

'Salvaged' Approach Ends Badly

Crew miscommunication resulted in high sink rate.

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

Left Main Gear Breaks on Touchdown

Bombardier CRJ200. Substantial damage. No injuries.

The flight crew of the regional jet was completing their fourth flight of the day — from Philadelphia to Providence, Rhode Island, U.S., with 31 passengers and three crewmembers — the evening of Dec. 16, 2007. All of the flights had been conducted in instrument meteorological conditions.

“The first officer, who had recently completed his initial operating experience in the CRJ200, was the pilot flying,” said the report by the U.S. National Transportation Safety Board (NTSB). “This flight was the second time he had flown from Philadelphia to Providence, and the captain was aware that he was new to the airline.”

The first officer, 39, held a CRJ type rating and had 2,000 flight hours, including 150 hours in type. The report noted that he had very little instrument approach experience in CRJ200s. The captain, 30, held type ratings for the CRJ and Beech 1900, and had 5,500 flight hours, including 2,300 hours in type with 1,000 hours as pilot-in-command.

The crew was cleared to conduct the instrument landing system (ILS) approach to Runway 05. Weather conditions at the Providence airport included surface winds from 010 degrees at 8 kt, 1 3/4 mi (2,800 m) visibility in rain and mist, and a 300-ft overcast ceiling. Winds aloft at the top of descent were from 220 degrees at 100 kt, and the CRJ encountered strong tail winds as it neared the airport from the southwest.

“The crew reported feeling rushed because of the high groundspeed,” the report said. “The crew did establish the airplane on the approach course at the proper speed and altitude. However, they did not perform a complete approach briefing.”

The approach was stabilized until the airplane descended through 700 ft about 2 nm (4 km) from the runway. The first officer disengaged the autopilot and flight director. “In an interview, he stated that he wanted to get the feel of the airplane and ‘declutter’ the display,” the report said. “At the time, [the airline’s] procedures allowed hand flying raw-data instrument approaches.”

The approach became unstabilized when the CRJ began to drift left of the localizer course and above the glideslope. When it descended below the overcast at 300 ft, the crew saw the approach lights at their 2 o’clock position. The captain offered to take control, and the first officer conceded. During the transfer of control, the captain said something that the first officer incorrectly perceived as an instruction to reduce power to idle, and he did so without the captain’s knowledge.



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“The captain maneuvered the airplane in a series of descending turns reaching a maximum bank angle of 22 degrees at a height of less than 100 ft above the runway,” the report said. “A descent rate of up to 2,000 fpm developed.” Pitch attitude was 7 degrees nose-down when the captain began the flare, and it increased to 4 degrees nose-up just before touchdown.

The captain increased power to about 73 percent N_1 (low-pressure rotor speed) during the flare. Airspeed was about 132 kt on touchdown — 6 kt lower than the appropriate landing reference speed. “Due to the flare rotation and sink rate, the airplane exceeded the stall angle-of-attack, and the stall-protection system (stick shaker and pusher) briefly activated,” the report said. “According to a performance study, the airplane touched down in a 9-degree left bank ... with a sink rate of approximately 18 fps.”

The left main landing gear collapsed, and the CRJ exited the left side of the runway and slid through a snow-covered, grassy area. All 33 people aboard the airplane exited through the airstairs door with assistance from aircraft rescue and fire fighting personnel. Postaccident examination of the three-year-old airplane revealed additional damage to the left wing’s aft main spar, flaps and skin. “The left engine had minor FOD [foreign object debris] damage causing numerous nicks and cuts to about 10 fan blades,” the report said.

The report said that the probable cause of the accident was “the captain’s attempt to salvage the landing from an instrument approach which exceeded stabilized approach criteria” and that contributing factors included “the first officer’s poor execution of the instrument approach and the lack of effective communication between the crew.”

Duck Strike Disables Engine

Boeing 767-300. Substantial damage. No injuries.

