

READBACK

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What is READBACK?

Readback is a publication intended exclusively for PRISM subscribers. The format and source material is modeled after the popular Callback publication from the NASA ASRS system, but is tailored for business aviation operations. Readback takes real-world ASRS incident reports and groups them by common themes. By reading and discussing these situations, we hope to give operators an awareness and sensitivity to real world hazards and risk so they may benefit by the shared experiences of other aviation operations.

Communication Breakdown

Trying to find something witty to say I was reminded how easily this happens. My wife said "Don't forget to take out the garbage." I heard "Forget taking out the garbage". In short.....Trust but Verify. In the air, there are a lot of words being thrown around at the exact same time. Between checklists, call outs, radio calls, passenger briefings, all the odd dings and dongs from the annunciators, and of course, all the transmissions are as clear as Verizon on a cloudless day. (Can you hear me now? Might just be some of the worst words to hear from ATC). In this quarter's issue of the Readback, we will take a look at some instances where communication has broken down. Whether that is between the controller and pilots, or in some unfortunate cases, between the crews themselves. Take a moment to stop and address these individual events as though you were in their shoes. What would you have done?



(FIRST DAY AS A PILOT ...)

CONTROL

TOWER: Can you give me your position?

ME: I'm next to a cloud that looks like a lion.

CONTROL

TOWER: Can you be more specific?

ME: Simba.

I see nothing, I hear nothing, I say nothing!

Narrative:

We had been cleared for the RNAV Rwy X approach at ZZZ, we were on final approach course and had just captured the RNAV glide path, we had flaps 10 set as we were just beginning the approach, airspeed was about 175 kts. Approach called and pointed out traffic to our right and below us which we saw on TCAS but did not see visually. The controller then said "I hate to do this to you but cancel your approach clearance and fly heading 360". As we started the turn, the controller said "Climb!! Climb immediately!!" Once we got separation from the traffic, he had us turn to the south and told us that with the traffic there crossing the final approach course the only way he could get us to Runway X would be on a visual approach if we could accept that, which we could as we had the airport in sight by this time, he vectored us back to final and cleared us for a visual approach and we landed uneventfully. As I could see the traffic on TCAS, I saw the traffic with as little as 200 ft. of

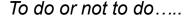
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vertical separation and right underneath us and at no time did we get either a TA or an RA, nor did the target's color change from light blue on the TCAS. As we proceeded with the visual approach, we did get a TA from another airplane in the same area. We also never visually see either airplane. Identification: An excited air traffic controller called us. Cause: NORDO traffic crossing final approach course from another nearby airport. Response: Followed ATC's instructions and took evasive actions

Synopsis

Fractional Jet Captain reported a NMAC while on final approach and took evasive action per ATC instructions.





Narrative:

On our descent into Chattanooga, the flight crew was issued heading of 110 to enter a right base for a visual to Runway 20 and an altitude of 3,600 feet. During that descent the First Officer had some difficulty reading back the instructions and ultimately setting the appropriate altitude. I had set the as-

signed heading and after waiting for him to set the altitude I instructed the First Officer to set 3,100 feet in the altitude selector which he did. Just prior to that time I had been thinking of what altitude I was anticipating obtaining visual contact with the airport and must have transposed what was the lowest cloud layer at CHA of 3,100 into our assigned altitude. Once we descended below 3,600 feet ATC issued a low altitude alert and instructed us to climb back to 3,600 feet which we did immediately. We were



then vectored for the ILS approach to 20. I requested the approach control phone number which I called once we were on the ground to follow up. ATC verified we accurately read back 3,600. I thanked them and advised I would file a report. As an instructor pilot, it can be difficult at times to decide to whether to let your trainee attempt to complete a task on their own for the purposes of gaining experience or to intervene and assure the appropriate outcome. In this instance I tried to let my trainee First Officer attempt the read back the clearance and set the altitude as assigned. The reason I did not intervene was that he had been having some difficulty with these tasks and I wanted him to get as much as experience as possible. I believe that while I waited for him to accomplish these tasks I had become distracted by the delay and unfortunately instructed him incorrectly to set the wrong altitude. A significant contributing factor in this sequence of events is the lack of experience that the First Officer has flying in the IFR environment. I had to spend an ex-



"As an instructor pilot, it can be difficult at times to decide to whether to let your trainee attempt to complete a task on their own for the purposes of gaining experience or to intervene and assure the appropriate outcome."

tra amount of time monitoring and correcting him during this flight and our previous flights in his communications and IFR procedures as most of his previous experience was as a pilot for [another] business for the last three years in mostly VFR conditions. That being said, in the future regardless of my desire to give my trainees the added benefit of more experience, I will have to be more diligent in intervening when they are not complying with their tasks in a timely manner and I will also have to better assess the ability or lack of ability that my trainees have and limit when and where I allow them to gain additional experience.

