

**NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety
Washington, DC 20594**

**January 11, 2000
Group Chairman's Factual Report**

AIR TRAFFIC CONTROL GROUP

DCA00MA005

A. ACCIDENT

Operator: Sunjet Aviation, Inc.
Location: Aberdeen, South Dakota
Date: October 25, 1999
Time: About 1716 Coordinated Universal Time¹ (UTC)
Airplane: Learjet, Inc. 35, N47BA

B. AIR TRAFFIC CONTROL GROUP

Chairman: William English, NTSB

Member: Allen Lebo, NTSB

C. SUMMARY

On October 25, 1999, a Learjet, Inc. 35, registration N47BA, operated by Sunjet Aviation, Inc., departed Orlando International Airport (MCO) at about 1319 on an IFR flight plan to Dallas Love Field (DAL). ATC radio recordings indicate that at 1327, N47BA reported climbing through FL230 for FL260. The controller cleared the aircraft to FL390. The clearance was acknowledged by a pilot on the airplane. Beginning about 1333, controllers made repeated attempts to contact the airplane without response. The aircraft climbed above its assigned altitude and deviated from the flight plan and clearance route. ATC provided vectors to military interceptors who observed and attempted to contact the aircraft. The airplane crashed about 1716 near Aberdeen, South Dakota.

¹ All times are Coordinated Universal Time (UTC) based on a 24-hour clock, unless otherwise noted. Actual time of accident is approximate.

D. DETAILS OF THE INVESTIGATION

1.0 GROUP ACTIVITIES

The Air Traffic Control (ATC) Group convened at FAA Headquarters, Washington DC, on October 27, 1999 to view the SATORI² replay of ATC radar. On October 28, 1999, the group reconvened at Jacksonville Air Route Traffic Control Center, (ZJX), Hilliard, Florida, to begin the field phase of accident investigation. The ATC Group interviewed the Federal Aviation Administration (FAA) Air Traffic Control Specialists (ATCS) who worked N47BA until the loss of communication, and FAA Traffic Management and Supervisory personnel who coordinated Search and Rescue (SAR) and chase operations. Applicable documents and radar data were requested and/or obtained from the FAA. The ATC Group concluded activities at ZJX on October 29, 1999.

2.0 HISTORY OF FLIGHT

On October 25, 1999, at 1125 UTC, the pilot of N47BA filed an IFR flight plan with St. Petersburg Automated Flight Service Station³. At 1154, N47BA departed Orlando Sanford Airport, Florida (SFB), and proceeded to Orlando International Airport (MCO), arriving at approximately 1210. At 1238, the pilot of N47BA called for an IFR clearance from the MCO Clearance Delivery controller (CD). The CD controller said, "...cleared to the dallas love field via the jeff six departure vector cross city then as filed, maintain five thousand, frequency will be one two zero point one five, squawk three two four five." The pilot of N47BA read back the clearance.

At 1312, the pilot of N47BA called the MCO ground controller (GC) for taxi clearance. GC instructed N47BA to taxi to runway 36L via taxiway E. At 1314, GC asked if N47BA would have sufficient runway to accept an intersection departure from taxiway E, and advised that 7,800 feet was available. The pilot said "this is fine right here". GC instructed N47BA to contact the MCO tower local control position (LC). At 1318, LC instructed N47BA to "fly heading zero one zero, runway 36 left cleared for takeoff". The pilot acknowledged. At 1319, LC instructed N47BA to contact the MCO departure control, west (DRW), which the pilot acknowledged. The DRW controller initially instructed the pilot of N47BA to climb to 8,000 feet, then to "turn left heading two seven zero, climb and maintain one four thousand." The pilot of N47BA acknowledged, and DRW instructed the pilot to contact Jacksonville Center (ZJX) on frequency 133.32.

At 1321, the pilot of N47BA made initial contact with the ZJX Ocala sector controller (R15) who

² Systematic Air Traffic Operational Research Initiative, a computer system which uses enroute center computer data records to create a display approximating the depiction observed by the controller for a certain event.

³ The filed flight plan information indicated N47BA was proposed to depart MCO at 1300; via a routing over Cross City, Florida (CTY), then via coordinates 32* 51' North/ 96* 51' West, direct to DAL. Requested altitude: flight level 390 (FL390); True airspeed: 440 knots; Additional information: 5 persons on board; 4 hours 50 minutes of fuel; 2 hours 10 minutes en route; Color of aircraft: White/Gray and Gold. The flight plan also included the pilot's name, phone number, and base; planned arrival time at DAL: 1510. There were no remarks and no designated alternate airport.

issued a climb clearance to FL260. During an interview the R15 controller stated that the flight progress strip on N47BA was not posted where he expected it. The controller stated he believed N47BA was going to proceed directly to DAL which would conflict with the offshore military warning areas. R15 said "you filed direct dallas and unless you can make fifty one thousand feet you're gonna have to go around the warning areas." The pilot of N47BA stated that they were filed "direct cross city then over to dallas". R15 stated he found the flight strip and said "you are correct". R15 then instructed N47BA to contact the ZJX Mayo sector controller (R16) on frequency 125.17. At 1327, the pilot of N47BA contacted R16 and reported "two three oh for two six oh". R16 instructed the pilot of N47BA to "climb and maintain flight level three nine zero". The pilot acknowledged. There were no further communications with the pilot of N47BA.

