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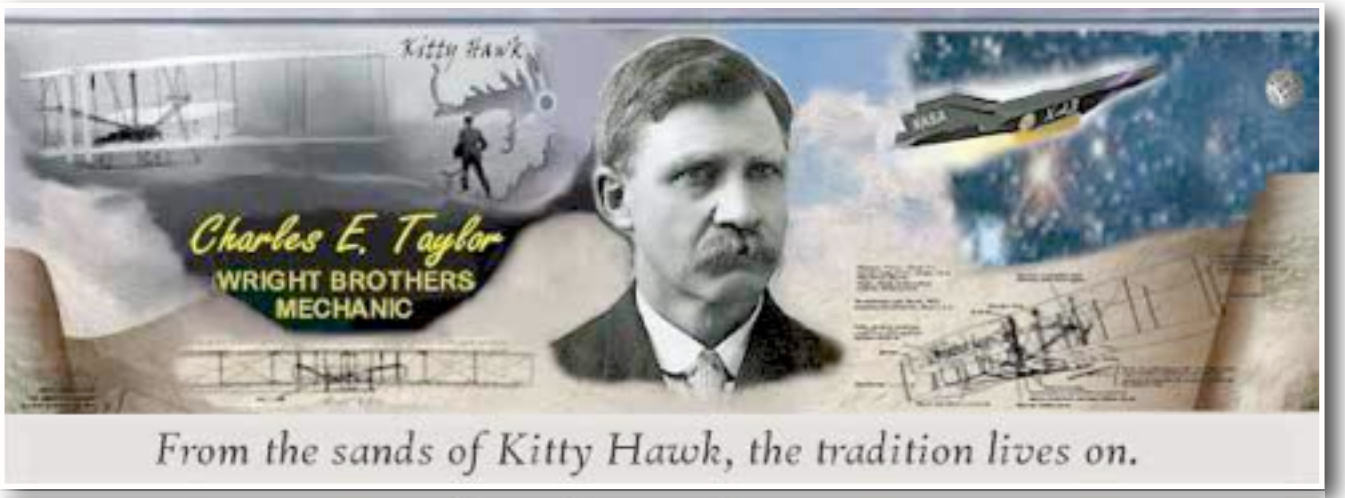

Hello all,

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

★Fatigue 'probably contributed' to Heathrow A319 engine incident

★"Remember to Close the Latches."

★Airbus examining open-cowl cockpit warning for A320neo

★British Airtours fire: Memorial service planned for August's 30th anniversary of Manchester Airport disaster

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Fatigue 'probably contributed' to Heathrow A319 engine incident

The Air Accident Investigation Branch (AAIB) has published its report into the A319 engine cowl incident which occurred at London Heathrow on 24 May 2013. The AAIB highlighted the fact that fatigue could well have played a part in that accident.

Dr Rob Hunter, Head of Flight Safety at the British Airline Pilots' Association (BALPA) said, "BALPA has been highlighting the prevalence of fatigue amongst pilots in recent years. The AAIB's report makes it clear that the problem goes beyond pilots and could well be affecting other workers in safety-critical roles in aviation."

According to the AAIB report, engineers working on the aircraft prior to the accident had been working significant amounts of overtime and that 'fatigue probably contributed to the error' that was made.

The British Airways Airbus A319-100 was flying from London Heathrow to Oslo with 75 passengers and five crew. As the aircraft climbed out of runway 27L, a loud bang was heard from the left hand engine and its cowling went missing. As the crew leveled off at 6,000ft to position for a return to Heathrow, a second loud bang was heard and the right hand engine cowling was lost. The aircraft landed safely 26 minutes after departure. No injuries occurred.

The investigation identified the following causal and contributory factors:

- The technicians responsible for servicing the aircraft's IDGs did not comply with the applicable AMM procedures, with the result that the fan cowl doors were left in an unlatched and unsafe condition following overnight maintenance.
- The pre-departure walk-around inspections by both the pushback tug driver and the co-pilot did not identify that the fan cowl doors on both engines were unlatched.

The design of the fan cowl door latching system, in which the latches are positioned at the bottom of the engine nacelle in close proximity to the ground, increased the probability that unfastened latches would not be seen during the pre-departure inspections.

The lack of the majority of the high-visibility paint finish on the latch handles reduced the conspicuity of the unfastened latches.

The decision by the technicians to engage the latch handle hooks prevented the latch handles from hanging down beneath the fan cowl doors as intended, further reducing the conspicuity of the unfastened latches

Rob Hunter continued, “The AAIB note that the technicians’ working time records showed that they were compliant with the company’s working time limitations and legal requirements. But they also note that the performance of both technicians may have been compromised by fatigue.

