The original of the Final Report was issued in the Slovak language.
In case of inconsistency original version in Slovak language is applicable.

MINISTRY
OF TRANSPORT
AND CONSTRUCTION
OF THE SLOVAK REPUBLIC

AVIATION AND MARITIME INVESTIGATION AUTHORITY
Námestie slobody 6, P.O.BOX 100
810 05 Bratislava 15

F I N A L R E P O R T

on the safety investigation of an air accident

of the aircraft type **Viper SD4 RTC**
registration mark **OM-VIP**

Reg. No.: SKA2020002

The safety investigation of the aviation incident was performed in accordance with § 18 of Act No. 143/1998 on Civil Aviation (the Aviation Act) and on amendments and supplements of certain acts, in accordance with Regulation (EU) No. 996/2010 of the European Parliament and of the Council on the investigation and prevention of accidents and incidents in civil aviation governing the investigation of civil aviation accidents and incidents.

The Final Report has been issued in accordance with L 13 which is the application of provisions of the ANNEX 13, Investigation of Air Accidents and Incidents, to the Convention on International Civil Aviation.

The sole purpose of safety investigation is to identify the underlying causes of the incident and to prevent such incidents from occurring and not to apportion any blame or liability of any persons.

This Final Report, its individual parts or other documents related to safety investigation of the incident in question are only informative and cannot be used otherwise than as recommendation for implementation of measures aimed at preventing other aviation incidents with similar causes from occurring.

List of acronyms

°C	Degrees of Celsius - unit of temperature
°	Degree - geometric quantity
AGL	Above Ground Level
Black box data	More detailed set of data recorded by the Dynon skyview device
Dynon skyview Fully	integrated and comprehensive avionics system for experimental, amateur and light sport aircraft
FI	Flight Instructor
FI(A)	Flight instructor rating
ft	Foot (unit of length) Feet (dimensional units)
h	Hour (unit of time)
GPS ALT	Altitude
IAS	Indicated Airspeed
KTS	Knots True Airspeed
kt	Knot (unit of speed)
LZRY	Code for the Ražňany airport
LAPL	Light Aircraft Pilot License
m	Metre (unit of length)
min.	Minute (unit of time)
PALT	Pressure altitude
PPL(A)	Private Pilot License (Aircraft)
RPM	Revolutions Per Minute
s	Second (unit of time)
SEP(L)	Single Engine Piston/land license
SHMU	Slovak Hydrometeorological Institute
TMG	Touring Motor Glider
VFR	Visual Flight Rules
VPP BD	Code for the Bidovce airport area, intended for flying sports equipment
User log data	Data file recorded by the Dynon Skyview device

A. INTRODUCTION

Aircraft type: Viper SD4 RTC
Registration mark: OM-VIP

Operator/owner: FUTURE FLY, s.r.o. / Mgr. Zuzana Jirsáková - Fly in the sky
Type of operation: general aviation/sport and recreational flying
flights in the VPP BD area
Take-off site: VPP BD
Flight phase: landing
Incident location: VPP BD
Incident date and time: 12/09/2020 7:16:46

Note:
All time data in this report are in Coordinated Universal Time (UTC).

B. INFORMATION OVERVIEW

On 12/09/2020, the crew of the Viper SD4 RTC aircraft, registration number OM-VIP (hereinafter referred to as the "aircraft"), based on the statement of the aircraft commander/FI, performed a flight with a passenger (pilot/student) on board the aircraft to LZRY, where the pilot/student was about to perform training flights.

However, based on the evaluated record from the flight in question, the aircraft crew performed flights in the VPP BD area. It performed a total of two flights until the accident.

During the first flight, it performed one flight above VVP BD and four times a landing manoeuvre in the modified grassy foreland of the asphalt VPP BD17. It performed the last manoeuvre by flying around the circuit with landing in the modified grassy foreland of the asphalt VPP BD17.

After a short break (2 min.) it took off for the second flight.

During the second flight, it performed a landing manoeuvre four times onto the modified grassy foreland of the asphalt VPP BD17. During the fifth approach manoeuvre, the aircraft crew, in the final phase of the approach, under-descended the descent axis for the asphalt VPP BD17, which led to contact of the aircraft landing gear with the sunflower vegetation, followed by a contact of the main landing gear with terrain and impact on the raised edge of road no. 576. After this crash, the aircraft jumped over the road, became uncontrollable and stopped behind the road, 214 m in front of the threshold of the asphalt VPP BD17.

The aircraft crew was unharmed after the landing, the aircraft was damaged to a large extent.

The aircraft operator reported the aviation incident to the Aviation and Maritime Investigation Authority of the Ministry of Transport and Construction of the Slovak Republic.

A committee was set up to investigate the causes of the incident:

Ing. Ladislav Dospiva	Chairman of the Safety Investigation Committee
Marián Sluk	member of the Safety Investigation Committee

The report has been issued by:
Aviation and Maritime Investigation Authority
of the Ministry of Transport and Construction of the Slovak Republic.

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C. MAIN PART OF THE REPORT

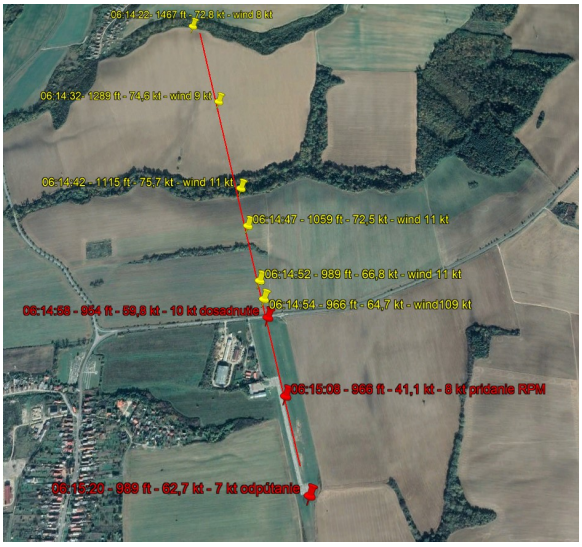
1. FACTUAL INFORMATION
2 ANALYSES
3. CONCLUSIONS
4. SAFETY RECOMMENDATIONS

1. FACTUAL INFORMATION

1.1 History of the flight

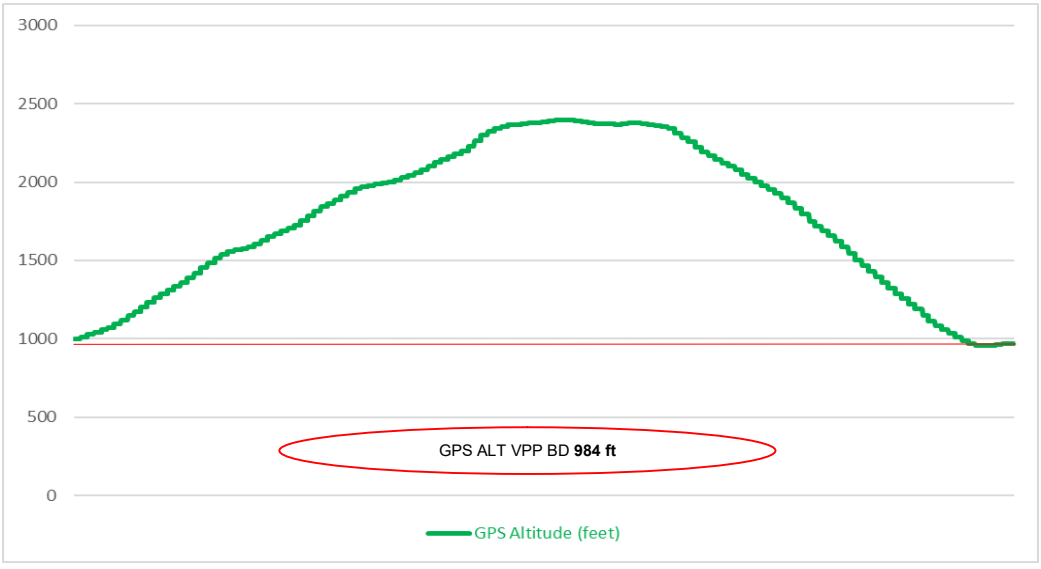
06:03:03 engine start, GPS ALT 983 ft
06:04:22 start taxiing to take off from VPP BD35
06:05:52 waiting site VPP BD35, heading 263.3° GPS ALT 980 ft
06:09:20 plane enters VPP BD35

