

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

concerning the incident (Airprox)

between CRX518, HB-IZY and BZH831, F-GRJB

on 23<sup>rd</sup> September 1999

FIR Zurich, 18 NM North-East ROTIS

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/DATE/TIME**

FIR Zurich / 18 NM north-east ROTIS  
23 September 1999 16:37 UTC

**AIRCRAFT**

1. CRX518 SAAB2000 HB-IZY, Crossair,  
Geneva - Dusseldorf
2. BZH831 CL 600 FGRJB, Britair (France),  
Munich - Lyon

---

**ATS CENTRE**

ACC Zurich (Area Control Centre)

**AIR TRAFFIC CONTROLLERS**

RE-Upper 1 (Radar-Executive air traffic control)  
RP-Upper 1 (Planning radar air traffic control)

**AIRSPACE**

C

## HISTORY

CRX518 was flying from Geneva to Dusseldorf. On first contact with Zurich radar, frequency 133.050 MHz, the pilot reported FL210 climbing to FL240 (requested cruising altitude was FL310). CRX518 was then authorised by RE-Upper1 (Radar-Executive) on route FRI – TRA – TGO to FL270.

BZH831 was flying from Munich to Lyons at an altitude of FL280. The flight route was KPT – TRA – BENEM. Shortly before TRA, BZH831 was authorised by RE-Upper1 to proceed direct to BENEM.

When CRX518 reached FL270 and requested a higher FL, he was instructed by air traffic control to maintain FL270 (expect FL280 in about 15 NM as final level), since he clearly wished this flight to cross with BZH831 first.

Two minutes later the first crossing occurred, with CRX518 crossing with KAC171A. At this time air traffic control issued CRX518 the instruction to climb to FL280.

CRX518 and BZH831 were approximately 10 NM apart on a opposite course. Immediately thereafter, the RE recognised his error and requested CRX518 (which was now at FL276) to descend back to FL270. At the same time, he instructed BZH831 to make a 15 degree turn to the right. However, on the basis of a TCAS (Traffic Collision Alert System) alarm, BZH831 was already on the point of climbing. Despite the measures taken, both by the air traffic controller and the pilot, a dangerous encounter occurred (3 NM horizontal and 700 ft vertical separation).

## FINDINGS

- CRX518 and BZH831 were in radio contact with Zurich radar (Upper 1).
- Both aircraft were in transit through Zurich region.
- BZH831 was instructed to remain at FL280.
- In the TRA (Trasadingen) region, there were a few CB (cumulo-nimbus) clouds.
- The STCA (Short Term Collision Alert) at air traffic control signalled very late.
- BZH831 was following a TCAS-RA (Resolution Advisory).

## ANALYSIS

At the time of the incident, traffic was moderate to heavy. Because of the CB in the TRA region, various pilots asked to fly around these hazard areas making minor course corrections.

According to air traffic control planning, CRX518 and BZH831 were to cross approx. 18 NM north-east of ROTIS. This caused RE-Upper1 to authorise CRX518 to climb to FL270 for the time being, since another aircraft, namely KAC171A, was on a reciprocal course to CRX518 at FL290 (approximately 10 NM in front of BZH831), in order to descend subsequently to Geneva.

RE-Upper1 recognised his mistake straight away and was simultaneously made aware of the danger by his PLANNING air traffic controller. This caused the RE to

instruct CRX518 (in the meantime climbing between FL271 and 275) to descend again to FL270 immediately.

At the same time the pilot of BZH831 received a TCAS alert to climb immediately. He did this up to FL288. Finally RE-Upper1 allocated BZH831 an avoiding heading.

At the same time as the above-mentioned actions, the air traffic controller at his workstation received an STCA (Short Term Conflict Alert), making him aware of the developing danger. In this case, however, the alarm occurred at the precise time when both the air traffic controller and the pilots of the aircraft concerned had already initiated measures to defuse the conflict situation.

The reactions and instructions of the controller, after he had become aware of his mistake, were rapid. However, the quickest possible resolution of the conflict suffered a short delay, as a result of the shock experienced by the controller in view of the situation, owing to an initial imprecise instruction to CRX518 (controller: sorry, maintain FL280 (instead of FL270), opposite traffic!). On the second attempt, FL270 was then stated clearly.

