



Final report on aircraft serious incident

Case number: **M-01514/AIG-12**

Date: **4. July 2014**

Location: **Over Ocean – East coast of Iceland**

Description: **GBYLP (Rand KR-2), Temporary loss of control/
Disorientation in clouds**

Investigation per Icelandic Law on Transportation Accident Investigation, No. 18/2013 shall solely be used to determine the cause(s) and contributing factor(s) for transportation accidents and incidents, but not determine or divide blame or responsibility, to prevent further occurrences of similar cause(s). This report shall not be used as evidence in court.

1. FACTUAL INFORMATION

Place:	East coast of Iceland 65°17' 64"N, 013°37'35"W
Date:	04. July 2014
Weather:	030° / 10 Kts, 10°C, Qnh 998 hPa Cloud base approx. 200 ¹
Time²:	16:20

Aircraft	
Type:	Rand KR-2
Registration:	G-BYLB – Fixed-wing Landplane
Year of manufacture:	2014
Serial number:	PFA 129-11431
Engine:	Jabiru 22A
Validity of CoA:	21. April 2015

Other information	
Type of flight:	Private
Number on board:	One
Injuries:	None
Damage:	None
Short description:	Temporary loss of control / disorientation during flight

Pilot										
Age:	44 year old									
License:	CPL(A), PPL(A) Issued by CAA of GBR									
Ratings:	SEP, TMG									
Medical certificate:	Valid									
Experience:	<table border="1"><tr><td>Total hrs:</td><td>1200</td><td>hrs</td></tr><tr><td>This type:</td><td>800</td><td>hrs</td></tr><tr><td>- Last 90 days</td><td>27.4</td><td>hrs</td></tr></table>	Total hrs:	1200	hrs	This type:	800	hrs	- Last 90 days	27.4	hrs
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¹ According to pilot statement

² All times in the report are UTC

About the flight

A pilot was flying his home built plane VFR from Vaagar in the Faroe Islands to Egilsstadir in Iceland. This flight was a part of his flight around the world. Before departing the Faroe Islands, the pilot got weather information reporting that the clouds were broken/scattered at 2400 at Egilsstadir. According to the pilot's statement, based on the weather forecast, this seemed to be a suitable day for his flight to Iceland.

