

DC-8 Drags Tail on Takeoff

Freighter was too heavy for the available runway.

BY MARK LACAGNINA

The following information provides an awareness of problems that might be avoided in the future. The information is based on final reports by official investigative authorities on aircraft accidents and incidents.

JETS

Crew Lacked Currency in Type

Douglas DC-8-63F. Minor damage. No injuries.

Procedural errors by the flight crew and their lack of currency in line operations, as well as an absence of operational oversight and control, were among the factors that led to an incident in which a DC-8's tail struck the end of the runway and dug a trench in soft ground beyond the departure threshold during takeoff from Manston Airport in Kent, England, according to the U.K. Air Accidents Investigation Branch (AAIB).

The investigation of the Aug. 11, 2010, incident revealed that the aircraft was 25,700 lb (11,658 kg) above the maximum authorized weight when the takeoff began and that during rotation, with the end of the runway looming, the commander increased the pitch attitude beyond the published value at which a tail strike can occur.

The commander felt the impact and was informed of the tail strike by air traffic control (ATC); however, seeing no apparent detrimental effect on the aircraft or its systems, he elected to continue the flight.

The aircraft was one of two DC-8s that recently had been acquired, along with two flight crews, from a cargo operator in the United Arab

Emirates (UAE) by a charter operator based in Afghanistan. The incident occurred during the first commercial DC-8 flight conducted by the Afghan operator.

The aircraft had been chartered to pick up 36 polo ponies in Kent and to fly them to Buenos Aires, Argentina, with a fuel stop in the Cape Verde Islands. The DC-8 was flown to Kent from the UAE with both flight crews aboard. The crew that flew as passengers on the initial leg was scheduled to fly the aircraft from Kent to Cape Verde.

The commander, 55, had more than 15,000 flight hours, including 3,000 hours in DC-8s. The first officer, 60, had logged 2,500 of his 15,000 hours in type. The flight engineer, 62, had 13,100 flight hours, with 2,500 hours in DC-8s. "All had held senior flight operations management posts with previous employers," the report said.

None of the pilots had received familiarization training or operational training following their employment by the Afghan operator in May 2010. Only the first officer had received a check flight — a proficiency check in July. "The crew had not flown the DC-8 within the previous eight months and were not current on DC-8 line operations," the report said.

The aircraft arrived at Manston Airport the afternoon of Aug. 10. The ponies and their pens, as well as six more passengers — grooms and veterinarians for the ponies, were boarded, and the aircraft was refueled the next morning.

The crew was concerned about having enough fuel to divert to an alternate if they



could not land in Cape Verde. The commander agreed to load more fuel than planned, as long as the aircraft remained within the weight limit for landing at Cape Verde. After the DC-8 was refueled according to the first officer's instructions, it had a total of 143,700 lb (65,182 kg) of fuel aboard for the flight from Kent to Cape Verde — “significantly more fuel than required,” the report noted.

There was no loadmaster to aid the preflight preparations, and, according to the standard operating procedures (SOPs) employed by the UAE operator and adopted by the Afghan operator, the first officer was responsible for completing the load form and the flight engineer was responsible for completing the takeoff data card. The SOPs also dictated that the commander was responsible for checking the load form, and the first officer was responsible for checking the takeoff data card.

Nevertheless, both documents were prepared by the flight engineer, who listed a different takeoff weight on each document. The takeoff data card accurately showed the takeoff weight as 343,000 lb (155,585 kg), but the load form showed 335,410 lb (152,142 kg). The report said that the difference in the calculated takeoff weights likely was caused by the use of different standard weights for the ponies: 450 kg (992 lb) each per the cargo manifest versus 350 kg (772 lb) each per the charter operator's loading staff.

Moreover, although the 343,000-lb takeoff weight shown on the takeoff data card was accurate, it exceeded the limit for the prevailing conditions. “The flight engineer did not refer to the runway performance analysis tables, which gave runway-limited weights for varying environmental conditions,” the report said. The tables showed a limit of 317,300 lb (143,927 kg) for the takeoff from Kent.

