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Aircraft Accident Investigation Bureau AAIB

Final Report No. 1936 by the Aircraft Accident Investigation Bureau

concerning the accident
to the Cessna C172P aircraft, OK-HOS
on 23 August 2005
in Bärnetscha, municipality of Simplon-Dorf/VS,
approx. 65 km W of Locarno

Bundeshaus Nord, CH-3003 Berne

Ursachen

Der Unfall ist darauf zurückzuführen, dass die Piloten nach einer zu spät eingeleiteten Umkehrkurve die Kontrolle über das Flugzeug verloren und dieses in der Folge mit dem Gelände kollidierte.

Folgende Faktoren haben zum Unfall beigetragen:

- Überladung des Flugzeuges
- Schwerpunkt ausserhalb der hinteren Begrenzung
- Geringe Flugerfahrung der Piloten

General information on this report

This report contains the AAIB's conclusions on the circumstances and causes of the accident which is the subject of the investigation.

In accordance with Annex 13 of the Convention on International Civil Aviation of 7 December 1944 and article 24 of the Federal Air Navigation Law, the sole purpose of the investigation of an aircraft accident or serious incident is to prevent future accidents or serious incidents. The legal assessment of accident/incident causes and circumstances is expressly no concern of the accident investigation. It is therefore not the purpose of this investigation to determine blame or clarify questions of liability.

If this report is used for purposes other than accident prevention, due consideration shall be given to this circumstance.

The definitive version of this report is the original in the German language.

All times in this report, unless otherwise indicated, are local time (LT) for Switzerland, which at the time of the accident corresponded to Central European Summer Time (CEST). The relation between LT, CEST and coordinated universal time (UTC) is: $LT = CEST = UTC + 2$ hours

For reasons of protection of privacy, the masculine form is used in this report for all natural persons, regardless of their gender.

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Final Report

Owner	Private
Operator	SKY Academy s.r.o., Prague
Aircraft type	Cessna 172P
Country of registration	Czech Republic
Registration	OK-HOS
Location	Bärnetscha, municipality of Simplon-Dorf/VS, approx. 65 km W of Locarno
Date and time	23 August 2005, 15:30 LT

General

Brief description

On 23 August 2005, aircraft OK-HOS took off from Locarno aerodrome (LSZL) to fly to Friedrichshafen. The planned route was Domodossola-Varzo-Brig-Martigny-Kerzers-Willisau. When the aircraft was flying in the Gondoschlucht in the direction of the Simplon Pass, it began to descend. The crew continued the flight and flew, continuously descending, over the localities of Simplon-Dorf and Egga. In the area of Bärnetscha, approximately 6 km before the top of the pass, the aircraft made a 180-degree turn. After the turn the aircraft tipped over and hit the ground. All four occupants were killed.

Investigation

The accident occurred at approximately 15:30 LT. The AAIB opened the investigation at about 18:00 LT in cooperation with the Valais cantonal police.

The accident is attributable to the fact that after a 180 degree turn which was initiated too late, the pilots lost control of the aircraft, which then collided with the terrain.

The following factors contributed to the accident:

- overloading of the aircraft
- centre of gravity outside the aft limit
- limited flying experience of the pilots

1 Factual Information

1.1 Pre-flight history and history of flight

1.1.1 Pre-flight history

The aircraft was imported from England into the Czech Republic, where it was registered as OK-HOS on 11 July 2005.

The pilot seated front left began his pilot training on 20 March 2005 on the Cessna 150 and obtained his PPL (A) on 9 August 2005. On 11 August 2005 he was retrained on the C172 aircraft type.

The pilot seated front right began his pilot training on 20 April 2000 in the Czech Republic. From 23 June 2000 to 21 August 2000 he flew in the United States of America. His private pilot's licence PPL (A) was issued on 7 May 2001 in the Czech Republic.

On 19 August 2005, the two pilots took off in aircraft OK-HOS on a flight from Horovice (LKHV) via Prague (LKPR), Rijeka (LDRI), Unije (LDPN), Pula (LDPL), Venice (LIPZ), Padua (LIPU) and Albenga (LIMG) to Friedrichshafen (EDNY).

On board were the two pilots plus the owner of the aircraft with a relative.