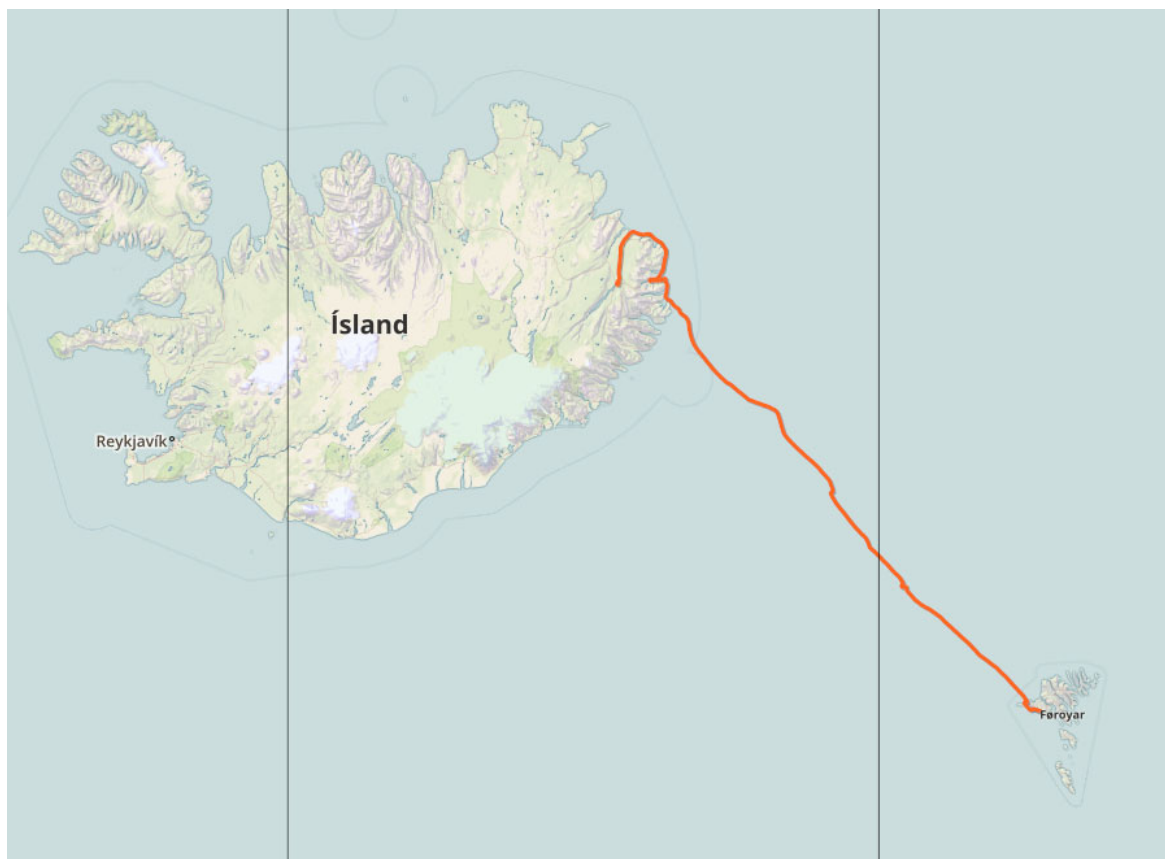


Figure 1: The Aircraft's GPS track from the Faroe Islands to Iceland

About 50 NM from the coast of Iceland the pilot descended from 5.000 feet to 2.000 feet in order to maintain VMC. When he was about 20 NM from the coast he received information that the clouds were scattered at 1600 feet, broken at 2400 feet and overcast at 4800 feet at Egilsstadir airport.

When he got closer to the coast of Iceland, the pilot flew into clouds. In order to gain VMC again he descended. When he was not clear of clouds at 1.000 feet, he decided to head further north and climb to 6.000 feet in order to get on top of the clouds. During the climb, and in clouds, the artificial horizon failed. Subsequently the pilot became disoriented and unsure of the aircraft's attitude.

With the failed artificial horizon and suffering from the effect of disorientation, the pilot was unable to maintain horizontal/level flight. At this time, he was not sure of the aircraft position and attitude.

According to the pilot's statement, using the altimeter, as reference in coordination with his changes in pitch and/or power settings, the aircraft was not responding in the way that he expected.

At 16:47, the AFIS at Egilsstadir airport received a MAYDAY call with no further information. According to the pilot statement, he declared an emergency when he was unsure of the aircraft's attitude. Following the MAYDAY call, he then placed the controls so the aircraft should descend in a spiral flight. He descended in a spiral (see figure 2) until he got below the cloud base at 200 feet.

Based on the pilot's statement, it was a coincident that the aircraft was over water during the spiral.

When below clouds, the pilot levelled out of the spiral and flew below the clouds, heading north, until he managed to fly visually to Egilsstadir airport. He landed uneventfully at Egilsstadir airport at 17:25.