The 767 was about 800 ft above ground level (AGL) on departure from Chicago O’Hare International Airport for a flight to São Paulo, Brazil, the night of March 15, 2007, when the landing lights illuminated a flock of birds

close ahead. “There were multiple bird strikes in the vicinity of the cockpit,” the NTSB report said. “The left engine then experienced a series of compressor stalls.”

The first officer, the pilot flying, retarded the throttle, and the left engine stabilized for a few seconds. “The first officer adjusted the throttle again, and there was one more ‘bang,’ after which the engine flamed out,” the report said.

There were no indications of problems with the right engine. The flight crew secured the left engine, returned to O’Hare and conducted an overweight landing without further incident. None of the 203 people aboard the airplane was hurt.

Investigators found that three to five canvas back ducks weighing from 2 to 5 lb (1 to 2 kg) had struck the left engine fan section, fracturing one fan blade and damaging several others.

Missing Fastener Causes Control Jam

McDonnell Douglas DC-10-30. Minor damage. No injuries.

Visual meteorological conditions (VMC) prevailed as the DC-10 neared Atlanta during a nonscheduled flight from Ireland the afternoon of May 2, 2007. The airplane was at 13,000 ft and decelerating to 250 kt when the autopilot out-of-trim warning light illuminated. “The autopilot was then disengaged [by the flight crew] while the flight controls were guarded in anticipation of a change in pitch,” the NTSB report said.

“The airplane pitched ‘aggressively’ nose-down, and attempts in resetting/moving the horizontal stabilizer using the pilot’s and copilot’s control wheel trim switches, alternate trim switches and longitudinal trim handles were unsuccessful in repositioning the stabilizer, which remained set at 1 degree airplane nose-up.”

The crew told investigators that a “demanding amount” of elevator back pressure was required to maintain level flight. They declared an emergency and received radar vectors from air traffic control (ATC) to Runway 27R. The DC-10 was landed with the flaps extended 35 degrees and the no. 2 engine at flight idle. The airplane was then taxied to a gate, where the 292 passengers and 13 crewmembers deplaned.

Investigators found that the horizontal stabilizer chain-drive assembly had been overhauled improperly. One of the two fasteners — each comprising a pin, washer and nut — securing the drive gear had been omitted during the overhaul in 1999. “The illustration in the component maintenance manual depicts only one pin, washer and nut,” the report said. “However, the parts list for the same illustration specifies that two pins, washers and nuts are required to be installed.”

The overhauled drive assembly was installed in the DC-10 about a year before the incident, and the airplane had accumulated 2,421 flight hours when the omission of the fastener caused the other fastener to fail. “This prevented output of the horizontal stabilizer drive assembly being transmitted to acme screws of the horizontal stabilizer,” the report said. An acme screw is a powered jackscrew of the type typically used in jacks and presses.

Mistaken Identity Leads to Near Collision

Learjet 31A. No damage. No injuries.

As the flight crew of the Learjet was taxiing to Runway 10 for departure from Dublin (Ireland) Airport the morning of Dec. 17, 2007, the pilot of an Agusta Westland A109 helicopter that had lifted off from the north apron was instructed by the airport traffic controller to hold near the control tower, which is north of Runway 10, said the report by the Irish Air Accident Investigation Unit.

The helicopter was hovering at about 200 ft AGL when the Learjet crew received takeoff clearance. The controller asked the helicopter pilot, “Do you have the traffic rolling off 10 in sight?” The helicopter pilot saw a 737 taxiing to the holding point adjacent to the approach end of the runway and replied, “Yes, affirm.” The controller told the helicopter pilot that he was “cleared to pass behind that traffic, cross the active runway.” The pilot read back the clearance as “cleared across the, behind the rolling traffic.”

“The response of the pilot, though not precisely repeating the controller’s instructions, was not ambiguous enough to cause the tower

controller to question it,” the report said. The controller turned his attention away from the helicopter to communicate with the crew of an aircraft that was on final approach to Runway 10.

