

H.P. Model 12 Rigging Instructions:

These instructions are primarily written for rigging a High Performance Model 12 that utilizes the kits and components manufactured by Jim Kimball Enterprises, Inc. Dimensions or numbers that are different for the stock version Model 12 than those for the H.P. version are shown in (). Refer to the included rigging and weight and balance diagrams for details. Note that if you have a stock version fuselage and H.P. wings, you will need to use the rigging info for the HP wings and the W&B info for the stock version fuselage.

Preparing the top wing:

Set the top wing on saw horses upside down.

Install the alum wire exit frames at the rear cabane fittings and the flying wire exit point near the I strut attach. These are secured with nails thru the hole provided.

Sand clearance for the Rear flying wire as shown in the wing kit instructions and in photo 1 below.

Sand clearance in the center section butt ribs for the sway wires as shown in photo 2.

Install the sway wires on the top wing with the right-hand threaded, round ends down. Tape them together at the center to hold them up. Note the sway wire lugs on your fuselage and how they are different left and right. Arrange the sway wires to match. See photo 3.

Fit the cabane struts to the cabane struts fittings in the wings. Note the correct holes to use which are the rear ones on the aft spar and the front ones on the forward spar. Grind or file the ends of the struts to allow for fabric clearance after the wing is covered. File or grind the slot depth in the struts until you have adequate clearance to rock the strut 2" fore and aft when the bolt is thru it and the fitting in the wing. This will give the needed rigging room. Mark each cabane strut as to its location and orientation(top). Now test remove and fit the cabane struts to the fuselage fittings with the 2" rock as you did for the wing fitting end. Install the cabane struts and stagger wires on the top wing.

Now flip the top wing over (3 to 4 people). With tools and bolts ready at the fuselage, place over the fuselage such that the 4 cabane struts can be guided into place as the wing is lowered slowly. Install bolts in the 4 struts and hook up the 4 wires(4 sway 4 stagger). Snug the wires by hand and then the wing will be stable. The top wing will sit there ok on the cabane struts and wires.

Install the left and right rear landing wires into the upper wing at the rear cabane fitting area 2 turns max. Tie it up to the underside of the top wing.

Install the lower wings to the fuselage.

Thread the landing wires into the lower wings and the top wing.

Install I struts with one AN970-4 washer between the strut and wing at all bolts

Install the remaining wires

Install the tail feathers and tail wires

Level airplane using the top longerons at the rear seat area. Level left to right and fore and aft. See W&B diagrams for measurements. Center top wing over fuse as shown in figure 1.

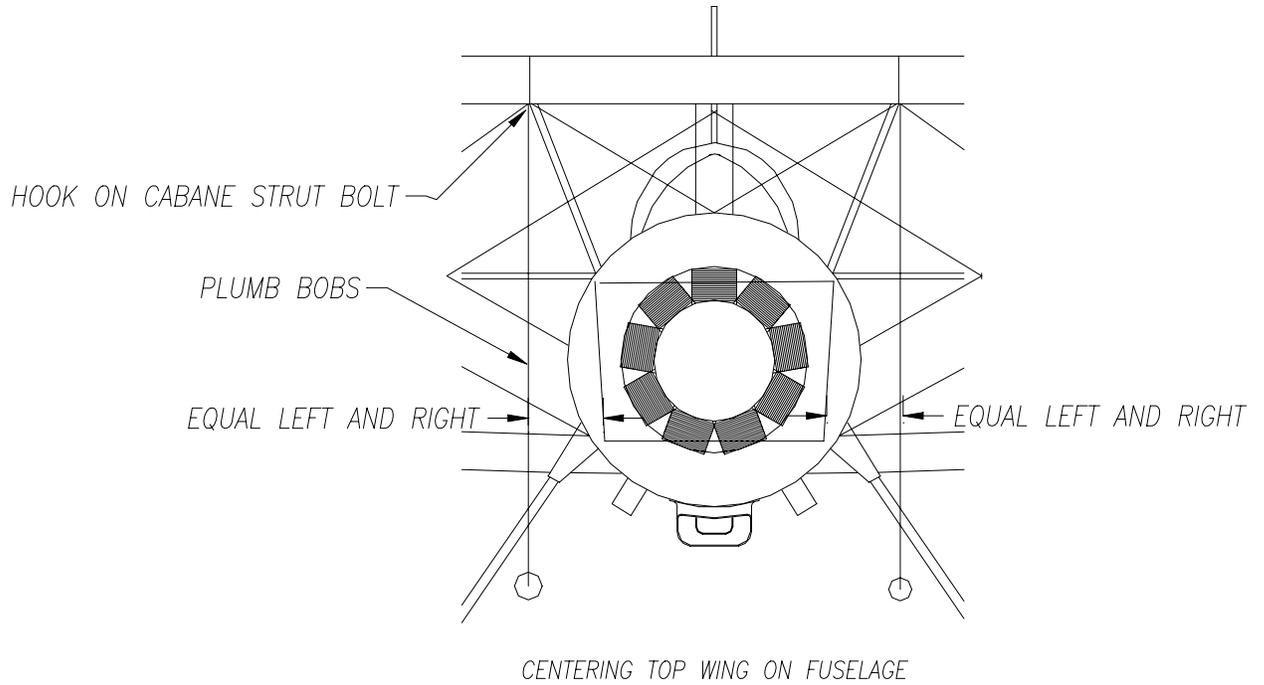
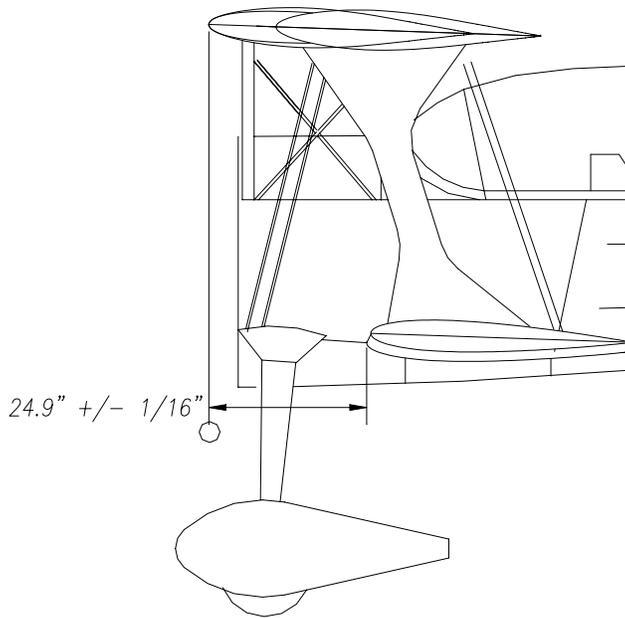


