



Aviation Investigation Final Report

Location:	ADEL, Georgia	Accident Number:	MIA96LA210
Date & Time:	August 11, 1996, 11:15 Local	Registration:	N9472G
Aircraft:	Bell 47G-4A	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal, 1 Serious
Flight Conducted Under:	Part 91: General aviation		

Analysis

The pilot was hovering the helicopter above a radio tower as a worker was attaching a 50 foot line from the helicopter to an antenna on the tower. As the helicopter maneuvered above the tower, it settled, and the main rotor blades collided with the antenna and mounting pole. The main rotor separated from the helicopter, and the helicopter descended uncontrolled until ground impact. The worker's left ankle was broken when the helicopter hit the antenna. The winds were reported to be steady at about 15 mph with no gusts. Toxicology tests of specimens from the pilot showed 0.214 mcg/ml diphenhydramine in blood, 0.597 mcg/ml diphenhydramine in liver fluid, and diphenhydramine was detected in his urine. Diphenhydramine is an antihistamine with sedative effects. FAA records showed the helicopter operator held a Title 14 CFR Part 137 Aerial Application Certificate, but there was no record that the operator held a 14 CFR Part 133 External Load Certificate. Also, the logbook showed no record of an FAA Form 337, Major Repair and Alteration, for installation of the external load hook, which reportedly had been installed by the pilot about a week before the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's misjudgment of clearance between the helicopter and the antenna. A factor relating to the accident was the pilot's use of a drug (medication) that had sedative effects.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: HOVER - OUT OF GROUND EFFECT

Findings

1. OBJECT - ANTENNA
2. (C) CLEARANCE - MISJUDGED - PILOT IN COMMAND
3. (F) IMPAIRMENT(DRUGS) - PILOT IN COMMAND
4. PROCEDURES/DIRECTIVES - NOT FOLLOWED - PILOT IN COMMAND
5. LACK OF CERTIFICATION - PILOT IN COMMAND
6. MAINTENANCE,RECORDKEEPING - IMPROPER - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

On August 11, 1996, about 1115 eastern daylight time, a Bell 47G-4A, N9472G, registered to Coker Helicopter, Inc., collided with a television antenna near Adel, Georgia, while workers were attempting to hook an external line to the antenna to remove it from the tower. Visual meteorological conditions prevailed at the time. No flight plan was filed for the Title 14 CFR Part 91 external lift flight. The helicopter was destroyed and the commercial-rated pilot was fatally injured. One worker on the tower received serious injuries and one worker was not injured. The flight originated from the base of the tower a few minutes before the accident.

A worker who was located on the tower stated he and another worker had been lifted to the top of the tower by a 50-foot line connected to the bottom of the helicopter. They had partially unbolted the antenna at the top of the tower. The other worker was on the antenna and was attempting to connect the 50-foot line from the helicopter to the antenna, so it could be lifted from the tower. This worker had the line wrapped around the antenna. As the helicopter maneuvered above the tower, it settled down and the main rotor blades collided with the antenna and mounting pole. The main rotor separated from the helicopter and it descended uncontrolled until ground impact. The other worker's left ankle was broken when the helicopter hit the antenna. The winds were blowing steady at about 15 mph at the time of the accident and there were no gusts.

Postmortem examination of the pilot was performed by Dr. Carol A. Terry, Georgia Division of Forensic Sciences, Decatur, Georgia. The cause of death was attributed to multiple blunt force injuries. No findings which could be considered causal to the accident were reported.

Postmortem toxicology tests on specimens obtained from the pilot were performed by Georgia Division of Forensic Sciences and Dr. Dennis V. Canfield, Manager FAA Toxicology Laboratory, Oklahoma City, Oklahoma. The tests were negative for carbon monoxide, ethanol alcohol, basic, acidic, and neutral drugs. The tests were positive for .241 ug/ml Diphenhydramine in blood, .597 ug/ml Diphenhydramine in liver fluid, and a detection of Diphenhydramine in urine See attached toxicology reports.

The Physicians' Desk Reference (PDR) identifies Diphenhydramine as an antihistamine drug. The PDR states patients taking Diphenhydramine should be advised that this drug may cause drowsiness and has an additive effect with alcohol. Patients should be warned about engaging in activities requiring mental alertness such as driving a car or operating appliances, machinery, ect. See attached pages from the PDR.

Federal Aviation Administration records shows the helicopter operator, Coker Helicopter, Inc., holds a Title 14 CFR Part 137 Aerial Application certificate. There was no

record that the operator held a 14 CFR Part 133 External Load certificate. Additionally, aircraft logbook records showed no FAA Form 337, Major Repair and Alteration, for installation of the external load hook, which was reported by the pilot's family to have been installed by the pilot a week before the accident.

Pilot Information

Certificate:	Commercial	Age:	42, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	July 17, 1995
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	9600 hours (Total, all aircraft), 9500 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bell	Registration:	N9472G
Model/Series:	47G-4A 47G-4A	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	7519
Landing Gear Type:	Skid	Seats:	3
Date/Type of Last Inspection:	March 15, 1996 100 hour	Certified Max Gross Wt.:	2950 lbs
Time Since Last Inspection:		Engines:	1 Turbo shaft
Airframe Total Time:	11900 Hrs	Engine Manufacturer:	Allison
ELT:	Not installed	Engine Model/Series:	250-C20
Registered Owner:	COKER HELICOPTER, INC.	Rated Power:	317 Horsepower
Operator:		Operating Certificate(s) Held:	
Operator Does Business As:		Operator Designator Code:	GWWG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	VLD ,204 ft msl	Distance from Accident Site:	25 Nautical Miles
Observation Time:	10:52 Local	Direction from Accident Site:	175°
Lowest Cloud Condition:	Scattered / 1200 ft AGL	Visibility	6 miles
Lowest Ceiling:	Broken / 6000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	15 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	160°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	29°C / 26°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	11:05 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	On-ground
Ground Injuries:	1 Serious	Aircraft Explosion:	None
Total Injuries:	1 Fatal, 1 Serious	Latitude, Longitude:	31.129087,-83.4207(est)

Administrative Information

Investigator In Charge (IIC):	Kennedy, Jeffrey
Additional Participating Persons:	GEORGE H GUNN; ATLANTA , GA
Original Publish Date:	February 5, 1998
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=38072

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](#).