“[The helicopter pilot] stated that he believed that the ATC controller wanted him to pass behind the taxiing B737 and to expedite the crossing,” the report said. “He did not see the Learjet on the runway; he believed that this was due to it being small and gray with low light levels, as it was shortly after sunrise.”

The first officer of the Learjet was the pilot flying. Soon after calling V_2 (takeoff safety speed), the commander saw the helicopter ahead, crossing from left to right. “The commander immediately took control, pushed the nose down and banked left to avoid a collision,” the report said. “He passed below and just behind the helicopter. ... There was little vertical or horizontal separation between the two aircraft at the time of the occurrence.”

The helicopter pilot saw the Learjet pass a short distance behind as he crossed the runway. “After listening to the ATC recordings, the pilot of the helicopter stated that it was clear he had misunderstood the ATC controller and misidentified the aircraft in question,” the report said. “He was of the opinion that, with hindsight, he should have confirmed the aircraft type and position with the controller before he crossed.”

The report said that although its landing lights were on, the Learjet would have been difficult to see against the dark gray runway in the early morning light. “The investigation is of the opinion that this was probably a contributory factor in the occurrence and that it might have been helpful to the pilot of the helicopter if the controller had specifically identified the type and color of the Learjet.”

However, the report said that the probable cause of the serious incident was the helicopter pilot’s failure to comply with the conditional clearance issued by the controller. “The pilot was listening on the VHF frequency and should have heard the takeoff clearance the ATC controller had just issued to the Learjet,” the report said. “Ultimately, it was the fact that the pilot did not

‘There was little vertical or horizontal separation between the two aircraft at the time of the occurrence.’

comply with or query the clearance that resulted in the airmiss.”

Dense Smoke Fills Cabin on Approach

Boeing 777-200. Minor damage. One serious injury.

Inbound from Shanghai, China, the afternoon of Dec. 14, 2007, the airplane was at 5,000 ft and 13 nm (24 km) from Chicago O’Hare International Airport when a cabin crewmember told the flight crew that the cabin was filling with smoke from an unknown source.

“The captain declared an emergency in order to get the airplane on the ground as soon as possible,” the NTSB report said. “The first officer performed a normal landing and turned off on the first high-speed taxiway, at which time he noticed a low oil indication on the right engine.”

The flight crew shut down the right engine and initiated an emergency evacuation because of the dense smoke in the cabin and the possibility of an on-board fire. During the evacuation, one of the 248 passengers sustained a fractured vertebra.

A teardown inspection of the right engine revealed that the no. 2 bearing had failed, allowing oil to enter the environmental system. “The engine manufacturer had released an improved bearing design prior to the accident,” the report said. “At that time, the operator began replacing the bearings on an attrition basis when the original bearings were no longer serviceable. However, the operator has revised that policy and is proactively replacing the original bearings, regardless of condition, with the improved bearings.”

Misunderstanding Worsens Bout With Turbulence

Airbus A330-323. No damage. One serious injury, three minor injuries.

Night VMC prevailed on Dec. 25, 2007, as the A330 neared an area along the route from Osaka, Japan, to Honolulu where convective activity had been forecast. The seat belt sign was on, and the flight crew told the lead flight attendant to ensure that all the flight attendants took their seats and remained seated until further notice. The crew explained that they were deviating around an area of scattered

thunderstorms “and that it should not last much longer than 15 minutes,” the NTSB report said.

“The lead flight attendant reported that although it had been ‘bumpy’ most of the flight, when she received the call from the flight deck, it was smooth. ... She walked to both galleys and told the flight attendants to be seated for the next 15 minutes.” The two flight attendants in the aft galley misunderstood her instructions; believing that they had 15 minutes before they were to be seated, they finished cleaning the galley and began to prepare their crew meals.

After deviating around the thunderstorms and resuming their assigned course, the pilots discussed whether they should allow the flight attendants to resume their duties. The A330 suddenly encountered severe clear air turbulence. The encounter occurred at Flight Level 380 (approximately 38,000 ft) and 1,300 nm (2,408 km) west of Honolulu.

