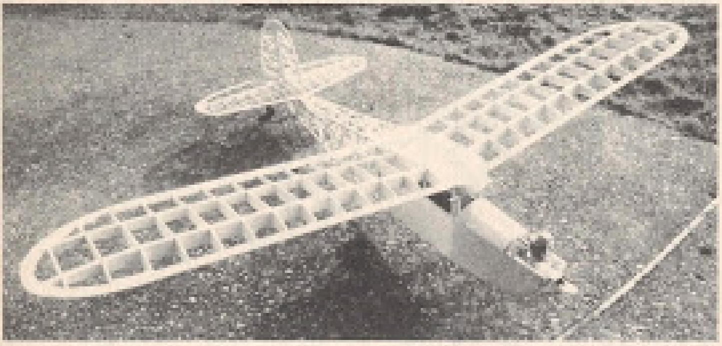
Joining wing halves at W-1 ribs. Clothespins work great.



Three pound coffee can works great to block up tips for dihedral.

medium hard balsa. After assembly, sand the fin and rudder from 3/8" at the fin L.E. to 1/8" at the rudder T.E. This reduces weight and gives a nice streamlined appearance. A hard balsa block insert is made for the rudder L.E. where the tail wheel strut intersects. Mark and drill out to fit the strut wire. Don't epoxy until final assembly. Slot and install your hinges.

Cut out the stab ribs from 1/16" medium balsa sheet. The ribs in the elevator are fill-in type and are cut as oversize blanks, then installed and sanded to airfoil shape. The leading and trailing edges are medium balsa except for the stab T.E., which is hard balsa. Begin assembly by gluing the stab ribs and center block to the L.E. and T.E. Add the 1/2" soft sheet balsa tips. Construct the elevator T.E. from 3/16" medium balsa sheet. Install the 1/8" plywood elevator tie. Now glue the elevator T.E. to the L.E., adding the unsanded rib blanks. **Note:** The ribs on either side of the elevator tie and the tip ribs are higher due to the fill-in blocks. Add these ribs after the blocks have been installed and sanded to rough shape. Next, add the soft balsa fill-in blocks over the elevator T.E. When the glue has set, sand and taper to dashed lines. The elevator makes a smooth transition from 1/2" to 1/8". Cut out the spar notches in the center block and tips. Cut to length the 1/8" sq. very hard balsa spars and glue in place. Sand the stab L.E. and tips to rounded shape; the tips are sanded to less than 1/2" thick, making a smooth transition from the L.E. to the elevator T.E. Now slot and install your favorite hinges. After installing the hinges, sand the hinge area to rounded shape to allow full up and down elevator movement. The fin and rudder hinge area must also be rounded and checked for full right and left movement. The total weight of the empennage was 5½ oz.

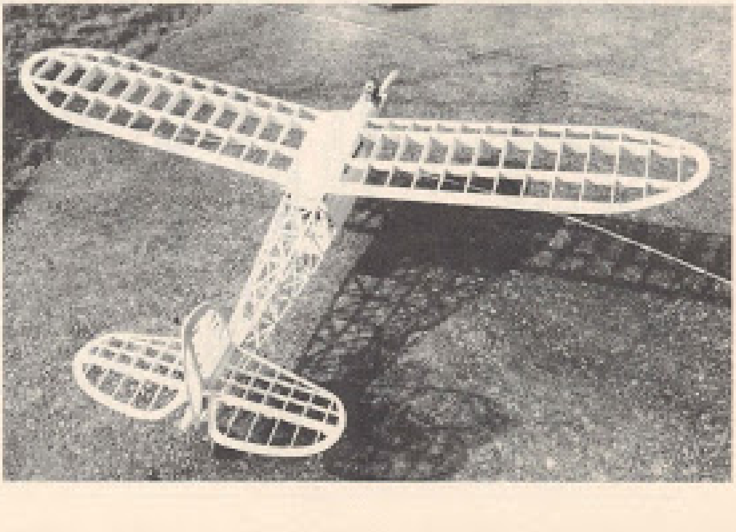


Completed framed up "Old Timer."

Wing:

The wing construction requires a flat and true work surface. Check to be sure your work surface is flat and true because constructing a wing on a warped or uneven surface will produce a wing that is going to be difficult, if not impossible, to true-up later.

