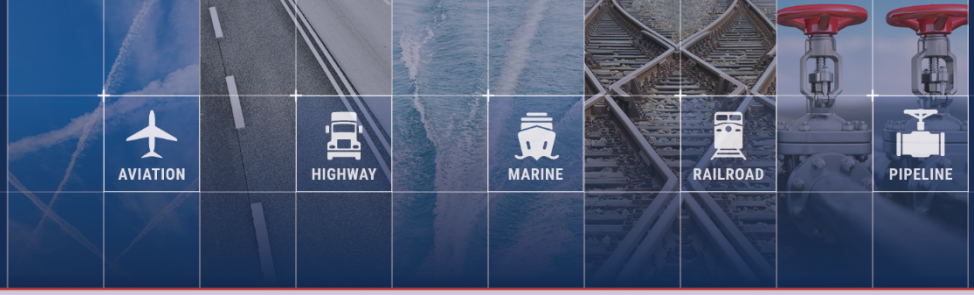

Aviation Investigation Final Report

Location:	Louisville, Kentucky	**Accident Number:**	NYC04LA204
Date & Time:	September 4, 2004, 16:30 Local	**Registration:**	N9779Y
Aircraft:	Beech BE-95-A55	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	4 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Upon landing at the destination airport, the pilot was informed that he would have to pay a ramp and parking fee, or buy a minimum of 15 gallons of fuel. Even though the airplane would not require any additional fuel for the subsequent flight, the pilot opted to buy fuel to avoid paying the fees. While the refueler was servicing the left auxiliary fuel tank, he allowed between 1 and 5 gallons to overflow. About 15 minutes later, the pilot attempted to start the left engine, and simultaneously, an explosion occurred in the left wing. The engine did not start, but the pilot thought that it backfired at the time of the explosion. Examination of the left wing revealed damage consistent with an internal explosion, and that the fuel cells were intact, full of fuel, and not leaking.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The improper refueling of the left auxiliary fuel tank, which resulted in an overflow of fuel, and a subsequent explosion in the left wing during engine start.

Findings

Occurrence #1: FIRE/EXPLOSION
Phase of Operation: STANDING - STARTING ENGINE(S)

Findings
1. (C) REFUELING - IMPROPER - FBO PERSONNEL

Factual Information

On September 4, 2004, about 1630 eastern daylight time, a Beech 95-A55, N9779Y, was substantially damaged when an explosion occurred in the left wing during left engine start at the Louisville International Airport-Standiford Field (SDF), Louisville, Kentucky. The certificated private pilot, and all three passengers were not injured. Visual meteorological conditions prevailed for the personal flight, destined for Nashville, Tennessee. No flight plan was filed, and the flight was conducted under 14 CFR Part 91.

According to the pilot, he landed at Louisville in order to pickup one additional passenger, before flying on to Nashville. Once on the ground, he was informed that he would have to pay a ramp and parking fee, or buy a minimum of 15 gallons of fuel. Even though the airplane would not require any additional fuel for the subsequent flight, the pilot opted to buy some fuel to avoid paying the fees.

While the refueler was servicing the left auxiliary fuel tank, he allowed approximately 4 to 5 gallons to overflow. The refueler advised the pilot of his mistake, and said he would add a couple of extra gallons to the right wing to makeup for what had been spilled. The refueler completed servicing the airplane, and then repositioned the truck.

The pilot examined the left wing for any evidence of residual fuel, and approximately 15 minutes after the spill had occurred, loaded his passengers in preparation for departure. The pilot started the left engine, and simultaneously an explosion occurred in the left wing. The engine did not start, but the pilot thought that it may have backfired at the time of the explosion.

According to the refueler, he was instructed to add 7 1/2 gallons to each wing. He serviced the left wing first, and inadvertently spilled 1 to 2 gallons in the process. The spilled fuel ran down the wing, off the trailing edge, and "it appeared to be evaporating quickly" from the ground. He then serviced the right wing, and then parked the fuel truck approximately 150 feet from the airplane. Sometime thereafter, he heard an explosion, and saw flames on the lower side of the left wing. He retrieved the handheld fire extinguisher from the fuel truck, and proceeded to the airplane where he extinguished the fire.

According to a Federal Aviation Administration inspector that examined the airplane, the left wing displayed damage consistent with an internal explosion, and the fuel cells were intact, full of fuel, and not leaking. The inspector added that he observed "very little fire damage" on or in the left wing.

Pilot Information

Certificate:	Private	**Age:**	53,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	March 27, 2003
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	February 9, 2003
Flight Time:	2938 hours (Total, all aircraft), 1058 hours (Total, this make and model), 27 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N9779Y
Model/Series:	BE-95-A55	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	TC-440
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	July 31, 2004 Annual	**Certified Max Gross Wt.:**	4900 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	5400 Hrs at time of accident	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	IO-470
Registered Owner:	Micheal Moore	**Rated Power:**	260 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	SDF,501 ft msl	**Distance from Accident Site:**	
Observation Time:	16:56 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Scattered / 5000 ft AGL	**Visibility**	7 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	50°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.1 inches Hg	**Temperature/Dew Point:**	31°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Louisville, KY (SDF)	**Type of Flight Plan Filed:**	None
Destination:	NASHVILLE, TN (BNA)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Unknown

Airport Information

Airport:	STANDIFORD FIELD SDF	**Runway Surface Type:**	
Airport Elevation:	501 ft msl	**Runway Surface Condition:**	Unknown
Runway Used:		**IFR Approach:**	Unknown
Runway Length/Width:		**VFR Approach/Landing:**	Unknown

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	3 None	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	On-ground
Total Injuries:	4 None	**Latitude, Longitude:**	38.174446,-85.736114

Administrative Information

Investigator In Charge (IIC):	Muzio, David
Additional Participating Persons:	Fred Seals; Federal Aviation Administration; Louisville, KY
Original Publish Date:	October 3, 2006
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=60067