Aviation Investigation Final Report

Location:	Corsicana, Texas	**Accident Number:**	FTW04FA232
Date & Time:	September 4, 2004, 12:00 Local	**Registration:**	N79307
Aircraft:	Fairchild M-62A-3	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

A witness observed the single engine vintage airplane in level flight and suddenly nose dive into the ground shortly after takeoff. Several witnesses at the airport reported that the pilot taxied the airplane to the runway run-up area and taxi back to a hangar, where he performed work on the airplane. Upon completing the work, the pilot taxied back to the runway, and proceeded to takeoff. A private individual who shared the hangar with the 8,000-hour pilot stated that he found a can of solvent and a sparkplug cleaner out of place and next to the air compressor the day of the accident. Examination of the airframe and engine revealed they were free of anomalies. Examination of the carburetor (Model MA-4-5, part number 10-2301, serial number 3908881) revealed the lower piece of the two piece venturi was dislodged and cocked over to one side. The legs of the lower piece were fractured and displayed evidence of carbon. The mating gasket between the upper and low body of the carburetor was imploded in two locations. Excessive soot and blackening was observed in the carburetor throat during disassembly examination.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The loss of engine power due to a faulty carburetor and the pilot's failure to maintain airspeed sufficient for flight resulting in an inadvertent stall/spin during the forced landing after takeoff.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (C) FUEL SYSTEM,CARBURETOR - LOOSE PART/BOLT/NUT/CLAMP/ETC

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: EMERGENCY LANDING AFTER TAKEOFF

Findings
2. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
3. STALL/SPIN - INADVERTENT - PILOT IN COMMAND

Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
4. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On September 4, 2004, approximately 1200 central daylight time, a Fairchild M-62A-3 single-engine airplane, N79307, registered to and operated by the pilot, was destroyed upon collision with terrain following a loss of control during takeoff initial climb from the Corsicana Municipal Airport (CRS), near Corsicana, Texas. The commercial pilot and passenger sustained fatal injuries. Visual meteorological conditions prevailed and a flight plan was not filed for the personal flight conducted under the provisions of Title14 Code of Federal Regulations Part 91. The local flight was originating at the time of the accident.

A witness reported to an Federal Aviation Administration (FAA) inspector, who responded to the site of the accident, that they observed the airplane in straight and level flight and "suddenly nose dived into the ground." Additional witnesses located at the airport reported that they observed the airplane taxi to the runway run-up area and taxi back to the hanger. The pilot apparently worked on the airplane at the hangar, and then taxied back to the runway for departure. A friend of the pilot, who shared hangar space with the pilot, reported in a written statement to the NTSB, that he found a can of solvent and a sparkplug cleaner out of place and next to the air compressor in the hangar.

PERSONNEL INFORMATION

The pilot held a commercial pilot certificate with ratings for airplane single-engine land, airplane multi-engine land, instrument airplane and gliders. The pilot also held a flight instructor certificate with airplane single-engine land, airplane multi-engine land, and instrument airplane ratings. His most recent FAA second class medical certificate was issued on January, 28, 2004. The pilot reported a total of 8,000 hours of flight time on his most recent medical application. The pilot's most recent logbook was not available.

AIRCRAFT INFORMATION

The 1943-model Fairchild M-62A-3, serial number FZ-337, was a low wing, fabric and metal covered tubular structure tailwheel equipped airplane, with a fixed landing gear, configured to carry a maximum of two occupants in a tandem seating configuration. The airplane was powered by a Ranger Aviation 6-44OC-5 engine, serial number 6469, rated at 200 horsepower, driving a two bladed wooden propeller. The engine was equipped with a Marvel-Schebler carburetor; model number MA-4-5, serial number 3908881.

Review of the aircraft maintenance logbooks revealed the airplane underwent its most recent annual inspection on June 4, 2004 at a total airframe time of 1,028.9 hours. No open

maintenance discrepancies were noted.

