Aviation Investigation Final Report

Location:	MISSING,	**Accident Number:**	MIA98FAMS2
Date & Time:	March 27, 1998, 19:20 Local	**Registration:**	N8460S
Aircraft:	Cessna 182H	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane was equipped with 2 VOR and 1 ADF receivers; no GPS receiver was installed. The pilot was using an incorrect route segment for the flight. The pilot advised the ARTCC controller that only 1 VOR receiver was operable, the ADF was inoperative, and he was unable to receive the VOR signal from Great Exuma, where he planned to refuel. The flight continued then the pilot advised the controller that the engine was running rough and the flight descended to 4,000 feet, where radio contact was lost. A 4-day search for the airplane was performed with negative results. The pilot had never flown in the Bahamas or Caribbean before while acting as pilot-in-command and had never flown a Cessna 182 before. The destination airport does not have an instrument approach and landing at night is not permitted. The calculated arrival time was after the end of civil twilight at the destination airport. The VOR located on Great Exuma Island, Bahamas, maintained by the Airway Facilities Section of the Department of Civil Aviation, Bahamas, was out of service on the day of the flight and had been out of service since March 1996; no NOTAM was in effect on the day of the flight, and this information was not published.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Undetermined.

Findings

Occurrence #1: MISSING AIRCRAFT
Phase of Operation: UNKNOWN

Findings
1. (C) REASON FOR OCCURRENCE UNDETERMINED

Factual Information

HISTORY OF FLIGHT

On March 27, 1998, a Cessna 182H, N8460S, registered to Fellow Travelers, Inc., failed to arrive at the intended destination of Georgetown, Exuma Island, Bahamas. Weather conditions are unknown and an Instrument Flight Rules (IFR) flight plan was filed for the 14 CFR Part 91 personal flight. The airplane has not been located and is presumed to be destroyed and the commercial-rated pilot, the sole occupant, has not been located and is presumed to be fatally injured. The flight originated at 1430 eastern standard time, from the Norman Manley International Airport, Kingston, Jamaica.

The aircraft was fueled at the Tinsen Pen airport then flown to the Norman Manley International Airport, where an individual filed an international IFR flight plan through Ajax Ltd., of the Norman Manley International Airport, Kingston, Jamaica. The flight plan indicated that the name of the pilot was C E Wegereef, and the route of flight after takeoff was to fly the Eneka Two departure, G633 BENET, UB882 MEDON, A315 Great Inagua, A756 Stella Maris, Great Exuma. The four letter identifier on the flight plan indicated that the destination airport was MYEF, which according to the March 1998 edition of the International Flight Information Manual (IFIM), is Moss Town, Exuma Island. The alternate airport on the flight plan was listed as MYIG, which according to the IFIM, is Matthew Town, Great Inagua Island. The flight plan listed the time en route as 4 hours 30 minutes with 5 hours 30 minutes of fuel on board. The total distance for the flight as listed on the flight plan was calculated to be about 576 nautical miles. The flight plan listed the true airspeed as 120 knots.

According to an individual who drove to the Norman Manley International Airport and put the pilot in touch with personnel from Ajaz Ltd., the pilot was confident about the flight and he provided him with a six-person covered liferaft and three lifejackets. He had also flown the airplane 18 days earlier and reported during that time there was no airframe or engine malfunctions. The airplane was equipped with long range fuel tanks and had two VOR receivers with two omni-heads. He also stated that both were functioning when he last flew the airplane. When asked about additional navigational capabilities of the airplane he reported that the airplane was equipped with an antenna for a GPS receiver; however, the receiver had been removed from the airplane and sent to the manufacturer's facility for repairs and to upgraded. He last saw the pilot performing a preflight to the airplane and observed the flight depart. When asked about the purpose of the flight he reported that the airplane was being flown to the United States to have maintenance performed and for a conversion.

Review of the Enroute High Altitude Caribbean and South America chart revealed that UB882 is a VHF/UHF ATS Route between BENET and MEDON. That chart is for use above flight level 180. The planned altitude for the flight per the flight plan was 8,000 feet.

