



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. The Board's investigations explicitly exclude any culpability or liability aspects.

Quarterly Aviation Report

October - December 2022



Each year, the Dutch Safety Board looks back on the occurrences investigated in the year just ended. In 2022, 33 occurrences were reported that took place in the Netherlands and that were classified by the Dutch Safety Board as a serious incident or accident. This entire series contained no reports of occurrences involving commercial aircraft. This is remarkable given the large number of flights involving these aircraft and the reporting obligation that applies to serious incidents and accidents.

In 2022, the Dutch Safety Board assisted foreign safety investigation agencies on 18 aviation-related investigations.

Once again in 2022, the airprox was the most frequently investigated type of occurrence. In 2022, five people died in three accidents in general aviation; these accidents involved two motorized aircraft and one glider. These investigations are currently still underway.

It cannot be emphasized enough that aviation safety benefits from sound investigation into the causes and contributing factors of occurrences. Once again in 2023, the Dutch Safety Board will therefore be drawing attention to the reporting of occurrences both in commercial aviation and in general aviation.

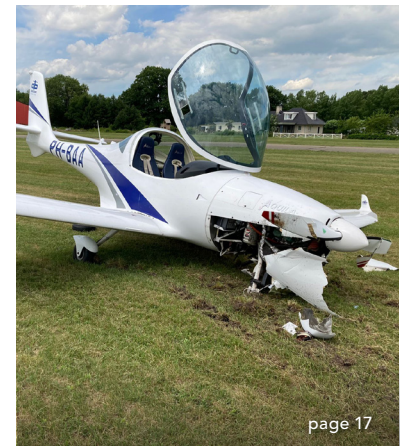
Stavros Zouridis
Vice Chairperson Dutch Safety Board



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Retrospective on investigated occurrences in 2022

The Dutch Safety Board is required by law to investigate all serious incidents and accidents involving aircraft in the Netherlands. In 2022, in fulfilling this obligation, fifteen accidents and eighteen serious incidents that took place in the Netherlands were reported to the Safety Board into which investigations were launched. The Dutch Safety Board also investigated four occurrences classified as incidents.

The Dutch Safety Board has launched an investigation into a total of four occurrences involving commercial aircraft. Two incidents took place at Amsterdam Airport Schiphol. They involved a collision on the ground between a Boeing 787 and a pushback tug, and the aborted takeoff of a Boeing 777 following a problem with the bleed air system. The Safety Board also launched an investigation into two serious incidents involving commercial aircraft abroad, because the investigating authorities in these countries did not launch an investigation themselves.

One of the two occurrences abroad involved a Boeing 737 belonging to a Dutch airline, which experienced steering difficulties in Greek airspace. The flight crew decided to divert to Athens. The initial inspection following the flight revealed that a steering cable from one of the ailerons was broken. The other occurrence abroad involved a Boeing 737, also belonging to a Dutch airline, which had experienced serious turbulence in Montenegro airspace. As a result, one cabin crew member suffered minor injuries.

In 2022, the Dutch Safety Board assisted foreign investigation bodies on eighteen occasions. These were investigations into occurrences where there was Dutch involvement, such as an aircraft with Dutch registration and/or produced by a Dutch manufacturer.

In addition to four Quarterly Aviation Reports, the Dutch Safety Board published eight aviation reports in 2022. The titles of these reports are as follows: Stalled during take-off, Hilversum aerodrome, 15 December 2018; Collision during pushback, Amsterdam Airport Schiphol, 13 February 2019; Loss of part of flap, Boeing 747-400, Harare (Zimbabwe), 8 July 2019; Loss of control during touch-and-go, Piper PA-28-118, Breda International Airport, 7 September 2019; Airproxes near Lelystad Airport, November 2019; Takeoff with erroneous takeoff data, Boeing 737-800, Amsterdam Airport Schiphol,

10 June 2018; Aborted takeoff from taxiway, Boeing 737-800, Amsterdam Airport Schiphol, 6 September 2019 and Paramotor trike crashed during flight, Didam, 2 June 2020. In total, the Dutch Safety Board issued ten recommendations to various stakeholders.

Just like in the last four years, the type of occurrence that was investigated most frequently (on ten occasions) was the airprox (aircraft proximity). An airprox is an event whereby, in the opinion of a pilot or an air traffic controller, both the separation between aircraft and their direction and speed of flight were such that the safety of the aircraft in question may have been at risk. Four of the airproxes involved a motorized aircraft and a glider, and took place near an aerodrome where glider activities were taking place. In an article in Quarterly Aviation Report 2021-4, attention was already focused on the risk of collision during flights over glider airfields.

In six cases, a system or component failed or malfunctioned during the flight.¹ At Terlet glider airfield, for example, when the flap control lever slipped out of the landing position, the pilot lost control over the glider on the final approach leg, whereupon the aircraft ended up in the trees.²

Four occurrences took place in which the pilot lost control over the aircraft.³ In one case, the pilot was able to regain control over his helicopter.

Three fatal occurrences took place (Calandkanaal, Zwarte Meer and Terlet) during which in total five occupants were killed. The investigations into the cause of these occurrences are still underway.

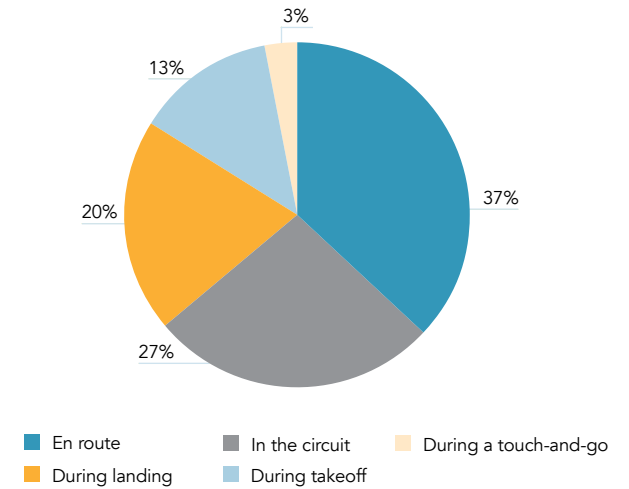
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- 1 System/component failure or malfunction – non-powerplant (SCF-NP) occurrences.
 - 2 The occurrence is categorised both as a loss of control in-flight (LOC-I) and SCF-NP.
 - 3 LOC-I occurrences.

Retrospective on investigated occurrences in 2022

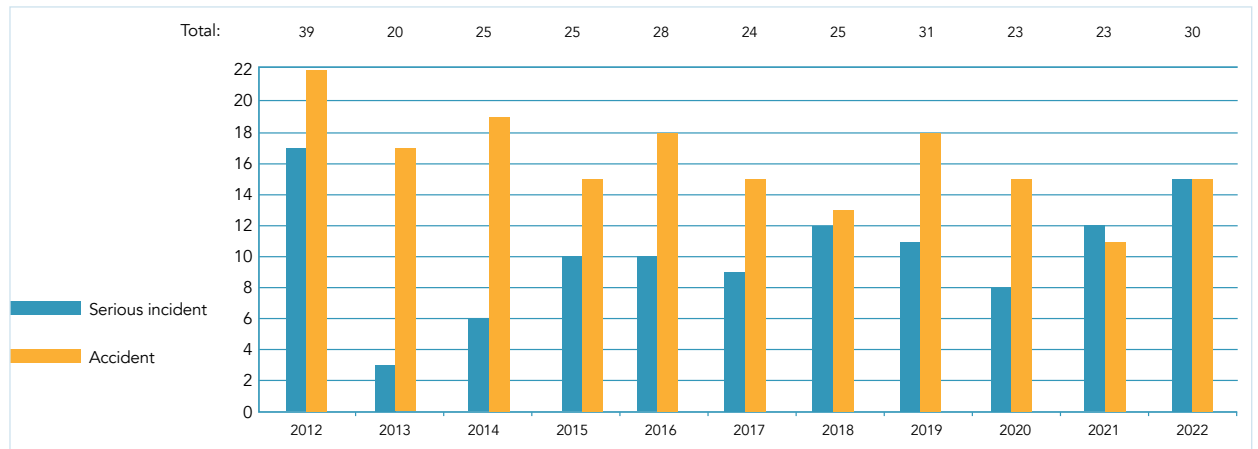
Investigations in general aviation

The number of serious incidents and accidents investigated by the Dutch Safety Board in general aviation, in the Netherlands, has fluctuated at around 25 per year, since 2014. In 2022, this number was slightly higher than in the two previous years. Given the small number of serious incidents and accidents involved, it is not possible to perform a trend analysis. Furthermore, a wide range of aircraft (from powered paragliders to turbojet aircraft) are used in general aviation.