“The turbulence caused the autopilot and autothrottles to disconnect,” the report said. “The flight lost approximately 1,000 ft of altitude during the turbulence encounter.” Vertical accelerations of minus 0.4 g to 1.8 g were recorded during the brief encounter.

The two flight attendants in the aft galley were thrown to the floor. One suffered two fractured neck vertebrae; the other flight attendant and two passengers received minor injuries. The other 281 passengers and seven flight attendants, and the three flight crewmembers were not hurt.

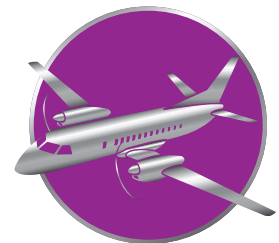
The crew continued the flight to Honolulu, where the airplane was landed without further incident about three hours later.

TURBOPROPS

Salt Accretion Chokes Three of Four Engines

Lockheed WP-3D Orion. No damage. No injuries.

Operated by the U.S. National Oceanic and Atmospheric Administration (NOAA), the research aircraft was being used in an experimental project to calibrate satellite readings of low-level wind velocities over the North Atlantic. The aircraft departed in VMC from St.



John's, Newfoundland, Canada, the afternoon of Feb. 9, 2007, to investigate a low-pressure system about 500 nm (926 km) east.

"Approximately 40 minutes into the flight, the crew turned on engine anti-ice due to low outside air temperature (about minus 10° C [14° F]), periodic clouds and oncoming darkness," the NOAA report said. "Approximately an hour into the flight, the crew observed that the windshield was excessively dirty with a white film and attempted to clean it. The effort was unsuccessful due to the inoperability of the windshield washer pump. The crew described the substance as looking 'like snowflakes but not melting' [on the heated windshield]."

The flight proceeded normally for the next few hours. "Gradual reductions in power were required to maintain a set airspeed as aircraft weight decreased," the report said. "All members of the crew did note that there was much less liquid precipitation during this flight than there had been on previous flights. ... Additionally, the winds noted during this flight were of exceptionally high speed. Most wind readings were in the range of 85 to 95 kt."

The technicians were completing their data acquisition when they saw flames coming from the tailpipe of the no. 3 engine and reported the observation to the flight crew. At the same time, the copilot and flight engineer observed warning indications (but no fire warning), and the commander told them to shut down the engine. The copilot was reading the emergency shutdown checklist when warning indications for the no. 4 engine were generated. "The copilot began to very carefully and methodically read the emergency shutdown checklist, declaring, 'This is for no. 3 and no. 4 now,'" the report said.

The commander increased power on the no. 1 and no. 2 engines, but airspeed began to decrease. He initiated a descent from 3,000 ft to maintain 200 kt, eventually stabilizing the aircraft at 2,600 ft. After the right engines were shut down, the copilot told the crew to review their ditching procedures and don their anti-exposure suits. He also told the off-duty navigator to declare an emergency.

Five minutes later, tailpipe flames and warning indications were observed for the no. 1 engine, and it also was shut down. "The aircraft began a descent at about 700 fpm, unable to hold altitude on the power of one engine," the report said. "Failing other options, the commander called for an immediate restart of the no. 1 engine."

The Orion passed through a rain shower as the no. 1 engine was restarted. "The aircraft reached a minimum altitude and airspeed of 800 ft and 140 kt prior to beginning a slow climb on two engines," the report said. The right engines then were restarted, and the aircraft was flown at 14,000 ft back to St. John's, where it was landed without further incident about 6 1/2 hours after it departed.

Initial examination of the aircraft revealed a significant buildup of a white substance on the engine intakes and first-stage compressor stator and rotor blades, and on the fuselage and windows. Testing of samples by Rolls-Royce confirmed that the white substance was sodium chloride — salt.

