



# Aviation Investigation Final Report

<b>Location:</b>	WILLITS, California	<b>Accident Number:</b>	LAX95LA024
<b>Date &amp; Time:</b>	October 30, 1994, 12:45 Local	<b>Registration:</b>	N90944
<b>Aircraft:</b>	KAMAN HH-43F	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	1 Serious
<b>Flight Conducted Under:</b>	Part 133: Rotorcraft ext. load		

## Analysis

THE PILOT HAD COMPLETED A SERIES OF LOGGING OPERATIONS AND WAS RETURNING TO THE LANDING SITE WHEN THE ENGINE FLAMED OUT. THE PILOT EXECUTED A SUCCESSFUL AUTOROTATION ONTO THE SIDE OF A HILL. AFTER LANDING, HOWEVER, THE HELICOPTER ROLLED DOWN THE HILL AND COLLIDED WITH A TREE. THE WRECKAGE EXAMINATION DISCLOSED NO EVIDENCE OF ANY FUEL IN THE ENGINE FUEL SYSTEM OR ANY PREEXISTING MALFUNCTIONS OR FAILURES.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's improper fuel consumption calculations resulting in fuel exhaustion. The hilly terrain was a factor in this accident.

### Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL

Phase of Operation: CRUISE

Findings

1. (C) FLUID,FUEL - EXHAUSTION
2. (C) FUEL CONSUMPTION CALCULATIONS - IMPROPER - PILOT IN COMMAND

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Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Findings

3. AUTOROTATION - PERFORMED - PILOT IN COMMAND

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Occurrence #3: ROLL OVER

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

4. (F) TERRAIN CONDITION - MOUNTAINOUS/HILLY

## Factual Information

On October 30, 1994, at 1245 hours Pacific standard time, a Kaman HH-43F helicopter, N90944, crashed about 5 miles east of Willits, California. The pilot was returning to the landing area after completing a Title 14 CFR Part 133 logging operation. The helicopter, operated by Skyhook, Inc., Bend, Oregon, was destroyed. The certificated commercial pilot, the sole occupant, sustained serious injuries. Visual meteorological conditions prevailed. The flight originated at a private airstrip (Williams Ranch) near Willits, California, at 1040 hours.

National Transportation Safety Board investigators conducted a telephone interview with the operator on October 30, 1994. The operator said the pilot was returning to the airstrip for fuel when the engine "flamed out." The pilot executed a successful autorotation to the side of a hill. However, after the touchdown, the helicopter rolled over and rolled down the hill and collided with a tree.

An inspector (airworthiness) from the Federal Aviation Administration (FAA), Oakland [California] Flight Standards District Office conducted the on-scene investigation. The inspector reported that the engine system did not contain any fuel.

He also said that there was no evidence of any preexisting malfunctions or failures.

Neither the operator nor the pilot submitted the required Pilot/Operator Aircraft Accident Report, NTSB Form 6120.1/2. The pilot's flight times noted in this report were obtained from the helicopter's insurers.

### Pilot Information

<b>Certificate:</b>	Airline transport; Commercial	<b>Age:</b>	46, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane; Helicopter	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	July 12, 1994
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	18400 hours (Total, all aircraft), 300 hours (Total, this make and model)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	KAMAN	<b>Registration:</b>	N90944
<b>Model/Series:</b>	HH-43F HH-43F	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Restricted (Special)	<b>Serial Number:</b>	62-4514
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	Unknown	<b>Certified Max Gross Wt.:</b>	8800 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Turbo shaft
<b>Airframe Total Time:</b>	3740 Hrs	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	T53-L-9
<b>Registered Owner:</b>	MOSELEY AVIATION, INC.	<b>Rated Power:</b>	1150 Horsepower
<b>Operator:</b>	SKYHOOK, INC.	<b>Operating Certificate(s) Held:</b>	
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	30 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	0°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	24°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>		<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	10:40 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

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

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Serious	<b>Aircraft Damage:</b>	Destroyed
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Serious	<b>Latitude, Longitude:</b>	39.490089,-123.360198(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Llorente, A.
<b>Additional Participating Persons:</b>	RAY MURPHY; OAKLAND , CA
<b>Original Publish Date:</b>	May 16, 1995
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=28974">https://data.ntsb.gov/Docket?ProjectID=28974</a>

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