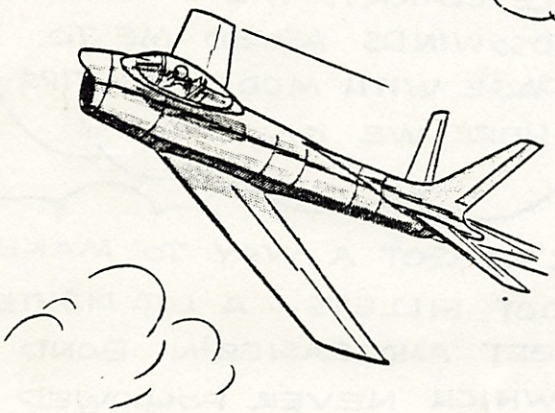
1980 VOL-3 NO1

CLEVELAND FREE FLIGHT SOCIETY

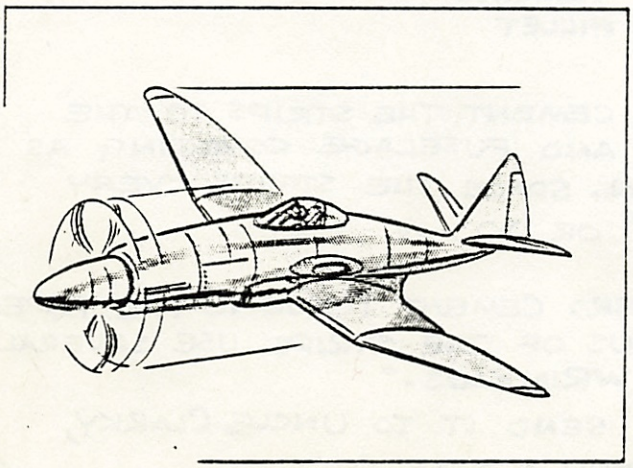
CROSSWINDS

ISSUE 60 1Q, 1981



F-86 SABRE

TRW TM 2833
23555 EUCLID AVENUE
CLEVELAND, OHIO 44117



WESTLAND WYVERN

Uncle Clarky's Building Board

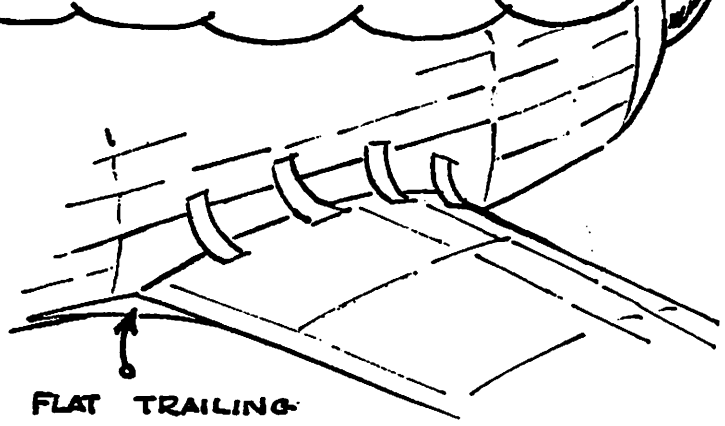


HI THERE, GANG! IT'S YOUR OLD PAL, UNCLE CLARKY. THE GUYS DOWN AT CROSSWINDS ASKED ME TO DO A PAGE WITH MODELING TIPS, SO HERE WE GO...

TODAY I'VE GOT A WAY TO MAKE WING ROOT FILLETS... A LOT LIGHTER'N BALSA SHEET AND EASIER'N BOND PAPER, WHICH NEVER FOLLOWED A COMPOUND CURVE IN ITS LIFE.

"AFTER YOU'VE COVERED YOUR WING AND FUSELAGE AND ASSEMBLED THEM, CUT SOME BOND PAPER INTO STRIPS 1/8" - 3/16" WIDE. CUT THEM INTO SHORT LENGTHS AND ROLL THEM ON A DOWEL SO THEY LOOK LIKE THIS:





FLAT TRAILING EDGE FILLET

"NEXT, CEMENT THE STRIPS TO THE WING AND FUSELAGE COVERING AS SHOWN. SPACE THE STRIPS EVERY 3/4" OR SO...

"NOW YOU'RE READY TO COVER. CEMENT TISSUE TO THE PAPER STRIPS... IT'LL FOLLOW THE RADIUS OF THE STRIPS. USE SEVERAL PIECES OF TISSUE TO AVOID WRINKLES."

GOT A HOT MODELING TIP? SEND IT TO UNCLE CLARKY, C/O CROSSWINDS. WE'LL MAKE YOU A STAR!

CROSSWINDS QUARTERLY.

THE JOURNAL OF THE CLEVELAND FREE FLIGHT SOCIETY.

ISSUE FOR JAN.,FEB.
AND MARCH,1981.
VOL.8, NO.1
ISSUE NO. 60.

EDITOR: GORDON ROBERTS,
5539 HILLTOP OVAL,
PARMA,OHIO 44134.
TELEPHONE: 1-216-661-5210

EDITORIAL COMMENT.

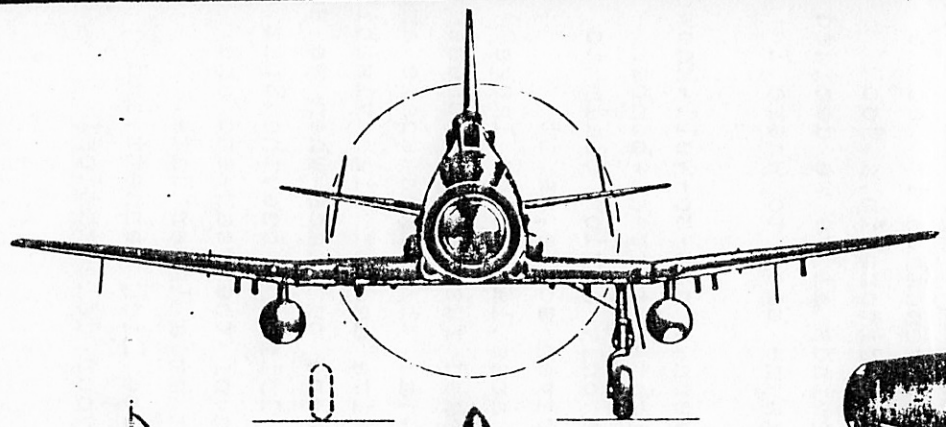
This is the first issue of Crosswinds in four years to be published by an editor other than Dennis Norman. Dennis is a hard act to follow and I feel inadequate by comparison.However,the saving grace is that Russ Brown is still churning out a major proportion of each issue (to say nothing of Xeroxing,assembling,addressing and posting the upwards of 500 copies of each issue).I shall rely very heavily on Russ as I blunder along.

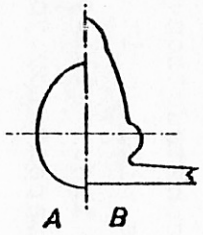
Our older subscribers will remember with me the incredible output of good stuff in the early days of the Norman/Brown partnership. Twelve full issues per year must have represented a second full time job for both of them. I salute their efforts with wonderment and pride.Such a state of affairs could not long continue and production slipped badly;the decision to go quarterly was taken with regret but with the realization that it was inevitable.Even then it became neccesary for Dennis to take some time off from editorship,a job for which he was uniquely suited.To keep Crosswinds alive we decided to have guest editors to help Russ,which brings me back to where I started at the top of the page.

This issue is devoted to the Westland Wyvern,a not-so-well-known or succesful post-war British Fleet Air Arm fighter/torpedo-bomber. It was briefly involved in the Suez crisis,its only action claim to fame.However,its layout is ideal for rubber-driven scale,as it incorporates a long,long nose,good stabilizer area,large(too large?) fin area,to say nothing of its unique,hump-backed fuselage.We present plans for the final service version,the S Mk.4,at 1/2 inch scale and as a Peanut.The color scheme is simple,attractive and of high visibility.

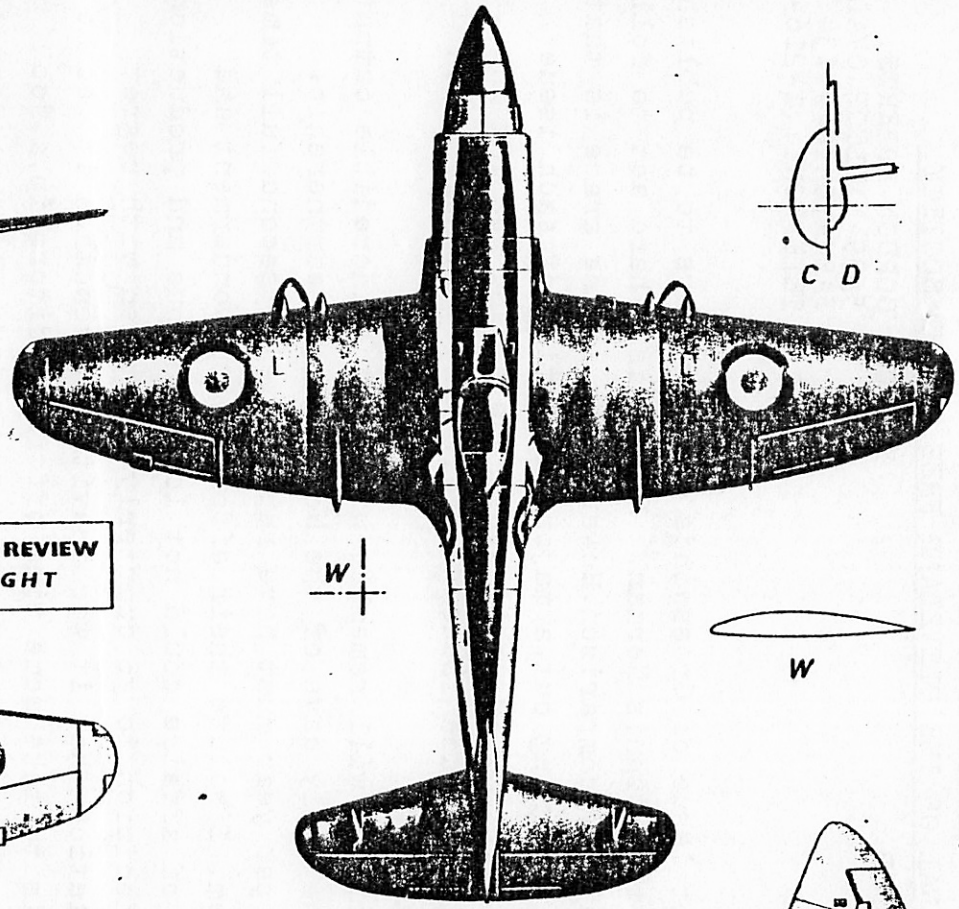
Our forward plans for a Mk. 14 Spitfire were put back when we saw the layout of the Wyvern.Even with the longer Griffon nose,the Spit. is marginal,requiring super light construction of the rear-end and a forward rubber anchorage.Maybe we will do it at a later date.

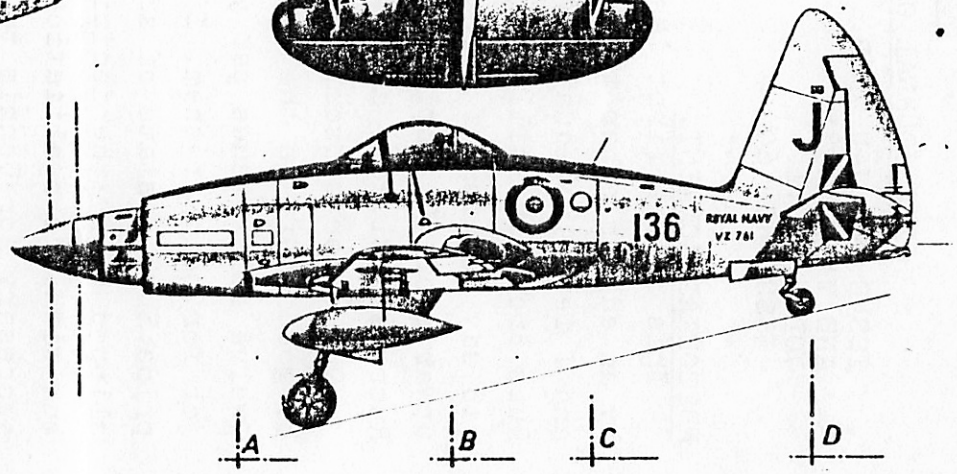
The guest editor for the next issue will be Dick Bennett,and he will have something totally different for your delectation!





RAF FLYING REVIEW
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G. W. HEUMANN

CROSSWINDS RESEARCH UNDER DEVELOPMENT. WESTLAND WYVERN.

The Meteor design published last month (oops,sorry,issue) was indeed a good lead-in to this months offering,the Westland Wyvern. The Meteor was the first operational jet fighter on our side of the fence,while the Wyvern emerged after a very lengthy development as the first turboprop fighter/torpedo carrier(who else would have tried). It should be remembered that Britain entered W.W.2 with only the immortal Stringbag and the unimpressive but more comfortable Fairey Albacore as its only torpedo carriers.The Blackburn Firebrand was developed during the war and came into service just as it was ending;this was a good aeroplane (note the English spelling) and perhaps deserves a CRUD treatment at some later date. The Wyvern was conceived in 1944 as a long-range day fighter with the capability of carrying a torpedo or other weapons for its secondary role as an anti-shipping strike aircraft.

From the beginning there were difficulties with choice of engine, for a minimum of 3500 h.p. was needed and such engines had not been developed.The Rolls-Royce Eagle (24 cylinders,H-type,sleeve-valve) was the first choice,while the Sabre and Griffon were available but marginal on power.Turboprops were next considered, with the R.R. Clyde the front runner,though it was still under development,while the Armstrong-Siddely Python had already been run.All this power necessitated large-diameter props,contra-rotating and with either 8 or 6 blades,and these had to be developed also (by Rotol and deHavilland respectively).

The trials and tribulations of the development of the aircraft and its simultaneous use as a test-bed for untested engines are well detailed in the article in Vol.1 of Air Enthusiast Quarterly. Many were the emergency landings in ploughed fields brought about by engine malfunctions,and it demonstrates typical British "bloody-mindedness"that the project was continued through this melee of misfortune and rebuilding. It took 10 years to get it right and into service! Only the Python engine survived the development,and in its service form it gave 3670 shp plus 1180 lbs of jet thrust,enough to propel the Wyvern at about 380 mph at 10000 feet.

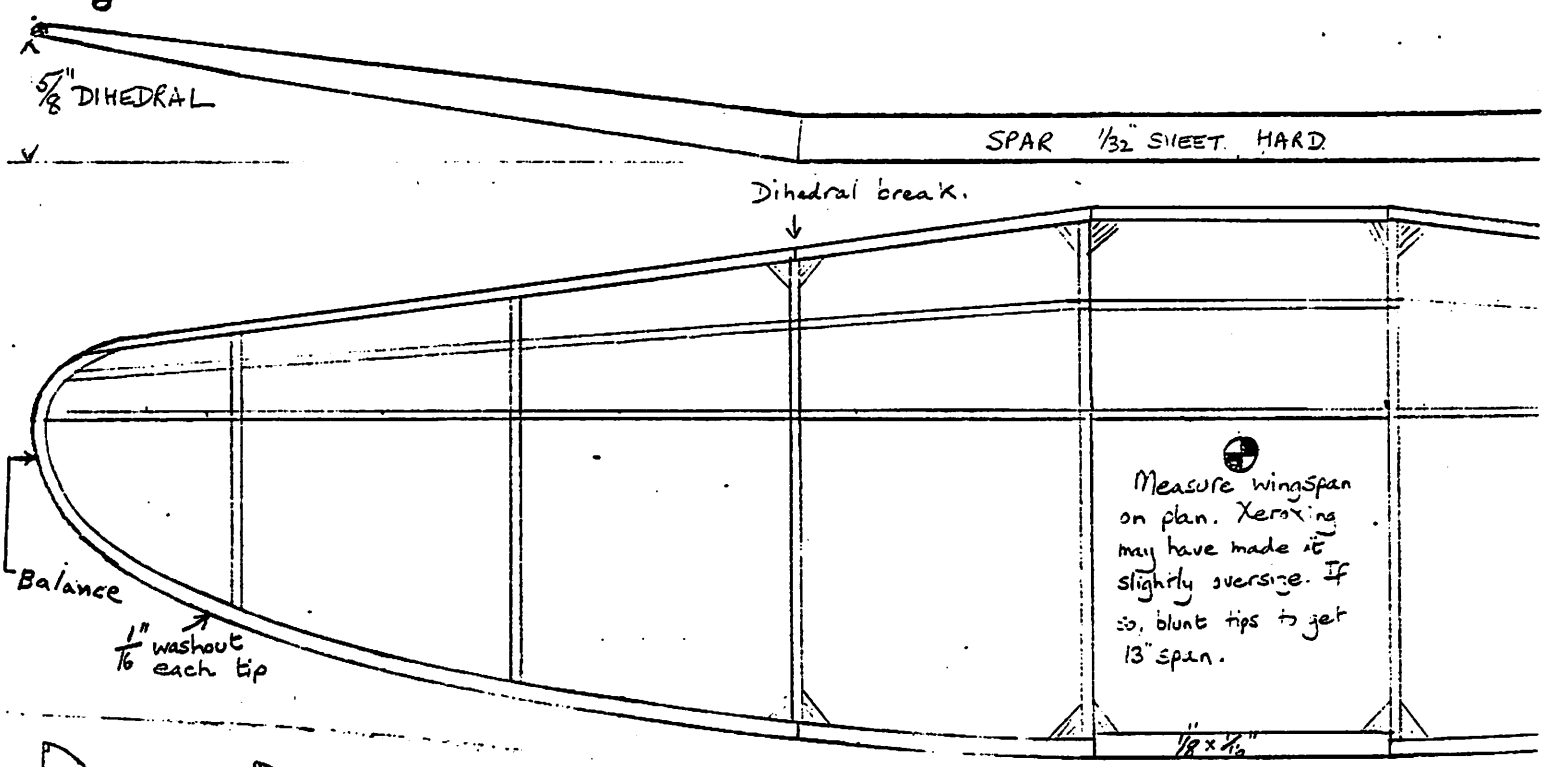
The plans presented here are for a ½" scale version by Dave Pishnery (Orange Bug) and a Peanut by your humble scribe.

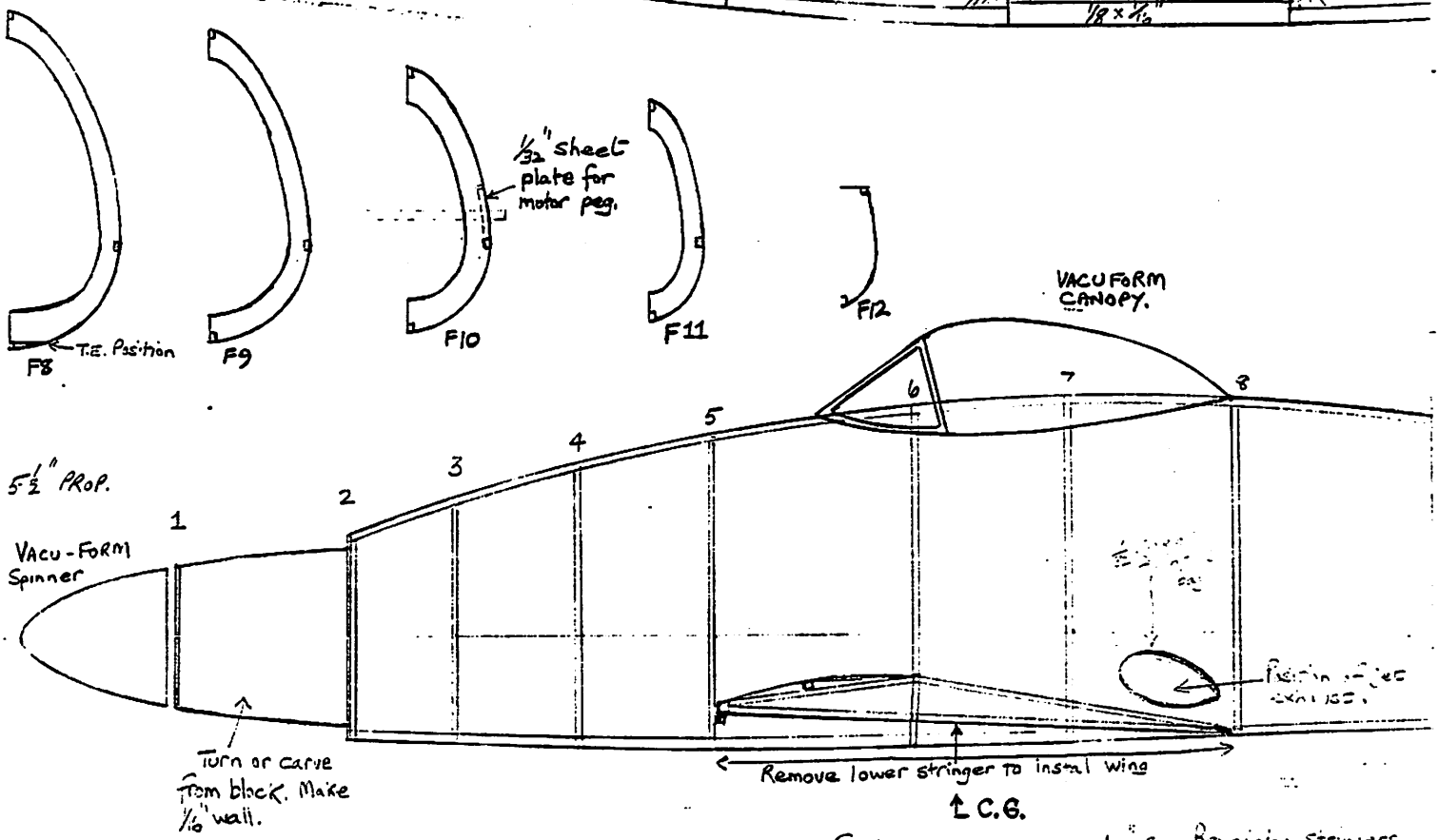
The 3-view,courtesy of RAF Flying Review,Sept.1956 shows the S Mk.4 service version,to match the plans.It also shows the simple and attractive coloring scheme.The light stuff is Sky Type S and the dark stuff is Dark Sea Grey.The finlets appear to be grey also with diagonal stripes of a light color (could be Sky?).

The other sheet of drawings is from Air Enthusiast Quarterly 1 and shows a small 3-view of the S Mk 4 and side elevations of some of the many variants built during the 10-year development period. Two of the Eagle-engined prototypes,the TF Mk 1 were finished in natural metal if you want a simpler but still authentic color scheme. The fuselage is different,however,so you still cant get something for nothing!

