

R/C
Soaring
D I G E S T

VOL. 3 No. 2

FEBRUARY 1986

LB-3

DESIGNED BY
A. LOWE AND P. BIRD

| | | |
|------|-----------------------------|-----------------------------------|
| WING | Section | 115" Modified Eppler 205 |
| | Area | 900.5 sq" or 6.25 ft ² |
| | Aspect Ratio | 14.5 - 1 |
| STAB | Span | 20.5" |
| | Area | 87 sq" |
| | Aspect Ratio | 5:1 |
| | % of Wing | 10.3% |
| FUSE | Overall Length | 52" |
| | Nose Cone | NACA 63 009 |
| | Fin Height | 9.25" |
| MASS | Unballasted | 86 oz. |
| | Ballasted | 123 oz. |
| | Unballasted Wing Loading | 13.92oz/ft. ² |
| | Max. Ballasted Wing Loading | 19.68oz/ft. ² |
| | Unballasted Surface Loading | 12.55oz/ft. ² |
| | Ballasted Surface Loading | 17.95oz/ft. ² |
| | Surface Area | 987 sq." or 6.85 ft. ² |

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YOU MAY BE SURPRISED, BUT I HOPE NOT DISMAYED, WHEN YOU DON'T SEE AN RCSD BOOTH AT THE WRAM SHOW IN WHITE PLAINS THIS YEAR. FACT OF THE MATTER IS THAT IT'S NOT ECONOMICALLY FEASIBLE! YEAH, I KNOW THAT WE ALL DO THINGS THAT AREN'T ECONOMICALLY FEASIBLE FOR MANY GOOD AND SUFFICIENT REASONS. SOARING ITSELF IS ONE SUCH EXAMPLE. LET ME EXPLAIN MY REASONS AGAINST THE BACKGROUND OF WHAT'S BEEN GOING ON AND WHAT WILL BE GOING ON IN MY LIFE DURING THE LAST FEW AND NEXT FEW MONTHS.

MOST OF YOU HAVEN'T YET HEARD THAT I SEVERED RELATIONS WITH MY EMPLOYER (73 FOR RADIO AMATEURS) ON DECEMBER 31ST. NO, I'M NOT OUT OF A JOB, BECAUSE I WILL BE GOING TO WORK FOR ANOTHER MAGAZINE - MODERN ELECTRONICS - AS EAST COAST U.S.A. - ADVERTISING SALES REPRESENTATIVE. BEST OF ALL, I WILL BE ABLE TO WORK FROM MY OWN HOME. 90% OF THE JOB WILL BE TELEPHONE SALES OR 'TELEMARKETING' AS THEY CALL IT IN THE MODERN IDIOM. THE OTHER 5% WILL BE TRAVEL - TO TRADE SHOWS AND TO VISIT ADVERTISERS ON THEIR OWN TURF. THESE PERCENTAGES WILL VARY FROM TIME TO TIME...WHICH BRINGS UP AN INTERESTING POSSIBILITY: THE OPPORTUNITY TO SPEND WEEKENDS FLYING WITH YOU HERE AND THERE UP AND DOWN THE COAST. I'M REALLY LOOKING FORWARD TO THAT.

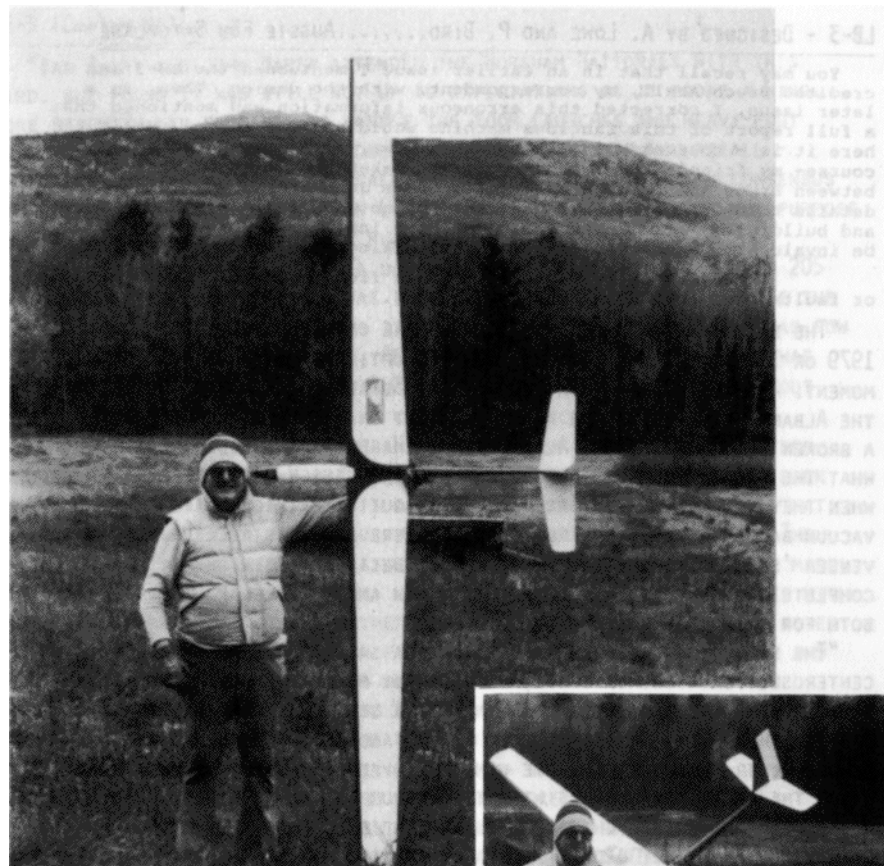
NEXT, YOU OUGHT TO KNOW THAT I AM MAKING PLANS FOR A PIPER CHEROKEE 140C - A 1970 MODEL - WITH FULL IFR CAPABILITY. THIS MAY COME ABOUT IN APRIL OR MAY...MAKING IT POSSIBLE TO FLY COMFORTABLY TO SOME OF THE SOARING MEETS. DON'T BE SURPRISED IF YOU GET A CALL FROM ME ASKING FOR A 'PICKUP' AT YOUR LOCAL AIRPORT!

THE NEW JOB AND THE POSSIBILITY OF BECOMING AN AIRCRAFT OWNER AGAIN MEAN TWO THINGS: BUCKLING DOWN TO WORK IN A HURRY AND SAVING EVERY LAST PENNY FOR IMPORTANT THINGS LIKE FLYING AND SOARING. NOW, HOW DOES THAT TIE IN TO WRAMS? SIMPLE: WE'VE FOUND OVER THE PAST COUPLE OF YEARS THAT THE WRAM SHOW HAS GREAT POSITIVE VALUES FOR RCSD. MEETING FRIENDS AND TALKING SOARING ARE THE MAIN ONES. TO SOME EXTENT THERE'S AN OPPORTUNITY TO SELL SUBSCRIPTIONS...BUT THAT MEETS EXPENSES (BARELY) AND REALLY TIES US UP BEHIND THE BOOTH AT TIMES WHEN WE SHOULD BE OUT MEETING PEOPLE AND WANDERING AROUND TALKING TO OTHER EXHIBITORS. THE COST OF THE BOOTH, PLUS TRANSPORTATION AND LODGING AND MEALS, MEAN THAT THE WEEKEND TURNS OUT TO BE A LOSS. NOW I KNOW THAT SOUNDS SELFISH, AND THAT MANY OF YOU WHO ATTEND THE TRADE SHOWS TO SEE THE EXHIBITS AND MEET YOUR FRIENDS, MIGHT NOT AGREE WITH MY REASONS; YET, FOR RCSD, I THINK THAT JUST NOW THE MONEY WOULD BE PUT TO BETTER USE. HERE, TOO, YOU ARE OWED AN EXPLANATION, BECAUSE IT IS - AFTER ALL - YOUR MONEY WE ARE TALKING ABOUT, NOT MINE.

AS PROMISED, I PLAN TO KEEP ON IMPROVING SOARING DIGEST IN 1986. THERE WILL BE MORE PAGES, MORE PICTURES, MORE PLANS, A BOOK OR TWO, AND OTHER PRODUCTS YOU WANT AND NEED. IN OTHER WORDS, EXPANSION ON A BROAD BASE TO ENCOMPASS OTHER, BUT RELATED, SOARING PRODUCTS. THE DECALS YOU RECEIVED WITH YOUR JANUARY ISSUE ARE MY GIFT TO YOU FOR YOUR FAITH. THEY ARE ALSO FOR SALE...AND THE PROCEEDS WILL BE A BETTER RCSD...SO HANG IN THERE WITH ME, READERS, AND TRUST MY JUDGEMENT.

HAPPY SOARING,

Ed Stewart



YE ED POSES WITH WINDSONG ON TYPICAL BALMY NEW ENGLAND FALL DAY...AHM! NOTE ASPECT RATIO OF PILOT IS NOT QUITE AS HIGH AS THAT OF THE WING.



HERE'S ANOTHER VIEW OF THE FAMOUS DODGSON WINDSONG CRADLED IN THE ARMS OF ITS SOMEWHAT TREPID PILOT.



BOB RONDEAU, GRAPHIC ARTIST EXTRAORDINAIRE AND HEAD OF RCSD'S DESIGN & LAYOUT DEPARTMENT, POSES WITH HIS ORIGINAL DESIGN SAQUILA. SHIP COMINES AQUILA FUSELAGE AND SAGITTA WINGS. HAS AILERONS AND FLAPS, RUDDER & ELEVATOR FUNCTIONS. IT FLIES VERY, VERY WELL AT 12 OZ./SQ.FT. NOTE THE RCSD DECAL LOGOS ON WINGS. THESE ARE AVAILABLE FROM RCSD.

You may recall that in an earlier issue I mentuoned the LB-3 and credited Bruce Abell, my correspondent, with the design. Then, in a later issue, I corrected this erroneous information and mentioned that a full report of this fabulous machine would be forthcoming. Well, here it is - courtesy of Phil Bird, Al Lowe, John Haren, and -of course- my friend Bruce. The report was taken from a taped interview between Bruce and Phil, plus a letter from John Haren amplifying some details that were a bit unclear. For anyone who contemplates designing and building a World Class sailplane, the insights obtained here will be invaluable. Thank you gentlemen for making this available to RCSD.

(What follows are notes taken from the tape. Any errors or faults are mine and mine alone...J.H.G.)

"THE BASIS FOR THE LB-3 WAS A SAILPLANE CALLED NEPELLE, BACK IN 1979 OR 1980, AND ALSO A MACHINE CALLED OPTIMA, WHICH HAD A LONG TAIL MOMENT. ALAN LOWE BECAME INTERESTED IN F3B ABOUT THAT TIME AND AFTER THE ALBANY NATS IN 1980 HE WENT TO A MEET IN VICTORIA AND CAME BACK WITH A BROKEN OPTIMA FUSELAGE. ALAN AND JOHN HAREN WERE TRYING TO DECIDE WHAT THE NEW SAILPLANE WOULD BE AND HOW THE DESIGN MIGHT BE ARRIVED AT, WHEN THEY READ MARTIN SIMONS' ARTICLE ABOUT SYMMETRICAL AIRFOILS AND VACUUM-BAGGED FOAM WINGS FROM ENGLAND WHERE EPOXY IS PULLED THROUGH THE VENEER 'SKIN'. IT WAS ABOUT THEN THAT A DECISION WAS MADE TO DESIGN A COMPLETE SYSTEM - TO INCLUDE BOTH A WINCH AND A SAILPLANE - OPTIMIZING BOTH FOR THE F3B TASKS.

