National Transportation Safety Board FACTUAL REPORT ETYBO

NTSB ID: DCA00MA005 Aircraft Registration Number: N47BA Occurrence Date: 10/25/1999 Most Critical Injury: Fatal Occurrence Type: Accident Investigated By: NTSB

Location/Time

Nearest City/Place State Zip Code Local Time Time Zone **ABERDEEN** SD 1213 CDT Distance From Landing Facility:

Airport Proximity: Off Airport/Airstrip

Aircraft Information Summary

Aircraft Manufacturer Model/Series Type of Aircraft Learjet 35 /35 Airplane

Revenue Sightseeing Flight: No Air Medical Transport Flight: No

## Narrative

Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:

\*\*\* Note: NTSB investigators traveled in support of this investigation and used data obtained from various sources to prepare this aircraft accident report. \*\*\*

The full report is available on the NTSB Web site. See http://www.ntsb.gov/publictn/publictn.htm for details. HISTORY OF FLIGHT

On October 25, 1999, the flight crew was scheduled to begin a 2-day trip sequence consisting of five flights. The flights on the first day were to be from Orlando Sanford International Airport (SFB), Sanford, Florida, to Orlando International Airport (MCO), Orlando, Florida; from MCO to Dallas-Love Field Airport (DAL), Dallas, Texas; and from DAL to William P. Hobby Airport, Houston, Texas.

The first flight of the day, a visual flight rules positioning flight operating under 14 Code of Federal Regulations (CFR) Part 91, was scheduled to depart SFB about 0800 EDT bound for MCO, which is approximately 15 nautical miles (nm) away. According to the Sunjet Aviation customer service representative on duty at SFB on the day of the accident, the captain reported for duty at SFB about 0630 EDT, and the first officer arrived about 0645 EDT. She stated that both pilots were in a good mood and appeared to be in good health.

A Sunjet Aviation line service technician stated that the captain asked him to pull the airplane out of the hangar, fuel it to 5,300 pounds fuel weight, connect a ground power unit to the airplane, and put a snack basket and cooler on the airplane. The first officer arrived at the airplane just before the fueling process started and stayed in the cockpit while the airplane was being fueled. The first officer then went inside the terminal building while the captain performed the preflight inspection of the airplane.

About 0725 EDT, an instrument flight rules flight plan was filed with the St. Petersburg Automated Flight Service Station for the second flight of the day, MCO to DAL, which would operate under 14 CFR Part 135. The flight plan indicated that N47BA was scheduled to depart MCO about 0900 EDT; follow a route over Cross City, Florida, to 32 degrees, 51 minutes north and 96 degrees, 51 minutes west; and proceed directly to DAL. The requested altitude was 39,000 feet. The flight plan also indicated that there would be five persons on board (two pilots and three passengers) and 4 hours and 45 minutes of fuel.

According to a witness, the accident airplane departed SFB about 0754 EDT. The flight arrived at MCO about 0810 EDT. An Aircraft Service International Group employee at MCO stated that after the airplane arrived, the captain told him that they were picking up passengers and did not require additional fuel. According to this witness, the passengers arrived about 30 minutes later and boarded the airplane. The Sunjet Aviation director of operations indicated that an additional passenger who was not on the original charter flight request boarded the accident airplane at MCO.

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Several bags were placed on board the airplane, including what the Aircraft Service International Group employee described as a big golf bag weighing about 30 pounds.

According to ATC radio transmissions, the flight departed MCO about 0919 EDT bound for DAL. At 0921:46 EDT, the flight contacted the Jacksonville Air Route Traffic Control Center (ARTCC) and reported climbing through an altitude of 9,500 feet to 14,000 feet.

At 0921:51 EDT, the controller instructed N47BA to climb and maintain FL 260. N47BA acknowledged the clearance by stating, "two six zero bravo alpha." At 0923:16 EDT, the controller cleared N47BA direct to Cross City and then direct to DAL. N47BA acknowledged the clearance. At 0926:48 EDT, N47BA was issued instructions to change radio frequency and contact another Jacksonville ARTCC controller. N47BA acknowledged the frequency change.

At 0927:10 EDT, N47BA called the Jacksonville ARTCC controller and stated that the flight was climbing through an altitude of FL 230. At 0927:13 EDT, the controller instructed N47BA to climb and maintain FL 390. At 0927:18 EDT, N47BA acknowledged the clearance by stating, "three nine zero bravo alpha." This was the last known radio transmission from the airplane. The sound of the cabin altitude aural warning was not heard on the ATC recording of this transmission.

At 0933:38 EDT (6 minutes and 20 seconds after N47BA acknowledged the previous clearance), the controller instructed N47BA to change radio frequencies and contact another Jacksonville ARTCC controller. The controller received no response from N47BA. The controller called the flight five more times over the next  $4\ 1/2$  minutes but received no response.

