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Training/Qualification

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Training and qualification, we do a great job of hounding the same old basic indoc over and over again. There is immense value in having a refresher, but the one thing that stands out in all of these examples, is that a lot of the time it's the odd ball stuff we never talk about that gets us. It's the step between steps for the maintenance professionals in an unusual work order. Or the seldom used back course approach for the pilots (remember its like looking in a mirror, needle left=airplane left). Below are a selection of examples from the ASRS database that the submitter has felt training was a major contributing factor. It's important to look beyond the words of these reports. A fair few of them have training buried deep in the root causes of these which are not captured. We challenge you to use these not just as a resource to see what errors exist; but also as a training tools for yourselves. Select a few of these and run a root cause analysis to see where your safety team ends up. You never know, maybe you'll save the world!

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.



They see me rolling.....

Narrative: 1

I did not witness this, I was told after it happened: "#1 tire came loose, while towing airplane from bay to blast fence. Loud popping sound was observed and upon investigation, found #1 tire cockeyed. Removed hub-cap and found axle nut completely removed from axle, possible thread damage on axle and axle nut, outboard bearing inboard and outboard retainer and seal damaged, axle nut locking bolt sheared, brake assembly damaged." "They observed that the incorrect axle nut may have been possibly installed. This axle was modified and requires the reworked axle nut assembly (yellow colored) but white axle nut was installed and appears to have much play possibly leading to this incident occurring." I was called to give ok to install the #1, #2, #4 and #6 wheel assemblies of the left Main Landing Gear. I gave them the ok to install and went on other job calls.

They see me rolling..... - Continued

When the tire installations were completed, I returned to the left Main Landing Gear to verify that all four tires were installed. I did not see the nut installation since the hubcaps; clamps and lock wire were installed. I believe more training is required on how to identify the proper hardware to use on the Main Landing Gear.

Synopsis

Inspector reported a main wheel axle nut came off during aircraft towing. The wrong axle nut was installed, allowing the main wheel assembly to come off, damaging the threads and axle.



Thanks for the timely notice....

Narrative: 1

On Date 1 processed 2 separate Hazmat items going to ZZZ for stock replenishment. I had them to be picked up by [shipping company] the next morning and delivered over the next days. I signed into our Hazmat shipping procedure program and gathered all the materials required. The materials available to me for cushioning was corrugated paper in abundance. Procedural verbiage in one of these parts allows for "any cushioning material" as per IATA standard and then lists examples: foam sheets, bubble wrap. My understanding of these mentioned items was that they were examples, so I used what was readily available. The other part did not have any specific mention of packing materials and furthermore in the packing instructions, says "bubble wrap or other cushioning material." The discovery of "improper cushioning material" was made aware to me by Name, Supervisor on Duty during a meeting he set up after our briefing on 2nd shift on Date 1, over a month after ZZZ had received my shipments. My understanding of 'any material' is not restrictive, I used what is available. The clerk in ZZZ did not know what the corrugated paper was. During this meeting, I requested of Supervisor on Duty to please email the procedures department to get clear instructions in their procedures if we are restricted to use only certain materials.

Thanks for the timely notice....—Continued

Synopsis

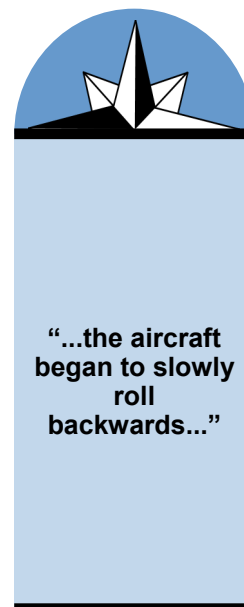
Air Carrier Maintenance Stock Clerk reported being notified of Hazmat packaging violation a week after violation occurred. Stock clerk requested more clear and concise packaging information.



Is the building getting smaller.....WAIT!

