

Fire Erupts During Maintenance Test

The Falcon's wheel brakes overheated during a series of accelerate-stop runs.

BY MARK LACAGNINA

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



JETS

Hydraulic Fluid Ignited

Dassault Falcon 2000. Substantial damage. No injuries.

Maintenance was performed on the Falcon in early November 2009 at Biggin Hill Airport in Kent, England, in response to a technical log entry that the aircraft was pulling to the left when the wheel brakes were applied. Maintenance actions included rigging checks and replacement of the two wheels and the brake system control units on the left main landing gear. Low-speed taxi tests performed by maintenance personnel indicated that this might have corrected the problem. However, the maintenance organization requested that the aircraft operator provide company pilots to conduct high-speed “taxi tests,” said the report by the U.K. Air Accidents Investigation Branch (AAIB).

A crew comprising a commander, a copilot and a cabin attendant already had been dispatched to Biggin Hill to pick up the aircraft after the maintenance was completed. “At this

stage, the crewmembers were unaware of the nature of the maintenance,” the report said. On Nov. 10, the commander received a text message from the aircraft operator, assigning her to perform a “miscellaneous activity” the next day that would include “high-speed taxi requested by the maintenance department,” the report said.

Apparently because the assignment involved only ground operation of the aircraft, it was not designated as an “operational check flight,” which was defined by the company’s operations manual as “a flight used to verify component, system or aircraft performance to determine correct operation after maintenance.” The report noted that neither the commander nor the copilot had received training to conduct operational check flights.

When the crew arrived at the maintenance facility the morning of Nov. 11, they were briefed by the maintenance supervisor about the Falcon’s tendency to veer left when the brakes were applied. “The maintenance team requested high-speed tests, which the crew agreed to,” the report said, noting that the crew decided to “adopt an incremental approach starting [with a maximum speed] of 50 kt and increasing to 80 kt. The crew carried out performance calculations to ensure the runway length [5,910 ft (1,801 m)] was adequate for the task.”

Hydraulic fluid was released at high pressure and ignited when it contacted the hot brake components.

However, the pilots did not review information in the airplane flight manual regarding brake energy limits and minimum times required to cool the brakes following takeoffs rejected at various speeds. “The aircraft is fitted with a wheel well overheat warning system, but there is no measurement or [cockpit] indication of brake temperatures,” the report said.

The three crewmembers, the maintenance supervisor and two technicians boarded the aircraft. “The maintenance supervisor occupied the jump seat between the two pilots, and the two technicians were seated in the rear of the passenger cabin,” the report said. “The cabin attendant gave a passenger brief to remind them of the main exits and [the requirement for] wearing seat belts.

“The crew commenced a series of accelerate-stop runs along the runway by selecting takeoff thrust, accelerating to the target IAS [indicated airspeed], then retarding the thrust levers and applying the brakes positively, bringing the aircraft to a stop,” the report said.

The target airspeed for the first two runs was 50 kt. The pilots then turned the aircraft around on the runway and conducted two more uneventful runs up to 60 kt. After another turnaround, the crew accelerated to 80 kt before applying the brakes. This time, the commander had to apply full left brake to maintain directional control. Investigators later determined that, during this run, heat built up in the left brake and wheel assemblies to the point that the fuse plugs melted and the tires began to deflate. Another run to 50 kt was conducted before the aircraft again was turned around on the runway.

On the seventh run, the aircraft again was accelerated to 80 kt before the brakes were applied. This time, the commander was unable to prevent the aircraft from veering left but was able to stop it on the runway. “The maintenance supervisor and the flight crew discussed the findings, and it was agreed to carry out one more run,” the report said. The crew taxied the Falcon to the end of the runway and turned around. The target airspeed for the eighth run

was 80 kt, but the crew aborted the test at 30 kt, sensing that the tires on the left main landing gear were “flat.”

