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B-25

CONGRATULATIONS ON HAVING JUST PURCHASED ONE OF THE FINEST SCALE MODEL KITS AVAILABLE TODAY. THIS KIT IS BROUGHT TO YOU BY ROYAL PRODUCTS WHO ALSO SUPPLIED THE 1970 NATIONAL SCALE WINNING "SPIRIT OF ST. LOUIS".

THERE IS A GREAT DEAL OF INDIVIDUAL DETAIL TO BE TAKEN CARE OF PRIOR TO GLUING A TO B SO SIT BACK, RELAX AND CONSIDER THE FOLLOWING PRELIMINARIES.

YOUR CHOICE OF THIS KIT WAS INITIALLY MOTIVATED BY SOME PRIOR EXPERIENCE OR PREFERENCE FOR THIS PARTICULAR MODEL. PERHAPS IT IS A REAL PLANE OF THE SAME DESIGN YOU HAVE FLOWN OR MAYBE OWN NOW. THE POINT IS, RIGHT NOW, ONLY YOU ARE FAMILIAR WITH THAT FEELING. HAVEN'T YOU NOTICED THAT WHEN YOU SPEAK OF THIS BEAUTIFUL SCALE JOB THERE IS THE CASUAL INDIFFERENT LOOK ON YOUR COMPANION'S FACE? WOULD YOU BELIEVE THE SAME INDIFFERENT FEELING COULD BE IN THE JUDGE'S MIND AS HE INSPECTS THIS BEAUTY YOU WILL CREATE? 'TIS POSSIBLE, ISN'T IT?

THE ABSOLUTE FIRST THING YOU MUST DO AT THIS VERY TIME IS DETERMINE WHETHER THIS IS TO BE THE "ULTIMATE SCALE JOB" OR AN "EYEBALL SCALE". IF YOU CHOOSE "EYEBALL SCALE", WHICH IS JUDGED FROM 25 FEET AWAY, THEN YOU MAY AS WELL TURN TO CONSTRUCTION TECHNIQUES AND START BUILDING! HOWEVER, IF YOUR CHOICE IS "ULTIMATE SCALE" , THEN YOUR PROJECT HAS NOT YET BEGUN.

THE NEXT DECISION YOU MUST MAKE IS WHICH PARTICULAR TYPE, MODEL AND SERIES YOU INTEND TO DUPLICATE TO THE NTH DEGREE. THE TYPE (THAT IS BOMBER, FIGHTER, ETC.) HAS ALREADY BEEN DECIDED AS YOU BOUGHT THE KIT. THE MODEL (THAT IS 24-25-26 ETC) MAY NEED TO BE YOUR CHOICE AS FOR INSTANCE, THERE IS NO EASILY RECOGNIZABLE DIFFERENCE BETWEEN A B-44 AND A B-50. THE SERIES VARY WIDELY AND YOU WILL NEED TO MAKE THIS DECISION YOURSELF. FOR INSTANCE THERE IS VERY LITTLE DIFFERENCE BETWEEN A B-52B, B-52C, B-52D AND B-52E TO THE CASUAL OBSERVER, BUT TO THE TRAINED EYE OF A COMPETITION SCALE JUDGE THIS MAKES THE FIRST GREAT DIFFERENCE.

ONCE YOUR CHOICE HAS BEEN MADE AS TO EXACTLY WHICH TYPE, MODEL AND SERIES YOU WILL BUILD, YOUR NEXT TASK WILL BE TO COMPLY WITH THE "SCALE PRESENTATION". BY THIS I MEAN YOU MUST ASSEMBLE AND ARRANGE THE "PROOF" YOU INTEND TO USE, TO THOROUGHLY CONVINCE THE JUDGE THAT YOURS IS THE BEST OF THE BUNCH! KEEP IN MIND THAT YOU CAN'T "TALK" HIM INTO IT SO EXTRA EFFORT SPENT AT THIS STAGE REAPS GREAT BENEFITS LATER.