The wing center section W-1 remains flat, the dihedral break occurs at the W-1/W-2 rib junction. Begin by cutting out the ribs from 1/8" medium balsa sheet. Cut out the tips from 1/2" soft balsa sheet. Cut the 1/4" sq. spruce spars to length, leaving a bit long. The wing L.E. is 5/8" x 3/4" medium balsa. The L.E. and T.E. have 1/8" notches to receive the ends of the ribs. The L.E., T.E., and spars are joined at the W-1/W-2 rib junction. These must be beveled prior to assembly — use the bevel template on the plans. Begin assembly by gluing the L.E. and T.E. in the W-1 section to the L.E. and T.E. in the W-2 section, using the bevel template. Make certain both sets are angled equally. Now pin the W-2 L.E. and T.E. to the board, allowing the W-1 section to angle upwards. With the lower spars pinned over the plan, glue in the W-2 ribs, adding the wing tips. Note grain direction when constructing the wing tips. I used Super Jet here and it worked fine. Next, glue in W-3, W-4 and the 3/8" soft balsa fill between



W-3 and the end of the L.E. The purpose of the block is to prevent the covering from sagging in this area. The top spars will have to be steamed from the last W-2 rib to the tip due to the fairly sharp drop across W-3, W-4 to the tip. White glue works fine on the damp wood. **Caution:** When installing the top spars, make certain the wing is well-pinned to your board due to the bending pressure across ribs W-3 and W-4. Wait overnight for the glue to thoroughly cure before removing the wing panel from the board.

With the two wing panels completed, proceed to the center section. Glue a W-1 rib to the outside of the first W-2 on each panel leaving a 3/32" shoulder all around for the center sheeting. The spars in W-1 section are also 3/32" lower than the W-2 spars; again, this is to accommodate the center sheeting, allowing the top of the sheeting to be flush with the outer panels. With the center sections pinned flat to the board, allow the outer panels to angle upwards. I used the MJB coffee cans here under each tip. The cans are the 3 lb. size and measure 6" across. My building board is approximately 1/2" thick, giving me 5½" of dihedral for each wing tip. Glue in the wing center, W-1 ribs, centering each rib on the L.E. and T.E. with scrap 3/32" balsa, placed under each rib.

Next install the spars in the W-1 section. The shear webs are 3/32" hard balsa and are set vertical grain on both sides of the front and rear spars. I used white glue here, clamping with clothespins. Next, install the 1/16" hard balsa diagonal braces in the wing middle section. **Note:** These were not installed on the prototype — as a result, the wing lacks some torsional stiffness. I definitely would install the bracing for this reason! The bracing can be installed slightly oversize, then sanded with a large sanding board to conform to the ribs. If you are a new pilot, or if rough use is expected, the bracing should be installed in the forward and rear wing sections along with the middle section — the weight gain will be minimal compared to the increased strength and torsional stiffness this bracing will provide. A weight savings can be achieved by sanding each brace to tight fit; this allows the use of CA-type glue rather than the heavier epoxy or white glues.

With both wing panels completed, join the two halves with epoxy, blocking up the tips with the coffee cans. While the glue is curing, make certain the W-1 section remains perfectly flat to your board — otherwise, the wing will not be true when installed on the fuselage. When the epoxy has set, cut out the W-1 and W-2 ribs and install the plywood dihedral braces. The ribs can be easily cut using a razor saw. Install DB1 and DB2, first allowing the epoxy to set, then install DB3 and DB4. **Do not make these dihedral braces from lite ply due to the tremendous bending loads imposed on these members.**

Sheet the wing center with 3/32" hard balsa sheet, top and bottom. Note the direction of the grain. Now install the 3/16" hardwood dowel, T.E. protector. Cut away the balsa T.E. to allow the dowel to fit flush to the wing surface. Use epoxy here. Sand the entire wing, especially the tips and where the L.E. and T.E. join the tips. Taper the 3/8" soft fill block to rib W-3. The wing tips are airfoil shaped at the W-3 and W-4 ribs, changing to a radius at the spar to tip and T.E. The tips are taper sanded from 1/2" to 3/8" to meet the T.E.

The final step is an important one which is often neglected. This step is balancing the wing. If omitted, the heavy side will tend to bank the aircraft, causing difficult trim problems and adversely affecting the flight and handling characteristics. For the benefit of new modelers, the following is the method I use: First, mark a line at the "exact" center of your wing. This is done on the top sheeting. Next, lay the wing inverted over a straightedge clamped in your vise. Make certain the centerline and straightedge coincide and both wing panels are free to move up and down. The light side can have lead weight added to the tip until the wing balances perfectly. If you are going to use epoxy, don't forget to include its weight in the total.