“No cross-check of the flight engineer's calculations or takeoff performance figures was made by any other crewmember,” the report said, noting that the commander had become preoccupied with dispatch forms and securing South American navigation charts during the preflight preparations.

The aircraft was taxied from the stand at 1028 local time. The takeoff was conducted on Runway 28, which was dry and 2,752 m (9,029 ft) long. Surface winds were from 290 degrees at 7 kt, and the temperature was 20 degrees C (68 degrees F). Field elevation was 172 ft.

Witnesses told investigators that the aircraft appeared to accelerate slowly and that rotation was begun near the end of the runway. “A cloud of debris was thrown up from beyond the runway as the aircraft climbed away,” the report said.

The takeoff technique prescribed in the aircraft operating manual (AOM) calls for initial rotation to 8 degrees. The AOM warns that a tail strike will occur at an 8.95-degree pitch attitude. The prescribed takeoff technique also says that after pausing one or two seconds at 8 degrees — while the aircraft lifts off the runway — the pitch attitude can be increased to 11 or 12 degrees for climb-out.

Recorded flight data showed that the commander began to rotate the aircraft at the target rotation speed, 160 kt. At this point, however, the aircraft was rapidly nearing the end of the runway. The commander reacted by pulling the control column aft at a steady rate and without pause until the pitch attitude reached nearly 11 degrees. After a brief reduction of the pitch rate, “a significant aft control column input was made [and] the pitch attitude continued to increase to a recorded maximum of 15.2 degrees,” the report said.

The commander said that he felt two jolts as the DC-8 lifted off and suspected that a tail strike had occurred. Although ATC confirmed his suspicion, “with aircraft systems appearing normal, he decided to continue the flight to Cape Verde,” the report said.

An inspection of Runway 28 revealed a tail-contact mark beginning 35 m (115 ft) from the end of the runway and a 30-m (98-ft) “trench,” up to 23 cm (9 in) deep, in the soft soil beyond the runway threshold. The inspection also revealed that an approach light had been demolished by the aircraft's right main landing gear.

The report described the DC-8's tail skid assembly as having an “energy absorber” designed

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to deform on contact with the ground, to prevent damage to the airframe. After the DC-8 landed in Cape Verde, the energy absorber was found to have deformed by 0.4 in (1.0 cm), which was within the 0.5 in (1.3 cm) limit prescribed by the maintenance manual. No other damage was found, and the energy absorber was replaced after the aircraft landed without further incident in Buenos Aires.

The report said that “during the investigation, no evidence was forthcoming to show that the aircraft operator had exercised any meaningful operational control over its newly acquired DC-8 fleet.”

As a result of the incident investigation, the U.K. Department for Transport notified the Afghan operator that it would not issue any more operating permits for the company’s DC-8s until corrective actions were taken. Moreover, because of the incident and a subsequent ramp check of another aircraft operated by the company, the European Commission placed the Afghan operator on its list of companies banned from operating in European airspace.

The report said that, in response to these actions, the operator told the AAIB that it intended to “cease DC-8 operations as soon as practicable and to dispose of the aircraft and crews.”

Ice Causes Probe Failures

Airbus A330-202. No damage. No injuries.

The flight crew said that the A330 departed from Phuket, Thailand, in heavy rain the night of Nov. 1, 2010, and was in instrument meteorological conditions throughout the climb and during the first few moments of cruise. The aircraft was en route to Sydney, New South Wales, Australia, with 280 passengers and 11 crewmembers.

Shortly after exiting the clouds at Flight Level 350 (approximately 35,000 ft), the electronic centralized aircraft monitor (ECAM) displayed warnings of an airspeed discrepancy between the two flight management systems and that the selected cruise altitude was above the maximum computed altitude.

