



DUTCH
SAFETY BOARD

Investigations

Within the Aviation sector, the Dutch Safety Board is required by law to investigate occurrences involving aircraft on or above Dutch territory. In addition, the Board has a statutory duty to investigate occurrences involving Dutch aircraft over open sea. Its investigations are conducted in accordance with the Safety Board Kingdom Act and Regulation (EU) no. 996/2010 of the European Parliament and of the Council of 20 October 2010 on the investigation and prevention of accidents and incidents in civil aviation. If a description of the events is sufficient to learn lessons, the Board does not conduct any further investigation.

The Board's activities are mainly aimed at preventing occurrences in the future or limiting their consequences. If any structural safety shortcomings are revealed, the Board may formulate recommendations to remove these. The Board's investigations explicitly exclude any culpability or liability aspects.

Quarterly Aviation Report

July - September 2018



This past quarter, an incident involving a passenger aircraft occurred at Zakynthos International Airport in Greece. During take-off, the aircraft only left the runway on the final section. This was due to wrong values having been used in the performance calculations for take-off. Because of these wrong values, the engine thrust was insufficient. A similar incident occurred at Amsterdam Airport Schiphol this quarter.

The Dutch Safety Board has investigated several similar incidents in the past, which continue to occur regularly. A system that warns pilots in the event of insufficient thrust can prevent such incidents.

In March 2018, the Safety Board issued a recommendation to the EASA to immediately start developing a warning system. According to the EASA, the feasibility of such systems has yet to be proven. The industry continues to search for technical solutions. Up until now, the specifications for such warning systems could not be established.

The Safety Board considers it of the greatest importance that safety in this area will be increased and therefore continues to seek international attention for this (safety) issue.

Tjibbe Joustra

Chair of the Dutch Safety Board



Occurrences into which an investigation has been launched

Insufficient thrust during take-off, Boeing 737-800, Amsterdam Airport Schiphol, 10 June 2018

The pilots of the Boeing 737 calculated their take-off speeds and the necessary engine power on the basis of the assumption that they would take off from Runway 09 at Intersection N5. The take-off position was subsequently changed to Intersection N4, reducing the available take-off distance, but the data for the performance calculations were not adjusted. The Boeing 737 then took off from Runway 09 at Intersection N4. The aircraft was rotated at the calculated rotation speed and left the ground only just before the end of the runway.

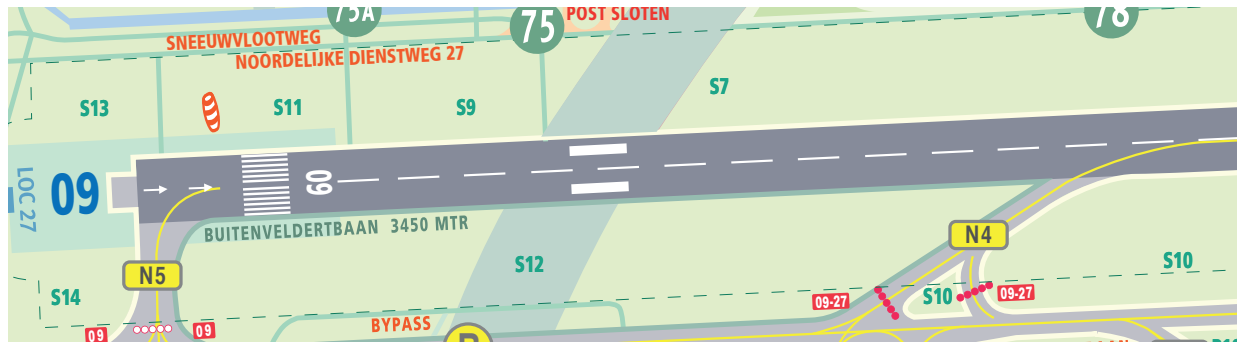
Classification: *Serious incident*
Reference: 2018095

Emergency landing, Beechcraft A36 Bonanza, Vlagtwedde, 25 July 2018

The single-engine plane registered in Germany with two people on board was en route from Norderney, a German island in the East Frisian Islands, to Nordhorn-Lingen Airport in Germany. In the vicinity of Bourtange (in the Province of Groningen), at an altitude of approximately 2,000 feet, the engine started to make a strange noise and lost full power shortly afterwards according to the pilot's statement. After performing a number of standard operations, which failed to increase the engine power, the pilot decided to perform an emergency landing. The pilot chose a potato field for this manoeuvre and performed the emergency landing with the landing gear retracted and without putting the flaps into the landing position. According to the pilot, this procedure was intended to prevent the aircraft from flipping over. The aircraft came to a standstill on its belly and sustained minor damage. The passengers were unhurt.

The shortened investigation by the Dutch Safety Board is focussing on the causes of the engine failure; the performance of the emergency landing procedure is not being investigated.

Classification: *Accident*
Reference: 2018074



Runway 09 with Intersections N4 and N5. (Source: Standard Map of Amsterdam Airport Schiphol)



The Beechcraft A36 after the emergency landing.