“They informed ATC [air traffic control] and requested a tug; but, shortly after, the pilot of another aircraft holding at [a taxiway] informed ATC that there was a fire on the [Falcon’s] left main landing gear,” the report said. “ATC confirmed this visually and advised [the Falcon crew] that there was a fire and to evacuate the aircraft. The crew carried out the evacuation drills, and all those on board left the aircraft without difficulty through the normal airstair door.”

Airport fire and rescue service personnel responded immediately and extinguished the fire. The aircraft was towed onto a taxiway, and an initial examination revealed “severe fire damage” to the left wing, landing gear and flap, the report said.

Recorded flight data showed that the eight accelerate-stop runs had been performed within about 15 minutes, causing the carbon brake assemblies on both main landing gear to overheat severely. “The protective coating on the carbon discs had been removed, indicating temperatures in excess of 1,200 degrees C [2,192 degrees F],” the report said. The excessive heat caused hydraulic fluid seals on the left main landing gear to fail. Hydraulic fluid was released at high pressure and ignited when it contacted the hot brake components.

After the accident, the aircraft operator revised its definition of “operational flight check” to include “high risk ground test activities, such as high-speed taxi trials and engine ground runs,” the report said.

Taxiway Takeoff

Airbus A320-214. No damage. No injuries.

The A320 was 20 minutes behind schedule when it landed at Oslo Airport Gardermoen in Norway the afternoon of Feb. 25, 2010. After a short turnaround, the flight crew decided to save time by departing from the A3 intersection of Runway 01L, rather than taxiing to the threshold of the runway.

“Based on the airplane’s takeoff mass of 61,700 kg [136,024 lb], as well as prevailing weather and friction conditions, the crew concluded that the available runway length from A3 was well within the necessary margins,” said the report by the Accident Investigation Board of Norway.

The commander, the pilot flying, taxied the airplane westbound from the gate and turned left (south) onto Taxiway N, one of two parallel taxiways between Runway 01L and the terminal complex. The first officer was mostly head-down, reviewing checklists and the departure procedure, and setting the instruments for takeoff. The safety pilot, who was aboard because the first officer was in training, was monitoring the first officer’s actions.

The other parallel taxiway, Taxiway M, is located between Taxiway N and the runway. The airport traffic controller cleared the crew for takeoff from Runway 01L at A3 when the airplane was still being taxied southbound on Taxiway N. The commander later told investigators that he had expected to receive takeoff clearance “on the taxiway next to the runway” — that is, Taxiway M. When the airplane reached the A3 intersection, the commander made a right turn off Taxiway N, another right turn onto Taxiway M and proceeded to take off.

The controller was conversing with a colleague and was not watching the A320 when it began to roll on Taxiway M. “Under the prevailing conditions, Taxiway M was, by chance, long enough for the aircraft to take off,” the report said. “The taxiway was [also] free of other traffic and obstacles. This prevented a more serious outcome of the incident.”

The flight crew did not realize that they had departed from a taxiway until they were told by the controller that they had done so. The flight, with 60 passengers and four cabin crewmembers, continued without further incident to Moscow.

The report said that the taxiway takeoff was a serious incident that resulted from “deficient procedures and insufficient alertness in the cockpit, in combination with insufficient monitoring from the control tower and insufficient signposting in the maneuvering area.”

Takeoff Rejected After Rotation

Boeing 777-300ER. Minor damage. No injuries.

After the 777 was landed at Lagos Aero-drome in Nigeria the night of Jan. 11, 2010, the captain quickly performed preparations for the next leg, to Paris, so that he could take a 40-minute rest break in the cockpit during the scheduled 1.5-hour stopover in Lagos.

Push-back and engine start began a few minutes before midnight, said the report by the French Bureau d’Enquêtes et d’Analyses. There were 218 passengers and 14 cabin crewmembers aboard when the flight crew was cleared to taxi to Runway 36L for departure.

During the takeoff briefing, the captain, the pilot flying, said that V_1 would be 138 kt and V_R would be 157 kt. The crew completed the takeoff checklist, and the copilot told the airport traffic control tower that they were ready for takeoff. At the time, the aircraft was 1,300 m (4,265 ft) from the holding point for Runway 36L.