"THE FIRST RESULT OF THEIR IDEAS WAS A SAILPLANE THAT EMPLOYED A FLAT CENTER SECTION ATTACHED TO THE FUSELAGE BY MEANS OF A DOWEL AND SCREW-BOLT SYSTEM. THE TIPS WERE PLUG-IN, AND A STEEL BAR RAN THROUGH THE CENTER OF THE WING ACTING AS BOTH A SPAR AND AS BALLAST, CARRIED BY CARBON-FIBER ARROW SHAFTS. THE WING EMPLOYED FLAPERONS FOR ROLL CONTROL.

IN THE EARLY EXPERIMENTS WITH THE VACUUM BAGGING TECHNIQUE, THEY DISCOVERED THAT TOO MUCH VACUUM PULLED THE Balsa AND FOAM STRUCTURE OUT OF SHAPE. SINCE THEY DIDN'T KNOW AT THAT TIME HOW MUCH TO USE, AND ALREADY HAD A SET OF SKINNED WINGS - ALBEIT A BIT OUT OF SHAPE - THEY DECIDED TO FORGE AHEAD WITH THOSE WINGS ANYWAY. THE OPTIMA FUSELAGE WAS USED EXCEPT FOR THE BROKEN REAR END AND ITS T TAIL. IN REPAIRING THE FUSELAGE, JOHN AND ALAN DECIDED ON A CONVENTIONAL TAIL. THEN, THEY HAD A Balsa NOSE SECTION TO GRAFT ON TO THE OPTIMA REAR END. THEY NOW HAD A MACHINE WITH RUDDER/ELEVATOR AND FLAPERONS. EARLY TESTS ON THE SLOPE SHOWED THAT IT FLEW VERY WELL; NEVERTHELESS, IT LACKED SOME THERMALLING ABILITY AND THE FUELAGE - ALTHOUGH GOOD IN CONCEPT - WAS, IN FACT, A HODGE-PODGE.

"THE NEXT STEP WAS TO USE THE FUSELAGE AS A PLUG TO MAKE A MOLD, AND TO LAY UP A NEW FIBERGLASS FUSELAGE FROM THE MOLD. IT WAS AT THIS STAGE THAT PHIL BIRD JOINED THE OTHER TWO AND WADED INTO THE CONSTRUCTION. PHIL HAD A MULTIPLEX ELECTRONIC MIXER, SO THEY OPTED TO USE THE FOLLOWING FUNCTIONS WITH THE NEW MACHINE TO AFFORD A FULL-SPAN VARIABLE CAMBER WING: CENTER SECTION FLAPS AND OUTER SECTION AILERONS. THE CORES WERE WHITE FOAM, AND THE VENEER/EPOXY LAYUP WAS VACUUM-BAGGED IN PLACE. THE CHIEF AIM WAS LIGHTNESS. A COUPLE OF THESE WERE BUILT, AND DURATIONS WERE NOT TOO BAD. THE FLAPS ALSO ACTED AS LANDING DEVICES IN ADDITION TO THE NORMAL IN-FLIGHT USE. A 5/8" PHENOLIC TUBE THROUGH THE WING, WITH A STEEL BAR INSERT, AGAIN SERVED AS BALLAST AND STIFFENING. AT THIS POINT PHIL SAYS THEY WERE STILL LEARNING.

"IAN AVERY AND JOHN HAREN ATTENDED THE HORSHAM NATIONALS WITH THIS BIRD, BUT FOUND IT WAS STILL NOT UP TO EXPECTATIONS AS IT BROKE A WING. MORE STRENGTH WAS REQUIRED TO HANDLE THE ZOOM LAUNCHES AND HEAVY-FOOT WINCH TECHNIQUES. THE SHIP WAS DUBBED THE LB-1 AND - IF YOU RECALL - STILL FEATURED A FULLY SYMMETRICAL AIRFOIL SECTION. IT WAS THE CONSENSUS OF BIRD/LOWE/HAREN/AVERY THAT AN EPPLER 205 WOULD BETTER SERVE THE PURPOSE AS WOULD A TAPERED, RATHER THAN PLANK, WING PLANFORM.

"THE NEXT ITERATION CARRIED A DOUBLE-TAPERED WING AND THE EPPLER 205 PROFILE, AND THE TOP SHEETING WAS INCREASED TO 3/32" THICKNESS WHILE THE BOTTOM SKIN WAS 1/16" THICK. THE STEEL BAR IDEA WAS RETAINED, BUT WAS NOW CARRIED IN A 3/4" ALUMINUM TUBE. AN IMMEDIATE IMPROVEMENT IN SPEED WAS NOTED AND THE FULL POWER OF THE AUSSIE M-45 WINCH WAS ABSORBED WITHOUT STRUCTURAL FAILURE. ALL-UP WEIGHT CAME TO 60 OUNCES.

"THE NEXT IMPROVEMENT WAS THE INCORPORATION OF A MARJALI-TYPE FIBER-GLASS NOSE CONE THAT WOULD KEEP FLOW AT THE FUSELAGE FULLY LAMINAR BACK TO THE WING LEADING EDGE. THIS IS A PLUG-IN, OR SLIP-ON TYPE SHELL THAT COVERS THE BASIC UNDERLYING STRUCTURE, AND IS VERY CLOSELY FITTED. THE FUSELAGE PLUG WAS TURNED ON A LATHE BY HAROLD STEVENSON, MOLDS WERE MADE, AND A NEW FIBERGLASS FUSELAGE WAS LAYED UP. THE SAME WINGS WERE USED WITH THE NEW FUSELAGE, AND STILL FURTHER IMPROVEMENT IN SPEED TIMES WAS NOTED.

"NEXT, HALF A DOZEN WING PLAN FORMS (OUTLINE SHAPES) WERE TRIED, AND ALAN LOWE CHANGED THE AIRFOIL TO AN EPPLER 193 FOR THE FOUR-LAP SPEED RUNS (WHICH HAD BEEN TWO-LAP RUNS BEFORE). IN 1983 THE MODEL WAS TAKEN TO JERILDERIE, BUT THEY BROKE THE WING ON TOP OF THE LAUNCH. A NEW, AND EVEN STRONGER WING WAS PREPARED - STILL WITH THE E193 PROFILE - AND USING NEWLY DESIGNED BALLAST TUBES, AND THE TEAM BROKE 24 SECONDS ON 4-LAP SPEED. IN ANSWER TO A QUESTION PUT BY BRUCE ABELL DURING THE TAPED INTERVIEW: 'WHAT ARE THE RELATIVE MERITS OF THE E193 AND E205 IN YOUR OPINION?' PHIL'S ANSWER WAS THAT THEY AREN'T MUCH DIFFERENT, EXCEPT THAT THE E205 IS EASIER TO BUILD. THE NEXT VERSION OF THE WING CARRIED A FULL-SPAN SPAR CONSISTING OF FIVE PLYS OF 1/8" MATERIAL LAYED UP WITH EPOXY, AND -AFTER VACUUM BAGGING - A REAL EFFORT WAS MADE TO IMPROVE THE FINISH. AT ABOUT THIS POINT IN TIME, PETER ABELL (BRUCE'S SON, AND AN F3B TEAM CONTENDER IN HIS OWN RIGHT) JOINED THE TEAM OF DESIGNER-BUILDER-FLIERS.

"PHIL IS CAREFUL TO EMPHASIZE THAT PILOT ABILITY IS A TREMENDOUSLY IMPORTANT FACTOR, SO THE WATCHWORD FROM THEN ON WAS PRACTICE AND STILL MORE PRACTICE. THEN, HAROLD STEVENSON BUILT THE NEW M-50 WINCH, BETTERING THE LAUNCH HEIGHTS AND SPEED TIMES STILL FURTHER. AGAIN, THE COMBINATION OF PILOT/SAILPLANE/LAUNCHING MEANS WAS STRESSED. ALL ARE OF CRITICAL IMPORTANCE TO WORLD CLASS F3B COMPETITION.

"IN 83-84 THEY ATTENDED THE RICHMOND NATS, AND PUT UP THE BEST PERFORMANCE TO DATE. NOW, ALL OF THEM WERE FLYING ESSENTIALLY THE SAME SAIL-PLANE DESIGN, WITH INDIVIDUAL ONES DIFFERING ONLY IN RADIO EQUIPMENT. AT RICHMOND, PETER ABELL TOOK 3RD, ALAN 4TH AND PHIL 6TH. ALL THAT WAS NEEDED NOW WAS MORE PRACTICE.

"IN 1984, THEY WENT TO MELBOURNE. PHIL BIRD WAS 2ND, ALAN LOWE 4TH, AND PETER ABELL DOWN A BIT BECAUSE OF A DOWNWIND LAUNCH THAT PUT HIM OUT OF THE FRONT-RUNNING FLIERS. AFTER MELBOURNE, AND ON THEIR RETURN HOME, ALAN WAS FORCED TO RETIRE FROM ACTIVE COMPETITION. AT THIS POINT ONLY 7 MONTHS REMAINED UNTIL THE TEAM SELECTION TRIALS FOR THE WORLD

MORE LB-3...

CHAMPIONSHIPS IN VICTORIA - APRIL OF 1985.

"PRACTICE CONTINUED WITH MORE EFFORTS TO CARVE SECONDS OFF THE SPEED TIMES. SMOOTHER WINGS, LESS BALLAST, AND INVERTED TURNS BECAME THE ORDER OF THE DAY. WHILE BALLAST DOES IMPROVE STRAIGHT-LINE SPEED, IT ALSO MAKES THE TURNS WIDER, AND WHEN THERE ARE FOUR OF THEM, TIME SUFFERS ACCORDINGLY. THE AIRFOIL WAS MODIFIED STILL FURTHER BY TILTING THE FOAM BEFORE SKINNING, AND USING A STILL HEAVIER BOTTOM SKIN. PETER ABELL BUILT A BETTER SAILPLANE, AND SPEED TIMES CAME DOWN TO 19.4 SECONDS...EVEN WITH ONLY 1/2 OF THE NORMAL BALLAST. PRACTICE, PRACTICE, PRACTICE WENT ON NEARLY EVERY DAY OF EACH WEEK.

"JOHN HAREN WAS GIVEN AN ACTUAL TRACING OF THE EPPLER PROFILE CHANGES BROUGHT ABOUT BY THE 'TILTING' METHOD DURING SKINNING AND VACUUM-BAGGING, AND WAS ASKED TO TRY TO MATCH WHAT PHIL HAD DONE TO THE ACTUAL WING. AS A RESULT OF THIS, RALPH LEARMONT BUILT NEW CORES TO THE HAREN/BIRD PROFILE. TWO-OUNCE GLASS CLOTH WAS USED ON THE WING BOTTOM TO HELP PREVENT SCARRING ON THE ROUGH AUSTRALIAN GROUND. THE C.G. WAS MOVED A BIT FORWARD TO HELP THE TURN RADIUS SLIGHTLY AND TO HELP RECOVER MORE QUICKLY FROM THE TURNS. IT WAS FOUND THAT A LARGER VERTICAL TAIL HELPS THE TURN, SO A NEW AND LARGER RUDDER AND FIN WERE BUILT AND INSTALLED. THEY FOUND THAT IT WAS TERRIBLY DIFFICULT TO CUT GOOD CORES ON TAPERED WINGS... SO THEY TAPERED THE FOAM CUTTING WIRE ITSELF! THEY BUILT THE E205 AIRFOIL WINGS FLAT ON THE WORKBENCH, USING THE FOAM BEDS FOR THE TOP SURFACE ONLY.