The aircraft landed on 22 August 2005 at 12:18 LT in Albenga (LIMG) and took off some 2½ hours later to fly via Brissago and Bad Ragaz to Friedrichshafen (EDNY). In view of the extraordinarily bad weather on the route, the flight had to be aborted and the aircraft landed at 16:52 LT in Locarno (LSZL).

1.1.2 History of flight

The following history was reconstructed from the recordings of the GPS equipment carried on the aircraft and with the aid of eye-witness observations and the transcripts of radio conversations.

On the following day, 23 August 2005, the two pilots arrived just before mid-day in Locarno C-Office to carry out flight preparations. The duty employee at the aerodrome provided them with all necessary information from the aviation information system AMIE (AIS MET information environment) and then went off on his lunch break.

The flight plan, which again designated Friedrichshafen (EDNY) as the destination aerodrome, was transmitted to the relevant air traffic control unit at 13:18 LT. The indicated route envisaged a flight via Domodossola – Brig – Martigny. For the more direct routes, for the planned flight time, there was a "D" (difficult) route forecast in effect.

At 13:30 LT the aircraft was fully refuelled, suitcases with a total weight of approximately 60 kg were loaded and the four occupants took their positions on board.

Take-off took place at 14:52 LT. The 134.825 MHz frequency of Locarno Tower was left at 15:03 LT and at 15:04 LT contact was made with Zurich Information on frequency 124.700 MHz.

From this time on, the aircraft followed the planned route. As far as Druogno (Val Vigezzo) the aircraft climbed to an altitude of 1882 masl (6175 ft AMSL). Here the aircraft descended to 1747 masl (5732 ft AMSL), then climbed again until Colmine di Crevola and again descended until it was west of Varzo. The highest

altitude reached was over Gondo: 2216 masl (7271 ft AMSL). From this point, the aircraft constantly lost altitude.

During the final 43 seconds, when the aircraft was already flying very low over the floor of the valley, the aircraft climbed again and gained approximately 44 m (145 ft) in altitude, corresponding to a rate of climb of approximately 200 ft/min. After a 180 degree turn at low height, the aircraft tipped over and crashed into the ground. The four occupants lost their lives and the aircraft was destroyed.

1.2 Injuries to persons

	Crew	Passengers	Third parties
Fatally injured	2	2	---
Seriously injured	---	---	---
Slightly injured or uninjured	---	---	---

1.3 Damage to aircraft

Destroyed.

1.4 Other damage

Slight crop damage. Contamination due to leaking fuel.

1.5 Personnel information

1.5.1 Pilot, left-hand seat

Person	Czech citizen, born 1970
Licence	Private pilot's licence PPL (A) according to JAR, issued by the Civil Aviation Authority of the Czech Republic on 09.08.2005
Ratings:	R/T Czech
Registered aircraft classes	SEP land
Medical fitness certificate	Class 2
Last medical examination	17.03.2005

1.5.1.1 Flying experience

Total	approx.	79 hours
during the last 90 days	approx.	38 hours
on the accident type	approx.	15 hours
during the last 90 days	approx.	15 hours

1.5.1.2 Training

The pilot began his pilot training on 20 March 2005 on a Cessna 150. During his training, on 6 May 2005, he had already familiarised himself with the Piper PA28. He passed the examination for the PPL (A) on 4 August 2005, on a Cessna 150.

On 11 August 2005 a 45-minute familiarisation flight took place on the Cessna 172. On the occasion of this familiarisation flight, 9 landings were carried out according to the logbook. On 12 August 2005 a 70-minute familiarisation flight took place on the Z142 aircraft type. On this occasion, 11 landings were carried out.

1.5.2 Pilot, right-hand seat

Person	Czech citizen, born 1981
Licence	Private pilot's licence PPL (A), issued by the Civil Aviation Authority of the Czech Republic on 07.05.2001
Ratings:	R/T Czech
Registered aircraft classes	SEP land
Medical fitness certificate	Class 1
Last medical examination	29.03.2005

1.5.2.1 Flying experience

Flights were entered in the logbook only up to 30.09.2004, with a total of 204 hours. After this date, up to 13 August 2005, a further 10 flights with a total of 12 hours could be established.