The investigation concluded that the engine rundowns had been caused by an "almost unknown phenomenon" — salt accretion. Sea salt borne by the hurricane-force winds had been deposited on the low-flying Orion, and enough of the accreted salt had been washed from the engines during the brief encounter with the rain shower to allow the engines to be restarted and to run smoothly during the remainder of the flight.

The report noted that factors that can contribute to salt accretion include: a large difference between the temperatures of warm water and cold air; high surface wind speeds; absence of precipitation; and relative humidity at or above 80 percent.

GPU Struck After Engine Start

Fokker F27 500. Substantial damage. No injuries.

The flight crew was preparing for a cargo flight from Edinburgh, Scotland, to Coventry, England, the night of Feb. 1, 2008. While conducting the "Before Start" checklist, the copilot called "parking brake," expecting the commander to reply "set." However, they were interrupted when a company engineer announced that the nosewheel was chocked, said

'The aircraft began a descent at about 700 fpm, unable to hold altitude on the power of one engine.'

the report by the U.K. Air Accidents Investigation Branch (AAIB).

The engines were started with the aid of a ground power unit (GPU) stationed in front of the right wing. The commander used hand signals to instruct the marshaller to disconnect the GPU. The marshaller and his assistant were attaching the GPU to a tow vehicle when they saw the aircraft, which was parked facing down a slight incline on the ramp, begin to move forward. “They both ran clear of the aircraft as it continued to move forward,” the report said.

The pilots were conducting the “After Start” checklist and did not notice that the aircraft was moving. “It continued to move forward until its right propeller struck the GPU, causing substantial damage to the GPU, the propeller and the engine,” the report said.

The crew shut down the remaining engine and secured the aircraft. “Once outside, the commander noticed that there were no chocks in the vicinity of the nosewheel,” the report said. “The airport fire and rescue services (AFRS) were on scene within two minutes. Upon arrival, they chocked the nosewheel, as no chocks were present, and laid a blanket of foam beneath the right engine to cover the leaking fuel.”

Investigators were unable to determine conclusively why the Fokker moved forward. “Possible explanations include that the parking brake was not set, the chocks had slipped from the nosewheel, or the chocks were removed prematurely,” the report said. “There was insufficient evidence to determine which of these scenarios was the most likely.”

PISTON AIRPLANES

Haste Makes Waste

Pilatus Britten-Norman Islander. Substantial damage. Three minor injuries.

The pilot was preparing the aircraft for a positioning flight from Wallblake Airport in Anguilla, a British territory in the Lesser Antilles, to pick up cargo on the neighboring island of St. Maarten the afternoon of Feb. 2, 2008. The AAIB report said that he was

distracted by efforts to accommodate two nonrevenue passengers, including installation of an extra seat.

“Witnesses stated that the [pilot] appeared rushed prior to departure,” the report said. “He did not complete a preflight check.” After starting the engines, he realized that the nosegear chocks were still in place. He shut down the left engine, removed the chocks and restarted the engine.

After taking off from Runway 10, the pilot began a left turn at about 150 ft AGL. “After some initial movement, the ailerons jammed,” the report said. “When the pilot discovered that he was unable to straighten the ailerons, he attempted to return to land on Runway 10.”

The pilot rejected the landing because the aircraft was too high and airspeed was excessive. “He continued the left turn, losing height and speed to position the aircraft for another approach, but as the aircraft descended over the northern edge of the runway, its left wing struck the perimeter fence.” The Islander touched down in a wings-level attitude and slid about 80 ft (24 m) before stopping. There was no fire.

“On vacating the aircraft, the commander noticed that the left aileron gust lock was still in place,” the report said.

Jump Plane Stalls During Turn

Cessna P206. Destroyed. Two fatalities, two serious injuries.

The airplane departed from Mount Vernon (Missouri, U.S.) Municipal Airport the afternoon of April 29, 2008, with six skydivers aboard. “Surviving skydivers said that as the airplane was climbing to the jump altitude of 10,500 ft, the stall warning horn sounded intermittently,” the NTSB report said. “They paid no particular attention to it because they had heard it on previous flights.”