START WITH AN ACCURATE, AUTHENTIC 3-VIEW DRAWING PREFERABLY FROM THE MANUFACTURER, AND WHICH GIVES DIMENSIONS OF THE REAL PLANE. IF NOT AVAILABLE, THEN SUCH GREAT WORKS AS THE COMMERCIAL SCALE 3-VIEWS BY NIETO, NYE, WYLAM, SUPERSCALE, ETC. ARE ACCEPTABLE. I KNOW THIS BECAUSE I JUST READ IT IN THE CURRENT AMA MODEL AIRCRAFT REGULATIONS BOOK WHICH INCIDENTALLY IS THE BOOK BY WHICH YOUR EFFORT WILL BE RATED. NEEDLESS TO SAY, BEFORE YOU GO ANY FURTHER, GET REAL FAMILIAR WITH THE RULES FOR SCALE.

ONE MORE WORD OF ADVICE ABOUT THE "SCALE PRESENTATION". THE BETTER IT LOOKS, THE BETTER YOUR SCORE WILL BE SO DON'T CUT CORNERS OR GO SECOND CLASS! 'NUFF SAID?

NOW THAT YOU'VE ASSEMBLED THE 3-VIEW, TECH DATA, PICTURES AND REFERENCES AND CONSTRUCTED A WELL ORGANIZED, WELL PLANNED, EYE APPEALING PRESENTATION, YOU MUST STUDY, COMPARE, MEASURE AND CAREFULLY PLAN THE MODEL YOU WILL BUILD.

FIRST, SELECT THE SCALE RATIO YOU WILL USE. THIS HAS BEEN APPROXIMATED IN OUR KITS BECAUSE THERE ARE SO MANY VARIANTS BETWEEN EACH DIFFERENT SERIES OF THE BASIC AIR PLANE. YOU MAY CHOOSE THE SERIES WHICH IS CLOSEST TO OUR KIT - STILL YOU WILL HAVE TO MAKE ADJUSTMENTS, PERHAPS AN INCH IN WINGSPAN, 1/2 INCH IN LENGTH OR SO ON. THE POINT IS--THIS IS THE TIME TO PLAN FOR THESE ADJUSTMENTS AND THEY MUST ALL BE THE SAME RATIO FOR MAXIMUM POINTS.

THE EASIEST WAY TO DO THIS IS TO OBTAIN A PAIR OF "PROPORTIONAL" DIVIDERS. THIS IS A TOOL WITH A MOVEABLE PIVOT IN THE MIDDLE AND WHEN OPEN LOOKS LIKE AN "X" WITH NEEDLE POINTS AT EACH TIP. WITH THESE YOU MAY SET THE "RATIO" SO THAT MEASURING WITH ONE END OFF THE 3-VIEW WILL GIVE THE DESIRED MEASUREMENT AT THE OTHER END. CAREFULLY ADJUST THE DRAWINGS WE'VE PROVIDED TO EXACTLY MATCH THE 3-VIEW YOU WILL USE.

NEXT, CAREFULLY STUDY THE MATERIAL YOU'VE GATHERED AND MAKE NOTE OF EXACTLY WHICH DETAILS YOU WILL INCLUDE ON YOUR MODEL AND WHERE AND HOW THEY WILL BE INCORPORAT FOR INSTANCE, DO YOU PLAN ON FLAPS? RETRACTABLE GEAR? LIGHTS? THOUSANDS OF TECHNIQUES ARE INCLUDED IN MAGAZINES AND COLUMNS WHICH ARE DEVOTED TO SCALE CONSTRUCTIC TECHNIQUES SO I'LL LEAVE YOU TO HUNT UP ALL THAT FOR YOURSELF.

WE WILL NOW CONSIDER THE BASIC AIRPLANE AND THEN IT'S CONSTRUCTION.