Of the occurrences in general aviation investigated by the Dutch Safety Board in 2022, 37% took place en route, 27% in the circuit (including VFR departure/arrival routes), 20% during landing, 13% during takeoff, and 3% during a touch-and-go.



The flight stages in which general aviation occurrences took place in 2022.



Number of serious incidents and accidents in general aviation in the Netherlands investigated by the Dutch Safety Board.

Occurrences into which an investigation has been launched

Injured by turbulence, Boeing 737-900, airspace above Montenegro, 9 September 2022

During a flight from Tel Aviv (Israel) to Amsterdam Airport Schiphol (the Netherlands), the commercial aircraft unexpectedly found itself in severe turbulence. One member of the cabin crew suffered such serious injuries that she was no longer able to continue her work.

Classification: Serious incident

Reference: 2022139

Inflight loss of window, AgustaWestland AW139, Den Helder, 7 October 2022

An AgustaWestland AW139 had departed from Den Helder Airport on a post-maintenance check flight. Into the flight an increase in noise level and air flow from the left-hand side was noticed by the flight crew. The left-hand window had fallen from the helicopter. The crew maintained control of the helicopter and landed without further incident at Den Helder Airport. The window was recovered. No persons on the ground were injured, or third party property damaged.

Classification: Serious incident

Reference: 2022145



The relevant window of an AW139.

Occurrences into which an investigation has been launched

Broken airbrakes handle, PZL-Bielsko SZD-51-1 'Junior', De Peel Air Base, 9 October 2022

On final, when the pilot wanted to slightly close the open airbrakes, the handle for the airbrakes in the cockpit broke. This made it impossible for the pilot to adjust the airbrakes. The glider lost more altitude than planned and made a hard landing in the field before the landing strip. The glider was not damaged. The pilot remained unharmed.

Classification: *Serious incident*

Reference: 2022147

Runway lights hit, Alexander Schleicher ASK 21, Deelen Air Base, 16 October 2022

During the roll-out after landing on the paved runway, the glider hit two runway lights and sustained damage to the left wing.

Classification: *Accident*

Reference: 2022164

Loss of propeller in flight, Cirrus SR22, near Sluis, 16 November 2022

The pilot was the only occupant of the Cirrus on a flight from Mönchengladbach Airport (Germany) to Cambridge City Airport (UK). At an altitude of 10,000 feet (FL100), the pilot experienced engine vibrations and decided to divert to Ostend-Bruges Airport (Belgium). Moments later, the aircraft lost its propeller. The pilot activated the Cirrus Airframe Parachute System near Damme (Belgium), where the aircraft parachuted into a field. The pilot was unharmed. The aircraft sustained damage on landing.



The Cirrus after the emergency landing.

Classification: *Accident*

Reference: 2022162

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

Crashed, Cessna U206G Soloy Stationair, Vielbrunn (Germany), 3 October 2022

After the parachutists had exited the aircraft, it crashed and burst into flames. The pilot was killed.

The German Bundesstelle für Flugunfalluntersuchung (BFU) has launched an investigation into this occurrence. The Dutch Safety Board has offered assistance since the maintenance on the aircraft was carried out in the Netherlands.

Classification: Accident
Reference: 2022171

Loss of cabin pressure, Boeing 737-800, Frankfurt (Germany), 3 October 2022

During a flight from Amsterdam Airport Schiphol (the Netherlands) to Ben Gurion International Airport (Israel), the Dutch-registered aircraft suffered a loss of cabin pressure. The crew subsequently initiated an emergency descent and set course for Frankfurt Airport (Germany), where the aircraft completed a safe landing. All occupants remained unharmed.

The German BFU has launched an investigation into this occurrence. The Dutch Safety Board has offered assistance.

Classification: Serious incident
Reference: 2023002

Crew member taken ill, Embraer ERJ 170-200 STD, Dublin (Ireland), 19 October 2022

Shortly following departure from Dublin Airport (Ireland), the first officer indicated that he was feeling unwell. He was no longer able to carry out his tasks. After entrusting him to the care of two members of the cabin crew, the pilot-in-command made an emergency call to air traffic control and returned to Dublin Airport. The Dutch-registered aircraft made a safe landing at Dublin airport.

The Irish Air Accident Investigation Unit has launched an investigation into this occurrence. The Dutch Safety Board has offered assistance.

Classification: Serious incident
Reference: 2022154

Crashed, Akrotech Europe Giles G-202, Altheim (Germany), 29 October 2022

The pilot, accompanied by one passenger, took off from Donzdorf Airfield (Germany) for a local flight. The Dutch-registered aircraft crashed and burst into flames. Both occupants were killed.

The German BFU has launched an investigation into this occurrence. The Dutch Safety Board has offered assistance.

Classification: Accident
Reference: 2022158

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

Fuel leak during flight, Boeing 737-800, en route (Hungary), 27 December 2022

During a flight from Brussels South Charleroi Airport (Belgium) to Bucharest Henri Coandă International Airport (Rumania), the crew reported a suspected fuel leak. The crew declared an urgency (PAN-PAN call) to air traffic control and altered course for Budapest Ferenc Liszt International Airport (Hungary) where the aircraft completed a safe landing.

The Hungarian Transportation Safety Bureau has launched an investigation into this occurrence. The Dutch Safety Board has offered assistance because the captain has Dutch nationality.

Classification: Incident

Reference: 2022172

Reports with Dutch involvement published by foreign investigation authorities

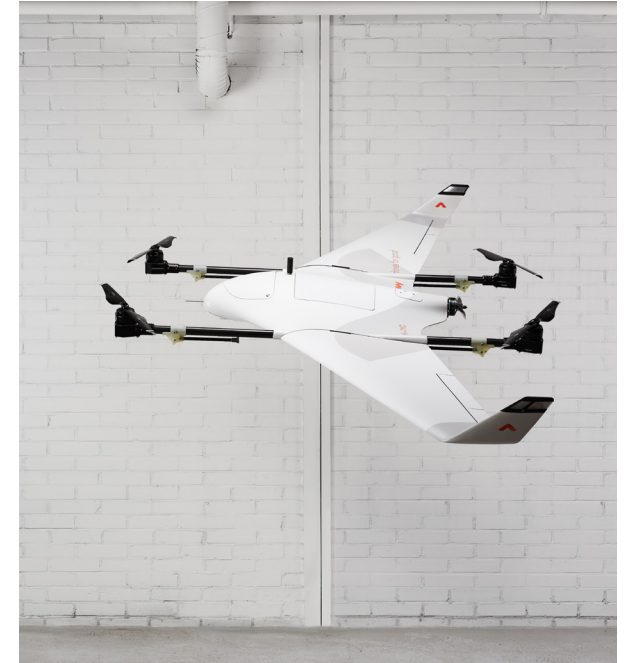
Hit the ground, UAS Avy Aera 1.5, Lamlash, Isle of Arran (United Kingdom), 6 May 2022

The Dutch-manufactured Unmanned Aircraft (UA) was hovering at between 50 to 65 metres AGL during a demonstration flight, when a rhythmic, lower than normal sound was heard emanating from the Unmanned Aircraft System. It then dipped and spiralled downwards during which control could not be re-established. The UA hit the ground and was severely damaged. A fatigue failure of a blade attachment bolt caused one of the lift propeller blades to detach in flight.

De Air Accidents Investigation Branch published the [report](#) on 8 December 2022.

Classification: *Serious incident*

Reference: 2022039



Archive photo Avy Aera 1.5. (Source: Avy)

Investigated occurrences

Erroneous altitude and airspeed indication, Boeing 737-700, PH-XXR, Rotterdam The Hague Airport, 24 April 2021

History of the flight

On 24 April 2021, a Boeing 737-700 was scheduled for a flight from Rotterdam The Hague Airport (the Netherlands) to Alicante-Elche Airport (Spain). Prior to the flight, maintenance staff had performed a routine preflight inspection, including a visual inspection of the pitot-static system⁴, and found no abnormalities. The pilots also performed their routine preflight checks and considered the aircraft in good condition. At 18.32 hours, the aircraft took off from Runway 06. During the takeoff roll, the indicated airspeed and altitude indication appeared normal.

