Aviation Investigation Final Report

Location:	NEW MILFORD, Connecticut	**Accident Number:**	NYC00LA054
Date & Time:	December 17, 1999, 15:00 Local	**Registration:**	N43TP
Aircraft:	Mooney 20J	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane experienced a propeller strike, and the engine was sent for a teardown inspection. The engine was reinstalled and then run for 0.4 hours. The pilot conducted a preflight, started the engine, and taxiing to the runway. A run-up check was completed, and no abnormalities were identified. The takeoff was uneventful, and the pilot executed closed traffic to a touch-and-go. Afterwards, he departed the traffic pattern, and climbed to 3,000 feet msl. The pilot configured the airplane for cruise flight. After approximately 30 minutes, the pilot proceeded back to the airport. While en route, he heard a loud 'bang,' and white smoke filled the cockpit. Unable to restart the engine the pilot executed a forced landing to a field. A teardown of the engine was preformed. The crankshaft nose seal was partially dislodged. The number 1 connecting rod was still attached. The number 2, 3, and 4 connecting rods had separated from the crankshaft. Damage to the connecting rod bearings was consistent with insufficient lubrication and high temperatures. No engine-oil-system pre-impact failures were identified.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Failure of 3 of the 4 connecting rods for an undetermined reason.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF
Phase of Operation: CRUISE

Findings
1. (C) ENGINE ASSEMBLY,CONNECTING ROD - FAILURE,TOTAL
2. REASON FOR OCCURRENCE UNDETERMINED

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

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

Findings
3. TERRAIN CONDITION - BERM

Factual Information

On December 17, 1999, at 1500 eastern standard time, a Mooney 20J, N43TP, was substantially damage during a forced landing near New Milford, Connecticut. The certificated commercial pilot was not injured, and visual meteorological conditions prevailed for the personal local flight. The flight originated from Danbury, Connecticut, no flight plan was filed, and the flight was conducted under 14 CFR Part 91.

According to the pilot, on September 26, 1999, the airplane experienced a propeller strike, and the engine was sent to the manufacturer for a teardown inspection in accordance with a mandatory service bulletin.

On the day of the accident, the pilot arrived at Danbury to see if the airplane was ready to be flown after having the original engine re-installed. In addition, a new 3 bladed propeller was scheduled to be installed, replacing the original 2 bladed one. The pilot found that the installation had been completed, and that the engine was successfully run for 0.4 hours without producing any leaks or anomalies. The pilot excepted the airplane, and conducted an "extensive" preflight inspection before starting the engine, and taxiing to runway 26. A run-up check per the checklist was completed, and no abnormalities were identified. The pilot did think the engine sounded different, but contributed it to the fact that the original 2 bladed propeller had been replaced.

With the run-up checks completed, the pilot radioed the tower. The pilot then taxied onto the runway and departed. The takeoff was uneventful, and the pilot executed closed traffic to a touch-and-go. On climbout, he requested a right turn to depart the traffic pattern to do some airwork north of the field. After reaching 3,000 feet msl, the pilot configured the airplane for cruise flight. He set the manifold pressure to 25 inches of mercury and the engine rpm to 2,500. After keeping the airplane in this configuration for about 10 minutes, the pilot proceeded back towards Danbury. En route, he decided to practice turns and slow flight, as well as an approach to landing stall to see if the new propeller made any performance differences. All three maneuvers were completed without any "problems or changes in the running of the engine."

After being airborne for approximately 25 minutes, and while in cruise flight at 3,000 feet msl, the pilot heard a loud "bang," and white smoke immediately filled the cockpit. After the bang, "the engine began to run rough and shake the plane." Because of smoke in the cockpit, the pilot opened the vent window and the air vents in the overhead. He declared an emergency. In addition, he advised Danbury Tower that his engine was running rough, and of smoke in the cockpit. Then, a second bang was heard by the pilot and the engine stopped. The pilot attempted a restart, which resulted in no movement in the engine, or propeller.

Familiar with the local area, the pilot knew he could not make it to an airport, so he decided to land in one of several playing fields located behind a high school currently under construction. The pilot lowered the landing gear and selected flaps to half. As the airplane approached the first field, the pilot realized it was going to fast to land so he setup for the second field. Still fast, the airplane did not touchdown until "near" the end of the field. The pilot then identified a ditch with a dirt bank next to it. He attempted to fly over the bank and land in a vacant cornfield. The main landing gear contacted the bank, shearing it off. The airplane continued on its belly for approximately 50 yards before coming to rest upright. The pilot secured both the electrical system and the fuel systems before egressing without injury.

On January 25, 2000, the engine was examined at Mattituck Aviation, Mattituck, New York. The crankshaft nose seal was partially dislodged. In addition, the crankcase was cracked, and had several holes in it. Through one of the holes, the base of a connecting rod was protruding. The crankcase was opened, and the crankshaft examined. The number 1 connecting rod was still attached. The number 2, 3, and 4 connecting rods had separated from the crankshaft. Damage to the connecting rod bearings was consistent with insufficient lubrication and high temperatures.

The engine accessory section was intact and free of damage. The engine driven oil pump rotated freely. The pump was disassembled. No pre-impact failures were identified. Examination of the oil sump revealed pieces of metal. In addition, 70 percent of the oil suction screen was filled with metal fragments. The intake side of the oil filter had metal fragments on its surface. After the oil filter, no contaminants were found. The crankcase oil journals were free of debris, along with the crankshaft and connecting rod journals.

Pilot Information

Certificate:	Commercial	**Age:**	61,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	April 19, 1999
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	2117 hours (Total, all aircraft), 1574 hours (Total, this make and model), 1928 hours (Pilot In Command, all aircraft), 17 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Mooney	**Registration:**	N43TP
Model/Series:	20J 20J	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	24-1104
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	December 17, 1999 Annual	**Certified Max Gross Wt.:**	2740 lbs
Time Since Last Inspection:	1 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2597 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-360
Registered Owner:	THE SAILING PORT CORP	**Rated Power:**	200 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	DXR ,460 ft msl	**Distance from Accident Site:**	20 Nautical Miles
Observation Time:	14:53 Local	**Direction from Accident Site:**	150°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	10 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	270°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	4°C / -9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	DANBURY , CT (DXR)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	14:30 Local	**Type of Airspace:**	Class G

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	Muzio, David
Additional Participating Persons:	DAN BALLOU; WINDSOR LOCKS , CT
Original Publish Date:	November 30, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=48424