Runway incursion, Boeing 737-800 and Embraer 190, Amsterdam Airport Schiphol, 27 July 2018

An Embraer E190 was lined up on Schiphol Runway 18C, at the start of the runway near Intersection W1, ready for take-off. A Boeing 737-800 was near Intersection W4 on the same runway, ready to taxi onto the runway. The runway controller gave the Boeing 737 permission to line up on Runway 18C. Shortly afterwards, the runway controller gave the Embraer permission to take off, while it was at the start of the runway. As the crew of the Boeing 737 were taxiing towards the runway along Intersection W4, they heard the take-off clearance for the Embraer. The crew stopped the Boeing 737 immediately; the plane came to a standstill shortly before the runway. The crew of the Embraer aborted the take-off.

Classification: Serious incident
Reference: 2018077

Runway 18C with Intersections W1 and W4. (Source: Standard Map of Amsterdam Airport Schiphol)



Occurrences abroad with Dutch involvement into which an investigation was launched by a foreign authority

Broken aileron control rod, Britten-Norman BN-2B-21 Islander, Robert L. Bradshaw Airport (Federation of Saint Kitts and Nevis), 4 July 2018

The Britten-Norman Islander took off from Sint Eustatius (in the Netherlands Antilles) in the Caribbean for a flight to neighbouring Saint Kitts and Nevis, part of the British Commonwealth. During the approach to Robert L. Bradshaw Airport, the crew experienced issues with control of the ailerons. An inspection after landing revealed that the control rod for one of the ailerons was broken.

The British Air Accidents Investigation Branch (AAIB) informed the Dutch Safety Board of the occurrence because it was unclear in which phase of the flight the control rod had broken and the aircraft had taken off from the Netherlands Antilles. The AAIB has started an investigation into this occurrence.

Classification: Serious incident
Reference: 2018066



Britten-Norman BN-2B-21 Islander. (Source: J. Allen)

Damage to wheel rim, Boeing 787-8, Cancún International Airport (Mexico), 7 July 2018

After a flight from Juan Gualberto Gómez Airport in Cuba to Cancun International Airport in Mexico, a deflated tyre and damage to a wheel rim were observed in the main landing gear of a Dutch-registered Boeing 787.

The Mexican Dirección General de Aeronáutica Civil (DGAC) has started an investigation into this occurrence, for which the Dutch Safety Board has offered its assistance.

Classification: Serious incident
Reference: 2018094



The flat tyre. (Source: Mexican DGAC)

Crash, Convair 340/440, near Wonderboom Airport (South Africa), 10 July 2018

The aircraft took off from Runway 29 at Wonderboom Airport in South Africa. On board were three crew members and sixteen passengers. Three of the passengers were of Dutch nationality. On 12 July 2018, the plane was to be flown to the Aviodrome at Lelystad Airport in the Netherlands.

Smoke was detected after take-off, coming from the left engine. The plane crashed shortly afterwards. One of the people on board died and the other eighteen suffered injuries ranging from minor to major. Eight people on the ground were injured. The aircraft was completely destroyed.

The South African Accident and Incident Investigation Division (AIID) has started an investigation into this occurrence, for which the Dutch Safety Board has offered its assistance.

Classification: Accident
Reference: 2018068



Archive photo of Convair. (Source: South African AIID)

Mid-air collision, Schleicher ASW 20 and Reims F172, Borken (Germany), 18 July 2018

The Dutch-registered Reims F172 was on a cross-country flight to Stadtlohn in Germany. The Schleicher ASW 20, a glider, was making a local flight. The aircraft collided with each other, then landed at Borken Airport with substantial damage. The occupants were unhurt.

The German Bundesstelle für Flugunfalluntersuchung (BFU) has started an investigation into this occurrence, for which the Dutch Safety Board has offered its assistance.

Classification: Accident
Reference: 2018071



The Reims F172 and Schleicher ASW 20 after the collision. (Source: BFU)



Occurrences abroad with Dutch involvement into which an investigation was launched by a foreign authority

Near-collision, ASK 21 and Embraer 190/195, Meschede (Germany), 18 July 2018

The Dutch-registered ASK 21 was flying at an altitude of approximately 1,200 metres in uncontrolled airspace, Class E, to the south of Bestwig in Germany. While executing a left turn, the pilot suddenly saw an Embraer straight ahead of the glider, flying from left to right and climbing. The glider pilot did not change his flight path because the left turn that the glider was making increased the distance between the two aircraft. The crew of the Embraer had seen the glider and executed a climbing left turn as an evasive manoeuvre.

The German Bundesstelle für Flugunfalluntersuchung (BFU) has started an investigation into this occurrence, for which the Dutch Safety Board has offered its assistance.

Classification: Serious incident
Reference: 2018073

Crash, Schempp-Hirth Janus B, Curienne (Savoie, France), 26 July 2018

The Dutch-registered glider took off from Challes-les-Eaux in France with a pilot and an instructor on board. While executing a turn, the glider came too close to the mountainside. The instructor then took over control and set a course for the valley. Given the height of the terrain in the locality, this action was taken too late. As a result, the glider hit the treetops horizontally with its wings and lost speed. This circumstance caused the glider to crash. The pilot broke his lower leg, the instructor was uninjured. The glider was totally destroyed.

The French Bureau d'Enquêtes et d'Analyses pour la Sécurité de l'Aviation civile (BEA) has started an investigation into this occurrence, for which the Dutch Safety Board has offered its assistance.

