

KITS AND PLANS ANTIQUITOUS



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FRED SCHLIENZ AND VITO M. GAROFALO

by Jim Alaback

This is the story of two model designers whose combined careers at Comet spanned the years from 1936 to 1970. Each rose in turn to chief designer at Comet, and each went on to an interesting later career. In Vito Garofalo's case, the later career leads us to the Tern Aero and Hi-Flier kits of the 1970s.

Fred Schlien was growing up on the south side of Chicago in the 1920s and 1930s. Like many boys of the time, he became intrigued with model airplane building in the years after Lindbergh's solo flight to Paris in 1927. And Fred became very good at it, too!

In 1935 he entered a city-wide model building contest sponsored by Comet in Chicago. His entry, a solid model of the SPAD, won 21st place, a prize, and an offer to make display models for Comet. The model building was done at home, from Comet kits, for use in Comet dealers' displays. Fred remembers being paid a couple of bucks each for them. (Pretty good in the Depression, when grown men were working for 15 or 20 cents an hour.)

In the summer of 1936, while he was still in high school, Fred was offered part time work in Comet's model design department. His first model design for Comet appeared in the October, 1936 catalog: the One-Star Series kit #A-165 "Winnie Mae Strato-plane". The "Winnie Mae" was Wiley Post's Lockheed Vega, which was made famous by Post's two round-the-world flights and then his pioneering stratospheric research flying. The 16-inch wingspan, ten-cent kit remained in production until WW II, with kit number changes to 1A-165 and then to A18. The plan is included with this article.

Fred joined Comet as a full-time designer after his high school graduation in 1937. His design assignments were varied. In the famed One-Star Series, he drew three of the ten-cent models, four of the 25-centers, some larger flying scale rubber jobs, and some gas model drawings.

In the days of U.S. neutrality before Pearl Harbor, Comet obtained European aviation magazines and books for reference in designing models of European planes. Fred was considered Comet's expert on German planes, since his parents had come from Germany (before WW I). Although Fred was born in America, he was then fluent in German as well as English. Three of the new kits in the April, 1941 catalog were models of German warplanes that Fred drew: the 10¢ Messerschmitt (kit # A37), and the 25¢ Junkers Stuka (# E26) and Heinkel fighter (# E27). The Messerschmitt plan is included with this article.

Interestingly, due to U.S. Government secrecy, it was also hard to get authentic information on new U.S. warplanes of the time. As with the European planes, the plans had to be based mostly on photographs. To this day, Fred recalls the inaccuracies in his model of the Lockheed Lightning P-38 (a 50¢, 37-inch kit # L8) as a result of this situation. Later, when more information was available, the plan was revised to greater accuracy by another Comet designer, since by then Fred was already in the Army.

In addition to model planes, Fred also did a number of kit plans for Comet's trains, cars, and ships. The trains were of particular interest to him, because railroading was another of Fred's hobbies then (and is to this day).

Fred's memories of the pre-war designers' work at Comet provide some interesting insights. The decisions about what models to design were made by the chief designer, Sales, and general management. Feed-back through Sales from the dealers was important, as well as other indications and judgements of what models would be popular sellers.

The flying scale models were generally made to accurate scale outline, including tail surfaces. A modest increase



Fred Schlien today, with a pre-war Comet kit for the 25" Senior R.O.G., which he designed in 1938. This kit was given to him recently by KAPA member Bill Hannan.

in dihedral was often the only intentional deviation from scale. The designer of the model also laid out the printed balsa sheets. At Comet they were called "rib sheets", although most modelers today call them printwood. In many of the earlier plans, one man did the drawing and another the lettering. This was to speed up the completion of the job, presumably allowing one man to do the rib sheets for the drawing while another lettered it. Fred didn't think this was very effective, and later the practice was discontinued.

A prototype model was built of each new kit, to be used for advertising and catalog photos, and to prove out the accuracy of the drawing and the rib sheets. In the case of flying scale models, they were not ordinarily test flown. Fred said it was assumed that the builder would be able to adjust it to fly. However, the non-scale models, rubber and gas, were test flown and proven good flyers before going into production. Fred designed the 25¢ Senior R.O.G. (kit # E17) in 1938 and remembers doing the test flying on his own time at home over a weekend.

Comet designers were given the costs of the various parts, such as rib sheets, sticks, wheels, prop hook, etc. Each designer then kept a list of what was going into a new kit and had to stay under the specified cost target. (Under the typical dealer and distributor mark-ups, the factory got about 40% of the retail selling price, or, say about 4¢ for a 10¢ kit!) The sales department always wanted lower costs in order to increase sales. They especially wanted less expensive glue and dopes, which were relatively high cost items in the kits.

Comet produced most of the kit parts in their own factory, including propellers and wheels, but their plans and kit boxes were printed by outside suppliers.

Comet's designers were ordinarily full-time employees. They were encouraged to go through the shop to gain knowledge of the production processes for which they were designing. When work was slack, Fred remembers being assigned to factory work temporarily, which not only kept designers employed in slow times, but also added to their knowledge of the production processes. When a railroad carload of balsa came in on the plant siding, the draftsmen piled out to help unload it, which took about half a day.

Comet's plans were generally among the best in their price range. However, Fred especially cites Robert Reder, Al Horback, and Joe Konefes as the "true professionals" among Comet's early designers.

Fred was a member of the peacetime National Guard and was called to active duty early in 1941. Shortly thereafter he applied for transfer to the Air Corps, where he took flight training and became a pilot. It would be nice to report that Fred became a Lightning pilot and shot down Messerschmitts, since he had designed Comet's models of both planes. However, the truth is not quite that romantic. He actually started ferrying new planes from the factory to either their operational base or

a modification center somewhere in the U.S. or Alaska. These planes ranged from Culver PQ-8 drones to B-17s and B-24s and included the P-39, P-40, and P-47 fighters. Just about everything except a P-38 Lightning! He then transferred to the Air Transport Command where he flew the C-47 and C-54, again in the U.S. and Alaska.

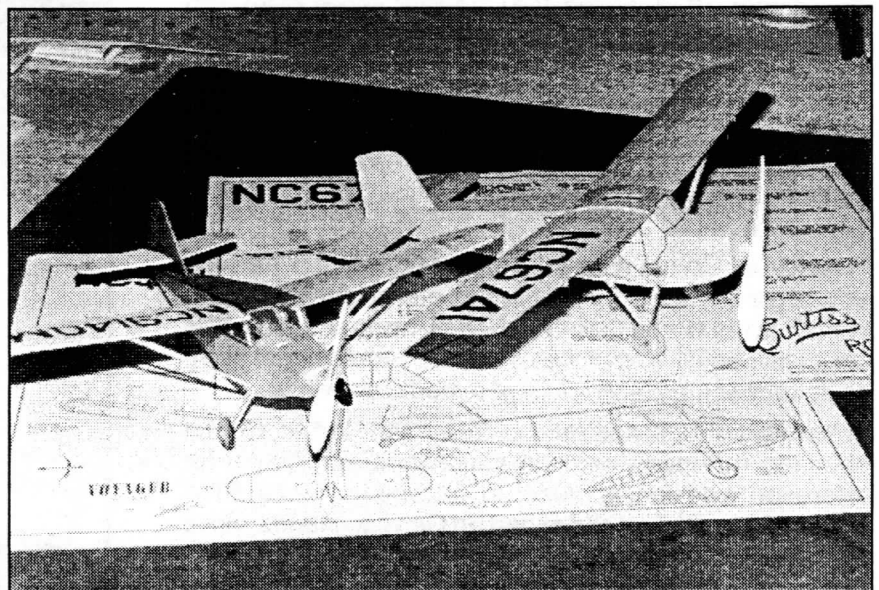
Fred Schlienzen returned to Comet after his WW II service. Then, during Comet's bankruptcy at the end of 1947, he briefly took a drafting job at Kellogg Switchboard in Chicago. When Comet was reorganized under new ownership, Fred was offered, and accepted, the opportunity to return to Comet as chief designer in 1948.

Meantime, Vito M. Garofalo had joined Comet after his return from service in WW II. Vito was slightly younger than Fred but had also grown up during those heady pre-war years for aviation and model aviation. Vito was a meticulous worker and an outgoing person as well. Fred recalls Vito's singing of parodies on the lyrics of the popular songs of the day.

Many of Comet's initial post-war kits were carryovers from pre-war, except for the new control line models. As in pre-war days, the designers worked on all kinds of Comet kits: solid, rubber, gas, and now control line, too. Fred has a picture of himself and Vito taken on the roof of the Comet plant, where they would test-fly new control line models in the early post-war years. (Unfortunately, the ancient snapshot is too poor to reproduce for this article.)

A new "A" series of kits included the Stinson Voyager (#A-6) by Fred Schlienzen. A copy of the plan is included with this article. An interesting sidelight on the plan is the civil registration number shown on the wing, "NC-9140M". This was from Fred's home address at the time, 9140 Mayfield! Authentic scale markings did not enjoy a high priority in those days.

In May, 1949, Comet introduced the first of its new Struct-O-Speed flying scale rubber models. They had wing-spans of 13 to 15 inches and sold for 25¢. They featured



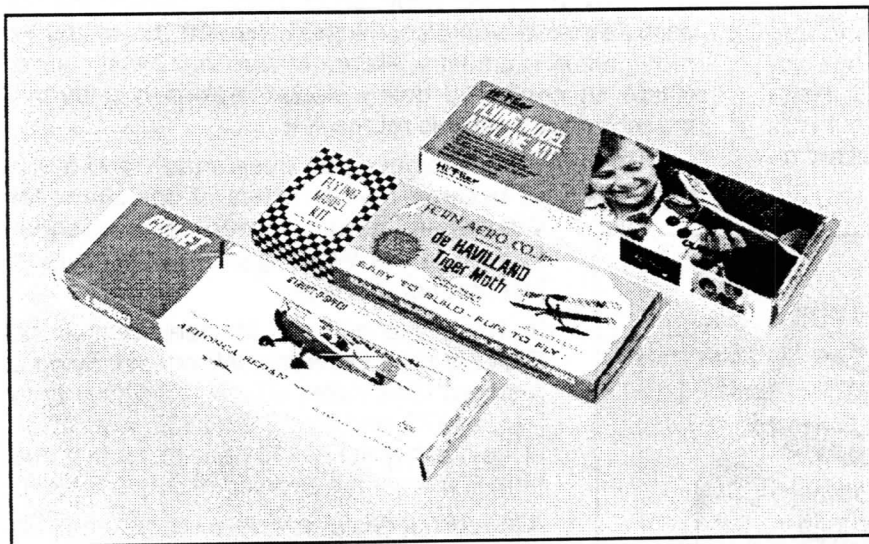
Some of Fred's Comet memorabilia. He still has his original prototypes of the Stinson Voyager and Struct-O-Speed Curtiss Robin kits. They are posed here with the corresponding kit plans he drew for them, on the same drafting table (now in Fred's den) that Fred used at Comet some 50 years ago.

all-sheet balsa construction with all parts prefabricated. Initial kits were for the Piper Cub (kit #F-1), Taylorcraft (#F-2), and Aeronca (#F-3). Later this line was expanded to include the Stinson Voyager, Cessna, Fokker D-8, Beech Bonanza, Ryan Navion, Globe Swift, Curtiss Robin, Mustang F-51, Thunderjet F-84 and Sabre Jet F-86. Vito Garofalo drew the Structo-O-Speed Aeronca plan. It was actually an illustrated assembly instruction, since the parts in the kit were already all made to size and ready to be assembled. The plan is included with this article. Also included is a photo of the original prototype model of the Struct-O-Speed Curtiss Robin, which was designed and built by Fred Schlien. The kit plan includes a photo of Fred's prototype.

The year 1951 marked the end of the collaboration by Vito Garofalo and Fred Schlien as Comet designers. Fred was recalled to duty with the Air Force for the Korean War. He saw action in Korea flying the Douglas B-26 on night intruder missions over North Korea. By the time the Korean War ended, Fred had so much time in service that he decided to stay in and make it his career. After varied peacetime assignments, including a final stint flying KC-135 tankers in the Strategic Air Command, he retired in 1966 as a Lt. Colonel. After this, Fred flew executive jets and did factory delivery flights around the world for various manufacturers until he fully retired in September, 1981, with some forty years of flying in his logbooks.

Today Fred lives in the San Diego area where he has continued to pursue his interests in railroading and aviation.

Remarkably, despite his roving career, Fred still has the original prototypes of both the Curtiss Robin and the



Vito Garofalo's career in the model industry is symbolized by these kits he designed between about 1948 and 1976: Comet's Aeronca Sedan, Tern Aero's de Havilland Tiger Moth, and Hi-Flier's Curtiss Robin.

Stinson Voyager! He also had a Comet Zipper built before the war by the late Al Horback, an earlier Comet chief designer. Mounted in that Zipper was Comet's original handmade prototype Comet 35 engine, which had been produced to Comet specifications by Madewell Manufacturing Co. of Oakland, California. He has donated these to the San Diego Aerospace Museum, where they are displayed in the History of Model Aviation Museum.

The drafting table in Fred's den is the very one he worked on at Comet so many years ago. When Comet bought new drafting tables for their engineering department, they offered to sell the old ones to the men who had been using them. Fred bought his and has kept it ever since. Fred's den also houses his huge personal aviation and railroading library, and he has worked as a volunteer in the San Diego Aerospace Museum library.

After Fred's second departure from Comet, Vito Garofalo succeeded him as the chief designer.

The Struct-O-Speeds continued very popular, along with other new model lines and the carryover pre-war favorites. The "M" line (20-inch span) was added in November, 1950. By March of 1951, Comet was advertising its products as the "largest selling kits in America". More new Struct-O-Speeds followed that same year. The new "K" line was introduced in April at 50¢, and the "C" series was introduced in May, with wingspans from 8-1/2 to 10 inches, and selling at 10¢.

Over the succeeding few years, Comet increasingly concentrated on flying scale rubber models. However, the mass market for such models was declining as plastic models and cheap 1/2A controliners began to flood the market. The Struct-O-Speeds were phased out, and the more craftsmanly stick-and-tissue kits again became king, as they are to this day in Comet's line.