Figure 1

TABLE 1 AILERON WING PUSHROD LENGTH SETTINGS:

ROD	LENGTH IN INCHES center to center
INBOARD(stick torque tube to idler)	38 13/16"
MIDDLE(idler to bellcrank)	46"
OUTBOARD (bellcrank to aileron)	24 5/8"
SLAVE STRUT	As needed

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SETTING WING STAGGER
PLUMB BOBS ON LEADING EDGE
CENTER SECTION BUTT RIBS

Figure 2

Set the wing stagger to 24.9" +/- 1/16" as shown in figure 2. Place a plumb bob over the leading edge of the center section on each side inboard of the sweep. Measure the distance from the lower wing leading edge near the fuse to the string and set toe wires to get the dimensions shown above.

Set the stagger at the I strut to be equal for each side of airplane when measured at the point shown in figure 3. The value of dimension is not critical. Just make it the same on both sides. Adjust the center section wires to swing the top wing a bit to make this measurement equal on left and right. This may change the stagger at the center section but that is OK. Move one side forward the other back to average our the stagger measurements. Use the stagger wires to adjust the top wing.

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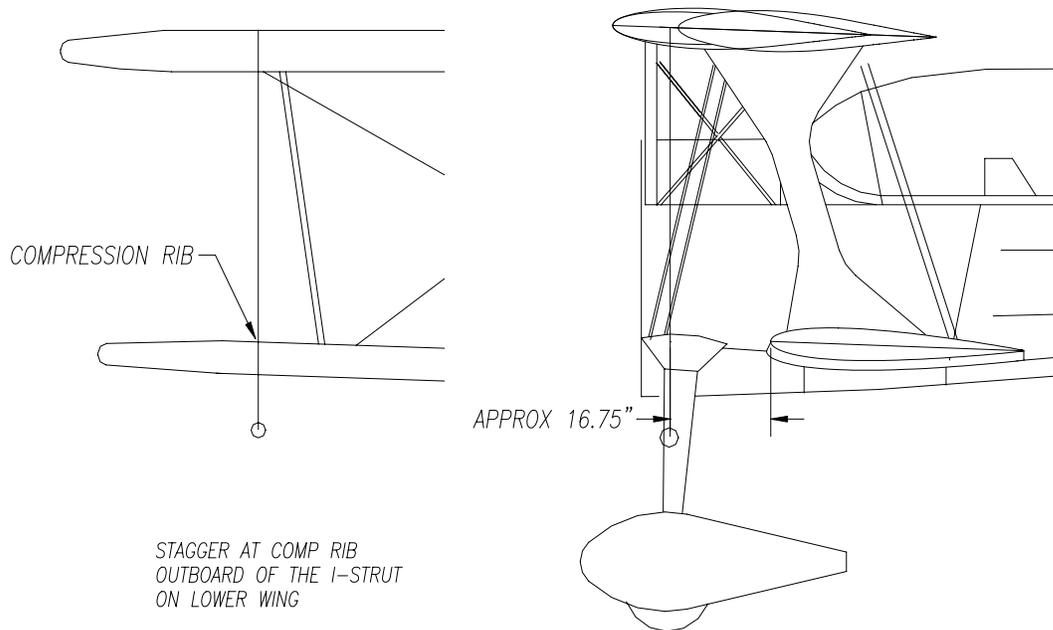


Figure 3

Set the lower wing dihedral to 0.7 degrees (2.3 degrees for Stock version wings) using a digital level on the front lower spar and adjusting the length of the landing wires. That means the tip of the lower wing is higher than the butt end when looking at it from the front.

Now, to rig the wing set and achieve the proper wire tension, tighten the flying wires, not the landing wires, until the level reads 0.5 degrees, (2.0 degrees for Stock wings). Do this a little at a time on the Left wings then right wings. DO Not tighten one side completely and then the other. This will cause the top wing to move. You can use 0.6 degrees pulled down to 0.5 degrees for a test rigging before cover if you wish. But, at final assembly, use the 0.7 degree initial dihedral setting as stated above.

When setting reached, streamline the wires and lock down jam nuts.

Use the level to set the stab level and the fin vertical.

Adjust aileron pushrods to the lengths shown in TABLE 1. Slight adjustments from the shown lengths are OK if needed to set the lower ailerons streamline with the stick vertical.

Adjust aileron slave rods to streamline the upper ailerons to the upper wings when the lowers are streamlined.

Adjust the control stops to get 25degrees up and down on the ailerons and the elevator. 30 degrees left and right on the rudder.

Use the stagger wires to swing the top wing to correct wing heaviness. Call for details.