



National Transportation Safety Board Aviation Accident Final Report

Location:	Mayaguez, PR	Accident Number:	ERA10LA158
Date & Time:	03/03/2010, 1335 AST	Registration:	N514PM
Aircraft:	MONROIG PEDRO J RANS S-6S	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The sport pilot was informed by a friend, who had landed at an intermediate airport along their planned route of flight, that there was a heavy crosswind. The friend informed the sport pilot to continue to their destination airport since he had sufficient fuel. The sport pilot elected to make an approach, which resulted in a go-around. The friend advised the sport pilot again to continue to the destination airport. The sport pilot entered a left traffic pattern and made another approach. The friend stated that the pilot's flare over the runway was fast. The nose of the airplane was observed to pitch up to a 45-degree nose high attitude. The friend instructed the pilot via radio to add power, and he heard an increase in power. The airplane reached about 75 feet above ground level and the airspeed decreased. The airplane stalled, the left wing dropped, the airplane entered a spin to the left and collided with the ground. Review of the pilot's log book revealed he had 48 total flight hours, of which 42.75 hours were with a flight instructor. The pilot had 5.25 hours as pilot-in-command. Examination of the airframe, flight controls, engine assembly, and associated components revealed no anomalies.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The sport pilot's failure to maintain adequate airspeed during landing in crosswind conditions resulting in an aerodynamic stall.

Findings

Aircraft

Personnel issues	Aircraft control - Pilot (Cause)
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Factual Information

HISTORY OF FLIGHT

On March 3, 2010, at 1335 Atlantic standard time, an experimental amateur-built Monroig Rans S-6S, N514PM, experienced a loss of control during landing at Eugenio Mario de Hostos Airport (TJMZ), Mayaguez, Puerto Rico. Visual meteorological conditional prevailed and no flight plan was filed. The personal flight was operated in accordance with 14 Code of Federal Regulations Part 91. The certificated sport pilot was killed. The flight originated from Patillas, Puerto Rico, at 1100.

A witness and friend of the pilot stated they had picked up another airplane and were flying both airplanes to Arecibo, Puerto Rico. They decided not to cross over the mountains and decided to land at Mayaguez, Puerto, Rico. The witness added he crossed the airfield from south to north, for a left downwind entry to runway 9. He overheard a Caravan pilot state on the radio that there was a heavy crosswind from the south and the landing was going to be difficult. The Caravan landed and the witness made an approach and landed.

The witness called his friend on the radio and informed him about the crosswind, then advised him that since he had plenty of fuel, to continue to Arecibo. The accident pilot stated he would make an approach, which ended up in a go-around. The pilot entered left downwind for a second approach and the witness again told the pilot to go to Arecibo. The pilot elected to continue with the second approach.

The pilot's flare over the runway was fast. The nose of the airplane pitched up more than 45 degrees. The airplane climbed to about 75 feet above ground level and the airspeed was observed to decrease. The airplane stalled, the left wing and nose dropped down, and the airplane entered a spin to the left. The witness instructed the pilot over the radio to add power and he heard an increase in power. The airplane collided with the ground in a nose down, left wing low attitude and came to rest inverted. The airplane received structural damage to the cabin area and both wings.

PERSONNEL INFORMATION

The pilot age 55, held a sport pilot certificate issued on September 4, 2009. The pilot held a third-class medical certificate issued on August 30, 2006, with the restriction, "must wear corrective lenses." The pilot indicated on his application for the medical certificate that he had 2 total flight hours. Review of the pilot's logbook revealed he had 48 total flight hours, of which 42.75 hours was with a flight instructor. The pilot had logged 25 hours in the RANS S-6S, of which 5.25 hours were as pilot-in-command. The pilot had flown 8 hours in the last 90 days and 5 hours in the last 30 days preceding the accident.

AIRCRAFT INFORMATION

The two-seat single-engine airplane, serial number 11031532, was issued a special airworthiness certificate on October 19, 2005. Its maximum gross weight is 1200 pounds. It is powered by a Rotax 912 UL, 80-horsepower engine, and equipped with a Sensenich fixed pitch composite propeller. Review of the aircraft logbooks revealed the last condition inspection was conducted on May 14, 2009; however no tachometer time was recorded in the logbook. The total time flown since the condition inspection could not be determined. The

tachometer at the crash site indicated 261 total hours. According to the witness to the accident site, both of their airplanes were topped off with automotive gasoline before departing Patillas, Puerto Rico, on the accident flight.

