SERVICE MEMO

Service Memo No. 14

MODEL PA-15, 17 RIGGING PROCEDURE

1. Leveling: Place adjustable jacks or blocks under the axle extension so that the jacks or blocks do not touch the brake lines or connections. Raise each wheel by pushing up on the lift struts on one side and pulling down on the opposite side. All lifting or pulling pressure must be applied as near to the wing attachment points as possible so as to be sure that the lift struts will not be bowed. Raise the tail to approximate level flight position and support it on an adjustable jack or block.

   To level the airplane laterally and longitudinally, drop a plumb bob on a string from the hole located on the side of the upper door frame member approximately 5-3/4 inches aft of the front door frame member, to the center punch mark located on the seat front cross tube just inside the door. Adjust the jacks or blocks until the plumb bob centers over this mark.

2. Dihedral Angle: Stretch a length of string from wing tip to wing tip along the top of the wing at the front spar location. Measure down from the string to the top of the fuselage front wing hinge fittings a distance of 4-7/8 inches. Adjust the front lift strut fork fittings in or out to produce this dimension.

   To check for equal dihedral in each wing, use a 30 inch level held spanwise against the underside of the wing at the front spar location. Note the amount of off level on one wing and see if the other wing has the same amount of off level. Adjust the front lift strut forks in on one side and out on the other to get the same amount of off level in both wings. Check the 4-7/8 inch dimension after this adjustment to see that it has not been affected by the equalizing adjustments.

3. Wash Out: Place a 1-3/8 inch block under the wing at the rear spar location at the outboard aileron rib. Place a 30 inch level chord-wise across this block with the front end of the level at the front spar location. The bubble will center if the wing has the proper 2-1/2 degree washout. Adjust the rear lift strut forks in or out to bring the bubble to center.

Tail Assembly: Level the stabilizers at the rear spar with the airplane in level position. Adjustment is accomplished by the tightening and loosening of the tail brace wires. Take up as many turns as the opposite wires are let out to keep the same tension on the wires. Do not scratch or mar the wires with pliers or wrenches as this may cause the wires to fracture. Plumb the rudder hinge line. Slight adjustments can be accomplished by firmly pushing against the fin rear spar in the direction required to bring the hinges in line.

Assembly of Tab Control: Remove jam nuts from tab cable terminals.

Insert tab cables through hole in patch at inboard end of left elevator; passing through "U" clip on elevator spar, then along inboard side of the first rib and through openings in patches on upper and lower surfaces of elevator. Access openings are provided on the under surface of the elevator.

The cables should maintain their relationship from fuselage attachment to tab horn attachment, that is, the tab cable at the fuselage must be connected to the upper horn of the tab.

A machine screw and clip attachment is provided at the elevator rib to secure the cable housing before it passes outside of the elevator covering. This clip and the end terminals of the cables allow for proper adjustment of the control.

The "U" clip at the elevator spar should be formed around the cable housings.

Install jam nuts on cable terminals and then attach to tab horn fittings.

Adjust cable housings and terminals to obtain proper tab travel.

The tab travel should be coordinated with the position of the tab control lever in the cockpit, at the neutral position and at the "up" and "down" limits.

5. Control Surface Travels:

Aileron	$17^{\circ} \pm 2^{\circ}$ UP $17^{\circ} \pm 2^{\circ}$ DOWN
Rudder	$16^{\circ} \pm 2^{\circ}$ RIGHT $16^{\circ} \pm 2^{\circ}$ LEFT
Elevator	$24^{\circ} \pm 2^{\circ}$ UP $23^{\circ} \pm 2^{\circ}$ DOWN
Elevator Tab	$25^{\circ} \pm 2^{\circ}$ UP $41^{\circ} \pm 2^{\circ}$ DOWN

End