Synopsis

Light Transport aircraft flight crew reported a CFTT event during approach to CHA airport. The crew selected 3,100 rather than the cleared altitude of 3,600 feet. ATC announced the terrain alert and the crew took evasive action by climbing.

Meow.....

Narrative:

Never received hand-off from Houston ATC. Did not receive hand-off from Houston. If we did we both missed several attempts by Houston to give us frequency change. Checked with [First Officer] FO who was monitoring 121.5 only to be told FO turned the volume down because of people meowing, when we turned up volume and contacted Atlanta they gave us 120.4 . We were past out Top of Descent (TOD), he laughed and said thought you missed something being still at 35,000 [feet] 50 miles out, gave us a heading and descent landed ZZZ with no further issues. I did have a number to call [and] gave them all my info. He said he still had to fill out a report even though we were in no one's way and middle of nowhere.

Synopsis

Captain reported missing a frequency change and stated the First Officer had turned down the volume of quard frequency due to people "meowing."





"First Officer had turned down the volume of guard frequency due to people "meowing"

Did I do that?

Narrative:

On DATE, a tech contacted me to witness a pitot static system flush. After the flush was completed, the tech. Contacted me again to verify that the pitot static hoses in the forward cargo compartment, and the r/h and l/h nose tunnels were connected which I verified. All hoses were connected and secured at that time. However the cargo compartment ceiling panels were left open because several fasteners were missing. According to the tech. Write ups were made to close the panels at a later time. My verification was completed and I left the aircraft. On DATE1, i was informed by my foreman that a pitot static hose was not connected based on a picture taken. After trouble shooting in ZZZ. I am certain that the pitot static hoses were connected when I exited the pit on the date. As of that date I am not sure what other maintenance was accomplished. In the cargo area.



"the cargo compartment ceiling panels were left open because several fasteners were missing."

Synopsis

Inspector reported a pitot static line was found disconnected many days after a maintenance action even though he had ensured the lines were reconnected.

If it fits.....

Narrative:

During taxi-in to [the FBO ramp] from Taxiway 1, a marshaller was in a position that looked inappropriate for my aircraft to negotiate (very sharp turn and requirement to taxi very closely to the ramp edge and unpaved area in the dark). I saw another entry to the FBO ramp from Taxiway 2, but once on taxiway 2 the entry to the ramp was found to be marked, after entering taxiway 2, as unusable. Taxi was continued on taxiway 3. As we continued on taxiway 3 we noted the close proximity of aircraft to the taxiway and moved to the right of the taxiway 3 centerline, away from the parked aircraft, but were limited by the location of structures on the right. We continued on taxiway 3 to rejoin taxiways 4, 5 and 1 back to the FBO ramp. On arrival to the ramp, we were notified that the left wingtip had made contact with the tails (rudders) of aircraft parked closely to taxiway 3 as we negotiated our way through to taxiway 4. I had no indication during taxi that contact was made with the parked aircraft. Post incident thoughts- The ZZZ airport diagram (TPP Airport Diagram, Jeppesen 10-9) is not accurate with regard to the taxiways and ramp locations with regard to the FBO ramp, the grassy strip between the ramp and taxiway, nor does it display the closed entry to the ramp from taxiway 3. These would have contributed greatly to preventing the occurrence that followed, as I would have chosen not to enter taxiway 3, from which the only exit was continuance of taxi on taxiway 3 to taxiway 4 (The Jeppesen taxi diagram was displayed on our MFD for reference). The tower/ground controller could have provided input regarding use of taxiway 3, as they obviously were observing our progress as we asked for continued taxi and their notification to the FBO ramp crew upon our return to the ramp that contact may have been made with other aircraft. Also contributing to the incident may have been an inappropriate OFA (Object Free Area) with regard to the aircraft tie-down areas adjacent (West) of taxiway 3 without notice via NOTAM, airport diagram or A/FD (Airport/Facility Directory, Chart Supplement) of possible hazards associated with taxiway 3 for aircraft (wingspan limitations, etc.) as normally found on airport diagrams such as ZZZ1 and others. Any or all of these factors would have allowed a far more informed decision to simply stop and ask for a tow-in to the [FBO] ramp. Continuing the taxi on taxiway 3 was a matter of quick risk analysis that in the end, without enough information and light in the area turned out to be faulty.



