



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

January - March 2019



In this first Quarterly Aviation Report of 2019 attention is given to published reports, one of which is the report 'Flying over conflict zones – Follow-up recommendations MH17 Crash investigation'.

Flying over conflict zones is a current risk in aviation. The MH17 Crash report published by the Dutch Safety Board contains eleven recommendations for better management of the risks associated with overflying conflict zones. The recommendations focus on airspace management, sharing threat information, and risk assessment. The Board investigated which actions parties have taken in response to these recommendations.

The subject of 'flying over conflict zones' is not an obvious subject for an aviation accident investigation, as international standards are aimed at increasing *safety* of civil aviation. In the MH17 crash investigation it was possible to carry out an investigation within that framework in which the essence of the risk was more about *security*.

To manage the risks related to flying over conflict zones and other risks at the interface of *safety* and *security* as good as possible, closer cooperation between both worlds is necessary. Vital to this is the willingness of parties to actively inform each other about (potential) threats, in order to protect civilians and passengers across the world.

Jeroen Dijsselbloem  
Chairman of the Dutch Safety Board



page 7



page 10



page 11

# Occurrences into which an investigation has been launched

## Near-collision on the ground of two Airbus A320 aircraft, Amsterdam Airport Schiphol, 3 February 2019

An Airbus A320 (red line in the figure with the route of both aircraft) landed on runway 18C in the evening; air traffic control gave permission to taxi to the parking position at pier C via taxiway Q (Quebec). In approaching taxiway Q the crew was also instructed to give way to another Airbus A320 (blue line in figure with the route of both aircraft) approaching from the right via taxiway Z (Zulu). The crew of the latter A320 was told that the (recently landed) A320 would let them pass. Both aircraft approached the taxiway crossing. However, the crew of the first, recently landed A320 did not give way, forcing the crew of the other A320 to come to an emergency stop. The two aircraft passed within a very short distance of each other.

**Classification:** Serious incident

**Reference:** 2019017



The route of both aircraft based on the radar data. (Source: ATC the Netherlands)

### Collision during pushback, Boeing 747-400 and Boeing 787-9, Amsterdam Airport Schiphol, 13 February 2019

As a Boeing 747 was pushed back from gate E7 to taxiway A14, a collision with a Boeing 787 occurred. The Boeing 787 had been pushed back from gate F8 earlier and was stationary on taxiway A16. Both pushbacks were performed after permission had been obtained from air traffic control. A winglet of the Boeing 747 was damaged, as well as the horizontal stabiliser of the Boeing 787. No persons were injured.

**Classification:** Accident  
**Reference:** 2019009



The damaged horizontal stabiliser. (Source: AAS)

### Runway incursion, SOCATA TB-10 Tobago and Sequoia Aircraft Corporation F.8L Falco, Teuge Airport, 15 February 2019

During a cross-country flight, a student pilot approached the circuit of Teuge Airport in a TB-10. At that moment, runway 08 was in use with a right-hand circuit. However, the student flew a left-hand circuit for runway 26. As the student realised that runway 08 was in use, she left the circuit and rejoined the final approach leg for runway 08 via the northerly circuit area. Simultaneously, there was another aircraft on the final approach which the student flying above it did not notice. The aircraft on the lower approach performed a short landing, after which the student overflew the aircraft and made a touch-and-go. After another circuit followed by a full-stop landing, the student returned to the beginning of the runway and took off for a flight to Texel Airport.

**Classification:** Serious incident  
**Reference:** 2019013

### Runway incursion, Diamond HK-36 TC and Rans S-6S Coyote II, Lelystad Airport, 24 February 2019

The Rans S-6S landed on runway 23. The Diamond HK-36 TC, which was on final approach behind the Rans, overflew the Rans and landed further down the runway. The pilot of a third aircraft, a Diamond HK-36 TTC, on its final approach as this incident occurred, performed a go-around.

**Classification:** Serious incident  
**Reference:** 2019016



Runway 23 at Lelystad Airport. (Source: Lelystad Airport)

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

## Failure of steering actuator in right main landing gear, Boeing 747-400F, Ministro Pistarini International Airport (Argentina), 12 February 2019

As a Boeing 747-400F, a Dutch registered cargo aircraft, taxied to its parking position at Ministro Pistarini International Airport in Argentina, one of the steering actuators in the right main landing gear failed. The aircraft came to a full stop on the taxiway and could not be towed to its parking position until its cargo had been unloaded.

The Argentinian Junta de Investigación de Accidentes de Aviación Civil (JIAAC) launched an investigation in response to this occurrence. The Dutch Safety Board is providing assistance.