About 0952 CDT, a USAF F-16 test pilot from the 40th Flight Test Squadron at Eglin Air Force Base (AFB), Florida, was vectored to within 8 nm of N47BA. About 0954 CDT, at a range of 2,000 feet from the accident airplane and an altitude of about 46,400 feet, the test pilot made two radio calls to N47BA but did not receive a response. About 1000 CDT, the test pilot began a visual inspection of N47BA. There was no visible damage to the airplane, and he did not see ice accumulation on the exterior of the airplane. Both engines were running, and the rotating beacon was on. He stated that he could not see inside the passenger section of the airplane because the windows seemed to be dark. Further, he stated that the entire right cockpit windshield was opaque, as if condensation or ice covered the inside. He also indicated that the left cockpit windshield was opaque, although several sections of the center of the windshield seemed to be only thinly covered by condensation or ice; a small rectangular section of the windshield was clear, with only a small section of the glare shield visible through this area. He did not see any flight control movement. About 1012 CDT, he concluded his inspection of N47BA and proceeded to Scott AFB, Illinois.

About 1113 CDT, two Oklahoma ANG F-16s with the identification "TULSA 13 flight" were vectored to intercept the accident airplane by the Minneapolis ARTCC. The TULSA 13 lead pilot reported to the Minneapolis ARTCC controller that he could not see any movement in the cockpit. About 1125 CDT, the TULSA 13 lead pilot reported that the windshield was dark and that he could not tell if the windshield was iced.

About 1133 CDT, a TULSA 13 airplane maneuvered in front of the accident airplane, and the pilot reported, "we're not seeing anything inside, could be just a dark cockpit though...he is not reacting, moving or anything like that he should be able to have seen us by now."

About 1138 CDT, the TULSA 13 lead pilot stated, "my wingman is going to make a final pass and then we are going to head back to the [midair refueling] tanker." The TULSA 13 wingman reported, "we did not get close enough to see any icing on the window due to our configuration...we did get up behind him but did not see anything." About 1139 CDT, TULSA 13 flight departed for the tanker.

About 1150 CDT, two North Dakota ANG F-16s with the identification "NODAK 32 flight" were vectored to intercept N47BA. (TULSA 13 flight had returned from refueling, and both TULSA 13 and NODAK 32 flights maneuvered in close proximity to N47BA.) About 1157 CDT, the TULSA 13 lead pilot reported, "we've got two visuals on it. It's looking like the cockpit window is iced over and there's no displacement in any of the control surfaces as far as the ailerons or trims."

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About 1201 CDT, TULSA 13 flight returned to the tanker again.

At 1210:41 CDT, the sound of an engine winding down, followed by sounds similar to a stickshaker and an autopilot disconnect, can be heard on N47BA's cockpit voice recorder (CVR), which recorded the final 30 minutes of cruise flight. The CVR also captured the continuous activation of the cabin altitude aural warning, which ceased at 1212:26 CDT. At 1211:01 CDT, ATC radar indicated that N47BA began a right turn and descent. One NODAK 32 airplane remained to the west, while one TULSA 13 airplane broke away from the tanker and followed N47BA down. At 1211:26 CDT, the NODAK 32 lead pilot reported, "the target is descending and he is doing multiple aileron rolls, looks like he's out of control...in a severe descent, request an emergency descent to follow target." The TULSA 13 pilot reported, "It's soon to impact the ground he is in a descending spiral."

