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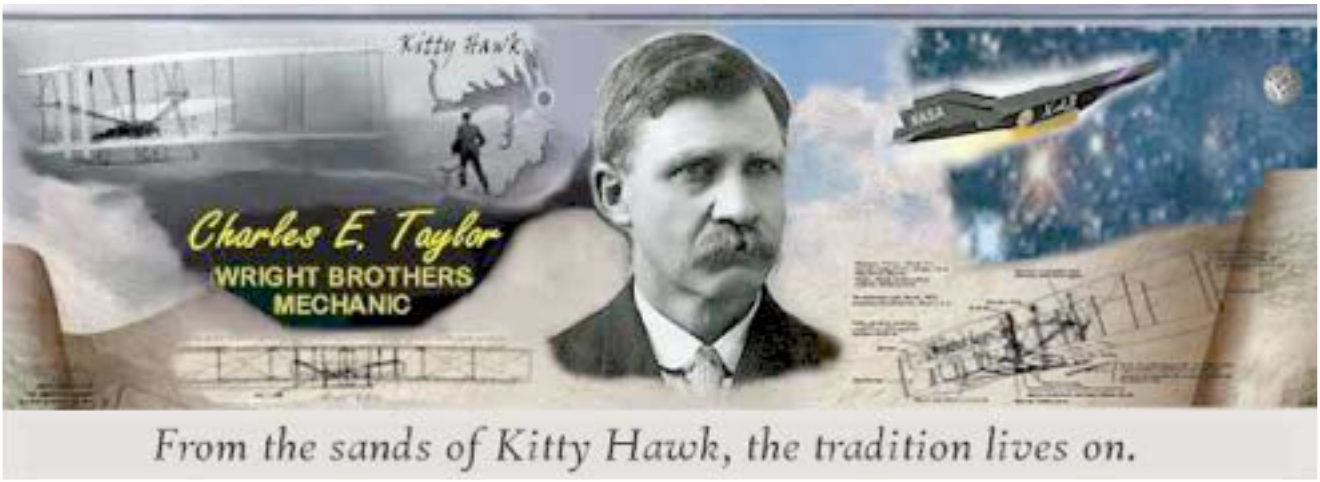

Hello all,
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In this weeks edition of *Aviation Human Factors Industry News* you will read the following stories:

Lessons Learned From Maintenance Mergers

When two airlines merge, there are some important human factors considerations for maintenance organizations. What are they? O&M put that question to Hal Heule, president of HMH Consulting, who was VP technical operations during the America West-US Airways merger.

Heule, who provided executive leadership for the operational integration of the two carriers, says there are three standout issues maintenance organizations should have a plan to address. Interestingly, two of those three issues—communication and training—are relevant to maintenance organizations every day, not just those undergoing a merger:

Communication. The announcement of a merger causes immediate distraction in any workplace. Technicians will ask themselves and each other: Will I have a job after the merger? Will my job change? Will I have to move? These are natural concerns, and Heule says it is important to address them head-on, repeatedly, with solid information. Otherwise, rumors and misinformation will take over and degrade job performance, increasing the likelihood of a maintenance error.

"We ratcheted up communications from the corporate level down to the manager level," says Heule. He says he and his team were constantly on the road, asking technicians what they were thinking and reminding them to be aware of potential distractions.

Training. Heule's biggest "lesson learned" from the America West-US Airways merger was in the area of training. "I wish we'd done more of it, and I wish we had done it better," he says. "In some cases, we moved too fast with too much information." If he had to do it all again, Heule says he would beef up the training department and slow down the training process, devoting more time, attention and resources to this critical area.

In particular, Heule says he regrets not carving out time to explain the reasons for the changes in procedures and technologies.

By neglecting the "why," those attending training often devoted as much energy to wondering why they needed to change as they put into learning the new material. When educating staff on a new way of doing things, trainers must win their buy-in into the "why" before they will engage with the "how." If employees are not 100% onboard with why the new way will be better, that limits their ability to engage with the material.

Integration workload. Not surprisingly, it takes a lot of work to integrate two major airlines. Maintenance leaders cannot expect to handle the added workload and still fully perform their jobs. "Integration happens more smoothly if you have more people," says Heule. Unfortunately, many mergers, under pressure to show quick cost synergies, eliminate personnel too swiftly. "Don't be in a big hurry to reduce staff," Heule warns. "You'll need every hand on deck during the integration."

Where there are redundancies, consider redeploying personnel to areas such as training, which need more attention. Another option is to split the workload: give one person responsibility for merger issues while another runs the day-to-day airline operations. For instance, when US Airways found itself with two heads of maintenance planning, one was made head of combined operations planning while the other was tapped to manage the maintenance operation integration.

The bottom line: every maintenance operation has its distractions, and those distractions skyrocket during a merger. Taking the time to manage communications, plan out training that addresses the "why" behind forthcoming changes, and keeping all maintenance personnel employed through the merger—even if it means assigning new, merger-related responsibilities—vastly reduces the human factors issues that can lead to error.

