## Scheduled passenger flights

Date: 21 May • Carrier: Singapore Airlines • Aircraft type/registration: Boeing 777-300ER (9V-SWM) • Location: En-route over southern Myanmar

The scheduled flight (SQ321) from London Heathrow to Singapore was hit by severe clear air turbulence during a meal service in the cabin. This resulted in multiple injuries, some of them serious, and one passenger death. An interim report from the Singapore Transport Safety Investiga-tion Bureau (TSIB) says slight vibration began, lasting about 19s, and this resulted in the aircraft gaining height from 37,000ft to 37,360ft, to which the autopilot reacted by pitching the nose down to recover the intended flight level. This was followed quickly by severe reversals of g forces within a period of only 0.6s, which would have caused unstrapped personnel to be thrown at the cabin ceiling and then back to their seats or the floor. These forces went from +1.35g to -1.5g in less than a second. The TSIB says this was probably caused by developing convective activity causing vertical air currents. The pilots reacted by illuminating the passenger seat belt signs, tripping out the autopilot, activating the airbrakes, and attempting to moderate the g forces. They retained manual control for some 20s, during which a lower level of vertical acceleration took place (between +0.9g and -1.1g), then re-engaged the autopilot. Learning of injuries in the cabin, estimated at about 30, the captain decided to divert to Bangkok International airport, which entailed entering a normal descent 17min after the turbulence incident, and calling ahead for medical services to attend the arrival. The latest interim reports suggest that the captain should have taken account of the fact that there was extensive convective activity close to the aircraft's flightpath, and should have ordered crew and passengers to be strapped in rather than allowing a meal service to proceed.

Date: 23 Dec ● Carrier: Swiss ● Aircraft type/registration: Airbus A220-300 (HB-JCD) ● Location: Near Graz, Austria Fatalities (crew/pax): 1/0 Total occupants (crew/pax): 5/74 ● Phase: Cruise

The aircraft was flying at 40,000ft en route from Bucharest to Zurich when one of the two Pratt & Whitney PW1500G turbofans "suddenly and unexpectedly failed", and thick smoke filled the cabin and flightdeck. The crew made an emergency descent into Graz where they landed, stopped on the runway and used slides to evacuate the aircraft. All five of the crew and 12 passengers were taken for medical attention, with one of the crew being airlifted directly to hospital. Three members of cabin crew were kept in hospital, and one of them died on 30 December. The cause of death has not been disclosed at this point. Swiss says it will continue to operate its A220 fleet, saying that the engine fault was "previously unknown", presumably implying it is

Date: 25 Dec ● Carrier: Azerbaijan Airlines ● Aircraft type/registration: Embraer 190 (4K-AZ65) ● Location: Near Aktau airport, Kazakhstan Fatalities (crew/pax): 2/36 ● Total occupants (crew/pax): 5/62 ● Phase: Runway approach

The aircraft crashed roughly 1.6nm (3km) west of Aktau airport, during what appears to have been an attempted approach to land while not fully under the crew's control. The aircraft was in a nose-low attitude. with about 35° of right bank, when it impacted the ground at high speed. The flight had set out from Baku, Azerbaijan just before 04:00 local time bound for Grozny, Russia: a journey that usually takes about 1h. Grozny and the region around it is reported to have been under attack by Ukrainian drones, but the airport was also reporting poor weather and low visibility. Unconfirmed reports suggest that Russian air traffic control advised the crew to divert to Makhachkala airport. Russian safety investigation agency Rosaviatsia says the airspace was closed because of the attacks, but that the airliner nevertheless attempted two approach es to Grozny before deciding to divert to Aktau, on the other (eastern)

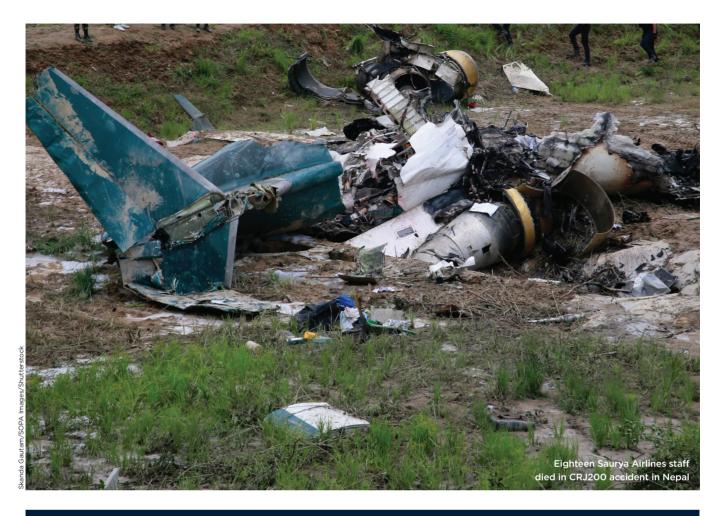
side of the Caspian Sea. The aircraft's ADS-B signal dropped off from commercial recordings at about 04:25 local time, before being partially restored at 05:14 and returning fully at 06:07 over the Caspian Sea, by which time the crew had selected the emergency code 7700, and the speed, heading and altitude were all highly unstable. Images of the aircraft's tail section, which had broken off on impact with the ground, show punctures and tears in the skin of the vertical fin, horizontal tailplane, and elevators. Surviving passengers reported hearing an explosion, leading to speculation that the aircraft had been disabled following damage caused by a surface-to-air missile. Azerbaijan Airlines on 25 December suspended further flights to Grozny, and since then to other Russian destinations, and Azerbaijani President Ilham Aliyev says the nation's prosecutor general has launched a criminal investigation.

Date: 29 Dec ● Carrier: Jeju Air ● Aircraft type/registration: Boeing 737-800 (HL8088) ● Location: Muan airport, South Korea Fatalities (crew/pax): 4/175 ● Total occupants (crew/pax): 6/175 ● Phase: Runway approach Runway approach

Inbound from Bangkok, the aircraft was approaching runway 01 at Muar when air traffic control warned of bird activity near the airport. Two minutes later the crew broadcast a Mayday emergency citing a bird strike and announcing a go-around. The crew then called for an approach to the reciprocal runway 19 and were cleared to land. For reasons that are not yet clear they elected to land quickly, without flaps deployed and with

the landing gear retracted. The 737 touched down fast about one-third of the way along the 2,800m (9,200ft)-long runway, slid along its remaining length and over the end, colliding violently with a wall and solid mound on which the instrument landing system localiser antenna array was mounted, and broke up, bursting into flames. The only survivors were two cabin crew members who were strapped into their seats in the tail section.





Fatal accidents:

# Non-scheduled passenger flights

Date: 23 Jan ● Carrier: Northwestern Air Lease ● Aircraft type/registration: British Aerospace Jetstream 31 (C-FNAA) Location: Near Fort Smith airport, Northwest Territories, Canada ● Fatalities (crew/pax): 2/4 ● Total occupants (crew/pax): 2/5 ● Phase: Climb

The aircraft was destroyed by impact and post-impact fire when it crashed among trees on take-off from Fort Smith airport's runway 30. The point of impact was close to the Slave River, 1,300m (4,260ft) beyond the end of the runway on the extended centreline. The accident

happened in darkness (06:42 local time), with wind 320°/5kt (9km/h), visibility 3 miles in snow, overcast at 6,500ft, and temperature -19°C (-2°F). The aircraft was operating a charter flight to Rio Tinto's Diavik Diamond Mine.

Date: 15 Jul ● Carrier: Air Taxi Vanuatu ● Aircraft type/registration: Britten-Norman BN-2 Islander (YJ-AT2)
Location: Near Port Vila airport, Vanuatu ● Fatalities (crew/pax): O/1 ● Total occupants (crew/pax): 1/4 ● Phase: Runway approach

The aircraft force-landed in a plantation during its final approach and hit trees before striking up-sloping ground and coming to a halt badly dam-

aged. The cause of the forced landing is not yet known. Air Taxi Vanuatu carries out domestic charters including sightseeing tours.

Date: 24 Jul ● Carrier: Saurya Airlines ● Aircraft type/registration: Bombardier CRJ200 (9N-AME)
Location: Tribhuvan International airport, Kathmandu, Nepal ● Fatalities (crew/pax): 2/16 ● Total occupants (crew/pax): 3/16 ● Phase: Take-off

Taking off from runway 02 for a ferry flight to Pokhara for maintenance, with airline staff on board – mostly engineers – the aircraft pitched up unusually rapidly, and gained a maximum height of less than 100ft before the right wing dipped twice, ultimately to nearly 90° roll attitude,

before crashing and burning about 200m (760ft) to the right of the runway. The captain was badly injured but survived, while all others on board died. The aircraft had been grounded for 34 days prior to the accident flight.