Wing-mounted drop tanks should not be worn on the model,of course, as we are aiming for best available flight characteristics.A long motor can easily be used;I would start off with at least a 20" loop of 1/8" F.A.I. for the Peanut,driving a 5½" plastic prop.Note that a lifting stab is shown-this is partly for anti-warp purposes and partly for increased stab lift.Somehow or other you WILL have to keep the fin straight and unwarped!Maybe a thin symmetrical section will do the trick in a similar way to the stab.

Best of luck with your Wyvern!



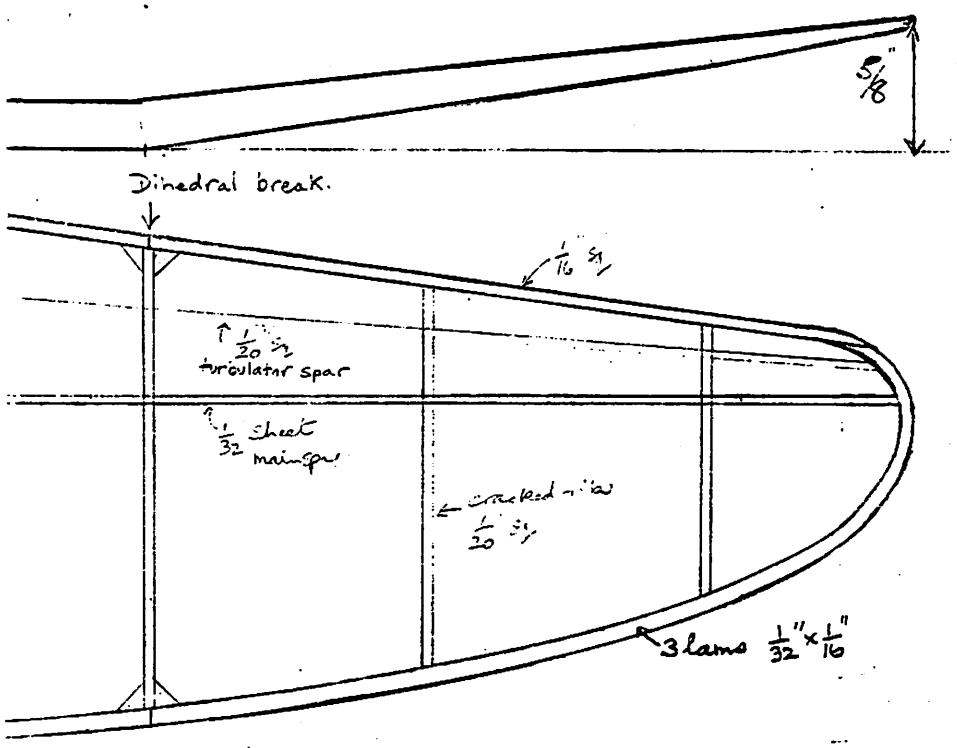


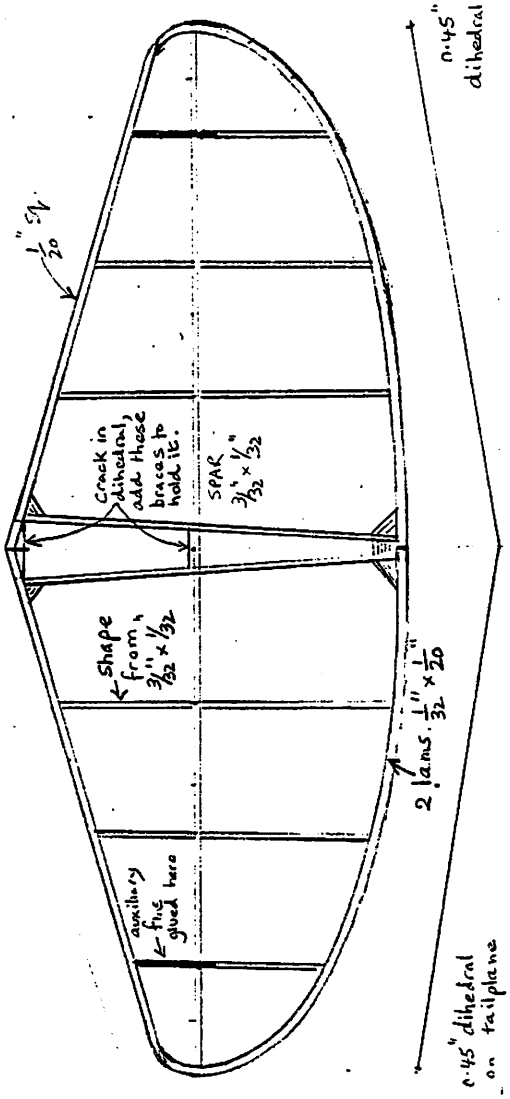
Four main fuselage stringers are 1/16" sq. Remaining stringers are 1/32 sq, 3 per quarter put in by eye for smooth flowing curves. You may put in more if you wish, but model will be heavier. L.E. is supported at F5 by a piece of 1/8 sq. underneath.

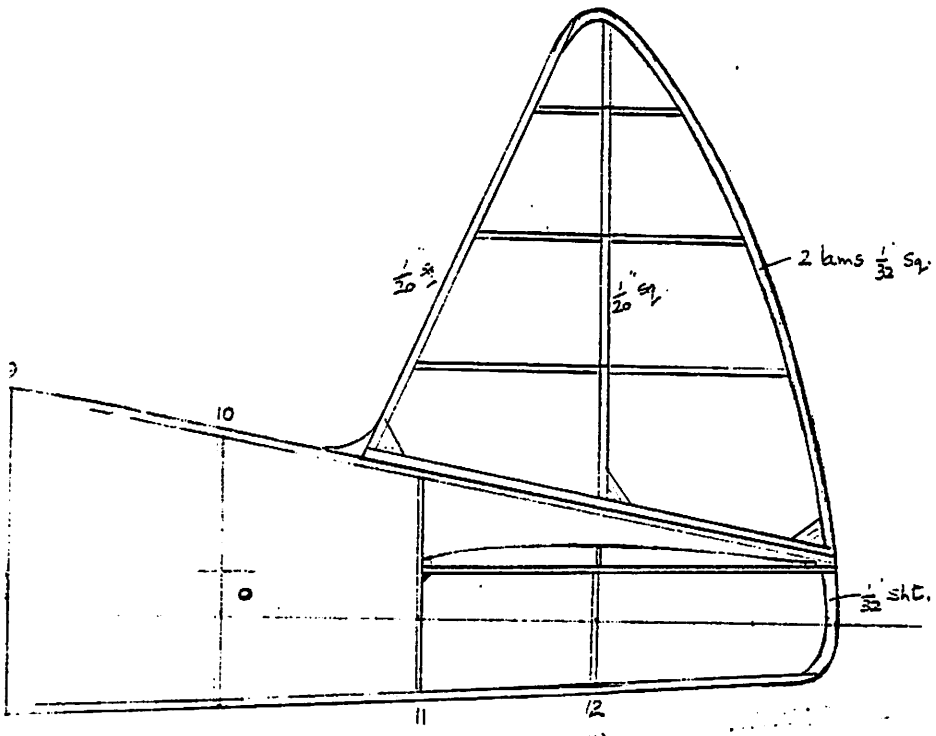
Westland Wyvern S Mk 4

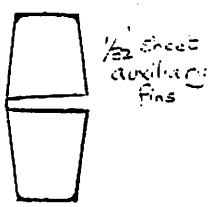
Peanut Scale by Gordon Roberts.

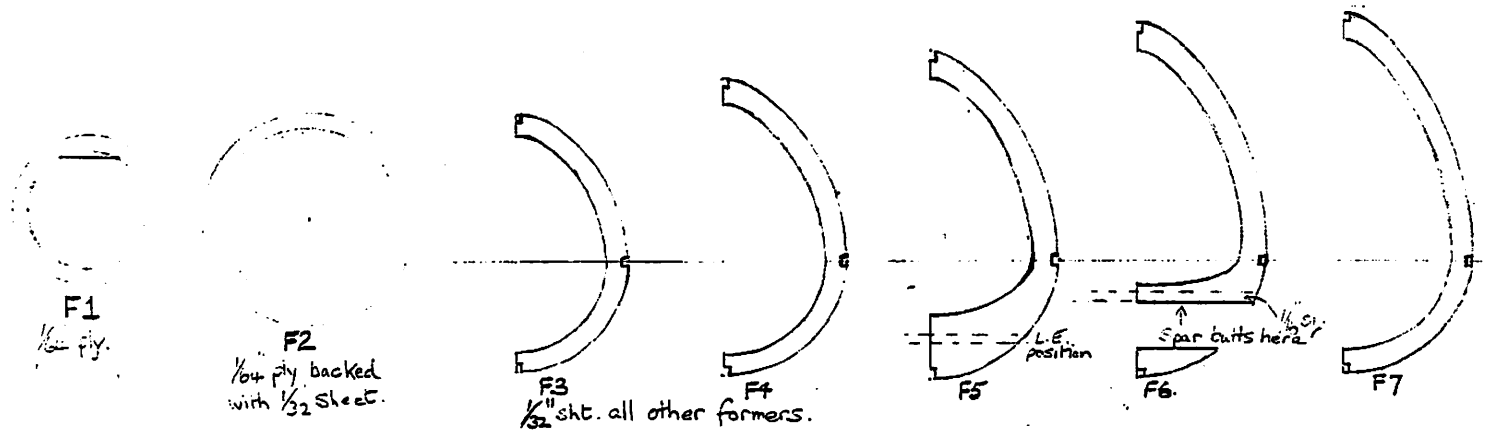
for CROSSWINDS


5/8"
Dihedral break.
1/16 Sq.
1/20 Sq. turbulator spar
1/32 sheet main spar
cracked - view
1/20 Sq.
3 lams 1/32" x 1/16"


0·45" dihedral
1/20" Sq.
Crack in dihedral, add these braces to hold it.
SPAR 3/32" x 1/32"
Shape from 3/32" x 1/32"
2 lams 1/32" x 1/20"
auxiliary fins glued here
0·45" dihedral on tailplane


2 lams 1/20 Sq.
1/20" Sq.
10
0
1/32 sht.
11
12


1/32 sheet auxiliary fins

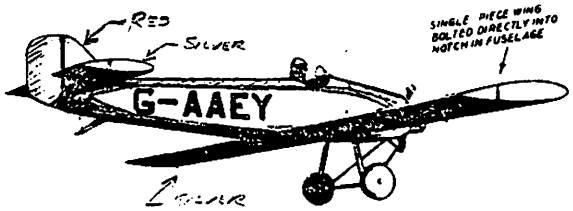

F1
1/64 ply.
F2
1/64 ply backed with 1/32 sheet.
F3
1/32" sht. all other formers.
F4
F5
L.E. position
F6
Spar butts here
1/16 Sq.
F7



CROSSWINDS



Russ Brown
4909 N. Sedgewick
Lyndhurst, Ohio 44124



FLAT HATIN' OVER CANADA

You can't get there from here. London, as the Canada Goose goes, is straight across Lake Erie from Cleveland. The Governor never built his longest bridge to Canada. Not even half way; nor the airport in the Lake. But he just might drive a HONDA from the factory to Washington!

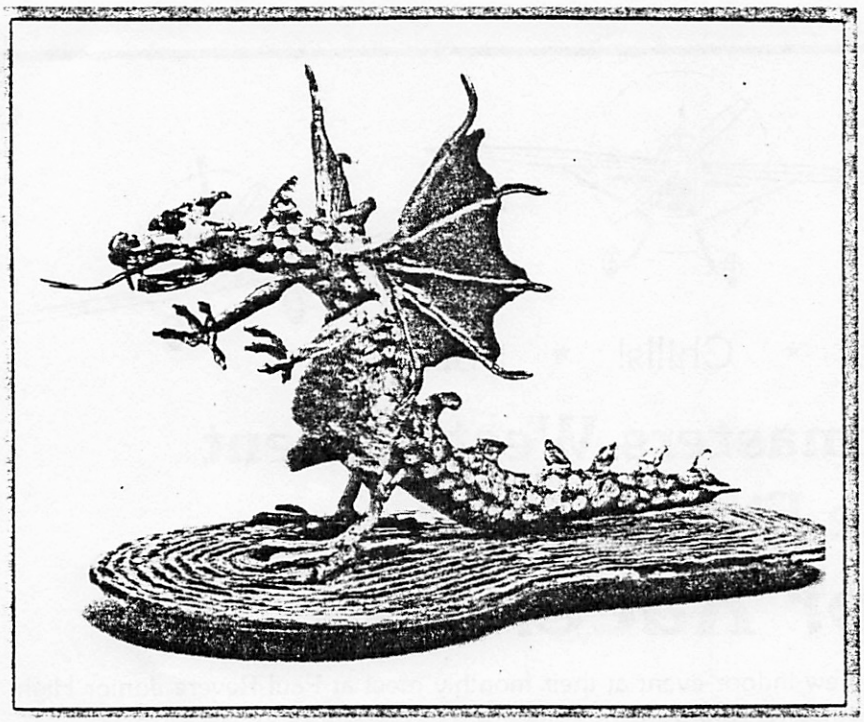
Ah! But from Detroit or Buffalo, London is on the beam to Port Huron, and the Canadian Nat's '81 Free Flight Champs at Grand Bend, Ontario. Free flight events start tuesday July 14 and fly on fhrough Sunday July 19. FF Scale action begins Saturday with FAC GHQ PEANUT SCALE, PEANUT WW II COMBAT, and EMBRYO ENDURANCE added to the schedule as UNOFFICIAL events.

Sunday July 19, Flying Aces Rubber Scale and Power Scale are OFFICIAL MAAC events with a mass launch FAC WW II COMBAT and FAC JUMBO SCALE for over 30 inch wingspan rubber scale as added events. The TORONTO FAC will direct WW II. CFFS and DETROIT will log flights in JUMBO with some FLYING ACES COVER PLAQUES and GOLDEN AGE REPRODUCTION KITS for prizes.

The TORONTO fliers get around; we saw Jack McGillivray with Lou Leifer and Team Canada at the West Baden Ind. Indoor '80. Several got to Rochester N.Y. and Erie Pa. at Edinboro St. A good group came down to NASA Plumb Brook at Sandusky for the Old Timer meet, and to the CFFS Scale Scramble at LCCC May 31. Jack opened eyes with his neat and very light Peanut Heinkel He 100D. Outdoors at the CFFS meet, we flew in brisk and bumpy air that bounced Jacks' Heinkel Peanut out of the Peanut WW II event. Dan Briehl flying a Peck Mustang had the range that day. More bad- even worse-luck for Jack in FAC WW II, where his big FLY-LINE Don Srull design He 100 D was bopping along the deck (over field), about to set down at the base of the tree line. But HUNG reached down and lifted the Heinkel up the tree slope and dumped it in high and deep. Flat green camouflage is too good in high stuff Nes Paw? No luck by searchers. Dennis Norman found his Hi-Flier O.T. Bellanca, but not the Varney Liner Embryo. We will look again July 5- gotta be in there some where! More later.

Ken Groves impressed Peanut Viewers with a new look in Fikes. Ken reaserched and neatly modeled the homebuilt plans FIKE DREAM from ONTARIO with blue trim on a yellow fuselage. Ken has the detail and doccumentation to rack up points. Nothin' like a well built broad fuselage with big wings; but to call that fat FIKE a DREAM is quite a pitch! But don't knock it if you score like Ken! Haw-aw-aw-w-w-w. We should get another look at the fat li'l body at the barn door in the GHQ event July 18 at Grand Bend, Ontario. A Sure 15 Scale Pts. This is an off year for the FAC Nat's, but the CANADA NAT'S is a good place to be for more at ease FF Scale flying. vonRottensox (Ralph Kuenz in the real world) of the Cloudbusters was quick to volunteer to support the added events. The step over toe hold on his sore boot made the offer too good to refuse. Now Sir Regginald Percy(or Andy MacIssac as he flys by) is into joging. Swell Andy, you all is in charge of retrivals in the corn field! Haw-aw-w-w. O.K. that's encugh of a pitch to get the " uppa U.S." fliers into Canada for a short snort.

CRUD: Last issue we asked for Glenny & Henderson Gadfly data for Jack Fike (before you ask, no, but he flies a Lacy). Bill Hannan came through in flying colors straight from Ireland. Gadfly G-AAEY was silver over all with red trim and black regristration. A photo is shown in the very good, but out of print, book THE LIGHTPLANE by Underwood. Thanks Bill. Fred Ewing is flying a Gadfly in Maxecuter country. No word in yet on the others including the Mercury B-100 bipe, the low wing NDN-1, the various Zaukoening colors or the Lynne '23 era RAE Hurricane ultra light racer.



Prototype Wyvern consumed Scotch. Later types consumed mostly a combustable grade of oil called " Pair of fin" after the Wyvern. Even the prototype had plenty of tail. Apparently the Wyvern ate well, as later types deleloped a "Spit fire" image. It laid an egg, as did similar types. The more well known Dragon is not even a close relative. Wyverns were ever so quick, and made lots of noise.

L('L reads 1981 on typewriter lower case shift. this don't come out automatically. Onward: Aug 9 shapes up as a FAC meet in Erie Pa. Events and site will come from FAC Club News. Aug 16 ,at Durham, Conn. per Max-Fax is the Flying Aces meet for FAC Rubber Scale, GHQ Peanut Scale, Embryo Endurance, No. Cal. Profile, and the Thompson and Grieve Races. But CD Bob Thompson at South St. Roxbury, Conn 06783 just wrote in that it is Aug. 23, still at Durham Meadows. Add WW II Combat to events. AMA Calendar shows the meet as Aug. 16. Bad Guy Squadron may have scrambled the message to throw off our fearless fliers. ~~W~~ CD. ?

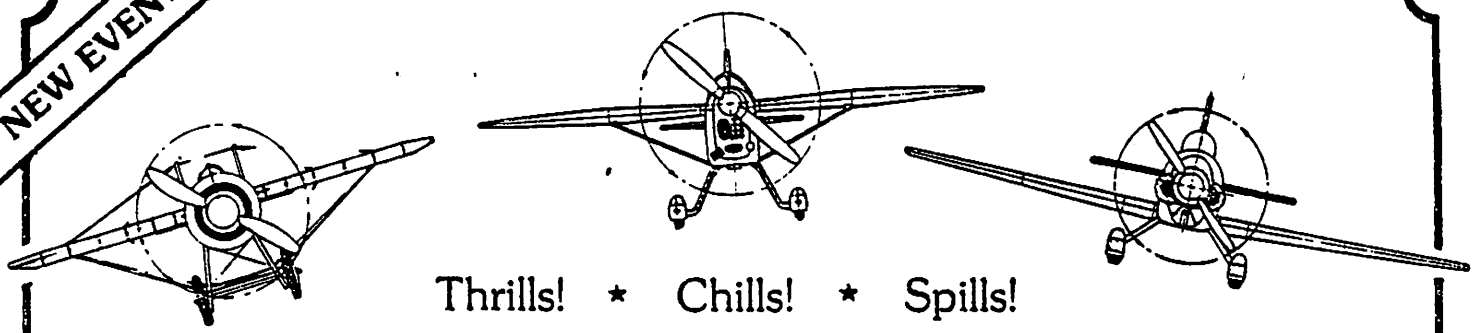
Central Sector has action July 26 at LCCC, Aug 9 in Erie, Aug 23 at Dayton WPAFB, and Aug. 30 in Detroit. CFFS date circles to Sept. 6 at LCCC so locals can support Detroit. We usually avoid Labor Day weekend contest schedules so air race fans can attend the Cleveland Air Races Show, but it looks like '81 is no show so far as RACE PLANES go. The Eastern Region USARA pilots will pass Cleveland unless a reasonable prize and event schedule is offered.

Sat. Sept 12, The D.C. Maxecuters have a SUPER meet set at COMSAT Summer Fun Fly. FAC Rub., Jumbo, FAC Power CO_2, Mass launch races, WW I, WWII, and Golden Age 1920-'40 (no '35-'40 Military types). Plus Embryo, Trans C. "navagation" and "altitude", HLG, Catapult too. Ask Allan Schanzle, 8311 Exodus Dr. Gaithersburg Md. 20760, phone 301-840-9883 for directions.

Out West, Jim Algar sends news of a rubber scale event for Race Planes and Stock Class indoors Nov. 8 at Paul Revere JHS, Calif. Scoring is very similar to FAC points at 30 max. scale points plus a 60 sec max. and a 2 pt. per lap circle bonus. Courage factor for subject difficulty is applied within scale point spread. Size and landing gear position is the builders choice. No doubt a full wheel pants design will draw more courage points than a gear up Folkerts or Dayton Wright. Cloudbuster Venture, P.O. Box 2921, Livonia Mich 48154 has a good set of plans for about $6. Sure looks like a lot of fun, Jim. Hey! this is so well within the FAC type event,GHQ may honor the winner with a kanone. Send the results in to Lin Reichel, FAC GHQ, 3301 Cindy Lane, Erie Pa. 16506. Dennis Norman did a neat job of covering yellow and yellow/black checker tissue on a clip wing ½" scale P51D model of the # 49 BOOMER II, as shown in Air Enthusiast Quarterly 13 . Three view in Racing Planes and Air Races Vol.V '69. Photo Vol. VI, '70. Gordon Roberts Ole Tiger , a Walt Mooney Peanut, was still in good flying trim from '80 West Baden Grand Prix.

To close on a good note, We found both Jack McGillivrays' big He 100D and the Dennis Norman Embryo " Varney Express" after a wet 5 weeks in the woods. Both can fly at Canada Nat's.

NEW EVENT!



Thrills! ★ Chills! ★ Spills!

The Flightmasters West present The First Annual *Indoor Racer Cup*

The *Flightmasters West* will present a new indoor event at their monthly meet at Paul Revere Junior High School on Sunday, November eighth, from 1 to 4:30 p.m.

Indoor Racers is an event for rubber-powered scale models of single-example or limited production racing planes* of any era. Racing planes are colorful, unique and an enjoyable challenge. This is *not* a mass-launch event but a one-flier-at-a-time contest in which placings will be determined in the following manner:

1. Scale points (30 max.) plus **2. Best single flight time (60 max.)** plus **3. Two points per "lap"**

1. To keep this a "fun-type" event, scale points will *not* be broken down into "x points for rib spacing" and "x points for opaque finish" etc. Instead, points will be subjectively awarded by the judges across the range of models entered. A model that is "OK" might be from 1-10, "good" from 11-20, and "wow, nifty!" a 21-30.

There should also be a "courage" factor operating in scale judging, so that a Gee-Bee R-1 scores a lot higher than a Mr. Mulligan, even though the Mulligan might actually be executed a little better as a model. Remember, race planes were fast but many of the designs were on the ragged edge aerodynamically, and a contestant choosing such a design deserves to be rewarded for his courage.

2. Flight score will consist simply of the time of the contestant's best single flight, up to a 60-second maximum, with unlimited attempts.