Narrative: 1

I was FO (First Officer) for this flight, and we were to depart out of Gate XX from ZZZ. The crew accomplished our pre-flight duties and closed out as usual. As FO I called Ramp Control for pushback and received instruction to pushback tail to the East abeam Gate XY. The CA (Captain) relayed this to our ramp crew, and we began our pushback. During the push, Ramp Control issued us new pushback instructions to now face our tail to the South. I readback the instructions and CA relayed this to our rampers. Normally I listen to the ground crew along with CA, however ramp frequency was congested, and I could tell that the Ramp Controller was becoming increasingly unsure of how to facilitate traffic in/out of our ramp, so I opted to focus Ramp Control and was not listening to the ground crew with CA. We completed our pushback and as our ground crew was disconnecting, Ramp Control called with further amended instructions to now pushback to Gate XY. CA signaled to the ground crew, re-established communications with them and relayed our amended push instructions. CA asked if ground crew were connected and ready for the brake to be released and I heard CA confirm ground crew's apparent control of the aircraft and that they were ready for the brake to be released and he then said he was releasing the brake (note I was not listening to the ground crew so I could only hear CA's communication to them). After CA released the brake, the aircraft began to slowly roll backwards and both of us recognized this as uncontrolled aircraft movement and that the ground crew tug was not connected to the aircraft. CA took swift corrective action by setting the parking brake, and aircraft movement stopped. I heard CA query the ground crew about the status of their connection to the aircraft and requested better communication from the ground crew as to their sta-

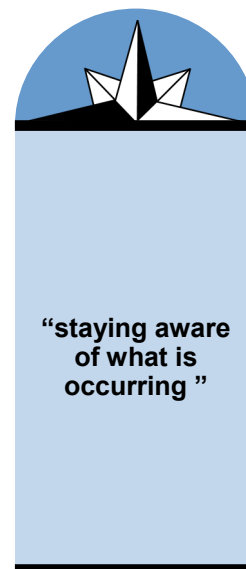


Is the building getting smaller.....WAIT! –Continued

tus of aircraft control. CA made a PA to the passengers stating the reason for the sudden stop and that everything was now under control. The ground crew re-connected to the aircraft, resumed pushback, and the flight continued safely to our destination without incident. It was apparent that Ramp Control was struggling to facilitate aircraft movement in and out of the ramp with arriving aircraft awaiting our push to continue to their gates. This resulted in multiple amendments to our pushback instructions, the last of which came as ground crew had already disconnected from the aircraft. This could have confused our ground crew and lead to their apparent miscommunication to CA regarding the status of their connection to the aircraft and readiness for our brake to be released. When possible, avoiding situations where pushback tugs need to be disconnected and then reconnected could prevent ground crew confusion as occurred with our flight. Also as an FO, staying aware of what is occurring during the pushback, even if having to frequently communicate with a saturated Ramp Control during the push, is essential in the potential event that the CA does not notice uncontrolled aircraft movement so that you can step in and take corrective action if needed.

Synopsis

Air Carrier First Officer reported a late instruction from ramp control, a miscommunication with the push back crew and a momentary loss of control of the aircraft during push back from the gate.



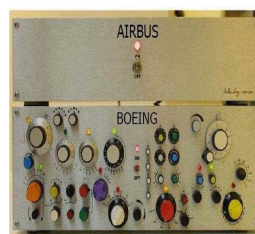
Situation almost normal....

Narrative: 1

On short final, first officer was flying. An uncommanded Annunciation "priority right" for the First Officer side stick occurred, immediately followed by another annunciation of the same and an uncommanded increase in thrust. I took control of the aircraft at this time, assigned side stick priority to my side, disconnected auto thrust, and executed a go-around as the approach was no longer stable per company policy. The aircraft then functioned normally and a normal approach and landing was accomplished and maintenance informed of the anomaly.

Synopsis

A321 Captain reported a priority right side stick anomaly during approach and elected to perform a go-around. The Captain disconnected autothrust and autopilot and re-tried the approach and landing after assigning side stick priority to the Captain's side.



Colorado, not much makes sense here...

