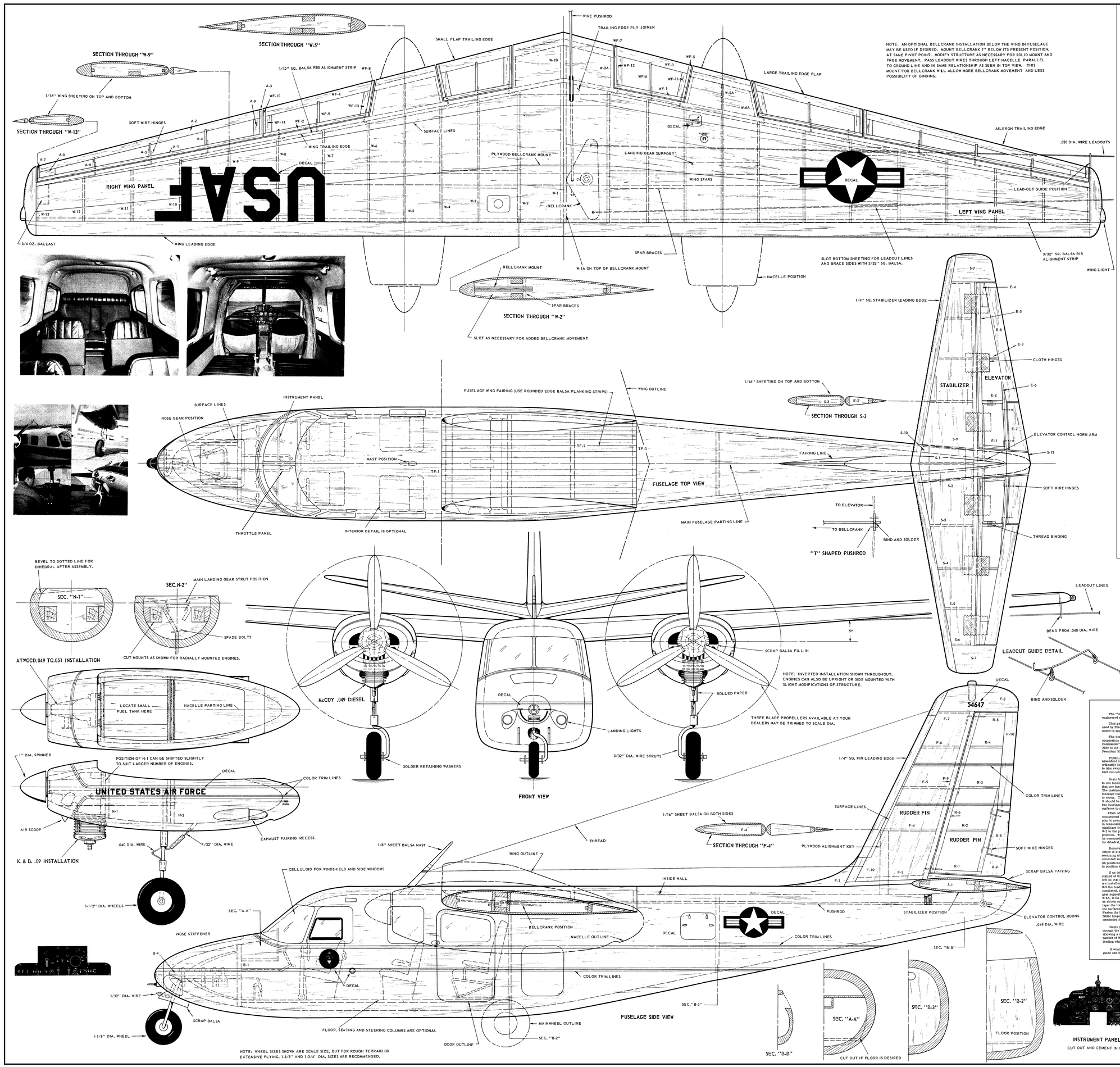



## CONSTRUCTION DETAILS

Cement the center-section ribs, W-1 and W-2, to the plywood bellcrank mount. Then cement the plywood bellcrank mount in position. With this mount in place cement the wing spars in place. Cement the ribs W-3 through W-13 in place. Cement the wing leading edge and wing trailing edge in place. Cement the wing tip ribs W-11, W-12 and W-13 in position.

Cement the six alignment ribs in position on the wing leading edge and trailing edge. Then cantilever, begin adding remaining ribs, starting with W-9 and working in towards the center-section ribs. Add remaining ribs in pairs, one on each side of the center-section, to keep the wing from twisting out of shape. Cement the wing tip ribs. Cement only the top wing spar in position at this time. This extends to W-8 on each side.

