

Down to Battery Power

Several critical systems were not available for the emergency landing.

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

Problems Traced to Eroded Contacts

Boeing 757-200. Minor damage. No injuries.



While checking the cockpit during preflight preparations the morning of Sept. 22, 2008, the captain noticed that the standby attitude indicator was not receiving electrical power. He cycled the standby power selector and the battery switch, and power to the instrument was restored. At the same time, however, five fault messages appeared on the engine indicating and crew alerting system (EICAS).

The captain, who later could not recall the specific EICAS messages, summoned assistance from the airline's maintenance department. "A mechanic came into the cockpit, cleared the messages and stated that they were 'good to go,'" said the report released in October 2010 by the U.S. National Transportation Safety Board (NTSB). "No logbook entries were made regarding this event."

The 757 subsequently departed from Seattle with 185 passengers and seven crewmembers for a scheduled flight to New York. Shortly before reaching the assigned cruise altitude, Flight Level (FL) 370, about 30 minutes later, the flight crew saw several cockpit lights flicker and noticed

multiple EICAS messages and a warning light indicating that the standby power bus was off line.

The flight crew consulted the "Standby Bus Off" checklist in the quick reference handbook (QRH). The first officer completed the first step on the checklist by switching the standby power selector to the "BAT" (battery) position. "The second step did not apply to their situation, so they stopped the checklist with the standby power selector in the 'BAT' position," the report said. "Although the QRH did not instruct the crew to divert to the nearest suitable airport, it indicated that the battery will supply bus power for approximately 30 minutes."

In this configuration, the main battery powers the battery bus, the standby AC and DC buses, and the hot battery bus. "When the standby power selector is in the 'BAT' position, the main battery is the sole source of power for these buses," the report said. "In addition, the main battery charger is unpowered, and the battery will not be recharged."

The captain radioed the airline's technical center and said that they were "flying on the main battery." He described the EICAS messages and noted that none of the three inertial reference systems was functioning. The captain asked whether a diversion was required, but the technical specialist replied that it was his decision to make. The conversation ended after the captain indicated that they would continue the flight to New York.

Some time later, the captain again radioed the technical center and talked with a different

technical specialist. “The captain stated that all systems were working fine but they had lost the main battery charger and might lose their main battery,” the report said. “He stated that the standby buses appeared to be powered and that they were going to continue the flight.”

The captain asked the specialist to discuss the situation with “their electrical experts” and advise him “if you come up with anything that we’re not aware of.” The specialist replied, “Yes, I’ll talk it over with the other tech guys here, but it sounds like you should be OK to continue on.”

Nearly two and a half hours after the battery was selected to provide standby power, the battery charge was depleted and essential electrical systems began to fail. “These systems included the stabilizer trim, the captain’s instrumentation, the thrust reversers [and the] anti-skid,” the report said. The autopilot and autothrottle also disengaged. The captain transferred control to the first officer, whose instruments were still functioning.

The 757 was over western Michigan when the crew told air traffic control (ATC) that they needed to divert the flight to Chicago O’Hare International Airport because of electrical problems. The controller provided a radar vector to O’Hare, cleared the crew to begin a descent and asked if they required assistance. “The captain replied that they were all right,” the report said. “He stated that more than one electrical system had failed and it appeared that everything was functioning but their backups were ‘going away.’” The captain also told the controller that they would not be able to conduct an instrument landing system (ILS) approach.

Meanwhile, the flight attendants had discovered that the public address system and the interphone were not functioning. The lead flight attendant wrote a note about the problems and slipped the note under the cockpit door. “A short time later, the captain opened the cockpit door and told the flight attendants that they were diverting to [O’Hare],” the report said. “One of the flight attendants then walked through the aisle, informing the passengers of the unscheduled landing.”

The airplane was at 10,000 ft at 1332 local time when the captain told ATC that there were “almost no indications in the cockpit” but that they would not require emergency equipment on standby for the landing.