A number of Comet stick-and-tissue kits were (and still are!) carryovers of pre-war kits dating from 1936 to 1941. However, during Vito Garofalo's tenure as chief designer, there were also a number of new, well-designed kits introduced. Typical of these was his kit #3902, the Piper Cub Cruiser of 1963. After 32 years, this 30-inch wingspan model is still in the Comet line, listed in the current AHC catalog for \$13.95. A copy of this plan is included with the article. In addition to Vito's immaculate drafting, notice the helpful detailed photographic instructions for building the model step by step.

In 1970, Vito Garofalo left Comet to found a new company, Tern Aero Co., Inc., also located in Chicago. The first advertising for the new company appeared in February, 1971. A single kit was offered, the "Gone Goose". This was a non-scale 17-inch rubber-powered flying model that sold for \$1.25 postpaid. By March, another model was added to the line: the "Traveler" sailplane with a 24-inch wingspan and also priced at \$1.25 postpaid. In the next month, another new model was advertised, the "Starduster Sportplane". This was a semi-scale single-cockpit parasol, as pictured in the advertisements reproduced with this article. (See cover page.) These three models continued as the sole Tern Aero entries for about a year. Then in April of 1972, the non-scale Nighthawk, Skipper, and Dipper were added, along with the first flying scale rubber kit from Tern Aero. This scale job was the de Havilland Tiger Moth, Tern Aero kit #105. Its wingspan was 17 inches, and it sold for \$2.50. The plan was very reminiscent of Vito's late Comet plans.

The kit included a plastic propeller and wheels that were tooled up to Vito's design. Additional scale models continued to be added during 1972 through 1974, including #107 Porterfield Collegiate, #109 Ryan S-T, #111 Curtiss Robin, and #112 Aeronca C-3. All have a similar plan format and have wingspans of 17 or 18 inches ("Walnut Scale"). The 1974 Aeronca C-3 plan reproduced with this article is typical and makes an interesting comparison to Vito's late Comet plans, such as the 1963 Piper Cub Cruiser plan that is also reproduced here.

A Tern Aero advertisement published in November, 1973 shows a new kind of model for the Tern Aero line. It was a double-size "Starduster" for single channel RC and .020 engine, kit #401, called the "Super Starduster".

Some time after the "Super Starduster" introduction, Tern Aero's national advertising ended. Subsequently Vito negotiated a deal with the Hi-Flier Manufacturing Co. of Decatur, Illinois, selling his business to them and joining them as chief designer.

Hi-Flier had been known for many years as a leading kite manufacturer. Hi-Flier had also been a model airplane kit manufacturer before WW II, offering a fairly extensive line of low-priced kits. These included 10¢ and 25¢ solids, and three series of flying scale models, priced at 5¢, 10¢, and 25¢, with wing spans ranging from 10 to 30 inches. The prewar kit plans were drawn and signed with the personal logos of several different designers, including "Jerry D Kit" and "Dot's Kit" and some others less legible. Bill Hannan tells me that Hi-Flier employed a female kit designer at that time (presumably that would be "Dot"), a bit of a rarity before WW II.

The Hi-Flier slogan at this time was printed in the title block of the plans: "The World's Largest Manufacturers of Aerial Toys". A unique feature of the 10¢ and 25¢ flying models was a patented stabilizer incidence adjustment device that consisted of a stamped metal ratchet that was located in the fuselage where it was engaged by a pre-formed music wire pawl mounted on the leading edge of the stabilizer.

The 1975 Hi-Flier business plan was to offer the former Tern Aero kits under the Hi-Flier name and to extend the line by updating selected kits from Hi-Flier's pre-war line of 10¢ models. All the kits were to be packaged in a classy new Hi-Flier box, and this longer line of models was expected to provide a better base for sales to both hobby distributors and retail hobby shops.

The former Tern Aero kits were easily converted to Hi-Flier by simply changing the title block on the drawing, removing the "T" from the plastic prop mold, and packing it in the new box. Underneath the Aeronca C-3 plan you can see the two title blocks, which were the distinction between kit plans produced for Tern Aero and Hi-Flier kits.

When it came to conversions, the prewar Hi-Flier kits were a bigger job. The original pre-war drawings had to be updated to correspond with a number of changes to be made in the kits. For instance, the adjustable-incidence stabilizer device was deleted, and decals were to be used for decorations. Also, plastic propeller, wheels, cowlings, wheel pants, etc., were shown and noted on the plans (all had been balsa originally). The revised drawings still carried the original draftsman's name logo, but also had a little added note along the lower border: "Revised 1976 VMG". Surprisingly, the pre-war Hi-Flier title blocks on the drawings were not updated and still carried the slogan "World's Largest Manufacturers of Aerial Toys" and the 1939 patent notice (although the patent's 17-year life had long since expired and the incidence-adjusting device had been deleted from these kits!).

One of the updated 1976 Hi-Flier plans is included with this article, the 16-inch Monocoupe, kit #52.

Hi-Flier's second entry into manufacturing model airplane kits proved to be fairly short lived. When the kit manufacturing was discontinued, Vito left the model kit manufacturing industry. He returned to the Chicago area, where he continued doing product design outside the model industry until his retirement.

Vito and his wife Antoinette had three sons. One of the sons, Michael, became vice president of operations for Waukegan Aero, a fixed-base operator located at the Waukegan Regional Airport just north of Chicago.

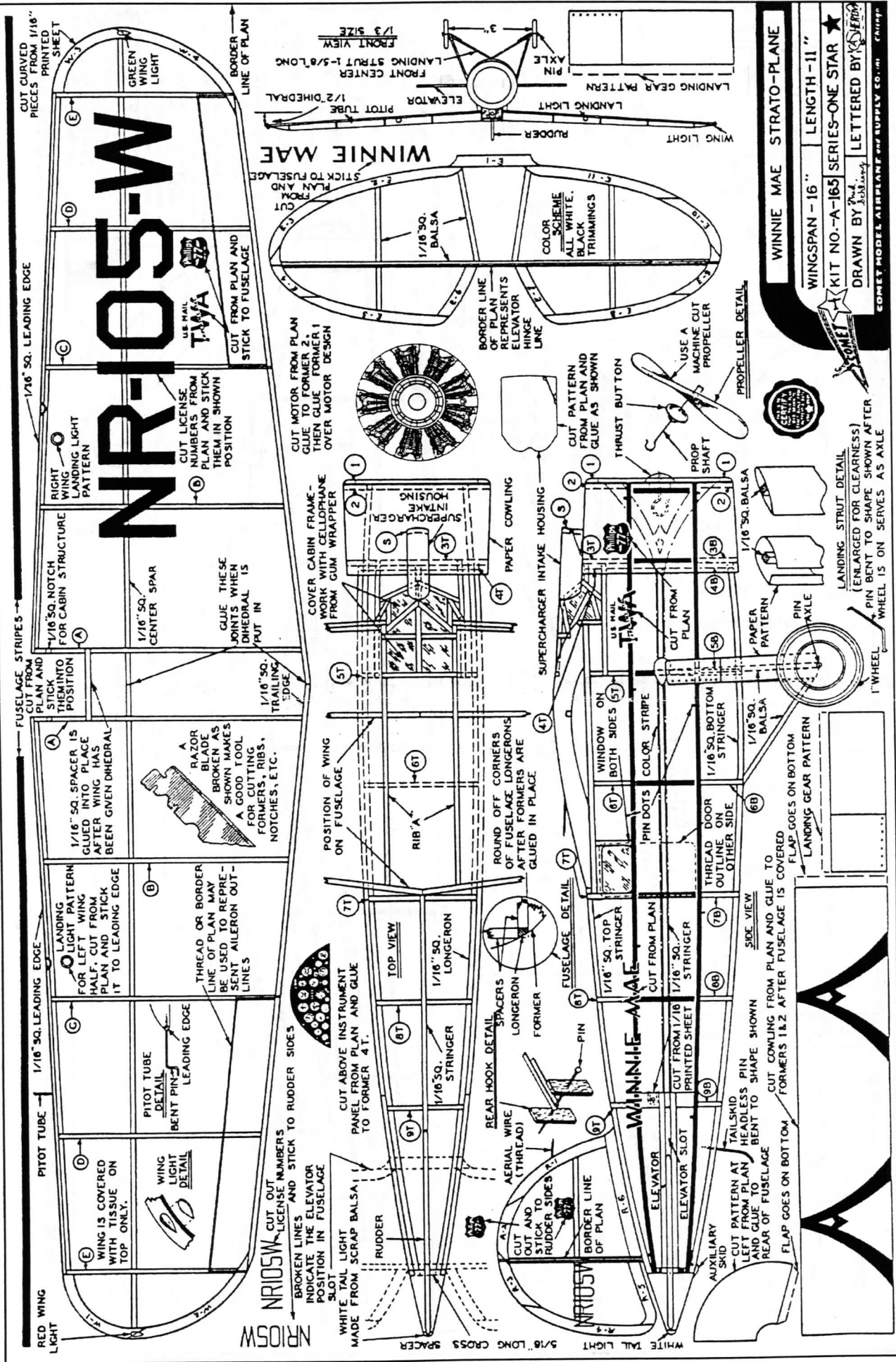
In 1994, Vito and son Michael went to the EAA Fly-In at Oshkosh, Wisconsin, flying a restored 1942 Vultee BT-13. Tragically, both Vito, age 73, and Michael, age 37, were killed in the crash of the BT-13 while en route home from Oshkosh the evening of July 28, 1994.

Although kit designers were not generally as well known as designers whose plans and articles were published in the magazines, such talented men (and boys!) as Fred Schlienzen and Vito M. Garofalo created the kit designs that started many youngsters on a lifetime's enjoyment of model building, and in many cases led them to their life's work.



The Tern Aero kits were colorful and distinctive with their black and yellow checkerboard pattern. The back of each kit was printed with an illustrated catalog of their line of kits.





WINNIE MAE STRATO-PLANE

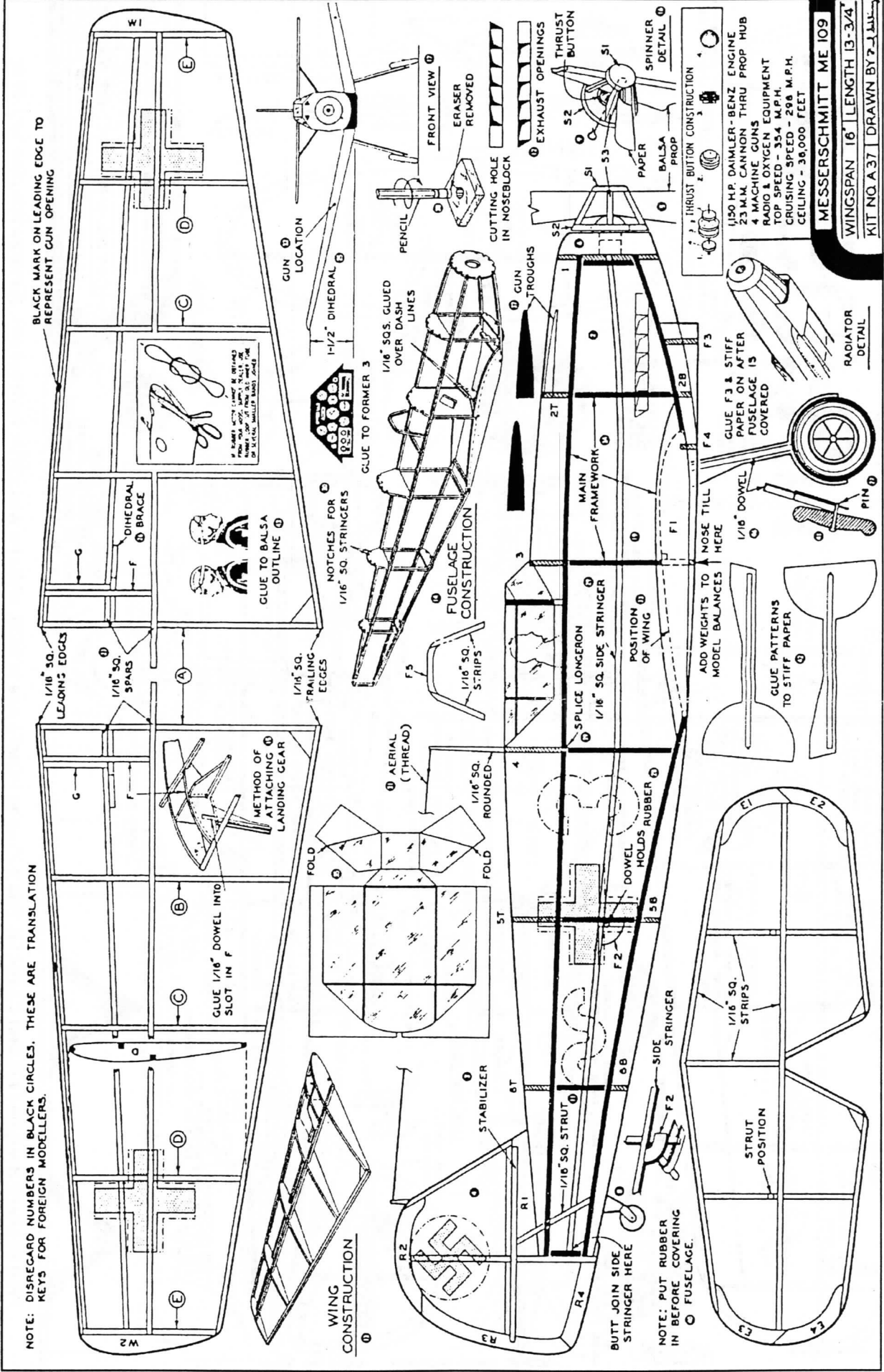
WINGSPAN - 16" LENGTH - 11"

