Aviation Investigation Final Report

Location:	Richmond, Virginia	**Accident Number:**	NYC04LA219
Date & Time:	September 24, 2004, 18:20 Local	**Registration:**	N665WB
Aircraft:	de Havilland DHC-22A	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

After an uneventful departure from the airport, as the airplane was turned to enter the traffic pattern, the engine lost power. The pilot elected to conduct a 180-degree left turn to return to the airport, and during the turn, he overshot the runway. He then turned the airplane to the right to realign with the runway, and at 50 feet above the ground, the right wing stalled. The airplane continued to roll to the right and would not respond to aileron inputs. The airplane impacted a grass area next to the runway; ground looped, and came to rest. Examination of the wreckage revealed that when fuel was drained from the carburetor bowl, the fuel was consistent with automotive fuel, and was contaminated with water and other foreign object debris. A witness stated that the pilot had experienced a similar problem with a sputtering engine on the day prior to the accident, and executed an uneventful forced landing to the airport.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate preflight inspection which resulted in fuel contamination and a subsequent loss of engine power. A factor in the accident was the pilot's failure to maintain airspeed while attempting a forced landing which resulted in an inadvertent stall followed by the airplane impacting a grassy area next to the runway.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. FLUID,FUEL - CONTAMINATION
2. (C) AIRCRAFT PREFLIGHT - INADEQUATE - PILOT IN COMMAND

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: DESCENT - EMERGENCY

Findings
3. (F) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
4. STALL - INADVERTENT - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
5. TERRAIN CONDITION - GRASS

Factual Information

On September 24, 2004, at 1820 eastern daylight time, a deHavilland DHC-22A, N665WB, was substantially damaged during a forced landing, after experiencing a total loss of engine power after takeoff from the Chesterfield County Airport (FCI), Richmond, Virginia. The certificated private pilot was seriously injured. Visual meteorological conditions prevailed, and no flight plan was filed for the local flight conducted under 14 CFR Part 91.

According to the pilot, the intention of the flight was to conduct practice takeoffs and landings. The engine started normally, and all preflight checks were normal. The departure from the airport was normal, and as the airplane was turned to enter the traffic pattern, at 650 feet above the ground, the engine lost power. The pilot elected to conduct a 180-degree left turn to return to the airport, and during the turn, he overshot the runway. He then turned the airplane to the right to realign with the runway, and at 50 feet above the ground, the right wing stalled. The airplane continued to roll to the right and would not respond to aileron inputs. The airplane impacted a grass area next to the runway; ground looped, and came to rest.

According to several witnesses, the airplane had departed from runway 15, and as it was climbing out, the engine began to "sputter." The witnesses then observed the airplane turn to the left, and continue the turn back towards the airport. As the airplane neared the airport, the engine quit, and the airplane descended to the ground.

One of the witnesses added that the pilot had experienced a similar problem with a sputtering engine on the day prior to the accident, and executed an uneventful forced landing to the airport.

A Federal Aviation Administration (FAA) inspector examined the wreckage after the accident. Fuel was drained from the carburetor bowl, the fuel was consistent with automotive fuel, and contaminated with water and other foreign object debris.

The pilot stated to the FAA inspector that he transported automotive gasoline in 5-gallon containers to the airport to fuel the airplane.

The airplane was approved for use with automotive fuel.

Pilot Information

Certificate:	Private	**Age:**	54,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	November 1, 2002
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	September 1, 2002
Flight Time:	1454 hours (Total, all aircraft), 375 hours (Total, this make and model), 1393 hours (Pilot In Command, all aircraft), 6 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	de Havilland	**Registration:**	N665WB
Model/Series:	DHC-22A	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	C1-0113
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	March 1, 2004 Annual	**Certified Max Gross Wt.:**	2100 lbs
Time Since Last Inspection:	12 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	4435 Hrs as of last inspection	**Engine Manufacturer:**	Gipsy Major
ELT:	Installed, not activated	**Engine Model/Series:**	MK 10
Registered Owner:	Robert L. Tomlinson	**Rated Power:**	150 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:	RIC,250 ft msl	**Distance from Accident Site:**	12 Nautical Miles
Observation Time:	17:54 Local	**Direction from Accident Site:**	60°
Lowest Cloud Condition:	Few / 4600 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Overcast / 25000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	90°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.18 inches Hg	**Temperature/Dew Point:**	24°C / 14°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Richmond, VA (FCI)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	19:00 Local	**Type of Airspace:**	

Airport Information

Airport:	Chesterfield County Airport FCI	**Runway Surface Type:**	Asphalt
Airport Elevation:	237 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	33	**IFR Approach:**	None
Runway Length/Width:	5500 ft / 100 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious	**Latitude, Longitude:**	37.406387,-77.524719

Administrative Information

Investigator In Charge (IIC):	Demko, Stephen
Additional Participating Persons:	John Dostal; FAA; Richmond, VA
Original Publish Date:	April 25, 2006
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=60215