National Transportation Safety Board
Aviation Accident Final Report

Location:	LINNEUS, ME	**Accident Number:**	NYC00MA201
Date & Time:	07/19/2000, 0031 EDT	**Registration:**	CGNAK
Aircraft:	Grumman G-159	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Non-U.S., Commercial		

Analysis

The airplane was in cruise flight at 16,000 feet, in instrument meteorological conditions. About two minutes after the crew ceased cross-feeding due to a fuel imbalance, the left engine experienced a total loss of power. About one minute later, the co-pilot indicated to the pilot-in-command (PIC) that the airplane was losing airspeed, and about 15 seconds later, the co-pilot remarked "keep it up, keep it up." Shortly thereafter, the airplane departed controlled flight and impacted terrain. The airplane was destroyed by fire and impact forces. Examination of the left engine revealed no evidence of any pre-impact failures that would have accounted for an uncommanded in-flight shut-down. A SIGMET for potential severe clear icing was effective for airplane's flight path; however, the flight crew did not report or discuss any weather related problems around the time of the accident. At the time of the accident, the airplane was above its single-engine service ceiling. The PIC had accumulated approximately 6,000 hours of total flight experience, of which, about 500 hours were as PIC in make and model. The co-pilot had approximately 600 hours of total fight experience, of which, 300 hours were in make and model.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot-in-command's failure to maintain minimum control airspeed, which resulted in a loss of control. Factors in this accident were clouds, and a loss of engine power for undetermined reasons, while in cruise flight above the airplane's single engine service ceiling.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: CRUISE

Findings
1. (F) 1 ENGINE - UNDETERMINED

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: CRUISE

Findings
2. (F) WEATHER CONDITION - CLOUDS
3. (C) AIRSPEED(VMC) - NOT MAINTAINED - PILOT IN COMMAND
4. (F) AIRCRAFT PERFORMANCE,ENGINE OUT CAPABILITY - EXCEEDED

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
5. TERRAIN CONDITION - WATER
6. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On July 19, 2000, about 0031 eastern daylight Time (EDT), a Grumman G-159 (G-1), Canadian registry C-GNAK, operated by Airwave Transport as flight 9807, was destroyed when it impacted terrain in Linneus, Maine. The Canadian certificated airline transport pilot-in-command (PIC) and the commercial rated co-pilot were fatally injured. Night instrument meteorological conditions prevailed and an instrument flight rules flight plan had been filed for the flight that departed the Moncton Airport (CYQM), Moncton, New Brunswick, Canada, destined for Dorval International Airport (CYUL), Montreal, Quebec, Canada. The flight was conducted under Canadian Aviation Regulation (CAR) 704 as a scheduled courier flight.

According to a Moncton Air Traffic Control (ATC) transcript, the flight departed CYQM, about 2348. Approximately 0005, the flight crew provided the following pilot report (PIREP):

"OK we're now 50 miles west going through 10,000 feet ah we've got a good ride now looks like we're well past it ah there was some pretty good icing around 9,000 feet between 40 DME and 50 DME from Moncton and pretty heavy rain but ah nothing on the airway...no thunderstorms that is." They further described the icing as "moderate to severe between nine and ten thousand but it uh only lasted for about five minutes."

The airplane leveled at 14,000 feet msl, and at 0015:15, the flight crew requested and received a "block" altitude clearance between 14,000 and 15,000 feet msl, because they were "sitting on the tops." The flight was instructed to contact the Boston Air Route Traffic Control Center (ARTCC) at 0016:06.

According to a Federal Aviation Administration (FAA) transcript, the flight crew made initial contact with the Boston ARTCC at 0017:54. Additionally, they requested and received "direct dorval." At 0025:16, the flight crew requested to climb to 16,000 feet, and was subsequently cleared to maintain the "block" altitude, up to 16,000 feet. At 0029:56, the flight crew declared an emergency, requested vectors for the nearest airport and stated, "cannot maintain altitude." At 0030:10, the flight crew stated that they had "lost control." There were no further known communications with the airplane.

