National Transportation Safety Board
Aviation Accident Final Report

Location:	CROSBYTON, TX	**Accident Number:**	FTW98LA007
Date & Time:	10/06/1997, 1830 CDT	**Registration:**	N9312Y
Aircraft:	Beech G18S	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Serious
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Analysis

While in cruise flight at 9,000 feet MSL, the left engine began to 'run rough and lose power.' The pilot said he interpreted the problem as carburetor icing and applied carburetor heat. With the engine still running rough, the left propeller was feathered and the left engine shut down. Restart attempts were not successful. Unable to maintain altitude, the pilot requested to land at a nearby airport. After descending through IMC weather, the pilot realized that he would not make it to the airport, and executed a forced landing to rough/uneven terrain. Examination of the engines revealed that the alternate air doors were missing on the right and left engine. The hinges for the doors were attached to both carburetors and showed no evidence of distortion or impact damage. The doors were not found at the wreckage site. A missing alternate air door would allow ambient air to enter the carburetor, rendering the carburetor heating system ineffective. According to carburetor icing probability charts, the reported temperature and dew point values would be favorable to the formation of induction system icing.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Inadequate maintenance which resulted in diminished carburetor heat effectiveness due to missing alternate air doors. Contributing were conducive carburetor icing weather conditions, low ceilings during the emergency descent, and the lack of suitable terrain for the forced landing.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: CRUISE

Findings
1. 1 ENGINE
2. (C) INDUCTION AIR CONTROL,ALTERNATE AIR/DOOR - MISSING
3. (C) CARBURETOR HEAT - DIMINISHED
4. (F) WEATHER CONDITION - CARBURETOR ICING CONDITIONS
5. (F) WEATHER CONDITION - LOW CEILING

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
6. TERRAIN CONDITION - ROUGH/UNEVEN
7. (F) TERRAIN CONDITION - NONE SUITABLE

Factual Information

On October 6, 1997, at 1830 central daylight time, a Beech G18S airplane, N9312Y, owned and operated by May Air Express of New Boston, Texas, was substantially damaged during a forced landing following a loss of engine power, near Crosbyton, Texas. The airline transport rated pilot, the sole occupant, sustained serious injuries. Instrument meteorological conditions prevailed in the vicinity of the accident and an IFR flight plan was filed for the Title 14 CFR Part 135 air cargo flight. The flight originated from Lubbock Municipal Airport, Lubbock, Texas, at 1730.

The pilot reported the following information in the Pilot/Operator Aircraft Accident Report(NTSB Form 6120.1/2) and during an interview with a FAA inspector. He stated that, while in cruise flight at 9,000 feet MSL, the left engine began to "run rough and lose power," which he suspected to be due to "carburetor ice." He further stated that he "deployed the manifold heat" but "encountered mechanical trouble moving the lever all the way down (heat on)." After " a few minutes" the he secured the left engine and feathered the propeller to "let the ice melt." He "repeatedly" attempted to restart the engine, but the propeller "would not unfeather." During the "whole ordeal" the pilot was unable to maintain altitude or a descent rate less than "200 feet per minute," and the aircraft kept buffeting on the edge of a stall. He stated that, after the airplane descended through a scattered cloud layer, he realized that he would not make it to the Crosbyton Airport. Subsequently, he executed a forced landing to grass covered terrain in a canyon about 5 miles northeast of the airport. He reported that the touch down was "hard but smooth [and then the airplane] struck uneven ground."

According to recorded transmissions between the pilot and Lubbock Approach Control, the pilot notified the controller at Lubbock Approach that the airplane was experiencing a problem involving "manifold icing," and he would be landing at Crosbyton Municipal Airport, Crosbyton, Texas.

Examination of the aircraft by an FAA airworthiness inspector found that the front of the airplane, from the instrument panel forward, was separated from the fuselage. Both engine nacelles were found separated from the wings and the empennage and tail remained intact. He reported that the hinge for the alternate air door on the left engine was attached, but the alternate air door(part number, 18-970011-25) was missing. He stated that the hinge did not appear to be damaged or distorted. The alternate air door was not found in the wreckage. Examination of the right engine revealed that the alternate air door was also missing from its hinge (which was not damaged). According to the FAA airworthiness inspector, a missing alternate air door on the carburetor air box would allow ambient air to enter the carburetor, rendering the carburetor heat system ineffective.

At the time of the accident the reported weather conditions at the Lubbock Airport, located 32 nautical miles west of the accident site were; winds from 140 degrees at 15 knots, a scattered cloud layer at 800 feet, a broken cloud layer at 1,600 feet, and an overcast cloud layer at 11,000 feet. The temperature was 64 degrees and the dew point was 63 degrees. According to carburetor icing probability charts, the reported temperature and dew point values would be favorable to the formation of induction system icing.

According to the Pilot/Operator Aircraft Accident Report(NTSB form 6120.1/2) the airline transport rated pilot had accumulated a total of 3,222 hours, of which 1,328 hours were in the Beech 18. The pilot had accumulated 650 hours of night flight time, of which 180 hours were in

the Beech 18.

Pilot Information

Certificate:	Airline Transport	**Age:**	35, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Seatbelt
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	3222 hours (Total, all aircraft), 1328 hours (Total, this make and model), 3048 hours (Pilot In Command, all aircraft), 237 hours (Last 90 days, all aircraft), 76 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N9312Y
Model/Series:	G18S G18S	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	BA-550
Landing Gear Type:	Retractable - Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	09/10/1997, AAIP	**Certified Max Gross Wt.:**	10100 lbs
Time Since Last Inspection:	28 Hours	**Engines:**	2 Reciprocating
Airframe Total Time:	17974 Hours	**Engine Manufacturer:**	P&W
ELT:	Installed, not activated	**Engine Model/Series:**	R-985
Registered Owner:	MAY AIR EXPRESS INC.	**Rated Power:**	450 hp
Operator:	MAY AIR EXPRESS INC.	**Operating Certificate(s) Held:**	Air Cargo
Operator Does Business As:		**Operator Designator Code:**	KVJA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	**Condition of Light:**	Dusk
Observation Facility, Elevation:	LBB, 3017 ft msl	**Distance from Accident Site:**	30 Nautical Miles
Observation Time:	1856 CDT	**Direction from Accident Site:**	265°
Lowest Cloud Condition:	Scattered / 800 ft agl	**Visibility**	10 Miles
Lowest Ceiling:	Broken / 1600 ft agl	**Visibility (RVR):**	0 ft
Wind Speed/Gusts:	15 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	140°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	18°C / 17°C
Precipitation and Obscuration:			
Departure Point:	LUBBOCK, TX (LBB)	**Type of Flight Plan Filed:**	IFR
Destination:	DFW INTNL., TX (DFW)	**Type of Clearance:**	IFR
Departure Time:	1730 CDT	**Type of Airspace:**	Class E

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	ALEXANDER LEMISHKO	**Report Date:**	02/11/2000
Additional Participating Persons:	MICHAEL R JORDAN; LUBBOCK, TX		
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 pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at http://dms.ntsb.gov/pubdms/.		