“This shows that just because a working duty is allowed, does not make it safe from fatigue.

“We hope EASA takes full notice of the fatigue elements in this report and implements the AAIB’s safety recommendations. EASA should also bear in mind our continual warning that fatigue is an insidious problem in aviation which must be taken seriously.”

"Remember to Close the Latches."

The Air Accident Investigation Branch (AAIB) has published its report into the A319 engine cowl incident, which occurred at London Heathrow on 24 May 2013. The AAIB highlighted the fact that fatigue could well have played a part in that accident.

Fan cowl doors on both engines of the British Airways plane were left unlatched during maintenance, and not noticed before the Airbus A319 took off, according to an official accident investigation.

In 2010 Gary Burch of Crucial- Knowledge (info.) developed a CBT program entitled “Remember to Close the Latches” in response to this human error failure which is still pertinent today.

Gary stated that the NTSB, the FAA and Transport Canada continue to hammer out defenses against the ongoing problem of in-flight fan cowl loss incidents due to latches being left unlatched. Since 1992, there have been 15 engine fan cowl loss incidents involving single aisle Airbus aircraft. Since 2001, there have been 33 fan cowl loss incidents involving Bombardier CL-600 aircraft, with six incidents in 2007 alone. This 15-minute video provides methods and techniques to help all people remember the importance of assuring that the latches are closed.

Thank you Gary for allowing readers of our newsletter to view this training CBT free of charge till the end of August 2015. When asked, type: Guest for the Username and Howdy for the password.

http://www.crucial-knowledge.info/

http://www.crucialknowledge.info/latches

Airbus examining open-cowl cockpit warning for A320neo

Airbus is considering implementing a cockpit-warning system for the A320neo which would alert pilots if the engine fan-cowl doors are not secure.

The system would monitor the condition of the cowl locks and provide a warning to the crew if they are unlatched.Airbus is looking at making such a system available from service entry of the re-engined aircraft type, which is scheduled to take place before the end of this year.

It would form part of a rethink on the problem of cowl-loss, particularly in the wake of the British Airways Airbus A319 event in May 2013 in which both engines shed their cowls on take-off. The right-hand engine's fuel system was damaged, resulting in a fuel leak and fire.

UK investigators remarked that this was "by far the most serious" of the 38 cowl-loss incidents to date involving A320-family aircraft.

The airframes has previously resisted pressure from investigators to devise a warning system, citing complexity, weight and cost, and believing that the solution to unlatched cowls lay in simpler measures centered on the locks.

But such measures – including high-visibility paint on the latches and mechanisms designed to keep unlocked cowls slightly open – have not proven as effective as desired.

While the rate of incidents has halved since 2002, to around one in 2.4 million cycles, the proliferation of the A320 has resulted in twice as many cowl losses involving aircraft with these measures in place.

Airbus says it is adopting a multi-faceted approach to preventing the problem which will encompass design, operational and training aspects.

As well as the cockpit-warning system being considered for the A320neo, the airframer has been developing a new latch system for the current A320 models.

This involves a dedicated key to open the latch, to which is attached a red warning flag. The key cannot be removed while the latch is open, so the flag will dangle visibly below the engine nacelle if the cowl has been closed but not locked.

Airbus says it intends to make this latch a line-fit on production aircraft and the mechanism will be available as a retrofit from early 2016.

Mechanical solutions will be "incorporated in parallel" on the A320neo, the air framer adds. The manufacturer has also revised maintenance procedures to require an entry in the aircraft's logbook when the cowls are open, which has to be closed off once the cowls have been shut and latched.

Investigators have attempted to determine the contributing elements to A320 cowl-loss events by analyzing the circumstances of the recorded incidents.

Both engine types – the International Aero Engines V2500 and CFM International CFM56 – have been affected. But the UK Air Accidents Investigation Branch says there is a "marked correlation" between the cowl loss and the position, inboard or outboard, of the specific engine's latches.

The V2500 cowl is latches on the right side of the engine while the CFM56 cowl is latched on the left.

An engine with its latch positioned on the inboard side was three times more likely to be the subject of a cowl loss than the engine mounted on the other wing, the analysis found.

More than two-thirds of the events examined for the analysis followed the opening of the cowl for checking or servicing of the oil level in the engine's integrated drive generator.

Airbus has doubled the oil-level check interval, says the inquiry into the BA event, in order to reduce the number of occasions that the cowl needs to be opened. It has also introduced an optional viewing window on CFM56 engines enabling the generator's oil level to be checked without opening the cowl at all.

