Unheeded Warnings

The pilot-in-command disregarded alarms raised by the EGPWS and by the copilot.

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

Go-Around Conducted Too Low

British Aerospace 146-300. Destroyed. Six fatalities.

Lack of knowledge about the local terrain, a go-around conducted contrary to company standard operating procedures (SOPs) and inattention to more than a dozen enhanced ground-proximity warning system (EGPWS) warnings while circling to land set the stage for a collision with a hill near Wamena Airport in Papua, according to the National Transportation Safety Committee (NTSC) of Indonesia.

The accident occurred the morning of April 9, 2009, during a scheduled passenger and cargo flight from Sentani with two pilots, two flight attendants, an engineer and a loadmaster. No passengers were aboard the BAe 146.

The pilot-in-command (PIC), 56, had 8,305 flight hours, including 958 hours in type. The copilot, 49, had 12,389 flight hours, including 192 hours in type. "There was no evidence that the [pilots] had received simulator training in the operation and use of EGPWS in the BAe 146," the NTSC report said.

Wamena Airport, which is at 5,430 ft in mountainous terrain, had no instrument approach procedure. A routine weather report issued about 30 minutes before the accident indicated that surface winds were calm, visibility was 8 km (5 mi) in haze, and the base of a broken ceiling was at 300 m (984 ft).

The pilots conducted a visual approach to Runway 15, which is 1,650 m (5,413 ft) long. The final approach to the runway was obscured by low clouds. A company pilot on the ground at Wamena Airport radioed the BAe 146 flight crew that they would have a better chance of establishing visual contact with the runway if they tracked right of the extended runway centerline.

The aircraft was 790 ft above ground level (AGL), descending parallel to the extended runway centerline, when the EGPWS generated a "TERRAIN, TERRAIN" warning, followed by a "WHOOP, WHOOP, PULL UP" warning. Disregarding the warnings, the PIC turned left toward the extended runway centerline, and the copilot radioed the airport flight service specialist that they had the airport in sight.

The PIC then told the copilot that they were passing through the extended runway centerline. The EGPWS generated a "SINK RATE" warning, followed immediately by five consecutive "WHOOP, WHOOP, PULL UP" warnings. After the second warning, the copilot called, "Overshoot. Overshoot." (According to the report, "overshoot" has the same meaning as "go around.")

The PIC responded by initiating a go-around. "The aircraft was observed conducting a go-around from a low height over the runway," the report said. "It then climbed to a low height

The EGPWS generated several terrain warnings and bank angle warnings in rapid succession.

along the extended [runway] centerline to the southeast before making a right turn onto a low right downwind leg."

The aircraft was flown 150 ft to 350 ft above airport elevation. On the downwind leg, the EGPWS generated eight "DON'T SINK" warnings and one "TOO LOW, TERRAIN" warning. "The flight crew did not respond to any of those alerts," the report said.

The landing gear was extended as the aircraft passed abeam the threshold of Runway 15. The PIC was turning onto a right base leg when the copilot told him, "Be careful, pak [sir]."

Investigators were not able to determine why the copilot told the PIC to be careful. "During the right base-leg turn, it was evident that the copilot became increasingly concerned about the way the PIC was handling the aircraft," the report said. "The CVR [cockpit voice recorder] provided evidence that the copilot expressed those concerns with increasing levels of anxiety."

Apparently responding to several calls by the copilot to turn left, the PIC increased power and rolled the aircraft left. The bank angle exceeded 40 degrees, and the aircraft pitched 10 degrees nose-down. The EGPWS generated a "DON'T SINK" warning, and the copilot repeated the warning.

The PIC replied, "Ya, ya."

The report said that three seconds later, the copilot likely recognized that a collision with terrain was imminent and urgently called for a left turn. The EGPWS generated several terrain warnings and bank angle warnings in rapid succession. "The copilot called, with high intonation, 'Pak, pak, pak,'" the report said.