Witnesses near the accident site reported being awakened by the loud sound of an airplane overhead. They described the sound as "surging," or "struggling" and one witness stated the noise repeatedly changed "like [the airplane] was getting closer then further." Witnesses then described hearing a loud explosion.

The accident occurred during the hours of night approximately 46 degrees, 7 minutes north latitude, and 67 degrees, 48 minutes west longitude.

PERSONNEL INFORMATION

The PIC was the owner and president of the company that operated the airplane. He held a Canadian airline transport pilot certificate, with ratings for single and multi-engine land airplanes. He was also certified for Group I instrument privileges. Additionally, the PIC was type rated in G-1, C-550, and Boeing 727 airplanes.

The PIC received his initial training for the G-1, in September 1995. The company reported he had accumulated approximately 6,000 hours of total flight experience, of which, about 500

hours were as PIC in the G-1. Additionally, he accumulated about 26 and 49 hours of flight experience in the G-1, during the 30 and 90 days prior to the accident, respectively.

The PIC completed a G-1 Recurrent Course at Flight Safety International, Savannah, Georgia, on October 16, 1999. Additionally, he received a pilot proficiency check (PPC), on October 16, 1999.

The PIC held a current Category I Canadian Medical Certificate, which was issued on April 3, 2000.

The PIC also held an aircraft maintenance engineers certificate with ratings for the Convair 580, Convair 640, and the G-1.

The co-pilot was hired on May 1, 1999, as a dispatcher, and began to transition to the G-1 in November 1999. He held a Canadian commercial pilot certificate, with ratings for single and multi-engine land airplanes. He was also certified for Group I instrument privileges and held a G-1 type rating.

The company reported that the co-pilot had accumulated approximately 600 hours of total fight experience, of which, 300 hours were in make and model. He accumulated about 39 and 86 hours of flight experience in the G-1, during the 30 and 90 days prior to the accident, respectively.

The co-pilot completed a G-1 Initial Training Course at Flight Safety International, Savannah, Georgia, on December 10, 1999. He received a PPC on January 14, 2000.

The co-pilot held a current Category I Canadian Medical Certificate, which was issued on November 26, 1999.

AIRCRAFT INFORMATION

Review of the airplane maintenance records revealed that Airwave Transport purchased the accident airplane from North American Airlines, Ltd., Calgary, Alberta, Canada, in November 1999. On November 6, 1999, the airplane was flown for 4.5 hours from the Calgary International Airport, Calgary, Alberta, Canada, to Toronto. Prior to that flight, the airplane's most recent flight was conducted on July 17, 1998.

The airplane was maintained by Airwave Transport under an approved manufacturer inspection program, and was most recently inspected on July 10, 2000. The airplane had an accumulated total airframe time of 22,046.7 hours, and 15,452 cycles.

The accident airplane was equipped with two Rolls-Royce Dart 529-8X model turbo-propeller engines and two Dowty CR184-4-30-4-50 model propellers.

The left engine and right engines were installed on the accident airplane on July 18, 1990, and May 6, 1997, respectively. The propellers were installed on the left and right accident engines on June 1, 2000, and April 21, 1998, respectively.

At the time of the accident, the left engine and right engine had accumulated about 3,861 and 5,389 hours since overhaul, respectively.

Review of the engine logbook records revealed an engine performance run was completed on July 7, 2000. No anomalies were reported on either engine.

On July 11 and 15, 2000, the airplane was test flown by the PIC of the accident flight for 1 hour

each.

A company dispatch agent occupied the co-pilot seat during the July 15 test flight. The company dispatch agent stated that he held a commercial pilot's license and he had received 2-weeks of ground instruction and 5 hours of simulator training for the G-1. He did not hold a G-1 type rating. The dispatch agent stated that the test flight lasted about an hour and he did not observe any discrepancies with the airplane; nor did the PIC give any indication of any problems. Additionally, he recalled that the weather radar was tested and worked properly.

