Aviation Investigation Final Report

Location:	Southwest Ranch, Florida	**Accident Number:**	MIA07LA013
Date & Time:	November 11, 2006, 14:19 Local	**Registration:**	N727PD
Aircraft:	Winter J.T/Johnson Kitfox III	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Minor, 1 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor stated that while in cruise flight the engine suddenly began to operate "badly", and the whole airplane vibrated intensely. He said that they flew away from the populated residential areas and made a forced landing in the area of a landfill. During the landing rollout the airplane nosed over, incurring damage. According to the FAA inspector who responded to the scene of the accident, upon inspecting the airplane he found one propeller blade missing, with part of the blade root remaining in the hub. Furthermore, he found that one blade mounting bolt was loose and the bolt associated with the missing blade had fractured. The inspector noted no other anomalies with the accident airplane. On May 29, 2007 the NTSB sent the propeller, and its associated mounting hardware, minus the missing blade, to the propeller manufacturer, IVOProp Corporation, Long Beach, California, for further examination, under the supervision of an FAA inspector. The examination revealed that the propeller had been improperly assembled, and was missing the required Motion Detector Tape, which resulted in the blade bolt holes elongating, and one blade separating from the hub in flight.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The owner/builder's improper maintenance/installation of the propeller which resulted in a propeller blade coming loose and separating from the hub.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: CRUISE

Findings
1. PROPELLER SYSTEM/ACCESSORIES - SEPARATION
2. (C) MAINTENANCE,INSTALLATION - IMPROPER - OWNER/BUILDER

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: LANDING - ROLL

Findings
3. TERRAIN CONDITION - NONE SUITABLE

Occurrence #4: NOSE OVER
Phase of Operation: LANDING - ROLL

Factual Information

On November 11, 2006, about 1419 eastern standard time, a Winter J.T/Johnson Kitfox III experimental amateur-built airplane, N727PD, registered to and operated by a private individual, as a Title 14 CFR Part 91 instructional flight, had the flight crew experience aircraft vibrations in-flight, and the crew made a forced landing in Southwest Ranches, Florida. Visual meteorological conditions prevailed, and no flight plan was filed. The commercial-rated flight instructor received no injuries, and the student pilot received minor injuries. The airplane incurred substantial damage. The flight originated in Southwest Ranches, the same day, about 1330.

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Flight instructor Information

Certificate:	Commercial; Flight instructor	**Age:**	37,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 1	**Last FAA Medical Exam:**	January 1, 2006
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	October 1, 2006
Flight Time:	1050 hours (Total, all aircraft), 20 hours (Total, this make and model), 965 hours (Pilot In Command, all aircraft), 76 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft), 12 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Student	**Age:**	66,Male
Airplane Rating(s):	None	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	None	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	November 1, 2006
Flight Time:	130 hours (Total, all aircraft), 22 hours (Total, this make and model), 50 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Winter J.T/Johnson	**Registration:**	N727PD
Model/Series:	Kitfox III	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special); Special light-sport (Special)	**Serial Number:**	
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	February 1, 2006 Annual	**Certified Max Gross Wt.:**	1050 lbs
Time Since Last Inspection:	55 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	402 Hrs at time of accident	**Engine Manufacturer:**	Rotax
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	582LC
Registered Owner:	Jean Lambert	**Rated Power:**	65 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	FLL,9 ft msl	**Distance from Accident Site:**	
Observation Time:	13:53 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Few / 3400 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots / 0 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	120°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.02 inches Hg	**Temperature/Dew Point:**	27°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Southwest Ranch, FL	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	13:30 Local	**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 Minor, 1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor, 1 None	**Latitude, Longitude:**	26,-80.25

Administrative Information

Investigator In Charge (IIC):	Lovell, John
Additional Participating Persons:	Terry Hurst; FAA FSDO; Fort Lauderdale, FL
Original Publish Date:	September 27, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=64871