

Low-altitude flight through dense fog probably caused the crash of an Aerospatiale AS 350B television news helicopter off the coast of Japan on July 6, 2008, the Japan Transport Safety Board says. The two pilots were killed in the crash, and their two passengers were listed as missing; the helicopter was destroyed.

The safety board, in its final report on the crash, said that the pilot who is believed to have been at the controls at the time probably lost sight of the horizon and became disoriented in the moments before impact.

The morning of the accident, the helicopter left its base in Akita and flew north to Aomori Airport (Figure 1). The helicopter was refueled at Aomori, and took off at 1116 local time, carrying the two pilots, a television reporter and

a cameraman. The crew's last contact with air traffic control was an 1118 call to the air traffic control tower at Aomori Airport in which they said they planned to leave the airport control zone.

The crew had filed a visual flight rules (VFR) flight plan, noting that visual meteorological conditions were reported along their planned route to Shiriyasaki Point. The helicopter carried enough fuel for 3 ½ hours, and they planned to spend about three hours in the air for aerial coverage of a Japan Maritime Self-Defense Forces ship that had reported a fire earlier in the day.

Air traffic control radar recorded the helicopter's flight path and altitude beginning at 1118 until 1144; the radar showed that the aircraft flew along the east coast of the Tsugaru Peninsula, north toward the ship.

The report quoted several witnesses, each of whom discussed the dense fog.

"The weather condition then was fog, and visibility was below 200 m [656 ft] and the sea was very calm," said one witness, who noted that, while he was in a seaside parking lot near a cliff in Gankakeiwa, he saw the helicopter flying at about 100 m (328 ft). "I didn't think the aircraft's flight was unusual," he said.

A second witness, who was fishing with a companion at a breakwater 500 m (1,641 ft) southwest of Cape Omasaki, said he saw the helicopter 700 to 800 m (2,297 to 2,625 ft) offshore, flying "among masses of fog . . . . It was visible for about 10 seconds. It disappeared into a fog, and I heard a boom right after that."

He used his cell phone at about 1145 to notify police of the crash, he said.

# 小川航空

# In a Fog

**Witnesses saw the AS 350B news-gathering helicopter fly into dense fog off the coast of Japan before they heard the sounds of a crash.**

BY LINDA WERFELMAN

“The sea was dead calm then,” the second witness added. “The visibility to the south was good. ... The visibility to Bentenjima Island (to the north) appeared to be about 800 m.”

Witnesses said that visibility varied, and in some directions, it was a low as 50 m (164 ft).

Forecasts had predicted dense fog until about noon with visibility below 500 m.

Search and rescue operations began about 1209, after the Tokyo Rescue Coordination Center was informed of the crash. The wreckage was found about 700 m southwest of the Omasaki–Bentenjima lighthouse and was recovered from a rocky seabed beneath about 13 m (43 ft) of water.

One pilot’s body was recovered three days after the crash; the second was found nine days afterward, the day after search and rescue operations officially ended.

The pilot-in-command (PIC) of the accident helicopter had a commercial pilot certificate for rotorcraft and a current Class 1 medical certificate, and had accumulated 4,981 flight hours, including 942 hours in the helicopter type.

A second pilot, “whose assigned mission was to watch,” also had a commercial pilot certificate for rotorcraft and a current Class 1 medical certificate; he had 2,608 flight hours, including 596 hours in the helicopter type. This pilot was referred to in the report as “Pilot A” — and apparently was flying the helicopter at the time of the crash, the report said.

Both pilots received basic instrument flight training on June 16, 2008, as part of PIC qualification renewal flight checks, the company said. “The contents of the training,” the report said, “were to fly straight and level [and] to recover from unusual attitudes and the like, under hooded condition to simulate instrument meteorological conditions.”

The helicopter was manufactured in 1988 and had a total time of 2,303 flight hours. The engine, a Turbomeca Arriel 1B, had total time in service of 2,674 hours; the last periodic maintenance check was conducted 80 flight hours before the accident. Investigators determined that the helicopter’s weight and balance were within allowable limits when the crash occurred.

## Television Station Contracts

The operator, Ogawa Air, maintained a base in Akita with three employees. The PIC was in charge. Although the helicopter could be operated with a single pilot, a second pilot often was included in the crew “for visual watch,” the report said.

The company had contracts with three television stations to provide aircraft for aerial news-gathering operations.



Figure 1

Daily duties at the Akita base called for one employee to visit the airport weather station to receive a weather briefing and to subsequently disseminate the information to other employees.

The day of the accident, around 0830, Pilot A received the briefing, which said that, although the morning weather conditions around Akita Airport included haze and poor visibility, improvement was expected, and “no foul weather was expected,” the report said. The forecast for the Pacific coast called for areas of poor visibility and low ceilings, with improvement as the day progressed. Because no flights were planned, Pilot A did not request more detailed information.

The request was submitted around 0930 for aerial coverage of the ship fire and — after a check of weather conditions and the pilots’ health — approved by the operator’s head office,

which also took control of flight management, the report said, adding that the head office was “unaware of the dense fog advisory issued for [the] Shimokita area” and that neither pilot checked with the airport weather station for an update on weather conditions.

