

# Bücker Jungmann

Aero C 104

C.A.S.A. 1.131E

Dornier-Bü 131B

K9W1

Ki-86A

Tatra T-131



Newsletter #4, February 1979

Tip of the hat this month to Earl Hickman, who has operated a Jungmann for many years. To set wire tension he uses the following formula;

$$F = \frac{LDT}{L}$$

where F= force needed to deflect wire  
D= amount of deflection  
T= tension  
L= length of wire

The equation is only correct for small angles, so amounts of deflection should be kept small. Also, large amounts of deflection can damage the airframe, so for this reason tensiometers made for larger airplanes such as the Stearman should not be used on the Jungmann. Bearing this in mind we will use 3/4 " deflection for the flyin and landing wires, 1/2 " deflection for the interplane strut wires, and 1/4 " deflection for the cabane and tail wires. Deflection should be made in the middle of the wire, obviously. Any suitable spring scale can be used, if you are a fisherman you've probably got one in your tacklebox. Using tension figures in the middle of the range reported in the last issue, and the lengths pin center to pin center below, we come up with the following:

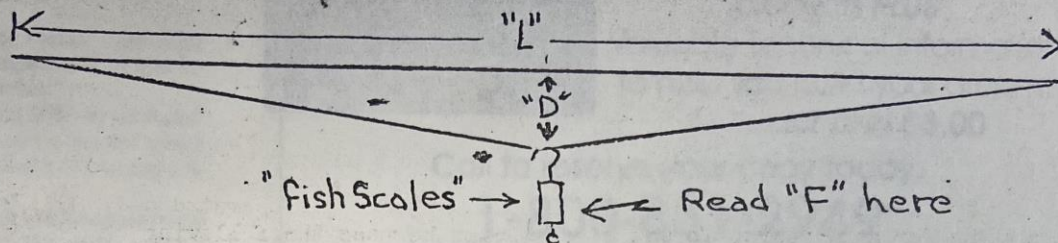
	L	T	D	F optimum	F max
flyin wire, f.	90 3/4 in.	550 lbs.	3/4 in	18.18 lbs.	21.8 lbs.
r.	92 in.	550 lbs.	3/4 in	17.93 lbs.	21.5 lbs.
landing wire, f.	82 3/4 in.	550 lbs.	3/4 in	19.93 lbs.	23.92 lbs.
r.	78 7/8 in.	550 lbs.	3/4 in.	20.91 lbs.	25.1 lbs.
Interplane, f.t., r.l.	51 1/4	440 lbs.	1/2 in.	17.17 lbs.	21.4 lbs.
f.l.t., r.t.	41 3/4	220 lbs.	1/2 in.	10.53 lbs.	15.8 lbs.
Cabane, f.	42 in approx	440 lbs.	1/4 in.	10.47 lbs.	13.0 lbs.
r.	26 1/4 in.	440 lbs.	1/4 in.	16.76 lbs.	20.9 lbs.
tail, upper	28 1/4 in.	440 lbs.	1/4 in.	15.57 lbs.	19.46 lbs.
lower	26 in.	440 lbs.	1/4 in.	16.92 lbs.	21.15 lbs.

~~Along the way we found some errors in the last issue's Newsletter #3 that contained the~~  
~~equation. Once we got the values corrected, we found that the procedure worked~~  
 very well. We used a Zebco De-Liar fish scale, 0 to 30 lb. range, checked for accuracy. Cost about \$2.50.

I'll leave it to you to round off the force ("F") values and convert to ounces as necessary. It is hard to divorce tensioning the wires from the rigging procedures, so you will probably need to check the rigging as you tighten the wires. Remember that it is better to have the wires too loose than too tight. Each wire terminal has a check hole in it: insert a piece of safety wire to insure that you have enough threads engaged after tightening the wire.



Aileron wires (length 48 inches) should be just tight enough to remove slack between the ailerons. This will seem too slack to passers-by, who will invariably want to test them for you. To discourage this Frank Price coats his with black grease.



We've had some inquiries about symmetric airfoil section modifications for the Jungmann. We know that the Swiss "Lerche" aircraft had round wings, and that Frank Price built a set of symmetric wings for his Jungmeister. Doug Warren of Big Spring, Texas, is building a set for his second Jungmann.

Hal McClain (World inside and outside loop record holder) reports that he used acetone to remove paint and dope undercoat from his Spanish Jungmann without damage to the fabric. He is in the market for a set of Cleveland wheels for his airplane.

With the exception of one cracked aileron spar, we have heard nothing but good reports about the wood in the Spanish airplanes. We would very much like to hear from anyone whose experience has been otherwise.

Doug Warren is making inquiries on a quantity purchase of complete sets of Jungmann wires. Thus far there are six people in on it. Interested parties should contact Mr. Warren.

Joel Qualls, of Phoenix, is still looking for a BU 181 Bestmann. After forty years of flying open cockpit airplanes he has decided that it's time for him to seek some creature comforts. Because of his extensive background in Bucker aircraft he felt that the Bestmann would be the logical choice. The 181, which is the granddaddy of the Zlin family, is supposed to exist in some quantity in Europe, though I recently read that only two are currently licensed in Germany, and one of those is being exported to Sweden. Any leads on the location of such an airplane would be appreciated.

Got a nice letter and large packet of information from Bruce Kemper, who has owned or imported 10 or so Bückers since 1966. He reports increasing problems with the FAA obtaining licensing. We know that the word has come down from on high to tighten up Experimental Exhibition Airworthiness Certificates. It is highly ironic that the same agency that certified the Piper Tomahawk (which must have set some sort of record for AD accumulation, including one issued because the control wheels were falling off) would have trouble envisioning a Bucker as safe for flight. It is an unfortunate sign of the times that we better start thinking about developing a strategy for dealing with licensing problems.

Included in Mr. Kemper's information were some Swiss rigging diagrams, which confirmed the rigging information included in the last issue. The only difference we noticed was a horizontal stabilizer angle of incidence figure of approx.