3. Which brings us to "laps". Two points will be awarded for each complete flight circle of the model on any one flight. This is to hopefully equalize the flying qualities of different racing designs. A light-weight Mr. Mulligan may easily score the 60-second max as it cruises slowly around. But notice the word *slowly*. Our example Gee-Bee R-1, on the other hand, will probably have to go like gangbusters just to keep aloft, tearing around in frantic circles just above the floor and just maybe racking up a decent amount of lap points to augment its (probably) brief endurance. Notice that your best "time" flight and best "laps" flight might be two different ones. This is fine.

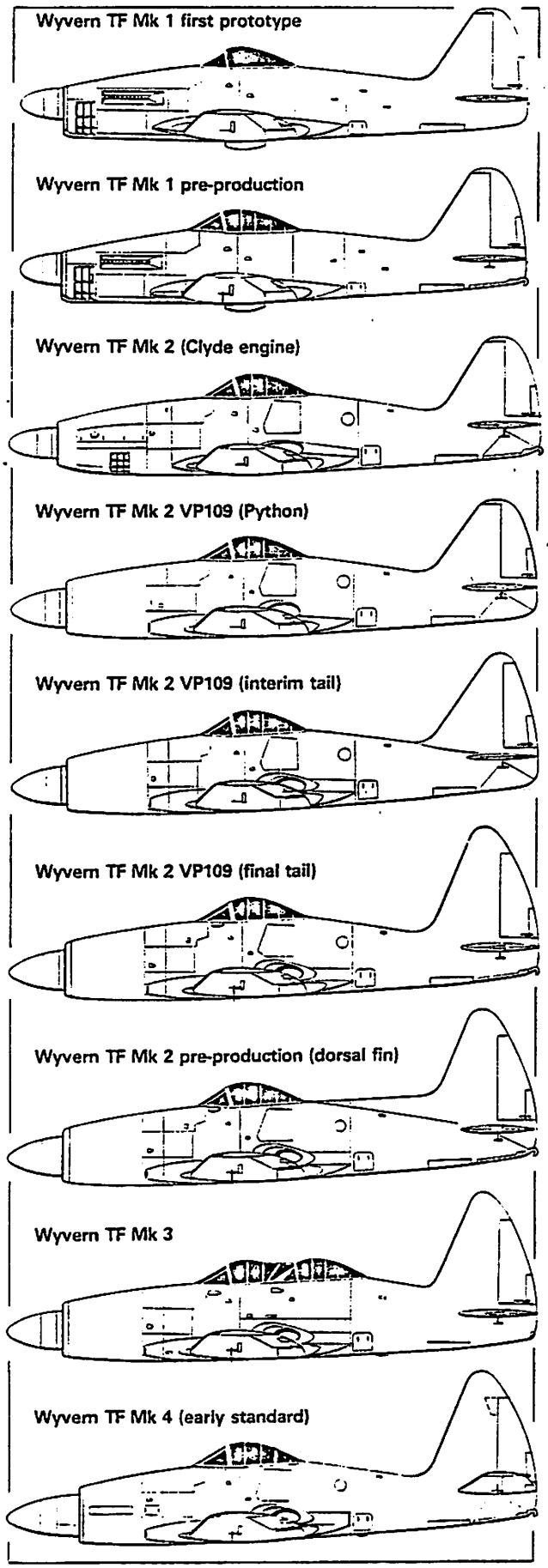
Now, about that * after *racing planes*. Non-"racing" but *scale* models *will* be allowed to participate as a "stock class" entry. After all, even full-sized Piper Cubs have been raced. However, their final score will be multiplied by a "stock" point factor of .70 , and of course they would not be expected to score as high in scale judging as a true race plane. This handicap is not intended to make it impossible for a "stocker" to win—just unlikely. Remember, racing planes is what it's about! Any questions arising out of the admittedly fuzzy area of what is "limited production" racer and what is "stock" will be decided by the Contest Director at the time of entry.

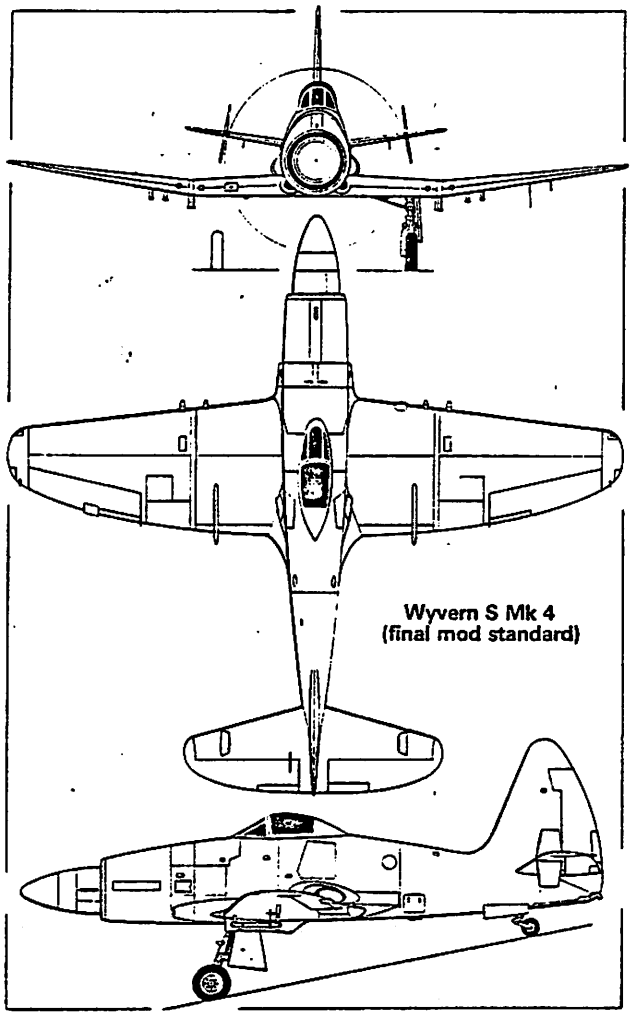
So that's ***Indoor Racers.*** Keep in mind, race refers to the models, not the event. This is for fun, folks. The checkered flag goes up Sunday, November eighth, so start building now. Contest director (race director?) for the event will be Jim Algar, and we look forward to seeing you there.

Gentlemen, start your X-acto knives!

Sunday, November eighth, 1—4:30 p.m.
Paul Revere Junior High School, 1450 Allenford Avenue, L.A.
(take Sunset Blvd. west from San Diego Freeway)

Peanut Scale and 14g. Bostonian will also be flown





Westland Wyvern S Mk 4 Specification

Power Plant: One Armstrong Siddeley Python 3 axial flow turboprop rated at 3,670 shp plus 1,180 lb (536 kg) residual jet thrust. Rotol eight-bladed contra-prop, diameter, 13 ft (3.97 m). Internal fuel capacity 511 Imp gal (2 325 l) in four wing and two fuselage tanks. Provision for one centreline or two underwing drop tanks.

Performance: Max speed, 383 mph (613 km/h) at sea level, 380 mph (608 km/h) at 10,000 ft (3 050 m); cruising speed, 348 mph (557 km/h) at 20,000 ft (6 100 m); max diving speed, 500 mph (805 km/h) EAS; initial rate of climb, 2,350 ft/min (11.9 m/sec); service ceiling, 28,000 ft (8 540 m); range with two drop tanks, 910 mls (1 464 km).

Weights: Empty, 15,600 lb (7 082 kg); normal gross, 21,200 lb (9 625 kg); max overload, 24,500 lb (11 123 kg); max deck landing weight, 18,500 lb (8 400 kg).

Dimensions: Span, 44 ft 0 in (13,42 m); span folded, 20 ft 0 in (6,1 m); length, 42 ft 0¼ in (12,82 m); height, 15 ft 0 in (4.58m); height folded, 18 ft 1¾ in (5.54 m); gross wing area, 355 sq ft (32.97 m²); aspect ratio, 5.45:1; dihedral, −1 deg inner wing, +6 deg outer wing; undercarriage track, 14 ft 5 in (4.39 m).

Armament: Four 20-mm Hispano Mk V cannon in wings with 200 rpg; provision for one 2,500-lb (1 135-kg) torpedo under fuselage, or one 1,000-lb (454-kg) bomb under fuselage and one under each wing or 16 25-lb (11.4-kg) or 60-lb (27-kg) rocket projectiles under wings.

FLAT HATIN' OVER CANADA

Remember the variety of Meteor marking data from SCALE AIRCRAFT MODELLING last issue? Publisher-builder Allan W. Hall dropped a note to mention he will be Stateside at the July 9-12 Long Island IMPS National Convention for plastic models at the Sharerton Center 7th Ave. & 52nd St. N.Y. N.Y. No reflection on Allan, but IMPS types practice the old era isolationist policy in that you must join IMPS to even look at the models! Don't fight 'em, just join up and get in on good marking data publications. Like a white Lysander on skis. May '81 Scale Aircraft Modelling features a prop aircraft special with extensive marking profiles of the Gloster Gladiator plus some Hawker Nimrod and deHavilland Rapide twin marking. Get on this now if you want Rapide colors for a CRUD plan twin CO_2 model by Neville Coldrick. ($3.38/yr or $4.5 in Canada funds via Bill Dean Books Ltd. 166-41 Powells Cove Blvd., Whitestone, New York 11357).

ORION is that you way up there? Or a Peanut ? Both in one! Dave Diels sent along his completed plans for a look see. Dave has finished up the U.S. NAVY WW II Curtiss XSB2C with chrome yellow over silver markings, the chunky Vought Fighter AND the Orion in Peanut Scale size plans plus part sheets. The Orion turns me on most as it can be done in bright civil colors as a change of pace from the military types. Even the black and orange float plane of Charles A. Lindbergh would be neat. Do it for Doc Martin! Enough squares (area) in the wing to fly a bit toc. These will convert to CO_2 nicely as Walnut size enlargements. Check in with Dave at P.O. Box 101, Woodville Ohio 43469. BUZZER and PECK have CO_2 motors.

Don Belote leads to a larger cut of "Fly paper". Not the classic Pluto type, but popcorn prints (enlargements) of the " Poly Pop Off" Russky Rata I-16 Spanish Fly at 23½" or 31" Jumbo blow-ups. And at fair prices too. Don has a selection of pre-published plans at wing spans a bit under or over the 30" Jumbc size. Also Peerless plans at original size.

A future CRUD design by Dave Pishnery is in early drafting. Dave is hot for chunky bold fighters, and is offering the Polikarpov I-16 in Spanish Revolution markings at about 18" wing span for CO_2 power. Again Air Enthusiast Quarterly One has good data to assure a model that looks right. Profile Publications also did one with Russky winter colors- the southern front version with bright red outer wing tops. Dave still needs Tri- Avion colors.

The next Crosswinds issue, Dick Bennett 2020 E. 226 St. Euclid, Ohio 44117 jumbs back into the designers derby with a feature plan to compliment his editoral. Flash back to Crosswinds issue 51, March '79 for a look at Dicks' ever so neat Re 200S Peanut. Can he equal that? Dick will give it a try with inspired project on the XXXXX XXXXXX. Oh! So sorry, we must clear this release through G-8 and Sid Bradd, and the Connecticut FLYING ACES. Stay tuned kids for our next exciting adventure! Looking way ahead or back to Dec 7 '41 and on, a Pearl Harbor or all Pacific combat event has been suggested. Maybe, but maybe not, as we have so many events now, and the very popular WW II Combat includes your choice of fighters. If you have a fondness for blue cats, or bright colored bearers of the rising sun, by all means express it. There are so many intresting subjects. FAC GHQ has its eyes West as Lin Reichel has collected material for other Pacific WW II subjects. We may even learn Heinkel did not win WW II ! (Russ Brown admits a forked tongue here as he will get back to detailing a GOLDEN AGE REPRODUCTIONS KIT He 112 B when this issue is out.) All Heinkels do not look alike. The 112 Kit is the "all curves" streamline era of Heinkel design ultimate prop fighter. Russ Brown has a scale tail drawing if you want to up grade your kit to He 112 B 3V shape.

Bob Wilder is back into a short production run on the smooth turning 16/1 indoor winder with counter arm dial face. Probably $30 while they last at 2010 Boston St. Irving Texas 75061. Get on Bob's confirmed reservation list for outdoor Coupe d'H or Wakefield (16 strand) torque meters, which ever he starts next.

Mike Mulligan, Old Timer Models P.O. Box 913, Westminster, Ca 92683 has the # 218 Peanut Ki 44 plan by Ichiro Yamada for only $1 each. (plus 10%) Lots more! The #1 Bell P-39, #5 Curtiss P-40 and #9 Earl Stahl Wildcat or #17 P51D for $1.25 each plus 10%. Send for list. Caudron expert J. H. Robinson has commented that the " Caudron N" plan comes up way short of any evidence of known Caudron types. Don't look for photos of this "1911 Caudron" as shown in older O.T. Models catalog 3-views. 3V looks like a high power 1912 Eastbourne mod.

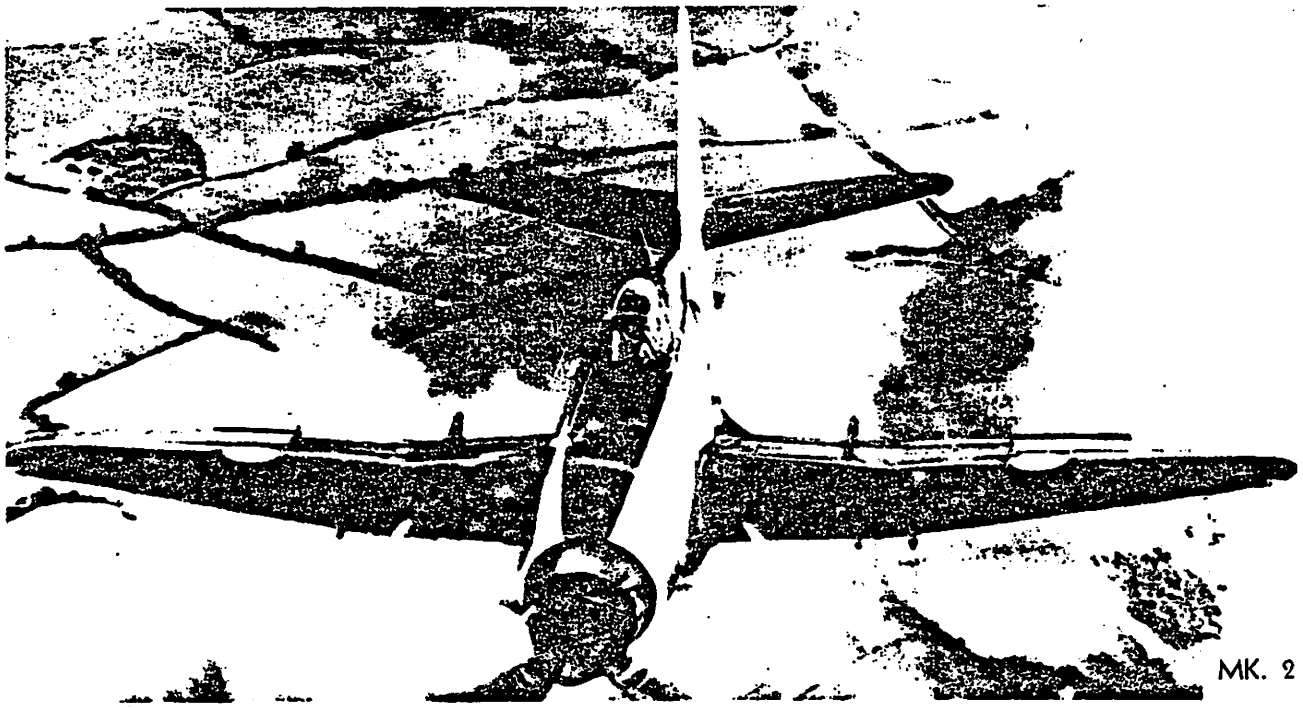
The plans listed below have all (except as noted) been enlarged from a smaller size plan. All have been published in model magazines or kitted at one time or another. Since these are enlarged from a smaller plan, you will have to keep this in mind while building. Any dimensions, wood sizes, dihedral, etc noted on the plan will of course refer to the original smaller model. Most plans are of scale models and any non scale model will be noted in the description. All plans are sent folded in a large envelope via third class mail. On orders of $5 and under please add 50¢ postage. On orders over $5 add 10%. If you wish the plans sent first class mail, add 20%. No C.O.D.'s. Please be sure to give both the name of the model and the wing span.

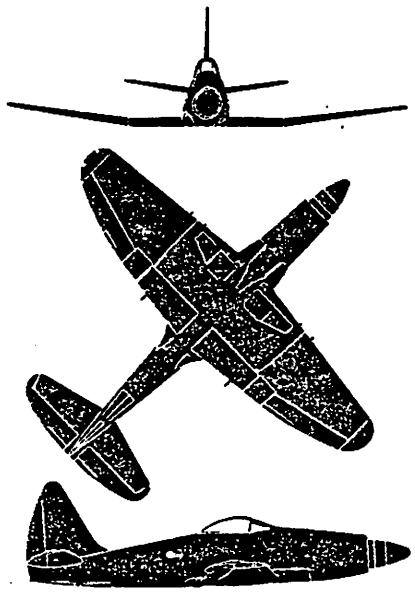
Don Belote
1834 Brame Place
Toledo, Ohio 43613

Russian Mosca I-16 WW 2 low wing fighter. 23½" span. ---------- $1.75
Russian Mosca I-16 WW 2 low wing fighter. 31" span. ---------- 2.00
Dornier Do 335. German WW 2 push pull fighter. 38" span. ---------- 3.25
Dornier Do 335. German WW 2 push pull fighter. 29" span. ---------- 2.75
Curtiss XP-55 Ascender. WW 2 pusher canard fighter. 20" span ---------- 1.50
Curtiss XP-55 Ascender " " " " " 27" span ---------- 1.50
Curtiss XP-55 Ascender " " " " " 32" span ---------- 2.00
Curtiss XP-55 Ascender " " " " " 44" span ---------- 2.50
Vultee XP-54 WW 2 twin boom pusher fighter. 39" span. ---------- 3.00
Douglas XB-42 WW 2 pusher bomber. 37" span. ---------- 2.25
Douglas XB-42 " " " " 29" span. ---------- 2.00
Mitsubishi S-00 WW 2 Jap floatplane fighter. 29" span. two sheets. ------- 2.00
Mitsubishi S-00 " " " " " 39" span. " " -------- 2.50
Globe Swift 38½" span. ---------- 2.00
Globe Swift 29" span. ---------- 1.50
Curtiss Robin 30" span. Reduced from a larger plan. ---------- 1.50
Vultee Vanguard WW 2 fighter 24" span. ---------- 1.00
Taylor Cub Nice plan of the E-2 Cub. Original size, not enlarged. 20" span - 1.50
Taylor Cub Same as above but enlarged to 30" span. ---------- 2.00
Albatross DV WW I German fighter. 32" span. ---------- 2.50
Peerless Red Flash stick endurance model. 28" span, not a scale model -------- 1.00
Peerless Blackhawk Jr. 23" span. Early gas type cabin, not scale. --------- 1.00
Peerless Mayfly helicopter. Not scale, similiar to the old Walker ceiling walker - 1.00
Peerless Rearwin Speedster 24" span ---------- 1.00
Peerless Heath Midwing 24" span. ---------- 1.00
Peerless Stinson Taperwing 24" span. ---------- 1.00
Peerless Ryan SC 30" span ---------- 1.00
Peerless Bellanca Jr. 30" span. ---------- 1.00

Note: All of the Peerless plans are the original size and have not been enlarged.

WESTLAND WYVERN



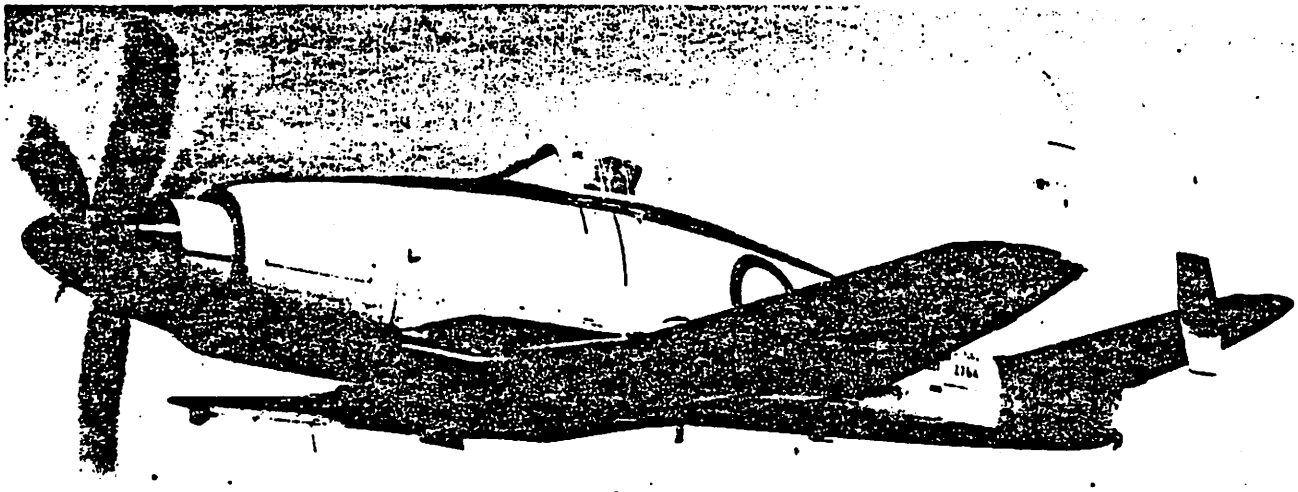


The Wyvern was designed as a carrier-borne, single-seat strike fighter for the Royal Navy. There are currently four versions: The reciprocating engine Mk. 1, the turboprop-powered T. F. Mk. 2, the turboprop trainer T. Mk. 3, and the production torpedo fighter T. F. Mk. 4. The Mk. 2 and Mk. 4 are shown. The Mk. 4 differs from the prototype Mk. 2 in having a dorsal fin, small fins outboard on the stabilizer, dihedral stabilizer, and a shorter front fuselage outer cowling. Other differences are the higher fin and the turbo-exhaust ports of the Mk. 2 and 4. The Mk. 3 differs from the other three in that it has a longer cockpit canopy to house the second pilot. All major units of Mk. 2, 3, and 4 are interchangeable, and flying characteristics of the three versions are identical. Production of the Wyvern ended in 1956.

