Aviation Investigation Final Report

Location:	West Memphis, Arkansas	**Accident Number:**	CHI05FA272
Date & Time:	September 22, 2005, 19:58 Local	**Registration:**	N103RC
Aircraft:	Mitsubishi MU-2B-36	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Positioning		

Analysis

The twin-engine airplane was destroyed when it impacted an earthmoving scraper and terrain in a field about 2.5 miles north of the departure airport in night visual meteorological conditions. Witnesses reported that the pilot had aborted an earlier flight when he returned to the airport and told the mechanic that he had a right engine fire warning light. The discrepancy could not be duplicated during maintenance, and the airplane departed. About 23 minutes after departure, the pilot reported to air traffic control that he needed to return to the airport to have something checked out. The pilot did not report to anyone why he decided to return to the departure airport, and he flew over four airports when he returned to the departure airport. Radar track data indicated that the airplane flew over the departure end of runway 35 at an altitude of about 1,600 feet agl, and made a descending left turn. The airplane's altitude was about 800 feet agl when it crossed the final approach course for runway 35. The airplane continued the descending left turn, but instead of landing on runway 35, the airplane flew a course that paralleled the runway, about 0.8 nm to the right of runway 35. The airplane continued to fly a northerly heading and continued to descend. The radar track data indicated that the airplane's airspeed was decreasing from about 130 kts to about 110 kts during the last one minute and fifty seconds of flight. The last reinforced beacon return indicated that the airplane's altitude was about 200 feet agl, and the airspeed was about 107 kts. The airplane impacted terrain about 0.75 nm from the last radar contact on a 338-degree magnetic heading. A witness reported that the airplane was going slow and was "extremely low." He reported that the airplane disappeared, and then there was an explosion and a fireball that went up about 1,000 feet. Inspection of the airplane revealed that it impacted the earthmover in about a wings level attitude. The landing gear handle was found to be in the landing gear UP position. The inspection of the left engine and propeller revealed damage indicative of engine operation at the time of impact. Inspection of the right engine revealed damage indicative of the engine not operating at the time of impact, consistent with an engine shutdown and a feathered propeller. No pre-existing conditions were found in either engine that would have interfered with normal operation. The inspection of the right engine fire detection loop revealed that the

connector had surface contamination. When tested, an intermittent signal was produced which could give a fire alarm indication to the pilot. After the surface contamination was removed, the fire warning detection loop operated normally.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's improper in-flight decision not to land at the departure runway or other available airports during the emergency descent, and his failure to maintain clearance from a vehicle and terrain. Contributing factors were a false engine fire warning light, inadequate maintenance by company personnel, a contaminated fire warning detection loop, and night conditions.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: CRUISE

Findings
1. (F) FIRE WARNING SYSTEM,POWERPLANT - CONTAMINATION
2. (F) FIRE WARNING SYSTEM,POWERPLANT - MALFUNCTION
3. (F) MAINTENANCE - INADEQUATE - COMPANY MAINTENANCE PERSONNEL

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

Findings

4. ENGINE SHUTDOWN - INTENTIONAL - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
5. (C) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
6. (C) ALTITUDE/CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
7. OBJECT - VEHICLE
8. (F) LIGHT CONDITION - NIGHT

Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
9. TERRAIN CONDITION - OPEN FIELD

Factual Information

HISTORY OF FLIGHT

On September 22, 2005, at 1958 central daylight time, a Mitsubishi MU-2B-36, N103RC, operated by McNeely Charter Services, was destroyed when it impacted a 62,000-pound TS-14 earthmoving scrapper and terrain in a flat field near West Memphis, Arkansas. The airline transport pilot received fatal injuries. The 14 Code of Federal Regulations Part 91 positioning flight departed the West Memphis Municipal Airport (AWM), West Memphis, Arkansas, about 1910. The intended destination airport was Lee Gilmer Memorial Airport (GVL), Gainesville, Georgia. Night visual meteorological conditions prevailed at the time of the accident. An instrument flight rules (IFR) flight plan was filed at 1856 with the Jonesboro, Arkansas, Automated Flight Service Station (AFSS).