THE NORTH AMERICAN B-25 MITCHELL

HERE IS A REALLY BEAUTIFUL SCALE MODEL KIT OF THE BOMBER MADE FAMOUS BY THE TOKYO RAIDS CONDUCTED BY JIMMY DOOLITTLE FROM THE DECK OF AN AIRCRAFT CARRIER. THIS WAS THE MOST WIDELY USED AMERICAN BOMBER IN THE SECOND WORLD WAR.

WE SUGGEST YOU OBTAIN PROFILE PUBLICATIONS NUMBER 59 WHICH IS DEVOTED TO THE B-25A TO B-25G MODELS. IN IT WE FIND MANY INTERESTING FACTS. "...THE FIRST COMPLETE B-25, NUMBER 40-2165 WAS TEST FLOWN ON 19 AUGUST 1940. POWERED BY TWO WRIGHT R-2600-9 CYCLONES OF 1,700 HP FOR TAKE OFF AND 1,350 HP AT 1,300 FEET. THE B-25 HAD THE NA-40'S TWIN RUDDERS AND TRICYCLE GEAR, BUT HAD A WIDER FUSELAGE FOR THE LARGER CREW AND BOMBLOAD.

THE FIRST FIVE B-25S WERE ACCEPTED IN FEBRUARY 1941, AND HAS UNBROKEN DIHEDRAL FROM WING ROOT TO TIP. TO IMPROVE DIRECTIONAL STABILITY, THE OUTER WIND WAS MADE HORIZONTAL ON THE TENTH AND ALL SUBSEQUENT AIRCRAFT. THIS WIND SHAPE REMAINED THE SAME FOR THE REST OF THE BOMBER'S HISTORY....."

THESE ARE BUT TWO PARAGRAPHS QUOTED FROM PAGE 3 OF THE 12 PAGE PAMPHLET WHICH HAS A 3-VIEW DRAWING INSIDE THE FRONT COVER AND WHICH INCLUDES THE PAINT SCHEMES ON MANY OF THE VARIOUS MODELS. SUCH A BOOK OR A SIMILAR SOURCE IS IMPERATIVE FOR THE "ULTIMATE SCALE JOB", SO BY ALL MEANS COMPLETE YOUR SCALE PRESENTATION PRIOR TO BEGINNING THE CONSTRUCTION.

THE MODEL WE PREFER WAS A B-25C WHICH WAS IDENTICAL TO THE B-25B IN APPEARANCE AND ARMAMENT. THE INTERNAL DIFFERENCES INDLUCED R-2600-13 CYCLONES WITH HOLLEY CARBURETORS, A 24 VOLT ELECTRICAL SYSTEM, AND AN ANTI-ICER AND DE-ICER SYSTEM. FUEL CAPACITY WAS INCREASED TO 947 GALLONS IN WING TANKS AND 1520 GALLONS ON MAXIMUM LOAD. REDESIGNED BOMB BAY RACKS COULD ACCOMMODATE THE 2000 LB. OR TWO 1,600 LB., THREE 1,000 LBS., SIX 500 LB., EIGHT 250 LB, OR TWELVE 100 LB. BOMBS.

THERE IS A PICTURE ON PAGE 6 OF AN ALL BLACK B-25C WHICH, MINUS ARMAMENT AND OTHER INTERNAL FIXTURES, WAS USED FOR COURIER SERVICE IN INDO-CHINA. THIS PARTICULAR PICTURE WAS TAKEN AT CALCUTTA, 27 SEPTEMBER 1945. SHOWN IN DETAIL, MIDWAY BETWEEN THE PILOT'S SIDE WINDOW AND THE BOTTOM OF THE FUSELAGE, IS A PICTURE OF A GIRL IN A SLIT SKIRT. ALL THE GUNS AND TURRENTS HAVE BEEN REMOVED AND SUCH DETAIL AS THE AIRSCOOP IN THE LEADING EDGE OF THE WING OUTBOARD OF THE NACELLE AND THE LANDING LIGHTS ARE SHOWN. FROM THIS HASTY DESCRIPTION, YOU CAN READILY SEE HOW IMPORTANT HAVING THE SCALE PRESENTATION IS.