The Safety Board investigator-in-charge (IIC) obtained four engine logbooks and three airframe logbooks. The following entries were observed within in the logbooks.

Engine Logbook #2:
"March 2, 1985: Engine installed in Fairchild M-62A-3 (N79307)."
Under the Airworthiness Directives (AD) Compliance section, the following entry was observed: "93-18-03 M.S. carb venturi (change req in AD 63-22-03) 1pc venturi." No date was observed for this entry.

Engine Logbook #3:
An entry within the AD compliance section noted on June 1, 2004, stated the following: "54-09-01 - Hot spot close off 6/1/04 inspect housing for cracks, 72-06-05 - M.S. carb throttle arm, 92-15-16 - M.S. carb metal float, 93-18-03 - M.S. carb venturi (one piece)"

Engine Logbook #4:
"May 1, 2004: Est. 200 SMOH, EST 1200 TT, This engine removed from PT-26A A/C S# FT-592 which has been in long term storage with no logs available. Military records showed niltime when good + probably just been overhauled at 1,000 hours. Drained oil, cleaned screens + filter, flushed with kerosene, including tank and oil cooler. Plugs cleaned, calves were not carbon coated, all hoses replaced, mag timing and synchronization checked and lubed, carb controls, + all linkages inspected and lubed. Engine run on mixture of 1/2 50w oil + 1/2 kerosene. Oil analysis sample taken."

"May, 2004: Additional test run on new 50W oil and flushed. Installed 4 [illegible] 25/50 oil. Run on test stand with 4 blade test club. Oil px 52/25 idle."

"May, 2004: Additional test runs at various settings and installed on ac N79307."

"June 2, 2004: I certify that this engine has been inspected IAW a 100HR inspection and was determined to be in airworthy condition."

METEOROLOGICAL INFORMATION

At 1153, the automated surface observing system at CRS reported wind from 140 degrees at 5 knots, visibility 10 statute miles, few clouds at 2,600 feet, temperature 82 degrees Fahrenheit, dew point 70 degrees Fahrenheit, an a altimeter setting of 30.03 inches of Mercury.

AERODROME INFORMATION

CRS is an uncontrolled airport operating under class G airspace. The field elevation for CRS was 449 feet. The airport has a single asphalt runway, 4,999 feet in length, and 75 feet wide, oriented on a heading of 140 and 320 degrees respectively.

WRECKAGE AND IMPACT INFORMATION

The airplane came to rest inverted in a field approximately .75 nautical miles southwest of runway 14. Examination of the airplane by the FAA inspector revealed that the left wing was separated from the fuselage and fragmented into multiple pieces. The right wing remained partially attached to the fuselage. The wreckage was recovered to a secure facility for examination by the NTSB.

MEDICAL AND PATHILOGICAL INFORMATION

The Office of the Medical Examiner, of Dallas, Texas, performed an autopsy on the pilot on September 5, 2004. Specimens for toxicological tests were taken from the pilot by the medical examiner. According to the autopsy, the cause of death was blunt force trauma.

The FAA's Civil Aeromedical Institute's (CAMI) Forensic and Accident Research Center examined the specimens taken by the medical examiner. The toxicological tests were positive for Lidocaine, Atropine, Citalopram, and DI-N-Desmethylcitalopram.

According to Safety Board's Medical Doctor, the use of Citalopram is not recommended before flying. The use of Citalopram would have disqualified the pilot's medical certification if it had been reported. During a review of the pilot's past medical applications, no record was found that the pilot reported the use of these medications to the FAA medical examiner.

TESTS AND RESEARCH

Examination of the airplane by an FAA inspector and the NTSB investigator-in-charge on October 14, 2004, at the facilities of Air Salvage of Dallas, located near Lancaster, Texas, revealed the following:

Elevator and aileron control continuity was established within the cockpit between both forward and aft flight control columns. Damage sustained to the fuselage prohibited movement of the rudder pedals in both the forward and aft seats. The mixture and throttle control rods remained attached to the carburetor. Continuity was established for the throttle and mixture control for the forward and aft cockpits.