Narrative: 1

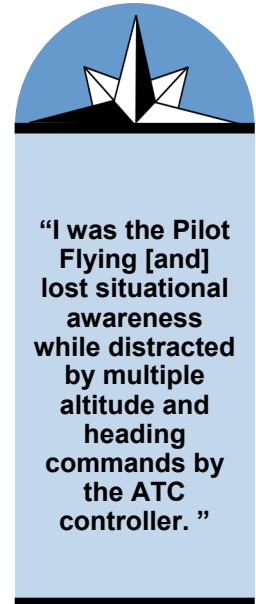
During a discontinued approach at DEN that was commenced above the FAF altitude, I was the Pilot Flying [and] lost situational awareness while distracted by multiple altitude and heading commands by the ATC controller. In addition, I was further distracted by multiple "Unable RNP", "Terr Pos", and "ATC Faults" EICAS (Engine Indicating and Crew Alerting System) indications during the arrival and approach. The loss resulted in a flap overspeed incursion. While distracted following multiple ATC calls I had failed to ask for Flaps 5 after having previously requested Flap 5 speed. With Flaps 20 set the aircraft exceed the limit for 5 to 7 seconds at a maximum of 6 to 7 knots. I increased the aircraft pitch in the climb while manually reducing thrust to quickly bring the aircraft speed below max flap speed. An [write up] for the overspeed was submitted at the flight's conclusion. The cause of the incident was failure to primarily fly the aircraft while acting as pilot at the controls. Secondly the controller contributed to the incident by giving multiple rapid instructions; more time should have been given to allow the crew to configure the aircraft for the transition from the approach mode to the missed approach/discontinued approach mode. Continued training during simulator training sessions practicing go around and discontinued approach procedures.

Narrative: 2

A short vector to final and high altitude necessitated our discontinued approach to DEN to [Runway] 17R. In addition to multiple ATC vectors and altitudes, we received "Unable RNP", "Terr Pos", and "ATC Fault" EICAS (Engine Indicating and Crew Alerting System) indications during the arrival, which were advertised on ATIS, but distracting. The flap speed limit of 210 knots was exceeded momentarily by about 7 knots by PF (Pilot Flying). I called out the speed deviation and it was promptly corrected. Maintenance was notified of the over speed after landing. An unexpected short vector and discontinued approach, compounded by numerous EICAS annunciations and controller instructions, detracted from primary duties of flying the aircraft. Continued simulator training with go-around and missed/discontinued approaches, emphasizing VNAV during the procedure.

Synopsis

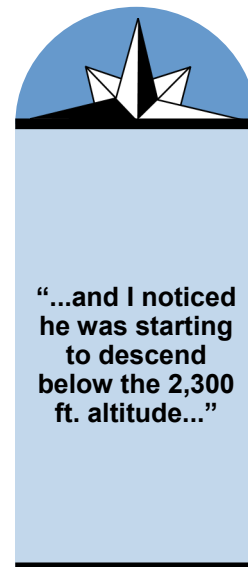
Air Carrier flight crew reported multiple instrument malfunctions while on a missed approach at DEN. Contributing to the confusion were rapid instructions from the approach controller.



Hey look, I can see them waving at us!

Narrative: 1

Flight from ZZZ to ZZZZ, routine through the departure and enroute phases of flight. Planning on landing on Runway XX visually, using the RNAV approach as reference. It was my first time flying into ZZZZ and the Captain had briefed me that this would be different than most operations I was used to. Descending as we approached ZZZZ, Captain asked me to cancel our IFR as we were able to maintain VFR. I complied and we were handed off from Approach to the field's UNICOM. As we began our approach, we noticed a small rain shower over where the field is located. We briefed the possibility of abandoning our approach if the rain affected our ability to see the runway. Around this time an aircraft landing in front of us called us over UNICOM to inform us that they had no issues on their approach to land and they reported improved conditions from what we previously expected. The Captain, who was flying, began a descent and I noticed he was starting to descend below the 2,300 ft. altitude at "ZZZZZ." I spoke up and reminded him of the altitude at that waypoint and he took corrective action. Passing ZZZZZ on final for the runway, he began another descent, this time down to an altitude of around 600 ft. roughly 4 miles from the runway, and it was at this time that I was able to clearly see the runway and called it in sight. However, the Captain had seen it before me since I was not familiar with this airport. Although we were still maintaining VFR, this descent put us about 600 ft. above the water still roughly 4 miles from the runway. Passing the FAF, the Captain continued down to the published minimums for the approach, rounded up to 400 ft. It was at this altitude over the land that we received a GPWS alert. This surprised us both as we were above published minimums and had visual of the runway and all land and obstacle between us and the runway in sight. The alert disappeared as I looked and noticed my RA showed 400 ft., still above published minimums. With the alert gone [and] runway and all terrain in sight, we continued our approach to land and the remainder of the flight was uneventful. This was my first time flying into ZZZZ2, including ZZZZ, and at the time only had 60 hours in the aircraft as a First Officer. The Captain previously elected earlier in the trip to fly both legs into and out of ZZZZ since it presents unique challenges being an uncontrolled, short runway, island airport in ZZZZ2 with unique weather requirements for dispatch. During the flight the Captain explained how different this flight would be compared to what I was used to in my short time at the airline. This prepared me to expect some differences, especially in the approach to landing phase of flight. The Captain briefed me his plans for the approach, including approaching the field VFR. Starting the descent early to 600 ft. was something that I rationalized to myself as being part of the differences to be expected as the Captain previously explained why he was doing so. This resulted in us flying lower to the ocean further out from the runway than we should have been and likely the reason for the GPWS alert upon reaching our rounded minimums after the FAF being referenced. Looking back, even though it was my first time flying into this unique operating environment with an experienced Captain, I should have been more aware of how low we were compared to how far we were from the runway and queried the Captain further on this and call for the approach to be abandoned. During our post-flight debrief I brought up the GPWS alert and asked if this was something we should report and the Captain assured me it was not necessary and dismissed this as saying he could just explain what he was doing to whoever might ask. Going forward I know this should not be the case and reports should be filed if there is any question of their need or warrant. I would welcome additional training for operations into international airports such as ZZZZ which have unique operational challenges and potential hazards, especially for relatively inexperienced new first officers like myself.




