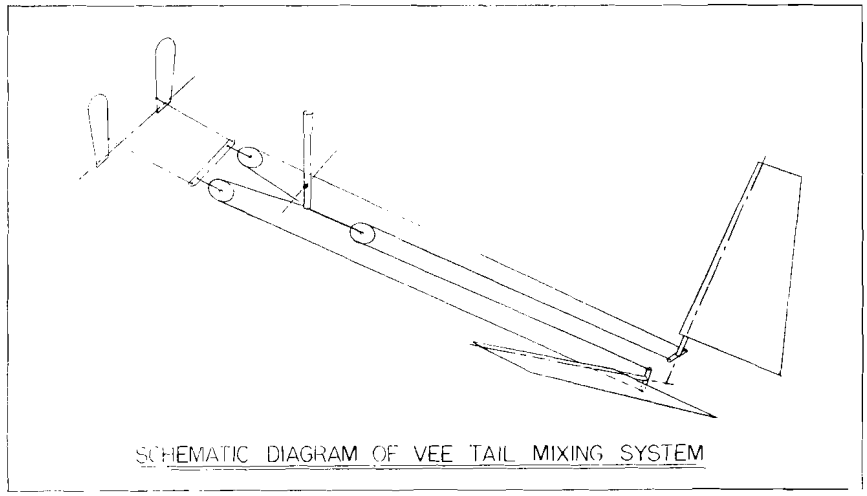
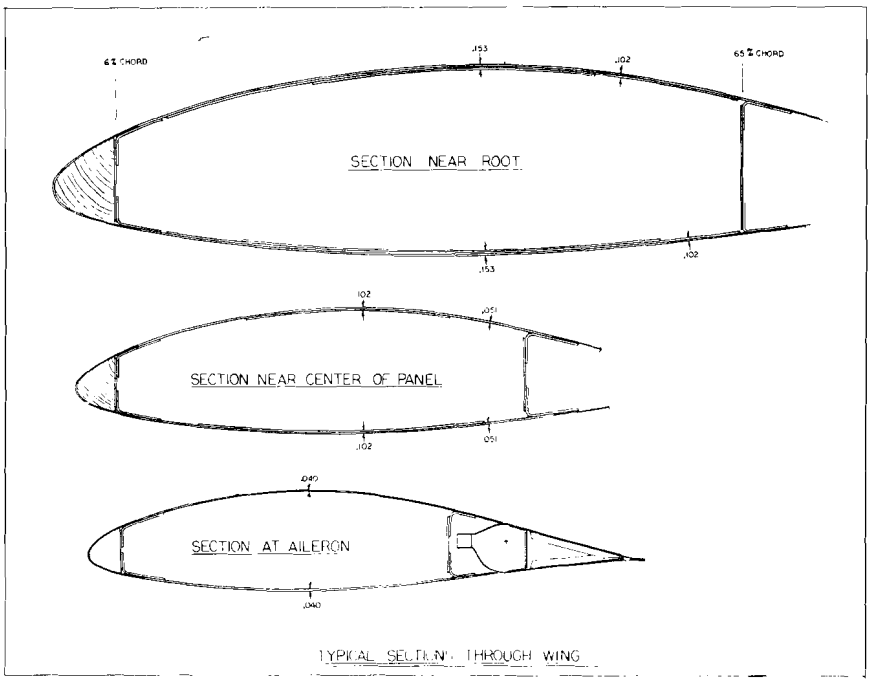
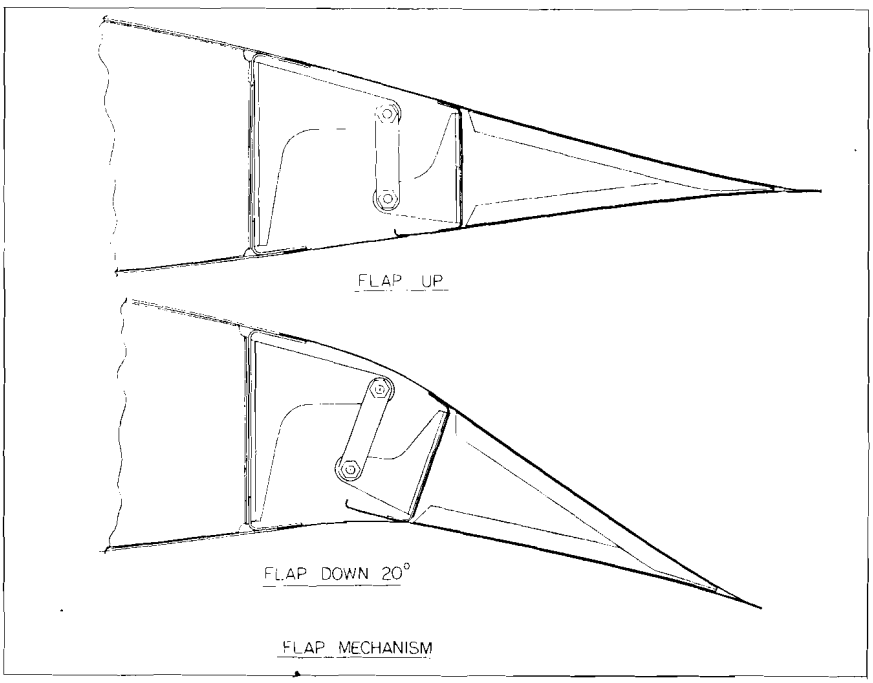


SCHEMATIC DIAGRAM OF VEE TAIL MIXING SYSTEM



TYPICAL SECTION THROUGH WING



FLAP UP

FLAP DOWN 20°

FLAP MECHANISM

are either butted or joggled to produce a flush surface.

The design of the tail surfaces is fairly conventional. Figure 4 shows a typical cross section. The arrangement is such that the surface can be assembled without the use of blind rivets.

The elevator stiffeners were riveted to the skins prior to final assembly with 1/32" soft aluminum rivets headed by being driven against a flat block placed against the flush side. This technique produces an undistorted skin in spite of the very light gage (.016) which is necessary to ease the balance problem.

A true trailing edge was obtained by coating the facing areas of the skins and trailing edge filler strips with metal to metal adhesive, then clamping the assembly between two straight edges until the adhesive had set. The trailing edge could then be riveted flush on both sides without distortion. No attempt was made to create a bond reliable enough to carry air loads. It was used only as a tool.

The tail folds vertically for trailering by pulling the lower attach pin in the stabilizer beam. The controls remain connected by means of a pin in line with the pivot bolts in the stabilizer.

The vee tail configuration was chosen only because the drag should be lower than the drag of a conventional tail. The mixing system for operating the elevators is shown schematically in Figure 5.

Like the tail boom, the wing structure also approaches a pure monocoque design in that a very thick skin, thick enough to carry all of the bending and torsional stresses to ultimate load without buckling is used.

Figure 6 shows typical cross sections of the wing at several stations along the span. As seen from the cuts, skin thickness at the root is .153 in. built up from three layers of .051 in. skin. The inner layers taper chordwise and end at various points along the span. Outer panel skin is .040 Alclad reinforced with an .051 in. doubler extending as far as the aileron.

Figure 5: *Top left.*

Figure 6: *Center.*

Figure 7: *Bottom.*