



Aviation Investigation Final Report

Location:	Genesee, Idaho	Accident Number:	LAX08LA083
Date & Time:	March 22, 2008, 09:30 Local	Registration:	N8148K
Aircraft:	Gulfstream-Schweizer G-164B	Aircraft Damage:	Substantial
Defining Event:	Aircraft structural failure	Injuries:	1 Minor
Flight Conducted Under:	Part 137: Agricultural		

Analysis

"THIS CASE WAS MODIFIED MARCH 25, 2009."

The airplane was departing on an aerial application sortie when the lower portion of the rudder separated and yaw control was lost. The pilot flew the airplane for approximately 1/2 hour to learn its flight characteristics at low airspeeds and low power settings. During the landing, the airplane turned sideways, nosed over, and came to rest inverted. Examination of the rudder revealed that the lower rudder attachment point had failed. The separation surfaces displayed evidence of severe corrosion. The airplane had an annual inspection on March 17, 2008, and had flown 1/2 hour since the inspection. The area where the corrosion was found and the failure occurred did not require inspection.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The in-flight failure of the rudder attachment point due to severe corrosion, which made directional control of the airplane not possible during landing.

Findings

Aircraft	Rudder control system - Fatigue/wear/corrosion
Personnel issues	Scheduled/routine inspection - Maintenance personnel
Aircraft	Rudder control system - Failure
Aircraft	Directional control - Attain/maintain not possible

Factual Information

History of Flight

Initial climb	Aircraft structural failure (Defining event)
Landing-flare/touchdown	Loss of control on ground
Landing-flare/touchdown	Nose over/nose down

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On March 22, 2008, approximately 0930 Pacific daylight time, a Gulfstream-Schweizer G-164B, N8148K, was substantially damaged during landing following the partial separation of its rudder, while in-flight, near Genesee, Idaho. The commercial pilot, the sole occupant in the airplane, sustained a minor injury. Heimgartner Aviation LLC, was operating the airplane under 14 CFR Part 137. The airplane was on an aerial application sortie when the rudder failed; it had departed a private airstrip at approximately 0900. Visual meteorological conditions prevailed for the local flight; a flight plan had not been filed.

The pilot said that a few minutes after takeoff, he lost rudder control. He flew the airplane for approximately 1/2 hour to learn its flight characteristics at low airspeed and low power setting. During the landing, the airplane turned sideways, nosed over, and came to rest inverted.

Examination of the airplane by Federal Aviation Administration (FAA) inspectors revealed that the lower rudder attachment point had failed and the separation surfaces displayed evidence of severe corrosion. The airplane had an annual inspection on March 17, 2008, and the airplane had flown 1/2 hour since the inspection. On December 19, 2008, the FAA issued Airworthiness Directive (AD) 2008-22-21, which expanded the applicability of a previous AD 78-08-09 to include all G-164 series airplanes. The previous AD did not include the accident airplane. The expanded AD requires repetitive inspections of the rudder main tubular spar for corrosion and correction if detected. Prior to this AD, the area where the corrosion was found and failure occurred did not require inspection.

Pilot Information

Certificate:	Commercial	Age:	57,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Single
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	June 1, 2007
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	April 1, 2007
Flight Time:	15307 hours (Total, all aircraft), 738 hours (Total, this make and model), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Gulfstream-Schweizer	Registration:	N8148K
Model/Series:	G-164B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	586B
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	March 1, 2008 Annual	Certified Max Gross Wt.:	5000 lbs
Time Since Last Inspection:	0.5 Hrs	Engines:	1 Turbo prop
Airframe Total Time:	10127 Hrs as of last inspection	Engine Manufacturer:	Walter
ELT:	Not installed	Engine Model/Series:	M601E-11
Registered Owner:	Heimgartner Aviation LLC	Rated Power:	751 Horsepower
Operator:		Operating Certificate(s) Held:	
Operator Does Business As:		Operator Designator Code:	WRUG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	LWS,1442 ft msl	Distance from Accident Site:	15 Nautical Miles
Observation Time:	09:56 Local	Direction from Accident Site:	165°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	7 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	70°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.59 inches Hg	Temperature/Dew Point:	4°C / -3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Genesee, ID (PRIV)	Type of Flight Plan Filed:	None
Destination:	(PRIV)	Type of Clearance:	None
Departure Time:	09:00 Local	Type of Airspace:	

Airport Information

Airport:	Heimgartner Airstrip NONE	Runway Surface Type:	Gravel
Airport Elevation:	2460 ft msl	Runway Surface Condition:	Dry
Runway Used:	27	IFR Approach:	None
Runway Length/Width:	1400 ft / 60 ft	VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	46.551387,-116.926109

Administrative Information

Investigator In Charge (IIC): Struhsaker, James

Additional Participating Persons: John Phillips; Federal Aviation Administration; Spokane, WA

Original Publish Date: April 30, 2008

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=67710>

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