The report said that about two minutes after the controller issued takeoff clearance, “the aircraft entered the runway, and the crew began the takeoff roll without stopping the aircraft.” The captain had neglected to arm the autothrottle, and when he activated the takeoff go-around (TOGA) switches, N_1 , or engine low-pressure rotor speed, remained stabilized at 62 percent.

The captain announced, “We have a problem,” and activated the TOGA switches again. He then noticed that the autothrottle had not been engaged, and he removed his hand from the thrust levers to arm the autothrottle switch on the mode control panel. However, he inadvertently engaged the autopilot instead.

The captain announced, “No thrust,” and the copilot replied, “Do it by hand.”

“During this exchange, the thrust levers were advanced to obtain N_1 of 92.5 percent,” the report said. Soon after the copilot called out rotation speed, the captain called for a rejected takeoff. Airspeed reached a maximum of 165 kt, and the aircraft was stopped about 900 m (2,953 ft) from the end of the 3,900-m (12,796-ft) runway. No one was injured, but several wheel

The captain had neglected to arm the autothrottle.

brake assemblies overheated, causing the fuse plugs to melt and the tires to deflate.

The captain told investigators that he rejected the takeoff because he sensed a blockage of the elevator control during rotation. The report said that the inadvertent engagement of the autopilot had significantly increased the manual control force required to rotate the aircraft.

The report noted that a few days after the serious incident, Boeing issued a service bulletin announcing a revision of autopilot software to prevent inadvertent engagement on the ground. The U.S. Federal Aviation Administration subsequently mandated installation of the new software in 777s.

Blind, Powerless Landing

Cessna Citation 550. Substantial damage. No injuries.

The captain told U.S. National Transportation Safety Board (NTSB) investigators that the Citation II encountered unforecast severe head winds, which increased fuel consumption, during a flight from the Dominican Republic to Wilmington, North Carolina, U.S., the night of Jan. 4, 2009.

The forecast for Wilmington International Airport called for visibilities greater than 6 mi (10 km) and a broken ceiling at 700 ft, the NTSB report said. When the Citation arrived, however, the visibility was 1/2 mi (800 m) in fog, and there was a broken ceiling at 100 ft and an overcast at 500 ft.

The flight crew requested and received clearance to conduct the instrument landing system (ILS) approach to Runway 24. At 0150 local time, the first officer told the approach controller that they were conducting a missed approach and requested clearance to “shoot another approach.”

The controller cleared the crew for another ILS approach but advised them that weather conditions were “much better” at Albert J. Ellis Airport, 36 nm (67 km) north. The first officer replied that they needed to clear customs at Wilmington.

The crew conducted two more approaches but were unable to land because of the fog. They were conducting the third missed approach when

the left engine flamed out. The first officer radioed, “We have an emergency, one engine out.”

“Can you make it to Albert Ellis?” the controller asked. The first officer replied that they were low on fuel and requested vectors for another ILS approach to Wilmington.

“While the airplane was being vectored for a fourth approach, the right engine lost power,” the report said. “Utilizing the global positioning system, the captain pointed the airplane toward the intersection of the airport’s two runways.” The Citation was about 50 ft above the ground when the captain saw a row of lights and turned to touch down parallel to the lights. He attempted to extend the landing gear; but, with both engines inoperative, there was no hydraulic pressure, and there was no time to use the emergency gear-extension system.

At 0209, the Citation “landed gear-up heading southwest near Taxiway G, which intersected Runway 6-24, ... subsequently overran the runway and impacted several approach light stands for Runway 24, coming to rest 2,242 ft [683 m] past the point of initial touchdown,” the report said. The pilots and their five passengers escaped injury. The lower fuselage of the airplane was damaged, and the pressure vessel was punctured in several places.

The report said that the flameouts of both engines were caused by fuel exhaustion that resulted from “the crew’s inadequate in-flight fuel monitoring.”

