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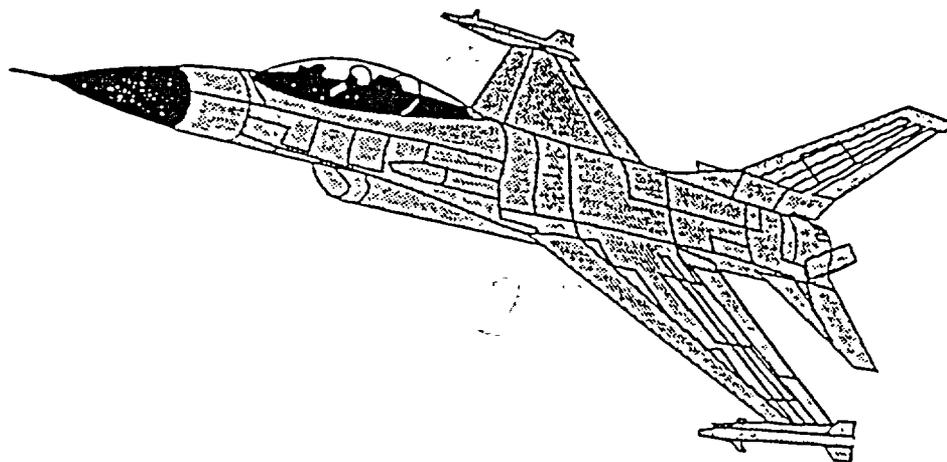
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AIRCRAFT ACCIDENT  
INVESTIGATION REPORT

8 October 1993



F-16CJ (SN91-0350)

52ND FIGHTER WING

SPANGDAHLEM AIR BASE, GERMANY

UNCLASSIFIED

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**AIRCRAFT ACCIDENT INVESTIGATION REPORT**

**F-16CJ SN: 91-0350**

**SPANGDAHLEM AIR BASE, GERMANY**

**DANIEL B. CECIL, Colonel, USAF**  
**Investigating Officer**

**JAMES E. ARNOLD, Major, USAF**  
**Legal Advisor**

## STATEMENT OF AUTHORITY AND PURPOSE

At the direction of the Commander, Headquarters Seventeenth Air Force, Colonel Daniel B. Cecil, 601 ABW/CV, Sembach AB, Germany, was appointed to conduct an investigation concerning the crash of an F-16CJ (SN 91-0350) assigned to the 52nd Fighter Wing, 23rd Fighter Squadron that crashed near Griffiss AFB, New York, on 8 October 1993. Major James E. Arnold, 17 AF/JA, Sembach AB, Germany, was detailed as legal advisor and accompanied Colonel Cecil during the course of the investigation. The investigation was conducted in accordance with AFR 110-14 and was guided by AFR 120-3.

## MATTER INVESTIGATED

This investigation concerns the crash of an F-16CJ, Block 50 aircraft. The crash occurred in an forested area approximately 15 nautical miles northeast of Griffiss Air Force Base, New York.

## SUMMARY OF FACTS

### I. History of Flight

On 8 October 1993, the mishap aircraft was #2 in a four ship flight (call signs Retro 11, 12, 13, 14) transferring new F-16 aircraft from Dallas, Texas to Spangdahlem AB, Germany. Their first stop on this transfer mission was to be Plattsburgh Air Force Base, New York.

Takeoff occurred at 1350 local from Carswell AFB, Texas. The flight flew a standard instrument departure to flight level 370 and then was cleared direct Plattsburgh. Upon arrival at Plattsburgh, Retro 12 executed three instrument approaches, but discovered that the weather was too bad to land. He attempted an emergency divert to Griffiss AFB. The aircraft flamed out due to fuel starvation while still too far from Griffiss to allow for a flameout landing. Retro 12 successfully ejected. The aircraft impacted the ground in a forested area with minimal damage to private property.

Media interest in the crash was limited to the local news media, with the exception of one request for information from the Fort Worth area. All requests were dealt with expeditiously and professionally by the Griffiss AFB Public Affairs office.

### II. Mission

The 52nd Fighter Wing, Spangdahlem Air Base, Germany, is replacing their F-16C, Block 30, big inlet, aircraft with a newer version. These newer aircraft are designated F-16CJ, Block 50. Retro 12 was one of these aircraft, tail number 91-0350. The flight was authorized by an Air Tasking Order (ATO) published by the 2nd Air Delivery Group, Langley Air Force Base, Virginia. They were to transfer the aircraft from Fort Worth, Texas to Spangdahlem Air Base, Germany. The flight was scheduled to fly to Plattsburgh Air Force Base, New York on the first leg of the mission.

### III. Briefing and Preflight

Briefing started later than originally intended, but was not rushed. The briefing was complete, to include discussion of divert bases and review of the approaches to Plattsburgh. During the briefing, Retro 12 determined that he wanted 2000 lbs of fuel to divert to Griffiss from Plattsburgh. This would allow him to land at Griffiss with approximately 800 lbs of fuel. Preflight inspection and walkaround was unremarkable for all four aircraft. The flight started engines at approximately 1240 local time. Retro 11 and 12 both shut down for maintenance of flight control systems. Retro 13 and 14 had no problems and remained at idle power, which meant they took off with up to 500 lbs less fuel than Retro 11 and 12.