“Following this, both autopilots and the autothrottle disconnected, and the associated [ECAM] warnings were displayed,” said the report by the Australian Transport Safety Bureau (ATSB). “The flight crew attempted to reconnect both autopilot systems but were unsuccessful.”

The crew consulted with company operational and maintenance personnel, and decided to divert to Singapore, where the aircraft was landed without further incident about two hours and 20 minutes after the departure from Thailand.

Recorded flight data showed that the autopilots and autothrottle disconnected after the total air temperature (TAT) probes stopped providing data to the air data inertial reference units (ADIRUs). The ADIRUs use TAT data to compute true airspeed and static air temperature (SAT). “The loss of this information from the ADIRU resulted in a loss of autoflight capabilities,” the report said. “The failure of all the recorded SAT parameters suggested that both the captain’s TAT probe and the first officer’s TAT probe failed within one minute of each other.”

Airbus determined that the electrically heated TAT probes had failed because of icing. “The manufacturer concluded that the probes failed when the sensing elements within the probes were affected by high mechanical stress due to ice expansion,” the report said.

“The manufacturer ... reported that, since the introduction of the A330 [in 1994], a number of similar multiple TAT probe failures have been reported,” said the report, which was released by ATSB in May 2011. “Due to the previous failures, a new TAT probe was certified and issued through an optional service bulletin in 2008. There have been no reported events of multiple failures involving the new TAT probe.”

Loose Connection Causes Cockpit Fire

Boeing 757-200. Minor damage. No injuries.

Shortly after reaching Flight Level 360 during a flight with 105 passengers and seven crewmembers from New York to Los Angeles the night of May 16, 2010, the flight crew heard a hissing sound and saw smoke emanating

from the glareshield. A few seconds later, flames emerged from the top of the glareshield, said the report by the U.S. National Transportation Safety Board (NTSB).

Both pilots donned their oxygen masks and smoke goggles. The captain transferred control to the first officer and told him to declare an emergency. The captain then discharged a portable Halon fire extinguisher onto the fire, which went out momentarily but then reignited. He then turned off all four windshield-heat switches and discharged another fire extinguisher, brought to the cockpit by a flight attendant, onto the fire, this time extinguishing it.

The crew diverted the flight to Washington Dulles International Airport, which had visual meteorological conditions (VMC), and control was transferred back to the captain. The 757 was descending through about 500 ft when the crew heard a “loud explosive bang” as the inner pane of the captain’s windshield shattered. Due to the reduced visibility, the captain transferred control to the first officer, who landed the airplane without further incident.

An examination of the 757 revealed that the J5 power terminal block on the captain’s windshield had been consumed by fire and that lock washers had not been installed on any of the five windshield terminal blocks. “It is likely that the connection between the connector lug and the [J5] terminal block was loose because of the missing lock washer,” the report said. “A loose connection can create a point of high resistance in the electrical path between the terminal lug and terminal block, which can generate temperatures high enough to cause the terminal block to ignite.”

The report noted that electrical odors had been reported on two of the three previous flights in the incident airplane. A flight on May 15 was diverted to Las Vegas, where no defects were found. During the subsequent ferry flight to San Francisco, cabin crew detected unusual odors that seemed to come from the forward galley ovens, which were replaced after landing.

Because of these reports, the captain of the revenue flight from San Francisco to New York, which preceded the incident flight, inspected

the cockpit while en route to determine the source of the odors. He found that the J5 terminal block was charred and very hot to the touch, and that none of the other blocks was hot. He reported this to airline maintenance personnel.

The maintenance technician who followed up on the captain’s report believed that the terminal block was part of the windshield heat bus bar and found that the airline’s version of the aircraft maintenance manual (AMM) required replacement of the windshield within 50 hours if the bus bar showed signs of blackening or burning. Thus, the defect was deferred, and the airplane was returned to service. (No such deferral is allowed by the AMM furnished by Boeing.)