1.5.2.2 Training

The pilot began his pilot training on PA28R and C152 on 20 April 2000 in the Czech Republic. From 23 June 2000 to 21 August 2000, in the United States of America, this pilot flew a total of 111 hours with 145 landings on aircraft type C152. This is why he was also able to communicate in English by radio. Back in the Czech Republic, he continued to fly on Z226 and Z142 and passed his PPL (A) licence examination on 17 September 2000.

By the time of the accident he had completed training to obtain a commercial pilot's licence CPL (A) according to JAR-FCL but had not yet passed the examination.

1.5.3 Passengers

Rear right:	Czech citizen, born 1961
Rear left:	Czech citizen, born 1992

1.6 Aircraft information

Type	Cessna 172P
Characteristics	4-seater single-engined high wing
Year of construction	1981
Serial number	172-74634
Engine	Avco Lycoming O-320-D2J Non-supercharged piston engine with 4 cylinders in a Boxer layout, with a rated output at sea level of 118 kW corresponding to 160 PS; mixture preparation is by a carburettor.
Propeller	Fixed propeller, McCauley, type 1C160/DTM7557
Equipment	equipped for flights under visual flight rules
Certification	VFR
Operating hours	approx. 6130 hours
Airworthiness certificate	Valid until 30.07.2006
Maintenance	200 hour check on 20 July 2005, at 6117 hours
Fuel	On take-off: 195 l At the time of the accident: estimated 170 l
Fuel grade	AVGAS 100LL
Flight time reserve	approx. 5 h

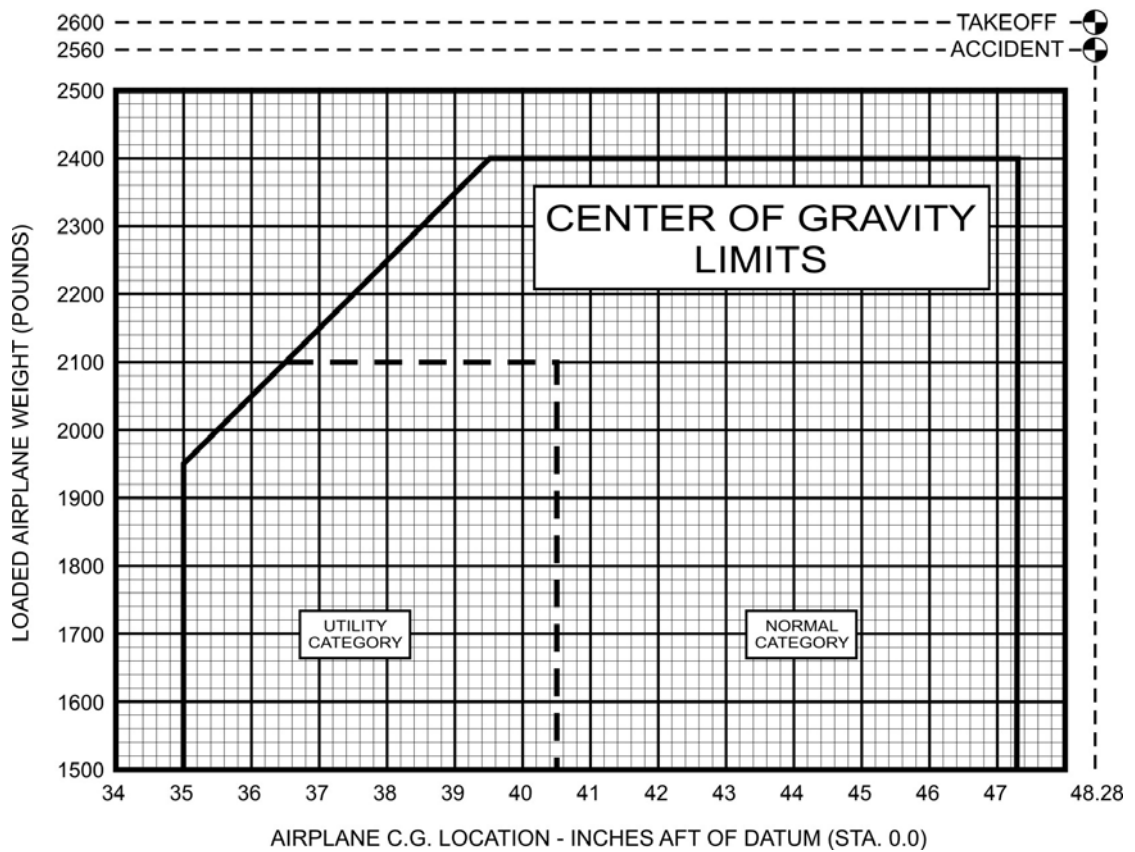
Calculation of mass on take-off and at the time of the accident:

