

Cleared for a Collision

TCAS and quick pilot action prevented a midair.

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

'Critical Failure of the Human Element'

Boeing 737-800, McDonnell Douglas MD-83. No damage. No injuries.

Nighttime visual meteorological conditions (VMC) prevailed when the 737 and the MD-83 came within 600 ft vertically and 3 nm (6 km) laterally of each other while being flown in evasive maneuvers near the southeast coast of Ireland on Sept. 23, 2007. Collision was avoided by traffic-alert and collision avoidance system (TCAS) warnings and timely compliance by the flight crews of both aircraft with TCAS resolution advisories (RAs), according to the report by the Irish Air Accident Investigation Unit (AAIU).

The 737 was westbound at Flight Level (FL) 300 (approximately 30,000 ft), en route from London to Cork, Ireland, with 179 passengers and six crewmembers. The MD-83 was northbound at FL 280, carrying 164 passengers and six crewmembers from Faro, Portugal, to Dublin. Because of strong southwesterly winds aloft, the MD-83's groundspeed was 517 kt, while the 737's groundspeed was 377 kt. The relative closing speed of the two aircraft was 630 kt, the report said.

Both aircraft were nearing the BANBA reporting point, which is in a Shannon Upper

Air Control sector that was being worked by a radar controller who had less than two years' experience and a planning controller who had more than 30 years' experience. The report said that the planning controller pointed out "in a concerned manner" to the radar controller that there was a significant speed difference between the 737 and the MD-83. The planning controller then became engaged in other duties.

The aircraft were 20 nm (37 km) apart when the 737 crew requested clearance to descend. The radar controller initially cleared the 737 crew to descend to FL 290 and then cleared the crew to descend to FL 100 "with a good rate [of descent] through FL 270." During this radio transmission, the air traffic control (ATC) facility's short term conflict alert (STCA) system activated, generating an audio alarm and red highlights on the aircraft data blocks displayed by the radar controller's screen.

The report said that even though the planning controller had pointed out the speed differential and the STCA warnings had activated, "the radar controller appeared not to comprehend the closing speeds of the two aircraft What ensued was a critical failure of the human element of the ATC system to rectify this situation."

The descent clearance issued to the 737 crew was read back to the radar controller by the crew of another aircraft en route to Cork. The 737 and the MD-83 were 13 nm (24 km) apart when the controller repeated the descent clearance to the 737 crew. The 737 crew acknowledged the clearance and said that they would "expedite till through FL 270."

In what the report called “a belated attempt to recover the situation,” the radar controller told the MD-83 crew to turn right 10 degrees and the 737 crew to maintain FL 290. During this time, however, the MD-83 crew received a TCAS RA to descend, and the 737 crew received an RA to climb. “A potential midair collision was thus narrowly avoided due to the TCAS activation and the correct response of the pilots,” the report said. “With separation subsequently re-established by ATC, both aircraft continued onwards and landed at their respective destinations.”

Loose Engine Cowling Separates on Takeoff

Airbus A319-111. Minor damage. No injuries.

The A319 was 200 ft above ground level (AGL) on departure from Atlanta the morning of April 22, 2007, when the lower right engine cowling separated, resulting in loss of the airplane’s Yellow hydraulic system, said the report by the U.S. National Transportation Safety Board (NTSB). The report did not explain why the Yellow system — one of three independent hydraulic systems in the airplane — was lost.

The flight crew leveled the airplane at 3,000 ft, declared an emergency and received clearance from ATC to return to the airport. The A319, which had 129 people aboard, was landed without further incident.

Examination of the cowling revealed that none of the three latches was fastened. The report said that the latches had been left unfastened by a maintenance technician who had worked on the wheel brakes before the airplane departed. The report also faulted the A319’s first officer for not using the “Exterior Inspection” checklist during his preflight walk-around inspection of the airplane.

Incorrect Code Entered in Docking System

Boeing 747SP. Substantial damage. No injuries.

