

**Final Report
of the Aircraft Accident
Investigation Bureau**

concerning the incident (Airprox)

between KLM1927 and HB-CVK

on 10th July 1999

Geneva Airport Terminal Control Area

AIRCRAFT ACCIDENT INVESTIGATION BUREAU

FINAL REPORT

AIR TRAFFIC INCIDENT REPORT (ATIR)

AIRPROX (NEAR COLLISION)

THIS REPORT HAS BEEN PREPARED FOR THE PURPOSE OF ACCIDENT/INCIDENT PREVENTION. THE LEGAL ASSESSMENT OF ACCIDENT/INCIDENT CAUSES AND CIRCUMSTANCES IS NO CONCERN OF THE INCIDENT INVESTIGATION
(ART. 24 OF THE AIR NAVIGATION LAW)

PLACE	Geneva airport Terminal Control Area
DATE/TIME	10 July 1999 / 0728 UTC
AIRCRAFT	1. KLM 1927, Boeing 737, Amsterdam-Geneva, 2. HB-CVK, Cessna 182, Geneva-Montelimar

ATC SERVICE	AERODROME / TERMINAL CONTROL SERVICES
ATC CONTROLLER	AERODROME / TERMINAL
AIRSPACE CATEGORY	C

HISTORY

On Saturday 10 July 1999 at 07:28 UTC, HB-CVK, a visual flight rules (VFR) flight from Geneva to Montelimar is authorised to take off on runway 05, route VFR Whiskey. At 07:34 UTC, the airport controller informs HB-CVK of its position a little to the south of check point "Whiskey" and of the presence of approaching traffic on the instrument landing system line (ILS) line, runway 05. The pilot is avoiding cloud and wishes for the time being to maintain 3000 ft, above the right bank of the Rhone. At 07:36 UTC, Geneva Control Tower authorises HB-CVK to climb initially towards 3500 ft (HB-CVK requests 6500 ft) because of the following traffic approaching on ILS 05, KLM 1927. The controller asks HB-CVK to display code A4504 on the transponder and transfers it to the Geneva terminal control (TMA) region frequency. Shortly thereafter, the airport controller observes HB-CVK on radar at an altitude of 4500 ft, very close to the ILS line and gives traffic information to KLM 1927. For separation purposes, KLM 1927 climbs from 4900 to 5500 ft following a "resolution advisory" from its collision alert system (TCAS).

In order to remain in visual flight (VFR) weather conditions, HB-CVK executed a 360 degree turn to the left and climbed to 5000 ft, although he was authorised only up to 3500 ft. On first radio contact on the TMA frequency, he was already at 4500 ft.

FINDINGS

- The pilot of HB-CVK possesses a valid PPL (A) licence with RTI (VFR) extension
- The incident took place at the limit of the control zone (CTR) and the Geneva terminal control area (TMA), to the west of the airport.
- The runway in operation was runway 05.
- At the start of the incident, the aircraft was in the control zone and at the time of the KLM 1927 avoiding action, in the terminal control area.
- The Geneva control zone is classified "D airspace", from the ground to 4000 ft and the terminal control area, at the location of the incident, "C airspace", from 3500 ft to flight level (FL) 195.
- The pilot was in contact with Geneva airport (frequency 118.700 MHz) throughout the first phase of the incident.
- The pilot received authorisation to climb to 3500 ft.
- The pilot requested authorisation to climb to 6500 ft.
- The controller repeated the authorisation to climb to 3500 ft.
- The pilot did not read back the authorised altitude.
- The pilot says that he cannot continue on the maintained heading without entering clouds, in an internal conversation, audible on frequency 118.700 MHz.
- The airport controller transfers the aircraft to the terminal control region (TMA) immediately after this message.
- The first call on the TMA frequency is not received because of garbling.
- The TMA controller makes a remark to the pilot because of his altitude in excess of 3500 ft.
- The pilot says he has received the authorisation to climb.
- The controller confirms to the pilot that the TWR had not authorised him to climb above 3500 ft.
- The pilot acknowledges his error and apologises.
- KLM takes avoiding action by climbing from 4900 ft to 5500 ft on the centre line of the instrument landing system (ILS) at a distance of 1.4 NM and 400 ft above HB-CVK in "C space"

- KLM 1927 states that it is submitting an ATIR.
- Weather bulletin for Geneva at 06:50 UTC: wind 050° / 2 kts; visibility 9 kilometres; little cloud at 500 ft, scattered at 1700 ft, broken at 2500 ft; QNH 1016. Turbulence forecast north-west of PAS and on final approach.