British Airtours fire: Memorial service planned for August's 30th anniversary of Manchester Airport disaster

A packed British Airtours holiday plane caught fire after an aborted take-off, killing 53 passengers and two members of cabin crew

A poignant memorial service will be held to mark the 30th anniversary next month of the Manchester Airport disaster.

The disaster on August 22, 1985, claimed 55 lives and all those who died will be remembered during the private ceremony at the airport.

Relatives of victims are set to attend, alongside those who survived and airport staff who were on duty on the day.

The plane, a British Airtours Boeing 737 bound for Corfu, was full with passengers alongside six crew members when the captain, Peter Terrington, heard a noise as the plane approached take-off just after 7am at around 140mph.

The take-off was immediately aborted and the plane was brought to an emergency halt at the side of one of the runways.

One of the engines however was immediately discovered to be on fire and highly-flammable aviation fuel began spilling out from one of the wings. The engine in fact had exploded, with the resulting debris puncturing the wing and its fuel tank.

Fierce flames spread to the rear of the aircraft and many of those who lost their lives were overcome by smoke as a full-scale emergency response and evacuation was initiated.

A total of 82 passengers and four members of flight staff escaped, but 15 of those suffered serious injuries.

The disaster claimed the lives of 53 passengers, two of them children, and two air stewardesses, Sharon Ford and Jacqueline Urbanski.

Air stewardess Joanna Toff rescued several people from the burning plane. She was awarded the Queen's Gallantry Medal after she crawled to reach choking passengers and dragged them to escape chutes.

Cabin crew member Arthur Bradbury was also honored for bravery with the same medal, alongside members of the fire service based at Manchester Airport who scrambled to the scene during the emergency response.

Queen's Gallantry Medal were also awarded posthumously to Sharon Ford and Jacqueline Urbanski.

The legacy of the disaster was a host of new safety regulations after an accident investigation ruled that the seat layout around emergency exits hampered attempts to evacuate the plane as deadly fumes spread and rear escape chutes could not be operated.

A raft of new measures were introduced as a result, including the floor-level lighting seen today, fire-resistant wall and ceiling panels and revised evacuation rules. The memorial will be private and not open to members of the public. A memorial tree stands at the airport in memory of the 55.

D/FW airline disaster in ’85 helped start wind of change

It took a catastrophe 30 years ago Sunday to force the nation to fix one of the worst threats to aviation safety.

But the quest to find out why some planes fall to earth as if pressed by an unseen hand was already underway before Delta Flight 191 crashed.

The disaster at Dallas/Fort Worth International Airport, which killed 137 people, was the last proof of a case that had been building for years.

By 1997, the government had installed terminal Doppler weather radar at 45 major airports. It automatically sees and profiles microbursts in 3-D.Better pilot training and wind shear detection aboard planes, plus improvements for smaller airports, also followed the D/FW Airport crash.

Microbursts are short-lived, powerful downdrafts. In a humid place such as Dallas, they come with small thunderstorms.

When the downdraft hits the ground, strong winds — wind shear — fan out like water from a hose aimed at pavement, as a common description goes.

A plane flying through a microburst first speeds up due to headwind. But then the downdraft and tailwind strip away speed and lift. The rapid gain and loss make recovery impossible.

That’s what happened to Delta Flight 191, a Lockheed Tristar L-1011 bound from Fort Lauderdale, Fla.

The post-crash reforms eventually worked. Before Delta 191, microbursts and wind shear crashed a U.S. commercial plane every 18 months or so.

In the three decades since then, it has happened once.

The mystery challenged scientists and engineers, but once the need was plain, the answer was quick by most standards.

“From ‘we know nothing’ to having a solution in eight to 10 years, that’s one of the success stories,” said William P. Mahoney III of the National Center for Atmospheric Research in Boulder, Colo.

As a young researcher in 1982, Mahoney worked on JAWS — the Joint Airport Weather Studies — on Colorado’s Front Range, near Denver’s airport.

It turned out to be more than an academic exercise. On July 9, 1982, in the midst of the project, 152 people died when wind shear crashed Pan Am Flight 759 in Kenner, La.

“As we’re trying to understand the physics of wind shear — what causes it, is it real, could it bring a plane down, etc. — you have a crash,” Mahoney said.

That kept the focus on solutions instead of just the fundamental science, he said.

Through that summer, Mahoney and others experimented with translating returns on a Doppler screen into lifesaving warnings.