After rotation and initial climb, the pilot monitoring did not observe a positive rate of climb on the vertical speed indication and the altitude indication on the Primary Flight Display (PFD). In daylight and visual meteorological conditions, both pilots observed the aircraft was positively climbing by visual reference to the ground through the cockpit windows and they subsequently maintained a pitch of approximately 10 degrees nose up. Around the same time, both pilots noticed a rapid reduction of the airspeed indication and a steady altitude indication of approximately 0 feet on their respective PFDs. Due to the reduction of indicated airspeed, the Ground Proximity Warning System (GPWS) generated a windshear warning, an AIRSPEED LOW alert sounded and the stick shaker system⁵ activated temporarily. The airspeed indications reduced to approximately 45 knots (minimum value) and the altitude indications remained at approximately 0 feet for the remainder of the flight.

- 4 The pitot-static system measures air pressure and is used amongst others to determine the aircraft's airspeed and altitude.
- 5 A system to tactically and aurally warn pilots by vibrating the control stick violently when a stall is imminent.

About one minute after takeoff, the flight crew alerted air traffic control by declaring an urgency (PAN-PAN call). The pilot flying continued the climb in a northeasterly direction by visual outside reference and used the standby airspeed indicator and altimeter. The flight crew performed the Airspeed Unreliable non-normal checklist and subsequently determined only the standby airspeed indicator and altimeter to be reliable.⁶

Four minutes after takeoff, at the request of Rotterdam Tower, the flight crew switched communications to Schiphol Approach. On several occasions during the flight, the approach controller provided the flight crew with groundspeed and altitude information, based on radar data. Initially, the controller did not have any altitude information, but at a later stage, he was provided with altitude information from the Dutch Military 3D radar system. The aircraft reached an altitude of approximately 11,000 feet.

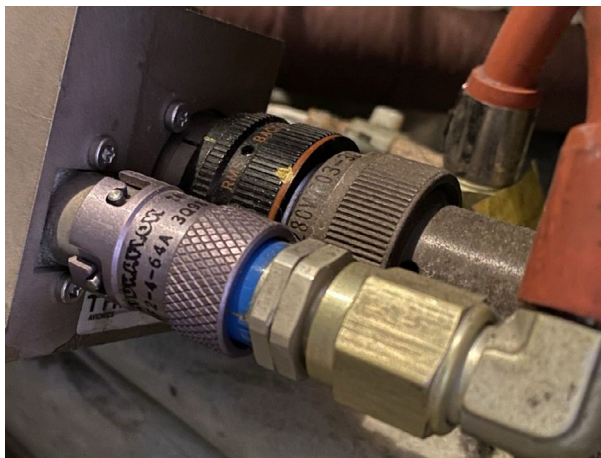
After discussing the situation the crew decided to divert to Amsterdam Airport Schiphol. Schiphol Approach informed the flight crew that Runways 06 and 36R were available and the weather conditions to be CAVOK.⁷ The pilots descended the aircraft to 3,000 feet and were vectored towards Runway 06. The flight crew indicated they did not require assistance of emergency services after landing. During the approach, the pilots received another GPWS windshear warning at approximately 150 feet altitude. The pilots landed the aircraft 38 minutes after they took off from Rotterdam and taxied to the gate.

- 6 In addition to the Primary Flight Displays, the aircraft is equipped with a standby airspeed indicator and altimeter. This standby instrument used a separate pitot-static air source and is there to be used in case of failure of the primary instruments.
- 7 Visibility is 10 kilometres or more. No cumulonimbus or towering cumulus clouds and no cloud below 5,000 feet or Minimum Sector Altitude (whichever is the greater). No significant weather at or in the vicinity of the aerodrome.

After the aircraft arrived at the gate, the aircraft was inspected by maintenance staff. Eventually, they found three pneumatic quick disconnect fittings (QDF) of the pitot-static system - located in the forward electronic equipment bay and forward cargo bay - disconnected from the air data system.

Analysis

On 19 February 2021, the aircraft in question was placed into storage at Rotterdam The Hague Airport.⁸ As part of this, the pitot-static system was covered to prevent pitot tubes and lines from becoming blocked (for example by insects, dust or debris). In order to put the aircraft back into a serviceable condition after storage, pitot-, static-, and drain-lines that form part of the air data system had to be disconnected, flushed and reconnected. Procedures for covering and flushing the pitot-static system were performed according to the relevant Boeing Aircraft Maintenance Manuals (AMM)⁹, by two certifying technicians and an apprentice.



Connection of the pitot-static lines to the air data system.

The technicians who reconnected the pitot-static lines to the air data system stated that they believed all the AMM tasks and subtasks had been performed by themselves or the apprentice under their supervision. They did not recall who was tasked to connect the QDFs related to this incident. Due to the design of the QDFs, when properly installed, it is highly unlikely they would disconnect by themselves. It is therefore likely the three QDFs were not correctly connected and fully engaged on the lock pins or not connected at all after the flushing procedure. The certifying technician, responsible for verification of this procedure did not notice the improper connections.

The operator's engineering department had created a task card, containing a list of AMM tasks to be performed for returning the aircraft into service. This task card is updated regularly according to manufacturer and operator requirements. The technicians performing the flushing tasks were familiar with this procedure on the task card. They had previously used a task card, which contained all the AMM tasks - related to the flushing - as separate items. The latest revision, which was used in this case, only contained a reference to the tasks in the AMM. The AMM provided a detailed step-by-step guidance and reference to perform all the required flushing (sub) tasks. However, the technicians believed not all AMM tasks needed to be performed, due to the simplified presentation on the revised task card and therefore did not consult the AMM. This contributed to the QDFs not being connected correctly.

With three QDFs disconnected from the air data modules, these air data modules were not provided the required pitot-static air pressure inputs and therefore were unable to provide the pilots with airspeed and altitude information after rotation.

The pilots made use of the standby altitude and airspeed indicator, a procedure which is practiced during training in a flight simulator. Additionally, the pilots were able to maintain outside visual reference in CAVOK daylight conditions and the aircraft could be kept under control. The flight continued uneventfully to Amsterdam Airport Schiphol.

After a previous, similar event (at a different operator) after maintenance action and due to the potential catastrophic consequences of flight with unreliable airspeed and altitude, The Boeing Company issued a Multi Operator Message¹⁰ on 25 March 2021, recommending operators to ensure that published maintenance procedures associated with the air data systems are followed when performing any air data system flush/rinse or removal/installation procedures of related components. This incident took place about four weeks after Boeing's communication and the message had not reached the technicians working on the incident aircraft.

On 3 June 2021, about five weeks after the incident, the Dutch Safety Board issued an interim warning to airlines and maintenance organisations, urging them to pay additional attention to the associated safety risks when returning aircraft to service following storage during the COVID-19 pandemic.¹¹

- 8 The aircraft was placed into storage, because there was a reduced demand for air transport capacity for an extended period of time due to the COVID-19 pandemic.
- 9 The Boeing Company, *Aircraft Maintenance Manual 10-11-07-630-807 Rev 74*, February 2021 and *34-11-00-170-802 Rev 74*, February 2021.

- 10 The Boeing Company, *MOM-MOM-21-0151-01B*, March 2021.
- 11 <https://www.onderzoeksraad.nl/en/page/18822/foutieve-hoogte--en-snelheidsindicaties-boeing-737-700-rotterdam-the>

Investigated occurrences

Conclusions

The erroneous altitude and airspeed indications that manifested immediately after the aircraft had become airborne, were the result of multiple air data modules not receiving valid static air pressure inputs. Three pitot-static lines were not connected properly to their respective air data modules, because the connecting QDFs were likely not fully engaged on the lock pins or not connected at all after the flushing procedure was performed. This presented the flight crew with a hazardous situation in flight. The associated risk was reduced by the fact that they were flying in good weather conditions during the day and could make use of the aircraft's standby instruments.

The operator had not designated the pitot-static system as a critical system¹² and the associated critical tasks were therefore not performed at different times or by different technicians. The operator acknowledged the increased risks associated with maintenance action during the return to service procedures and addressed these by revising the associated task card. They issued a new task card after the incident flight, requiring two certifying technicians to independently verify completion of the tasks – in line with treating the pitot-static system as critical - and ensure the connections from the pitot-static system are properly connected. The operator also added notes to the task card to verify proper connection of the pitot-static lines to the air data modules and make sure that the actuation rings of the QDFs are fully engaged on the lock pins and the colored lock ring indicators are visible.