The BAe 146 was in a 16-degree left bank and a 12-degree nose-up pitch attitude, the landing gear was being retracted, and airspeed was 146 kt when the aircraft struck terrain at 5,560 ft. The crash occurred 3.6 nm (6.7 km) northwest of the airport at 0743 local time. "The aircraft was destroyed by the impact forces and the post-impact fuel-fed fire," the report said.

The investigation revealed that the EGPWS terrain mode had been disengaged during the go-around. This inhibited the enhanced, or predictive, features of the system, causing it to revert to functioning as a basic GPWS. The flight crew operating manual (FCOM) says, "In this state, the EGPWS gives little or no advance warning of flight into precipitous terrain … particularly if the aircraft is in the landing configuration."

However, the FCOM does not provide advice about when it is appropriate to disengage the terrain mode, the report said. "The operator informed the investigation that, while there was no procedure, it was practice to activate the [terrain mode] inhibit switch when flying visually if repeated terrain warnings became a distraction."

Despite the system's reversion from an enhanced to a basic GPWS, the warnings it provided were valid, and the accident likely would not have happened if the crew had responded appropriately to them, the report said.

Premature Takeoff Causes Incursion

Boeing 747-400D, McDonnell Douglas MD-90-30. No damage. No injuries.

The airport traffic controller's use of nonstandard terminology in an advisory issued while the 747 was lined up on the runway and the 747 flight crew's misinterpretation of the advisory as a clearance to take off led to a serious incident at New Chitose Airport the morning of Feb. 16, 2008, said the Japan Transport Safety Board (JTSB).

At the time, a snowstorm was causing significant delays at the airport. Runway 01R was in use; the parallel runway was closed. Runway visual range at the touchdown zone of Runway 01R was 750 m (2,400 ft).

The 747 crew, bound for Tokyo with 446 people aboard, had taxied for 15 minutes and had held short of Runway 01R for 20 minutes before receiving clearance to line up and wait on the runway.

While receiving the clearance, the 747 crew saw an MD-90, inbound from Kansai International Airport with 126 people aboard, touch down on Runway 01R but then lost sight of the aircraft in the snow.

The MD-90 captain told JTSB investigators that he had perceived braking action as medium to poor during the landing roll and had taxied the aircraft slowly because of the runway conditions and low visibility.

More than two minutes after touching down, the MD-90 was still being taxied to its turn-off point near the departure end of the runway when the controller told the 747 crew, "Expect immediate takeoff, traffic landing roll, and inbound traffic six miles."

The 747 captain apparently heard only part of the controller's statement. He told investigators that he thought he had received clearance for an immediate takeoff. "I thought that 'immediate' meant an urgent situation," the captain said.

The right-seat pilot, a trainee, did not read back the controller's instructions and replied only with the 747's call sign and "roger." He told investigators that he had heard only the words "takeoff" and "five miles or six miles on final."

The first officer, seated behind the pilots, recalled that he was confused by the controller's use of the words "immediate takeoff." He told investigators that he was not sure whether they had received clearance to take off.

The captain selected takeoff/go-around power, and the 747, which was near the approach end of the 3,000-m (9,843-ft) runway, began to roll.

The controller recognized the conflict on his airport surface detection equipment display and told the 747 crew, "Stop immediately. Traffic on landing roll." He also told the crew of the aircraft on final approach to go around.

Groundspeed was 84 kt when the 747 crew rejected the takeoff. They applied reverse thrust, wheel brakes and speed brakes, and brought the 747 to a stop about 1,800 m (5,906 ft) from the MD-90.

The captain told investigators that he would not have initiated the takeoff if the controller had used "departure" rather than "takeoff" in the advisory. The report confirmed that "departure" is the correct term for the situation but also noted that the airline's SOPs require flight crewmembers to always confirm, among themselves and with air traffic control (ATC), that they have received a takeoff clearance.

'Beetle-Like Creature' Jams Pitot System

Boeing 757-200. No damage. No injuries.