COMET KIT NO.-A-165 SERIES-ONE STAR

DRAWN BY *John Schlieznig* LETTERED BY *W.D. Perry*

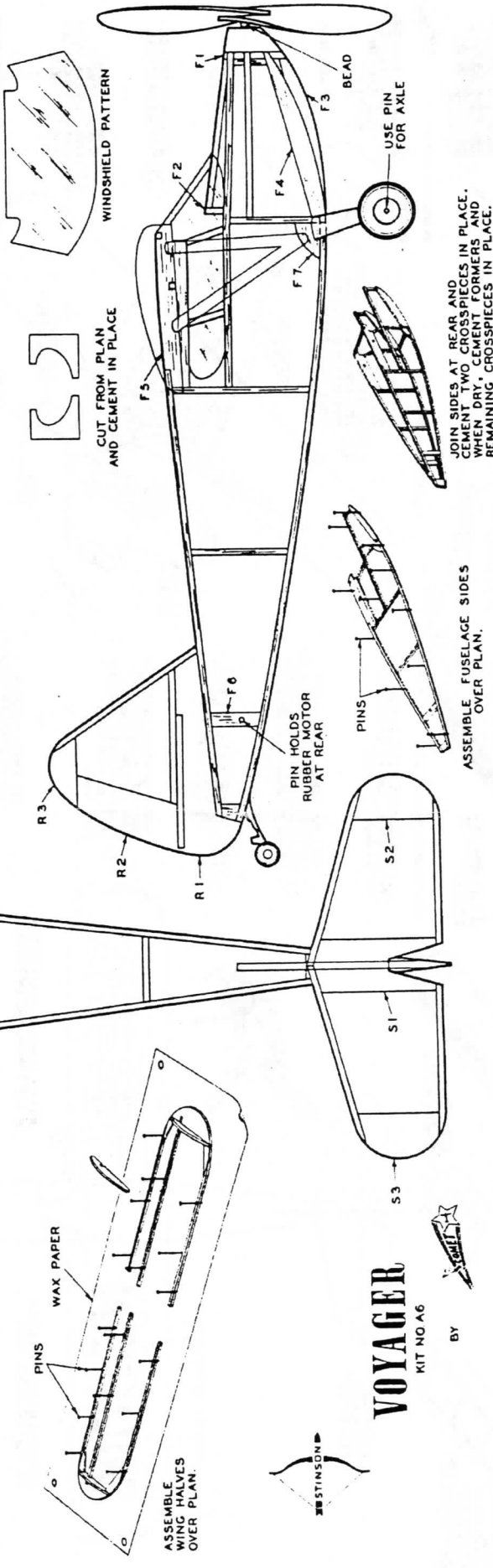
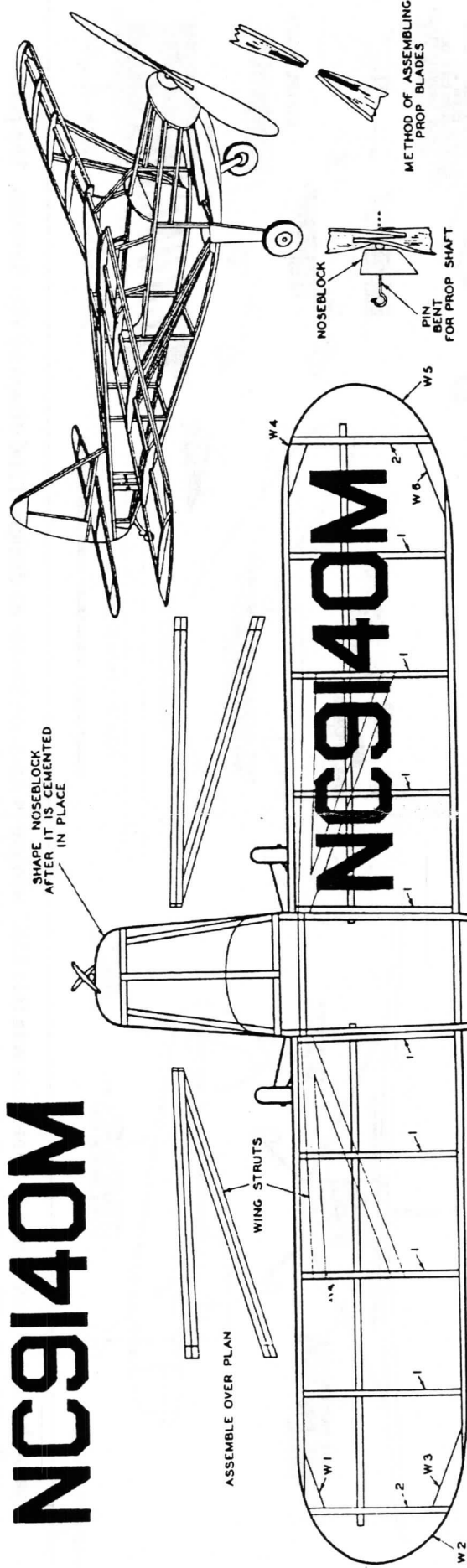
COMET MODEL AIRPLANE SUPPLY CO., INC. CHICAGO

Fred Schlieznig designed his first Comet kit, this 16"-span Winnie Mae in 1936, while he was still in high school. (Enlarge this plan by 1.66 to obtain the original-size model construction drawing.)



This 16" Messerschmitt plan was drawn just before Fred Schliezn entered the Army early in 1941. (Enlarge this plan by 1.65 to obtain the original-size model construction drawing.)

NC9140M



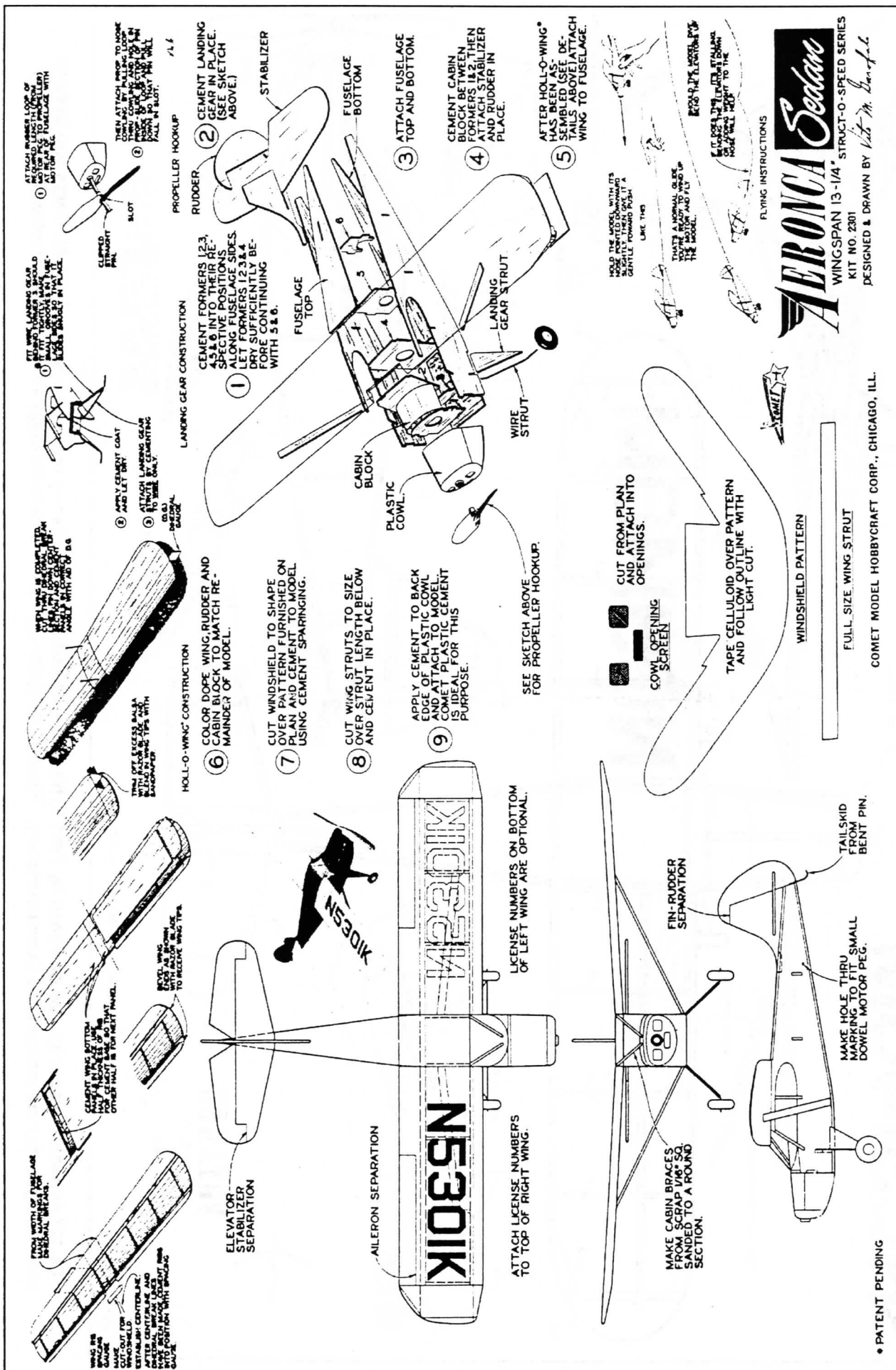
VOYAGER
KIT NO A6
BY



COMET MODEL AIRPLANE & SUPPLY CO., INC.

F. SCHLIENTZ

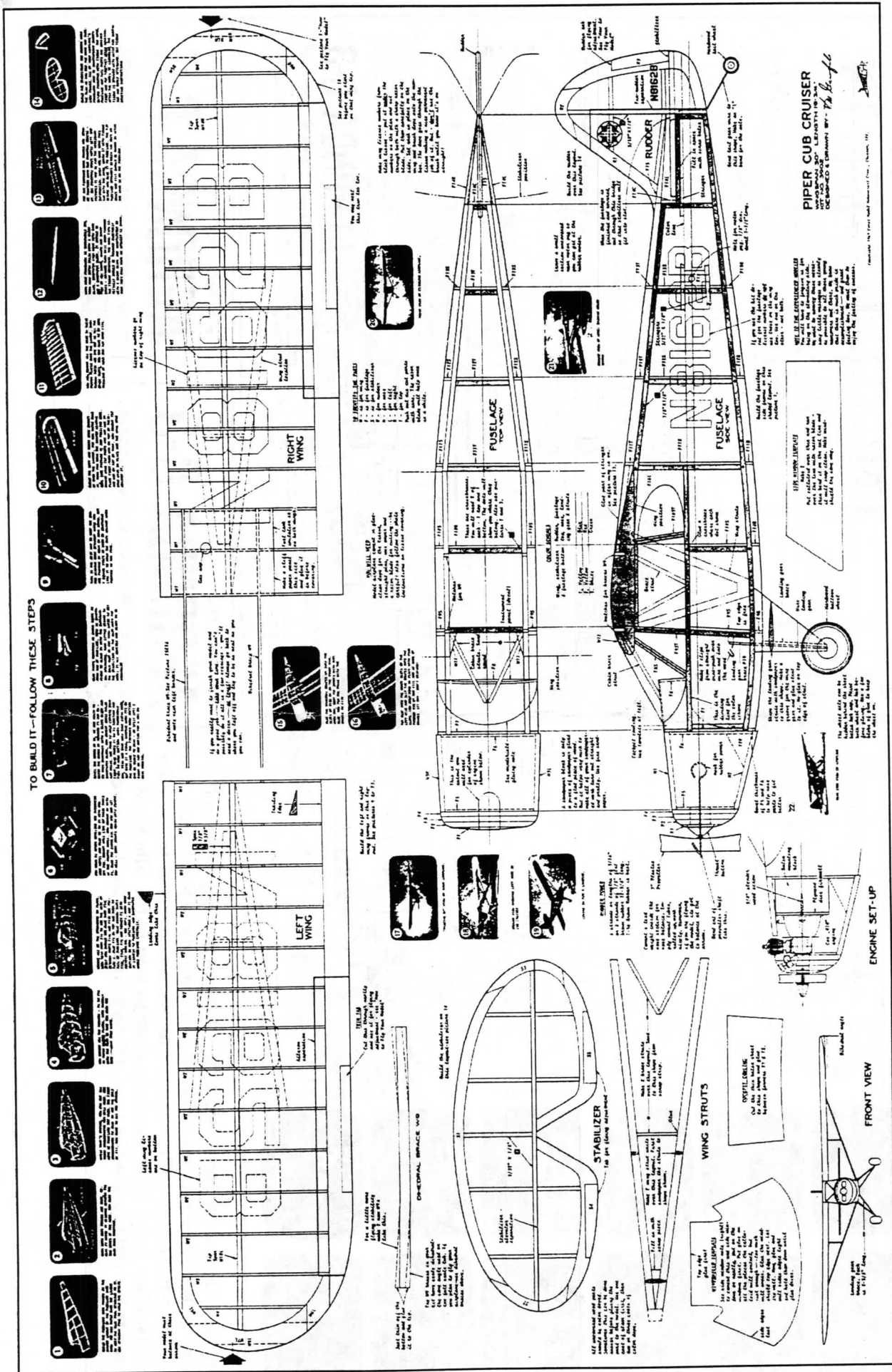
The 12" Stinson Voyager kit was designed by Fred Schlienz in the post-war era, after he returned from the Army Air Corps and became chief designer for the reorganized Comet company. (Enlarge this plan by 1.65 to obtain the original-size model construction drawing.)