¹² A critical system could, if an error occurred during performance of maintenance tasks on this aircraft system, directly endanger the flight safety.

Based on the corrective actions taken by the operator, the aforementioned warnings issued to airlines and maintenance organisations, and the diminishing risks associated with the COVID-19 pandemic, the Dutch Safety Board does not issue safety recommendations.

Classification: *Serious incident*

Reference: 2021031

Loss of engine inspection panel, Eurocopter Deutschland EC135 T2+, PH-MAA, Bunne, 7 February 2022

To protect the two engines from erosive and corrosive deterioration, the operator had scheduled a rinsing of the engine compressors on the morning of 7 February 2022. According to the operator's aircraft maintenance program an engine rinse was required every 5 flying hours/3 days, or after flights over sea and/or a polluted environment. The commander of the flight was authorized to perform this maintenance procedure where he would have operated the switches in the cockpit and a second person would have operated the rinsing equipment.

The procedure required the engine cowlings of the Eurocopter EC135 T2+ to be opened in order to access the compressor rinse connection and to be closed after the rinsing procedure was completed. The rinsing of the engine compressor procedure also stipulated a plan in case of a Helicopter Emergency Medical Service (HEMS) scramble during the rinsing procedure. During the rinsing procedure, the HEMS provider received a call to scramble to an emergency site.



The helicopter with the lost engine inspection panel. (Source: ANWB MAA)

The helicopter took off from Groningen Airport Eelde (EHGG) in a southwesterly direction towards the city of Joure. During the flight, the pilot heard a noise and suspected the helicopter had struck a bird. There were no indications or warnings in the cockpit of a helicopter system malfunction and the commander decided to continue the flight. Shortly thereafter, the scramble that the air ambulance was responding to, was cancelled and the helicopter returned to EHGG. After landing, an engine inspection panel was found missing.

It is likely that the right engine cowling was not properly closed after the engine compressor rinsing procedure was interrupted by a HEMS scramble. Consequently, as a result of aerodynamic overload, it departed the helicopter during the flight.

Classification: Serious incident
Reference: 2022005

Airprox, Guimbal Cabri G2, PH-HCF and Diamond DA40D, PH-FLD, near Almere, 27 February 2022

At around 16.00 hours, a Guimbal Cabri G2 helicopter with registration PH-HCF, took off from Runway 23 at Lelystad Airport for a training flight to Noord-Holland. On board were the pilot and a passenger. The pilot had received permission from air traffic control at Lelystad Airport, following takeoff, to fly along the A6 motorway towards Almere, at an altitude of 1,000 feet.

A short time later, a Diamond DA40D with registration PH-FLD also received permission from air traffic control to takeoff from Runway 23, and also to fly along the A6 motorway towards Almere. On board this aircraft were the pilot and three other persons. The air traffic controller warned the pilot that a helicopter was flying ahead of him, on the same route, at an altitude of 1,000 feet. The pilot of the aircraft confirmed having received this warning.

The airspace in question¹³ is classified as class D below 1,500 feet AMSL. In this airspace, air traffic control services are provided to VFR flights. These flights also receive traffic information and advice for avoiding other air traffic, if requested. The pilots of VFR air traffic are themselves responsible for maintaining separation with other air traffic.

A few minutes after both aircraft had taken off, the air traffic controller warned the pilot of PH-HCF of the presence of another helicopter travelling towards him, flying parallel to the A6 motorway from a southwesterly direction, towards reporting point X-ray. After the pilot of PH-HCF had observed this helicopter, also a Guimbal Cabri G2 with registration PH-HCC, and had duly reported to the air traffic controller, he continued his flight along the A6 motorway towards Almere, at an altitude of 1,000 feet.

¹³ Lelystad CTR 1.

Investigated occurrences

As PH-HCF approached Almere, the pilot suddenly saw a fixed-wing aircraft flying directly across and above his helicopter. The aircraft flew over the helicopter travelling in the same direction, at high speed, with what the pilot estimated to be a height difference of 30 feet. Immediately after the pilot had informed air traffic control of the occurrence, it became clear that the aircraft in question was the Diamond DA40D with registration PH-FLD.

The pilot of the Diamond stated that he had heard the warning from the air traffic controller about the helicopter flying ahead of him, and that he had maintained a lookout for this helicopter. While flying along the A6 motorway towards Almere, at an altitude of approximately 1,200 feet, he heard a further warning about a helicopter that was travelling along the A6 motorway, towards reporting point X-ray. This second warning somewhat confused the pilot of the Diamond, who assumed that the helicopter in question was the same helicopter as that mentioned in the first warning. This proved not to be the case. The pilot failed to see this helicopter, but after some time assumed that the helicopter represented no further danger. He then continued his flight in a southerly direction at an altitude of approximately 1,200 feet. The pilot of the Diamond failed to see PH-HCF. It was not until later that he realised that there had been not one but two helicopters.

According to the pilot of the Diamond, a number of factors contributed to the fact that he had not seen PH-HCF: he was not expecting to come across a helicopter travelling in the direction of Almere, and the Guimbal Cabri G2 is a relatively small helicopter that according to him was flying around 200 feet lower. As a consequence, and because the pilot was looking almost directly into bright sunlight, PH-HCF was not clearly visible to the pilot of the Diamond. On that day, there were no clouds, and visibility was more than 10 kilometres. The sun was positioned in the southwest, in the geographical orientation 230 degrees, almost parallel to the A6 motorway, which both aircraft were following.

Classification: *Serious incident*

Reference: 2022017

Airprox, Reims Aviation S.A. F172P, PH-VES and 'Sportine Aviacija' LAK-17A, PH-1614, near Wijhe, 26 April 2022

The motorized aircraft, a Reims F172P, and the glider, a LAK-17A, came close together at which point both pilots undertook evasive manoeuvres, to avoid a collision.

On the basis of the information gathered, the Dutch Safety Board has decided to no longer classify this occurrence as a serious incident, but as an incident, and has therefore decided to discontinue the investigation.

Classification: *Incident*

Reference: 2022027

Loss of trim weights, DG Flugzeugbau GmbH DG-1000S, PH-1380, Burgh-Haamstede, 28 May 2022

History of the flight

The DG-1000S, a two-seater glider with a student and an instructor on board, was ready to make its fifth flight of the day. A gliding club member had mounted trim weights in the ballast box in the vertical tailplane (fin) of the glider and taped the cover of this box prior to the flight. The instructor had not interfered with this. The maximum of six trim weights was present in the fin. After the student had performed the cockpit check, the glider took off by the winch launch method. The control light in the front instrument panel for the ballast box was flashing quickly.¹⁴

The student tried unsuccessfully to turn off the light by pushing on it during the takeoff. After flying for about 30 minutes, the instructor initiated a spin at an altitude of approximately 400 metres from which the student had to recover.

¹⁴ See description of the control light under header *Box for trim weights*.

After landing, the glider was found to have lost five trim weights. The weights fell on a camping path and a parked car, which was damaged as a result. The glider was not damaged. The instructor had not experienced any flight control issues during the flight.

Box for trim weights

The DG-1000S is equipped with a box for ballast (trim weights) in the fin. It can be used to compensate the mass of the rear pilot and as a trim-possibility for heavy pilots. The trim ballast box is supposed to be closed by a Plexiglas cover with a steel frame. This cover fits in the fin and is in turn closed by a fixed pin on the lower side and a spring loaded pin on the top of the cover. The proper locking of the ballast box cover is an item in the pre-flight checklist, as stated in the DG-1000S Flight manual.¹⁵