The accident flight occurred during the third leg of the airplane's first courier trip. The accident flight crew departed Toronto, on July 17, 2000, and arrived Halifax, Nova Scotia, about 0300. Airwave Transport maintained an apartment in Halifax for flight crew personnel. The flight crew departed Halifax about 2145, and landed in Moncton about 2210.

While in Halifax, the PIC informed company personnel that he had experienced no problems during the flight and was "very happy" with the airplane's performance.

METEOROLOGICAL INFORMATION

Prior to the flight, the accident flight crew received a weather-briefing package via fax, which included in-flight advisories, PIREPS, wind and temperature aloft forecasts, weather observations and forecasts for selected Canadian and U.S airports.

A weather observation taken at the Houlton International Airport (HUL), Houlton, Maine, at 0049, reported: wind from 230 degrees at 5 knots, visibility 8 miles, ceiling 600 feet overcast, temperature and dew point 57 degrees Fahrenheit, altimeter 29.71 in/hg.

A Safety Board Meteorology Factual Report was prepared for this accident.

According to the Meteorologist's Factual Report, Geostationary Operational Environmental Satellite number 8 (GOES-8) data issued at 0015, depicted a low to mid-altitude overcast cloud layer over the Houlton area, and the accident site. The radiative temperatures in an approximately 50-mile area around Houlton corresponded to cloud heights, which ranged from 14,500 feet to 26,000 feet. The mean cloud top, and the cloud tops over the accident site were about 19,000 feet.

The Canadian Meteorological Center (CMC) issued Gander (CYQX) SIGMET Bravo 6 at 0030, which was valid from 0035 to 0435. The SIGMET covered airspace, which included the airplane's flight path and the accident site. The SIGMET was issued for a broken line of cumulonimbus clouds with tops to 40,000 feet observed and forecast, with the potential for severe turbulence and severe clear icing. The line of thunderstorms was identified as moving eastward at 5 knots, with little change expected in intensity.

There were no pilot reports over Maine for icing or turbulence recorded by the National Weather Service, between 2000 and 0400.

According to interviews with company representatives, and former company pilots, it was normal procedure for a flight crew to obtain a "weather package" from company dispatch personnel. However, the flight crew was responsible for updating and obtaining any additional weather information, as needed through air traffic control and flight service stations. The company dispatcher's did not have any operational authority for the conduct of the flight, and the flight crew made all "go, no-go" decisions.

FLIGHT RECORDERS

The airplane was equipped with an L3 Communications cockpit voice recorder (CVR). The CVR was recovered from the accident site and forwarded to the Safety Board's Vehicle Recorders Division, Washington, DC. A CVR group convened on August 3, 2000, and a transcript of the entire 31:16 minute recording was prepared. Elapsed Times (ET) of the CVR transmissions were expressed in minutes and seconds from the beginning of the CVR recording; however, when compared to ATC transcripts, it was noted that the times expressed in the CVR transcript were about 30 seconds beyond EDT.

At elapsed time 14:16, the co-pilot indicated he began to cross-feed fuel from the right fuel tank to correct a fuel imbalance. The cross feeding continued until about 27:11. At that time, the co-pilot stated "...turn that crossfeed off now...that all right with you?," and the PIC replied "yup."

The following are excerpts from the CVR transcript:

29:16, A sound similar to decrease in propeller RPM

29:20, the co-pilot stated, "we got an engine failure, number one"

29:27, the PIC stated, "carry out the drill"

29:41, co-pilot stated, "feathered. RPM zero"

29:55, PIC stated, "what the # is going on?"

29:57, co-pilot stated, "I don't know."

30:07, PIC stated, "what is going on here."

30:09, co-pilot stated, "I don't know. # you're losing airspeed as well."

30:12, PIC stated, "ok. Declare an emergency."

30:25, co-pilot stated, "oh # keep it."

