



Aviation Investigation Final Report

Location:	Portia, Arkansas	Accident Number:	CEN16LA182
Date & Time:	May 13, 2016, 07:15 Local	Registration:	N48316
Aircraft:	Bell 47G 3B 1	Aircraft Damage:	Substantial
Defining Event:	Dynamic rollover	Injuries:	1 Fatal, 1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

While departing from an elevated wood platform, the pilot elected to make a sliding takeoff, and after the helicopter's skids had slid forward about 2.5 ft, the skid plate on the bottom of the helicopter's right skid caught on a raised deck screw that had backed out of the platform. The pilot attempted to free the skid by applying power and pitching the helicopter forward. As the skid broke free, the helicopter pivoted forward and yawed to the right. The helicopter impacted the ground in a near-vertical attitude, and the main rotor blades contacted the service truck's cab. An individual on the ground was struck and fatally injured by debris from the helicopter. The pilot reported no mechanical malfunctions with the helicopter prior to the accident, and did not recall inspecting the landing platform the morning of the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's decision to perform a sliding takeoff from the elevated platform, which resulted in a dynamic rollover when the right skid plate caught on a protruding screw. Contributing to the accident was the pilot's failure to adequately inspect the landing platform before flight.

Findings

Environmental issues	Runway/landing area condition - Effect on equipment
Personnel issues	Aircraft control - Pilot
Personnel issues	Preflight inspection - Pilot

Factual Information

History of Flight

Takeoff	Miscellaneous/other
Takeoff	Dynamic rollover (Defining event)
Takeoff	Collision with terr/obj (non-CFIT)

On May 13, 2016, about 0715 central daylight time, a Bell 47G-3B-1 helicopter, N48316, collided with a service truck during takeoff near Portia, Arkansas. One person on the ground was fatally injured. The helicopter was substantially damaged and the pilot was not injured. The helicopter was registered to and operated by Hammock Flying Services INC under the provisions of 14 Code of Federal Regulations Part 137 as an aerial application flight. Visual meteorological conditions prevailed for the flight, which operated without a flight plan. The local flight was originating at the time of the accident.

According to the pilot, the helicopter landed on an elevated wood platform located on top of the service truck. After being loaded with fuel and a herbicide mixture, the helicopter started to lift off. The helicopter's skid caught a piece of the elevated platform and the pilot attempted to free the helicopter due adding power and pitching forward. The pilot was unable to free the helicopter and lost control of the helicopter was it continued to pitch forward. The main rotors contacted the service truck and the helicopter impacted terrain. Substantial damage was sustained to the helicopter's main rotors, tail boom, and fuselage. Debris from the helicopter struck and fatally injured a person on the ground.

An examination of the helicopter revealed substantial damage to the helicopter's main rotors, tail boom, and fuselage. Examination of the landing platform revealed that a large deck screw had backed out of the platform. Damage to the platform was consistent with the helicopter's right skid catching the raised screw during the lift off. The pilot reported no mechanical malfunctions with the helicopter prior to the accident. In addition, he did not recall inspecting the landing platform the morning of the accident.

The operator reported that they are in the processing of upgrading the service trucks. The improvements included self-locking hardware for the screws on the platforms to prevent the regular deck screw from backing out. In addition, the other trucks included extra railings to protect the service person.

Pilot Information

Certificate:	Commercial	Age:	44, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	4-point
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	February 18, 2016
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	March 25, 2015
Flight Time:	12750 hours (Total, all aircraft), 760 hours (Total, this make and model), 12618 hours (Pilot In Command, all aircraft), 94.4 hours (Last 90 days, all aircraft), 57.4 hours (Last 30 days, all aircraft), 1.5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bell	Registration:	N48316
Model/Series:	47G 3B 1 T	Aircraft Category:	Helicopter
Year of Manufacture:	1966	Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	3628
Landing Gear Type:	N/A; Skid	Seats:	
Date/Type of Last Inspection:	January 10, 2016 100 hour	Certified Max Gross Wt.:	2950 lbs
Time Since Last Inspection:		Engines:	1 Turbo shaft
Airframe Total Time:	9279.6 Hrs at time of accident	Engine Manufacturer:	ALLISON
ELT:	Not installed	Engine Model/Series:	250-C18
Registered Owner:	HAMMOCK FLYING SERVICE INC	Rated Power:	317 Horsepower
Operator:	HAMMOCK FLYING SERVICE INC	Operating Certificate(s) Held:	Agricultural aircraft (137)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KARG,273 ft msl	Distance from Accident Site:	7 Nautical Miles
Observation Time:	12:15 Local	Direction from Accident Site:	66°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	240°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.19 inches Hg	Temperature/Dew Point:	12°C / 8°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	PORTIA, AR	Type of Flight Plan Filed:	None
Destination:	PORTIA, AR	Type of Clearance:	None
Departure Time:	07:15 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	1 Fatal	Aircraft Explosion:	None
Total Injuries:	1 Fatal, 1 None	Latitude, Longitude:	36.075553,-91.061111

Administrative Information

Investigator In Charge (IIC):	Aguilera, Jason
Additional Participating Persons:	Matthew Disch; FAA Flight Standards District Office; Little Rock, AR
Original Publish Date:	November 28, 2016
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=93171

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).