The report also noted that neither the Boeing AMM nor the airline’s “highly customized” version specified that lock washers be used to secure the windshield terminal blocks. After the incident, Boeing issued an AMM revision with specific instructions and graphic illustrations for installation of lock washers.

Lightning Strike Binds Elevator

Embraer 145LR. Minor damage. No injuries.

The flight crew was conducting an arrival procedure at Chicago O’Hare International Airport the afternoon of March 12, 2010, when the airplane was struck by lightning at 7,000 ft. The autopilot disengaged, and “the colors on the PFD [primary flight display] and MFD [multifunction display] changed from their standard colors to variations of red, purple, green, blue and white,” said the NTSB report. However, the information displayed remained accurate.

The first officer, the pilot flying, re-engaged the autopilot and noted no abnormalities. The pilots then discussed the possible location of the lightning strike and how the strike might have affected the airplane.

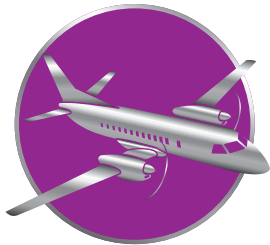
The first officer told investigators that after he disengaged the autopilot on short final approach, he had difficulty in lowering the nose during the flare to “soften the landing.” He said, “I pushed hard, and the aircraft didn’t respond. I called attention to the abnormality, and the captain attempted to push on his yoke. ... The yoke seemed

Thus, the defect was deferred, and the airplane was returned to service.

to be able to be pulled aft but would not move forward past about 60 [percent of its aft travel].”

Despite the elevator control anomaly, the landing was completed without further incident, and none of the 42 passengers and three crewmembers was injured.

An examination of the Embraer revealed that the lightning had struck the tail cone, causing thermal damage to the tail cone light assembly wiring and braided shielding. “A bulkhead frame was dislodged from its location due to the thermal damage present on the wiring harness,” the report said. “This dislodged bulkhead came to rest on the elevator’s bellcrank, which restricted the flight crew’s ability to control the elevator.”



TURBOPROPS

Hydroplaning Cited in Overrun

Pilatus PC-12/47. Substantial damage. No injuries.

The pilots were conducting a fractional ownership flight with five passengers from Norwood, Massachusetts, U.S., to Bridgeport, Connecticut, the morning of June 12, 2009. Weather conditions at Bridgeport’s Sikorsky Memorial Airport included surface winds from 260 degrees at 5 kt, 2 mi (3,200 m) visibility in light rain and mist, and a 300-ft overcast.

They conducted the VOR (VHF omnidirectional radio) approach to Runway 24 but did not acquire the required visual cues for landing before reaching the minimum descent altitude, the NTSB report said. After conducting the missed approach, the crew received vectors from ATC for the ILS (instrument landing system) approach to Runway 6.

The copilot saw the runway lights when the PC-12 reached the decision height, and the pilot continued the approach. The pilot told investigators that she applied maximum reverse thrust and “more than average braking” after the airplane touched down about halfway down the 4,677-ft (1,426-m) runway. The airplane initially slowed but then began to hydroplane. “The pilots observed a [blast] fence at the end of the runway and decided they would not be able to perform a go-around,” the report said.

The airplane overran the runway and struck the blast fence 342 ft (104 m) beyond the departure threshold. No one was injured, and an examination of the Pilatus revealed substantial damage to the left wing spar, leading edge and aileron.

The report noted that in April 1994, eight people were killed when a Piper Navajo struck the nonfrangible, steel blast fence, which had been installed to protect vehicles on a nearby highway. In March 2001, a Hawker Siddeley 125 was substantially damaged when it struck the fence, but no one was hurt.

After the Navajo crash, NTSB recommended that the U.S. Federal Aviation Administration (FAA) identify nonstandard runway safety areas and require airports to upgrade them, if feasible. NTSB also called upon state and local authorities to relocate the highway and remove the blast fence at Bridgeport. The board said that neither the FAA nor the state or local authorities have taken acceptable action in response to the recommendations.

