Aviation Human Factors Industry News

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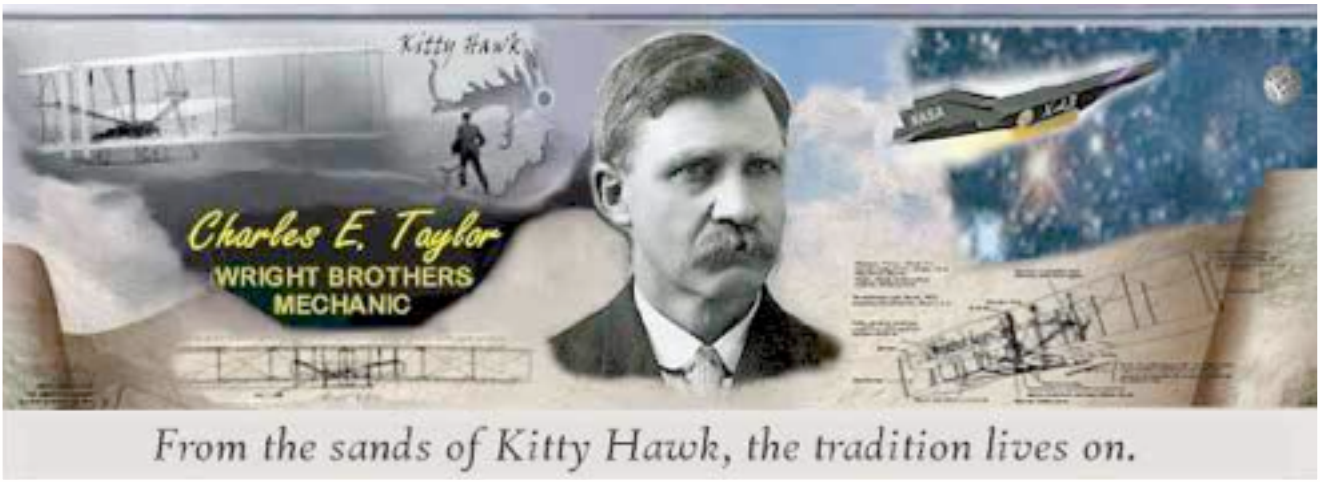
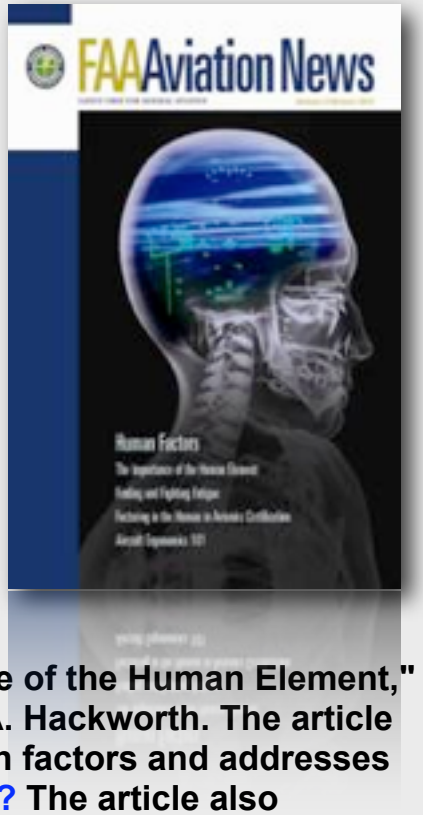


Hello all,
To subscribe send an email to: rhughes@humanfactorsedu.com
In this weeks edition of *Aviation Human Factors Industry News* you will read the following stories:

The Human Element in Aviation - A GA Guide to Human Factors

Federal Aviation Administration



Human factors: It's a topic discussed at most aviation safety seminars, as well as a fundamental subject during pilot and mechanic training. Yet, widespread awareness of the importance of human factors in safety, it continues to play a key role in a majority of today's aircraft incidents and accidents.