Date: 22 Aug ● Carrier: Thai Flying Service ● Aircraft type/registration: Cessna Caravan (HS-SKR)
Location: Near Wat Kow Din, Chachoengsao Province, Thailand ● Fatalities (crew/pax): 1/4 ● Total occupants (crew/pax): 1/4 ● Phase: Descent

The chartered aircraft was flying from Bangkok International airport to the private airfield serving the Soneva Kiri resort on Ko Kut island. It crashed

11min after take-off into a mangrove swamp southeast of the departure airport, killing all on board.

Date: 22 Dec ● Carrier: North Coast Aviation ● Aircraft type/registration: Britten-Norman BN-2 Islander (P2-SAM) Location: En route, Papua New Guinea Fatalities (crew/pax): 1/4 ● Total occupants (crew/pax): 1/4 ● Phase: Descent

The single-pilot charter operation took off from Wasu airport for a short flight to Nadzab. When it was about 15nm (27km) from its intended destination, the Flight Information Service told the pilot to contact

approach control. Some 15min later there was a short distress call; the last communication from the aircraft. Its wreckage was found next day, with no survivors.

#### Fatal accidents

## Regional and commuter flights

Date: 9 Aug ● Carrier: Voepass ● Aircraft type/registration: ATR 72-500 (PS-VPB) ● Location: Vinhedo, near Sao Paulo, Brazil Fatalities (crew/pax): 4/58 ● Total occupants (crew/pax): 4/58 ● Phase: Descent

Just before the top of its descent into Sao Paulo Guarulhos the aircraft was in normal cruise flight at 17,000ft. At 16:20 local time, air traffic control cleared the aircraft to turn right towards Sanpa. The aircraft began the turn but then seems to have stalled and entered an increasingly tight descending right turn. Control was not regained and it crashed. The accident happened in daylight, instrument meteorological conditions. There had been SIGMET warnings of severe icing valid at the time. There also had been warnings about icing conditions from early in the flight. At 15:14 - 16min after take-off – while climbing through 13,000ft the centralised crew alert system displayed an alert signal and 1min later the airframe de-icing was turned on; seconds later a single chime sounded. The crew comment-

ed on an airframe de-icing system fault, and it was turned off. The flight continued with the ice detection system intermittently emitting the alert signal for the next 1h. At 16:17 the airframe de-icing was turned on again, and Imin later, while at a speed of 191kt (353km/h), the cruise speed low alert was triggered. The crew did not comment on this and, at 16:19 the de-icing system was again turned off, followed by the aircraft's degraded performance alert being triggered at 184kt. The cockpit voice recorder (CVR) captured the co-pilot as commenting at 16:20 that there was "a lot of icing". Around 30s later, with the aircraft travelling at 169kt, the increase speed alert was triggered. Immediately afterwards, vibration noise is captured on the CVR with the stall alert, and control of the aircraft was lost.

Date: 20 Oct ● Carrier: SAM Air ● Aircraft type/registration: De Havilland Canada DHC-6 Twin Otter (PK-SMH) ● Location: Near Bandara Panua Pohuwato airport, Gorontalo Province, Indonesia ● Fatalities (crew/pax): 4 ● Total occupants (crew/pax): 4 ● Phase: Runway approach

The aircraft, inbound from Gorontalo Jalaluddin, crashed in an open area of rice paddies while on approach to runway 27 at Bandara Panua Pohu-

wato airport. Last contact with the flight was at 07:20 local time and the aircraft crashed shortly afterwards. There was no distress call.

#### Fatal accidents:

### Non-passenger flights

Date: 18 Jan ● Carrier: Jetways Airlines ● Aircraft type/registration: Fokker 50 (5Y-JWG) ● Location: El Barde airstrip, south western Somalia Fatalities (crew/pax): 1/0 ● Total occupants (crew/pax): 2/2 ● Phase: Landing

The freighter overran the runway on landing at El Barde, Somalia and collided with a house. The aircraft was operating a cargo flight from Moga-

dishu, Somalia for the UN World Food Programme, carrying two pilots and two passengers. The captain was killed and the co-pilot severely injured.

Date: 3 May ● Carrier: Westair Aviation ● Aircraft type/registration: Reims-Cessna 406 (V5-ASB) ● Location: Pioneerspark, Windhoek, Namibia Fatalities (crew/pax): 3 ● Total occupants (crew/pax): 3 ● Phase: Runway approach

Carrying a crew of three, the aircraft took off from Windhoek Eros airport to carry out a post-maintenance test flight when something went wrong

and the crew attempted to return to land. The aircraft crashed into a building in a Windhoek suburb close to the airport, killing all on board.

Date: 12 Jul ● Carrier: Gazpromavia ● Aircraft type/registration: Sukhoi Superjet (RA-89049) ● Location: Moscow region, Russia Fatalities (crew/pax): 3/0 ● Total occupants (crew/pax): 3/0 ● Phase: Climb

Following scheduled maintenance, the aircraft was in the early climb on a ferry flight from Lukhovitsky/Tretyakovo airport to Moscow Vnukovo when its trajectory departed from the expected flight profile. After 5min airborne the aircraft transitioned from level flight with 5-6° nose-up pitch attitude, to 4° nose-down, and it began a descent. The indicated airspeed began to increase from 200kt (370km/h), the flaps and slats were retracted, and the autopilot and autothrottle were disengaged. At 4,500ft the descent was momentarily

reversed, but then re-established and the airspeed began increasing through 320kt, triggering an overspeed warning. Despite the crew holding the sidestick fully back, the nose-down attitude increased, and at impact the airspeed was 365kt, descent rate was 17,000ft/min, nose attitude was 25° down, and bank angle 25° right, with engines still operating. Russian newspaper *Izvestia* quoted a source suggesting that, during maintenance at Lukhovitsky, two of the aircraft's four angle of attack sensors had been installed incorrectly.



/cactaci

#### Fatal accidents:

### Non-passenger flights

Date: 7 Oct ● Carrier: Ameriflight ● Aircraft type/registration: Beechcraft C99 (N130GP) ● Location: Near Norfolk airport, Nebraska, USA Fatalities (crew/pax): 1 ● Total occupants (crew/pax): 1 ● Phase: Early climb

The freighter took off from runway 20 at Norfolk regional airport bound for Omaha, on a package delivery flight. Shortly after take-off it entered a descending left turn, which continued until impact with the ground, which

appears to have been in a flat, near wings-level attitude. The point of impact was about 580m (1,070ft) southeast of the departure end of the runway. The accident happened in darkness, at 19:39 local time, but during good visibility.

Date: 25 Nov ● Carrier: European Air Transport ● Aircraft type/registration: Boeing 737-400SF (EC-MFE) ● Location: Vilnius airport, Lithuania Fatalities (crew/pax): 1/0 ● Total occupants (crew/pax): 4 ● Phase: Runway approach

During a night, instrument landing system (ILS) approach to Vilnius from Leipzig, Germany, the freighter – which was operating for DHL – hit the ground about 0.7nm (1.3km) short of the threshold of runway 19. The aircraft had been cleared to descend to 2,700ft and report once established on the ILS. While it was about 4nm from the runway the crew was told to call the tower on 118.205, but they read the frequency back as 118.05, and after that there was no further contact. The Lithuanian authorities are con-

ducting simultaneous but separate criminal and safety investigations. The flight recorder information has been downloaded, but no information has yet been released. The aircraft was destroyed by impact and post-impact fire. Rescue services reported that it struck the ground and skidded for at least 100m (328ft) before crashing into an apartment building, which also caught fire – 12 residents were evacuated safely. The accident happened at 05:28 local time, and instrument meteorological conditions.