Mass	lb	Mass	lb
Empty mass	1414	Start + taxi + runup	-7
Occupants	763	Takeoff mass	2600
Baggage	130	Climb	- 18
Ramp fuel	300	Cruise	- 22
Ramp mass	2607	Actual mass	2560

MTOM according to AFM:	2400 lb
MTOM in the 3 rd party liability documentation:	2300 lb
At Locarno aerodrome an MTOM of	2200 lb was specified.

Calculation of centre of gravity on take-off and at the time of the accident:

Item	lb	in	in-lb
Empty mass	1414	41.54	58737.56
Pilots front	434	37.00	16058.00
Rear passengers	329	73.00	24017.00
Baggage in cabin	24	50.00	1200.00
Rear baggage	106	108.00	11448.00
Takeoff fuel (300-7)	293	48.00	14064.00
Takeoff	2600	48.28	125524.56
Climb, cruise	-40	48.00	-1920.00
At the time of the accident	2560	48.28	123604.56



On take-off in Locarno OK-HOS was overloaded by 200 lb (91 kg).

The aircraft's aft centre of gravity limit was 47.3 inches according to AFM.

The centre of gravity was therefore approximately 1 inch outside the permitted range.

1.7 Meteorological information

1.7.1 General

The information in sections 1.7.2 to 1.7.5 was provided by MeteoSwiss. The information in sections 1.7.2 and 1.7.3 was found in the aircraft involved in the accident.

1.7.2 General weather situation

Die Schweiz liegt im Bereich eines flachen Hochdruckkeils, der sich von Frankreich her ausdehnt. Nördlich der Alpen liegt noch Staubewölkung, im Wallis und auf der Alpensüdseite überwiegt schönes Wetter mit Sichten über 10 Kilometern.

Switzerland lay within the area of a flat wedge of high pressure, which extends from France. To the north of the Alps, there is still an accumulation of cloud, in the Valais and on the south side of the Alps the weather is predominantly fine with visibility over 10 kilometres.

1.7.3 Forecasts and warnings

GAMET: (Flugwettervorhersage für Flüge im tiefen Flugniveau; beinhaltet folgende Fluggefahren: Bodenwind mit Böen über 25 kt, signifikante Wettererscheinungen, Vereisung, Turbulenz, Gebirgswellen)

GAMET: (Aviation weather forecast for low-altitude flights; contains the following aviation hazards: Ground wind with gusts over 25 kt, significant weather phenomena, icing, turbulence, mountain waves)

Valid 12-18 UTC for the Swiss Alps region:

TURB: LOC MOD

Wind/Temperature at 10,000 ft AMSL: 340/20 kt PS01

Wind/Temperature at 5,000 ft AMSL: 310/10 kt PS09

0 °C: FL100

GAFOR (standardised route forecast):

Valid 12-18 UTC

Route 44: OOO (Brig-Simplonpass-Domodossola)

Route 61: DDD (Meiringen-Grimselfpass-Brig)

Route 33: OOO (Meiringen-Brünig-Küssnacht-Goldau)

Route 71: OOO (Zurich-Bremgarten-Goldau)

Route 13: OOO (Zurich-Attikon-Altenrhein)

GAFOR criteria	
Ceiling > 2000 ft and/or visibility > 8 km	Open (O)
Ceiling > 1500 ft and/or visibility > 5 km	Difficult (D)
Ceiling > 1000 ft and/or visibility > 2 km	Marginal (M)
Ceiling < 1000 ft and/or visibility < 2 km	Closed (X)

SWC (Significant Weather Chart), wind charts valid 12 UTC:

Die vom WAFC London ausgegebene SWC warnt für das Unfallgebiet vor BKN CU/AS mit Obergrenze FL120 und Untergrenze unter dem Darstellungsbereich (die SWC beziehen sich nur zwischen FL 100 und FL 450), sowie mässige Vereisung ebenfalls zwischen FL 120 und unterhalb FL 100 im Unfallgebiet. Die Windkarten für FL050/100 zeigen Nordnordwestliche Winde.