30:26, co-pilot stated, "keep it up. Keep it up."

30:36, PIC stated, "oh no, uh oh."

30:42, the co-pilot transmitted "we've lost control."

30:46, a sound similar to varying change in propeller noise begins and continues to the end of recording.

30:51, PIC stated, "uh ohh."

30:54, co-pilot stated, "which way are we flying?"

30:56, PIC stated, "I have no-"

30:56, co-pilot stated, "I don't know I don't know."

31:09, PIC stated, "I have no idea which way is up."

31:10, co-pilot stated, "oh. Ground... I don't know either []."

31:13, PIC stated, "*upside down?"

No further conversation, or noises were recorded.

WRECKAGE INFORMATION

The airplane's wreckage was found approximately 8 miles west HUL.

An oval impact crater, which extended to 25 feet in diameter, was observed on the eastern side of the Meduxnekeag River. The depth of the crater was estimated to be approximately 5 feet deep. The banks of the river were lined with 60 to 70 foot tall trees. On the northeast rim of the crater, a small grouping of trees was uprooted and rested horizontal on a 020-degree heading. Several trees on the southern side of the crater were leaning away from the crater. None of the upper portions of the trees in the accident site area were damaged.

The airplane was severely fragmented, and fire damaged. All major portions of the airplane were accounted for at the accident site. The majority of the wreckage was north and west of the crater, within 100 feet. Small and lightweight fragments of the airplane were found in all directions from the crater to a radius of approximately 500 feet. Standing fuel and oil were observed in the crater and leaching out of the ground into the river throughout the site.

The right wing was at the southeast edge of the crater. The wing was severely fire damaged and the majority of the upper wing skin was consumed. Approximately 2 feet of the wing tip and spar cap was observed broken into several pieces, in close proximity. The majority of the wing leading edge was missing forward of the main spar. Chord wise compression buckling was observed on the lower and upper skin that was not consumed. The aileron and spring tab were present, but fractured in several pieces.

The left wing was broken into several sections. The inboard portion of the wing was found approximately 30 feet southwest from the crater. The inboard wing section was severely fire damaged with the major portion of the upper and lower skin consumed. The wing leading edge forward of the main spar was not located. The upper and lower skin aft of the main spar exhibited signs of chord wise compression buckling. The wing tip was separated outboard of the flap actuator. The outboard portion of the wing was fragmented with its major portions found at 40 feet and 210 degrees, and 50 feet and 220 degrees from the crater.

The right horizontal stabilizer was on the southwest side of the crater, attached to the vertical stabilizer and aft fuselage tail cone structure. The right horizontal stabilizer sustained severe impact and fire damage. The majority of the upper skin, outboard tip, and right elevator were consumed by fire. The lower skin and leading edge exhibited significant chord wise compression buckling. The left elevator trim tab was separated from the elevator in two pieces, and was located in the vicinity of the stabilizer. Additionally, the trim tab was severely fire damaged.

The left horizontal stabilizer was separated from the empennage structure and also found in two pieces. A portion of the inboard stabilizer and elevator was located at 20 feet and 210 degrees from the crater. The leading edge was severely crushed and the upper and lower skin exhibited significant chord wise compression buckling. The outboard stabilizer and elevator were 30 feet and 225 degrees from the crater. The tip leading edge showed chord wise compression buckling with small fragments of wood lodged in the structure.

The vertical stabilizer main spar was attached to the aft fuselage tail cone and empennage structure on the west side of the crater. The majority of the rudder and stabilizer was consumed by the post impact fire.

Portions of the airplane's deicing boots remained attached to sections of each wing leading edge and both sides of the horizontal stabilizer leading edge. It could not be determined whether the boots were inflated or deflated at impact. None of the cockpit deice controls were recovered.

All four trim actuators were recovered and their cables were observed in the middle position of their respective trim actuator drums.