Classification: Accident
Reference: 2018075



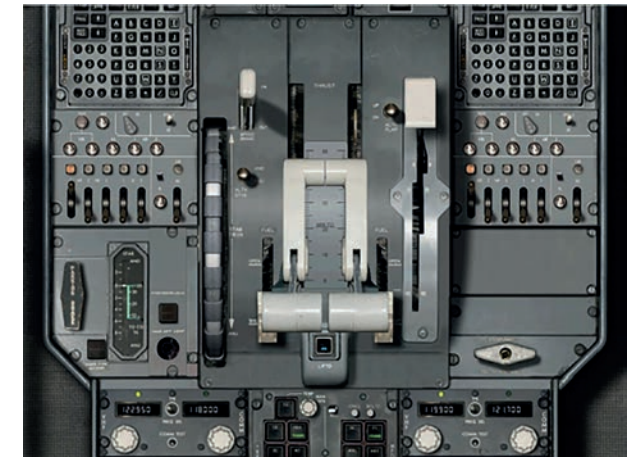
The Janus B after the accident. (Source: BEA)

Wrong flap position selected, Fokker F28 Mark 0100, near Kalgoorlie-Boulder Aerodrome (Australia), 1 August 2018

The Fokker 100 was conducting a flight from Perth to Kalgoorlie in Australia. During the approach, the pilot in command accidentally made a call for 'flaps 42' instead of a 'flaps 25' landing configuration. The first officer asked the pilot in command a question about this call, which the latter interpreted incorrectly. The first officer selected 'flaps 42'; the pilot in command detected this fact and aborted the approach.

The Australian Transport Safety Bureau (ATSB) has started an investigation into this occurrence, for which the Dutch Safety Board has offered its assistance.

Classification: Incident
Reference: 2018096



Fokker 100 pedestal. (Source: simFlight)

Insufficient thrust during take-off, Boeing 737-800, Zakynthos Airport (Greece), 8 August 2018

During take-off, the crew noticed that the aircraft was sluggish in its rotation and in its response to rudder deflections. A review of the take-off performance calculations showed that the take-off mass (TOM) of the aircraft used in the calculations was too low. The reason was that the zero fuel mass (ZFM) had been used by mistake rather than the TOM. The selected engine thrust, which is partially dependent on the TOM, was therefore insufficient for take-off. Preliminary information shows that the aircraft lifted off the ground on the last section of the runway.

The Hellenic Air Accident Investigation and Aviation Safety Board (AAIASB) has started an investigation into this occurrence, in which the Dutch Safety Board and the operator are participating.

Classification: Serious incident
Reference: 2018087

Crash, Beechcraft G58 Baron, Münster-Osnabrück Airport (Germany), 9 August 2018

The Dutch-registered aircraft with two people on board took off from Lelystad Airport for a training flight. The plane crashed at Münster-Osnabrück Airport and came to a halt upside down. Both occupants were killed.

The German Bundesstelle für Flugunfalluntersuchung (BFU) has started an investigation into this occurrence, for which the Dutch Safety Board has offered its assistance.

Classification: Accident
Reference: 2018083



Archive photo of the Beechcraft G58 Baron. (Source: E. Stam)

Occurrences abroad with Dutch involvement into which an investigation was launched by a foreign authority

Aircraft turned back during the flight, Fokker 27 Mk050, Ovoot Airport (Mongolia), 18 August 2018

The Fokker 50, with five crewmembers and fourteen passengers on board, was flying from Ovoot Airport to Chinggis Khaan International Airport in Mongolia. During the climb away from Ovoot Airport, engine torque in the right-hand engine decreased. The crew decided to switch off this engine and return to the airport. The landing was completed without further problems.

The Mongolian Air Accident Investigation Bureau has started an investigation into this occurrence, for which the Dutch Safety Board has offered its assistance.

Classification: Serious incident
Reference: 2018092

Damage incurred following emergency landing, Lancair 320, Thezac (France), 19 August 2018

During a flight from Marmande to Fumel in France, the aircraft experienced engine problems, which led the pilot to execute an emergency landing in a field. The aircraft was severely damaged. Neither occupant was harmed.

The French Bureau d'Enquêtes et d'Analyses pour la Sécurité de l'Aviation civile (BEA) has not started an investigation into this occurrence, because the aircraft type concerned is listed in Annex II to European Regulation 216/2008.

Classification: Accident
Reference: 2018090



The Fokker 50 after landing. (Source: Mongolian AAIB)



Archive photo of a Lancair 320. (Source: Texel International Airport)

**Runway excursion, Société
Dyn'Aéro - MCR-01 (MLA), Rotenburg
(Germany), 2 September 2018**

After a flight from Fassberg to Rotenburg in Germany, the aircraft veered off the runway during landing and suffered damage. The pilot and passenger were unharmed.

The German Bundesstelle für Flugunfalluntersuchung (BFU) has started an investigation into this occurrence, for which the Dutch Safety Board has offered its assistance.

Classification: Serious incident

Reference: 2018200



The plane after the runway excursion. (Source: BFU)

Published reports

Near mid-air collision, Dornier Do-228-100 - D-IROL and Tecnam P92 Echo Super - PH-4D3, near Lelystad Airport, 1 August 2015

A twin-engine turboprop aircraft coming from Texel experienced a near-collision in the vicinity of Lelystad Airport with a light, single-engine aircraft (microlight aircraft, MLA) that was making a local flight. A total of 20 people were on board the two aircraft. Both flights were being conducted under Visual Flight Rules (VFR) in Class G airspace, just outside the Aerodrome Traffic Zone (ATZ) of Lelystad Airport. The turboprop aircraft heading to Lelystad Airport was supposed to land on Paved Runway 05 and the MLA was supposed to land on Grass Runway 05. The pilot of the MLA only noticed the other plane at a late stage, but he was able to execute an evasive manoeuvre. The crew of the turboprop aircraft had not seen the MLA.