THERE ARE MANY B-25'S IN SERVICE TODAY AND A TRIP TO SEE AND PHOTOGRAPH ONE WOULD BE WELL WORTH THE TIME. I DISCOVERED ONE AT THE ARLINGTON, TEXAS MUNICIPAL AIRPORT AND TOOK MANY PICTURES OF DETAILS ON IT. IN SO DOING, I DISCOVERED THERE IS ONLY ONE NOSE WHEEL DOOR HINGED ON THE RIGHT SIDE OF THE WHEEL WELL. THERE IS A LONG PITOT BOOM ON THE RIGHT WIND LEADING EDGE TOWARD THE TIP. ALTOGETHER THERE ARE MANY ADDITIONAL DETAILS AVAILABLE WITH PICTURES WHICH ARE DIFFICULT TO ACHIEVE FROM DRAWINGS.

THE LAST IMPRESSIVE ITEM IN YOUR SCALE PRESENTATION (BESIDES THE 3-VIEWS WITH SCALE AND DIMENSIONS PLUS PHOTOGRAPHS OF ACTUAL PLANES) IS A NARRATIVE HISTORY OF YOUR CHOICE OF EXACT AIRCRAFT. FOR INSTANCE, SHOULD YOU CHOOSE TO DO ONE OF THE TOKYO RAIDERS, YOUR LOCAL LIBRARY WILL YIELD DATA SUCH AS A SPECIFIC SERIAL NUMBER AND THE NAMES OF THE CREW ALONG WITH THE EXCITING ACCOUNT OF THE MISSION ITSELF.

INSTEAD OF DETAILING ONE SPECIFIC PLANE, OUR INTENT IS TO GIVE YOU THE BASIC MATERIAL AND LET YOU MAKE THE CHOICE BECAUSE YOU ALONE MUST DECIDE HOW MUCH AND WHAT DETAIL YOU WANT TO INCLUDE.

CONSTRUCTING THE B-25

Now let's get to the business of gluing A to B. Actually all you need to do is put the glue in the box as you leave the hobby shop and shake it up on the way home then pour out the finished model!

Begin by gluing R1 to R2 (tape it together), spot glue R3 on (tape also) and set aside to dry. Now assemble S1 through S5 on one of the sheet skins for the horizontal stabilizer, cut to fit, then stack and drill the ribs for rudder pushrod. Glue in the ribs, position the pushrod as shown, fasten the bellcrank to S-9 with the bolt provided and check linkage hole in the remaining sheet skin to clear the incoming pushrod, then glue the skin in place. Tack glue S-6, S-7, S-8 in place as shown and when dry sand both rudders and horizontal stabilizer to shape and prepare the mechanical linkage to fit as shown on the plans. The tail feathers are now ready to cover and you're one-third done - right? Sure was easy!

If you haven't already guessed it, I'm building mine for "eyeball" scale, but if you're doing an "ultimate" scale, you would have cut the rudder down to fit exactly and made provision to include offset elevator hinges like the rudder, plus, carefully follow the exact outline shown in your 3-views, right?

Well on to bigger things. Fuselage is next! Start by laying out all those precisely cut beautiful formers F-1 through F-8 fitting the nose gear provided to F-2,3. Now epoxy the fuselage doublers including F-16 and longerons with uprights to the sides making one right and one left, natch! Mark former positions on both sides and carefully glue in the formers in such a manner that the structure is straight as a string! Add F-10, 11, 12 and 13 to be sure it's aligned top and bottom.

Once that's dry, use the slant cut planking (F-14). Glue it on the "shoulders" of the formers so when sanded later it will give a nicely rounded effect. Now add F-15 which is the top and bottom planking. With the exception of the tail blocks, which are added when the horizontal stabilizer is fitted, and the canopies, plus detail like antenna, turret, etc., that does it for the fuselage which can now be sanded anytime. All that's left now is the wing, and wings are easy to build - right?