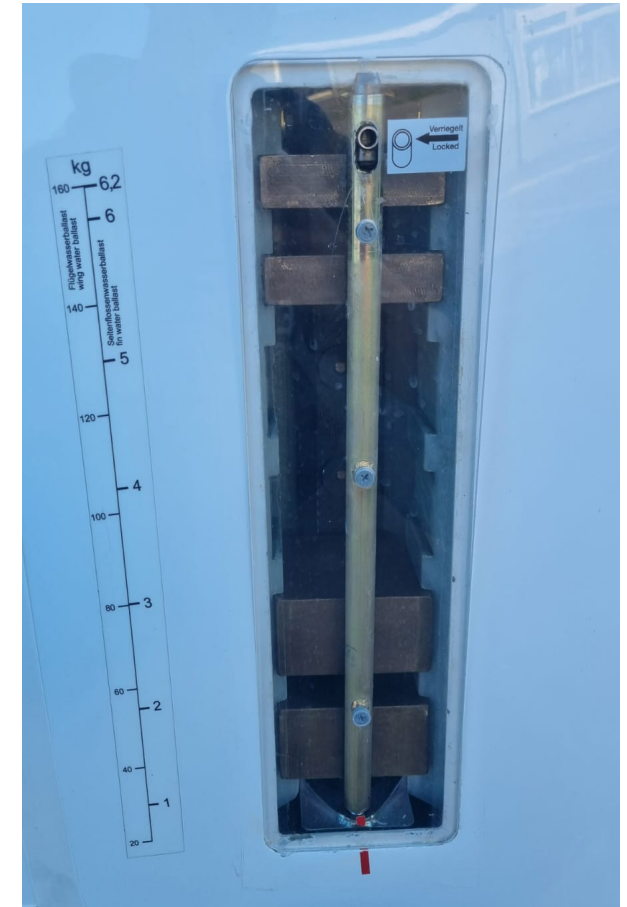
After the ballast box is filled with trim weights, the correct indication of the green control light in the upper right corner of the front instrument panel should be checked. It starts blinking after changing the number of weights. By counting the amount of blinks, the amount of ballast can be determined. The blinking can be stopped by pressing on the control light. If the ballast box cover is not locked properly, the control light in the front instrument panel starts to flash quickly. This quick flashing cannot be turned off by pushing on the control light.

A previous occurrence demonstrated that the spring loaded pin may not lock when not aligned properly, as earlier indicated in a technical note by the manufacturer.¹⁶ The manufacturer advised a revision of both the flight and maintenance manual to account for the issue. In effect, a warning was added to the flight manual to tape the cover of the fin ballast box with tape of at least 19 millimetres wide prior to each flight. To reduce the possibility of the ballast box not being locked correctly, the technical note also prescribed to glue a placard and markings onto the cover plate.

Analysis

No technical defects were found on the glider that could have caused the trim weights to come loose. The cover plate of the ballast box, on which the prescribed placard was applied, was found not to be properly locked after trim weights were mounted in the fin prior to the flight. This caused the control light for the ballast box to flash quickly. The instructor, who was sitting in the rear seat, did not see this. The student did not know what the quick flashing of the light meant. Checking the status of the control light was not a standard part of the cockpit check within the club. As a result, it was possible that no proper action was taken on the quickly flashing light. Even though the cover of the fin ballast box was taped, the cover opened during the recovery exercise and trim weights fell out of the fin. Given the location where the trim weights were found, they probably came loose during the spin recovery exercise.

The gliding club conducted its own investigation into the occurrence and shared its findings with the Dutch Safety Board. The club's investigation report includes among others the following recommendations: the pilot in command must place and remove the trim weight himself, and adjust the cockpit check to include the checking of the control light. The Board concurs with those recommendations.



An example of the box in the fin with four trim weights in it. (Source: gliding club)

Classification: Serious incident

Reference: 2022055

15 Section 4.4: Pre-flight inspection.

16 DG Flugzeugbau GmbH, *Technical Note No. 413/2*, September 2003.

Investigated occurrences

Collision of aircraft with tug, Boeing 787-9, N128AM, Amsterdam Airport Schiphol, 11 June 2022

Ground control gave the flight crew of the Boeing 787, that was parked at Gate F3, permission for the pushback and to start the engines. The flight crew then instructed the pushback tug driver to start with the pushback. After the pushback to Taxiway Alfa was performed, the flight crew set the brakes and reported to the driver that he could disconnect his vehicle. The driver lowered the aircraft and disconnected it. He moved his vehicle approximately 3 metres in front of the aircraft, closed the grips and put on the handbrake. The driver then got out of his vehicle and removed the bypass pin¹⁷ and communication cable from the aircraft. The flight crew of the Boeing 787 requested taxi clearance, which was subsequently issued by the ground controller. The flight crew performed the before taxi checklist, the last item of which is 'ground equipment cleared'.

Since the tug is not always visible from the cockpit, the flight crew must wait for the 'all clear' signal from the tug driver before they start taxiing. The first officer looked outside the cockpit window and saw no one standing on the right side of the aircraft. Nevertheless, he assumed the way was clear for taxiing. The Boeing 787 started to taxi and collided with the pushback tug that was still standing in front of the aircraft. The driver of the tug had walked back and was just about to get into his vehicle in order to move the tug away from the aircraft.

The flight crew felt a vibration and immediately stopped the aircraft. The tug driver was unharmed. The tug was damaged; the aircraft sustained damage to, among other things, the tires of the nose landing gear. The ground controller cleared the flight to taxi back to a gate for further inspection of the damage incurred.

The collision of the aircraft with the tug could take place because the flight crew started taxiing, despite the fact that the pushback tug driver had not yet given the 'all clear' signal to the flight crew to indicate that the way was clear to taxi. The Dutch Safety Board did not further investigate the incident.



The damaged pushback tug. (Source: Dutch aviation police)

Classification: Incident
Reference: 2022066

¹⁷ When the pin is inserted, the steering hydraulics on the landing gear are bypassed. This allows for steering of the aircraft to be controlled completely by the pushback tug.

Loss of control during touch-and-go, Aquila AT01, PH-BAA, Breda International Airport, 2 July 2022

The course of the flight

At around 12.45 hours, the student and instructor took off from Runway 24 for an instruction flight, during which the student was to practise touch-and-go's under crosswind conditions, for the first time. The subjects discussed during the pre-flight briefing included the weather conditions. During previous instruction flights, the student had received circuit training.

The first circuit and touch-and-go were completed without problems. During the second approach, which was also planned to continue as touch-and-go, the aircraft was already in the landing configuration. During the descent to a height of 100 feet, the approach speed was 65 to 70 knots¹⁸ and at the moment when the round out¹⁹ was initiated, the speed was 60 knots.

Two seconds after the round out had been initiated, at a height of approximately 2 metres above the runway, the speed had fallen to approximately 50 knots and the stall warning sounded. The speed fell further to around 40 knots, and the aircraft experienced a severe rolling motion to the left. The main landing gear of the aircraft touched the runway in traversing condition, followed by the nose wheel. As the nose wheel sprung in, the main landing gear rose free of the runway, after which the nose of the aircraft came up. The instructor stated that following the initial contact between aircraft and runway, he took back control, selected full power, and attempted to return the aircraft to horizontal flight. The aircraft then rolled to the right, at which point the right wing and nose wheel came into contact with the ground. The aircraft performed a ground loop and came to a standstill in the grass to the right of the runway, having completed a 180 degree turn. Both occupants remained unharmed. The aircraft was substantially damaged.

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- 18 The speeds were determined on the basis of film recordings in the cockpit. The landing was also (partially) recorded by cameras on the ground.
- 19 The round out is the moment that the descent transitions to horizontal flight.

The weather and operational information

The weather was unstable, with some cloud cover (BKN/SCT at 4,500 feet) and more than 10 kilometres visibility. The wind came from a direction of 190 degrees, at a strength of 9 knots on the ground and 14 knots at a height of 1,000 feet. The instructor stated that there had been wind gusts during the landing, due to the hangars and buildings adjacent to the runway.

The weight and centre of gravity were within the limits. According to the Pilot Operating Handbook (POH) for the Aquila AT01, the approach speed with flaps in landing setting is 60 knots, which speed must be adjusted according to the current environmental conditions, such as crosswind and turbulence. The flying school employed an approach speed of 65 knots. The stall speed for the aircraft is 39 knots with flaps in landing position, and the maximum demonstrated crosswind component is 15 knots.



The crashed AT01. (Source: Airport operations Breda International Airport)

Analysis

The approach speed of 65 to 70 knots down to a height of 100 feet complied in terms of speed with the landing procedure as described in the POH and was also favourable for possible gusting wind.

As a result of the round out, the speed fell further. The flare²⁰ was initiated too high above the runway and the critical angle of attack was exceeded. As a result, the aircraft stalled. This led to a bounced landing.

The 7 knots crosswind was less than the maximum demonstrated crosswind component (15 knots), which is generally taken as the operational limit.

The accident was discussed at the flying school, to improve the awareness of the instructors about when it is wise to intervene.