### IV. Flight Activity

The four ship flight took off at approximately 1350 local time. The flight, in two elements, departed Carswell AFB to the south, made a left climbing turn to flight level 370 (37000 feet) then proceeded essentially direct to Plattsburgh. Enroute they made several minor deviations due to weather. The flight received three separate weather updates for Plattsburgh. All weather reports indicated the flight could easily see the field and land. After level off, the flight set throttles for maximum endurance fuel flow and calculated that arrival fuel would be no less than 2600 pounds, which was sufficient for the intended flight including adequate reserve fuel.

Approximately 70 miles from Plattsburgh Retro 13 and 14 split off behind Retro 11 and 12 in order to achieve spacing for separate instrument landing system (ILS) approaches. Retro 11 and 12 descended to 6000 feet. When they were about 10 miles west of the field they were vectored south. Retro 11 was cleared for a 10 mile ILS final and Retro 12 was cleared for a 15 mile ILS final. The flight paths resulted in an approximately seven mile spacing. Retro 12 was unable to receive localizer or glide path information, so he transitioned to a tactical air navigation (TACAN) final approach. Retro 13, who had declared minimum fuel, was being handled as an emergency by Burlington approach. Retro 12 was vectored off the approach, prior to descending to TACAN minimum descent altitude, because of inadequate spacing for recovery of the "emergency" aircraft, Retro 13.

Retro 11 had executed a missed approach ahead of Retro 12 for reasons not related to ILS failure. Retro 12 reported not receiving the ILS. Ground controllers declared the ILS out of service and thus forced Retro 13 and 14 to fly TACAN approaches. Retro 13 aborted his approach prior to descending to minimum descent altitude and declared he was diverting to Griffiss. Retro 14 flew the approach to TACAN minimums, but could not find the field. Shortly after Retro 13 announced he was diverting to Griffiss, Retro 12 stated "12 is emergency fuel, heading for Griffiss, climbing out of 5000." Burlington approach then told Retro 13 that Plattsburgh AFB was switching the ILS to runway 17. Despite this change, Retro 13 elected to continue his divert to Griffiss. Retro 12, however, requested minimum fuel vectors for an ILS approach, runway 17. Retro 14, after his missed approach on runway 35,

requested vectors for ILS approach to runway 17, but ultimately followed Retro 13 to Griffiss. Both Retro 13 and 14 successfully landed at Griffiss AFB. Burlington approach vectored Retro 12 to an ILS final for runway 17. Retro 12 did not receive ILS signals for runway 17, and transitioned to a TACAN final with Airport Surveillance Radar (ASR) monitoring. Retro 12 broke out of the overcast at about 400 feet above ground level (AGL) and about 1/2 mile from the field with the runway 45 degrees to his left. Realizing he couldn't make a safe landing he requested permission to make a circling approach. However, east of the field at 350 ft (AGL) he declared a missed approach. Deciding he did not have sufficient fuel to divert to Griffiss, he set up for another approach. This approach was also missed, due to lack of sufficient ASR instructions and despite the fact that he descended 120 feet below minimum descent altitude, he never broke out of the overcast.

After this missed approach, Retro 12 climbed, squawked emergency, and jettisoned his external fuel tanks. Enroute to Griffiss AFB, about 120 miles away, the engine flamed out due to fuel starvation. In coordination with ground controllers, Retro 12 selected an area with few inhabitants, aimed the aircraft in that direction, verified that the aircraft was trimmed to minimize course deviation, and successfully ejected. The aircraft impacted the ground in a forested area with minimal damage to private property.

#### V. Impact

The crash site was 15 nautical miles NE of Griffiss AFB (coordinates: N43.25, W75.12). The aircraft was at about 200 knots, 6 degrees angle of attack, slightly left wing low, but with 0 degrees pitch when it struck the forest. The impact destroyed F-16CJ, serial number 91-0350.

#### VI. Ejection Seat

Ejection was initiated and occurred within the ejection seat's design operating envelope. No deficiencies were noted.

#### VII. Personnel and Survival Equipment

The emergency locator transmitter (ELT) failed to operate in the automatic mode. The strobe light was used to help locate pilot. All other equipment functioned properly.

#### VIII. Rescue

After his parachute descent, Captain Swaringen went to a nearby house and phoned the tower at Griffiss AFB. His call was made between 1830 and 1900 hours local.

IX. Crash Response

After making his phone call, Retro 12 was transported from the house to a local golf course by the Oneida County, New York, Sheriff's Department. There he was picked up by a Bell UH-1 helicopter belonging to the 10th Aviation Brigade of the 10th Infantry Division, Fort Drum, New York which returned him to Griffiss. There were no problems encountered during the crash response.