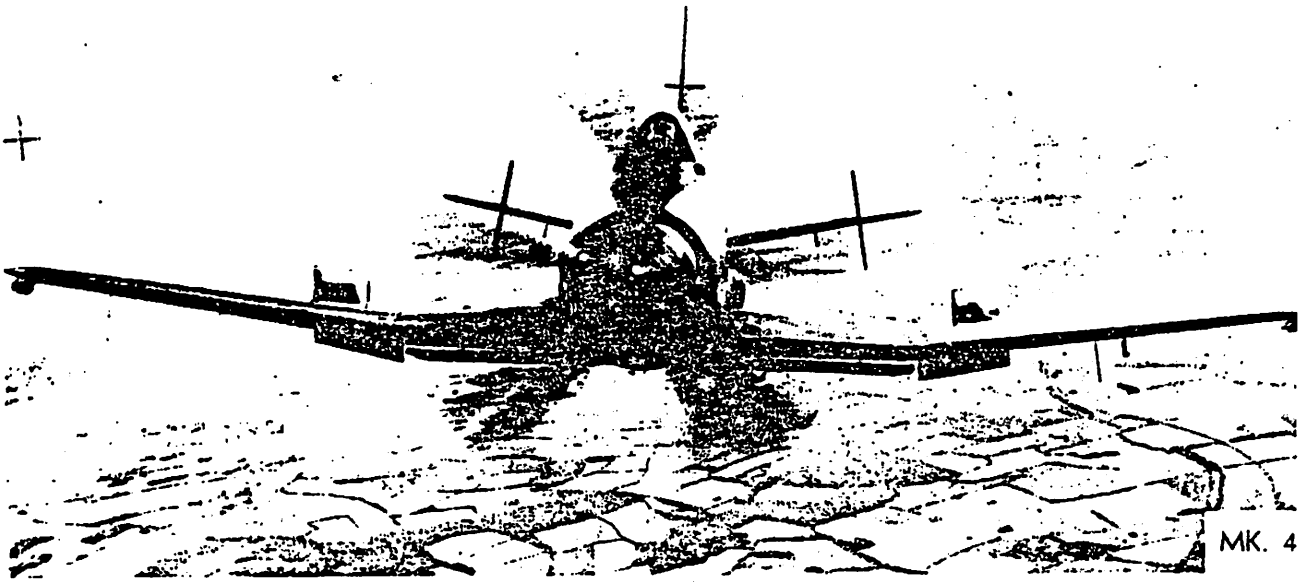
AIR FRAME		OPERATIONAL DATA		POWER PLANT	
Mfr.	WESTLAND	Max. Range (Naut. Miles)	1,000	No. of Engines	1
Wing Span	44′	Crew No.	1	Model No.	Python-3
Length	42′	Max. Speed (Knots)	434	Mfr.	ARMSTRONG SIDDELEY
Combat Weight (Lbs.)	21,000	Service Ceiling (Ft.)	30,000	Type	Turboprop
				Rating Each	3,760 s. hp. plus 1,180±

WYVERN

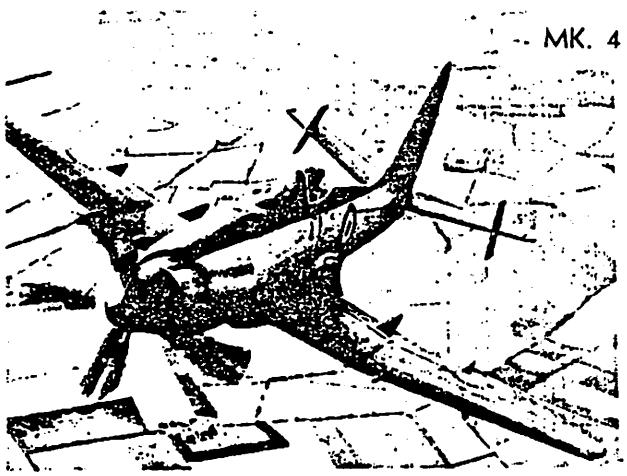
WESTLAND



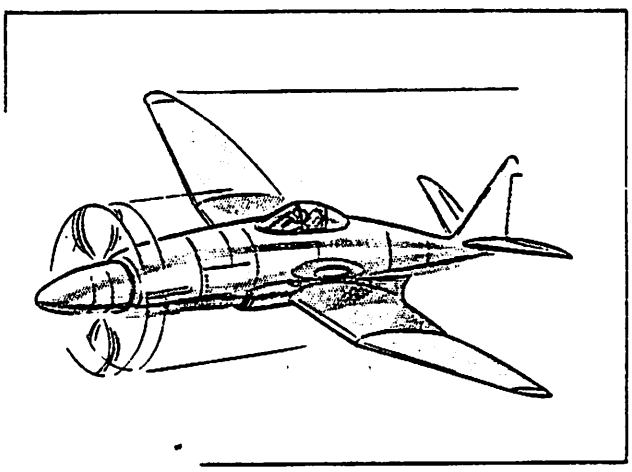
MK. 4

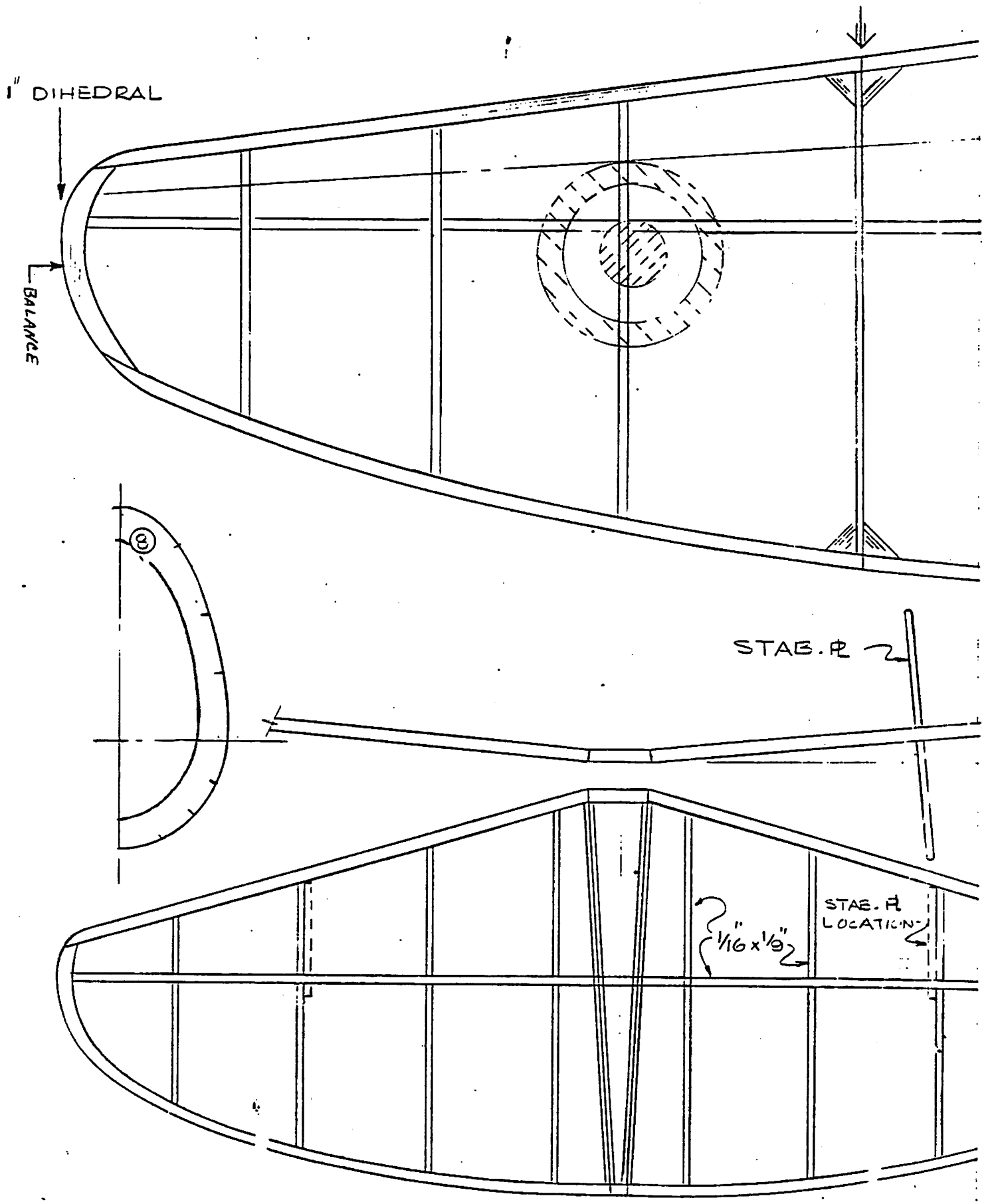


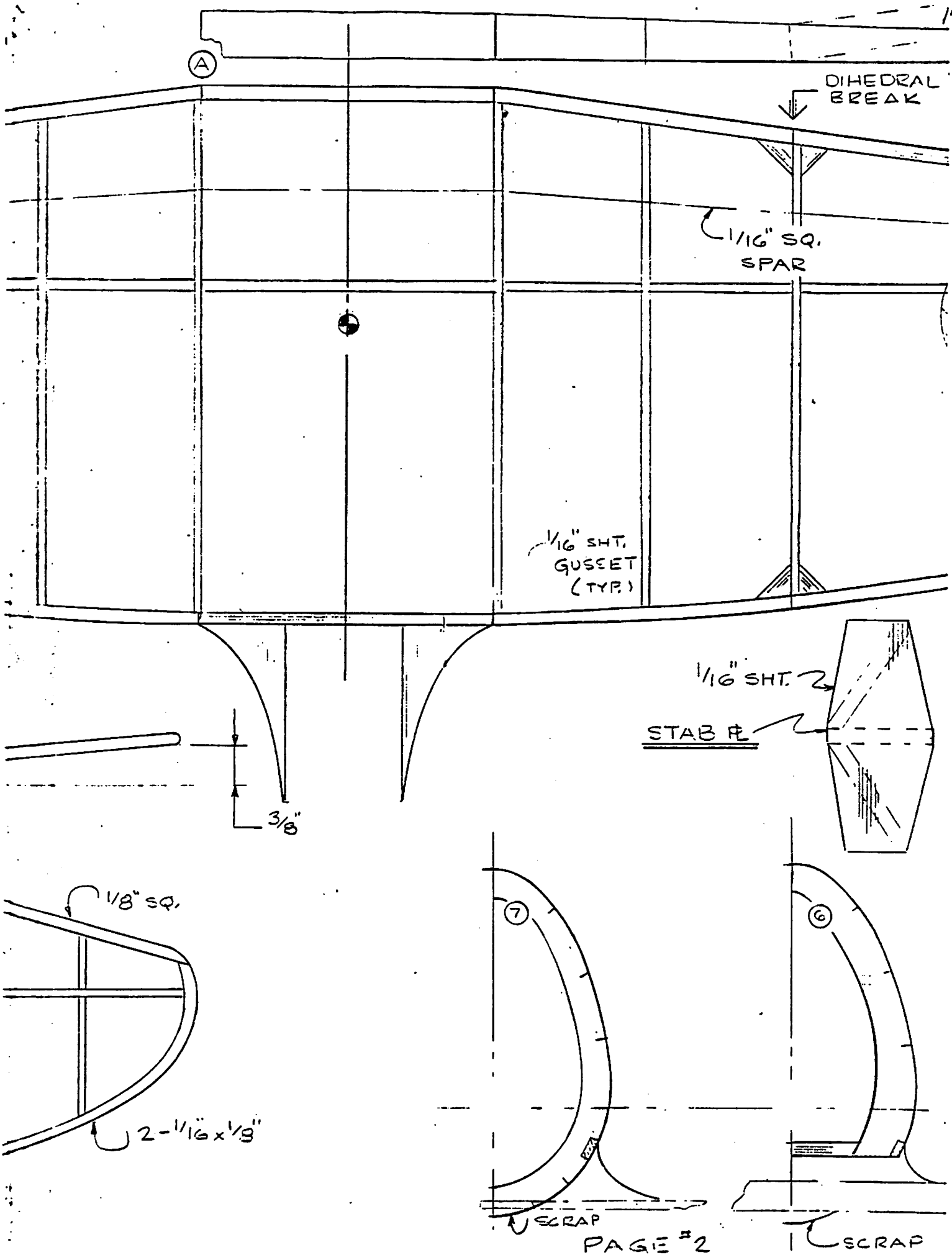
MK. 4



MK. 4




1" DIHEDRAL
BALANCE
STAB. ℄
1/16 x 1/8"
STAB. ℄ LOCATION


A
DIHEDRAL BREAK
1/16" SQ. SPAR
1/16" SHT. GUSSET (TYP.)
1/16" SHT.
STAB ℄
3/8"
1/8" SQ.
2-1/16 x 1/8"
7
6
SCRAP
SCRAP

CONTEST AT LORAIN C.C.C.,MAY 31st,1981.

This was our first contest of the year at Lorain. The day was fine and sunny but the wind was on the strong side,to say the least! It gradually calmed down from mid-afternoon onwards and by the time the contest was over it was beautiful-heard that type of story before,eh?

Arriving at the field just before 10 a.m. we found a group of 4 Canadians parked at the eastern edge of the field ready to fly and wondering where we all were!They must have been on the road since 4 a.m. -what enthusiasm! Jack McGillivray,Ken Groves and Bob Gordon all flew a lot and obtained a share of the loot,though Jack left behind his Flyline He 100D in the trees at the side of the little shopping center-difficult to find a green plane in a jungle! Tad Jones lost a chuck glider while Dennis lost two,later getting one back.

RESULTS.

PEANUT 11entries.

1. Ken Groves Fike Dream 128½pts
2. Jack McGillivray He 100D 116½ "
3. Dan Briehl Tailwind 104 "

F.A.C. Rubber. 8 entries.

1. Gordon Roberts Chambermaid 136 pts.
2. Dennis Norman Bf 109 E 119 "
3. Mike Zand Waco J2 W-1 116 "

Walnut Scale 4 entries.

1. Dennis Norman Bf 109 E 110 pts.
2. Mike Zand Suzy 97 "
3. Dan Briehl Stinson 105 60 "

O.T. CO_2 Precision (40)

1. Dan Briehl 69 sec error
2. Dick Woodward 78 " "

EMBRYO ENDURANCE 6 entries.

1. Gordon Roberts Debut 5 189
2. Rudy Kluiber 180
3. Dan Briehl 125

O.T.& HI-FLYER

1. Ken Groves Tcraft 132 pt
2. Bob Gordon Rearwin 120
3. Dan Briehl Stinson 101

H.L. Glider 5 entries.

1. Rudy Kluiber 123
2. Tad Jones 114
3. Dick Bennett 95

H.L. Glider J-S 3 entries

1. Tad Jones 124
2. Bob Zand 44
3. Danny Briehl 37

R.O.G. Stick Junior

1. Danny Briehl 92 secs.

The climax of the day was the combat events,held under almost ideal conditions right at the end of the contest.

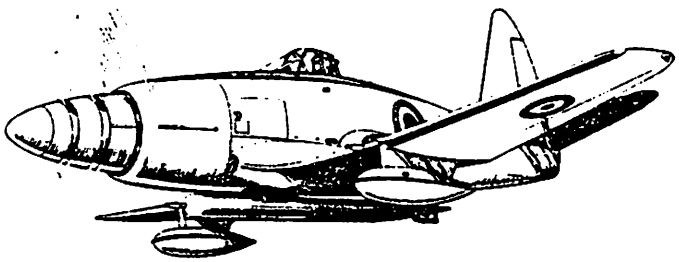
W.W.2 Peanut

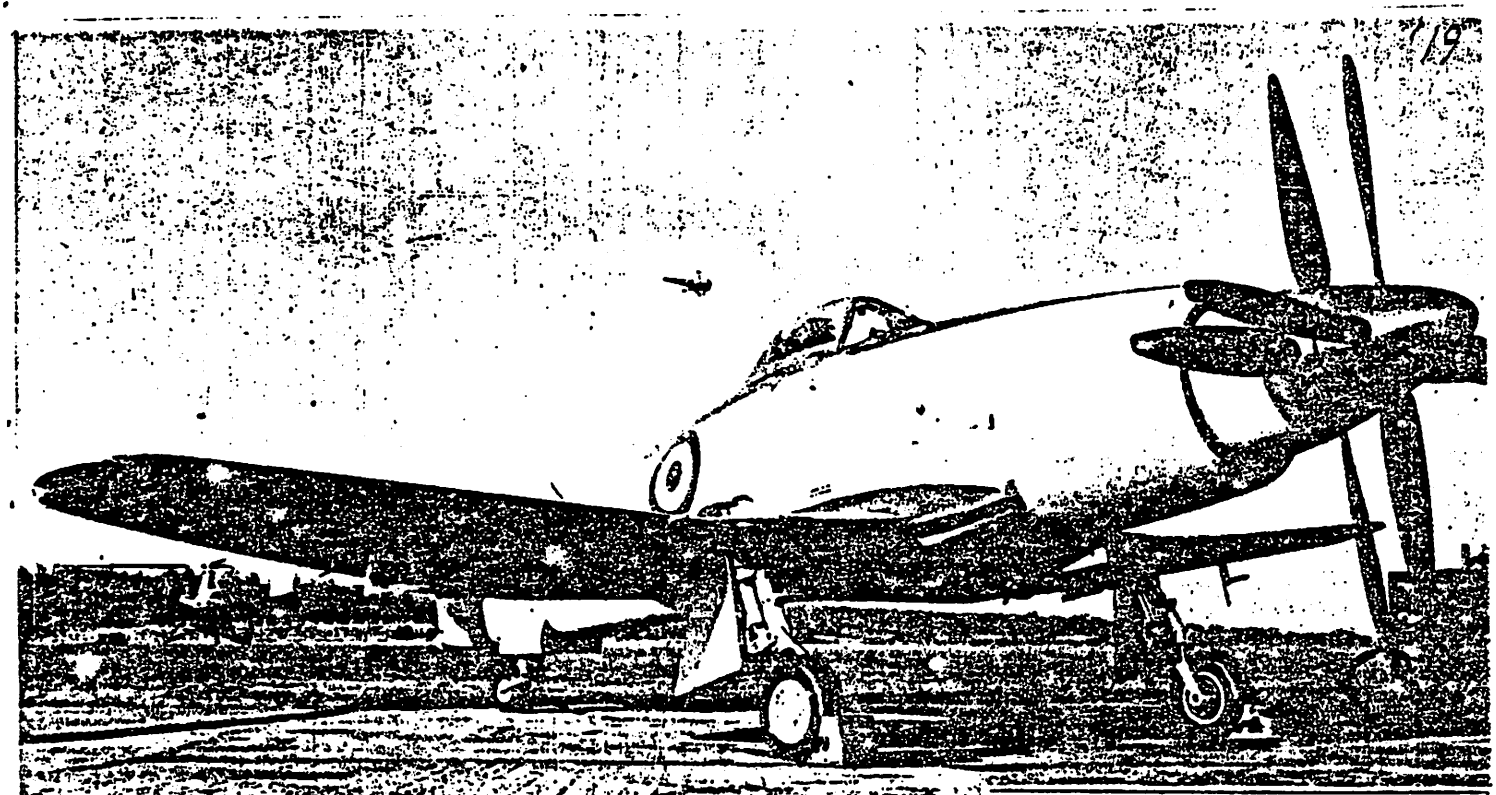
1, Dan Briehl Mustang
2. Gordon Roberts Mustang
3. Jack McGillivray He 100D

W.W.2 Combat(13"-30" span)

1. Gordon Roberts B.P. Defiant
2. Bob Gordon Ta 152H
3. Dennis Norman Bf 109E

After the prize distribution our tired Canadian friends hit the road for Toronto (not forgetting work next morning)..They enjoyed their day with us and we look forward to visiting them at the Canadian Nationals.





The Mighty WYVERN

WHEN, in 1944, the Naval Air Staff issued specification N.11/44, calling for a long-range, carrier- or land-based fighter with a good performance at moderate altitudes and the ability to undertake the alternative role of strike aircraft, Westland Aircraft's design team envisaged a very different aircraft to the massive and heavy turboprop-driven single-seater which was to be first issued to No. 813 Squadron of the Fleet Air Arm nearly ten years later.

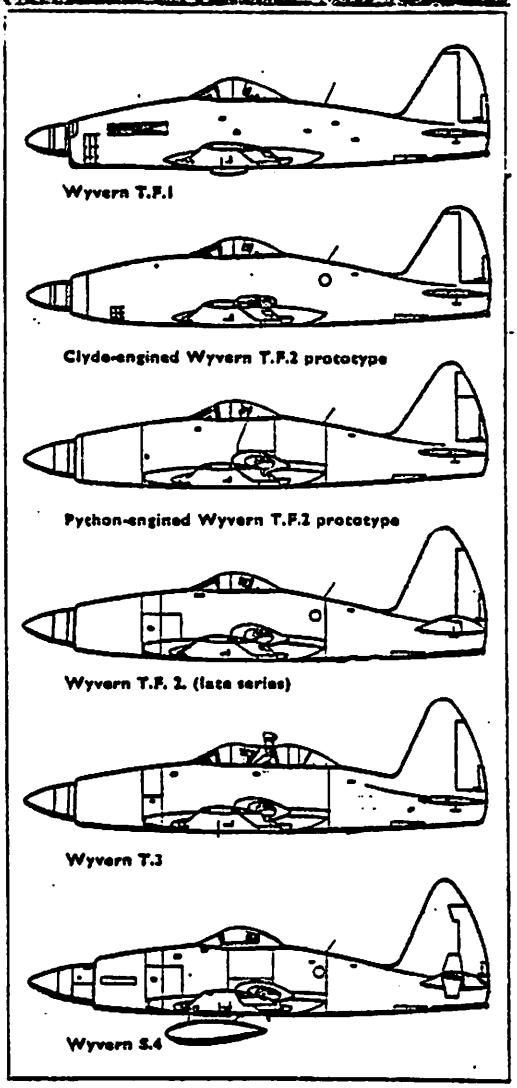
Nearly thirty years had elapsed since Westlands had tackled the design and development of a Naval aircraft. In fact, Westland's first original products were the N.16 and N.17 single-seat fighter-reconnaissance floatplanes developed to Admiralty requirements and, as was to be expected, the company viewed the possibility of once again building aircraft of Westland design for the Navy with more than casual interest.

The result, the Wyvern, has admittedly suffered an abnormally long period of gestation; its many troublesome years of development have inevitably resulted in criticism. But the Wyvern was committed to testing completely new and untried engines—both the Eagle initially fitted and, subsequently, the Python, were installed in the Wyvern with little prior air-testing or development—and was the first aircraft to face the innumerable problems arising from the use of a large turboprop under carrier conditions. Delays have also resulted from changes in official policy, but today few would deny that the Wyvern is a truly formidable shipboard strike aircraft.

The considerable load-carrying capability demanded by the specification was inevitably to result in a gross weight greatly in excess of that of contemporary single seat, single-engined aircraft, and preliminary design studies envisaged a large machine using shaft-drive from a piston engine installed aft of the pilot's cockpit. By September 1944, however, the design team's ideas had crystallized in the form of a more orthodox low-wing monoplane using the Rolls-Royce Eagle 24-cylinder H-type engine at that time under development, and, in November, a contract was received for six prototypes.

Known as the W.34, the Royal Air Force also indicated interest in the design, around which specification F.13/44 was drawn up, but the new aircraft was unfortunate in being designed during a transitory stage in power plant development. The days of the high-powered piston engine were numbered, and RAF interest in the design soon flagged and was eventually abandoned altogether.

