



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	JACKSON, WY	<b>Accident Number:</b>	DEN01FA030
<b>Date &amp; Time:</b>	12/20/2000, 0126 MST	<b>Registration:</b>	N236BN
<b>Aircraft:</b>	Hawker Siddeley HS-125-700	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	4 None
<b>Flight Conducted Under:</b>	Part 135: Air Taxi & Commuter - Non-scheduled		

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## Analysis

The airplane was flying a full instrument landing system (ILS) approach to runway 18 at a high altitude airport (elevation 6,445 feet), in a mountainous area, at night. The control tower was closed for the night. The airport was located in a national park, and, therefore, the runway lights were not left on during the night. During non-tower operation hours, the procedure for turning on the runway lights called for the pilot to key the microphone multiple times on the Common Traffic Advisory Frequency (CTAF), which was the tower frequency. The copilot of the accident airplane made multiple attempts to turn on the runway lights using the UNICOM frequency, which had been the CTAF until about 6 months before the accident. The captain continued his landing approach below approach minimums without the runway lights being on. While in the landing flare, the captain reported that strong cross-winds and blowing snow created a "white-out" weather condition. The airplane touched down 195 feet left of the runway centerline in snow covered terrain between the runway and taxiway. Two ILS Runway 18 approach plates were found in the airplane. One was out of date and showed the UNICOM frequency as the CTAF. The other was current and showed the tower frequency as the CTAF.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to follow IFR approach procedures and perform a missed approach when the runway was not in sight below approach minimums. Contributing factors were the copilot's failure to follow current ILS approach procedures and use the correct frequency to turn on the runway lights, the snowy whiteout conditions near the ground, and the dark night light conditions.

## Findings

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Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER  
Phase of Operation: LANDING - FLARE/TOUCHDOWN

### Findings

1. (F) LIGHT CONDITION - DARK NIGHT
2. (F) AIRPORT FACILITIES, RUNWAY EDGE LIGHTS - NOT OPERATING
3. (F) PROCEDURES/DIRECTIVES - IMPROPER - COPILOT/SECOND PILOT
4. (C) PROCEDURES/DIRECTIVES - NOT FOLLOWED - PILOT IN COMMAND
5. WEATHER CONDITION - CROSSWIND
6. (F) WEATHER CONDITION - WHITEOUT
7. TERRAIN CONDITION - SNOW COVERED

## Factual Information

### HISTORY OF FLIGHT

On December 20, 2000, approximately 0126 mountain standard time, a Hawker Siddeley, HS-125-700, N236BN, was substantially damaged when it impacted snow covered terrain during landing at Jackson Hole Airport (elevation 6,445 feet), Jackson, Wyoming. The airline transport pilot captain, the airline transport pilot first officer, and the two passengers were not injured. Million Air Dallas was operating the airplane under Title 14 CFR Part 135. Instrument meteorological conditions prevailed for the night cross-country nonscheduled passenger flight that originated from Austin, Texas, 3 hours 20 minutes before the accident. The pilot had filed an IFR flight plan.

The pilots started their flight day by repositioning the airplane from Addison, Texas, (departure time 1935, December 19, 2000), to Austin, Texas, to pick up passengers. They arrived in Austin at 2015.

Federal Aviation Administration (FAA) records indicate that the airplane departed Austin at 2206. As the airplane approached Jackson, Wyoming (at 0033), the Salt Lake City Air Route Traffic Control Center (ARTCC) controller gave the pilots the most recent weather at Jackson Hole Airport as follows: wind 250 degrees at 10 knots gusting to 14 knots; visibility 5 statute miles; cloud condition 100 feet few clouds, 1,000 feet scattered clouds, 1,600 feet overcast; temperature 25 degrees Fahrenheit; dew point 16 degrees Fahrenheit; altimeter setting 29.88 inches.

The Salt Lake City ARTCC controller cleared the airplane to descend from Flight Level (FL) 310 to 16,000 feet at 0058. The flight crew was cleared to fly the full Instrument Landing System (ILS) approach to runway 18, at 0108. At 0116, the flight crew was cleared to change communication frequency to the Common Traffic Advisory Frequency (CTAF) of 118.07 Mhz due to Jackson Hole Airport's air traffic control tower being closed for the night.