“See-and-avoid” is a key principle for VFR flights in order to keep clear of other air traffic and obstacles. The investigation by the Dutch Safety Board revealed that this principle did not adequately work due to unfavourable circumstances, namely:

- the constant position of the aircraft in relation to each other for a long period (there was no movement within the pilots’ field of vision);
- the comparatively high relative velocity;
- the limited to nil visibility of the anti-collision lights due to the fine, sunny weather;
- the lack of an electronic warning system for potential collisions.

In addition, the following factors may have contributed to the near-collision:

- Because they were communicating on different radio frequencies, the pilots of the two aircraft did not know from which direction they could expect other traffic to be approaching.
- The route of the turboprop aircraft ran close to the compulsory reporting point for Grass Runway 05, resulting in an increased chance that the planes could come in contact with each other.

In addition to the above causes and factors, the Board investigated the effectiveness of the straight-in approach procedure that applied to the turboprop aircraft. In particular, it appeared that the pilots of the turboprop aircraft had applied a different interpretation of this approach procedure, based on their specific context. As a result, they approached the landing runway from a direction to which traffic in the standard circuit does not normally pay attention. This situation resulted in an increased risk of collision within the ATZ.

To improve the clarity of the straight-in procedure, and thus the effectiveness of the approach procedure, the Dutch Safety Board recommended to the Human Environment and Transport Inspectorate (ILT) that all VFR approach procedures (flight paths) should be visualised (marked out) on the VFR approach charts of uncontrolled airfields in the Netherlands.

The Dutch Safety Board also made a recommendation to the European Aviation Safety Agency (EASA) that – for the sake of commercial air transport – it should give priority to the introduction of requirements for aircraft to be equipped with devices that can issue warnings of impending collisions with other aircraft. Such devices are already mandatory for aircraft with a maximum take-off mass of more than 5,700 kg or a maximum operational passenger seating configuration of more than 19 seats. The Do-228-100 does not currently meet these thresholds.

The Dutch Safety Board published [the English-language report and a Dutch summary](#) on 18 September 2018 on its website.



Archive photo of D-IROL. (Source: A. Oferta)

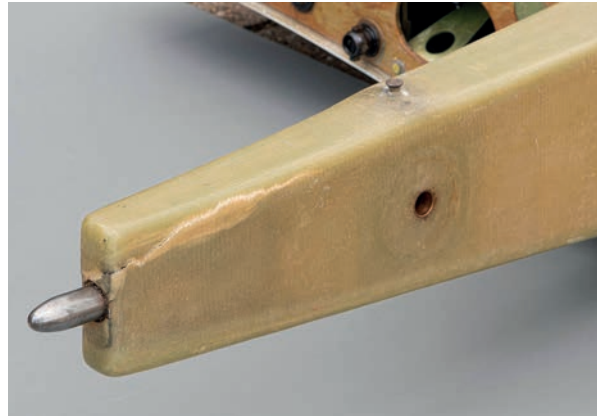
Damage to left wing spar, SZD-51-1 "Junior" - PH-1006, Larserveld, 15 July 2016

After a flight of over an hour, the pilot decided to perform a number of loops. At that moment, the glider was at an altitude of approximately 700 metres. The pilot stated that he increased speed to 180 km/h and started the loops gradually. The first loop proceeded without incident. The pilot then began a second loop in the same manner. At the end of the second loop, when the glider was flying horizontally again, the pilot heard a loud bang behind him. The pilot still had complete control over the glider and flew an alternative circuit before landing safely.

An inspection after the flight showed that the underside of the trailing edge of the left wing was cracked, close to the end of the glass-fibre reinforced plastic (GFRP) spar. Further investigation showed that the crack was already present before the incident. The aluminium insert in the wing spar had become detached from the GFRP material, which led to a certain degree of play that in turn caused severe, localised stresses in the spar. It is likely that the spar finally gave way due to the high stress at the end of the loop. The reason why the aluminium insert had come loose was impossible to establish with certainty.

The Dutch Safety Board informed the Polish civil aviation authority on the day after the incident. In collaboration with this authority, Allstar PZL Glider (as the holder of the type certificate) is currently working on a supplement to the Technical Maintenance Manual in which inspections are conducted to check the adhesion of the aluminium insert in the wing spar(s). Work is also being done on a Service Bulletin, which will indicate that the same inspections must be conducted on all gliders that have been involved in hard landings and/or ground skids. Neither the supplement nor the Service Bulletin had been completed at the time of publication of this report.

The Dutch Safety Board published the English-language report and a Dutch summary on 16 August 2018 on its website.



Crack in the left wing spar. (Source: NLR)

Threshold lighting damaged during landing, Boeing 747-8F - VQ-BLR, Amsterdam Airport Schiphol, 13 January 2017

A Boeing 747-8F executed a landing on Landing Runway 36R at Amsterdam Airport Schiphol. During this landing, the wheels of the right main landing gear came into contact with the runway lighting marking the start of Runway 36R. This runway lighting was at the runway threshold and 300 metres in front of the aiming point marking located within the touchdown zone.¹ Three runway lights shattered under the weight of the wheels. The plane also suffered damage; multiple dents and scratches were visible on the fuselage and wings. The damage to the plane was observed by the technical service after the flight. The cockpit crew was aware of the fact that they had made a hard landing but had not encountered any problems in controlling the plane or slowing down to a safe taxi speed. It was only when they received the message from the technical service that the crew realised that they had hit something during the landing.