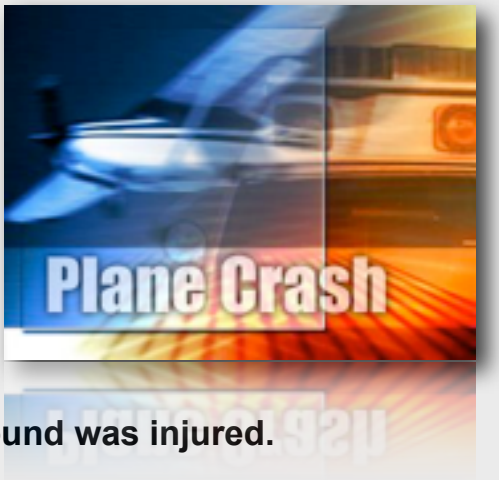
Encompassing everything from fatigue and workload management, to integrating the latest advances in technology, the topic of human factors covers a wide spectrum. The FAA Aviation News team, along with staff members of the FAA's Civil Aerospace Medical Institute (CAMI) teamed up to produce an issue dedicated to this important subject.

Headlining the issue is the article, "The Importance of the Human Element," written by Dr. Thomas R. Chidester and Dr. Carla A. Hackworth. The article provides readers with a solid foundation on human factors and addresses the question several might ask: Why should I care? The article also discusses how CAMI research helps explain and pinpoint human factors that may lead to an error.

"When errors do occur, FAA experts try to understand the factors that led to those errors," the article states. "One important goal is to determine whether a given error is a one-time error or a potential pitfall for other people."

For more information on how FAA human factors research helps improve your safety, go to: www.faa.gov/news/aviation_news.

Pilot, passenger killed in Indonesia plane crash



JAKARTA, Indonesia - Officials say a pilot and a mechanic traveling with were killed when their small airplane crashed into a hospital shortly after takeoff on the Indonesian side of Borneo island.

Local police chief Lt. Col. Badya Wijaya says the two people on board the single-engine Fletcher FU24-950 propellor plane were killed instantly Thursday when it hit the hospital and then fell onto a car in the town Ketapang in West Kalimantan province. No one on the ground was injured.

Wijaya says the crash was probably caused by engine trouble.

Experts say poor maintenance, rule-bending and a shortage of properly trained pilots cause Indonesia to have one of Asia's worst aviation records.

Worn steering cable blamed for Airlink J41 runway excursion

South African investigators have determined that slippage of a worn nose-gear steering cable led to an Airlink British Aerospace Jetstream 41's veering off the runway during take-off from Port Elizabeth last month.

The aircraft, bound for East London, had travelled around 400m along Port Elizabeth's runway 08 and reached a speed of about 70 kt when it started heading to the left. It came off the runway and stopped about 35m from the left-hand edge.

In the early stages of take-off the aircraft is normally steered through a self-centering tiller, which connects to the nose-wheel through a gear and a steering cable.

Once the aircraft reaches about 70 kt, the rudder gains sufficient authority to take over from the tiller as the primary steering control.

Inspection of the aircraft, says the South African Civil Aviation Authority, discovered that the steering cable was kinked - possibly during installation - and that it had worn against the steering gear, eventually resulting in intermittent slippage.

The CAA says the maintenance manual specifies that the tiller mechanism and cable is provided as a single unit, but adds: "However, as the vendor for the tiller mechanism is no longer able to provide it as a complete unit, industry practice has become to only replace the cable."

Wear on the gear teeth remains present, it states, and can only be detected once play appears with tiller movement.

None of the 29 passengers and three crew members was injured in the incident, on 18 November, but the event added to concerns over Airlink operations, which had already been under examination following a Jetstream accident in September.

Airlink has since grounded its Jetstream 41 fleet while it addresses a technical issue relating to the type's engines.

Aussie F-111 Wheels Up Landing

Here's what happened. One of the main wheels fell off at lift-off. The tower notified the crew, who had not noticed any difference in the handling of the bird. Not a situation that is covered in the books. The crew flew around for 4 hrs, burning off fuel deciding on a plan. Alternatives being jump out over the sea, or make an attempt to get it down in one piece. They worked out a plan that if the pilot was losing control during the landing the nav would punch them out.

They had IPs trying different solutions in the simulator. Finally it was decided we'd fly the approach at about 1.5 meters off the ground for a few hundred meters with the gear up and the tail hook dragging along the ground.

----------SUMMARY----------

They engaged the approach end cable, put her down perfectly level with an understandable bump but no injuries, and came to a fairly quick halt.. We, fairly calmly, egressed the cockpit.

NOTE: The pilot was a Flying Officer(Lt) just off transition training and he performed to perfection. The nav was a 29 year old Flight Lieutenant (Capt) who also performed to perfection.