"we were notified that the left wingtip had made contact with the tails (rudders) of aircraft parked closely to taxiway 3"

Synopsis

Part 135 Air Taxi Pilots reported entering a small taxiway that was not large enough for their aircraft and there was a faded X on the pavement. After parking the pilots stated they were informed their wing tip had made contact with another parked aircraft.

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I feel the need.....to report an NMAC

Narrative:

Aircraft Y were arriving at ZZZ for an air show in the following days. Each Aircraft Y does a high speed fly over and break before coming into land. I had just refueled at the FBO after completing a flight and had a follow on flight to ZZZ so I was medevac status. The Aircraft were landing on Runway XX. I informed the Tower that we were medevac status with a destination of ZZZ and stated my on course heading which I believe was 230 degrees. I requested a departure from the intersection on C and C3 Taxiways with the initial takeoff North (because of winds) with a turn to the West. This intersection is North of Runway XX so I would have to cross the Runway XX centerline at some point. Since there was a Aircraft Y West of the airport preparing to land, my plan was to head West and pass behind the Aircraft Y before turning on course. I was cleared for takeoff per my request. While heading West the Tower Controller told me to turn on course and I believe the phraseology was as soon as possible or something similar. At this time our helicopter was not yet behind the Aircraft Y which was approaching fast for Runway XX so this turn on course put our aircraft directly in the path of the Aircraft Y. On takeoff I was given an altitude restriction of 800 ft. AGL which I was well below at approximately 600 ft. AGL. the Aircraft Y was not landing but doing his high speed pass over the runway so its closer rate was extremely fast. What happened was we met in very close proximity on the runway centerline. The distance made me and the medical crew very uncomfortable. In hindsight I should have let Tower know my intentions of continuing West to get behind the Aircraft Y before turning on course. I also could have requested to continue West when the Tower Controller instructed me to turn on course in the flight path of the approaching jet. After the close encounter the Tower Controller apologized to the Aircraft Y pilot.



"I believe the phraseology was as soon as possible or something similar.."

Synopsis

Helicopter pilot reported an NMAC during departure with a military fighter doing a high speed pass over the runway. Tower controller issued helicopter a takeoff clearance which put them into the flight path of the fighter.



My middle name is dangerous goods

Narrative:

While boarding, received Dangerous Goods Form message. [Final] Paperwork not received from ramp prior to push. Queried tug driver, he was told no dangerous goods (DG) on board. Notified Dispatch and pushed. Prior to takeoff Dispatch notified crew chief [that they] thought dangerous goods were on board. Returned to gate to verify. Dangerous goods were indeed on board. The Dangerous Goods Form Paperwork identified DG was expected to be on the plane. Therefore I verified that it was not on the plane when I did not get the paperwork. There was obviously a breakdown in communications. I heard the tug driver asking if there was DG on board and he was told no. After speaking with Dispatch and deciding to go back to the gate, I was told by ZZZ Operations that there is no DG on board. I verified this with Dispatch and she said she just talked to the crew chief and he said he thought it was on board. I asked Operations if they talked to the crew chief and they said no. Now where did Operations get the information that it was not on board? There needs to be better procedures in place with reference to verifying dangerous goods on board.

"Paperwork not received from ramp prior to push. Queried tug driver, he was told no dangerous goods (DG) on board."

Synopsis:

Air carrier Pilot reported a communications breakdown between flight crew and ground personnel regarding the scheduled Dangerous Goods cargo loaded on aircraft. After a gate return it was verified that the DG cargo was in fact loaded.

When in doubt, just descend. It always works out.

Narrative:

Aircraft X was descended to 13,000 ft. and cleared direct to JOXIT waypoint. JOXIT is an IAF for the RNAV-Z Runway 12 approach. They were then told "at JOXIT cleared RNAV-Z Runway 12 approach." They descended below 13,000 ft. and were given a low altitude alert when observed at 12,500 ft. and climbed back up to 13,000 ft. to meet the MVA. Aircraft X advised that they were confused about the altitude after JOXIT which takes them down to 11,200 ft. They said they assumed they were cleared to that altitude even though they were never descended below 13,000 ft. prior to the IAF. I would recommend a published crossing altitude for JOXIT on the Runway 12 RNAV-Z approach of at or above 13,000 ft. This is a common problem at Bozeman and publishing an at or above altitude on the approach would eliminate this problem of aircraft descending below the MVA.



they were never

descended below 13,000

ft."