After reaching jump altitude, the pilot began a turn toward the drop zone. The stall warning horn sounded, and the 206 rolled right and entered a spin. Four skydivers bailed out. Three reached the ground safely; the fourth was hit by the airplane’s horizontal stabilizer and suffered a broken leg before she deployed her parachute.



Another skydiver was killed after her reserve parachute deployed and became entangled with the empennage. “The sixth skydiver was unable to exit the airplane and was found inside, fatally injured,” the report said. “The pilot was seriously injured.”

The report said the probable cause of the accident was “the pilot’s failure to maintain adequate airspeed” and that a contributing factor was “the entanglement of the parachute in the elevator control system, reducing the pilot’s ability to regain control.”

Fuel Leak Causes Engine Fire

Douglas C-54G-DC. Substantial damage. No injuries.

The cargo aircraft, a military version of the DC-4, was climbing through 3,500 ft during departure in VMC from Norman Wells, Northwest Territories, Canada, the evening of Jan. 5, 2006, when a fire erupted in the no. 2 engine nacelle. The flight crew conducted the “Engine Fire” checklist, which included shutting down the engine and closing the firewall shutoff valve, but the fire continued.

“During this period, an uncommanded feathering of the no. 1 propeller ... occurred,” said the report by the Transportation Safety Board of Canada. “The crew planned for an emergency off-field landing, but during the descent to the landing area, the fuel selector was turned off as part of the ‘Engine Securing’ checklist, and the fire self-extinguished. A decision was made to return to the Norman Wells Airport, where a successful two-engine landing was completed.”

Investigators found that the fire had originated with a leak from the main fuel line. Closing the firewall shutoff valve — which stops the flow of fuel, oil and hydraulic fluid to the engine — did not extinguish the fire because it had spread from the engine compartment and burned through an aluminum fuel line in the wheel well behind the firewall. “If the fuel selector had been turned off as part of the initial ‘Engine Fire’ checklist, the fire would have been extinguished earlier,” the report said.

The report also noted that the aluminum fuel line and its couplings and clamps had not been replaced with a flexible hose assembly as required by an airworthiness directive issued in 1948 to prevent engine fires.

The propeller on the no. 1 engine likely feathered because of damage to electrical components for the feathering system located in a junction box in the no. 2 engine nacelle.

HELICOPTERS

Bearing Failure Causes Severe Vibration

Eurocopter AS 355-F1. Substantial damage. No injuries.

The pilot encountered control problems when the helicopter began to vibrate severely while departing from Wellington, New Zealand, the afternoon of April 13, 2008. “Despite the vibration and limited control, the pilot completed a successful emergency landing in a nearby sports field,” said the report by the New Zealand Transport Accident Investigation Commission (TAIC).

Investigators found that one of the three main rotor blade spherical thrust bearings had failed because the internal elastomer had deteriorated and debonded, allowing corrosion to occur. TAIC recommended a review of the adequacy of bearing-inspection procedures.

Wind Shift Spoils Takeoff

Schweizer 269C. Substantial damage. No injuries.

The pilot landed in an area he described as “a 3/4-mi [1-km] diameter bowl-like depression” near Buffalo, Wyoming, U.S., to pick up a passenger on June 24, 2008. “He loaded the passenger, and they departed,” the NTSB report said. “However, during acceleration to ETL [effective translational lift] airspeed ... the rotor speed began to decay.”

After landing on a slope, the helicopter rolled back, and the tail rotor struck the ground. The accident occurred at 4,300 ft. “After the accident, the pilot walked up an embankment ... to observe the wind conditions,” the report said. “He noted that the winds had shifted 180 degrees from his initial, pre-accident observation.” ➤



