National Transportation Safety Board
Aviation Accident Final Report

Location:	PACIFIC OCEAN, PO	**Accident Number:**	LAX99LA149
Date & Time:	04/14/1999, 1800 PDT	**Registration:**	N141CM
Aircraft:	Piper PA-31	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General Aviation - Ferry		

Analysis

The pilot reported that about 150 miles southwest of Monterey, the right engine made unusual noises, began to run rough, and exhibited high cylinder head temperature at the limits of the gauge. He advised Oakland Center of his position and situation, but did not declare an emergency. The pilot attempted to open the right engine cowl flap; however, it malfunctioned. He then increased fuel flow to the right engine in order to cool it and eventually had to reduce power on that side to keep it running. To compensate for the power loss in the right engine, he had to add power to the left engine. The combination of remedial actions increased the fuel consumption beyond his planned fuel burn rate. The flight attitude required by the asymmetric power also induced a periodic unporting condition in the outboard fuel tank pick-ups. The pilot said he was forced to switch to the inboard tanks until that supply was exhausted and then attempted to feed from the outboard tanks. The pilot said he was unsuccessful in maintaining consistent engine power output and was forced to ditch 20 miles short of the coastline. The pilot's VFR flight plan indicated that the total time en route would be 13 hours 10 minutes and total fuel onboard was 14 hours. The lapsed time from departure until the aircraft ditching was approximately 13 hours 12 minutes.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: An undetermined system malfunction in the right engine, which led to an increase in fuel usage beyond the pilot's planned fuel consumption rate and eventual fuel supply exhaustion.

Findings

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

Findings
1. (C) 1 ENGINE - MALFUNCTION
2. (C) REASON FOR OCCURRENCE UNDETERMINED
3. (C) FUEL SYSTEM - EXCESSIVE FLOW/OUTPUT
4. REMEDIAL ACTION - ATTEMPTED - PILOT IN COMMAND
5. (C) FLUID,FUEL - EXHAUSTION

Occurrence #2: DITCHING
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
6. TERRAIN CONDITION - WATER

Factual Information

On April 14, 1999, about 1800 hours Pacific daylight time, a Piper PA-31, N141CM, experienced partial loss of power in one engine and was forced to ditch in the Pacific Ocean approximately 15 to 20 miles off the coast of Monterey, California. The aircraft subsequently sank and is presumed to be destroyed. The commercial pilot sustained minor injuries. The aircraft was operated by Tokyo International Trading America, Inc., of Walnut, California, and the flight was conducted under 14 CFR Part 91 as a ferry flight. The aircraft departed the Honolulu, Hawaii, airport, about 0448, and was en route to Monterey with a final destination of Long Beach, California. Visual meteorological conditions prevailed at the accident site. A VFR flight plan was filed.

The pilot reported that about 150 miles southwest of Monterey, the right engine made "unusual noises, began to run rough, and exhibited high cylinder head temperature (at limits of gauge)." He advised Oakland Center of his position and situation, but did not declare an emergency. He reported that he reduced the power on the right engine and increased the power on the left engine to compensate. He stated that he "troubleshot the problem and experimented with increased fuel flow to both engines." The pilot reported that he was able to keep the right engine running at a lower power setting with increased fuel flow. He tried to open the cowl flaps but the right cowl flap failed to open. He opined that the combination of these actions increased the fuel consumption beyond his planned rate of fuel burn.

The pilot stated that he had been operating off the outboard fuel tanks for approximately 1 hour. Each tank held 40 gallons of fuel. The pilot reported that the aircraft was placarded and the flight manual specified that the outboard tanks were to be used only during level, coordinated flight. The manual and placards also stated that the fuel pick-ups could become unported during uncoordinated flight. The pilot reported that after experiencing the engine trouble, he maintained the aircraft at an attitude which did not allow for appropriate fuel flow to the engines from the outboard tanks. He banked the aircraft to keep the fuel pick-ups ported. He switched the ferry system transfer pumps to the "on" position, then switched tanks and burned all of the remaining fuel from the main tanks. The pilot stated that he continued back on the outboard tanks until he was unable to maintain consistent power, at which time he ditched the aircraft in the Pacific Ocean. He evacuated the aircraft, activated a life raft, and was rescued by the United States Coast Guard approximately 30 minutes later.

Transcripts of communication between Oakland Air Route Traffic Control Center (ARTCC), Fleet Area Control and Surveillance Facility (FACSFAC) San Diego, and the accident aircraft indicated that the pilot reported that he was at "minimum fuel" 96 miles southwest of Monterey. The pilot later repeated that he was "in trouble" and was having "fuel problems." The FACSFAC controller asked the pilot how much fuel he had remaining, and the pilot responded, "I'm pretty much done here." The pilot further added that he was going to continue heading toward Monterey and try to get as close as possible.

The pilot's VFR flight plan indicated that the total time en route would be 13 hours 10 minutes, with a total fuel on board of 14 hours. A copy of the flight plan is appended to this file. The lapsed time from departure until the aircraft ditching was approximately 13 hours 12 minutes.

Pilot Information

Certificate:	Commercial	**Age:**	28, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Seatbelt
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	01/13/1999
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	427 hours (Total, all aircraft), 42 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N141CM
Model/Series:	PA-31 PA-31	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Special Flight	**Serial Number:**	31234
Landing Gear Type:	Retractable - Tricycle	**Seats:**	2
Date/Type of Last Inspection:	03/15/1999, Annual	**Certified Max Gross Wt.:**	7130 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	4882 Hours	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated	**Engine Model/Series:**	TIO-540
Registered Owner:	TOKYO INT. TRADING AMERICA INC	**Rated Power:**	310 hp
Operator:	TOKYO INT. TRADING AMERICA INC	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	SNS, 84 ft msl	**Distance from Accident Site:**	28 Nautical Miles
Observation Time:	1753 PDT	**Direction from Accident Site:**	20°
Lowest Cloud Condition:	Clear / 0 ft agl	**Visibility**	10 Miles
Lowest Ceiling:	None / 0 ft agl	**Visibility (RVR):**	0 ft
Wind Speed/Gusts:	Light and Variable /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:		**Temperature/Dew Point:**	
Precipitation and Obscuration:			
Departure Point:	HONOLULU, HI (HNL)	**Type of Flight Plan Filed:**	VFR
Destination:	LONG BEACH, CA (LGB)	**Type of Clearance:**	VFR
Departure Time:	0448 PDT	**Type of Airspace:**	Class E

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Destroyed
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	JEFF RICH	**Report Date:**	11/22/2000
Additional Participating Persons:	MIKE BARNETT; SAN JOSE, CA		
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 pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at http://dms.ntsb.gov/pubdms/.		