The first officer later told investigators that as he slowed the airplane for the approach, he realized that the main and alternate stabilizer trim systems were inoperative. “He stated he had a ‘handful of airplane,’” the report said.

At 1339, the captain reported that the airport was in sight and received clearance to conduct a visual approach to Runway 22R. When the first officer informed the captain about the trim problems about a minute later, he declared an emergency. “The controller cleared the airplane to land and stated that emergency crews were on standby,” the report said.

The captain assisted the first officer on the flight controls. Because of their difficulty in maintaining pitch control, the crew decided to limit flap extension to 20 degrees. The 757 touched down hard about 2,500 ft (762 m) from the threshold of the 7,500-ft (2,286-m) runway. “The crew determined that they were going to overrun the end of the runway, so the captain veered the airplane off the left side of the runway into the grass, where the airplane came to rest with seven of the eight main gear tires either blown out or deflated,” the report said.

The pilots were not able to shut down the engines using the fuel cutoff valves or the fire handles. “The engines were subsequently shut down by depressing the fire handles and recycling the generator control switch,” the report said. “Once the engines were shut down, the passengers were deplaned ... using portable stairs.”

Examination of the 757, which had accumulated 22,094 hours and 7,474 cycles since it was manufactured in 2001, revealed that the electrical system anomalies were caused by the intermittent failure of an electrical relay — specifically, the K106 relay — because of eroded contacts.

Among the actions prompted by this incident was a service bulletin outlining electrical system modifications that enable the battery

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charger to remain in operation after the battery is selected to provide standby power.

'NORDO' for 37 Minutes

Airbus A320. No damage. No injuries.

The flight crew established radio communication with a Denver Center controller about three hours after departing from Toronto for a scheduled flight to Los Angeles the night of Nov. 5, 2009. The A320 was at FL 360, with the no. 1 VHF radio set to the ATC frequency and the no. 2 radio set to emergency frequency 121.5 MHz.

The NTSB report said that about 20 minutes after initial contact, the controller instructed the crew to establish communication with Denver Center on a different radio frequency. The crew did not respond. The A320 was classified as "NORDO" — no radio — for 37 minutes while controllers attempted to hail the crew. During this time, the airplane entered Los Angeles Center airspace.

ATC's attempts to re-establish radio contact included a request that the airline transmit a message via the aircraft communications addressing and reporting system (ACARS). The airline transmitted the message via a ground station in New Mexico. However, the ACARS equipment aboard the A320 was set to a frequency that was not available at the ground station. The station's subsequent report of its inability to uplink the message was received by the airline's dispatch system 30 minutes later.

Radio communication with Denver Center finally was re-established via an air-to-air relay by the crew of another airplane that was cruising at FL 490. The A320 was landed in Los Angeles without further incident. The report said that the probable cause of the incident was the flight crew's "failure to monitor and/or switch to the appropriate ATC frequency."

Wheel Falls Off Axle

Boeing 737-300. Minor damage. No injuries.

Shortly after departing from Soekarno-Hatta Airport in Jakarta, Indonesia, the morning of Oct. 30, 2009, the airport traffic controller told the flight crew that one of the wheels

on the main landing gear had fallen from the aircraft. The pilot-in-command (PIC), the pilot flying, decided to return to the airport.

The aircraft was flown in a holding pattern for about 90 minutes to reduce the fuel load. "Before landing, the PIC elected to conduct a flight along the runway at 200 ft for an ATC observation of the landing gear," said the report by the Indonesian National Transportation Safety Committee. "The controller confirmed that the no. 2 main wheel [the inboard wheel on the left main landing gear] was not on the aircraft." The 737 subsequently was landed without further incident and was stopped on a taxiway, where the 49 passengers exited via airstairs.