#### Significant non-fatal accidents/incidents

# All commercial airline categories

Date: 2 Jan ● Carrier: Japan Airlines ● Aircraft type/registration: Airbus A350-900 (JA13XJ) ● Location: Tokyo Haneda airport, Japan Injuries (crew/pax): 0/17 ● Total occupants (crew/pax): 12/367 ● Phase: Landing

Inbound on a domestic flight from New Chitose airport, Sapporo, the aircraft was cleared to land on runway 34R at Tokyo Haneda. It was a night approach in good visibility. Meanwhile, a Japan Coast Guard De Havilland Canada Dash 8-300 (JA722A) was routing via taxiway C5 intent on taking off from 34R, although it had only been cleared to hold short of the active runway. The Dash 8 lined up on 34R while the A350 was on short final approach, and the Japan Airlines (JAL) crew did not see the small aircraft in the darkness among the plethora of runway lights. The A350 touched down on the runway before colliding with the Coast Guard aircraft, just as the Dash 8 captain was advancing the power levers. The Dash 8 captain, the only survivor among the crew of six on the smaller aircraft, testified to investigators that he had been cleared for take-off, but air traffic control tapes show he had not been. It is worthy of note that the stop bar lights for the taxiway were unserviceable, although they

had been notified as such via NOTAMS. The collision caused the Dash 8 to catch fire immediately, and its wreckage was dragged along the runway for nearly 1,000m (3,280ft), with the badly damaged A350 stopping some 500m beyond it on the grass to the right side of the runway. The JAL aircraft's left engine was on fire, and fire was spreading to the fuselage. Within 3min the Haneda fire and rescue service had reached the aircraft, and the cabin crew were directing the occupants' evacuation via slides at the furthest forward and furthest aft exits on the left hand side, and the furthest forward exit on the right side despite the fact that the right engine was still running, having not responded to shutdown actions by the crew, probably because of damage to avionic systems caused by the collision. All crew and passengers were evacuated without serious injury. The cabin crew reported that no-one attempted to carry hand baggage during the evacuation. The aircraft hull was burned out.

Date: 5 Jan ● Carrier: Alaska Airlines ● Aircraft type/registration: Boeing 737 Max 9 (N704AL) ● Location: Near Portland airport, Oregon, USA Injuries (crew/pax): 1/7 ● Total occupants (crew/pax): 6/171 ● Phase: Climb

Climbing through 16,300ft while cleared to 23,000ft en route to Ontario International airport, Canada, the aircraft suffered a sudden decompression as a result of an entire left mid exit door-plug blowing out and separating completely. The crew carried out the loss of pressurisation checklist, and descended rapidly to the cleared level of 10,000ft while heading back to Portland International airport.

The aircraft landed without further incident and the passengers disembarked safely at the gate. An extensive investigation by the US National Transportation Safety Board established that the door plug was missing bolts that should have secured its position. Alaska Airlines had been permitted to close off that exit because the carrier adopts a lower-density cabin seating arrangement.

Date: 8 Jan ● Carrier: Townsville Airlines ● Aircraft type/registration: Cessna Caravan (VH-NWJ)
Location: Lizard Island airport, Queensland, Australia ● Injuries (crew/pax): 2/8 ● Total occupants (crew/pax): 2/8 ● Phase: Landing

The chartered flight took off from runway 12 at Lizard Island airport and had climbed to about 4,000ft when the crew elected to turn back because of engine problems. The aircraft made it back to the runway

but overran on landing and then turned over on rough ground. There was no fire. All the people on board suffered injuries, but none were life-threatening

Date: 10 Jan ● Carrier: Ameristar Charters ● Aircraft type/registration: McDonnell Douglas DC-9 (N785TW) ● Location: Arlington airport, Texas, USA Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): ?/? ● Phase: Landing

Landing in darkness just before midnight local time, the aircraft veered off runway 16 to the left and came to rest on the grass with its left main

undercarriage having collapsed. It was operating a flight from Niagara Falls, New York.

Date: 10 Jan ● Carrier: United Airlines ● Aircraft type/registration: Boeing 737-900ER (N62883) ● Location: George Bush International airport, Houston, Texas, USA ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 6/179 ● Phase: Landing

The aircraft suffered a hard landing and tail strike on landing on runway 27. The landing was completed safely and the aircraft taxied to the gate for normal passenger disembarkation with no injuries to passengers or crew. The accident happened in daylight (10:10 local time) and good visibility. The jet was operating a flight from Phoenix, Arizona. The flightcrew statements and flight data showed that the aircraft made a stable approach to the landing flare. The co-pilot - the pilot flying - stated that he began the flare 'slightly late'. Both crewmembers stated the touchdown was 'firm, with a slight nose-high bounce'. The crew were not aware that the aircraft's tail had impacted the runway until

the ground crew at the gate notified them. Flight data showed that the aircraft touched down in a 6.5° nose-up attitude and with a vertical acceleration of 1.87g. The speed brakes deployed 2s after the initial touchdown. At the same time, the aircraft became airborne again and the nose began to lower. Some 2s later, as the speed brakes retracted, its pitch began to increase and it touched down a second time with a nose-up pitch of 7.2° and a vertical acceleration of about 2.87g. The aircraft then became airborne for a third time before touching down for the final time. The nose was lowered to the ground and speed brakes were extended again.

Date: 18 Jan ● Carrier: Ethiopian Airlines ● Aircraft type/registration: De Havilland Canada Dash 8-400 (ET-AVS) Location: Alula Ana Nega airport, Ethiopia ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): ?/? ● Phase: Landing

Inbound on a scheduled flight from Addis Ababa, the aircraft veered off the left side of the runway on landing and came to rest with its left

main undercarriage collapsed. The accident happened in good daylight visibility (12:00 local time). All crew and passengers disembarked safely.

## All commercial airline categories

Date: 21 Jan ● Carrier: Air France ● Aircraft type/registration: Airbus A350-900 (F-HTYH)
Location: Toronto Pearson International airport, Ontario, Canada ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): ?/? ● Phase: Landing

Flight AF356 was inbound from Paris Charles de Gaulle airport, France, when the crew elected to carry out a go-around from their approach to

land on runway 24L at Toronto Pearson International airport. During the go-around the aircraft suffered a tailstrike, but landed safely 15min later.

Date: 26 Jan ● Carrier: Wiggins Airways ● Aircraft type/registration: Beechcraft C99 (N53RP)
Location: Near Londonderry, New Hampshire, USA Injuries (crew/pax): 1 ● Total occupants (crew/pax): 1 ● Phase: En route

Almost immediately after take-off from Manchester Boston regional airport, New Hampshire, the aircraft's transponder was selected to the emergency code 77, but air traffic control could not contact the pilot. The freight flight was operated by Wiggins Airways for Ameriflight, and its

intended destination was Presque Isle, Maine. The aircraft flew "erratically' at a low altitude for 15min until making what looks like a forced landing in a wood. The left-side cockpit door was missing and was found 10 miles north of the wreckage site. The pilot was badly injured when rescued.

Date: 1 Feb ● Carrier: All Nippon Airways ● Aircraft type/registration: Boeing 787-9 (JA899A) ● Location: Over southern Japan Injuries (crew/pax): 2/0 ● Total occupants (crew/pax): 8/249 ● Phase: Cruise

Two cabin crew were injured by turbulence in the cruise over southern Japan en route from Tokyo Narita to Bangkok

Date: 3 Feb ● Carrier: Avion Express ● Aircraft type/registration: Airbus A320 (LY-NVL) ● Location: Vilnius airport, Lithuania Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 6/179 ● Phase: Landing

Directional control was lost during the landing roll on runway 19 and the aircraft veered off the right side of the runway onto soft ground. It continued parallel to the runway for a short distance, crossed a taxiway and then regained the runway. The aircraft, extensively damaged, was taxied

to the gate for passenger disembarkation. The accident happened in daylight (14:19 local time), with wind 180°/13kt (24km/h), visibility 5,000m (16,400ft) in mist and drizzle, cloud overcast at 300ft and temperature 5°C (41°F). The aircraft was operating from Milan Bergamo airport, Italy.

Date: 9 Feb ● Carrier: African Express Airways ● Aircraft type/registration: Boeing MD-82 (5Y-AXL) ● Location: Malakal airport, South Sudan Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): ?/? ● Phase: Landing

Inbound from Juba, South Sudan, the aircraft's main landing gear collapsed when it landed short of the runway 04 threshold. There were no injuries

Date: 9 Feb ● Carrier: European Air Transport ● Aircraft type/registration: Airbus A300-600F (D-AZMO) ● Location: Leipzig airport, Germany Injuries (crew/pax): 0 ● Total occupants (crew/pax): 3 ● Phase: Landing

After a tailstrike during an attempt to land on runway 26L, the crew carried out a go-around. About 18min later the aircraft landed safely on runway 26R.

Date: 10 Feb ● Carrier: United Airlines ● Aircraft type/registration: Boeing 777-200ER (N788UA) ● Location: Above Kelsey, New York, USA Injuries (crew/pax): 3/10 ● Total occupants (crew/pax): 11/269 ● Phase: Airfield approach

Descending through 21,000ft to a cleared 19,000ft inbound to Newark Liberty airport, New Jersey, sudden un-forecast turbulence caused injuries

to three of the cabin crew, who required hospital treatment. The crew declared an emergency and asked for medical assistance to be prepared.