The commander noticed that his airspeed indicator (ASI) was not functioning properly soon after initiating a takeoff from Accra, Ghana, the night of Jan. 28, 2009. "He elected to continue the takeoff using the copilot's and standby ASIs, which appeared to be functioning normally, and to deal with the problem while airborne," said the report by the U.K. Air Accidents Investigation Branch (AAIB).

The commander's ASI was reading abnormally low. On rotation, the indicated airspeed was 70 kt while groundspeed was 155 kt. The commander transferred control to the copilot and asked a company engineer aboard the aircraft to help in diagnosing the problem.

The engineer told the flight crew that the left air data computer (ADC) was unserviceable and that he had experienced the same problem several months earlier when the left pitot system in another company aircraft had been blocked by an insect.

The 757's left pitot system had, indeed, been blocked by an insect. As a result, the pressure trapped inside the pitot system remained constant while static pressure decreased as the 757 climbed. "This caused the ASI to initially underread, then over-read at altitude," the report said.

On rotation, the indicated airspeed was 70 kt while groundspeed was 155 kt.

The aircraft was climbing through 18,000 ft when the commander resumed control and, in accordance with the quick reference handbook, reset his ADC switch to "ALTN" (alternate). His ASI reading dropped from 350 kt to 280 kt.

The crew incorrectly believed that selection of the alternate air data source had isolated the problem with the left ADC.

Despite the crew's selection of the alternate air data source, the flight management computers (FMCs) continued using the left ADC as a source for airspeed data. This is normal unless a fault in the left ADC is detected and the FMCs then automatically switch to the right ADC.

However, the pitot system blockage was not detected as an ADC fault, and the FMCs continued to use the left ADC as a source for airspeed data.

At about 32,000 ft, the erroneously high airspeed computed by the left ADC caused the FMCs to sense an overspeed condition and command the autopilot to pitch the aircraft nose-up to reduce the airspeed.

Sensing this, the commander attempted to select the vertical speed mode to reduce the increased rate of climb, but the autopilot did not respond. The copilot, who had urgently voiced concerns about the aircraft's behavior, called, "I have it," disengaged the autopilot and pushed his control column forward.

After the incident, the company revised its procedures to require that pitot tubes be covered during long turnarounds.

The commander transferred control to the copilot and declared an emergency, announcing that they were returning to Accra. The 757 was landed without further incident.

Company engineers examined the aircraft and "found the remains of a 'beetle-like creature' in the left-hand pitot system," the report said. "No faults were found with the ADC, the autopilots or any of the relevant systems."

After the incident, the company revised its procedures to require that pitot tubes be covered during long turnarounds and that takeoffs be rejected if an airspeed discrepancy is detected below 80 kt.

Surprised by Black Ice

Beech 390 Premier. Substantial damage. No injuries.

The forecast for Leesburg (Virginia, U.S.) Executive Airport the night of Feb. 12, 2008, was for little or no precipitation and rising temperatures. However, the temperature actually dropped, and black ice formed on the runway.

A notice to airmen about the runway condition was not posted. "Additionally, the airport personnel did not have the equipment or training to issue braking action reports, nor was it required," said the U.S. National Transportation Safety Board (NTSB) report.

About 2055 local time, the Premier touched down at 100 kt near the threshold of the 5,500-ft (1,676-m) runway. The pilot said that braking action was "adequate" at first but decreased to "near nil" at midfield.

"The pilot maneuvered the airplane off the left side of the runway to gain traction from the adjacent grass area, during which it impacted a drainage ditch," the report said. "The area off the end of the runway was an open field with no obstructions."

Nosewheels Not Chocked at Stand

Boeing 777-200. Minor damage. No injuries.

After landing and taxiing to the stand at London Heathrow Airport on Feb. 11, 2009, the flight crew set the parking brake, shut down both engines and left the auxiliary power unit running.

"The normal operating procedure when an aircraft is parked on a stand is for wheel chocks to be placed in front of and behind the nosewheels," the AAIB report said. "Due to two stand changes, the chocks, which [normally are] supplied by the ground handling agent, did not arrive."

