



Aviation Investigation Final Report

Location:	MARATHON, Florida	Accident Number:	ATL90GA023
Date & Time:	November 2, 1989, 21:30 Local	Registration:	N23576
Aircraft:	SIKORSKY SK-70	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal, 2 Minor, 3 None
Flight Conducted Under:	Part 91: General aviation - Public aircraft		

Analysis

THE HELICOPTER WAS ON A NIGHT LAW ENFORCEMENT MISSION OVR THE OCEAN NR MARATHON, FL. AFTER TKOF, THE PIC NOTED THE RADARALTIMETER NEEDLE, WHICH ACTIVATED THE LOW ALT WARNING, WAS NOT FUNCTIONAL, THOUGH THE DIGITAL DISPLAY & COPLT'S RADAR ALTIMETER WERE OPERATING NORMALLY. AFTER ENTERING THE MISSION AREA, THE PIC BGN RANDOM MNVRS WITH THE ALT VARYING BTN 200 & 300 FT ABV THE WATER. THERE WAS AN ESTD 1000 FT OVC SKY COND WITH NO VISIBLE HRZN. BOTH PLTS WERE WEARING NIGHT VISION GOGGLES. THE COPLT OPERATED THE SEARCH LIGHT & WAS TO MONITOR THE INSTS. WHILE MNVRG TO KEEP A BOAT IN VIEW, THE HELICOPTER BGN DSCNDG & CONTACTED THE WATER. IMMEDIATELY, THE CABIN FILLED WITH WATER. ALL OF THE OCCUPANTS EGRESSSED SUCCESSFULLY FM THE HELICOPTER, EXCEPT THE COPLT, WHO PRESUMABLY DROWNED. THE PIC & 2 OF THE OTR CREWMEMBERS WERE NOT INJURED; THE REMAINING 2 RCVD MINOR INJURIES. AN AGENCY OPNS HANDBOOK DISCUSSED HAZARDS/INCIDENTS, BUT NO MISSION RISK ASSESSMENT PROGRAM WAS IN PLACE FOR MANAGEMENT TO ADEQUATELY IDENTIFY THE LEVEL OF RISK ASSOCIATED WITH THE OPN.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: FAILURE OF THE PILOT TO MAINTAIN THE PROPER ALTITUDE OVER THE OCEAN WATER. FACTORS RELATED TO THE ACCIDENT WERE: CONTINUED OPERATION OF THE HELICOPTER WITH A KNOWN PARTIAL DEFICIENCY OF THE RADIO ALTIMETER/WARNING SYSTEM, DARKNESS, THE PILOT'S LACK OF VISUAL PERCEPTION, FAILURE OF THE COPILOT TO ADEQUATELY MONITOR THE HELICOPTER'S ALTITUDE ABOVE THE WATER, AND

INSUFFICIENT MANAGEMENT STANDARDS TO IDENTIFY INORDINATE FLIGHT RISKS.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: MANEUVERING

Findings

1. (F) LIGHT CONDITION - DARK NIGHT
2. (F) FLIGHT/NAV INSTRUMENTS,ALTIMETER,RADIO - FAILURE,PARTIAL
3. (F) OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT - CONTINUED
4. (F) INSUFF STANDARDS/REQUIREMENTS,OPERATION/OPERATOR - OTHER GOVT ORGANIZATION
5. TERRAIN CONDITION - WATER
6. (C) PROPER ALTITUDE - NOT MAINTAINED - PILOT IN COMMAND
7. (F) VISUAL/AURAL PERCEPTION - PILOT IN COMMAND
8. (F) MONITORING - INADEQUATE - COPILOT/SECOND PILOT

Factual Information

Pilot Information

Certificate:	Airline transport	Age:	46, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	January 23, 1989
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	4758 hours (Total, all aircraft), 490 hours (Total, this make and model), 4503 hours (Pilot In Command, all aircraft), 73 hours (Last 90 days, all aircraft), 31 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	SIKORSKY	Registration:	N23576
Model/Series:	SK-70 SK-70	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:		Serial Number:	81-23576
Landing Gear Type:	Tailwheel	Seats:	7
Date/Type of Last Inspection:	September 24, 1989 Continuous airworthiness	Certified Max Gross Wt.:	20250 lbs
Time Since Last Inspection:	2 Hrs	Engines:	2 Turbo shaft
Airframe Total Time:	2016 Hrs	Engine Manufacturer:	GE
ELT:	Installed, not activated	Engine Model/Series:	T700-GE-700
Registered Owner:	U.S. STATES CUSTOMS SERVICE	Rated Power:	1560 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:	Night/dark
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Unknown	Visibility	10 miles
Lowest Ceiling:	Broken / 1000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	9 knots / None	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:	HOMESTEAD AFB (HST)	Type of Flight Plan Filed:	Company VFR
Destination:	(HST)	Type of Clearance:	None
Departure Time:	19:15 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:	None
Runway Length/Width:	0 ft / 0 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal, 2 Minor, 3 None	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal, 2 Minor, 3 None	Latitude, Longitude:	24.710319,-81.080078(est)

Administrative Information

Investigator In Charge (IIC):	Hicks, Preston
Additional Participating Persons:	DEAN SPRINGER; OKLAHOMA CITY , OK FREDRICK L LEISLING; OKLAHOMA CITY , OK PAUL RAYFIELD; HOMESTEAD , FL
Original Publish Date:	September 5, 1991
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=8152

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