At 1327 ATC radar displays indicated the aircraft was on course to CTY. By 1331, ATC radar displays indicated that N47BA's course had deviated to the right, causing the aircraft to pass 9 miles northeast of CTY. No notices to airmen or discrepancy reports were in effect for the CTY VOR or the Global Positioning System (GPS) in the CTY area on October 25, 1999.

At 1333, as N47BA was climbing through FL365, the R16 controller instructed N47BA to contact the next sector controller. There was no response from the pilot. At 1336, N47BA passed through FL390 and continued to climb to FL436. ZJX controllers and supervisors considered the aircraft to be an emergency. Controllers at sectors 15, 16, and adjacent sectors, attempted to make radio contact with N47BA. They instructed the pilot to use the transponder ident⁴ function, and attempted relays through other aircraft for 20 minutes. The ZJX Watch Manager instructed Gainesville (GNV) Automated Flight Service Station (AFSS) personnel to attempt contact with N47BA via VOR voice channels. All attempts were unsuccessful.

At 1345, the ZJX Watch Manager notified the FAA Southern Regional Office (ASOROC) and U.S. Air Force Rescue Coordination Center (AFRCC) of the aircraft in distress. By 1349, N47BA had reached FL438 with altitude excursions of approximately 100-200 feet. ATC radar displays indicated the average altitude increased at approximately 100 feet per minute, and by 1355 the aircraft had reached FL442.

At 1400, the ZJX Mission Coordinator contacted U.S. Air Force Southeast Air Defense to send an F16 aircraft to intercept N47BA. A flight of two F16s, callsign BULET1, was operating in the warning area W151, but needed to refuel before intercepting. Alert fighters from Tyndall Air Force Base in Panama City, Florida, callsign FAZIO73, were scrambled. BULET1 finished refueling and was positioned closer to N47BA than the FAZIO flight was. FAZIO73 returned to base.

At 1358, Atlanta ARTCC (ZTL) accepted transfer of radar identification of N47BA. N47BA was at an altitude of approximately FL445. At 1409, the ZJX Watch Manager issued an Alert Notice (ALNOT) advising subsequent facilities of the aircraft's situation including identification, altitude, speed and course.

⁴ Activate a feature of the Air Traffic Control Radar Beacon System transponder which causes the symbol on the ATC display to change.

At 1410, the ZJX Mission Coordinator contacted the St. Petersburg AFSS and acquired the aircraft flight plan information. He then contacted Sunjet Aviation and obtained the pilots' cell phone numbers. Multiple attempts to contact persons aboard the aircraft through telephones were unsuccessful. The ZJX Watch Manager (WMIC) contacted Learjet, Inc. and spoke with Mr. Richard Breer, Field Service Representative, to request input. WMIC stated that Mr. Breer could not think of anything ATC could attempt that was not already in progress.

At 1425 ZTL began providing radar vectors to BULET1 to assist intercepting N47BA. At 1444, ZTL transferred radar identification of N47BA and BULET1 to Memphis ARTCC (ZME). N47BA was making small altitude changes, characterized as "porposing" by ATC, between FL440 and FL454. ZME controllers continued radar vectors to BULET1 to intercept N47BA. At 1452 BULET1 reported in visual contact with N47BA at FL452. BULET1 reported that both sides of the flight deck were "frosted over or condensed over" and "passenger windows appeared clear" but he could not see inside. At 1513 BULET1 broke off the intercept to refuel. During descent BULET1 reported he did not see any damage to N47BA. The ZME R25 controller made a transmission for N47BA to go to 100 percent oxygen. R25 made additional "blind" calls to N47BA to ident. There was no response or observed ident.

At 1610, the ZJX Mission Controller confirmed the passenger manifest with the Sunjet Director of Operations.

At 1517 ZME transferred radar identification of N47BA to Kansas City ARTCC (ZKC). At 1544 ZKC began vectoring TULSA13, flight of two F16's operating in the area, toward N47BA. At 1613, ZKC transferred radar identification of N47BA to Minneapolis ARTCC (ZMP). ATC radar indicated that the aircraft was heading northwest at approximately FL484. N47BA's displayed altitude was fluctuating between FL470 and FL484. ZMP controllers continued vectors to TULSA13 to intercept N47BA. TULSA13 reported N47BA in sight at a distance of 7 miles. The TULSA13 pilot asked, "do you want us to try to ascertain if there is someone asleep up there?" and reported to ZMP that they could not see any movement in the cockpit.

At 1620, TULSA13 attempted to get close enough to see if the windshield was iced up. The pilot of TULSA13 reported they could not see the windshield and said, "It's kinda tough ah getting that close at 47,000 the way we are configured." He also said he "could not tell if it's iced up it's dark and behind the sun there, we'll give it another try." The ZMP controller asked TULSA13 "...if you can look at the ailerons on the right or left side and the flaps on the right or left side they are wondering if the aileron is compensating in any one direction either right or left and they are trying to figure out if that aircraft, should it go down, they wonder if it's going to roll and they are wondering if it is going to roll to the right or to the left or if it's going to come down in a straight and level flight." The pilot of TULSA13 reported "we are trying to get up that close but with that configuration it's difficult." He also asked the controller the color of the aircraft and stated "it looks like the fuselage or the wings and tail are pretty bright white and the fuselage underneath looks dark brown and black."

At 1633, TULSA13 began rapidly maneuvering in front of N47BA and the pilot reported “sir we’ve been conning⁵ out in front of this guy going across his nose looking we’re not seeing anything inside, could be just a dark cockpit though, ah he is not reacting, moving or anything like that he should be able to have seen us by now...we’ve got tanks on board that’s why we are having trouble getting there and staying at four seven zero”

At 1638, TULSA13 made a head on pass then descended to FL290 to join up with a tanker to refuel. An unidentified chase pilot stated “we did not get close enough to see any wing or any icing on the window...we did get up beside him but we did not see anything.”

