



National Transportation Safety Board Aviation Incident Final Report

Location:	Tunica, MS	Incident Number:	ATL04IA098
Date & Time:	04/27/2004, 0300 CDT	Registration:	N738FX
Aircraft:	Cessna 208B	Aircraft Damage:	Minor
Defining Event:		Injuries:	2 None

Flight Conducted Under: Part 91: General Aviation - Instructional

Analysis

According to the check airman, during a demonstration procedure for loss of engine power, the check airman reduced the power lever to idle, turn on the ignition, un-stowed and advanced the emergency power lever (EPL). The check airman felt a vibration and heard a noise. He re-stowed the EPL and advanced the engine power lever. Flames exited the exhaust and the check airman shut down the engine, and made an emergency landing on a nearby road. After landing the airplane the two pilots attempted to remove the airplane from the roadway, and a passing truck struck the left wing of the airplane. Examination of the fuel flow control unit revealed that the EPL lever dead band was 7 degrees below the minimum requirement of 25 to 35 degrees. The fuel flow control unit began fuel flow at 18 degrees of lever travel. The manual override was disassembled and it was found that the plunger, which compresses the bellows, was allowed to contact the bellows prior to the required degrees of travel. Review of the pilot's operating handbook emergency procedures states: When using the emergency power lever, monitor gas generator RPM when reducing power near idle, to keep it from decreasing below 65% in flight. The emergency power lever may have a dead band, such that no engine response is observed during the initial forward travel from idle position.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: The pilot's improper use of the emergency power lever which resulted in excessive operating temperatures. A factor was the improper adjustment of the emergency power lever dead band.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: OTHER

Findings

1. EMERGENCY PROCEDURE - SIMULATED
 2. (C) EMERGENCY PROCEDURE - INADEQUATE
 3. (C) POWERPLANT CONTROLS - IMPROPER USE OF
 4. (F) FUEL SYSTEM,FUEL CONTROL - OUT OF CALIBRATION
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Occurrence #2: LOSS OF ENGINE POWER
Phase of Operation: OTHER

Occurrence #3: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #4: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: EMERGENCY LANDING

Findings

5. TERRAIN CONDITION - ROADWAY/HIGHWAY

Factual Information

On April 27, 2004, at 0300 central daylight time, a Cessna 208B, N738FX, registered to and operated by Federal Express Corporation, made an emergency landing on a road during a training flight near Tunica, Mississippi. The non-scheduled flight was operated under the provisions of Title 14 CFR Part 135 with an instrument flight plan filed. Visual meteorological conditions prevailed at the time of the incident. The airline transport rated check airman, and airline transport rated pilot were uninjured, and the airplane was not damaged. The flight departed Memphis International Airport, Memphis, Tennessee, on April 27, 2004 at 0238.

According to the check airman, during a demonstration procedure for loss of engine power, the check airman reduced the power lever to idle, turned on the ignition, and un-stowed and advanced the emergency power lever (EPL). The check airman felt a vibration and then heard a noise. He re-stowed the EPL and advanced the engine power lever. Flames exited the exhaust and the check airman shut down the engine, and made an emergency landing on a nearby road. After landing the airplane the two pilots attempted to remove the airplane from the roadway, and a passing truck struck the left wing of the airplane.

Examination of the fuel flow control unit revealed that the EPL lever dead band was 7 degrees below the minimum requirement of 25 to 35 degrees. The fuel flow control unit began fuel flow at 18 degrees of lever travel. The manual override was disassembled and it was found that the plunger, which compresses the bellows, was allowed to contact the bellows prior to the required degrees of travel.

In review of the Pratt & Whitney Canada service information letter it states: The Cessna Caravan 208/208B aircraft is equipped with a fuel control incorporating an emergency manual override system which is intended to be used in the event of a loss of Power Lever control due to loss of air pressure to the Fuel Control Unit during flight. The Emergency Power Lever does not duplicate the function of the Power Lever Assembly and should not be used as an optional means of controlling the engine. It must be left in the "Normal" position during all normal engine operation.

Review of the pilot's operating handbook emergency procedures states: When using the emergency power lever, monitor gas generator RPM when reducing power near idle, to keep it from decreasing below 65% in flight. The emergency power lever may have a dead band, such that no engine response is observed during the initial forward travel from idle position.

Pilot Information

Certificate:	Age:
Airplane Rating(s):	Seat Occupied:
Other Aircraft Rating(s):	Restraint Used:
Instrument Rating(s):	Second Pilot Present:
Instructor Rating(s):	Toxicology Performed:
Medical Certification:	Last Medical Exam:
Occupational Pilot:	Last Flight Review or Equivalent:
Flight Time:	

Co-Pilot Information

Certificate:	Age:
Airplane Rating(s):	Seat Occupied:
Other Aircraft Rating(s):	Restraint Used:
Instrument Rating(s):	Second Pilot Present:
Instructor Rating(s):	Toxicology Performed:
Medical Certification:	Last Medical Exam:
Occupational Pilot:	Last Flight Review or Equivalent:
Flight Time:	

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Cessna	Registration:	N738FX
Model/Series:	208B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:		Serial Number:	
Landing Gear Type:		Seats:	
Date/Type of Last Inspection:		Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	
Airframe Total Time:		Engine Manufacturer:	
ELT:		Engine Model/Series:	
Registered Owner:		Rated Power:	
Operator:	FEDERAL EXPRESS CORPORATION	Air Carrier Operating Certificate:	None
Operator Does Business As:	FEDERAL EXPRESS CORPORATION	Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	
Observation Facility, Elevation:	MEM	Observation Time:	0252
Distance from Accident Site:		Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 9000 ft agl	Temperature/Dew Point:	16 °C / 6 °C
Lowest Ceiling:		Visibility	10 Miles
Wind Speed/Gusts, Direction:		Visibility (RVR):	
Altimeter Setting:	30.12 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:			
Departure Point:	MEMPHIS, TN (MEM)	Type of Flight Plan Filed:	
Destination:		Type of Clearance:	
Departure Time:	0238 CDT	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Minor
Passenger Injuries:	N/A	Aircraft Fire:	
Ground Injuries:	N/A	Aircraft Explosion:	
Total Injuries:	2 None	Latitude, Longitude:	35.042222, -89.976667

Administrative Information

Investigator In Charge (IIC):	Eric H Alleyne	Adopted Date:	07/07/2005
Additional Participating Persons:	Jacob Corbitt; Jackson FSDO		
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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