The SWC issued by the WAFC London for the accident area warns of BKN CU/AS with a upper limit of FL120 and a lower limit below the presentation range (SWCs only refer to levels between FL 100 and FL 450), as well as moderate icing also between FL 120 and below FL 100 in the area of the accident. The wind charts for FL050/100 show north-north-westerly winds.

Aviation weather forecast (valid from 12-18 UTC):

Under hazards, the following was stated: Alpine crossings from the north partially in cloud.

1.7.4 Measured and observed values

METAR:

The observations of the following stations give information on the weather situation to the south and north of the Alps as well as in the Valais:

LSGS 231250 26010KT 9999 FEW070 SCT100 21/11 Q1015

LSZA 231320 03008KT CAVOK 26/06 Q1009 NOSIG

LSGG 231320 06006KT 030V100 9999 FEW035 BKN070 21/12 Q1016 NOSIG

LSZB 231320 32009KT 9999 SCT045 BKN075 19/12 Q1016 NOSIG

It is clearly apparent that in the south CAVOK applied, in the Valais there was light cloud from 1-4/8 and in the north heavy cloud throughout, more than 5/8.

ANETZ (Automated measurement network):

<i>Station</i>	<i>Altitude masl</i>	<i>Temp. °C</i>	<i>Dew point °C</i>	<i>Wind di- rection Degr.</i>	<i>Wind speed kt</i>	<i>Gusts kt</i>
<i>Sion</i>	<i>482</i>	<i>23.3</i>	<i>12.3</i>	<i>247</i>	<i>10</i>	<i>16</i>
<i>Ulrichen</i>	<i>1345</i>	<i>14.9</i>	<i>5.1</i>	<i>059</i>	<i>16</i>	<i>25</i>
<i>Montana</i>	<i>1508</i>	<i>14.7</i>	<i>3.7</i>	<i>302</i>	<i>5</i>	<i>11</i>
<i>Grimsel</i>	<i>1980</i>	<i>9</i>	<i>5.6</i>	<i>360</i>	<i>7</i>	<i>14</i>

Radio probes:

The Payerne and Milan probes of 12Z indicate light to moderate winds from the north-west.

1.7.5 Weather at the time and location of the accident

Aufgrund der aufgeführten Informationen können auf folgende Wetterbedingungen im Unfallgebiet zur Unfallzeit geschlossen werden:

On the basis of the listed information, it is possible to conclude that the weather conditions at the time and in the area of the accident were as follows:

<i>Weather/cloud</i>	<i>3-4/8, base at approx. 8000-9000 ft AMSL</i>	
<i>Visibility</i>	<i>30 km</i>	
<i>Wind</i>	<i>North to north-east wind at 10 kt, gusting to 20 kt</i>	
<i>Temperature/dewpoint</i>	<i>13 °C / 04 °C</i>	
<i>Atmospheric pressure</i>	<i>QNH LSGS 1015 hPa, QNH LSZA 1009 hPa</i>	
<i>Position of the sun</i>	<i>Azimuth: 203°</i>	<i>Elevation: 53°</i>
<i>Hazards</i>	<i>Slight to moderate turbulence due to wind channelling (gap flow) probable</i>	
<i>Comment</i>	<i>There was a significant pressure gradient of 6-7 hPa between the north and south side of the Alps</i>	

1.7.6 Weather according to eye-witness statements

Eye witness No. 1: *"Im Simplongebiet herrschte schönes Wetter. Es hatte teils leichte Bewölkungen am Himmel. Es blies ziemlich von Norden her. Die Sichtverhältnisse waren im Fluggebiet gut."*

In the Simplon region, the weather was fine. The sky was a little cloudy. The wind was blowing fairly strongly from the north. Visibility conditions were good in the flying area.

