



# Aviation Investigation Final Report

<b>Location:</b>	Page, Arizona	<b>Accident Number:</b>	WPR22FA303
<b>Date &amp; Time:</b>	August 13, 2022, 16:19 Local	<b>Registration:</b>	N9582M
<b>Aircraft:</b>	Cessna T207A	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of engine power (total)	<b>Injuries:</b>	2 Fatal, 2 Serious, 3 Minor
<b>Flight Conducted Under:</b>	Part 91: General aviation - Other work use		

## Analysis

The airplane departed on an air tour scenic flight and after about 30 minutes, the engine lost power. Unable to restart the engine, the pilot ditched the airplane into a lake. Two of the five passengers onboard were unable to exit the airplane and the airplane sank to the bottom of the lake. The pilot had no recollection of the circumstances of the flight or his actions to restart the engine following the loss of power.

Postaccident examination of the airplane did not identify any mechanical failures or malfunctions that would have resulted in the loss of engine power. The airplane was underwater for weeks before it was recovered, therefore the amount of fuel present in each fuel tank could not be determined.

A photo taken just before the flight showed the left fuel tank quantity indicator was on full and the right tank indicator showed the tank contained less than 10 gallons of fuel. The company refueling procedure at that time was to refuel the left tank to 25 gallons and the right tank to 10 gallons. This procedure allows the pilots to use the left fuel tank only for the shorter scenic routes with quicker refueling after the flight.

The Engine Failure – Restart Checklist called for the pilot to turn the auxiliary fuel pump ON and change the fuel selector to the other tank if fuel is available. The fuel pump was found in the ON position and the fuel selector was positioned to the left tank when the airplane was recovered. Since the fuel pump was ON, it appears that the pilot initiated the engine restart procedures. It is unknown if the pilot switched fuel tanks during the restart procedure. Had the pilot flown the entire flight on the right fuel tank the fuel supply in that tank would have been exhausted about the time of the power loss.

Because of the pilot’s lack of recall of the accident circumstances and his actions during the flight, the investigation was unable to determine the position of the fuel selector when the loss of power occurred. Additionally, the submersion of the wreckage in water compromised the amount of fuel in the tanks, precluding the investigation from assessing the airplane’s fuel state and potentially other evidence of the engine failure.

The flaps were determined to have been in the retracted position. With limited time available because of the low altitude, the pilot likely continued to attempt an engine restart and did not run the ditching checklist, which stated to lower the flaps to 30° for a water landing.

The Federal Aviation Administration (FAA) Airplane Flying Handbook states “that an airplane that is ditched at minimum speed and in normal landing attitude does not immediately sink upon touchdown.” With the flaps set to the retracted position, the airspeed would not have been as slow as possible when the airplane contacted the water, potentially lessening the impact forces and injuries to the occupants.

**Probable Cause and Findings**

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The total loss of engine power for undetermined reasons during low altitude cruise flight, which resulted in a water ditching. Contributing to the severity of the accident was the pilot’s failure to extend the flaps during the ditching, which increased the impact forces to the occupants.

Findings	
Aircraft	(general) - Unknown/Not determined
Personnel issues	(general) - Unknown/Not determined
Personnel issues	Use of checklist - Pilot

# Factual Information

## History of Flight

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

On August 13, 2022, about 1619 mountain standard time, a Cessna T207A airplane, N9582M, was substantially damaged when it was involved in an accident near Page, Arizona. The pilot received minor injuries, two passengers were fatally injured, two passengers were seriously injured, and one passenger received minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 air tour flight.

According to witnesses, the accident airplane was the first airplane in a flight of 5 airplanes on a scenic tour of the Lake Powell area at a cruise altitude of about 1,000 ft to 2,000 ft above ground level. After nearly 30 minutes of flight and after making a turn back towards the airport, the accident pilot made a distress call and reported his engine lost power and he was ditching the airplane in Lake Powell. The airplane became submerged in the water and the two passengers who were fatally injured did not exit the airplane.