Investigators found that the wheel had been removed eight days before the incident to facilitate replacement of a brake unit. "It was likely that the detachment of the wheel from its axle was due to the catastrophic failure of the wheel bearings," the report said. "The bearing failures [likely] resulted from an under-torque condition during the reinstallation of the wheel following replacement of the brake unit."

The maintenance had been performed in darkness, with the aid of flashlights, on an airport apron. The report said that the wheel probably had not been positioned correctly on the axle when the attachment nut was tightened. "This situation has been known to arise due to a wheel not being rotated continuously during axle nut tightening. Bearing failures resulting from an under-torque condition progress rapidly." The incident occurred on the 48th flight of the aircraft following the maintenance.

Close Call at London City

Cessna Citation CJ1, Boeing 777-300ER. No damage. No injuries.

Visual meteorological conditions prevailed at London City Airport the afternoon of July 27, 2009, when the flight crew of the Citation requested clearance to start the engines. The crew likely was surprised when the airport tower controller issued both a start clearance and a departure clearance, said the report by the U.K. Air Accidents Investigation Branch (AAIB).

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The controller cleared the crew to conduct the Dover 4T standard instrument departure (SID) from Runway 27 and to maintain 3,000 ft. The crew's readback was: "Four tango departure, climbing four thousand feet."

"Although the tower controller noticed and corrected the omission of the word 'Dover,' he did not notice the incorrect readback of the cleared altitude," the report said.

The SID requires aircraft departing to the west to maintain a minimum climb gradient of nearly 8 percent, to avoid obstacles, while turning right to a northeasterly heading. An initial altitude restriction of 3,000 ft is imposed to avoid conflict with aircraft inbound to London airports from the north.

About the same time that the Citation took off, the crew of the 777, which was northwest of London City Airport, was cleared to turn to a southerly heading, to intercept the ILS approach to Runway 27R at London Heathrow Airport, and to descend to 4,000 ft.

The Citation's traffic-alert and collision avoidance system (TCAS) did not provide a traffic alert, but the commander saw the 777 as he began the right turn toward the north; he turned 30 degrees left to pass behind the other aircraft. The Citation was climbing at 3,300 fpm.

The 777 was descending through 4,900 ft when its TCAS generated a traffic alert about the Citation. The commander, the pilot monitoring, told a Heathrow controller, "We have a traffic alert." The Heathrow controller replied, "Affirm. He's bust his level. Can you climb to maintain five thousand feet?"

During these radio transmissions, the 777's TCAS generated two resolution advisories to increase the descent rate. The 777 commander "noticed from the TCAS display that the traffic was passing the three o'clock position and climbing, and he judged that a descent would only increase the risk of collision," the report said. Neither the commander nor the copilot saw the Citation.

A third resolution advisory, to climb, was generated four seconds later. The commander disengaged the autopilot and initiated a climb;

the 777 leveled briefly at 4,000 ft before beginning to climb. The 777 and the Citation were on nearly opposite headings when they passed within 0.5 nm (0.9 km) laterally and 164 ft (50 m) vertically.

The report said that TCAS was not effective in resolving the conflict because the 777 crew did not respond to the initial resolution advisories. In addition, the TCAS equipment aboard the Citation provided traffic advisories but not resolution advisories; thus, coordinated resolution advisories could not be provided to either flight crew.

"During this incident, the crew of [the Citation] saw the [777] in time to take effective avoiding action," the report said. "Had the aircraft been in IMC [instrument meteorological conditions], this would not have been the case and TCAS would have been the only barrier to a potential midair collision."

TURBOPROPS

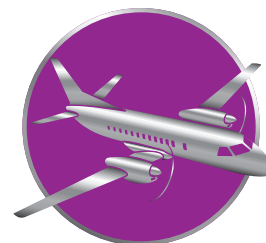
Touched Down Hot and Long

Antonov 26B. Minor damage. No injuries.

