

American Eagle Flight 4184

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American Eagle Flight 4184 was a regional airline flight that crashed after flying into known icing conditions on October 31, 1994. Control was lost and all aboard were killed.

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American Eagle Flight 4184

| Summary | |
|----------------------|-------------------------|
| Date | October 31, 1994 |
| Type | Loss of control |
| Site | near Roselawn, Indiana |
| Fatalities | 68 |
| Injuries | 0 |
| Aircraft | |
| Aircraft type | ATR 72-212 |
| Operator | American Eagle Airlines |
| Tail number | N401AM |
| Passengers | 64 |
| Crew | 4 |
| Survivors | 0 |

History

The aircraft, N401AM, was an ATR 72-212 operated by Simmons Airlines on behalf of American Eagle (a subsidiary of the AMR Corporation). The flight was en route from Indianapolis International Airport, Indiana to O'Hare International Airport, Chicago, Illinois. Bad weather in Chicago caused delays, prompting air traffic control to hold Flight 4184 over the nearby LUCIT intersection (<http://www.airnav.com/airspace/fix/LUCIT>) at 10,000 ft.

While holding, they encountered freezing rain — a dangerous icing condition where supercooled

droplets rapidly cause intense ice buildup. Soon after, they were cleared to descend to 8,000 ft. During this descent the aircraft experienced an uncommanded roll excursion, which disengaged the autopilot. Flight recorder data showed that it subsequently went through at least one full roll, and the crew was unable to regain control of the rapidly descending aircraft. Less than two minutes later, contact was lost as the plane impacted a soybean field near Roselawn, Indiana, killing all 64 passengers and 4 crew on board. The disintegration of the plane indicated an extreme velocity, and data recovered from the flight data recorder verified that the plane was traveling 375 KIAS (over 430 miles per hour) at impact^[1].

Cause

The National Transportation Safety Board (NTSB) stated that the probable cause

of this crash was the flight into known icing conditions, with the aircraft being operated outside its "icing certification envelope". While the ATR's deicing boots were able to remove ice along the leading edge, it rapidly



An ATR 72 similar to that operated by American Eagle



Flight 4184's crash site, viewed from the air.

re-formed *behind* the boots as *runback ice*, where it could not be removed. This separated the airflow from the wing's surface and made the aileron control inadequate or non-existent. The ATR family of aircraft has had a history of known and reported control problems in icing conditions. For that reason, the NTSB also mentioned as contributing factors the "inadequate response" on part of the manufacturer and the French DGAC and United States' Federal Aviation Administration aviation authorities to these reports.

Aftermath

In the years following this accident, AMR Corporation stopped using its American Eagle ATRs out of their northern hubs and moved them to their southern and Caribbean hubs in Dallas, Texas; Miami, Florida and San Juan, Puerto Rico to alleviate potential icing problems in the future. Other U.S. ATR operators, particularly the SkyWest, Inc. subsidiary and Delta Connection operator Atlantic Southeast Airlines, continue to operate ATR-72 aircraft in areas where icing conditions are not common.

ATR issued modifications in its aircraft introducing extended de-icer boots and creating new procedures when encountering icing conditions. However, further incidents seem to indicate that there is no definitive solution for this problem in ATR aircraft.

Dramatization

This crash was featured on the Discovery Channel program *The New Detectives* and in the theatrical production, *Charlie Victor Romeo*.

References

- ↑ [1] (<http://aviation-safety.net/database/record.php?id=19941031-1>)

External links

- Aviation Safety Network summary (<http://aviation-safety.net/database/record.php?id=19941031-1>)
- NTSB AAR-96/01 – detailed Aircraft Accident Report (<http://www.nts.gov/Publictn/1996/aar9601.pdf>) PDF (3.58 MiB), 340 pages)
- NTSB AAR-96/02 – comments of Bureau Enquête-Accidents (<http://www.nts.gov/Publictn/1996/aar9602.pdf>) PDF (4.42 MiB), 341 pages)
- PlaneCrashInfo.Com entry on Flight 4184 (<http://www.planecrashinfo.com/1994/1994-71.htm>)
- Tv.Com - New Detectives: Witness to Terror (Details Flight 4184 investigation) (http://www.tv.com/the-new-detectives/witness-to-terror/episode/530549/summary.html?tag=ep_list;title;9)

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