All of the engine mounts were separated. Rotational continuity was established throughout the engine and accessory housing when rotated using the propeller. The left and right magnetos remained attached to their respective mount. The magnetos were removed for bench testing, and produced spark when rotated using a hand drill. The spark plugs were removed and were found consistent with a fouled condition.

Examination of the carburetor (Model MA-4-5, part number 10-2301, serial number 3908881) revealed the lower piece of the two piece venturi was dislodged and cocked over to one side.

The legs of the lower piece were fractured and displayed evidence of carbon. The mating gasket between the upper and low body of the carburetor was imploded in two locations. Excessive soot and blackening was observed in the carburetor throat during the disassembly. The carburetor inlet screen found free of debris.

The rotary fuel pump was removed and rotated using a hand drill. The fuel pump was found to be free of anomalies.

Examination of the wooden propeller revealed one blade was separated approximately two feet outboard of the propeller hub. The other blade was cracked throughout its entire length and crushed aft.

On December 2, 1963, the FAA issued Airworthiness Directive 63-22-03, applying to all Marvel-Schebler MA-4-5 carburetors that to not have a one-piece combination primary and main venturi used on the following engine installations:

"Continental 0-470 Series Engines Installed in Cessna 180 and 182 Series Aircraft; Continental GO-300 Series Engines Installed in Cessna 175 and P172 Series Aircraft; Lycoming 0-540 Series Engines Installed in Aero Commander 500 Series Aircraft, Piper PA-23-250 Series Aircraft and Piper PA-24 Series Aircraft; Lycoming 0-360 Series Engines Installed in Piper PA-24 Series Aircraft, Beech 95 Series Aircraft, and Mooney Mark 20 or 21 Series Aircraft; and Franklin 6A4-165 Series Engines Installed in Stinson 108 Series Aircraft.

"Compliance required at next carburetor removal or overhaul of either the carburetor or engine whichever occurs first after the effective date of this AD, on all carburetors not having the one-piece combination primary and main venturi installed. Carburetors having the one-piece combination primary and main venturi installed are identified by the letter "V" stamped on the nameplate."

"The primary venturi may become loose resulting in wear of the primary venturi support legs on the ends contacting the carburetor body and at the retaining clip area. As a result, the retaining clips may become dislodged or dislocated and wear may progress to the point the venturi becomes dislodged or dislocated. This can cause erratic engine operation or complete engine stoppage. To preclude this, accomplish the following: Replace the existing primary and main venturi with a one-piece combination primary and main venturi of the correct part number for the carburetor involved. When accomplished stamp the letter "V" on the carburetor nameplate below the serial number. "

ADDITIONAL INFORMATION

The wreckage was released to the owner's representative on November 4, 2004.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	70,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	Glider	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	January 28, 2004
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	8000 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Fairchild	**Registration:**	N79307
Model/Series:	M-62A-3	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	FZ-337
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	June 4, 2004 Annual	**Certified Max Gross Wt.:**	2450 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	1028.9 Hrs as of last inspection	**Engine Manufacturer:**	Ranger
ELT:	Installed, not activated	**Engine Model/Series:**	6-440C-5
Registered Owner:	On file	**Rated Power:**	200 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:	CRS,449 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	11:53 Local	**Direction from Accident Site:**	0°
Lowest Cloud Condition:	Few / 2600 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots / 0 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	140°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.03 inches Hg	**Temperature/Dew Point:**	28°C / 21°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Corsicana, TX (CRS)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	12:00 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Corsicana Field CRS	**Runway Surface Type:**	Asphalt
Airport Elevation:	449 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	14	**IFR Approach:**	None
Runway Length/Width:	4999 ft / 75 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	32.028057,-96.400558

Administrative Information

Investigator In Charge (IIC):	Lemishko, Alexander
Additional Participating Persons:	Roger D Webb; Dallas, Texas; Dallas, TX
Original Publish Date:	July 7, 2005
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=60068