¹ The touchdown zone markings start a considerable distance before the aiming point marking.

² Source: 747 Flight Crew Training Manual, Boeing.

During a normal landing, the runway threshold would be passed at an altitude of around 50 feet (15 metres)² and the actual landing would take place in the touchdown zone at a distance of at least 300 metres from the start of the runway. Landings that take place before the aiming point are called short landings. A possible consequence of short landings is that the wheels of the aircraft may touch the ground before the runway threshold. Beyond the edges of the landing runway, the ground is not suitable to bear the weight of an aircraft. If the wheels come into contact with the soft ground beyond the edges of the landing runway, there is a chance of substantial damage to the landing gear, resulting in possible control issues. The possible consequences in such a situation could be serious, which makes short landings potentially dangerous. In this incident, the margin between the landing before the threshold of Runway 36R and the place where the actual landing took place was minimal.

The hard landing was the consequence of a high rate of descent. The landing flare did not reduce this rate or did not do so sufficiently.

The fact that the plane made contact with the runway threshold was a combination of systematically flying below the desired glide slope, from the moment that the crew deactivated the autopilot at 700 feet and the pilot in command assumed control, and the high rate of descent shortly before landing. The plane was making a stable approach until right before the landing.

Immediately before the landing, the GPWS generated two warnings ('glideslope' and 'sink rate') and the criteria for a stable approach were exceeded. This situation constituted grounds for executing a go-around. However, a go-around was not performed by the pilot in command, although it was required by the procedures. The pilot in command stated that despite these signals, it would not have been possible to react by initiating a go-around procedure, because the landing occurred almost immediately thereafter.

Following the incident, the airline concerned took the necessary measures to prevent incidents such as hard and short landings. The measures underscore the importance of internationally accepted guidelines on the criteria for a stable approach and the execution of a go-around if the approach becomes unstable.

The Dutch Safety Board published [the report](#) on its website on 19 July 2018.



Archive photo of a Boeing 747-8F. (Source: AirBridgeCargo Airlines)

Crash during approach, Dyn'Aéro MCR 45-2002 - PH-VGH, Água Longa (Santo Tirso, Portugal), 26 May 2015

The single-engine homebuilt aircraft carrying two people had taken off from Vilar de Luz Airport in Portugal. After performing several circuits, the aircraft rolled while turning left into the final approach to Runway 34, after which it crashed killing both occupants and completely destroying the aircraft.

The pilot lost control of the aircraft as a result of asymmetrically extended flaps. This situation was caused by the failure of the flap operating system, which in turn was caused by a worn bronze nut in the actuator. An Airworthiness Directive applies to this nut, which states that the nut must be replaced; however, this replacement was not done.

The Portuguese Gabinete de Prevenção e Investigação de Acidentes com Aeronaves (GPIAA) published the report on 9 July 2018. The report can be downloaded from [the GPIAA website](#).

Classification: Accident
Reference: 2015033



Wreckage of PH-VGH. (Source: GPIAA)

Near-collision, Fokker 50 - OO-VLF and Piper PA-28RT-201T - OK-ELL, 10 NM north-east of Friedrichshafen Airport (Germany), 21 April 2016

The Fokker 50 and Piper PA-28RT both had Friedrichshafen Airport as their destination and were flying on converging courses in Class E airspace. The Fokker 50, which was flying under Instrument Flight Rules, was in contact with Approach Control. The Piper, which was flying under Visual Flight Rules, was in contact with local Air Traffic Control in the tower.

At a certain moment, the short-term conflict alert system at Air Traffic Control generated a warning for both planes, at which point the approach controller informed the crew of the Fokker 50 about the presence of unknown VFR traffic. The crew of the Fokker 50 saw the traffic flying at the same altitude on the screen of their Traffic Alert and Collision Avoidance System (TCAS). The pilot in command decided to execute an evasive manoeuvre by turning 90 degrees to the right. At approximately the same moment, the pilot of the Piper reported that he had seen the Fokker 50. During the evasive manoeuvre, the flight level of both planes was around 4,000 feet AMSL. The minimum distance between the two aircraft was 0.5 NM horizontally with a vertical distance of 100 feet. Both aircraft continued their approach without further incident.

The Swiss Transportation Investigation Safety Board (STSB) published [the report](#) on 2 October 2018. The report can be downloaded from the STSB website.



Archive photo of OK-ELL. (Source: J. Beran)

Wire strike during night flying, Apache AH-64D - Q-29, Zoelmond, 13 November 2017

On 13 November 2017, a night flying exercise took place with an Apache-type helicopter (AH-64D) from Defence Helicopter Command (DHC) in the vicinity of Zoelmond. During an evasive manoeuvre, the helicopter made contact with the top wire of a high-voltage power line, the earth wire, which caused a short circuit in the power grid. This situation led to a power cut in the vicinity of the incident, in which approximately 25,000 households were without power for several hours. The helicopter landed in a meadow immediately to the north of the location of the wire strike.

