



# Aviation Investigation Final Report

<b>Location:</b>	NOME, Alaska	<b>Accident Number:</b>	ANC97FA092
<b>Date &amp; Time:</b>	June 27, 1997, 16:33 Local	<b>Registration:</b>	N207SP
<b>Aircraft:</b>	Cessna 207A	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	2 Fatal
<b>Flight Conducted Under:</b>	Part 135: Air taxi & commuter - Scheduled		

## Analysis

The flight was landing under special VFR conditions. Special VFR operations are permitted with a visibility of 1 mile, and clear of clouds. The airport was the pilot's base of operations. The flight had held outside the airport surface area for 26 minutes, waiting for a special VFR clearance. While outside the airport surface area, the pilot was required to maintain 500 feet above the ground and 2 miles visibility. While holding, the weather at the airport was reported as 300 feet overcast. The visibility decreased from 4 miles to 1 mile in mist. The pilot was new to the area of operations, having worked at the company for 24 days, during which he accrued 69 hours of flight time. Four minutes after receiving clearance to enter the surface area for landing, the airplane collided with a 260 feet tall radio antenna tower at 222 feet above the ground. The tower was located 3.85 nautical miles east of the airport. The radio tower was not considered by the FAA to be an object affecting navigable airspace, but was depicted as an obstruction on the VFR sectional chart for the area. The tower was equipped with obstruction lighting for night illumination, and was painted alternating aviation orange and white for daytime marking. One minute after the collision, the overcast was reported at 200 feet, and the visibility was 5/8 mile.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's continued VFR flight into instrument meteorological conditions, and his failure to maintain adequate clearance from an obstruction (antenna tower). Factors in the accident were low ceilings and visibility, and the pilot's lack of familiarity with the geographic area.

## Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: MANEUVERING

### Findings

1. (F) WEATHER CONDITION - LOW CEILING
2. (C) VFR FLIGHT INTO IMC - CONTINUED - PILOT IN COMMAND
3. OBJECT - TOWER(MARKED)
4. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
5. (F) LACK OF FAMILIARITY WITH GEOGRAPHIC AREA - PILOT IN COMMAND

## Factual Information

### HISTORY OF FLIGHT

On June 27, 1997, about 1633 Alaska daylight time, a Cessna 207A airplane, N207SP, collided with a commercial radio antenna tower, about 3.85 nautical miles east of Nome, Alaska. The airplane was being operated as a visual flight rules (VFR) scheduled passenger flight under Title 14 CFR Part 135 when the accident occurred. The airplane, operated as Flight 241 by Olson Air Service, Nome, was destroyed. The certificated commercial pilot, and the sole passenger, received fatal injuries. Instrument meteorological conditions prevailed. A VFR flight plan was filed, and VFR company flight following procedures were in effect. The flight originated at the Brevig Mission airstrip, Brevig Mission, Alaska, about 1525.

The airplane departed Nome for a flight to Brevig Mission at 1448. The pilot filed a VFR flight plan that listed a total flight time of 1 1/2 hours. At that time, the cloud cover at the Nome airport was reported as 400 feet broken, 1,200 feet overcast, and the visibility was 10 miles. About 1600, the pilot called company flight following personnel on the radio to provide an estimated time of arrival (ETA) to Nome. The pilot indicated to the flight follower that the weather conditions were not ideal, and he was about 10 to 15 minutes from landing at Nome.

At 1603:54, the pilot contacted the Nome Automated Flight Service Station (AFSS), and reported he was 10 miles north of the airport. The pilot requested a Special Visual Flight Rules (SVFR) clearance into the Class E surface area for landing. Numerous VFR traffic and instrument flight rules (IFR) traffic were operating in and around the Nome airport. The pilot was advised to maintain VFR conditions, and remain clear of the surface area. He was provided with an airport advisory with cloud cover conditions of 300 feet overcast, and a visibility of 4 miles in mist.

At 1609:53, the Nome AFSS specialist contacted the accident airplane and requested a position report. The pilot indicated he was 6 miles north of the Nome VOR, over the Nome River. At 1616:22, the pilot was provided with an update by the AFSS specialist concerning sequencing the flight into the surface area. The pilot requested the current weather conditions, and he was told the cloud conditions were 300 feet overcast, with a decrease in visibility to 3 miles in mist.