Following a flight from Syria the morning of Dec. 11, 2006, the aircraft was being taxied to a gate at Stockholm/Arlanda (Sweden) Airport when the top of the left wing struck the bottom of the airbridge. The visual docking guidance system at the gate had been

programmed incorrectly, said the report by the Swedish Accident Investigation Board.

The airbridge operator had observed the code “74L” displayed for the arriving aircraft by the airport’s computer system. This is the International Air Transport Association code for the 747SP. “She was not familiar with this specific code but presumed it was [for] a standard Boeing 747, which her colleagues also assumed,” the report said. “At the operator’s panel in the airbridge housing, she programmed ‘B747’ after having deleted ... ‘B747SP.’”

The airbridge operator told investigators that she had not received training or information about different versions of the same type aircraft, “nor had she been informed about the situations that can arise when entering the incorrect version of certain aircraft types into the panel,” the report said.

The 747SP is a lighter, long-range version of the 747 and has a fuselage that is 14.25 m (46.75 ft) shorter. The report noted that because of the longer nose on the standard 747, it “parks about 6 m [20 ft] further forward than the shorter SP version.” The visual docking guidance system’s laser-scanning equipment, which is designed to confirm that the correct code has been programmed, had not been modified to distinguish among aircraft types that differ primarily in fuselage length.

“The operator supervised the in-taxiing, and when she realized that the aircraft was coming alarmingly close to the airbridge, she activated the emergency stop button,” the report said. “The top of the left wing struck the underside of the airbridge at the same time the display indicated ‘STOP’ and a large hole was torn in the upper side of the wing.”

Hot Approach Results in Overrun

Dassault Falcon 900C. Substantial damage. No injuries.

The flight crew calculated a reference landing speed (V_{REF}) of 128 kt for the approach to Garfield County Regional Airport in Rifle, Colorado, U.S., the night of March 23, 2007. The airport was reporting calm winds, 10 mi (16 km) visibility with rain and a 3,900-ft overcast.

The crew acquired visual contact with Runway 26 before reaching the final approach fix for the

Examination of the cowling revealed that none of the three latches was fastened.

instrument landing system (ILS) approach. A performance study indicated that the Falcon crossed the runway threshold at 150 kt — VREF plus 22 kt — and touched down 2,300 ft (701 m) beyond the threshold of the 7,000-ft (2,134-m) runway at 141 kt and with a descent rate of 60 fpm. “Immediately at touchdown, the spoilers were deployed,” the NTSB report said. “Approximately four seconds later — and 3,260 ft [994 m] from the threshold — the thrust reversers were fully deployed.”

The crew said that the airplane did not decelerate normally. “The pilot knew that they did not have enough runway to execute a go-around,” the report said. “With approximately 1,000 ft [305 m] of runway remaining, the pilot pulled the parking brake to the second detent, and the aircraft slid off the end of the runway [at about 65 kt] into the muddy terrain.” The Falcon came to a stop in the runway safety area about 268 ft (82 m) from the end of the runway.

Runway 08-26 was not grooved and had a 1.25 percent downslope gradient to the west. The *Airport/Facilities Directory* noted that the runway is “slick when wet” and that the “airport manager recommends landing uphill on Runway 08 when able.”

The report noted that the Falcon is among 12 business jets that have overrun Runway 26 since 2001; 11 overruns occurred when the runway was wet, and one involved a hydraulic failure. “Since the [Falcon] accident, the runway has been grooved, and plans are proceeding with a runway-improvement project,” the report said.

Depressurization Traced to Corroded Panel

Israel Aircraft Industries 1124 Westwind. Minor damage. No injuries.

The Westwind was climbing through 34,000 ft, en route on a cargo flight from Darwin, Northern Territory, Australia, to Alice Springs on April 2, 2007, when the flight crew heard several loud bangs and noticed the loss of cabin pressure. “The crew donned oxygen masks, closed the aircraft outflow valves and conducted an emergency descent to 10,000 ft,” said the report by the Australian Transport Safety Bureau (ATSB). “The aircraft was returned to Darwin.”