Hey look, I can see them waving at us! - Continued

Narrative: 2

Arrival into ZZZZ is VFR only for our company aircraft. Island in sight and IFR cancelled at 5000 ft. in the descent. Pilot report from aircraft landing 5 minutes before us was visual with runway on the approach above 1000 ft. Since we were VFR, we needed to remain VMC, so we used the lateral guidance of the RNAV approach and configured for approach and landing early. I had the field in sight and descended for cloud clearance along the approach path. Once inside the final approach fix inbound, I descended to 400 ft. as that was the MDA. In visual conditions the GWPS alert “too low, terrain” sounded. Both pilots had visual contact with terrain with no obstacles along our path. I clicked off the autopilot to react if a go-around or maneuvering would be necessary. We continued inbound and landed Runway XX with no further incident. Numerous scattered layers of clouds in the area, but visual with the area and the pilot report gave us the impression that the weather would be adequate. I request further training in company procedures in ZZZZ2. VMC arrivals in a regional jet are problematic but required by company policy.

Synopsis

E175 flight crew reported a GPWS Too Low Terrain Warning on approach to a non-towered airport after cancelling IFR and recommended more training to be given for special airports such as this one.

“I would welcome additional training for operations into international airports ”

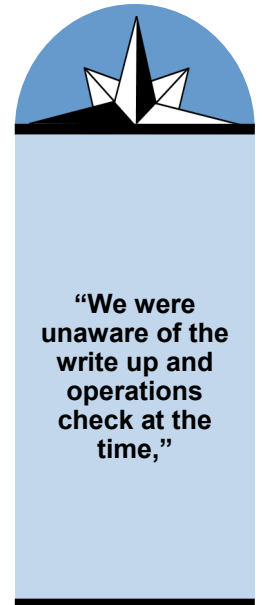
You get a violation, And YOU get a violation, EVERYONE GETS A VIOLATION!

Narrative: 1

Aircraft X and Aircraft Y Name, Name1 Troubleshooting MLG Bay OVHT Caution MEL on Aircraft X Myself and Name1 gathered all reference material off of [manual] and AMM to use to troubleshoot issue. Started to check loops in wheel bay, found to be good moved on with [manual] to change Gear OVHT Controller. Performed operations and functional test of system, found that warning fail test switch worked. Tested the OVHT warning on landing gear panel in center pedestal, which was found not to be working. So was instructed by acting supervisor for the night Name2 to swap landing gear panel from Aircraft Y which was also in the hangar as well as Aircraft X. We found that swapping the panel to test on Aircraft X did not help resolve issue, then proceeded to put the panel back from the aircraft it was on. Next we decided due to time we get caught up on all paperwork to where we were to get prepared for turnover for first shift. As we were discussing turnover Quality Control (QC) Name3 questioned about the swapped panels, which he then informed us they needed written up as well as a landing gear operations test which is also an RII item. We were unaware of the write up and operations check at the time, then we informed our Supervisor Name2 which then he told us to forget it and not to say anything. Then after further discussion he informed first shift Supervisor as well as the QC department. We then corrected our mistake by writing up both planes for the maintenance done and performed operations checks. I was made aware of the issue by QC Name3 3rd Shift. Event occurred due to acting Supervisor of the night Name2 instructing to swap landing gear panels to use for troubleshooting. Also inexperience with manuals and MEL task assigned for the night. When QC Name3 questioned about panels being swapped for troubleshooting purposes, we then informed Name2 of the issue to write up the maintenance done. Which then he told us to forget about it and not to say anything, then after further discussion he informed first shift Supervisor as well as the QC department.