Asleep at the Wheel

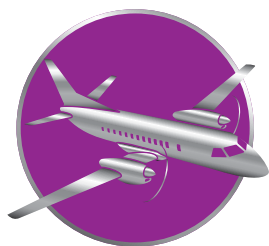
Bombardier CRJ700. Substantial damage. One minor injury.

The driver of a fuel truck apparently released the wheel brake foot pedal when he fell asleep while waiting for the CRJ to arrive at Dallas–Fort Worth (Texas, U.S.) International Airport the afternoon of Dec. 18, 2009. The emergency brake had not been set, and the truck began to roll.

The driver “was unaware of what happened until the fuel truck collided with a parked airplane that had just arrived at the gate,” the NTSB report said. The aft fuselage of the CRJ was substantially damaged, and a flight attendant

The crew was conducting the third missed approach when the left engine flamed out.

sustained a minor injury. The report did not say whether the fuel truck driver was hurt during the collision.



TURBOPROPS

Pressurization Controls Neglected

Beech King Air C90. Destroyed. One fatality.

Soon after the King Air leveled at 17,000 ft during a flight from Hondo, Texas, U.S., to Goodyear, Arizona, the afternoon of Dec. 14, 2008, ATC radar “showed the airplane in a meandering flight path, increasingly off course,” the NTSB report said. Although the controller issued several heading corrections and queries about the flight’s status, the airplane’s flight path continued to deviate from course.

After about six minutes at 17,000 ft, the pilot was cleared to climb to 24,000 ft. The airplane was passing through 18,000 ft when the pilot made his last radio transmission, acknowledging a heading correction. Several subsequent attempts to hail the pilot were unsuccessful.

ATC radar showed that the King Air climbed to 24,000 ft, descended gradually to 21,000 ft and then entered a rapid descent. Two witnesses saw the airplane spin to the ground near Rocksprings, Texas. One witness said that “he continued to see pieces of aluminum raining down for quite some time after impact,” the report said.

Both engine bleed air switches were found closed, and the cabin pressurization switch was in the “DUMP” position. The report said that the probable cause of the accident was “the pilot’s failure to configure the pressurization controls, resulting in his impairment and subsequent incapacitation due to hypoxia.”

Reverse Thrust Reduces Control

Fokker F50. No damage. No injuries.

The Fokker was inbound with 20 passengers from London to Ronaldsway Airport on the Isle of Man the morning of Jan. 15, 2009. After conducting the ILS approach to Runway 26, the flight crew was cleared to land and was

advised that the runway was wet and that the surface winds were from 180 degrees at 24 kt.

The AAIB report noted, however, that the wind was gusting over 33 kt, the recommended maximum crosswind for landing the aircraft on a *dry* runway.

The commander held a 20-degree left crab angle during final approach. “At about 50 ft AGL [above ground level], the commander began to decrab the aircraft by applying right rudder and left (into wind) aileron,” the report said. The aircraft touched down at 91 kt, bounced on the runway, touched down again and began to veer left. The commander initially applied full right rudder and left aileron to maintain directional control but then selected maximum reverse power as the aircraft neared the edge of the runway. The Fokker turned more sharply to the left and ran off the runway. “The aircraft came to a stop with the nose and left main gear off the paved surface,” the report said.

According to the aircraft manufacturer, the rudder is the most effective control surface for maintaining directional control on a runway at high speed, and the use of high reverse power disrupts airflow around the rudder and the ailerons, reducing the effectiveness of these control surfaces.

Fatigue Cited in Excursion

Mitsubishi MU-2B-60. Substantial damage. No injuries.

Inbound from Dallas with three charter passengers early on Feb. 4, 2010, the pilot was told by an Amarillo (Texas, U.S.) International Airport operations worker that the runway was covered with snow and ice. Visibility was 1/2 mi (800 m) in freezing fog, and there was an indefinite ceiling with vertical visibility of 110 ft.

