



# National Transportation Safety Board

## Aviation Accident Final Report

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<b>Location:</b>	St. Thomas, VI	<b>Accident Number:</b>	MIA06TA093
<b>Date &amp; Time:</b>	04/18/2006, 0908 AST	<b>Registration:</b>	N554DJ
<b>Aircraft:</b>	Piper PA-31-310	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	7 Minor
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Public Aircraft - State		

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## Analysis

The airplane was making a public use flight between two islands for the purpose of transporting residents of a correctional facility to court hearings. During descent to the destination airport, at an altitude of approximately 1,400 feet, both engines started surging. The pilot's attempts to restore normal engine power were unsuccessful, and he ditched the airplane in ocean water with both engines still surging. The airplane stayed afloat as he and the passengers exited, and then it sank. The airplane was not recovered from the ocean, precluding its examination and determination of the reason for the dual loss of engine power.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The loss of engine power in both engines for an unknown reason.

## Findings

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Occurrence #1: LOSS OF ENGINE POWER

Phase of Operation: DESCENT - NORMAL

Findings

1. 2 ENGINES
2. (C) REASON FOR OCCURRENCE UNDETERMINED

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Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

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Occurrence #3: DITCHING

Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

3. TERRAIN CONDITION - WATER

## Factual Information

On April 18, 2006, about 0908 Atlantic standard time, a Piper PA-31-310, N554DJ, registered to and operated by the Department of Justice of the United States Virgin Islands, as a public-use flight, ditched in the Caribbean Sea while on approach to land at the Cyril E. King Airport, Charlotte Amalie, Saint Thomas, United States Virgin Islands. Visual meteorological conditions prevailed and a company flight plan was filed. The commercial pilot and six passengers reported minor injuries. The airplane sank and has not been recovered; it is presumed destroyed. The flight originated from the Henry E. Rohlsen Airport, Christiansted, Saint Croix, United States Virgin Islands, about 0850.

The pilot reported that this was a routine flight conducted every Tuesday for the purpose of transporting residents of a correctional facility on Saint Croix to Saint Thomas for court hearings. The airplane was based on Saint Thomas. The week prior to the accident, the airplane was not flown due to the Easter holiday. The pilot stated that the airplane was parked outside, and there had been a significant amount of rain during the week.

About 0830, the pilot preflighted the airplane for a positioning flight from Saint Thomas to Saint Croix. The only abnormality he encountered was an excessive amount of water in the left outboard fuel tank when he drained that tank. He also noted some water when he drained the cross feed; however, that was not abnormal. The outboard fuel tanks each contained about 1/4 tank of fuel, and the inboard fuel tanks each contained about 1/2 tank of fuel. After completing the preflight, he again drained the left outboard fuel tank to insure that all water was drained. The pilot then boarded the airplane and flew to Saint Croix. The flight was unremarkable. He did not shut down the engines during the boarding of the six passengers in Saint Croix. The takeoff and cruise portions of the return flight to Saint Thomas were unremarkable.

The pilot stated that during his descent toward the airport, at an indicated altitude of about 1,400 feet, the left engine started to surge. He immediately turned on the electrical fuel boost pumps and moved all of the engine control levers forward. He reduced the descent rate of the airplane from about 600 feet per minute to about 300 feet per minute and maintained an airspeed of 90 knots. About 30 seconds from the time the left engine started surging, the right engine started to surge. He advised the controller in the airport tower of the situation. He instructed the passengers to prepare for a ditching. Both fuel selectors were positioned to the inboard tanks. He switched positions on the fuel tank selectors to the outboard tank position for each engine. The problem did not correct itself. This process was done several times in an attempt to correct the surging. He did not select the cross feed position. He noted the altimeter was indicating 400 feet. He focused on the airspeed so as not to stall and flew the airplane into the water with both engines still surging. The airplane stayed afloat as he and the passengers exited, and then it sank.

The pilot stated that his standard operating procedure was to use the inboard fuel tanks for takeoff and landing, and upon reaching cruise altitude, switch to the outboard tanks. When he began his descent, he switched back to the inboard fuel tanks. A flight between the two islands took about 14 to 17 minutes with a cruising altitude of 3,000 feet. The airplane burned about 17.5 gallons of fuel per engine per hour, for a total of about 35 gallons per hour. He did his flight planning based on a fuel burn rate of 40 gallons per hour.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	41, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Without Waivers/Limitations	<b>Last FAA Medical Exam:</b>	03/01/2005
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	01/01/2006
<b>Flight Time:</b>	3400 hours (Total, all aircraft), 1800 hours (Total, this make and model), 20 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N554DJ
<b>Model/Series:</b>	PA-31-310	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	31-7612009
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	8
<b>Date/Type of Last Inspection:</b>	03/01/2006, Annual	<b>Certified Max Gross Wt.:</b>	6539 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Reciprocating
<b>Airframe Total Time:</b>	6417 Hours as of last inspection	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	TIO-540-J2B
<b>Registered Owner:</b>	Department of Justice of U.S. Virgin Islands	<b>Rated Power:</b>	350 hp
<b>Operator:</b>	Department of Justice of U.S. Virgin Islands	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	TIST, 10 ft msl	Distance from Accident Site:	2 Nautical Miles
Observation Time:	0853 AST	Direction from Accident Site:	360°
Lowest Cloud Condition:	Few / 3000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	190°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.96 inches Hg	Temperature/Dew Point:	27°C / 19°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	St. Croix, VI (TISX)	Type of Flight Plan Filed:	Company VFR
Destination:	St. Thomas, VI (TIST)	Type of Clearance:	VFR
Departure Time:	0850 EDT	Type of Airspace:	

## Airport Information

Airport:	Cyril E. King (TIST)	Runway Surface Type:	
Airport Elevation:	23 ft	Runway Surface Condition:	
Runway Used:	NA	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced Landing

## Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Destroyed
Passenger Injuries:	6 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	7 Minor	Latitude, Longitude:	18.301944, -64.987222

## Administrative Information

Investigator In Charge (IIC):	Jose Obregon	Report Date:	03/31/2008
Additional Participating Persons:	Dennis Hamel; FAA FSDO; San Juan, PR		
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 <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.ntsb.gov/pubdms/">http://dms.ntsb.gov/pubdms/</a> .		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).