Synopsis

BOI TRACON Controller reported an aircraft descended below a crossing restriction due to confusion on the pilot's part.

We were somewhere around Barstow on the edge of the desert

Narrative:

After pushback from Gate XX, Flight Attendant (FA) came to cockpit with cell phone photo of white powder on floor of lavatory. FA asked last passenger that used lavatory about the white powder. Passenger did not cause the powder mess. Our QRH requires a return to the gate. After multiple unanswered calls to Operations, we asked Ground Control to help us taxi and return to Gate XX. Ground Control sent truck with marshaller to park us. We were met by contracted [company] Agents and contracted Maintenance. They sent for one cabin cleaner to clean the lavatory floor. This cleaner used her bare hand to swipe and smell the white powder. She then cleaned the floor. Maintenance signed off the AML Unknown Substance entry as "cleaned lavatory". We departed for ZZZ. No police, fire, or rescue personnel came to aircraft. My concerns are: 1. What should be the proper station response domestically and internationally to reports of unknown possibly hazardous substances aboard an aircraft? 2. I almost had to evacuate the aircraft on the ramp due to lack of response from [company] contracted employees. 3. Should the passenger have been interviewed/isolated to determine who created the possible hazard? 4. Not knowing individual country procedures, should I have evacuated the aircraft and requested emergency response assuming worst case scenario? 5. Not knowing the exact substance present, is there a defined proper procedure to clean the surfaces to avoid follow on contact illness. [The Cause was] lack of corrective procedures concerning event [Reporter Suggested the need for a] define proper procedures and improve communication between ground personnel and crew.



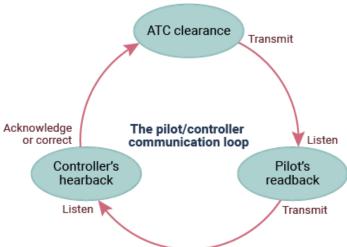
"Not knowing individual country procedures, should I have evacuated the aircraft and requested emergency response assuming worst case scenario?

Synopsis

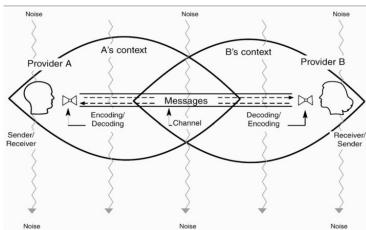
Air carrier Captain reported an unknown white power on floor of 2R lavatory during taxi. Aircraft returned to departure gate per QRH procedures where white powder was cleaned up by cabin cleaner and signed off by MX. Captain stated a lack of a clear procedure regarding unknown substances or possibly Hazmat items be instituted.

Where and when will it happen...

- Congested airspace
- Fatigue inducing days
- Heavy workload periods
- Language barriers
- Periods of relative inactivity



Basic Components and Processes of Communication



About ASRS

http://asrs.arc.nasa.gov

Summary

The ASRS is a small but important facet of the continuing effort by government, industry, and individuals to maintain and improve aviation safety. The ASRS collects voluntarily submitted aviation safety incident/situation reports from pilots, controllers, and others.

The ASRS acts on the information these reports contain. It identifies system deficiencies, and issues alerting messages to persons in a position to correct them. It educates through its newsletter CALLBACK, its journal ASRS Directline and through its research studies. Its database is a public repository which serves the FAA and NASA's needs and those of other organizations world-wide which are engaged in research and the promotion of safe flight.

Purpose

The ASRS collects, analyzes, and responds to voluntarily submitted aviation safety incident reports in order to lessen the likelihood of aviation accidents.

ASRS data are used to:

- ⇒ Identify deficiencies and discrepancies in the National Aviation System (NAS) so that these can be remedied by appropriate authorities.
- ⇒ Support policy formulation and planning for, and improvements to, the NAS.
- ⇒ Strengthen the foundation of aviation human factors safety research. This is particularly important since it is generally conceded that over two-thirds of all aviation accidents and incidents have their roots in human performance errors.