At 1650, NODAK32, flight of two F16’s, was vectored by ZMP to intercept N47BA from the northeast. TULSA13 returned from refueling and both flights maneuvered in close proximity to N47BA. The pilot of TULSA13 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.” At 1701, TULSA13 returned to the tanker, during this time period N47BA was making slight climbs and descents between FL485 and FL489.

At 1710:49, ATC radar indicated N47BA began a right turn and descent. One NODAK aircraft remained to the west, while at least one TULSA aircraft broke away from the tanker and followed N47BA. At 1711:26, the NODAK chase 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 the target.” The TULSA13 pilot reported “It’s soon to impact the ground he is in a descending spiral.” The ZMP controller asked “Any idea what the altitude is?” At 1712:25 a chase pilot reported “passing fourteen thousand”. At this time the last transponder target is received from N47BA. At 1712:35 a chase pilot reported “passing ten thousand”. ZMP requested chase pilots to report the position of the downed aircraft.

⁵ Creating a visible exhaust trail.

3.0 INTERVIEWS

Lloyd Russell Sloan Jr.

ZJX Sector 16 Radar Controller

The ATC Group interviewed Mr. Sloan on October 28, 1999. He has been an air traffic controller in the FAA since June of 1982. Prior to working at ZJX, he was certified at Miami ARTCC. On October 25, 1999, he was working the ZJX sector 16 radar position (R16), responsible for the airspace at and above flight level 270 west and northwest of Orlando airport. He was assigned a 0700-1500 (EDT) shift and stated he had been working R16 for approximately 15 to 20 minutes when N47BA checked on frequency. He characterized the traffic level that morning as "flat out routine", light traffic and good weather. The military warning areas to the west of his area were not yet in use, but were scheduled to "go hot" shortly.

N47BA checked on the sector 16 frequency climbing through FL236 for FL260. Mr. Sloan issued a clearance to climb to FL390 which the pilot read back. Three minutes later he accomplished a handoff of N47BA to Sector 17 ("Perry") and issued a frequency change to the pilot. There was no response from N47BA after a few calls. At first he did not attach any significance to this, since short-term losses of communications are not uncommon. As the aircraft continued to climb, he noticed N47BA pass through the assigned altitude of FL390 and at this point realized there may be a problem aboard the aircraft. At about the same time it became obvious on the radar display that the aircraft was off course and would pass approximately nine miles east of Cross City VOR. He then reported the problem to the Operational Supervisor, Chubby Motin. Mr. Sloan made additional attempts to contact the aircraft. He coordinated with the sector 17 controller who had another aircraft attempt a relay.

Mr. Sloan stated he "had a bad feeling" about the aircraft, that something was seriously wrong. He overheard other controllers and personnel discussing the aircraft which contributed to his opinion that "...we got a dead pilot up there". He stated that at the time of the event he did not notice anything unusual on the radar about the aircraft's performance. Upon viewing the SATORI replay later he noticed missing radar targets, the course change, and changes in the aircraft's rate of climb.

Wesley E. Kutch Jr.

ZJX Sector 15 Radar Controller

The ATC Group interviewed Mr. Kutch on October 28, 1999. He entered on duty with the FAA in August of 1981, he worked at Atlanta ARTCC and San Juan Center Radar Approach Control (CERAP). He was assigned to ZJX in September of 1991. Prior to FAA employment he was an air traffic controller in the U.S. Marine Corps. On October 25, 1999 he was assigned a 0900-1700 (EDT) shift. At the time he worked N47BA he was assigned the Sector 15 Radar position (R15) and had been on position for approximately 20 minutes. R15 was the first position he had worked that day.

Mr. Kutch characterized the traffic as very light, with no adverse weather factors. He described the primary responsibility of R15 as a departure sector for the Orlando area up to FL 260. MCO

departure aircraft are cleared via radar vectors through a “climb corridor” which is depicted on the video map. As the aircraft gain altitude they are “fanned out” to proceed on course to various enroute fixes or destinations. He drew a diagram of the normal departure routing from MCO through the climb corridor on a ZJX airspace map.

Mr. Kutch accepted a radar handoff from Orlando Approach Control on N47BA on a standard assigned vector of 270 degrees climbing to 14,000 feet. He issued a clearance to N47BA to climb to FL260 which the pilot acknowledged. He stated he initially could not find the flight progress strip for N47BA. When he looked at the aircraft’s flight plan on the ATC computer readout device he mistakenly believed the aircraft was proceeding directly to Dallas, which would conflict with the offshore military Warning Areas. Mr. Kutch advised the pilot of this and the pilot responded that they had filed via Cross City VOR (CTY). He found the flight strip at this time which did indicate routing via CTY, therefore clearing the Warning Areas. He cleared N47BA direct to CTY, direct Dallas, which the pilot read back correctly.

Mr. Kutch did not notice anything abnormal about the aircraft performance at the time. He did remember noting the aircraft was climbing “fairly good” as he scanned for traffic, but nothing abnormal considering the cool weather. After viewing the SATORI replay he noticed a small right turn which took the aircraft off course for CTY, but he stated it was not enough to have noticed when he worked the aircraft approximately 100 miles from CTY.