Disorientation Led to Control Loss

Fairchild Metro III. Destroyed. One fatality.

The ATSB said that the Metro’s alternating current (AC) electrical system likely was not functioning when the pilot departed from Sydney, New South Wales, Australia, in night VMC for a cargo flight to Brisbane, Queensland, on April 9, 2008.

Shortly after the aircraft took off to the southeast, over the ocean, on an instrument flight plan, a departure controller told the pilot to turn left to a heading of 090 degrees. The controller repeated the instruction when the radar display showed the Metro turning right, ATSB said in a report released in May 2011. The pilot acknowledged the instruction and said, “I’ve got a slight technical fault here.” This was his last radio transmission.

ATC radar data showed that the aircraft subsequently made a series of turns, climbs and descents, and was descending at more than 10,000 fpm when radar contact was lost at 3,740 ft. Search vessels found a small amount of aircraft wreckage floating in the ocean south of

the last recorded radar position. The pilot's body was not found; investigators determined that the impact was not survivable.

The flight data recorder and cockpit voice recorder were recovered from the ocean floor. The recorders, which are AC-powered, contained data for previous flights but not for the accident flight, a sign that the AC system was not functioning during the flight. Also, examination of a recovered attitude indicator revealed that its AC-powered gyroscopic rotor was not turning on impact.

The loss of AC power would have rendered the primary flight instruments, including the two attitude indicators, inoperative. "It is most likely that the lack of a primary attitude reference during the night takeoff led to pilot spatial disorientation and subsequent loss of control of the aircraft," the report said.

The Metro had two inverters, either one of which normally is selected before flight to provide AC power. Investigators were not able to determine why no AC power was available during the accident flight. "The absence of [AC] power could have been the result of bus failure, an inverter failure, inverter switch failure, system relay failure or pilot mis-selection of one or more of the electrical switches," the report said.

Setting Sun Cited in Runway Incursion

Cessna 208B. No damage. No injuries.

The Caravan pilot, who was conducting a scheduled freight operation, was cleared to land on Runway 25L at Phoenix (Arizona) Sky Harbor International Airport the afternoon of March 19, 2010. He told NTSB investigators that he had difficulty acquiring visual contact with the runway "because of the setting sun being right down the runway."

He set the ILS frequency in both navigation radios but noticed a discrepancy in the course deviation indicators. "Realizing he could not rely on the two needles for verification of the runway, he looked up and saw that he was just to the left of centerline," the report said.

The pilot aligned the airplane with the centerline he had in sight, which was on the parallel

runway, 25R, and inadvertently continued the approach to the wrong runway.

The flight crew of a Boeing 737-700 was lined up at the approach threshold of Runway 25R and awaiting takeoff clearance. The clearance was issued just as the captain saw the Caravan pass overhead at about 50 ft and touch down on the runway. The captain rejected the initial takeoff clearance and was reissued takeoff clearance after the 208 vacated the runway.

PISTON AIRPLANES

Distraction Leads to Gear-Up Landing

Piper Aztec. Substantial damage. No injuries.

The pilot said that shortly after departing from the Zebula Lodge airstrip near Bela-Bela, South Africa, the afternoon of May 5, 2010, the Aztec's door, which is on the right side of the cockpit, opened during a right turn, causing severe buffeting and a loud noise.

"He carried out a teardrop maneuver in order to turn back for landing," said the report by the South African Civil Aviation Authority. "However, due to the limited time available and distraction from the door, the pilot failed to lower the undercarriage. As a result, the aircraft landed on its belly and veered off the runway."

The report concluded that the pilot, who was the sole occupant of the aircraft, did not secure the door properly before takeoff.

Stabilator Control Cable Snaps

Piper Seneca III. Substantial damage. No injuries.

