



National Transportation Safety Board Aviation Accident Final Report

Location:	Mesa, AZ	Accident Number:	LAX07CA262
Date & Time:	09/01/2007, 1546 MST	Registration:	N546SW
Aircraft:	Wessel Vortex	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The gyrocopter collided with high vegetation and rough terrain during a forced autorotation following the in-flight separation of a propeller blade. The pilot reported that the muffler's mounting strap broke during cruise flight, which caused one composite pusher propeller blade to separate. The pilot autorotated to a forced landing in a ravine. During touchdown the gyrocopter rolled over upon impacting 5-foot-high bushes.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Failure of the muffler's mounting strap and subsequent loss of engine power due to propeller blade separation during cruise flight. A contributing factor was the unsuitable terrain for a forced landing.

Findings

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

Findings

1. (C) EXHAUST SYSTEM,MUFFLER - SEPARATION
2. (C) PROPELLER SYSTEM/ACCESSORIES,BLADE - SEPARATION

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

Findings

3. AUTOROTATION - PERFORMED - PILOT IN COMMAND

Occurrence #3: ON GROUND/WATER COLLISION WITH OBJECT
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

4. (F) TERRAIN CONDITION - RAVINE
5. (F) TERRAIN CONDITION - HIGH VEGETATION

Factual Information

Pilot Information

Certificate:	Private	Age:	47, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	
Other Aircraft Rating(s):	Gyroplane	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):		Toxicology Performed:	
Medical Certification:	Class 3	Last FAA Medical Exam:	07/01/2006
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	757 hours (Total, all aircraft), 66 hours (Total, this make and model), 36 hours (Last 90 days, all aircraft), 9 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Wessel	Registration:	N546SW
Model/Series:	Vortex	Aircraft Category:	Gyroplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	MEW061
Landing Gear Type:	Tricycle	Seats:	
Date/Type of Last Inspection:		Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Rotax
ELT:		Engine Model/Series:	618
Registered Owner:	Marvin E. Wessel, Jr.	Rated Power:	
Operator:	Marvin E. Wessel, Jr.	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	Light and Variable /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Mesa, AZ (FFZ)	Type of Flight Plan Filed:	None
Destination:	Mesa, AZ (FFZ)	Type of Clearance:	None
Departure Time:	1315 MST	Type of Airspace:	

Airport Information

Airport:	Falcon Field (FFZ)	Runway Surface Type:	
Airport Elevation:	1394 ft	Runway Surface Condition:	
Runway Used:	NA	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced Landing

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	
Total Injuries:	1 None	Latitude, Longitude:	33.511667, -111.698333

Administrative Information

Investigator In Charge (IIC):	Wayne Pollack	Report Date:	11/29/2007
Additional Participating Persons:	Christine Clark; Federal Aviation Administration; Scottsdale, AZ		
Publish Date:			
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.		
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 pubinquiry@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).