The aircraft was en route from Stuttgart, Germany, to pick up cargo in Kassel, Germany, the afternoon of Oct. 4, 2007. Reported weather conditions at Kassel Airport included surface winds from 310 degrees at 7 kt, 7,000 m (4 mi) visibility, a broken ceiling at 3,900 ft and scattered clouds at 2,000 ft. The flight crew conducted the localizer/DME (distance measuring equipment) approach to Runway 22, which is 1,500 m (4,922 ft) long and is equipped with a precision approach path indicator.

"The cockpit voice recorder (CVR) indicates that, during the entire approach, the pilot flying [the PIC] was given regular verbal updates of the current altitude and speed by another crewmember [the navigator]," said the report issued in September 2010 by the German Federal Bureau of Aircraft Accident Investigation. Also among the crew were a copilot, flight engineer and two loadmasters.

Recorded ATC radar data indicated that the An-26's groundspeed decreased from 140



kt to 130 kt during the initial approach. As the aircraft neared the minimum altitude for the approach, the navigator called out 220 kph (119 kt). The navigator called out 215 kph (116 kt) about one second before the aircraft touched down. The report said that, according to the aircraft flight handbook, the appropriate airspeeds were 192 kph (104 kt) for the approach and 176 kph (95 kt) for touchdown.

The Antonov touched down about 400 m (1,312 ft) from the approach threshold and bounced several times before touching down again about halfway down the runway. “The remaining runway length of 750 m [2,461 ft] was still much longer than the rollout distance of 500 m [1,641 ft] specified in the handbook,” the report said.

However, the PIC told investigators that he did not apply reverse thrust until the aircraft was about 250 m (820 ft) from the departure end of the runway. “When he saw that the aircraft would not come to a stop within the available runway length and that there were obstacles ahead, he steered the aircraft to the left and shut down the engines,” the report said. “The aircraft sunk up to the wheel rims in soft grass soil.”

‘Impurity’ Causes Engine Failure

Bombardier Q400. Substantial damage. No injuries.

The flight crew was conducting a scheduled 25-minute flight with 38 passengers and two cabin attendants from Tanegashima to Kagoshima, both in southern Japan, the morning of March 25, 2009. The aircraft was climbing through 3,800 ft, to the assigned altitude of 12,000 ft, when the crew heard a loud bang. The master caution light, the oil pressure warning light for the no. 1 engine and the no. 1 engine propeller electronic control warning light illuminated, and the engine’s low-pressure compressor and turbine speeds decreased rapidly.

The crew shut down the engine but was unable to feather the propeller. They reported the engine failure to ATC and said that they would stop the climb at 8,000 ft, above the clouds, and conduct an emergency landing at Kagoshima, said the report by the Japan Transport Safety

Board. The PIC told investigators that he chose Kagoshima because it had a longer runway and more favorable winds than Tanegashima.

Before beginning the descent, the crew flew a holding pattern for about 10 minutes while communicating by radio with a company maintenance technician and making several attempts to feather the propeller. “All attempts failed, so I finally decided to land at Kagoshima Airport with the propeller as it was,” the PIC told investigators. He briefed the cabin attendants and instructed them to have the passengers brace for landing because of the possibility of a runway excursion.

Surface winds were from 330 degrees at 22 kt with gusts to 31 kt when the crew landed the Q400 without further incident on Runway 34 at Kagoshima Airport.

Investigators found that the helical input gear shaft in the no. 1 engine’s reduction gearbox had fractured and that fragments of the broken shaft had caused further damage to turbine blades and vanes, and to the engine case. “It is considered probable that fatigue cracks had started from an impurity inclusion present in the metal stock of the helical gear shaft ... and after undergoing repetitive application of stress, the shaft finally fractured,” the report said.

The investigation also determined that corrosion had caused permanent magnets inside the feathering pump drive motor to separate and damage the armature, preventing the propeller from feathering automatically when the engine failed. In addition, collateral damage caused by the fractured gear shaft had blocked oil pressure required by the manual and alternate propeller-feathering systems.