Lay out the wing ribs W-1 through W-11 noting that W-5 is doubled. There is no simple way to build a wing with a dihedral break such as this. (By the way, the kit provides dihedral in the outer wing panels for stability while in fact, the actual planes have anhedral). If you have a "good eye" and are careful, you can build it in your hand. Otherwise take the time to build a good jig in which the wing can be built upside down.

If you intend to use the landing gear provided with the kit, attach it to W-19/W-19A as shown at this time. Before you do this, consider how nice the RMK retractables would look in this bird! If you decide (as I did) to use them, make provision for them now by fitting W-19, W-18, W-17, W-16 and the engine mounts (EM) together to plan the installation. You can now see how they fit and once satisfied, glue it all together. The ribs can be added and this section planked, after all the linkage is installed, while upsidedown on the bench. Notice W-13 and W-14 markings are reversed also

ASSEMBLE W-12 WITH THE LEADING EDGE OUT TO W-5; W-13; W-14; THE MAIN SPARS AND W-16; THE RIBS AND W-15 IN THAT ORDER. WHILE YOU WAIT FOR ALL THAT TO DRY, ASSEMBLE THE OUTER WING PANELS IN THE CONVENTIONAL MANNER AND JOIN THEM TO THE NACELLES AFTER THE BELLCRANK LINKAGE IS FITTED FOR AILERONS. HERE YOU WOULD ADD FLAPS IF YOU ARE TO INCORPORATE THEM. AFTER THE ENGINES HAVE BEEN FITTED AND ALL THE LINKAGE (THROTTLE AND AILERON) WORK WELL, ADD THE FAIRING BLOCKS AS SHOWN IN ASCENDING ORDER UNTIL THE STRUCTURE IS COMPLETE. SAND IT ALL TO SPECIFICATION WITH CAREFUL ATTENTIONTION TO CONTOURS AND FIT THE WING TO THE FUSELAGE. THEN COMPLETE THE FUSELAGE CUTOUT JUST AS YOU DID THE FUSELAGE BASIC STRUCTURE. NEXT WE WILL CONSIDER THE FINISH.

IF YOU ARE PLANNING A MONO-KOTE OR SIMILAR "IRON ON" FINISH, COVER THE COMPONENTS, THEN DO THE FINAL ASSEMBLY. IF YOU PLAN TO "PAINT" IT, ASSEMBLE THE BIRD AND DO THE DETAIL WORK AS WELL AS THE INSTALLATION WORK NOW. THEN PAINT LAST LIKE THE "BIG BOYS" DO!

NEXT, CAREFULLY STUDY THE MATERIAL YOU'VE GATHERED AND MAKE NOTE OF EXACTLY WHICH DETAILS YOU WILL INCLUDE ON YOUR MODEL AND WHERE AND HOW THEY WILL BE INCORPORATEI FOR INSTANCE, DO YOU PLAN ON FLAPS? RETRACTABLE GEARS? LIGHTS? THOUSAND OF TECHNIQUES ARE INCLUDED IN MAGAZINES AND COLUMNS WHICH ARE DEVOTED TO SCALE CONSTRUCTION TECHNIQUES SO I'LL LEAVE YOU TO HUNT UP ALL THAT FOR YOURSELF.

WE WILL NOW CONSIDER THE BASIC AIRPLANE AND THEN ITS CONSTRUCTION.

BALANCE AND FLIGHT

THERE BEFORE YOU, IS THE RESULT OF THESE MANY EFFORTS. ALL OF THE WORK IS DONE, YOU SAY. NAY, SAY I. ALL OF WHAT IS DONE, ANYONE COULD DO. WHAT LIES AHEAD IS IMPORTANT FOR IT MAKES AN ALMIGHTY DIFFERENCE.