The airplane's ailerons, elevators, and rudder were manually controlled through cables, bell cranks and pushrods. The ailerons were mechanically boosted by spring tabs. The left aileron incorporated a manual trim tab. The rudder utilized a combination of mechanical spring tabs and manual trim. Portions of all control surfaces were located at the accident site; however, control system continuity could not be determined due to the severely fragmented nature of the wreckage.

The cockpit area was destroyed by impact forces. Small fragments of the cockpit structure and instrument panels were located in the northern quadrant of the impact crater.

Both engines were separated from the airframe, and exhibited extensive fire and impact damage. The right engine was on the north side of the crater, separated into two sections and on top of an uprooted tree. The left engine was in the stream northwest of the crater. About a 30-degree arc of what appeared to be the 1st stage impeller vanes from the left engine were curled back. Several other impeller vanes exhibited individual non-uniform deformation. The impeller vanes from the right engine were not visible.

The left engine propeller was partially imbedded in the ground beneath the river. Two blades protruded from the water and appeared to be in a feathered or near feathered position. All four-propeller blades were recovered from the left engine. All four-propeller blades were recovered from the right engine. The blades were all separated from the hub, which was not recovered. One blade exhibited "S" bending, two blades were twisted approximately 80 to 90 degrees in the direction opposite of rotation, and one bladed contained minor nicks and scratches on its leading and trailing edges.

Both engines and propellers were retained for further examination and a Safety Board Powerplant Group was convened on August 16, 2000, in Plainville, Connecticut.

Examination of the left engine and propeller revealed that the engine was not rotating and the propeller blades were within several degrees of the feathered position at the time of impact. The right engine exhibited considerable rotational damage in both the compressor and turbine sections. The right engine propeller hub was not recovered; subsequently the right propeller blades pitch angle was not determined. It was noted that all four-propeller blades exhibited bending and airfoil.

Fractured pieces of the left engine drive shafts were sent to the Safety Board's Materials Laboratory for evaluation. According to the Metallurgist's Factual Report, examinations of all the fracture surfaces were typical of bending or tensile overload. No evidence of torsional fractures, or any preexisting fractures that would account for the uncommanded in-flight shut-down of the left engine were observed.

The engine driven fuel pumps and fuel system boost pumps were not recovered.

MEDICAL AND PATHOLOGICAL INFORMATION

A pathological examination was performed on the pilot and co-pilot, on July 24, 2000, by the Office of the Chief Medical Examiner, Augusta, Maine.

Toxicological testing of the flight crew was conducted by the FAA Toxicology Accident Research Laboratory, Oklahoma City, Oklahoma.

ORGANIZATIONAL AND MANAGEMENT INFORMATION

General

According to information received from Transport Canada, Airwave Transportation Inc. (Airwave Transport), was a commercial aviation company formed in 1991. The company held an Air Operator Certificate according to CAR 705 and CAR 704 requirements. They offered non-scheduled freight air service from its main operating base at the Lester B. Pearson International Airport, Toronto, Canada (CYYZ), and a sub-base at CYUL. At the time of the accident, Airwave operated two G-1 airplanes from CYYZ and one Convair 580 from CYUL. The operations department consisted of approximately 20 personnel.

The company also held an Approved Maintenance Organization Certificate. Aircraft maintenance was performed "in-house" at both bases. A full-time maintenance department consisted of four Aircraft Maintenance Engineers (AME) in Toronto, two AMEs in Dorval, and additional support staff. The aircraft technical records were kept at the main base in Toronto.

On August 20, 2001, Airwave Transport voluntarily surrendered their operating certificate to Transport Canada.

Oversight

In August 2000, Airwave Transport underwent a Special Purpose Audit by Transport Canada. The scope of the audit encompassed specific activities that could affect the safe operation of the company, which included, but not limited to airworthiness and related programs; flight operations and the operational control system; and training.

The audit identified 12 non-conformances; however, according to a representative of Transport Canada's System Safety Office, there were no violations issued to Airwave Transport as a result of the audit findings.