1/1 flight:
06:10:06 take-off from VPP BD35, GPS ALT 985 ft
06:10:26 cast-off from VPP BD35, GPS ALT 997 ft, IAS 62.9 kt, wind 6 kt



06:14:58 landing on VPP BD17, GPS ALT 954 ft, IAS 59.8 kt, wind 10 kt
06:15:08 increasing RPM for the next flight, take-off from VPP BD17, IAS 41.1 kt, wind 8 kt
06:15:20 cast-off from VPP BD17, GPS ALT 989 ft, IAS 62.7 kt, wind 7 kt

Height course **6:10:26 – 6:15:08**

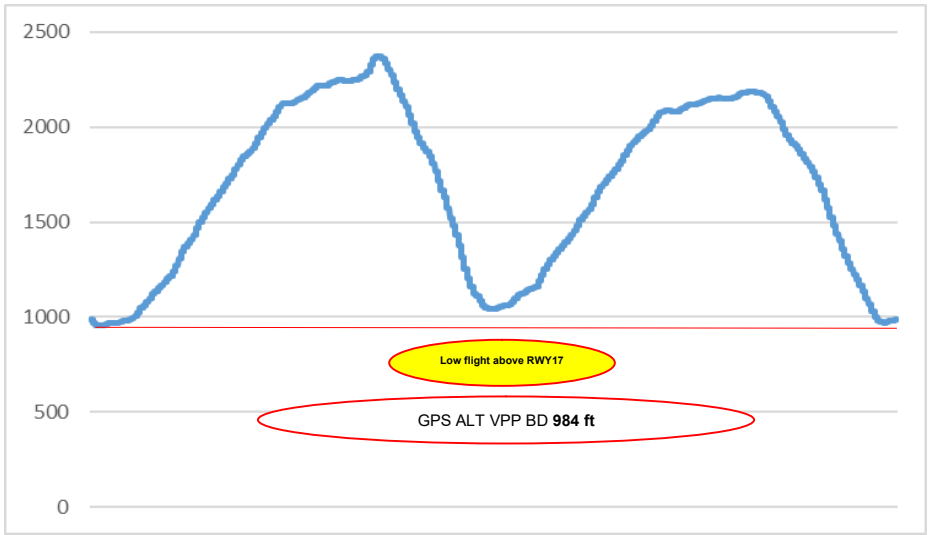


Heading course **6:10:26 – 6:15:08**

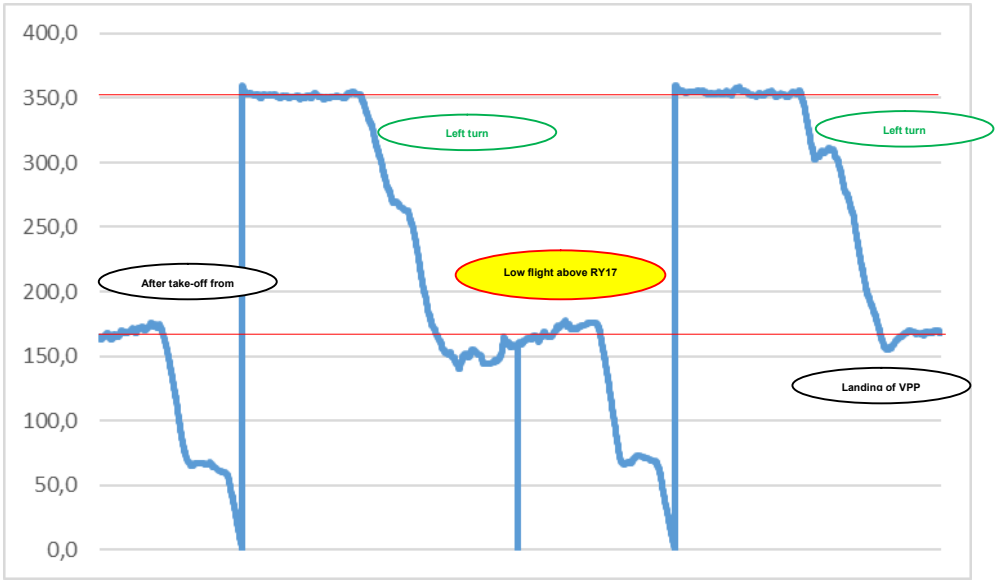
1/2 flight:

06:19:09 – 06:19:46 low flight above VPP BD17
06:23:46 landing on VPP BD17, GPS ALT 980 ft, IAS 66.1 kt, wind 9 kt
06:23:52 increasing RPM for the next flight, take-off from VPP BD17, IAS 57.3 kt, wind 9 kt
06:24:00 cast-off from VPP BD17, GPS ALT 989 ft, IAS 62.0 kt, wind 9 kt

Height course **06:15:08 – 06:23:52**



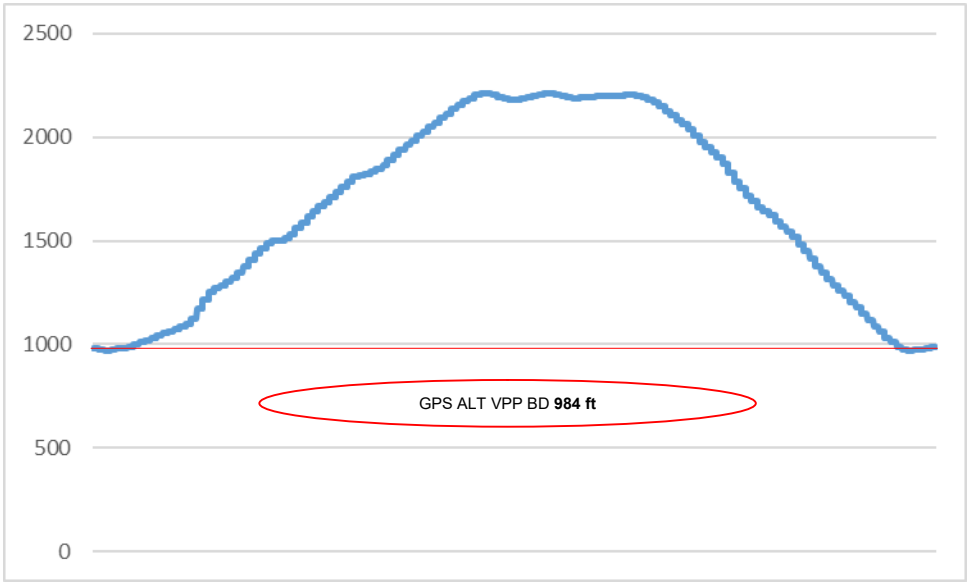
Heading course **6:15:08 – 6:23:52**



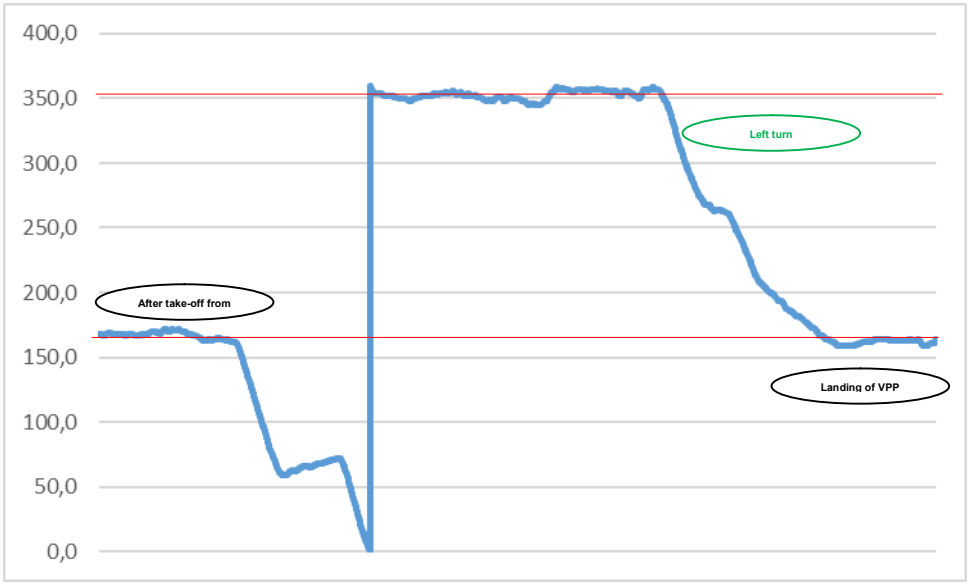
1/3 flight:

06:28:25 landing on VPP BD17, GPS ALT 989 ft, IAS 66,7 kt, wind 6 kt
06:28:27 increasing RPM for the next flight, take-off from VPP BD17, IAS 61.9 kt, wind 6 kt
06:28:38 cast-off from VPP BD17, GPS ALT 989 ft, IAS 66.1 kt, wind 8 kt

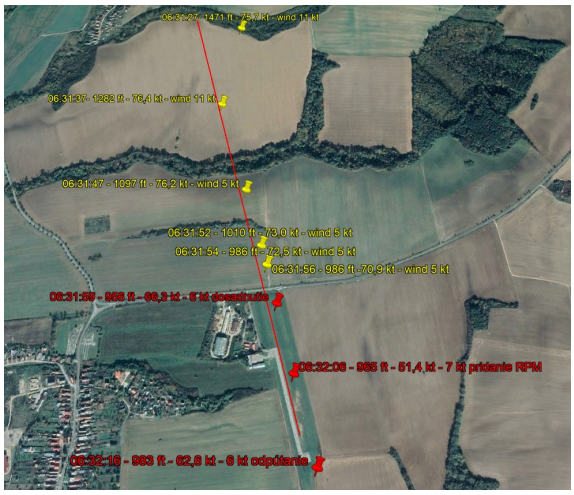
Height course - **6:23:52 – 6:28:27**



Heading course - **6:23:52 – 6:28:27**

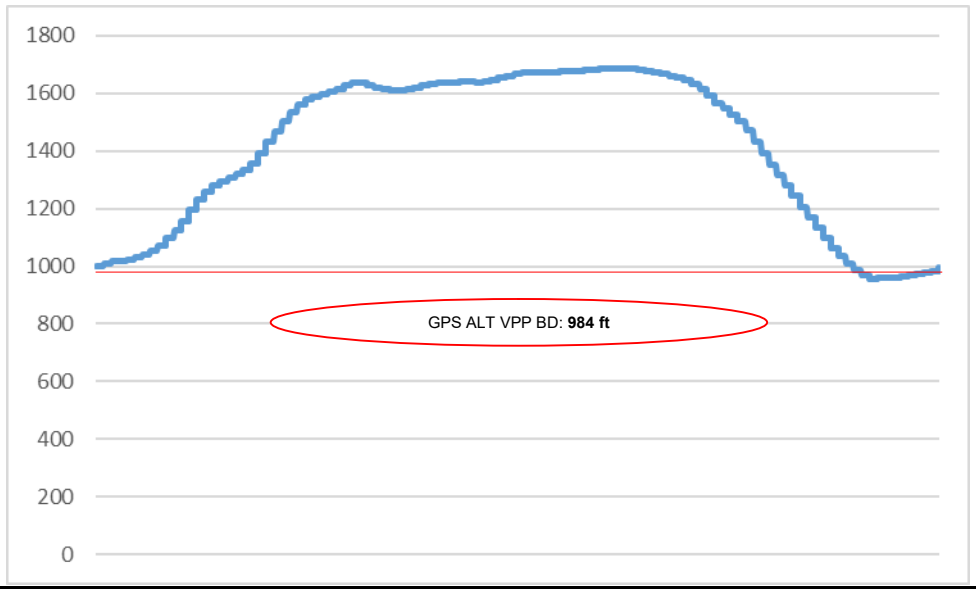


1/4 flight:

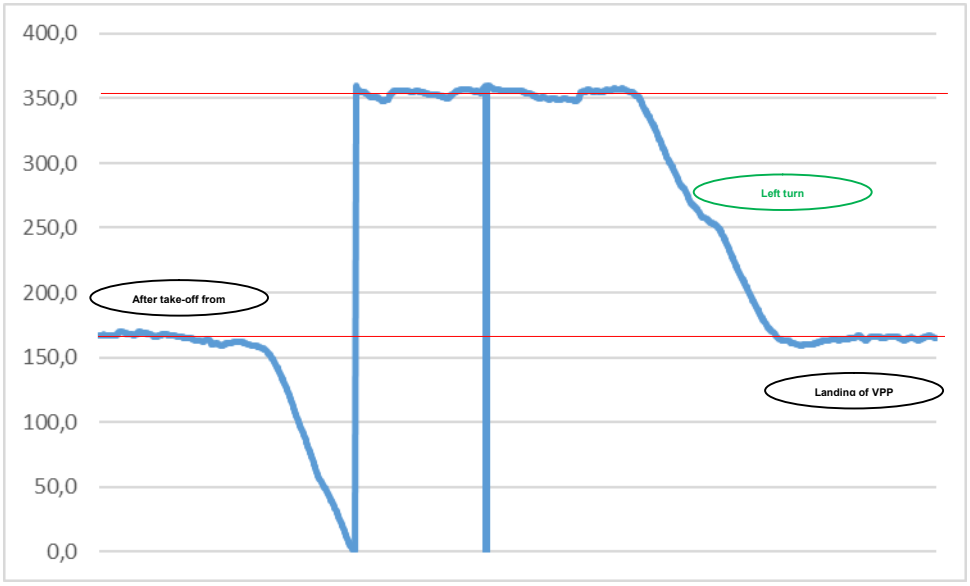


06:31:59 landing on VPP BD17, GPS ALT 956 ft, IAS 66,3 kt, wind 6 kt
06:32:06 increasing RPM for the next flight, take-off from VPP BD17, IAS 51.4 kt, wind 7 kt
06:32:16 cast-off from VPP BD17, GPS ALT 983 ft, IAS 62.6 kt, wind 6 kt

Height course - **06:28:27 – 06:32:06**



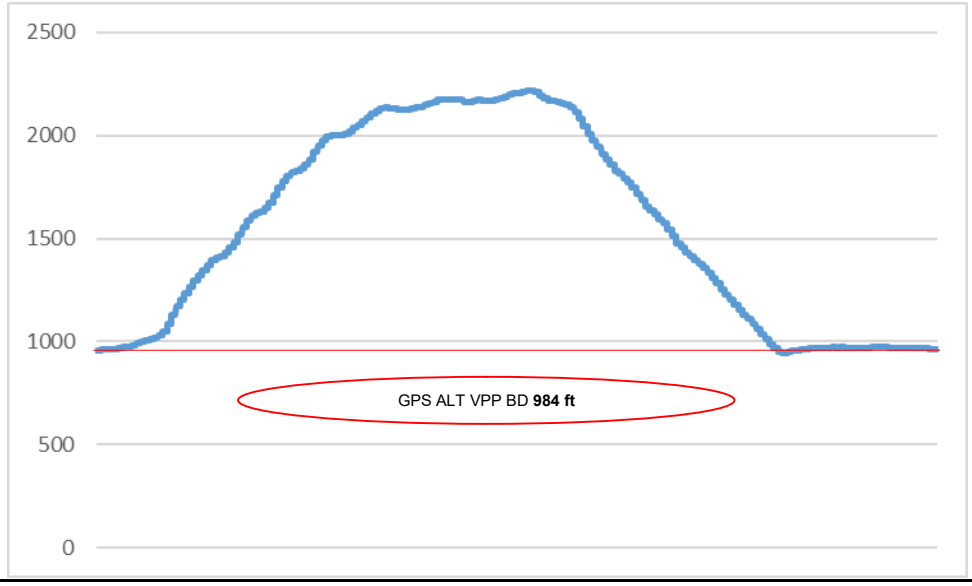
Heading course - **06:28:27 – 06:32:06**



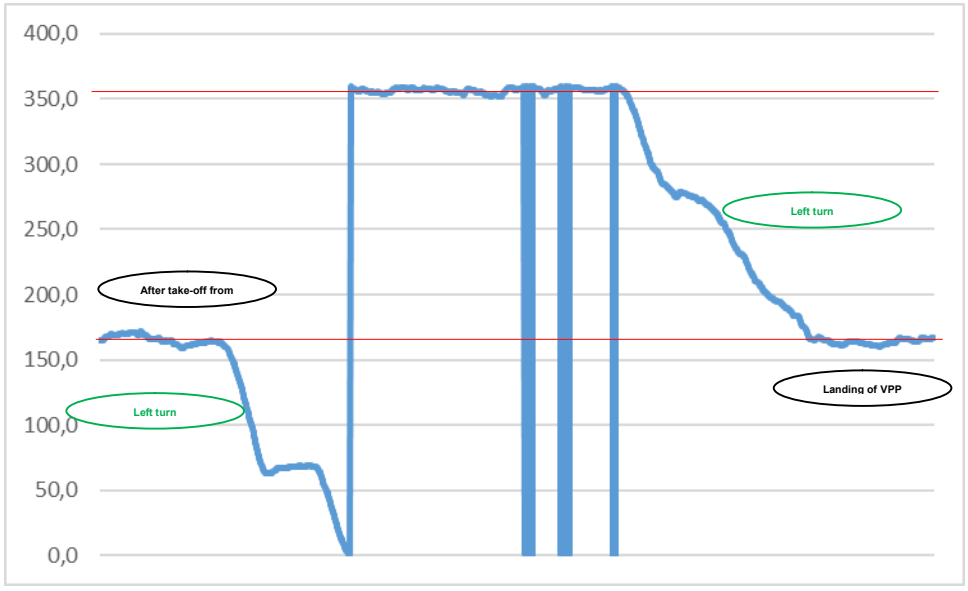
1/5 flight:

06:37:08 landing on VPP BD17, IAS 58,0 kt, wind 6 kt
06:39:13 turning off the engine on the stand.