No Chocks, No Brakes on Stand

ATR 72-200. Substantial damage. No injuries.

After landing at Manchester (England) Airport the morning of Oct. 21, 2009, the flight crew taxied to the assigned stand, set the parking brake and feathered both propellers. “Ground crew approached the aircraft while the anti-collision lights were flashing and attached the fixed electrical power cable,” the AAIB report said. “Although their procedures required

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them to insert chocks immediately on approaching the aircraft, they did not do so.”

The ATR began to move forward slowly, and the ground crew ran away from the aircraft. Both pilots applied wheel braking, and the commander cycled the parking brake. “Recognizing that the aircraft was not under control, the commander gave an ‘alert call’ to the cabin crew and instructed the copilot to shut the engines down,” the report said. The copilot shut down the engines and called for the aircraft rescue and fire fighting service.

“The aircraft rolled forward until the no. 2 engine propeller struck a stand guidance mirror,” the report said. “Both the mirror and propeller were damaged, with one propeller blade becoming lodged in the mirror assembly as the aircraft stopped moving.”

A trail of hydraulic fluid was found on the stand. The leak was traced to the hydraulic fuse valve casing, which likely had a growing fatigue crack that opened when hydraulic pressure increased from the initial engagement of the parking brake.

PISTON AIRPLANES

Low Flight in Fog

Grumman G-21A. Destroyed. Seven fatalities, one serious injury.

During his preflight briefing, the pilot told the passengers that the flight would be conducted at low altitude and that if anyone was concerned, they could deplane. No one deplaned, and the amphibious aircraft departed from the Vancouver (British Columbia, Canada) Water Aerodrome for a charter flight to Powell River, about 60 nm (111 km) northwest, the morning of Nov. 16, 2008.

Vancouver had 2 mi (3,200 m) visibility in mist and a 500-ft ceiling; the weather conditions at Powell River also were below visual flight rules (VFR) minimums, said the report by the Transportation Safety Board of Canada, noting that “other operators had canceled or delayed their flights due to the low visibility.”

About 12 minutes after the aircraft departed from Vancouver under a special VFR clearance,

a dispatcher attempted unsuccessfully to radio the pilot that the visibility at Powell River had decreased to 3/8 mi (600 m). Limited ATC radar returns indicated that the Goose was being flown between 100 ft and 200 ft over the Strait of Georgia.

About 19 minutes after taking off from Vancouver, the aircraft crashed in dense fog into a 400-ft peak on South Thormanby Island and burned. One passenger survived with serious injuries.

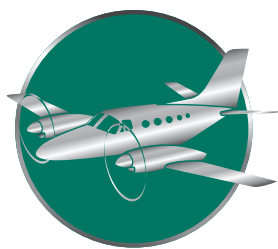
The pilot had 12,000 flight hours, including 8,000 hours in amphibious aircraft. The report noted that after the air taxi company hired him in February 2008, company managers had met with him three times to discuss concerns they had with his decision making. “The last meeting, about three months before the accident, was held because management was concerned that he was completing trips in what other pilots deemed to be adverse wind and sea conditions. The company believed that this behavior was causing other pilots to feel pressured to fly in those conditions and was also influencing customer expectations.”

Frosted Wings Foil Takeoff

Cessna TU206F. Substantial damage. One minor injury.

Shortly after lifting off the runway at Bethel (Alaska, U.S.) Airport the morning of May 6, 2009, the single-engine airplane stalled, rolled left and entered an uncontrolled descent. The left wing, nose landing gear, engine firewall and empennage were damaged when the 206 struck the ground. “During the impact sequence, the unsecured cargo shifted forward and struck the back of the pilot’s seat and the right side of the instrument panel,” the NTSB report said.

The report said that the probable cause of the accident was the pilot’s failure to remove frost from the wings before takeoff. “Photos taken five minutes after the accident show the leading edges and tops of the wings, and the horizontal tail surfaces were covered in rough frost. The photos also show that the frost appears to have been scraped off of most of the windshield.”