X. Maintenance Documentation

All aircraft forms were reviewed. There were no open discrepancies and all inspections were current. The aircraft was newly manufactured with only 3 sorties for 4 flight hours prior to the mishap sortie. Both the engine and airframe had a total of 7.6 flight hours at the time of the crash.

XI. Maintenance Personnel and Supervision

Contractor maintenance personnel were excellent. Preflight and walk-around inspections were completed with no discrepancies noted.

XII. Engine Oil, Fuel and Hydraulic Inspection Analysis

All engine oil, fuel and hydraulic samples were normal.

XIII. Airframe and Aircraft Systems

All aircraft systems, except the Instrument Landing System receivers, operated normally throughout the flight. Post flight analysis revealed the ILS receivers failed because a fuse was blown. Due to the failure of the ILS receivers, the pilot was not presented with valid localizer or glide slope information.

XIV. Operations Personnel and Supervision

The mishap sortie was tasked and authorized by 2nd Air Delivery Group Coronet East 012 Air Tasking Order, Acft Transfer. Captain Swaringen was the only pilot onboard and was the pilot in command of the aircraft. All supervisory personnel were qualified and capable of the required decisions and duties related to the tasking, launch, and flight.

XV. Pilot Qualifications

Captain Swaringen is a qualified pilot with over 650 hours of flying time. He has flown the T-37, T-38, and F-16. His total time in the F-16 was 450 hours.

A complete review of Captain Swaringen's training and flight evaluation records revealed no significant training or performance problems.

## XVI. Medical

Captain Swaringen was acclimated to the time zone and adequately rested for the flight. He was medically qualified for flight duty, had a current flight physical, and was not on Duty-Not-To-Include-Flying (DNIF) status.

The findings of the post mishap flight surgeon's exam and toxicology report revealed nothing which would have adversely affected Captain Swaringen's performance as a pilot. Captain Swaringen received minor bruising from the parachute harness during his ejection, but was otherwise uninjured.

## XVII. NAVAIDS and Facilities

The status of both Plattsburgh AFB and Griffiss AFB facilities and NOTAMS were reviewed and did not affect this mishap. I note that Retro 11 landed at Plattsburgh and Retro 13 and 14 landed at Griffiss.

## XVIII. Weather

The forecast weather at Plattsburgh AFB was 500 feet scattered, 1000 feet scattered, 3000 feet broken, 8000 feet overcast, 7 miles visibility with rainshowers in the vicinity. Upon arrival at Plattsburgh the flight was informed that the weather was 800 feet ceiling and 3 miles visibility. However, at times the weather on final approach for both runways was below non-precision approach ceiling and visibility minimums. I note that Retro 14 could not land from his TACAN approach to runway 35 and Retro 11 needed precision approach (ILS) capability to land on runway 17.

## XIX. Directives and Publications

1. The following directives, publications and technical orders were applicable to the operation of the mission and the maintenance performed on the mishap aircraft:

### a. Regulations and Manuals

1. AFM 51-12, Weather for Aircrews
2. AFM 51-37, Instrument Flying
3. AFR 55-17, Flight Delivery of Aircraft
4. AFR 55-27, Air Force Life Support Program
5. AFR 60-1, Flight Management
6. AFR 60-5, Air Traffic Control
7. AFR 60-16, General Flight Rules
8. USAFEM 51-50, Tactical Aircrew Training
9. USAFER 55-44, Life Support Program
10. USAFER 55-116, F-16 Pilot Operational Procedures
11. DoD Flight Information Publications: General Planning, Area Planning, Enroute and Terminal IFR publications.
12. 2ADG Msg dated 101326Z Sep 93, Coronet East 012 Air Tasking Order, Acft Transfer
13. 23 FS In Flight Guide, "Block 50 Pickup!"

### 2. Technical Orders

1. 1F-16CJ-1, F-16C/D Flight Manual
2. 1F-16CJ-1CL-1, F-16C/D Checklist
3. 1F-16CJ-6WC-1-11, Basic Postflight/Preflight, Launch, Recover, and End of Runway Inspection

### 3. Statement of Opinion

Under 10 U.S.C. 2254(D) any opinions of the accident investigator as to the cause of, or the factors contributing to, the accident set forth in the accident investigation report may not be considered as evidence in any civil or criminal proceeding arising from an aircraft accident, nor may such information be considered an admission of liability by the United States or by any person referred to in those conclusions or statements.

The weather at Plattsburgh AFB was such that the actual ceiling and visibility on final approach to both runways required precision approach capability. Due to the failure of the ILS receivers, the pilot of F-16CJ, S/N 91-0350, was not presented with valid localizer or glide slope information. The failure of the ILS receivers, coupled with the deteriorating weather conditions, led to a series of decisions resulting in the pilot depleting his fuel supply attempting to land at Plattsburgh AFB. Therefore, he had insufficient fuel to reach his planned divert field at Griffiss AFB.

  
DANIEL B. CECIL, Colonel, USAF  
Accident Investigating Officer