METEOROLOGICAL INFORMATION

The 1252 TJMZ surface weather observation was: wind 160 degrees at 10 knots, gusting 20 knots, visibility 10 miles, broken clouds at 3,000 feet, temperature 31 degrees Celsius, dew point temperature 22 degrees Celsius, and altimeter 29.90 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

Initial examination of the crash site revealed the airplane collided with the ground in a nose down left wing low attitude and came to rest on a heading of 170 degrees magnetic. The upper and lower engine cowling was separated. The propeller assembly remained attached the propeller crankshaft flange. Both propeller blades had separated from the propeller hub. The engine assembly was pushed up, aft, and to the left. The engine firewall was buckled and displaced to the right. The nose wheel assembly remained attached to the airframe.

The forward windscreen and overhead windscreen were broken. The cabin area was damaged. The instrument panel was pushed inward, downward and up. The magneto switch was in the both position. The throttle was full forward. The fuel valve was on. The right fuel tank was ruptured and the left fuel tank was not ruptured. The left fuel tank was about three-fourths full of fuel. Both fuel caps had a tight seal. Fuel was present in both carburetors. Both left and right cabin seats were displaced aft and to the right. The pilot's seatbelt and shoulder harness was in use. Continuity of the flight controls was confirmed to all flight control surfaces. The main landing gear remained attached to the airframe.

The right wing remained attached at the wing root and was pushed aft. The leading edge of the right wing was damaged at the wing root, extending outboard to the wingtip. The wing struts remained attached at the wing and at the fuselage. The right aileron remained attached at all attachment points. The right flap remained attached at all attachment point and was retracted. The empennage aft of the pilot's compartment was intact and not damaged.

The left wing remained attached at the wing root. The leading edge of the left wing was buckled at the wing root. The wing struts remained attached at the wing and at the fuselage. The left aileron remained attached at all attachment points. The left flap remained attached at all attachment point and was retracted.

Examination of the engine assembly was conducted on March 23, 2010, in the presence of a Federal Aviation Administration inspector at Mayaguez, Puerto Rico. No mechanical problems were found during the engine examination.

MEDICAL AND PATHOLOGICAL INFORMATION

The Instituto de Ciencias Forenses, San Juan, Puerto Rico, conducted a postmortem examination of the sport pilot on March 4, 2010. The cause of death was severe physical trauma. The Forensic Toxicology Research Section, FAA, Oklahoma City, Oklahoma performed

postmortem toxicology of specimens from the pilot. The specimens were negative for carbon monoxide, cyanide, ethanol, or drugs.

ADDITIONAL INFORMATION

Review of the RANS, INC. Pilot Operating Handbook, Section 4 Performance, Stall Speeds indicates at 1200 pounds, with flaps up, at a 0-degree bank angle the airplane will stall at 43 miles per hour. At a 45-degree bank angle, the airplane will stall at 51 miles per hour. At a 60-degree angle of bank, the airplane will stall at 61 miles per hour. The maximum altitude loss during stall recovery is approximately 75 feet.

History of Flight

Landing-flare/touchdown	Abrupt maneuver Loss of control in flight (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Sport Pilot	Age:	55, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 With Waivers/Limitations	Last Medical Exam:	08/30/2006
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	48 hours (Total, all aircraft), 25 hours (Total, this make and model), 5 hours (Pilot In Command, all aircraft), 8 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	MONROIG PEDRO J	Registration:	N514PM
Model/Series:	RANS S-6S	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental Light Sport	Serial Number:	11031532
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	05/14/2009, Conditional	Certified Max Gross Wt.:	1200 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	261 Hours	Engine Manufacturer:	Rotax
ELT:	Not installed	Engine Model/Series:	912
Registered Owner:	RODRIGUEZ RICHARD	Rated Power:	80 hp
Operator:	RODRIGUEZ RICHARD	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	TJMZ, 28 ft msl	Observation Time:	1252 AST
Distance from Accident Site:		Condition of Light:	Day
Direction from Accident Site:		Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:		Temperature/Dew Point:	31° C / 22° C
Lowest Ceiling:	Broken / 3000 ft agl	Visibility	10 Miles
Wind Speed/Gusts, Direction:	10 knots/ 20 knots, 160°	Visibility (RVR):	
Altimeter Setting:	29.9 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Patillas, PR (X65)	Type of Flight Plan Filed:	None
Destination:	Mayaguez, PR (TJMZ)	Type of Clearance:	None
Departure Time:	1100 EST	Type of Airspace:	Class G

Airport Information

Airport:	Eugenio Maria de Hostos (TJMZ)	Runway Surface Type:	Asphalt
Airport Elevation:	28 ft	Runway Surface Condition:	Dry
Runway Used:	09	IFR Approach:	None
Runway Length/Width:	4998 ft / 100 ft	VFR Approach/Landing:	Go Around

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal		

Administrative Information

Investigator In Charge (IIC):	Carrol A Smith	Adopted Date:	10/21/2010
Additional Participating Persons:	Ismael O De Jesus; FAA/FSDO Miami; Mirimar, FL Eric Tucker; Kodiak Research; Nassau,		
Publish Date:	10/21/2010		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=75434		

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