National Park Service boats, several nearby private boats, and a few helicopters responded to the accident site, which was located about 13 miles northeast of the Page Municipal Airport, (PGA), Page, Arizona. The boats assisted the survivors in the water. Once aboard a boat that recovered the survivors, witnesses overheard the pilot on the phone discussing that he had experienced an engine failure.

An underwater remote observation vehicle surveyed the accident site a couple of days after the accident. All major components of the airplane were observed, and the airplane came to rest upright at the lake bottom about 100 ft below the surface.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	27,Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Helicopter; Unmanned (sUAS)	<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 1 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	August 12, 2021
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	July 14, 2022
<b>Flight Time:</b>	(Estimated) 550 hours (Total, all aircraft), 35 hours (Total, this make and model), 35 hours (Last 90 days, all aircraft), 35 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

## Passenger Information

<b>Certificate:</b>		<b>Age:</b>	Male
<b>Airplane Rating(s):</b>		<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>		<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>		<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>		<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>		<b>Last FAA Medical Exam:</b>	
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>			

## Passenger Information

<b>Certificate:</b>		<b>Age:</b>	48,Female
<b>Airplane Rating(s):</b>		<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>		<b>Restraint Used:</b>	Lap only
<b>Instrument Rating(s):</b>		<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>		<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>		<b>Last FAA Medical Exam:</b>	
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>			

## Passenger Information

Certificate:	Age:	Male
Airplane Rating(s):	Seat Occupied:	Right
Other Aircraft Rating(s):	Restraint Used:	Lap only
Instrument Rating(s):	Second Pilot Present:	No
Instructor Rating(s):	Toxicology Performed:	
Medical Certification:	Last FAA Medical Exam:	
Occupational Pilot:	Last Flight Review or Equivalent:	
Flight Time:		

## Passenger Information

Certificate:	Age:	Female
Airplane Rating(s):	Seat Occupied:	Left
Other Aircraft Rating(s):	Restraint Used:	Lap only
Instrument Rating(s):	Second Pilot Present:	No
Instructor Rating(s):	Toxicology Performed:	
Medical Certification:	Last FAA Medical Exam:	
Occupational Pilot:	Last Flight Review or Equivalent:	
Flight Time:		

## Passenger Information

Certificate:	Age:	15,Female
Airplane Rating(s):	Seat Occupied:	Right
Other Aircraft Rating(s):	Restraint Used:	Lap only
Instrument Rating(s):	Second Pilot Present:	No
Instructor Rating(s):	Toxicology Performed:	
Medical Certification:	Last FAA Medical Exam:	
Occupational Pilot:	Last Flight Review or Equivalent:	
Flight Time:		

## Passenger Information

<b>Certificate:</b>	<b>Age:</b>	19,Female
<b>Airplane Rating(s):</b>	<b>Seat Occupied:</b>	Rear
<b>Other Aircraft Rating(s):</b>	<b>Restraint Used:</b>	Lap only
<b>Instrument Rating(s):</b>	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	<b>Last FAA Medical Exam:</b>	
<b>Occupational Pilot:</b>	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>		

The pilot was hired by American Aviation about 2 1/2 months before the accident and was qualified to fly for the company in the accident airplane in accordance with American Aviation requirements.

The accident pilot had no recollection of the circumstances of the flight or his actions following the engine failure.

The accident pilot was observed to be in good spirits by company personnel on the day of the flight.

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N9582M
<b>Model/Series:</b>	T207A	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1981	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	20700705
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	7
<b>Date/Type of Last Inspection:</b>	May 27, 2022 100 hour	<b>Certified Max Gross Wt.:</b>	3800 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1
<b>Airframe Total Time:</b>	17307 Hrs as of last inspection	<b>Engine Manufacturer:</b>	
<b>ELT:</b>	C91 installed, not activated	<b>Engine Model/Series:</b>	
<b>Registered Owner:</b>	American Aviation LLC	<b>Rated Power:</b>	
<b>Operator:</b>	American Aviation LLC	<b>Operating Certificate(s) Held:</b>	On-demand air taxi (135)
<b>Operator Does Business As:</b>	American Aviation	<b>Operator Designator Code:</b>	

The high-wing airplane was powered by a turbocharged fuel injected Continental TSIO-520-N engine.

