



Aviation Investigation Final Report

Location:	YUMA, Arizona	Accident Number:	LAX90DUJ03
Date & Time:	October 10, 1989, 19:27 Local	Registration:	N689SB
Aircraft:	HILLER UH-12E	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Serious
Flight Conducted Under:	Part 137: Agricultural		

Analysis

THE PILOT COMPLETED AN AERIAL APPLICATION OPERATION AT ABOUT 200 FT AGL WHEN HE NOTICED THE ENGINE RPM DECAYING. HE PROCEEDED TO AN OPEN AREA TO EXECUTE A PRECAUTIONARY LANDING. UPON ARRIVING OVER THE OPEN AREA AT ABOUT 100 FT AGL, THE ENGINE SUSTAINED A TOTAL LOSS OF POWER. THE PLT IMMEDIATELY EXECUTED AN AUTOROTATION, BUT FLARED TOO HIGH CAUSING THE TAIL ROTOR ASSEMBLY TO STRIKE THE GROUND. A WRECKAGE EXAM DSCLSD THAT THE ENGINE TORSIONAL COUPLING RUBBER MOUNTS HAD SEPARATED. THIS CONDITION CAUSED AN OVERSPEED WHICH ULTIMATELY SHUT DOWN THE ENGINE.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PILOT MISJUDGED THE FLARE ALTITUDE. CONTRIBUTING TO THIS ACCIDENT WAS THE FAILURE OF THE ENGINE TORSIONAL COUPLING WHICH ULTIMATELY CAUSED THE TOTAL LOSS OF POWER.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF
Phase of Operation: MANEUVERING - AERIAL APPLICATION

Findings

1. (F) ENGINE ASSEMBLY,MOUNT - SEPARATION

Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Findings

2. AUTOROTATION - PERFORMED - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

3. (C) EMERGENCY PROCEDURE - IMPROPER - PILOT IN COMMAND

4. (C) FLARE - MISJUDGED - PILOT IN COMMAND

Factual Information

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	42, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Center
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	No
Instructor Rating(s):	Helicopter	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	August 30, 1989
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	12900 hours (Total, all aircraft), 3900 hours (Total, this make and model), 12400 hours (Pilot In Command, all aircraft), 120 hours (Last 90 days, all aircraft), 68 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	HILLER	Registration:	N689SB
Model/Series:	UH-12E UH-12E	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Utility; Restricted (Special)	Serial Number:	1475
Landing Gear Type:	Skid	Seats:	3
Date/Type of Last Inspection:	September 21, 1989 100 hour	Certified Max Gross Wt.:	3100 lbs
Time Since Last Inspection:	56 Hrs	Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	LYCOMING
ELT:	Not installed	Engine Model/Series:	VO-540
Registered Owner:	JAMES P. SMITH	Rated Power:	305 Horsepower
Operator:	WEST FARM AIR INC.	Operating Certificate(s) Held:	
Operator Does Business As:		Operator Designator Code:	RQKG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night/dark
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	24°C / -18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	SOMERTON , AZ	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	00:00 Local	Type of Airspace:	Class G

Airport Information

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

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	32.67937,-114.659225(est)

Administrative Information

Investigator In Charge (IIC): Lecker, Roy

Additional Participating Persons:

Original Publish Date: July 22, 1992

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=26542>

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](#).