After confirming indications that the parking brake was set and that hydraulic accumulator pressure was normal, the commander approved disembarkation without chocks in place.

The 14 crewmembers and 10 of the 114 passengers were still aboard when the 777 began to slowly roll backward. The parking brake valve had failed, causing a loss of hydraulic pressure.

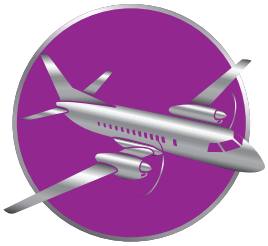
A ground engineer saw the aircraft moving and notified the operator's maintenance manager, who was on the jetway. The maintenance manager boarded the 777 and entered the flight deck.

"Both pilots were in their seats carrying out post-flight activity and were unaware that the aircraft was moving," the report said.

The maintenance manager engaged the right hydraulic system pump, which repressurized the parking brake system.

"The aircraft had moved backward approximately 2 m [7 ft], exposing the open door," the report said. "The jetty structure made contact with the side of the door, causing a minor abrasion to its surface."

Following the incident, the operator took action to ensure that wheel chocks always are available when its aircraft arrive on stand.



TURBOPROPS

Improper Reaction to Engine-Out

Mitsubishi MU-2B-60. Destroyed. One fatality.

Witnesses heard an unusual noise after the MU-2 lifted off the runway and saw the airplane roll into a steep right bank and enter a spin at less than 700 ft AGL. The airplane descended into wooded terrain about 1.5 nm (2.8 km) from the end of the runway.

Day visual meteorological conditions (VMC) prevailed when the accident occurred on June 25, 2006, during a positioning flight from Fort Pierce, Florida, U.S. In its final report, issued in December 2009, NTSB said that the pilot did not adhere to published emergency procedures after a sudden loss of thrust from the right engine.

"Examination of the right engine revealed that the ring gear support of the engine/propeller gearbox had fractured in flight due to high-cycle fatigue," the report said. "The ring gear support disengaged from the ring gear due to this failure, resulting in a disconnection in power being transferred from the engine power section to the propeller."

The right propeller was feathered manually or automatically about three seconds after the power loss. The pilot, who had logged 2,000 of his 11,000 flight hours in MU-2s, then brought the right engine power lever to the flight idle position.

This action is prohibited by the airplane flight manual (AFM) because, in this situation, the drive train disconnection had rendered inoperable the MU-2's negative torque sensing (NTS) system, which detects and feathers a windmilling propeller. With the NTS system inoperable, the decreases in fuel flow and power section rpm caused the propeller governor to sense an under-speed condition and bring the propeller out of feather.

"The pilot may not have been aware that the propeller came out of feather," the report said. "As a result of the increased drag condition on the right side of the airplane, the airplane yawed and rolled right, and entered a spin. In an attempt to control the airplane, the pilot reduced power on the opposite (left) engine. However, at this point, the airplane was not at a sufficient altitude to recover."

The report said that drive train disconnection in Honeywell TPE331 engines is "an unusual engine failure that results in substantially different engine indications to a pilot in comparison to a typical flameout event in which the NTS system is operable."

However, the report noted that the MU-2 AFM warns that the engine power lever must not be retarded after a power loss in flight. The manual says, "Place failed engine power lever to takeoff position during feathering of the propeller and leave there for remainder of the flight."

Engine Fails During EMS Flight

Beech King Air B200. Substantial damage. No injuries.

The King Air was at Flight Level (FL) 290 (approximately 29,000 ft) when the pilot noticed an increase in the inter-turbine temperature (ITT) indication for the right engine and slight fluctuations in the torque, fuel flow and N_1, or low-pressure rotor speed, indications.

"In response, the pilot reduced power on the right engine, and the ITT appeared to return to within the normal operating range, although the fluctuations persisted," said the report by the Australian Transport Safety Bureau.

The engine then surged, and, seeing smoke emerge from the cowling, the pilot shut it down. He transmitted a "pan-pan" call and diverted the flight to Broome. "The pilot then briefed the flight nurse and doctor on the situation, and they prepared the cabin for landing," the report said. "The remainder of the flight and subsequent single-engine landing were uneventful."

