



Aviation Investigation Final Report

Location:	DUCHESNE, Utah	Accident Number:	DEN00LA145
Date & Time:	August 6, 2000, 17:00 Local	Registration:	N4689Z
Aircraft:	Piper PA-22-108	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Shortly after takeoff, the pilot switched the fuel selector from the left tank to the right tank and within a few moments the engine lost power. He switched the fuel selector back to the left tank, but could not restart the engine. He made a forced landing on a beach at an approach speed that was a 'little fast.' When he applied brakes, the airplane nosed over. The pilot said he 'may have shut the fuel off,' and later said the fuel selector handle and indicator pointer were not aligned with each other. In 1960, FAA issued A.D. 60-10-08 requiring the inspection of the fuel selector valve to assure proper alignment of the handle and pointer. According to the airplane maintenance records, A.D. 60-10-08 had been complied with. An FAA airworthiness inspector who examined the airplane said the fuel selector operated correctly.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's use of excessive braking on soft terrain. Factors included fuel starvation, the fuel selector valve not engaging properly, the pilot's incorrect positioning of the fuel selector valve, and the soft terrain on which the forced landing was made.

Findings

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

Findings

1. (F) FLUID,FUEL - STARVATION
2. (F) FUEL SYSTEM,SELECTOR/VALVE - NOT ENGAGED
3. (F) FUEL TANK SELECTOR POSITION - INCORRECT - PILOT IN COMMAND

Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: NOSE OVER

Phase of Operation: LANDING - ROLL

Findings

4. (F) TERRAIN CONDITION - SOFT
5. (C) BRAKES(NORMAL) - EXCESSIVE - PILOT IN COMMAND

Factual Information

On August 6, 2000, approximately 1700 mountain daylight time, a Piper PA-22-108 (converted to a PA-20), N4689Z, was substantially damaged when it nosed over during a forced landing at Starvation Reservoir, near Duchesne, Utah. The airline transport certificated pilot, the sole occupant aboard, was not injured. Visual meteorological conditions prevailed, and no flight plan had been filed for the personal flight being conducted under Title 14 CFR Part 91. The flight originated at Duchesne minutes before the accident.

The following is based on the pilot's accident report and information he supplied during a telephone conversation. He departed Duchesne Municipal Airport, and was en route to Salt Lake City Municipal 2 Airport. After leaving the aircraft traffic pattern, he switched the fuel selector from the left tank to the right tank and within a few moments the engine lost power. He switched the fuel selector back to the left tank, but could not restart the engine. He made a forced landing on a beach at Starvation Reservoir at an approach speed that was a "little fast." When he applied brakes, the airplane nosed over. A witness at the scene stated that the pilot said, "I may have shut the fuel off." The pilot later said the fuel selector handle and indicator pointer were not aligned with each other.

According to the Piper Aircraft Corporation, the fuel selector valve handle and pointer are both installed on the fuel selector valve shaft via a key-way, and that both must reference the same detent for positive engagement in all four detent positions. As a result, FAA issued Airworthiness Directive (A.D.) 60-10-08, effective May 13, 1960, requiring the inspection of the fuel selector valve to assure proper alignment of the handle and pointer. The A.D. is repetitive every 100 hours time-in-service. According to the airplane maintenance records, all airworthiness directives, including A.D. 60-10-08, were in compliance. An FAA airworthiness inspector from the Salt Lake City Flight Standards District Office examined the airplane and found that the fuel selector operated correctly.

Both wing ribs, left engine mount, left strut, vertical stabilizer and rudder were damaged.

Pilot Information

Certificate:	Airline transport	Age:	62, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	July 9, 1999
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	15787 hours (Total, all aircraft), 25 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N4689Z
Model/Series:	PA-22-108 PA-22-108	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	22-8227
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	June 22, 2000 Annual	Certified Max Gross Wt.:	1650 lbs
Time Since Last Inspection:	35 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	2602 Hrs	Engine Manufacturer:	Lycoming
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	O-320-A2B
Registered Owner:	DAVID F. EDGERLY	Rated Power:	150 Horsepower
Operator:		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:	VEL ,5274 ft msl	Distance from Accident Site:	60 Nautical Miles
Observation Time:	16:53 Local	Direction from Accident Site:	35°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	120°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	33°C / 3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	DUCHESNE , UT (U69)	Type of Flight Plan Filed:	None
Destination:	SALT LAKE 2 , UT (U42)	Type of Clearance:	None
Departure Time:	14:50 Local	Type of Airspace:	Class G

Airport Information

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

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	40.100872,-110.490814(est)

Administrative Information

Investigator In Charge (IIC):	Scott, Arnold
Additional Participating Persons:	GEORGE D CAWTHRA; SALT LAKE CITY , UT
Original Publish Date:	March 2, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=49909

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).