Narrative: 2

We (Myself and Name) began our night troubleshooting a gear overheat caution on Aircraft X. We did so following [manual] and AMM references to determine the cause of the caution, we suspected and replaced a gear overheat control. We documented this process through NRWC (Non Routine Work Card) and continuation cards. The issue was not resolved, and it failed upon operational check. At this point we discussed with our third shift Supervisor/lead (Name2) and we, using the wiring diagrams and [manual] began to suspect that the gear control panel could be the source of the fault. The fault was that the gear fail switch worked properly while there was no relevant gear warn indicators from its respective switch. Name2 told us we should attempt to confirm by swapping control panels with another Aircraft in the hangar, Aircraft Y. We did so, this did not correct the issue, so we returned the original control panels to their respective aircraft. We then spent some time discussing possible next steps and causes of the fault, our next step was to ensure our paperwork was accurate and up to date. Preparing to turn work to first shift Supervisors Quality Control (QC) inspector (Name3) questioned us about the panel replacement we had done earlier. He informed us that the job required an operational check that was also a required inspection item. It was at this point that we realized that we had not created a write up and consequently were unaware of the operations check required. After discussing with Name3, we informed Name2 and brought attention to our mistake before either plane had flown or had passengers board. We moved from there with the help of first shift supervisors and the QC department to rectify our mistake and ensure that the required checks as well as the original write up were properly performed, inspected, and documented. Discussion with 3rd shift QC brought to our attention that the panel swap had not been properly documented and required additional operational checks in order to be signed off correctly. Lack of experience working on specific systems and protocol for swapping parts, combined with not questioning instructions from our Lead Mechanic/Acting Supervisor. The help of the QC department in helping us catch and rectify our mistake was invaluable and appreciated. When informing the third shift lead/acting Supervisor we were working with we were told to 'forget it'. We were able to correct our mistake by expeditiously informing first shift Supervisors and assuring that the required checks/maintenance actions were completed correctly and properly, as was all subsequent paperwork.



You get a violation, And YOU get a violation, EVERYONE GETS A VIOLATION! - Continued

Synopsis

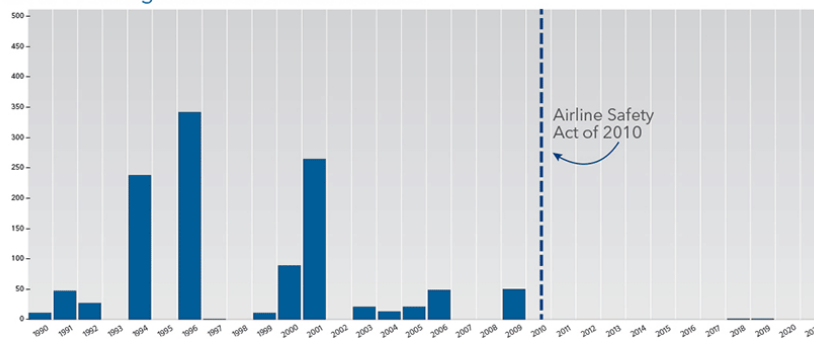
Technicians reported that during troubleshooting an aircraft for erroneous fire warning indications, the supervisor on duty directed them to not document the swapping of components used so as to not have to comply with a landing gear operational check that was required and would require an RII action.

Training



AIRLINE PILOT TRAINING MATTERS Part 121 Passenger Airline Accident Fatalities

#MoreThanReady 



Since the 2010 law was enacted, the United States has seen a 99.8% reduction in airline fatalities.

Source: National Transportation Safety Board

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.