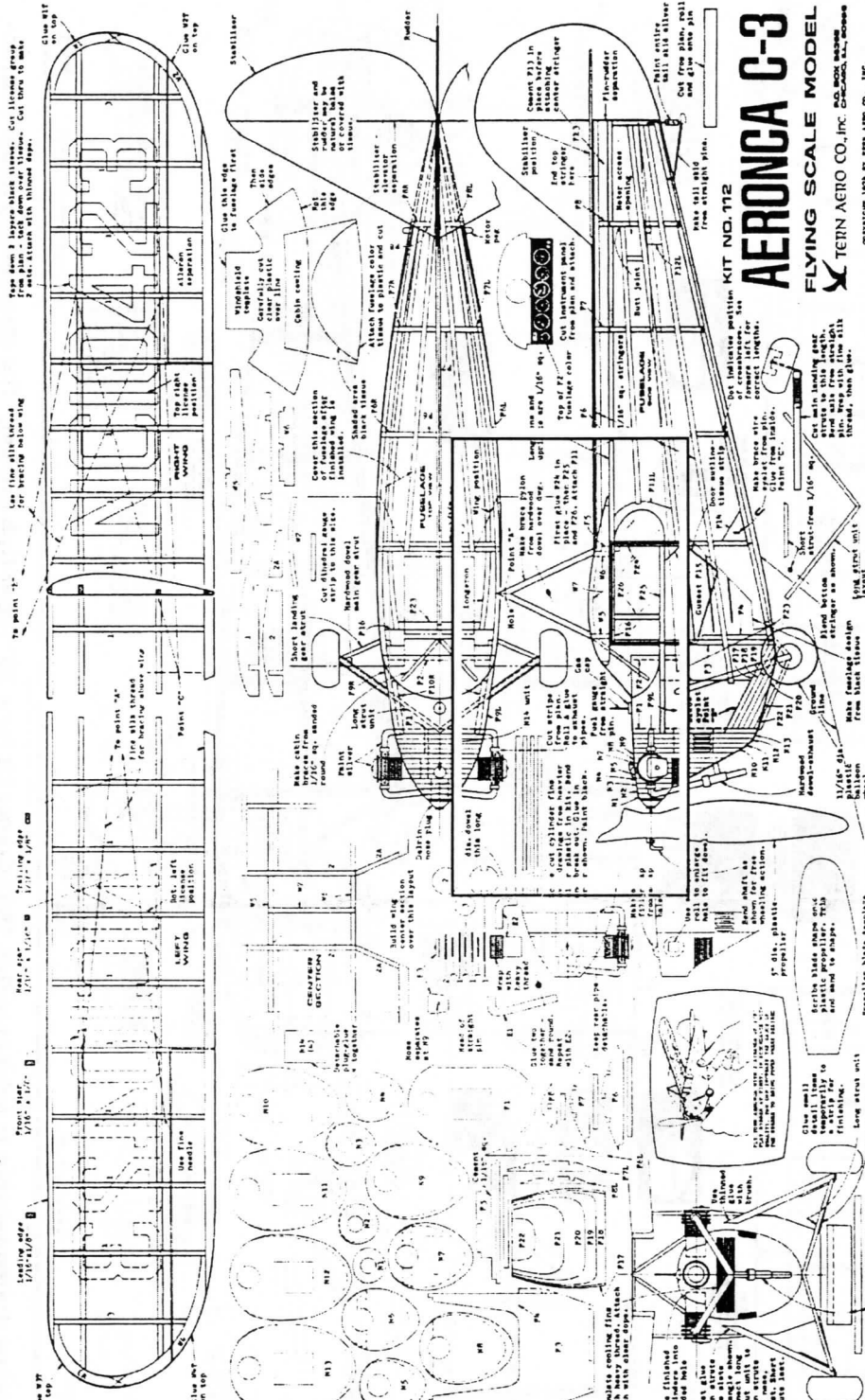
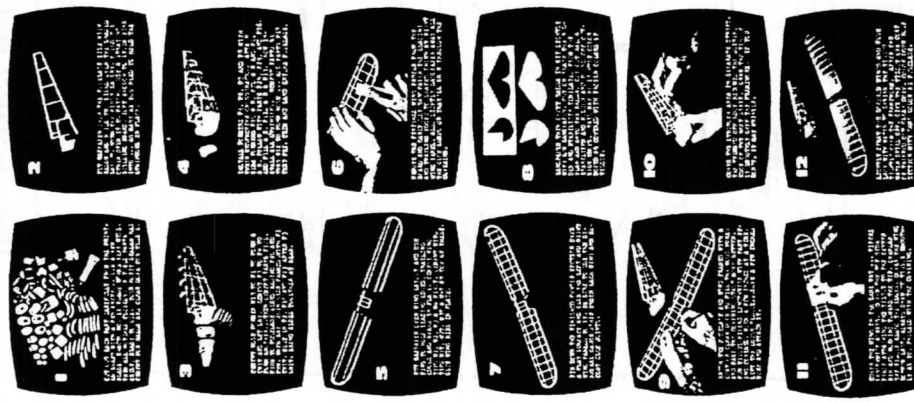
AERONCA Sedan
 WINGSPAN 13-1/4"
 KIT NO. 2301
 DESIGNED & DRAWN BY *Vito M. Garofalo*

COMET MODEL HOBBYCRAFT CORP., CHICAGO, ILL.

One of the first Comet Struct-O-Speed kits was this 13 1/4" wingspan Aeronca Sedan, as designed and drawn by Vito Garofalo. The parts were die-cut in the kit, so the drawing is only an assembly guide. If enlarged by 3.25, the assembly views could be used to build from. Comet kit #2301 is still listed in the America's Hobby Center catalog @ \$5.95.



Vito Garfalo's meticulous draftsmanship is evident in this 1963 Comet kit for a 30" Piper Cub Cruiser. The step-by-step photo instructions and general format were carried over into Vito's own company, Tern Aero, a few years later. Comet kit #3902 is still listed in the America's Hobby Center catalog @ \$13.95. (Enlarge this plan by 3.40 to obtain the original-size model construction drawing.)



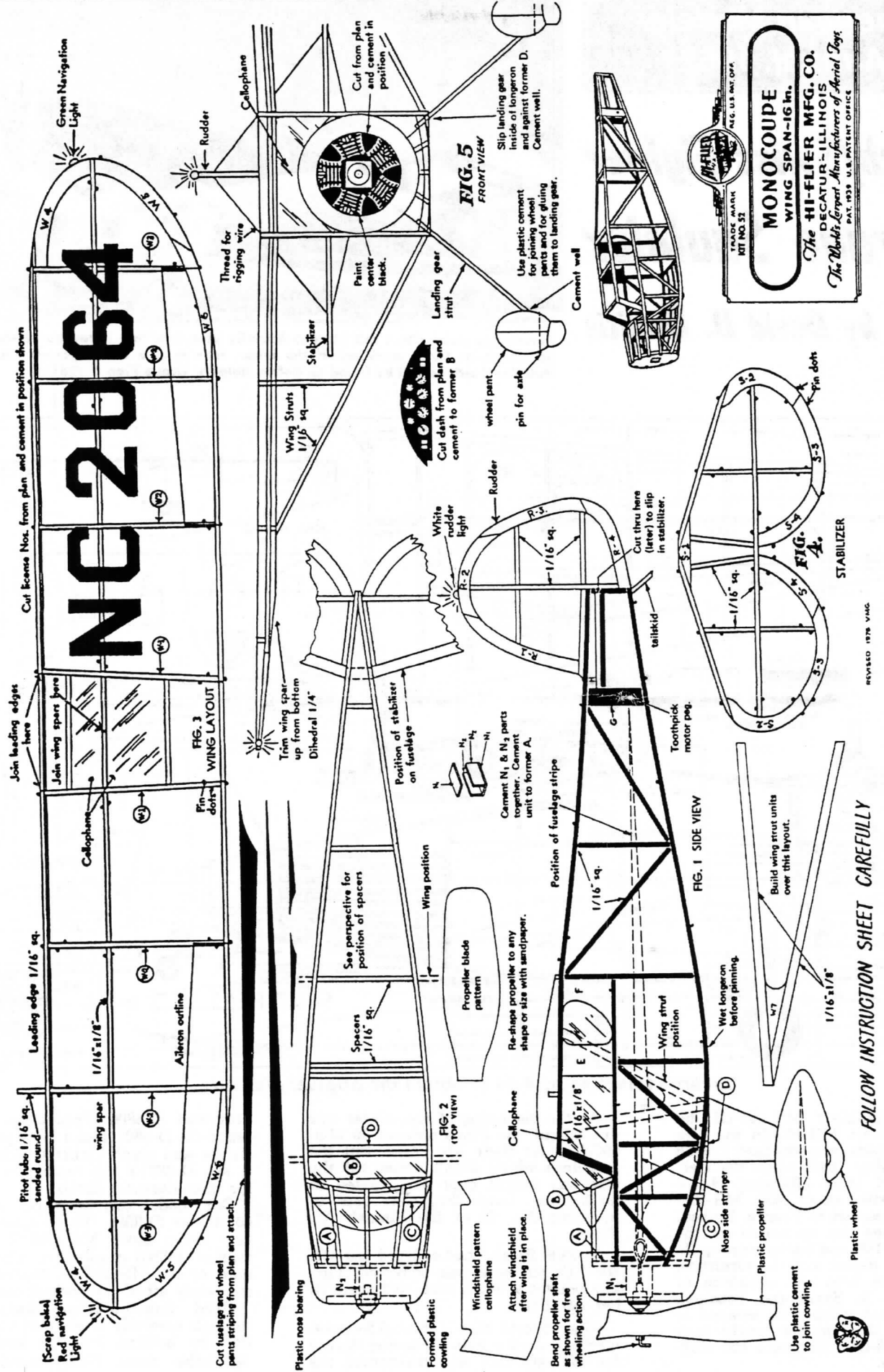
AERONCA C-3
FLYING SCALE MODEL
 TERN AERO CO., INC. 200 WOOD AVE. CHICAGO, ILL. 60608
 COPYRIGHT 1974 BY TERN AERO CO., INC.

This 1974 kit plan for Tern Aero's 18" ("Walnut Scale") Aeronca C-3 is typical of the splendid work done by Vito Garofalo in the design of his new company's kits. When these kits were converted to "Hi-Flier" models a few years later, the only change was in the title blocks as shown to the right, below the plan. (*Enlarge this plan by 2.33 to obtain the original plan size.*)

KIT NO. 112
AERONCA C-3
 FLYING SCALE MODEL
 TERN AERO CO., INC. 200 WOOD AVE. CHICAGO, ILL. 60608
 COPYRIGHT 1974 BY TERN AERO CO., INC.

KIT NO. 110
AERONCA C-3
 FLYING SCALE MODEL
 Hi-Flier MANUFACTURING COMPANY
 450 WABASH AVENUE, DECATUR, ILLINOIS 62525
 A Hi-Flier COMPANY
 COPYRIGHT 1974

NC 2064



To expand the Hi-Flie line, several of their 16" pre-war 10¢ kits, such as this Monocoupe, were returned to production. Fairly extensive detail plan changes were required here, as described in the article. (Enlarge this plan by 1.94 to obtain the original-size model construction drawing.)

FOLLOW INSTRUCTION SHEET CAREFULLY

REVISED 1978 VMC



 TRADE MARK
 RT NO. 52
 REG. U.S. PAT. OFF.

MONOCOUCO
 WING SPAN-16 in.

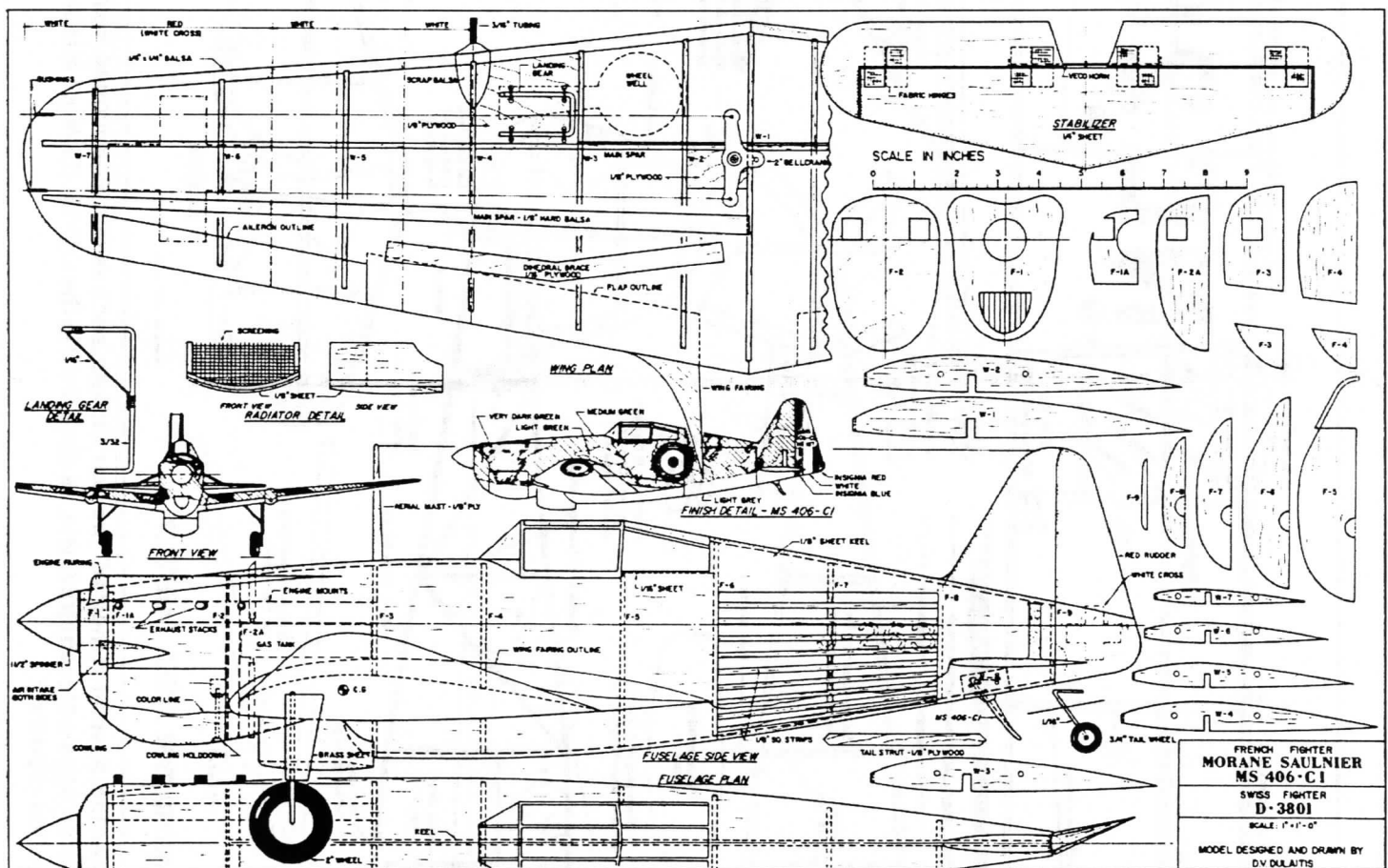
The Hi-Flie-Mfg. Co.
 DECATUR - ILLINOIS
The World's Largest Manufacturers of Aerial Toys
 PAT. 1939 U.S. PATENT OFFICE

French/Swiss Fighter Morane Saulnier

by **David D. Dulaitis**



Interesting point about this Morane Saulnier pursuit is that it can be finished off in French or Swiss markings—if the latter, then it is a contemporary machine! Full size drawings will be found on Hobby Helpers' Group Plan # 1261.