Examination of the aircraft revealed a hole in a panel on top of the fuselage near the rear of the pressure vessel. “The examination revealed that approximately 60 percent of the panel had been damaged by exfoliation corrosion,” the report said. “The damage was most severe at the primary site of rupture, in the center of the panel.”

Corrosion had not been expected in this area of the aircraft, and no inspections were required. When the aircraft was built in 1979, a chromate coating was applied to protect the panel from corrosion. “Over time, the coating ... had deteriorated, leading to the corrosion of the panel,” the report said.

The Westwind had been parked outside for several years at airports in coastal environments conducive to corrosion. “Insulation pads affixed to the panel were made of a fibrous material and had the ability to act like a sponge, absorbing the moisture in the humid, salty air,” the report said. Corrosion of the panel occurred over a long period of time, reducing the panel’s ability to contain pressurization loads.

Control Lost During Maintenance Test Flight

British Aerospace Hawker 800A. Minor damage. Six minor injuries.

Two pilots and four maintenance technicians were aboard the Hawker during a maintenance test flight May 4, 2006, that was to include verification of the airplane’s stall characteristics. The flight crew had calculated that the stick shaker would activate at 115 kt, the stick pusher would activate at 107.5 kt, and the aerodynamic stall would occur at 105.5 kt. The stall tests required the crew to fly the airplane on autopilot, to verify that the autopilot would disengage automatically at the onset of the stick pusher.

The crew was operating under instrument flight rules. VMC prevailed, but the airplane was flown through some clouds at 17,000 ft during tests preceding the planned stall series. A maintenance technician told NTSB investigators that a small amount of ice accumulated on the wings during the initial tests.

“The SIC [second-in-command] pilot reported that one of the mechanics had come forward during the flight and informed him

Corrosion had not been expected in this area of the aircraft, and no inspections were required.

that some frost was present on the wings, near the root,” the report said. “However, the SIC reported he did not observe any ice form on the aircraft, nor did he observe the icing advisory light during the flight.”

The pilot-in-command (PIC), the pilot flying, said that as the Hawker slowed through 126 kt — 11 kt above the expected stick shaker speed — during the first stall test, the airplane abruptly rolled right and pitched nose-down. The SIC said that he “moved to push forward on the controls, to unload the wing” but the PIC told him to stay off the controls. “He stated that the PIC did not unload the wing, and the aircraft kept rolling,” the report said.

The Hawker rolled both right and left five to seven times, and entered clouds at about 12,000 ft. The PIC said the airplane was descending vertically when it broke through the cloud layer at about 10,000 ft. He told investigators, “I neutralized the ailerons with the yoke and began a higher-than-normal back-pressure pull-out, experiencing 4 to 5 g [i.e., four to five times standard gravitational acceleration]. The aircraft responded, and we stopped the descent somewhere below 7,000 ft.”

The crew returned to Lincoln (Nebraska) Municipal Airport and conducted an uneventful no-flap landing. Examination of the Hawker revealed damage to a wing fairing and interior furnishings but no structural damage or deformation.

NTSB determined that the probable cause of the incident was the PIC’s “improper remedial action related to the stall recovery” and that a contributing factor was “initiation of an intentional stall with residual wing ice contamination, resulting in the stall occurring at a higher-than-anticipated airspeed.”

Close Call at a Runway Intersection

Embraer 170, Brasilia. No damage. No injuries.

Daytime VMC prevailed when the EMB-170 regional jet and the Brasilia turboprop nearly collided at the intersection of Runway 01L and Runway 28R at San Francisco International Airport (SFO) on May 26, 2007.

The Brasilia was on a visual approach, 6 nm (11 km) from Runway 28R, when the SFO tower local controller cleared the crew to land.