Height course - **06:32:06 – 06:37:08**



Heading course - **06:32:06 – 06:37:08**

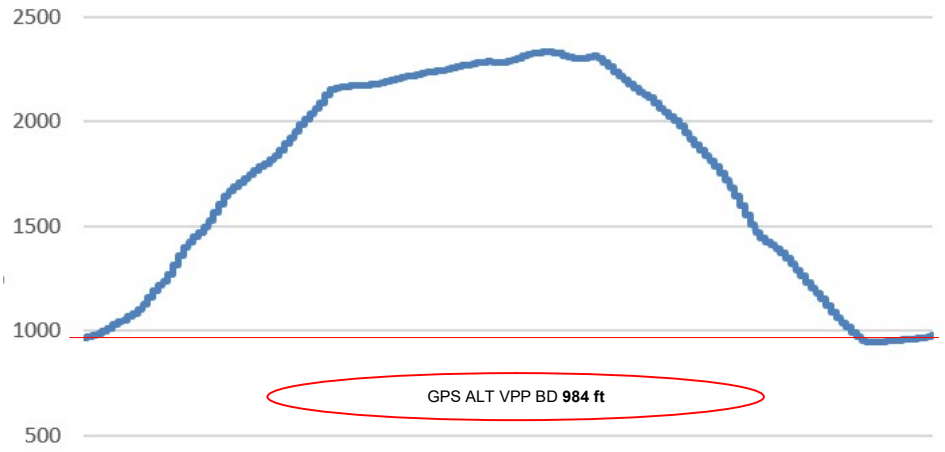


2/1 flight
06:41:21 engine start
06:42:02 start taxiing to take off from VPP BD17

06:42:54 take-off from VPP BD17
06:43:10 cast-off from VPP BD17, GPS ALT 986 ft, IAS 61.8 kt

06:48:16 landing on VPP BD17, GPS ALT 945 ft, IAS 49.4 kt, wind 9 kt
06:48:27 increasing RPM for the next flight, take-off from VPP BD17, IAS 30.6 kt, wind 9 kt
06:48:40 cast-off from VPP BD17, GPS ALT 981 ft, IAS 62.0 kt, wind 6 kt

Height course - **06:42:54 – 06:48:27**

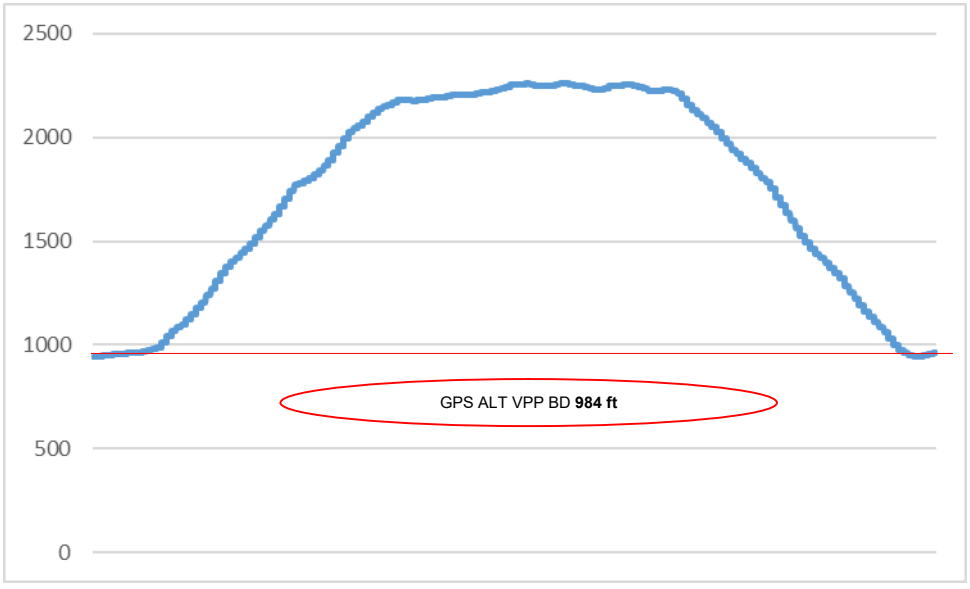


Heading course - **06:42:54 – 06:48:27**

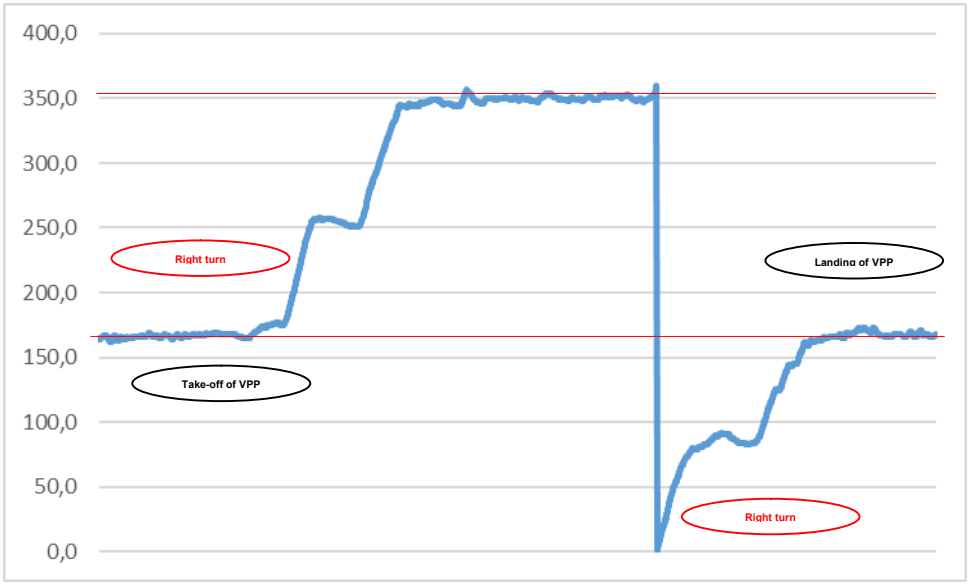
2/2 flight

06:53:50 landing on VPP BD17, GPS ALT 945 ft, IAS 52.7 kt, wind 9 kt
06:54:00 increasing RPM for the next flight, take-off from VPP BD17, IAS 34.8 kt, wind 9 kt
06:54:10 cast-off from VPP BD17, GPS ALT 980 ft, IAS 59.0 kt, wind 7 kt

