Hello, Columbus – by John Allard

Loosely based on Just Flight Cargo Pilot® - Microsoft Flight Simulator experiences….

Chapter 4 – Coping

How things change, I reflect as I scan the instruments by flashlight. Fifteen minutes ago – less, just about five minutes ago – we were motoring along merrily over Tennessee with strobes and beacons flashing and the autopilot dutifully flying our 50,000 lbs of airplane exactly as we wished it to, talking on the radio to Memphis Center and finding our way by radio beams.

Well, I thought wryly, we're still motoring along over Tennessee, and our gross is still about 50,000 lbs, but most of the rest of that happy picture has evaporated in a puff of smoke – or two puffs of smoke. The first took our radios and autopilot away. The second took most everything else. Still, there are some bright spots. The engines are fat, dumb and happy out there on the wings, just as they were before. Most of our basic flight instruments are functional and we have a couple of flashlights to read them by. And Joe just happened to have a brand new, shiny, hand-held GPS.

He returns to the flight deck after a few long minutes, and slides into his seat, carefully re-fastening the belt. He produces two objects; the GPS that may well be our salvation and - - -? A roll of duct tape? Aha, I think, realizing what he has in mind. Just the thing for covering up those disorienting turn coordinators. He proceeds to do just that. We're never going to live this down if they find out about it back in Ocala.

That done, he fires up the GPS and begins to rapidly push the buttons on the face. What he's doing is unfamiliar to me, but he's clearly spent some time with it and seems to be confident.

"Turn right to 020, Boss; we missed the turn at Hinch Mountain VOR, but we can get back on the airway before JELLO intersection", he says without hesitation. I start the turn, carefully, roll into it, adding a little back pressure; don't worry about the airspeed, just stay on the altitude. I'm rusty, but not too much. I usually do this kind of thing by twisting the heading knob on the HSI. I turn through 30 degrees and steady up on 020, cross-checking HSI and magnetic compass. It looks like the HSI gyro is vacuum operated. That's a blessing. Flying by magnetic compass is possible, but difficult.

I'm still scanning using the flashlight and Joe is punching keys for all he's worth, occasionally consulting our route sheet. He's entering our waypoints, I suspect. While he's busy with that, I'm busy thinking. This is going to take some thinking

through and tonight will be no time to be behind the airplane. We need to anticipate everything we can.

Joe gives me another heading instruction a couple of minutes later and returns to his keyboard. I make the turn, this time a little to the left. I can see the back-lighted, four-color display on his new toy, but it's too small and far away to read it, much less to comprehend what he's doing.

By the time he's finished, I've come to some decisions.

"Joe, I've begun to think this through. Let me lay this out as I see it. If you have suggestions or you think I've overlooked or mis-calculated anything, let me know." He nods, watching me intently.

I keep my eye on the instruments as I speak. "I think we continue to Rickenbacker and should stay at 12,000 all the way there. I've just looked at the approach plates. 5R is the long runway, 12,100 feet plus a 1,000 ft. overrun pad. There's a GPS approach for 5R and the IAF is the outer marker. We'll fly the last enroute leg direct to the fix. Once we hit that we can fly a hold over it and descend in the hold until we're ready to shoot the approach. By the time we've made one circuit, ATC will have figured out what we're up to and will be getting everyone out of our way. They won't know we don't have lights, but they probably already know we can't talk or hear. They must have seen our transponder go away. I think they'll be able to follow our primary radar target better if we stay high. We'll use the time between here and there to configure us for landing; I think it would be best to do that in straight and level flight anyway."

"The only navaids on the approach plate are the outer, middle and inner markers. We won't have them, but the GPS should tell us what we need. We won't have a current altimeter setting either, but the ceiling is forecast at 800 AGL and the MDA for the approach is almost 400 feet below that. We should be in the clear well before the MDA and we can add a couple of hundred feet to compensate for any altimeter setting error. That will keep us on the safe side if conditions don't look like the forecast."