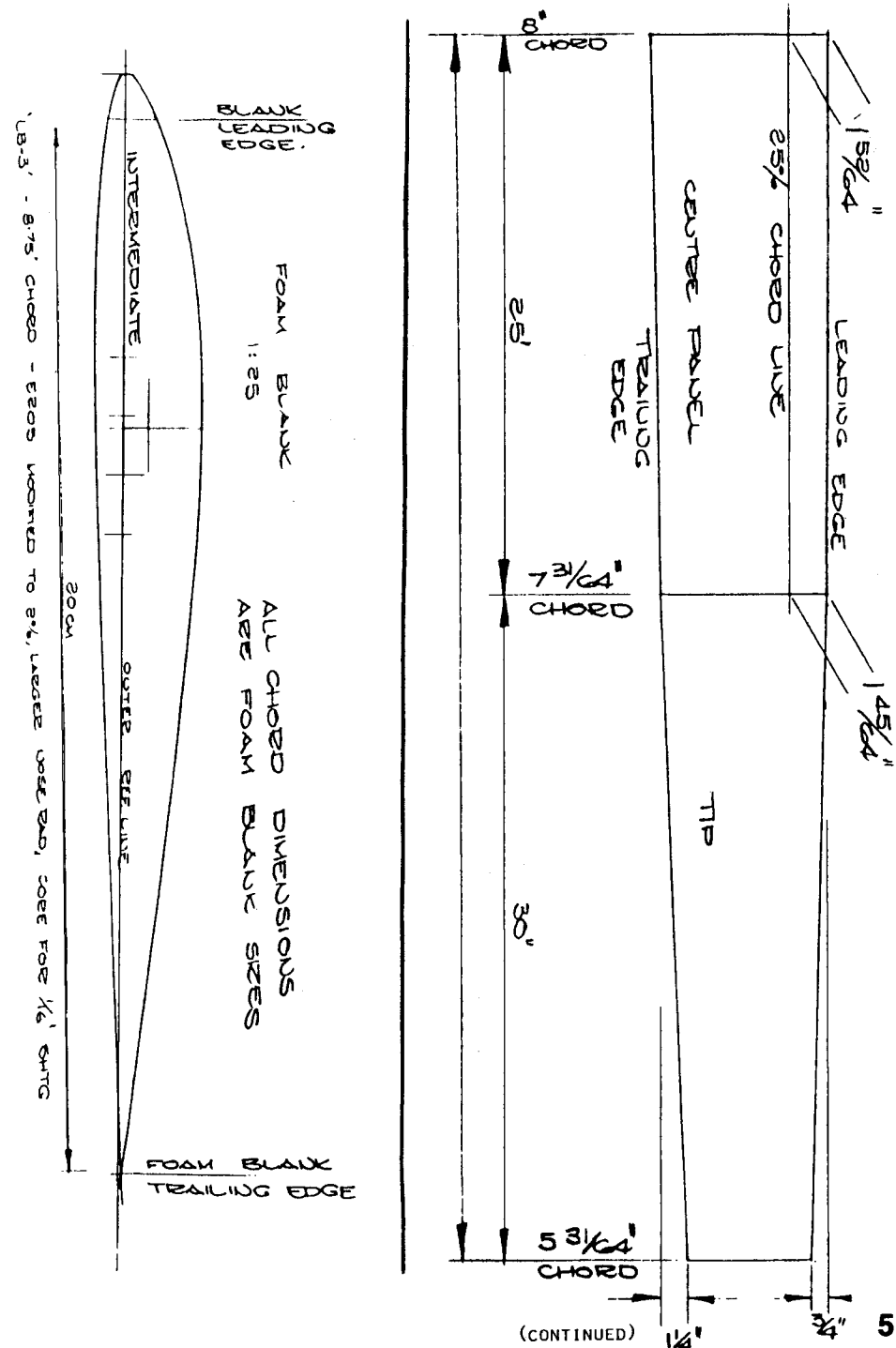
"BY NOW, THE RADIO HAD BECOME MULTIPLEX TRANSMITTER AND RECEIVER, WITH SANWA #401 SERVOS FOR AILERONS AND SANWA #351 SERVOS FOR SPOILERS. HERE IT OUGHT TO BE NOTED THAT THE FLAPS HAD BEEN GIVEN UP SOME TIME BEFORE, AND A PLAIN VANILLA WING WITH AILERONS AND SPOILERS WAS ADOPTED. A SANWA #401 WAS ALSO USED AS A RUDDER SERVO. THE WING INCORPORATED A 40" LONG ALUMINUM TUBE TO ACCOMMODATE A STEEL BALLAST BAR.

"THE WORLD CHAMPS AT LAST; ON THE FIRST DAY AT WAIKERIE, THE WINDS WERE ABOVE THE FAI LIMIT, SO THE CONTEST WAS SCRATCHED. HAROLD STEVENSON WORKED RIGHT UP TO THE LAST DAY BEFORE GOING TO THE CHAMPS. THE TEAM AND HELPERS NOW CONSISTED OF REDMOND AND HIS GIRL FRIEND LOUISE; IAN AVERY, JOHN HAREN, AND OF COURSE PETER ABELL. JOHN AND BRETT WORKED LIKE SLAVES AT THE TURNAROUNDS TAKING THE PEGS OUT - AND REPLACING THEM - IN THE ROCK-HARD GROUND. F3B IS NOT A 'LONERS' SPORT. IT REQUIRES TEAMWORK.

"HERE ARE SOME DETAILS OF THE LATEST LB-3 FOR THE INTEREST OF ANYONE WHO MIGHT WANT TO BUILD A SIMILAR MACHINE. THE FUSELAGE USES 8-OZ. FIBERGLASS CLOTH FULL LENGTH. A DOUBLER OF 4-OZ. GLASS CLOTH IS THEN LAYED IN AS FAR AS THE WING TRAILING EDGE, AND THE TAILFIN IS REINFORCED WITH THE SAME CLOTH. W.E.S.T. EPOXY IS USED AND THE FUSELAGE HALVES ARE TAPE JOINED. (THE WET EPOXY SATURATION TECHNIQUE - OR W.E.S.T. SYSTEM IS A TRADEMARK OF THE GOUËGEON BROTHERS...JHG). THE WINGS CONSIST OF A MAIN SPAR TUBE MADE FROM 5/8" 2024 T3 ALUMINUM FOR 25 INCHES, TAPERING TO A 1/2" 2024 T3 ALUMINUM TUBE FOR 16 INCHES. THE FIVE-PLY WOOD SPAR EXTENDS A FULL 48 INCHES BEHIND THE TUBE. THIS CONSISTS OF TWO LOTS OF 1/16" FIVE-PLY WITH 3/4-OUNCE GLASS CLOTH IN BETWEEN (10 LAMINATIONS IN ALL). EACH PANEL WEIGHS 25 OUNCES. THE CORES AND HOLES FOR THE SPARS WERE CUT BY RALPH LEARMONT.

"WIRES ARE LAYED IN THE WING CORES BEFORE SKINNING. 1/16" TOP AND BOTTOM SKINS HAVE BEEN REVERTED TO, BUT THERE IS CLOTH BOTH BETWEEN THE Balsa AND THE FOAM, AS WELL AS AN OUTER SKIN OVER THE Balsa SKIN. LEADING EDGES

ARE 1/4" x 1/8" SPRUCE, AND LITERALLY HOURS WERE SPENT CUTTING OUT THE AILERONS FROM THE FIBERGLASS/Balsa/FOAM STRUCTURE.



(CONTINUED)

WHAT OF THE FUTURE? PHIL SAYS 'FLY, FLY, FLY...'. SURE, THERE ARE SOME REFINEMENTS THAT CAN BE MADE, BUT THE TEAM IS WELL SATISFIED WITH THE BASIC SAILPLANE. ONE THING THEY MAY TRY IS ALUMINUM TUBES FOR THE AILERON HINGES, A LA DECKER. IT IS POSSIBLE THAT TENSION DEVICES MAY BE INCORPORATED IN THE WINCH LINES TO HOLD THEM ABOUT 2 FEET OFF THE GROUND AT THE TURNAROUND AND TO PREVENT THE USE OF TOO MUCH LINE. PHIL THINKS IT MIGHT BE A GOOD IDEA TO PLACE THE WINCH FOOT SWITCH NEAR BASE A FOR THE SPEED RUN. A FISHING ROD BLANK PLACED JUST OUTSIDE OF THE COURSE TO SIGHT ON COULD ALSO BE HELPFUL.

"THE GERMAN TWO-SPEED WINCH WITH A STRAP OF STEEL FOR A RESISTOR LOOKS PROMISING - BUT VERY EXPENSIVE.

"I THINK THE AMERICAN (CALIFORNIA...J.H.G.) WING SECTIONS ARE TOO THICK; THERE'S NO NEED FOR IT. ***

JOHN HAREN'S COMMENTS IN A LETTER TO BRUCE ABELL:

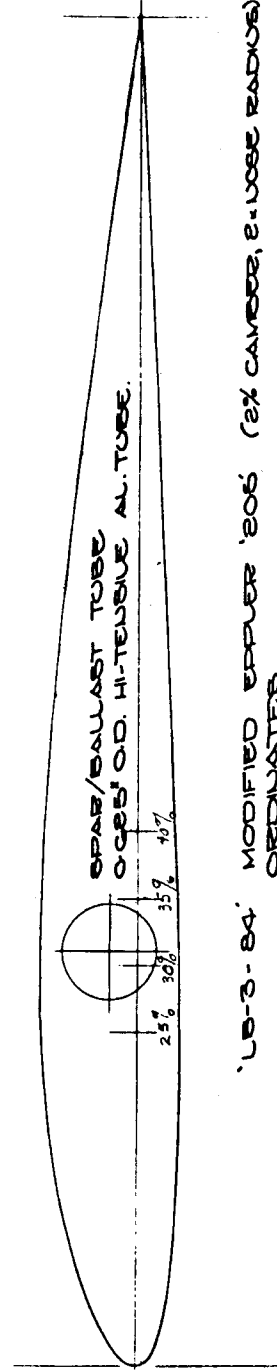
"THE SECTION SHOWN IN YOUR ARTICLE ON THE LB-3 IN AIRBORNE IS ACTUALLY THE 'CORE' SECTION, OR THAT REQUIRED FOR THE FOAM CUTTING TEMPLATES WHEN SKINNING WITH 1/16" Balsa. (ALSO, INCIDENTALLY, THE SECTION SHOWN IN RCSD A COUPLE OF MONTHS AGO...SEE THIS MONTH FOR COMPLETE DETAILS..JHG) DUE TO THE URGENCY AFTER THE SELECTION TRIALS, THE ACTUAL SECTION WAS NEVER DRAWN. THE SECTION SHOWN IS FULL SIZE FOR THE LB-3 ROOT SECTION. IT IS NOMINALLY 8.75" BUT ACTUALLY CLOSER TO 8.885" ON THE ORIGINAL, AND WAS DEVELOPED GRAPHICALLY FROM THE ORIGINAL CAMBER LINE AS MODIFIED TO 2%, USING THICKNESS FORM CIRCLES AS PER MARTIN SIMONS. APART FROM THE REDUCED CAMBER, THE NOSE RADIUS WAS DOUBLED AS COMPARED TO A STANDARD E205 POSSIBLY GIVING A MORE DOCILE (BUT EARLIER?) STALL AT THE EXPENSE OF SOME ULTIMATE SPEED. THE NOSE RADIUS INCREASE WAS A PHIL BIRD MODIFICATION.

