



National Transportation Safety Board Aviation Accident Final Report

Location:	KNOXVILLE, TN	Accident Number:	ATL84FA277
Date & Time:	09/01/1984, 1715 EDT	Registration:	N22299
Aircraft:	BELL 222	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Serious, 4 Minor
Flight Conducted Under:	Part 91: General Aviation - Business		

Analysis

THE HELICOPTER WAS IN A HOVER WHEN A RT PEDAL TURN WAS INITIATED AND A CLIMB ATTEMPTED. PLT STATED, 'I WAS UNABLE TO CLIMB, AND THE AIRCRAFT BEGAN TO LOSE ROTOR RPM. I INCREASED POWER TO 100% MRTQ. THE ACFT WAS SETTLING.' UNABLE TO SUSTAIN FLT, A LANDING WAS MADE AT A ROAD INTERSECTION DURING WHICH 3 VEHICLES WERE DAMAGED. THE ACFT WAS SUBSTANTIALLY DAMAGED BY FIRE. INSPECTION & TESTING REVEALED THE TORQUE CONTROL UNIT, P/N 222-360-010-101, WHICH LIMITS THE AMT OF COMBINED ENG TORQUE DELIVERED TO THE MAIN TRANSMISSION, WAS ADJUSTED TO 46.0 PSI. ACCORDING TO BELL MAINTENANCE MANUALS, THE UNIT SHOULD BE SET AT 48.5 PSI (+1.5/-0.0). THE UNIT WAS INSTALLED IN THE ACFT ON 3/1/82. IT COULD NOT BE DETERMINED IF THE UNIT WAS ADJUSTED AT THE TIME OF INSTALLATION OR AFTER.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

Findings

Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - MECH FAILURE/MALF
Phase of Operation: CLIMB

Findings

1. MISC ROTORCRAFT - PRESSURE TOO LOW
2. (C) MAINTENANCE - INADEQUATE

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - UNCONTROLLED

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: APPROACH - VFR PATTERN - DOWNWIND

Findings

3. OBJECT - VEHICLE

Occurrence #4: FIRE
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

4. FUEL SYSTEM,DRAIN - OVERLOAD
5. FUEL SYSTEM - FAILURE,PARTIAL

Factual Information

Pilot Information

Certificate:	Airline Transport	Age:	34, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	No
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	10/01/1983
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	4564 hours (Total, all aircraft), 3 hours (Total, this make and model), 2464 hours (Pilot In Command, all aircraft), 36 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BELL	Registration:	N22299
Model/Series:	222 222	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	47059
Landing Gear Type:	Retractable - Tricycle	Seats:	5
Date/Type of Last Inspection:	08/04/1984, 100 Hour	Certified Max Gross Wt.:	7850 lbs
Time Since Last Inspection:	6 Hours	Engines:	2 Turbo Shaft
Airframe Total Time:	2179 Hours	Engine Manufacturer:	LYCOMING
ELT:	Not installed	Engine Model/Series:	LT101-650C3A
Registered Owner:	BELL HELICOPTER	Rated Power:	620 hp
Operator:	BELL HELICOPTER	Operating Certificate(s) Held:	None
Operator Does Business As:	[EMS]	Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	TYS, 981 ft msl	Distance from Accident Site:	12 Nautical Miles
Observation Time:	1700 EDT	Direction from Accident Site:	190°
Lowest Cloud Condition:	Clear / 0 ft agl	Visibility	15 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	31° C / 11° C
Precipitation and Obscuration:			
Departure Point:	KNOXVILLE, TN	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	1700 EDT	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Serious, 2 Minor	Aircraft Fire:	On-Ground
Ground Injuries:	1 Minor	Aircraft Explosion:	On-Ground
Total Injuries:	1 Serious, 4 Minor	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	PHILLIP POWELL	Report Date:	
Additional Participating Persons:			
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).