

WING TIPS:

Tricky door tricks

By Dennis Wolter, Cincinnati, Ohio

Wing Tips is inspired by folks who are willing to show others the ropes, sharing their knowledge and lending their insight into the art and science of flying.

If there is any one statement I am known for repeating often to my employees, it is “*Strive for perfection, and accept nothing less than very, very good.*” My passion for Beech airplanes over the past 50 years has proved to me that Walter Beech must have also thought along those lines. But since not much in life is truly perfect, I am provided with something upon which to base this particular article.

If I were asked to identify one part of a Bonanza that falls a little short of perfection, I would instantly initiate a conversation about the latching mechanism of the cabin door. The problem is not as tedious as most owners and mechanics have made it out to be. I could write more pages on this subject than any of you would ever take the time to read. But in the spirit of these short “Wing Tips” articles I will share what I believe to be a few important adjustment techniques that will help make your relationship with your door a little less troublesome.

I’ve learned some tricks on how to properly close these doors, as well as simple adjustments and maintenance procedures that will resolve most of the issues we have with them. (In all fairness to Beech, over the years they have improved the mechanism and adjustment features.)

For a Beech cabin door to close properly, the mechanisms must be well lubricated. All it takes is a few drops of plain old “3-in-1 Household Oil” on all the moving parts. After oiling, and before attempting to close the door, rotate the door handle clockwise to the full open position, then release the thumb button and rotate counterclockwise until the thumb button clicks into the detent. The latching mechanisms are now correctly indexed to facilitate optimum ease of closure.

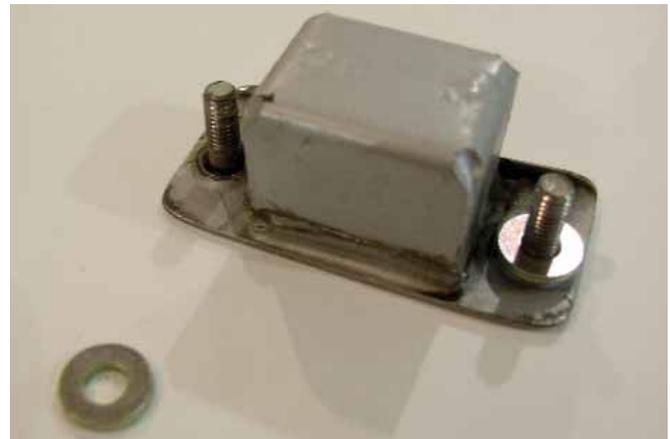
Now briskly pull the door closed (don’t slam it), holding some inward pressure as the aft door latch seats itself into the striker plate. With the door in this closed position, see that the upper portion of the door draws itself completely into the frame as you rotate the handle counterclockwise to the locked position. The final check

is to firmly push the door at the top latched area to confirm that the upper latch is fully closed.

The most important thing to know about these doors is that your airplane will fly perfectly with a door that comes open in flight. However, if your door does pop open, and someday it likely will, remember to *fly the airplane, land safely and then close the door properly.* Other than a lot of noise, and possibly losing charts from the copilot’s seat, an inflight door opening is a non-event.

If your Beech door just isn’t quite right, you should know that there are external as well as internal adjustments that can be made. Internal adjustments, though rarely needed, are best done by an experienced A&P who understands the function of these doors. There are several external adjustments that can be easily and legally done by an aircraft owner as a preventive maintenance procedure.

If, when you close your door, you have a difficult time getting the latch bolt to catch on the aft striker, there are a couple of things you can do. First, install an AN960-10 spacer washer under each mounting screw to allow the stainless striker-receiver to stand off the door frame slightly. If that doesn’t do the trick, loosen the four screws that secure the latch bolt mechanism to the



Using .063 inch thick #10 flat washer shims for the door striker.



Adjusting the aft door latch bolt mechanism.

“It is not uncommon to have to install a slightly longer adjusting screw in order to get the door to latch, especially if a new windlace cord or door seal has been installed.”

—DENNIS WOLTER



Dressing the aft edge of the door latch bolt.



Adjusting the upper door latch receiver.

trailing edge of the cabin door and move the latching mechanism inward as far as the slotted holes allow. If you find you still have a problem, the aft edge of the brass latch bolt is probably worn and needs to be filed or disc-sanded to a nearly sharp point. Dressing the edge of the latch bolt will usually take care of things.

When the latch bolt and striker receiver are working well, the only other simple adjustment will be one made at the pesky upper latch. If your door has become very easy to close and leaks air or water at the top, simply turn the forward adjusting screw of the upper latch receiver clockwise one or two turns until a firm rotation of the door handle fully closes the upper latch. If a new windlace cord or door seal has been installed, it may be necessary to loosen the adjusting screw to facilitate proper door closure. It is not uncommon to have to install a slightly longer adjusting screw in order to get the door to latch.

The secret weapon - These adjustments usually cure 80 percent of the door issues I’ve encountered over the years. But no door latching discussion would be complete without my letting you in on our secret weapon. At Air Mod, we use a stick of white lithium grease, sometimes known as “door ease,” to lubricate the surfaces of the striker receiver, the latch bolt and the catch hook of the upper latch. This viscous, waxy substance works very well on the high pressure surfaces of the door latching components.

Hopefully some of the techniques described here will help you make peace with those tricky Beech doors. Next time we’ll talk about baggage and cargo doors (they need a little TLC also). If you have any questions or suggestions, give me a call. Until then, fly safe!

Editor’s Note: For more info about getting your doors in working order, see Dave Fleckenstein’s article about replacing door seals on page 42.



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