THE SPAR/BALLAST TUBE LOCATION WAS AT APPROXIMATELY 32% - JUST IN FRONT OF THE NOMINAL C.G. OF ABOUT 35% TO GIVE BETTER CONTROL (TAIL POWER) AT SPEED. THE OTHER LINES INTERSECTING THE CHORD LINE ARE 25%, 30%, 35%, AND 40% CHORD POSITIONS.

"AS A MATTER OF INTEREST, THE ORIGINAL DRAWINGS FOR THE E205 STANDARD AIRFOIL USED FOR THE EXERCISE ARE STILL TAPED TO THE DRAWING BOARD UNDER A BACKING SHEET...WAITING TO BE MODIFIED INTO AN E205 WITH 1.5% CAMBER FOR PETER ABELL. REGARDS, JOHN" ***

IN A RECENT LETTER FROM BRUCE ABELL, HE TOLD ME THAT PHIL BIRD SAYS HE SPENDS SIX WEEKS OF SPARE-TIME WORK TO GET THE FINISH HE WANTS ON THE WING SURFACES. HE ALSO SAYS THAT HE'S COMING MORE INTO FAVOR OF AILERONS ON SAILPLANES (RATHER THAN RUDDER-ONLY) PLUS ELEVATOR, AS THEY CAN BE BUILT WITH LOWER STABILITY FACTORS TO GIVE MAXIMUM VISUAL SIGNALS (IN LIFT) AND TO HELP KEEP THE NOSE UP IN TURNS. AS WE ALL KNOW, WHEN THE BANK ANGLE INCREASES, THE WING LOSES LIFT AND THE RUDDER BEGINS TO ACT AS AN ELEVATOR - GIVING NOSE DOWN PITCH CONTROL. A CO-ORDINATED ELEVATOR/AILERON TURN WOULD TEND TO KEEP THE NOSE UP IN A TURN MUCH BETTER. I'VE GOT A 100" WING DESIGNED AND THINK I'LL MARRY IT TO MY (AUSTRALIAN) WINDSONG FUSELAGE...COULD BE INTERESTING. BRUCE"

Editor's Notes: All good grist for the mill, Bruce. RCSD wants to thank you and Phil for the fine interview, and we send compliments to the entire Aussie crew/team. Keep the stuff, coming, mate. G'Day. JHG



'LB-3-84' MODIFIED EFFUER '806' (2% CAMBER, 2x NOSE RADIUS) ORDINATE

| | | | | | | | | | | | |
|-------------|------|------|------|------|------|------|------|------|------|------|------|
| STATION - % | 1.5 | 2.5 | 5.0 | 7.5 | 10 | 20 | 30 | 40 | 50 | 60 | 70 |
| UPPER - % | 2.01 | 2.42 | 3.02 | 4.3 | 5.22 | 6.57 | 7.57 | 7.03 | 6.29 | 5.29 | 4.12 |
| LOWER - % | 1.52 | 1.52 | 2.24 | 2.64 | 2.82 | 3.24 | 3.14 | 2.84 | 2.48 | 1.91 | 1.22 |

| | | | |
|-------------|------|------|-----|
| STATION - % | 20 | 50 | 100 |
| UPPER - % | 2.30 | 1.55 | 0 |
| LOWER - % | 1.04 | 0.51 | 0 |

Surface Loading in light to mod. wind task A = 12.55oz.
 Surface Loading in light to mod. wind task B = 14.59oz.
 Surface Loading in light to mod wind task C = 16.49oz.

The original model was inspired by an article by Martin Simmons in an AUSTRALIAN RADIO CONTROL MODELLER magazine.

FUNCTIONS

All flying Stabilizer.

Ailerons with electronic differential and mixing.

Rudder coupled to ailerons

Spoilers.

The present model although basic aerodynamically has been developed by the Try-it-and-see-if-it-works method.

Spar. Cloth under and over balsa sheeting.
 Wing strength comes from 2024T.3 Aluminium tubing, Ply./Glass/Epoxy

Wing section developed from an incorrectly built wing that proved superior to a standard E205.

Thanks for help in developing this model go to H. Stevenson, J. Haren, P. Abell and I. Avery.

RCSD DECALS

RC SOARING DIGEST IS NOW OFFERING PEEL-AND-STICK DECAL SHEETS FOR YOUR SAILPLANE, FIELD BOX, BUMPER, OR WHEREVER YOU WANT TO BE KNOWN AS A SOARING ENTHUSIAST AND/OR READER OF YOUR FAVORITE (I HOPE) RC SOARING NEWS LETTER. ON ONE DECAL SHEET YOU GET ONE 7 $\frac{1}{4}$ " x 2-3/4", ONE 4 $\frac{1}{2}$ " x 1-3/4", AND A TINY 1" x 2" DECAL. YOU ALSO GET SOME PLACARDS THAT INCLUDE "2-METER CLASS", "STANDARD CLASS", "UNLIMITED CLASS", AND "MODIFIED STANDARD", AS WELL AS MUCH SMALLER ONES THAT ALLOW YOU TO IDENTIFY TRANSMITTER, RECEIVER AND SERVO FUNCTIONS. YOU MAY BUY AS MANY OF THE DECAL LOGOS AS YOU WANT. PRICES ARE \$1.50 EACH, FOUR FOR \$5.00, OR 10 FOR \$10.00. USE THEM OR GIVE THEM TO YOUR FRIENDS.

SEND TO RCSD, Box 269, PETERBOROUGH, NH 03458 FOR YOUR DECALS.

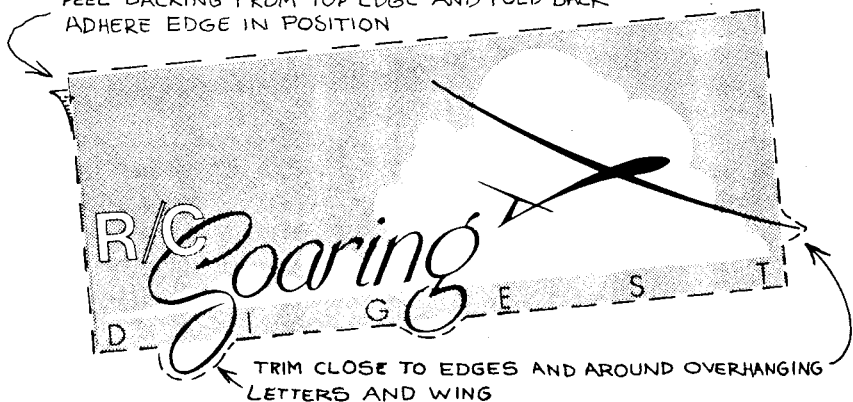
USING RCSD DECAL SHEETS

EACH LOGO OR WORD CAN BE CUT OUT OF THE SHEET USING SCISSORS OR A SHARP X-ACTO KNIFE. THESE DECALS ARE DARK BLUE (PRINTING AND LETTERING) AND LIGHT BLUE (SKY) ON TRANSPARENT PLASTIC.

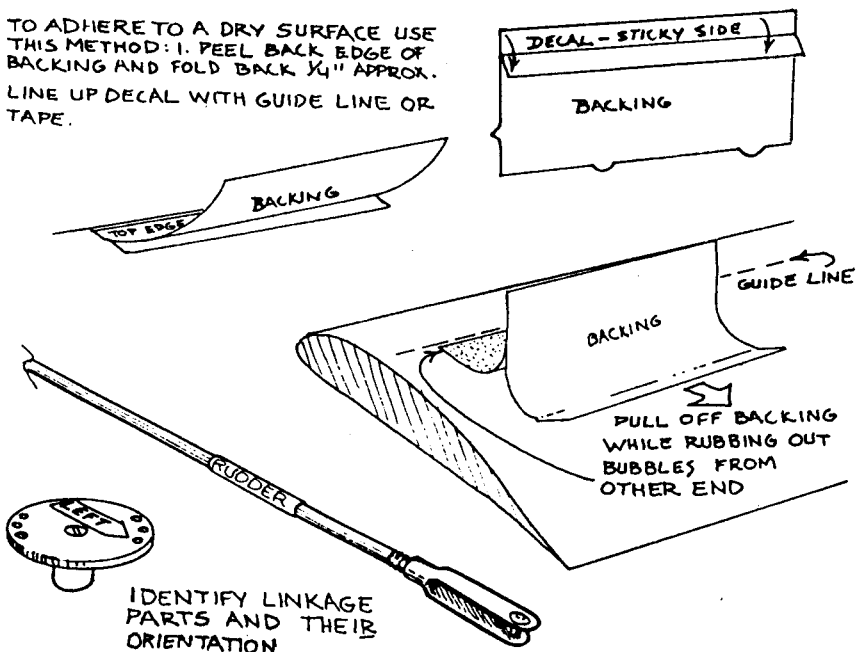
WHEN YOU GET READY TO APPLY THE DECAL TO THE WING OF YOUR SAILPLANE, SPRAY A LIGHT COATING OF FANTASTIC, 407 OR SIMILAR LIQUID ON THE AREA OF THE WING WHERE YOU WANT THE DECAL TO BE LOCATED. THIS ALLOWS YOU TO SLIDE IT AROUND AND POSITION IT EXACTLY WHERE YOU WANT IT. THEN, WHEN IT IS IN PLACE, JUST BLOT THE SURFACE (DAB, DON'T WIPE) WITH A PAPER TOWEL OR SOFT CLOTH, GRADUALLY SQUEEZING OUT THE LIQUID AND SMOOTHING THE DECAL DOWN. AS IT BEGINS TO STICK, THEN YOU CAN WIPE GENTLY. A PEEL-AND-STICK DECAL IS VERY EASY TO USE, BUT WHEN IT IS APPLIED TO A DRY SURFACE, IT HAD BETTER BE EXACTLY RIGHT, BECAUSE YOU CAN'T MOVE IT ONCE IT'S DOWN. THE LARGEST LOGO ON THE SHEET CAN BE USED FOR A LARGE SAILPLANE, MEDIUM LOGO FOR A 2-METER FOR EXAMPLE, AND THE TINY LOGO IS JUST RIGHT FOR A HAND-LAUNCHED SAILPLANE. YOU'LL FIND THE DECALS ATTRACTIVE AND ATTENTION-GETTING BECAUSE THEY ARE HANDSOME AND LOOK GREAT ON YOUR SAILPLANE.