Date: 12 Feb ● Carrier: ESAV Airlines ● Aircraft type/registration: Britten-Norman BN-2 Islander (HC-CXK)
Location: Off Punta Carola beach, Galapagos Islands, Ecuador ● Injuries (crew/pax): ?/? ● Total occupants (crew/pax): 1/8 ● Phase: Climb

Just after getting airborne from runway 16 at San Cristobal airport, Galapagos, the aircraft ditched in the sea about a 1,500m (5,700ft)

offshore. All nine occupants were rescued. The flight was a scheduled domestic service to Jose de Villamil airport on Isabela island.

Date: 18 Feb ● Carrier: Marathon Airlines ● Aircraft type/registration: Embraer 195 (OY-GDC) ● Location: Belgrade Nicola Tesla airport, Serbia Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 5/106 ● Phase: Take-off

Operating a flight for Air Serbia, the Marathon Airlines crew planned to take off from runway 30L starting the take-off run from intersection D6, having estimated the take-off distance remaining to be 2,349m (7,700ft). When they advised air traffic control (ATC) that they were approaching D6 they were told to hold short, then line up and wait. ATC queried whether the crew realised they were at D5, and that the take-off distance available was 1,273m. Having checked their calculated take-off performance using the co-pilot's tablet, they reported ready for take-off from D5, and ATC cleared them. During the take-off run the crew advanced the power levers to maximum, and decided to use all available runway surface

beyond the 'piano keys' before rotating. At rotation they heard sounds of impact and did not follow the standard instrument departure, requesting a return and then declaring an emergency. They flew the aircraft, with gear deployed, along runway 30L to allow inspection by tower staff, and no damage could be seen. After landing safely, ground crew reported an apparent fuel leak, so the crew shut the aircraft down. Extensive puncture damage was found to the left wing-root fairing and the wing leading edge close to the fuselage, and there was damage to equipment beneath the fairing. The aircraft had hit approach lights for runway 12R and the instrument landing system monitoring antenna, part of which was embedded.

Date: 18 Feb ● Carrier: Delta Air Lines ● Aircraft type/registration: Boeing 767-300ER (N176DZ) ● Location: Over the Gulf of Mexico Injuries (crew/pax): ?/? ● Total occupants (crew/pax): ?/? ● Phase: Cruise

The flight took off from New York John F Kennedy airport bound for Bogota Eldorado airport, Colombia, and while in the cruise over the Gulf of Mexico the aircraft encountered un-forecast severe turbulence, causing

injury to several cabin crew and a passenger. The crew continued the flight to Bogota, but once it had arrived the airline decided to cancel the return flight and to ferry it back to its base at Atlanta.

Date: 4 Mar ● Carrier: Tui Fly ● Aircraft type/registration: Boeing 737-800 (G-FDZS) ● Location: Bristol airport, UK ● Injuries (crew/pax): 0/0 Total occupants (crew/pax): 6/163 ● Phase: Take-off

Preparing for take-off on runway 09 at Bristol, the UK for Las Palmas, Spain, the crew set take-off mode on the autothrottle, but it disengaged because of a fault in the autothrottle servo motor (ASM). Neither pilot noticed that the thrust they had set manually (84.5 N1) was less than the required take-off thrust (92.8 N1). The A/T Arm switch on the mode control panel (MCP) had been set to ARM, and at take-off the pilot flying (PF) (right-hand seat pilot, who was commander and training captain) advanced the thrust levers to 40% before pressing the take-off/go-around switch, which engages the A/T (auto-throttle) and the autopilot/flight director system in take-off mode. At this point, the A/T disengaged with

an associated warning. The A/T Arm switch on the MCP was quickly re-engaged by the pilot monitoring. At the same moment the PF advanced the thrust levers towards the required take-off setting before releasing them for the left-seat pilot to control. As a result, the rotation point was only 260m (852ft) from the runway end, and the aircraft was only 10ft off the ground as it passed the threshold. The crew did not realise the power setting was wrong until they carried out the after take-off checks, although they had noticed how close to the end of the runway the unstick was. The UK Air Accidents Investigation Branch notes that such faults with the "older type" of ASM fitted to the aircraft are "a known issue".

## All commercial airline categories

Date: 5 Mar ● Carrier: Safarilink Aviation ● Aircraft type/registration: De Havilland Canada Dash 8-300 (5Y-SLK)
Location: Near Nairobi Wilson airport, Kenya ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 5/39 ● Phase: Climb

The Dash 8 took off from Nairobi Wilson airport's runway 14 for a domestic flight to Diani. The departing aircraft was told by air traffic control (ATC) to keep a look-out for traffic "upwind runway 07". ATC also told the "upwind aircraft" - a Cessna 172M (5Y-NNJ) performing visual touch-and-goes from runway 07 with a student and an instructor on board - to watch out for the Dash 8 departing from runway 14. The initial clearance for the Dash 8 was to climb to 9,000ft (the departure

airfield elevation is 5,546ft). Climbing through approximately 6,000ft the Dash 8 crew heard a "loud bang and felt an impact", but did not see the object which had hit them. Both crew in the Cessna 172 training aircraft were killed when it crashed out of control following the collision. The Dash 8 landed safely on runway 32, having suffered minor damage to the right horizontal stabiliser's de-icing boot, but there were no injuries to crew or passengers.

Date: 8 Mar ● Carrier: United Airlines ● Aircraft type/registration: Boeing 737 Max 8 (N27290) ● Location: George Bush International airport, Houston, Texas, USA ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 6/160 ● Phase: Landing

Inbound from Memphis to Houston's George Bush airport, the aircraft was cleared for approach to runway 26L, but the captain (pilot flying) asked the co-pilot to request landing on runway 27, which was granted. The surface was wet, with braking action and directional control at level 3, which is poor. The touchdown was at the correct speed and within the correct zone, but reverse thrust was only selected to idle. The captain manually retracted the speed brakes quickly - which cancelled the autobrakes - and applied

the toe brakes gently because he wanted to "roll" quickly to exit SC, at the runway end, which requires a 90° turn to the right. As the captain began the turn-off using nosewheel steering the aircraft was still travelling at 39kt (72km/h), according to the US National Transportation Safety Board's preliminary report, and as it entered the taxiway was well left of its centreline. The nosewheel and left main landing gear slid onto grass, and the main landing gear hit a concrete manhole and collapsed. There were no injuries.

Date: 11 Mar ● Carrier: LATAM Airlines Chile ● Aircraft type/registration: Boeing 787-9 (CC-BGG) ● Location: Over the Tasman Sea Injuries (crew/pax): 3/10 ● Total occupants (crew/pax): 9/263 ● Phase: Cruise

The aircraft was flying at 41,000ft above the Tasman Sea, en route from Sydney Kingsford Smith airport, Australia to Auckland International airport, New Zealand when an unintended forward movement of the captain's seat caused the aircraft to drop 400ft suddenly, after which it recovered its

cruising height. The Chilean preliminary report says the g forces applied did not exceed manufacturers' limitations, but 13 people suffered injuries, and one member of the cabin crew and two passengers required hospitalisation. The aircraft continued to Auckland, where it landed safely.

Date: 17 Mar ● Carrier: Cetraca Air Service ● Aircraft type/registration: Aircraft Industries L-410UVP (9S-GPB) ● Location: Rughenda airport, Butembo, Democratic Republic of Congo ● Injuries (crew/pax): ?/? ● Total occupants (crew/pax): 2/8 ● Phase: Landing

Inbound on a domestic flight from Goma with stormy conditions in the area, the aircraft ran off the left side of the runway, causing the right main

gear to collapse. The right wing was badly damaged. Local press reports suggest there may have been two injuries, but no fatalities.

Date: 20 Mar ● Carrier: All Nippon Airways ● Aircraft type/registration: Boeing 787-9 (JA891A) ● Location: Near Tokyo Narita airport, Japan Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 10/197 ● Phase: Airfield approach

During a service from Los Angeles, the aircraft was passing about 5,000ft in the descent toward Tokyo Narita when it received a powerful lightning

strike to the forward fuselage, causing serious damage. The aircraft continued to land safely and there were no injuries.



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# All commercial airline categories

Date: 31 Mar ● Carrier: Safe Air Company ● Aircraft type/registration: Boeing 727-200F (5Y-IRE) ● Location: Malakal airport, South Sudan Injuries (crew/pax): ?/? ● Total occupants (crew/pax): 4/3 ● Phase: Landing

The crew of the 45-year-old 727 freighter reported problems on approach, and on landing the aircraft left the runway, the rear fuselage broke about 5m (16ft) ahead of the (rear-mounted) engines, and the

front of the aircraft then collided with an African Express Airways Boeing MD-82 (5Y-AXL) that had crash-landed at Malakal airport on 9 February (see p44).