Simultaneously, the Navy began to evince interest in the turbo-prop and, in December, 1945, it was decided to abandon further development of the



Wyvern T.F.1

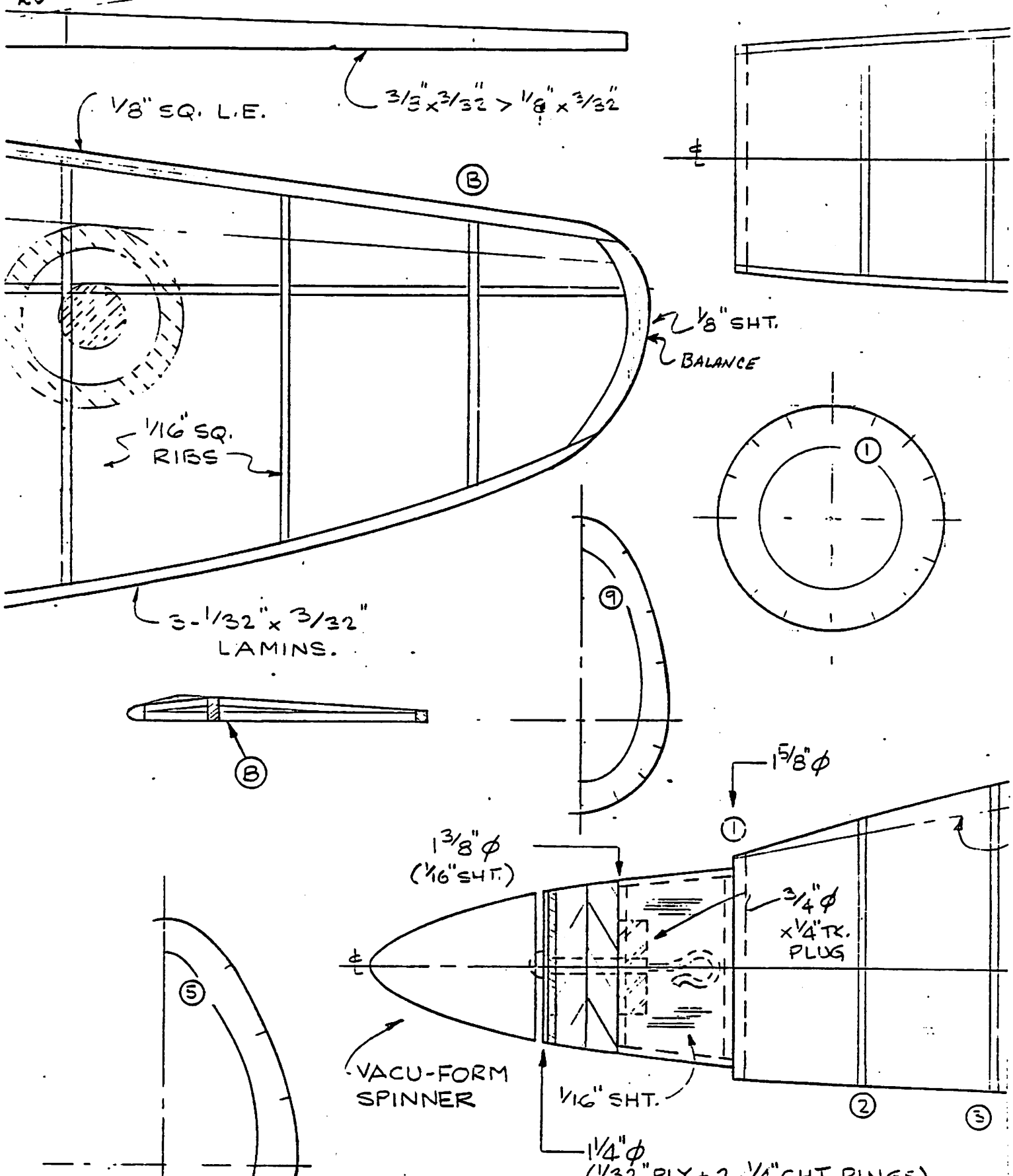
Clyde-engined Wyvern T.F.2 prototype

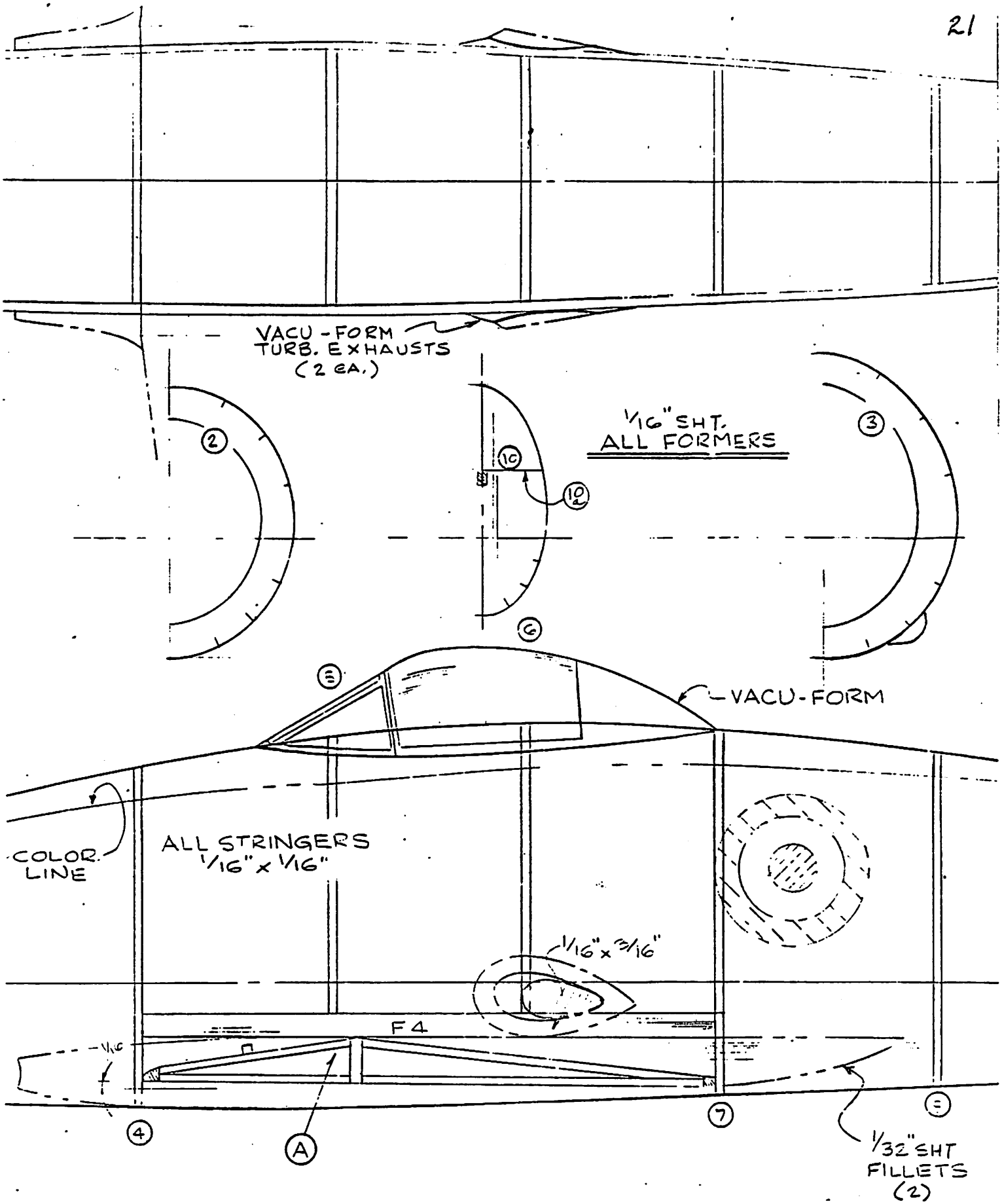
Python-engined Wyvern T.F.2 prototype

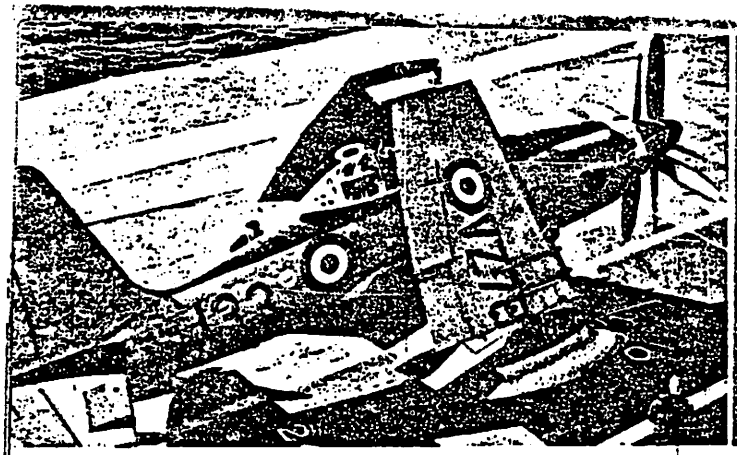
Wyvern T.F. 2. (late series)

Wyvern T.3

Wyvern S.4


3/32" x 3/32" > 1/8" x 3/32"
1/8" SQ. L.E.
B
1/8" SHT.
BALANCE
1/16" SQ. RIBS
3-1/32" x 3/32" LAMINS.
B
9
1
1 5/8" ϕ
1 3/8" ϕ (1/16" SHT.)
3/4" ϕ x 1/4" TK. PLUG
VACU-FORM SPINNER
1/16" SHT.
1 1/4" ϕ (1/32" PLY + 2-1/4" SHT RINGS)
2
3
5
SCRAP


VACU-FORM
TURB. EXHAUSTS
(2 EA.)
1/16" SHT.
ALL FORMERS
2
1C
10
2
3
6
5
VACU-FORM
COLOR
LINE
ALL STRINGERS
1/16" x 1/16"
1/16" x 3/16"
F4
1/16
4
A
7
5
1/32" SHT
FILLETS
(2)



Westland Wyvern

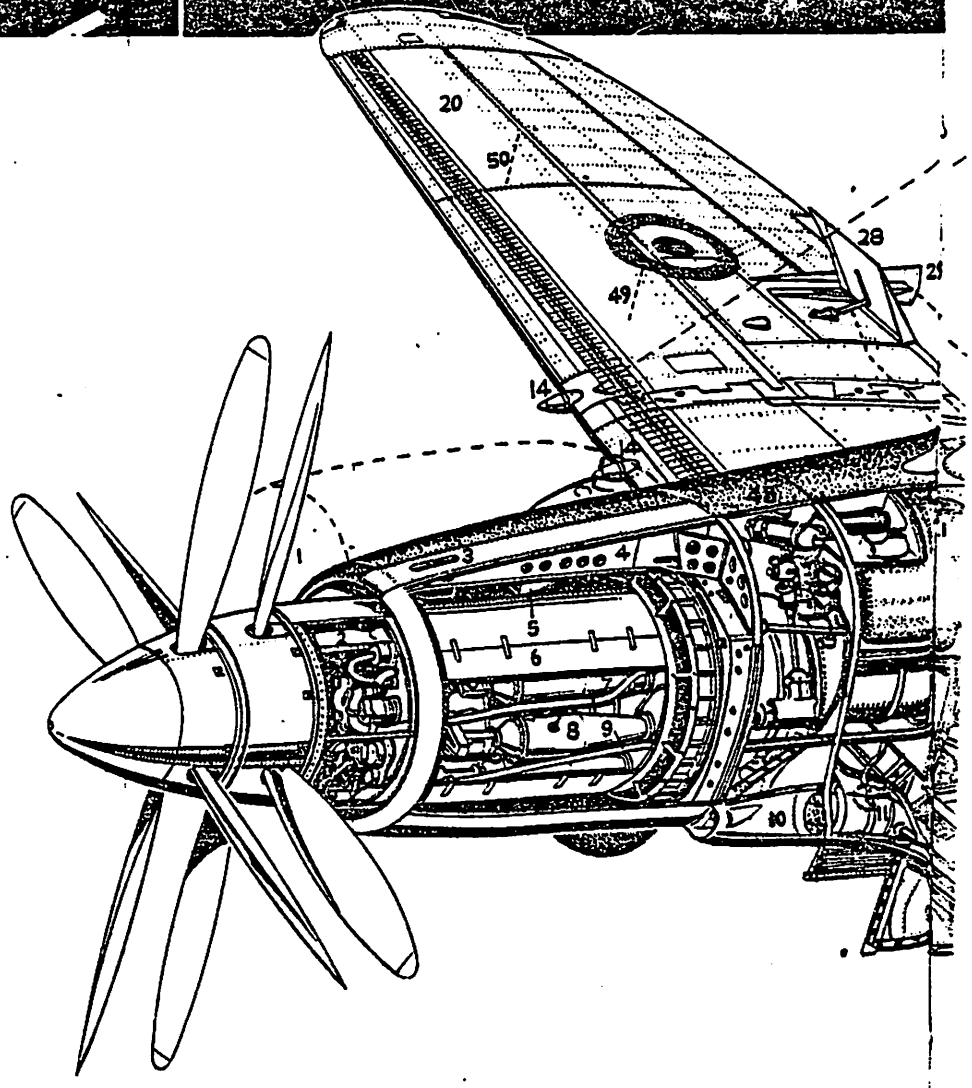
Eagle engine, apart from the completion of a small batch of engines for the new Westland design.

In February 1946, Westlands were asked to produce three further prototypes of the basic design to conform to specification N.12/45, two with Armstrong Siddeley Python turboprops and one with a Rolls-Royce Clyde. But, as the development of these new power plants was still at an early stage, it was decided to order a small pre-production batch of Eagle-engined Wyverns, as the type was named.

The first prototype (TS371) was flown on December 12, 1946. This was also the first flight of the 2,690 h.p. Eagle 22 engine and a new eight-blade contraprop such as had never before been used in this country. The combination of a new airframe with a new and totally untried engine and airscrew combination was inevitably to increase the amount of development flying necessitated, and Westlands had therefore to prove not only the airframe but the engine as well. This prototype, and the second prototype (TS375), had no armament, wing-folding or arrester gear, but the subsequent prototypes and the ten Eagle-powered Wyvern T.F.1s carried full Naval equipment.

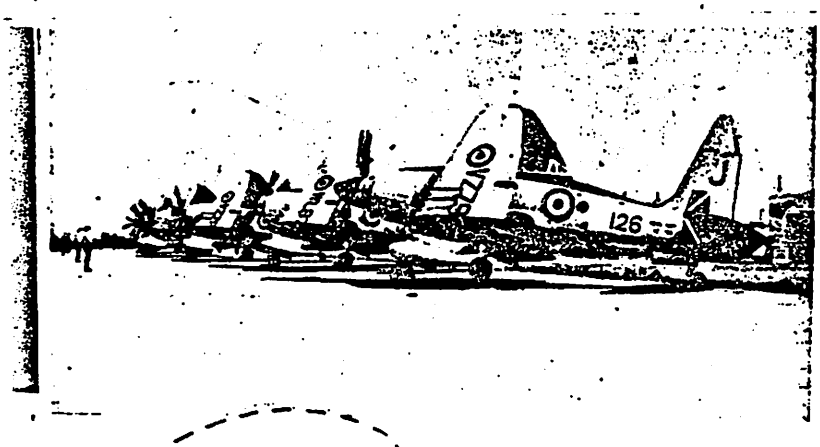
While test-flying and production of the Wyvern T.F.1 was progressing, design development was concentrated on the W.35, or Wyvern 2, and to avoid redesigning, and to utilize flight experience already gained, the basic structure of the design was changed as little as possible.

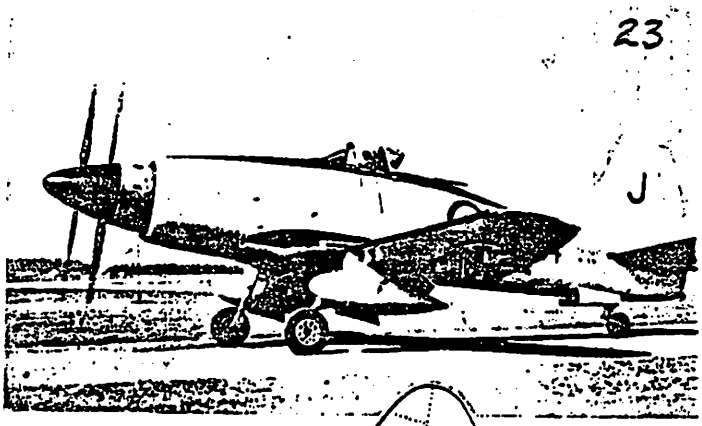
The official policy of sponsoring the use of two alternative turboprops with the duplication of effort in which it was inevitably to result, was undoubtedly responsible for some delay, and the first turbo-prop-driven prototype (VP120) with the 4,030 e.h.p. Rolls-Royce Clyde did not fly until January 18, 1949. This possessed the same wings and the same rear fuselage and tail assembly as the Wyvern T.F.1 and, apart from alterations necessitated by the introduction of the jet pipe,

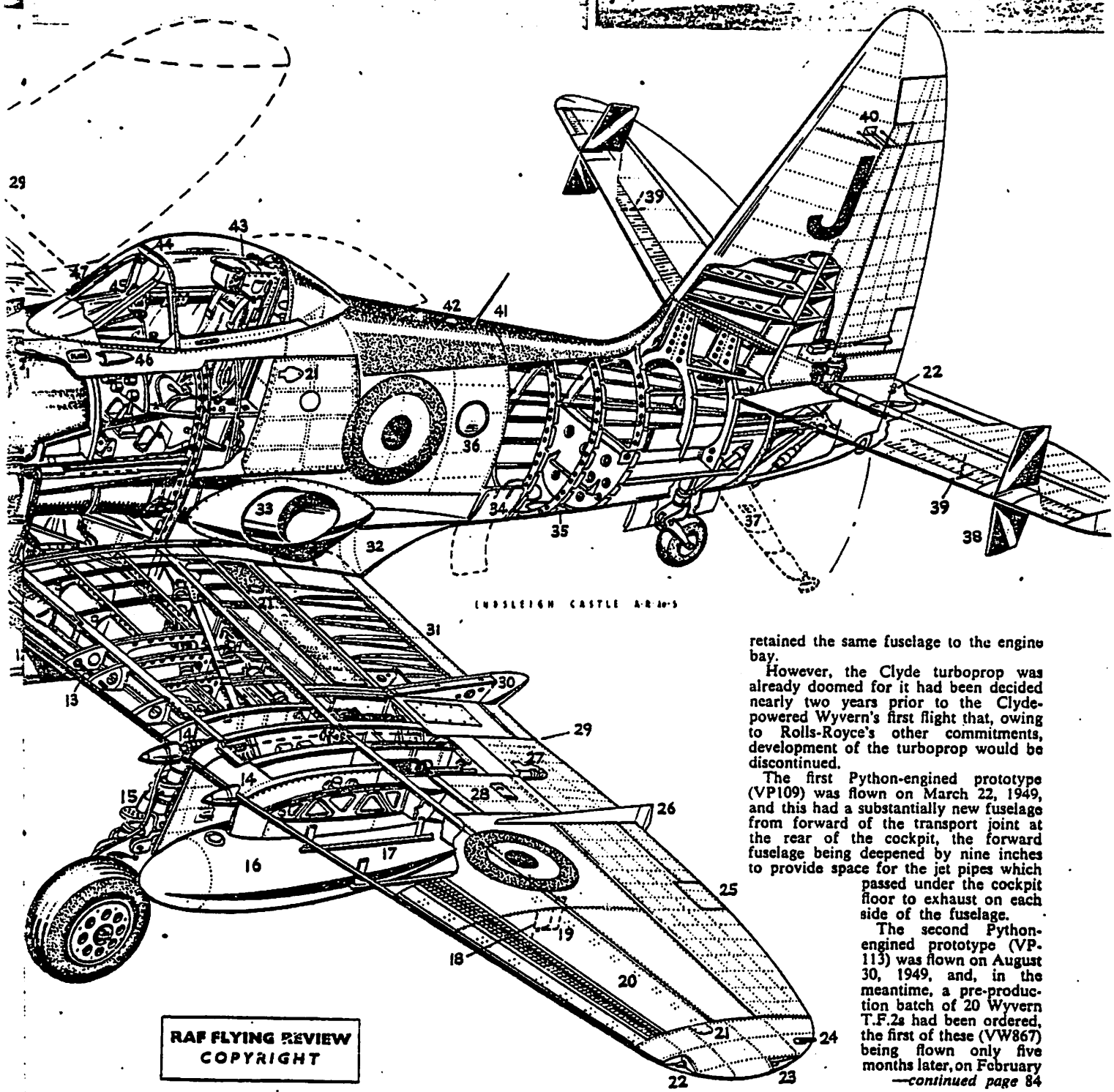


WESTLAND WYVERN CUTAWAY KEY

1. Contra-rotating Constant-speed Rotol 13ft. Diameter Airscrews
2. S.T.H. Starter Motor Housing
3. Crew Safety-strap Strongpoint
4. Beam for Hinged Engine Cowlings
5. Cooling Air-intake to Auxiliaries
6. Detachable Engine Cowling Panels
7. Air Pipe-line to Starter
8. Armstrong Siddeley Python A.S.P. 3 Turboprop Engine
9. Drive-shaft to Auxiliaries
10. Air-intake to Oil-cooler Port and Starboard
11. Accelerator-hooks on Front Spar
12. Inner Undercarriage Doors normally recline after U/C is Lowered
13. Warm Air Duct to Gun Bays
14. Four 20-mm. Hispano Mk. 5 Cannon
15. Ground Crew Step on U/C Legs
16. Underwing Fuel Tank (100 gallon)
17. Underwing R/P Rails
18. I.F.F. Antenna
19. Pressure Head
20. Integral Fuel Tanks in Leading Edge Spot-welded Structures
21. Gravity Fuel-fillers
22. Navigation Lights
23. Formation Light
24. Identification Lamp
25. Aileron Trim-tab
26. Airflow Barrier Fences
27. Outer-flap Jack
28. Air Brake
29. Wing-fold Line
30. Youngman-flap Linkage
31. Main Flaps
32. Double-skin Air-cooled Fillet
33. Bifurcated Jet-pipe Port and Starboard
34. Fuselage Access Door
35. Vertical Camera Ports each side of Centre Line
36. Oblique Camera Ports each side of Fuselage
37. Arrester-hook and "Hook Down" Indicator Light
38. Auxiliary Fins
39. A.Y.P. Antenna
40. Tail Warning Radar Antennae
41. V.H.F. 1938 Antenna
42. Upward Identification Light
43. Martin-Baker Mk. 2B Ejector Seat
44. B.J.A Compass
45. Mk. 4B Retractable Gunsights
46. Cockpit Cool Air Intake
47. Windshield Wiper
48. Auxiliaries Housing
49. ZBX Homer Antenna
50. 1936 Antenna







LUDSLEIGH CASTLE A·R·Ja·S

retained the same fuselage to the engine bay.

