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## Tailstrike on landing, McDonnell Douglas DC-9-82, June 16, 2002

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**Micro-summary:** This McDonnell Douglas DC-9-82 encountered a tail strike while landing.

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**Event Date:** 2002-06-16 at 2030 CDT


**Investigative Body:** National Transportation Safety Board (NTSB), USA


**Investigative Body's Web Site:** <http://www.nts.gov/>


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1. Accident reports can be and sometimes are revised. Be sure to consult the investigative agency for the latest version before basing anything significant on content (e.g., thesis, research, etc).
  2. Readers are advised that each report is a glimpse of events at specific points in time. While broad themes permeate the causal events leading up to crashes, and we can learn from those, the specific regulatory and technological environments can and do change. ***Your company's flight operations manual is the final authority as to the safe operation of your aircraft!***
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		NTSB ID: CHI02LA170		Aircraft Registration Number: N140NJ	
		Occurrence Date: 06/16/2002		Most Critical Injury: None	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Kansas City		State MO	Zip Code 64153	Local Time 2030	Time Zone CDT
Airport Proximity: On Airport		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer McDonnell Douglas		Model/Series DC-9-82		Type of Aircraft Airplane	
Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
<p>Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:</p> <p>On June 16, 2002, a McDonnell Douglas DC-9-82, N140NJ, operated by Vanguard Airlines as flight 313, was discovered to have substantial damage to its tailskid and adjacent structure during a postflight maintenance inspection. Flight 313 arrived at 2030 central daylight time and landed on runway 01L (10,801 feet by 150 feet, grooved concrete) at the Kansas City International Airport (MCI), Kansas City, Missouri. Visual meteorological conditions prevailed at the time of landing. The 14 CFR Part 121 passenger flight was operating on a flight plan. The 2 pilots, 3 flight attendants and 118 passengers reported no injuries. The flight departed from the Orlando International Airport, Orlando, Florida, en route to MCI.</p> <p>The flight served as captain initial operating experience for the first officer who was seated in the left seat. The captain and company check airman for the flight was seated in the right seat.</p> <p>The captain, who was the nonflying pilot, stated that they had been cleared for a visual approach to runway 01L. The first officer (FO) disengaged and the autopilot and the autothrottles remained engaged for the remainder of the flight. The reference landing speed (Vref) bug was set to 130 knots indicated airspeed (KIAS). At 1,000 feet above field elevation (AFE), the airplane was at 140 KIAS and half a dot below glide path. The first officer corrected to the glide path and at 500 feet AFE, the airplane was at 130 KIAS. At 100 feet above AFE, the captain made a call and checked outside to ensure that the airplane was aligned with the runway. He then brought his scan back inside and noticed the airspeed was just below Vref. He told the FO not to slow down any further. He rechecked runway alignment and then noticed the flight mode annunciator display had a blank left window, the throttles were already at idle and the auto throttle switch was in the engaged position while they were about 80 and 40 feet AFE. He decided that the engines would not be able to spool back up at this point and he shifted his attention back outside to gage the position of the airplane. He determined that the only action to take was to ensure that the nose of the airplane was not raised to cushion the landing. The airplane did not slow below Vref. The first officer said that he did not retard the throttles to idle manually.</p> <p>A jump seat rider seated in the forward cabin stated that the airplane appeared to level off and start a flare a little high. A correction was then made to reduce the pitch attitude to continue the descent. There appeared to be a high sink rate, an additional pitch change was made resulting in a firm landing.</p> <p>The Federal Aviation Administration, Boeing Commercial Aircraft, and Vanguard Airlines were parties to the investigation.</p>					
FACTUAL REPORT - AVIATION					
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 <b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b>		NTSB ID: CHI02LA170			
		Occurrence Date: 06/16/2002			
		Occurrence Type: Accident			
<b>Landing Facility/Approach Information</b>					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
Kansas City International	MCI	1026 Ft. MSL	01	10801	150
Runway Surface Type: Concrete					
Runway Surface Condition: Dry					
Type Instrument Approach: ILS-complete; Visual					
VFR Approach/Landing: Full Stop					
<b>Aircraft Information</b>					
Aircraft Manufacturer		Model/Series		Serial Number	
McDonnell Douglas		DC-9-82		49931	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 139	Certified Max Gross Wt.	150500 LBS	Number of Engines: 2	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Turbo Fan	Pratt & Whitney	JT8-219	21700 LBS		
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
Continuous Airworthiness	06/2002	21.33 Hours	28059.5 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? No	ELT Operated? No	ELT Aided in Locating Accident Site? No			
<b>Owner/Operator Information</b>					
Registered Aircraft Owner		Street Address			
Wells Fargo Bank Northwest NA Trustee		79 S Main Street			
		City	State	Zip Code	
		Salt Lake City	UT	84111	
Operator of Aircraft		Street Address			
Vanguard Airlines Inc.		533 Mexico City Avenue			
		City	State	Zip Code	
		Kansas City	MO	64153	
Operator Does Business As:			Operator Designator Code: P2EA		
- Type of U.S. Certificate(s) Held:					
Air Carrier Operating Certificate(s): Flag Carrier/Domestic					
Operating Certificate:			Operator Certificate:		
Regulation Flight Conducted Under: Part 121: Air Carrier					
Type of Flight Operation Conducted: Scheduled; Domestic; Passenger Only					
FACTUAL REPORT - AVIATION					

