



Aviation Investigation Final Report

Location:	Wasco, California	Accident Number:	LAX00LA116
Date & Time:	March 7, 2000, 10:20 Local	Registration:	N1354X
Aircraft:	Bell 47G-4A	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The pilot landed the single-engine helicopter in a muddy field after experiencing a loss of engine power while climbing through 200 feet. The pilot reported hearing and feeling a bang, then a jolt to the left, followed by a loss of engine power. The pilot landed the helicopter in a field with furrows, which forced the tail up resulting in a tail strike. After the accident, the pilot reported to the operator that he may have experienced carburetor icing. An overhaul of the engine did not reveal any anomalies that would have prevented the engine's operation. According to the FAA's Carburetor Icing Probability Chart with the reported temperature and dew point, the conditions existed for "Serious Icing at Cruise Power."

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to use carburetor heat, which resulted in a loss of engine power. Factors included the ambient carburetor icing conditions and the lack of suitable terrain for the forced landing.

Findings

Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - NONMECHANICAL
Phase of Operation: CLIMB

Findings

1. (C) WEATHER CONDITION - CARBURETOR ICING CONDITIONS

2. (C) CARBURETOR HEAT - DELAYED - PILOT IN COMMAND

Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: EMERGENCY LANDING

Findings

3. (F) TERRAIN CONDITION - NONE SUITABLE

4. TERRAIN CONDITION - MUDDY

5. TERRAIN CONDITION - PLOWED/FURROWED

Factual Information

On March 7, 2000, at 1020 Pacific standard time a Bell 47G-4A single-engine helicopter, N1354X, was substantially damaged during a forced landing following a loss of engine power after takeoff from a field near Wasco, California. The commercial pilot, who was the sole occupant, was not injured. The aircraft was registered to and operated by Inland Crop Dusters, Inc., of Bakersfield, California, as an agricultural application flight under 14 CFR Part 137. The flight had originated from a service truck shortly before the accident. Visual meteorological conditions prevailed at the time of the accident and a flight plan was not filed.

According to a written statement provided by the pilot, he departed for a spray run after filling the hopper. When the helicopter reached 200 feet, the pilot "heard and felt a bang, then a jolt (to the left)," then the engine lost power. The pilot stated that he landed "softly straight ahead in a muddy field." He added that "the furrows in the field forced the nose down and the tail section up upon touchdown, causing a tail strike."

The pilot told the operator that he may have experienced carburetor icing. The engine was overhauled after the accident, and no anomalies were noted during the overhaul that would have prevented its operation.

At 0956, the weather observation facility at the Meadow Field Airport, Bakersfield, (located 25 miles southeast of the accident site), reported the wind from 130 degrees at 5 knots; 10 statute miles visibility; clear skies; temperature 52 degrees Fahrenheit; dew point 43 degrees Fahrenheit; and an altimeter setting of 30.01 inches of mercury.

According to the Federal Aviation Administration's Carburetor Icing Probability Chart, dated June 1982, with a temperature and dew point of 52 and 43 degrees, respectively, the conditions existed for "Serious Icing at Cruise Power."

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	31, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	June 5, 1999
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	April 28, 1999
Flight Time:	8900 hours (Total, all aircraft), 7200 hours (Total, this make and model), 8675 hours (Pilot In Command, all aircraft), 150 hours (Last 90 days, all aircraft), 100 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bell	Registration:	N1354X
Model/Series:	47G-4A 47G-4A	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	7537
Landing Gear Type:	Skid	Seats:	2
Date/Type of Last Inspection:	February 29, 2000 100 hour	Certified Max Gross Wt.:	3014 lbs
Time Since Last Inspection:	23 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	11524 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	Not installed	Engine Model/Series:	VO-540-B1B3
Registered Owner:	Inland Crop Dusters, Inc.	Rated Power:	260 Horsepower
Operator:	Inland Crop Dusters, Inc.	Operating Certificate(s) Held:	
Operator Does Business As:		Operator Designator Code:	PWWG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	BFL,507 ft msl	Distance from Accident Site:	25 Nautical Miles
Observation Time:	09:56 Local	Direction from Accident Site:	145°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	130°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.01 inches Hg	Temperature/Dew Point:	11°C / 6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Shafter, CA (MIT)	Type of Flight Plan Filed:	None
Destination:	WASCO, CA	Type of Clearance:	None
Departure Time:	07:00 Local	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	35.616664,-119.349998

Administrative Information

Investigator In Charge (IIC):	Crispin, Robert
Additional Participating Persons:	J N WILKINS; Federal Aviation Administration; Fresno, CA
Original Publish Date:	April 18, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=48728

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).