He rode on research planes into the natural tantrums of winds, flying too low to recover if a problem cropped up.

He aimed radar at bugs. (Because they reflect Doppler pulses, flying insects, raindrops and dust are handy markers of wind direction and speed.)

JAWS proved unequivocally that Doppler radar could detect and characterize a microburst and its wind shear.

But more work was needed. Would experimental success in dry Denver translate to humid places such as Dallas? How would they remove ground clutter — hills, buildings, even cars, trucks and trains?

In the coming years, Mahoney and colleagues refined the algorithms, radar siting and other techniques. Today wind shear crashes are scarce.

It all got started because an observant pilot with Dallas-Fort Worth ties noticed something unusual in Long Island.

On June 24, 1975, Eastern Air Lines Flight 66 from New Orleans crashed on final approach to New York’s John F. Kennedy International Airport. Of 124 people on board, 113 died.

Among those who investigated at the scene was a veteran pilot and safety expert named L. Homer Mouden, then 62.

Mouden died in Plano in 2005 at age 92. He earned a master's in physics from Iowa State, taught high school physics, flew for Dallas-based Braniff, organized safety sessions for the Air Line Pilots' Association, headed flight safety at Eastern and later did airline safety audits for the nonprofit Flight Safety Foundation.

Eastern 66, a Boeing 727-225 flying from New Orleans, crashed in a thunderstorm with strong winds — wind shear — but something seemed odd to Mouden.

Instead of all pointing with the wind, as if leveled by a giant passing hand, some of the blown-over trees radiated out from a center like a starburst.

Mouden was intrigued. "I think that goes back to his basic education in physics," said his friend Jack Enders, retired president of the Flight Safety Foundation.

Wind shear had been known since a key thunderstorm study in Florida in the 1940s, but its source had been misunderstood. The belief was that it came from a gust front — strong winds that rush out from an approaching line of storms.

That belief led the Federal Aviation Administration in the late 1970s to deploy a low-level wind shear advisory system. It used anemometers — those groups of cups that spin in a breeze — to detect gust fronts.

But how could wind in a single direction, even if it shifted, knock down trees in a starburst?

Mouden contacted someone who might share his curiosity about the trees: the creator of the Fujita scale for estimating tornado strength.

A year earlier, Tetsuya Theodore "Ted" Fujita, of the University of Chicago, had studied the tornado outbreak of April 3-4, 1974. More than 140 tornadoes in the Midwest and South killed more than 300 people.

He had noticed some of the trees and corn stalks splayed out in starbursts rather than all the same way, as if by straight-line winds, or in spirals, as if by a twister.

It was a pattern he had first seen when he studied the ground-zero atomic bomb damage in Hiroshima and Nagasaki as a 24-year-old student.

Alerted by Mouden, Fujita studied Eastern 66 damage photos, flight-data recorder readouts, radar records and pilot accounts.

The Eastern jet, he concluded, was crashed by a dramatic downdraft.

But “downdraft,” as a term, didn’t capture the violence of straight-down, hurricane-force winds slamming the earth. Fujita and collaborator Horace Byers called it a downburst — later refined as a microburst to describe a small but deadly event.

Fujita’s theory, wrote Jim Evans, a scientist with MIT’s Lincoln Laboratory, was “received with great skepticism by the thunderstorm research community.”

Fujita, who often preferred his own gut instincts to computer calculations, eventually got his proof — in part through the JAWS project in Colorado, for which he was a principal investigator.

A microburst, the researchers found, might be just 2 to 4 miles across, and the fastest outflow winds might occur in a layer only 700 feet thick — so low that a plane encountering them could not recover.

And the phase that threatened planes might last only minutes. Other pilots might have reported good weather moments earlier — that happened with Delta 191 — but their assurances could become moot in an instant.

“The only sure way to survive wind shear in the terminal area,” one research paper noted in 1989, “is to avoid it.”

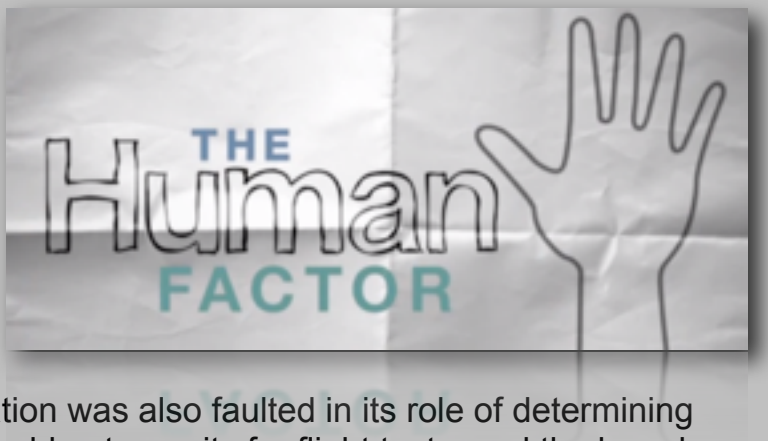
Avoiding it means detecting it first. Researcher Bill Mahoney knows how often he’s grateful that detection is routine now.