DHC helicopter pilots regularly conduct flight exercises at low altitudes in darkness. The training flights are performed under the most realistic conditions possible. Because of the darkness, limited visibility and low altitudes at which the helicopters are operating, these training flights involve increased risk. However, the flights are necessary to maintain the operational status of the helicopter crews. The flight that caused the accident was part of an exercise designed to ensure the operational readiness of the helicopter crews.

The crew of an Apache helicopter consists of two pilots, a front-seater and a back-seater, named for their positions in the cockpit. The front-seater is the pilot in command and as such is responsible for the performance of the mission as a whole. The back-seater is mainly responsible for the actual flying of the helicopter.

Due to the vision system used on board, visibility is limited in darkness. The image on the pilots' displays gives poor visibility of small or thin objects such as high-voltage power lines.

During part of the exercise, a simulated attack on a practice target, the helicopter itself was attacked by ground units. The initial response of the crew to the attack by hostile forces was to swerve. When the practice enemy attacked, the threat was from the left. As a result, the response entailed moving the helicopter swiftly to the right and dropping down out of sight of the practice enemy.

At that moment, the back-seater was not aware of the helicopter's location in relation to the high-voltage power lines because his attention was on the simulated combat situation.

When the training area was selected, the presence of high-voltage power lines was not explicitly taken into consideration, because low-flying helicopters do have to deal with obstacles in the form of power lines and pylons during actual deployment. These obstacles were appropriate for creating a realistic exercise in order to ensure crews are well prepared for actual deployment.

To mitigate the risk of collisions with obstacles and power lines, Defence took a range of measures including reconnaissance flights along the route prior to the night-time flight, the composition of the crews, the use of charts on which high-voltage power lines and obstacles were projected and shaded, and set procedures for flying past cables. These measures were indeed followed during the exercise. An additional system measure could consist of placing an active warning system in the helicopter.

Given his experience, the set of tasks to be performed by the back-seater was substantial: he had to fly the helicopter, monitor the surrounding area using the limited tools at his disposal and heed the command of the front-seater to bring the helicopter into the right position in order to fire missiles at the practice target within the context of the simulated attack. At the same time, he had to execute an evasive manoeuvre after the attack by the practice enemy. This task load may have contributed to the incident.

The Dutch Safety Board made three recommendations to the minister of Defence for options to avoid wire strikes, the availability of flight hours and the use of flight charts.

The Dutch Safety Board published [the report](#) on 6 September 2018 on its website.



Apache AH-64D.

Occurrences that have not been investigated extensively

Near-collision on the ground, Boeing 737 - PH-BGB and Embraer 190 - G-LCYP, Amsterdam Airport Schiphol, 20 April 2017

On 20 April 2017, a near-collision occurred at Amsterdam Airport Schiphol between two aircraft on the ground. A Boeing 737 was taxiing to its aircraft stand in front of the terminal after landing and an Embraer 190 was being pushed from its aircraft stand to the apron by an aircraft tug.

Air Traffic Control The Netherlands (LVNL) reported this occurrence to the Dutch Safety Board and initiated an investigation itself. The Dutch Safety Board did not start its own investigation into the occurrence. This text is based on the outcomes of the LVNL investigation.

A Boeing 737 aircraft landed on Runway 18R and taxied towards Parking Space D54. Because Runway 18C was being used for landing traffic at the same time, the aircraft taxied via the southern taxi route along Taxiway Zulu. After Taxiway Zulu, the Boeing continued on its way along Taxiway Quebec.

Maintenance was being performed on Runway 06-24. Part of the adjacent Taxiway Bravo was also closed to air traffic. As a result, the Boeing was directed to travel along the non-standard Taxiway Alpha up to Intersection A9. Here, the aircraft turned onto the apron and headed for D54. This action was not coordinated with the ground controller who was responsible for the apron where the incident took place.

Aircraft Stand D27 was occupied by another Boeing 737 that was being pushed backwards in preparation for departure. An Embraer 190 parked at D31 was also given permission for pushback. The pushback of the Embraer started just as the incoming Boeing on Taxiway Alpha was taxiing past the Embraer.

When the Boeing executed a left turn at Intersection A9, the Embraer entered the field of vision of the Boeing's crew. The driver of the aircraft tug saw the Boeing at the same moment. Both the crew of the Boeing and the driver immediately took action and stopped. According to the people involved, the distance between the two aircraft was no more than a few metres.

LVNL's investigation report showed that the ground controller involved had not noticed the conflict between the Boeing taxiing to D54 and the Embraer being pushed back. This was partly due to the complexity of the volume of traffic, in combination with the maintenance work on Runway 06-24 and the use of different taxi routes than normal. The analysis also revealed that the occurrence took place due to insufficient collaboration among the ground controllers.

