Aviation Investigation Final Report

Location:	Lewisville, Texas	**Accident Number:**	CEN10FA164
Date & Time:	March 18, 2010, 16:00 Local	**Registration:**	N56489
Aircraft:	Maule M-5-235C	**Aircraft Damage:**	Substantial
Defining Event:	Landing gear not configured	**Injuries:**	1 Fatal, 1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Following a short cross-country flight, the pilot performed a water landing with the amphibious float-equipped airplane. During touchdown, the airplane nosed over and came to rest inverted, partially submerged in water. A postaccident examination of the wreckage revealed that the pilot had landed with the landing gear in the extended position. The examination also revealed that the floats were equipped with four visual landing gear position indicators, all of which indicated that the landing gear was in the extended position. According to a “Before Landing On Water” checklist for the amphibious floats, the landing gear position (retracted) was to be confirmed visually before landing. No preimpact anomalies were identified during the examination that would have precluded the airplane from operating normally.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot did not retract the landing gear before a water landing. Contributing to the accident was the pilot did not use a checklist.

Findings

Personnel issues	Use of checklist - Pilot
Personnel issues	Forgotten action/omission - Pilot

Factual Information

History of Flight

Landing-flare/touchdown	Landing gear not configured (Defining event)
Landing-flare/touchdown	Nose over/nose down

HISTORY OF FLIGHT

On March 18, 2010, about 1600 central daylight time, a Maule M-5-235C, N56489, nosed over during a water landing on Lake Lewisville, Lewisville, Texas. The pilot sustained serious injuries and the passenger was fatally injured. The airplane was registered to and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed and no flight plan was filed. The local flight departed the Addison Airport (ADS), Dallas, Texas, around 1530.

According to the pilot, as he approached for the “glassy water landing,” the airplane was performing normally. The airplane touched down with no skips or bounces and quickly nosed over and began to fill with water. The pilot attempted to kick the doors open, but was unable. He could not recall how he got out of the airplane, but remembered being in a boat. When asked about the position of the landing gear before landing, the pilot responded that he did not remember anything about the position of the landing gear. The pilot later reported that after his departure from ADS, he placed the landing gear position handle in the “UP” position.

An eyewitness in a nearby boat observed the airplane nose over and stopped to assist the occupants. Once near the airplane he observed the pilot unconscious with his head underwater. He jumped in the water and pulled the pilot to his boat where he proceeded to perform cardiopulmonary resuscitation (CPR), until the pilot’s breathing was restored.

Two witnesses riding eastbound on US Highway 380 reported that around the time of the accident, they observed a small red and white airplane flying southbound about 20 to 30 feet above the bridge. The airplane was descending and it appeared as if the wheels where in the extended position.

Another witness reported that while heading west out of the Pier 121 marina, he observed a small pontoon equipped airplane flying northbound over the boat he was in. As the plane flew over, he noticed that the landing gear was sticking out below the floats. The witness estimated the airplane to be around 1,000 feet in altitude, and believed that it was preparing to land.

A fifth witness heard a loud noise. As she looked towards the lake she observed an airplane flipping over. The witness reported that approximately 2 minutes later she could only see the wheels and the bottom of the airplane extending out of the water.

PERSONNEL INFORMATION

The pilot, age 54, held an airline transport pilot certificate for airplane multiengine land, a commercial certificate with ratings for airplane single-engine land, single-engine sea, and rotorcraft helicopter, and a flight instructor certificate for single and multiengine airplane. His last Federal Aviation Administration (FAA) second-class medical was issued on April 11, 2008, with the limitation, “Must Wear Corrective Lenses.”

The pilot reported a total flight time of 12,000 flight hours; of which 75 hours were in the accident make and model of airplane. He logged 30 hours in the last 90 days and 10 in the last 30 days. His last noted flight review was completed June 8, 2008.

AIRCRAFT INFORMATION

The 1983-model Maule M-5-235C, serial number 7372C, was a high wing, tube and fabric airplane, mounted on Baumann amphibious floats, and was configured for four occupants. The airplane was powered by a Lycoming O-540-J1A5D engine, serial number L-19138-40A, rated at 235 horsepower, and was driving a two-bladed constant speed Hartzell propeller.

According to the airframe logbook, the airplane's most recent annual inspection was completed in December, 2009, with an airframe total time of 806.1 hours. At the time of the accident, the airframe had accumulated 807 hours.

The engine logbook revealed that the engine had been inspected in accordance with a 100 hour inspection in December, 2009. At the time of the accident, the engine had accumulated approximately 1,005 hours since major overhaul and 139.4 hours since propeller overhaul.

METEOROLOGICAL INFORMATION

At 1547, the automated weather observing system at ADS, located 10 nautical miles south of the accidents site, reported winds light and variable, 10 miles visibility, clear of clouds, temperature 61 degrees Fahrenheit (F), dew point 36 degrees F, and a barometric pressure setting of 30.07 inches of Mercury.

WRECKAGE AND IMPACT INFORMATION

Inspectors from the FAA responded to the accident site and reported that the airplane had come to rest inverted and partially submerged in water. In addition, the inspectors reported that the landing gear was found in the extended position. The airplane had sustained substantial damage to the vertical stabilizer, engine firewall, and both wings. Flight control continuity was established to all flight controls and to the water rudders. The water rudders were found in the retracted position.

The floats were equipped with 4 visual landing gear position indicators; one for each wheel that could be observed from the cockpit. Each was operational and indicated that the wheels were in the extended position.

MEDICAL AND PATHOLOGICAL INFORMATION

The FAA's Civil Aerospace Medical Institute performed forensic toxicology on specimens from the pilot and no drugs of abuse were detected.

ADDITIONAL INFORMATION

The following was noted on a checklist for the Baumann amphibious floats:

E. BEFORE LANDING -- ON WATER

3. Landing Gear Position – CONFIRM VISUALY (Red mark in the UP indicator holes on top deck of each float for the main gear. Nose gear UP – tire positioned at nose bumper)

Pilot Information

Certificate:	Airline transport; Flight instructor	**Age:**	54,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	April 11, 2008
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	June 8, 2008
Flight Time:	12000 hours (Total, all aircraft), 75 hours (Total, this make and model), 11500 hours (Pilot In Command, all aircraft), 30 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Maule	**Registration:**	N56489
Model/Series:	M-5-235C	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	7372C
Landing Gear Type:	Float	**Seats:**	4
Date/Type of Last Inspection:	December 1, 2009 Annual	**Certified Max Gross Wt.:**	2530 lbs
Time Since Last Inspection:	1 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	807 Hrs at time of accident	**Engine Manufacturer:**	LYCOMING
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-540-J1A5D
Registered Owner:	On file	**Rated Power:**	235 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	ADS,644 ft msl	**Distance from Accident Site:**	10 Nautical Miles
Observation Time:	15:47 Local	**Direction from Accident Site:**	150°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.06 inches Hg	**Temperature/Dew Point:**	16°C / 2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Dallas, TX (ADS)	**Type of Flight Plan Filed:**	None
Destination:	Lake Lewisville, TX	**Type of Clearance:**	None
Departure Time:	15:30 Local	**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal, 1 Serious	**Latitude, Longitude:**	33.072534,-96.980755(est)

Administrative Information

Investigator In Charge (IIC):	LeBaron, Timothy
Additional Participating Persons:	John Loomis; Federal Aviation Administraton; Dallas, TX
Original Publish Date:	March 8, 2012
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=75534