The operator’s “Standard for News/Photo Missions” specified that pilots should “change flight routes, ... return to airports or ... make precautionary landings” if they encountered unacceptable weather conditions during a flight. The precautions are contained in the company’s “Handbook for Aerial TV Coverage,” developed in 2004, after an accident in which a TV news helicopter struck power lines in Nagano prefecture in central Japan and crashed into the Kiso River.

The report quoted one company official as saying, “I had given safety-oriented directions to pilots to ... never try to fly under unfavorable conditions. We do not care [about] losing one or two flight orders by quitting flights.” The official added that he believed the policy “should have taken root among all company employees.”

He also said that the television stations had never asked the company to fly in unfavorable conditions, and that in June 2008, the PIC ended a flight because of deteriorating weather and returned to the departure airport.

In addition, the report quoted an official of the television station as saying, “Due to the safety-oriented nature of flights, we don’t force pilots to fly under difficult situations. The reporter and the cameraman who got on board the aircraft are not pushy types.”

## Eurocopter AS 350B



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The Eurocopter AS 350B is a light utility helicopter with a Turbomeca Arriel 1B turboshaft engine and a rotor of three fiberglass blades that rotate clockwise as viewed from above.

First produced by Aerospatiale in October 1977, the AS 350B has two standard bucket seats at the front of the cabin and two two-place bench seats aft.

The helicopter’s maximum normal takeoff weight is 1,950 kg (4,300 lb) or 2,100 kg (4,630 lb) with a maximum sling load. Maximum rate of climb is 1,575 fpm. The AS 350B has a maximum cruise speed at sea level of 125 kt and a service ceiling of 15,000 ft. Hovering ceiling in ground effect is 8,200 ft; hovering ceiling out of ground effect is 5,900 ft. It has a range of 700 km (378 nm) with maximum fuel of 535 L (141 gal).

Source: *Jane’s All the World’s Aircraft*

## Fog Advisory

Investigators said that an analysis of the wreckage indicated that the helicopter had hit the water nose-first, slightly banked left and while traveling at a high speed, and that Pilot A probably had been flying the helicopter at the time.

“It is considered probable that [the pilots] had the general weather outlook in Tohoku area after receiving the weather briefing that morning,” the report said. “It is considered possible that they checked the weather conditions of Akita and Aomori airports ... before departure ...

“Given the fact that neither [pilot] confirmed the updated weather information at the weather station on the Aomori Airport, it is considered probable that they resumed their flight without knowing the issuance [and continuation of the] fog advisory. Given the fact that the head office was unaware of the issued fog advisory over [the] Shimokita area, only recognizing the non-problematic weather conditions over [the] Akita and Aomori region, and with the PIC’s aborted coverage flight one month before due to bad weather, it is considered probable that the head office expected that the same action would be taken and did not take measures to acquire new weather information.”

Radar information indicated that the pilots flew north from Aomori, probably intending to locate the ship before it entered Mutsu Bay. Visibility along some parts of their flight path probably was less than 1,500 m (0.9 mi) — less than required for VFR flight for the area.

The report said it was possible that the pilots continued the flight because they could see the coastline and because they expected the weather to improve.

However, the fog near Bentenjima Island and to the east was likely to persist, the report said, because the sea surface was calm and there was no wind.

“Under this weather condition, it is considered probable that visual altitude judgment was difficult with the ... horizon [obscured] by fog,” the report said. As a result, it probably also was difficult for the pilots to determine the helicopter’s attitude, the report said, adding that the PIC “should have abandoned proceeding further east beyond Cape Omasaki.”

The pilots may have been attempting to fly out of fog at the time of the crash, the report said.

“It is considered probable that the aircraft was circling left to get out of the fog by turning to the opposite direction, turning to the direction of no expected obstacles and to the direction of easy lookout for ... Pilot A,” the report said. “Despite the maneuver, the aircraft probably flew into a dense fog and its surroundings became all white. It is considered possible that in the dense fog, ...



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Pilot A lost the horizon as the attitude benchmark and ... failed to shift to instrument flight quickly, fell into spatial disorientation, failed to maintain altitude and crashed into the sea at high speed.”

The report said that at the time of the accident, the ship was cruising 7 km (4 nm) west of the crash site, and “it is considered highly probable that the aircraft was unable to spot it due to poor visibility.” ➤

*This article is based on Japan Transport Safety Board Aircraft Accident Investigation Report AA2009-5, Ogawa Air Inc., Aerospatiale AS 350B (Rotorcraft), JA9755, Sea Surface off Cape Omasaki, Oma-Cho, Shimokita-Gun, Aomori Prefecture, at about 11:45 JST, July 6, 2008. Adopted June 12, 2009, by the Japan Transport Safety Board aircraft subcommittee.*

**Wreckage of the AS 350B news helicopter is hauled onto a ship off the coast of Japan, near Cape Omasaki.**