



National Transportation Safety Board Aviation Accident Final Report

Location:	TOMBALL, TX	Accident Number:	FTW99LA062
Date & Time:	10/01/1998, 1230 CDT	Registration:	N527SS
Aircraft:	Diamond Aircraft Industries DA 20-A1	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

During takeoff, at about 400 feet, the canopy separated from the airplane. The pilot turned the airplane back towards the airport and landed without further incident. The pilot reported that he did not explain to the passenger that the right side of the canopy needed to be latched before takeoff. The pilot also reported that he did not observe the canopy warning light during taxi to the runway, nor did he complete the 'Canopy-Secure' portion of the pre-takeoff checklist.

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 the checklist and secure the canopy, which resulted in the canopy separating from the airplane during takeoff initial climb. A factor was the pilot's failure to detect the canopy warning light prior to takeoff.

Findings

Occurrence #1: MISCELLANEOUS/OTHER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (C) CHECKLIST - NOT FOLLOWED - PILOT IN COMMAND
2. (F) CAUTION/WARNING SYSTEM/LIGHT(S) - NOT IDENTIFIED - PILOT IN COMMAND
3. (C) WINDOW,CANOPY - NOT SECURED
4. (C) WINDOW,CANOPY - SEPARATION

Factual Information

On October 1, 1998, at 1230 central daylight time, a Diamond Aircraft Industries DA 20-A1 single-engine airplane, N527SS, was substantially damaged when the canopy separated during takeoff from David Wayne Hooks Memorial Airport near Tomball, Texas. The private pilot and his passenger were not injured. The airplane was registered to MDFC Equipment Leasing Corporation of Long Beach, California, and operated by Flight Academy International of Spring, Texas. Visual meteorological conditions prevailed, and a flight plan was not filed for the 14 Code of Federal Regulations (CFR) Part 91 personal flight, which was originating at the time of the accident.

According to the Pilot/Operator Aircraft Accident Report, NTSB Form 6120.1/2, the pilot did not explain to the passenger that the right side of the canopy needed to be latched before takeoff. The pilot stated that he did not observe the canopy warning light during taxi to the runway, nor did he complete the "Canopy-Secure" portion of the pre-takeoff checklist. The pilot also stated that after takeoff from runway 17L, at about 400 feet, he heard a "rapid-sounding noise for several repetitions, followed by the canopy disengaging itself from the fuselage."

Following the separation of the canopy, the pilot's headset was lost from the "burst of wind." As a result, tower communication was not possible. The pilot turned the aircraft back towards the airport and landed on runway 35L "without further damage to [the] aircraft."

The canopy was recovered approximately 1/4 mile south of the localizer antennas for runway 17R.

According to the FAA inspector, the main structural spar behind the cockpit, to which the canopy was attached, sustained damage.

Pilot Information

Certificate:	Private	Age:	28, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	06/30/1998
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	14 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Diamond Aircraft Industries	Registration:	N527SS
Model/Series:	DA 20-A1 DA 20-A1	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Utility	Serial Number:	10090
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	08/25/1998, 100 Hour	Certified Max Gross Wt.:	1609 lbs
Time Since Last Inspection:	32 Hours	Engines:	1 Reciprocating
Airframe Total Time:	680 Hours	Engine Manufacturer:	Rotax
ELT:	Installed	Engine Model/Series:	912/F3
Registered Owner:	MDFC EQUIPMENT LEASING CORP.	Rated Power:	80 hp
Operator:	FLIGHT ACADEMY INTERNATIONAL	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	, 0 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0000	Direction from Accident Site:	0°
Lowest Cloud Condition:	Scattered / 5000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	31 °C / 22 °C
Precipitation and Obscuration:			
Departure Point:	(DWH)	Type of Flight Plan Filed:	None
Destination:	COLLEGE STATION, TX (CLL)	Type of Clearance:	
Departure Time:	1230 CDT	Type of Airspace:	Class D

Airport Information

Airport:	DAVID WAYNE HOOKS AIRPORT (DWH)	Runway Surface Type:	Asphalt
Airport Elevation:	152 ft	Runway Surface Condition:	Dry
Runway Used:	35L	IFR Approach:	None
Runway Length/Width:	3997 ft / 35 ft	VFR Approach/Landing:	Full Stop

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	DOUGLAS D WIGINGTON	Report Date:	04/20/2000
Additional Participating Persons:	JACOB D JOHNSON; HOUSTON, 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.nts.gov/pubdms/ .		

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