Radar track data indicated that the airplane departed AWM and proceeded eastward toward GVL. The airplane performed an en route climb to about 15,800 feet mean sea level (msl) before starting a descent. About 1932, about 62 nautical miles (nm) east of AWM, the pilot reported to Memphis Center that N103RC needed to change its destination airport. About 1933, the pilot reported that he needed to return to AWM. When Memphis Center questioned the pilot if N103RC was experiencing any problems, the pilot indicated that he was not, but that he needed to return to AWM to have something checked.

The dispatch operator for McNeely Charter Services reported that she had received a telephone notification from Wilson Air, a fixed base operator in Memphis, Tennessee that N103RC was returning to AWM and would be back in about 10 minutes. N103RC had not provided Wilson Air any reason for returning to AWM.

The radar track data indicated that N103RC turned back to the west and returned to AWM. The pilot did not indicate to Memphis Center or Memphis Approach Control that the airplane was experiencing any problems. Once clear of Memphis Approach Control's airspace, the pilot cancelled his IFR clearance and proceeded toward AWM under visual flight rules (VFR) rules.

A McNeely Charter Service pilot was sitting in the company's office and heard the accident pilot transmit over AWM's Unicom frequency of 123.05 Mhz that N103RC was 10 miles out for landing. The witness reported that the pilot's voice sounded "normal" and there was no indication of any problems.

Radar track data indicated that the airplane flew over the departure end of runway 35 (6,003 feet by 100 feet, concrete) at AWM about 1953:56 at an altitude of about 1,600 msl. The elevation at AWM is 212 feet. The airplane made a descending left turn. At 1956:15, N103RC's altitude was about 1,000 feet msl and was crossing the final approach course for runway 35.

The radar track data indicated that the airplane continued to make a descending left turn, but did not land on runway 35. The airplane flew a course that paralleled the runway about 0.8 nm to the right of runway 35. At 1957:19, the airplane was abeam the center of the runway at an altitude of about 600 feet msl.

The airplane continued to fly a northerly heading and continued to descend. At 1958, the airplane was crossing Interstate Highway 40 (I-40) and its altitude was about 500 feet msl. The airplane made a left turn to a northwesterly heading.

The radar track data indicated that the airplane's calibrated airspeed was decreasing from about 130 knots (kts) to about 110 kts during the last one minute and fifty seconds of flight. The airplane continued to fly a northwesterly heading. The last reinforced beacon return for the airplane was at 1958:32. The airplane's altitude was about 400 feet msl and the calibrated airspeed was about 107 kts. The airplane impacted the terrain about 0.75 nm from the last radar contact on a 338-degree magnetic heading.

Witnesses reported seeing an airplane flying to the northwest at a very low altitude. The witnesses reported seeing the strobe lights on the wingtips and tail.

One of the witnesses was a professional pilot who reported that he observed the airplane crossing I-40 going to the northwest. He reported the airplane was "way too low." He reported the airplane's wings were level and that the airspeed did not appear to be "excessively slow." He reported that the airplane's strobe lights and navigation lights were on, but he could not see the airplane's landing lights due to the angle from which he observed the airplane. He reported that it was dark when he observed the airplane, and he described the weather conditions as "beautiful."

Another witness was a police officer. He reported observing the airplane for about 45 to 60 seconds before it impacted the terrain. He reported seeing the airplane flying north and then banking to the left. He reported that it headed west for about 2,000 yards before it turned north again. He reported that the airplane was "going so slow I thought it was an ultralight." He reported that the airplane was "extremely low - two telephone poles high." He reported seeing the strobe lights on the wingtips and tail, but he did not observe the landing lights on. He reported that the airplane disappeared, and then there was an explosion and a fireball that went about 1,000 feet into the air. He reported that he arrived at the site of the accident about 30 seconds after the explosion. He reported that the nose of the airplane had impacted the scrapper between its pan and rear wheels. He reported that the fuselage and tail of the airplane fell back on its side during the post impact ground fire.