Language Lessons

The kind of communication at the root of human error in aviation maintenance has changed over the past several years. Where once it was predominantly a shift/task handover issue, new evidence indicates the biggest problems now exist in communications between departments and between levels of hierarchy in maintenance organizations.

“Communication is an issue, but it’s not the same issue it used to be,” says Keven Baines, managing director of Baines Simmons, an international leader in airworthiness and aviation consulting and training services. “Baines based in London , says that for a long time, Europe’s biggest communication struggle occurred at shift handover. A technician would leave mid-task at the end of his shift, and either due a to poor notes or a too-brief conversation, the next technician might misinterpret the job status. For instance, when a technician once scrawled the words “only fitted ring: before he left for the day, the incoming shift assumed he’d only had tome to fit a variable inlet guide ring. In fact, he had only attached the ring loosely with a few bolts. The second team didn’t check it, and the engine was sent to test with bolts missing.

These kinds of problems have been sharply reduced as European maintenance providers now must have in place a formal process for shift hanover. That’s the minimum. Best practices, says Baines, include providing a quiet place to accomplish that handover, a paid overlap and training in how to conduct an effective handover. One MRO has instituted a paid hour’s overlap between shift to ensure work is passed along throughly. This overlap is required at all levels, from mechanics to managers. The result? The MRO has seen a reduction both in errors and in the number of phone calls made to off-shift mechanics. Another built a ‘quiet booth’ with insulated windows and a red light on the front. The red light signals a shift handover in progress, when no one is allowed to enter.

Baines says organizations that address shift-to-shift communication problems with these kind of fixes see, on average, and 8-9% reduction in costs linked to this type of human error.

THE NEXT LAYER

Today, inter-organizational communication - a problem that always existed but was masked by the bigger issue of shift hanover communication-is to blame for the greatest percentage of communication- related errors. The problem can be found at three levels: department to department, supervisor to technician and within teams. Look around, and you’ll se it every day in poorly written work orders, absent information, interruptions during critical tasks and lack of clear instructions.

Manager at one MRO, which had successfully tackled the shift hanover communication challenge, recently examined their database of maintenance events. What they found was striking: Of the 28 investigated errors in the database, 21 listed communication as a key contributing factor-and all 21 of those implicated supervisor-to-technician communication.

A recent accident in the U.K. that resulted from an elevator trim tab being trimmed in the wring direction stemmed from poor communication between the maintenance organization and flight department.

With the spotlight on this kind of level-to-level and department-to-department communication, MROs are starting to find creative fixes. One has tackled the problem of technicians being interrupted during critical tasks by requiring them to wear orange 'Do Not Disturb" bibs when performing those tasks. Another demands technicians wear black-and-white baseball caps and post a 'Do Not Disturb' board in front of the work space.

These tangible solutions are the only way to solve human-centric communication issues. As Baines points out, awareness isn't enough. Organizations must develop clear, defined procedures to address the issues.

Of course, all this requires open communication, which may mean a cultural shift. The most important thing you can do to address communication and other human factors challenges, Baines says, is to "lift the lid off the reporting culture." Until now, many managers haven't wanted to hear bad news, and many technicians have feared repercussions. That has to change. "Get a flow of data, and then you'll know what you're dealing with and can start doing something about it," he says. Reducing errors and costs will follow.

FAA Wants To Fine American Eagle, Continental

FAA is proposing more than $600,000 in fines against Continental Airlines and American Eagle Airlines for allegedly operating aircraft that were not in compliance with the Federal Aviation Regulations (FAR) as a result of mechanics failing to follow proper procedures, Each carrier has 30 days from receipt of FAA's enforcement letter to respond to the agency.

Continental is faced with a proposed fine of $275,000 for operating two 737-900ERs on 73 revenue flights while the aircraft were out of compliance. FAA alleges that Continental mechanics failed to follow the 737 Airplane Maintenance Manual (AMM) when they installed incorrect main landing gear wheel-tire assemblies on two aircraft and released them for service on Nov. 7 and Nov. 19, 2009.

According to FAA, the AMM specifically instructs mechanics not to use wheel-tire assemblies intended for the Boeing 737-700/-800/-900 on the heavier -900ER because of the possibility of damage to the aircraft or injury to people working on and around the aircraft.

The proposed fine against American Eagle is $330,000 for operating a non-compliant Embraer ERJ-135 on 12 revenue passenger flights. FAA alleges that American Eagle mechanics failed to note broken passenger seats and armrests on two aircraft during a Dec. 18, 2008, inspections, and did not follow approved maintenance manual instructions during those inspections. FAA said its inspectors discovered seats on two aircraft that would not raise and stow into the upright and locked position for takeoffs and landings. The agency's inspectors also found damaged center arm rests that would not stow correctly.

In addition, FAA alleges that American Eagle used one of the two aircraft on 12 revenue flights between the inspection and the eventual repair of the seats and armrests. The other aircraft did not fly again until the airline completed the required work, FAA said.