The pilot conducted the ILS approach to Runway 04 and touched down about 20 kt faster than the recommended landing speed. “The airplane’s right main landing gear touched down first, followed by the left main landing gear and the nose gear,” the NTSB report said. “The airplane made an abrupt left turn [and] departed the left side of the runway.” The MU-2 received

damage to the right main landing gear, right wing spar and fuselage, but remained upright.

The report noted that the accident is part of an NTSB fatigue-investigation study. Although the pilot had been on duty for only 4 hours and 15 minutes, he had been awake for more than 19 hours when the accident occurred at 0215 local time.

Totalizer Tells Tall Tale

Beech King Air B200. Substantial damage. Three serious injuries.

The pilot intended to conduct a local flight with two maintenance technicians to evaluate some avionics equipment problems the morning of Nov. 9, 2009, before a phase inspection of the King Air was begun at Greenville Spartanburg (South Carolina, U.S.) International Airport. While preflighting the King Air, he noticed that there were 740 lb (336 kg) of fuel aboard, enough for about one hour and 10 minutes of flight.

After completing the preflight check, the pilot returned to the maintenance facility to await the technicians' arrival. The pilot was not aware that, during his wait, two mechanics performed a 45-minute ground run of the engines in preparation for the phase inspection, the NTSB report said. The mechanics noted that 200 lb (91 kg) of fuel remained in each of the two main tanks when they completed their ground runs. The B200 pilot's operating handbook states, "Do not take off if the fuel quantity gauges indicate in the yellow arc or indicate less than 265 pounds [120 kg] of fuel in each main tank system."

After the technicians arrived, the pilot did not check the fuel gauges but noticed that the flight management system (FMS) fuel totalizer indicated sufficient fuel for the avionics test flight. The mechanics had not activated the FMS; thus, the fuel quantity shown by the totalizer had not changed during the engine ground runs.

The King Air was on final approach after 23 minutes of flight when both engines flamed out due to fuel exhaustion. "The pilot attempted to glide to the runway with the landing gear and flaps retracted; however, the airplane crashed short of the runway," the report said.

PISTON AIRPLANES

Special VFR Into a Whiteout

Piper Chieftain. Substantial damage. One serious injury, five minor injuries.

As the Chieftain neared Nome (Alaska, U.S.) Airport on a commuter flight the afternoon of Feb. 19, 2009, a flight service specialist told the pilot that the weather conditions at the airport were below basic visual flight rules (VFR) minimums. The latest weather observation included 1 1/2 mi (2,400 m) visibility in light snow and mist, a broken ceiling at 900 ft and surface winds from 250 degrees at 20 kt, gusting to 25 kt.

The pilot requested, and received, a special VFR clearance to enter the Nome Class E airspace. "According to the pilot, he started a gradual descent over an area of featureless, snow-covered, down-sloping terrain in whiteout and flat light conditions," said the NTSB report. "A localized snow shower momentarily reduced the pilot's forward visibility, and he was unable to discern any terrain features." A passenger was seriously injured and the other five occupants sustained minor injuries when the Chieftain struck terrain about 5 nm (9 km) from the airport.

"The pilot reported that the accident could have been avoided if the flight had been operated under an instrument flight rules flight plan," the report said.

Engine Problems Lead to Ditching

Piper Twin Comanche. Destroyed. No injuries.

En route from the Channel Islands the morning of Dec. 16, 2009, the Twin Comanche was at 8,000 ft and about 38 nm (70 km) southeast of the destination — Ronaldsway Airport on the Isle of Man — when an overspeed of the right propeller occurred. The propeller did not respond to movement of the throttle or propeller lever, so the pilot shut down the engine and turned toward Blackpool Airport, on the west coast of England.

The aircraft was at 4,000 ft a few minutes later when manifold pressure in the left engine decreased to 17 in. Unable to maintain altitude and beyond gliding distance to Blackpool, the



pilot decided to ditch the aircraft near an off-shore platform support vessel.