**Classification:** Serious incident  
**Reference:** 2019011



Right main landing gear. (Source: JIAAC)

## Gear-up landing, Fokker F28 Mark 0100, Mehrabad Airport, Tehran (Iran), 19 March 2019

The Fokker 100 with 33 occupants was on a domestic flight from Qeshm Airport to Mehrabad Airport. On its final approach to Mehrabad Airport, the crew experienced trouble with hydraulic system 1. The main landing gear could not be lowered. The crew landed the aircraft with the nose gear down only. The aircraft was damaged.

The Iranian Aircraft Accident Investigation Board (AAIB) launched an investigation in response to this incident. The Dutch Safety Board offered its assistance.

**Classification:** Accident  
**Reference:** 2019018

# Other occurrences outside the Netherlands with Dutch involvement

## Off-airfield landing with damage, Rolladen-Schneider LS 4, PH-989, Bracht (Germany), 30 June 2018

A single-seat glider with Dutch registration departed from the Venlo glider airfield for a cross-country flight over German territory. At some point the glider lost height; at an altitude of approximately 700 metres the pilot started looking for off-airfield landing options. However, he also continued searching for thermals, hoping to reach Venlo after all. Since the glider lost even more height, the pilot eventually decided to perform an off-airfield landing. He selected a field near Bracht (Germany).

When the pilot flew towards the landing field he had selected, he felt some thermals at an altitude of 150 to 200 metres and tried to regain altitude. When this did not work, he flew directly to his chosen landing field. He did not fly a circuit because he did not have enough altitude by this time. At the edge of the landing field, he realised he had not yet lowered the landing gear. He had to move the handle up and down several times before the wheel actually went down and locked into position. As a consequence, the pilot overshot the field and was forced to land in the asparagus field behind it. In the end, the landing occurred at an angle of approximately 15 degrees to the asparagus beds. The glider made a ground loop, which caused the tail to break off. The pilot was not injured.

The pilot was in possession of a glider pilot licence and had a total flight experience of 203 hours (746 starts), 52 hours (171 starts) of which were in the glider type in question. In the 3 months prior to the occurrence, he had flown 25 hours (47 starts).

The incident underlines the importance of flying a circuit after a field for an off-airfield landing has been selected.

*The Bundesstelle für Flugunfalluntersuchung (BFU) has decided not to open an investigation into this incident.*

**Classification:** Accident

**Reference:** 2018063

# Published reports

## Collision with tug due to loss of brake pressure, BAe Avro RJ85, EI-RJT, Amsterdam Airport Schiphol, 15 December 2015

The BAe Avro RJ85 was about to undertake a scheduled flight from Amsterdam Airport Schiphol to London City Airport. The aircraft was given a pushback from gate D24 to taxiway A8. After the first engine was started, the pushback tug positioned the aircraft's nose gear. After this, it advanced several metres to allow the crew to continue the starting procedure. As the fourth engine was started, the brake pressure suddenly failed and the aircraft rolled forward. The aircraft collided with the pushback tug and suffered considerable damage to the fuselage. There were no injuries.

The investigation showed that the occurrence was caused in part by an unusually fast hydraulic pressure drop in the parking brake system due to failure of one or both motorised valves in the parking brake system. This led to a sudden pressure drop, probably because the fluid in the hydraulic accumulator ran out and no pressure could be brought to bear.

The Dutch Safety Board published its [report](#) on 31 January 2019.

**Classification:** Accident

**Reference:** 2015109



Archive photograph EI-RJT. (Source: McFadyen)

## Emergency landing after partial loss of engine power, Diamond DA-40 D, PH-EMW, near Haaren, 22 June 2017

PH-EMW, a Diamond DA-40 D, was on a local flight from Eindhoven Airport. The Diamond DA-40 D is a single-engine, four-seater propeller aircraft built from composite materials. It has a fixed landing gear with a nose wheel. The aircraft is equipped with a four-cylinder diesel engine, the design of which is based on a car engine.

There were two persons on board: the pilot and a ground engineer. The ground engineer was on board because he wanted to check the results of a repair during the flight. While in flight, the engine speed started to fluctuate. The available engine power dropped and was insufficient to maintain adequate air speed and altitude, forcing the pilot to perform an emergency landing. When landing near the village of Haaren, the aircraft hit the side of a ditch, which caused the landing gear and propeller blades to break off. Both occupants were unharmed.

The investigation focused on the cause of the fluctuating engine speed and dropping engine power. To this end, the engine and digital engine control system were tested. The various engine parts were also investigated.

