National Transportation Safety Board
Aviation Accident Final Report

Location:	Cedar Bluff, AL	**Accident Number:**	ERA12LA562
Date & Time:	09/15/2012, 0950 CDT	**Registration:**	N6072K
Aircraft:	REPUBLIC RC-3	**Aircraft Damage:**	Substantial
Defining Event:	Loss of visual reference	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot of the amphibious airplane departed his home airport and flew to a lake to visit a friend who lived on the shore of the lake. According to the pilot's friend, the pilot normally approached the lake from the north, made a left 180-degree turn, and then landed to the north. On the day of the accident, however, the wind was calm, and instead of landing to the north, the pilot flew over his friend's house from the west, about 400 feet above ground level, made a left 180-degree turn, and began a descent toward the surface of the lake. During the descent, the airplane contacted a set of electrical transmission lines. During the impact, the airplane's forward motion almost completely stopped, it rolled to the right until it was inverted, then fell to the surface of the lake and sank.

Examination of the wreckage did not reveal any evidence of preimpact failure or malfunction of the airplane or engine that would have precluded normal operation. Examination of the electrical transmission lines revealed that they were unmarked where they crossed the lake. According to a Federal Aviation Administration inspector and local witnesses, the lines were hard to see and did not contrast well with the surrounding terrain due to the color of the sky, water, and cloud cover. However, the pilot should have been aware of the lines, because they were depicted on the sectional chart for the area, and he had landed on the lake several times before the accident flight.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to see and avoid power lines during final approach to landing.

Findings

Personnel issues	Monitoring environment - Pilot (Cause)
Environmental issues	Wire - Contributed to outcome

Factual Information

HISTORY OF FLIGHT

On September 15, 2012, about 0950 central daylight time, a Republic RC-3 amphibious airplane, N6072K, collided with electrical transmission lines, during approach to Weiss Lake, Cedar Bluff, Alabama. The certificated private pilot was fatally injured. Visual meteorological conditions prevailed and no flight plan was filed for the personal flight conducted under the provisions of 14 Code of Federal Regulations Part 91, which departed from Guntersville Municipal Airport (8A1), Guntersville, Alabama.

According to a friend of the pilot, who lived on Weiss Lake and also owned the same model of amphibious airplane, the purpose of the flight was to come visit him. The pilot was familiar with landing on Weiss Lake and the electrical transmission lines that crossed the lake. The pilot would usually land in the opposite direction from the direction he landed on the day of the accident allowing for any "overrun" after landing on the lake and could not explain why he landed in the direction that he did.

According to the friend, on arrival in the local area, he observed the airplane turn in an easterly direction and pass over his house at approximately 400 feet above ground level. The airplane then turned left until it had reversed direction and then began to descend. Moments later the airplane struck a set of unmarked electrical transmission lines located near the eastern edge of the lake. The airplane then pitched nose up, its forward motion appeared to stop, and it rolled to the right until it was inverted, then fell onto the surface of the lake, and sank.

According to a witness, who was fishing on the lake in the vicinity of the accident site, he observed the airplane flying along the north side of the lake just above tree top height, when it hit the power line. The airplane then pitched up, the right wing dropped, and the airplane struck the water inverted. The witness also observed that engine was running and never changed sound until the airplane struck the water.

PERSONNEL INFORMATION

According to Federal Aviation Administration (FAA) records, the pilot held a private pilot certificate with ratings for airplane single-engine land and airplane single-engine sea. His most recent FAA third-class medical certificate was issued on April 19, 2010. He reported 400 total hours of flight experience on that date.

AIRCRAFT INFORMATION

The accident aircraft was a pusher configured, high wing, tail wheel equipped, amphibious airplane of conventional metal construction. It was powered by a 215 horsepower, air cooled, 6-cylinder engine, driving a three bladed, constant speed, variable pitch propeller.

According to FAA and airplane maintenance records, the airplane was manufactured in 1947. The airplane's most recent annual inspection was completed on November 1, 2011. At the time of the inspection, the airplane had accrued 1,027.2 total hours of operation.

METEOROLOGICAL INFORMATION

The recorded weather at Isbell Field Airport (4A9), Fort Payne, Alabama, located 19 nautical miles northwest of the accident site at 0955, included: calm winds, visibility 10 miles, sky clear, temperature 23 degrees C, dew point 15 degrees C, and an altimeter setting of 30.21 inches of

mercury.