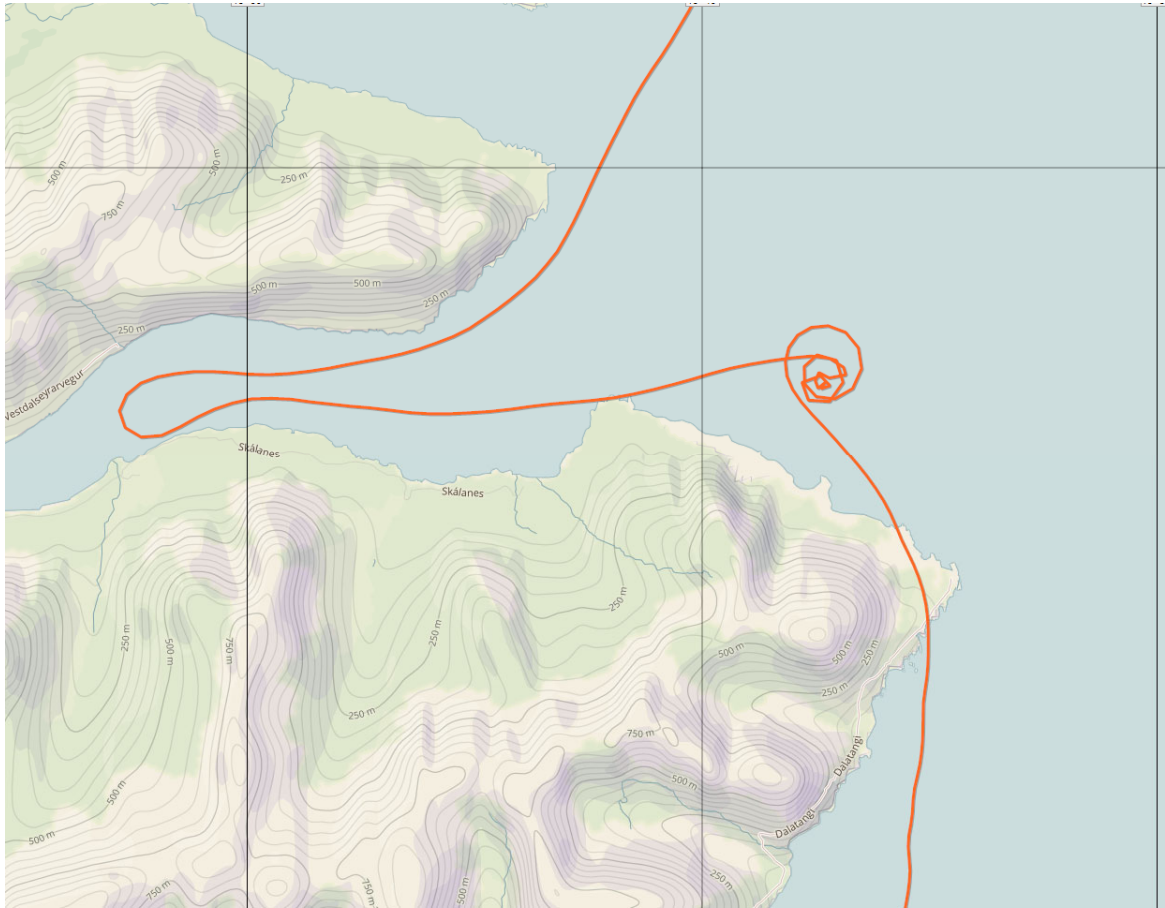


Figure 2: GBS track of the aircraft during spiral

When below clouds, the artificial horizon started to work normally again.

The aircraft is equipped with a non-heated venturi feeding for the vacuum system, which the artificial horizon operates on. Furthermore, the aircraft is not equipped for IFR flights.

The artificial horizon system was found to work in subsequent flights.



2. ANALYSIS AND CONCLUSION

The ITSB believes that the vacuum system for the artificial horizon failed due to ice forming in the non-heated venturi, while flying in clouds

Information from the Icelandic Met Office (IMO) indicates that the Airport at Egilsstaðir was not a suitable airport for VFR flight this day. According to a meteorologist, the Airport at Höfn (South-East part of the country) would have been a better option for this flight. However the airport at Höfn is not an airport of entry into Iceland.

TAF 2014-07-04 07:55:00

BIEG 040909 36012KT 8000 RA FEW005 SCT012 BKN020 BECMG 0422/0501 33022KT 5000
RADZ BKN010 OVC018

TAF 2014-07-04 10:59:00

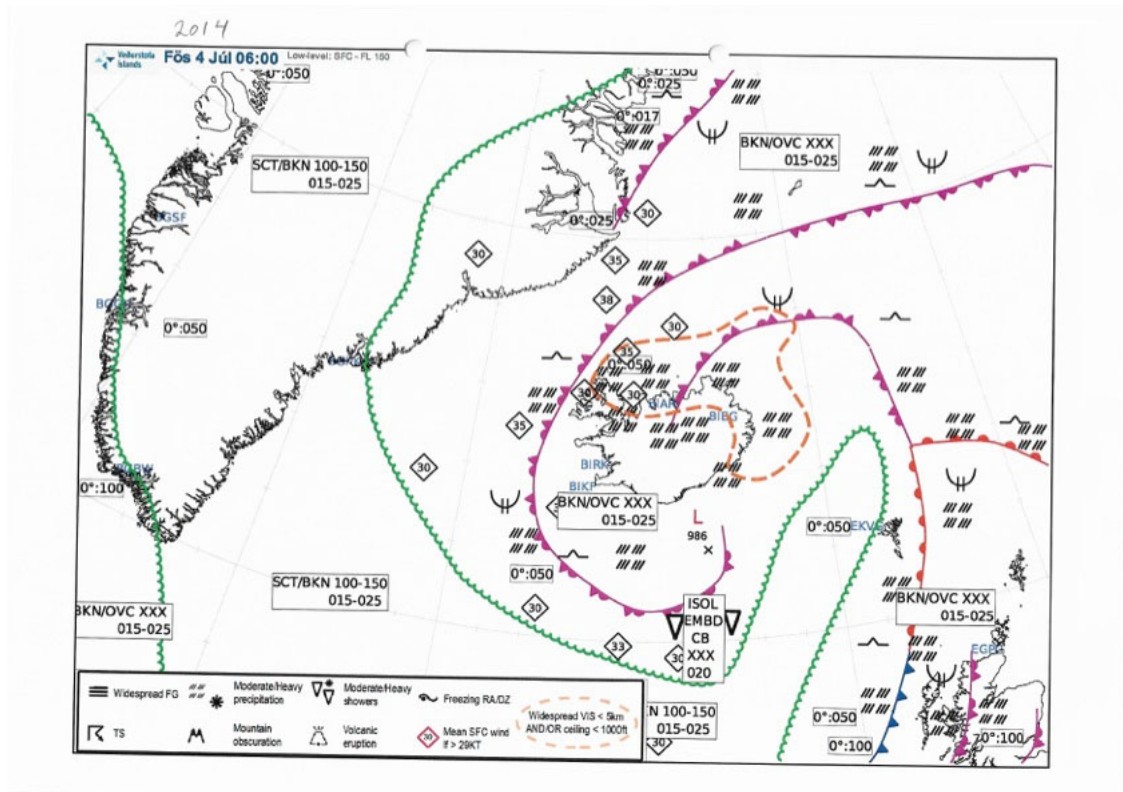
BIEG 041212 36012KT 8000 RA FEW005 SCT012 BKN025 BECMG 0422/0501 32022KT 5000
RADZ BKN010 OVC018 BECMG 0506/0509 22015KT 9999 RA SCT020 OVC030