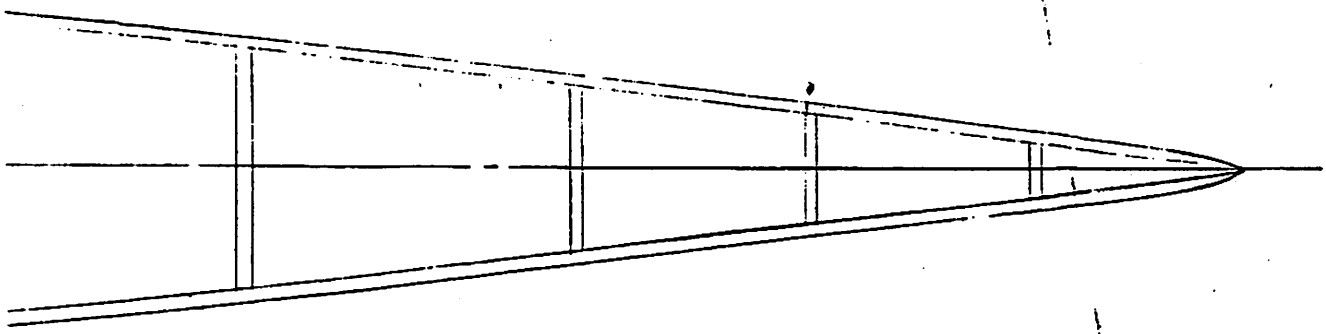
However, the Clyde turboprop was already doomed for it had been decided nearly two years prior to the Clyde-powered Wyvern's first flight that, owing to Rolls-Royce's other commitments, development of the turboprop would be discontinued.

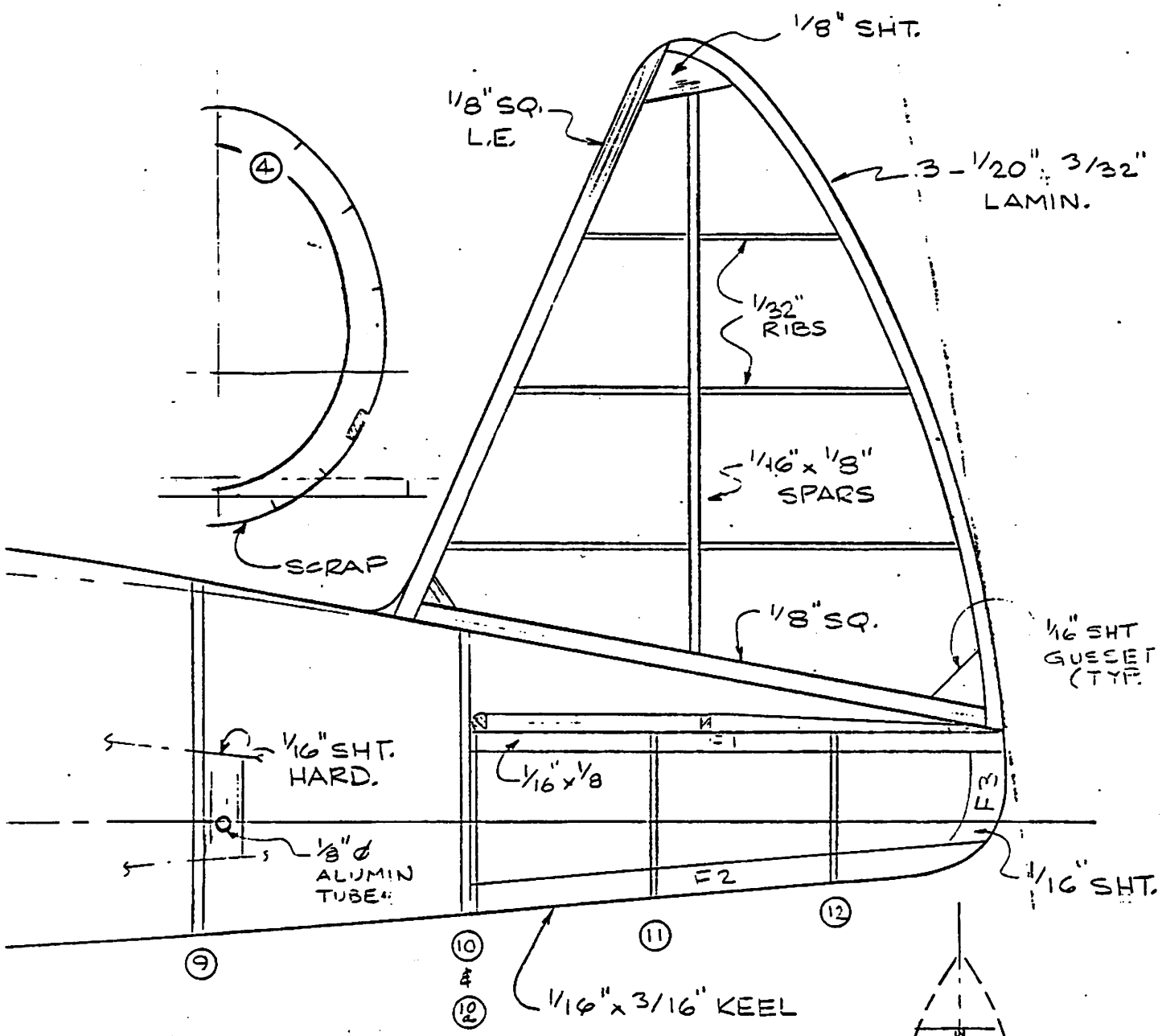
The first Python-engined prototype (VP109) was flown on March 22, 1949, and this had a substantially new fuselage from forward of the transport joint at the rear of the cockpit, the forward fuselage being deepened by nine inches to provide space for the jet pipes which passed under the cockpit floor to exhaust on each side of the fuselage.

The second Python-engined prototype (VP-113) was flown on August 30, 1949, and, in the meantime, a pre-production batch of 20 Wyvern T.F.2s had been ordered, the first of these (VW867) being flown only five months later, on February

—*continued page* 84

RAF FLYING REVIEW
COPYRIGHT

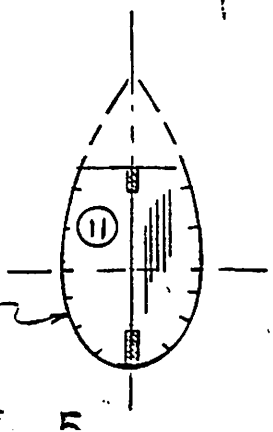




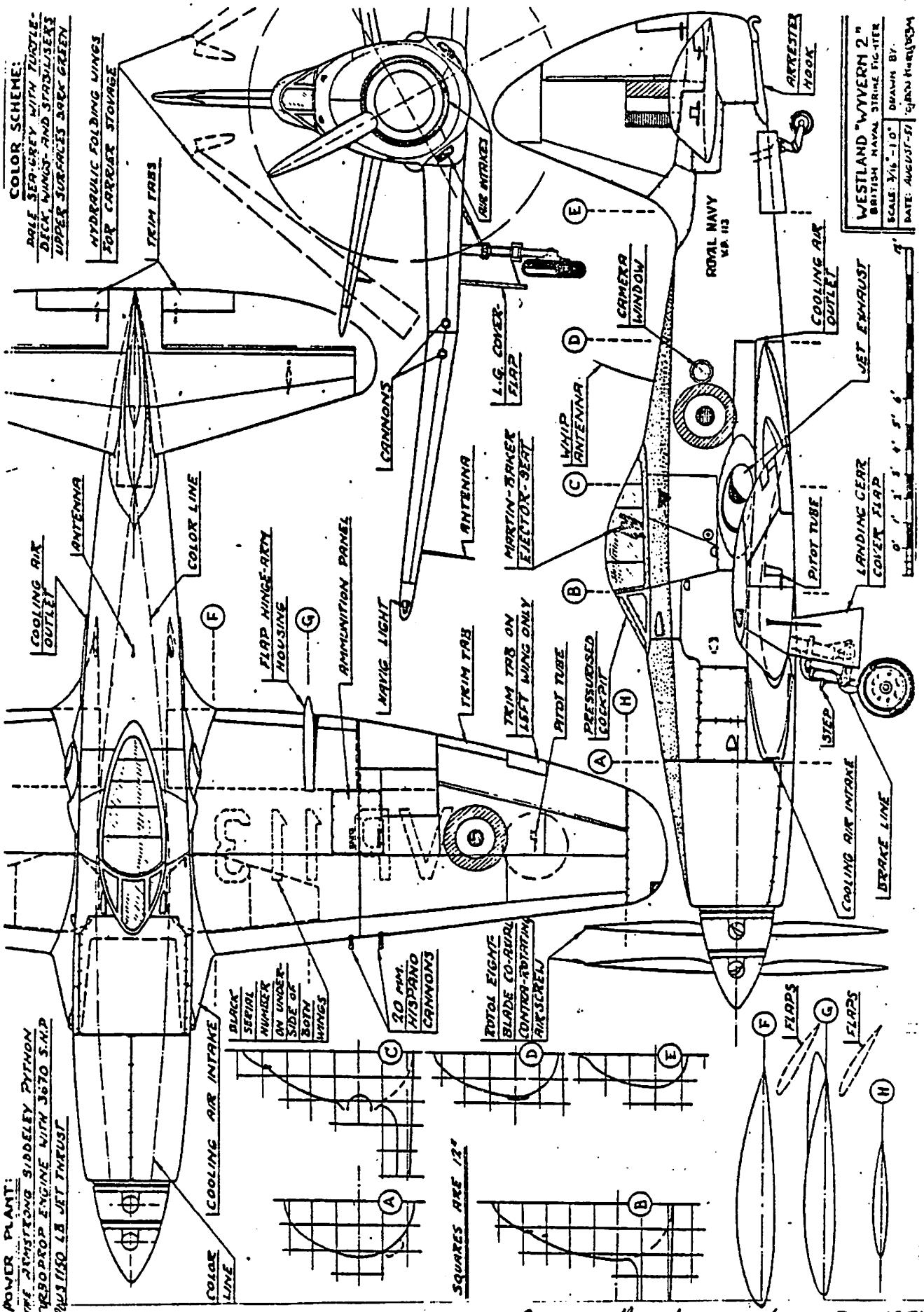
WESTLAND WYVERN

20" SPAN
19½" LGTH.

TOP PLAN



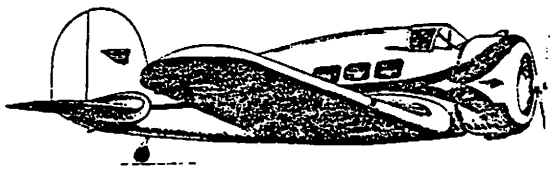
Planes Worth Modeling - WESTLAND WYVERN



COURTESY MODEL AIRPLANE NEWS. DEC. 1951

CALM AIR MEET JULY 5, 1981 Lorain Comm. College

Results



Embryo Endurance

Gordon Roberts	Debut I	90-74-90 +9= 263
Dan Briehl	Eaglet	77-62-44 +5= 188
Michael C. Zand	Praire Bird	3-51- 2 +9= 65

LOCKHEED "ORION" First Lockheed to employ a fully retractable landing gear. Set new West-East transcontinental record—just over 13 hours.

Hi-Flier-Golden Age

Gordon Roberts	Howard DGA-8	84-54-44= 182
Dan Briehl	Stinson 105	45-30-29= 104
Dennis Norman	Bellanca	45-47 = 92
Michael C. Zand	Rearwin Sportster	22-24-23= 69

No-Cal

Todd Allen	Nakajima Grace C6N1	51-60-52= 163
Dennis Norman	Pilatus Porter	33-41 = 74
Michael C. Zand	Nieuport	15-18-20= 53
Dick Bennett	Mr. Smoothie	DNF
Russ Brown	Nieuport Delage	DNF

Hansen Handicap-Post War Air Race (best of 3 plus bonus)

Russ Brown	Pylon Air King Cobra #90	54-39 +0= 54
Gordon Roberts	Ole'Tiger #14	33-31-40+5= 45
Dennis Norman	P-51D Clip Boomer II #49	31-33-16+0+ 33

Hand Launch Glider Sr. Open (best 3 of 6 attempts)

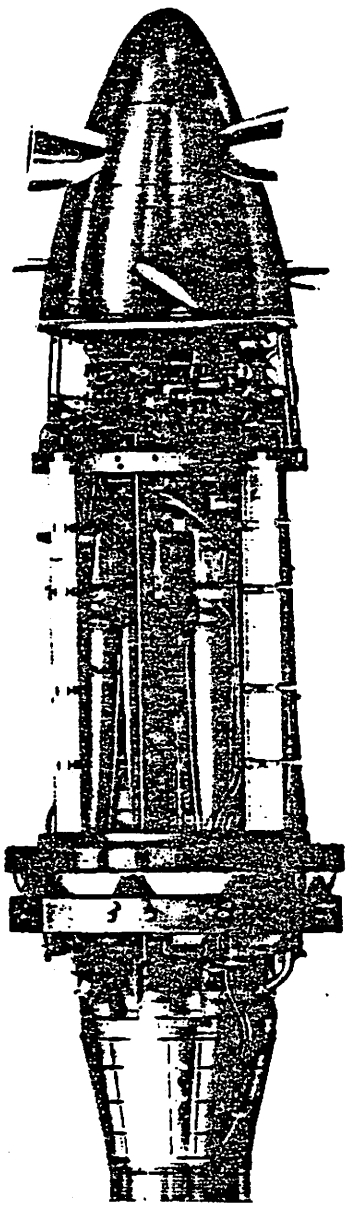
Tad Jones	35-49-28-36-32-81 = 166
Rudy Kluiber	35-35-62-39-55-10 = 156
Dick Woodward	21-13-06-50-40-36 = 126
Dick Bennett	36-28-20-32-04-05 = 96

Hand Launch Glider Junior

Robert Zand	20-21-12-10-20-26= 67

Junior All-Fly

Chris Norman	36-53-36= 125
Robert Zand	25-44-38= 107
Gregg Norman	37



Armstrong Siddeley Python

CALM AIR MEET LULY 5, 1981 Lorain Community College

Mass Launch Events Results

World War II Combat

1.	Gordon Roberts	B.P. Defiant
2.	Dan Briehl	Heinkel 100D
3.	Michael Zand	Il-2 Stormovik
4.	Chris Norman	Corsair
5.	Dennis Norman	Messerschmidt 109

Thompson & Grieve

1.	Gordon Roberts	Chambermaid
2.	Michael Zand	Suzy
3.	Dick Bennett	Crosby

Peanut World War II

1.	Gordon Roberts	P-51 D
2.	Todd Allen	FN190D-9
3.	Dan Briehl	P-51 D
4.	Michael Zand	P-51 D
5.	Dick Bennett	Reggiane RE 2005

Peanut World War II Biplane

1.	Dan Briehl	SE5A
2.	Dick Bennett	Siemans Sch. SSW-DIII
3.	Gordon Roberts	Albatross DIII

Revised — GREAT BRITAIN — 109

Armstrong Siddeley Python

Model ..... Python 3.
Type ..... Turboprop, 14-stage axial compressor, 11 combustion chambers, 2-stage turbine, 2 co-axial propeller shafts.
Compressor ..... 14-stage axial flow type. Annular air intake adjacent to turbine casing, with reversal of air flow forward through 11 radial ducts into compressor. 2-piece aluminum alloy stator casing, with 1 row of inlet guide vanes and 13 rows of aluminum alloy stator blades. Radial diffuser with steel blades and 11 vaned elbows reverses air flow backward into combustion chambers. 2-piece aluminum alloy barrel type rotor with 14 rows of aluminum alloy blades. Front end of rotor bolted to drive shaft supported in 2 ball bearings and connected to propeller reduction gear. Rear end of rotor bolted to tapered hollow extension shaft supported in 1 roller bearing and 1 ball bearing immediately in front of turbine rotor. Pressure ratio 5.35:1, and air mass flow 52.5 lb. (24 kg)/sec., at 8,000 r.p.m./sea level, static.
Combustor ..... 11 interconnected straight-through stainless steel combustion chambers, of vaporizing type. 1 perforated flame tube of Nimonic 75 alloy inside each combustion chamber. 1 fuel burner-vaporizer in mixing chamber in each flame tube, with vaporized mixture emerging upstream into air flow.
Turbine ..... 2-stage axial flow type. Fabricated stainless steel casing, with 1 row of 82 nozzle guide vanes, and 1 row of 94 stator blades of Nimonic 80 alloy. 1 air-cooled rotor disc of Jessop G.18B steel with dual rims and 2 rows of 120 Nimonic 80 alloy blades. Overhung rotor bolted to flanged stub shaft splined-connected to compressor extension shaft. Gas temperature 1,094° F. (590° C) after turbine, at 8,000 r.p.m.
Exhaustor ..... Fixed area type. Steel outer casing and stationary inner cone.
Propeller drive ..... 2 co-axial contra-rotating propeller shafts driven through epicyclic spur reduction gears, ratio 0.135:1 (7.41:1). Rotol No. 5½/7½ 8-bladed constant speed, feathering, reversing propeller.
Control system ..... Single lever master control, with interconnected fuel and propeller controls. Rotol CSU constant speed unit.
Fuel system ..... Multi-manifold type. 1 Lucas GC multi-plunger variable stroke fuel pump, with overspeed governor and relief valve, 500 lb./sq.in. (35 kg/cm²). Armstrong Siddeley flow control unit, fuel isolator, and distributor with 11 main outlets. Lucas LPC electric pressure control. 11 Armstrong Siddeley burner-vaporizers.
Lubrication system ..... Dry sump system for front bearings and reduction gears, with gear type pressure pump, 70 lb./sq.in. (4.9 kg/cm²), and scavenge pump. Oil lubricated air cooling for turbine bearing, with Tecalemit PE.7710 Micro pump.
Starting system ..... 1 B.T.H. QT20/A4 Turbo-Starter and 2 QB3/A2 remote cartridge breeches. Shielded ignition system, with 2 B.T.H. C2TS or C7TS ignition coils, 2 Armstrong Siddeley flame igniters, and 9 Kigass fuel atomizers. Automatic blow-off valves for starting.

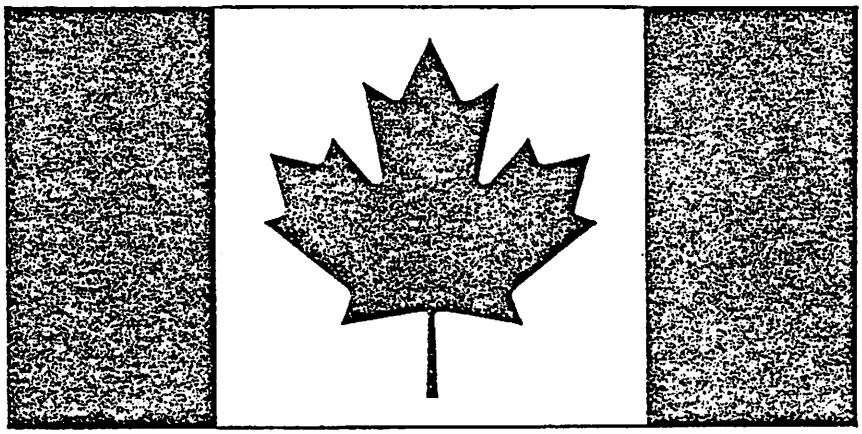
Diameter	54.5 in. / 1 384 mm
Length (as shown)	122.8 in. / 3 121 mm
Frontal area	16.2 sq.ft. / 1,50 m²
Weight (without propeller)	3,450 lb. / 1 565 kg
Weight/max. e.s.h.p.	0.81 lb./e.s.h.p. / 0,38 kg/eshp
Fuel grade	D.Eng.RD. 2482 / Kerosene
Oil viscosity (at 210° F.)	57 S.U. secs. (D.E.D. 2479) / 9,0 cs (at 100° C)
Fuel consumption (cruise) ...	0.60 lb./e.s.h.p./hr. / 0,27 kg/eshp/hr
Oil consumption (cruise) ...	3.0 lb./hr. / 1,4 kg/hr

Take-off, static (1120 e.s.h.p.) 3,670 shp. + 1,180 lbs. (535 kgt) / 6,000 rpm./sea-level
Max. cont., static (1300 e.s.h.p.) 2,900 shp. + 1,050 lbs. (476 kgt) / 7,000 rpm./sea-level

FLYING ACES

Gone Flying

NORTH TO CANADA



Canada's new Maple Leaf flag

CANADIAN NATIONALS, HURON PARK, ONTARIO
(CENTRALIA, 25mi N. OF LONDON, ONT.)
FREE FLIGHT AT GRAND BEND, JULY 14-19.

SATURDAY JULY 18 UNOFFICIAL FLYING ACES CLUB EVENTS: 8AM-5PM ±

1. FAC GHQ PEANUT SCALE. (3 FLIGHT TOTAL PLUS ORIGINAL PEANUT SCALE POINTS TIMES 10% OF DAYS BEST TIME FACTOR) CFFS/ RUSS BROWN.

2. PEANUT WW II COMBAT. MASS LAUNCH FOR FAC COMBAT CLASS. NO OBSERVATION TYPES, NO REPAIRS OR RE-TIES IN ACTION. CFFS/ GORDON ROBERTS.

3. EMBRYO ENDURANCE. 3 FLIGHT TOTAL OFF CARD TABLE PLUS BONUS. DETROITEN/ RALPH KUENZ.

SUNDAY JULY 19 FAC EVENTS: 8AM-5PM

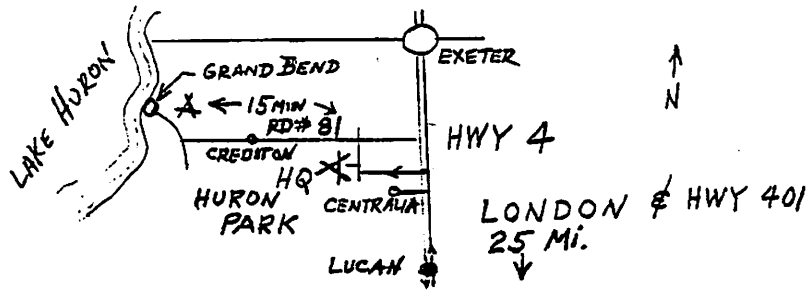
1. RUBBER SCALE. OFFICIAL MAAC EVENT. FAC RULES APPLY.

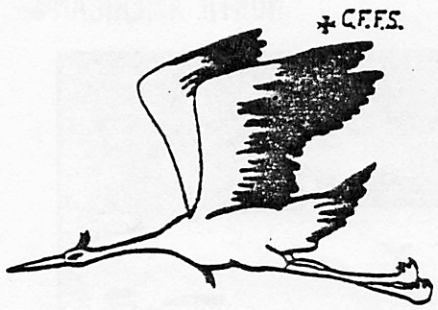
2. POWER SCALE. OFFICIAL MAAC EVENT. FAC RULES.