 <p><b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b></p>	NTSB ID: CHI02LA170
	Occurrence Date: 06/16/2002
	Occurrence Type: Accident

**First Pilot Information**

Name On File	City On File	State On File	Date of Birth On File	Age 36
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Sex: M	Seat Occupied: Left	Principal Profession: Civilian Pilot	Certificate Number: On File
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Certificate(s): Airline Transport; Commercial

Airplane Rating(s): Multi-engine Land; Single-engine Land

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s):

Type Rating/Endorsement for Accident/Incident Aircraft? Yes	Current Biennial Flight Review? 05/2002
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Medical Cert.: Class 1	Medical Cert. Status: Valid Medical--w/ waivers/lim.	Date of Last Medical Exam: 01/2002
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- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time	7550	6								
Pilot In Command(PIC)										
Instructor										
Last 90 Days	24									
Last 30 Days										
Last 24 Hours										

Seatbelt Used? Yes	Shoulder Harness Used? Yes	Toxicology Performed? No	Second Pilot? Yes
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**Flight Plan/Itinerary**

Type of Flight Plan Filed: IFR

Departure Point Orlando	State FL	Airport Identifier MCO	Departure Time 1905	Time Zone EDT
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Destination	State	Airport Identifier MCI	
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Type of Clearance: IFR

Type of Airspace: Class B

**Weather Information**

Source of Briefing: Company


Method of Briefing: In Person

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<b>Weather Information</b>					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
MCI	1953	CDT	1005 Ft. MSL	NM	Deg. Mag.
Sky/Lowest Cloud Condition: Scattered			20000 Ft. AGL	Condition of Light: Day	
Lowest Ceiling: None		Ft. AGL	Visibility: 10	SM	Altimeter: 29.97 "Hg
Temperature: 23 °C	Dew Point: 9 °C	Wind Direction: 60		Density Altitude: Ft.	
Wind Speed: 6	Gusts:	Weather Conditions at Accident Site: Visual Conditions			
Visibility (RVR): Ft.	Visibility (RVV)	SM	Intensity of Precipitation:		
Restrictions to Visibility: None					
Type of Precipitation: None					

<b>Accident Information</b>		
Aircraft Damage: Substantial	Aircraft Fire: None	Aircraft Explosion: None

Classification: U.S. Registered/U.S. Soil					
- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot				1	1
Second Pilot				1	1
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants				3	3
Other Crew					
Passengers				118	118
- TOTAL ABOARD -				123	123
Other Ground					
- GRAND TOTAL -				123	123

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Administrative Information

Investigator-In-Charge (IIC)  
Mitchell F. Gallo

Additional Persons Participating in This Accident/Incident Investigation:

Jeff Hutchinson  
Inspector  
Federal Aviation Administration  
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Kansas City, MO 64153

William C Steelhammer  
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