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## Wheels-up landing, Douglas DC-8-71F, April 26, 2001

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**Micro-summary:** This Douglas DC-8-71F conducted a wheels-up landing.

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**Event Date:** 2001-04-26 at 0629 CDT

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


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

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		NTSB ID: MIA01IA129		Aircraft Registration Number: N8076U	
		Occurrence Date: 04/26/2001		Most Critical Injury: None	
		Occurrence Type: Incident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Nashville	State TN	Zip Code 37217	Local Time 0629	Time Zone CDT	
Airport Proximity: On Airport		Distance From Landing Facility: 0		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer McDonnell Douglas		Model/Series DC-8-71F		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 April 26, 2001, at about 0629 central daylight time, a Boeing/McDonnell Douglas DC-8-71F, N8076U, registered to Emery Worldwide Airlines, Inc., operating as a Title 14 CFR Part 121 cargo flight, flight 228, sustained a left main landing gear, (LMLG) up landing at Nashville International Airport, Nashville, Tennessee. Visual meteorological conditions prevailed and an IFR flight plan was filed. The airline transport-rated pilot, airline transport-rated copilot, and flight engineer were not injured, 63,951 pounds of freight were not damaged, and the aircraft sustained minor damage. The flight departed Dayton, Ohio, about 44 minutes before the incident.</p> <p>According to the pilot, all operations were normal from the time of departure at Dayton until commencement of a visual straight-in approach to Nashville's runway 31. Upon gear extension, the LMLG did not indicate down, and a go-around was executed. The crew accomplished the appropriate emergency/abnormal procedures checklist, as well as communicating with company maintenance for additional trouble-shooting procedures. After performing a low flyby near the tower, and confirming with tower personnel that the LMLG was completely up, on their third attempt the crew performed a LMLG up landing on runway 31. The aircraft came to rest about 400 feet from the end of the 11,000 foot runway about 4 feet left of centerline on the nose gear, the RMLG, and the bottom of the engine cowlings of engines number one and two. The crew evacuated the aircraft by use of the emergency ropes/tapes.</p> <p>Examination of the aircraft maintenance logs for aircraft N8076U revealed that prior to the flight, on April 25, 2001, the LMLG hydraulic system had undergone a valve replacement by Emery maintenance at Dayton. The valve replaced was a two-way, filtered, hydraulic flow restrictor valve that directs full, 3,000 lb. aircraft system hydraulic pressure to retract the MLG, but restricts the full 3,000 lb. pressure from slamming the MLG to the extended position. The wording extracted from the maintenance log page number 09856-14, for aircraft N8076U, under "discrepancy" was, "Robbed fluid restrictor vlv from LH M/L/G Retract cylinder-lines temporarily capped". The "corrective action" write up was, "Installed LT MLG filtered restrictor as required IAW United [Airlines] MM 32-31-19 pg 202 (B) 6 plus note. Lk and Ops checks good". The proper hydraulic fluid restrictor valve possessed an aircraft manufacturer's, (Douglas) specification number, of 4776708-5503, and a vendor's, (Crissair, Inc. of El Segundo, Calif.) part number of 6F2020-1. The part number of the installed replacement valve was not displayed anywhere on the valve, however, the maintenance log page for N8076U of April 25th had the number "4776708-5503" filled in the block titled, "part no. on". A copy of the identification tag reportedly affixed to the replacement valve, supplied by Emery maintenance, shows the part number of the valve was 4776708-5503A. This part number could not be found by the aircraft manufacturer or the FAA, using Emery's illustrated parts catalog. The hydraulic valve installation mechanic and the installation inspector both stated that the finished job was leak and "ops" tested, as required by United Airlines maintenance manual 32-31-19, pages 203, 204, subparagraph C, "Adjustment/Test". A copy of the maintenance log page, the United Airlines maintenance manual pages referenced, and statements from the mechanic and inspector who performed the work and made the log entries are attachments to this report.</p>					
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National Transportation Safety Board

## FACTUAL REPORT

AVIATION

NTSB ID: MIA01IA129

Occurrence Date: 04/26/2001

Occurrence Type: Incident

## Narrative (Continued)

Post incident examination of the aircraft revealed damage was limited to the abraded undersides of the numbers one and two cowlings and CFM56-2 engines due to the grinding action of the grooved concrete runway surface. Markings and paint transfer on the runway revealed the pilot kept the left side engines from contacting the runway until the last 3,700 feet of landing rollout. The number two cowling was ground through to the constant speed drive/generator case, the accessory gearbox, and the drain mast. The number one cowling was ground through enough to slightly open a hydraulic line routed under the engine. The fully extended flaps did not contact the runway. No structural damage was detected using examination data supplied by Boeing's Service Engineering/Technical and Fleet Support Division.


The maintenance/recovery crew had to bypass the LMLG extension side hydraulic valve to get the LMLG to extend on the ground. When the hydraulic tubing to the valve was unsecured and opened by maintenance personnel, the LMLG free fell and locked down. For added confirmation that the LMLG extension hydraulic valve had malfunctioned, the RMLG extension hydraulic valve was removed from its location and installed in the LMLG system and normal hydraulic extension operation of the LMLG and LMLG door occurred.


