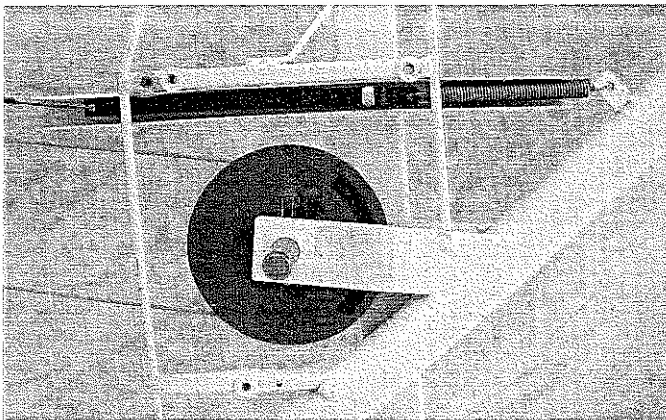


[J3 Alternate Trim Tab Indicator Fix.doc](#)

Alternative J3 Trim Indicator Fix:

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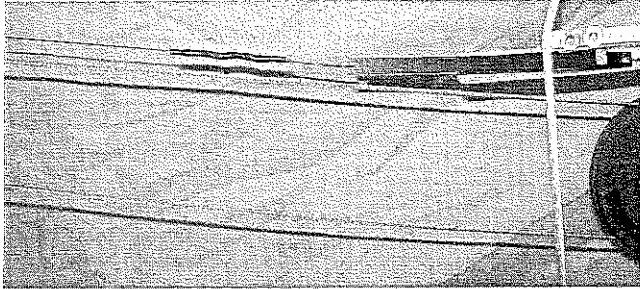
Clyde Smith's article, Trim Indicator Wire Routing in Tandem Fabric Pipers, (issue #128, p. 3-5) described a very elegant method of rerouting the trim indicator wire. Re-read his article before looking at the pictures submitted here and you can easily see how both approaches reach the common goal of protecting the aluminum faceplate. The method Clyde describes corrects the basic design flaw; however, when I considered this, I had not been to one of his seminars and in laying out the preliminary sites for fairlead placement I got to thinking. Why not restrain or constrain the indicator in a small piece of U channel brazed to the underside of the small U channel that is just over the spring and the indicator mechanism? Also, I followed Clyde's suggestion and used rivnuts rather than sheet metal screws to attach the aluminum plate. The three photos show an extra rivnut that will not receive any screw. It was placed before aligning the aluminum faceplate and I needed a better placement of the upper aft screw hole. So it will function only as a backing of the plate. Not really a necessity.



Full nose down trim. Entire section of 'U' channel welded in place. Note the angle the wire makes at the far left of the indicator strip.

The larger U channel used is brazed just underneath the other Ti channel and is about twice the size of the upper U channel which faces outward, The brazed on "guide" U channel faces inward and extends aft about one and one half inches.

Basically, extend it aft to just where the upper edge would almost engage the trim wire with the nose in the full up position. Two photos show the travel of the trim mechanism. One can also see a loop of safety wire through a drilled hole that helps constrain the sliding mechanism from twisting and therefore allows the "rivet" to move exactly like the rivet moves with Clyde's rerouted wire. In this case, there is no rerouting of the wire. There is still going to be upward force on the metal mechanism, but now it is steel against steel and the small rivet does not wallow out the slot in the aluminum faceplate. Incidentally, I placed a single layer of very thin high grade Teflon tape inside this U channel which should last for quite some time and reduce the frictional load.



Full nose up trim, the indicator strip is still held in place, not allowing the rivet to twist and gouge the faceplate.

As Clyde describes in his article, this is a job to do when a recover is being done. I also used a small piece of shrink wrap over the twisted end of the piano wire; it didn't work as well as I would have expected - i.e. the trim wire is so slippery that the heat shrink over the wire slipped back on the wire. A smaller diameter piece might have worked better. So, I cut it off and used a piece of flat waxed electronic type nylon lacing tape to be sure there is no slipping of the twisted wire. This appears to work equally well and you don't have to remember to put it on the wire before stringing it and adjusting the tension, etc. My mechanic says this minor modification to the trim indicator is part of the repair and overhaul of the fuselage frame. No 337 is necessary.



With a safety wire loop in place, the indicator strip is fully captured.