



Aviation Investigation Final Report

Location:	TAFT, California	Accident Number:	LAX87LA294
Date & Time:	August 5, 1987, 15:15 Local	Registration:	N917B
Aircraft:	BELL 47D-1	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation		

Analysis

THE PLT RPRTD THE ENG LOST POWER AT ABOUT 300' AGL AFTER THE HELICOPTER HAD FLOWN APRX 2.7 HRS WITHOUT REFUELING. HE INITIATED AN AUTOROTATIVE LANDING; HOWEVER, BEFORE TOUCHDOWN, THE MAIN ROTOR BLADES CONTACTED & SEVERED THE TAIL BOOM. AN EXAM REVEALED THE FUEL TANK WAS EMPTY. NO SIGNS OF FUEL LEAKAGE WERE FOUND. THE HELICOPTER HAD BEEN EQUIPPED WITH A 210 HP FRANKLIN ENG IAW A SUPPLEMENTAL TYPE CERTIFICATE. THERE WAS NO FACTORY DATA ON FUEL CONSUMPTION RATES FOR THIS CONFIGURATION. OTHER OPERATORS, WHO OPERATED THIS MAKE & MODEL OF HELICOPTER, ESTIMATED THE FUEL CONSUMPTION WAS APRX 12 GAL/HR. AFTER THE ACDNT, THE PLT RPRTD HE MEASURED THE FUEL CAPACITY OF THE HELICOPTER FUEL CELL. HE STATED THE CELL WOULD HOLD ONLY 26.5 GAL OF FUEL, INSTEAD OF '29' AS INDCD BY A STICK-ON MARKER THAT HAD BEEN INSTALLED ON A PREVIOUSLY PAINTED PLACARD.

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(TOTAL) - NONMECHANICAL
Phase of Operation: CRUISE - NORMAL

Findings

1. (F) MAINTENANCE - IMPROPER - PILOT IN COMMAND
 2. (C) FLUID,FUEL - EXHAUSTION
 3. (C) FUEL CONSUMPTION CALCULATIONS - INACCURATE - PILOT IN COMMAND
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Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Findings

4. AUTOROTATION
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Occurrence #3: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

5. (C) FLIGHT CONTROLS - IMPROPER USE OF - PILOT IN COMMAND

Factual Information

Pilot Information

Certificate:	Commercial	Age:	40, 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 single-engine	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	Last FAA Medical Exam:	July 25, 1986
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	1913 hours (Total, all aircraft), 474 hours (Total, this make and model), 1677 hours (Pilot In Command, all aircraft), 169 hours (Last 90 days, all aircraft), 91 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BELL	Registration:	N917B
Model/Series:	47D-1 47D-1	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	606
Landing Gear Type:	Skid	Seats:	2
Date/Type of Last Inspection:	July 1, 1987 Annual	Certified Max Gross Wt.:	2450 lbs
Time Since Last Inspection:	767 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	63465 Hrs	Engine Manufacturer:	FRANKLIN
ELT:	Installed, not activated	Engine Model/Series:	6V4
Registered Owner:	HELT ENGINEERING INC	Rated Power:	210 Horsepower
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	BFL ,493 ft msl	Distance from Accident Site:	25 Nautical Miles
Observation Time:	15:50 Local	Direction from Accident Site:	20°
Lowest Cloud Condition:	Clear	Visibility	30 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	12 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	320°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	BAKERSFIELD , CA (BFL)	Type of Flight Plan Filed:	None
Destination:	TAFT , CA (L17)	Type of Clearance:	None
Departure Time:	13:20 Local	Type of Airspace:	Class G

Airport Information

Airport:	TAFT	Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	35.160209,-119.429779(est)

Administrative Information

Investigator In Charge (IIC):	Wilcox, Thomas
Additional Participating Persons:	JOHN MOYER; FRESNO , CA
Original Publish Date:	March 31, 1989
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=25659

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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](#).