I didn't know what we'd try next if that didn't work, but didn't say so.

"What was your last fuel hack?" He bent down on his side and fished out the clipboard, reading it with his flashlight.

"At KIRCH intersection we had three thousand twenty five pounds – that was…19 minutes ago." He sure has gotten blabby, I think to myself.

"OK, now for the hard part. We need the landing gear and if possible, the flaps. They'll have to be pumped down by hand, and it's going to take a while, so I want to start pretty soon. We ought to throttle back some before we start and get

about 20 knots off her, but we need to remember that the props are as they are. They won't adjust without electrical power, so I'm not too sure how she'll behave. Ideally I'd like to get the flaps out first, but I'm not sure we have enough time, so I'm going to start with the gear and we'll get whatever we can manage on the flaps in the time that's left. With me so far?" I see his nod out of the corner of my vision.

"Next point is, you understand that little box in your hand and you know how to operate it – I don't – and this isn't the time for me to learn. Can you fly the plane and navigate with that thing at the same time while I'm pumping down the gear and flaps? Remember that you'll have to deal with a slow, continuous configuration change. Do you think you can do that? If you're not comfortable with what I'm proposing, say so, and we'll think of something else."

He hesitated for a few seconds, then said, "It's OK. I can do it." I'd never doubted he could, but both of us needed to hear him say it.

"OK, are you all set up on the GPS?" He nods. "Let's slow her down to 145 then. I think you ought to take the controls, but I'll stay here until you're slowed down. Let's go a little richer on the mixtures as you reduce the power. We don't have any way of gauging that now and we should err on the rich side."

A few minutes later we were steady at 145 knots, still holding 12,000 feet. I hadn't touched the controls. Joe had managed the throttles and the trim and the flashlight and his GPS as if he did this sort of thing every night. I was ready to jump in if he needed me, but he didn't. The props hadn't been a factor, though we didn't have any idea of RPM or manifold pressure any more. The control scheme must have required electricity somewhere along the line. I wondered about manifold pressure and if we were straining the engines by flying level this slow with the props at a coarse pitch. Can't be helped. We get what we get.

"OK, Tiger. I'm going to go back and look over the pump station, get the valves lined up, then I'll bring my flashlight back to you. I want you to have a spare. I won't need one to operate the pump. I'll be back in a flash." Another nod, but he doesn't break his scan.

Twenty more minutes have passed, and I'm back at the manually operated hydraulic pump station for the second time. This time I'm in the dark. The pump station is set in a cavity in the forward cargo hold bulkhead, port side, just at the deck level. I'd removed the cover plate and read the instructions on the battered plate on my first trip here and had already aligned the valves to pump the landing gear out into the slipstream. All that had taken quite some time. The pump has two operating modes, fast and slow. For relatively fast operation, two pistons, one large and one small, are operated in parallel by the pump handle to displace oil from the reservoir into the system. Once operating effort in that mode becomes too great, and it will, the operator can slide a little link bar and

essentially take the larger of the two pistons out of the picture. At that point it will be slow going, but the effort required to operate the handle will be reduced in proportion. I wonder how long I'll last in high speed mode.

Thankfully, the area around the pump cavity is clear of cargo. The Provider cargo bay is about 31 feet long from the forward bulkhead to the break of the ramp hinge. Because of CG parameters, cargo is more or less concentrated near the center, under the wing, spreading fore and aft equally. Tonight none of it obstructs the area around the pump cavity. I make a mental note to have the almost obliterated yellow "KEEP CLEAR" zone on the floor repainted soon.

The only reasonably comfortable position for operating the pump handle is to sit on the floor. My knees complain a little as I sit myself down and get a two-handed grip on the handle, which moves laterally, parallel with the deck, about a foot and a half above it. It seems that the best position is to sit facing inboard with my legs parallel to the bulkhead and my back against the folded ladder of the port side cabin door. It's not comfortable, but it lets me move the handle more or less in the fashion of a rowing machine and get my back into it. I begin slowly, moving the handle back and forth in the dark. I'm surprised to find that it pumps on both strokes. Not sure if I like that or not; it's awkward in one direction no matter how I position myself. Well, it can't be helped. This isn't so bad, I think. I can do this.