“Every time we get in a plane,” he said, “and look at the sky.”

NTSB: Company Should Have Prepared for Human Error

The National Transportation Safety Board concluded Tuesday that the developer of a commercial spacecraft that broke apart over the Mojave Desert last year failed to protect against the possibility of human error, specifically the co-pilot's premature unlocking of a braking system that triggered the in-flight breakup of the vehicle.

In its finding, the board took pains to make clear that Scaled Composites, an aerospace company that has partnered with Virgin Galactic to develop the spacecraft, should have had systems in place to overcome the co-pilot's mistake.



The Federal Aviation Administration was also faulted in its role of determining whether Scaled Composites should get permits for flight tests, and the board recommended several steps to improve the FAA's oversight of private companies involved in commercial space transportation.

The recommendations included assigning FAA staff to individual operators instead of individual flights. That way, they have more time to become familiar with the training and operational controls that they're charged with inspecting. An FAA spokesman said the agency takes the findings and recommendations seriously and will respond in more detail within 90 days.NTSB Chairman Christopher Hart said he didn't believe Scaled Composites took shortcuts that compromised the spacecraft's safety. Rather, he said, it simply didn't consider that the crew would make the mistake that occurred.

"The assumption was these highly trained test pilots would not make mistakes in those areas, but truth be told, humans are humans," Hart said after the hearing's conclusion. "And even the best-trained human on their best day can make mistakes."

The accident occurred during SpaceShipTwo's fourth rocket-powered test flight. At the time of the accident, Scaled Composites was responsible for SpaceShipTwo's flight test program under a contract with Virgin Galactic.

At the onset of the hearing, investigators told the board that the co-pilot, Michael Alsbury, prematurely unlocked the braking system and the resulting forces caused the brakes to actually be applied even without a command from the crew. The unique braking system includes twin tails that extend on booms from each wing. When activated they rotate upward to create drag, slowing and stabilizing the spaceship for re-entry into the thin upper atmosphere. They are called "feathers" because they function like feathers on a badminton shuttlecock.

The premature applying of the braking system at that speed and elevation created stress that caused the ship to break-up, though Hart said that protections have been put in place since.

"We are confident that the steps they have taken would prevent this accident from happening," Hart said.

The spaceship broke apart over the Mojave Desert during a test flight 10 months ago. The accident killed Alsbury and seriously injured the pilot, Peter Siebold.

In determining the probable cause of the accident, board members were focused on how well officials prepared for the worst. NTSB member Robert Sumwalt said Scaled Composites "put all their eggs in the basket of the pilots doing it correctly."

"My point is that a single-point human failure has to be anticipated," Sumwalt said. "The system has to be designed to compensate for the error."

In a statement after the hearing, Scaled Composites said safety has always been a critical part of the company's culture.

"We have already made changes in the wake of the accident to further enhance safety. We will continue to look for additional ways to do so. We extensively supported the NTSB's investigation and appreciate all of its work to make the industry safer," the company's statement read.

Hart said he hoped the investigation will prevent such an accident from happening again. He said the NTSB learned "with a high degree of certainty the events that resulted in the breakup."

"Many of the safety issues that we will hear about today arose not from the novelty of a space launch test flight, but from human factors that were already known elsewhere in transportation," Hart said.

Virgin Galactic has been proceeding with its plans for space flight and is now building another craft. Company officials have said in recent months that their commitment to commercial spacecraft has not wavered despite the crash and they expect the company to resume test flights later this year. Eventually, the company envisions flights with six passengers climbing more than 62 miles above Earth.

In a statement issued after the hearing, Virgin Galactic said it has assumed full responsibility for the completion of the flight test program. It emphasized the Scaled Composites was responsible for SpaceShipTwo's flight-test program.

"We remain as humbled as ever by the difficulty of our work and the challenges of space," said Virgin Galactic CEO George T. Whitesides. "To date, only 549 people have gone to space, and we are as passionate and resolved as ever to increase that number."

"It is important that our collective efforts and sacrifices are not in vain but serve to inspire others to make big dreams come true," said Sir Richard Branson, Virgin Group's founder.