Date: 1 Apr ● Carrier: Japan Airlines ● Aircraft type/registration: Boeing 787-8 (JA843J) ● Location: Near Tokyo Narita airport, Japan Injuries (crew/pax): 4/0 ● Total occupants (crew/pax): 8/149 ● Phase: Airfield approach

During descent into Tokyo Narita, passing 17,000ft, the aircraft struck turbulence, injuring four crew. The aircraft was inbound from Melbourne, Australia.

Date: 7 Apr ● Carrier: Southwest Airlines ● Aircraft type/registration: Boeing 737-800 (N8668A) Location: Denver International airport, Colorado, USA ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): ?/? ● Phase: Take-off

The outboard fan cowl on the aircraft's right engine came open on or shortly after take-off from runway 25 with the intended destination of Houston Hobby. The pilot stopped the climb at 10,000ft and returned to

land on runway 34L at Denver. During the landing roll the inboard fan cowl also came open and was torn away, followed by the outboard cowl. The landing roll was completed safely and the aircraft taxied to the gate.

Date: 23 Apr ● Carrier: Dana Air ● Aircraft type/registration: Boeing MD-82 (5N-BKI)
Location: Lagos International airport, Nigeria ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 6/83 ● Phase: Landing

When the crew selected the gear down on final approach to runway 18L at Lagos, inbound from Abuja, the nose gear did not indicate down. The crew conducted a fly-past so the tower controllers could look at the gear, and they reported that it appeared to be down. An attempt to recycle the gear and executing the emergency checklist did not correct the fault indication, so the crew circled and carried out an approach to runway 18L with a slight

tailwind. On touchdown the captain deployed the spoilers manually and operated reverse thrust on both engines before lowering the nosewheel, but when it touched the surface there was severe vibration and the nosewheel leg collapsed after decelerating through 80kt (148km/h). Directional control was lost and the aircraft veered off the runway to the left. The passengers were safely evacuated via the front right door.

Date: 28 Apr ● Carrier: Flynas ● Aircraft type/registration: Airbus A320neo (HZ-NS45) ● Location: King Khalid airport, Riyadh, Saudi Arabia Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): ?/? ● Phase: Landing

Inbound from Doha, Qatar, the aircraft ran off the right side of runway 15L at Riyadh during a night landing that was carried out in rainy conditions. On runway 15 there was a strong crosswind from the right,

with a slight tailwind component. The aircraft was eventually brought to a safe stop on a taxiway some 400m (1,310ft) beyond the point where it left the runway.

Date: 1 May ● Carrier: Satena ● Aircraft type/registration: ATR 42-500 (HK-5104) ● Location: Gustavo Rojas International airport, San Andreas Island, Colombia ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 4/45 ● Phase: Taxiing

The crew was backtracking the aircraft on the runway to get into position for take-off, but when they began carrying out a  $180^\circ$  turn at

the runway threshold in order to line up for departure, the nose undercarriage collapsed.

Date: 3 May ● Carrier: JSX Air ● Aircraft type/registration: Embraer ERJ-145 (N942JX) ● Location: Houston Hobby airport, Texas, USA Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 3/21 ● Phase: Landing

Inbound from Dallas Love Field, the aircraft's left main undercarriage collapsed towards the end of the landing roll on runway 04 at Houston

Hobby airport, and it came to rest towards the left side of the runway.

There was a fairly strong crosswind from the right at the time of landing.

Date: 5 May ● Carrier: R Komor ● Aircraft type/registration: Fokker 50 (D6-AIB) ● Location: Bandar Es Eslam airport, Moheli, Comoros Islands Injuries (crew/pax): ?/? ● Total occupants (crew/pax): 4/48 ● Phase: Take-off

The aircraft was taking off on a domestic flight to Ouani airport, Anjouan island when the tyres on both the left main landing gear wheels blew

out. The crew elected to abandon the take-off but overran the end of the runway and stopped with the right main gear leg collapsed.

Date: 5 May ● Carrier: Serve Air Cargo ● Aircraft type/registration: Boeing 737-300F (9S-AKK) ● Location: N'Djili aiport, Kinshasa, Democratic Republic of the Congo Fatalities (crew/pax): ?/? ● Total occupants (crew/pax): ?/? ● Phase: Airfield approach

The freighter suffered an engine failure passing through about 11,000ft while descending toward N'Djili airport. On landing it swerved off the

runway, causing the nosewheel and right main gear to collapse and the right engine to separate.



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### All commercial airline categories

Date: 6 May ● Carrier: Delta Air Lines ● Aircraft type/registration: Airbus A321neo (N504DZ) ● Location: Seattle Tacoma airport, Washington, USA Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): ?/? ● Phase: On ground

The aircraft, inbound from Cancun, Mexico, was damaged by an electrical fire when it reached the gate and was connected to the ground power

cable. Arcing and fire started underneath the nose. An emergency evacuation was carried out. The accident happened in darkness.

Date: 8 May ● Carrier: FedEx ● Aircraft type/registration: Boeing 767-300ERF (N110FE) ● Location: Istanbul Ataturk airport, Turkey Injuries (crew/pax): ?/?? ● Total occupants (crew/pax): ?/?? ● Phase: Landing

The nose landing gear failed to deploy when the undercarriage was selected down on approach. The crew carried out a missed approach. After a low pass down the runway for a visual check by the tower, the

aircraft returned and landed on runway 16R with its nose gear retracted. The landing took place in daylight and good visibility. The aircraft was operating a flight from Paris Charles de Gaulle airport, France.

Date: 9 May ● Carrier: Groupe Transair ● Aircraft type/registration: Boeing 737-300 (6V-AJE) ● Location: Dakar-Blaise Diagne airport, Senegal Injuries (crew/pax): 0/4 ● Total occupants (crew/pax): 6/79 ● Phase: Take-off

Bound for Bamako airport, Mali, the crew abandoned the take-off run because of a hydraulic fault indication, then lost directional control and the

aircraft exited the left side of the runway, causing the gear to collapse. Transair was operating the flight for Air Senegal.

Date: 11 May ● Carrier: Xejet ● Aircraft type/registration: Embraer ERJ-145 (5N-BZZ) ● Location: Lagos International airport, Nigeria Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 3/49 ● Phase: Landing

Being operated for NG Eagle, the aircraft landed on runway 18L at Lagos with thunderstorms in the vicinity and a significant tailwind component.

It left the runway and came to rest on grass with its nose gear collapsed. The runway was wet with standing water. There were no casualties.

Date: 23 May ● Carrier: Turkish Airlines ● Aircraft type/registration: Airbus A320 (TC-JPH) ● Location: Over central Turkey Injuries (crew/pax): 1/? ● Total occupants (crew/pax): ?/? ● Phase: Cruise

The aircraft was in the cruise on a scheduled domestic flight between Izmir and Istanbul when it was hit by sudden turbulence, injuring two cabin crew.

Date: 24 May ● Carrier: Fly Jinnah ● Aircraft type/registration: Airbus A320 (AP-BOV) ● Location: Southwest of Lahore, Pakistan Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): ?/? ● Phase: Climb

The aircraft was in the climb out of Lahore bound for Karachi when the crew noticed a "pressurisation indication" (unspecified) and stopped the climb at 8,000ft. When the crew believed they had resolved the problem they resumed the climb intending to reach their cleared 36,000ft, but passing 23,000ft the pilots noticed symptoms of hypoxia and donned

oxygen masks. They stopped the climb at 27,000ft and requested a return to Lahore, according to French investigation agency the BEA, which participated in the probe with Pakistani authorities. The BEA reports that one cabin crew member passed out, but recovered when given oxygen. The aircraft landed safely at Lahore with no injuries to anyone on board.

Date: 25 May ● Carrier: Southwest Airlines ● Aircraft type/registration: Boeing 737 Max 8 (N8825Q) ● Location: Over southern California, USA Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 6/175 ● Phase: Cruise

The aircraft was carrying out a service from Phoenix, Arizona to Oakland, California, cruising at 34,000ft when a Dutch rolling motion developed. This is a coupled yaw/roll motion that all aircraft can experience, but it is usually automatically damped to prevent occurrence. The US National

Transportation Safety Board is investigating and expects to issue a preliminary report soon. The crew managed to keep the aircraft controlled and landed safely at Oakland. There were no injuries. Press reports suggest a faulty back-up power control unit for the rudder may have contributed.