According to the captain, when they were approximately 5 nautical miles (nm) from the airport and descending through 9,000 feet msl, the copilot reported that he could see the ground. The captain said that "the airport was in sight," the Precision Approach Path Indicator (PAPI) lights were visible along the left side of the runway, and the "runway was in sight." He said that he completed all landing checks, and had the airplane centered on the ILS localizer and glide slope.

The captain said that as he began to flare for the touchdown, "blowing snow became a factor along with a stiff crosswind from the right." He said that as he held the airplane in the flared attitude, "it appeared we entered a type of 'white-out' condition with blowing snow." The captain said the "landing felt firm and the aircraft was on the runway." He said that snow was coming off the runway onto the windshield, and then the nose dropped down which "felt like a collapse of the nose gear." The airplane came to rest in approximately 2 feet of snow, facing east.

The airplane's cockpit voice recorder documented that when the airplane was within 5 nm of the airport, the captain said, "is there a frequency for tower to pump the lights up? Tower frequency?" The copilot responded with "it'd be 122.8 if it's not on." During the next 2

minutes, the copilot's position transmitted 4 times with 8 to 5 clicks with his transmission key [which is the procedure to turn on pilot operated runway lights]. Approximately 30 seconds before touchdown the copilot said, "there's our decision height." Then the captain said, "got any runway lights?" The copilot responded "says activate on 122.8 and that's what I'm on." Then the copilot said, "must be covered in snow."

A passenger on the airplane said, "we could not see the runway as we started to descend." As the airplane continued its descent, "the building lights of the airport were visible, but we could not see the runway or runway lights." Approximately 45 minutes after the airplane landed, the passenger said she observed blue taxiway lights for the first time. When she inquired about them, she was told that they had just been turned on.

#### PERSONAL INFORMATION

The captain was an airline transport pilot, and he reported that he had over 18,000 hours of flight experience during the previous 34 years. His last first class medical was taken on November 27, 2000; he had no medical limitations. He completed a ground refresher-training course with SimuFlite Training International, on May 18, 2000, and successfully completed a FAR 135 competency check ride in the airplane on May 20, 2000.

The first officer was also an airline transport pilot, and he reported that he had approximately 3,600 hours of flight experience. His first class medical was taken on December 8, 2000; he had no medical limitations. He completed a ground recurrence-training course with Raytheon Aircraft Services, Inc., on February 9, 2000, and successfully completed a FAR 135 competency check ride in the airplane on April 28, 2000.

Both pilots had the 2 days prior to the flight off. They had no assigned duties or activities before the accident flight on the day of the accident.

#### AIRCRAFT INFORMATION

The 10-seat airplane was manufactured by British Aerospace (model HS-125-700A) in 1979. It was powered by two Garrett TFE 731-3R-1H turbofan engines, which each had a maximum takeoff thrust of 3,700 pounds at sea level. The last approved inspection program examination was completed on October 12, 2000; both engines were last inspected 114 hours before the accident. The airframe had a total of 8,348 hours flight time.

#### METEOROLOGICAL INFORMATION

At 0135, the weather conditions at Jackson Hole Airport were as follows: wind 220 degrees at 14 knots gusting to 17 knots; visibility 3 statute miles; cloud condition 900 feet broken, 1,600 feet overcast; temperature 23 degrees Fahrenheit; dew point 18 degrees Fahrenheit; altimeter setting 29.87 inches.

#### AIDS TO NAVIGATION

The Jackson Hole Airport is equipped with an ILS approach to runway 18, which has a decision height of 6,747 feet (300 feet above ground level). This precision approach is continuously electronically monitored, and no deviations or abnormalities had been noted since it was last flight checked on May 30, 2000.

#### AERODROME INFORMATION

The Jackson Hole Airport is not serviced by a control tower after 2200 during winter months.

Due to the airport's location, in a national park, the runway lights are off after the tower closes. Any aircraft arriving after the tower's closure may control the runway lights on the CTAF (also tower frequency) of 118.07 Mhz.

Salt Lake City ARTCC provides radar services to Jackson Hole Airport; services terminate between 12,000 and 13,000 feet due to the mountainous terrain.

#### WRECKAGE AND IMPACT INFORMATION

Two ground tracks, in the snow, started 3,300 feet south of runway 18 threshold and extended approximately 600 feet to the airplane. The two ground tracks were parallel to the runway 18 and 195 feet east of the runway center line between the runway and taxiway in the graded safety area of Jackson Hole Airport. The airplane came to rest longitudinally aligned approximately 090 degrees in approximately 2 feet of snow. The right wing showed some separation from the fuselage and its leading edge was damaged. The left wing was broken and bent down 8 to 10 feet from the wing's tip. The nose gear was separated from the fuselage and located 375 feet north of the airplane. The nose cone was separated from the fuselage.