PERSONNEL INFORMATION

The pilot held an airline transport pilot (ATP) certificate for multiengine land airplanes. Single-engine land operations were limited to commercial privileges. He also held a certified flight

instructor certificate with single-engine airplane and multiengine airplane ratings. The pilot's second-class medical certificate issued on August 25, 2005, required that the pilot "must have available glasses for near vision."

According to the operator's records, the pilot had accumulated 12,600 total flight hours, including 1,900 hours in the same make and model airplane as the accident airplane. Operator records show that the pilot was hired on September 14, 1999. Training records indicate that the pilot's most recent Airman Competency/Proficiency Check required by FAR Part 135, was conducted on September 7, 2005, in a Cessna 208 Caravan. Training records indicate that the pilot's most recent Airman Competency/Proficiency Check, in the Mitsubishi MU-2 was on December 13, 2004.

AIRCRAFT INFORMATION

The airplane was a twin-engine Mitsubishi MU-2B-36, serial number 673, and was certified for single-pilot operations. The airplane was configured for cargo operations and seated two. Its maximum gross weight was 11,575 pounds. The Garrett TPE-331-6 engines were flat rated to 715 shaft horsepower. The airplane was maintained under an approved aircraft inspection program (AAIP) and was last inspected on September 22, 2005. The airplane had flown approximately 0.5 hours since the last inspection and had a total time of 10,892 hours.

The airplane is equipped with a fire detection system. The fire detection system is installed independently on both engines, and it consists of a thermistor type continuous temperature sensor, control unit, and warning lights. The system is powered by the battery through the emergency relay. When the resistance of the temperature sensor has decreased below 350 ohms due to fire, the relay in the control unit is actuated and the respective engine fire warning annunciator light illuminates. The fire warning annunciator lights are built in the fire extinguisher handles located in the cockpit instrument shroud, one for the left engine and one for the right engine. Both systems may be tested by depressing the fire detector test switch beside the fire extinguisher handle. If the fire extinguisher handle is pulled, the affected engine fuel shutoff valve is closed electrically and the fire extinguisher (if installed) is discharged.

The Airplane Flight Manual, Emergency Procedures, Section 3 provides the emergency checklist items to be performed if the fire warning annunciator light illuminates. The emergency procedures are:

ENGINE FIRE

If LH or RH ENGINE FIRE Annunciator Illuminates:

Affected Engine

1. Condition Lever Emergency Stop.

2. Power Lever Takeoff

WARNING

IDENTIFY FAILED ENGINE BY POWER ASSYMETRY AND ENGINE INSTRUMENTS. DO NOT RETARD FAILED ENGINE POWER LEVER, PLACE FAILED ENGINE POWER LEVER TO TAKEOFF POSITION DURING THE FEATHERING OF THE PROPELLER AND LEAVE THERE FOR THE REMAINDER OF THE FLIGHT.

CAUTION

3. Fire Handle Pull

4. Main Fuel Valve Switch Closed

5. DC Generator Switch Off (Affected Engine)

5A. Ignition Switch Off (Affected Engine)

6. Air Coditioning and Pressurization System SELECT OPERATING ENGINE BLEED AIR OR RAM AIR (IF THRUST IS CRITICAL)

NOTE

Ram Air Position will depressurize Cabin. Oxygen may be required.

7. Land As Soon As Possible Utilizing Single Engine Landing Procedures, Section 3.

METEOROLOGICAL INFORMATION

At 1953, the observed surface weather at AWM was: Winds 130 degrees at 7 kts; visibility 10 statute miles, sky clear, temperature 29 degrees Celsius (C), dew point 20 degrees C, altimeter 29.90 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

The airplane impacted the terrain at coordinates 35 degrees 10.902 minutes north, 090 degrees 14.954 minutes west, at an elevation of about 252 feet. The wreckage site was 2.8 nm from AWM on a heading of 350 degrees. The terrain was a flat open field that was being prepared as an industrial building site. The airplane impacted into the side of the TS-14 scrapper that was parked at the site in an approximately wings-level attitude. The southern-most line of a power transmission line was located about 30 feet overhead the scrapper. No damage was observed to the power line. There were no ground scars prior to the impact with

the scrapper.