The Brasilia was crossing the threshold of Runway 28R when the local controller cleared the 170 crew, who were holding at the approach end of Runway 01L, for takeoff. The airport movement area safety system (AMASS) generated a conflict warning, and the controller radioed the Brasilia crew to “hold, hold, hold.”

The Brasilia came to a stop in the runway intersection as the 170 lifted off. “The initial FAA [U.S. Federal Aviation Administration] report estimated the aircraft missed colliding by 300 feet,” the report said. “However, the [Brasilia] crew estimated the distance as 30 to 50 feet, and the crew of [the 170] estimated 150 feet. They characterized their estimate as a ‘guess,’ noting that they could not actually see the Brasilia as they passed over the top of the aircraft.” None of the 92 people aboard the two aircraft was injured.

“The local controller involved entered duty with the FAA in 1988 and has been fully certified as a tower controller at SFO since 1999,” the report said. “Following the incident, the controller was decertified, required to complete additional training and recertified by SFO management.”

TURBOPROPS

Blade Creep Leads to Engine Failure

Embraer Bandeirante. Substantial damage. No injuries.

The aircraft was at about 500 ft AGL during departure from Kununurra, Western Australia, on Dec. 29, 2006, when the right engine failed. “The pilots confirmed the power loss, completed emergency procedures that included shutting down the right engine and returned to Kununurra Airport,” the ATSB report said.

Examination of the engine revealed that two compressor turbine blades had separated and that the remaining blades had signs of “significant distress” caused by overheating, the report said. The overheating resulted in a phenomenon



called creep, which the report defined as “slow plastic deformation under prolonged load.” As the blades deformed, intergranular voids formed and precipitated stress rupture fractures.

Investigators were unable to determine how the compressor turbine had become overheated. “There were no documented engine logbook entries indicating that an overtemperature event of the engine had occurred,” the report said, noting that typical causes of such events include fuel flow anomalies, throttle mismanagement, engine trim anomalies, low starting voltage and compressor stall.

Contaminated Switch Blocks Gear Extension

British Aerospace Jetstream 32. Substantial damage. No injuries.

After flaring at the normal height for a landing at Wick (Scotland) Airport on Oct. 3, 2006, the commander noticed that the aircraft continued to sink beyond the expected touchdown point and realized that the landing gear was not extended. The flight crew conducted a go-around, recycled the landing gear and requested and received clearance by the airport traffic controller to fly past the control tower for a visual check of the gear, said the U.K. Air Accidents Investigation Branch (AAIB) report.

During the fly-by, the controller told the crew that the landing gear appeared to be extended. The crew then decided to fly the aircraft, with the landing gear extended, back to Aberdeen Airport, where engineering support was available. The landing was conducted without further incident.

“It was subsequently found that, during the go-around [at Wick], the underside of the fuselage and the tips of the right propeller had contacted the runway surface,” the report said. “The impact with the runway did not create vibration or handling difficulties that might have alerted the crew to the airframe and propeller damage. The passengers and the cabin attendant heard a scraping noise, but this information was not passed to the flight crew.”

Examination of the landing gear extension system revealed that the selector switch had become contaminated by a piece of cupric oxide

formed by mechanical wear and electrical arcing. The contamination had acted as an insulator, preventing current flow to the landing gear extension system and the aural gear-warning system during the approach to Wick. “The three green landing gear indicator lights, which are independent of this circuit, had functioned correctly,” the report said. “The crew had not checked the indication prior to landing and were therefore unaware that the landing gear was retracted.”

The report said that the contamination was dislodged when the crew recycled the landing gear, allowing the gear-extension system to function normally.

Cabin Crewmember Falls Through Open Door

ATR 72-200. No damage. One serious injury.

Passenger boarding and cargo loading were suspended temporarily when rain began to fall at Dublin (Ireland) Airport the morning of July 4, 2007. Surface wind velocity was 16 kt, and a strong draft was blowing through the open service doors at the rear of the cabin. A cabin crewmember went to the right aft service door and bent down to look for a baggage loader whom she could ask to close the door.