Eye witness No. 2: *"Das Wetter war gestern Nachmittag schön. Es blies ziemlich vom Pass her, mehr als heute Mittag. Die Sicht war sehr gut."*

The weather was fine yesterday afternoon. There was a fair wind blowing from the pass, more than today afternoon. Visibility was very good.

Eye witness No. 3: *"C'era molto vento da nord abbastanza costante."*

There was a lot of constant wind from the north.

Eye witness No. 4 (a private pilot): *"Bel tempo ma con un forte vento d'intensità variabile dal passo. In basso vi erano delle forti turbolenze."*

Fine weather, but with a strong and variable wind from the pass. In the valley there were strong turbulences.

Eye witness No. 5 (professional pilot): *"Es bläst ein starker Wind. Über den Simplonpass weht ein starker Wind von gut 70-80 km/h in Richtung Süden, d.h. in Richtung Engiloch, Simplon-Dorf und Gaby. Sicht ist über 10 km. Nur in der Region vom Magehorn, Galehorn und dem Sirwoltesee gibt es ein wenig Restbewölkung bis auf einer Höhe von ca. 2600 m/M."*

A strong wind is blowing. Across the Simplon Pass, a strong wind of 70-80 km/h is blowing towards the south, i.e. in the direction of Engiloch, Simplon-village and Gaby. Visibility is more than 10 km. Only in the region of the Magehorn, Galehorn and the Sirwoltesee there is a little residual cloud up to an altitude of about 2600 masl.

1.8 Aids to navigation

The pilot had at his disposal a Garmin 260 GPS.

1.9 Communication

Radiocommunication was very probably handled by the English-speaking passenger seated on the right. During the flight, air traffic control unit Locarno Ground was contacted on 121.700 MHz, Locarno Tower on 134.825 MHz and the flight information unit "Zurich Information" on 124.700 MHz.

1.10 Aerodrome information

Not applicable.

1.11 Flight recorders

A Garmin 260 GPS was found outside the aircraft. Despite the damage to the unit, it was possible to read out and use the data on the flight.

It was therefore possible to reconstruct the flight route (see Annex 1).

1.12 Wreckage and impact information

1.12.1 The accident site

The aircraft crashed into the ground immediately in front of a small tarred private road and skidded over the road; the wreck came to a standstill in a small wood a few metres away (see Annex 2). A large quantity of fuel leaked from the ruptured tanks, causing crop damage.

Coordinates: 646 025 / 118 838, altitude 1700 masl

Sheet No. 1309, National map of Switzerland 1:25,000, Simplon

1.12.2 Wreckage

The aircraft crashed into the ground with a near-vertical inclination. The engine lay on the cabin. Both wings were bent forward and the fuselage was angled forward at 180 degrees (see Annex 2).

No pre-existing defects indicating a technical cause for the accident were found.

Since the two fuel tanks were empty when they were found, it was not possible to analyse the fuel.

1.13 Medical and pathological information

An autopsy was performed on the bodies of both pilots.

No indications of any effects of drugs, pharmaceuticals or alcohol were found.

There were no indications of any physical impairment before the accident; death is attributable to the force of the impact.

During examination, injuries were found to the left hand of both pilots in the front seats, so it can be assumed that at the time of the accident both pilots were probably holding the control column with their left hand.

1.14 Fire

Although approximately 170 l of fuel had leaked out, fire did not break out. The fire brigade protected the accident site using foam.

1.15 Survival aspects

The accident was not survivable.

1.16 Tests and research

Not applicable.

1.17 Organisational and management information

Not applicable.

1.18 Additional information**1.18.1 Flight Preparation**

The flight from Locarno to Friedrichshafen was prepared in writing. The following information was on the sheet which had been completed by hand:

<i>LSZL</i>	<i>MC</i>	<i>Dist.</i>	<i>(ETA/ATA)</i>	<i>ETE</i>
<i>Locarno</i>	<i>284</i>	<i>3</i>		<i>00:03</i>
<i>Domodossola</i>	<i>262</i>	<i>21</i>	<i>00/03</i>	<i>00:15</i>
<i>Varzo</i>	<i>339</i>	<i>5</i>	<i>17/18</i>	<i>00:03</i>
<i>Zatáčka*</i>	<i>263</i>	<i>8</i>	<i>20/21</i>	<i>00:05</i>
<i>Brig</i>	<i>343</i>	<i>8</i>	<i>26</i>	<i>00:05</i>
<i>(...)</i>	<i>(...)</i>	<i>(...)</i>		<i>(...)</i>
<i>(...)</i>	<i>(...)</i>	<i>(...)</i>		<i>(...)</i>

(* The Czech word "Zatáčka" means turn.)