ANALYSIS

Aircraft HB-CVK approached the ILS 05 approach line flying according to visual flight (VFR) rules at an altitude greater than authorised in difficult meteorological conditions, creating a situation in which the minimum separations in C space were no longer complied with, with a commercial aircraft in approach phase.

Thanks to the commercial aircraft's TCAS and the traffic information provided by air traffic control, minimum separation did not drop below 0.9 NM and 500 ft. Aircraft HB-CVK made a 360 degree turn in the direction of the ILS line in order to remain in VMC (according to the visual flight weather conditions). Throughout this manoeuvre he continued to climb, preoccupied with maintaining visual flight conditions (VMC). The aircraft HB-CVK was transferred, without co-ordination, to a frequency of another ATS unit (TMA) at an inopportune time, shortly after the pilot had declared he was not able to continue on his heading without entering clouds.

CAUSE

The incident is due to the presence of an aircraft in VFR flight which was too close to the path of a commercial aircraft on ILS approach. This VFR flight executed an unauthorised manoeuvre because of difficult meteorological conditions. Factor which has also had an influence on the incident: the transfer of communication to another ATS frequency at an inopportune time.

**TRANSCRIPT OF TELEPHONY
OR RADIOTELEPHONY COMMUNICATIONS TAPE-RECORDING**

Investigation into the **incident** that occurred on **July 10th 1999**

- Subject of transcript:	HBCVK
- Centre concerned:	Geneva
- Designation of units:	TWR / TMA
- Frequencies:	118.7 / 119.52 MHz
- Date and period covered by attached extract:	July 10 th 1999 07:27 – 07:45 UTC
- Date of transcript:	July 20 th 1999
- Name of official in charge of transcription service:	Monica Simonet

- Certificate by official in charge of Analysis Department:

I hereby certify:

- That the accompanying transcript of the telephony or radiotelephony communication tape-recording, retained at the present time in the premises of Analysis Department, has been made under my supervision.
- That it was examined and checked by me.
- That no changes have been made to the entries in columns 2, 3 and 4, which contain only clearly understood indications in their original form.

Geneva, July 20th 1999

M. Simonet



TRANSCRIPT SHEET

To <u>Col.1</u>	From <u>Col.2</u>	Hour <u>Col.3</u>	Communications <u>Col.4</u>	Observations <u>Col.5</u>
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Frequency 118.7 MHz: Geneva Tower, concerning HBCVK and KLM1927 only

TWR	HVK	07:27:	48	La Tour de Victor Kilo au point d'attente zéro cinq est prêt pour le décollage.
HVK	TWR		54	Hotel Victor Kilo bonjour, autorisé au décollage zéro cinq gazon, vent soixante degrés cinq nœuds, route Whiskey.
TWR	HVK	07:28:	04	Victor Kilo autorisé pour le décollage et route Whiskey.
HVK	TWR	07:34:	14	Hotel Victor Kilo, vous êtes à quelle altitude ?
TWR	HVK		19	Victor Kilo j'arrive à trois mille pieds. Est-ce que j peux monter un p'tit peu, à..... trois mille cinq cents pieds ?
HVK	TWR		26	Hm, ça vous pose un problème à trois mille pieds de maintenir en VFR ?
TWR	HVK		30	Je maintiens à trois mille pieds, si vous voulez.
HVK	TWR		33	Parce que vous êtes un peu au sud de Whiskey et vous, et vous approchez heu ... de l'axe ILS finale. On a du trafic à ces altitudes.
TWR	HVK		40	Affirmatif, je reste là parce que j'ai des paquets, j'suis obligé de passer, je reste à droite du Rhône.
HVK	TWR		46	Oui oui d'accord, il n'y a pas d problème, c'est juste pour connaître votre altitude. On a un trafic qui arrive quatre mille neuf cents pieds sur l'ILS devant vous.
TWR	HVK		53	Voilà okay, merci. J vous appelle quand j'le vois.
HVK	TWR		57	D'accord.
HVK	TWR	07:35:	30	Et Victor Kilo vous pouvez poursuivre la montée vers trois mille cinq, vous êtes clair du trafic.