(Enlarge this plan by 4.44 to obtain the original plan size.)

■ Morane Saulniers' MS 406-C1, developed from its MS-405 in the nineteen thirties, became a standard French fighter. In May 1940, when the Germans started their offensive, eleven squadrons with about 250 MS-406-C1's were in service in France. By that time the plane was no match for the German BF-109 and losses were quite heavy. After defeat and the armistice, Vichy France kept one squadron of MS-406-C1's in Syria and Lebanon. Several French pilots who escaped to Africa with their planes fought with their MS-406-C1's alongside the English in Lybia.

At the beginning of the winter war in Finland, the Finns ordered 30 MS-406-C1's for their Air Force. But the machines which didn't arrive till the war was almost over participated in no fighting. Later they were used in squadron No. 28 of the Finnish Air Force.

In 1939 Poland had ordered 160 MS 406-C1's but none was delivered. Turkey bought a batch and used them in her Air Force.

When World War II started Switzerland acquired a manufacturing license for MS 406-C1's and designated the

prototype D-3800. Production model, called the D-3801, had a more powerful engine and much higher performance. A few D-3801's still remain in service for miscellaneous duties

Our model can be either an MS 406-C1 or D-3801. The airplanes are very much alike. MS 406-C1 had a tailskid, D3801 a tailwheel. The aerial mast of the MS 406-C1 mounted immediately aft of the cockpit canopy.

Read these building instructions through carefully then start construction by making fuselage keel from 1/8" balsa sheet. Keel extends from



Dave Dulaitis of Royal Oak, Mich., is a senior draftsman and keen U-control scaler with many "wins" to his credit.

Morane Saulnier ...

former F-2 to former F-9. Cut out all formers from $\frac{1}{8}$ " sheet except F-1, which is laminated from 3 pieces of $\frac{1}{4}$ " and F-2, which is $\frac{1}{16}$ " plywood. Cement former-halves to keel. Then cement firewall F-2, engine mounts and formers F-1 and F-1A. Do not shape nose former F-1. Install gas tank; bolt powerplant in place with blind nuts. Pick an engine from .19 to .35 displacement. We used a Fox .35 with a $\frac{1}{2}$ " extension so the intake would clear the nose block. Set this structure aside to dry and make stabilizer and elevators. Elevator horn is installed with pushrod connection pointing up. Cement completed tail unit to fuselage, cutting away keel to fit horn.

Next comes the wing, its structure is simple. Cut all ribs from $\frac{1}{8}$ " sheet, shape main spar from $\frac{1}{2}$ " x $\frac{1}{8}$ " hard balsa, notch $\frac{1}{4}$ " x $\frac{1}{4}$ " leading edge. Make two separate wing halves. Cut landing gear platforms from $\frac{1}{8}$ " plywood, drill and cement between ribs W-3 and W-4. Make dihedral brace from $\frac{1}{16}$ " plywood and join both wing halves, checking for equal incidence. Bend landing gear halves from $\frac{3}{32}$ " piano wire (make them opposite). Bind firmly with thread to undersides of landing gear platforms then smear liberally with cement. Reinforce platform with scrap balsa.

Cut bellcrank platform, fit 2" bellcrank and install as shown. Don't forget the lead-outs. If you want to make wheel wells or working split flaps do it now. Same goes for lead-outs for engine controls. Taper and form leading edge then sand entire structure. Cut lower wing covering from $\frac{1}{16}$ " balsa sheet to plan outlines, cut holes for landing gear legs (and wheel wells if you make them) then cement to wing frame. Leading edge of sheeting should overlap leading edge of frame. Cement 1-oz weight to outside wing at rib W-7.

After sheeting dries taper its trailing edge to conform to rib curve. Make and cement top covering same way. Don't cement from rib W-7 to tip till

covering dries. Then score bottom sheeting chordwise at rib W-7, pull up and cement to top sheeting. When wing has dried, carve leading edge to conform to airfoil section, make wing gun fairings, and sand wing smooth. Cut clearance hole for elevator pushrod in top covering. Cut off lower part of fuselage keel where it extends below wing; cement completed wing to fuselage frame. Make and install elevator pushrod from $\frac{3}{32}$ " piano wire. Check controls for free movement. If you plan to install throttle control, do it now.

Cement back lower part of keel and your fuselage is ready to be planked. Notice fuselage part between formers F-6 and F-8 is not solid but covered with paper. Start planing from fuselage top with $\frac{1}{8}$ " x $\frac{1}{4}$ " and $\frac{1}{8}$ " x $\frac{1}{8}$ " strips, cutting the $\frac{1}{8}$ " x $\frac{1}{4}$ " strip off at former F-6 and continuing the $\frac{1}{8}$ " x $\frac{1}{8}$ " strips to former F-9. Fill in spaces between strips from former F-8 to F-9 with scrap balsa. This method will give even strip spacing the easy way.

If you want a concealed gas tank filler tube, make one from $\frac{3}{16}$ " copper tubing and fit into rear exhaust stack. Do not plank cowling space. Remove engine, roughly shape cowling from block of soft balsa and cement lightly between formers F-1 and F-2. Make two engine fairings, cement to top of fuselage and carve nose block, engine fairings and cowling to shape. Sand fuselage smooth. With plastic balsa smooth engine fairings into fuselage contour. Make fin and rudder from $\frac{1}{8}$ " balsa sheet, sand and cement to fuselage. Fillet entire tail grouping with very small fillets. Add fuselage fairing to lower part of rudder, gouge hole to clear elevator horn, sand smooth and cement in place. Make cockpit frame from $\frac{1}{16}$ " brass tubing, solder and cement in place. Cut out wing fairing bases and cement in place; complete wing fillets from scrap balsa and plastic balsa to blend in smoothly to fuselage and wing.

Assemble tail wheel or skid as shown, cut slot in bottom of fuselage and cement in place. Sand completed plane with very fine sandpaper. Dope twice with clear dope then add two coats of balsa filler, sanding between each coat. Cover entire airplane with wet Silkspan. Apply one coat of clear, two or more coats of balsa filler, then two final coats of clear dope, sanding

between each coat and wet-sanding the last coat. Remove cowling, carve inside to clear engine, then liberally dope the cowling and engine compartment. All doping should be with fuel-proof dope.

Make two air intakes and radiator; sand, cement in place, and dope smooth. Cut holes for engine exhausts on both sides, make landing gear covers and solder in place; make cowling hold-down and see that it works. Finish nose air intake by making grille bars from wire or paper clips. Aerial mast and tail struts are $\frac{1}{8}$ " plywood shaped as shown and sanded streamline. Locate tail strut positions on fuselage and stabilizer, cut small slots and bending stabilizer slightly force struts in place and cement firmly. Cover cockpit with clear plastic and mask off.

Carefully check the entire model for smoothness. Correct any bad finish, install the exhaust stacks, and you are ready to put on the final coats of dope.

If your model is to be the D-3801 paint it as follows: Top and sides of fuselage, wing, stabilizer, elevator and fin—medium dark green; bottom of surfaces—light blue. Rudder and base for insignia on wing top and bottom are insignia red. Wingtips and bands are white, top and bottom as shown. After finishing rub down to glossy finish; cut insignia and fuselage members from white decal sheet and position as shown. Wheel well outline, flap and aileron outlines are black. If you make wheel wells, paint silver, string aerial from top of mast to top of rudder, install engine, mount prop and spinner and your model is ready for its first flight. The real airplane had a three-bladed propeller, so you may want to make one, paint it silver and install for exhibition purposes.

The color scheme for the MS 406-C1 is marked on the plans. For light green buff, and for very dark green, corsair blue may be substituted.

If you do a good all around job you should have a beautiful and unique model which also flies very well.

BILL OF MATERIALS: Four pieces, $\frac{1}{8}$ " x 3" x 36" balsa; (4) $\frac{1}{16}$ " x 3" x 36" balsa; $\frac{1}{4}$ " x 3" x 36" balsa; (20) $\frac{1}{8}$ " x $\frac{1}{4}$ " x 36" balsa (20) $\frac{1}{8}$ " x $\frac{1}{8}$ " x 36" balsa; engine mounts; $\frac{1}{16}$ " plywood; $\frac{1}{8}$ " plywood; $\frac{3}{32}$ " piano wire; $\frac{1}{16}$ " piano wire; extension shaft; engine mounting bolts, blind nuts; 2" bellcrank; large horn; 2" wheels; $\frac{3}{4}$ " wheel; 2 oz. gas tank; $\frac{1}{16}$ " brass tubing; $\frac{3}{16}$ " copper and $\frac{1}{4}$ " copper tubing; $\frac{1}{2}$ " spinner; fabric hinges; fuel proof dope and filler.



HELPFUL HINTS FOR RUBBER or, "There Must Be A Better Way"

by **Morrie Leventhal**

In the good old days, and to some degree today, rubber lubes absolutely ruin a good Japanese tissue covering job by making a blotchy mess of the fuse. Further, we all use, or should use, a winding tube when winding the rubber motor. This protects the model (but not the holder, unfortunately) while winding. Okay, but suppose the rubber motor lets go in the air with no winding tube to protect it? The tissue is splattered, uprights and longerons go in seventeen directions at once, and the wing and tail assembly flutter down with no damage, but the fuse is gone and so is the flight and the contest and your nerves...and all the timer does is smile weakly and walk back to the ED's table with his head sort of down. No max, no nothing.

Why not try covering the fuse with plastic wrap? Micafilm and Litespan are two of the very tough polyester films that are available, as well as the dreaded "Monokote". These coverings will not bring up the weight all that much. My P-30 still didn't hit the 40-gram limit with red Monokote on the fuse and the Mulvi actually was a bit lighter using Litespan than with doped Japanese tissue. Commercial rubber will not increase in weight with Litespan, and just slightly with Micafilm. I haven't tried the plastic wraps on rubber scale yet, but I will....some day (probably on a large, high winged, flat fuse sided plane like a J3 or a T-Cart). It should work, unless the plane is under about 36" wingspan.

What about the windscreen and side windows on scale models? Clear MonoKote is perfect for this. It sticks to the framework with no problem, is as clear as cellophane, and is considerably easier to apply. Additionally, it does not pull the framework out of shape. The shrink pressure or pull, believe it or not, is very low—lower than Japanese tissue. Don't believe me about the weight? Okay, get a piece of cellophane and a matching piece of clear MonoKote and weigh them. Not much difference.

The bottom line, summary, etc.: Model building has progressed about as fast as technology. Slowly at first, a little faster during the World War II years and just after, and now.....WOW, at an exponential rate.....fast, faster, almost too fast. Use the best procedure and product available to get the job done. For instance, I never have, and never will, use any cement (glue) on an open framework plane except good old "model airplane glue" like Siment or Duco. Super glues—cyanoacrylates—just don't work on stick and tissue. They won't stick, and it doesn't make any

difference how big or how small the plane is. From an eight or nine-inch wing to the Old Time monsters at eight and nine feet, the super glues won't hold the sticks in place. However, the modern coverings and the newer aliphatic resins like "Titebond" are great in their place. There is nothing more beautiful than a doped tissue covering, but with the proper use of modern plastic wrap for windows and some fuselages, it can be even better and stronger—much stronger.

WRITER'S GUIDE—PART II

by **Jim Alaback**

The interest and value of many articles will be greatly enhanced by including illustrative material appropriate to the subject matter. Copies of magazine advertising or catalog pages, plans, and photos of designers or manufacturers involved, kit boxes, or models built from the kits or plans described in the article would be typical examples of the kind of illustrations that would increase an article's interest and value.

Plans may be from your own collection or can be purchased from commercial sources such as John Pond, Charles Schultz, Richard Gleason, etc. You will want to reduce your plans to fit an 8½" x 11" page, with a border of at least 3/8" all around. Plans can be reduced by photocopy machine in many cases, although it may require doing it in several steps and/or in segments and re-joining the segments in the smaller size. Also, commercial blueprint shops and some large copy shops have machines that can take a big plan and reduce it all in one shot. If you cannot locate a local source for reducing large plans, there is a mail order source for computer reduction of plans that is operated by a KAPA member, Roland W. Friestad. To get pricing or other information, write him at Cardinal Engineering, Inc., RR # 1, Box 163, Cameron, IL 61423. Let him know that you are writing an article for the *Kollector*, and that is why you need the page-size reproduction of your plan(s).

Advertisements and catalog or magazine article pages are best reproduced from original pages if you can provide them. However, we may also be able to use good, clean, clear photocopies if the originals are not available.

Close-up photos, sharply focussed, with good contrast and uncluttered backgrounds will reproduce best.

In the event that you need help in locating or reproducing illustrative material, the *Kollector* Editor may be able in some cases to provide guidance or assistance.

An Unusual Model: the Ryan S-C

Popular Aviation
September, 1938

by PAUL W. LINDBERG, Model Editor and Designer

AN altogether new gas model of the low wing type has been tested by our department. This beautiful model of the Ryan S-C can be flown either as a gas-powered or rubber-powered model. All low wing models are very tricky in launching and flying, so it will be necessary to take added precautions in flying your model so as not to damage it.

By enlarging the plans four times the size shown in the magazine, a true replica of the model will be had.

CONSTRUCTION OF FUSELAGE

The main longerons are of 1/8-inch strong balsa. Having placed a piece of waxed paper over the full size of the plans, these pieces are laid directly on the side view of fuselage. Construct the two sides and when they have become thoroughly dry, cement in all cross members so as to form the rectangular body.