Metar for Egilsstaðir airport (BIEG)

BIEG 2014-07-04 16:00:00METAR BIEG 041600Z 36018KT 9999 **BKN005 OVC036 09/08** Q0993
BIEG 2014-07-04 17:00:00METAR BIEG 041700Z 01016G26KT 8000 **BKN005 OVC033 09/08**
Q0993

Metar for Höfn Airport (BIHN)

BIHN 2014-07-04 16:00:00 METAR BIHN 041600Z 01004KT 9999 -SHRA FEW020 SCT045
BKN060 11/// Q0992
BIHN 2014-07-04 17:00:00 METAR BIHN 041700Z 04006KT 9999 -SHRA FEW020 SCT036
BKN050 12/// Q0992



IMO produces, three times a day, a low level SIGWX chart (see picture above) from surface up to FL150. This is, as for others, to service ferry pilots. It is available on the IMO web, both on the English and Icelandic.

Information of aviation weather over Iceland is published daily, indicating that between 12:00 and 17:00 this day, the VMC were sufficient in south and south-west of the country but poor or none in other places. This however was in Icelandic only.

Information of aviation weather conditions over Iceland, published by the IMO (only in Icelandic)

Flugskilyrðin yfir Íslandi - 04.07.2014

HORFUR 1200 - 1700 GMT.

Háloftavindar/hiti:

FL050: 040/20-40KT, hvassast NV- og V-lands, 00

FL100: 040/20-35KT, hvassast NV-til, -09

FL180: 040/35-45KT, en 07020KT SA-til, -27

Yfirlit:

Skammt SA af landinu er 986 mb lægð sem þokast SA. Yfir NA-Grænlandi er 1020 mb hæð.

Vindar nærri yfirborði:

N- og NA-átt, 35-40 hnútar NV- og V-til, annars víða 15-25 hnútar.

Skýjahæð/skyggni/veður:

Lágskýjað N- og A-til á landinu, rigning eða súld og takmarkað skyggni með köflum. Skýjað í um 2000-3000 fetum og sums staðar lítilsháttar úrkoma annars staðar. Toppur í yfir 18.000 fetum.

Sjónflugsskilyrði milli landshluta:

Þokkaleg S- og SV-lands, annars léleg eða ófært.

Frostmarkshæð:

Um 5000 fet.

Ísing:

LGT/MOD milli 5000 og 17000 feta.

Kvika:

Víða MOD NV- og V-til.

Annað:

Additional to the publication of the weather information on the IMO website, the IMO do have telephone service for ferry pilots as well as other pilots 24/7.

3. SAFETY RECCOMENDATIONS/ACTIONS

Safety recommendations

ITSB recommends to the Icelandic Met Office:

M-01514-T01

To publish Aviation weather conditions (flugveðurskilyrði) also in English

M-01514-T02

To publish instructions (in English) that supports pilots on how to use the materials on the Met Office website

ITSB recommends to the Ministry of Transport and Local Government:

M-01514-T03

To make the airport at Höfn an airport of entry into Iceland.

Safety action

1. The ITSB emphasises to pilots in VFR flights to avoid clouds in all circumstances.
2. The ITSB emphasises to VFR pilots to contact IMO via telephone (24/7) in case of any doubt of VMC.



This Final Report was approved by following ITSB board members:

- Geirprúður Alfreðsdóttir
- Tómas Davíð Þorsteinsson
- Bryndís Lára Torfadóttir
- Gestur Gunnarsson

Reykjavík 25. October 2018

On behalf of the Icelandic Transportation Safety Board

Þorkell Ágústsson – IIC