JIM GRAY

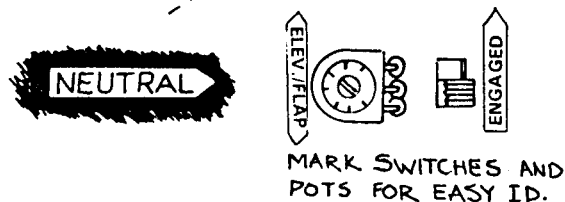
PEEL BACKING FROM TOP EDGE AND FOLD BACK
ADHERE EDGE IN POSITION



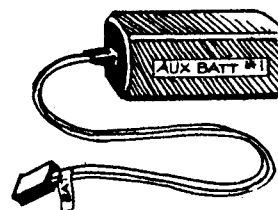
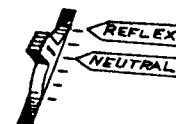
TO ADHERE TO A DRY SURFACE USE THIS METHOD: 1. PEEL BACK EDGE OF BACKING AND FOLD BACK $\frac{1}{4}$ " APPROX. LINE UP DECAL WITH GUIDE LINE OR TAPE.



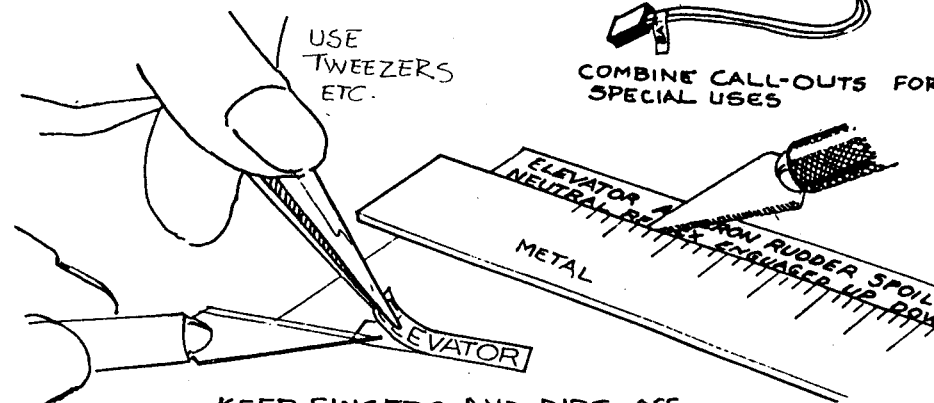
MAKE DIRECTION INDICATORS WITH POINTED CUT-OUT CAN BE USED TO SHOW TRIM ADJUSTMENT AND THROW DIRECTION



USE POINTED CALLOUTS TO MARK TRIM POSITIONS ON TX.



COMBINE CALL-OUTS FOR SPECIAL USES

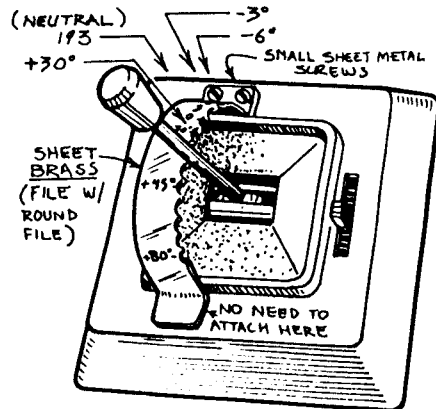
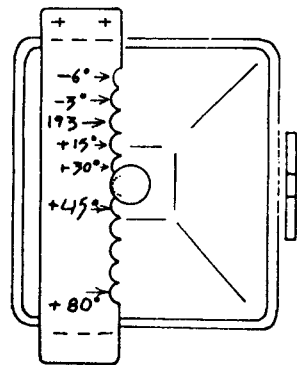
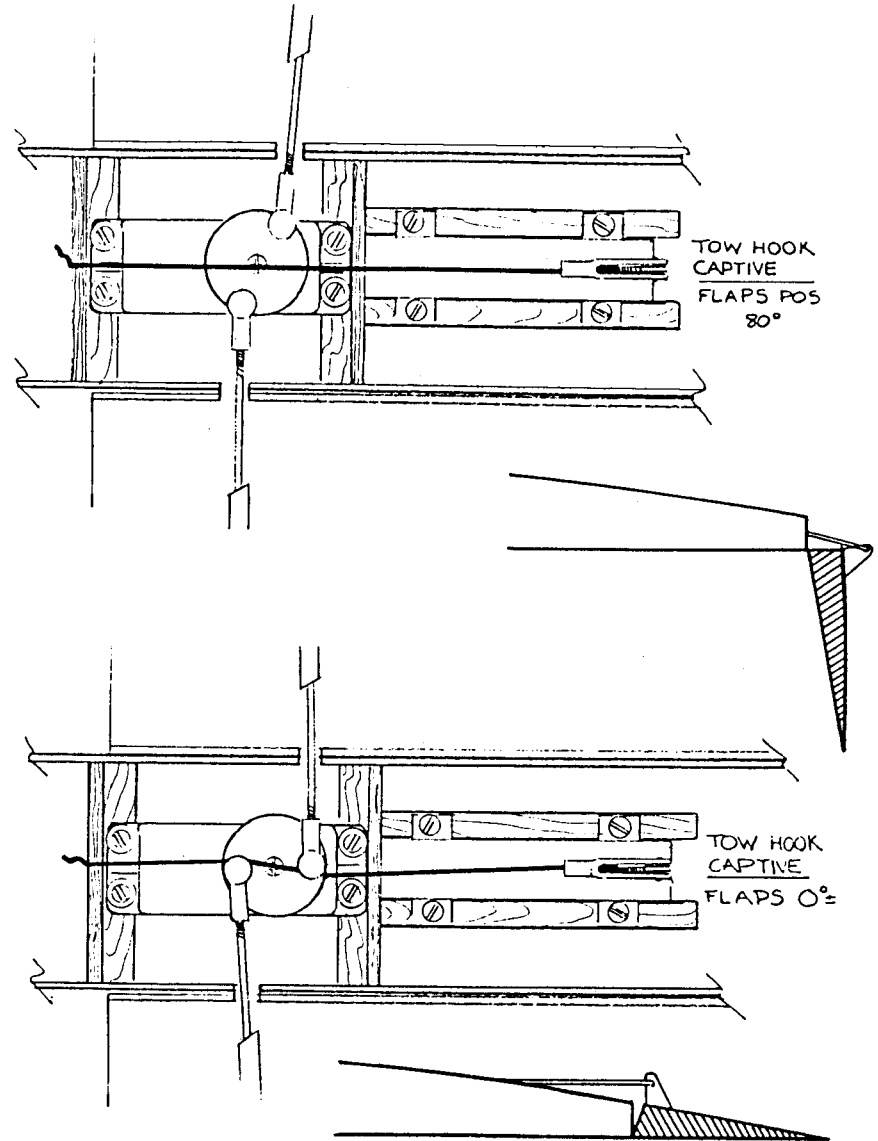
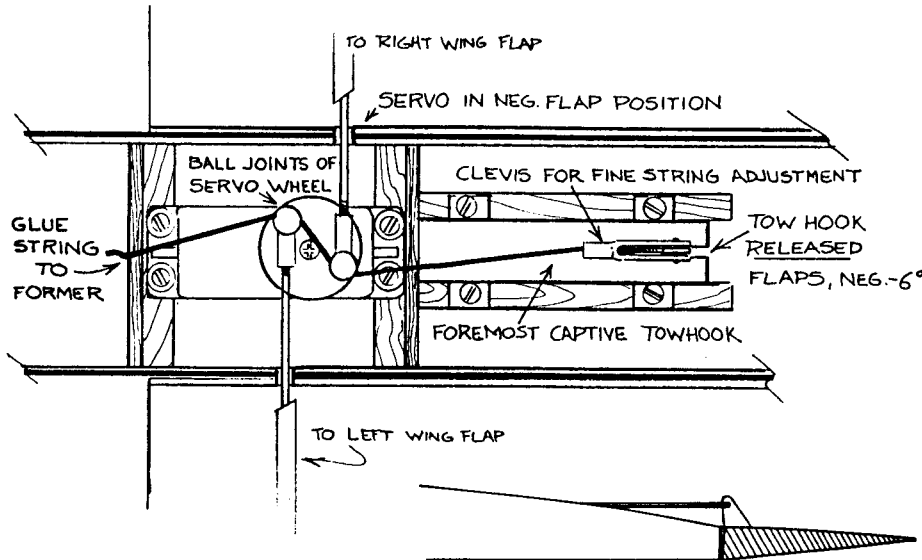


KEEP FINGERS AND DIRT OFF BACK (STICKY SIDE) OF DECAL

CAPTIVE TOWHOOK RELEASE SYSTEM.....CARL LORBER

I remember Carl Lorber from the days when the Eastern Soaring Society was active and Carl Maroney edited Sailplane. Carl Lorber used to come to Harris Hill for those soaring meets we had there in the early 70's... and he always had some new gadget or idea to show and fly. Once again, he is up to his old tricks, and gives us a really neat system for a towhook release that he uses on his ANTARES. Carl says it's very simple, has been in use for over a year, works every time and has never needed adjustment! Here's how it's used with the ANTARES:

"NEAR THE END OF THE TOW I AM USING 15 DEGREES OF POSITIVE FLAPS, I PUSH ON THE WINCH FOOT SWITCH, AND WHILE THE SPEED BUILDS UP I SLOWLY CHANGE THE FLAPS FROM POSITIVE 15 DEGREES TO NEGATIVE 6 DEGREES. AT A NEGATIVE 3 OR 4 DEGREES THE TOWHOOK RELEASES, AND THE ANTARES CLIMBS VERY HIGH ON NEGATIVE FLAPS WITHOUT ANY DOWN ELEVATOR NEEDED. AFTER THE (EXTRA) SPEED HAS BURNED OFF, I CAN RETURN TO ZERO DEGREES FLAP FOR CRUISE, 3 DEGREES POSITIVE FOR CIRCLING, AND 80 DEGREES POSITIVE FOR SPEED BRAKES AND LANDING."



NOTICE HOW HE HAS MODIFIED HIS KRAFT KPS-5 TRANSMITTER FOR THE FLAP SYSTEM ON THE ANTARES. A SHEET BRASS STRAP WITH DETENT NOTCHES IS FORMED AND SCREWED WITH A SMALL SHEETMETAL SCREW TO THE THROTTLE STICK HOUSING. SET UP IN THIS MANNER, CARL'S ANTARES CAN BE FLOWN WITHOUT EVER LOOKING AT THE TRANSMITTER CONTROL TO SEE WHERE THE FLAPS ARE SET. HE SAYS YOU CAN CHANGE SETTINGS BY FEEL AND ALWAYS BE VERY ACCURATE IN SMALL INCREMENTS OF ADJUSTMENT. NOTICE ALSO THAT THE TRIM ADJUSTMENT ALLOWS VERY FINE SETTING VARIATIONS.