ADDITIONAL INFORMATION

Sound Spectrum Study

The audio captured by the CVR was examined to document any background noise, which may have been associated with the operation of the airplane's engine(s).

According to a Safety Board Vehicle Recorder Specialist, examination of data extracted from a spectrogram of the cockpit area microphone (CAM) suggested that the propeller and engine speed began to increase approximately 6 seconds after the other engine failed. The propeller speed increased from about 1,314 RPM to a peak of about 1,344 RPM, then decreased to about 1,325 RPM where it remained constant. No other notable changes were recorded.

Radar

The accident airplane had been assigned a transponder code of 6740. Radar data obtained from the FAA revealed the accident airplane was level at 16,000 feet for about 1.5 minutes. At 0029:19, the airplane descended to 15,900 feet. The airplane was then level at 15,800 feet for at least 24 seconds, during which time; the flight crew requested vectors to the nearest airport and reported the airplane could not maintain altitude. Twelve seconds later, the airplane's altitude was 15,600 feet, and the transponder code was changed to 7700. The final radar target was observed 12 seconds later, at 0030:07, at an altitude of 14,900 feet, and was followed by the flight crew transmitting they had lost control.

Single-Engine Performance

Based on atmospheric conditions and weight and balance information, the airplanes single-engine service ceiling was estimated to be about 14,000 feet.

The FAA "Airplane Flying Handbook, FAA-H-8083-3," defined single-engine service ceiling as: "The maximum density altitude at which the single-engine best rate of climb speed will produce a 50 feet-per-minute (FPM) rate of climb. This ceiling is determined by the manufacturer on the basis of the airplane's maximum gross weight, flaps and landing gear retracted, the critical engine inoperative, and the propeller feathered."

FAA-H-8083-3 further stated, "When the airplane is above its single engine service ceiling, altitude will be lost.... The altitude should be maintained if it is within the capability of the airplane. If the airplane is not capable of maintaining altitude with an engine inoperative under existing circumstances, the airspeed should be maintained at the single-engine best rate-of-climb speed so as to conserve altitude as long as possible to reach a suitable landing area."

Fuel System (Description)

The G-1 fuel system consisted of two integral wing tanks, each with a capacity of about 775 gallons (5,231 pounds), four fuel pumps (two for each tank), one cross-feed valve, four check valves, two fuel heaters, two fuel filters, and two engine driven fuel pumps (one each engine). During normal operation, the fuel pumps provided pressurized fuel to the on-side engine-driven fuel pump through the check valves, fuel heater, and fuel filter. The fuel then proceeded to the engine driven fuel pump, to the fuel control and finally to the fuel nozzles for combustion in the burner cans. The fuel pumps were controlled via rocker switches in the cockpit. All four boost pumps should be selected to the "ON" position for the takeoff, descent, approach and landing phases of flight. One boost pump from each tank should be selected to the "ON" position for the climb and cruise phases of flight.

The cross-feed of fuel was accomplished by selecting all four boost pump switches to the "ON" position, opening the cross-feed valve, and then selecting the two fuel boost pump switches to the "OFF" position for the fuel tank not to be used. To cease cross-feeding, the flight crew should first select all fuel boost pumps to the "ON" position before reconfiguring the fuel system.

During normal operation, the fuel tank boost pumps provided low-pressure fuel to the engine driven pumps where the fuel pressure was increased before it reached the fuel nozzles and the burner cans for combustion. In the event that both boost pumps were inoperative or failed in one tank, then the engine driven pumps solely provided the engine fuel to sustain operation; however, it would not do so during all operating conditions.

The Flight Safety International Gulfstream I recurrent training manual, emergency/abnormal procedures checklist stated the engine would operate normally below an altitude of 8,000 feet with two boost pumps on the same side off or failed and would probably operate normally up to an altitude of 20,000 feet, provided rapid power lever movement is avoided. However, above an altitude of 20,000 feet, the decreased fuel pressure would most likely result in engine flameout if corrective action were not taken.