Main Fuel Tanks Were Dry

Beech E18S. Substantial damage. One serious injury.

Before departing from Fort Myers, Florida, U.S., for the fourth, and final, flight of the day — a positioning flight to Fort Lauderdale the afternoon of Dec. 27, 2008 — the pilot checked the fuel gauge and estimated that the airplane had about 100 gal (379 L) of fuel remaining.

After retracting the landing gear and adjusting the power setting on initial climb, the right engine lost power. The pilot said that he was unable to feather the propeller and that he did not accelerate to the single-engine best rate of climb speed. “Unable to maintain altitude, the airplane impacted trees and came to rest facing the opposite direction of travel,” the NTSB report said.

No fuel was found in the right engine’s carburetor or in the main tanks, which are required to be used during takeoff and which remained intact during the accident. The report said there was evidence, however, that the auxiliary tanks, which ruptured on impact, contained fuel.

HELICOPTERS

Loose Line Causes Power Loss

Bell 206L-1. Substantial damage. One serious injury, one minor injury.

After landing on a platform in the Gulf of Mexico the morning of Nov. 1, 2009, the LongRanger was refueled and one passenger was boarded for a flight to another platform. Shortly after the helicopter lifted off and passed over the edge of the helideck, the pilot heard a loud pop and saw the engine failure warning light and a “split” between the engine speed and rotor speed indications.

“As the aircraft yawed and lost climb performance, the pilot lowered the collective pitch full down and activated the floats,” the NTSB report said. The pilot was seriously injured and the passenger sustained minor injuries when the helicopter struck the water and rolled inverted. They exited the helicopter, inflated their life vests and a life raft, and clung to the raft until they were rescued by personnel aboard a crew boat.

Investigators determined that the power loss was caused by the failure of maintenance

personnel to correctly torque (tighten) the B nut on the Pc line, which delivers bleed air from the engine compressor section to the fuel control unit. “A review of the engine maintenance records revealed that 36.7 hours prior to the accident, the turbine module was completely disassembled and overhauled,” the report said. “This would have required the removal and reinstallation of the Pc line.”

Occupied With Cellphone

Robinson R22. Destroyed. One fatality.

The pilot was repositioning the helicopter from Haast, New Zealand, to Wanaka the evening of Nov. 1, 2008, to prepare for crop frost-protection operations that night. He was known to prefer operating the R22 at maximum speed, said the report by the New Zealand Transport Accident Investigation Commission.

A search was launched when the helicopter did not arrive on schedule. Debris from the R22 was found floating on Lake Wanaka that evening, and some helicopter wreckage and the pilot’s body were recovered from the bottom of the lake the next morning.

No one witnessed the accident. Investigators determined that a mast bump — contact between the rotor mast and hub — had occurred. “The low-g condition necessary for a mast bump could have resulted from the helicopter’s natural response to a gust or from the pilot abruptly pushing forward on the cyclic stick to counter the effects, or from some other unknown reason,” the report said. The pilot had been killed by a rotor blade that struck the cabin before the R22 hit the water at high speed and in a near-vertical, nose-down attitude.

Cellphone records indicate that the pilot was sending and receiving text messages when the loss of control occurred. “Although the initiating event to the mast bump could not be determined, the circumstances strongly suggested that the pilot’s cellphone use would have hindered his ability to respond quickly and appropriately to any abnormal condition,” the report said. 🌀