Classification: Accident
Reference: 2022081

Airprox, TL Ultralight s.r.o. TL-3000 Sirius, PH-4U9 and Scheibe Aircraft GmbH SF 25 C, PH-1544, near Dalfsen, 9 July 2022

The crew of the Sirius had taken off from Teuge International Airport for an instructional flight under visual flight rules (VFR) towards Hoogeveen Airport. The trainee pilot was sitting in the left-hand seat and the instructor (pilot) in the right-hand seat. After leaving the circuit area, they contacted Dutch Mil Info for flight information service. The activated transponder meant that the aircraft was visible on radar: it was flying north of Heino at an altitude of around 1,200 feet (in Class G airspace) on a northeasterly course, intending to pass Dalfsen to the east.

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- 20 The flare is the phase during which the nose of the aircraft is gradually placed in a fixed setting approximately above the horizon, so that the aircraft slowly loses lift and the main landing gear touches the runway first, followed by the nose wheel.

Investigated occurrences

The Scheibe had taken off from Runway 27 of glider airfield Lemelerveld (Salland) for a local flight.²¹ The pilot was seated in the left-hand seat, with a passenger on his right. The pilot of the Scheibe declared that following takeoff, he had flown straight ahead in a westerly direction and was climbing to an altitude of more than 1,500 feet. The aircraft would thus end up in Class E airspace.



The Sirius (Source: R. Vermeulen) and the Scheibe. (Source: Aero Club Salland)

²¹ Glider airfield Lemelerveld is located in Class G airspace and is marked as a glider site on the Aeronautical Chart The Netherlands. It has no aerodrome traffic zone (ATZ) or any other form of protection zone (such as a restricted area).

Weather information from the KNMI indicated that local visibility was in excess of 35 km – with a northwesterly current transporting unstable polar air – with cumulus and stratocumulus clouds present, with a cloud base at around 2,500 feet and a cloud ceiling at around 4,000 feet. In Class E airspace, a minimum of 1,000 feet of vertical separation is required between the cloud base and the flight altitude.²² Under these weather conditions, the maximum flight altitude was around 1,500 feet.

The flight reconstruction, based on radar data and FLARM data²³ from the Scheibe shows that the aircraft approached each other approximately 3.2 NM west of glider airfield Lemelerveld. According to the instructor in the Sirius, the trainee pilot was the first to observe the Scheibe approaching from the right, at which point, in a reflex, the trainee pilot initiated a roll to the right. As soon as the instructor saw the Scheibe – according to his estimate at a horizontal separation of 50 metres and 20 metres higher – he forced the nose of the Sirius down, to avoid the Scheibe.

The pilot of the Scheibe stated that he had not seen the Sirius. The crew of the Sirius then reported the occurrence by radio to Dutch Mil Info. As far as known,²⁴ the pilot of the Scheibe had not reported his presence on the Dutch Mil frequency. VFR traffic in Class G airspace is not obliged to make radio contact with an air traffic control service.

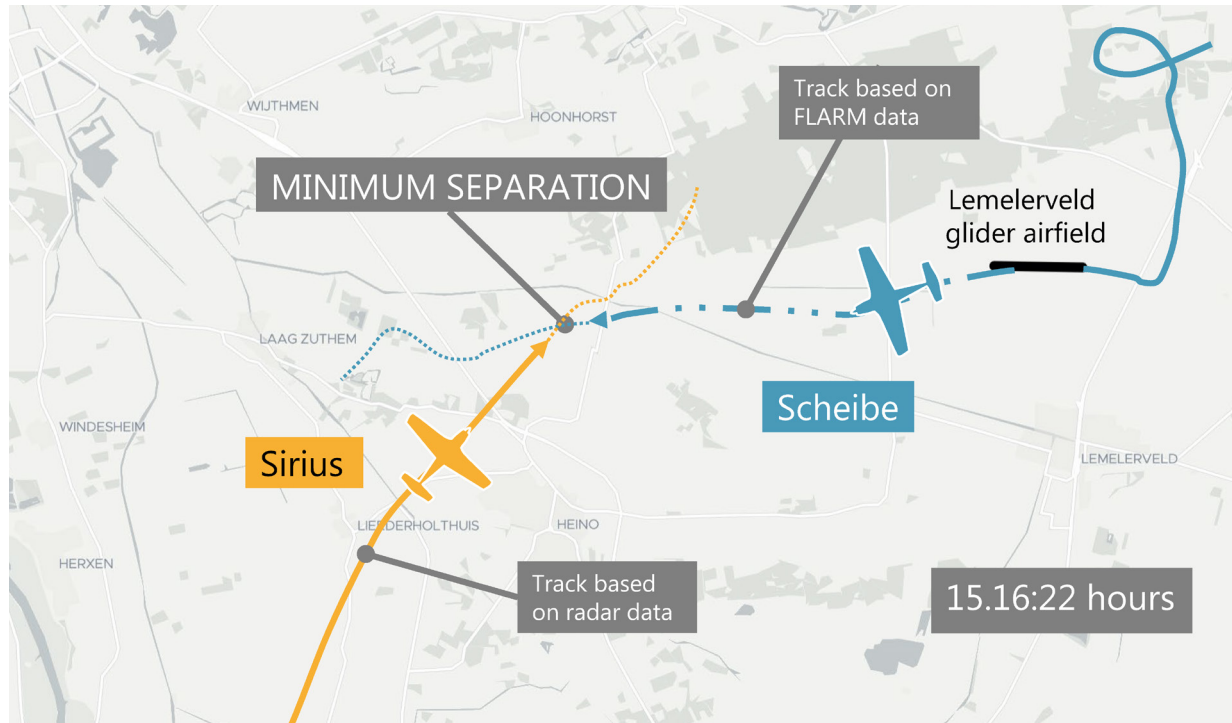
Pilots of motorized aircraft equipped with a functional transponder are obliged to activate the transponder in flight, even if the aircraft is not located in a transponder mandatory zone (TMZ).

At the time of this serious incident, the radar system detected no transponder signal from the Scheibe at approximately 1,200 feet. As a result, the Scheibe was not visible on the radar.

²² The local airspace is Class G up to an altitude of 1,500 feet; above that it is Class E.

²³ The FLARM system supplies among others GPS positions.

²⁴ Radiotelephony was no longer available for reconstruction when it was requested. The radiotelephony remained available for three months.



The airprox which took place at an altitude of approximately 1,200 feet. (Source data: LVNL, source map: OpenStreetMap)

Radar information shows that the Scheibe was last detected at an altitude of approximately 500 feet during its approach for landing during its previous flight.²⁵ Around one minute after the two aircraft had passed each other, the Scheibe for the first time reappeared on the radar at an altitude of 1,380 feet. The pilot of the Scheibe was unable to provide an explanation for this.

Classification: Serious incident

Reference: 2022093

²⁵ At 15.02:58 hours.

Mid-air collision between two paramotors, one foot launched machine and one trike, near Zeewolde, 23 July 2022

Two paramotors, one a foot launched machine²⁶ and the other a paramotor trike²⁷ took off shortly after each other, from a field approx. 10 kilometres southwest of Zeewolde. The intention was to head together towards Zeewolde, for a local flight. This was the first occasion on which the two pilots had flown together; they maintained contact with each other via the radio.

A few minutes after takeoff, both paramotors reached their cruising altitude of approx. 1,000 feet. Via the radio, the pilot of the trike informed the pilot of the foot launched machine that he was travelling behind him, in the same direction. The pilot of the foot launched machine then confirmed that he had observed the presence of the trike. The trike was flying at a higher speed than the foot launched machine. At a certain point, the wing of the trike came into contact with the propeller of the foot launched machine. As a result, the pilot of the trike lost control of his machine which started to lose altitude, in a spin. The pilot opened his reserve chute. This chute opened below the main wing, which meant that the pilot was unable to retrieve the main wing.²⁸ The trike ended up in a tree and the pilot remained unharmed. The other pilot flew back to the takeoff location where he completed a safe landing. Both paramotors suffered damage.

²⁶ In the case of a foot launched machine, the pilot wears the motor on his back, like a backpack, and uses his/her legs during takeoff and landing. The foot launched machine had an Ozone, Sirocco 26 paraglider wing.

²⁷ The (paramotor) trike is a sort of three-wheeler unit in which the pilot sits, with the motor mounted on the trike. This trike, a Pap trike with registration D-MLND, was fitted with an Apho lift EZ, Polini 250 paraglider wing.

²⁸ It is normal practice for the main wing to be retrieved, after the pilot has opened the reserve chute. The reserve chute is supposed to open above the main wing.

