Aviation Investigation Final Report

Location:	SALINAS, California	**Accident Number:**	LAX95LA005
Date & Time:	October 13, 1994, 05:40 Local	**Registration:**	N145HA
Aircraft:	HILLER UH-12E	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Serious
Flight Conducted Under:	Part 137: Agricultural		

Analysis

ACCORDING TO THE OPERATOR, THIS WAS THE FIRST FLIGHT OF THE DAY FOR THE HELICOPTER. A GROUND LOADER CREWMAN WAS WATCHING THE APPLICATION RUN AND REPORTED THAT HE SAW WHITE SPARKS AND A FIRE IN THE AREA OF THE ENGINE, THEN THE HELICOPTER BEGAN TO SPIN AND FELL TO THE GROUND. A FIRE THEN ENVELOPED THE AIRCRAFT. AN FAA INSPECTOR RESPONDED TO THE ACCIDENT SITE AND EXAMINED THE HELICOPTER. HE REPORTED THAT DRIVE SYSTEM CONTINUITY WAS ESTABLISHED THROUGHOUT THE AIRCRAFT, AND THAT ALL ROTATING COMPONENTS OF THE MAIN AND TAIL ROTOR SYSTEMS WERE ACCOUNTED FOR IN THE WRECKAGE. THE ENGINE WAS EXAMINED IN DETAIL. THE ACCESSORY SECTION, ALL ACCESSORIES, THE CARBURETORS, MAGNETOS, PUMPS, AND ENGINE COMPARTMENT FUEL AND OIL LINES WERE COMPLETELY MELTED. THE NUMBER TWO CYLINDER HEAD SUSTAINED EXTREME HEAT DISTRESS WITH PARTIAL MELTING OF THE HEAD NOTED. THE VALVES, VALVE SPRINGS, ROCKER ARMS, AND VALVE SEATS FOR THE NUMBER TWO CYLINDER HEAD WERE PRESENT IN THE REMAINS OF THE HEAD. NO EVIDENCE WAS FOUND OF AN INTERNAL CATASTROPHIC FAILURE.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: an in-flight engine compartment fire for undetermined reasons.

Findings

Occurrence #1: FIRE
Phase of Operation: MANEUVERING - AERIAL APPLICATION

Findings
1. (C) ENGINE COMPARTMENT - FIRE
2. (C) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

On October 13, 1994, at 0540 Pacific daylight time, a Hiller UH- 12E helicopter, N145HA, collided with the ground following a loss of control during an aerial application operation at Salinas, California. The helicopter was owned and operated by Helicair AG, Inc., of Salinas, California, and was applying chemicals under 14 CFR Part 137 of the Federal Aviation Regulations. Visual meteorological conditions prevailed at the time and no flight plan was filed. The helicopter was destroyed in the collision sequence and postcrash fire. The certificated commercial pilot, the sole occupant, sustained serious injuries. The flight originated at the Salinas airport on the morning of the accident at 0530 as a local aerial application flight.

According to the operator, this was the first flight of the day for the helicopter. A ground loader crewman was watching the application run and reported that he saw white sparks and a fire in the area of the engine, then the helicopter began to spin and fell to the ground. A fire then enveloped the aircraft.

An inspector from the Federal Aviation Administration (FAA) responded to the accident site and examined the helicopter. He reported that drive system continuity was established throughout the aircraft, and that all rotating components of the main and tail rotor systems were accounted for in the wreckage. He stated that he observed no obvious evidence of broken or severed oil or fuel lines in the engine compartment area.

Under the direction of the National Transportation Safety Board, a technical representative from Textron Lycoming Engines examined the powerplant. He reported that the accessory section, all accessories, the carburetors, magnetos, pumps, and engine compartment fuel and oil lines were completely melted. The number 2 cylinder head sustained extreme heat distress with partial melting of the head noted. The valves, valve springs, rocker arms, and valve seats for the number 2 cylinder head were

present in the remains of the head. The representative noted that he found no evidence of an internal catastrophic failure.

Pilot Information

Certificate:	Commercial	**Age:**	35,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Center
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	October 21, 1993
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	8779 hours (Total, all aircraft), 3681 hours (Total, this make and model), 8402 hours (Pilot In Command, all aircraft), 167 hours (Last 90 days, all aircraft), 91 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	HILLER	**Registration:**	N145HA
Model/Series:	UH-12E UH-12E	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Restricted (Special)	**Serial Number:**	HA3045
Landing Gear Type:	Skid	**Seats:**	3
Date/Type of Last Inspection:	September 27, 1994 100 hour	**Certified Max Gross Wt.:**	3100 lbs
Time Since Last Inspection:	28 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	6668 Hrs	**Engine Manufacturer:**	LYCOMING
ELT:	Not installed	**Engine Model/Series:**	VO-540-C2A
Registered Owner:	HELICAIR AG, INC.	**Rated Power:**	340 Horsepower
Operator:	HELICAIR AG, INC.	**Operating Certificate(s) Held:**	
Operator Does Business As:		**Operator Designator Code:**	LSMG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Dawn
Observation Facility, Elevation:	SNS ,84 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	05:48 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	15 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	360°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	10°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(SNS)	**Type of Flight Plan Filed:**	None
Destination:	(SNS)	**Type of Clearance:**	None
Departure Time:	05:30 Local	**Type of Airspace:**	Class G

Airport Information

Airport:		**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 Serious	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	In-flight
Ground Injuries:	N/A	**Aircraft Explosion:**	On-ground
Total Injuries:	1 Serious	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	Rich, Jeff
Additional Participating Persons:	LESTER COLLINS; SAN JOSE , CA CHARLES LITTLE; CHINO , CA
Original Publish Date:	April 5, 1995
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=28959