The NTSB took custody of the hydraulic valve removed from the LMLG and transported it to an FAA certified hydraulic repair station for further examination. The valve was bench tested for pressure and flow. The valve exhibited normal flow of hydraulic fluid to 3,000 pounds in one direction only. The part number 4776708-5503A could not be found in the repair station's comprehensive data sources, nor could it be referenced by telephone call to the vendor. Both the repair station and the vendor confirmed that the proper factory specification number should be 4776708-5503 and the vendor part number should be 6F2020-1.

The cockpit voice recorder, (CVR) and flight data recorder, (FDR) were removed from the aircraft and shipped to the NTSB Recorders Laboratory for analysis. The CVR was found to be non-operational due to an internal malfunction and the tape contained no useful information. No NTSB recorder analysis group was convened, nor was a transcript prepared. The CVR factual report is an attachment to this report. The FDR was read out and the last 100 seconds for all parameters except control column position and elevator deflection was plotted. The plot is an attachment to this report.

The removed hydraulic valve was sent to the FAA, FSDO, Cincinnati, on May 29, 2001, at the request of the FAA Principal Maintenance Inspector for Emery Worldwide Airlines, reportedly to pursue a "suspected unapproved parts" case. The NTSB form 6120.15, "Receipt of Parts" was signed by the FAA Assistant Principal Maintenance Inspector for Emery on May 31, 2001.

Both the CVR and the FDR were returned to the airline and the NTSB form 6120.15 was signed on October 12, 2001 by the airline's Flight Safety Supervisor.

 <b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b>		NTSB ID: MIA01IA129			
		Occurrence Date: 04/26/2001			
		Occurrence Type: Incident			
<b>Landing Facility/Approach Information</b>					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
Nashville International	BNA	599 Ft. MSL	31	11030	150
Runway Surface Type: Asphalt; Concrete					
Runway Surface Condition: Dry					
Type Instrument Approach: NONE					
VFR Approach/Landing: Full Stop; Straight-in					
<b>Aircraft Information</b>					
Aircraft Manufacturer		Model/Series		Serial Number	
McDonnell Douglas		DC-8-71F		45941	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 7	Certified Max Gross Wt.	328000 LBS	Number of Engines: 4	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Turbo Fan	CFM International	CFM56-2	22000 LBS		
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
Continuous Airworthiness	04/2001	27 Hours	81335 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? No	ELT Operated?	ELT Aided in Locating Accident Site?			
<b>Owner/Operator Information</b>					
Registered Aircraft Owner		Street Address			
		83 Wooster Heights Rd. Lee Farm Corp. Park			
Aero USA dba GPA Corp.		City	State	Zip Code	
		Danbury	CT	06810	
Operator of Aircraft		Street Address			
		One Emery Plaza, Dayton Int'l Airport			
Emery Worldwide Airlines, Inc.		City	State	Zip Code	
		Vandalia	OH	45377	
Operator Does Business As:			Operator Designator Code: RRXA		
- 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; International; Cargo					
FACTUAL REPORT - AVIATION					

 <p><b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b></p>	NTSB ID: MIA01IA129
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	Occurrence Type: Incident

**First Pilot Information**

Name On File	City On File	State On File	Date of Birth On File	Age 54
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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

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

Rotorcraft/Glider/LTA:

Instrument Rating(s): Airplane

Instructor Rating(s): None

Type Rating/Endorsement for Accident/Incident Aircraft? Yes	Current Biennial Flight Review? 03/2001
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Medical Cert.: Class 1	Medical Cert. Status: Valid Medical--no waivers/lim.	Date of Last Medical Exam: 01/2001
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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	8315	4500	60	8256						
Pilot In Command(PIC)										
Instructor	1704									
Last 90 Days	234	234								
Last 30 Days	72	72								
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 Dayton	State OH	Airport Identifier DAY	Departure Time 0545	Time Zone EDT
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Destination Nashville	State TN	Airport Identifier BNA	
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Type of Clearance: IFR

Type of Airspace: Class C

**Weather Information**

Source of Briefing: Company

Method of Briefing: In Person

 <p><b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b></p>	NTSB ID: MIA01IA129
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**Weather Information**

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
BNA	0635	CDT	599 Ft. MSL	0 NM	Deg. Mag.

Sky/Lowest Cloud Condition: Clear Ft. AGL Condition of Light: Day

Lowest Ceiling: None Ft. AGL Visibility: 8 SM Altimeter: 30.28 "Hg

Temperature: 6 °C Dew Point: 4 °C Wind Direction: Density Altitude: Ft.

Wind Speed: 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

**Accident Information**

Aircraft Damage: Minor 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				1	1
Cabin Attendants					
Other Crew					
Passengers					
- TOTAL ABOARD -				3	3
Other Ground					
- GRAND TOTAL -				3	3

 <p>National Transportation Safety Board <b>FACTUAL REPORT</b> AVIATION</p>	NTSB ID: MIA01IA129
	Occurrence Date: 04/26/2001
	Occurrence Type: Incident

Administrative Information

Investigator-In-Charge (IIC)

Alan C. Stone

Additional Persons Participating in This Accident/Incident Investigation:

Jim Smith  
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