Normal entry and exit from the airplane was accomplished through an entry door on each side of the front portion of the cabin, and through double cargo doors at the rear of the cabin on the right side.

The airplane was equipped with two extended fuel tanks with a capacity of 40 gallons each. Total fuel was 80 gallons and usable fuel was 73 gallons. The fuller tank was to be used for takeoff and landing.

The airplane's Pilot Operating Handbook listed the following checklists that were applicable during the accident flight:

### **ENGINE FAILURE IN FLIGHT (RESTART)**

**AIRSPEED-80 KIAS**

**AUX FUEL PUMP-ON**

**FUEL SELECTOR -OTHER TANK (IF FUEL AVAILABLE)**

**THROTTLE-HALF OPEN**

**AUX FUEL PUMP-OFF**

*If fuel flow immediately drops to zero indicating an engine driven pump failure return to the aux pump on. MIXTURE-LEAN from full rich until restart. If prop is windmilling engine will restart if*

*prop is windmilling engine will restart automatically within a few seconds. If prop has stopped turn ignition switch to START, advance throttle slowly from idle and lean mixture as required.*

*MIXTURE-ADJUST AS REQ*

*THROTTLE-ADJUST AS REQUIRED*

*FUEL SELECTOR-AS DESIRED when flow stable*

### **EMERGENCY LANDING WITHOUT POWER**

*AIRSPPEED-85 KIAS (flaps up)/80 KIAS (flaps down)*

*MIXTURE-IDLE CUTOFF*

*IGNITION SWITCH-OFF*

*FLAPS-AS NEEDED (RECOMMENDED 30)*

*MASTER SWITCH OFF*

*DOORS-UNLATCH PRIOR TO TOUCHDOWN*

*TOUCHDOWN-SLIGHTLY TAIL LOW*

*BRAKES APPLY HEAVY*

### **DITCHING**

*Radio-Mayday on 121.5 W/Location, Intentions, and 7700 squawk*

*Heavy Objects-Secure or Jettison*

*Flaps-30*

*Approach-High winds, Heavy seas, -into the wind. Light winds, heavy swells-parallel to swells*

*Power-Established 300 ft per minute descent rate at 70 KIAS*

*Cabin Doors – Unlatched*

*Touchdown-level attitude @ 300 ft /minute*

*Face-Cushion at touchdown*

*Evacuate-Through cabin doors/If needed open window, flood cabin to equalize pressure*

*Life Vests/Raft-inflate*

### **FORCED LANDINGS**

*Avoid a landing flare because of difficulty in judging height over a water surface.*

*A review of the maximum glide chart indicated that an airplane between 1,000 ft to 2,000 ft above terrain would have about a 1.0 to 2.5 mile glide distance with the propeller windmilling, flaps up, and zero wind.*



## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KPGA, 4288 ft msl	<b>Distance from Accident Site:</b>	3 Nautical Miles
<b>Observation Time:</b>	15:53 Local	<b>Direction from Accident Site:</b>	135°
<b>Lowest Cloud Condition:</b>	Scattered / 7000 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>		<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/ None	<b>Turbulence Type Forecast/Actual:</b>	None /
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.1 inches Hg	<b>Temperature/Dew Point:</b>	32°C / 12°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Page, AZ (PGA)	<b>Type of Flight Plan Filed:</b>	Company VFR
<b>Destination:</b>	Page, AZ (PGA)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	14:48 Local	<b>Type of Airspace:</b>	Class G

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Minor	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	2 Fatal, 2 Serious, 2 Minor	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>		<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 Fatal, 2 Serious, 3 Minor	<b>Latitude, Longitude:</b>	36.973992,-111.47893(est)

The accident site was in Lake Powell near the Gregory Butte. The underwater survey of the wreckage revealed the airplane sustained substantial impact damage, which included several bends and creases in the fuselage. The engine and propeller remained attached. The airplane's doors were all open and the rear window was broken.