From 1/16-inch sheet balsa, cut the formers and cement them in their proper positions. Position of all stringers is clearly shown in the plan under detail of sections of fuselage. It is a wise stunt to sight the stringers from front to rear to make sure they are in proper alignment. It is best to cement the firewall in position before attaching stringers.

The cabin hood is constructed of 1/16-inch iron rod and balsa. This is removable so that inspection of batteries and adjustment can easily be made. Hood is covered with a thin grade of celluloid of which there are full size templates on the plan. The cowl ring is built up from 1/8-inch thick sheet balsa. By simply carving off the surplus edges, the proper shape is automatically had. Cowl ring is held securely to firewall by eight pieces of 1/8-inch x 1/2-inch x 1 9/16-inch balsa supports. For position of these pieces, see the front view of the firewall.

Bottom half of cowl is covered with thin cardboard from the rear of cowl ring to F-9. This thin piece of cardboard continues halfway around the fuselage and is fastened to the center stringer on either side. Cement securely in position. Upper part of cowl is made from thin aluminum, template No. 1. This is removable so that one may make repairs on motor, tank, etc.

CONSTRUCTION OF ELEVATOR AND RUDDER

Construction of the elevator and rudder is so simple that very little may be said on how to build these two units. We might add that they are both of a flat section, 1/8 inch in thickness. Construct upon a flat surface so they will have no tendency to warp. Repeat this operation when covering as it is imperative that they must have no warp whatsoever. The rudder carries an aluminum tab which is inserted into it, having first cut a slot in it to receive the tab. A small amount of adjustment is needed in the rudder tab as to the directional flight of your model.

All ribs are cut from 1/16-inch sheet balsa. Spars are next placed in position. Cement each rib securely in its exact position as shown on plan. Leading and trailing edges are next cemented in place after they have first been carved and sanded to shape. It is very important that the 1/8-inch bracing is not omitted as this strengthens the wing to prevent same from warping out of shape when covered. The wing carries an aluminum tab so that a small amount of wash-in may be had to counteract

CONSTRUCTION OF LANDING GEAR

Care and patience should be exercised here so that you have a strong and compact landing gear. All landing gear pieces are formed from 1/16-inch spring-tempered steel wire. A small amount of

shock is had in this type of landing gear as shown in detail on the side of front view of landing gear. The model is shown with streamlined "pants." These are intended only for display work and should not be used in flying the model.

The entire model is covered with a good grade of bamboo paper. In applying the paper to the framework, ordinary model airplane dope will not do. Ordinary cement, thinned out slightly, makes excellent paper cement. In order to obtain a nice covering job see that practically all wrinkles are removed.

Do not stretch paper so tightly over the frame that it will have a tendency to pull it out of shape. After the various parts have been covered, dope with water. This will cause the paper to tighten over the framework. If the brush is used, extra precautions should be taken not to tear paper.

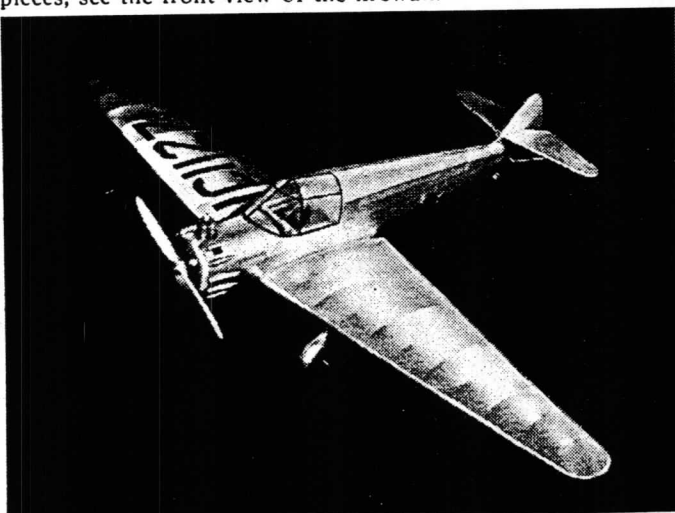
Any small spraying device is an excellent means of applying the water. After the pieces have become thoroughly dry, clear dope them. To obtain a smooth finish, a light sanding is given between each coat. Color suggested for this model is silver with black license numbers.

It is best to keep the lacquer thin enough so that it will flow freely. This will require an extra coat but the results obtained are well worth the effort.

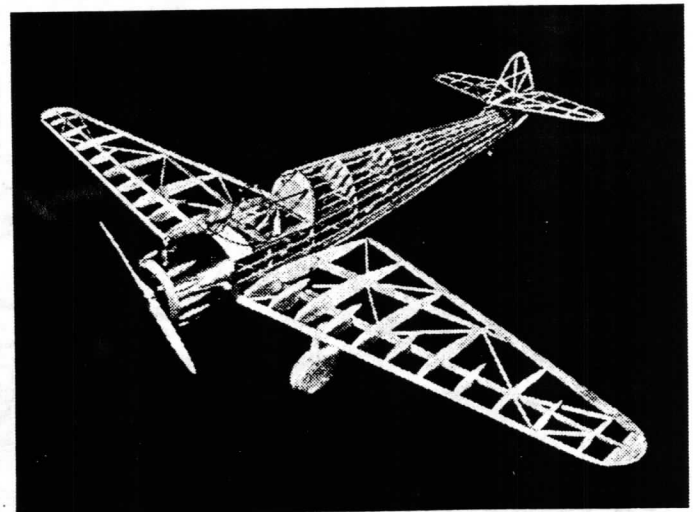
TESTING THE MODEL

In launching the model from the hands, it is best to find some tall grass for it to glide into, as this will prevent any serious damage in testing. Model should glide down in an even keel without falling off on one wing or the other. Any correction can easily be made with the adjustment tabs. Up and down angle of attack is corrected by moving the batteries on the adjustable sliding rack.

END

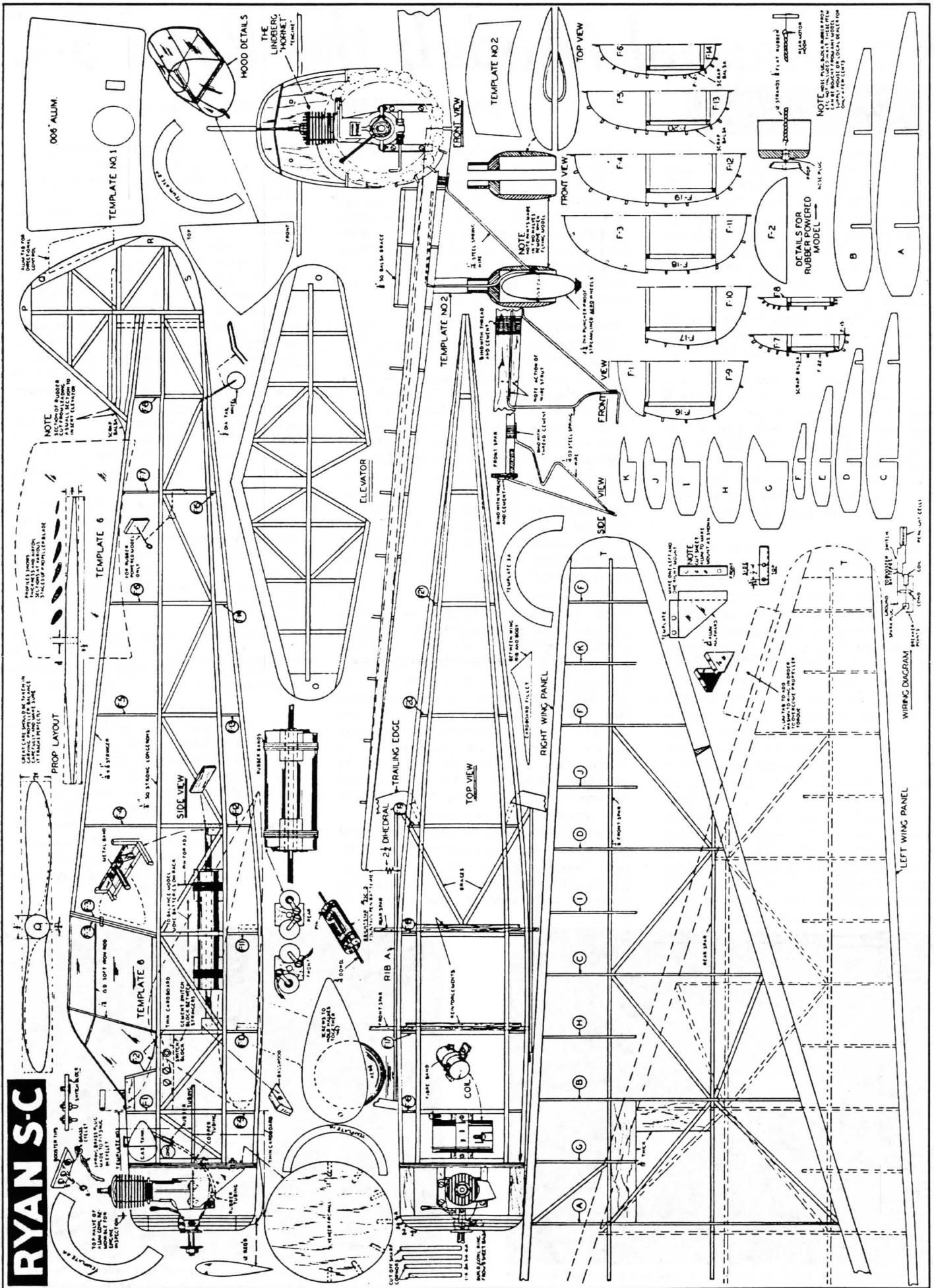


The S-C makes a beautiful model and can be flown either as a gas- or rubber-powered ship. Low wing models, however, are tricky and care should be taken in flying them.



Minus its covering, the S-C displays its rugged, well-built framework. The "pants" on the landing gear are for show purposes only and should not be used while flying.

RYAN S.C.



Enlarge this plan by 4.0 to obtain the original-size model construction drawing.

Membership Renewal Info

If the following notice on a red half-page is enclosed in your *KAPA Kollector*, your subscription has expired and it's time for you to renew.

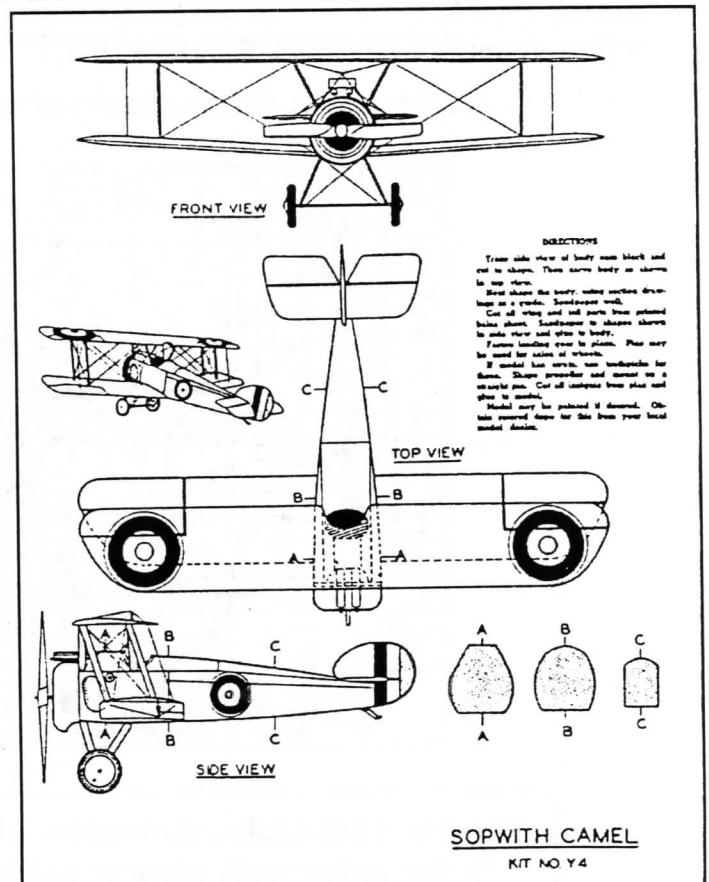
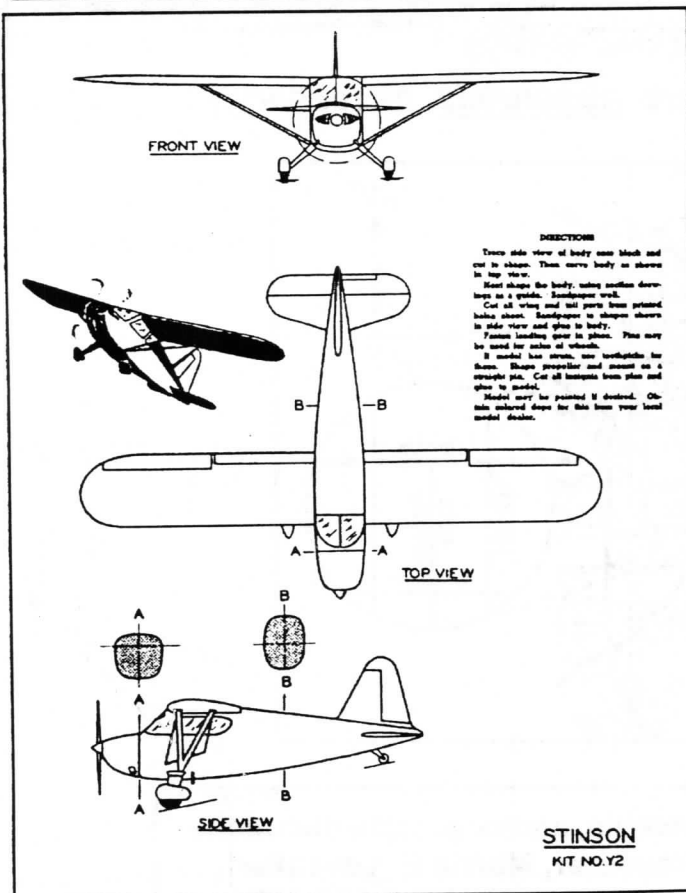
MEMBERSHIP RENEWAL REMINDER

YOUR MEMBERSHIP WILL EXPIRE AFTER THIS ISSUE UNLESS YOU RENEW.