At 1629:26, the AFSS specialist contacted the accident airplane and stated: "Cessna 207SP, Nome Radio, clearance follows. ATC clears Cessna 7SP to enter the Nome surface area, maintain special VFR conditions at or below 2,000 while in the surface area. Report landing complete." At 1630:29, the AFSS specialist inquired from the pilot his intended runway for landing. The pilot replied: "I'll plan 20 at this time, then I may change as we get a little bit closer for 02." At 1631:47, the pilot contacted the AFSS and requested the current weather

conditions. The AFSS specialist stated: "Cessna 7SP, Nome Radio, ah standby, new special coming out right now --- Cessna 7SP ah Nome Radio, 0030 special just come up, visibility 1 in mist, ceiling 300 overcast, temperature 7, altimeter 30.19, winds are currently 150 at seven." The pilot acknowledged the information, and no further communication was received from the pilot.

At 1633:15, a single tone similar to an Emergency Locator Transmitter (ELT) signal, was heard by the AFSS personnel.

A witness reported he was traveling in the area east of the radio tower, and observed an airplane flying about 150 to 200 feet above the ground. He described thick fog in the area, and about 5 minutes after seeing the airplane, he heard sirens responding to the accident scene. A second witness, located on the roadway just south of the tower, reported he did not initially see the accident airplane. He heard an airplane engine suddenly increase, and then the sound of an impact. At the same time, a momentary sound of static was produced on the witnesses' FM radio. The witness then observed the accident airplane descending, and rolling inverted before colliding with the ground. The witness reported low clouds obscured the tops of nearby power poles.

The accident occurred during the hours of daylight at latitude 64 degrees, 29.141 minutes north, and longitude, 165 degrees, 18.580 minutes west.

#### OTHER DAMAGE

A commercial radio antenna tower was destroyed.

#### CREW INFORMATION

The pilot held a commercial pilot certificate with airplane single-engine land, and multi-engine land ratings. The most recent second-class medical certificate was issued to the pilot on May 12, 1997, and contained no limitations.

According to the operator, at the time of the accident, the pilot's total aeronautical experience consisted of about 1,745 hours, of which about 200 hours were accrued in the accident airplane make and model. In the preceding 30 days prior to the accident, the operator listed a total of 69 hours, all of which was accrued since the pilot joined the company.

The pilot was initially hired by the operator on June 3, 1997. At that time, the pilot reported he had accrued 1,650 hours of total aeronautical experience. His pilot-in-command experience consisted of 1,500 hours in single-engine airplanes, 10 hours in multi-engine airplanes, 400 hours at night, 20 hours of actual instrument flight, and 100 hours of simulated instrument flight.

The Director of Operations (DO) reported their company airplanes are equipped for instrument

flight. The pilot received a company orientation flight from the DO on June 5, 1997, and 2 hours of instrument flight training on June 8, 1997.

The pilot completed his initial training, and received a CFR Part 135 check ride, including an instrument proficiency check on June 9, 1997, from a company check airman. At the time of the accident, the operator utilized FAA authorized check airman from other operators.

The pilot had previously been employed in western Alaska since August, 1996, by two previous employers, both of which did not operate from the Nome airport. Based on previous CFR Part 135 employment, the pilot's initial company indoctrination training was reduced from 24 hours to 12 hours. On June 10, 1997, the pilot completed 5.8 hours of initial company operating experience.

A review of the operator's flight report for the accident date, revealed the pilot had utilized a SVFR clearance on an earlier flight in the day.

#### AIRCRAFT INFORMATION

The airplane had accumulated a total time in service of 12,802.5 hours. The airplane was maintained under an approved maintenance inspection program, and the most recent inspection was accomplished on June 22, 1997, 31.9 hours before the accident. The colors of the airplane included a white fuselage with blue paint on the wings.

The engine had accrued a total time in service of 6,424 hours, and 894.2 hours since a major overhaul on July 30, 1996. The maintenance records note the number 1 engine cylinder, and the number 1 magneto, were replaced on June 22, 1997.