A link to the abstract, which contains the findings, probable cause and recommendations can be found at the following address: http://www.ntsb.gov/news/events/Pages/2015_spaceship2_BMG.aspx

CRM for GA

by Gene Benson

Most pilots are familiar with the concept of Crew Resource Management, or CRM. The concept originated in the airline industry as simply allowing the copilot to do some of the flying and be a part of the decision making process. CRM has now grown tremendously and has multiple sub-parts, but it has also been modified to address single pilot operations. In its basic form, CRM simply tells us to use all of our available resources. One resource that is frequently available to GA pilots but often unused is flight following. This ATC service can alert us to several hazards such as terrain and obstacles, but is primarily intended to help make us aware of potentially conflicting traffic. It is not a perfect system and it does not relieve us of the responsibility of seeing and avoiding traffic when we are operating in VFR conditions. But from personal experience, I can say that I have been alerted to unseen traffic hundreds of times over my flying career. Tying this in with our theme this month of forced landings, ATC can quickly point us to the nearest airport in the event of a power loss if we are already in radar contact.

Many pilots find reasons to avoid participating in flight following. Some are intimidated by ATC. Others say that they just want to enjoy the flight without having to bother with radio communications. But flight following is a service that we have already paid for through our various taxes. Not using it is like leaving our change on the counter after making a purchase.

It is another tool in our arsenal of risk mitigation strategies. CRM tells us to use all of our available resources and this is a major resource.

On July 9, 2015, a midair collision occurred between an F-16 and a Cessna 150 over South Carolina. The weather was good VFR. The F-16 was on an instrument flight plan and was in communication with ATC. The Cessna was squawking the VFR transponder code 1200 and had altitude reporting activated, but was not in contact with ATC. The pilot of the Cessna was not required to be in communication with ATC based on the airspace and weather. ATC became aware of a potential conflict between the two aircraft and advised the pilot of the F-16 of the traffic which was at 12 o'clock and 2 miles. The F-16 pilot advised the controller that he was looking for the traffic. The controller instructed the F-16 to turn to a heading of 180 if he did not have the traffic in sight. After an 8 second delay, the controller instructed the F-16 pilot to turn left to heading 180 immediately if he did not see the traffic. Over the next 18 seconds, the F-16 began turning southerly. The controller observed the two aircraft 1/2 mile apart with the F-16 at 1,500 feet and the Cessna at 1,400 feet. The controller, unaware that a collision had occurred, informed the pilot of the F-16 that the traffic was passing below him. The Cessna disappeared from the radar and the F-16 was tracked on a roughly southerly course and the pilot issued a distress call just before he safely ejected. Both occupants of the Cessna, a father and adult son, were killed in the collision.

We cannot be sure, but the chances are good that had the Cessna pilot taken advantage of flight following and had been in communication with ATC, he would have been made aware of the F-16 and would have taken action to avoid the collision.

Only the preliminary report on the collision has been released by the NTSB. The final report will probably criticize ATC for not taking more decisive action and criticize both pilots for failure to "see and avoid." But where the fault lies matters now only for any litigation. The father and son are dead and a wife and mother has suffered a devastating loss. Let's use all of the tools in our toolbox, including flight following whenever it is available.

Aug. 1 Issue of Vectors for Safety Now Available

The latest issue of Vectors for Safety is now available.
Click here to go to the newsletter.

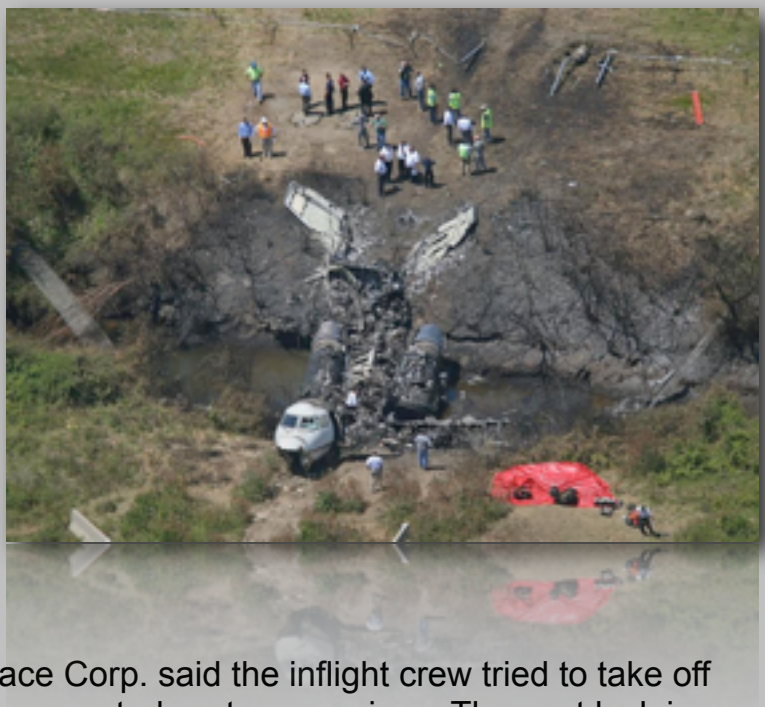
Please visit my website, genebenson.com for more safety information including free online courses, many are valid for FAA Wings credit.