Mr. Kutch stated he has worked many aircraft in difficulty in the past, including military turbojets in the Marines and general aviation aircraft in the FAA. He is an “off and on” student pilot with approximately 90 hours.

Marvin Leininger

ZJX Watch Manager

The ATC Group interviewed Mr. Leininger on October 28, 1999. He was working the Watch Manager in Charge (WMIC) position on the morning of October 25, 1999. The WMIC is responsible for the overall operation of the control room and traffic management unit (TMU). Specialists in the TMU work under his direct supervision, while each of the five areas of specialty in the control room also has a supervisor or controller-in-charge. He had signed on duty as the WMIC at 0615 (EDT), and was still at the position when he learned of N47BA’s situation. He first became aware that N47BA had a problem at approximately 0935 when the Central Area Supervisor, Chubby Motin, telephoned him regarding the aircraft. At the same time, Sherry Callon, an off-duty TMU Supervisor, walked up from the area and pointed out the aircraft to him on a radar display at the WMIC position.

At first Mr. Leininger and the other personnel believed the incident was a pilot deviation and/or a lost communication situation. He instructed the controllers to attempt contact via other aircraft, Aeronautical Radio Inc. (ARINC), or Flight Service Station (FSS) broadcasts through VORs. He realized the aircraft had a serious problem when radar indicated the aircraft was "oscillating" in altitude and well off course. He instructed TMU Specialist Mike Rogers to get flight plan information on the aircraft from flight service. Mr. Leininger then notified the AFRCC, the ASOROC and ZTL. He then called Southeast Air Defense Command at Eglin Air Force Base, Valparaiso, Florida ("Oakgrove") to arrange for fighter aircraft to serve as chase planes. Oakgrove advised that there was at least one F16 (BULET1) operating in the offshore warning areas which could chase N47BA, but it needed to refuel with a tanker aircraft first. They also alerted a scramble unit at Tyndall AFB (FAZIO73), however BULET1 refueled quickly enough that the FAZIO flight was not needed.

Mr. Leininger also called the Learjet, Inc. company for assistance. He spoke with a Field Service representative, Richard Breer, who advised him that he could not think of any other actions ATC could attempt that were not already in progress. Mr. Leininger set up a conference call with ASOROC and listened in as the flight progressed beyond ZJX airspace.

Mr. Leininger advised that as a side issue, he felt they were very lucky to find the flight plan and other information on N47BA, since the pilot filed with a local Flight Service Station. He believed it to be very difficult for an ATC facility to obtain flight plan and/or registration information on an aircraft that had filed with a commercial vendor. He stated an ATC facility has no direct method of obtaining information on aircraft owners from the FAA. He said at ZJX they looked up the aircraft on a commercial web site, "Landings.com".

Howard Callon

ZJX Supervisory Traffic Management Coordinator

The ATC Group interviewed Mr. Callon on October 29, 1999. He is a ZJX Supervisory Traffic Management Coordinator and was working in the Traffic Management Unit (TMU) on the morning of October 25, 1999. He stated his role was primarily to help Mr. Leininger with coordination. Under Mr. Leininger's direction, he phoned the ASOROC and the AFRCC to inform them of the aircraft in difficulty. He worked with TMU Specialist Mike Rogers in coordinating for the military chase planes and obtaining flight plan information. He kept notes on the sequence of events. Mr. Callon also mentioned they had trouble finding the correct registered owner/operator of the aircraft.

Sherry Callon**ZJX Traffic Management Coordinator**

The ATC Group interviewed Ms. Callon on October 29, 1999. She is a Supervisory ZJX Traffic Management Coordinator and was assigned to classroom training the day of October 25, 1999. During a break she was walking through the control room when Chubby Motin, Operational Supervisor, mentioned to her that "we may have a problem". She noticed the controller (Mr. Sloan) seemed very concerned about the aircraft. She recalled a situation years ago in which she worked an aircraft which depressurized and the occupants succumbed to hypoxia. She mentioned that to Mr. Motin and Mr. Sloan. Ms. Callon walked up to the Watch Manager's position to advise Mr. Leininger of the situation and then returned to the classroom. When she returned to the control room on the next break the aircraft had left ZJX airspace.

Chubby Terry Motin**ZJX Operational Supervisor, Central Area**

The ATC Group interviewed Mr. Motin on October 29, 1999. He is an Operational Supervisor in the ZJX Central Area. He entered on duty with the FAA in 1985 as a Co-op student at Stolland College. He interned at Birmingham, Alabama Flight Service Station and Memphis ARTCC. He was certified as an ATCS in the ZJX West Area. He has served as ZJX Temporary Supervisor, TMU Specialist and Quality Assurance Specialist. He became a supervisor in 1995.

Mr. Motin was serving as the Operations Supervisor in the Central Area on the morning of October 25, 1999. He characterized the traffic flow as normal, with light traffic and no adverse weather factors at the time of the incident. While at the area desk he overheard the controllers at sectors 16 and 17 talking about an aircraft with a problem. They called him over just as the N47BA climbed above the assigned altitude. He spoke to the Sector 16 controller (Mr. Sloan) to confirm the altitude clearance was correct. Mr. Motin instructed Mr. Kutch to attempt communication with N47BA. As Ms. Callon passed through the area he apprised her of the situation. He called Gainesville FSS to have them attempt to communicate with N47BA via the VOR voice channels. Mr. Motin apprised Mr. Leininger of the situation, and also coordinated with his counterparts at Atlanta ARTCC to advise them of N47BA and the chase plane.