The inspection of the wreckage revealed that the impact forces destroyed the forward section of the airplane, including the cockpit. Various aircraft components from the cockpit were found under the pan and rear wheels of the scrapper. Both fire extinguisher handles were destroyed. The landing gear handle was found to be in the landing gear UP position. The flap selector was found to be positioned in the flap retracted position. The left engine Run/Crank/Stop (RCS) switch was found in the RUN position. The right engine RCS switch was found in the CRANK position. The only engine instruments found were the RPM gauges and the left oil pressure gauge. The left RPM gauge indicated approximately 70 percent RPM and the right RPM gauge indicated 0 percent RPM. The left oil pressure gauge was free to move. The remaining engine instruments were destroyed.

Components of the main landing gear were inspected. The left main landing gear remained partially attached to the fuselage. The left main landing gear actuator had 7.0 inches of the jackscrew visible. The right main landing gear separated from the fuselage and was found under the scrapper pan. The right main landing gear actuator jackscrew was found sheared with 3 threads extended from the jackscrew housing. The other section of the right main landing gear actuator was found attached to the fuselage along with the landing gearbox. The total length of exposed actuator was 7.0 inches. The main landing gear traveling nut measured 5 3/8 inches from the extended position, which corresponds to about 2/3 extended travel.

The empennage remained attached to the fuselage section and was largely intact. The left horizontal stabilizer remained attached to the empennage and exhibited post impact fire damage to the horizontal stabilizer's full span. The outboard half of the leading edge and tip of the horizontal stabilizer exhibited impact damage. The upper surface of the stabilizer exhibited post impact fire damage that melted the aluminum in four areas. The left elevator remained attached to the stabilizer along with the counterweight. The left trim tab remained attached and was discolored due to the post impact fire. The left trim tab actuator rig pin was aligned with the actuator body, which indicated the trim tab was positioned at 0 degrees. The traveling nut located within the throttle quadrant was approximately equal distance from the forward stop as from the aft stop, which corresponds to a trim position of about 5 degrees nose up.

The right horizontal stabilizer remained attached to the empennage and exhibited post impact fire damage. The right elevator was attached to the stabilizer and the counterweight was attached. The right trim tab rig pin was aligned with the actuator body, which indicated the trim tab was positioned at 0 degrees.

The vertical stabilizer remained attached to the empennage and exhibited dark black soot. The deice boot, the fiberglass fairing, and antennas were consumed by post impact fire. The rudder was found attached to the vertical stabilizer. The rudder trim tab was found attached to the rudder. The rudder trim tab actuator was measured and found to be 5.25 inches extended

which corresponds to a position of approximately 15 degrees nose left trim. A check of the traveling nut within the throttle quadrant showed that the nut was within 0.184 inches of the forward stop, which corresponds to a NOSE LEFT rudder trim of approximately 11 - 15 degrees.

A section of the left wing was found in the debris field on the opposite side of the scrapper as the rest of main wreckage. The left wing was largely consumed by fire. The outboard section of the right wing and the right propeller were found about 125 feet north of the main wreckage.

The inspection of the left wing revealed that the main and inboard flap jacknuts were against the forward stops, which corresponds to a zero flap position. The inspection of the right wing revealed that the main flap jacknut was against the forward stop, which corresponds to a zero flap position.

The aircraft's two Honeywell TPE-331-6-252M turboprop engines were inspected on-site. Both engines exhibited impact damage. The left engine's turbine, combustor, and second-stage compressor impeller remained intact. It was not free to rotate. The main shaft was separated about nine inches aft of the main gear. The first-stage compressor impeller was found in the debris field separate from the engine. The impeller blades were bent opposite the direction of rotation. The first-stage compressor impeller teeth were smeared. The leading edges of all the second-stage compressor impeller blades were bent opposite the direction of rotation. The second-stage compressor impeller forward curvic teeth were smeared. The third-stage turbine rotor blades were bent opposite the direction of rotation, and some blades were found bent in the direction of rotation. Metal spray deposits were found on the suction side of the third-stage turbine rotor blades.

