National Transportation Safety Board
Aviation Accident Final Report

Location:	Ft Pierce, FL	**Accident Number:**	ERA10LA050
Date & Time:	11/05/2009, 1534 EST	**Registration:**	N120FB
Aircraft:	GRUMMAN AIRCRAFT ENG CORP G-111	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (partial)	**Injuries:**	1 Minor, 2 None
Flight Conducted Under:	Part 91: General Aviation - Ferry		

Analysis

The pilot stated that during the landing gear retraction he heard a loud bang, followed by three to four smaller bangs. The first officer confirmed that the left engine was the affected engine and immediately began feathering the propeller. Once the propeller had been feathered, the captain confirmed the action by looking outside and noticing the propeller in the feathered position. The captain further reported that the right engine was producing the maximum power available and was indicating 55 inches of manifold pressure. Unable to achieve airspeed of greater than 95 to 96 knots indicated, the captain attempted to return to the airport for an emergency landing; however, he was unable to maintain altitude and attempted to land on an airport perimeter road, impacting the airport fence and a sand berm in the process. A cursory examination of the engine and system components revealed no evidence of a preimpact mechanical malfunction.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A total loss of left engine power and subsequent failure of the airplane to maintain airspeed and altitude on the remaining engine for undetermined reasons.

Findings

Aircraft	Engine (reciprocating) - Failure (Cause) Airspeed - Attain/maintain not possible (Cause) Altitude - Attain/maintain not possible (Cause)
Not determined	Not determined - Unknown/Not determined (Cause) Not determined - Unknown/Not determined (Cause)

Factual Information

On November 5, 2009, about 1534 eastern standard time, a Grumman G-111, N120FB, was substantially damaged during a forced landing, following a total loss of power in the left engine shortly after takeoff from St. Lucie County International Airport (FPR), Ft. Pierce, FL. Day visual meteorological conditions prevailed, and no flight plan had been filed. The intended destination for the flight was Okeechobee County Airport (OBE), Okeechobee, FL. The two pilots received no injuries and one additional crew member received minor injuries. The ferry flight was conducted under Title 14 Code of Federal Regulations Part 91.

An eyewitness reported seeing the airplane depart from runway 32 and become airborne near the intersection of taxiway "C7." While the witness observed the landing gear begin to retract, the left engine began emitting several "loud pops" then white colored smoke began to discharge from the exhaust. The witness reported hearing an increase in engine noise and observed the airplane begin a left turn. The airplane then impacted terrain, went through an airport boundary fence, and came to rest near an airport service road. Upon arrival at the accident location, the witness observed fuel coming out of the right wing and assisted the occupants in exiting the airplane.

In an interview with the Safety Board the captain reported that while on the runway preparing for takeoff, they advanced the power levers to achieve 30 inches of manifold pressure, checked all the engine gauges, then advanced the power levers to 40 inches of manifold pressure, released the brakes, and "preformed a normal takeoff." During the initial climb, the captain commanded the gear to be retracted, shortly after the gear handle was placed in the "UP" position; he heard a loud "bang followed by three to four smaller bangs." The captain commanded the checklist to be run for an engine failure in flight. The first officer confirmed that the left engine was the affected engine and immediately began feathering the propeller. Once the propeller had been feathered, the captain confirmed the action by looking outside and noticing the propeller in the feather position. According to the first officer the airspeed had "stagnated around 95 knots" and he increased the power levers to 52 inches of manifold pressure. The airplane still did not accelerate and was turning slightly to the left, the airplane continued to turn slightly to the left as though they were "on the backside of the power curve."

Unable to achieve an airspeed of greater than 95 ¬to 96 knots indicated, the crew confirmed that the gear and flaps were in the retracted or "UP" position; however, the captain was unable to center the slip/skid indicator completely. During the attempt to return to the airport for an emergency landing the airplane was unable to maintain altitude and the captain attempted to land on an airport perimeter road, impacting an airport fence and a sand berm in the process. After the airplane came to rest, the captain shut down the engines, fuel pumps, and other items required to secure the airplane. As he exited the aircraft, he saw fuel coming out of the right wing onto the ground. The airplane had been fueled on October 29, 2009 with 284 gallons of 100LL aviation fuel. The captain further reported that both engines had approximately 3 hours since overhaul and that the airplane's takeoff weight was approximately 27,100 pounds.

The Federal Aviation Administration (FAA) inspector that responded to the accident scene reported the left engine propeller was in the feathered position, the right engine exhibited little damage, approximately 150 gallons of fuel was removed from the left fuel tanks and fuel samples were taken from both engines. The fuel samples indicated 100LL fuel and contained no water or contaminants present. The right wing tank had been breeched during the accident

sequence and there was no fuel present, however an estimated 150 gallons of fuel had spilled on the ground under the right wing. Control continuity was unable to be verified due to the damage to the underside of the airplane. A cursory examination of the engine and system components by the FAA inspector revealed no evidence of preimpact mechanical malfunction. The inspector calculated that the maximum allowable takeoff weight was 30,605 pounds.