Height course - **6:48:27– 6:54:00**



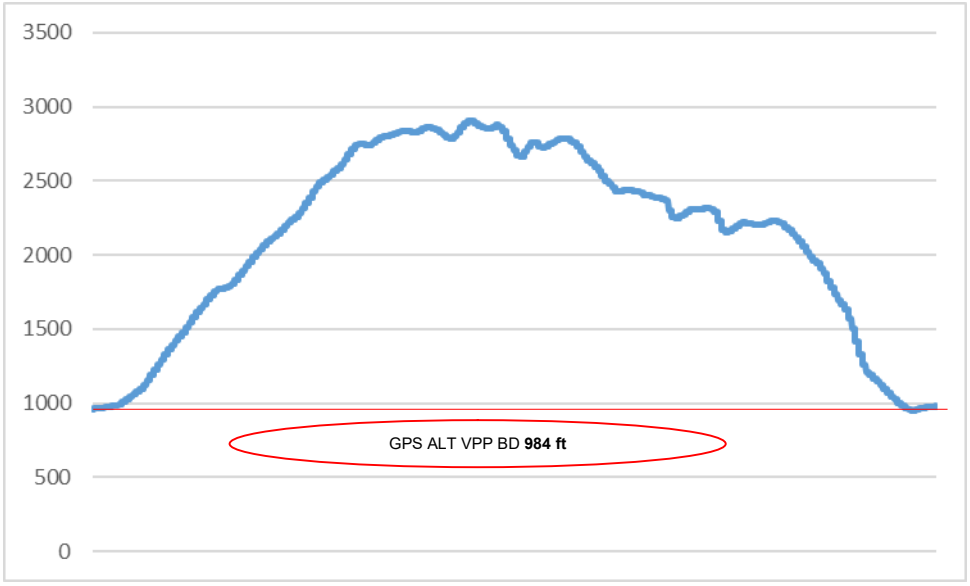
Heading course - **6:48:27– 6:54:00**



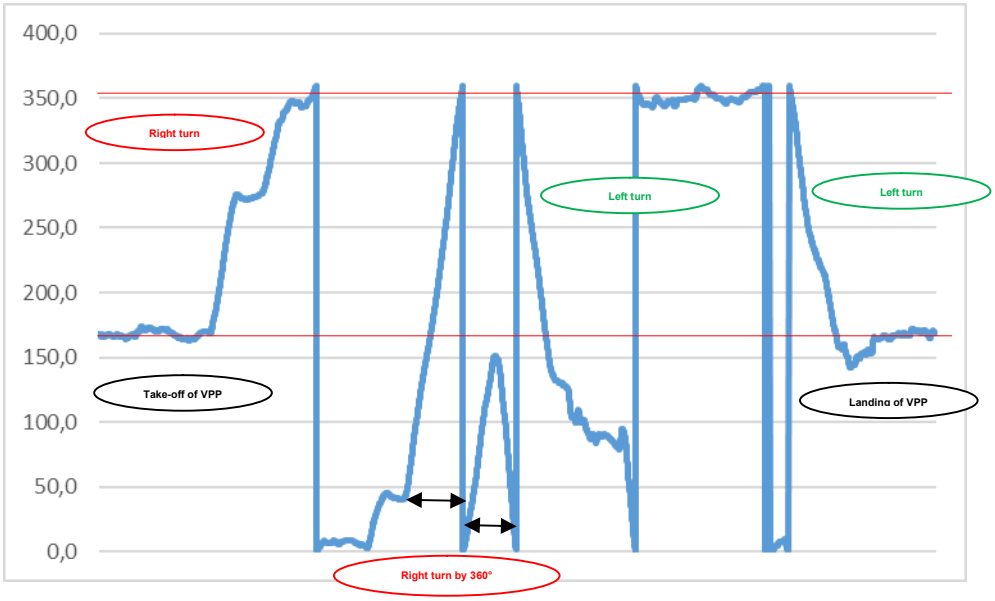
2/3 flight

07:01:44 landing on VPP BD17, IAS 49,8 kt, wind 8 kt
07:01:52 increasing RPM for the next flight, take-off from VPP BD17, IAS 34.5 kt, wind 8 kt
07:02:02 cast-off from VPP BD17, GPS ALT 986 ft, IAS 58.1 kt, wind 8 kt

Height course - **06:54:00– 07:01:52**



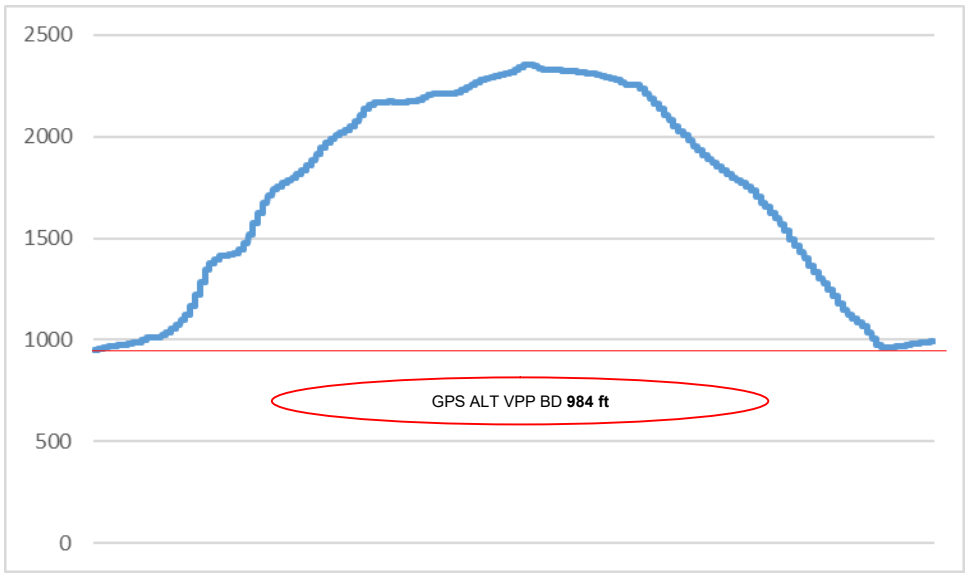
Heading course - **06:54:00– 07:01:52**



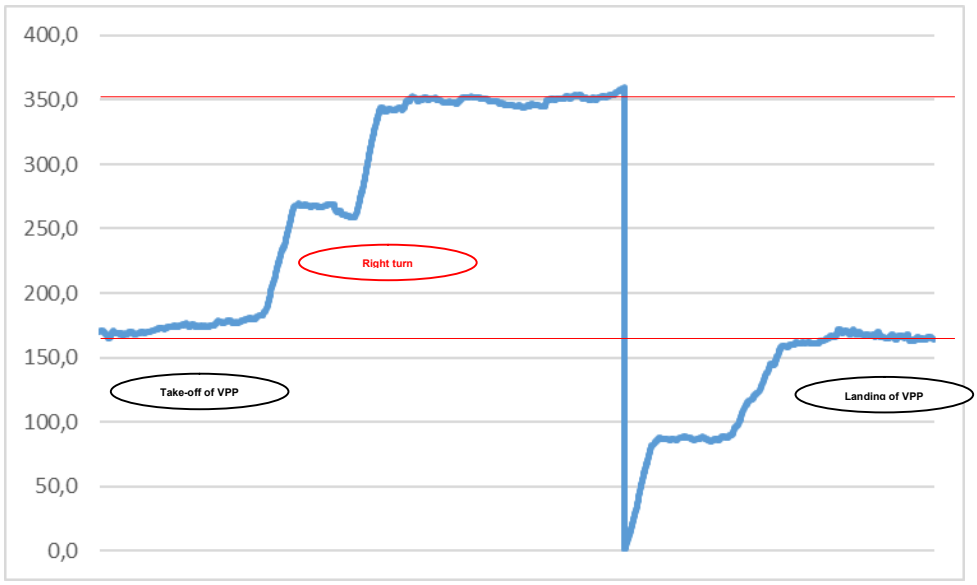
2/4 flight

07:07:10 landing on VPP BD17, IAS 58.0 kt, wind 9 kt
07:07:18 increasing RPM for the next flight, take-off from VPP BD17, IAS 42.0 kt, wind 9 kt
07:07:26 cast-off from VPP BD17, GPS ALT 980 ft, IAS 57.9 kt, wind 9 kt