The incident occurred during an emergency medical services (EMS) flight from Newman to Fitzroy Crossing, Western Australia, the afternoon of May 24, 2007.

Examination of the Pratt & Whitney PT6A-42 engine revealed a major internal failure. "The engine failure was the result of the mid-span separation of one of the compressor turbine blades," the report said. "There was no prior indication in the engine logs, or to flight crews, of the impending failure."

A stress rupture resulting from exposure to excessive temperatures had caused the turbine blade to separate. The engine had accumulated 7,132

operating hours and 5,753 cycles since new, including 1,259 hours and 997 cycles since overhaul.

Pitot Heat Neglected Before Takeoff

Piper PA-46-500TP Meridian. Destroyed. Three fatalities.

Before departing the morning of June 28, 2007, the pilot received a weather briefing that called for thunderstorms and heavy precipitation on the intended route from St. Louis, Missouri, U.S., to Buffalo, Minnesota.

Although called for by the "Before Takeoff" checklist, the pitot heat system was not activated. The NTSB report said that the outside air temperature decreased below freezing as the single-engine airplane climbed through 15,900 ft; the pilot had been cleared to climb to FL 230.

"The primary flight display (PFD) airspeed data decreased from about 140 kt indicated airspeed (KIAS) to 0 KIAS," the report said. "During the loss of airspeed, the airplane's recorded climb rate decreased, and the airplane entered a left turn."

The air traffic controller asked the pilot if he was deviating around adverse weather. The pilot replied, "We've got problems." Radar contact with the Meridian was lost shortly thereafter.

"Recovered PFD data indicated that the airplane exceeded its maximum structural operating speed during a rapid descent, [with] vertical loads reaching 5 g," the report said.

The right wing separated, and the airplane descended into terrain in Wellsville, Missouri. "A review of available weather data indicated that there was an area of extreme precipitation associated with thunderstorms east of the accident site," the report said.

PISTON AIRPLANES

Too Heavy to Clear a Ridge

Britten-Norman Islander. Destroyed. Two fatalities, two serious injuries, six minor injuries.

Before boarding nine passengers and their baggage for a scheduled flight from Lajmoli to Pekoa, both in Vanuatu, a company agent told the pilot that the airplane would be at maximum gross weight. "The pilot was reported to have advised the agent that he was happy to continue and instructed him to load the aircraft," said the report by the New Zealand Transport Accident Investigation Commission.

"The agent added the weight of the passengers and baggage to the load sheet for the flight, but he wasn't aware of the fuel weight, so [he] omitted this from the sheet," the report said. The pilot signed the load sheet.

Investigators determined that the Islander was at least 198 kg (437 lb) over its maximum takeoff weight, with a center-of-gravity near the aft limit, when it departed from Lajmoli in day VMC the morning of Dec. 19, 2008. The pilot followed the coastline and then turned inland, toward mountainous terrain.

"Witnesses, both on the ground at Lajmoli and passengers on board, later commented that the aircraft took longer to get airborne than normal and was slower to climb," the report said. "The passengers recalled becoming increasingly concerned about the low height of the aircraft as it flew directly at a right angle toward the last ridge line."

The pilot increased power but apparently realized that the airplane would not clear the terrain. "Some of the passengers described the pilot closing the throttles and shutting down the engines as they approached the ridge line," said the report, noting that the pilot likely attempted to make a controlled landing on the 35-degree slope.

The crash occurred at an elevation of about 3,940 ft and about 75 km (41 nm) northeast of Luganville. The pilot was killed instantly. The front-seat passenger sustained critical injuries and died 13 days later.

Rescuers reached the wreckage early the next morning and found that eight passengers had left the site, traveling downhill. A helicopter crew found seven of the people together in mid-afternoon. The eighth person, who had sustained a serious head wound and a broken leg, had set out after the main group but had not been able to catch them; he was found two days after the accident by searchers from a local village.