In the flight plan submitted in the AMIE system, the following route is entered:

LOCARNO/DOMODOSSOLA/VARZO/BRIG/LEUK/E2/W/MARTIGNY/LSGB/LAC DE BRET/ROMONT/COURTEPIN/KERZERS/WIL/TRA/N

In the same flight plan, a scheduled cruising speed of 100 kt and an altitude of 9500 ft AMSL were indicated. The name of the pilot seated front left was entered as the responsible pilot.

2 Analysis

2.1 Technical aspects

There is no indication that pre-existing technical defects on the aircraft affected the accident.

2.2 Human and operational aspects

The flying experience of the pilots can be classified as low. The available documentation does not indicate that the pilots were able to accumulate experience of flying in mountains before the accident.

On the day of the accident, there was north foehn. After crossing the pass the air flowed accelerated across the southern alpine valleys. The spacious high-altitude-current overlays the local downdraughts in the central valley and mountain top areas. As the height above ground decreased, the effect of the air current channelled due to the topography – a gap flow – increased; this was perceivable as an intensive downdraught in the axis of the valley.

Experience indicates that on the Locarno-Simplon route irregular up- and downdraughts are to be expected as far as the Domodossola region. From Domodossola to Varzo, updraughts generally prevail. From Varzo, especially in the centre of the valley, strong downdraughts are to be expected up to the Simplon Pass. The GPS recordings confirm the effect of these wind conditions (cf. Annex 1).

It is noticeable that the two pilots, despite the prevailing downdraughts, continued to fly towards the Simplon Pass and only initiated a 180 degree turn when it was too late.

The fact that the aircraft was some 160 lb overloaded at the time of the accident reduced its climbing performance and manoeuvrability.

Moreover, the centre of gravity was clearly outside the aft limit and this adversely affected the aircraft's stalling characteristics.

The challenging wind conditions and the fact that the aircraft was too heavy and incorrectly loaded presented the pilots with a situation which, given their limited flying experience, they were no longer able to master.

3 Conclusions

3.1 Findings

- The pilot seated front left possessed a PPL licence and had been familiarised with the aircraft.
- The pilot seated front left had passed the flying examination two weeks before the accident. His flying experience after the examination was approximately 20 hours. He had a total flying experience of 79 hours.
- The pilot seated front right possessed a PPL licence and was familiar with the aircraft. He possessed an R/T rating in Czech, but was also able to communicate on the radio in English.
- The aircraft was licensed for transport. The last 200 hour check was carried out on 20 July 2005 at 6117 hours.
- The technical examination showed no indications of any pre-existing defects which might have influenced the accident.
- The highest permissible take-off mass according to AFM is 2400 lb.
- The aircraft was fully refuelled and loaded before take-off. On take-off, the take-off mass was 2600 lb.
- The aircraft's rear centre of gravity limit is 47.3 inches according to AFM.
- The centre of gravity was approximately 48.28 inches and therefore outside the permissible limit.
- The pressure difference between north and south was 6-7 hPa.
- In the valley, moderate to strong downdraughts prevailed.

3.2 Causes

The accident is attributable to the fact that after a 180 degree turn which was initiated too late, the pilots lost control of the aircraft, which then collided with the terrain.

The following factors contributed to the accident:

- overloading of the aircraft
- centre of gravity outside the aft limit
- limited flying experience of the pilots