“She prepared for the ditching by unlatching the door and placing her life raft and a ‘grab bag’ of essential supplies on the front seat,” the AAIB report said. “At approximately 100 ft, she shut down the left engine. She then maintained 80 kt until the aircraft was at approximately 10 ft, then ‘hailed back on the control column’ in order to touch down tail-first. This caused the aircraft to ‘belly flop’ onto the water.”

The pilot, who had received sea survival training in the Royal Navy, was wearing an immersion suit and life vest. “She swam to the life raft [which had fallen into the water] and inflated it but found that there were no steps or handholds to aid her boarding.” She clung onto straps on the life raft for a few minutes until she was rescued by a boat launched from the platform support vessel.

The Twin Comanche was recovered from the seabed five months later. Investigators determined that the overspeed of the right propeller might have been caused by low air charge pressure or a stuck pilot valve in the propeller governor, and that the left engine power loss might have been caused by ice forming on the throttle servo valve impact tubes and restricting fuel flow to the engine.

HELICOPTERS

Brownout, Glare Spoil Landing

Eurocopter AS 350-B2. Substantial damage. No injuries.

The pilot was wearing night vision goggles (NVGs) during the emergency medical services positioning flight from Phoenix, Arizona, U.S., to pick up a patient who had been injured in a motor vehicle accident near Cave Creek, Arizona, the night of Feb. 22, 2009.

Nearing the landing zone — a dirt parking lot — the pilot asked ground personnel if the area had been watered down, to suppress dust. “The ground personnel replied that the landing area was not wetted down [but] ‘looked damp,’” the NTSB report said. However, dust began to encircle the helicopter during the approach. At

about 20 ft AGL, brownout conditions developed, and the pilot reduced power to expedite the landing.

“As the helicopter descended through about 10 ft AGL, the pilot lost visual reference through his [NVGs] due to lights from adjacent emergency service vehicles,” the report said. The helicopter touched down hard, damaging the tail boom and fuselage. The pilot and the two medical crewmembers aboard the helicopter escaped injury, and no one on the ground was hurt.

Rotor Hits Parking Lot Lamppost

Sikorsky S-76B. Destroyed. Three minor injuries.

The pilot was transporting two passengers to Bettystown, Ireland, the afternoon of Sept. 18, 2008, for a business meeting with a hotel owner who had given the helicopter owner permission to land in the hotel parking lot. In a report issued in December, the Irish Air Accident Investigation Unit said that the parking lot was “unsuitable” for landing because it was small and located in a congested area.

As the helicopter neared the hotel, the pilot saw a car entering the parking lot, so he landed on a vacant public beach about 100 m (328 ft) away and shut down both engines. As the passengers disembarked, several sightseers began to approach the helicopter. The pilot decided to reposition the S-76 to the hotel parking lot.

While approaching the parking lot, the pilot established a hover momentarily to allow two people to exit the lot and then initiated a vertical descent to land. During the descent, the main rotor blades struck a metal lamppost. “The helicopter started to rotate violently and descended onto the top of a low wall [surrounding the parking lot],” the report said. “This wall tore out the bottom of the fuselage and ruptured the fuel tanks. ... The escaping fuel fed the subsequent fire.”

The pilot sustained minor injuries but was able to exit the helicopter before it was engulfed by fire. Debris from the impact caused minor injuries to two people on the ground and damage to several motor vehicles and buildings. The fire, which destroyed the helicopter, was extinguished by fire fighters. 🌀