Ramp errors take down three SkyWest CRJs in November

In the month of November, SkyWest Airlines sustained substantial damage to three of its Bombardier CRJ aircraft, all of which were caused by ground handling incidents, and two of which occurred on the same day.
The most recent was a 23 November incident at the Salt Lake City airport where a combination of an icy tarmac and an inoperative auxiliary power unit may have contributed to an incident that damaged a SkyWest Airlines CRJ700.

According to a preliminary report by the US National Transportation Safety Board (NTSB), N614SK sustained "substantial damage to the lower fuselage structure and multiple belly stringers" by a tug being used for a pushback.

Delta Connection flight 4543 was scheduled to depart for Oklahoma City with 69 passengers and crew, none of whom were injured in the night time incident.

Flight and ground crew statements indicate that the first attempt to push the aircraft back from the gate was unsuccessful as the tug could not gain enough traction. NTSB notes that there was 1 inch of "ice and snow" covering the ground in the ramp area, and that both of the aircraft's engines were operating at the time because the onboard auxiliary power unit was inoperative.

Ground crews brought in a larger tug which was successful in moving the airplane, "however, during the push-back both the airplane and the tug began to slip", says the NTSB. "The tug continued to lose traction and subsequently 'jack-knifed,' breaking its tow-bar and colliding with the underside of the airplane's fuselage," the report states.

On 2 November a driverless pickup truck being operated by United Airlines ground crews caused damage to a SkyWest CRJ200 at the Chicago O'Hare international airport.

According to the NTSB's preliminary report, Flight 1020 (N709BR), with 34 passengers and three crew bound for Moline, Illinois, had pushed back from the gate at 10:27 am CDT and moved out of the immediate area to allow an inbound aircraft to access the gate when the incident occurred. There were no injuries.

"As the airplane began to move the flight crew saw the pickup truck moving on the ramp, so they stopped the airplane," says the NTSB. "The Ford Ranger pickup truck backed into the left side of the nose of the plane."

The driver told the NTSB that he had left the vehicle on the ramp with the engine running. "When he returned to where he left the vehicle, it was gone," the driver told investigators.

Also on 2 November a SkyWest CRJ200 (N454SW) on the ground at the Pittsburgh international airport received significant damage to its fuselage when a ramp agent drove a cart supplying the aircraft with high pressure ground air away from the aircraft without disconnecting the hose.

According to an NTSB report, the error tore the high pressure ground air receptacle from its access door and ripped an 0.3m (1ft) gash "up the side of the fuselage".

Safety Tip - Airport Surface Deviations

As winter gets into full swing across the country we should be aware of its impact on our surface operations at the airport. Operating on a snow or ice covered surface -- either in a ground vehicle or an aircraft -- requires an degree of caution. Movement of ground equipment should be done in a manner that allows you to avoid sliding or skidding into other equipment or aircraft, or skidding across hold lines.

Extreme caution also is needed when towing an aircraft due to the added weight and the fact that most of the time you are relying solely on the braking action of the tug to stop both the aircraft and the tug. On wet, slick or icy surfaces the aircraft in tow can suddenly jack knife out of control as you turn or attempt to stop.

The same cautions must also be adhered to when taxiing an aircraft in these conditions. When diminished braking action is present, aircraft can slide off taxiways and runways if one is not careful. When approaching hold lines and turns, be sure to use minimal speed to ensure your ability to come to a stop prior to the hold line or to avoid skidding off the taxiway during a turn.

As with all ground operations, keep your eyes outside the cockpit while taxiing and adhere to all ATC instructions.

Additional information about ground operations can be found in chapter 2 of the Airplane Flying Handbook, available at www.faa.gov/library/manuals/aircraft/airplane_handbook/.

Another near-accident as planes land on wrong track at Ovda Airport

Early last week, at the height of the storm that hit Israel, an Italian and a Russian airplane landed in violation of instructions they received from the grounds crew at Ovda Airport. The cited reasons for the misunderstanding were poor visibility and a lighting error on the runway. The Italian and Russian planes both landed by mistake on the wrong runway. The Civil Aviation Authority is examining the incidents.

The State Control Committee of the Knesset visited the airport yesterday, in the wake of a scathing report regarding aviation safety published by the State Comptroller three months ago.

It was determined that Ovda Airport cannot serve as an alternative to Ben Gurion International Airport because of safety and security concerns.

Haaretz learned that on Sunday afternoon, at the height of a severe storm, a Hercules plane belonging to the Italian army received instructions from the control tower to land on Ovda's western runway. However the plane accidently landed on a different track, the central one.

About 15 minutes later, a Russian Aeroflot flight arrived and was also given instructions to land on the western track. But the pilot made the same mistake as the Italian plane and landed on the central track.

According to initial findings, both landing errors were due to poor visibility and a mistake in the lighting system. Apparently, the landing lights turned on by the control tower were for the wrong runway.

This was not the first time that a plane has landed on the wrong track at the airport. In February 2009 a similar incident involving flight safety occurred. An Arkia flight that was on its way to pick up IDF troops also accidentally landed on the wrong track, which was being used by other vehicles and army personnel.

The recent report published by State Comptroller Micha Lindenstrauss concluded that the airport was not suitable for the landing of large planes, unless a fire truck and crew were brought in from Eilat.