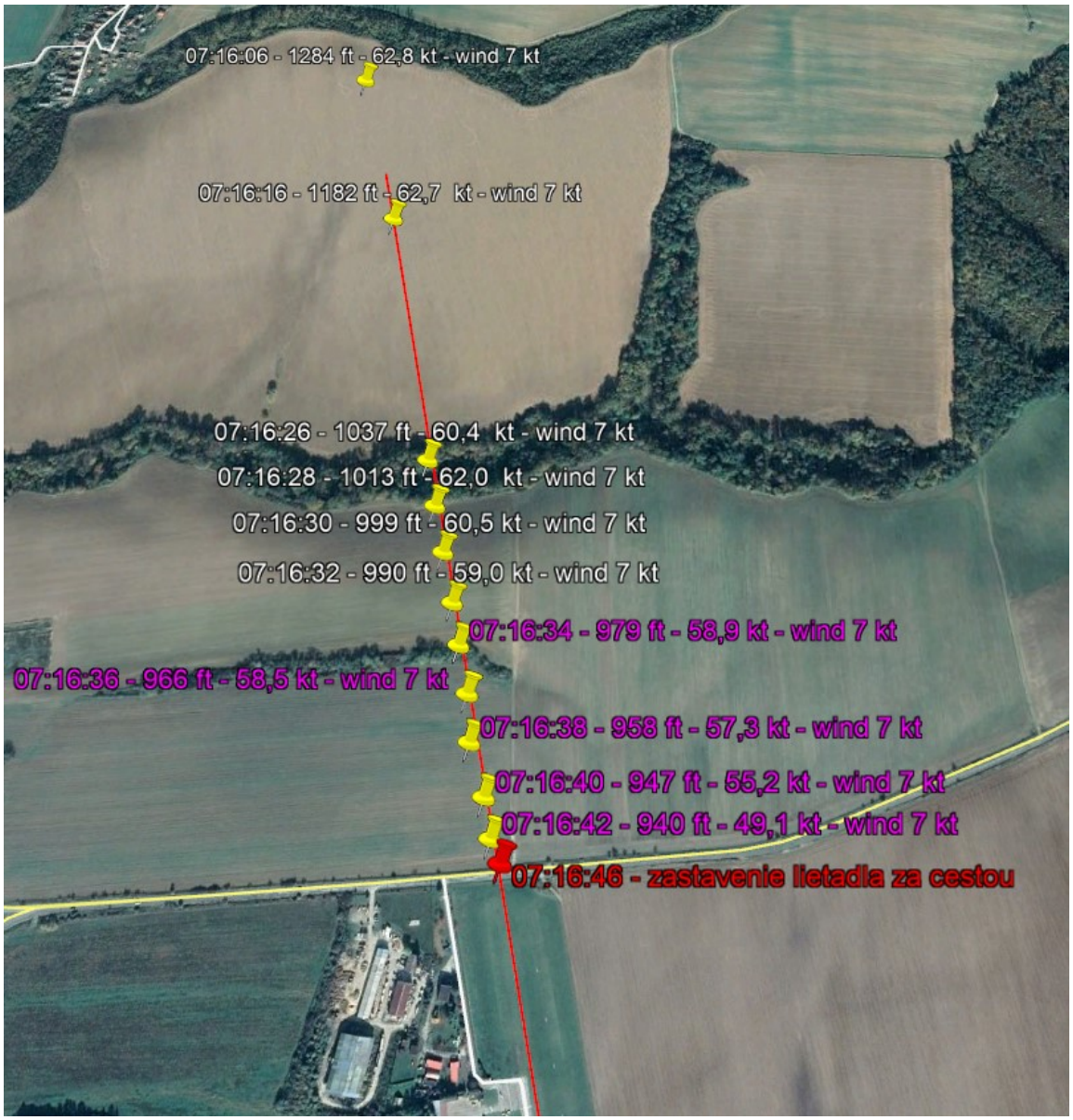
Height course - **07:01:52– 07:07:18**



Heading course - **07:01:52– 07:07:18**

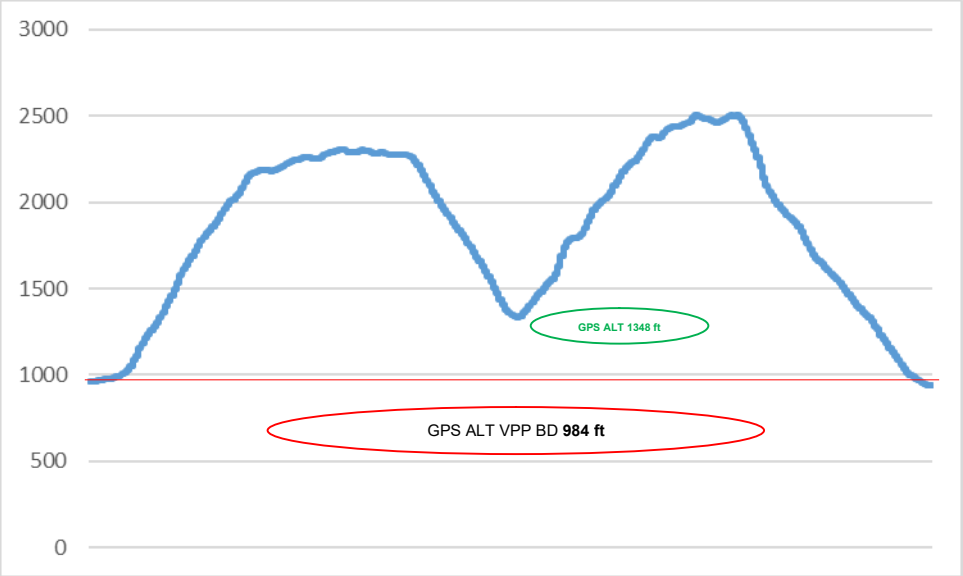


2/5 flight



Final stop position of the aircraft 48°44’47.26”N, 21°26’49.42”E.

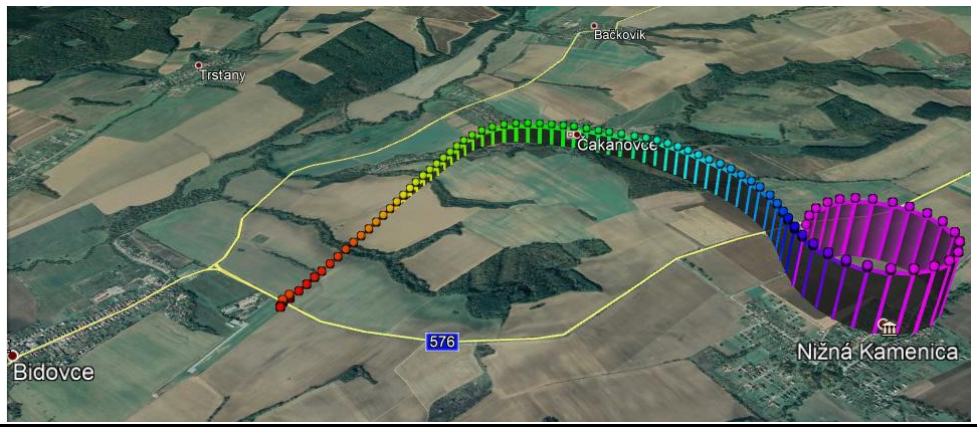
Height course - **07:07:18– 07:16:46**



At 07:12:00 the crew interrupted the approach to the landing VPP BD17 by right turn at a distance of 1,270 m from the threshold VPP BD17, GPS ALT 1348 ft, IAS 71.5 kt, wind 7 kt and continued for about 1 min. at 050°. At 7:13:02 it started to make 360° turns at the height of GPS ALT 2010-2500 ft above the village Nižná Kamenica.

At 7:14:10 it began to perform at a height of GPS ALT 2223 ft a turn to the left to approach landing above the village Čakanovce.

Heading course - **07:07:18– 07:16:46**



The aircraft crew was unharmed after the landing, the aircraft was damaged to a large extent.

Time of day: Day
Flight rules: VFR

1.2 Injuries of persons

Injury	Crew	Passengers	Other persons
Fatal	-	-	-
Serious	-	-	-
Minor	-	-	-
No injuries	1	1	-

1.3 Damage to aircraft

▪ **Fuselage**
- significant deformation of the fuselage and central wing cover,
- destruction of the undercarriage shaft,
- damage to the auxiliary hinges fuselage - wing,
- dragon levelling out of tolerance.

▪ **Wing**
- damage to torsion boxes and hinges of wings, beams, covers, flaps and winglets,
- wings levelling out of tolerance.

▪ **Tail surfaces**
- damaged laminate arch of the stabilizer,
- levelling of horizontal and tail surfaces out of tolerance.

▪ **Engine**
- forced engine stop,
- deformations and cracks on the lower and upper engine cover.

▪ **Propeller**
- destroyed propeller blades,
- damaged propeller cone.

▪ **Undercarriage**
- destroyed welded part and steering of the front landing gear leg,
- destroyed front wheel aerodynamic cover,
- destroyed front undercarriage fork with a wheel,
- destroyed both legs of the main undercarriage with wheels, brake system and aerodynamic wheel covers.

▪ **Cockpit**
- broken cockpit overlapped part,
- deformed partition behind the left pilot's seat,
- cracked crew seats.