Date: 25 May ● Carrier: Super Air Jet ● Aircraft type/registration: Airbus A320 (PK-STD) ● Location: Bandara Cekel airport, Weda, Indonesia Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 6/166 ● Phase: Landing

The aircraft overran when landing on runway 27 and became bogged down in soft ground. The accident happened in rain during daylight (14:05  $\,$ 

local time). Runway 27 is 1,970m (6,458ft) long. The aircraft was operating a flight from Manado, North Sulawesi, Indonesia.

Date: 7 Jun ● Carrier: Cedma Aviation ● Aircraft type/registration: Fairchild Metro III (LV-VDJ) ● Location: Rio Gallegos airport, Argentina Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 2/1 ● Phase: Take-off

The aircraft had diverted into Rio Gallegos because there was fog at its intended destination, Rio Grande Ramon Trejo Noel airport. When the crew elected to take off from Rio Gallegos for the originally planned

destination, passing 70kt (130km/h) the pilot released the tiller intending to steer by rudder, but the aircraft drifted left uncontrollably and ran off the runway, causing its nose gear to collapse.

Date: 8 Jun ● Carrier: Tropicair ● Aircraft type/registration: De Havilland Canada DHC-6 Twin Otter (P2-BBM) Location: Kikori airport, Papua New Guinea Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 2/14 ● Phase: Landing

Inbound from Kerema, Papua New Guinea, directional control was lost during the landing roll and the aircraft ran off the left side of the runway.

Date: 8 Jun ● Carrier: IndiGo ● Aircraft type/registration: Airbus A320neo (VT-ISV) ● Location: Mumbai airport, India ● Injuries (crew/pax): 0/0 Total occupants (crew/pax): ?/? ● Phase: Landing

Video footage of runway 27 at Mumbai airport shows an IndiGo A320neo touching down as an Air India A320neo (VT-RTS) had just got airborne about 500m (1,640ft) ahead of it. Initial statements by both airlines claim

that both aircraft had been cleared for their manoeuvres, and a duty air traffic controller has been suspended during investigations. The event took place in full daylight and excellent visibility.

Date: 9 Jun ● Carrier: Trans Maldivian Airways ● Aircraft type/registration: De Havilland Canada DHC-6 Twin Otter (8Q-TMO) Location: Miriandhoo resort, Western Maldives ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): ?/? ● Phase: Landing

Inbound from Male, the aircraft's right float broke away on landing and it came to rest, floating, with its right wing partially submerged. All passen-

gers were rescued by small boats and the aircraft was towed to the dock. The accident happened in daylight (15:24 local time) and good visibility.

Date: 14 Jun ● Carrier: Utair Cargo ● Aircraft type/registration: Antonov An-26-100 (RA-26662) ● Location: Near Utrenny airport, Russia Injuries (crew/pax): ?/? ● Total occupants (crew/pax): 5/36 ● Phase: Runaway approach

The aircraft, which was chartered to take natural gas workers to Utrenny on Russia's Arctic coast, carried out the final approach in fog and came

down in deep snow about 1nm (2km) short of the threshold. The hull was broken aft of the cockpit. All on board survived, but some were injured.

### All commercial airline categories

Date: 1 Jul ● Carrier: Air Europa ● Aircraft type/registration: Boeing 787-9 (EC-MTI) ● Location: En route over the Atlantic ● Injuries (crew/pax): 1/3 Total occupants (crew/pax): 11/325 ● Phase: Cruise

The aircraft was over the Atlantic Ocean at 36,000ft on a flight from Madrid, Spain to Montevideo, Uruquay, when turbulence suddenly caused it

to lose altitude. The negative g caused some unstrapped passengers and crew serious injury, and the crew diverted the flight to Natal, Brazil.

Date: 2 Jul ● Carrier: Garuda Indonesia ● Aircraft type/registration: Airbus A330-300 (T7-MMM) ● Location: Near Jakarta, Indonesia Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): ?/? ● Phase: Climb

French accident investigation agency the BEA describes the event in a preliminary factual report as follows: "During climb passing FL343 [34,300ft] to intended cruising altitude of FL380, the aircraft experienced engine malfunction. The ECAM [electronic centralised aircraft monitor] indicated ENG 1 STALL, and immediately strong vibration occurred, followed by an ENG 1 Fail indication on the ECAM. After performing the ECAM procedures, the flightcrew decided to return to Solo City with engine 1

inoperative. During descent, the vibration continued. While approaching Solo, a spurious ENG 1 fire appeared on the ECAM indicating ENG 1 LOOP B FAULT, but no fire was observed during a visual check by crew. The aircraft landed and stopped on the runway, then after a few minutes, smoke, fire and flames appeared on the engine 1." The flight was a charter operation from Solo City, Indonesia, to Medina, Saudi Arabia, with the aircraft leased from San Marino Executive Aviation.

Date: 11 Jul ● Carrier: Buddha Air ● Aircraft type/registration: ATR 72-500 (9N-AOC) ● Location: Gautam Buddha airport, Bhairahawa, Nepal Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 4/55 ● Phase: Landing

Directional control was lost towards the end of the landing roll on runway 28, and the aircraft ran off the left side onto soft ground, becoming bogged down. The accident happened in darkness (21:36 local time)

and poor weather, with reduced visibility in heavy rain. The runway was wet with some areas of standing water. The aircraft was operating a flight from Kathmandu.

Date: 16 Jul ● Carrier: Spirit Airlines ● Aircraft type/registration: Airbus A320 (N633NK) ● Location: En route over Florida, USA Injuries (crew/pax): 2/0 ● Total occupants (crew/pax): 6/173 ● Phase: Cruise

Two cabin crew were injured by turbulence during a scheduled flight from Charlotte/Douglas airport, North Carolina to Orlando International, Florida.

Date: 3 Aug ● Carrier: Tassili Airlines ● Aircraft type/registration: De Havilland Canada Dash 8-400 (7T-VCL) Location: Takhamalt airport, Illizi, Algeria ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): ?/? ● Phase: Take-off

The aircraft, with oil workers on board, took off bound for Abou Ben Bella airport, Es Senia. Just as it lifted off, both the right main wheel tyres burst and debris hit the right propeller, causing a blade tip to separate and pass

through one of the cabin windows. The imbalanced propeller caused so much vibration that the crew shut the engine down and called air traffic control for a return to the airfield, where the aircraft landed safely.

Date: 7 Aug ● Carrier: Southwest Airlines ● Aircraft type/registration: Boeing 737-700 (N226WN) ● Location: En route over Severn, Maryland, USA Injuries (crew/pax): 0/1 ● Total occupants (crew/pax): 5/138 ● Phase: Cruise

A passenger suffered serious injury as a result of turbulence during the flight from Manchester/Boston to Baltimore Washington airport.

Date: 8 Aug ● Carrier: Nyassa Air Taxi ● Aircraft type/registration: De Havilland Canada DHC-5A Buffalo (7Q-STB) ● Location: Pieri Payam airstrip, South Sudan Injuries (crew/pax): 2/0 ● Total occupants (crew/pax): 2/1 ● Phase: Landing

The aircraft veered off the runway after landing and collided with some buildings, then caught fire. Three people on the ground were reported killed.

Date: 9 Aug ● Carrier: Renegade Air ● Aircraft type/registration: De Havilland Canada Dash 8-300 (5Y-SMI) ● Location: Maban, South Sudan Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 4/34 ● Phase: Take-off

The aircraft "struck an embankment" on take-off from Maban, South Sudan, damaging its main undercarriage. It continued to Malakal where,

after holding to use up fuel, the crew carried out a belly landing. The accident happened in daylight, visual meteorological conditions.

Date: 12 Aug ● Carrier: Atlas Air ● Aircraft type/registration: Boeing 747-400F (N404KZ) ● Location: Tokyo Narita airport, Japan Injuries (crew/pax): 0 ● Total occupants (crew/pax): 7 ● Phase: Take-off

During the take-off roll on runway 16R at Tokyo Narita, with Los Angeles as its destination, the two aftermost tyres of the left body landing gear burst, causing hydraulic and, eventually, pressurisation problems. The

crew declared an emergency and returned to land on 16R. Since the two burst tyres had separated totally, the wheel rims came in contact with the runway surface, and the total damage was substantial.

Date: 19 Aug ● Carrier: EasyJet ● Aircraft type/registration: Airbus A320 (G-EJCM) ● Location: En route over Italy ● Injuries (crew/pax): 2/0 Total occupants (crew/pax): 6/175 ● Phase: Cruise

Two cabin crew were seriously injured in turbulence during the flight from Corfu to London Gatwick, and the captain diverted to Rome Fiumicino airport.