Investigated occurrences

In a newsletter from the Paramotor Flying Division of the Royal Netherlands Aeronautical Association (KNVvL), this occurrence was reported. The report emphasized that it is important that when flying in groups of two or more paramotors, agreement must be reached on who will lead and who will follow. The leader (the paramotor flying in front) is primarily responsible for keeping watch and navigation, while the primary responsibility of the follower is to maintain a separation between the paramotors. If there is a change of leader during the flight, this must be clearly communicated, so that it is clear at all times who has which primary responsibilities.²⁹ The Paramotor Flying Division also recommended its members to check the installation of the reserve chute systems, since in particular in the case of (main) wings for paramotor trikes, it is possible that the reserve chute is unable to open above the main wing.

The Dutch Safety Board did not further investigate the occurrence.

Classification: Accident
Reference: 2022100

Airprox, Cessna C172P, N65909 and Reims Aviation S.A. F150H, PH-BWR, International Airport Teuge, 12 August 2022

N65909, a Cessna C172P, was conducting a flight under visual flight rules (VFR) from Hilversum Airfield to International Airport Teuge. On board were a pilot and passenger. Runway 08 of Teuge Airport was in use. The pilot reported to Teuge Radio that he was passing compulsory reporting point Sierra. He continued the flight in order to join the right-hand downwind leg of the circuit.

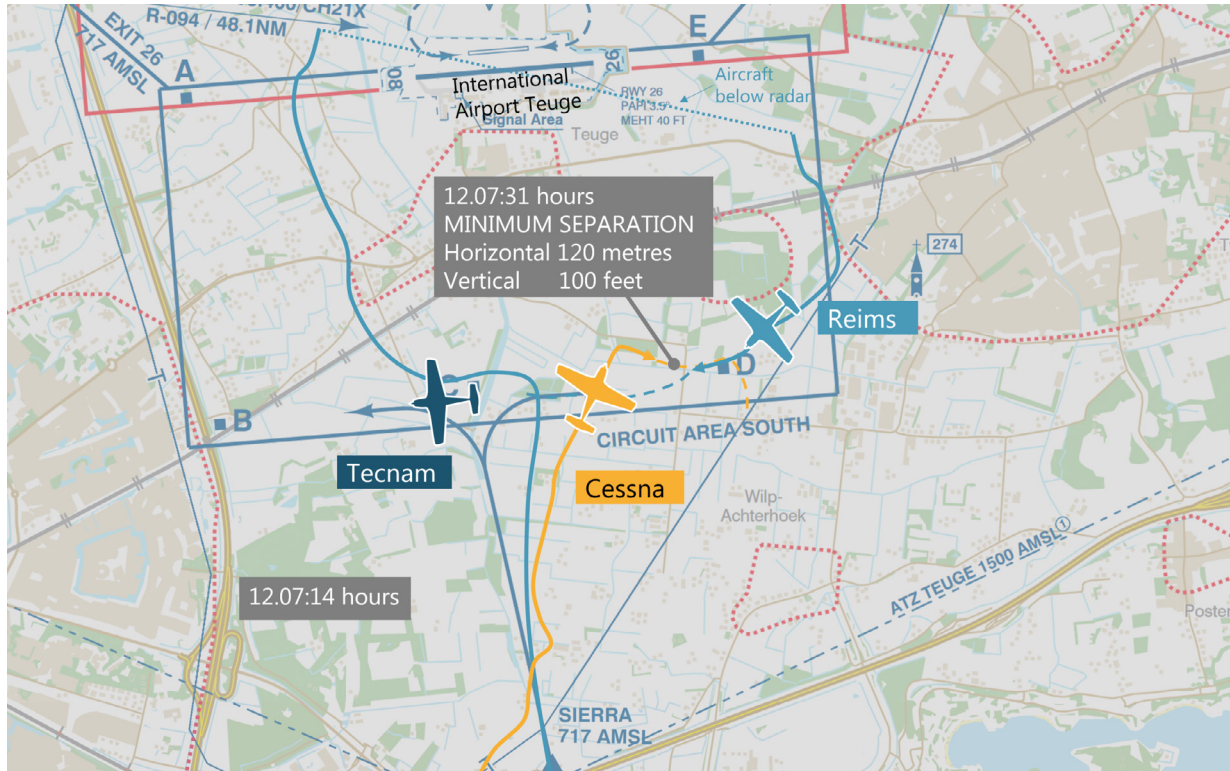
Then he heard an aircraft making a downwind call over the radio. He saw an aircraft, a Tecnam P2002JF, flying on the downwind leg and was under the impression that this aircraft had made the call and decided to join downwind behind this aircraft. To ensure sufficient distance from this aircraft, the pilot initiated a right-hand turn with the intention to subsequently make a left-hand turn and join downwind. During the right-hand turn, the pilot saw another aircraft behind the Tecnam on downwind, which was PH-BWR, a Reims F150H. The pilot initiated a descent to avoid the Reims. After the aircraft had passed each other, he flew back to point Sierra, joined the circuit and landed uneventfully.

The flight with the Reims was an instruction flight with a student and instructor on board and was flying in the circuit practising touch-and-go's. After making a downwind radio call and while levelling off at 700 feet on downwind, both occupants saw oncoming traffic flying towards them. The student pilot made an evasive manoeuvre by steering to the left to avoid the Cessna.

Both aircraft passed each other with a small vertical and horizontal distance. At the point of minimal distance, the separation between them was approximately 120 metres horizontal and 100 feet vertical. Weather conditions at the time of the occurrence were a visibility of 10 kilometres or more and no clouds of operational significance.

It is not mandatory at Teuge Airport, as for most uncontrolled aerodromes, to make downwind calls. The occupants of both aircraft only saw the other aircraft when they were flying towards each other on the downwind leg. The pilot of the Cessna stated that he was under the impression that there was only one aircraft flying in the circuit. The Cessna's right-hand turn resulted in the aircraft flying in the opposite direction on downwind. Such a manoeuvre may only be performed outside the circuit area.

²⁹ KNVvL, *Newsletter ParamotorWeb*, 6 September 2022.



Circuit area International Airport Teuge. (Source: AIP and radar data, LVNL)

The pilot indicated he could not complete the right-hand turn as he had to ensure separation with the Reims and that during this evasive manoeuvre he kept the Reims in sight as long as possible.

The flying school involved conducted an investigation into the occurrence. The resulting report states that on regular basis air proximities take place in the circuit of Teuge Airport, for example near point Sierra and mid downwind; the positions where traffic converges and aircraft join the circuit.

The flying school has indicated its commitment to work with the aerodrome on improving the visibility of the visual circuit markers on the ground, which indicate the location of the circuit, and more detailed VFR briefings on avoiding conflicts when entering the circuit to be posted on the aerodrome's website.

Classification: Serious incident
Reference: 2022131

Passenger suffered injury on landing, Kubicek BB120P, PH-MOL, near Soest, 23 August 2022

The flight with the hot air balloon started in Huizen. A pilot and eighteen passengers were on board the partitioned basket. Before the start of the flight, the pilot gave the passengers a briefing explaining the landing instructions, which included holding the handholds and bending the knees. The balloon took off at 19.45 hours and flew in a south-easterly direction towards Soest. After approximately one hour of flight, the pilot selected a flat field with short grass as landing area. Shortly before the landing, the pilot repeated the instructions for landing. The pilot stated he made a shallow approach towards the landing area and that the landing was normal. During the landing, an 79-year old passenger suffered a fractured bone in the forearm.

The basket of the hot air balloon remained upright during and after the landing. The injured passenger indicated to have followed the landing instructions, which the pilot also confirmed. During landing, the passenger, as all passengers in the first row, was facing forward, in the direction of travel. Following initial contact with the ground, the basket shook a few times when it contacted the ground. During the first bounce, the passenger lifted off the floor while holding on to the handhold. The passenger then came down and fell on top of her arm and against the edge of the basket.

Weather conditions at the time of the occurrence were visibility of 10 kilometres or more, no cloud of operational significance, wind at ground level from the direction of 220-290 degrees with 4 knots and a temperature of 24 degrees Celsius. Before flight, the pilot had obtained the weather forecast. The actual weather was in accordance with the forecast and within limits for the balloon flight. Meteorological conditions were not a factor in this accident.