Classification: *Serious incident*
Reference: 2017065



Intersection A9 and the parking spaces around Pier D.
(Source: Standard Map of Amsterdam Airport Schiphol)

Emergency landing following operating problems, CzechACWor SportCruiser, PH-BEM, Oudewater, 21 April 2018

The pilot was flying under Visual Flight Rules at an altitude of 1,300 feet from Breda International Airport to Texel International Airport. The autopilot was activated. The aircraft had two occupants. The pilot experienced operating problems in the vicinity of Oudewater. He stated that the plane abruptly went into a nose dive. He had a lot of trouble returning the plane to the horizontal. With the help of the autopilot, he tried to keep the plane horizontal. When this procedure was unsuccessful, he switched off the autopilot and tried to trim the plane by making an "up" input. Initially, this action had no noticeable result. With the help of his passenger, who also held a pilot licence, the pilot in command then attempted to lift the nose of the plane. However, the aircraft was difficult to control. The ailerons and the rudder apparently responded normally to the movement of the control instruments. The pilot then decided to make an emergency landing and selected a field in which to do so. During the emergency landing, the left wheel of the main landing gear got caught in a ditch which the pilot had not previously noticed. The aircraft then turned to the left and came to a halt with its nose in the ground. Nobody on the aircraft was harmed, although the aircraft was damaged.

The pilot held a valid private pilot licence, a PPL(A) with an SEP(land) rating, and a valid Class 2 medical certificate. His total flight experience was 365 hours, 84 of which were acquired on the aircraft type concerned.

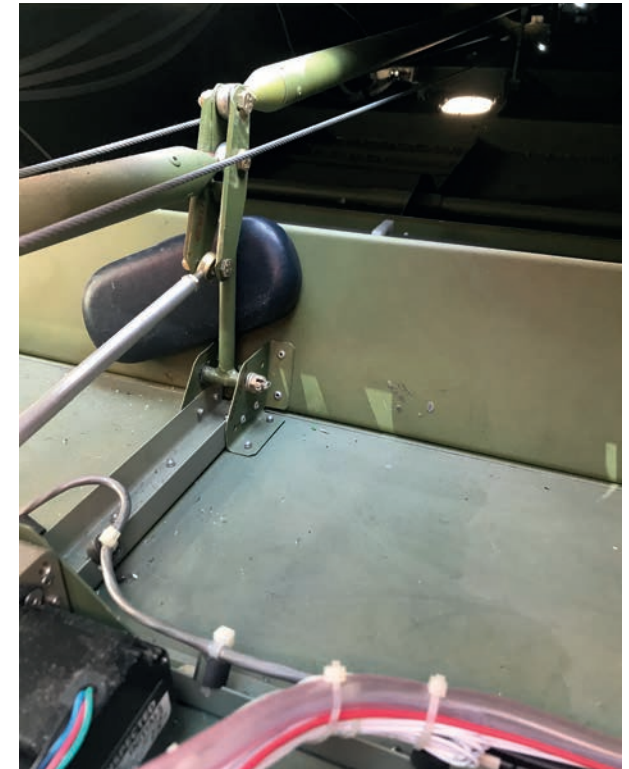
After the emergency landing, a glasses case was found in the vicinity of the control mechanisms. The crew stated that the sudden nose dive could not have been caused by this glasses case, because the plane had been flying steadily on autopilot without any course or altitude corrections. According to the crew, the case ended up in that position due to the jolt of the emergency landing or when they were taking their personal possessions out of the plane.

The crew suspected that it was a case of an 'out-of-control' electric trim or servo control of the autopilot, or both. According to the aircraft manufacturer, Czech Sport Aircraft a.s., incidents have occurred in which an excessive quantity of solder on the contact points of the push-to-talk button on the stick resulted in the elevator trim responding in such a way that the nose of the plane tilted up. The manufacturer issued a Service Bulletin on this subject in 2010 for the SportCruiser and PiperSport (SB-SC-001, dated 4 June 2010). In the Service Bulletin, an inspection of the stick grip and the application of additional insulation were recommended. The recommendation in the Service Bulletin was implemented for PH-BEM on 2 July 2010.

The Dutch Safety Board did not visit the crash site and was unable to establish how or when the glasses case came to be in the vicinity of the control mechanism. The Dutch Safety Board did not conduct an investigation into the functioning of the electric trim or autopilot and can neither confirm nor rule out the glasses case scenario as a possible cause of the operating problems.

Classification: Accident

Reference: 2018020



The glasses case. (Source: Police aviation division)



PH-BEM after the emergency landing.
(Source: Police aviation division)

Occurrences that have not been investigated extensively



The New Piper PA-28-181 after the runway excursion.

Runway excursion, New Piper PA-28-181, PH-VSX, Breda International Airport, 15 June 2018

The pilot, who was the sole occupant of the plane, had conducted a flight under Visual Flight Rules from Lelystad Airport to Breda International Airport. He stated that the flight proceeded without incident. At Breda International Airport, Runway 07 was in use, which had an available landing distance of 752 metres. The wind was variable; the direction varied from 100 to 240 degrees and the speed from around 6 to 8 knots. When the aircraft flew into the circuit area, the pilot entered on a downwind leg at an altitude of 1,000 feet AMSL and a speed of 100 knots. The circuit altitude prescribed for Breda International Airport by the Aeronautical Information Publication (AIP) is 730 feet AMSL. The pilot flew a longer final approach in order to reduce his altitude and speed sufficiently. A member of Airside Operations declared that the plane approached the runway at a steep angle and crossed the extension of the runway centre line, after which it approached the runway at an angle. According to him, the nose wheel touched the ground first. Camera images from the airport show that the first contact of the aircraft with the runway took place before the first intersection following the runway threshold. During the landing, the flaps were selected in a fully downwards position. The aircraft left the runway before the end on the south side, smashed through the airport fencing, hit a pole, crossed a road, then hit a tree and finally came to a halt in a lower-lying meadow. The pilot was unhurt. The aircraft was severely damaged, including full detachment of the right wing. The pilot was unable to open the door of the plane himself as a result of the damage to the plane. He was finally freed by the airport fire service officers on duty.

