

Front Seat Zen: How to Remove front Commander Seats in 5 Minutes, *Guaranteed*.

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My A&P Rick who is usually very patient and methodical, has had a bad couple of weeks with a difficult family death, a couple of whacky customers (me excepted,) instrument over-haulers who screwed up, several emergency repairs, etc. etc. -- all this during my annual, which took more work than usual. When I spoke to him yesterday, he was at his wit's end trying to get the front seat back in, even with Sven's instructions and even having done it in the past. He just had to give up for awhile, he said, and try again Monday. He was totally frustrated.

So my oldest son Conor was in town and today we went to the hangar with a goal to solve this seat issue once and for all. We found the seat completely jammed, part way in, etc. etc. The first thing I recommend is unhook both doors and lightly secure them way back, and if you don't have Carl Lee's door piston mod just get it -- worth its weight in tetra-ethyl lead. But trust me, one way or the other, get those doors all the way open.

Then get a **LOT** of light. We put two multi-LED's on the floor under the seat and also both had on small LED o headlamps, which are the mechanic's best friend. I also have huge Zeon lights in my hangar. Conor and I are both fans of "Zen & the Art of Motorcycle Maintenance" which every mechanic should have to read and be tested on before they are allowed to touch a wrench, and adopted the mode of *"somehow, somewhere, there was reason and logic to this system, and if we are patient and study it, it will come clear."* And so it did. I can easily get the seats in and out in 5 minutes now (BUT **ONLY** AFTER I HAD DONE EVERYTHING LISTED BELOW ONE TIME AND MAYBE REDO IT EVERY FEW YEARS.)

We spent at least 2 hours doing the following on just one seat to:

1. totally cleaning the tracks, 100%, they were incredibly filthy
2. lubing the tacks with spray Lithium. Just what was needed. no globs.
3. cutting every shred of carpet strand we could find, then sealing every spot we cut with a BBQ lighter wand.
4. trimming plastic on the console that was making things difficult for remove and install
5. sealing up some holes in the console compartment floor which I never knew were there (check yours!) from the inside with white duct tape so you can see it if it ever needs replaced. Found that these holes dump little bits of debris out on the track and rollers.
6. filing off a few burs on the rails, both at the back end where the rollers slide in and around the "magic slots," one on each side, where the track gripping mechanisms drop in and out.
7. repacking all 4 rollers with white lithium lube, by continually forcing new lube in the outside with your thumb, which pressurizes it and pushes the old ugly black dirty grease out the inner hub by the shaft. It took 12-15 little dollops of lube with the thumb-pressure-treatment, spinning and cleaning about every 3rd time, to get the old out of each one.

Now... do that and you won't have to do it again for years and years.

Sven's post mentions the little slot on top of the rail where the seat-catch mechanism slides **vertically** in and out of, but in a pretty low key way. **THIS IS THE ABSOLUTE KEY TO PAINLESS SEAT REMOVAL AND INSTALLATION** *presuming* you have done all the

other things above.

To find the slot on the door side, simply put your finger on the door latch post on the frame, then feel almost straight down to the rail. You will feel it. The console side notch is directly opposite. You might want to put just a small permanent marker dot on the jamb right by that post and on the other side on the console. knowing exactly where these slots are is essential.

After that, you have to understand that removing the seat requires you to;

1. remove both pins at the back end of the rails
2. slide the rear rollers out
3. now line up the latch mechanism exactly with the slots on both sides, then lift the seat up and forward. If you are lined up, it comes right out. If not, you will make yourself nuts. And if you think you will slide it out by simply taking everything out the back, good luck. A few board post recommend removing the rear seat to do this. Might work, but totally unnecessary.

Hints:

1. The first time you tackle this, have a helper if possible. It makes this far easier with one person on each side. Now that I fully understand the system, it's not a big deal, but I really appreciated having the extra set of hands. As Sven said, with one person, you have to cable-tie the seat-latch mechanism back. I would still tie that cable back even with 2 people. Putting the seat back itself in at about a 90 degree or less position makes it easier
2. If you have it "racked" even just a little, the seat jams. If it is stuck, you have most likely racked it.
3. Do not first spray the bearings clean with LPS or soak them in something, unless you can centrifuge them to do something to get that light stuff out before you repack them, because that stuff will break down the very lube you push back in. (I learned this the hard way as a bicycle mechanic.)
4. You might be able to take the shafts to a shop and have new bearings swedged on, but unless they are totally shot, probably not necessary. They don't carry that much weight or get that much use.
5. It could be very easy to leave the rear pins out after install which could make for an unfortunate drop or your seat while adjusting if you are tall, or lord help you if you have a latch failure on rotation like the Cessna's used to do.

The seat slides better than it has since I bought the bird 10 years ago this month. I also cleaned and lubed the seat-latch mechanism, which no doubt helped. I can now pull each seat in 5 minutes. My mechanic, who knows appx. 110,000 times as much about airplanes as I do, was nonetheless impressed and amazed. All it took was time, patience and a rational analysis. Robert Pirsig would be proud.