Preliminary Reports, December 2010				
Date	Location	Aircraft Type	Aircraft Damage	Injuries
Dec. 1	Toledo, Ohio, U.S.	Cessna Citation 560XL	none	3 none
The Citation's rudder jammed during approach, but the airplane was landed without further incident. Ice was found around the rudder control cables and pulleys in the tail cone. An almost identical incident occurred in Birmingham, Alabama, on Dec. 13.				
Dec. 3	Pago Pago, American Samoa	Boeing 767	none	1 serious, 3 minor, 181 none
A flight attendant suffered a broken leg, and two flight attendants and a passenger sustained minor injuries when the 767 encountered clear air turbulence at 18,000 ft.				
Dec. 3	Maputo, Mozambique	Beech 1900C	destroyed	17 minor
The airplane struck the ground short of the runway during a night approach.				
Dec. 4	Moscow, Russia	Tupolev 154M	destroyed	2 fatal, 78 serious, 89 minor
The Tu-154 crashed during an emergency landing at the Domodedovo airport after all three engines failed on departure from the Vnukovo airport.				
Dec. 7	Mercantour National Park, France	Eurocopter AS 365N	destroyed	3 fatal
The helicopter crashed in thick fog in a ravine during a landslide inspection flight.				
Dec. 9	Bom Jesus do Galho City, Brazil	Beech B55 Baron	destroyed	4 fatal, 1 serious
The Baron crashed during a forced landing in mountainous terrain after an engine failed.				
Dec. 9	Cap-Chat, Quebec, Canada	Bell 206B	substantial	2 serious, 1 minor, 2 none
The helicopter crashed in low visibility on the shore of the St. Lawrence River during a survey flight.				
Dec. 10	Minneapolis, Minnesota, U.S.	Beech King Air 300	substantial	2 none
The King Air was landed without further incident after the cabin door separated during departure.				
Dec. 12	Londrina, Brazil	Beech King Air C90	destroyed	7 NA
No fatalities were reported when the airplane encountered wind shear on approach and crashed short of the runway.				
Dec. 13	Columbus, Ohio, U.S.	Piaggio P180 Avanti	none	4 none
The airplane was landed without further incident after the elevators jammed during approach. Ice was found around the elevator control cables in the fuselage bays.				
Dec. 14	Nassau, Bahamas	Beech 18	destroyed	2 fatal
Adverse weather conditions prevailed when the cargo airplane struck the ocean during approach.				
Dec. 14	Pokemouche, New Brunswick, Canada	Cessna 310R	destroyed	1 fatal
Strong winds and freezing rain prevailed when the 310 crashed near its destination during a positioning flight.				
Dec. 15	Palunge Hill, Nepal	de Havilland Twin Otter	destroyed	22 fatal
Low visibility was reported when the airplane struck the hill during a scheduled flight from Lamidanda to Kathmandu.				
Dec. 18	Sanikiluaq, Nunavut, Canada	Swearingen Metro II	substantial	3 none
The emergency medical services airplane veered off the runway while landing with a crosswind.				
Dec. 19	Samedan, Switzerland	Raytheon 390 Premier	destroyed	2 fatal
Marginal weather conditions prevailed when the airplane struck power lines and crashed on approach.				
Dec. 20	Mbeya City, Tanzania	Cessna U206F	substantial	1 fatal, 3 serious
The single-engine airplane crashed shortly after taking off for a charter flight.				
Dec. 20	Perris, California, U.S.	Aero Commander 680FL	destroyed	1 fatal
The airplane struck the top of a 2,500-ft mountain in IMC during a VFR flight from Palm Springs to Chino.				
Dec. 23	Camden, New South Wales, Australia	Piper Twin Comanche	substantial	2 minor
The airplane crashed during a training flight that apparently involved a simulated engine failure.				
Dec. 27	Columbus, Ohio, U.S.	Rockwell Commander 500B	destroyed	1 serious
The cargo airplane crashed after an engine failed on approach to Ohio State University Airport.				
Dec. 28	Krasny Oktyabr, Russia	Antonov 22A	destroyed	12 fatal
The military transport crashed out of control while returning to Tver after delivering a fighter to Voronezh.				
Dec. 29	Jackson Hole, Wyoming, U.S.	Boeing 757-200	none	181 none
Snow was falling when the 757 overran the runway on landing.				

NA = not available
 This information, gathered from various government and media sources, is subject to change as the investigations of the accidents and incidents are completed.