According to the Airplane Flight Manual (AFM) limitations section, one operating fuel pump is required for engine operation. With regards to two-fuel boost pumps inoperative in one tank, the AFM stated, "Engines should operate without boost pumps below 8,000 ft;" however, the

AFM did not discuss operation above 8,000 feet.

Engine Icing

The G-1 Flight Manual, Appendix A, Adverse Weather/Abnormal Atmospheric Conditions section, stated in part:

"Engine/propeller icing can occur without wing icing. A turbine engine operating in an air mass with an ambient temperature below 8-deegrees C may experience engine icing; this is caused by the temperature drop associated with the reduction in pressure between that of the air mass and the pressure at the propeller disk and/or first stages of the compressor. As air is drawn past the propeller or into the engine, moisture condenses into droplets. Theses droplets, due to their inertia, cannot follow the airflow around the propeller, guide vanes, or compressor blades. Instead, they strike the metal parts and freeze...."

Anti-Ice System

The G-1 utilized second-stage bleed air to inflate deicing boots on the leading edges of the wings, horizontal, and vertical stabilizers. A two-cycle timer controlled cycling of the boots (one minute for heavy ice and four minutes for light ice). Manual cycling could also be initiated by the flight crew. Empennage boot operation was indicated by advisory lights. Additionally, wing boot operation was visible to the flight crew. Each engine and propeller blade were also deiced. The propeller blades, spinner, and engine intake area were electrically deiced by its respective engine-driven alternator and controlled by a two-cycle timer.

Wreckage Release

The airplane wreckage was released on July 27, 2001, to a representative of the owners insurance company.

Pilot Information

Certificate:	Airline Transport	**Age:**	46, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim.	**Last FAA Medical Exam:**	04/03/2000
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	6000 hours (Total, all aircraft), 500 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Grumman	**Registration:**	CGNAK
Model/Series:	G-159 G-159	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Transport	**Serial Number:**	154
Landing Gear Type:	Retractable - Tricycle	**Seats:**	2
Date/Type of Last Inspection:	07/10/2000, Continuous Airworthiness	**Certified Max Gross Wt.:**	36000 lbs
Time Since Last Inspection:	5 Hours	**Engines:**	2 Turbo Prop
Airframe Total Time:	22050 Hours	**Engine Manufacturer:**	Rolls-Royce
ELT:	Installed	**Engine Model/Series:**	529-8X
Registered Owner:	AIRWAVE TRANSPORT	**Rated Power:**	1910 hp
Operator:	AIRWAVE TRANSPORT	**Operating Certificate(s) Held:**	Air Cargo

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	**Condition of Light:**	Night/Dark
Observation Facility, Elevation:	HUL, 489 ft msl	**Distance from Accident Site:**	8 Nautical Miles
Observation Time:	0049 EDT	**Direction from Accident Site:**	90°
Lowest Cloud Condition:	Unknown / 0 ft agl	**Visibility**	8 Miles
Lowest Ceiling:	Overcast / 600 ft agl	**Visibility (RVR):**	0 ft
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	230°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	57°C / 57°C
Precipitation and Obscuration:			
Departure Point:	MONCTON, CN (YQM)	**Type of Flight Plan Filed:**	IFR
Destination:	MONTREAL, CN (YUL)	**Type of Clearance:**	IFR
Departure Time:	2348 EDT	**Type of Airspace:**	Class E

Wreckage and Impact Information

Crew Injuries:	2 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	N/A	**Aircraft Fire:**	On-Ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	LUKE SCHIADA	**Report Date:**	09/27/2001
Additional Participating Persons:	NEIL PINSENT; DARTMOUTH, CN TED MENDENHALL; SAVANNAH, GA ALLAN D BROOM; WASHINGTON, DC ROBERT MORGAN; STERLING, VA		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at http://dms.ntsb.gov/pubdms/.		