Berne, 28 February 2007

Aircraft Accident Investigation Bureau

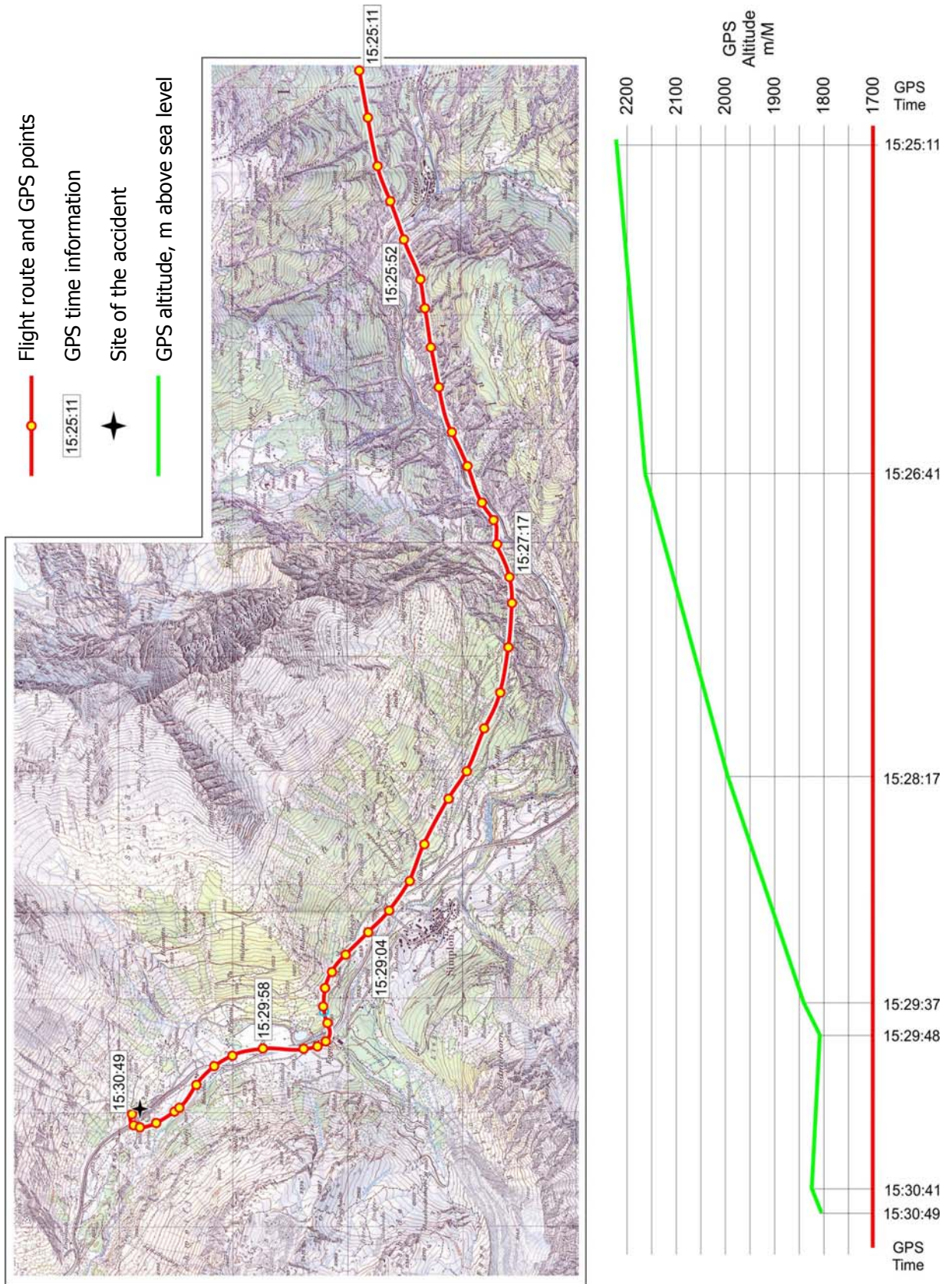
This report contains the AAIB's conclusions on the circumstances and causes of the accident which is the subject of the investigation.

In accordance with Annex 13 of the Convention on International Civil Aviation of 7 December 1944 and article 24 of the Federal Air Navigation Law, the sole purpose of the investigation of an aircraft accident or serious incident is to prevent future accidents or serious incidents. The legal assessment of accident/incident causes and circumstances is expressly no concern of the accident investigation. It is therefore not the purpose of this investigation to determine blame or clarify questions of liability.

If this report is used for purposes other than accident prevention, due consideration shall be given to this circumstance.

Annex 1

Flight route



Annex 2

Accident site



View towards the Simplon Pass from the site of the accident



Accident site and wreckage