About a thousand strokes later, eight hundred of them after shifting the pump to slow speed mode, I'm wondering whether I can do this or not. The pump effort had increased quickly once the gear started moving. I could hear the change in the slipstream noise as they began to creep out ever so slowly, pushing the gear doors open ahead of them. At first I could. Now all I can hear is my lungs heaving and my heart pumping and my blood rushing through my tired veins. This is hard work! I have no idea how far out they are and am wondering how I'll know when to stop. I suspect that the pump handle will become pretty much immoveable once all three gear legs are up against the stops. I hope so. We don't have any little green lights on the panel to tell us.

After a few hundred strokes more, each a little slower than the last as my strength flags, I feel a steep increase in the effort required. Within a stroke or two the handle is solid. Thank God, I think as I sag sideways against the forward bulkhead for a minute to catch my breath. I close the stop cock to the landing gear circuit by feel, preventing the air pressure on the gear from pushing oil back out of the extended cylinders.

After that short respite I haul myself, complaining knees and all, back to an upright position and move toward the steep steps up to the flight deck. In the first half-step, I bang my leg painfully against the now rock solid pump handle protruding from the bulkhead cavity. Recovering after some salty expletives I

limp the few steps toward the flight deck access way, supporting myself with a hand on the bulkhead as I go. I heave myself up, still panting like a dog.

I sit down and belt in, just in case. Joe gives me a quick look, then returns to his scan. "Gear is down." I say as my breathing slows somewhat and I slip my headset back on. "I'll need the light when I go back to make the valve lineup for the flaps."

"Not much time", he says.

"How close are we?"

He consults the GPS in his lap. "Thirty-nine miles to the marker."

I do the math. A little over 15 minutes. Damn! I was longer with the gear than I thought. "OK, Joe, I'm going back right away. I'll need the flashlight to get the pump lined up and won't waste the time to bring it back. When we're at 4 miles, shine your light through the access way and wave it around. I'll see it and come back. Be prepared to enter the hold without me, but don't descend until I'm back and belted." Without waiting for an answer, I pulled the headset off, unbuckled the belt and squirmed out of the seat, avoiding the yoke. Once more into the breech…

The flaps proved easier, in terms of effort. I was able to keep the pump in high speed mode, but couldn't judge how much progress I'd made. I can remember a whole series of actuator cylinders spaced across the length of each flap, five per side, at least. More cylinders meant less effort, but more oil. I give up trying to estimate how far I'd progressed and just keep sawing away with the pump handle. Soon I see the beam of Joe's light waving back and forth through the access way. We're out of time. I quickly close the flaps stop cock and this time, stow the pump handle before making my way back to the flight deck.

"How does she feel", I ask after getting settled back in.

"Nose is down a little, and I've had to add power; they're down some." I looked out my side window, craning my neck to see how much I'd pumped them down but can't see a thing. It's too dark and the angle is all wrong. I just can't tell.

Joe banks us into the first turn of the racetrack above the approach fix. "It's 231 degrees outbound, left turns", he volunteers, trying to look at his watch while juggling the GPS and flashlight and maintaining his bank angle. I hadn't thought of that. The panel clocks were both dead.

"I'll call the times for you." I looked at my watch, noting the second hand at 5. We needed one minute intervals, four to a circuit, entering or exiting a turn alternately at each.

"Let's talk through our plan before we descend. It's going to be busy from here to touchdown."

"OK"

I consulted the approach plate again. We'll make the last outbound leg at 3,000. As soon as we roll out on to that leg we're in the approach procedure. I'll take over at 7,000 so you've got a few minutes to study the approach plate. Is that enough?"

