

# **Aviation Investigation Factual Report**

Location:	IMPERIAL, Texas		Accident Number:	FTW01LA005
Date & Time:	October 4, 2000, 14:	00 Local	Registration:	N85LH
Aircraft:	HOLT 18C	THORPE T-	Aircraft Damage:	Destroyed
Defining Event:			Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General avia	ation - Personal		

## **Factual Information**

On October 4, 2000, at 1400 central daylight time, a Holt Thorpe T-18C amateur-built experimental airplane, N85LH, was destroyed when it impacted terrain following an in-flight separation of a propeller blade near Imperial, Texas. The private pilot, who was the registered owner of the airplane, and his passenger, sustained fatal injuries. Visual meteorological conditions prevailed and a flight plan was not filed for the 14 Code of Federal Regulations Part 91 personal flight. The local flight originated from the Roy Hurd Memorial Airport, Monahans, Texas, approximately 1345.

According to witnesses, the airplane was in cruise flight southwest bound, between 1,500 and 2,500 feet agl, when they heard a loud noise and observed pieces of the airplane separate from the airframe. Subsequently, the airplane entered a descent and impacted the ground. A fire erupted and consumed the airplane.

The FAA inspector, who examined the airplane, reported that the airplane was equipped with a Lycoming IO-360-B1E engine and a Hartzell HC-F2YR-1F, 2-bladed, constant speed propeller. Sections of the engine cowling were located approximately 1 mile northeast of the accident site. Further examination revealed that one of the two propeller blades (part number F8468A-6R) had fractured and a portion was missing. The missing portion of the blade was not recovered. The propeller was disassembled and the fractured blade was sent to the NTSB Materials Laboratory in Washington, D.C for further examination.

The NTSB metallurgist reported that the blade fractured 14.5 inches from the butt end. The fracture surface appeared "relatively flat and parallel to the chordwise plane with a smooth, curving boundary," typical of fatigue. The fatigue features emanated from an intergranular fracture area that was covered by a corrosion product. The metallurgist added that the blade length was not consistent with the original manufacturing specifications. On-scene measurements revealed that the total length of the blade was 32 inches, corresponding to a propeller diameter of 66 inches. When manufactured, the propeller diameter was 80 inches.

According to the propeller manufacturer, the recommended time between overhaul on the accident propeller is 2,000 hours or 5 years, whichever comes first. According to the airplane's maintenance logbooks, the propeller underwent its last overhaul on April 10, 1991, and had accumulated a total of 369 hours at that time. On October 1, 2000, the airplane underwent its most recent condition inspection and the propeller had accumulated a total of 743 hours. There was no record of the propeller undergoing an overhaul since 1991. Additionally, the HC-F2YR-1F propeller, was not approved by the manufacturer for installation on the Lycoming IO-360-B1E engine.

An autopsy was performed on the pilot by the Bexar County Medical Examiner's Office, of San

Antonio, Texas. Toxicological testing was performed by the FAA's Civil Aeromedical Institute of Oklahoma City, Oklahoma.

#### **Pilot Information**

Certificate:	Private	Age:	73,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 Valid Medicalw/ waivers/lim	Last FAA Medical Exam:	June 11, 1999
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	4400 hours (Total, all aircraft), 150 hours (Total, this make and model), 4400 hours (Pilot In Command, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Make:	HOLT	Registration:	N85LH
Model/Series:	THORPE T-18C THORPE T-1	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	216
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	October 1, 2000 Annual	Certified Max Gross Wt.:	1254 lbs
Time Since Last Inspection:	1 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	743 Hrs	Engine Manufacturer:	Lycoming
ELT:		Engine Model/Series:	IO-360-B1E
Registered Owner:	DAYTON EARL RAMSEY	Rated Power:	200 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
<b>Observation Facility, Elevation:</b>	FST ,3011 ft msl	Distance from Accident Site:	40 Nautical Miles
Observation Time:	13:53 Local	Direction from Accident Site:	180°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	11 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	140°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	35°C / 5°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	MONAHANS (E01)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	
Departure Time:	13:45 Local	Type of Airspace:	Class E

# **Airport Information**

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

# Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	31.27087,-102.689476(est)

#### **Administrative Information**

Investigator In Charge (IIC):	Ragogna, Jason	
Additional Participating Persons:	MARK MCDOUGALL; LUBBOCK , TX	
Report Date:	May 24, 2001	
Last Revision Date:		
Investigation Class:	<u>Class</u>	
Note:	The NTSB traveled to the scene of this accident.	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=50407	

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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 <u>here</u>.