Investigated occurrences

Passengers can experience sudden and varying forces during landing of a balloon. The landing position to be adopted by passengers depends among others on the type and lay-out of the basket. With regards to partitioned baskets, the Kubicek Flight Manual³⁰ and other sources^{31,32} consider the best landing position for passengers to be a backwards-landing position in the direction of travel. The handholds are situated on all sides of every compartment.

Classification: Accident
Reference: 2022122

Airprox, Rolladen-Schneider LS4-b, PH-1274 and Cessna 208B, PH-SPT, near Apeldoorn, 11 September 2022

PH-1274, a Rolladen-Schneider LS4-b, took off from Teuge International Airport (hereinafter: Teuge) at around 11.55 hours, for a local flight. The pilot was the only occupant of the glider. After a flight of around one hour, he decided to return to Teuge, to land. At the time, the pilot was flying north of Apeldoorn, travelling in an easterly direction, at an altitude of approximately 1,200 feet.

PH-SPT, a Cessna 208B, took off at around 12.55 hours from Teuge, for a local flight during which parachutists would be dropped. On board were the pilot and eighteen parachutists. The aircraft was in use at Skydive Teuge. Following takeoff from Runway 26, the aircraft ascended in a westerly direction and made a right-hand turn at an altitude of around 600 feet, from where it continued to climb in a northerly direction, approximately parallel to the A50 motorway.

³⁰ Kubicek, *Hot Air Balloon Flight Manual*, revision 14, 20 July 2022.

³¹ CAA UK, *Passenger landing position guidance to Operators, Balloon Notice 1/2007*, <https://publicapps.caa.co.uk/docs/33/BAL200701.pdf>

³² Royal Netherlands Aeronautical Association (KNVvL), *Safety instructions* (in Dutch: Veiligheidsinstructies Instapkaart), <https://www.knvvl.nl/ballonvaren/veiligheid/veiligheidsinstructies>

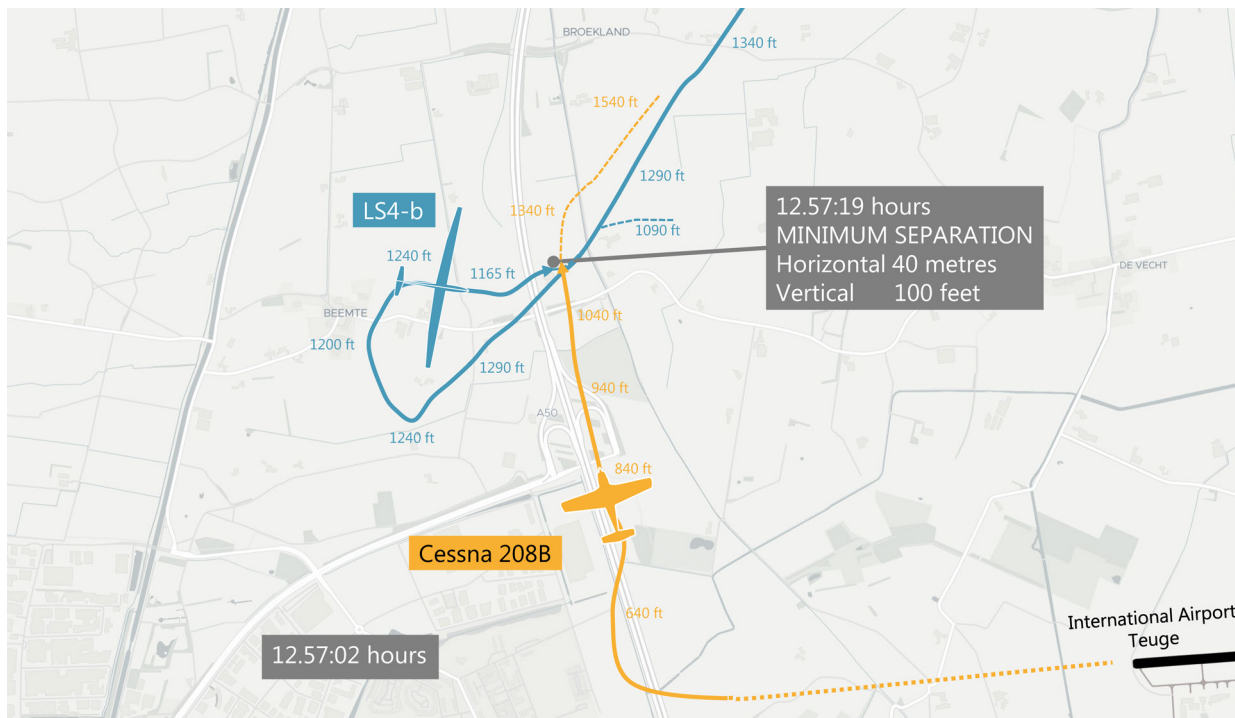
When the pilot of the LS4-b turned back in the direction of the airfield and passed the A50 motorway, he observed another aircraft approaching directly, from the right. According to the pilot, the aircraft was flying in a high pitch attitude as a consequence of which the pilot (of the aircraft) probably failed to see the glider. The pilot of the LS4-b immediately carried out a descending left turn, to avoid the aircraft. Shortly afterwards, the other aircraft flew straight over the LS4-b. The pilot estimated the vertical separation between the two aircraft as less than 30 metres. Following the evasive manoeuvre, the pilot continued his flight to Teuge. The other aircraft turned out to be PH-SPT.

The LS4-b was equipped with a so-called FLARM system³³ that generates a warning when another aircraft, also equipped with FLARM, is on a collision course. The system had issued no warning.

The pilot of the Cessna 208B stated that he was carrying out an ascending flight in a northerly direction with the purpose of climbing to the altitude at which the parachutists would be dropped. Due to the high pitch attitude of the aircraft, the pilot had no direct forward visibility. According to the statement of the pilot, he was flying at an altitude of approximately 2,000 feet, and was completing a gentle right-hand turn when he saw a glider, forward and to the left of his aircraft. At that moment, the glider made a sharp turn to the left. The pilot of the Cessna 208B immediately turned further to the right, and increased the angle of attack further, to maximum climb. This manoeuvre activated the stall warning. The Cessna 208B then flew over the glider. The pilot was unable to estimate the vertical separation between the two aircraft. The remainder of the flight was uneventful.

The aircraft from the parachute centre were equipped with the FLARM system, but because PH-SPT had only recently entered the service of the parachute centre, this aircraft was not yet equipped with FLARM.

³³ Traffic awareness and collision avoidance.



Radar track of the LS4-b and the Cessna 208B. (Source data: LVNL, source map: OpenStreetMap)

The airspace around Apeldoorn is classified below 1,500 feet AMSL as G class airspace. In this airspace, pilots of VFR air traffic are personally responsible for maintaining separation from other air traffic.

The weather conditions at the time of the occurrence were: variable wind with a speed of 3 knots, visibility more than 10 kilometres, slightly cloudy and a QNH of 1019 hPa.

The flight movements of the LS4-b and the Cessna 208B are shown in the figure above, based on the radar images. The radar images show that both aircraft passed each other at around 12.57:19 hours, at an altitude of between 1,100 and 1,200 feet. The height difference between the two aircraft was approximately 100 feet. According to the radar data, the horizontal separation was approximately 40 metres.

This serious incident was made possible by the fact that the Cessna 208B was flying in a high pitch attitude, as a result of which the pilot had no view of other air traffic flying directly in front of him, at approximately the same altitude or lower. This explains why the pilot only saw the glider when the aircraft conducted a left turn to avoid collision. Because the Cessna 208B was also not yet equipped with a system to warn of the presence of other air traffic, the pilot failed to observe the presence of the glider earlier. A possible collision was avoided because the pilot of the LS4-b made an evasive manoeuvre made slightly later by the pilot of the Cessna 208B also contributed to avoiding a mid-air collision.

Classification: *Serious incident*
Reference: 2022136

Rectification

In the previous Quarterly Aviation Report (2022-3), the classification 'accident' was incorrectly stated in the investigated occurrence 'Unmanned Aircraft during balloon event, Hardenberg, 24 June 2022'. This should have been the classification 'incident'.

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 permanent board members; the Vice Chairperson is Stavros Zouridis. 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. For specialist knowledge, the Board members can enlist the assistance of the associate members of the Board.

The Safety Board's bureau has around 80 staff, two-thirds of whom are investigators.

Visit the website for more information 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.

February 2023

Photos

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

Source photos cover:

Photo 2: ANWB MAA

Photo 3: Airport operations Breda International Airport