It was found that the engine trouble was probably caused by a damaged connection between the engine and the Full Authority Digital Engine Control (FADEC) system, which is mounted underneath the pilot's seat. A connector of the connecting cable on the side of the FADEC was found to be damaged. The damage was caused by the connector having been attached incorrectly during previous maintenance work. The damage had not been noticed when the FADEC present in the aircraft during the accident flight was installed.

The Dutch Safety Board published its [report](#) on 9 January 2019.



PH-EMW after the accident. (Source: R. van Dooren)

## Flying over conflict zones – Follow-up recommendations MH17 Crash

In its investigation of the flight MH17 crash, the Dutch Safety Board issued eleven recommendations to improve control of the risks of overflying conflict areas. The recommendations focus on airspace management, sharing threat information, and risk assessment. The Dutch Safety Board carried out an investigation to see what action airlines, countries and the International Civil Aviation Organization (ICAO), have taken in response to these recommendations.

This follow-up investigation shows that various measures have been implemented. It is difficult to measure their impact on safety in aviation. However, the issue is on the agenda of both airlines and states, which are handling the issue with greater awareness. Stakeholders no longer assume that open airspace over a conflict zone actually guarantees safe passage. Airlines are taking a more structured approach to analysing the risks and uncertainties, scaling up to a higher risk level at an earlier stage. Some airlines state that they now decide more quickly to refrain from overflying specific areas if no clear information on such areas is available.

Progress has also been made on sharing threat-related information. For instance, the European Commission now organises meetings with representatives of EU member states and relevant EU bodies to analyse the risk levels for overflying specific areas, using consolidated information from the intelligence services. Areas classified as 'high-risk zones' during the meeting are listed in a Conflict Zone Information Bulletin that is published by EASA and made available to airlines and passengers worldwide. Rapid Alerts are now deployed so that information about suddenly escalating situations can be shared quickly. This is how the EU states are collaborating to provide more adequate insight into the risks on a global scale.

In the Netherlands, a special covenant has been established to ensure the exchange of threat information between the Dutch government and Dutch airlines. There are meetings to discuss non-public threat information. These activities have resulted in a network which ensures that information can be exchanged quickly in urgent cases, too. Moreover, Dutch airlines can consult a dedicated information desk established by the Dutch intelligence services if they have specific questions.

The Dutch Safety Board published its [report](#) on 21 February 2019.



Display of air traffic. (Source: Flightradar24)



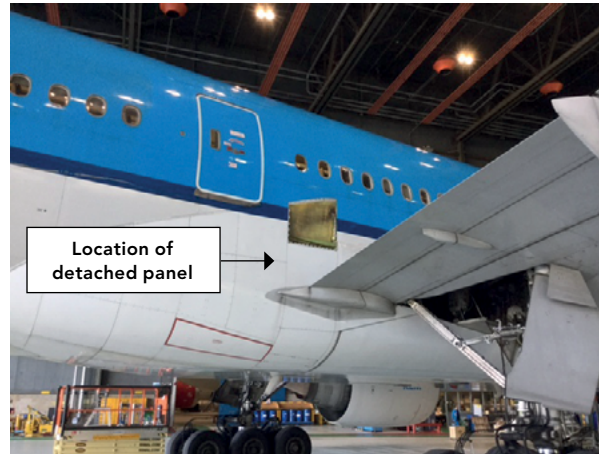
# Reports published by foreign investigation bodies

## Panel detached from aircraft, Boeing 777-200, PH-BQC, Osaka City, Osaka (Japan), 23 September 2017

The Boeing 777 took off from Kansai International Airport (Osaka, Japan). Its destination was Amsterdam Airport Schiphol. While gaining altitude over Osaka, the aircraft lost a fuselage panel measuring 107 centimetres (length) by 108 centimetres (maximum height). The plastic panel with an approximate weight of 4.3 kilograms fell on a car driving through the city of Osaka, resulting in damage to the car. The driver, who was alone in the car, was uninjured. The aircraft continued its flight to Schiphol, where it landed without any problems.

The investigation by the Japan Transport Safety Board (JTSB) showed that the bracing that held the front top corner of the panel in place had probably ruptured. This resulted in an opening between the top corner of the panel and the fuselage. The pressure of the incoming airflow and vibrations then caused the panel to detach from the fuselage.

The JTSB published its report on 29 November 2018. The report can be downloaded from the JTSB [website](#).