Fatal Deflection

Improper rudder trim caused the fatal crash of a Greek F-16 during a NATO training course at Los Llanos AB, Spain, on Jan. 26, investigators determined. The jet's rudder trim was inadvertently set to maximum right deflection, causing the jet to yaw sharply as it lifted off and gained airspeed, the French-led safety investigation board determined. The two-seat F-16D entered a sideslip roughly 60 feet above the ground, causing the pilot to apply hard aft-left stick inputs to recover, inducing high angle of attack and subsequent roll into the ground. Investigators noted that Greek personnel deviated from standard procedures by conducting end-of-runway checks in the parking area. This meant the pilot his checklists early and failed to recheck rudder trim before take-off—possibly allowing stray equipment to move the trim wheel unnoticed. Both pilots ejected outside safe ejection parameters and were fatally injured in the crash. Nine French air force ground personnel were killed, several allied airmen allied airmen were injured, and eight aircraft—including an Air Force F-15E—were damaged or destroyed along with base infrastructure in the crash and ensuing blaze.

Gulfstream finds design flaw in jet that crashed at Hanscom

The National Transportation Safety Board investigated the plane crash that killed seven people on May 31, 2014, at Hanscom Field in Bedford.



The manufacturer of the plane that crashed during takeoff in Bedford last year, killing seven people, including the co-owner of The Philadelphia Inquirer, said the accident could have been avoided by "a simple check" of the plane's steering gear, according to an accident report released Friday.

In the report, Gulfstream Aerospace Corp. said the inflight crew tried to take off with a gust lock engaged, despite repeated system warnings. The gust lock is designed to lock flight controls when the jet is parked, to prevent movement during strong winds.
"The crew should have aborted," officials wrote in the report. "Instead, having incorrectly assumed they had resolved the gust lock issue, the crew continued the takeoff roll without comment."

When the jet began routine take off procedures on May 31, 2014, the lever moved to an "intermediate position," making it possible for the pilot to accelerate up to 143 miles per hour, but not to take off, the report said.

Though Gulfstream's report largely placed blame on the crew, officials said they were "actively working" to improve the system. In a new fleet of jets, planes will be prevented from moving at high speeds while the gust locks are engaged.

Pre-flight checks had been performed in full prior to takeoff only twice in Gulfstream jet's previous 175 flights, records show.

An advisory stating that the rudder limit was reached flashed during the plane's taxi. A rudder is used to steer the plane, and the alert is used to indicate when a rudder is moving too much during travel. According to recordings from the aircraft, the pilot told another crew member that this warning had lit up, but did not investigate the alert.

The FAA requires manufacturers to provide an "unmistakable warning" when the gust lock is activated, but the signal on the GIV model has multiple meanings that may have confused pilots, The Philadelphia Inquirer reported.

As the plane continued to move, the throttle became locked. At this point, the pilot "should have, as per training and flight manual guidance on a normal takeoff, confirmed that the control column relaxed into a neutral position," the report said.

During acceleration, the pilot told his crew the steering was locked but he was unable to engage controls, causing the plane to continue beyond the runway and crash, the report said.

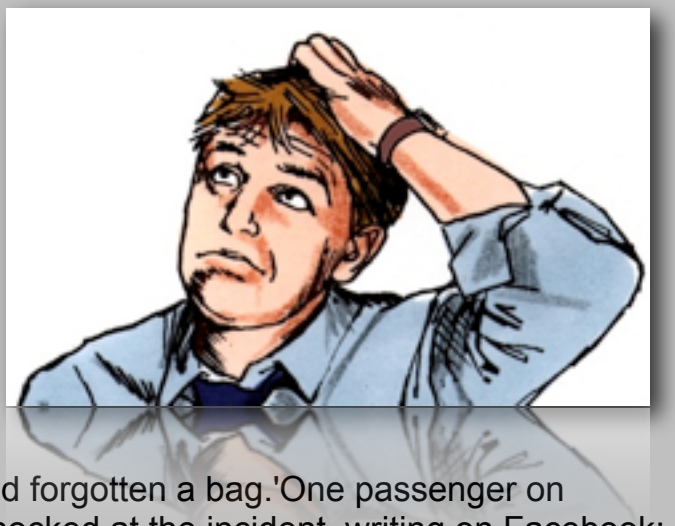
A simple check of the rudder control pedals could have demonstrated the the gust lock was engaged and the flight controls were locked.