"The survivors would have been better [off] to stay near the aircraft to wait for rescue," the report said. "By climbing the 25 m [82 ft] to the top of the ridge, they would have had a better

idea of their location, discovered cell phone coverage … and been able to phone for help."

The report said that the inadequate condition of restraints contributed to at least two injuries. The front-seat passenger had been unable to latch his shoulder harness because of a missing fitting; another passenger had been unable to fasten his seat belt because it was too short.

Disorientation in Night IMC

Aero Commander 500B. Destroyed. One fatality.

Instrument meteorological conditions (IMC) — with 3 mi (4,800 m) visibility in rain and snow, a broken ceiling at 600 ft and a 1,900-ft overcast — prevailed at Tulsa (Oklahoma, U.S.) International Airport when the pilot departed from Runway 36L for an on-demand cargo flight the night of Jan. 26, 2008.

The pilot, who had logged 695 of his 4,373 flight hours in type, was cleared about two minutes after takeoff to turn left to a heading of 250 degrees. ATC radar showed that the Aero Commander turned about 60 degrees left and then entered a right turn.

When queried by the controller, the pilot said, "I think I have lost my gyros. I'm trying to level out now." About three minutes later, he reported that he was "having some trouble."

The airplane completed two steep, 360-degree spiraling turns before radar and radio contact were lost. The report concluded that the pilot had lost control of the airplane while experiencing spatial disorientation. Both wings and the tail section separated from overload before the airplane struck terrain about 2 mi (3 km) north of the airport.

"No anomalies were noted with the gyro instruments, engine assemblies or accessories," the report said.

HELICOPTERS

Control Lost in Gusty Winds

Aerospatiale/Westland SA 341G. Destroyed. Two fatalities.

The pilot had recently earned a rotorcraft license and had logged 56 of his 853 flight hours in helicopters, including 46 hours in type. Surface winds at 25 kt, gusting to 35 kt, prevailed the afternoon of Jan. 26, 2008, when he flew his newly purchased Gazelle over Knaresborough, North Yorkshire, England, where family members were shopping, and then back toward his chalet near Harrogate.

Witnesses saw the helicopter flying slowly at low altitude before it spun, pitched up and descended tail-first to the ground near the chalet. The pilot and his wife were killed.

The AAIB report said that the pilot likely had lost yaw control and then pitch control while flying the Gazelle at low forward airspeed in the strong and gusty wind conditions. "It appears that the pilot, who had limited helicopter experience, was attempting to operate in weather conditions which more experienced pilots might have chosen to avoid," the report said.

'We're in the Clouds Again'

Eurocopter AS 350B2. Destroyed. Three fatalities.

Night VMC prevailed when the EMS helicopter departed from Harlingen, Texas, U.S., to pick up a patient on South Padre Island on Feb. 5, 2008. As the helicopter neared the landing site, however, it encountered low clouds, the NTSB report said.

Witnesses saw the helicopter turn left and then right, more steeply, at about 1,000 ft AGL and 2 mi (3 km) from the landing site. The last radio transmission made by the flight nurse on the medical communications frequency was: "We're in the clouds again. We're going to abort, transfer patient by ground."

Shortly thereafter, the pilot lost control of the helicopter. "Several witnesses saw the lights of the helicopter fall almost straight down, and the helicopter wreckage exhibited damage consistent with a high-speed, port-side, inverted impact with water," the report said. The pilot, flight nurse and paramedic were killed.

Records showed that the pilot had completed an instrument competency check in a single-engine airplane in 1997. "The only instrument experience in a helicopter entered in the pilot's logbook within the past 10 years was two entries of simulated instrument time of 0.8 hours in December 2005 and 0.2 hours in September 2007."

