
Engine fire, McDonnell Douglas DC-10-30, G-NIUK, May 11, 1997

Micro-summary: The #3 engine on this DC-10 caught fire while taxiing for takeoff.

Event Date: 1997-05-11 at 1934 EDT


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

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

Cautions:

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!***
 3. Reports may or may not represent reality. Many many non-scientific factors go into an investigation, including the magnitude of the event, the experience of the investigator, the political climate, relationship with the regulatory authority, technological and recovery capabilities, etc. It is recommended that the reader review all reports analytically. Even a "bad" report can be a very useful launching point for learning.
 4. Contact us before reproducing or redistributing a report from this anthology. Individual countries have very differing views on copyright! We can advise you on the steps to follow.
-

Aircraft Accident Reports on DVD, Copyright © 2006 by Flight Simulation Systems, LLC
All rights reserved.
www.fss.aero

		NTSB ID: MIA97LA159		Aircraft Registration Number: GNIUK	
		Occurrence Date: 05/11/1997		Most Critical Injury: Serious	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place SAN JUAN		State PR	Zip Code 00937	Local Time 1934	Time Zone EDT
Airport Proximity: On Airport		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer McDonnell Douglas		Model/Series DC-10-30		Type of Aircraft Airplane	
Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:					
<p>On May 11, 1997, about 1934 eastern daylight time, a McDonnell Douglas DC-10-30, G-NIUK, operated by Flying Colours Airlines Inc., as British Airways Flight 4508 (BA4508), operating as a Title 14 CFR Part 129, scheduled flight, from San Juan, Puerto Rico to Gadwick, England, was evacuated via the slides after the No. 3 (right) engine caught fire at the San Juan International Airport. Visual meteorological conditions prevailed and an IFR flight plan was filed. The airplane was not damaged. The flightcrew of 3, cabin crew of 11, and 248 passengers were not injured. One passenger was seriously injured during the evacuation.</p> <p>The airplane was taxiing for departure on taxiway "N", when a strong smell of fuel was detected in the passenger cabin. About the same time, the crew of a commuter flight taxiing behind BA4508, reported that the DC-10's right engine was on fire. The crew of BA4508 saw the smoke from the cockpit window, the captain stopped the airplane, shut down the engines, and ordered an evacuation. At 1939, crash fire rescue equipment was used to put out the fire.</p> <p>Passengers said that they smelled "raw aviation fuel in the cabin." They said, "...the smell was very different from the smell of engine exhaust fumes common on planes when the engines first start up." Several of the passengers became concerned about their safety, and overheard flight attendants tell passengers the smell was "not unusual" and there was "no need to worry." After a few minutes the flight crew announced to the passengers that "they were aware of the presence of fumes in the cabin and that the air conditioning intake was being changed to the auxiliary power unit." The smell of fuel was reduced, but still "strong."</p> <p>According to the passengers "several" minutes elapsed before the engines were shut down, and they received an announcement from the flight crew that they would be returning to the gate. Another announcement was made that they would be returning to the gate, but the airplane remained stationary with the engines shut down.</p> <p>A passenger described the evacuation by saying the "lights went out momentarily and emergency lighting illuminated; a faint alarm sounded; the cabin crew screamed Get out! Get out! There was general panic in the cabin-passengers screamed and pushed to get out...some...passenger[s]...had not cleared the bottom of the shute [sic]. No-one was at the bottom of the shute [sic] to help people stand up and move out of the way promptly." After evacuating the airplane passengers were standing around on the tarmac and did not know where to go. A passenger said, "nobody was directing passengers away from the plane: some passengers were standing near the bottom of the shute [sic]...others were moving away in all possible directions."</p> <p>Examination of the right engine [No.3] revealed that the fuel/oil heat exchanger was leaking fuel. There was no damage to the engine or the airframe. The heat exchanger (part number 158210-11) from the No. 3 engine was returned Normalair, United Kingdom (UK), and examined under the supervision of AAIB (Air Accidents Investigation Branch), Department of Transportation (see</p>					
FACTUAL REPORT - AVIATION					
					Page 1

National Transportation Safety Board

FACTUAL REPORT

AVIATION




NTSB ID: MIA97LA159


Occurrence Date: 05/11/1997

Occurrence Type: Accident

Narrative (Continued)

AAIB report attached to this report). The examination revealed that the heat exchanger failed, and a "large fuel leak" had occurred into the oil system in the of the No. 3 engine. Detailed examination revealed that two high pressure internal baffles within the heat exchanger had become out alignment, due to fretting wear between the baffle plate and retaining slots in the casing. The pressure distribution across the affected baffle plates, due to the flow of oil through the unit, had loaded one end of the plate more than the other resulting in the fretting wear between the baffle plate and the retaining slot, causing the fuel leakage.

 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: MIA97LA159			
		Occurrence Date: 05/11/1997			
		Occurrence Type: Accident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
LUIS MUNOZ MARIN INTL.	SJU	10 Ft. MSL	8	10002	200
Runway Surface Type: Asphalt					
Runway Surface Condition: Dry					
Type Instrument Approach: NONE					
VFR Approach/Landing: None					
Aircraft Information					
Aircraft Manufacturer		Model/Series		Serial Number	
McDonnell Douglas		DC-10-30		46932	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 263	Certified Max Gross Wt.	570801 LBS	Number of Engines: 3	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Turbo Fan	GE	CF6-50C2			
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
Continuous Airworthiness		Hours	59751 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? Yes	ELT Operated? No	ELT Aided in Locating Accident Site?			
Owner/Operator Information					
Registered Aircraft Owner		Street Address			
FLYING COLOURS AIRLINES INC		81 FARRINGTON ST			
		City	State	Zip Code	
		LONDON	OF	00000	
Operator of Aircraft		Street Address			
Same as Reg'd Aircraft Owner		Same as Reg'd Aircraft Owner			
		City	State	Zip Code	
Operator Does Business As: FLYING COLOURS			Operator Designator Code: F7JF		
- Type of U.S. Certificate(s) Held: None					
Air Carrier Operating Certificate(s):					
Operating Certificate:					
Regulation Flight Conducted Under: Part 129: Foreign					
Type of Flight Operation Conducted: Scheduled; International; Passenger Only					
FACTUAL REPORT - AVIATION					