“Her right foot slipped on the wet metal sill [which is 4.0 ft (1.2 m) above the ground], and she fell,” the AAIU report said. “She hit the sill, fell out through the door and struck a baggage trolley.” She lost consciousness momentarily and was transported by ambulance to a hospital, where she was found to have sustained extensive bruising and soft tissue damage.

The report said that, after the incident, the manufacturer began installing non-slip mats over the metal sills of the aft service doors in production aircraft and issued service bulletins recommending installation of the mats in aircraft already in service.

Nosewheel Steering Triggers Excursion

Piaggio P-180 Avanti. Substantial damage. No injuries.

After touching down normally on the wet runway at Battle Mountain, Nevada, U.S., the morning of Dec. 7, 2007, the airplane

“The passengers and the cabin attendant heard a scraping noise, but this information was not passed to the flight crew.”

abruptly turned left when the flight crew engaged the nosewheel-steering system just below 60 kt indicated airspeed.

“The crew attempted to correct the turn but were unsuccessful,” the NTSB report said. “The airplane completed a 180-degree turn and slid backwards down the runway before it departed the left side of the pavement. The right main landing gear collapsed after sinking in soft mud.”

The pilot operating handbook for the Avanti recommends that the nosewheel-steering system be used during takeoff until the airplane accelerates through 60 kt but prohibits use of the system during landing.

“During the interview with the pilots, they said they were unaware of the prohibition against engaging the nosewheel steering during landing,” the report said. “They noted that because the steering system is used up to 60 knots during takeoff, they assumed that the [system] was to be engaged after touchdown during the landing roll, while slowing through 60 knots.”

PISTON AIRPLANES

Pilot Neglected to Confirm Fuel Order

Britten-Norman Islander. Substantial damage. No injuries.

The pilot had placed a fuel order but did not confirm that the Islander had been refueled before he departed from Salmon, Idaho, U.S., for a charter flight with eight passengers to Stanley, Idaho, on July 15, 2007. “The flight reached its destination without incident, the passengers exited the airplane, and the pilot then departed as the sole occupant of the airplane on a repositioning flight,” the NTSB report said.

The pilot said that the airplane was at about 400 ft AGL on initial climb when the left engine “started to sputter.” While conducting the “Engine Failure” checklist, the pilot noticed that the airplane yawed left when he closed the left throttle. Deciding that the engine was still producing power, he chose not to shut it down.

The pilot was turning back toward the airport when he heard the right engine begin to sputter and noticed that both fuel quantity

indicators were on empty. He said that he decided “to leave all controls forward and gave no further thought to shutting down or feathering either engine,” the report said. The pilot then realized that the airplane would not reach the runway, and he landed it in an open field, where it struck a ditch.

Engine Fails Above Ice-Covered Water

Cessna 207A. Substantial damage. One fatality.

Ambient surface air temperature was minus 20 degrees F (minus 29 degrees C), and there was no survival equipment aboard the single-engine airplane when it departed from Kenai, Alaska, U.S., for a cargo flight to Kokhanok the morning of Jan. 9, 2007. Ten minutes later, the pilot declared an emergency and told the Kenai airport traffic control tower that the Cessna was halfway across Cook Inlet, vibrating substantially and descending.

The NTSB report said that the engine had failed because of “disintegration of engine bearings and the fracture of a connecting rod.” The airplane was 1,500 ft over the inlet, which is about 22 nm (41 km) wide, when power was lost. “A review of the manufacturer’s maximum-glide-distance chart revealed that from an altitude of about 1,500 feet, the airplane could glide about 2.1 nm [3.9 km],” the report said.

The report indicates that the Cessna touched down on a floating sheet of ice and ran off the edge of the ice, into the water. “Expected survival time in the 29-degree-F [minus-2-degree-C] ocean water was about 30 minutes,” the report said. “The airplane was located about two hours after the accident, floating nose-down next to a segment of pan ice. ... The pilot was not recovered with the airplane, and subsequent searches did not locate him.”