According to the captain, age 58, and FAA records, he held an airline transport pilot certificate, with ratings for single-engine land and sea, multiengine land and sea, including a type rating for the accident airplane. His most recent FAA first-class medical was issued January 22, 2009. The pilot reported 9,095 total hours of flight experience, 14 total hours of flight experience in the accident airplane make and model, and 3 total hours of flight experience as pilot in command in the accident airplane make and model.

According to the First Officer, age 70, and FAA records, he held an airline transport pilot certificate, with ratings for airplane multiengine land and sea including a type rating for the accident airplane, a commercial pilot certificate with a rating for airplane single-engine land and rotorcraft-gyroplane, and a private pilot certificate with a rating for glider. His most recent FAA first-class medical was issued October 6, 2009. He reported a total flight time of 11,500 hours of flight experience.

The airplane was issued an airworthiness certificate by the FAA on July 21, 1983 and was registered to the owner on October 1, 2007. It was equipped with two Curtiss-Wright engines that had undergone major overhauls on February 29, 2008. An entry dated October 12, 2009 indicated that the airframe had a total time in service of 3,747.1 hours and the engines had 3.1 hours since major overhaul. On November 5, 2009 the airplane was issued a special flight permit to conduct the flight to OBE.

The 1553 recorded weather observation at FPR included winds from 360 degrees at 9 knots with gusts of 14 knots; visibility 10 miles, broken cloud layer at 4,000 feet above ground level, temperature 25 degrees C, dew point 16 degrees C, altimeter of 30.11 inches of mercury.

History of Flight

Initial climb	Loss of engine power (partial) (Defining event)
Emergency descent	Unknown or undetermined Off-field or emergency landing
Landing-flare/touchdown	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Airline Transport; Foreign	**Age:**	58, Male
Airplane Rating(s):	Multi-engine Land; Multi-engine Sea; Single-engine Land; Single-engine Sea	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 With Waivers/Limitations	**Last Medical Exam:**	01/22/2009
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	02/05/2009
Flight Time:	(Estimated) 9095 hours (Total, all aircraft), 14 hours (Total, this make and model), 7480 hours (Pilot In Command, all aircraft), 6 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft)		

Co-Pilot Information

Certificate:	Airline Transport; Flight Instructor; Commercial; Private	**Age:**	70, Male
Airplane Rating(s):	Multi-engine Land; Multi-engine Sea; Single-engine Land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Glider; Gyroplane	**Restraint Used:**	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane Multi-engine	**Toxicology Performed:**	No
Medical Certification:	Class 1 Without Waivers/Limitations	**Last Medical Exam:**	10/06/2009
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	12/07/2008
Flight Time:	(Estimated) 11500 hours (Total, all aircraft), 1100 hours (Total, this make and model), 10000 hours (Pilot In Command, all aircraft), 25 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	GRUMMAN AIRCRAFT ENG CORP	**Registration:**	N120FB
Model/Series:	G-111	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Transport	**Serial Number:**	7243
Landing Gear Type:	Amphibian;	**Seats:**	15
Date/Type of Last Inspection:	10/12/2009, Continuous Airworthiness	**Certified Max Gross Wt.:**	30605 lbs
Time Since Last Inspection:	0 Hours	**Engines:**	2 Reciprocating
Airframe Total Time:	3747 Hours	**Engine Manufacturer:**	Curtiss Wright
ELT:	C91A installed, not activated	**Engine Model/Series:**	R1820-982C9HE
Registered Owner:	ALBATROSS ADVENTURES INC TRUSTEE	**Rated Power:**	1475 hp
Operator:	ALBATROSS ADVENTURES INC TRUSTEE	**Air Carrier Operating Certificate:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	FPR, 24 ft msl	**Observation Time:**	1553 EST
Distance from Accident Site:	0 Nautical Miles	**Direction from Accident Site:**	
Lowest Cloud Condition:	Thin Broken / 4000 ft agl	**Temperature/Dew Point:**	25°C / 16°C
Lowest Ceiling:	Broken / 4000 ft agl	**Visibility**	10 Miles
Wind Speed/Gusts, Direction:	9 knots/ 14 knots, 360°	**Visibility (RVR):**	
Altimeter Setting:	30.11 inches Hg	**Visibility (RVV):**	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Ft Pierce, FL (FPR)	**Type of Flight Plan Filed:**	None
Destination:	Okeechobee, FL (OBE)	**Type of Clearance:**	VFR
Departure Time:	1534 EST	**Type of Airspace:**	

Airport Information

Airport:	St. Lucie County International (FPR)	**Runway Surface Type:**	Asphalt
Airport Elevation:	24 ft	**Runway Surface Condition:**	Dry
Runway Used:	32	**IFR Approach:**	None
Runway Length/Width:	4755 ft / 100 ft	**VFR Approach/Landing:**	Forced Landing

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Minor	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor, 2 None	**Latitude, Longitude:**	27.495000, -80.368056

Administrative Information

Investigator In Charge (IIC):	Shawn Etcher	**Adopted Date:**	07/18/2011
Additional Participating Persons:	Ike Gray; FAA/FSDO; Orlando, FL		
Publish Date:	07/18/2011		
Investigation Docket:	http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=75014		