The airport manager reported that the airplane's fuel gauges indicated that 605 gallons of fuel were on the airplane. A representative from airplane's manufacturer said that the engine fuel consumption rate in the airplane's flight manual suggests that this amount of fuel could produce approximately 1 hour 45 minutes of flight time.

#### RESEARCH

The airport manager said the Jackson Hole Airport began Air Traffic Control Tower operation on June 8, 2000, at 0700. At that time, the CTAF frequency was changed from the Jackson Hole UNICOM frequency (122.8 Mhz) to the tower frequency of 118.07 Mhz.

Two Jeppesen Jackson Hole ILS Runway 18 approach plates were found in the airplane. One was dated October 8, 1999, and stated "pilot controlled lighting 122.8." One was dated August 18, 2000, and stated "pilot controlled lighting 118.07."

#### MEDICAL AND PATHOLOGICAL INFORMATION

Corning Clinical Laboratories, San Diego, California, performed United States Department of Transportation breath alcohol testing on the pilot and the first officer at 1145, on December 20, 2000. The results for both pilots were negative.

## Pilot Information

<b>Certificate:</b>	Airline Transport; Flight Instructor; Commercial	<b>Age:</b>	55, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land; Single-engine Sea	<b>Seat Occupied:</b>	Unknown
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane; Helicopter	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 None	<b>Last FAA Medical Exam:</b>	11/27/2000
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	07/15/2000
<b>Flight Time:</b>	18120 hours (Total, all aircraft), 1540 hours (Total, this make and model), 17995 hours (Pilot In Command, all aircraft), 104 hours (Last 90 days, all aircraft), 65 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

## Co-Pilot Information

<b>Certificate:</b>	Airline Transport; Commercial	<b>Age:</b>	37, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Glider	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 None	<b>Last FAA Medical Exam:</b>	12/08/2000
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	07/30/2000
<b>Flight Time:</b>	3600 hours (Total, all aircraft), 1078 hours (Total, this make and model), 2751 hours (Pilot In Command, all aircraft), 47 hours (Last 90 days, all aircraft), 18 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Make:	Hawker Siddeley	Registration:	N236BN
Model/Series:	HS-125-700 HA-125-700	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Transport	Serial Number:	NA-0236
Landing Gear Type:	Retractable - Tricycle	Seats:	10
Date/Type of Last Inspection:	10/12/2000, AAIP	Certified Max Gross Wt.:	25500 lbs
Time Since Last Inspection:	114 Hours	Engines:	2 Turbo Fan
Airframe Total Time:	8348 Hours at time of accident	Engine Manufacturer:	Garrett
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	TFE 731-3R-1H
Registered Owner:	R.R. INVESTMENTS, INC.	Rated Power:	3700 lbs
Operator:	R.R. INVESTMENTS, INC.	Operating Certificate(s) Held:	None
Operator Does Business As:	MILLION AIR DALLAS	Operator Designator Code:	GQVA

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	JAC, 6445 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0135 MST	Direction from Accident Site:	0°
Lowest Cloud Condition:	Thin Broken / 900 ft agl	Visibility	3 Miles
Lowest Ceiling:	Overcast / 1600 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	14 knots / 17 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.87 inches Hg	Temperature/Dew Point:	-5° C / -8° C
Precipitation and Obscuration:			
Departure Point:	AUSTIN, TX (AUS)	Type of Flight Plan Filed:	IFR
Destination:	JACKSON, WY (JAC)	Type of Clearance:	IFR
Departure Time:	2206 MST	Type of Airspace:	Class E

## Airport Information

Airport:	Jackson Hole Airport (JAC)	Runway Surface Type:	Asphalt
Airport Elevation:	6445 ft	Runway Surface Condition:	Snow--compacted
Runway Used:	18	IFR Approach:	ILS
Runway Length/Width:	6300 ft / 150 ft	VFR Approach/Landing:	None

## Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 None	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	JAMES F STRUHSAKER	Report Date:	02/20/2002
Additional Participating Persons:	Michael J Maglione; FAA; Casper, WY		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).