The airplane will cruise about 120 knots. At that speed, excluding any wind, the airplane will travel about 203 feet per second. One nautical mile will be covered in about 30 seconds.

#### METEOROLOGICAL INFORMATION

A weather forecast for the northern half of Alaska, including the southern Seward Peninsula, and eastern Norton Sound, was issued on June 27, 1997, at 1145, and was valid until 2400. The forecast included an AIRMET, valid until 1800. The AIRMET stated: "Instrument Flight Rules (IFR) conditions and mountain obscuration; temporary ceilings below 1,000 feet. Visibility below 3 statute miles in mist, light drizzle and mist."

The forecast was reporting, in part: "Tops of the clouds, 2,000 feet; no change. Otherwise, scattered clouds at 500 feet, scattered clouds at 4,000 feet, broken clouds at 6,000 feet, tops of clouds 11,000 feet. Increasing layers above, to 25,000 feet. The outlook, valid from June 28, 1997, at 0000 to 1800; IFR, ceilings from rain and mist. Turbulence; isolated moderate turbulence below 6,000 feet. Icing and freezing level; temporary light rime icing in clouds, 8,500 to 16,000 feet. Freezing level, 8,500 feet."

The closest official weather observation station is Nome, Alaska, which is located about 3.85 nautical miles west of the accident site. On June 27, 1996, at 1555, an aviation routine weather report (METAR), was reporting in part: Wind, 140 degrees (true) at 5 knots; visibility, 4 statute miles in mist; sky condition and clouds, 300 feet overcast; temperature, 46.4 degrees F; dew point, 42.8 degrees F; altimeter, 30.19 inHg; remarks, eight-eighths stratus cloud coverage.

At 1612, a METAR was reporting in part: Wind, 140 degrees (true) at 5 knots; visibility, 3 statute miles in mist; sky condition and clouds, 300 feet overcast; temperature, 44.6 degrees F; dew point, 42.8 degrees F; altimeter, 30.19 inHg.

At 1626, a special weather observation was reporting in part: Wind, 140 degrees (true) at 6 knots; visibility, 2 statute miles in mist; sky condition and clouds, 300 feet overcast; temperature, 44.6 degrees F; dew point, 42.8 degrees F; altimeter, 30.19 inHg.

At 1630, a special weather observation was reporting in part: Wind, 150 degrees (true) at 6 knots; visibility, 1 statute mile in mist; sky condition and clouds, 300 feet overcast; temperature, 44.6 degrees F; dew point, 42.8 degrees F; altimeter, 30.19 inHg; remarks, RVR not available.

At 1634, a special weather observation was reporting in part: Wind, 130 degrees (true) at 6 knots; visibility, 5/8 statute mile in mist; sky condition and clouds, 200 feet overcast; temperature, 44.6 degrees F; dew point, 42.8 degrees F; altimeter, 30.19 inHg; remarks, RVR not available.

At 1650, a METAR was reporting in part: Wind, 140 degrees (true) at 7 knots; visibility, 1/4 statute mile in fog; sky condition and clouds, 100 feet overcast; temperature, 46.4 degrees F; dew point, 42.8 degrees F; altimeter, 30.18 inHg; remarks, RVR not available.

## AIDS TO NAVIGATION

The Nome VORTAC is located about 5.23 nautical miles from the Nome airport. The magnetic heading to the airport from the VORTAC is 271 degrees. The Fort Davis NDB is located about 3.56 nautical miles from the airport. The heading to the airport from the NDB is 270 degrees. The Gold NDB is located on the airport.

## COMMUNICATIONS

Review of the air-ground radio communications tapes maintained by the FAA at the Nome AFSS, revealed that the pilot successfully communicated with the flight service specialist.

A transcript of the communications between the pilot, and the Nome AFSS, is included in this report.

## AERODROME AND GROUND FACILITIES

The Nome Airport is located on the 271 degree radial, 5.23 nautical miles from the Nome VORTAC. The airport is not served by an air traffic control tower, nor is any terminal area radar service available. The Nome AFSS is located on the field.