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AVIATION	ence Type:	Accident		]							
Landing Facility/Approach In	formation					•					
Airport Name Airpo				Airport Elevation	Runway Used Ru			Runway Length		ınway Width	
				Ft. MSI	Ft. MSL 0						
Runway Surface Type:					<u> </u>		<u> </u>				
Runway Surface Condition:											
Approach/Arrival Flown: NONE	Ė										
VFR Approach/Landing: None											
Aircraft Information											
Aircraft Manufacturer			Model/			Serial Number					
Learjet			35	/35				35-06	50		
Airworthiness Certificate(s): Normal											
Landing Gear Type: Retractable	- Tricycle										
Amateur Built Acft? No	Certifie	d Max Gross Wt.	<del></del>			r of Engin	es: 2				
• • • • • • • • • • • • • • • • • • • •				Engine Manufacturer: Model/Series: Allied Signal TFE731-2-2						ated Power: 500 LBS	
- Aircraft Inspection Information											
Type of Last Inspection	Date of Las	t Inspection	nce Last Inspection			Airframe	Total Time				
AAIP	06/1999					179 Hours 10506 Hours					
- Emergency Locator Transmitter (I	ELT) Information				_			•			
ELT Installed?/Type	ELT Operated? ELT Aided in Locating Accident Site?										
Owner/Operator Information											
Registered Aircraft Owner		Street Address 1033 FIRST STREET									
JETSHARES ONE, INC	City WINDSOR							Zip Code			
	Street A	NY	12553								
Operator of Aircraft			Julieet A	1930 EAST A	AIRPOR	T BLVD					
SUNJET AVIATION INC	City							Zip Code			
0 1 5 5 1	SANFORD Operator Designator Code: SJ8							32733			
Operator Does Business As: - Type of U.S. Certificate(s) Held:						perator Design	nator CC	ide: 5J8	3A		
Air Carrier Operating Certificate(s):	On-demand Air 7	Гахі									
, camer operating comments (o)											
Operating Certificate: Operator Certificate:											
Regulation Flight Conducted Under	r: Part 135: Air Ta	xi & Cor	nmuter								
Type of Flight Operation Conducted	រៈ Unknown;Non-ទ	schedule	ed; Domes	stic; Passenger O	nly						
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AVIATION				Occurrence Type: Accident										
First Pilo	t Information													
Name							City			Sta	te D	ate of Birth	Age	
On File												On File		
Sex: M	Seat Occupied	: Left	Occ	cupational Pi	n Pilot			Ce	ertificat	e Numbe	r: On File	<u> </u>		
Certificate(s): Airline Transport; Commercial														
Airplane Ra	Airplane Rating(s): Multi-engine Land; Single-engine Land													
Rotorcraft/Glider/LTA: None														
Instrument	Rating(s): Airpl	ane												
Instructor Rating(s): None														
Current Bie	nnial Flight Revie	∍w? 09/1999	9											
Medical Ce	ert.: Class 1	Medica	al Cert. Status	S: Valid Me	dicalno wa	aivers/	lim.		Date of L	ast Me	edical Exa	am: 06/1999		
- Flight Tim	ne Matrix	Airplane Single Engine	Airplane Mult-Engine	Night Instru		strument Simulated	ıment Ro		Glider	Lighter Than Air				
Total Time 4280 60														
Pilot In Cor	mmand(PIC)		38											
Instructor														
Instruction	Received													
Last 90 Da	ys													
Last 30 Da	ys	35	35			1				_				
Last 24 Ho	urs	5												
Seatbelt Used? Yes Shoulder Harness Used?							Toxicol	logy Perf	formed? No Second Pilot? Yes					
Flight Pla	n/Itinerary													
Type of Flig	ght Plan Filed: <b>IF</b>	R												
Departure I	Point				•		State	Ai	rport Identifi	ier	Departu	Time Zone		
ORLAND	0								ICO		0919		EST	
Destination	1						State	A	rport Identif	ier				
DALLAS		TX DA												
Type of Cle	earance: IFR							·						
Type of Air	space:													
Weather	Information													
Úajį œ∕iSource of Wx Information:														
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AVIATION				Occurrence Type: Accident								
Weather Information												
WOF ID	OF ID Observation Time Time Zone				n	WOF D	WOF Distance From Accid				Direction From Accident Site	
				Ft. N	/ISL							Deg. Mag.
Sky/Lowes	st Cloud Condition: Unkn	own					Ft. AGL			of Ligh	nt: Day	
Lowest Ceiling: Unknown				Ft. A	GL	Visib	ility:		SM Altimeter:			"Hg
Temperatu	Temperature: °C Dew Point:				°C Weather Conditions at Accident Site: Visual Cond						ditions	
Wind Direc	ction:	Wind Sp	eed:		Wind	d Gusts:						
Visibility (R	RVR): Ft.	Visibility	(RVV)		SM							
Precip and	l/or Obscuration:											
Accident	Information											
Aircraft Dar	mage: Destroyed		Air	Aircraft Fire: Ground					Aircraft Exp	losio	n None	
- Injury Sur	mmary Matrix	Fatal	Serious	Minor	$\prod$	None	TOTAL					
First Pil	lot	1					1					
Second	d Pilot	1					1					
Student	t Pilot				$\Box$							
Flight Ir	nstructor			T								
Check F	Pilot											
Flight E	ngineer											
Cabin A	Attendants			T								
Other C	rew		<del>-</del>	T	$\Box$							
Passen	igers	4					4					
- TOTAL A	ABOARD -	6		T			6					
Other G	Fround	0	C		0		0					
- GRAND	TOTAL -	6	C		0		6					

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AVIATION	Occurrence Type: Accident									
Administrative Information										
Investigator-In-Charge (IIC)										
ROBERT P. BENZON										
Additional Persons Participating in This Accident/Incident Investigation:										