WRECKAGE AND IMPACT INFORMATION

Examination of the accident site revealed that the airplane had come to rest upside down in Weiss Lake approximately 200 yards from the shoreline. The only visible portion of the airplane that was above the water was the nose (bow) and the left pontoon.

Comparison of the location of the wreckage to the location of the electrical transmission right of way indicated that the airplane was traveling on a heading of 220 degrees prior to coming into contact with one of the lines.

Examination of the airplane's wreckage after its recovery from the lake revealed no evidence of any preimpact failure or malfunction of the airplane or engine that would have precluded normal operation. Further Examination revealed that the cable that the airplane had come into contact with, initially contacted the airplane just below the windshield. The nose of the airplane was then crushed back into the cabin area. Impact damage was also observed on the upper portion of the leading edges of both wings indicating that when the airplane impacted the water, it was inverted and still had some forward motion. The engine cowling was also crushed but, the pusher propeller was intact and the engine was undamaged.

Flight control continuity was confirmed from the controls in the cockpit to the flight control surfaces, and the throttle control, mixture control, and propeller control were found in the full forward position.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot by the Alabama Department of Forensic Sciences. Cause of death was blunt force injuries.

Toxicological testing of the pilot was conducted at the FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma. The specimens were negative for carbon monoxide, cyanide, basic, acidic, and neutral drugs, with the exception of Naproxen which is a nonsteroidal anti-inflammatory drug, Ranitidine which is an antihistamine used in the treatment of gastric acid secretion, and Valsartan which is an angiotensin receptor blocker used in the treatment of high blood pressure.

TESTS AND RESEARCH

Observation of the electrical transmission lines from the shore of the lake revealed that they were hard to see, and did not contrast well with the surrounding terrain due to the color of the sky, water, and cloud cover that were present.

Examination of the electrical transmission lines revealed that they were unmarked, and were strung between 158 foot tall electrical transmission towers, located within an electrical transmission corridor right of way that crossed the lake from the north to south. Further examination revealed, that the airplane, had struck a static line, which was normally located above the conductors. During the impact, the static line had separated from the transmission tower closest to the northern shoreline of the lake, and was dangling into the lake. The "Goat Head" (arm) of the lattice type tower structure, had also been bent downward 45 degrees.

Review of aeronautical charting information revealed that the electrical transmission lines were depicted on the Atlanta Sectional Chart.

ADDITIONAL INFORMATION

In order to improve safety, the Tennessee Valley Authority installed spherical high visibility wire markers on the electrical transmission lines that cross Weiss Lake.

History of Flight

Approach	Loss of visual reference (Defining event)
Approach-VFR pattern final	Collision with terr/obj (non-CFIT)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Private	**Age:**	64, Male
Airplane Rating(s):	Single-engine Land; Single-engine Sea	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Without Waivers/Limitations	**Last FAA Medical Exam:**	04/19/2010
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 400 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	REPUBLIC	**Registration:**	N6072K
Model/Series:	RC-3	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	252
Landing Gear Type:	Amphibian; Tailwheel	**Seats:**	4
Date/Type of Last Inspection:	11/01/2011, Annual	**Certified Max Gross Wt.:**	3150 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	1027 Hours as of last inspection	**Engine Manufacturer:**	FRANKLIN
ELT:	Installed, not activated	**Engine Model/Series:**	6A8-215-B8F
Registered Owner:	GYPSY BARNSTORMERS INC	**Rated Power:**	215 hp
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	4A9, 877 ft msl	**Observation Time:**	0955 CDT
Distance from Accident Site:	19 Nautical Miles	**Direction from Accident Site:**	315°
Lowest Cloud Condition:	Clear	**Temperature/Dew Point:**	23°C / 15°C
Lowest Ceiling:	None	**Visibility**	10 Miles
Wind Speed/Gusts, Direction:		**Visibility (RVR):**	
Altimeter Setting:	30.21 inches Hg	**Visibility (RVV):**	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Guntersville, AL (8A1)	**Type of Flight Plan Filed:**	None
Destination:	Cedar Bluff, AL	**Type of Clearance:**	None
Departure Time:	EDT	**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	34.210278, -85.547778 (est)

Administrative Information

Investigator In Charge (IIC):	Todd G Gunther	**Adopted Date:**	09/12/2013
Additional Participating Persons:	Jack E Clark; FAA / FSDO; Birmingham, AL		
Publish Date:	09/12/2013		
Investigation Docket:	http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=85045		