The airport is equipped with two intersecting hard-surfaced runways. One runway is on a 020 to 200 degree magnetic orientation. A second runway is on a 090 to 270 degree magnetic orientation. Runway 02/20 is 5,576 feet long by 150 feet wide, and is equipped with medium intensity runway lighting. Runway 09/27 is 6,001 feet long by 150 feet wide, and is equipped with high intensity runway lighting. Each runway is equipped with a visual approach slope indicator (VASI). Runway 02, and 09, are equipped with runway end identifier lights (REIL). Runway 27 is equipped with medium intensity approach lights with runway alignment indicator lights. The Nome airport has precision and non-precision instrument approach procedures.

## WRECKAGE AND IMPACT INFORMATION

The National Transportation Safety Board investigator-in-charge (IIC) examined the airplane wreckage at the accident site on June 28, 1997. Numerous pieces of airplane wreckage, and antenna tower debris, were observed from the initial point of tower contact, to the wreckage point of rest. The direction of the debris trail was on a magnetic heading of about 262 degrees, (all heading/bearings noted in this report are oriented toward magnetic north).

The magnetic heading from the tower to the airport is 277 degrees. The tower separated into several segments. The top segment of the tower exhibited a point of separation about 38 feet from the top, a point that was 222 feet above the ground, and 246 feet msl. The point of separation exhibited inward crushing and buckling, and blue paint smudges. The tower's top flashing light fixture, and the intermediate light fixtures, were shattered.

The airplane's right wing tip cap was located about 45 feet west of the tower. The airplane's entire windshield was located about 145 feet west of the tower. An orange electrical junction box was located about 270 feet west of the tower. The nose wheel was located about 70 feet west of the wreckage point of rest.

The point of rest for the airplane wreckage was about 520 feet west of the tower. The nose of the airplane was oriented toward the north. A large area of tundra/soil disruption was observed about 480 feet west of the tower, just west of the wreckage point of rest. The airplane's marker beacon antenna, normally installed along the upper edge of the front windshield, was located 5 feet west of the western edge of the soil disruption. Just west of the antenna, numerous paint chips, and the engine cowling oil door was located among a path of debris toward the airplane point of rest. Further along the wreckage path, portions of the instrument panel, cowling, the left wing tip cap, and a window frame were observed. The soil disruption included a north/south oriented gouge, in a shape consistent with the airplane's left

wing. The airplane's left wing red position light bulb lens, was located at the northern edge of the disruption.

The airplane came to rest inverted with the forward portion of the fuselage resting on the ground, and the aft end of the fuselage elevated about 45 degrees. The fuselage and firewall was crushed at a 45 degree angle from about mid-chord line of the wing, to the lower front edge of firewall. The lower right side of the fuselage, from the firewall to the forward edge of the door post was torn, and crushed aft to the mid-line of the door opening. The nose gear strut was bent in a forward direction.

The empennage was buckled, and folded in an upward direction from the longitudinal axis of the fuselage, at a point just forward of the vertical stabilizer's attach point. In its inverted position at the point of rest, the empennage was hanging downward toward the ground and slightly twisted toward the right side of the fuselage.

The right wing was attached to the fuselage at its upper attach point, but the wing was folded in an upward direction almost 90 degrees, and pivoted aft about 45 degrees along the right side of the fuselage. The leading edge of the wing exhibited an extensive area of aft crushing about 3 1/2 feet outboard from the inboard attach point. The area of aft crushing extended to about 2 feet inboard from the wing lift strut attach point. A pronounced line of buckling was noted on the underside of the wing, from the leading edge at the inboard attach point, in an outboard and aft direction, to the outboard attach point of the right flap. The buckling produced a downward, spanwise fold along the lower surface of the wing.

The right wing lift strut was attached to the wing at its upper wing attach point, but was separated about 2 feet below the upper attach point. The point of separation exhibited aft compression buckling, and crushing. The remaining portion of the lift strut was located about 25 feet southwest of the fuselage. The lower end of the strut was attached to its fuselage fitting, but the entire fitting was torn from the fuselage. The forward face of the lift strut exhibited a semi-circular indentation, and aft bending about 4 feet above the lower fuselage attach point. Blue and white paint smudges were noted at the indentation.