According to transcripts of communications with the Port Au Prince Air Traffic Control facility, the flight was at the BENET intersection at 1545 local. At 1558.36, the pilot attempted to contact the controller which was unsuccessful and at 1611.48, the pilot advised the controller that the flight was at 11,000 feet and flying direct to MEDON with an expected arrival time of 1655. The controller attempted to contact the pilot directly then attempted to communicate through the flightcrew of an American Airlines (AA) airplane, asking the flightcrew to obtain the altitude and position of the airplane. At 1619.00, the accident pilot stated "fly radial from Guantanamo 114.6", and he again stated on the frequency that he was expecting the MEDON intersection at [1655 hours local]. At 1620.10, the AA flightcrew was able to make contact with the pilot and when he was asked his position he responded "position right now is, I am at LODMA Intersection at the altitude one one thousand expecting MEDON Intersection at 2155 Zulu." The controller heard the transmission from the pilot and through the AA flightcrew, advised the pilot to climb to 12,000 feet, and to report MEDON intersection. The pilot acknowledged hearing the controller and read back the clearance to climb and report the intersection. At 1621.28, the controller questioned the pilot on his estimate for the JOSES intersection and the pilot responded 1610, which the controller corrected for the pilot, 1710 hours. The controller advised the pilot to maintain 12,000 feet and the pilot responded at 1623.49, that he wanted to descend to 10,000 feet which was approved by the controller and acknowledged by the pilot. At 1623.07, the pilot questioned the controller if his airplane was observed on radar and the controller responded "We are not, we are not radar equipped sir, at Port-au-Prince." The pilot acknowledged this and at 1624.35, the controller questioned the pilot about what time was the flight at the BENET intersection and the pilot responded 1545 local. The pilot reported reaching the MEDON intersection at 1642.59, and estimated the JOSES intersection at 1655. The controller advised the pilot to contact Miami Center on 123.92, which was acknowledged by the pilot. At 1649.33, the pilot advised the Port-au-Prince controller that he was unable to contact Miami Center on 123.92, and the controller gave the pilot two additional frequencies 118.4, and 124.2 for Nassau Radio, with the pilot acknowledging the last frequency.

The pilot again advised the Port-au-Prince controller that he was unable to establish contact on 124.2, and the controller advised the pilot to continue the flight, squawk 4444, and to attempt contact again with Miami Center on 123.92. The pilot advised the controller several more times that he was unable to contact Miami Center and at 1704.55, the pilot stated "Port-au-Prince Center Cessna 8460S, I can't get radio contact with Miami Center, do you have maybe another frequency" to which the controller immediately responded "8460S, good day." There was no further attempt by the controller to assist the pilot, and there was no further communication with the Port-au-Prince Air Traffic Control facility.

Review of the transcription of communication with the Miami Air Route Traffic Control Center (ARTCC) revealed that at 1707.38, the pilot requested that the controller provide him a heading direct to Great Inagua, his current heading was 338 degrees. The controller advised the pilot to squawk 4444, which he acknowledged. At 1817. 47, two-way radio communication was established with the Georgetown sector ARTCC controller and at 1819.25, the pilot

advised the controller that the flight was about 70 nautical miles (nm) northwest of Great Inagua, and he was unable to receive the navigation signals from Great Exuma. The controller advised the pilot that he would not be able to locate the airplane on radar until the airplane was near the DUNNO intersection, and to report the ACMEE intersection, which the pilot acknowledged. The distance from the navigation aid on Great Inagua to the ACMEE intersection is 106 nm. At 1821.17, the pilot advised the controller that the flight was over the ACMEE intersection. That communication was only 1 minute 52 seconds after the time when the pilot advised the controller that the flight was about 70 nm northwest of Great Inagua, which from that position is about 36 nm from the ACMEE intersection. The controller again advised the pilot that the airplane would not be in radar contact until near the DUNNO intersection and to proceed direct to Great Exuma. The pilot responded that he did not have GPS, and asked the controller for a suggested heading. The controller advised the pilot that he did not have radar contact with the airplane but suggested a heading of 335 degrees to Exuma, which was acknowledged by the pilot. At 1832.15, the pilot advised the controller that he was not receiving the VOR signal from Great Exuma, to which the controller replied that it is typically out of service half the time and that Nassau had requested the flight land in Nassau. The pilot advised the controller that he did not think he had enough fuel to land there and at 1833.00, the controller advised the pilot to "...resume your own navigation", which he acknowledged. The flight continued and at 1853.23, the pilot advised the controller that he wanted to descend to 5,000 feet; the controller cleared the flight to descend to 7,000 feet. The controller questioned the pilot if the airplane was equipped with RNAV and the pilot responded "negative I have only one VOR and thats the problem and I don't have a VOR fix."