The pilot said that when he pulled back on the control yoke to flare the airplane for landing at Ankeny, Iowa, U.S., the evening of June 9, 2010, the pitch attitude did not change. The Seneca touched down hard on the nosewheel and bounced several times during the landing, damaging the fuselage and firewall.

The investigation revealed that the stabilator control cable was worn and had fractured. "The location of the fracture was in the unobstructed area in the tail cone," the NTSB report



said. “The location of the fracture was not associated with a pulley, fairlead or bulkhead, and no rubbing or chafing was found in the area of the fracture.”

The report said that the stainless steel cable was covered with dried grease and had been inadequately checked during an annual maintenance inspection three months before the accident. It noted that in 2011, the manufacturer and the FAA recommended replacement of stainless steel control cables with galvanized cables in specific Piper airplanes.

Mountain Wave Causes Control Loss

Beech 58P Baron. Destroyed. Two fatalities.

The Baron was cruising in night VMC at Flight Level 180 on Dec. 20, 2008, when the pilot reported that he was having severe difficulties but was not sure of the exact nature of the problem. Shortly thereafter, the airplane entered an uncontrolled descent and struck terrain at about 12,000 ft near Stonewall, Colorado, U.S.

In a final report released in May 2011, NTSB said that the Baron had encountered mountain wave activity while nearing the downwind side of a 13,000-ft ridge.

“A meteorological study of weather conditions in the accident area indicated the potential for severe mountain wave activity at the time of the accident,” the report said. “There were also numerous pilot reports specifically identifying encounters with mountain waves and/or severe or extreme turbulence ... close to the accident area.”

HELICOPTERS

Float Bursts After Tail Rotor Fails

Bell LongRanger. Substantial damage. Two minor injuries.

The LongRanger was en route from Port O'Connor, Texas, U.S., to an oil platform in the Gulf of Mexico the morning of June 10, 2010, when the pilot heard a pop. The helicopter pitched over and yawed right. Suspecting a tail rotor failure, the pilot made an autorotative landing on the rough surface of the water.

The NTSB report said that the flexible hoses that supply gas pressure to inflate the emergency

floats had been improperly installed and inspected, and the center float on the right skid burst due to overpressurization.

The pilot and the two passengers, who sustained minor injuries, exited the helicopter after it rolled inverted. They held on to the skids until they were rescued by the crew of a tugboat. The tail boom separated as the tugboat attempted to drag the helicopter to a nearby barge. The tail boom was not recovered, and the reason for the tail rotor failure was not determined.

Dislodged Object Hits Person on Ground

Aerospatiale Dauphin. No damage. One minor injury.

The emergency medical services (EMS) crew had transported a patient to a hospital in Middlesbrough, England, the afternoon of June 17, 2010. The pilot saw the flight physician return to the helicopter and close and lock the right cabin quarter-door before boarding. “The pilot then made a visual inspection of the aircraft and pulled on each of the right door handles to confirm that they were closed and locked,” the AAIB report said.

The Dauphin was at 700 ft shortly after take-off when the occupants heard a loud bang. The quarter-door had opened, and several objects, including a plastic stationery folder, had fallen out. The folder struck a person on the ground, rendering him unconscious. The report said his injuries were minor.

Following the door opening, the pilot reduced airspeed, advised ATC of the incident and completed the short flight to Durham Trees Valley Airport without further incident.

Company engineers found that the door locks were serviceable and concluded that the pins likely had been only partially engaged when the physician closed the door. “They added that the quarter-door pins could not be seen from outside the helicopter and were difficult to see from inside the cabin when a stretcher was installed, as on this flight,” the report said.