The left wing remained attached to the fuselage. The leading edge displayed aft crushing, and folding to the wing spar, primarily from the lift strut attach point, outboard to the tip. The inboard portion of the leading edge was torn open, and folded toward the lower surface of the wing. The lift strut remained attached to the wing, and its lower attach point. One landing light bulb was broken. The other light bulb filament was attached to its respective support posts, and the filament was stretched in a "U" shape toward the front of the bulb glass.

A length of metal pipe containing electrical wires, was observed extending from the underside of the right wing, adjacent to the lift strut at the leading edge of the wing. The pipe was positioned across the trailing edge of the flap about mid-span toward the aft end of the fuselage. The pipe was observed wrapped around the empennage, and was embedded in the trailing edge of the left wing about mid-span. The pipe continued over the leading edge of the



left wing, and then extending along the ground in a northerly direction. The total length of pipe was about 120 feet.

The flight control surfaces remained connected to their respective attach points. Due to the impact damage, the flight controls could not be moved by their respective control mechanisms. Flight control system cable continuity was established to the point of impact related damage.

The propeller assembly separated from the engine crankshaft. All three blades were retained in the hub, but were loose and twisted beyond the blade limits. One propeller blade exhibited slight aft bending, and slight torsional twisting. The other two blades exhibited extensive aft curling, and torsional twisting. One blade displayed a small blue smudge on the leading edge, about mid-span. The propeller dome was torn, and crushed aft and downward around the hub.

The engine separated from the fuselage, and came to rest inverted next to, (west of) the fuselage. The engine sustained impact damage to the underside, and front portion of the engine. The engine case was extensively fractured. The oil sump was crushed upward against the case. The engine exhaust tubes were extensively bent, and crushed upward. The observed areas of bending did not exhibit any cracking.

#### MEDICAL AND PATHOLOGICAL INFORMATION

A postmortem examination of the pilot was conducted under the authority of the Alaska State Medical Examiner, 5700 E. Tudor, Anchorage, Alaska, on June 30, 1997.

#### ADDITIONAL INFORMATION

The radio antenna tower, located 3.8 nautical miles, on a magnetic heading of 097 degrees from the Nome airport, is owned by the Arctic Broadcasting Association. A commercial radio station, KICY, utilized the tower for AM radio broadcasts on 850 KHz. The tower was installed next to a wooden control building adjacent to the tower. The top of the tower rose 259.5 feet above ground level, which was 283.5 feet above sea level. The tower was installed in 1959, and was depicted as an obstruction on the VFR aviation sectional map covering the area around Nome.

The tower was mounted on a concrete base, and stabilized by several guy wires. It was painted in an alternating aviation orange/aviation white pattern. Two red light fixtures were installed about half-way up from the bottom. A flashing red light fixture was installed at the top of the tower.

Electrical power for the tower light fixtures was routed inside sections of metal pipe, and attached to the tower. A light sensitive switch (photocell), oriented toward the north, was installed on the tower. The switch would automatically turn the tower lights "ON" when the surrounding ambient light decreased, and would turn the tower lights "OFF" when ambient light

increased. The operator of the tower reported he checked a studio monitor about 0540 on the day of the accident. At that time, the monitor indicated the lights were ON.

The tower operator reported the antenna was last painted in the summer of 1994.

The tower operator reported the damaged tower has been replaced with one matching the original specifications. The operator has filed an application with the Federal Communications Commission (FCC) to add two additional towers of the same height, adjacent to the damaged tower. The towers will be spaced at an interval of about 290 feet east of the existing tower.

The authorization to operate a communications tower, is governed by the FCC. The FCC's rules and regulations regarding marking and lighting of antennas, is governed under Title 47 CFR Part 17.

Title 47 CFR Part 17, 'Construction, Marking, and Lighting of Antenna Structures', states, in part, that the FAA must be notified of any construction or alteration to an antenna. The notification includes antennas that are more than 200 feet above the ground; construction in an imaginary surface area extending upward and outward at a slope of 100 to 1 for a horizontal distance of 20,000 feet (3.29 nautical miles) from the nearest point of the nearest runway that is more than 3,200 feet long; and those in an instrument approach area that may exceed an obstruction standard.