TWR in contact with:
CRX471
HBHFV
CRX471
HBHFV
N57384
HBPIZ
CRX471
N57384
HBPIZ (2x)
HBHFV
N57384

TWR in contact with:
HBHFV
N50N

Signature of



TRANSCRIPT SHEET

<u>To</u> <u>Col.1</u>	<u>From</u> <u>Col.2</u>	<u>Hour</u> <u>Col.3</u>	<u>Communications</u> <u>Col.4</u>	<u>Observations</u> <u>Col.5</u>
TWR	HVK	35	Voilà merci heu... mais j'peux toujours pas monter, là, j'veais arriver au point Whiskey et j'suis..., j'suis à ras des nuages là, j'peux pas aller plus ..., pas pour le moment.	
HVK	TWR	48	Donc vous, vous voulez dire que vous pouvez pas aller plus haut ?	
TWR	HVK	52	Heu négatif, là, maintenant j'veais essayer de monter là parce que il y a des XXXXX.	I understand: "gnottes" must be: "nuages"
HVK	TWR	59	D'accord, vous arrivez sur Sierra Whiskey et vous désirez essayer de monter jusqu'à combien ?	
TWR	HVK	07:36: 06	On va monter au six cinq.	
HVK	TWR	08	D'accord, alors initialement maximum trois mille cinq, affichez quarante-cinq zéro quatre.	
TWR	HVK	14	Donc quarante-cinq zéro quatre , oui mais là on est dedans, hein. J'suis obligé de tourner ici, hein.	
HVK	TWR	25	Et Victor Kilo contactez Terminal, cent dix-neuf cinquante-deux.	
TWR	HVK	31	Cent dix-neuf cinquante-deux.	
HVK	TWR	33	Bon vol.	
TWR	HVK	34	Merci.	TWR in contact with: - N50N - HBPIZ sent over to TMA at 07:37:10 - HBPEJ
TWR	1927	07:37: 44	Tower bonjour, KLM one niner two seven on the ILS zero five at one three point four miles.	
1927	TWR	49	Bonjour KLM one nine two seven, report at two miles final.	
TWR	1927	53	Roger, call you two miles.	
1927	TWR	07:38: 30	KLM one nine two seven look out for traffic, eleven o'clock position, two miles, four thousand five hundred feet.	
TWR	1927	07:38: 36	Heu roger, we have him on TCAS and we are climbing.	
1927	TWR	40	Roger..... , he is at four five maintaining for the time.	

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TRANSCRIPT SHEET

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1927	TWR	49	He is now just at your nine o'clock.	
TWR	1927	52	Yea, we have him in sight.	
1927	TWR	54	Thank you, hm, can you perform the approach ?	
TWR	1927	58	Yes, we can.	
1927	TWR	59	Roger, report at two miles.	
1927	TWR	07:40: 36	And KLM one niner two seven you are cleared to land runway zero five, wind zero six zero degrees, four knots.	TWR in contact with: N50N HBPEJ (2x)
TWR	1927	42	Roger, cleared to land and for your information, we had an.. a resolution advisory, I have to report it.	
1927	TWR	48	Roger.	

