



Design for an Icing Tolerant Pitot Tube

Ken Clunis (CA) - This pitot tube design was patterned after one used on some vintage gliders back when cloud flying was legal and encouraged. It served quite well for the small amounts of icing formed during flight of short duration in clouds. It also inhibits impact water from entering the pitot line where it could freeze and effect the airspeed reading. Because it will fail under prolonged icing conditions, it is not recommended for IFR use. But for minor situations, such as flying in light rain, it is definitely superior to a straight pitot tube in its tolerance for ice and water pickup.

In theory, any ice which might form would coat the exposed surfaces gradually building up a thick layer. By making the entry relatively large (about 1 inch diameter), it will take quite a bit of ice to cover over it. Any water that enters the main tube may impinge on the forward side of the pick-off tube where it, too, might freeze. By having the open end of the pick-off tube facing to the rear, the possibility of ice covering the opening is reduced. Also, since the pick-off tube exits vertically, water can not enter the airspeed line.

A 3/4-1" diameter aluminum tube forms the main part. The pick-off tube is simply the cut off end of the plans pitot tube. Or it can be another tube con-

nected to the airspeed line with Tygon tubing. The main tube must be sealed at the end with a cap of some sort and the pick-off tube must be sealed to the main tube. I had mine welded, but I think that silicon sealer would work just as well.

While parts dimensions are not critical, the location of the opening should be centered around the plans designated position. The entry edges should also be sharp and not chamfered or rounded. To achieve this, the tube may extend slightly out of the nose cone

Since I built mine in from the start, I can't offer a method for retrofitting one. Perhaps someone will do just this and get back to me with details so I can publish them.

Teflon Coating

Roy Fisher (FL) - Recently, someone wanted to know of a place to get their carb throttle plate coated with Teflon. There is a company here in Lakeland, Florida (City of Sun & Fun) that does Teflon coating and color powder coating. They informed me they also work with T-60 and 61 aircraft aluminum. The company is Americoat Corp. 941-667-1035, ask for Lillie in sales. If I can be of help let me know.

Another Happy Price-VG Convert

Bruce McElhoe (CA) - I installed vortex generators on the GU canard and wings of my Long-EZ using the dimensions and arrangement that Jim Price developed to set the altitude record in his Long-EZ and that he described in CSA newsletter of January 1997. I cut the VGs from plastic molding used for shower enclosures, 0.25 high by 0.35 wide by 1 inch long and glued them on with silicone RTV.

My minimum near-stall "bobbing" speed dropped by at least six knots, from 61 KIAS to about 55 KIAS. The reduction might even be better; my airspeed indicator is not accurate or easy to read at those speeds. I now land comfortably 10 kts slower than I used to.

Cruise speed seems about the same. If cruise speed is reduced at all, it is less than 2 kts.

The VGs have no effect on the "rain drop" problem on my GU canard. The canard still loses considerable lift in rain with about 8 kts loss in airspeed.

I'm very pleased with the results and the VGs are on to stay. I expect they will help take-off performance on hot central-California summer days.