The wing can now be covered. I used Super MonoKote, as mentioned earlier. With the wing covered, the 3/8" of washout can be installed as follows: Weight down the wing center. Twist up the tip at the trailing edge and reshrink the covering. Do the same for the other side, making certain both sides are "exactly" the same. **Note:** I have found that a few tiny wrinkles left in the covering material will make the wing easier to warp. These wrinkles will disappear when the covering is heated to install the washout.

Balancing the Aircraft:

Most of us "old geezers" know how to properly balance an aircraft and if you are in this group, simply skip this part. However, for the benefit of new modelers, the following is the method I use: Install the engine, fuel tank, pushrods, and landing gear, etc. Temporarily install your radio gear. Mark the underside of your wing next to the cabin windows with a dot corresponding to the C.G. position on the plans. Place your index fingers on these dots and lift the aircraft. The aircraft is balanced when it hangs slightly (10°-12°) nose down. The servos and battery pack may be moved to achieve the correct balance. If the aircraft fails to balance (say it's tail heavy as is often the case), lead can be added to the nose — usually as far forward as possible or an additional application of fiberglass resin may be applied. Should the model be nose heavy, lead can be added to the tail. The Old Timer balanced perfectly without adding any weight to the nose or tail. Following balancing, mount your radio gear securely. The Old Timer's fuselage has room for plenty of foam rubber. Permanently install the windows with CA glue.

Flying:

If you're like me, I read this part first!

My goal was to design a better flying mousetrap — er, I meant sport trainer — that is stable in the air, forgiving of a new pilot's mistakes, easy to build and repair when damaged, strong, yet light, and looks like an airplane. I believe the Old Timer meets or exceeds these objectives. The Old Timer can fly so slow you may be inclined to run along — a good jogging companion, you say? The airplane can be comfortably flown 6 to 10 feet above the ground to impress your spectators. At this altitude the Old Timer really looks like an airplane should — especially with the putt-putt-putt of that 4-stroker completing the picture.

Take-offs are impressive; the tail comes up immediately upon application of power. Roll out is 10-20 feet; however, I like to let her run along the ground with her tail in the air and then gently nudge her into the wild blue. Take-offs can be accomplished at half throttle with the 4-stroke .61. Minimal rudder is required during the climb-out and altitude is a function of power with only a tad of up elevator. In the air this airplane is indeed "pilot-friendly," turns are silky smooth with just a tad of up needed, stalls are mushy, the break gentle and straight ahead. Altitude loss is less than 10 feet. When she stalls, relax the back pressure and she's flying again. I haven't been able to get this airplane in trouble as yet, even with exaggerated use of the controls. Spins are slow and gentle, the spin exit is immediate with a little opposite rudder. Inside loops are graceful and outside loops are next to impossible! She will fly inverted with full down elevator, but the airplane doesn't like to be upside down.

Thermal sniffing is a cinch on any warm day, especially if broken Cumulus clouds are present. Climb to 300-400 feet, cut the power and watch the airplane. When lift is encountered, the wings waggle, or the ship simply ascends. In strong lift, down trim, and even down elevator, aid penetration. If you want to save fuel, shut down the engine with low throttle trim and fly for free. If you get tired of tracking the Old Timer, set the rudder trim for a gentle left or right bank. Put the transmitter on the ground and go lie in the grass. The Old Timer will fly hands off (assuming the trim and balance are correct and the wing is not warped) until either the lift moves off or you get bored stiff. Now, try that with one of those other sport trainers! Dead stick landings are pleasant, although this airplane loves to stay aloft, so remember to give her plenty of room for the landing.

Control Settings:

I have the control settings on the Old Timer set up as follows using a three channel radio: Rudder — 1¼" right, 1¼" left. Elevator — 1" up, 1" down. The throttle is set up so the engine can be shut down with the low trim setting.

Summary:

At risk of again sounding evangelistic, I believe the Old Timer captures the true spirit of flying radio controlled model aircraft. This airplane truly delights in its element, yet on the ground, it remains well-mannered. It is not demanding in terms of pilot skills, being very forgiving and easy to fly — ideal for a low time pilot! Yet, in the hands of an experienced pilot, the Old Timer can be cranked on and she will impress the spectators with a show of speed, and ease of maneuverability. This airplane is, frankly, a "kick in the seat of the pants" to fly! I am confident this model will meet and exceed your expectations as it has mine. Why not order a set of plans today . . . you'll be glad you did! Good luck, happy building and flying your Old Timer.

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