Preliminary Reports, September 2010

Date	Location	Aircraft Type	Aircraft Damage	Injuries
Sept. 1	Misima, Papua New Guinea	Cessna Citation 550	destroyed	4 fatal, 1 serious
The Citation overran a 1,200-m (3,937-ft) runway while landing in heavy rain and gusts.				
Sept. 2	San Carlos, California, U.S.	Beech Queen Air	destroyed	3 fatal
Several yaw oscillations occurred before the Queen Air stalled on takeoff and descended into a lagoon.				
Sept. 3	Dubai, United Arab Emirates	Boeing 747-400F	destroyed	2 fatal
About 19 minutes after departing in night VMC, the flight crew reported an in-flight fire and that they were returning to the airport. They were vectored for a straight-in approach to Runway 12L but were too high to land. The freighter overflew the airport at 4,000 ft, turned right, descended rapidly and crashed near a residential area.				
Sept. 3	Salinas, California, U.S.	Bell 47G	substantial	1 serious
The helicopter crashed on a highway shortly after taking off for a positioning flight with 2 1/2 mi (4,000 m) visibility and a 100-ft overcast.				
Sept. 4	Fox Glacier, New Zealand	PAC Fletcher FU24-954	destroyed	9 fatal
Apparently loaded aft of CG limits, the single-engine airplane was departing for a skydiving flight when it pitched nose-up and descended rapidly to the ground.				
Sept. 5	Pointe-à-Pitre, Guadeloupe	Cessna 208B	substantial	7 minor
The pilot performed an emergency landing in a sugarcane field after the engine lost power.				
Sept. 7	Uribe, Colombia	Beech King Air 350	destroyed	6 fatal
The air force airplane was on a night reconnaissance flight when it crashed in mountainous terrain.				
Sept. 7	Izhma, Russia	Tupolev 154M	destroyed	81 none
After a total electrical failure and a related fuel problem, the Tu-154 overran a 1,200-m (3,937-ft) runway during a forced landing at an abandoned airfield.				
Sept. 10	Itanhaém, Brazil	Robinson R44	destroyed	2 fatal
The R44 crashed in mountainous terrain during a business flight from Peruibe to São Paulo.				
Sept. 10	Brenham, Texas, U.S.	Embraer Phenom 100	substantial	2 none
The airplane veered off the runway after an apparent braking system failure during landing.				
Sept. 11	near Majuro, Marshall Islands	Hughes 369A	destroyed	1 fatal, 1 minor
The pilot felt a vibration and then lost control of the helicopter during a fish-spotting flight. The observer was killed.				
Sept. 13	Puerto Ordaz, Venezuela	ATR 42-300	destroyed	17 fatal, 34 NA
Day VMC prevailed when the ATR 42 crashed in an industrial yard 8 km (4 nm) from the runway during approach.				
Sept. 14	near Margarita Island, Venezuela	Agusta-Bell 212	destroyed	2 fatal, 1 serious, 4 minor
The navy helicopter and a research vessel were maneuvering during a rescue mission when the 212 struck the bow of the vessel and plunged into the ocean.				
Sept. 16	Lanchang, Malaysia	Agusta A109E	destroyed	1 serious, 3 minor
The rescue helicopter struck trees and crashed during an attempted landing in fog.				
Sept. 18	San Pedro Sula, Honduras	Bell 206B-3	destroyed	1 fatal, 1 serious
A spectator was injured when the JetRanger crashed while making a low pass during an air show.				
Sept. 19	South Bimini, Bahamas	Piper Chieftain	substantial	7 none
The pilot returned to the airport after the cabin door opened on departure for an air taxi flight. The right tire burst on landing, and the Chieftain veered off the runway, into trees.				
Sept. 22	Brooklyn, New York, U.S.	Bell 412EP	substantial	6 minor
The police helicopter was ditched in Jamaica Bay after the rotor drive system failed on approach to a heliport.				
Sept. 24	Palermo, Italy	Airbus A319-100	destroyed	129 NA
Thunderstorms were observed when the A319 touched down short, struck localizer antennas and then veered off the runway. No fatalities were reported.				
Sept. 26	Yakushima Island, Japan	Aerospatiale AS 332-L	destroyed	2 fatal
The Super Puma was transporting building material when it struck a mountain in fog.				

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.