Michael Rogers**ZJX Traffic Management Coordinator**

The ATC Group interviewed Mr. Rogers on October 29, 1999. He is a Traffic Management Coordinator (TMC) at ZJX. He has been at ZJX since his entry on duty with the FAA in 1989, and became a TMC in 1993. He is certified in ZJX West and Central Areas. Prior to joining the FAA he was an air traffic controller with the US Air Force from 1983 to 1989.

On the morning of October 25, 1999, Mr. Rogers was assigned the Mission Coordinator Position of the TMU. His responsibilities were to coordinate the use of various Special Use Airspace with military users. He overheard Mr. Leininger on the phone with Mr. Motin discussing the aircraft's situation. Under Mr. Leininger's direction he coordinated with Eglin Regional Operations Command Center (ROCC) to coordinate for the fighters. He stated there was some

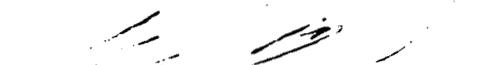
miscommunication over how quickly the fighter would be able to join up. He was told the aircraft in flight (BULET1) had to "finish up". This was clarified by Eglin to mean refuel.

Mr. Rogers called the local FSS to get information on N47BA. He first tried Gainesville FSS with no success. St. Petersburg FSS had N47BA's flight plan on file which included the operator's phone number, pilot's name and other contact information. He contacted the Sunjet Aviation offices and spoke first with someone he only knew as "James" who gave information on the fuel on board and the cell phone numbers of the pilots. Mr. Rogers made many attempts to call the cell phones in an attempt to communicate with the aircraft. There was no response. In subsequent calls to Sunjet Aviation he spoke with Mr. Tom Turner, Director of Operations. Mr. Rogers advised Mr. Turner that the FAA was considering the aircraft to be an emergency. He relayed the suspicion of hypoxia and the reports from the fighter that the windscreen was "frosted over".

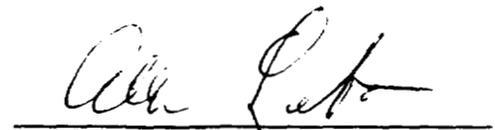
4.0 Attachments

- a. ATC Voice Transcripts, ZJX _____ 15pp
- b. ZJX Daily Record of Facility Operation _____ 2pp

*Adm
1-14-00*



William English



Allen Lebo



U.S. Department of Transportation

Federal Aviation Administration

Memorandum

Jacksonville Center
10 Aviation Avenue
Hilliard, Florida 32046

Subject: INFORMATION: Partial Transcript; Aircraft Accident; N47BA; 45°24'N/098°47'W; Mina, SD; October 25, 1999; 1712 UTC

Date: November 18, 1999

From: Jacksonville ARTCC

Reply to
Attn of:

To: Aircraft Accident File ZMP-ARTCC-232

This transcription covers the Jacksonville ARTCC Mayo Radar Control position for the period from October 25, 1999, 1322 UTC, to October 25, 1999, 1345 UTC.

Agencies Making Transmissions

Gates Learjet N47BA
Jacksonville ARTCC, Mayo Radar Control Position
Jacksonville ARTCC, Lake City Sector
Empresa Cubana de Aviacion, Flight 182

Abbreviations

N47BA
R16
LKE
CUB182

I hereby certify that the following is a true transcription of the recorded conversations pertaining to the subject aircraft accident involving N47BA:

Dennis L. Perkins
Quality Assurance Program Specialist
Jacksonville ARTCC

1322
1323
1324
1325
1326
1327

1327:10 N47BA good morning jax four seven bravo alpha two three oh for two six oh

A-1

ZMP-ARTCC-232
N47BA

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1327:13	R16	*(november) four seven bravo alpha jax center climb and maintain flight level three niner zero
1327:18	N47BA	three nine zero bravo alpha
1328		
1329		
1329:39	LKE	(Unintelligible) sixteen
1329:41	R16	uh mayo point out south of ocala november four seven bravo alpha climbing to flight level three niner zero
1329:45	LKE	uh no display
1329:47	R16	i try again *(six eight) enter
1329:52	LKE	uh point out approved
1329:53	R16	kilo *(victor)
1329:54	LKE	(Unintelligible)
1330		
1331		
1332		
1333		
1333:38	R16	november four seven bravo alpha contact jax center on one three five point six five
1333:56	R16	november four seven bravo alpha contact jax center on one three five point six five
1335		
1335:20	R16	november four seven bravo alpha jax

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N47BA

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1335:34 R16 november four seven bravo alpha jax

1336
1336:49 R16 november four seven bravo alpha jax
1337
1338
1338:06 R16 november four seven bravo alpha jax

1338:23 CUB182 november four seven bravo alpha from cubana uh jax is calling you
how do you read

1338:50 R16 did he answer you any *(cubana)

1338:53 CUB182 no contact sir cubana one eight two

1338:56 R16 okay thank you i think we got a dead pilot up here he's through his
altitude and off course now so we don't know what's going on

1339:07 LKE go ahead

1339:08 R16 hand off there

1339:09 LKE thank you

1339:10 R16 *(oh) that four seven b a in case you're wondering i think he's dead

1339:12 LKE uh somebody said he's nordo and he just climbed on his own but that's
all right (unintelligible)

1339:16 R16 (Unintelligible) dead he ain't even turning on course

ZMP-ARTCC-232
N47BA

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1339:18 LKE *(oh) okay

1339:19 R16 bye

1340

1341

1342

1343

1344

1345

End of Transcript

* This portion of the rerecording is not entirely clear, but this represents the best interpretation possible under the circumstances.