Under Part 17, the owner of any proposed or existing antenna structure that requires notice of construction to the FAA, must register the antenna with the FCC. Each owner of any proposed construction must obtain a valid FAA determination of "no hazard." The owner of an antenna structure is responsible for maintaining the painting and lighting, and shall clean or repaint a structure as often as necessary to maintain good visibility. The owner of each antenna shall maintain a record of any lighting extinguishment, and shall inspect the lighting either visually or by an automatic monitor, each 24 hours. Each new or altered antenna structure must conform to the FAA's painting and lighting recommendations. For the purposes of Part 17, the specifications, standards, and general requirements contained in FAA Advisory Circulars AC 70/7460-1H, and AC 150/5345-43D, are mandatory.

The placement of objects that may interfere with aviation safety, is governed by Title 14 CFR Part 77, 'Objects Affecting Navigable Airspace', of the FAA's Federal Aviation Regulations (FARs). Part 77 establishes standards for determining obstructions to navigable airspace, requires notification to the FAA of proposed construction or alteration of objects, provides for aeronautical studies of obstructions to determine their effect on the safe and efficient use of airspace, provides for public hearings on the hazards of proposed construction, and provides for establishment of antenna farms.

Under Part 77, a required notice of construction or alteration include antenna structures specified in the FCC's Title 47 Part 17. Part 77's definition of obstructions to navigation, among others, include objects that are over 500 feet high, and those that are 200 feet high,

within 3 nautical miles of an airport's reference point, and the height of the object increases in the proportion of 100 feet for each nautical mile of distance from the airport, up to a maximum of 500 feet.

The FAA's aeronautical study of the KICY tower's proposed construction states, in part: "The proposed construction would not exceed FAA obstruction standards, and would not be a hazard to air navigation. However, the following applies to the construction proposed: The structure should be obstruction marked and lighted per FAA Advisory Circular AC 70/7460-1H, 'Obstruction Marking and Lighting.' Chapters: 4,5, and 13." Chapter 4 describes various lighting systems for obstructions. Chapter 5 describes the use of red obstruction lighting standards. Chapter 13 describes marking (painting) and lighting specifications.

Advisory Circular, AC 70/7460-1H, includes marking and lighting guidelines for objects over 200 feet above the ground. These guidelines include painting objects in particular patterns to provide visibility during daylight hours; lighting of objects by the use of aviation red obstruction lights during nighttime; flashing white lights utilized for marking during daylight and nighttime; or dual lighting with red lights during nighttime, and flashing white lights utilized for marking during daylight.

AC 70/7460-1H establishes paint standards, but no specific maintenance schedule for repainting. It states that surfaces should be repainted when the color of the paint changes noticeably, or its effectiveness is reduced by scaling, oxidation, chipping, or layers of industrial contamination. Color tolerance charts may be purchased from a supplier. AC 70/7460-1H states in the conclusion section of the circular, that pilots of aircraft traveling at 165 knots or less should be able to see obstruction lights in sufficient time to avoid the structure by at least 2,000 feet horizontally, under all conditions of operations under CFR Part 91. The circular does not provide any visibility expectations when an obstruction is not illuminated. The circular provides for voluntary marking and lighting by a sponsor, and also provides for higher standards of marking and lighting if an object presents an extraordinary hazard potential to aircraft.

Class G airspace (uncontrolled airspace), for non-commercial operators, allows VFR operations with 1 mile of visibility, and clear of clouds. Class E airspace (general controlled airspace), surrounding non-towered airports (Nome), allows VFR operations with 3 miles of visibility, and 500 feet below, 1,000 feet above, and 2,000 feet horizontal from any clouds. When the weather conditions deteriorate, Special VFR (SVFR) operations are permitted in the Nome Class E surface area. The surface area is depicted on the VFR sectional chart for the Nome area. It extends about 7 nautical miles east of the Nome VORTAC (12 miles east of the Nome Airport); about 3 miles north of the Nome VORTAC, about 4 miles north of the Nome Airport; about 6.5 miles west of the Nome Airport; and about 5.5 miles south of the Nome Airport.