The entire conflict situation was fortunately able to be resolved by fast reactions and the exemplary co-operation of all concerned.

## **CAUSE**

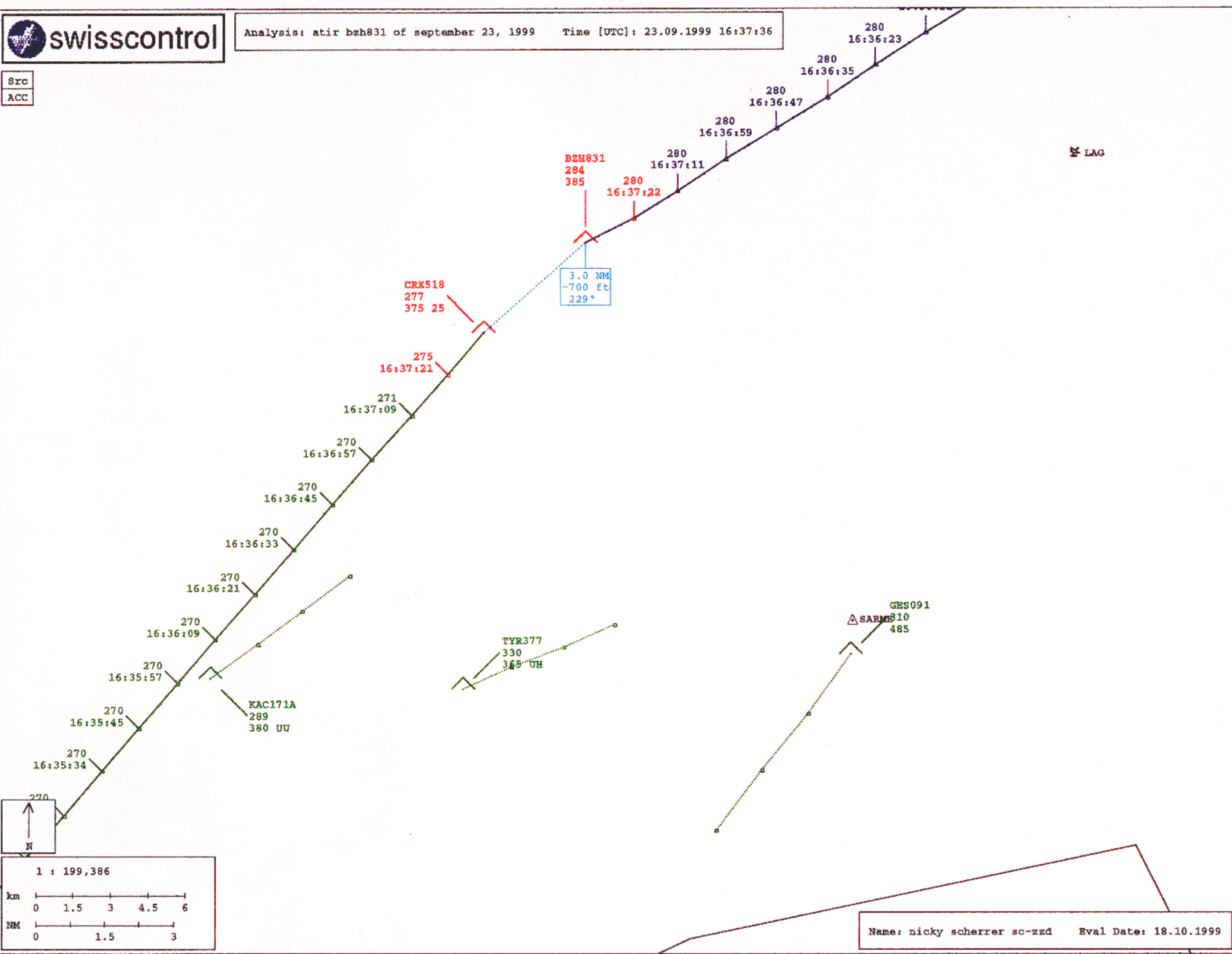
The incident arose as a result of a brief lack of attention on the part of the Radar controller, resulting in the fact that BZH831 was for a short time no longer part of his control concept.