CONTROLLING HORIZONTAL STABILIZER GAP AND WOBBLE (BEST DONE WHILE BUILDING THE SAILPLANE):

1. MAKE THE STAB PIVOT AND DRIVE TUBES 13/16" LONGER THAN THE WIDTH OF THE FIN THROUGH WHICH THEY PASS.
2. FINISH YOUR SAILPLANE
3. MAKE FOUR 3/16" ROOT RIBS; FACE TWO OF THEM WITH 1/32" PLY ON WHAT WILL BE THEIR OUTBOARD FACES (LEFT & RIGHT); MAKE TWO MYLAR SHIMS, USING MONOKOTE BACKING MATERIAL; DRILL ALL TO SUIT TUBES
4. ASSEMBLE THE RIBS ON THE TUBES: PLY/BALSA RIB/FIN/BALSA RIB/PLY
5. INSTALL THE STAB HALVES AND FLY; MARK CORRECT TRIM
6. DISASSEMBLE STAB; GLUE BALSA RIB WITH PLY FACING TO FIN AT THE PROPERLY-MARKED 'TRIMMED' POSITION. DO NOT GLUE THESE TO THE TUBES; RELIEVE RIB FOR THE DRIVE TUBE ON EACH SIDE SO IT DOES NOT BIND
7. ASSEMBLE BALSA RIBS: RIB/SHIM/FIN ASSEMBLY/SHIM RIB
8. GLUE RIBS TO TUBES, NOT TO FIN. REMOVE SHIMS
9. INSTALL STAB HALVES AND TAPE THEM TO AND AROUND RIBS

RESULT: THE STAB HALVES CANNOT MOVE APART BECAUSE THEY ARE TAPED; THE FIN/STAB GAP IS NOW FIXED AT A MINIMUM, AND THE STAB WILL HAVE LESS TENDENCY TO WOBBLE BECAUSE THE PIVOT TUBE HAS A MUCH LARGER BASE TO BEAR ON.

CUTTING STRIPS FOR TAPERED COMPONENTS:

WHEN CUTTING CAP STRIPS, STAB RIBS, OR OTHER PIECES THAT GLUE INTO A TAPERED ASSEMBLY, ALWAYS START AT THE LARGEST END...AND IF YOU CUT A PIECE THAT'S TOO SHORT, YOU CAN USE IT ON THE NEXT SHORTER ITEM. OTHERWISE, YOU GET SCRAP.

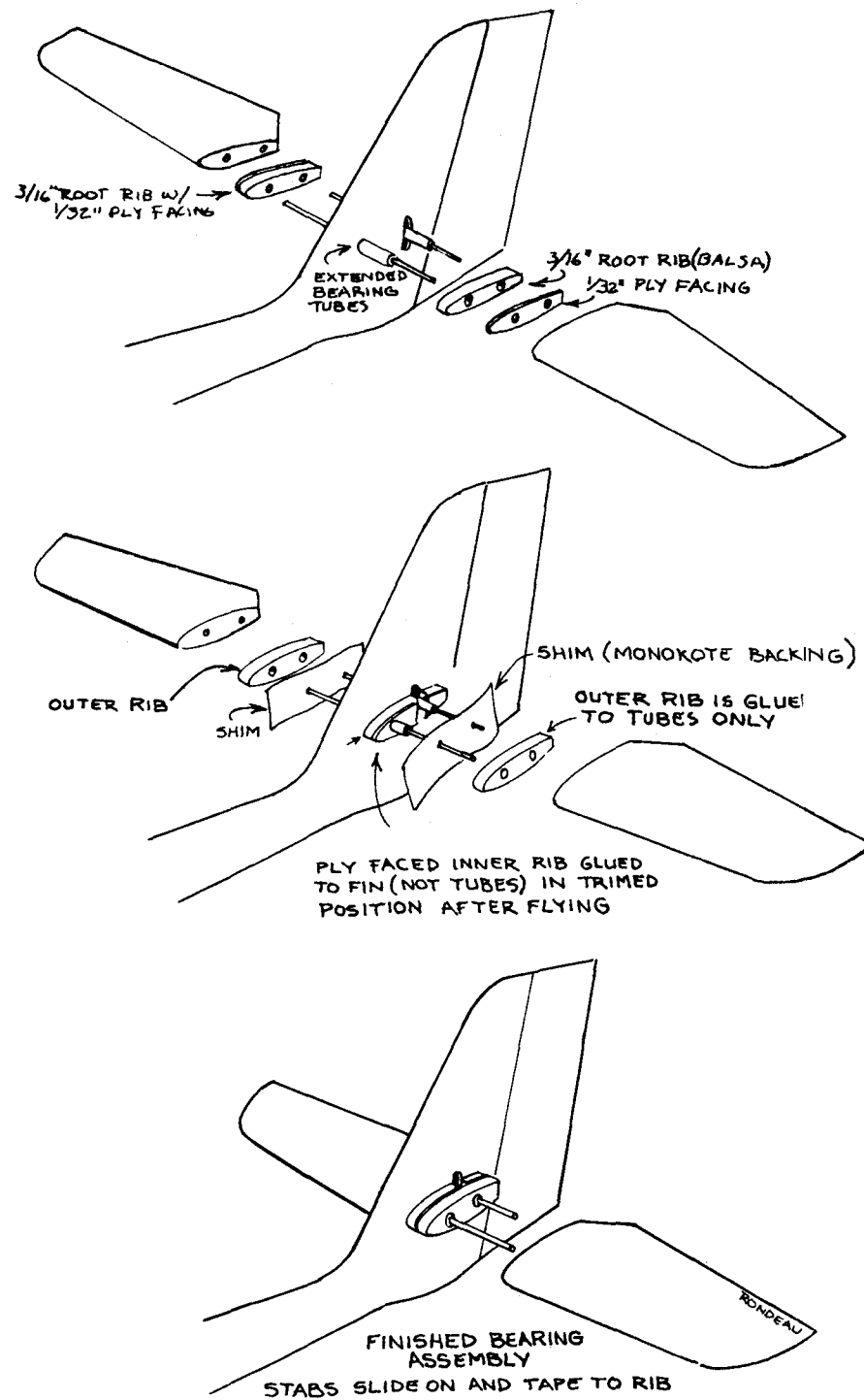
TRUE CONFESSIONS OF A GLIDER GUIDER:.....ERNIE CURRINGTON

1. A GOOD OL' FLYING BUDDY OF MINE WAS DEMONSTRATING A GLIDER AT AN R/C POWER FUN FLY. ONE OF THE MEMBERS CAME OVER AND SAID: "HEY, WHAT KIND OF MUFFLER SYSTEM ARE YA USING? IT'S THE QUIETEST I'VE EVER HEARD!"
2. JOE LAUNCHED HIS SAILPLANE AND DID A PERFECT JOB OF KITING AT THE END OF THE WINCH LAUNCH. THE 'CHUTE LANDED ON THE WINCH. HIS G.O.F.B. WHO WAS TIMING HIM PATTED HIM ON THE BACK AND SAID: "TOO BAD ABOUT THAT LAUNCH, JOE, MAKE SURE YOU GET SOME LANDING POINTS!"
3. HEARD AT A FREE-FLIGHT MEET: "HE'S SO DUMB THAT HE'D USE A FUSE DETHERMALIZER ON A CIRCLE-TOW A-21"

PTERON ANNOUNCEMENT:

ERIC JACKSON OF ALOHA, OREGON (SOUNDS AS IF IT OUGHT TO BE HAWAII) IS MAKING AVAILABLE THROUGH RCSD THE PLANS, PHOTOS, AND CONSTRUCTION ARTICLE OF THIS NEW AND EXCITING 2-METER SAILPLANE. IT FEATURES POLY-HEDRAL WINGS AND A POD-AND-BOOM FUSELAGE, AND FLIES LIKE A SAILPLANE IS MEANT TO FLY: THERMALS WELL, LANDS EASILY, AND HAS GREAT PENETRATION. THE ENTIRE CONSTRUCTION PACKAGE INCLUDING PHOTOS, PLANS, AND INSTRUCTION/ CONSTRUCTION ARTICLE: \$15.00. PLANS ONLY: \$7.50. WRITE TO RCSD FOR

MORE INFORMATION: Box 269 PETERBOROUGH, NH 03458.



READERS COMMENTS SOARING DELIVERY MONTHLY MAILBAG

TONY BECKETT, OUR INTERGLIDE INFORMANT FROM ENGLAND, MADE SOME INTERESTING COMMENTS ABOUT TY SAWYER'S RECENT CHARGING JACK SYSTEM. "...A WARNING FOR TY, THOUGH - I HAVE USED THIS SCHEME FOR A COUPLE OF YEARS AND AM TOTALLY WON OVER BY IT. HOWEVER, THE JACK SOCKETS SHOWN IN THE DRAWING ARE A LITTLE VULNERABLE INSIDE A SMALL FUSELAGE AND THE ON/OFF ARM CAN GET BENT AND NOT DO ITS JOB. MORE IMPORTANT, IF YOU DON'T PRESS THE PLUG HOME QUICKLY, THE WHOLE THING CAN SHORT OUT AND MELT THE INSULATION ON THE BATTERY WIRES, WHICH RESULTS IN A DREADFUL MESS, LOTS OF SMOKE, AND AN UNHAPPY BATTERY. I'VE SENT ALONG A SAMPLE OF THE SORT OF SOCKET I CHANGED TO AFTER HAVING THREE DIFFERENT 'SHOR OUTS'. THIS ONE HAS CAUSED NO PROBLEMS AND IS TOUGH ENOUGH NOT TO SUFFER FROM BEING BENT OUT OF PLACE, EITHER. A SMALL EXTENSION TO TY'S USE IS TO HAVE 2.5MM JACK PLUGS ON FLIGHT BATTERIES, AND 3.5MM PLUGS ON TRANSMITTER BATTERIES, WITH THE CHARGERS FITTED ACCORDINGLY. WE ALSO HAVE BATTERY CONDITION INDICATORS THAT CAN HAVE THE JACK PLUGS FITTED, AND THEY GIVE YOU A VERY QUICK AND EASY WAY OF CHECKING HOW MUCH POWER YOU HAVE LEFT TO FLY WITH."

Editor's Comment: Thanks, Tony for pointing out a possible problem area. Here, I'd like to say that the sample jack Tony sent from England is one like I've never seen before. (See sketch) It has a housing that protects the delicate contacts and shields them from any possible contact with an external object. Maybe we'll have to ask around the USA to see if any of our readers have seen similar jacks. By the way, I should point out that the charging/switch system proposed by Ty is only in danger of shorting when you use the charger, and Ty says that this is easily avoided by first plugging the charging plug into the charging jack on your plane, and only then plugging the charger into your house current. Makes sense, eh troops? The system is not in danger of shorting out in the plane when you are making or breaking switch contact in normal flying condition because the plug with the colored streamers can't short the jack, i.e., battery, to ground no matter how it is inserted.