The right engine was fractured into two major sections, the power and gearbox sections, which were loosely held together by tubing and wiring. The compressor and turbine rotating group was not free to rotate. The propeller shaft was not free to rotate. The leading edge of the first-stage compressor impeller blades exhibited no damage. The engines were shipped to the manufacturer for engine teardowns.

The left propeller was found separated into five sections. The hub was found about 50 feet west of the main wreckage. The piston, cylinder, and all three blades had separated from the hub. The propeller blade marked "B1" was found broken into two sections at mid-span. The trailing edge of the blade exhibited compression wrinkles. The camber and face side of the tip section exhibited chordwise scoring. The propeller marked "B2" exhibited post impact fire damage and about 12 inches of the blade tip was missing. The trailing edge exhibited compression wrinkles. The blade face exhibited chordwise scoring. The propeller marked "B3" exhibited post impact fire damage. The blade was bent about 30 degrees toward the camber surface and about 5 degrees toward the leading edge. The blade exhibited four impact marks. The first two were at about 6 inches from the blade butt that measured 1 inch in depth. The third was 30 inches from the blade butt, and the fourth was at the blade tip. The trailing edge exhibited compression wrinkles.

The right propeller was found about 125 feet from the main wreckage on a 340 degree magnetic heading. All three blades were found attached to the hub. The piston and cylinder were found separated from the hub. The propeller marked "A1" exhibited impact damage to the leading edge at 28 inches from the blade clamp and about 2 inches of the blade tip was missing. The propeller marked "A2" exhibited impact damage to the leading edge at about 28 inches from the blade clamp. The propeller blade marked "A3" exhibited impact damage to the leading edge at 26 inches from the blade clamp. The trailing edge of the blade exhibited compression wrinkles. The propellers were shipped to Hartzell Propeller, Inc., Piqua, Ohio, for inspection.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy of the pilot was performed at the Arkansas State Crime Laboratory in Little Rock, Arkansas, on September 26, 2005. The Federal Aviation Administration (FAA) Civil Aeromedical Institute prepared a Forensic Toxicology Fatal Accident Report, which indicated 77 (mg/dL, mg/hg) ethanol detected in the muscle and 5 (mg/dL, mg/hg) N-propanol detected in the muscle. The ethanol found was from sources other than ingestion. The toxicology report was negative for all other drugs and substances tested.

TESTS AND RESEARCH

The engines were inspected at Honeywell in Phoenix, Arizona, on November 16-17, 2005, under the cognizance of the National Transportation Safety Board (NTSB). The inspection of the left engine revealed the following:

1. All the blades of the first-stage compressor impeller were bent opposite the direction of rotation.

2. There was rotational scoring through nearly 360 degrees on the forward hub of the first-stage compressor impeller.

3. The curvic teeth of the first-stage compressor impeller were smeared.

4. There was rotational scoring through nearly 360 degrees on the second-stage compressor impeller shroud with corresponding rotational scoring damage to the shroud line edge of all second-stage compressor impeller blades.

5. The forward and aft curvic teeth of the second-stage compressor impeller were smeared.

6. There was rotational scoring through 360 degrees on the aft face of the first-stage turbine stator with corresponding rotational scoring damage to the forward disk face of the first-stage turbine rotor.

7. There were metal spray deposits on the suction side of the first-stage turbine stator vanes.

8. There was rotational scoring on all first-stage turbine blade tip shroud segments with corresponding rotational scoring damage to the blade tips of all first-stage turbine rotor blades.

9. There was rotational scoring through nearly 360 degrees on the forward inner vane support and vanes of the second-stage turbine stator with corresponding rotational scoring damage to the aft blade platforms of the first-stage turbine rotor.

10. There were metal spray deposits of the suction side of the second-stage turbine rotor blades.

11. There was rotational scoring through 360 degrees on the forward inner vane support of the third-stage turbine stator with corresponding rotational scoring damage to the aft blade platforms of the second-stage turbine rotor.