The pilot stated that he had been flying higher than the prescribed altitude because it gave him better visibility of the runway over the trees on the south side of the runway. At a certain point after landing, he realised that the speed of the plane was too high for him to come to a stop before the end of the runway. However, according to him, it was then too late to execute a go-around.

The pilot held a private pilot licence, a PPL(A) with a valid SEP(land) rating, and a valid Class 2 (PPL) and LAPL medical certificate. His total flight experience was 280 hours, 230 of which were acquired on the aircraft type concerned. The pilot had made two flights in the same plane on the day before the incident.

This runway excursion was caused because the pilot had performed the approach and landing at a high speed, after which he had failed to execute a go-around. The runway excursion was preceded by the fact that the downwind leg was flown at an altitude which was greater than the prescribed altitude. Although he extended the downwind leg in order to fly a longer final approach, the aircraft still had a lot of power at the moment of landing. There was also very little wind at that moment. This situation meant that the aircraft could not have been brought to a stop before the end of the runway. Marks before the end of the runway showed that the pilot started to brake at some point, after which the plane left the runway on the right-hand side. There were no known defects in the aircraft that could have contributed to the incident. The Dutch Safety Board conducted an investigation on site, but no technical investigation was performed on the aircraft.

The pilot stated that he had also flown higher than the prescribed altitude in circuits at other airports, because he disliked flying low over buildings. The Board emphasises that flight procedures including circuit altitudes, as specified in the AIP, are mandatory. Failure to follow these procedures creates a collision risk, because other pilots who are flying at the prescribed altitude in the circuit might not be expecting descending traffic. In addition, the pilot must always be prepared to perform a go-around during an approach, in the event that circumstances prevent the approach from being completed safely.

Classification: Accident
Reference: 2018053

Rectification

The Quarterly Aviation Report over the first quarter of 2018 published the results of an occurrence that was not investigated in detail. It concerned a near-collision in the circuit of Breda International Airport on 25 February 2018 involving a Robin Apex DR400 (PH-VSQ) and an Ultravia Aero Pelican PL (PH-VKL). Due to an oversight at the time that the report was published, the Dutch Safety Board had not sent the draft text to the two pilots involved in order to check the facts. After contacting both pilots, the Dutch Safety Board has decided to issue a rectification. The adjusted text now reads as follows:

The pilot of PH-VKL stated that he had been flying a long tailwind leg due to an aircraft that was flying in front of him. He wished to land and, by extending the tailwind leg, would create sufficient distance between him and the other aircraft to perform the landing with the required separation. The pilot of PH-VKL stated that he had made a call to report his position on final approach. As it turned into its final approach, PH-VSQ ended up above PH-VKL. The pilot of PH-VSQ stated that he had not seen any other aircraft in front of him on the tailwind leg and did not see any on the final approach. The reason that the pilot of PH-VSQ only saw the other plane (PH-VKL) at a later stage may in part have been caused by the fact that PH-VSQ is a low-wing aircraft, which means that the pilot's visibility was hampered by the wings. The pilot of PH-VKL stated that he had not heard PH-VSQ report its position and it was only during landing that he noticed another plane flying above him. The pilot of PH-VSQ stated that a position report had left him with the impression of another aircraft having been inserted into the circuit behind him. As a result, he was surprised when he saw PH-VKL flying below him. The pilot of PH-VSQ was unable to state why he had not seen PH-VKL earlier.

The Dutch Safety Board in four questions

1

What does the Dutch Safety Board do?

When accidents or disasters happen, the Dutch Safety Board investigates how it was possible for them to occur, with the aim of learning lessons for the future and, ultimately, improving safety in the Netherlands. The Safety Board is independent and is free to decide which incidents to investigate. In particular, it focuses on situations in which people's personal safety is dependent on third parties, such as the government or companies. In certain cases the Board is under an obligation to carry out an investigation. Its investigations do not address issues of blame or liability.

Recently the Dutch Safety Board reported about cooperation on nuclear safety, the environmental safety of cannabis grow rooms and level crossing accidents on the railways.

2

What is the Dutch Safety Board?

The Safety Board is an 'independent administrative body' and is authorised by law to investigate incidents in all areas imaginable. In practice the Safety Board currently works in the following areas: aviation, shipping, railways, roads, defence, human and animal health, industry, pipes, cables and networks, construction and services, water and crisis management & emergency services.

3

Who works at the Dutch Safety Board?

The Safety Board consists of three permanent board members. The chairman is Tjibbe Joustra. The board members are the face of the Safety Board with respect to society. They have extensive knowledge of safety issues. They also have wide-ranging managerial and social experience in various roles. The Safety Board's office has around 70 staff, of whom around two-thirds are investigators.

4

How do I contact the Dutch Safety Board?

For more information see the website at www.safetyboard.nl
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This is a publication of the Dutch Safety Board. This report is published in the Dutch and English languages. If there is a difference in interpretation between the Dutch and English versions, the Dutch text will prevail.

December 2018

Photos

Photos in this edition, not provided with a source, are owned by the Dutch Safety Board.

Source photo frontpage:

Photo 1: AirBridgeCargo Airlines