1.4 Other damage

No circumstances have been reported to the Aviation and Maritime Investigation Authority which might lead to any other claims for compensation of damage against a third party.

1.5 Personnel information

Pilot - FI:

citizen of the Slovak Republic, aged 80;
holder of PPL(A) flight crew license issued by the Transport Authority on 15/05/2020.

Certificate of medical competence:

class 2	with marked validity until 18/08/2021
LAPL	with marked validity until 18/08/2022

Qualifications:

SEP(L)	with marked validity until 30/06/2021
FI(A)	with marked validity until 30/06/2021
TMG	with marked validity until 30/11/2022

General Radiotelephone Operator Certificate for aeronautical mobile service issued by the Telecommunication Authority of SR on 27/01/2012.

Flight experience:

Total flight hours as of 12/09/2020:	4,407 h
total flight hours as of 12/09/2020 - Viper SD4:	240 h
Total flight hours as FI:	2,194 h
Total flight hours clocked for the last 90 days:	95 h 30 min
Total flight hours with this type of aircraft clocked for the last 90 days:	91 h 30 min
Total flight hours clocked for the last 30 days:	33 h 15 min
Total flight hours with this type of aircraft clocked for the last 30 days:	30 h 10 min.

Passengers on the aircraft board (pilot/student)

Due to the fact that the pilot/student was listed as a passenger, the safety investigation commission did not investigate his flight experience, qualifications and other data for this reason.

1.6 Aircraft information

Type:	Viper SD4 RTC
Registration mark:	OM-VIP
Serial number:	31321
Year of manufacture:	2020
Manufacturer:	TOMARK, s.r.o., Slovak Republic
Total flight hours:	378 h 30 min.

Airworthiness Certificate No. 1421/01 issued by the Transport Authority on 04/06/2020.
Airworthiness verification was issued by the Transport Authority on 04/06/2020.
As of the airworthiness verification day, the aircraft had flown 1 h 20 min.

Engine

Type:	Rotax 912 ULS2
Serial number:	9 573 699
Year of manufacture:	2019
Aircraft mounting:	01/04/2020
Total engine operation hours:	379 h

Propeller

Type:	Neuform CR3-65
Serial number:	M20171075-1-2
Year of manufacture:	2018
Aircraft mounting:	01/04/2020
Total propeller operation hours:	379 h

On the day of the accident, only one flight lasting 40 minutes was recorded in the aircraft diary and in the aircraft logbook.

1.7 Meteorological information

The air current in the free atmosphere on 12/09/2020 in the morning above the cadaster of the village Bidovce was as follows:

- At an altitude of 2,000 m above sea level, the air temperature was about 9°C and at this altitude a mostly south-west wind was blowing at a speed of about 8 kt (4 m/s).

- At an altitude of 1,500 m above sea level, the air temperature was about 12°C and at this altitude a south-west wind was blowing at a speed of about 6 kt (3 m/s).

- Towards the lower levels, the direction of the wind was influenced by local orography and the direction of the wind gradually changed from a height of about 1,000 m above sea level from **south-west to north-north-east,** with wind speeds remaining at around 6 kt (3 m/s). In the morning, with gradual warming and more intense sunlight, the speed and direction of the wind were also affected by thermal convection.

From 07:00 to 09:00 in the cadaster of the village Bidovce stable meteorological conditions prevailed without significant weather fluctuations. It was almost clear (1/10 of the sky's cloud cover) and without precipitation or other dangerous meteorological phenomena. The predominant cloud types were Altocumulus and Cirrus. The air temperature gradually rose from 19.0°C to 23.5°C. The horizontal visibility was about 30 km.
- The wind at 10 m above the open surface was **north to north-east with a speed of 4-10 kt (2-5 m/s).**

From 07:15 in the cadaster of the village Bidovce it was almost clear (1/10 of the sky's cloud cover) and without precipitation or other dangerous meteorological phenomena. The predominant cloud types were Altocumulus and Cirrus. The air temperature was approximately 20°C. The horizontal visibility was about 30 km.
- At a height of 10 m above the open surface, a **north to north-east wind was blowing at a speed of about 6 kt (3 m/s).**

1.8 Aids to navigation

The aircraft was equipped for VFR flights.

1.9 Communication

The aircraft was equipped with an on-board radio station enabling bidirectional radio connection of the flight with all aeronautical stations at all times.

1.10 Aerodrome information

The VPP BD area is a non-public asphalt area for take-off and landing of flying sports equipment certified by the Slovak Ultralight Flying Federation on 27/07/2006 in accordance with SFUL Directive No. 6/2000.

Such certificate does not apply to other than light sport aircraft.

The area is situated 17 km east of the city of Košice.
Dimensions:
VPP BD: 17/35 – 400 x 12 m asphalt.

Altitude of VPP BD: **984** ft.

1.11 Flight recorders

The aircraft was equipped with a Dynon skyview SV-D1000 device which is designed to record User log data - it records more than 100 values from flight instruments from ADAHRS, EMS.

It stores 8 data per second, with this amount of data it can record 4 hours of flight and at the same time it stores Black box data - it records the last 15 minutes of the flight at a value of 16 entries per second.

1.12 Wreckage and impact information

The aircraft remained behind the road no. 576 in the modified grassy foreland of the asphalt VPP BD17. The aircraft was damaged to a large extent in the plane crash.

Final stop position of the aircraft 48°44’47.26”N, 21°26’49.42”E.

1.13 Medical and pathological information

N/A

1.14 Fire

N/A

1.15 Survival aspects

N/A

1.16 Tests and research

At the request of the safety investigation commission, the aircraft manufacturer TOMARK, s.r.o., Aero division downloaded the data in question from the aircraft board, which were jointly evaluated by the aircraft manufacturer and the commission.

1.17 Organizational and management information

The flight activities were not performed in accordance with aviation regulations valid in the territory of the Slovak Republic.

1.18 Additional information

The course of the flight according to the FI statement

On the day in question, the crew was about to fly from VPP BD to the LZRY airport for the purpose of training at the LZRY airport in accordance with the "Coordination Agreement - Contract" concluded between Aeroclub Ražňany, o.z. and Future Fly, s.r.o.

Prior to take-off, the FI performed a pre-flight inspection of the aircraft and completed the acceptance report, which he handed over to the aircraft operator.

At 06:30 the crew took off from VPP BD. During the flight to LZRY, the FI decided to show the passenger (pilot/student) ways of solving emergency procedures when landing on unfamiliar terrain - practice of safe landing on terrain. Due to the ruggedness of the surrounding terrain, the FI chose the VPP BD airfield.

The FI, in accordance with the flight manual, flew over an area of 500 ft AGL in a direction from north to south and after the flight-over continued with a left turn to landing. After the fourth turn, the FI had a view focused to the left of the aircraft axis, as the sun shone in the direction of the planned landing.

In the final phase, the FI pushed the flaps to position III and just before the point of the planned contact with VPP BD17 peripherally noticed from the right side a flock of birds, which resulted in the fact that he intuitively turned to the left and increased the rate of descent by pushing the control lever, resulting in the aircraft undercarriage contacting the sunflower vegetation, braking the aircraft with a subsequent impact to the raised edge of the road by the undercarriage in front of the VPP BD17 threshold.

The course of the flight according to the passenger's statement (pilot/student)

On the day in question, the pilot/student arrived at VPP BD at approximately 06:10. He looked for the FI with whom he had scheduled a flight according to the flight training schedule. They were about to train at the LZRY airport. During the flight in the area, they agreed with the FI that the FI would show him the procedure of a safe landing on terrain and the solution of emergency situations.

The FI chose the VPP BD area as the most suitable area for safety landing training. They flew over this area and continued on a small circuit at an altitude of approximately 1,500 ft. After turning to the axis of the landing area, the pilot/student registered a flock of birds to fly out of the sunflower field, which was also registered by the FI.

The FI intuitively turned to the left. Then the pilot/student registered only the contact of the undercarriage with the sunflower vegetation and the impact on the edge of the road in front of VPP BD17. After stopping the aircraft, the crew performed all safety operations and left the cockpit.

1.19 Useful or effective investigation techniques

Common investigation methods were applied.

2 ANALYSIS

2.1. Meteorological situation

According to the analysis of the meteorological situation prepared by SHMU, it was almost clear at the time of the accident in the cadaster of the village Bidovce without precipitation or other dangerous weather phenomena. At a height of 10 m above the open surface, a north to north-east wind was blowing at a speed of 6 kt (3 m/s), which, however, was the border wind for the selected landing direction.