3. FAC JUMBO RUBBER SCALE. UNOFFICIAL EVENT FOR OVER 30" WINGSPAN. CFFS & DETROIT FAC.

4. WW II FAC COMBAT. UNDER 30" WINGSPAN FAC COMBAT MASS LAUNCH. TORONTO FAC/ BOB GORDON

ENTRY FOR OFFICIAL EVENTS ON MAAC FORM. REGISTRY & HOUSING AT HURON PARK HQ.
UNOFFICIAL EVENTS AND FREE FLIGHT PROCESSING AT GRAND BEND SITE. $3/ EVENT.
PRE-ENTRY ENDS JUNE 30,'81. MAAC P.O. BOX 9, OAKVILLE,ONTARIO L6J 4Z5 CANADA.







CFFS FLYING ACES SCALE SCRAMBLE

SUNDAY JULY 26, 10 AM- 5 PM AT LORAIN COUNTY COMMUNITY COLLEGE, ELYRIA, OHIO

EVENTS: 1. GHQ FACTORED PEANUT SCALE. 3 FLIGHTS PLUS ORIGINAL POINTS X .1 BEST TOTAL.

2. WALNUT FAC RUBBER SCALE. UNDER 18 INCH SPAN RUBBER SCALE.

3. FLYING ACES RUBBER SCALE.

4. OLD TIMER KIT FAC SCALE. 3 FLIGHT TOTAL, NO BONUS POINTS.FAC GENERAL RULES APPLY. FOR GOLDEN AGE REPRODUCTION, HI-FLIER O/T, AND FLY-LINE EARL STAHL KITS.

5. NO. CAL 16" PROFILE & SCHNEIDER CUP 3/4" PROFILE. 3 FLIGHT TOTAL. NO MAX.

6. GREVE TROPHY INLINE ENGINE RACE. MASS LAUNCH FAC RACE PLANES.

7. THOMPSON TROPHY RADIAL ENGINE PRE WAR RACE. MASS LAUNCH.

8. WW I BIPLANE DOGFIGHT. MASS LAUNCH FAC CLASS MULTIWINGERS.

9. WW II PEANUT COMBAT.

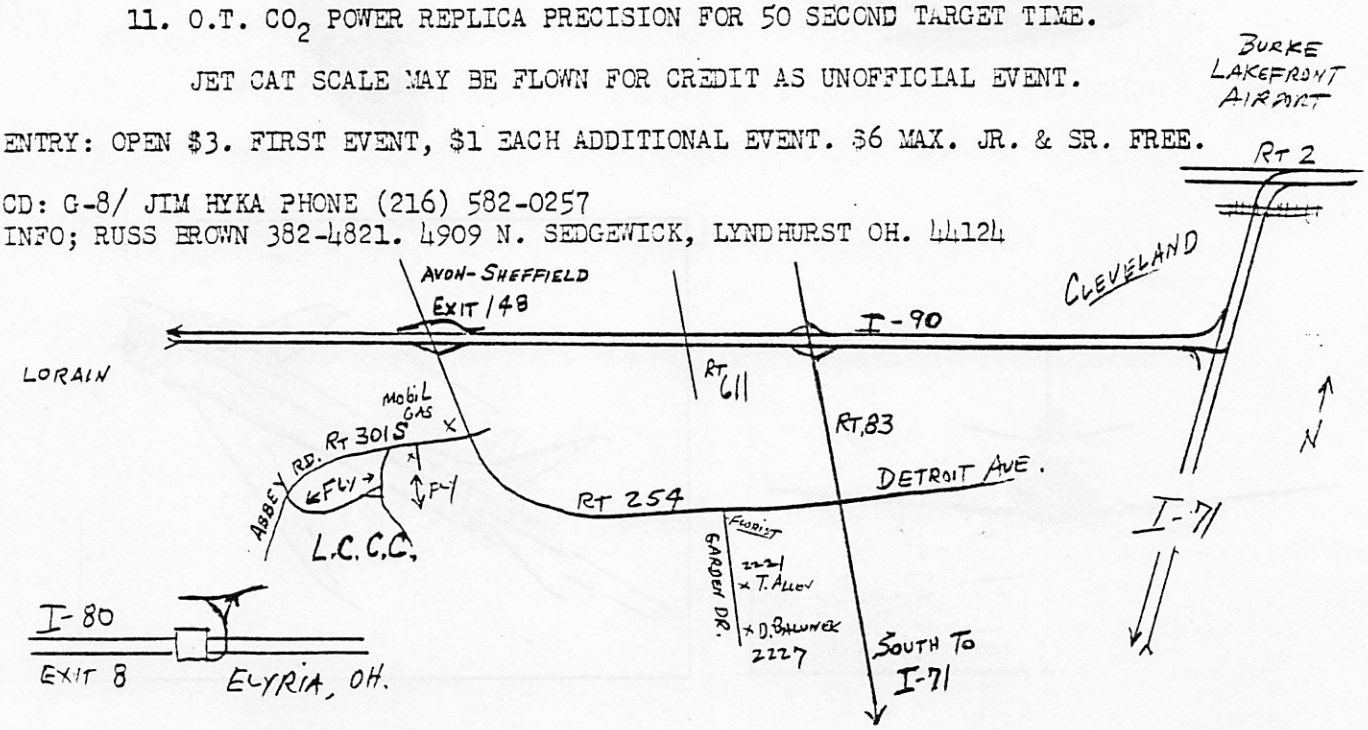
10. WW II FAC COMBAT. MASS LAUNCH. NO MID ROUND REPAIRS.

11. O.T. CO_2 POWER REPLICA PRECISION FOR 50 SECOND TARGET TIME.

JET CAT SCALE MAY BE FLOWN FOR CREDIT AS UNOFFICIAL EVENT.

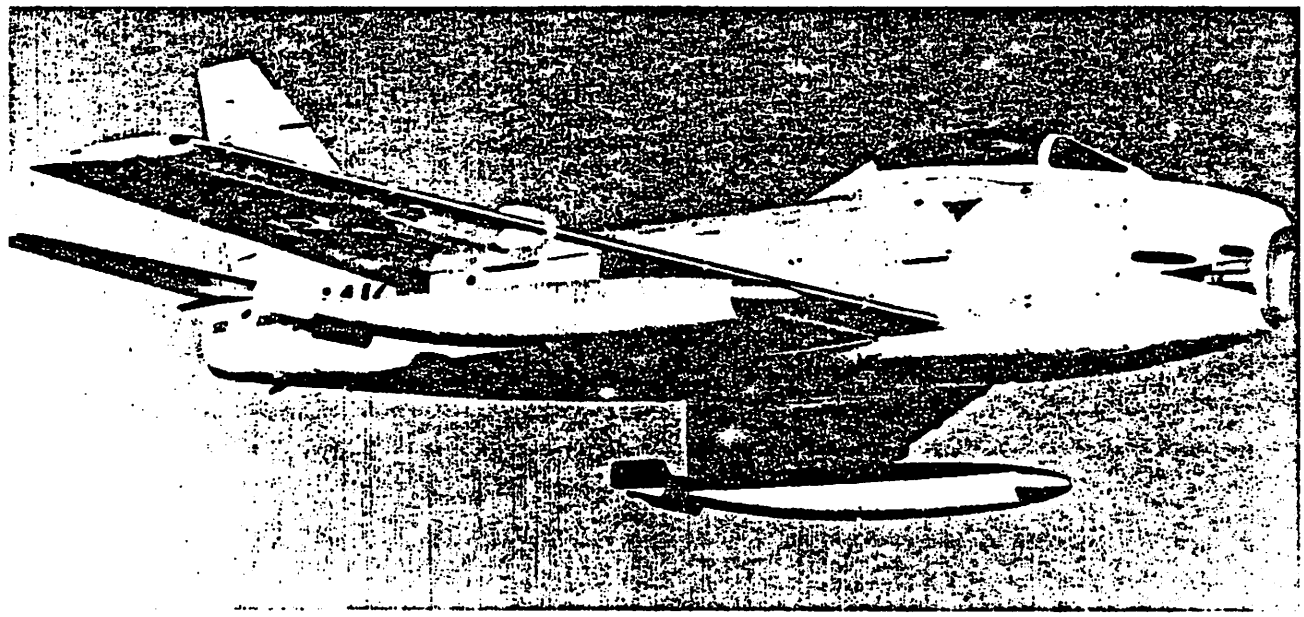
ENTRY: OPEN $3. FIRST EVENT, $1 EACH ADDITIONAL EVENT. $6 MAX. JR. & SR. FREE.

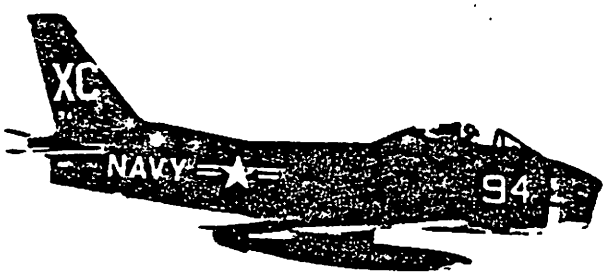
CD: G-8/ JIM HYKA PHONE (216) 582-0257
INFO; RUSS BROWN 382-4821. 4909 N. SEDGEWICK, LYNDHURST OH. 44124

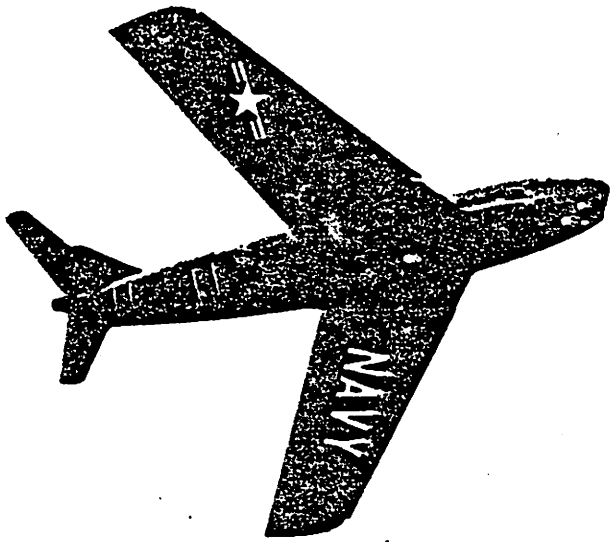


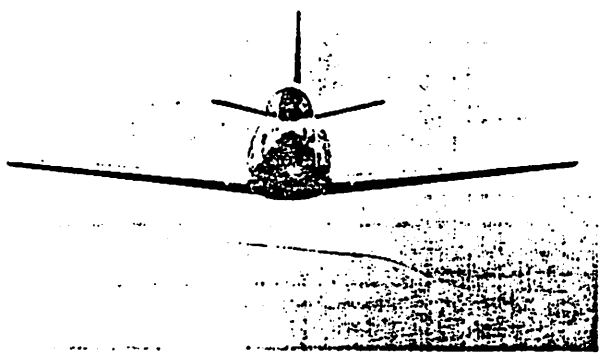
FJ-2, 3 FURY

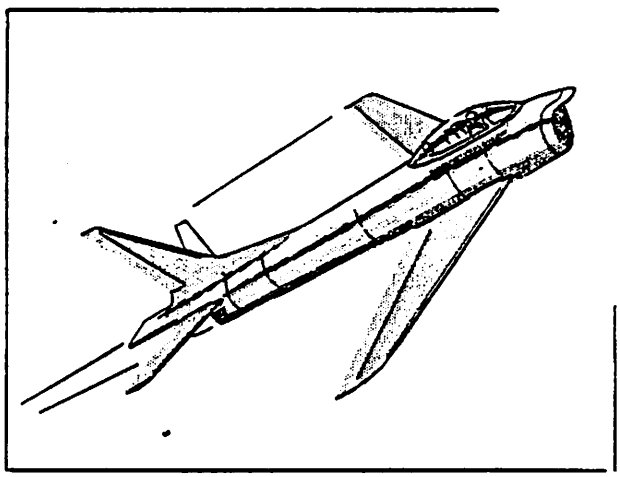
NORTH AMERICAN



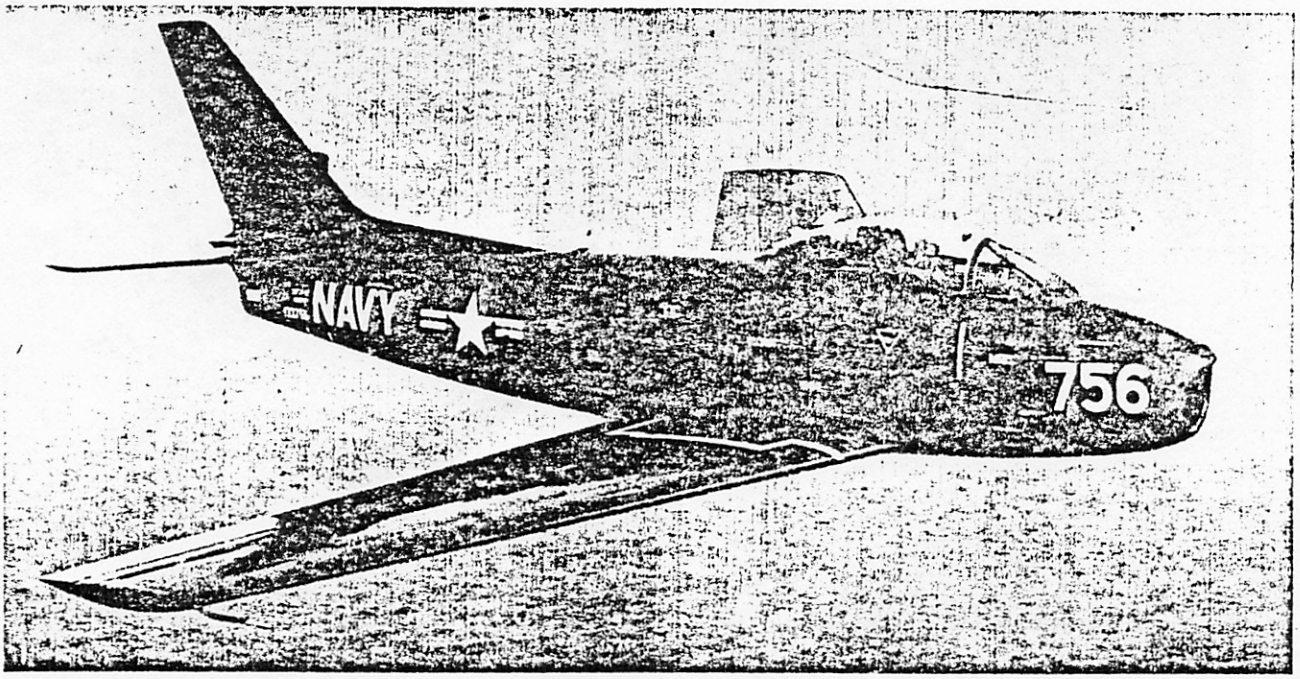


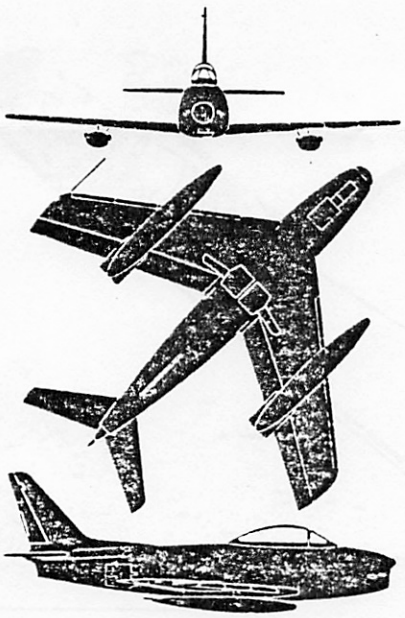






NORTH AMERICAN FJ-2, 3 FURY





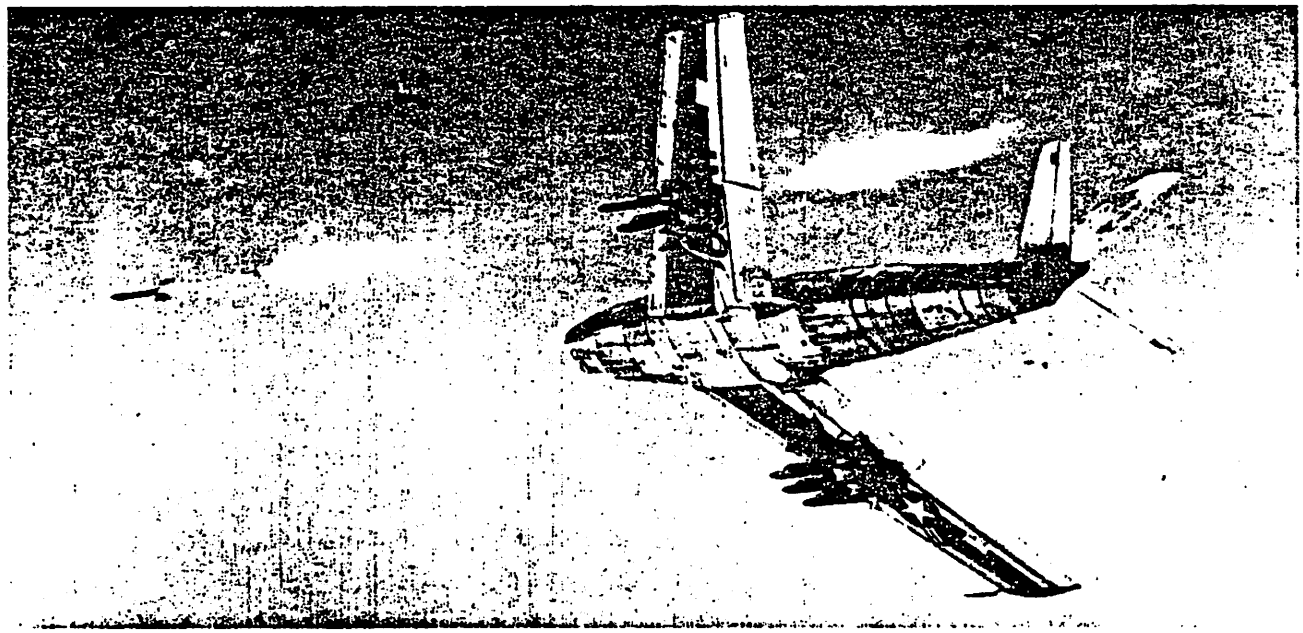
The FJ–2 Fury is a navalized F–86 Sabre with many engineering changes inside its fuselage. Actually, the sweptwing Sabre is an outgrowth of aeronautical findings in the earlier straight-wing FJ–1 Fury, the Navy's first operational jet fighter. The FJ–2 has a tricycle landing gear, but does not have the kneeling-nose wheel mechanism of the straight-wing FJ–1. In addition, the cockpit is an entirely new design covered with a new sliding, jettisonable canopy. An improved Navy gunsight, 20-mm cannons, folding wings, and new homing radio equipment are included in the fighter's design changes. The later FJ–3, powered by a J–65 Sapphire engine, is a faster, larger, and slightly heavier version of the FJ–2. A standard production FJ–3 has reportedly climbed to 10,000 ft from a standing start in 83 seconds.

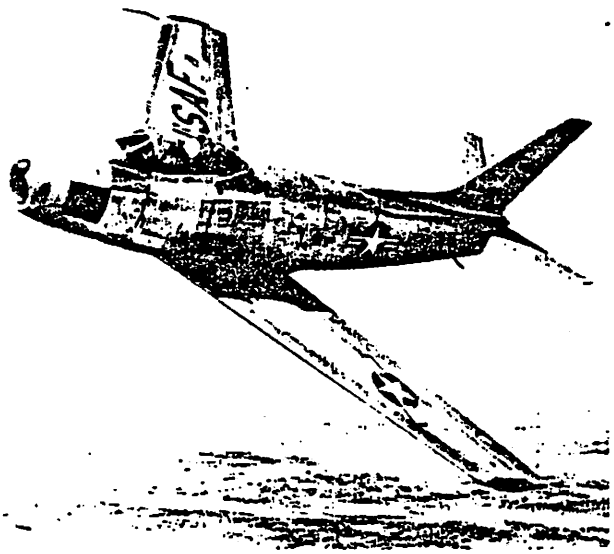
DATA APPLY TO FJ–3

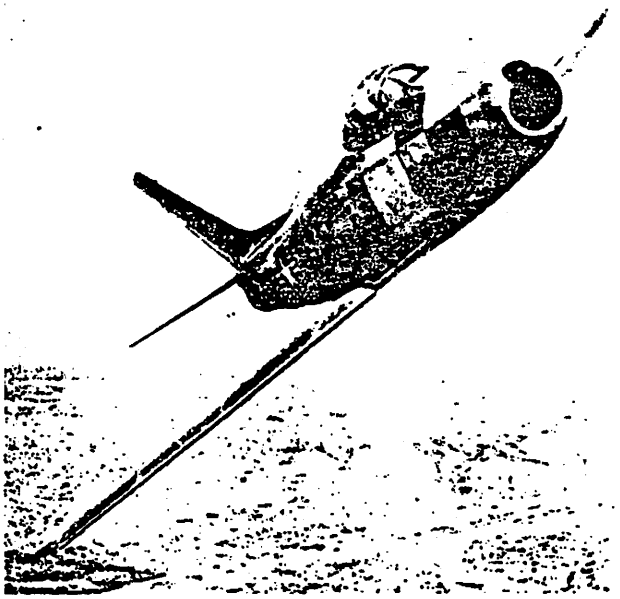
AIR FRAME		OPERATIONAL DATA		POWER PLANT	
Mfr.	NORTH AMERICAN	Max. Range (Naut. Miles)	1,500 plus	No. of Engines	1
Wing Span	37'1"	Crew No.	1	Model No.	J65–2 (FJ–3)
Length	37'6"	Max. Speed (Knots)	590 plus	Mfr.	WRIGHT
Combat Weight (Lbs.)	18,000 plus	Service Ceiling (Ft.)	45,000 plus	Type	Turbojet
				Rating Each	7,200#

