



Aviation Investigation Final Report

Location:	CAMP LAKE, Wisconsin	Accident Number:	CHI96LA262
Date & Time:	July 30, 1996, 19:21 Local	Registration:	N3445K
Aircraft:	Piper PA-J3C	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Minor
Flight Conducted Under:	Part 91: General aviation		

Analysis

The pilot reported that the number two cylinder and piston had just been replaced on the engine. He preflighted the aircraft, then did a twenty minute engine run-up. He then departed for a test flight around the airport. During the climb, the engine began to 'slow down,' so the pilot started a turn back to the airport. While he was in the turn, the engine seized. The pilot reported that due to lack of altitude, he was unable to reach a clear area, and he was forced to land in trees. Examination of the engine revealed that the number two piston had seized in the cylinder. The number 2 cylinder's bore was reported to be 0.007 inch over standard, and the piston was 0.015 inch oversize. The piston was galled as a result of the engine seizure. The cylinder and piston, which were used for repair, were used parts. The mechanic who had installed the parts reported that adequate clearances had existed.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: seizure of the number 2 piston. Inadequate maintenance was a related factor.

Findings

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

Findings

1. (F) MAINTENANCE - INADEQUATE - OTHER MAINTENANCE PERSONNEL

2. (C) ENGINE ASSEMBLY,PISTON - SEIZED

Occurrence #2: FORCED LANDING

Phase of Operation: MANEUVERING - TURN TO LANDING AREA (EMERGENCY)

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: EMERGENCY LANDING

Findings

3. OBJECT - TREE(S)

Factual Information

On July 30, 1996, at 1921 central daylight time, a Piper PA-J3C, N3445K, was substantially damaged. The pilot was attempting to return to the airport for landing after he experienced engine failure after takeoff. The airplane hit a tree and remained lodged in its branches. The private pilot reported minor injuries. The 14 CFR Part 91 flight had departed the Camp Lake Airport, Camp Lake, Wisconsin, on a local flight. Visual meteorological conditions prevailed and no flight plan had been filed.

The pilot reported that the number two cylinder had just been replaced on the engine. The engine had not been run since it had been repaired. He reported that he preflighted the aircraft and then did an engine run-up. He reported that he was on the ground for 20 minutes with the engine running. He then departed for a test flight around the airport. He reported that during the climb the engine began to "slow down," so he started a turn back to the airport. While he was in the turn the engine quit. He reported that due to lack of altitude he was unable to land in any clear fields, and he did a forced landing in some trees.

The engine was examined and it was determined that the number two piston had seized in the cylinder. The number two cylinder's bore was a standard cylinder with .007 inch over standard. The number two piston, p/n 4557P15, a .015 inch oversized piston, was galled as a result of the engine seizure.

An Airworthiness Inspector from the Federal Aviation Administration reported that measurements and tolerances of the piston could not be determined due to the galling of the piston. He reported that the cylinder and piston used for repair were used parts. The inspector reported that the mechanic who had installed the parts reported that adequate clearances existed.

Pilot Information

Certificate:	Private	Age:	45, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	August 28, 1995
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	788 hours (Total, all aircraft), 360 hours (Total, this make and model), 788 hours (Pilot In Command, all aircraft), 16 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N3445K
Model/Series:	PA-J3C PA-J3C	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	22136
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	September 30, 1995 Annual	Certified Max Gross Wt.:	1220 lbs
Time Since Last Inspection:	24 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	2596 Hrs	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	A-65-8
Registered Owner:	JOSEPH WIGHTMAN	Rated Power:	65 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:	ENW ,743 ft msl	Distance from Accident Site:	12 Nautical Miles
Observation Time:	18:45 Local	Direction from Accident Site:	80°
Lowest Cloud Condition:	Scattered / 4000 ft AGL	Visibility	15 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	320°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	-7°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(49C)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	00:00 Local	Type of Airspace:	Class E

Airport Information

Airport:	CAMP LAKE 49C	Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	Silliman, Jim
Additional Participating Persons:	CHUCK EBERT; MILWAUKEE , WI
Original Publish Date:	April 29, 1997
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=10331

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).