THE YEARLY DUES REMAIN AT \$6.00. SEND ALL RENEWALS TO "KAPA", 1788 NIOBE AVENUE, ANAHEIM, CA 92804.

THE *KAPA KOLLECTOR* NEWSLETTERS ARE GETTING BETTER AND BETTER. DON'T MISS A SINGLE ISSUE!!

To avoid any delays in receiving the next *Kollector*, renew as soon as possible. This is the only notice of expiration of subscription that you receive.



Two more plans from Comet's "BIG 4 Solid Kits" Y-Series. Yes, you could build 4 complete models for a whopping 5¢ for the 4-in-1 box kit. (Plans courtesy Jim Alaback)

KAPA Swapmeet

TENTATIVE!

Saturday, June 8, 1996, 10:00AM until 2:00PM
Cypress Senior Citizens Recreation Center
9031 Grindlay St., Cypress, CA

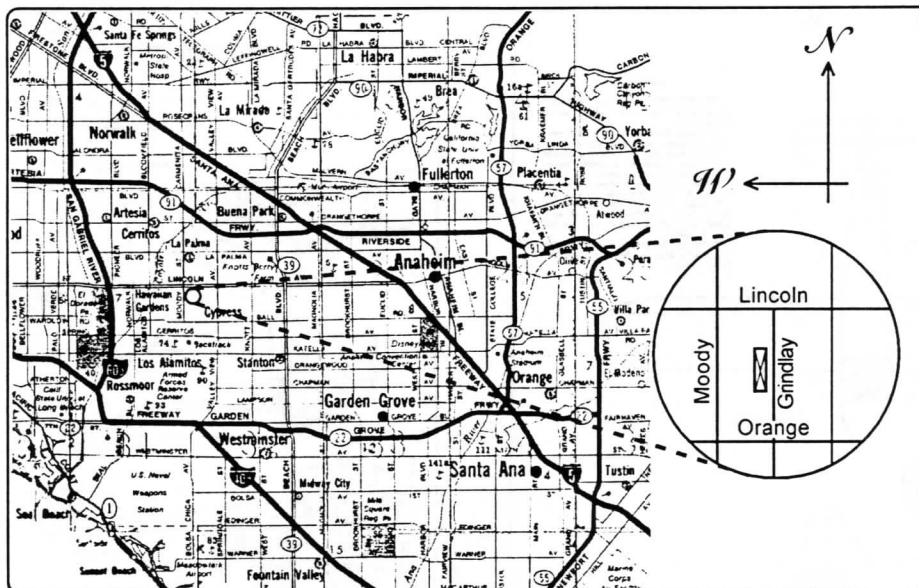
Location: The Cypress Senior Citizens Recreation Center is about 2 blocks south of Lincoln Avenue in the city of Cypress, at the extreme northwestern end of Orange County, about 20 miles southeast of downtown Los Angeles.

Time: The swapmeet starts at 10:00 AM and lasts until 2:00 PM. (Those with table reservations will be allowed in at about 9:00 AM to set up their tables.)

Cost: General admission is \$4. Full tables are \$10, half tables are \$5 (including admission).

Reservations: Table reservations are not only suggested, they are absolutely necessary due to the large turnout. The past three swapmeets have been a total sellout. To reserve space, send the money or a check payable to KAPA along with your name, address and telephone number to the Treasurer, Morris E. Leventhal, 1788 Niobe Avenue, Anaheim, CA 92804. No reservations can be taken without payment, and it is first come, first served. Have your reservations in by April 1, 1996 at the latest, but the sooner the better. There is just so much room for so many tables, and several people were turned away last time. (Note: If you have already reserved space as a MECA member with Chuck Bartunek, that is all that is necessary.)

Remember, table reservations are absolutely necessary!!



For latest schedule information, other details, and/or precise directions to the swapmeet, write or call the Treasurer, Morris E. Leventhal, 1788 Niobe Avenue, Anaheim, CA 92804. Phone: (714) 535-6570.

Collector Classifieds

Model Magazines & Books from 1930's and 1940's
 Have MAN, FLYING ACES, and AIR TRAILS, plus many books on model and real aircraft for trade or sale. Am looking for kit of Berkeley Folkerts Racer FF.
 SASE for list.

**John Walker, 606 Mockingbird Way,
 Charlottesville, VA 22901 804/973-1876**

KITS FOR SALE

SIG FOCKE WULF FW190 C/L KIT
 26" WS KIT NO. WT 9 ONE OF
 SIG'S FIRST-ORIGINAL-COMplete
 PROBABLY FROM BERKLEY BUYOUT #30.00
 TOPFLITE P51D. MUSTANG C/L
 AUTHENTIC 1" SCALE 37" WS
 COMPLETE KIT-ORIGINAL EXCELLENT
 CONDITION #7500

JIM R. ANDERSON OR
 188 AUTUMN DR 1-612-259-8644
 SARTELL MN 56377

Kits for sale: The Bunny 19" Atom powered U/C, no box, kit came in a brown paper envelope. The war, made 1943. \$20 + \$5 to ship. The largest Fox of them all: 12" buzzard glider \$150+ \$10 to ship. Both kits seem complete and in good cond.

Plans for sale: The Jobberwok, 31" rubber job, Xerox copy, \$5- 1942 Cleveland 2"=1' Stinson Reliant. 4 Xerox sheets. Will have to be glued together to use. Plan shows all ribs & formers \$10- Please call about the cost of shipping the plans.

Magazines for sale: Cleveland Modelmaking News & Practical Hobbies Vol.1, No.1 Jan-Feb 1933, 24 pgs. Includes supplemental plans. Call for info. Also have Vol. 1, No. 2 of same mag, pages missing \$40 for both + plan p.p. Have other plans & English mags for sale. SASE for list.

**Joel Balsam, 4 Pickwick Hill Dr.,
 Huntington Station, N.Y. 11746-1241** Want to phone?
 516-271-3267 6-7 p.m., 11-12 p.m. eastern time.

WANTED: FOLLOWING AIRCRAFT KITS
 5-1 P.39 5-10 FW 190
 5-2 SEVRESKY P35 5-14 P.26
 5-3 HE109 5-17 BRUNNEN BUFFALO
 5-4 F4F WILCOX - ANY AIRCRAFT KITS
 5-8 SPITFIRE
 - DINA MODEL SPITFIRE & HE109
 - MEGOW RYAN STA HARROW BOX

FRANK CROWIN 415/589-3500
 776 CYPRESS AVE SAN BRUNO CA 94066

Wanted: Graupner Klemm 25 R/C Electric kit or plans.
 Kit need not be complete, but must have plans.

**Jerry Porter, 10220 Kilarney Dr.
 Dallas, TX 75218 214-320-1788**

WANTED: Guillow's 18" World War One kits, especially WW1 Albatros, WW7 Bullet, WW10 Snipe, WW11 Pfalz, and especially WW12 Halberstadt. Will buy or can offer trades in Guillow or many other kit lines.

**Jim Alaback, 12366 Nacido Drive,
 San Diego, CA 92123, tel: 1 (616) 487-6716**

FOR SALE: Over 200 plans - mostly rubber powered flying models and some wood scale models. I'm disposing of a plan collection for a sick friend. Includes some from Guillows WW 18" series. Send SASE with 55¢ postage for list.

**Don Waters, 1529 Oakwood Dr.,
 Norman, OK 73069**

FOR SALE: JETCO Dragonfly, 19" FF biplane..\$20. EASY BUILT Mew Gull, 12" FF..\$6. STERLING Waco SRE and Int. Cadet, 2 peanuts..\$6. MODELA Kim, 17" tow line glider..\$8. MODELA Miki, 23" tow line glider.. \$10. MODELA SU-25K, 11" catapult glider..\$6. CUSTOM Beech Bonanza, 32" UC, constr started, no box.. \$40. SCALEMASTER Boeing F4B-4, 30" UC..\$45. CLEM-CRAFT Okie Bird, 45" 1/2A FF, constr started, plans cut up..\$13.

Prices include postage.

**Del Marchant, 17110 24th Ave. N.,
 Plymouth, MN 55447 612-473-5971**

FOR SALE: (PRICES INCLUDE POSTAGE) - GULLOWS
 #803, PT-17, #20.; ENTERPRISE "SHADOW" 32" SPAN, .049 F.F., #30.; CLEVELAND #S-121, F-90 (TAPE REPAIR, BOX FLAPS), #20.; CLEVELAND #Q-112, LUSCOMBE SEDAN, ROUGH BOX, #15.; COMET #F2, S-O-S TAYLORCRAFT, WORN BOX, #15.; STROMBECKER #C-32, P-80, SOME BOX CREASES, REPLACEMENT CANOPY, #20.; AIRLANE #T3, TEMPEST, SMALL, LIKE S-O-S, #10. MONO. SUPER KIT #T5, F-86, #30.; GULLOWS #50-1, T-28 (ORIGINAL ISSUE, FADED BOX), #15.; #50-7, MONOCOQUE 90, TAPE "PEELS", BOX-TOP, #15. WANT COMET S/T, S-O-S KITS, MONO. "G"-SERIES SPEEDEE-BILTS. BOB ANGEL, JR., 6418 PACER TRAIL, SAN ANTONIO, TX 78240, (210) 681-3268.



Stick & Tissue



Peanuts & Pistachios



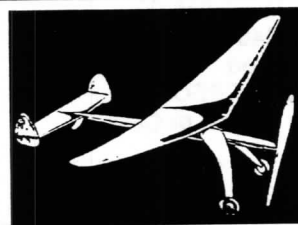
Plans & 3-views

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 HANNAN'S RUNWAY where FUN takes off! COMPLETE CATALOG \$1 (REFUNDABLE)
 BOX 210, MAGALIA, CA 95954, USA

Ed. Note: They have "Flying Aces, The Book, Vol. II", for \$19.95 + \$3.75 p&p. 191 pp., color cover, pulp pages just like the original, and plans, plans, plans!

KITS FOR SALE OR TRADE. Send SASE for updated listing. If interested in trading, send your list of available scale model kits along. **WANTED:** Scientific 1/2A C/L Douglas SBD Dauntless; Comet Struct-O-Speed Ercoupe; CavaCraft 1/2A C/L Ercoupe; other kits for the Ercoupe, Dauntless, Curtiss Shrike, Curtiss Falcon, Curtiss-Wright Junior, Curtiss-Wright CW-21, CW-22, CW-19, other scale kits by Berkeley, Consolidated, Scientific, Cleveland, old Comet and Guillows, etc.

**Lou Buffardi, 400 Windward Passage,
 Slidell, LA 70458**



Wanted: I would like to find the kit or plan for this AMCO \$0.25 series No. E17 Senior ROG. Possibly a Comet kit also.

**John Camp
 611 Vista Del Lago
 Lake Havasu City, AZ 86406
 (520) 453-4401**

Kits for Sale: CL, Freeflight, Glider, Rubber Power. SASE for List.

**Tom Rollison, 1828 Sherwood,
 Sylvan Lake, MI 48320**

Kollector Classifieds

KITS FOR SALE — All Prices Include Shipping

VECO Firebird, U/C Rat Racer, \$30
CONSOLIDATED Stuka Ju 87B Dive Bomber,
 1/2A U/C Scale, \$30
SCIENTIFIC Kellet Autogyro, 1/2A U/C Scale, \$35
TOP FLITE Phasoar, 56" W.S. R/C Electric Sailplane, \$25

**Burt Brokaw 3977 So. 700 W.
 Ogden, Utah 84405-2665 801-621-4605**
 (I am out of town a lot, so don't expect an immediate response.)

WANTED

PLANS & PATTERNS OR COPY OF MAGAZINE
 ARTICLE FOR SINGLE CHANNEL R/C
 FLYING WING. MID TO LATE 1950S.
 WILL PAY REASONABLE PRICE.

CHARLES A. GENTILE
 P.O. BOX 040091
 S.E., N.Y. 10304-0002

WANTED

1. Plans & Patterns (printwood) for Megow SX-1 Flying Wing rubber band kit.
2. Rudder (part no. C-10) for Jim Walker FIREBABY U-Control kit.

**Peter Jackson, 124 N. Grand Ave.,
 Maryville, MO 64468 (816) 582-4279**

AIRCRAFT PACKETS FOR SALE

PLANS, 3-VIEWS, CUTAWAYS, DRAWINGS,
 HISTORIC PICS, ENGINES & RACING A/C.
 8 1/2 x 11 PAGES IN PACKETS. THE
 PRICES ARE FROM \$5 TO \$14. GREAT
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SEND TWO 32¢ STAMPS FOR
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Kits and Plans Antiquitous

Kits and Plans Antiquitous (KAPA) Membership includes the next four issues of the club's quarterly newsletter, the *KAPA Kollector*, which is published and mailed the first week in March, June, September, and December. The *Kollector* offers news of the club, historical information, how-to-do-it articles, plans and photos, and classified advertising.

Officers' Addresses: President: Jim Alaback, 12366 Nacido Drive, San Diego, CA 92128; Vice-President/Editor: Louis Buffardi, 400 Windward Passage, Slidell, LA 70458; Secretary/Treasurer: Morris Leventhal, 1788 Niobe Ave., Anaheim, CA 92804; *Kollector* Publisher: John Pothier, 223 N. Avenida Cordoba, Anaheim, CA 92808.

Membership Dues are \$6 per year in the US (\$8 in Canada and Mexico, \$11 via air mail in other countries, with payment in US Dollar-denominated funds). Make checks or money orders payable to "KAPA". Send membership applications to the Secretary-Treasurer.

Membership Renewal: Your address label shows your expiration date as a month/year, such as "6/95". Your membership renewal is due upon receipt of that issue of the *Kollector*. Mail your renewal check or money order, payable to "KAPA", to the Secretary/Treasurer.