Neglected Service Cited in Gear-Up Landing

Cessna 402C. Substantial damage. No injuries.

During a cargo flight on Feb. 20, 2007, the airplane veered right after touching down on a hard-surfaced runway at Cordova, Alaska, U.S., and the pilot was unable to regain directional control. The right main landing gear collapsed.



The NTSB report said that examination of the 402's right main landing gear revealed that a bolt had pulled through a washer, disconnecting the scissor link from the strut and allowing the wheel assembly to pivot and become overloaded.

Cessna had issued a service letter, ME-83-37, recommending replacement of the washers with larger and stronger washers. "The operator [of the 402] had not complied with the nonmandatory service letter, and the airplane was operated with the smaller washers," the report said.



HELICOPTERS

Fire Erupts During Refueling

Eurocopter EC 155-B1. Minor damage. No injuries.

After picking up passengers at several North Sea platforms, the helicopter was landed at Norwich (England) Airport on March 10, 2007. "After disembarking the passengers on the operator's ramp at Norwich, a rotors-running refueling was commenced," the AAIB report said.

During the refueling, the flight crew detected an unusual odor and asked an engineer to investigate. The engineer saw smoke and flames emanating from the hoist connector on the upper right side of the fuselage. "He signaled to the commander to shut the aircraft down and stopped the refueling," the report said. The fire went out when the flight crew shut down the engines and electrical system.

The fire was traced to a short in the electrical connector for the removable electric hoist. "The short was probably caused by moisture ingress into the connector due to a damaged seal," the report said. "A contributory factor was that the connector is always live whenever the electrical system is powered."

Crewmember Lifted by Tangled Helmet Cord

Hughes 369D. No damage. One serious injury.

The helicopter was engaged in netting and collaring elk calves near Troy, Utah, U.S., the night of June 6, 2007. After landing near the staging area, the pilot saw one of the two crewmembers unbuckle his seatbelt,

unplug the communication cord from his helmet and exit the helicopter. When the pilot initiated a vertical takeoff, he could not see the crewmember.

"About 10 to 15 feet above the ground, the pilot sensed something similar to a load being released from the helicopter and, after repositioning the helicopter, he observed the crewmember in an apple tree," the NTSB report said.

The communication cord on the crewmember's helmet had become entangled somewhere on the helicopter, and the crewmember was pulled aloft when the helicopter ascended, the report said. The cord then separated, and the crewmember fell into the tree.

Bearing Failure Causes Loss of Control

Schweizer 300C. Minor damage. No injuries.

The helicopter was at about 50 ft AGL on a downwind approach to land at Weston (Ireland) Airport during a training flight on March 12, 2006, when the flight instructor and student pilot felt a vibration and the nose rapidly yawing right. "Full left pedal was applied, but this had no effect," the AAIU report said. "The pilot then realized that he had a loss of tail rotor control and immediately entered autorotation."

The helicopter slid about 7 m (23 ft) after being landed on a grassy area. "Examination of the tail rotor blade pitch change mechanism showed that the double-row ball bearing installed in the bellcrank had disintegrated," the report said. "This allowed the bellcrank to slip through the pivot bolt, including its washer and nut, and separate from the tail rotor gearbox."

The manufacturer determined that corrosion had caused the bearing to fail. "The helicopter had accumulated approximately 770 hours in less than three years since construction," the report said. "The bellcrank pivot bearing is a sealed bearing and is not lubricated in service."

