Aviation Investigation Final Report

Location:	ROCKLEDGE, Florida	**Accident Number:**	MIA99LA223
Date & Time:	August 11, 1999, 09:30 Local	**Registration:**	N303SQ
Aircraft:	ARNET PEREYRA AERO AVENTURA II	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Fatal, 1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

An eyewitness saw the airplane takeoff and attain an altitude of 20 to 25 feet. He characterized the airplane's performance as 'sluggish', in that the rate of climb and forward airspeed appeared slower than he's seen from these same type airplanes many times before. The left wingtip grazed the hangar he was watching from, and impacted the roof line of the next door two-story building. The flaps appeared full down when the airplane flew past his position. Subsequent examination by an FAA inspector revealed the flap actuator was in the full down position, and that no evidence of any mechanical malfunction or failure of the airframe or engine could be detected. Postcrash analysis of the takeoff weight revealed the airplane was 42 pounds over maximum gross takeoff limit, with zero fuel. Had the airplane's fuel tank been topped off, the over gross weight would have been 150 pounds.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to attain directional control during his attempted takeoff due to his exceeding the airplane's gross weight limit for takeoff and the resultant inflight collision with a building.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (C) AIRCRAFT WEIGHT AND BALANCE - EXCEEDED - PILOT IN COMMAND
2. (C) DIRECTIONAL CONTROL - NOT MAINTAINED - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: TAKEOFF

Findings
3. (F) OBJECT - HANGAR/AIRPORT BUILDING

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

Factual Information

On August 11, 1999, about 0930 eastern daylight time, an Arnet Pereyra Aero Design Aventura II, N303SQ, registered to Sky Quest, Inc., operating as a Title 14 CFR Part 91 personal flight, crashed on takeoff from Rockledge Airpark, Rockledge, Florida. Visual meteorological conditions prevailed and no flight plan was filed. The homebuilt amphibian airplane received substantial damage, the private-rated pilot was seriously injured, and a passenger, (German pilot-rated) was fatally injured. The flight was originating at the time of the accident.

According to a business acquaintance of both occupants, they were German nationals who were in this country to reassemble the airplane, having been disassembled and shipped from Austria to an address at the Rockledge Airpark, and register it in the name of a newly formed Florida corporation. Having accomplished that, both occupants were planning to deliver the dual controlled airplane to the Dominican Republic in the near future, and were familiarizing themselves with its flight characteristics.

An eyewitness stated that the airplane was attempting to take off from the grass adjacent to the east edge of the airpark's runway 18, a standard procedure. The airplane had attained an altitude of 20 to 25 feet and appeared to be at a slower airspeed and was climbing slower than he remembered for that type airplane. The airplane drifted left of runway centerline, ("left wing tip was 2 feet lower than right"), scraped the end wall of the hangar where he was standing, and collided with the next door two-story building at its roof line. He stated the engine sounded, "wide open" but the airplane appeared to act, "sluggish". He stated it appeared the flaps were full down. Postcrash, the airplane slid down the building wall and came to rest in the 8 foot wide alleyway between the two buildings, nose down. He stated his first impression was that the pilot was intending to "buzz" the hangar until he saw their facial expressions.

Responding EMT workers hosed down the site with foam due to leaking fuel. They had to cut the wings off the airframe in their rescue attempt. Personal articles removed from the wreckage and stored by Sheriff Department personnel were, (1) knapsack containing personal property, (2) cell phone, (3) camera and lens, and (4) a zipper folder. The total weight was estimated at 15 pounds. They were unable to estimate the amount of fuel spillage. The pilot was air lifted and admitted to Holmes Regional Hospital, Melborne, Florida, with skull and rib fractures, pelvic trauma, and multiple abrasions and lacerations.

Subsequent examination of the wreckage by an FAA inspector revealed the flap actuator was found in the flaps-fully-extended position. The left and right flap surfaces are connected by a common torque tube that was found intact. Flaps on the airplane were electrically driven and any position between up and full down, (40 degrees) can be selected. This particular airplane had two separate selector switches for the flaps; (1) a toggle switch

on the instrument panel as supplied by the factory and, (2) a "coolie hat" switch atop a military fighter type stick grip. The aircraft was equipped with a cockpit installed flap position indicator. Estimate of fuel aboard could not be determined, and the pilot stated he could not remember.

A factory test pilot who had flown familiarization flights with both occupants in the accident airplane four days before the accident, stated he demonstrated and used the optimum flap setting of 15 degrees for takeoff on those occasions. He did not demonstrate the 40-degree flap setting, and stated that he discouraged its use because of its resultant dramatic nose down attitude change. According to factory specifications, the maximum gross takeoff weight of the airplane is 1,350 pounds at sea level, standard atmospheric conditions. Standard atmospheric conditions did not exist at the time of the accident; in fact, the density altitude was 1,849 feet. According to the factory test pilot, this aircraft's operating empty weight was 900 pounds. The pilot weighed 242 pounds and the passenger weighed 235 pounds. The airplane was equipped with the optional 18-gallon fuel tank. With no fuel loaded, the takeoff weight was 1,392 pounds, or 42 pounds over maximum gross takeoff weight.

Postmortem examination of the passenger was conducted by Dr. Paulino O. Vassallo, M.D., District Medical Examiner, District 18, Brevard County, Florida. The cause of death was attributed to multiple blunt force injuries. Toxicological testing of specimens from both occupants was conducted by the Federal Aviation Administration Research Laboratory, Oklahoma City, Oklahoma. No findings that could be considered causal were noted in either the postmortem or the toxicological tests.

The pilot was discharged on September 3, 1999, whereby he returned to Germany. Numerous attempts to contact the pilot finally resulted in the enclosed statement made to the German Federal Bureau of Accident Investigation and forwarded to the NTSB.

Pilot Information

Certificate:	Private	**Age:**	43,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Unknown Unknown	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	350 hours (Total, all aircraft), 7 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	ARNET PEREYRA AERO	**Registration:**	N303SQ
Model/Series:	AVENTURA II AVENTURA I	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	AP2A0030
Landing Gear Type:	Retractable - Tailwheel; Hull	**Seats:**	2
Date/Type of Last Inspection:	Continuous airworthiness	**Certified Max Gross Wt.:**	1350 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	194 Hrs	**Engine Manufacturer:**	Bombardier
ELT:	Installed	**Engine Model/Series:**	ROTAX 912
Registered Owner:	SKY QUEST	**Rated Power:**	80 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	MLB ,33 ft msl	**Distance from Accident Site:**	14 Nautical Miles
Observation Time:	09:50 Local	**Direction from Accident Site:**	145°
Lowest Cloud Condition:	Clear	**Visibility**	7 miles
Lowest Ceiling:	Broken / 3000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	260°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	31°C / 27°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(X65)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	09:30 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	ROCKLEDGE AIRPARK X65	**Runway Surface Type:**	Grass/turf
Airport Elevation:	27 ft msl	**Runway Surface Condition:**	Dry;Soft
Runway Used:	18	**IFR Approach:**	None
Runway Length/Width:	2000 ft / 50 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Serious	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal, 1 Serious	**Latitude, Longitude:**	28.310819,-80.720664(est)

Administrative Information

Investigator In Charge (IIC):	Stone, Alan
Additional Participating Persons:	MARK LAUGHRIDGE; ORLANDO , FL
Original Publish Date:	March 2, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=47038