At 1857.38, the pilot reported that the flight was at 7,000 feet and the controller advised the pilot to tune one of the VHF radios to 122.8, to turn the runway lights at Mosstown, and at 1907.46, the controller questioned a military aircraft that was flying near Nassau, if they could attempt to locate and assist the airplane, which the flightcrew complied with. The missing pilot reported to the controller that he did not observe any lights from his attempt to activate them using the VHF frequency. At 1909.09, the pilot advised the controller that the flight was low on fuel and requested clearance to descend and at 1911.59, the controller advised the pilot to tune in the Georgetown NDB and that the lights were on at the Georgetown airport. The pilot then reported that his ADF was inoperative and at 1913.15, the pilot advised the controller that the flight needed to descend "...my engine is ah its making strange noises so I don't trust it anymore." The controller asked if the flight would climb and the pilot responded "...I'm running out of fuel...." The pilot of another airplane flying over Great Exuma Island reported seeing "...all the lights...." The flightcrew of the military aircraft reported seeing "a lot of lights down there...." The pilot was advised by the controller to squawk 7700 on the transponder which the pilot acknowledged and at 1917.04, the pilot stated "this is Cessna 8460S, ah the VOR is coming in right now and my indicator only I'm a little bit low on fuel my right fuel indicator a quarter of fuel in the tank so I would be able to fly for thirty minutes...." The flight continued and at 1919.28, the pilot stated "8460S, I'm at ah 4,000 feet turning back to 330 wait a minute." The last recorded communication with the pilot was at 1920.52, when the pilot stated "8460S, ah I my instruments are quit my attitude indicat" The military airplane reported VFR conditions near Exuma. At 1926.05, the flightcrew of the military airplane reported observing an airplane

on radar 240 degrees from their position and 70 miles. The military airplane searched for about 30 minutes using infrared and surface search radar but was unable to locate the airplane.

PERSONNEL INFORMATION

Review of the pilot's pilot logbook revealed that he had flown into the Bahamas while acting as second-in-command on a Learjet type airplane; however, there was no record that he had flown in the Bahamas or Caribbean as pilot-in-command. His total flight time as listed in his pilot logbook was determined to be 343 hours. There was no record of the pilot flying a Cessna 182 type airplane. Additional information pertaining to the pilot is contained on page 3 of the Factual Report-Aviation.

AIRCRAFT INFORMATION

No maintenance records were located for the airplane and the aircraft owner could not be located. Additional information pertaining to the airplane is contained on page 2 of the Factual Report Aviation.

METEOROLOGICAL INFORMATION

Weather conditions are unknown. A weather observation taken at the Nassau International Airport , about 20 minutes before the pilot's last communication is included on page 4 of the Factual Report-Aviation. A military airplane flying over Exuma Island about 6 minutes after the last radio contact with the pilot reported that the flight was in VFR conditions.

COMMUNICATIONS

Transcripts of communications with the Miami Air Route Traffic Control Center and the Port Au Prince Air Traffic Facility are attachments to this report.

WRECKAGE AND IMPACT INFORMATION

The airplane has not been located.

ADDITIONAL INFORMATION

The U.S. Coast Guard was notified by personnel from the Miami ARTCC about 2 minutes after the last radio contact with the pilot that he was lost northwest of Georgetown. The C.G. personnel questioned the position of the airplane and was advised by the Miami ARTCC controller that a military airplane had a radar contact 240 degrees true and 70 nautical miles from Georgetown. The search for the missing pilot was immediately initiated and suspended about almost 4 days later. A copy of the Coast Guard Report is an attachment to this report.

Review of the applicable enroute low altitude IFR chart revealed that after flying the Departure Procedure (DP) from Kingston, the route of flight would be G633 to the Port Au Prince VORTAC, then A315E to the DUNNO intersection. From that point if VFR conditions would allow VFR flight to the destination airport, and also before official sunset, cancellation of the IFR clearance, and proceed VFR into the Exuma International Airport, Great Exuma Island, Bahamas. That total distance using that route of flight was calculated to be about 653 nautical miles. Using the true airspeed listed by the pilot on the flight plan (120 knots), and without taking into account the winds aloft and the time to climb to altitude, the estimated time en route for that route of flight was 5 hours 26 minutes. Using that information and the known time of departure, the estimated time of arrival would be about 1956 hours. Using the actual time of departure (1430 hours), and the pilot's own estimate of the time en route (4 hours 30 minutes), the time of arrival would be 1900 hours. As previously stated, review of the transcript of communications with the Miami ARTCC, revealed that at 1832.33, the controller stated in part "...and ah nassau just called us and advised they'll be after official sunset and ah they was requesting that you land nassau."

Calculations were performed using the program U.S. Naval Observatory Astronomical Applications Department, to determine the end of civil twilight at the Exuma International Airport, on the day of the accident. The program indicated that the end of civil twilight was at 1840 hours using the coordinates of the Exuma International Airport, Exuma Island, Bahamas.