THIS PHASE BEGINS WITH THE MODEL READY FOR FLIGHT AND ENDS WITH A SUCCESSFUL LANDING. BEGIN WITH THE AIRPLANE ASSEMBLED AS IF TO FLY. SET IT ON A SMOOTH SURFACE WITH A PLAIN UNBROKEN BACKGROUND AND GO AROUND BEHIND THE CRAFT AND "EYEBALL" IT. VERY CAREFULLY CHECK TO SEE THAT THE RUDDER AND VERTICAL FIN ARE PERFECTLY ALIGNED. IN THE CASE OF TWIN RUDDERS, MEASURE THEM ACCURATELY. IS THE HORIZONTAL STABILIZER PARALLEL TO THE WING? ARE THERE ANY WARPS IN ANY OF THE FLYING SURFACES? IS THE FUSELAGE STRAIGHT? IF THE ANSWER IS YES TO ALL THESE QUESTIONS, YOU ARE IN GREAT SHAPE. IF NOT, ADJUST IT SO IT IS. YOU KNOW WHAT MUST BE DONE TO ALIGN SURFACES BUT WAIT AWHILE TO DO THAT WHILE WE CONSIDER WARPS.

WARPS ARE CROOKED OR "BENT" SURFACES. THEY CAUSE MOST ACCIDENTS. IT ISN'T NECESSARY AS THEY CAN BE FIXED. ON ANY WOOD AIRPLANE WHICH HAS BEEN DOPED OR PAINTED WITH ANY OF SEVERAL DIFFERENT PAINTS THE PROBLEM IS TO SOFTEN THE PAINT AND TWIST THE SURFACE OPPOSITE THE WARP, THEN LET IT HARDEN AGAIN.

THE PAINT CAN GENERALLY BE SOFTENED TWO WAYS. IT CAN BE HEATED OR DISSOLVED. TO HEAT IT, USE STEAM. IF A SMALL SURFACE IS THE PROBLEM, A TEAKETTLE OVER A STOVE DOES NICELY. IF A LARGE SURFACE IS WARPED, THE OUTLET BEHIND A STEAM CLEANING PLANT WILL DO THE JOB. YOU APPLY BOTH SIDES OF THE WARPED SURFACE TO THE STEAM UNTIL GOOD AND HOT, THEN HOLD OPPOSITE WARP, REMOVE FROM STEAM AND ALLOW TO COOL WELL. WAIT AWHILE, THEN CHECK AGAIN. DO THIS UNTIL THE WARP IS GONE.

TO DISSOLVE THE PAINT, USE MORE COATS OF PAINT OVER BOTH SIDES OF THE WARP. THIS DOESN'T WORK ON ALL PAINT, BUT HAS BEEN DONE SUCCESSFULLY WITH DOPE AND LACQUER. I HAVE ALSO SEEN GUYS FASTEN THE SURFACE DOWN IN PROPER POSITION AND PAINT AND PAINT UNTIL IT WILL STAY. THAT'S THE HARD WAY.

NOW THAT ALL THE WARPS ARE GONE, REASSEMBLE THE PLANE, PUT IT ON A TRUE FLAT SURFACE AND MEASURE THE DISTANCE FROM THAT SURFACE TO LEADING EDGE OF WING, THEN FROM THE SURFACE TO TRAILING EDGE OF WING AT SAME STATION (CHORD POINT) AND VERIFY THAT IT AGREES WITH THE INCIDENCE SHOWN ON THE PLANS. DO THE SAME FOR THE TAIL. IF IT DOESN'T AGREE, DO WHATEVER IS NECESSARY TO MAKE IT AGREE.

NEXT CHECK THE THRUST. FASTEN A STRING TO THE CENTERLINE OF THE PLANE BACK NEAR THE TAIL AND COMPARE THE DISTANCE TO EACH PROP TIP WITH THE PROP HORIZONTAL INSURING THAT THE OFFSET AGREES WITH THAT SHOWN ON THE PLANS. THEN VERTICAL FOR DOWNTHRUST.