Incidentally, Tony wonders if we do F3F over here in the USA. For those that don't know what this is (I didn't either) it is RC slope soaring - FAI style - i.e. pylon racing Nordic style without the racing. A measured 100 meters is set out on the slope and one pilot at a time launches his model which gains height and then enters the course. The model is timed as it crosses the start line. The clock is stopped when the model has done 5 laps; i.e., one kilometer. (A lap is out and back, hence 200 meters). The fastest time is given 1000 points and all others scored from that as a percentage. While it does seem to take away the thrill of close-competition racing, it also very obviously reduces the chance of a mid-air, which can ruin your whole day. The luck factor is removed, and you have only the clock to race against. It appeals especially to those who don't make the finals, and is a good measure of how you and your model are performing. Only one flag man is needed. Although extra time is required to fly all entrants, there is no reason that another model can't be in the air outside the

MORE MAIL...

course waiting to enter. A whole round could be flown with only 30-second gaps between timing runs. Finally, turns are more important than blinding speed. Try it and let us know how you like it...Jim

DIETER EBERHARD FROM SOUTH AFRICA REPORTS ON SOME PRELIMINARY CROSS-COUNTRY SOARING BY TEAMS GETTING READY FOR THE NOVEMBER '85 F3H CONTEST. ONE MACHINE ENTERED BY THE TEAM OF BRUCE TOMKINS AND ARNOLD PAIKEN. IT HAS A 5-METER SPAN, BLUE FOAM AND GLASS STRUCTURE, POD-AND-BOOM FUSELAGE, AND WEIGHS ABOUT 15 POUNDS. FROM A HAND LAUNCH IT WILL ALLEGEDLY GLIDE 350 YARDS. THERE ARE NO FLAPS ON THIS VERSION, BUT THEY PROBABLY WILL BE ADDED. OH YES, THE TAIL HAS A 14-1 ASPECT RATIO! AS SOON AS I GET SOME INFO ABOUT THE X-C CHALLENGE IN SOUTH AFRICA, I'LL PASS IT ALONG TO YOU. ***

OZ O'BRIEN FROM MATAIRIE, LOUISIANA HAS BECOME INTERESTED IN OLD TIMERS AND REPORTED THAT HE'S BUILDING A COMMODORE FROM PLANS THAT APPEARED IN MODEL AVIATION AWHILE BACK. HE ALSO IS BUILDING A CLIPPER FROM A HOBBY HORN KIT, AND WANTED TO PASS ALONG THE INFORMATION THAT HOBBY HORN KITS ARE GREAT: EXCELLENT WOOD, GREAT MACHINE-CUT PARTS, NO DIE-CRUNCHING, AND NOT A BAD PRICE. IF YOU TRY HOBBY HORN AND LIKE THEIR KITS, LET RCSD KNOW.

OZ ALSO WANTS TO PASS ON A WARNING ABOUT LITHIUM RECHARGABLE BATTERIES. HE SAYS THAT HE HAS READ THAT THEY ARE EXTREMELY VOLATILE, ESPECIALLY DURING CHARGING...AND ARE NOT ALLOWED ON AIRCRAFT FOR THIS REASON. HOWEVER, THIS OUGHT TO BE CHECKED OUT, AND PERHAPS SOME OF OUR MORE KNOWLEDGEABLE READERS WILL HAVE THE COMPLETE ANSWER. LARRY SRIBNIK, HOW ABOUT IT? THOSE READERS WHO HAVE BEEN CONSIDERING LITHIUM BATTERIES FOR RC ELECTRICS WILL WANT TO KNOW ABOUT THIS POSSIBLE SITUATION. ***

ERNIE CURRENTRON, WHO HAS BEEN DOING SOME ARTICLES FOR US ABOUT AERODYNAMICS, SENT IN SOME USEFUL INFO ABOUT WINCH LINES. DACRON LINE OF 80# TEST AND .050" DIA. WEIGHS 1.3 GRAMS PER METER, WHEREAS KEVLAR LINE OF 120# TEST AND .025" DIA., WEIGHS ONLY 0.4 GRAMS PER METER. NEED MORE BE SAID? (YES, I SUSPECT IT NEED BE SAID BY SOMEONE WHO HAS TRIED THE KEVLAR LINE. ANYONE KNOW WHERE TO GET IT?) ERNIE ALSO SAYS THE ASHAWAY COMPANY WILL NOT SELL DIRECT...BUT ONLY THROUGH DEALERS/DISTRIBUTORS. ***

CHARLIE SPEAR, NSS OFFICIAL, HAS SENT IN A BRIEF REPORT ON THE DAVEY SYSTEMS PROPHET 941 WHICH HE ABSOLUTELY ENJOYS. HERE'S WHAT HE HAS TO SAY:

"I'M ENCLOSING A PHOTO OF MY PROPHET 941 WHICH I HAVE CONVERTED IT TO AN ELECTRIC-POWERED SAILPLANE. I REALIZE RC SOARING DIGEST IS MAINLY FOR SOARING ENTHUSIASTS, BUT MAYBE YOUR READERS WOULD BE INTERESTED IN HEARING ABOUT MY PROPHET...ESPECIALLY WHEN THEY FIND OUT HOW WELL IT THERMALS. IF YOU CAN GET IT INTO THE AIR, YOU HAVE TO FORCE IT DOWN BECAUSE IT WANTS TO STAY UP! THE ONLY MODIFICATION TO THE KIT WAS TO INSTALL THE ELECTRIC MOTOR. I'M USING AN ASTRO 15 COBALT MOTOR WITH A GEAR DRIVE. THE PROP IS A 13" GEIST FOLDING TYPE, AND COMPLETELY FOLDS AGAINST THE FUSELAGE WHEN THE MOTOR STOPS, SO THERE IS LITTLE OR NO DRAG. THE MOTOR IS POWERED BY TWELVE 900 MAH BATTERIES GIVING A MOTOR RUN OF NEARLY THREE MINUTES AT FULL POWER. A SERVO-OPERATED MICROSCHWITCH

MAIL CONTINUED...

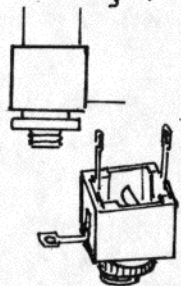
GIVES ME AN ON-OFF FUNCTION. WITH THIS TYPE OF SAILPLANE THERE IS NO NEED FOR A SPEED CONTROLLER WITH ITS EXTRA WEIGHT. THE RADIO IS AN OLD KRAFT, AND I'M USING A 5-CHANNEL RECEIVER WITH THREE SERVOS DOING THE WORK...KPS-12s. I DOUBLE-SIDED STICKY TAPE THEM TO THE SIDES OF THE FUSELAGE. THE AIRBORNE RADIO IS POWERED BY A SET OF 500 MAH SR BATTERIES. TOTAL WEIGHT OF SAILPLANE, RADIO AND BATTERIES IS 69oz. WITH 941 SQUARE INCHES OF AREA, THIS GIVES A WING LOADING OF ONLY 9.8 oz. PER SQ. FT. THE MODEL WAS FINISHED IN TRANSPARENT RED MONOKOTE ON THE FLYING SURFACES, WHILE THE FUSELAGE WAS SPRAY PAINTED WITH HONDA'S METALLIC GREY TOUCH-UP PAINT. (WHAT DO YOU WANT TO BET THAT CHARLIE OWNS A GREY HONDA?...J.H.G.).

"THE MODEL WAS COMPLETED AND TEST FLOWN JUST BEFORE LAST FALL'S KRC ELECTRIC MEET IN HATFIELD, PA. ON SATURDAY IT TOOK SECOND PLACE IN OVERALL HIGH TIME, ENABLING ME TO COMPETE IN THE ALL-UP, LAST-DOWN EVENT ON SUNDAY. IN THIS EVENT IT GARNERED FOURTH PLACE...NOT BAD FOR A NEW KID ON THE BLOCK.

"I'M VERY PLEASED WITH THE ELECTRIC CONVERSION OF THE PROPHET 941, AND AM INDEBTED TO TED DAVEY OF DAVEY SYSTEMS CORPORATION FOR SEEING TO IT THAT I RECEIVED ONE OF HIS FIRST KITS.

"I'VE ENCLOSED MY CHECK FOR \$16 TO RENEW MY MEMBERSHIP FOR RC SOARING Digest. KEEP UP THE GOOD WORK, AND I HOPE YOUR MAGAZINE CONTINUES TO GROW BIGGER AND BETTER EACH YEAR. SINCERELY, CHARLIE SPEAR."

MINI JACK FRDM
TONY BECKETT:
HAS PROTECTIVE
HOUSING, ACTUAL
SIZE. Pg. 14



MAIL & SOURCES...

SOARTECH IS AVAILABLE FROM HERK STOKELY, 1504 N. HORSESHOE CIRCLE, VIRGINIA BEACH, VA 23451. THE COST VARIES SLIGHTLY, BUT AVERAGES ABOUT \$5.00 PER COPY. IT CONTAINS ALL OF THE HIGH-TECH, HOW-TO, INFO YOU'VE ALWAYS WANTED TO KNOW PRESENTED IN READABLE STYLE BY THE GUYS WHO ARE OUT THERE DOING THINGS. READERS, YOU'VE GOT TO GET THIS INFO, AND THE ONLY WAY IS TO GET IT FROM HERK VIA SOARTECH. THERE IS A COMPLETE LIST OF MATERIALS, SOURCES, TABLES, STRENGTHS, COMPATIBILITIES, PLUS PHOTOGRAPHS AND DIAGRAMS. THIS IS COMPLETE, AND I CAN'T PUT IT DOWN! FOR EXAMPLE, PAGE 22 DESCRIBES AND SHOWS A FIXTURE THAT GUARANTEES GOOD ALIGNMENT. PAGES 31 & 32 COVER CONVERSATIONS AND CORRESPONDENCE ABOUT THE CARBON FIBER & RADIO PROBLEMS SITUATION.

ROSE AND OTTO BANDMANN OF COUNTRY HOBBY SUPPLY, R.R. 1, DUNDAS, ONTARIO CANADA L9H 5E1...TEL. No. (519)623-2560, WROTE ABOUT THE AIRFOIL BOOKS I MENTIONED IN THE DECEMBER RCSD. HERE'S WHAT THEY SAID:

"...IT MIGHT BE OF INTEREST TO YOU AND OUR FELLOW RCSD READERS THAT WE HAVE THE FOLLOWING AIRFOIL BOOKS IN STOCK: MTB1, COVERING ABOUT 30 EPPLER PROFILES...\$11.25 CANADIAN; MTB2, COVERING THE EPPLER 193, 195, 197, 201, AND 203 AIRFOILS...\$10.00 CANADIAN; MTB, COVERING NAVA PROFILES...\$11.25 CANADIAN; AND MTB7, COVERING THE QUABECK PROFILES...\$11.25 CANADIAN. NOTE: THESE ARE STORE PRICES, AND SOME EXTRA WILL HAVE TO BE ALLOWED FOR SHIPPING AND HANDLING. THE AIRFOILS IN VOLUME 2 ARE NOT COVERED IN VOLUME 1.

"AS YOU CAN SEE FROM OUR AD, WE HAVE IN STOCK - OR CAN GET - PLANS FOR (TO NAME ONLY A FEW): HORTEN 3 FLYING WING; LS1; DFS REIHER; MINIMOA; GROB ASTIR; LIBELLE; ASK-18; GRUNAU BABY IIB; GRUNAU COMMODORE; KESTREL; KA-6E; NORTHROP 1931 PRIMARY; SG-38 PRIMARY; L-SPATZ; ETC.