Date: 23 Aug ● Carrier: Ariana Afghan Airlines ● Aircraft type/registration: Boeing 737-400 (YA-PID) ● Location: Khost airport, Afghanistan Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 9/110 ● Phase: Take-off

Bound for Dubai, the aircraft overran runway 24 at Khost by 200m (656ft) before getting airborne, having suffered an extended tail-strike, and its rear fuselage and main undercarriage struck the airport perimeter fence 400m beyond the end of the runway. The crew decided to divert to Kabul,

and landed there safely. An inspection of the aircraft found extensive damage to the underside of the rear fuselage and empennage, and strands of barbed wire wrapped around the main undercarriage wheels. The accident happened in daylight (16:02 local time).

Date: 24 Aug ● Carrier: Qantas ● Aircraft type/registration: Boeing 787-9 (VH-ZNC) ● Location: Perth airport, Australia ● Injuries (crew/pax): 0/0 Total occupants (crew/pax): ?/? ● Phase: Landing

Arriving from Rome Fiumicino, Italy, the aircraft suffered multiple burst tyres during the landing roll on runway 24 at Perth airport, Western

Australia. Inspection revealed that several fragments had penetrated the underside of the wings.

Date: 26 Aug ● Carrier: NDK Air ● Aircraft type/registration: De Havilland Canada DHC-3 Otter (C-GMLB)
Location: Kashishibog Lake, Ontario, Canada ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 1/5 ● Phase: Final approach

The chartered flight, operated by a float-fitted Turbine Otter, took off from Armstrong Water, Ontario, but on final approach to their destination lake

the aircraft hit a tree, causing it to strike the surface hard. The aircraft was damaged and slowly sank, but all on board managed to escape safely.



# All commercial airline categories

Date: 27 Aug ● Carrier: DHL International ● Aircraft type/registration: Boeing 767-300F (A9C-DHAA) ● Location: Milan Malpensa airport, Italy Injuries (crew/pax): 0 ● Total occupants (crew/pax): 2 ● Phase: Landing

The aircraft suffered a tail-strike during landing at Milan Malpensa airport Italy, damaging the lower fuselage and tail section. The accident hap-

pened in darkness (20:55 local time), with thunderstorms in the vicinity. The aircraft was operating a flight from Bahrain International airport.

Date: 28 Aug ● Carrier: United Airlines ● Aircraft type/registration: Boeing 737-900ER (N66814)
Location: En route from Cancun, Mexico, to Chicago O'Hare, Illinois, USA ● Injuries (crew/pax): 0/7 ● Total occupants (crew/pax): ?/? ● Phase: Cruise

Despite the captain having activated the seat belt signs in the cabin at the time, severe turbulence resulted in serious injury to one passenger

and minor injuries to six others. The crew diverted the aircraft to

Date: 29 Aug ● Carrier: Ceiba Intercontinental ● Aircraft type/registration: Boeing 737-800 (ET-AWR) ● Location: Malabo airport, Equatorial Guinea Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): ?/? ● Phase: Landing

While operating a flight from Bata, Equatorial Guinea, the aircraft overran Malabo airport's 2,940m (9,640ft)-long runway 04 and

became bogged down in soft ground. The accident happened in daylight (18:30 local time).

Date: 4 Sep ● Carrier: Japan Airlines ● Aircraft type/registration: Boeing 787-9 (JA863J) ● Location: Near Seoul, South Korea Injuries (crew/pax): 1/0 ● Total occupants (crew/pax): ?/? ● Phase: Cruise

Unexpected turbulence caused one of the cabin crew to suffer a broken rib. The aircraft was en route from Beijing, China to Tokyo Haneda.

Date: 9 Sep ● Carrier: Trigana Air ● Aircraft type/registration: ATR 42-500 (PK-YSP) ● Location: Serui airport, Indonesia ● Injuries (crew/pax): 0/0 Total occupants (crew/pax): 6/42 ● Phase: Take-off

The aircraft suffered an excursion following an aborted take-off, veering to the left onto rough ground and coming to rest 20m (65ft) to the side of

runway 28, with its main undercarriage collapsed. It had been operating a flight to Sentani International airport, Jayapura, Papua, Indonesia.

Date: 5 Oct ● Carrier: Frontier Airlines ● Aircraft type/registration: Airbus A321 (N701FR) ● Location: Las Vegas International airport, Nevada, USA Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 7/190 ● Phase: Cruise

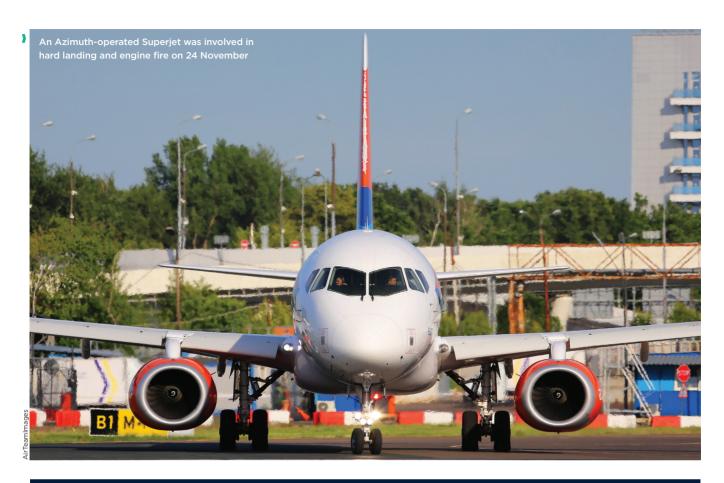
Inbound to Las Vegas on a flight from San Diego, the aircraft suffered a brake fire upon landing but, according to the US National Transportation Safety Board's (NTSB's) preliminary report, the crew reported a complex series of in-flight symptoms starting just before the top of its descent to the destination airport. The NTSB says it believes the problems – first indicated by an odour in the cabin and cockpit – may all have been related to the failure of a cooling fan in the avionics bay. The crew declared an emergency, donned oxygen masks, and carried out a smoke and fumes

checklist from the quick reference handbook. They decided to adopt the electrical emergency configuration, which involves deploying the ram air turbine, and entails the loss of instrumented displays, the radios on the co-pilot's side, and the loss of autothrottle, autobrake and anti-skid system. During the landing, the aircraft trailed smoke from its brakes, but came to a halt safely. Its occupants were disembarked using stairs. The NTSB discovered that the flight-data recorder had stopped operating for the last 9min of the flight, but the cockpit-voice recorder was unaffected.

Date: 8 Oct ● Carrier: Alliance Air ● Aircraft type/registration: ATR 72-600 (VT-RKF) ● Location: Biju Patnaik airport, India ● Injuries (crew/pax): 0/0 Total occupants (crew/pax): ?/? ● Phase: Landing

The aircraft undershot on final approach to runway 14 at Biju Patnaik airport and touched down in a nose-high attitude just short of the runway threshold, damaging the approach lights. It ran forward, onto

the runway, and completed the landing safely. The accident happened in daylight (14:21 local time), while the aircraft was operating a domestic flight from Rourkela.



# All commercial airline categories

Date: 13 Oct ● Carrier: Trans Maldivian Airways ● Aircraft type/registration: De Havilland Canada DHC-6 Twin Otter (8Q-TBB) Location: Alif Atoll, Maldive Islands ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 3/10 ● Phase: Landing

During the landing approach to Bathala Water Aerodrome, Alif Alif Atoll, the Maldives, the float-equipped aircraft struck a wave and bounced. The crew attempted a go-around, but the aircraft was unable to gain enough

airspeed and subsequently fell onto the water. The accident happened in daylight (08:30 local time), with reported slight drizzle and swells present in the landing area.

Date: 19 Oct ● Carrier: Kobio Aviation ● Aircraft type/registration: De Havilland Canada DHC-6 Twin Otter (P2-KAL) Location: Kairik airstrip, Papua New Guinea ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 2/3 ● Phase: Take-off

Directional control was lost during the take-off run. The aircraft veered off the left of runway 05, coming to rest with its nose undercarriage collapsed.

Date: 24 Oct ● Carrier: Flair Airlines ● Aircraft type/registration: Boeing 737 Max 8 (C-FLKO) ● Location: Near Toronto Pearson International airport, Canada ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 6/175 ● Phase: Climb

The aircraft encountered a flock of geese while climbing through about 4,000ft after take-off from runway 15L at Pearson International airport, and suffered a bird strike on the top-left corner of the captain's windscreen, causing it to shatter. Portions of the windshield glass entered

the flightdeck, causing minor injuries to the captain. The crew elected to return to Toronto, where the aircraft landed safely. As the captain was unable to see forward through the windscreen, the crew requested to be towed to their gate.