NOW, CHECK THE BALANCE POINT TO BE SURE IT IS EXACTLY AS SHOWN ON THE PLAN. IF NOT, ADD WEIGHT OR RELOCATE THE RADIO IN SUCH A MANNER THAT IT AGREES WITH THAT SHOWN.

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LASTLY, TURN THE RADIO ON AND OPERATE ALL THE SURFACES ONE AT A TIME TO INSURE THAT THEY MOVE IN THE PROPER DIRECTION, DO NOT BIND, DO NOT INTERACT WITH OTHER CONTROLS AND DO RUN SMOOTHLY. WHEN YOU HAVE SATISFIED ALL THESE REQUIREMENTS, PUT THE OUTFIT ON CHARGE ALL NIGHT BEFORE YOU GO FLY.

WHEN YOU GET TO THE FIELD, DON'T BE AFRAID TO ASK AN EXPERT TO FLY YOUR PLANE FOR YOU IF YOU ARE A NOVICE OR IF YOU HAVEN'T FLOWN IN AWHILE.

IF YOU DECIDE TO FLY IT YOURSELF, PLAN YOUR FLIGHT FROM TAKEOFF, THROUGH CLIMB, TURNS, PATTERN, APPROACH AND LANDING WITH CAREFUL CONSIDERATION GIVEN TO WIND DIRECTION, RUNWAY ORIENTATION, OTHER TRAFFIC AND RELATIVE POSITION OF THE SUN.

I HAVE SEEN EVERYTHING MENTIONED IN THIS CHAPTER CAUSE A SCALE JOB TO CRASH WHEN NOT DONE PROPERLY, SO IF YOU WILL CAREFULLY TEND EACH ONE OF THESE POINTS, YOUR ODDS WILL BE MUCH MUCH BETTER. DON'T YOU AGREE?

GOOD LUCK AND HAPPY LANDING!

THE FINISH WORK

THE CONSTRUCTION PHASE CONCLUDED WITH THE REMAINING PARTS BEING STUCK ONE TO ANOTHER AND/OR "SHAPE" SANDED. THIS PILE OF PARTS WHICH MAY RESEMBLE AN AIRPLANE DEPENDING ON ARRANGEMENT MUST NOW BE FINISHED TO SATISFY THE GOAL.

ONE OF THE KEYS TO A GOOD FINISH IS SAND, SAND, SAND, DUST IT OFF AND SAND ONCE MORE. REMEMBER THAT, AS IT'S IMPORTANT. THE FIRST SANDING IS DONE WITH ROUGHER OPEN COAT SAND PAPER (I PREFER ALUMINUM OXIDE OR GARNET PAPER) 280-320 RANGE. I GLUE MINE TO 1"X4"X12" BLOCKS WITH SPRAY CONTACT ADHESIVE OR "STICKY BACK" BY SCOTCH. IT'S BEST TO SAND ALL COMPONENTS PRIOR TO FINAL ASSEMBLY AND IS ALSO MUCH EASIER. THE NEXT SAND IS DONE WITH 320-400 GRIT PAPER. AFTER THIS STEP TAKE A GOOD REST, THEN COME BACK AND SAND UNTIL TIRED AGAIN. NOW WIPE THE PLANE DOWN WITH A CLEAN SOFT RAG AND CHECK IT FOR SEAMS, LOW SPOTS, AND SYMMETRY. THEN SAND ONCE MORE WITH THE 400 GRIT.

IF YOU PLAN TO "MONOKOTE" YOUR EYEBALL SCALE, IT IS DONE AT THIS STAGE ON BARE WOOD AND IN ACCORDANCE WITH THE DIRECTIONS FURNISHED WITH THE "MONOKOTE". AFTER IT'S ALL MONOKOTED, GO TO THE FINAL ASSEMBLY STEP.

