



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	WAUNAKEE, WI	<b>Accident Number:</b>	CHI99LA099
<b>Date &amp; Time:</b>	03/01/1999, 1710 CST	<b>Registration:</b>	N394GL
<b>Aircraft:</b>	Calkins KITFOX 5	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	2 None

**Flight Conducted Under:** Part 91: General Aviation - Personal

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## Analysis

As the airplane was turning base to final the pilot, 'felt a bump and vibration in the control stick...' when he commanded a final nose-up trim adjustment. The pilot reported that the remainder of the approach to the runway was uneventful. The pilot stated that, 'When I went to flare for the landing I did not have any pitch control.' The pilot reported that the airplane landed very hard and bounced back into the air in a nose high orientation. The pilot reported that during the hard landing the seat broke from its mounts and fell onto the flaperon control tube, inhibiting flaperon actuation. The pilot stated that the airplane then 'Stalled', landed tail first on the runway, ground looped, and came to rest with the right wingtip and the tail touching the ground. Post accident examination of the aircraft showed that the trim actuator was fractured at its attachment point to the airframe.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the fracture of the trim actuator.

## Findings

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

### Findings

1. (C) FLT CONTROL SYST,ELEVATOR TRIM/TAB CONTROL - FRACTURED  
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Occurrence #2: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: APPROACH  
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Occurrence #3: HARD LANDING  
Phase of Operation: DESCENT - UNCONTROLLED

## Factual Information

On March 1, 1999, at 1710 central standard time (CST), a Calkins Kitfox 5, N394GL, piloted by a commercial pilot, was destroyed during a hard landing and subsequent ground loop at the Waunakee Airport, near Waunakee, Wisconsin. Visual meteorological conditions prevailed at the time of the accident. The personal flight was operating under the provisions of 14 CFR Part 91. The flight was not operating on a flight plan. The pilot-in-command and pilot-rated passenger reported no injuries. The flight departed Waunakee Airport at 1630 CST for a local flight.

According to the pilot-in-command's written statement, as the airplane was turning base to final the pilot, "felt a bump and vibration in the control stick..." when he commanded a final nose-up trim adjustment. The pilot reported that the remainder of the approach to the runway was uneventful. The pilot stated that, "When I went to flare for the landing I did not have any pitch control." The pilot reported that the airplane landed very hard and bounced back into the air in a nose high orientation. The pilot reported that during the hard landing the seat broke from its mounts and fell onto the flaperon control tube, inhibiting flaperon actuation. The pilot stated that the airplane then "Stalled", landed tail first on the runway, ground looped, and came to rest with the right wingtip and the tail touching the ground.

Post accident inspection of the aircraft showed that the trim actuator was fractured at its attachment point to the airframe.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	53, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane Single-engine	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	05/07/1998
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	1394 hours (Total, all aircraft), 105 hours (Total, this make and model), 1226 hours (Pilot In Command, all aircraft), 8 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Make:	Calkins	Registration:	N394GL
Model/Series:	KITFOX 5 KITFOX 5	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	59404-0021
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	06/30/1998, Annual	Certified Max Gross Wt.:	1400 lbs
Time Since Last Inspection:	34 Hours	Engines:	1 Reciprocating
Airframe Total Time:	104 Hours	Engine Manufacturer:	Subaru
ELT:	Installed, not activated	Engine Model/Series:	EA81 SHO
Registered Owner:	GENE M. CALKINS	Rated Power:	118 hp
Operator:	GENE M. CALKINS	Operating Certificate(s) Held:	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	MSN, 862 ft msl	Distance from Accident Site:	6 Nautical Miles
Observation Time:	1653 CST	Direction from Accident Site:	120°
Lowest Cloud Condition:	Scattered / 6500 ft agl	Visibility	0 Miles
Lowest Ceiling:	Broken / 8000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	5° C / -5° C
Precipitation and Obscuration:			
Departure Point:	(WI06)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	1640 CST	Type of Airspace:	Class E

## Airport Information

Airport:	WAUNAKEE AIRPORT (WI06)	Runway Surface Type:	Asphalt
Airport Elevation:	950 ft	Runway Surface Condition:	Dry
Runway Used:	27	IFR Approach:	None
Runway Length/Width:	2230 ft / 30 ft	VFR Approach/Landing:	Touch and Go; Traffic Pattern

## Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Destroyed
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	ANDREW T FOX	Report Date:	05/12/2000
Additional Participating Persons:	DENNIS GRIMSLID; MILWAUKEE, WI		
Publish Date:			
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 <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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](#).