"Yes"

"OK, I'd like you watching the GPS and giving me updates once we're out of the hold. You'll be our localizer. Call the procedure turn 5 miles out from the outer marker. Give me the time hacks for the procedure turn. Cue me on intercepting the approach course. Once we roll out of the procedure turn start calling out the distance to the threshold at one mile intervals. The marker is exactly 5 miles from the threshold. Final approach course is 050. We'll stay level at 3,000 through the procedure turn, which is to the left. We start down and cross the fix inbound at 2,500. We'll use the altimeter setting we have now and fly all the altitudes as the procedure shows, but we'll add 200 ft. to the MDA. That will make the MDA 1340. - - - Mark, one minute." He moves the yoke and the wings roll level.

"If we don't go missed approach, the field elevation is 744, but we'll have to remember our altimeters won't be very accurate. We're going to have to eyeball that at touchdown and we don't have any landing lights either. Those runways at Rickenbacker are lit up like the Las Vegas strip though."

"I expect they'll have everyone out of our way, but if there's traffic, see and avoid is our responsibility. Without lights, no one is going to see us until too late, if they see us at all. If someone's on 5R, a side-step to 5L is an option but we'll have to watch for traffic. 5L has a displaced threshold and if we move over, we'll need to add power and go longer; it looks like about 2,000 ft. longer on the airport diagram. They're close together though. We should get a green light from the tower while we're on final, if they can find one, but if we get a look at either runway and there's no interfering traffic, we'll land, green light or not."

"Mark…" another turn begins.

"If we reach 1340 and don't see anything, we'll have to go missed approach, but I surely hope that's not necessary. We're heavy, we can't retract the gear or flaps and the propellers are fixed at cruise pitch. I don't know how she'll perform, but it won't be what we're used to. The jets aren't an option. The starters and the igniters both need power. I think we'll be able to climb but we won't set any

records. The missed approach procedure is straight ahead on the runway heading, climb to 3,000, turn right and pick up the 024 radial to Yellow Bud VOR. Hold there. Can you see Yellow Bud on there?"

He glances down, presses a button. "Yes."

"We can only guess where the flaps are, so I'm going to fly the approach at 130 knots. That's a little over two miles a minute to get from 2,500 at the outer marker to 744 in five miles. Two and a half minutes for, say 1,750 feet. Sounds like I'll need about 700 fpm, assuming no wind. At each mile after the marker, note my altitude and tell me if I'm high or low. I need 2,150 at 4 miles, 1,800 at 3, 1,450 at 2 and 1,100 at a mile. If I'm on it, we'll reach MDA at about a mile and a half. If the forecast is accurate and our altimeter setting isn't too far off, we should break out around two miles. That's the closest to a glide slope I can come up with. They have approach slope lights, so we'll have some guidance from them once we break out."

"I'm going to try to touch down as close to the numbers as I can. There's a lot of runway, but I want as much of it in front of us as I can manage. We're fast and heavy and probably don't have a lot of flaps out. I can't use the wheel brakes until 90 knots, but be ready to help me on them when I do begin braking if I call for it. If I toast them, they won't be any help at all. We should have plenty of stopping distance. What do you think?"

"I'm ready."

"Mark, one minute." We roll level again.

"Start us down whenever you're ready. Use whatever feels comfortable, we won't have ATC asking us to expedite tonight." He nods and smiles, just a little; he's starting to relax. Good! We both need to believe we can pull this off.

"Keep it fairly shallow. I don't think we want to get her sinking too fast." Another silent nod. "I'll handle the mixtures as we descend."

And so, we're just about to step onto the down escalator. I should be scared, I think to myself. Too busy I guess. If I were just sitting here with nothing to do this would be a lot worse. We have 9,000 feet of altitude to get rid of now. If he sets up at 500 fpm that's 18 minutes to the beginning of the procedure. Seems like a long time. Well, genius, it was your idea to stay high all the way here. Don't whine about it now.

End – Chapter 4