The airplane was recovered from the lake about five weeks after the accident. A FAA inspector was present during the recovery. After the airplane wreckage was pulled out of the lake, flight control continuity was established. The engine controls were full forward. The ignition was in the START position, the auxiliary fuel pump was ON, and the fuel selector was in the left tank position.

A postaccident examination of the wreckage revealed no evidence of preimpact failures or malfunctions that would have precluded normal operation of the airframe and engine. The flaps were found in the retracted position.

A picture from a passenger's camera showed that before takeoff the airplane's fuel gauges indicated that the left fuel tank was near full and the right tank was less than the one-quarter full (less than about 10 gallons), which was consistent with the company's policy on standard fuel load.

## Organizational and Management Information

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American Aviation had an aircraft fleet of 8 Cessna T207s and 1 Cessna 172 at the time of the accident.

The company management included a Director of Operations, Chief Pilot, and Director of Maintenance. The company provided their own maintenance for their airplanes.

The Chief Pilot provided ground and flight training to their pilots. He stated that the accident pilot performed well during flight training. He said that the route flown during the accident flight was estimated to be about 36 minutes long. Based on the accident site location, he estimated that the accident airplane's flight time was about 31 minutes. The lead pilot said that based on previous operations the airplane would have used about 3.1 gallons to take off and climb to cruise altitude and at cruise altitude the fuel burn rate was about 14.1 gallons an hour. Given the accident flight's duration, the estimated fuel consumed would have been about 10 gallons.

The accident airplane was refueled before its flight with 13 gallons. On the day of the accident, the airplane flew the same route twice. The airplane was serviced with 12 gallons of fuel for the first flight and 10 gallons for the second flight. The company refueling procedure at that time was to refuel the left tank to 25 gallons and the right tank to 10 gallons. This procedure allows the pilots to use the left fuel tank only for the shorter scenic routes with quicker refueling after the flight.

Postaccident interviews revealed the following about the route flown according to an American Aviation pilot:

*This tour is the shortest we offer, advertised as 30 minutes. For the records we used code PN30. We fly by Glen Canyon Dam climbing to 5,500 feet MSL after takeoff. The turn to the south then takes us to Horseshoe Bend. We fly along the curve of Horseshoe Bend to the west, then make*

*the left 180° turn to the east, and climb to 6,000 feet MSL. We fly across the approach path of Runway 33 approximately 3 miles south, then descend back to 5,500 feet MSL. We fly past what we call 'Sleeping Indian' then turn north after reaching Navajo Canyon. Close to Tower Butte, we turn towards the east, flying over the land following the shoreline of the south side of Lake Powell. We make a climbing, right-hand turn to 6,000 feet MSL abeam Rock Creek and follow the route back towards Tower Butte. Finally, we head towards Page Airport and enter the traffic pattern for landing. All flights that have occurred today [the day of the accident] have been PN30s. The accident occurred on the accident pilot's fourth flight of the day.*

### **Additional Information**

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Postaccident account of the accident flight by the surviving passengers noted that the pilot mentioned the life jackets before the flight. One passenger said the pilot showed them a bag containing the life jackets but did not open it and said they simply have to put in on our heads and inflate it. Another passenger commented that the pilot did not show them how to put it on.

The passengers noted that, besides a delay on the ground caused by another airplane in the group with them, the initial part of the flight was uneventful. Subsequently, they noticed the airplane was descending and getting lower. One passenger commented that she did not realize what was going on at the time. She further commented that people were yelling and shouting in the airplane and that the pilot mentioned to put their life jackets on. Another passenger did not know if the pilot asked them to put on the life jackets but saw other passengers putting them on.

One passenger said that everything happened fast during the ditching. It was a hard touchdown with the nose in the water. The shock of the airplane against the water threw them all forward in an extremely brutal way.

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Nixon, Albert
<b>Additional Participating Persons:</b>	Michael McComb; FAA; Las Vegas, NV Ricardo Asensio; Textron Aviation; Wichita, KS
<b>Original Publish Date:</b>	October 3, 2024
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 3</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=105732">https://data.nts.gov/Docket?ProjectID=105732</a>

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