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: MIA97LA159
	Occurrence Date: 05/11/1997
	Occurrence Type: Accident

First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 46
-----------------	-----------------	------------------	--------------------------	-----------

Sex: M	Seat Occupied: Left	Principal Profession: Civilian Pilot	Certificate Number: On File
--------	---------------------	--------------------------------------	-----------------------------

Certificate(s): Airline Transport

Airplane Rating(s): Multi-engine Land

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): None

Type Rating/Endorsement for Accident/Incident Aircraft? Yes	Current Biennial Flight Review?
---	---------------------------------

Medical Cert.: Class 1	Medical Cert. Status: Valid Medical--no waivers/lim.	Date of Last Medical Exam: 04/1997
------------------------	--	------------------------------------

- 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	11000	250	200	10800	2500	11000	800			
Pilot In Command(PIC)	6500	250	150	6500	1500	6500	450			
Instructor										
Last 90 Days	200	200		200	60	60	60			
Last 30 Days	100	100		100	35	35				
Last 24 Hours										

Seatbelt Used? Yes	Shoulder Harness Used? Yes	Toxicology Performed? No	Second Pilot? Yes
--------------------	----------------------------	--------------------------	-------------------

Flight Plan/Itinerary

Type of Flight Plan Filed: IFR

Departure Point Same as Accident/Incident Location	State	Airport Identifier	Departure Time 1915	Time Zone EDT
---	-------	--------------------	------------------------	------------------

Destination GATWICK	State OF	Airport Identifier LGW	
------------------------	-------------	---------------------------	--


Type of Clearance: IFR

Type of Airspace:

Weather Information

Source of Briefing: Company

Method of Briefing:

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: MIA97LA159
	Occurrence Date: 05/11/1997
	Occurrence Type: Accident

Weather Information

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
0000			0 Ft. MSL	0 NM	0 Deg. Mag.

Sky/Lowest Cloud Condition: **Scattered** 3000 Ft. AGL Condition of Light: **Night/Dark**

Lowest Ceiling: **None** 0 Ft. AGL Visibility: **10** SM Altimeter: **29.00** "Hg

Temperature: **29 °C** Dew Point: **22 °C** Wind Direction: **120** Density Altitude: **Ft.**

Wind Speed: **2** Gusts: Weather Conditions at Accident Site: **Visual Conditions**

Visibility (RVR): **0** Ft. Visibility (RVV) **0** SM Intensity of Precipitation: **Unknown**

Restrictions to Visibility: **None**

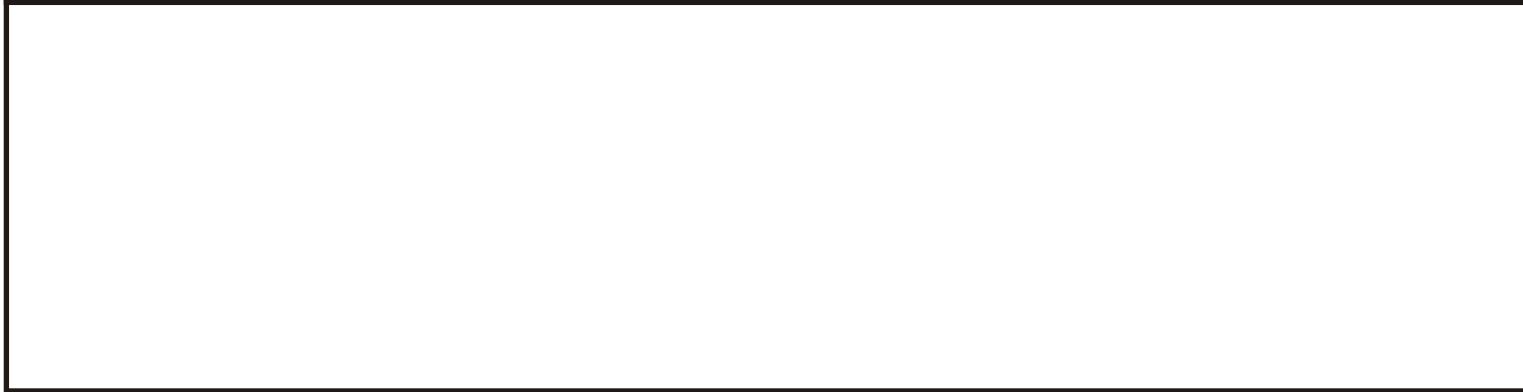
Type of Precipitation:

Accident Information

Aircraft Damage: **None** Aircraft Fire: **Ground** Aircraft Explosion: **None**

Classification: **Foreign 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				11	11
Other Crew					
Passengers		1		248	249
- TOTAL ABOARD -		1		262	263
Other Ground	0	0	0		0
- GRAND TOTAL -	0	1	0	262	263



National Transportation Safety Board

FACTUAL REPORT

AVIATION



NTSB ID: MIA97LA159

Occurrence Date: 05/11/1997

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

ALAN J. YURMAN

Additional Persons Participating in This Accident/Incident Investigation:

ERIC APONTE
SAN JUAN FSDO
SAN JUAN, PR 00937