If an optional bellcrank arrangement is desired as shown on the plan, it must be installed at this particular time. The bellcrank must be installed so that it will be simple enough to complete the remainder of the wing spars through to complete the remainder of the ribs between the bellcrank. Pass the leadout wires through the ribs from W-1 to W-8. Underneath W-8 and W-9 the leadout wires come out of the bottom of the wing. With the bellcrank installation completed, the bottom wing spar can be added. Then cement the spar braces and the main landing gear supports in position. Complete the main wing surfaces by cementing the ribs, W-5A, W-6A, W-9A, W-10A, W-11A and W-12A in place. Cement the wing tip ribs, W-13A, in place as shown on the plan, similarly to the main wing and round off the leading edge surface and taper the trailing edge, as indicated at rib station W-9 for which the section is shown. If the surfaces are to be mechanically operated, use soft wire hinges as shown on the plan. Fasten the hinges to the main wing surfaces at this time. For servo-operated surfaces, fabric hinges will be required. Unless a lightweight system can be used, it is not recommended for this model.

Begin planking the wing on the bottom, and where the leadout lines are to pass through the wing, cut slots and brace-sections indicated. Complete the top of the wing allowing a slot for free movement of the pushrod to the elevators. Cement the required number of W-14's together to form each wingtip and cement into position. Shape the wing leading edge and tips and taper or round off the wing trailing edge as required.

It would be best to cover the movable surfaces prior to installation. The wing lead-out guide can be bent as shown on the plan from .040 diameter wire, or it can be cut from a piece of plywood and similarly mounted. With the wing construction completed, we can now concentrate on security in position in the cut-out provided on the top of the main fuselage. It will be necessary to trim the cut-out at the trailing edge to eliminate the radius in the curving and to account for the taper in the trailing edge.

The stabilizer is constructed similarly to the wing. Begin by joining ribs S-1 and S-2 to the balsa joiners S-9 and S-10. The ribs are notched so that the dihedral will be accounted for in assembly. Lay down the leading and trailing edge of the stabilizer (one side) and cement this much of it in position. Then add the remaining ribs. Remove from plan and repeat for the other side. When completed, the top and bottom surfaces are planked and the required number of laminations for the tips S-7 are cemented in place. Shape the leading edge and tips and round off the trailing edge as required. The elevators are constructed independently of one another on the plan.

Because of the dihedral angle, a "T" shaped pushrod, or one with a yoke on the end is required. Such an arrangement permits both surfaces to be freely operated without binding. Because space is limited the arrangement must be reasonably accurate and compact. It will be necessary to cut away some of the rear fuselage curving to permit assembly and free movement. The elevator control horns are bent from .040 wire as is on shown on the plan. The "T" shaped pushrod end is bound with soft wire to the main pushrod and permanently soldered once its exact position is determined. To determine this position first fasten the elevators to the stabilizer with fabric hinges, then locate the complete assembly on top of the fuselage and align with pushrod. Fasten pushrod to elevator control horns and cement the completed tail assembly in position. Before the surfaces are completely dry, double check for freedom and amount of movement.

NACELLE CONSTRUCTION: The nacelles too, are also completely carved with two half shells required for each one. Begin by assembling the plywood formers and beam mounts and the nacelle wall shells. This will aid immensely in the strength of this entire unit. When this much of the assembly has been completed fit the two halves for each nacelle against the completed units and trim where necessary until the fit desired is obtained. Before cementing the nacelle half shells in place, install the engines of your choice and then make all the necessary cut-outs required in the nacelle shells.

If engines require separately mounted tanks they can be installed between N-1 and N-2 for engines up to .065 displacement. For engines up to .099 displacement we would suggest that the tank be larger and be mounted behind the landing gear former, N-2

Once the basic unit has been completed, bevel the portion which rests against the bottom side of the wing in order that the nacelle will seat vertically as shown in the front view. Be certain before beveling for dihedral, that the angle is in the proper direction. When the nacelle is sealed to your satisfaction, cement it securely in position.

VERTICAL TAIL AND DETAIL CONSTRUCTION: The fin and rudder are constructed similarly to the stabilizer. To prevent the fin from breaking off easily, it is keyed into the fuselage half shells. When installing, check to see that it is properly sealed and securely cemented.

The fuselage-wing center-section fairing is now added to the model. The shaped rounded edge planking strips make it possible to speed up the assembly and to get a neater and structurally stronger assembly with much less trimming required. Other remaining details such as lights, vents, scoops, masts, wheels and strut details are then added to the model.

FINISHING: Begin by filleting all joints for added strength and more desirable contours. Use plastic wood or similar compound. Allow time for thorough drying and sand down smooth, blending in the fillets with the joining surfaces.

For a finish, we would recommend applying two to three coats of wood filler, smooth sanding between each coat. On top of this, apply at least two to three coats of clear fuel-proof dope, smooth sanding between each coat.

The colors used on the original airplane are representative of President Eisenhower's personal airplane. The original model was finished completely in white. On top of this, a dark blue trim was added. The trim lines are indicated on the plan.

To set a finish that can be rubbed down with a fine grit compound for added lustre, at least six coats of medium consistency color dope will be required. When the model has been finished including the rub-down, add all the decals in their respective positions.

