



# National Transportation Safety Board Aviation Accident Final Report

<b>Location:</b>	Aguadilla, Puerto Rico	<b>Accident Number:</b>	ERA11LA037
<b>Date &amp; Time:</b>	October 27, 2010, 17:40 Local	<b>Registration:</b>	N350RL
<b>Aircraft:</b>	Piper PA-31-350	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of engine power (partial)	<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The pilot stated he experienced a high temperature in the right engine and a partial loss of engine rpm while at 9,000 feet mean sea level in cruise flight. He requested and received clearance from air traffic control to descend and divert to another airport. He leveled the airplane at 2,500 feet and both engines were operating; however, the right engine experienced a loss of rpm which made it difficult to maintain altitude. The pilot reduced power in both engines, turned the fuel boost pump on, opened the cowl flaps and the engine continued to run with a low rpm. The pilot elected to ditch the airplane in the ocean, instead of landing as soon as practical at the nearest suitable airport, as instructed in the Pilot's Operating Handbook (POH). Additionally, he shut down the right engine before performing the troubleshooting items listed in the POH. He attributed his decision to ditch the airplane to poor single-engine performance and windy conditions. The wind at the destination airport was from 060 degrees at 6 knots and runway 8 was in use at the time of the accident. The airplane was not recovered.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's improper decision to ditch the airplane after a reported partial loss of engine power and overheat on one engine for undetermined reasons.

## Findings

<b>Personnel issues</b>	Unnecessary action - Pilot
<b>Not determined</b>	(general) - Unknown/Not determined

## Factual Information

On October 27, 2010, at 1740 Atlantic standard time, a Piper PA-31-350, N350RL, registered to N350RL LLC, experienced a high temperature in the right engine and a partial loss of engine rpm while on an instrument flight plan in visual meteorological conditions, at 9,000 mean sea level (msl). The certificated commercial pilot requested and received clearance from San Juan Center to divert to Rafael Hernandez Airport (TJBQ), Aguadilla, Puerto Rico. The pilot elected to ditch in the Atlantic Ocean about 2.6 nautical miles east of the airport. The personal flight was operated in accordance with Title 14 Code of Federal Regulations Part 91, and the pilot was not injured. The flight departed from Punta Cana (MDPC), Dominican Republic at 1704, en-route to Fernando Luis Ribas Dominicci Airport (TJIG), San Juan, Puerto, Rico.

The pilot stated that after loss of engine power and descending to 2,500 feet msl, he was handed-off to Borinquen Tower about 3 to 4 miles from the airport. Both engines were operating; however, the loss of rpm on the right engine made it hard to maintain altitude. He shut the right engine down and continued flying the airplane at 108 knots. He did not declare an emergency and informed the tower that he was going into the water. When asked why he elected to ditch the airplane instead of continuing to the airport, the pilot stated because of poor single-engine performance and windy conditions.

Review of transcripts between the pilot and the control tower revealed the pilot was instructed to enter a modified left base at 1731 for runway 8. The winds were reported at 060 degrees at 6 knots. The pilot informed the controller that he had an overheat condition and that he would continue to the airport. At 1736, the pilot informed the controller the right engine had quit. He further stated he was unable to continue to the airport that he was going down in the water. A Coast Guard helicopter arrived on scene at 1742, and picked up the pilot at 1753.

The insurance company for the registered owner informed the general adjuster representing the registered owner that they were not going to attempt to recover the airplane wreckage.

Review of the PA-31-350 Pilot's Operating Handbook (POH) states in Section 3 Emergency procedures, paragraph 3.9 ENGINE ROUGHNESS, "If an engine falters or runs erratically, the cause maybe fuel flow interruption, fuel contamination, icing or air starvation, or ignition problems. If roughness occurs, turn the emergency fuel pumps ON. Scan the instruments to see if the cause can be determined. Adjust the mixture controls for maximum smoothness; if the mixture is too rich or too lean, engine roughness may result. Open the alternate air control; a blocked induction system can cause roughness. If cylinder head temperatures are too high or too low, adjust the cowl flaps as required."

It further states, "If the problem is in the fuel system, selecting another tank containing fuel may remedy the situation. A check of the magnetos will determine if they are operating properly."

A WARNING in the POH states, "If either the right or left fuel flow warning light illuminates and the fuel gauge indicates fuel remaining in the corresponding inboard tank, this will indicate a malfunction of the flapper door in the inboard tank. Immediately select the outboard tank or select cross feed to avoid fuel flow interruptions."

Paragraph 3.11 ENGINE OVERHEAT states, "If engine temperatures becomes excessive, open the cowl flaps. Enriching the mixture and reducing power will also reduce engine temperature. If a more rapid reduction of engine temperature is desired, increase the airspeed by establishing a shallow dive."

According to a subsequent written statement from the pilot, after informing air traffic control about the engine overheat, he reduced power in both engines, turned the fuel boost on and opened the cowl flaps. The right engine continued to run with a low rpm. He further stated he did not observe a red fuel warning light illuminate. The pilot elected to ditch the airplane instead of landing as soon as practical at the nearest suitable airport as stated in the POH in Section 3 Engine Failure During Flight (Above 76 KIAS).

## History of Flight

Enroute-cruise	Loss of engine power (partial) (Defining event)
Emergency descent	Ditching

## Pilot Information

Certificate:	Commercial; Flight instructor	Age:	34, 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):	Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	March 4, 2010
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	August 13, 2010
Flight Time:	1902 hours (Total, all aircraft), 38 hours (Total, this make and model), 1827 hours (Pilot In Command, all aircraft), 66 hours (Last 90 days, all aircraft), 33 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N350RL
Model/Series:	PA-31-350	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	31-8252049
Landing Gear Type:	Retractable - Tricycle	Seats:	8
Date/Type of Last Inspection:	July 21, 2010 Annual	Certified Max Gross Wt.:	7000 lbs
Time Since Last Inspection:	58 Hrs	Engines:	2 Reciprocating
Airframe Total Time:	4736 Hrs at time of accident	Engine Manufacturer:	LYCOMING
ELT:	C91 installed, not activated	Engine Model/Series:	TIO-540 SER
Registered Owner:		Rated Power:	310 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:	TJBQ, 237 ft msl	Distance from Accident Site:	3 Nautical Miles
Observation Time:	15:50 Local	Direction from Accident Site:	90°
Lowest Cloud Condition:	Scattered / 3000 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	16 knots / 20 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	50°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.89 inches Hg	Temperature/Dew Point:	30° C / 23° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Punta Cana (MDPC)	Type of Flight Plan Filed:	IFR
Destination:	San Juan, PR (TJIG)	Type of Clearance:	IFR
Departure Time:	17:04 Local	Type of Airspace:	Class D

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 None	<b>Latitude, Longitude:</b>	18.747222,-67.347221(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Smith, Carrol
<b>Additional Participating Persons:</b>	Wilfredo Perez; FAA South Florida FSDO; Miramar, FL
<b>Original Publish Date:</b>	July 21, 2011
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=77678">https://data.nts.gov/Docket?ProjectID=77678</a>

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