U.S. Department of Transportation

Federal Aviation Administration

Memorandum

Jacksonville Center
10 Aviation Avenue
Hilliard, Florida 32046

Subject: INFORMATION: Partial Transcript; Aircraft Accident; N47BA; 45°24'N/098°47'W; Mina, SD; October 25, 1999: 1712 UTC

Date: November 18, 1999

From: Jacksonville ARTCC

Reply to
Attn of:

To: Aircraft Accident File ZMP-ARTCC-232

This transcription covers the Jacksonville ARTCC Seminole Radar Control position for the period from October 25, 1999, 1336 UTC, to October 25, 1999, 1405 UTC.

Agencies Making Transmissions

Jacksonville ARTCC, Seminole Radar Control Position
Jacksonville ARTCC, Perry Sector
American Airlines Inc., Flight 1138
Jacksonville ARTCC, Lake City Sector

Abbreviations

R34
FPY
AAL1138
LKE

I hereby certify that the following is a true transcription of the recorded conversations pertaining to the subject aircraft accident involving N47BA:

Dennis L. Perkins
Quality Assurance Program Specialist
Jacksonville ARTCC

1336

1337

1338

1339

1340

1341:00

R34

go r seventeen

ZMP-ARTCC-232
N47BA

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1341:02 FPY yeah this is perry (unintelligible) point out north of cross city
 november four seven bravo alpha *(nobody's) talking to him

1341:06 R34 point out approved (unintelligible)

1341:07 FPY (Unintelligible)
 1342
 1343
 1344

1344:14 R34 seminole geneva

1344:15 FPY perry again reference november four seven bravo alpha last clearance
 was cross city and then uh *(dal) on course and he filed for direct
 dallas after cross city and nobody's talked to him since we climbed
 him to thirty nine

1344:28 R34 (Unintelligible)

1344:29 FPY *(t n)
 1345
 1346
 1347
 1348
 1349
 1350
 1351
 1352
 1353

1353:08 R34 november four seven bravo alpha jax
 1354
 1355

1355:16 R34 november four seven bravo alpha if you hear jax center ident

1355:38 R34 american eleven thirty eight jax

ZMP-ARTCC-232
N47BA

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1355:41 AAL1138 yes sir

1355:42 R34 american eleven thirty eight we got uh uh an aircraft just off east of
you that's uh can't get any response from the pilot and he just
continues to climb we think uh that that he may not be responsive but
i didn't know if you might try broadcasting on the frequency up there
with you guys see if you guys can get a hold of him it's a four seven
bravo alpha november four seven bravo alpha just try to see if he
responses

1356:05 AAL1138 *(okay so the) identifier is november four seven bravo alpha and uh
suppose to be on this freq

1356:13 R34 uh he's suppose to be yes sir

1356:19 AAL1138 now what's his distance and bearing from us

1356:22 R34 he's about your eleven o'clock and seven miles opposite direction he's
way up at forty four thousand feet he he should be right by you just
didn't know if you could broadcast in the blind on the frequency see if
he'll come up

1356:38 AAL1138 uh november four seven bravo alpha november four seven bravo alpha
this is american eleven thirty eight

1356:58 AAL1138 november four seven bravo alpha american eleven thirty eight

1357:05 AAL1138 jax we're getting no response we got a contrail on him though going
by us

1357:09 R34 american eleven thirty eight thank you for trying sir
1358
1359

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N47BA

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1359:30 LKE i am uh who am i lake city

1359:33 R34 (Unintelligible) hand off citrus two seventeen

1359:35 LKE i'm sorry *(i had thought i) took him he's radar

1359:36 R34 that that was me anyway *(we're) to busy worried about this guy that's unresponsive climbing and *(is) probably going to die

1359:41 LKE yeah i had already brought him up (unintelligible)

1359:43 R34 (Unintelligible) all right sorry man

1359:44 LKE (Unintelligible) approved
1400
1401
1402
1403
1404
1405

End of Transcript

* This portion of the rerecording is not entirely clear, but this represents the best interpretation possible under the circumstances.



U.S. Department
of Transportation

Federal Aviation
Administration

Memorandum

Jacksonville Center
10 Aviation Avenue
Hilliard, Florida 32046

Subject: INFORMATION: Partial Transcript; Aircraft
Accident; N47BA; 45°24'N/098°47'W;
Mina, SD; October 25, 1999; 1712 UTC

Date: November 18, 1999

From: Jacksonville ARTCC

Reply to
Attn of:

To: Aircraft Accident File ZMP-ARTCC-232

This transcription covers the Jacksonville ARTCC Ocala Radar Control position for the period from October 25, 1999, 1316 UTC, to October 25, 1999, 1332 UTC.