12. There were metal spray deposits on the suction side of the third-stage turbine stator vanes.

The inspection of the right engine revealed the following:

1. There were static witness marks on the first-stage compressor impeller shroud corresponding to the blade profiles of the first-stage compressor impeller. There were multiple witness marks created by an individual blade that were closely spaced.

2. There were witness marks on the blade profiles of the first-stage compressor impeller with corresponding static witness marks on the first-stage compressor impeller shroud.

3. The aft curvic teeth of the first-stage compressor impeller were undamaged.

4. There were axial witness marks on the forward face of the second-stage compressor housing with corresponding witness marks on the aft housing ribs of the first-stage compressor diffuser assembly.

5. There was rotational scoring on the shroud line edge of all second-stage compressor impeller blades with corresponding rotational scoring and static witness marks on the second-stage compressor shroud.

6. The forward and aft curvic teeth of the second-stage compressor impeller were undamaged.

7. There were static witness marks on three of the first-stage turbine blade tip shroud segments corresponding to the blade tip profiles of the first-stage turbine rotor.

8. The forward and aft curvic teeth of the first-stage turbine rotor were undamaged.

9. There was a witness mark on the aft blade platforms of the second-stage turbine rotor with corresponding witness marks on the forward inner vane support of the third-stage turbine stator.

10. The forward and aft curvic teeth of the second-stage turbine rotor were undamaged.

11. There was a witness mark on the forward inner vane support of the third-stage turbine stator with corresponding witness marks on the aft blade platforms of the second-stage turbine rotor.

12. The third-stage turbine rotor was undamaged.

The propellers were inspected at Hartzell Propeller on October 19, 2005, with the FAA providing oversight. The Hartzell Propeller Inc. Aircraft Accident/Incident Report No. 050922 was issued on November 11, 2005. The report stated the following findings:

The left propeller exhibited impact damage and was broken into numerous pieces, some of which were not recovered. The propeller blades exhibited twisting, multiple bends, and tearing at the tips. The left propeller had blade angle indications on the pitch change rod at 39-44 degrees, a low blade angle indication from the alignment of the fractured hub pilot tube, and a mark at 23 degrees from the inside of the hub bore.

The right propeller exhibited impact damage, but the blades and clamps remained attached to the propeller hub. The propeller blades exhibited damage to the leading edge of the blades, but did not exhibit significant twisting, multiple bends, or tearing at the tips. The right propeller had multiple witness marks at high blade angles, near the feather position. The spinner dome had an impact mark from a blade clamp near the feather position.

The right engine fire detection loop was shipped to its manufacturer, Kidde Aerospace, for inspection. The inspection occurred on November 22, 2005, with FAA oversight.

The inspection revealed that when the safety-wire was removed from the mating connector fitting and the fire detection loop element, only minor finger force was required to remove the connector. The report stated, "Upon removal of the connector we performed a visual inspection of the element connector. Inside the barrel we could see surface contamination and a small triangular shaped piece of contamination. ... It is unknown if this contamination is the result of improper cleaning or contaminants getting into the connector as a result of it being loose. We also found cracks in the ceramic insulator indicative of previous connector overtorquing."

During the testing of the fire detection loop element, the report noted that resistances "fluctuated significantly as we wiggled the connection from the 716100 element to the meter.

... the above resistance measurements could have resulted in the control unit reporting a fire alarm to the crew."

After the initial test was conducted, the contamination was removed from the connector and the electrical test was repeated. The report stated, "All fluctuations in the readings were now gone as well, regardless of what connector or wire we moved. That confirmed that the reduced and fluctuating insulation resistance previously measured was caused by the contamination inside the connector. As a final test, we took the 718100 element and placed the full element except the connectors in a kiln and increased the temperatures until the 350-ohm alarm resistance was reached. This alarm point was 411 degrees F for the 716100 element which is in tolerance for that element. Had a fire been present, the element would have been able to respond to it."