Based on the incident, Schweizer in October 2006 issued a mandatory service bulletin, C1B-019, requiring an inspection of the bearing and installation of a safety washer to prevent bellcrank separation. ●

Preliminary Reports				
Date	Location	Aircraft Type	Aircraft Damage	Injuries
March 4, 2008	Oklahoma City	Cessna Citation I	destroyed	5 fatal
Visual meteorological conditions (VMC) prevailed when the Citation crashed soon after taking off from Wiley Post Airport. Witnesses heard sounds similar to an engine compressor stall and saw smoke trailing from the airplane before it struck wooded terrain.				
March 6, 2008	Wamena, Indonesia	Transall C-160NG	destroyed	8 none
The twin-turboprop airplane burst into flames after landing with a cargo of food and diesel oil.				
March 8, 2008	Stuart, Florida, U.S.	Cessna 525B	NA	2 none
The copilot had pulled the braking system circuit breaker to prevent the hydraulic motor from cycling while he updated a navigation database and had neglected to reset the circuit breaker before start-up. The CJ3 struck a parked airplane while being taxied for departure.				
March 10, 2008	Mercury, Nevada, U.S.	Cessna 402C	substantial	1 none
The pilot conducted a gear-up emergency landing at the unlighted airport after both engines lost power at 15,000 ft during a nighttime cargo flight.				
March 11, 2008	Cajamarca, Peru	Bell 412B	destroyed	10 fatal
The helicopter was ferrying workers from a copper mine to Chiclayo when it crashed in the Andes.				
March 15, 2008	Nigeria	Beech 1900D	NA	3 NA
The airplane was reported missing on a positioning flight from Lagos to Obudu. The search was continuing at press time.				
March 19, 2008	Mannheim, Germany	Dornier 328	substantial	27 NA
The airplane overran the runway on landing and struck an earthen wall. No fatalities were reported.				
March 20, 2008	Portland, Oregon, U.S.	Piper Chieftain	substantial	1 none
The pilot was unable to fully extend the landing gear and landed the cargo airplane with the right main gear retracted. The preliminary report said that an actuating rod pivot bolt had not been installed properly during recent maintenance.				
March 21, 2008	Idaho Falls, Idaho, U.S.	Beech King Air	minor	6 none
VMC prevailed when the King Air overran the runway during an attempted go-around.				
March 22, 2008	near Baltimore	Boeing 757	substantial	180 none
The 757 was at 27,000 ft during a flight from Orlando, Florida, to Philadelphia when a 4- by 5-ft (1- by 2-m) composite panel separated from the top of the left wing and struck several cabin windows, cracking the outer pane of one window.				
March 24, 2008	Tel Aviv, Israel	Boeing 767-300	minor	NA
Several hours after a nighttime takeoff, the flight crew was notified by airport authorities that a main landing gear tire had burst on takeoff. After sunrise, crewmembers and passengers noticed a hole in the inboard spoiler on the left wing that apparently had been made by tire fragments. The 767 was landed without further incident in Toronto.				
March 24, 2008	Grand Junction, Colorado, U.S.	Canadair Challenger	substantial	2 none
Soon after departure, the crew declared an emergency and returned to the airport. As the Challenger was rolling out on landing, airport air traffic controllers noticed that the main cabin door was missing.				
March 25, 2008	Dhaka, Bangladesh	Boeing 747-300	minor	307 none
The no. 3 engine caught fire while landing at Zia International Airport.				
March 26, 2008	Recife, Brazil	Learjet 35A	substantial	5 none
Soon after takeoff, the crew reported landing gear problems and that they were returning to the airport for an emergency landing. The left main gear failed on touchdown, and the Learjet went off the side of the runway.				
March 27, 2008	Bangalore, India	ATR 72	minor	25 none
The nosegear collapsed after striking a black dog during a nighttime takeoff.				
March 28, 2008	Wainwright, Canada	Piper Malibu Mirage	destroyed	5 fatal
The pilot reported unspecified problems with the single-engine airplane soon before it descended rapidly and struck terrain during a flight from Edmonton to Winnipeg.				
March 30, 2008	Farnborough, England	Cessna Citation I	destroyed	5 fatal
The pilot declared an emergency soon after takeoff from Biggin Hill Airport in London and said that he was diverting to the Farnborough airport. The Citation crashed into several unoccupied houses near the airport.				
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.				