The aircraft take-off and landing flight manual specifies the following maximum landing wind values:
2 max. wind for take-off 25 kt (12.5 m/s),
3 perpendicular to the landing direction max. 15 kt (7.5 m/s),
4 rear wind in the direction of landing max. 5 kt (2.5 m/s).

The wind, which was blowing from 340° at a speed of 7-10 kt (3.6-5.1 m/s) at the time of the first flight, was evaluated from the recording device. At the time of the second flight, it blew from 340° with a speed of 8-9 kt (4.1-4.6 m/s).

2.2. Crew activity

Based on the statements of the aircraft crew, they were about to fly over LZRY airport in order to conduct training. From the evaluated data from the Dynon skyview device, it was found that the aircraft was operating in the VPP BD area until the accident.

The first flight started with the take-off from VPP BD35 at 06:03 and ended at 06:39.

After a short break, the take-off for the second flight was performed at 06:41 and was ended by a plane crash at 07:16:46.

The evaluated record shows that the crew of the aircraft, when approaching the landing, reached an average speed of 80 kt relative to the ground. It had an average air speed 10 kt less on average. Based on the above mentioned, it follows that it landed with a rear boundary wind. According to the flight manual, it was to maintain a speed of 65 kt. The range of speed before landing was maintained in the range of 60-70 kt, which resulted in a landing without levelling and collided with the ground in the foreland of VPP BD17 without the aircraft's endurance before the actual landing of the aircraft. All landing clearances were performed at a low altitude in front of the road, below the level of the VPP BD17 asphalt, to land/touch-down with the aircraft in the modified grassy foreland of VPP BD17.

The crew, before their critical approach with the rear boundary wind, put the aircraft into such a flight mode that led to a loss of speed in front of the VPP BD17 asphalt at a low speed below the level of the asphalt VPP BD17, while the aircraft undercarriage came into contact with the sunflower vegetation in front of the road and subsequently the aircraft hit its raised edge.

The training methodology lays down the principles of performing individual elements of the piloting technique. The flight manual contains more detailed information about the aircraft and prescribed procedures during individual flight phases, e.g. speed of the descending flight during a landing manoeuvre, wind speed limits during landing.

Failure to follow the established procedures led to incorrect management of the landing in the modified grassy fore land of the asphalt VPP BD.

2.3. Analysis of the final phase of flight 2/5 by TOMARK, s.r.o., Aero division

During the last approach at 07:13, the crew began to approach VPP BD17 at an altitude of 2,229 ft ALT and a flight speed of 89.3 kt IAS.

From an altitude of 1,148 ft ALT, the crew descended at a vertical speed of 500 ft/min. at a flight speed of 67.5 kt IAS up to an altitude of 773 ft ALT, where it maintained a vertical speed of 300 ft/min. on average and a flight speed of 59.4 kt IAS.

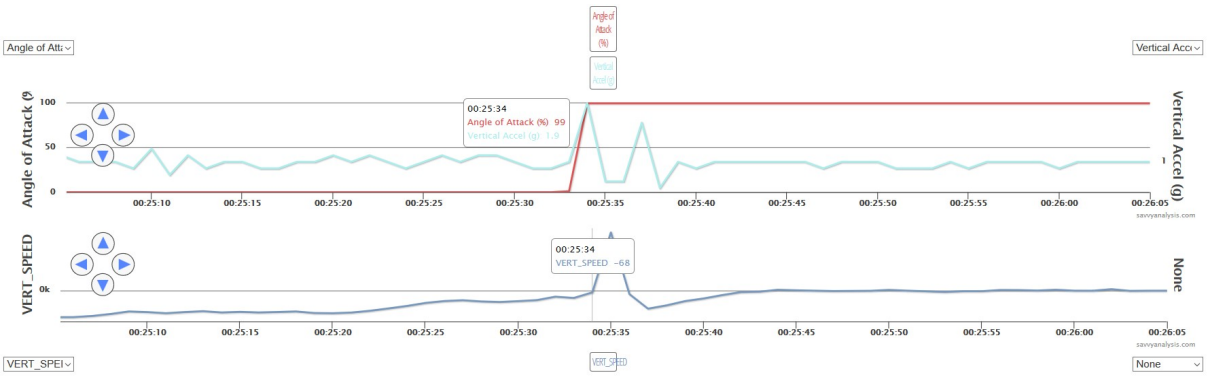
Three seconds before the contact with the ground, the crew tried to climb by increasing the engine speed and pulling the control lever. However, this activity reduced the flight speed to 41.1 kt IAS and the aircraft crashed.

This was followed by the contact of the undercarriage with the sunflower vegetation and a subsequent impact on the raised edge of road no. 576 in front of the asphalt VPP BD17 threshold. The aircraft became unmanageable and stopped in a grassy foreland of the asphalt VPP BD17.

Graph of the course of flight before entering the rate of fall

The plane after 25 min. and 33 s from the take-off for the second flight was located at an altitude of 735 ft PALT at a flight speed of 55.8 kt IAS, engine speed 2,478 RPM, angle of inclination -2.1° at a vertical speed of -247 ft/min. The rate of fall for the Viper SD4 RTC aircraft in the landing configuration (flaps in position II) is 43 kt IAS. At this time, the flight speed was sufficient to make safe landing.

Graph of the course of flight at the time of the rate of fall



At 25 min. 34 s from the take-off, the aircraft was at an altitude of 730 ft PALT at a flight speed of 54.5 kt IAS. At this point, an attempt was made to climb by increasing the engine speed to 4,308 RPM at an aircraft pitch angle of 0° and a vertical speed of -68 ft/min.

Graph of the course of flight at the time of the rate of fall and impact on the terrain

At 25 min. and 35 s from the take-off, the aircraft was at an altitude of 819 ft PALT at a flight speed of 41.1 kt IAS, angle of inclination -0.1°. The vertical speed increased to 1,851 ft/min. and the engine speed dropped to 963 RPM.

Graph of the course of flight at the time of the rate of fall and impact on the terrain

At 25 min. and 36 s, the aircraft was at an altitude of 770 ft PALT with zero IAS speed, engine speed was recorded at 963 RPM, angle of inclination -59.6° and vertical speed -125 ft/min.

At 25 min. and 37 s, the aircraft was located at an altitude of 748 ft PALT with zero flight speed. The engine stopped.

3. CONCLUSIONS / Cause of occurrence of the aviation accident

3.1 Findings

- The FI had valid qualifications to perform flights with the particular aircraft category;
- the FI underwent a breath test for alcohol performed by a called police patrol, the test result was negative, the passenger (pilot/student) did not have a breath test for alcohol,
- the crew did not fully state their overall activity in the area of VPP BD in their statement,
- the crew has chosen the wrong landing direction due to the force and direction of the wind,
- the crew performed a calculation for the approach and levelling at a small height in front of the road. The landing itself was performed in the modified grassy foreland of the asphalt VPP BD17, without endurance (endurance - by smooth pulling of the control lever to reduce the speed for landing on the main undercarriage). The point of contact has never been on the BD17 BDP asphalt. In the approach and landing area on VPP BD17, the boundary wind blew with respect to the landing direction chosen by the crew,
- during the landing manoeuvre, the crew did not follow the established flight manual of the aircraft type,
- according to the available documentation, the aircraft complied with the conditions of airworthiness and from the obtained data on the course of the flight did not show any failure that could lead to an air accident,
- in the aircraft diary and in the aircraft logbook, on 12/09/2020, only one flight (flight for the purpose of flight-away) was recorded, lasting 40 minutes. According to data from the Dynon skyview system, the aircraft made two flights on a given day for a total length of 1 hour 12 min.,

- the investigation commission failed to find out, on the basis of the evaluated data (range of altitudes and flight speeds and manuals of the given type), what kind of activities the crew performed in the VPP BD area. However, the flight profiles indicated that it performed training flights around the circuit and other unspecified activities in the VPP BD area.
- The dimensions and surface of the VPP BD according to the flight manual specified by the aircraft manufacturer were suitable for the operation of the aircraft,
- the operation at VPP BD was certified only for flying sports equipment and the operation of the aircraft was not in accordance with the issued decision.

3.2 Causes of the aviation accident

- Failure to comply with the flight parameters when landing by the crew for the aircraft type.

4. SAFETY RECOMMENDATIONS

The Final Report on the safety investigation of the aviation accident does not contain any recommendations.

In Bratislava, on 26/02/2021