Preliminary Reports, December 2009

Date	Location	Aircraft Type	Aircraft Damage	Injuries
Dec. 1	Trinidad, Bolivia	Fairchild Metro III	substantial	12 none
The Metro veered off the runway while landing in heavy rain and strong winds.				
Dec. 2	Kupang, Indonesia	Fokker 100	substantial	94 none
The flight crew was unable to fully extend the left main landing gear, and the Fokker veered off the runway after touchdown.				
Dec. 4	Harrison, Michigan, U.S.	Piper Cheyenne IIXL	destroyed	1 fatal
The pilot lost control of the Cheyenne shortly after being cleared to descend from 24,000 ft. Witnesses saw the airplane in a spin.				
Dec. 6	Iqaluit, Nunavut, Canada	IAI Galaxy	minor	3 none
The Galaxy veered off the runway while landing to refuel during a business flight from England to the United States.				
Dec. 7	Egelsbach, Germany	Beech King Air F90	destroyed	3 fatal
The King Air struck terrain on final approach in day instrument meteorological conditions.				
Dec. 7	George, South Africa	Embraer 135LR	substantial	33 NA
Some occupants sustained minor injuries when the airplane overran the wet, 6,562-ft (2,000-m) runway on landing.				
Dec. 9	Dorrigo, New South Wales, Australia	Bell 206L-1	destroyed	1 fatal, 1 serious
The LongRanger was on a fire-surveillance flight when it crashed in a rainforest, killing the passenger.				
Dec. 9	Saint-Honoré, Quebec, Canada	Beech King Air A100	destroyed	2 fatal, 2 serious
The King Air struck treetops and crashed during a night approach in low visibility. Both pilots were killed.				
Dec. 11	Gulf of Guinea	Aerospatiale AS 332L	minor	18 none
The Super Puma was ditched for unknown reasons during a flight from Lagos, Nigeria, to a marine vessel in the Agbami oil field.				
Dec. 13	Korkino, Russia	Technoavia Turbo Finist	destroyed	8 fatal
The single-turboprop airplane crashed on takeoff for a skydiving-training flight.				
Dec. 16	Hana, Maui, Hawaii	Aerospatiale AS 350-BA	substantial	2 serious
The tail boom separated during a hard autorotative landing on the shoreline after an actual or simulated engine failure occurred during a pilot-proficiency check flight.				
Dec. 17	Matthew Town, Great Inagua, Bahamas	Dassault Falcon 20D	destroyed	2 fatal
The Falcon struck terrain in a steep dive after radio and radar contact were lost at Flight Level 280 during a flight from Santo Domingo, Dominican Republic, to Fort Lauderdale, Florida, U.S.				
Dec. 19	Tonj, Sudan	Hawker-Siddeley 748	destroyed	1 fatal, 36 none
The airplane overran the 1,000-m (3,281-ft) sand runway on landing and struck several houses that were under construction. No one aboard the Hawker was hurt, but one person on the ground was killed.				
Dec. 22	Kingston, Jamaica	Boeing 737-800	destroyed	4 serious, 36 minor, 114 none
Surface winds were from 320 degrees at 11 kt when the 737 touched down long and overran Runway 12 while landing in heavy rain (*ASW*, 12/09–1/10, p. 1).				
Dec. 22	Moab, Utah, U.S.	Cessna 402C	substantial	1 none
The 402 veered off the runway after striking a snowbank during takeoff for a night cargo flight.				
Dec. 25	Dallas, Texas, U.S.	ATR 72	minor	45 none
The flight crew landed the airplane without further incident after the elevator jammed during approach. The left elevator down-limit stop had fractured, and the separated stop had restricted elevator movement.				
Dec. 25	Decatur, Texas, U.S.	Bell 407	substantial	2 serious, 1 minor
The helicopter touched down hard during an autorotative landing after losing engine power while taking off from a hospital helipad for an emergency medical services flight.				
Dec. 28	near Esso, Russia	Mil Mi-8T	destroyed	2 serious, 1 none
The helicopter reportedly was over gross weight and partially covered with ice when it crashed after losing power from one engine during a cargo flight.				
Dec. 29	Kiev, Ukraine	Airbus A320-230	substantial	160 none
The A320 veered off the runway and ground-looped while landing in a snowstorm.				

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.