Analysis: atir bzh831 of september 23, 1999 Time [UTC]: 23.09.1999 16:37:36

Src  
ACC



LAG

Name: nicky scherrer sc-zzd Eval Date: 18.10.1999



 **swisscontrol**  
Flugsicherungsbetrieb Zürich  
CH-8058 Zürich-Flughafen

Page No. 1

Zürich-Flughafen, 27.9.1999  
ZZD

## Transcript of Original Tape Recording

No. of pages 3

Subject **ATIR BZH831 of September 23, 1999**

Abbreviations	831	→	BZH831	→	Britair (France)
and Call Signs	518	→	CRX518	→	Fehler! Textmarke nicht definiert. Crossair
	ACC	→	Zurich ACC	Upper 1 Sector	

Frequencies **Zurich ACC West Upper 1 Radar 133.050 MHz**

The signer certifies the completeness and correctness of the present transcript.

**swisscontrol**  
Flugsicherungsbetrieb Zürich



Nicky Scherrer

From	To	Time UTC	Communications	Observations
831	ACC	16:25:28	Zürich, good afternoon, BZH831, passing flight level 275 for 280	
ACC	831	:32	BZH831, good evening, sqawk 2747	
831	ACC	:35	2747, BZH831	
4 stations in between				
ACC	831	:26:35	BZH831, identified, maintain 280, inbound Trasadingen, call you back for left turn	
831	ACC	:43	Okay, inbound Trasadingen and 280 for the flight level, BZH831	
1 station in between				
518	ACC	:28:29	Zürich "Guten Tag", CRX518, flight level 210 climbing to flight level 240	
ACC	518	:35	CRX518, "Guete Abig", identified, cleared Trasadingen Tango, climb to level 270	
518	ACC	:40	Trasadingen Tango, 270, CRX518	
8 stations in between				
ACC	518	:31:48	BZH831, left to BENEM	
1 station in between				
831	ACC	:32:08	That was for BZH831, direct BENEM ?	
ACC	831	:11	correct	
831	ACC	:12	Okay, will do that	
8 stations in between				

From	To	Time UTC	Communications	Observations
518	ACC	16:34:12	Zurich, CRX518, any chance for higher, to stay out of clouds?	
ACC	518	:16	Ja, expect 280 in about fifteen miles as final level, stand-bye, maintain 270	
518	ACC	:22	Thank you	
3 stations in between				
ACC	518	:36:47	CRX518, climb to level 280	
518	ACC	:51	Recleared flight level 280, CRX518	
2 aircraft in between				
ACC	518	:37:07	CRX518, sorry, maintain 280*, opposite traffic	*says 280
518	ACC	:14	CRX518, confirm, we will maintain flight level 280?	
ACC	518	:18	Negative, 270, sorry	
518	ACC	:24	.....*518, present altitude 276 descending flight level 270, CRX518	*two stations blocking
ACC	518	:27	Thank you	
ACC	831	:28	BZH831, right by one five degrees	
831	ACC	:30	We are climbing right now, we have a TCAS resolution	
ACC	831	:35	Yes, opposite traffic three miles at 275 descending again	
831	ACC	:40	He was at 279 for us	
ACC	831	:43	Okay	
518	ACC	:46	CRX518, traffic crossed	
ACC	518	:48	Thank you	
831	ACC	:51	We are descending to 280, BZH831	
ACC	831	:54	Thank you, BZH831	
1 station in between				
ACC	518	:38:13	CRX518, recleared again flight level 280	



From	To	Time UTC	Communications	Observations
518	ACC	16:38:18	Recleared flight level 280, CRX518	
ACC	831	:25	BZH831, descend now to flight level 270	
831	ACC	:30	Down 270, BZH831	
831	ACC	:42	And BZH831, we will file a report for that TCAS resolution and AIRPROX	
ACC	831	:50	Okay, and say again the rest ?	
831	ACC	:54	For an AIRPROX, - AIRPROXIMITY	
ACC	831	:57	Okay	
831	ACC	:59	We had about four hundred feet separation	
ACC	831	:39:02	Okay	

- end -