Prelim investigation shows most likely cause was a wrongly fitted locking pin on the big nut that holds the wheel on. FAAAK! They found another 3 jets with the same problem!!

Both lads were as calm as on a Sunday stroll, and credited the success to the superb training that the RAAF gives all of its crews. IF they do not get a gong of some sort their CO needs sacking.

Fresh checks ordered on Super Puma fleet after rotor fears

A HELICOPTER whose "catastrophic" gearbox failure caused the death of 16 men in April is the subject of fresh safety fears. A mechanical problem that could stop pilots from steering properly has been found in the Super Puma, which is used to transport oil workers.

A Super Puma crash last April killed two pilots and 14 oil workers off the coast of Peterhead, Aberdeenshire. A gearbox failure caused the main rotor to separate from the aircraft, sending it plummeting into the sea.

Safety inspectors have been under huge pressure ever since, according to Jake Molloy, of the RMT transport union.

He said: "The European Aviation Safety Agency is scrutinizing every nut and bolt on these aircraft."

The safety fears surround the AS332 and EC225 Super Puma fleets operated by Bond, Bristow and CHC Helicopters in the North-east of Scotland.

The fairing gutter, which protects the Super Puma's gearbox, has separated on several of the aircraft, sparking fears it could stop the tail rotor and leave pilots unable to steer correctly.

The European Aviation Safety Agency (EASA) made an emergency order before Christmas, requiring operators to check the failing mechanism within the next 15 flying hours – and every 85 hours thereafter.

All three helicopter companies said they were following the order, which affects 69 Super Pumas.

The April crash off the coast of Peterhead, which killed 16 men, was the largest loss of life since the Piper Alpha oil rig fire disaster in 1988.

In December, a Super Puma ditched off Nigeria, although all people on board escaped the craft safely.

Mr Molloy said: "As a result of the accidents and incidents that we have had in the past year, there's a great deal more scrutiny being applied to inspection routines."

Fire Hazard in Resetting Circuit Breakers

Notice Number: NOTC2079

SPECIAL AIRWORTHINESS INFORMATION BULLETIN

A Special Airworthiness Information Bulletin (SAIB) advising pilots,, operators, and maintenance personnel of potential hazards of resetting an opened circuit breaker on General Aviation aircraft was published on December 23, 2009, and can be found at https://www.faasafety.gov/files/notices/2009/Dec/SAIB_CE-10-11.pdf or at http://rgl.faa.gov.

This SAIB also gives in-flight recommendations and best practices regarding tripped circuit breakers, inspection and maintenance of systems, and aging wires. For Further Information Contact:Leslie B. Taylor, Aerospace Engineer, Federal Aviation Administration, Small Airplane Directorate, 901 Locust Street, Room 301, Kansas City, MO 64106; phone: (816) 329-4134; fax: (816) 329-4090; e-mail: leslie.b.taylor@faa.gov.

New Seats May Have Saved Lives in Jamaica Crash

Investigators say the seats on an American Airlines flight that crashed after landing in Kingston, Jamaica, last week may be one reason why everyone got out alive. The plane skidded off the end of a runway, jumped a fence, crashed onto a beach and broke into three pieces. But all 154 people on board survived.

The American Airlines 737-800 was only 8 years old, and it was equipped with newer 16G seats, which are designed to withstand forces up to 16 times the force of gravity in a crash.

"That may have contributed to the 100-percent survivability factor," said Col. Oscar Derby, Jamaica's director general of Civil Aviation.

Derby said there are no indications that any of the seats collapsed or broke loose from the floor.

Dallas-based aviation safety consultant Denny Kelly said seat failures are a leading cause of injuries and deaths in airplane crashes.

"They collapse, and then people tumble forward, and they can hit their head on the seat in front of them," Kelly said.

This would not the first time 16G seats helped passengers live through a crash. Investigators believe they helped prevent deaths in the crash of Air France Flight 358 in Toronto in 2005.

The Federal Aviation Administration mandated the new 16G seats on all new airplanes starting this fall.

Airlines are not required to retrofit older planes. But many airlines have upgraded the seats on their own because the newer seats are lighter, which saves fuel.

And many seat manufacturers have already changed their production lines to accommodate the FAA requirements for newer aircraft.