Frequency 119.52 MHz: Geneva Terminal

TMA	HIZ	07:37: 20	Genève Terminal, Hotel Bravo Papa India Zulu bonjour, on vient de passer... Novembre, trois mille cinq cents, on aimerait monter au quatre-vingt-cinq.	Two stations calling at the same time.
TMA	HVK	28 je suis obligé de faire un trois cent soixante, parce que j'arrive pas à monter.	
XXX	TMA	33	Two stations.	
TMA	HIZ	38	Genève Terminal, Hotel Bravo Papa India Zulu bonjour.	
HIZ	TMA	41	India Zulu bonjour, vous êtes identifié; vous désirez monter vers quelle altitude ?	
TMA	HIZ	45	India Zulu je demande quatre-vingt-cinq.	
HIZ	TMA	07:37: 49	India Zulu compris, montez initialement sept mille pieds, mille seize et j'vous rappellerai pour plus haut.	
TMA	HIZ	54	India Zulu sept mille....	
HVK	TMA	07:38: 30	Victor Kilo ?	


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TMA	HVK	33	Heu Victor Kilo je vais arriver à..., j'ai l'avion en vue et.. je vais passer heu... le point Whiskey.	
HVK	TMA	41	Oui, vous passez alors tout à fait, tout à l'ouest maintenant immédiatement.	
TMA	HVK	47	Oui, mais je viens de croiser l'avion au décollage, heu à l'atterrissage.	
HVK	TMA	51	Oui, mais vous n'montez pas comme ça donc sans autorisation dans la TMA !	
TMA	HVK	57	Mais la Tour m'a, m'a autorisé à monter.	
HVK	TMA	07:39: 01	Oui, j'vais clarifier ça. Vous n'montez pas plus haut que quatre mille cinq cents pieds. Vous désirez faire quelle route ?	
TMA	HVK	10	????? maintenant, là je suis au-dessus d'la couche et.... je vais sur Montélimar.	unreadable
HVK	TMA	18	Et quelle est votre altitude ?	
HVK	TMA	28	Victor Kilo vous montez pas plus haut que cinq mille pieds.	
TMA	HVK	31	Affirmatif, je monte pas plus haut.	TMA in contact with: HBOVR HB?EU
HVK	TMA	07:41: 07	Victor Kilo ?	
TMA	HVK	09	Victor Kilo, je suis à cinq mille cent pieds heu..., je viens de passer l'autoroute Bellegarde.	
HVK	TMA	17	Oui, et la prochaine fois vous ne montez pas plus haut que trois mille cinq cents pieds, la Tour vous avait autorisé à trois mille cinq et pas plus haut.	
TMA	HVK	07:41: 23	Affirmatif, mais j'arrivais dans les XXXXX ça veut dire, il y avait des..., j'ai fait un trois cent soixante hein, j'ai, j'suis, j'suis resté dans mon axe. J'm'excuse hein.	I understand: "gnottes", must be: "nuages"
HVK	TMA	32	Oui, mais pile sur l'ILS, nous avons la piste zéro cinq en service. Vous avez appelé en même temps qu'un autre c'qui fait que je n'ai absolument rien reçu du tout. Vous n'avez pas le droit de monter comme ça sans autorisation.	
TMA	HVK	42	Affirmatif, excusez-moi.	TMA in contact with F??QU

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TMA	HVK	07:42: 39	Genève de Victor Kilo, est-ce que on peut monter au niveau six cinq ?	Another controller is taking over TMA frequency
HVK	TMA	44	Vous pouvez monter au six cinq.	
TMA	HVK	47	Merci.	TWR in contact with HBPIZ
HVK	TMA	07:45: 10	Hotel Victor Kilo affichez Alfa sept mille et appelez Chambéry sur cent vingt-trois sept, au revoir.	
TMA	HVK	15	Merci, au revoir, cent vingt-trois sept et je mets sept mille le transponder.	

Abbreviations

TWR - Geneva Tower
TMA - Geneva Terminal

HVK - HBCVK	C182	VFR flight	LSGG - LFLQ
1927 - KLM 1927	B737	IFR flight	EHAM - LSGG
HIZ - HBPIZ	P32R	VFR flight	LSGG - EGSU

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