Submitting Articles: Articles are solicited for publication in the *Kollector*. If possible, the text should be typewritten, single-spaced, 10 CPI, with 1" margins. Illustrations such as plans or advertisements that relate to the article are desirable, too. See articles already published in the *Kollector* for guidance on content and style, or see the "Writer's Guide" article in *KAPA Kollector* #12. Articles should be submitted to the Editor by the 10th of the preceding month (February 10, May 10, August 10, or November 10) for each issue.

Back Issues of the *Kollector* from Issue No.1 (March '93) onward are available at the postpaid price of \$2 each in the US (\$2.50 in Canada and Mexico, \$3.25 in other countries via air mail. Payment in US Dollar-denominated funds). Send orders for back issues to the Secretary/Treasurer.

Membership List: Copies may be obtained from the Secretary/Treasurer. A plain paper copy costs \$5 postpaid; a copy on pressure-sensitive mailing labels costs \$10 postpaid. Make check or money order payable to "KAPA"

Notify Morris E. Leventhal, 1788 Niobe Ave., Anaheim, CA 92804 of any change of address!!

FOR SALE: TOP FLITE original 1978 TF kit # N 14, C/L profile stunt TUTOR, 45" WS, .35 engine, have two each, both NIB MINT, \$95.00 takes all.

MERCO (Mercury Model Co. 1949) all balsa Battle tanks, 1 ea. Gen Sherman, 2 ea. Gen Patton, EXC-MINT - \$48.00 takes all.

MONARCH scale P-40F, 20" WS, .045-.099 eng., box has slight wear, kit is NIB-MINT-all there-\$85.00.

MASTER MODEL CRAFT scale Topsy Jr., .074-.19 eng., 30" WS, box has slight wear, kit is NIB-MINT-\$65.00.

KITS/PLANS WANTED: Early 1940s Berkeley Vultee Vanguard kit or copy of plans, printwood.

AIRLANE 1/2 C/L all balsa sheet PITTS SPECIAL.

All transactions via M.O., Cashier's Check, or Cash.

**Ken Wilson, 2324 E. Florida St.,
 Evansville, IN, 47711-4812.**

Ph. 1-812-477-7176, 9am-9pm CST.

Model plans to sell or trade. I only cover from 1918 and back to Pre flight. I have over 500 plans in stock. \$5.00 will get a catalog, a sample laser-cut rib.

**Clarke Smiley 22 River Bend
 Newmarket, NH 03857**

WANTED - Scientific 1/2A control line kits. Kits that I'm looking for include, but are not necessarily limited to: Stinson Voyager, Cessna 170, Beechcraft (the 18" wingspan model), Staggerwing Beechcraft, Little Sabre Jet, Secret Weapon, Stinson Reliant, Mr. Mulligan, F7U Cutlass, B-66 Jet Bomber, and others. I have kits to trade: The Guided Missile, the Snark, the large Beechcraft Staggerwing for Ohlson 23's, Little Mustang, Messerschmitt ME-109, Stuntmaster, Army Racer, Hawk, Cessna 170, F-82, and the large Spirit of St. Louis. Also for trade: A.J. Hornet, NIB,; Top Flight Jig Time Models, Arrow Jet Luscombe, Navion, Church Mid Wing and Baby Bullet by Classic Models. Also would like plans or boxes, or copies of plans, anything is appreciated.

**Dick Wolsey: 112 Haverhill Street,
 No. Reading, MA 01864 (617) 246-0129**

Your editor wants you to know that 88 great old kits were advertised for sale in the most current list put out by Bob's Hobby & Collector's Shop, 115 N. Main St., P.O. Box 796, Watervliet, MI 49098 (tel: 616-463-7452), many priced at \$15. List included Enterprise, Jetco, Frogflite, Girard, H&F, Springfield, Master Modelcraft, etc. Good luck!, and tell them KAPA sent you!

Kollektor Klassifieds

WANTED

Monogram Speedee-Bilt kits. Prefer Corsair, P-51, Hellcat, P-40. Consider any. Also, need Thimble Drome .049 TD-1 U-control model, with plastic fuselage, aluminum wing. Any condition considered. Need info on method to accurately scale model cars up to larger size or obtain scale plans to 50s cars.

**David Groening, 1802 White Oak Loop
Round Rock, Texas 78681 (512) 244-3123**

Trade-a-Plan: I will trade for scale plans or buy your plans, R/P, C/L, R/C, F/F or Electric, too. Please send me your lists and lists of plans you want. I want Webra, Enya, O. S. Max NIB and L/NIB engines R/C types w/mufflers preferred. I can copy plans [11" X 17"] size plans. I want diesel engines all sizes. Kits For Sale: Keil Kraft Ju-87 Stuka \$9.00, Senator \$16.00, Competitor \$18.00, Kayeff Zero C/L, \$35.00, Flyline Stearman C3B \$35.00, Cleveland P-61 \$35.00, Joe Ott Catalina PBV \$40.00, Vought Kingfisher \$40.00, make offer. Call anytime—I'm retired: 1-402-332-4303, or write

**Mr. Duane B. Brehmer, 14720 South 234th Street,
Gretna, Nebraska. 68028-6416 U.S.A.**

WANTED: Gullows kits for the D.H. Mosquito #804 and Puss Moth #306. Complete, untouched kits wanted. If possible, still plastic wrapped, but not essential as long as they are complete. Looking forward to hearing from you.

**Peter Williams, 13 Southminster Road,
Cardiff, South Glamorgan, Wales, UK, CF2 5AT**

WANTED: Sig Sinbad or Super Sinbad glider kit; Berkeley Custom Privateer kit; Jemco (Zaic) Thermic 100 glider kit or original plans; DeBolt Livewire Champ kit.

**Mike Shoen, 8202 N.W. 16th. Ave.,
Vancouver, WA 98665 USA; 360-574-3673**

**WANTED: PLANS OR COPIES OF (WILL PAY COST)
SOLID KITS. CONSOLIDATED TAYLOR CRAFT. CONTINENTAL
E-7 Corsair, E-9 Spitfire. Douglas Model Co. C-47
FALCON D-2, B-24, F-5 B-26, B-31, P-51. MASTER MODEL CRAFT
SKYROCKET, 18" or 9" W.S. TURTLE DROS. ARTCHESTER RACER.
EASY BUILT MEERS B-19. GULLOWS SHELF MODEL SERIES,
CORSAIR, A-26, P-40. ALSO BUY-SELL-TRADE
SOLID A/C KITS BY ALL COMPANIES. ED MARCINIEC
25 LORI ST. SPOTSWOOD, N.J. 08884
908-251-7042**

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Lists over 10,000 plans, kits, photos and scale drawings! 5 Vols.: WWI, Golden Age, WWII-Axis, WWII-Allied, Jet Age. Each volume \$10.00 & \$2.00 postage. Send SASE to:

**John C. Fredriksen, Ph.D.
461 Loring Ave., Salem, MA 01970 508-745-9849**

For Sale:

Goldberg Cessna Skylane 62" R/C kit G-27 \$100 ppd.
3 books by Musciano, \$60 all, ppd
Flyline Bellanca Skyrocket 34½" \$25
Constructo and New Moquettes ships

Wanted: Anything on

Comet F-89 Scorpion
Douglas Model Co. of Salt Lake City 1/48 B-29
Miniature Aircraft Corp. 88" YB-17
(Sold as built-ups during WWII)

SASE or YLFM

**Bruce E. Conway, 3850 Marburg,
Cincinnati, OH 45209**

I have the following kits which I would like to trade for rubber-powered scale kits which I don't have:

- Megow Atomic Jet Car, Kit W-4 (CO₂ propelled)
- Monogram Mono-jet Racer, Kit R-3 (CO₂ propelled)
- Monogram Jet Racer, Kit R-1 (CO₂ propelled)
- Continental Empire Solids Black Widow, Kit E-1
- Continental Empire Solids Super Fortress, Kit E-3
- Continental Empire Solids Helicopter, Kit E-4
- Continental Empire Solids Typhoon, Kit E-6
- Ray-Rings Solid Typhoon
- Ray-Rings Solid Hellcat
- Whitman Solid Boeing Xb-47 Strato-Jet, Kit 2286

**Alan Mironer, 269 Concord Road,
Bedford, MA 01730 (617) 275-0962, Evenings**

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* WORLD'S GREATEST TRUE SCALE PLANS VARIETY!

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9800 AS DETROIT AVE. Cleveland, Ohio 44102



For sale or trade for multi-cylinder ignition motors, Hudson Miniatures wood car kits, Lionel or Amer Flyer trains, Erector sets, Gilbert atomic energy set, steel toy vehicles made before 1941: Model airplane kits, all in original, good boxes: CavaCraft ¼A U-control Mustang #Q-1 \$20, Aeronca Champion #Q-3 \$20, Hawk solid model kits from 1942, #93 Focke-Wulf 190 3½" wing \$15, #92 Grumman F4FU-4 Navy fighter \$15, from 1943 #94 Vought Sikorsky F4FU -1 Navy fighter \$15, 3 kits(1 of each) \$35. :Cleveland 42" wing Luscombe Sedan \$200, Berkeley 76" wing B-25 Mitchell bomber \$250, box only for Berkeley Navion Super 260 \$40, Veron (British) Lavochin 17 for ducted fan propulsion, 37" wing, box fair, kit seems complete \$150, Miniature Aircraft Corp Republic P-47D gas model 35" wing 7/8 scale for .23 motor, kit has 2½" Veco wheels \$150, Midwest P-51 Mustang 33" wing \$50.

**Vincent Amato 395 Main St.,
Middletown, CT 06457 Phone 203-346-0783**

WANTED

Tube or tubes of Aerogloss C-77 "20% Stronger" and/or LePage's and/or Comet model cement. Must be new and unused.

Ace-Whitman 36" rubber Boulton-Paul Defiant
Genie-Tool: Must be new or in excellent condition
Austin-Craft glue gun, in at least 'good' condition

**Morris Leventhal
1788 Niobe Ave., Anaheim, CA 92804
Phone (714) 535-6570**

Wanted

Hobby Shack/Pilot Quickbuild Kits: J-3 Cub 55" span, Lake Buccaneer-20, PT-19 52" span, Tigermoth 47" span
Astro Flight Fournier RF-4; Davey Systems Corp. RC Special; Berkeley ¼A Privateer, Sweitzer 1-30 and Piper Super Cruiser
Plans or copy of Consolidated Models Li'l Spirit

**Art Powell, P.O. Box 1138,
Tooele, UT 84074 801-882-0029**



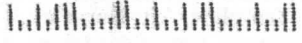
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FIRST CLASS MAIL

To:

100-F 6/96
Claude H. Powell
P.O. Box 454
Ridge
MD 20680



Tern Aero's history told in advertising. Their first ad (top left) was for the "Gone Goose" in February, 1971. The line of kits was quickly extended to three models as shown (bottom left) in this May, 1971 ad. Nearly a year later, in April, 1972, this ad (top center) announced three more non-scale models and Tern Aero's first scale kit, the D.H. Tiger Moth. The March, 1973, ad (right) shows the addition of two more scale kits to the line, while the November, 1973, ad (bottom center) shows a new direction in the introduction of the small, single-channel R/C "Super Starduster". There was no national advertising in 1974, although new kits were being introduced.

TERN AERO CO., INC.
P.O. BOX 66398
CHICAGO, ILL. 60686

SEE YOUR DEALER TODAY. IF UNAVAILABLE, SEE CROWN DIRECT, 4400 59th STREET, BLDG. 2, HANNOVER, OUTSIDE U.S. AND CAN. 1974.

RYAN ST
KIT NO. 108
2.75
WINGSPAN 17 IN.

Primary Glider

DRIFTY
KIT NO. 108
1.50
WINGSPAN 17 IN.

Collegiate
KIT NO. 107
2.00

PORTERFIELD
KIT NO. 104
1.50
WINGSPAN 17 IN.

**TAKE A TERN!
FOR THE BEST!**

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Super Starduster
KIT NO. 401 12.95

SPORT FREE FLIGHT - SINGLE CHANNEL R.C.

Tern engineered for the model builder.

PERFORMANCE WITH SPORTPLANE REALISM

WINGSPAN 24 IN.
OVERALL LGTH. 22-28 IN.
WEIGHT 1.65 LB. 14.5 OZ.
WRIGHT BASK 4-1/2 OZ.

Top grade balsa sheets and strips, spruce strips, plywood, hardware and fittings. 3 colors covering material. 2 part complete plans.

Detachable wing - slide-in engine mount - separating landing gear

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do HAVILLAND Tiger Moth
KIT NO. 105
\$2.50
17 IN.

STARDUSTER Sportplane
KIT NO. 108
\$4.75
17 IN.

TRAVELER Sailplane
KIT NO. 108
\$1.50
24 IN.

DIPPER Stick Model
KIT NO. 104
\$2.00
18 IN.

SNIPPER Sailer
KIT NO. 104
\$2.00
17-1/2 IN.

NIGHTMARK Sporter
KIT NO. 108
\$2.00
18 IN.

here's what they say:

do HAVILLAND Tiger Moth
KIT NO. 105
\$2.50
17 IN.

MADE MANY REALIZERS REACT WITH FLYING OUT OF SIGHT

REAR THE TRAVELER MAKE A 2 MIN. 150 FOOT TOWLINE USING A

POD CAR

BRUNNEN, MEIN

REAR AND RYING THE STARDUSTER HAS BEEN MADE FULL. IT DOES FLY BETTER!

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FLY PRETTY
KIT NO. 104
\$1.50

Sportplane

STARDUSTER
KIT NO. 108
\$4.75

TRAVELER
KIT NO. 108
\$1.50

DEALERS
WRITE FOR LIST

GONE GOOSE
KIT NO. 101
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BEAUTIFUL KIT
QUALITY PLUS!
15-1/2 IN.
17 IN.
17 OZ.

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FLY PRETTY WITH THE

GONE GOOSE
KIT NO. 101
\$1.50

Simple to build. Exciting to fly.

NOODLES OR OUT

A QUALITY KIT FOR THE BEST OF HANDS

17 IN. SPAN

17 OZ.

15-1/2 IN.

17 IN.

17 OZ.

DETAILED PLANS

COMPLETE Balsa

EASY TO BUILD

LET'S TRY AND MAKE QUALITY PLUS!