Air traffic control (ATC) of the controlled airspace around the Nome airport for IFR operations, is coordinated by the Anchorage Air Route Traffic Control Center (ARTCC). When no IFR traffic

is utilizing the airspace, the Nome AFSS issues traffic advisories to VFR traffic. Under a letter of agreement, and after the ARTCC releases the surface area, the Nome AFSS issues SVFR clearances to local traffic to provide a means of takeoff and landings without an IFR clearance. Once an airplane has been granted a SVFR clearance, no other airplane may operate in the surface area until the airplane has landed, or has traveled outside of the surface area boundary. An exception to the procedure may allow more than one airplane to operate in the surface area, if all participating air traffic agree to maintain visual separation from each other.

Title 14 CFR Part 135.203, VFR Minimum Altitudes, states, in part: "Except for takeoff and landing, no person may operate under VFR, (a) An airplane - (1) During the day, below 500 feet above the surface or less than 500 feet horizontally from any obstacle..." Part 135.205, VFR Visibility Requirements, states, in part: No person may operate an airplane under VFR in uncontrolled airspace (Class G) when the ceiling is less than 1,000 feet, unless the visibility is at least 2 miles."

Title 14 CFR Part 91.157, Special VFR (SVFR) Weather Minimums, states in part: "(a) ...special VFR operations may be conducted under the weather minimums and requirements of this section, instead of those contained in 91.155, below 10,000 feet msl, within the airspace contained by the upward extension of the lateral boundaries of the controlled airspace designated to the surface for an airport. (b) Special VFR operations may only be conducted - (1) With an ATC clearance. (2) Clear of clouds. (3) Except for helicopters, when flight visibility is at least 1 statute mile... (c) No person may takeoff or land an airplane (other than a helicopter) under special VFR - (1) Unless ground visibility is at least 1 statute mile..."

#### WRECKAGE RELEASE

The Safety Board released the wreckage, located in Nome, Alaska, to the owner's representatives on December 1, 1997. No parts or components were retained by the Safety Board.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	33,Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 2 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	May 12, 1997
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	1745 hours (Total, all aircraft), 200 hours (Total, this make and model), 1660 hours (Pilot In Command, all aircraft), 69 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N207SP
<b>Model/Series:</b>	207A 207A	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	20700412
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	7
<b>Date/Type of Last Inspection:</b>	June 22, 1997 AAIP	<b>Certified Max Gross Wt.:</b>	3800 lbs
<b>Time Since Last Inspection:</b>	35 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	12771 Hrs	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	IO-520-F
<b>Registered Owner:</b>	OLSON AND SONS INC.	<b>Rated Power:</b>	300 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	Commuter air carrier (135)
<b>Operator Does Business As:</b>	OLSON AIR SERVICE	<b>Operator Designator Code:</b>	FWWA

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Instrument (IMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	OME ,37 ft msl	<b>Distance from Accident Site:</b>	3 Nautical Miles
<b>Observation Time:</b>	16:30 Local	<b>Direction from Accident Site:</b>	270°
<b>Lowest Cloud Condition:</b>	Unknown	<b>Visibility</b>	1 miles
<b>Lowest Ceiling:</b>	Overcast / 300 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	6 knots / None	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	150°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	7°C / 6°C
<b>Precipitation and Obscuration:</b>	N/A - None - Fog		
<b>Departure Point:</b>	BREVIG MISSION (KTS )	<b>Type of Flight Plan Filed:</b>	VFR
<b>Destination:</b>	(OME )	<b>Type of Clearance:</b>	Special VFR
<b>Departure Time:</b>	15:25 Local	<b>Type of Airspace:</b>	Class E

## Airport Information

<b>Airport:</b>	NOME OME	<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>	37 ft msl	<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	Full stop

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Fatal	<b>Aircraft Damage:</b>	Destroyed
<b>Passenger Injuries:</b>	1 Fatal	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 Fatal	<b>Latitude, Longitude:</b>	64.709884,-164.620178(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Erickson, Scott
<b>Additional Participating Persons:</b>	STEVE LINDSEY; FAIRBANKS , AK CHARLES D MCGEE; NOME , AK LEAH D RIDDLE; WICHITA , KS
<b>Original Publish Date:</b>	May 4, 1998
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=2936">https://data.nts.gov/Docket?ProjectID=2936</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).