Preliminary Reports

Date	Location	Aircraft Type	Aircraft Damage	Injuries
Feb. 4, 2009	Rostadalen, Norway	Aerospatiale AS 350B-3	destroyed	1 fatal
The pilot was killed when the Ecureuil helicopter crashed in a snowstorm during a positioning flight from Harstad to Alta.				
Feb. 5, 2009	Zadar, Croatia	Cessna 303 Crusader	destroyed	4 fatal
The airplane was on a training flight from Zagreb when it crashed in mountainous terrain during an approach in fog.				
Feb. 7, 2009	Santo Antônio, Brazil	Embraer 110P1 Bandeirante	destroyed	24 fatal, 4 serious
An engine failed during a scheduled flight from Coari to Manaus in heavy rainfall. The flight crew was attempting to land at an unused airport when the airplane crashed in the Manapuru River.				
Feb. 7, 2009	Trigoria, Italy	Cessna Citation 650	destroyed	2 fatal
The Citation III struck terrain about four minutes after departing from Rome in marginal visual meteorological conditions to pick up a medical team in Bologna.				
Feb. 10, 2009	Budaors, Hungary	Robinson R44	destroyed	1 fatal, 2 minor
A passenger was killed when the helicopter descended into the Danube River after the tail struck a crane during an aerial photography flight.				
Feb. 11, 2009	Boma, Sudan	Cessna 208 Caravan	destroyed	3 none
A landing gear strut broke during landing. The occupants exited the airplane before it became engulfed in flames.				
Feb. 12, 2009	St. Moritz, Switzerland	Dassault Falcon 100	destroyed	2 fatal, 1 serious
The pilots were killed when the fuselage broke in two behind the cockpit after the Falcon struck a snowbank during landing.				
Feb. 12, 2009	Clarence, New York, U.S.	Bombardier Q400	destroyed	50 fatal
An ice-related stall might have occurred before the airplane descended into a residential area about 5 nm (9 km) from Buffalo-Niagara International Airport during an instrument approach to Runway 23. The fatalities included one person on the ground.				
Feb. 14, 2009	KwaXimba, South Africa	Cessna 182P	destroyed	1 fatal, 5 serious
The engine failed during takeoff for a skydiving flight. Two skydivers jumped safely before the 182 struck the ground.				
Feb. 15, 2009	Chanco, Chile	Bell UH-1H	destroyed	13 fatal
Dense mist was reported in the area where the helicopter crashed into a hill while transporting forest firefighters.				
Feb. 15, 2009	Isfahan, Iran	Antonov An-140	destroyed	5 fatal
A training flight was being conducted for the manufacturer, HESA Iran, when the airplane crashed on approach.				
Feb. 17, 2009	Jaroslav, Poland	Mil Mi-2	destroyed	2 fatal, 1 serious
Dense fog and snow prevailed when the emergency medical services helicopter crashed en route to the site of a highway traffic accident.				
Feb. 18, 2009	North Sea	Eurocopter EC 225LP	substantial	18 none
The Super Puma helicopter was ditched for unknown reasons during an approach in low-visibility conditions to a platform 125 nm (232 km) east of Aberdeen, Scotland.				
Feb. 19, 2009	Nome, Alaska, U.S.	Piper Chieftain	substantial	1 serious, 5 minor
During a commuter flight from Brevig Mission, the pilot received a special visual flight rules clearance to Nome Airport, which had 1 1/2 mi (2,400 m) visibility and a broken ceiling at 900 ft. The airplane struck snow-covered terrain about 5 nm (9 km) from the airport.				
Feb. 19, 2009	San Onofre, California, U.S.	McDonnell Douglas 600	destroyed	1 serious, 2 minor
The pilot conducted an autorotative landing in shallow water near a beach after reporting engine problems during a border-patrol flight.				
Feb. 20, 2009	Luxor, Egypt	Antonov An-12	destroyed	5 fatal
The cargo ariplane crashed shortly after taking off for a ferry flight to Nikolaev, Ukraine.				
Feb. 25, 2009	Amsterdam, Netherlands	Boeing 737-800	destroyed	9 fatal, 125 NA
En route from Istanbul, Turkey, the 737 crashed in a farm field 1.5 km (0.8 nm) from Schiphol Airport during an approach to Runway 18R.				

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.