Agencies Making Transmissions

Gates Learjet N47BA
Jacksonville ARTCC, Ocala Radar Control Position

Abbreviations

N47BA
R15

I hereby certify that the following is a true transcription of the recorded conversations pertaining to the subject aircraft accident involving N47BA:

Dennis L. Perkins
Quality Assurance Program Specialist
Jacksonville ARTCC

1316
1317
1318
1319
1320
1321

1321:46 N47BA good morning jax lear four seven bravo alpha ninety five hundred for
one four thousand

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N47BA

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1321:51 R15 lear jet four seven bravo alpha jacksonville center roger climb and maintain flight level two six zero

1321:56 N47BA two six zero bravo alpha

1322
1322:49 R15 lear four seven bravo alpha uh lets see you filed direct dallas and unless you can make fifty one thousand feet you're gonna have to go around the warning areas

1323
1323:03 N47BA uh we filed direct cross city then over to dallas for four seven bravo alpha

1323:07 R15 people forget to tell me all kinds of things um that still won't work i don't think hang on just a second that might clear *(them)

1323:16 R15 you are correct cleared direct cross city direct dallas uh november four seven bravo alpha thanks

1323:22 N47BA direct cross city direct dallas four seven bravo alpha

1324
1325
1326
1326:48 R15 november seven bravo alpha contact jacksonville center one two five point one seven

1326:53 N47BA twenty five seventeen good day bravo alpha

1327
1328
1329
1330
1331
1332

End of Transcript

* This portion of the rerecording is not entirely clear, but this represents the best interpretation possible under the circumstances.

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U.S. Department of Transportation

Federal Aviation Administration

Memorandum

Jacksonville Center
10 Aviation Avenue
Hilliard, Florida 32046

Subject: INFORMATION: Partial Transcript; Aircraft Accident; N47BA; 45°24'N/098°47'W; Mina, SD; October 25, 1999; 1712 UTC

Date: November 18, 1999

From: Jacksonville ARTCC

Reply to
Attn of:

To: Aircraft Accident File ZMP-ARTCC-232

This transcription covers the Jacksonville ARTCC Perry Radar Control position for the period from October 25, 1999, 1332 UTC, to October 25, 1999, 1403 UTC.

Agencies Making Transmissions

Jacksonville ARTCC, Perry Radar Control Position
Jacksonville ARTCC, Lake City Sector
Jacksonville ARTCC, Seminole Sector
Delta Air Lines Inc., Flight 1033
Jacksonville ARTCC, Perry Radar Control Position,
Relieving Specialist

Abbreviations

R17
LKE
SEM
DAL1033

R17R

I hereby certify that the following is a true transcription of the recorded conversations pertaining to the subject aircraft accident involving N47BA:

Dennis L. Perkins
Quality Assurance Program Specialist
Jacksonville ARTCC

1332
1333
1334
1335
1336
1337

1337:10

R17

november four seven bravo alpha radio check

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ZMP-ARTCC-232
N47BA

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1337:35	R17	this is perry go ahead override
1337:36	LKE	four seven bravo alpha appears to be climbing and *(not talking with me)
1337:38	R17	appears to be so
1337:39	LKE	yeah i just
1337:40	R17	he's nordo
1337:41	LKE	okay i q
1338		
1339		
1340		
1341:00	SEM	go r seventeen
1341:02	R17	yeah this is perry (unintelligible) point out north of cross city november four seven bravo alpha *(nobody's) talking to him
1341:06	SEM	point out approved (unintelligible)
1341:07	R17	(Unintelligible)
1342		
1343		
1344		
1344:14	SEM	seminole geneva
1344:15	R17	perry again reference november four seven bravo alpha last clearance was cross city and then uh *(dal) on course and he filed for direct dallas after cross city and nobody's talked to him since we climbed him to thirty nine

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N47BA

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1344:28 SEM (Unintelligible)

1344:29 R17 *(t n)

1345
1345:50 R17 november four seven bravo alpha jax

1346
1346:15 R17 november four seven bravo alpha jacksonville center if you hear me
ident

1347
1348
1349
1350
1351
1352
1353
1353:24 R17 lear jet four seven bravo alpha jacksonville center radio check how do
you hear me

1353:38 R17 delta ten thirty three jax

1353:40 DAL1033 ten thirty thrcc go ahead

1353:41 R17 yes sir we have a lost aircraft uh lost his (unintelligible) radio contact
with him and he's uh last assigned flight level three nine zero and he's
climbed up to forty four thousand and now descending back *(it's) a
lear jet uh pretty imminent situation i don't know what's going on with
him but i would appreciate any assistance you can provide me if you
can call up on frequency one two one point five cause he only about
eighty miles ahead of you right now call sign is lear jet four seven
bravo alpha try him on guard also if you would try him on one two
five point one seven that was the last jax center frequency we had him
on if you're able to get a hold of him have him come over here to this
frequency please

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ZMP-ARTCC-232
N47BA

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1354:20 DAL1033 okay it's a lear jet four seven bravo alpha we'll try him on twenty five seventeen and on guard and we'll bring to you're current frequency delta ten thirty three

1354:29 R17 thanks sir

1354:30 DAL1033 all right

1354:38 R17 status info is posted on the big board sector seventeen equipment is working darc aligned weather is not a factor warning areas and moas are hot flow control restrictions special ops missions altravs don't really apply traffic citrus sixty five has not called you got him no that's the delta calling all right i forgot to tell you i was going to do that figured you did headings passed for vulcan headings passed for the arrival going direct to his destination in the machine that's all you got

1355:07 R17R all right bravo alpha may call me and that's that guy you guys gave guys gave thirty nine and he went on up

1355:11 R17 right

1355:12 R17R and not talking to anybody

1355:13 R17 right

1355:14 R17R yeah i heard a little bit over there so

1355:15 R17 t n

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N47BA

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1355:46 R17 attention all aircraft hazardous weather information on uh lets see airmet sierra tango and zulu for tennessee west virginia virginia mississippi louisiana alabama florida georgia south carolina north carolina coastal waters and uh airmet uh uh that looks like the only one you can get uh more information on hiwas flight watch or flight service

1356:35 DAL1033 uh center delta ten thirty three no help on twenty five seventeen or on guard

1356:40 R17 delta ten thirty three thanks for trying

1356:42 DAL1033 yes sir

1356:48 R17 and delta ten thirty three thanks for your help contact jax center now one two eight point zero seven

1356:52 DAL1033 two eight zero seven delta ten thirty three uh what's his position now

1356:56 R17 uh let's see here he is at your twelve o'clock and uh fifty miles

1357:03 DAL1033 thanks sir and we're switching uh twenty eight oh seven for delta ten thirty three

1357:08 R17 delta ten thirty three thanks
1358
1359
1400
1401
1402
1403

End of Transcript

* This portion of the rerecording is not entirely clear, but this represents the best interpretation possible under the circumstances.