According to the March 1998 edition of the IFIM, under the special notices section of the Bahamas, "flights made between sunset and sunrise must be conducted under instrument flight rules. With the exception of Nassau International, Freeport International Rock Sound Airports, no aircraft will be permitted to land or take-off at any location in the Bahamas between sunset and sunrise without the prior approval from the Director of Civil Aviation."

According to Mr. Kevin Frater, of Air Frater, Inc., the accident pilot had flown for his company as a copilot in Learjet type aircraft and he had known the pilot since October 1997. He advised the accident pilot that he knew an individual in Kingston, Jamaica, who owned a Cessna 182, and needed it to be flown to the United States. Mr. Frater stated that the airplane was owned by Mr. Peter Jarvis of Kingston, Jamaica, and the airplane was being sold to a Mr. Marcus Simmons. Mr. Frater discussed the flight with the accident pilot and reportedly advised him to refuel in Great Inagua, and at Nassau. He also advised the pilot to fly at 10,000 feet and to depart Kingston at 0700 hours. The route of flight was Kingston, Port-Au-Prince, MEDON, Great Inagua. The airplane had a liferaft and four inflatable vests. He stated that there was no GPS on board, and he estimated the flight time to be 4 hours. The accident pilot flew via FEDEX jumpseat on Thursday, March 26th, and remained overnight, then called him the morning the flight departed. He advised the pilot to call him when he landed in Great Inagua, then when at Nassau.

Review of the chronological phone logs from the U.S. Coast Guard, Seventh District, Miami, Florida, revealed that on March 28, 1998, at 1731, Coast Guard personnel called the phone number of Mr. Frater, given to them by the Kingston Flight Service Station. Contact was made

with a person who identified herself as Mrs. Frater, who advised them that the pilot was a Dutch national and he was transporting the airplane from Kingston to Miami. That same day at 1802 hours, a phone call was received by Coast Guard personnel from a person who identified himself as Kevin Frater. The remarks section of the phone log indicates "I have no info beyond what my wife stated, she will call back with N.O.K. info for pilot."

According to the acting Director of Civil Aviation in the Bahamas, the VOR located on Exuma Island, was out of service first on March 15, 1996, and was out of service from that date through and past the date the airplane was missing. Review of the Notice to Airman (NOTAM) information provided by the Air Traffic Services division of the Department of Civil Aviation, Bahamas, revealed that NOTAM number A0093/97, which was issued on August 7, 1997, expired on November 7, 1997. That NOTAM advised airman that the Great Exuma VOR is unserviceable but it was not continued past the expiration date through the day of the missing flight. Additionally, the information regarding the inoperative status of the VOR was not published after November 7, 1997, through the date of the accident, in either the Aeronautical Information Publication (AIP) or in the Aeronautical Information Circular (AIC), which are the responsibility of the Air Traffic Services (ATS) division of the Department of Civil Aviation, Bahamas. Maintenance/operation of the VOR located on Great Exuma is the responsibility of the Airway Facilities Section of the Department of Civil Aviation, Bahamas.

Pilot Information

Certificate:	Commercial	**Age:**	29,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:**	No
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	April 24, 1997
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	343 hours (Total, all aircraft), 180 hours (Pilot In Command, all aircraft), 73 hours (Last 90 days, all aircraft), 42 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N8460S
Model/Series:	182H 182H	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	18256560
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	2800 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Continental
ELT:		**Engine Model/Series:**	O-470-R
Registered Owner:	FELLOW TRAVELERS, INC.	**Rated Power:**	230 Horsepower
Operator:	KARVIN AIR	**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Unknown	**Condition of Light:**	Night/dark
Observation Facility, Elevation:	MYN ,10 ft msl	**Distance from Accident Site:**	
Observation Time:	19:00 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Unknown	**Visibility**	
Lowest Ceiling:	Broken / 1900 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	11 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	100°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:		**Temperature/Dew Point:**	23°C / 20°C
Precipitation and Obscuration:	Light - Showers - Rain		
Departure Point:	KINGSTON , OF (MKJP)	**Type of Flight Plan Filed:**	IFR
Destination:	GEORGETOWN , OF (MYEF)	**Type of Clearance:**	IFR
Departure Time:	14:30 Local	**Type of Airspace:**	

Airport Information

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

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	Unknown
Ground Injuries:	N/A	**Aircraft Explosion:**	Unknown
Total Injuries:	1 Fatal	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	Monville, Timothy
Additional Participating Persons:	TONY KIJEK; MIAMI , FL
Original Publish Date:	March 30, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=38405