



# Aviation Investigation Final Report

<b>Location:</b>	Tucson, Arizona	<b>Accident Number:</b>	LAX07CA036
<b>Date &amp; Time:</b>	November 15, 2006, 14:37 Local	<b>Registration:</b>	N4115M
<b>Aircraft:</b>	Burkhart Grob Flugzeugbau G103 Twin Astir	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The glider pilot reported he was attempting to land the glider further down the runway than usual. He stated he added 1/2 spoilers and flared about 10 feet above the runway. He retracted the spoilers, and added them again when he was further down, and about 5 feet above the runway. At the second spoiler application, the glider immediately fell to the runway, hitting hard and bouncing. The glider bounced another two or three times, coming to rest after the tail section separated. The pilot stated that there were no pre accident mechanical or flight control problems with the glider.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's improper use of the spoilers during the landing flare, which resulted in a hard landing, and his inadequate bounced landing recovery technique.

## Findings

Occurrence #1: HARD LANDING  
Phase of Operation: LANDING - FLARE/TOUCHDOWN

### Findings

1. (C) SPOILER RETRACTION - IMPROPER USE OF - PILOT IN COMMAND

2. (C) RECOVERY FROM BOUNCED LANDING - INADEQUATE - PILOT IN COMMAND
3. TERRAIN CONDITION - RUNWAY

## Factual Information

On November 15, 2006, at 1437 mountain standard time, a Burkhart Grob Flugzeugbau G103 Twin Astir glider, N4115M, landed hard at El Tiro Gliderport (AZ67), Tucson, Arizona, and porpoised on runway 8R before coming to a stop. Tucson Soaring Club operated the rental glider under the provisions of 14 CFR Part 91. The private glider pilot, the sole occupant, was not injured. The tail section of the glider separated forward of the vertical stabilizer and the horizontal stabilizer sustained damage. Visual meteorological conditions prevailed for the local area flight that departed about 1430. No flight plan had been filed.

According to the pilot's written statement, he had conducted two flights on the day of the accident. He noted clear sky conditions, and a slight north crosswind between 3 and 5 knots. The first flight was uneventful, except that he was only able to stay aloft for 16 minutes due to low thermal activity. He made the approach at 60 knots, and the landing was normal.

On the second flight, the accident flight, he flew the pattern with the intent of landing long so that he could put the glider away for the day, as it was not scheduled for additional flights. He made the approach at 60 knots, added 1/2 spoilers, and flared about 10 feet above the ground. At that point, he closed the spoilers so that the touchdown point would be longer than normal. The glider floated about 5 feet above the runway and he applied 1/2 spoilers so that the glider would touch down. The glider immediately dropped and landed hard, which resulted in it bouncing back into the air.

The pilot stated that he held the stick in a fixed position with the wings level, thinking that the glider would float down to the runway and land, with the potential of bouncing 2 or 3 more times. He stated that the glider bounced 2 or 3 more times; however, each touchdown was harder than the previous time. Upon exiting the glider, he noted that the tail section had separated from the fuselage. The pilot stated that there were no mechanical or flight control problems with the glider prior to the accident.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	66, Male
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	
<b>Other Aircraft Rating(s):</b>	Glider	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>		<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	None	<b>Last FAA Medical Exam:</b>	
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	63 hours (Total, all aircraft), 38 hours (Total, this make and model)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Burkhart Grob Flugzeugbau	<b>Registration:</b>	N4115M
<b>Model/Series:</b>	G103 Twin Astir	<b>Aircraft Category:</b>	Glider
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	3799K
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	
<b>Date/Type of Last Inspection:</b>		<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	0
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	
<b>ELT:</b>		<b>Engine Model/Series:</b>	
<b>Registered Owner:</b>	Tucson Soaring Club	<b>Rated Power:</b>	
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	AVQ,2235 ft msl	<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>	14:00 Local	<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	30 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	360°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29.96 inches Hg	<b>Temperature/Dew Point:</b>	28°C / 10°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Tucson, AZ (AZ67)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Tucson, AZ (AZ67)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>		<b>Type of Airspace:</b>	

## Airport Information

<b>Airport:</b>	El Tiro Gliderport AZ67	<b>Runway Surface Type:</b>	Asphalt;Dirt
<b>Airport Elevation:</b>	2106 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	08R	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	5000 ft / 100 ft	<b>VFR Approach/Landing:</b>	Full stop;Traffic pattern

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	
<b>Total Injuries:</b>	1 None	<b>Latitude, Longitude:</b>	32.422779,-111.386947

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Cornejo, Tealeye
<b>Additional Participating Persons:</b>	Bruce Bessette; Federal Aviation Administration; Scottsdale, AZ
<b>Original Publish Date:</b>	March 26, 2007
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	This accident report documents the factual circumstances of this accident as described to the NTSB.
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=64892">https://data.ntsb.gov/Docket?ProjectID=64892</a>

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