After the incident, the operator retrained its EMS crews on closing and locking aircraft doors, and issued a bulletin prohibiting “unqualified passengers” from doing so. ➔



Preliminary Reports, April 2011

Date	Location	Aircraft Type	Loss Type	Injuries
April 1	Saskatoon, Saskatchewan, Canada	CASA 212	total	1 fatal, 1 serious, 1 minor/none
The aircraft was returning from an aerial survey flight when the left engine lost power. The right engine then lost power on approach, and the 212 struck a concrete wall during the forced landing on a street.				
April 1	Yuma, Arizona, U.S.	Boeing 737	minor	2 minor, 121 none
A section of fuselage skin cracked open, causing the cabin to depressurize as the 737 was climbing through 34,400 ft en route from Phoenix, Arizona, to Sacramento, California. The crew diverted to Yuma and landed without further incident.				
April 2	Roswell, New Mexico, U.S.	Gulfstream 650	total	4 fatal
The flight crew was conducting a takeoff with a simulated engine failure for certification tests when the airplane banked steeply and crashed.				
April 4	Kinshasa, Democratic Republic of Congo	Bombardier CRJ	total	32 fatal, 1 serious
Thunderstorms were reported at the airport when the CRJ crashed on short final approach.				
April 6	near Boa Vista, Brazil	Helibras (Eurocopter) AS 355	total	3 fatal, 2 minor/none
The wreckage was found in a remote area two days after the helicopter was reported missing during a medevac flight. The patient and the pilot survived.				
April 6	Orhangazi, Turkey	Eurocopter EC 155	total	1 fatal, 1 serious, 1 minor/none
The helicopter crashed on high ground in dense fog during a flight from Istanbul to Yenisehir.				
April 11	New York, New York, U.S.	Airbus A380, Bombardier CRJ700	major	487 minor/none
The A380 was taxiing for takeoff when its left wing tip struck the vertical stabilizer on the CRJ, which was holding to cross the taxiway after landing.				
April 13	Furnace Creek, California, U.S.	Cessna Citation CJ3	minor	5 minor/none
After a reportedly normal approach and landing, the Citation overran the runway onto soft ground, where the nose landing gear collapsed.				
April 13	Caracas, Venezuela	Airbus A330	major	NA
After touching down hard on landing, the A330 was released to service after a hard-landing inspection. On the subsequent takeoff, the landing gear would not retract. The crew returned to Caracas and landed without further incident. A more detailed inspection revealed substantial gear damage.				
April 15	Valparaiso, Chile	Piper Cheyenne	total	2 minor/none
The Cheyenne overran the runway on landing and came to stop on a main road.				
April 16	Ust-Kamchatsk, Russia	Yakovlev Yak-40	major	26 minor/none
The right main landing gear collapsed in deep snow when the Yak-40 overran the runway on takeoff.				
April 17	Copenhagen, Denmark	Boeing 777	major	5 minor/none
The flight crew rejected the landing when the cargo airplane touched down hard and bounced. The tail struck the runway during the go-around, but the crew subsequently landed the 777 without further incident.				
April 20	Xian, China	Bombardier CRJ	major	NA
The nose landing gear and forward fuselage were substantially damaged when the CRJ touched down hard on landing. No injuries were reported.				
April 26	El Paso, Texas, U.S.	Cessna 208	major	1 minor/none
Surface winds were at 37 kt, gusting to 51 kt, when the Caravan was blown onto its right wing as the pilot was preparing to taxi.				
April 27	San Clemente, Chile	Bell 206	total	2 fatal
The helicopter crashed after the engine failed en route from Chicureo to Copihue.				
April 28	Moscow, Russia	Embraer ERJ-145	major	34 minor/none
After touching down with a strong tail wind, the aircraft was nearing the end of the wet runway at about 70 kt, when the flight crew attempted to steer it onto a taxiway. The 145 ground-looped and slid off the taxiway onto soft ground, where the landing gear collapsed.				
April 30	Tawang, India	Eurocopter AS 350	total	5 fatal
The helicopter crashed at 11,000 ft in mountainous terrain shortly after taking off from Tawang.				

NA = not available

This information is subject to change as the investigations of the accidents and incidents are completed.

Source: Ascend