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Beechcraft Upper Door Latch War

Does your Beechcraft Bonanza, Baron or Travel Air upper door latch pop open or require you to tug on the upper part of the door frame to get the latch hook to capture the pin in the airframe?
Well, after 5 years of increasing top latch door pops culminating in two aborted takeoffs (one on the roll and one just after liftoff) and after finally thinking I've gotten the door latched, the upper door latch pops upon reaching 10,000' in the deep freeze of winter traveling south from KATW, Appleton, WI, I had enough!

Don't ask me and my dog how we like open door flying in the winter! Fortunately, we had just installed and refurbished the nose heater and the OATs were only about -5C, it was manageable.

My IA, Dave Austin,
met me in my hangar that evening and we extracted the offending latch (see pic above). Without a functioning latch to compare we were stumped as to what was the problem.

Initially we thought the bushing slop in the mechanism was the issue and set out to source some bushing material. No bushings were listed in the Beech IPC and nothing suitable locally could be found, so I put a panic call into the Beech Parts and Door guru, Kevin O.

Kevin quickly sourced me a low time serviceable upper door latch through our mutual Beech Lister buddy Bob Butt (formerly of Corona, CA and now living at Bourland Field - right in my Texas backyard). I picked up the spiffy serviceable Beech door latch on Sunday morning and was with Dave that afternoon to make the swap.
Notice the huge amount of wear in the "hook" on the right.

Notice the severely bent hook arm. This is pretty FUBAR!

Upper Door Latch mounting zone from underneath

Upper Door Latch mounting looking aft

A couple of screws in the front of the latch and two in the bottom rear of the latch, hold the
assembly into the door frame.

Removing the push-pull cable nut on top is tedious but doable with a little magnet and small ignition wrenches.

Bolt through latch arms connects to push-pull tube, nut attaches on top.

After replacing the latch, we are thrilled to see that the latch does not pop open with hand pressure on the top of the door from the inside. However, after the initial side latch closure (just prior to turning the inner door handle to activate and secure the top latch) we still have a fairly large gap at the top of the door to the airframe that requires a pulling of the top of the door toward the airframe to have the hook "capture" the pin in the top of the airframe.
Upper airframe door latch pin. Note by zooming, it has four positions (fore and aft) it can be placed in, to custom tailor hook capture.
Hmmmmm, Dave and I scratch our heads on this for a while and we agree that something must be amiss in the side latch mechanism. We poke around in there and remember that a while back we were looking at the door for possible door handle spring replacement and found a pin laying in the bottom of the door. It was about 2" long and maybe 0.125" in diameter with a hole drilled in one end of it.

This was indeed the missing link (pun intended). This pin fits up inside area #4 of the below diagram. What this pin does is secures the whole side sliding latch mechanism in the door frame at a particular point further away from the airframe. By doing this, the side door latch catches in the door frame CLOSER to the airframe, thereby reducing the gap in the upper part of the door. Make sense?

Well, after reinserting that pin (another tedious ship in a bottle exercise, but Dave got super lucky with a magnet and mirror), the door can be initially closed with a quick snap (not a SLAM), then the interior handle is turned counterclockwise for a completely unassisted top latch hook capture and a securely latched door!

WAHOO! 😊
Bob Butt (a licensed A&P), based at 50F and wants everyone to know that if you remove your door and send it to him, he will get it all tuned up for you. From the exterior door latch adjustment, door handle spring replacement and upper door latch.
There's an unconfirmed rumor going around that Bob might start doing a "Door Seminar" at OSH...Stay tuned to find out if it's true <vbg>.

Email or call Bob (951) 283-3953 to get a quote and discuss your door tune-up needs.

NOTE: This discussion only applies to Beechcraft upper door latches that have the hook facing forward. An older Beechcraft airframe (possibly prior to 1960, don't quote me just check your airframe) has a larger hook design in which the hook faces aft!

A BIG thanks to Kevin, Dave and Bob who all pitched in to help me out of this jam so I could make my Xmas trip! 😊

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