*The detached panel. (Source: Airline)*

# Occurrences that have not been investigated extensively

## Near-collision, Eurocopter EC135 T2+, PH-MAA, Hughes 269C, PH-RYF, Voorhout, 25 April 2018

The Eurocopter helicopter was on a flight from the HEMS<sup>1</sup> site in Leidschendam to Amsterdam Heliport. Visibility exceeded 10 kilometres. Over Voorhout, at an altitude of 800 feet in uncontrolled airspace, the pilot noticed another helicopter approaching from the right at a slightly lower altitude. From the Eurocopter's perspective, the latter was just below the horizon, making it less easy to see. The Eurocopter's pilot performed an evasive manoeuvre to avoid a collision. The second helicopter passed in front of the Eurocopter at an estimated horizontal distance of 50 to 100 metres. The Eurocopter's pilot stated that the other helicopter was a white Hughes 269C.

<sup>1</sup> Helicopter Emergency Medical Services.

The Hughes 269C had taken off from Hilversum airfield, from where its route ran partly along the coast between The Hague and Hook of Holland. The Hughes' pilot did not see the Eurocopter. He had not contacted the Amsterdam Flight Information Centre.

Shortly before the incident, the Eurocopter's pilot had switched his radio frequency from Amsterdam Flight Information Centre to Schiphol Tower West. The TCAS<sup>2</sup> on board the Eurocopter did not generate an alert. Despite being equipped with a transponder, the Hughes was not visible on the radar screens of Air Traffic Control the Netherlands at the time of the incident. The reason has not been established. The company operating the Hughes stated that no mention of anything out of the ordinary regarding the transponder's operation had been made in the period surrounding the day of the incident. The Dutch Safety Board did not investigate the transponder.

Since the Hughes 269C was not visible on the radar screens and the Hughes' pilot had not contacted the Amsterdam Flight Information Centre, the centre was not aware of the flight and was unable to provide traffic information to the pilots of both helicopters as they approached each other.

The incident occurred in uncontrolled airspace, where pilots are themselves responsible for maintaining an adequate distance from other aircraft in order to prevent collisions. It is highly recommended that all pilots of motorised aircraft flying under the Schiphol TMA 1 tune in to the frequency of the Amsterdam Flight Information Centre (FIC, 124.300 MHz) or contact the centre. The FIC provides information about traffic near the aircraft if it is known to the FIC. Aircraft flying in Dutch airspace are required to use their transponder. If, when they join the FIC frequency, the aircraft transponder is not visible on the radar screen, the FIC's air traffic controller can notify the pilot of the aircraft.

<sup>2</sup> Traffic Alert and Collision Avoidance System.

**Classification:** Serious incident

**Reference:** 2018025



Archive photograph Eurocopter. (Source: H. Wadman)



Archive photograph Hughes. (Source: H. Wadman)

## Injury on landing, Mac Para Muse III, Terlet glider airfield, 24 February 2019

A paraglider pilot was on his first flight of the season. After a winch launch, he detached the cable and flew a short circuit to land near his starting position. The pilot had a relatively high forward speed and descent rate. Just before the landing, he got out of the seat in order to land. On landing, his left leg hit the ground slightly earlier than his right leg, causing the left leg to break in three places. The pilot was taken to hospital by ambulance.

There was a light, variable wind. The paraglider had recently been approved. The pilot was an experienced paraglider pilot who obtained his licence in 2000 and had several hundred hours of flight experience.

**Classification:** Accident

**Reference:** 2019014



Mac Para Muse III. (Source: Manufacturer Mac Para)

# The Dutch Safety Board in three questions

1

## What does the Dutch Safety Board do?

Living safely, working safely, safety. It seems obvious, but safety cannot be guaranteed. Despite all knowledge and technology, serious accidents happen and disasters sometimes occur. By carrying out investigations and drawing lessons from them, safety can be improved.

In the Netherlands the Dutch Safety Board investigates incidents, safety issues and unsafe situations which develop gradually. The objective of these investigations is to improve safety, to learn and to issue recommendations to parties involved.

2

## What is the Dutch Safety Board?

The Dutch Safety Board is independent of the Dutch government and other parties and decides for itself which occurrences and topics will be investigated.

The Dutch Safety Board is entitled to carry out investigations in virtually all areas. In addition to incidents in aviation, on the railways, in shipping and in the (petro-)chemical industry, the Board also investigates occurrences in the construction sector and healthcare, for example, as well as military incidents involving the armed forces.

3

## Who works at the Dutch Safety Board?

The Board consists of three permanent board members under the chairmanship of Jeroen Dijsselbloem. The board members are the public face of the Dutch Safety Board. They have extensive knowledge of safety issues. They also have extensive administrative and social experience in various roles. The Safety Board's bureau has around 70 staff, two-thirds of whom are investigators.

Visit the website for more information [www.safetyboard.nl](http://www.safetyboard.nl).



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## Colofon

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.

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### Photos

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

Source photo frontpage:

Photo 1: R. van Dooren

Photo 2: H. Wadman

Photo 3: Manufacturer Mac Para