The NTSB conducted a Sound Spectrum Study of the radio transmissions between the pilot and ATC. The ATC recordings were examined to document any engine/propeller sound traces that could be identified during any of the radio transmissions from the accident airplane. The transmissions from the accident flight and an earlier flight that had been aborted were examined. The examination of the ATC transmissions revealed that only one set of traces was evident. The report stated, "This either means that both propellers operating at the same speed producing only one common trace or the radio is only picking up one of the two rotating propellers."

ADDITIONAL INFORMATION

The pilot had originally departed in N103RC on a flight to GVL about 1840, but returned to AVM about 10 minutes later. The pilot did not provide Memphis ATC any reason for returning to AVM. Witnesses reported that the pilot landed and taxied to the ramp in front McNeely's Charter Service's hangar. The pilot had secured the right engine and the right propeller was in the feathered position. The mechanic who met the pilot reported that the pilot said that the right engine FIRE WARNING caution light had flickered during flight, and that the pilot had returned to AWM to have it checked. The mechanic reported that he checked the right engine for signs of a fire and found none. The pilot started the right engine again and did a ground run to check to see if the FIRE WARNING light would come on again. The mechanic reported that the caution light did not come on again, so the pilot determined that he would depart again on the flight to GVL.

Witnesses reported that the AWM runway lights were operational and were at high intensity about 15 minutes prior to the time of the accident, and that the runway lights were operational and were turned on after the accident occurred. The energy company that provides power to the West Memphis area recorded a 4 second power interruption at 1958:57. There was no other power outage recorded for West Memphis on September 22, 2005.

The FAA, Mitsubishi Heavy Industries America Inc., Honeywell, Hartzell Propeller Inc., and McNeely Charter Services were parties to the investigation.

The airplane wreckage was released to Howe Associates, St. Louis, Missouri.

Pilot Information

Certificate:	Airline transport	**Age:**	47,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**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 With waivers/limitations	**Last FAA Medical Exam:**	August 1, 2005
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	September 1, 2005
Flight Time:	12600 hours (Total, all aircraft), 1900 hours (Total, this make and model), 11800 hours (Pilot In Command, all aircraft), 160 hours (Last 90 days, all aircraft), 48 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Mitsubishi	**Registration:**	N103RC
Model/Series:	MU-2B-36	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	673
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	September 1, 2005 AAIP	**Certified Max Gross Wt.:**	11575 lbs
Time Since Last Inspection:	0 Hrs	**Engines:**	2 Turbo prop
Airframe Total Time:	10892 Hrs at time of accident	**Engine Manufacturer:**	Honeywell
ELT:	Installed, not activated	**Engine Model/Series:**	TPE-331-6-252
Registered Owner:	River City Aviation, Inc.	**Rated Power:**	715
Operator:	MCNEELY CHARTER SERVICE INC	**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	MCCA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Night
Observation Facility, Elevation:	AWM,212 ft msl	**Distance from Accident Site:**	3 Nautical Miles
Observation Time:	19:53 Local	**Direction from Accident Site:**	170°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	130°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.89 inches Hg	**Temperature/Dew Point:**	29°C / 20°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	West Memphis, AR (AWM)	**Type of Flight Plan Filed:**	IFR
Destination:	Gainesville, GA (GVL)	**Type of Clearance:**	None
Departure Time:	19:00 Local	**Type of Airspace:**	

Airport Information

Airport:	West Memphis Municipal Airport AWN	**Runway Surface Type:**	Concrete
Airport Elevation:	212 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	17	**IFR Approach:**	None
Runway Length/Width:	6003 ft / 100 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	35.191665,-90.259719

Administrative Information

Investigator In Charge (IIC):	Silliman, James
Additional Participating Persons:	Mike Church; FAA - Little Rock FSDO; Little Rock, AR Ralph Sorrells; Mitsubishi Heavy Industries America Inc.; Addison, TX Marlin Kruse; Honeywell; Phoenix, AZ Tom McCreary; Hartzell Propellers; Piqua, OH Reggie Hopwood; McNeely Charter Service; West Memphis, AR
Original Publish Date:	July 25, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=62540