The company submitted their findings to the National Transportation Safety Board in May. Files about the investigation were released to the NTSB website Friday.

In its own report, SK Travel, the company that owned the jet, urged the FAA to require Gulfstream to "correct the deficiencies" in the gust lock.

In addition to Katz, the crash killed the two pilots, a flight attendant, and three friends who returning to New Jersey after a fund-raiser at the Concord home of author Doris Kearns Goodwin and her husband, Richard.

Ryanair plane makes mid-air U-turn and returns to airport after ground staff forgot to remove luggage from previous flight



A Ryanair flight was forced to make a mid-air U-turn after ground staff forgot to unload the previous passengers' luggage.

Only 20 minutes after take-off from Derry Airport in Northern Ireland en-route to Alicante in Spain, the plane had to return.

It is believed the captain announced to the cabin that the plane was returning because they 'had forgotten a bag.'One passenger on board, Maoliosa Boyle, was clearly shocked at the incident, writing on Facebook: 'Only in Derry, Took off from Eglinton airport for Spain and 20 minutes into the flight... "we apologize as we have to turn back, we forgot a bag". Seriously! U-turn back'.

The Boeing 737 made a safe landing back at Derry Airport.

A spokesperson for Ryanair told MailOnline: 'This flight from Derry to Alicante (27 July) returned to Derry shortly after take-off to unload baggage from the previous flight, which the third party ground handling agent had failed to remove before take-off.

'The aircraft landed normally, the baggage was removed and the flight departed to Alicante. Ryanair apologized to customers affected by this short delay.'

Management at Derry Airport said that they are 'sorry for the inconvenience caused' and that they are 'reviewing circumstances of the incident.'

The flight, that had departed at 5.55pm, eventually set out for the popular holiday destination of Alicante at 7pm local time.

Boeing's 100 Years Captured in New Book

Chicago-based Boeing turns 100 next year, and a book about the company -- essentially an authorized corporate history coffee-table book -- explores its history and participation in such monumental events as modernizing air travel, dropping atomic bombs and putting a man on the moon."Higher: 100 Years of Boeing," $35, by business journalist and book author Russ Banham, goes for 192 pages and is due to be released Aug. 4, complete with what the company says are never-before-released photographs and inside stories.

GRADUATE RESEARCH REQUEST

Aircraft Maintenance Technician Decision-Making

Purpose of Project

My name is Robert Norcross. I am a doctoral student at Northcentral University in Arizona. I am conducting a research study about aircraft maintenance technician decision-making processes when aircraft repair information is not in the aircraft maintenance repair manuals. Focus group sessions will be held to gain your valuable experience, views, and opinions on nine questions pertaining to the research topic. Your views on the questions are important to me and I invite you to participate. The focus group sessions should last between 30 and 60 minutes and held at a date and time convenient for you. The focus group sessions will use www.gotomeeting.com and a conference call phone number. You are eligible to participate in this research if you:

1. 1. Are older than 18 years of age.
2. 2. Hold a Federal Aviation Administration issued Airframe and Power Plant certificate.
3. 3. Issued the Airframe and Power Plant certificate on or before 1 January 2010.
4. 4. A resident of the United States.

Risks:
There are minimal risks in this study. Some possible risks include: discomfort sharing views about the proposed research questions, other participants knowing your identity.
To decrease the impact of these risks: you can refuse to answer any question, stop participating at any time, or request to answer the questions with a phone call to the researcher.

Benefits:

If you decide to participate, there is no direct benefits/compensation to you. The potential benefits to others are improved efficiency and less time and money spent reworking aircraft discrepancies.
If you are interested in participating please contact me, Robert Norcross at **R.Norcross4749@email.ncu.edu** or **757-281-9289.**

Picture This!

Supervisor watching and condoning this NEGATIVE NORM. Oh well, no blood then no foul! Human Factors education didn't take hold in this line operation. A broken culture may turn into a broken.....!