A spokesperson for the Air Transport Association, an airline industry trade group, said its survey of U.S. airlines recently showed that more than 90 percent of seats on commercial planes used for domestic flights are now 16G seats.

http://media.nbcdfw.com/images/410*307/122309AA-Jamaica-Crash.jpg

NTSB: Complex error chain preceded Delta 767 taxiway landing

A series of atypical circumstances preceded an early morning taxiway landing of a Delta Air Lines Boeing 767 at the Atlanta Hartsfield International airport from Rio de Janeirio on 19 October, according to a preliminary incident report published by the US National Transportation Safety Board (NTSB) on 23 December.

None of the 182 passengers or 11 crew on Delta Air Lines Flight 60 were injured in the incident, which occurred in pre-sunrise darkness and good weather at 06:05 EST that morning, nor was the aircraft damaged, according to the NTSB.

The chain of events that led to the incident appears to have begun during cruise flight, when a check airman in the cockpit became sick and was relocated to the main cabin.

While the nature of airman's medical problem was not identified, the NTSB says the crew notified Delta dispatchers of the situation "and a medical emergency was declared to air traffic control via the company".

A decision was made to continue to Atlanta with the remaining two pilots, the NTSB continues.

Inbound to the airport, the air traffic controller handling the flight offered to switch the aircraft's landing runway from 27L to a parallel runway, 27R, via a "sidestep" maneuver in order to put the aircraft closer to the terminal for a planned medical evacuation of the sick check airman. The pilots accepted the modified clearance.

With a sidestep, pilots can fly the instrument approach to 27L, maneuvering to the line up with 27R after sighting the runway visually on the approach.

The instrument landing system for 27R was not operating as it was not the baseline runway for the approach that night. Approach lights for runway 27R were also inoperative due to maintenance being performed.

"The crew landed on taxiway M, located 200 ft north of runway 27R," says the NTSB. "After landing on the taxiway, the flight crew taxied to the ramp without further incident."

Air Show Ace Killed Because Servicing Was Delayed: Investigation

A report by investigators says an experienced pilot flying a 1960s era fighter plane at an air show in South Africa was killed because the servicing of his ejector seat had been extended to after the show. A report in The Star newspaper says Dave Stock, who had 16,000 flying hours behind him, was killed at the Overberg Air Base air show near Cape Town because his ejection seat failed to launch, according to initial findings by South Africa's Civil Aviation Authority (CAA).

Photos sent in by spectators showed flame in the aircraft's exhaust pipe at the time the pilot was desperately trying to get control of the jet aircraft. The air show took place on November 14. The CAA report said:

It is possible that this fire resulted in the final failure of the hydraulic system.

The CAA report showed that the servicing of the ejection seat and related canopy safety equipment was extended by 30 days and again by 45 days. The report said:

It would appear as if the intention of the operator was to service the ejection seat after the air show.

During the air show, Stock sent a PAN PAN call to the control tower, which indicates a problem but no immediate danger, unlike the better-known emergency call of "Mayday." The pilot requested runway safety nets be raised and asked for emergency services to be alerted, routine when a possible emergency arises.

Stock then told the tower that one of the landing gear main wheels had not come out a asked for permission to leave the area of the air show to tackle the problem. Within moments, however, he radioed that he was losing control of the aircraft and would eject.

The Lightning's ejector seat is apparently linked to the hydraulics system, which normally controls elevators, flaps and other control services as well as landing gear struts.

AAIB: final report on B757 pitot blockage incident

The U.K. AAIB released the final report of their investigation into a serious which occurred at Accra, Ghana in January 2009. A Boeing 757 had a blocked pitot tube. On takeoff the pilot noticed a discrepancy in the airspeed indications. He decided to continue the takeoff and deal with the problem whilst airborne. While climbing the crew attempted to isolate the left Air Data Computer from the Autopilot and Flight Director System.

Passing FL316, the VNAV mode became active and the Flight Management Computer's (FMCs), which use the left ADC as their input of aircraft speed, sensed an overspeed condition and provided a pitch-up command to slow the aircraft. The co-pilot was concerned about the aircraft's behavior and, after several verbal prompts to the commander, pushed the control column forward. The commander, uncertain as to what was failing, believed that a stick-pusher had activated. He disengaged the automatics and lowered the aircraft's nose, then handed over control to the co-pilot. A MAYDAY was declared and the aircraft returned to Accra. The operator's subsequent engineering investigation discovered the remains of a beetle-like creature in the left pitot system. (AAIB)