

SERVICE

MEMO

Service Memo No. 9

MODEL PA-14 RIGGING PROCEDURE

1. **LEVELING:** Place adjustable jacks on 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, 15-1/2 inches aft of the front door frame member, to the hole in the lower door frame member. Adjust the jacks or blocks until the plumb bob centers over this hole.

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 3 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 3 inch dimensions after this adjustment to see that it has not been affected by the equalizing adjustments.

3. **WASH OUT:** Place a 1-3/8" 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 wash out. Adjust the rear lift strut forks in or out to bring the bubble to center.

4. **STRUT ALIGNMENT:** Sight along the struts to see that they are not bowed. The jury strut eye bolt may be turned in or out of the fitting in the wing to raise or lower the center of the front lift strut. Adjustment of the jury struts, at the clamps, up or down the lift strut columns will raise or lower the rear lift strut and remove bow in or bow out.

5. **TAIL ASSEMBLY:** Level the stabilizers at the rear spar with the airplane in level position. Sometimes it will be necessary to rig the stabilizers slightly off level to prevent binding of the screw adjusting mechanism. This condition should not exceed 1/2 inch up or down at the extreme ends of the stabilizers. 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. Check the rudder stops for proper adjustment.