Date: 8 Nov ● Carrier: Vueling ● Aircraft type/registration: Airbus A320 (EC-MBS) ● Location: Barcelona El Prat airport, Spain Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 6/168 ● Phase: Take-off

During the take-off roll on runway 24L the crew heard an "explosion", and the No. 2 engine immediately lost power. The take-off was aborted, and

the aircraft exited the runway via taxiway G7 and returned to the apron with the affected engine shut down.

Date: 8 Nov ● Carrier: Qantas ● Aircraft type/registration: Boeing 737-800 (VH-VYH) ● Location: Sydney International airport, New South Wales, Australia ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): ?/? ● Phase: Initial climb

The aircraft suffered a contained failure of one of its two CFM International CFM56-7B engines shortly after take-off from Sydney on a domestic

flight to Brisbane. The crew elected to shut the engine down and dump fuel, and returned to land at Sydney.

Date: 9 Nov ● Carrier: Total Linhas Aereas ● Aircraft type/registration: Boeing 737-400F (PS-TLB) ● Location: Sao Paulo Garulhos airport, Brazil Injuries (crew/pax): 0 ● Total occupants (crew/pax): 2/2 ● Phase: Runway approach

Completing a cargo flight from Vitoria airport, the aircraft was approaching runway 28L at Garulhos when the crew declared an emergency, with a fire in the freight bay. The aircraft stopped on runway 28L and was

attended by fire and rescue services. The two crew evacuated using the cockpit emergency rope. The fire burned for several hours, gutting the aircraft's main deck, and it burnt through the fuselage crown in two places.

### All commercial airline categories

Date: 10 Nov ● Carrier: Aerosucre Colombia ● Aircraft type/registration: Boeing 727-200F (HK-5216) ● Location: Bogota El Dorado airport, Colombia Injuries (crew/pax): 0 ● Total occupants (crew/pax): 3 ● Phase: Take-off

The aircraft overran runway 14L during take-off, and its main undercarriage struck the localiser antennas of the instrument landing system, some 300m (984ft) past its end, as it rotated. The aircraft climbed away safely. The crew decided to enter a holding pattern to burn off fuel before

returning to Bogota, where a safe landing was made on runway 14R. An inspection of the aircraft found extensive damage to the undercarriage and left wing. The aircraft was operating a flight to Arturo Michelena International airport, Valencia, Carabobo, Venezuela.

Date: 10 Nov ● Carrier: Hainan Airlines ● Aircraft type/registration: Boeing 787-9 (B-1119) ● Location: Rome Fiumicino airport, Italy Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 16/249 ● Phase: Climb

The aircraft suffered a bird strike to its No. 2 engine just after take-off from runway 16R, reportedly resulting in engine surges. The crew stopped

the climb at 6,000ft, entered a hold to dump fuel and subsequently returned to Fiumicino for a safe landing.

Date: 15 Nov ● Carrier: KLM ● Aircraft type/registration: Airbus A330-200 (PH-AOA) ● Location: Amsterdam Schiphol airport, the Netherlands Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): ?/? ● Phase: Climb

The aircraft encountered a flock of birds during the initial climb after takeoff from runway 24 at Amsterdam, with a bird strike to both engines. The crew stopped the climb at 6,000ft and returned to Amsterdam, where it landed safely. The aircraft was operating a flight to Houston, Texas.

Date: 18 Nov ● Carrier: American Airlines ● Aircraft type/registration: Boeing 737 Max 8 (N302SA)
Location: Sky Harbor airport, Phoenix, Arizona, USA ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): ?/? ● Phase: Climb

A fire was encountered in the left-hand engine during the initial climb after take-off from runway O7L at Sky Harbor Airport, Phoenix. The

crew stopped the climb at 5,000ft and decided to return to Phoenix, where they made a safe landing.

Date: 18 Nov ● Carrier: Delta Air Lines ● Aircraft type/registration: Boeing 757-200 (N717TW) ● Location: Over Cooper Hill, Missouri, USA Injuries (crew/pax): 1/0 ● Total occupants (crew/pax): 6/101 ● Phase: Cruise

The aircraft was cruising at 37,000ft when it hit turbulence. One member of the cabin crew was seriously injured.

Date: 19 Nov ● Carrier: Cargojet Airways ● Aircraft type/registration: Boeing 767-300F (C-GAZI) ● Location: Vancouver International airport, Canada Injuries (crew/pax): 0 ● Total occupants (crew/pax): 2 ● Phase: Landing

The crew declared a PAN emergency, reporting that they would have to land without a standard flap setting. The aircraft overran runway 08L by

570m (1,870ft), and the nose landing gear collapsed. The accident happened in darkness (01:28 local time), with visibility good.

Date: 19 Nov ● Carrier: Minair ● Aircraft type/registration: Aircraft Industries L-410UVP (TL-BMM) ● Location: Lankien airstrip, South Sudan Injuries (crew/pax): 0 ● Total occupants (crew/pax): 2/3 ● Phase: Landing

On landing following a freight flight from Juba, the aircraft was damaged when it veered off the left side of the runway at Lankien airstrip. It came

to rest on rough ground, with its undercarriage collapsed. The accident happened in daylight (09:00 local time), visual meteorological conditions.

Date: 20 Nov ● Carrier: Mesa Airlines ● Aircraft type/registration: Embraer 175 (N85352) ● Location: Near Cleveland, Ohio, USA Injuries (crew/pax): 2/0 ● Total occupants (crew/pax): 5/74 ● Phase: Cruise

The flight, operating for United Express, hit severe turbulence and two of the cabin crew were seriously injured.

Date: 23 Nov ● Carrier: American Airlines ● Aircraft type/registration: Boeing 777-200ER (N753AN) ● Location: Over Brasilia, Brazil Injuries (crew/pax): ?/? ● Total occupants (crew/pax): 10/223 ● Phase: Cruise

En route from Sao Paulo, Brazil to Miami, Florida, severe turbulence injured several passengers and crew. The crew elected to divert to Garulhos.

Date: 24 Nov ● Carrier: Azimuth ● Aircraft type/registration: Sukhoi Superjet 100 (RA-89085) ● Location: Antalya airport, Turkey Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 6/89 ● Phase: Landing

Inbound from Sochi, Russia, the aircraft landed so hard on runway 36R that the undercarriage was forced upward, and a fire developed near the left engine, possibly due to fuel tank damage. The airport fire service ex-

tinguished the fire and all on board were evacuated safely. The fire caused extensive damage to the left wing and the fuselage aft of the wing. The accident happened in darkness (21:34 local time), but with good visibility.

Date: 27 Nov ● Carrier: Nolinor Aviation ● Aircraft type/registration: Boeing 737-400 (C-GGWX) ● Location: Montreal Mirabel airport, Canada Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 5/82 ● Phase: Landing

The aircraft took off from Quebec City airport bound for Bagotville, but on approach there the crew was alerted to a problem with the flaps or hydraulics. They decided to divert to use Montreal Mirabel's longer

runway. The crew carried out a flapless approach and landing on runway 24 at Mirabel. On touchdown, the left main landing gear leg failed, and the aircraft slid along the runway with the left engine touching the surface.

Date: 11 Dec ● Carrier: Allied Air Cargo ● Aircraft type/registration: Boeing 737-400 (5N-JRT) ● Location: Abuja airport, Nigeria Injuries (crew/pax): 0 ● Total occupants (crew/pax): 5 ● Phase: Landing

Inbound from Lagos in good weather, the aircraft overran runway 22, coming to a rest on grass, following a reported failure of one of its under-

carriage legs. The Federal Airports Authority of Nigeria confirms that the five people on board the aircraft did not sustain injuries.

Date: 22 Dec ● Carrier: Aer Lingus ● Aircraft type/registration: ATR 72-600 (G-CMMK) ● Location: Belfast City airport, Northern Ireland, UK Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 4/0 ● Phase: Landing

Arriving from Edinburgh, Scotland as a positioning flight, the aircraft suffered a hard landing on runway 04 at Belfast in high winds, and the

nose landing gear leg collapsed, causing extensive damage. The aircraft was operated by Emerald Airlines for Aer Lingus.

Date: 28 Dec ● Carrier: Air Canada Express ● Aircraft type/registration: De Havilland Canada Dash 8-400 (C-GPNA) ● Location: Halifax airport, Nova Scotia, Canada ● Injuries (crew/pax): 0/0 ● Total occupants (crew/pax): 4/73 ● Phase: Landing

The left main landing gear collapsed when landing on runway 23. All on board were evacuated safely, but the aircraft suffered substantial damage.