"WISHING YOU A MERRY CHRISTMAS AND HAPPY NEW YEAR, ROSE AND OTTO BANDMANN."

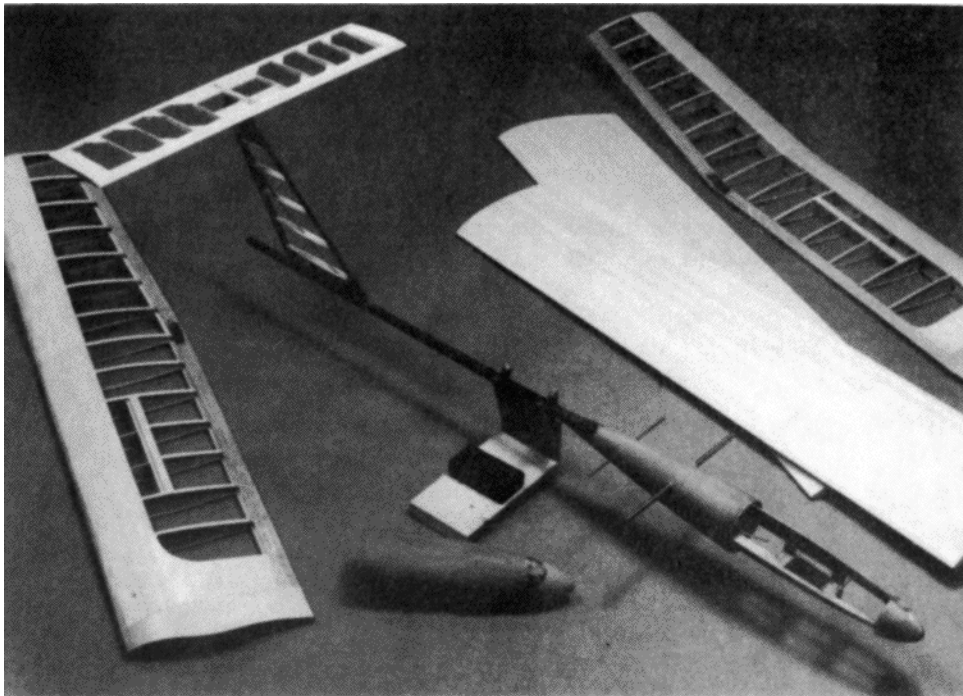
Editor's Comment: I get quite a few letters each month asking for info about airfoil sources and sources of scale plans and models. Here is a very good and reliable source to use. I am not sure about the customs arrangements or the exact Canadian-U.S. Dollar exchange rate. I would guess, however, that the difference would more than pay for the shipping and handling, as well as customs (if any) charges. Why not write or call these dedicated soaring people and place your order?...J.H.G.)

*** **

ED POPKO, 28 MAVERICK ROAD, WOODSTOCK, NY 12498 SENT ME A DAZZLING ARTICLE TITLED: COMPOSITE MOLDING TECHNIQUES FOR SAILPLANE FUSELAGES AND CONTROL SURFACE ACCESSORIES. THE ARTICLE WAS CO-AUTHORED BY JOHN SMITH OF BROCKTON, MA., AND OUGHT TO BE REPRODUCED HERE. HOWEVER, IT IS FAR TOO LONG AND COMPREHENSIVE FOR RCSD TO TACKLE...AND, AS A MATTER OF FACT, IT WILL APPEAR FOR YOUR PLEASURE IN SOARTECH, NEXT ISSUE.

ANNOUNCEMENT:

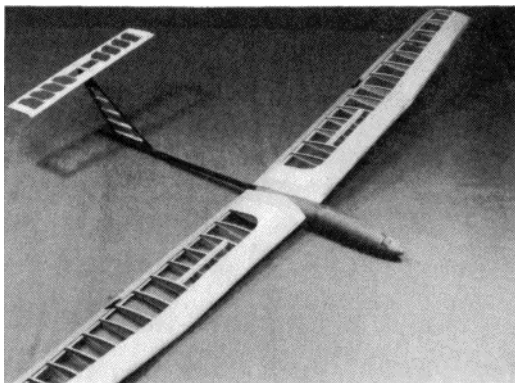
Cumberland, Maryland is the site for one of the best Slope Soaring meets you'll ever attend. It will be held November 1 and 2, 1986. The ridge is 1800-2000 feet high, and stretches a long, long way. There is a Fun Fly type of meet where everyone brings out the biggest, best, most scale-like, and beautiful machine to fly. The banquet is the best you'll ever find...and it ain't crowded, either. Write to Don Clark, P.O. Box 117, Kensington, MD for further details and to reserve your spot at the banquet table. (Thanks Carl Lorber)



BLP-UP-Date The Project takes shape.....Bob Rondeau
 Those of you who are paying attention are probably saying "Hey! didn't he start this plane as a straight winged aileron job?" That's right..and it still is ,but as you can see in the bottom photo I have also added a poly wing to the project. The reason is simple. I had the wing hanging around since Jim Tyrle gave me the rib set to try out (remember the Puffin?) and I owed Jim the courtesy of putting it through some flying-also I liked the idea of having two versions of sailplane with one fuse. One will be a slightly lighter poly-hedral for those days when wind and lift is light and the host club is using only Hi-starts (we have had this sort of contest) and the heavier aileron ship for all those other times. The poly wing will also give me a chance to test rudder effectiveness and I'll probably make different rudders for each version. As can be seen in the photo I have used ply (1/32") to mate the wing to the fuse. The joint will be finished with a molded-in-place root of fiberglass as outlined in Bill Forrey's column (Model Builder, Aug.85) by Earl Kennedy.

The upper photo shows the various components with the pod,boom,keel and stab assembled. These parts all fit snugly together yet come apart for further experimentation. This feature has proved handy for me as I have a problem with doing things out of sequence. The real test will be to see if the pod & boom will hold alignment without gluing. The fit is very snug!

I hope to have BLP flying by the time the snow melts-that should be in time for the May issue. Then I can start on my plug-in boom with V-tail and a standard class wing set for it...or how about a 60" wing for HLG???



BARCS INTERGLIDE '86.....TONY BECKETT

THE BRITISH ASSOCIATION OF RADIO CONTROLLED SOARERS WAS FORMED IN 1972 TO PROMOTE THE FLYING OF RADIO CONTROLLED GLIDERS IN ALL THEIR FORMS, AND DEVELOPED THE SLOT PERCENTAGE RULES ALMOST UNIVERSALLY USED IN U.K. CONTESTS FOR THE LAST 10 YEARS. IT ORGANIZES THE ANNUAL RADIOGLIDE EVENT WHICH IS THE BIGGEST OF ITS KIND IN THE U.K...AND ALSO THE BI-ANNUAL INTERGLIDE TO ENCOURAGE INTERNATIONAL ACCEPTANCE OF SLOT PERCENTAGE THERMAL SOARING, AS DISTINCT FROM THE MORE SPECIALIZED F3B RULES.

INTERGLIDE 1986 WILL BE HELD ON AUGUST 10TH AND 11TH AT SWALECLIFFE NEAR WHITSTABLE IN KENT, ENGLAND. FIVE ROUNDS OF SLOT PERCENTAGE FLYING TO BARCS RULES (WORST SCORE TO BE DROPPED). TOP 12 TO GO TO THE 2ND ROUND FLYOFF TO DECIDE TOP PLACINGS. MODELS WILL BE TO BARCS OPEN CLASS RULES. FREQUENCIES WILL BE ON 27 MHZ (BROWN, BROWN/RED, RED, RED/ORANGE, ORANGE, ONLY); 35 MHZ - EVEN NUMBERS ONLY; 54 MHZ AND 72 MHZ FREQUENCIES.

THE SITE AT SWALECLIFFE IS NEXT TO A LARGE CARAVAN (TRAILER) CAMPING SITE WITH ALL FACILITIES. IT IS NEAR WHITSTABLE ON THE NORTH KENT COAST, FAMOUS FOR OYSTERS AND SEAFOOD, AND HAVING A SELECTION OF HOTELS, BOARDING HOUSES AND RESTAURANTS. THE SITE IS WITHIN 10 MINUTES OF THE M2 MOTORWAY AND WITHIN EASY REACH OF THE CHANNEL PORTS, LONDON, AND LONDON/GATWICK AIRPORTS.

THE ORGANIZERS WILL PROVIDE COMPLIMENTARY TRANSPORT FOR OVERSEAS ENTRANTS AND THEIR MODELS FROM RAMSGATE, DOVER, FOLKESTONE, OR GATWICK AIRPORT. THEY WILL ALSO PROVIDE LISTS OF ACCOMMODATIONS ON REQUEST, AND WILL GIVE ALL ASSISTANCE IN MAKING RESERVATIONS. A SPECIAL CONCESSIONARY RATE HAS BEEN NEGOTIATED FOR ANY ENTRANTS WISHING TO BOOK SELF-DRIVE CARS OR MOTOR CARAVANS (CAMPER) AT THE ABOVE PORTS AND AIRPORT.

COSTS OF CAMPING ON THE SITE ARE AS FOLLOWS:

CARAVAN, TENT OR AWNING: 1 POUND STERLING PER NIGHT
 ADULT: 1 POUND STERLING PER NIGHT; CHILD: 50P PER NIGHT
 CARS: 50P PER NIGHT. NO DOGS ALLOWED.

A FREE ENTRY HAND-LAUNCH GLIDER COMPETITION WILL BE RUN CONCURRENTLY WITH THE MAIN COMPETITION ON 27 MHZ (YELLOW, GREEN/YELLOW, GREEN, GREEN/BLUE AND BLUE FREQUENCIES).

CLOSING DATE FOR ENTRIES: APRIL 30TH, 1986

SEND ALL REQUESTS FOR INFORMATION, ENTRIES AND OTHER CORRESPONDENCE TO:

RON & LYN GARDNER
 27, DERWENT AVENUE
 RAMSGATE, KENT
 ENGLAND CT11 0QA

 INTERGLIDE 86 EXPECTS TO ATTRACT 120 CONTESTANTS, INCLUDING OVERSEAS FLIERS. THIS WILL BE A FUN CONTEST FOR ALL, AND TO RULES THAT WILL SPICE UP THE ORDINARY THERMAL FLYING RULES WE USE HERE IN THE STATES.

RCSD INTENDS TO BE A SPONSOR OF INTERGLIDE, AND IS MAKING ARRANGEMENTS WITH BARCS TO PROVIDE SOME SUBSCRIPTIONS TO RCSD FOR WINNERS.

I WONDER IF IT MIGHT BE POSSIBLE FOR ENOUGH OF US TO GET TOGETHER A CHARTER FLIGHT TO ATTEND EN MASSE? PROBABLY NOT, BUT WOULDN'T IT BE FUN?

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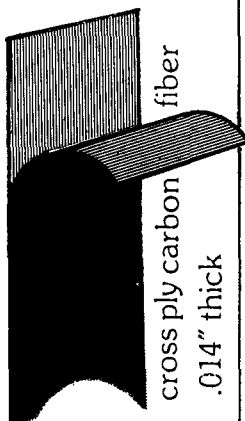
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| Woven Kevlar Tape: 3" x 9'..... | \$7.25 |

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