IF YOU PLAN AN ULTIMATE SCALE JOB FINISH YOU MUST PAINT IT 'CAUSE NO REAL AIRPLANES ARE MONOKOTED. (TOO BAD, THOUGH!) YOU MUST DECIDE WHAT TYPE HINGES YOU WILL USE NOW BECAUSE IT MAKES A DIFFERENCE. IF YOU ARE GOING TO USE HINGES WITH REMOVABLE HINGE PINS, THEN INSTALL ALL HINGES AND CONTROL RODS, LINKAGE, RADIO GEAR, (ACCORDING TO MANUFACTURERS INSTRUCTIONS) ETC., AT THIS TIME. THEN DISMANTLE IT AND COVER IT INDIVIDUALLY. IF YOU ARE TO USE "HIDDEN" HINGES (LIKE THE NO GLUE MOLDED NYLON ONES) THEN COVER ALL THE SEPARATE PIECES AND THEN ASSEMBLE THEM.

TO PREPARE THE MODEL FOR COVERING, YOU DOPE THE BALSA WITH AT LEAST A 50/50 DOPE-THINNER MIXTURE. AFTER EACH COAT SAND LIGHTLY AND CONTINUE UNTIL NO "FUZZ" OCCURS AFTER DOPING. (USUALLY 3 OR 4 COATS). NOW COVER WITH THE MATERIAL OF YOUR CHOICE (FOR INSTANCE, SILK, SILRON, NYLON ETC.) CHECK THE GRAIN (LOOK AT A CORNER OF THE MATERIAL TO DISCOVER THE GRAIN IS PARALLEL TO THE HEAVIEST OR MOST DENSE THREADS WHICHEVER THE CASE) THE GRAIN MUST GO LENGTHWISE ON EACH PIECE.

TO APPLY THE COVERING, CUT IT OVERSIZE, HOLD IN PLACE AND SPRAY WITH A FINE FINE MIST WATER SPRAYER CAREFULLY WORKING OUT ALL THE WRINKLES AND DOPE IT WHILE STILL WET WITH THE BRUSH NEARLY PARALLEL TO THE SURFACE AND LIGHTLY, LIGHTLY STROKING IT. IF DONE WHILE WET, THE DOPE WILL "FLOAT" ON THE DAMP SURFACE AND DRY "WHITE OR CLOUDY" BUT WILL REQUIRE FAR FEWER COATS AND THE CLOUDY LOOK WILL DISAPPEAR AFTER THE 2ND OR ?RD COAT.

CAREFULLY TRIM (WITH A DOUBLE EDGE RAZOR BLADE) AND SAND THE "ROUGH" AREAS BUT BE CAREFUL NOT TO "CUT" OR "SAND" OUT THE FIBERS OVER A "HIGH" PLACE LIKE A RIB.

WHEN SURFACE REMAINS SMOOTH AFTER A COAT OF DOPE (3RD OR 4TH COAT) IT'S TIME TO THIN THE MIXTURE AND ADD TALC OR CORNSTARCH FOR FILLER "BODY". SAND AFTER EACH COAT

UNTIL DESIRED SMOOTHNESS IS ACHEIVED. THEN ASSEMBLE THE PARTS AND SPRAY PAINT THE FINAL COLORS TO SUIT. JUST REMEMBER ALOT OF PLANES MODELED ARE GLOSSY WHEN THE PROTOTYPE WAS NOT. THIS MISTAKE COSTS POINTS. AS I MENTIONED EARLIER, I WON'T PRESUME TO ADVISE ON ACHIEVING THE "ULTIMATE SCALE" FINISH, BUT IF IN DOUBT, THERE ARE VOLUMES WRITTEN ON THE SUBJECT. THERE MAY EVEN BE A "SCALE NUT" IN YOUR AREA WHO CAN HELP. DON'T FORGET THE PLASTIC MODELER WHO KNOWS FINISHES. REMEMBER ALSO, THE PLASTIC MODEL IS AN EXCELLENT SOURCE OF SCALE DETAIL AS WELL.