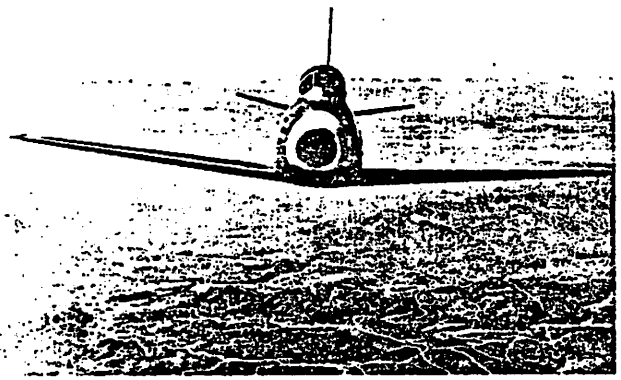
F-86 SABRE

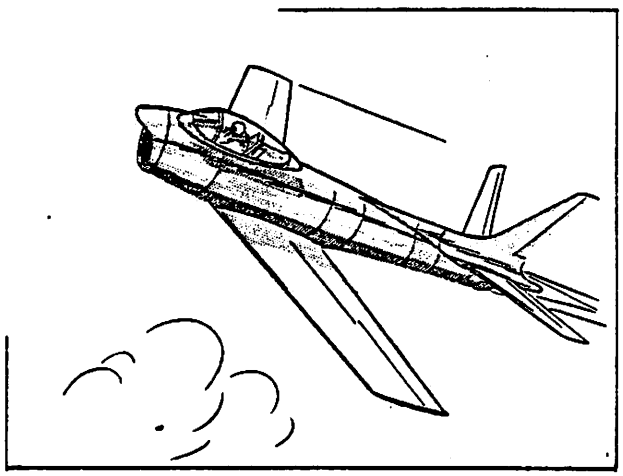
NORTH AMERICAN



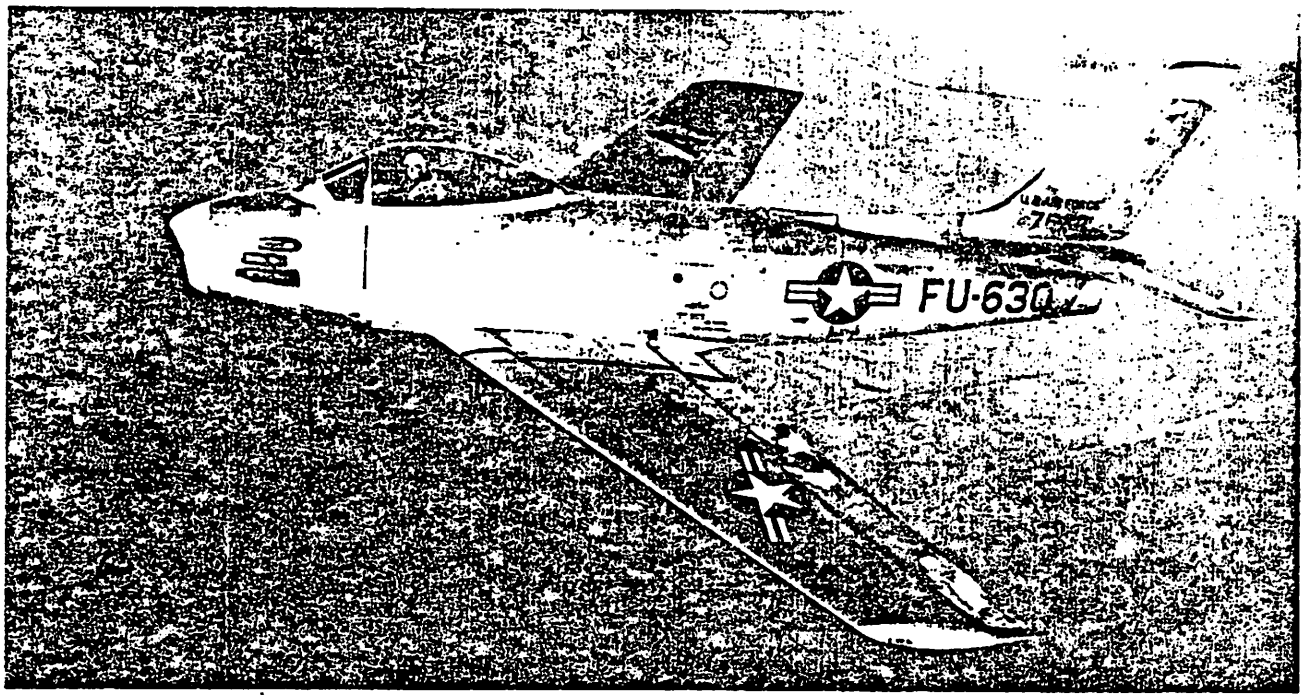








NORTH AMERICAN F-86 SABRE





The F–86 is a low-wing, single-engine jet fighter, the first operational U.S. fighter designed with sweptback wing and tail surfaces. The tapered wing has a slight positive dihedral and blunt tips. The thick, stubby fuselage has a lipped jet intake, a bubble-type canopy, and a sharply pointed extension on the aft end. A dorsal fin fairing is combined with the square-tipped vertical stabilizer. The blunt-tipped horizontal stabilizer has moderate positive dihedral. Both vertical and horizontal stabilizers are sweptback and tapered. Although American production of the F–86 ended in 1956, Sabre versions are still being produced in Canada and Australia.

DATA APPLY TO F–86–F

AIR FRAME		OPERATIONAL DATA		POWER PLANT	
Mfr.	North American	Max. Range (Naut. Miles)	1,000 plus	No. of Engines	1
Wing Span	39.1′	Crew No.	1	Model No.	J–47
Length	37.5′	Max. Speed (Knots)	550 plus	Mfr.	GE
Combat Weight (Lbs.)	18,000 plus	Service Ceiling (Ft.)	41,000 plus	Type	Turbojet
				Rating Each	5,500# plus

THE DELAWARE VALLEY FEDERATION OF MODEL AIRPLANE CLUBS

Presents

THE 34TH ANNUAL EASTERN STATES CHAMPIONSHIPS

WARMINSTER N.A.D.C., JOHNSVILLE, PA. – AUGUST 23RD, 1981

Sponsored by the Delaware Valley Hobby Industry Assn. and D.V.F.M.A.C.

12 NOON UNTIL 6 P.M. – RAIN OR SHINE

AWARDS TO 5TH PLACE ALL EVENTS

EVENTS

FREE FLIGHT
O.H.L.G. Jr. - Sr.
O.H.L.G. Open
½ A Gas Jr. - Sr.
½ A Gas Open
A1-T.L. J-S-O
Coupe D'H J-S-O
P30 Rubber J-S-O
Rubber Scale J-S-O

RADIO CONTROL
Prenovice Pattern
Novice Pattern
Advanced Pattern
Expert/Master Pattern
Sport Scale

CONTROL LINE
Federation Goodyear J-S-O†
½ A Scale Racing I J-S-O
Navy Carrier I & II Combined J-S-O
Profile Carrier J-S-O
AMA Combat J-S-O
Slow Combat J-S-O
Sport Scale J-S-O
Stunt "Pampa" Intermediate
Stunt "Pampa" Advanced/Expert Combined

SPECIAL AWARDS

The Matt Sullivan Award for Hi-Point Senior
The Ed Manulkin Memorial Award for Hi-Point Junior
The U.S. Navy Scale Award for Best of U.S. Naval Aircraft in Any Scale Category
Hi-Time Jr. FF. Rubber Award

NOTES:

Goodyear Racing – "Federation Rules," requires a 1 ounce tank max. and no mandatory pit stops.

All scale entries will be judged at appropriate site before flying.

Registration will open at 11 A.M. Contest starts at 12 noon. No engine running is permitted until noon.

SPECIAL NOTE TO F.F. CONTESTANTS:

We Regret That Free Flight Events are confined to "Small Field".
Types because of Restrictions in Field use and Adverse Off-Field Conditions. Class III Rules Apply,
But May be Modified at Category Director's Discretion Depending on Weather etc.
We Sincerely hope the F.F. Fraternity will continue to support us.

LOCATION:

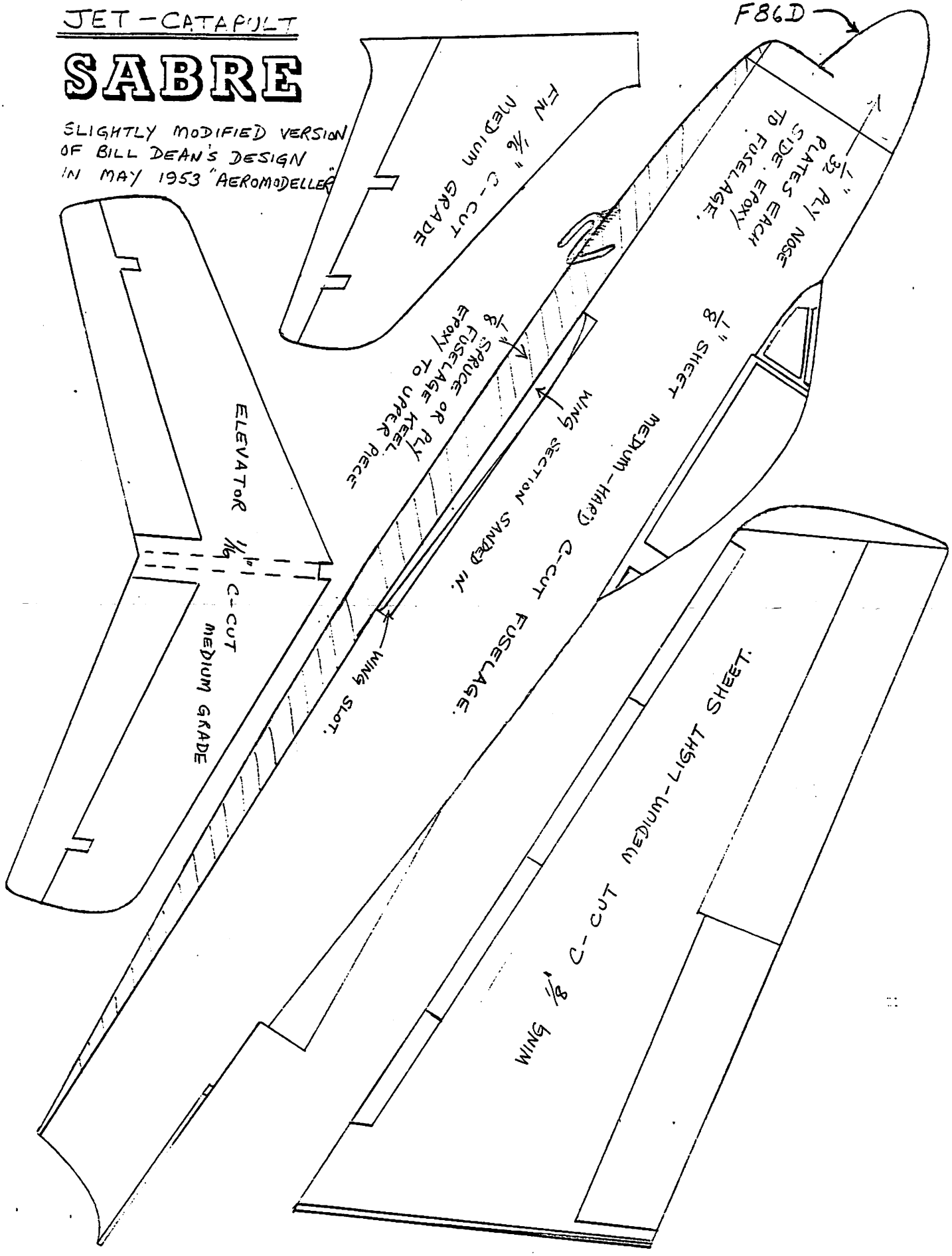
U.S. Naval Airfield at junction of Pa. Routes 332 and 132; about 3 miles N.E. of the Willow Grove Interchange of the Penna. Turnpike.

CONTEST DIRECTOR: Robert Leishman
Stony Lane R.D. 4
Doylestown, PA 18901

JET - CATAPULT

SABRE

SLIGHTLY MODIFIED VERSION
OF BILL DEAN'S DESIGN
IN MAY 1953 "AEROMODELLER"





CLOUDBUSTERS INC.

14TH ANNUAL FREE FLIGHT SCALE MEET

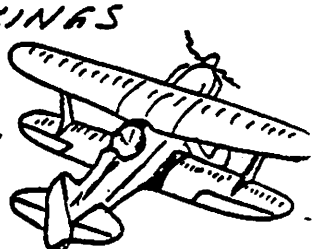
AMA SANCTIONED

AUGUST 30, 1981 10 AM - 4 PM

11 MILE AND FRANKLIN RD. SOUTHFIELD, MICH
(S.W OF I-696 AND TELEGRAPH RD)

EVENTS (ALL J.S.O. COMBINED)

1) A.M.A. GAS SCALE - A.M.A. RULES (EX. ALL FLIGHTS HAND LAUNCHED)
2) WWI DOGFIGHT - MASS LAUNCH IN ROUNDS
   MUST BE WWI BIPLANE
   MUST BE IN PERIOD MARKINGS
3) WW II COMBAT - MASS LAUNCH IN ROUNDS
   MUST BE WW II (1939 -1945) FIGHTER
   MUST BE IN PERIOD MARKINGS
4) F.A.C. RUBBER SCALE -
5) PEANUT SCALE - F.A.C. FULL FACTOR RULES



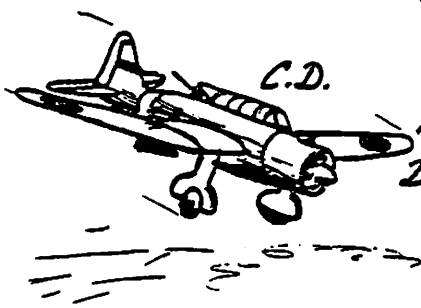
EMBRYO ENDURANCE -

TROPHIES TO THIRD PLACE FOR: PEANUT SCALE
AMA. GAS SCALE F.A.C. RUB. SCALE, EMBRYO

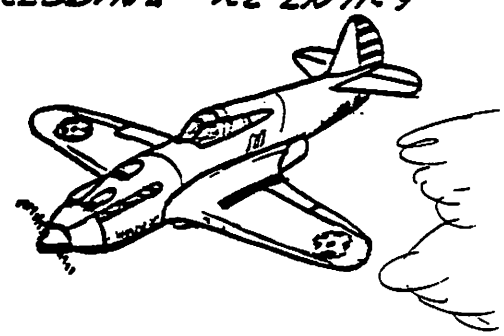
FIRST PLACE TROPHIES FOR MASS LAUNCH COMBAT EVENT.

SPECIAL JUNIOR AWARDS

ENTRY FEE: $3.00 FIRST EVENT
$1.00 EA. ADD'L EVENT OR RE-ENTRY
$5.00 MAX EVENT FEE EXCLUDING RE-ENTRY



C.D. RALPH D. KUENZ
14645 STAHELIN
DETROIT MI. 48223
PH. 313 835-7141



CFFS FAC SCRAMBLE

RESCHEDULED TO:

SUNDAY SEPT. 6

10AM - 5PM AT

LORAIN COUNTY C.C.

CLEVELAND FREE FLIGHT SOCIETY

DETROIT CLOUDBUSTER FAC

IS SUNDAY AUGUST 30.'81

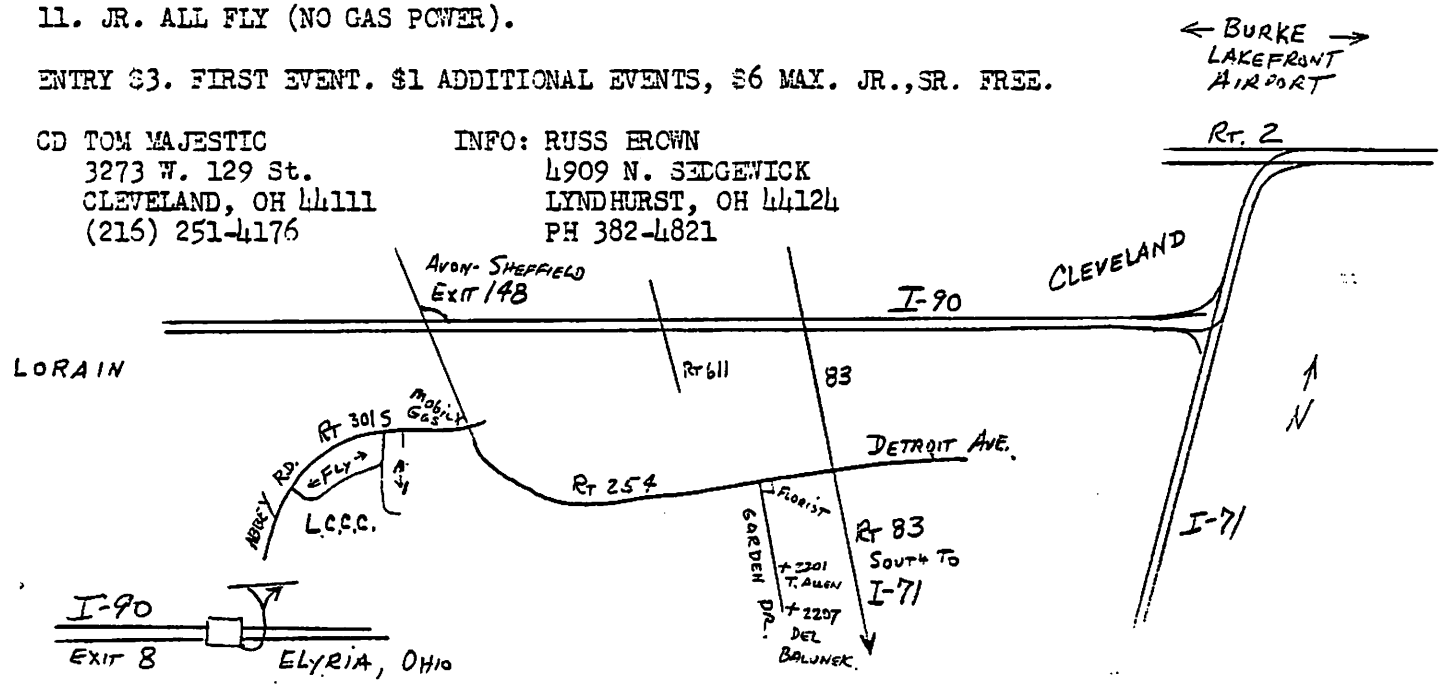
EVENTS:

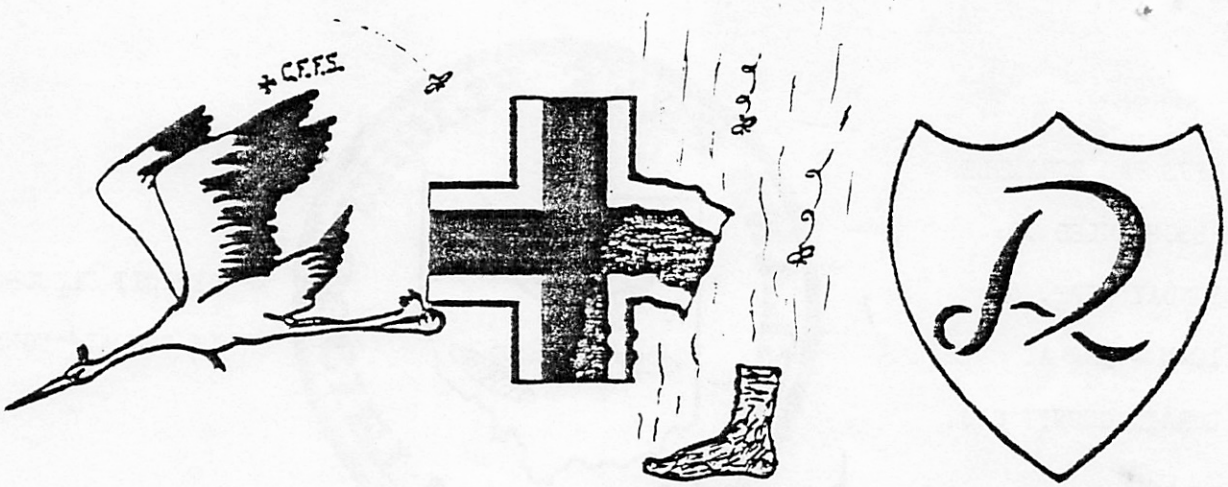
1. FULL FAC PT. PEANUT SCALE. FEATURE EVENT FOR GOLDEN AGE REPRODUCTION KIT PRIZE.
2. FAC RUBBER SCALE.
3. OLD TIMER KIT FAC. FOR GOLDEN AGE REPRODUCTIONS, HI-FLIER, FLY-LINE OLD TIMER KITS. THREE FLIGHT TOTAL, NO BONUS POINTS. FAC RULES APPLY.
4. EMERYO ENDURANCE.
5. WW II PEANUT COMBAT.
6. WW II FAC COMBAT.
7. JET CATAPULT SCALE GLIDER.
8. OLD TIMER CO_2 REPLICA PRECISION. 50 second target flights (3).
9. HAND LAUNCH GLIDER (J)(S)(O). FEATURE EVENT FOR KEIL KRAFT KIT PRIZE.
10. 24" R.O.G. STICK SPECIAL RUBBER. (J)(SO). R.O.G. OFF EMERYO TABLE. PLASTIC PROPS.
11. JR. ALL FLY (NO GAS POWER).

ENTRY $3. FIRST EVENT. $1 ADDITIONAL EVENTS, $6 MAX. JR.,SR. FREE.

CD TOM MAJESTIC
3273 W. 129 St.
CLEVELAND, OH 44111
(216) 251-4176

INFO: RUSS BROWN
4909 N. SEDGEWICK
LYNDHURST, OH 44124
PH 382-4821





THE GREATER STORKVILLE AND DETROITENGESCHWADER FAC RHUBARB AT WPAFB, DAYTON OHIO

SUNDAY 20 SEPT. 1981 10AM- 5PM. ENTER MUSEUM FRONT GATE. OBSERVE TRAFFIC ROUTES.

1. PEANUT SCALE GHQ FACTORED POINTS X 0.1 BEST 3 FLIGHT TOTAL PLUS 3 FLIGHT TIMES.
2. FLYING ACES RUBBER SCALE.
3. FAC JUMBO RUBBER SCALE. OVER 30 INCH WINGSPAN WITH PILOT FIGURE.
4. FAC POWER SCALE FOR GAS, CO_2 PLUS 5 POINTS, OR ELECTRIC PLUS 10 POINTS.
5. MULTI-MOTOR FAC RUBBER SCALE.
6. EMERYO ENDURANCE
7. SHELL DASH . THREE FLIGHT RACE QUALIFIER.
8. GREVE. INLINE ENGINE PRE WAR RACE.
9. THOMPSON TROPHY PRE WAR RADIAL POWER RACE.
10. HANSEN HANDICAP POST WAR RACE FOR BIPLANE PLUS 10, FORMULA PLUS 5 FOR GEAR DOWN TYPE, OR UNLIMITED TYPES IN RACE FLOWN COLORS. BEST OF 3 FLIGHT FAC TIME POINTS.
11. WW I BIPLANE DOGFIGHT. FAC MASS LAUNCH.
12. WW II FAC COMBAT. MASS LAUNCH UNDER 30 INCH SPAN FAC COMBAT TYPES.

FLYING ACE CLUB RULES APPLY. FIRST PLACE PRIZES. '81 CARD.
OPEN $3; $1 EACH EVENT, $6 MAX. MASS LAUNCH EVENTS BEGIN AT 2 PM.

CD DAVE PISHNERY
29323 GRAND BLVD.
WICKLIFFE, OH 44092
(216) 943-2640

