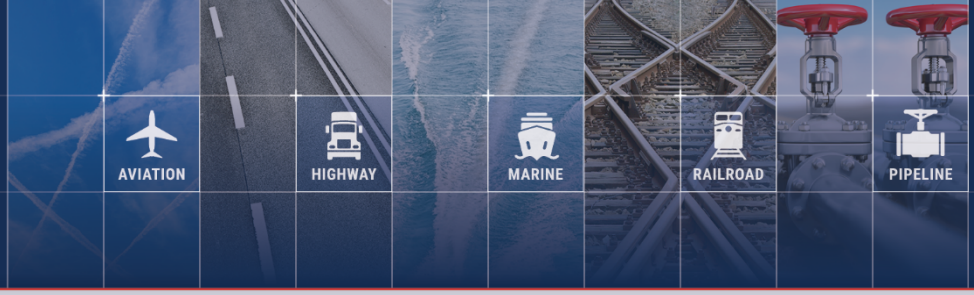

Aviation Investigation Final Report

Location:	DAMASCUS, Maryland	**Accident Number:**	NYC95LA174
Date & Time:	July 24, 1995, 17:08 Local	**Registration:**	N20BX
Aircraft:	SOCATA TB-10	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Minor, 3 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

At 2500 feet msl, the pilot advised air traffic control, that he had a loss of engine power. He indicated that he was 'running out of fuel.' During the forced landing, the aircraft struck trees short of a field where the pilot was attempting to land. The examination of the wreckage revealed the fuel tanks were empty. The last known refueling of the airplane was on July 20, 1995. At that time 31.9 gallons of fuel were added to the tanks. Between the last refueling and the accident, the airplane flew 5 hours and 36 minutes. This model airplane has a total fuel capacity of 51 gallons, and a range of 5 hours 5 minutes at a 72% power setting. At the same power setting at 2000 feet the fuel consumption rate is 10.6 gallons per hour.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate inflight planning and fuel mismanagement, which resulted in fuel exhaustion.

Findings

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

Findings
1. FLUID - EXHAUSTION
2. (C) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND

3. (C) FUEL MANAGEMENT - INADEQUATE - PILOT IN COMMAND

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: LANDING

Findings
4. OBJECT - TREE(S)

Factual Information

On July 24, 1995, about 1708 eastern daylight time, a Socata, TB- 10, N20BX, collided with trees during a forced landing near Damascus, Maryland (MD). The airplane was destroyed. The pilot and two passengers were not injured. A third passenger received minor injuries. Visual meteorological conditions prevailed, and no flight plan had been filed. The personal flight was being conducted under 14 CFR Part 91.

En route from Ocean City, Maryland, to Frederick, Maryland, and while the pilot was receiving traffic advisories from Baltimore Approach, the airplane's engine lost power. The pilot elected to land in a wooded area and struck trees.

According to the pilot's statement on the NTSB Form 6120.1/2:

...at 2500 feet MSL I noticed the engine sputter and quit. I immediately applied carburetor heat and turned on the electric fuel pump and noticed that I was running on the fullest tank...(according to the fuel quantity gauge was over 3/8 full). I switched to the right tank and noted it was just over 1/4 full. A few seconds later the engine came to life...I was considering my options the first of which was to land at nearest airport...the engine quit again and I switched back to the left (fullest) tank...the engine sputtered a couple of times...ATC vectored me to Gaithersburg, MD...8 miles away at 240 degrees...[I] indicated to them I didn't have the altitude to make it and they informed me of another field 2 miles closer. I replied I didn't have the altitude and was picking out a field to land in...while on very short final I believe I noticed the plane roll to one side...just then I noticed trees in our path...and then only remember penetrating the trees and ended up inverted....

According to the ATC Transcript of Communications, at 1705:11, while in radio contact with Baltimore Approach Control, the pilot of N20BX said, "...I believe I'm having an emergency up here, I believe I'm running out of fuel."

The FAA examined the wreckage at the accident site, and they found no fuel in the airplane's fuel tanks. The last known refueling of the airplane was on July 20, 1995. At that time 31.9 gallons of fuel was added to the tanks. Between the last refueling and the accident, the airplane flew approximately 5 hours 36 minutes (5.6 hours).

According to information supplied by Socata Aircraft and Lycoming Engines, this model airplane has a total fuel capacity of 51 gallons with a range of 5 hours 5 minutes, at a 72 percent power setting and 2600 RPM. At 2000 feet, a 72% power setting, and 2600 RPM, the fuel burn rate is 10.6 gallons per hour.

The Dulles weather at 1650 was; 4,500 broken, 10,000 overcast, visibility 6 miles, rain showers

and haze, temperature 78 degrees F, dew point 73 degrees F, wind 240 degrees, 8 knots, altimeter 29.89 inches Hg.

The pilot had 131.1 total hours, of which 23.3 hours were in this make and model aircraft.

Additional Information

At 72% power, 2600 RPM and a fuel burn rate of 10.6 gallons p/hr, 59.36 gallons of fuel would have been required, for a 5.6 hour flight.

Pilot Information

Certificate:	Private	**Age:**	43,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
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 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	June 2, 1994
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	131 hours (Total, all aircraft), 23 hours (Total, this make and model), 67 hours (Pilot In Command, all aircraft), 21 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	SOCATA	**Registration:**	N20BX
Model/Series:	TB-10 TB-10	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	496
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	May 2, 1995 Annual	**Certified Max Gross Wt.:**	2535 lbs
Time Since Last Inspection:	72 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2429 Hrs	**Engine Manufacturer:**	LYCOMING
ELT:	Installed, not activated	**Engine Model/Series:**	O-360-A1AD
Registered Owner:	MT. PLANES	**Rated Power:**	180 Horsepower
Operator:	FLY BOYS INC	**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	IAD ,313 ft msl	**Distance from Accident Site:**	15 Nautical Miles
Observation Time:	16:50 Local	**Direction from Accident Site:**	225°
Lowest Cloud Condition:	Unknown	**Visibility**	6 miles
Lowest Ceiling:	Broken / 4500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	240°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	26°C / 23°C
Precipitation and Obscuration:	N/A - None - Haze		
Departure Point:	OCEAN CITY , MD (N80)	**Type of Flight Plan Filed:**	VFR
Destination:	FREDERICK , MD (FDK)	**Type of Clearance:**	None
Departure Time:	16:30 Local	**Type of Airspace:**	Class C

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Destroyed
Passenger Injuries:	1 Minor, 2 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	Unknown
Total Injuries:	1 Minor, 3 None	**Latitude, Longitude:**	39.28952,-77.220062(est)

Administrative Information

Investigator In Charge (IIC):	Yurman, Alan
Additional Participating Persons:	TED VAN DYNE; BALTIMORE , MD
Original Publish Date:	February 27, 1996
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=39015