## BUILDING INSTRUCTIONS:

The "Aero-Commander" is perhaps one of the most practically as well as beautifully engineered executive type of transport planes designed in recent years.

This particular version is an exact scale replica of the "Aero-Commander" frequently used by President Eisenhower on flights to his Gettysburg, Pennsylvania farm. Its top speed is approximately 200 miles an hour and its normal maximum range is 1,600 miles.

The detail required to design the model was made possible through thecombined cooperation of the Aero-Commander Company which manufactures the "Aero-Commander", and due to Lieutenant Colonel William O. Draper U.S.A.F., who is Air Force Aide to the President, and through whose efforts we were able to photograph and inspect President Eisenhower's plane personally.

FUSELAGE CONSTRUCTION: This model features a fully carved fuselage which is assembled in two main half shells. Virtually all of the carving and shaping which might ordinarily have been done by the model builder has been eliminated. All that remains is to trim away at bulkhead locations to obtain the best fit possible and also to make whatever cut-outs are required for the cabin and side windows, using the plan as a guide.

Begin by making the nose gear assembly as outlined in the detail sketch. Cement it to one fuselage half shell, then add remaining bulkheads in their respective positions on that one fuselage half shell, using the other half shell to check for proper alignment, fit. The instrument and throttle panel assembly can be installed similarly, or after the two fuselage half shells have been joined together. This is possible because the cabin area is roomy. The floor and seating are all optional. If such interior detail is contemplated it should be planned beforehand and completed as a basic unit to be installed before the two fuselage half shells are cemented together. Use plenty of cement at all joining surfaces to prevent later damage.

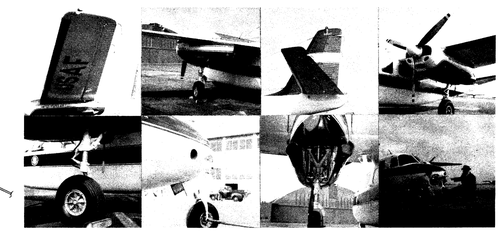
WING AND TAIL CONSTRUCTION: Since the wing and the tail surfaces are to be constructed on the plan we would suggest that waxed paper be laid over the surface of the plan to permit ease of removal of the parts from the plan and also to maintain the plan in reasonably good order. Begin by removing all the die-cut parts required for the wing and stabilizer from the balsa and plywood sheets. Cement the center-section ribs, W-1 and W-2 to the plywood bellcrank mount. Then cement the plywood trailing edge joiner in position. With this much of the wing assembled, lay down the leading and trailing edge sticks, to be cemented in position. Lay the leading edge in place with the other one raised 30° to allow for dihedral, and then cement all the tip ribs, W-11, W-12 and W-13 in position.

Remove this much of the assembly from the plan and then cement the rib alignment strips in place on the leading edge and wing trailing edge. When completed begin adding remaining ribs starting with R-10 and working towards the center-section ribs. Well cemented and properly aligned ribs are important to the models success, so doubly check rib positions with the plan and cement each rib securely. Cement only the top wing spar in position at this time. This extends to W-8 on each side.

If an internal bellcrank arrangement is desired as shown on the plan, it must be installed at this time. The pushrod is best only on the bellcrank end and sufficient length left so that it will be ample enough to complete the remainder of it when the tail surfaces are installed. Pass the leadout wires through the ribs from W-1 to W-8. Underneath W-8 and W-9 the leadout wires come out of the bottom of the wing. With the bellcrank installation completed, the bottom wing spar can be added. Then cement the spar braces and the main gear supports in position. Complete the main wing surfaces by cementing the ribs, W-5A, W-6A, W-9A, W-10A, W-11A and W-12A in place. Cement the wing tip ribs, W-13A, in place as shown on the plan, similarly to the main wing and round off the leading edge surface and taper the trailing edge, as indicated at rib station W-9 for which the section is shown. If the surfaces are to be mechanically operated, use soft wire hinges as shown on the plan. Fasten the hinges to the main wing surfaces at this time. For servo-operated surfaces, fabric hinges will be required. Unless a lightweight system can be used, it is not recommended for this model.

Begin planking the wing on the bottom, and where the leadout lines are to pass through the wing, cut slots and brace-sections indicated. Complete the top of the wing allowing a slot for free movement of the pushrod to the elevators. Cement the required number of W-14's together to form each wingtip and cement into position. Shape the wing leading edge and tips and taper or round off the wing trailing edge as required.

It would be best to cover the movable surfaces prior to installation. The wing lead-out guide can be bent as shown on the plan from .040 diameter wire, or it can be cut from a



# PRESIDENT EISENHOWER'S L-26 "AERO COMMANDER" Controliner

KIT NO. 8-3

| | | |
|---|---|---|
| DESIGNED AND DRAWN BY: PAUL DELGATTO | TWO .049 TO .099 ENGINES | FULL SIZE PLANS |
| KIT ENGINEERED BY: BILL EFFINGER | SCALE: 3/4" = 1' | 32" WINGSPAN |

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