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U.S. Department of Transportation
Federal Aviation Administration

Daily Record of Facility Operation

Page No. 1 of 2
Date 10/25/1999

Location Hilliard, FL	Identification ZJX	Type Facility ARTCC	Operating Position WMIC	Checked By Air Traffic Manager Miles R. Miller <i>mg</i>
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Time (UTC)	REMARKS
0400	WILLIAM J ENGLISH (YY) ON. CFPL: GNV VORTAC OTS. SAV TACAN AZIMUTH OTS. MOBIL ATIS BLEEDOVER ON 124.77. MLB LRR PRI/WX O/S.
0401	TRAFFIC COUNT FOR 10/24/99 TOTAL 5693, VFR 311.
0424	WCLC.
E 0430	ZJX DARC/DARC FOR BASELINE TESTING.
0510	SECURITY CHECK COMPLETE.
E 0805	BEGIN NAS ONLINE CERTIFICATION.
E 0844	CERTIFICATION COMPLETE, NAS OPERATIONAL.
1015	MARVIN J. LEININGER (ML) ON
1033	WCLC
E 1055	R73 132.5 MAIN/TX,RVR OTS.
E 1323	MLB LRR RTN TO SVC.
1338	ADVISED BY COSIC MOTIN, OF ALTITUDE DEVIATION BY N47BA, LR35, MCO - DAL. A/C ASSIGNED FL390, OBSERVED ON MODE C, AT FL412 IN A CONTINUOUS SLOW RATE OF CLIMB. A/C IS ALSO NORDO.
1340	NOTIFIED ASO CCC (LOWERY) AND ASO 505 (ALEXANDER), RCC LANGLEY (SGT. BERGER) REGARDING N47BA.
1343	ATC DECLARES EMERG. N47BA BASED ON ERRATIC FLIGHT PROFILE, AND NO COMM WITH A/C.
1355	CONTACTED SEAD (OAKGROVE) TO EXPLORE POSS. OF AIRBORNE F15 OR F16 A/C IN W470 OR W151 DIVERTING TO INTERCEPT N47BA AND MAKE VISUAL OBSERVATION OF A/C. OAKGROVE WILL DIVERT BULIT1, 2F16'S FROM W151.
1409	ISSUED ALNOT N47BA.
1410	CONTACTED N47BA OPERATOR, SUN JET AVIATION, SANFORD, FLA.. DETERMINED THAT THERE IS NO FLIGHT PHONE ABOARD N47B. SUN JET PROVIDED ZJX WITH CELL PHONE NUMBERS OF PILOT AND 2ND OFFICER. ZJX ATTEMPTED CONTACT ON ALL CELL PHONE NUMBERS TO NO AVAIL.
1412	N47BA TRAVERSED INTO ZTL AIRSPACE. ALL COORD. WITH ZTL COMPLETE.
1415	ZJX CONTINING TO PARTICIPATE IN TELECON WITH ARTCC'S ALONG ROUTE OF FLIGHT, GATES LEAR CORP., NTSB, PUBLIC AFFAIRS.
1428	ZTL ADVISED BULIT1 INTERCEPTED N47BA. ZTL/ZME/ASOCCC HANDLING INCIDENT.
E 1445	327.1 JAX SITE OTS.
E 1500	327.1 JAX SITE RTS.
1515	AIRCRAFT EMERGENCY - KONG13/F15/EFD-VPS DAMAGE TO VERTICAL STABILIZER. LANDED VPS SAFELY AT 1529Z. ASOCCC NOTIFIED. 8020-30 TO 505.
E 1525	132.5 MAIN TX/RCVR RTS.
1712	TELCON PARTICIPANTS ADVISED THAT N47BA DOWN 12 NW ABR.
1740	CANCEL ALNOT N47BA.
1800	CHRONOLOGICAL SEQUENCE OF EVENTS, N47BA, AND ASSOCIATED NOTES FORWARDED TO ZJX-505.
1830	GENE WYGAL (IV) ON DUTY
E 1849	QRJ LRR RTS.

wmic *AK*
2
5 mg
4 mg
5
5 mg
50

I CERTIFY that entries above are correct; that all scheduled operations have been accomplished, except as noted, and that all abnormal occurrences and conditions have been recorded.

Watch Supervisor(s) Signature	Watch Supervisor(s) Signature	Watch Supervisor(s) Signature
<i>[Signature]</i>		

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Daily Record of Facility Operation (Continued)

Time (UTC)	REMARKS
E 1902	R78 VDM FAILED. NOM ADVISED.
2039	R78 VDM RTS.
E 2050	VSCS DB-ALT PERFORMED.....ZJX CDB056 ON-LINE...DSR WORK
2053	WCLC
0230	CHUBBY T. MOTIN (JT) ON.
0359	COB.

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