



# Aviation Investigation Final Report

<b>Location:</b>	SHAFTER, California	<b>Accident Number:</b>	LAX98LA197
<b>Date &amp; Time:</b>	June 14, 1998, 15:30 Local	<b>Registration:</b>	N110DT
<b>Aircraft:</b>	Bell 47G-4A	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 137: Agricultural		

## Analysis

The pilot reported that he made a steep downwind approach to the landing pad and the helicopter entered into settling with power (vortex ring state). He reported that he was at too low an altitude to recover and the helicopter impacted the terrain about 500 feet west of the intended landing zone. The main rotor blades severed the tail boom. The pilot reported that he had not experienced any mechanical malfunction with the helicopter prior to the accident, but stated that he should have made a shallower approach.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The aircraft's encounter with settling with power, which resulted from the pilot's decision to perform a steep downwind approach.

## Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: APPROACH

### Findings

1. (F) WEATHER CONDITION - TAILWIND
  2. (C) PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
  3. (C) SETTLING WITH POWER - ENCOUNTERED - PILOT IN COMMAND
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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: DESCENT - UNCONTROLLED

## Factual Information

On June 14, 1998, at 1530 hours Pacific daylight time, a Bell 47G-4A, N110DT, experienced a hard landing at the Shafter-Minter Airport in Shafter, California. The aircraft sustained substantial damage and the commercial pilot, the sole occupant, was not injured. Visual meteorological conditions prevailed and no flight plan was filed for the 14 CFR Part 137 agricultural operation.

The pilot reported that he made a normal takeoff to the northwest and climbed to approximately 300 feet agl. He then made a 180-degree turn back toward the landing area and initiated a "steeper than normal" approach to land. The helicopter began to settle with power, and the pilot reported that he was at too low an altitude to recover. The helicopter impacted the ground approximately 500 feet west of the intended landing zone and the main rotor blades severed the tail boom.

The pilot reported that he had not experienced any mechanical malfunction with the helicopter prior to the accident, but stated that he should have made a shallower approach. The winds were from a direction of 280 degrees at a velocity of 9 knots. The approach was made to an approximate direction of 120 degrees.

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	29, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Airplane single-engine; Instrument airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	April 1, 1998
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	7000 hours (Total, all aircraft), 6000 hours (Total, this make and model), 6940 hours (Pilot In Command, all aircraft), 200 hours (Last 90 days, all aircraft), 75 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Bell	<b>Registration:</b>	N110DT
<b>Model/Series:</b>	47G-4A 47G-4A	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Restricted (Special)	<b>Serial Number:</b>	7631
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	1
<b>Date/Type of Last Inspection:</b>	April 17, 1998 100 hour	<b>Certified Max Gross Wt.:</b>	2950 lbs
<b>Time Since Last Inspection:</b>	98 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	9903 Hrs	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>		<b>Engine Model/Series:</b>	VO-540-B1B3
<b>Registered Owner:</b>	INLAND CROP DUSTING	<b>Rated Power:</b>	280 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	BFL ,507 ft msl	<b>Distance from Accident Site:</b>	10 Nautical Miles
<b>Observation Time:</b>	15:56 Local	<b>Direction from Accident Site:</b>	120°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	9 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	280°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	29°C / 18°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	SHAFTER , CA (MIT )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	15:30 Local	<b>Type of Airspace:</b>	Class E

## Airport Information

<b>Airport:</b>	SHAFTER-MINTER MIT	<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>	422 ft msl	<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	Full stop

## 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>	None
<b>Total Injuries:</b>	1 None	<b>Latitude, Longitude:</b>	35.489688,-119.300666(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Mucho, Gary
<b>Additional Participating Persons:</b>	DAN BAKER; FRESNO , CA
<b>Original Publish Date:</b>	February 16, 2001
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=30120">https://data.ntsb.gov/Docket?ProjectID=30120</a>

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