



# Aviation Investigation Final Report

<b>Location:</b>	MANSFIELD, Massachusetts	<b>Accident Number:</b>	NYC97LA106
<b>Date &amp; Time:</b>	June 7, 1997, 10:24 Local	<b>Registration:</b>	N4832H
<b>Aircraft:</b>	Piper PA-17	<b>Aircraft Damage:</b>	Minor
<b>Defining Event:</b>		<b>Injuries:</b>	1 Serious, 2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The pilot and passenger had flown to the airport earlier to have breakfast. While preparing for engine start the pilot noted that the engine was still '...hot.' He stated that the engine was difficult to start when warm and that it flooded quickly if not started right away. The pilot said the passenger hand-propped the airplane unsuccessfully 8 to 10 times and the engine flooded. The pilot stated that he turned the magneto switch to 'off,' pushed the throttle in, and instructed the passenger to pull the propeller through backwards 12 times to clear the flooded engine. The pilot stated: 'At this point a guy walks up and says, 'I'll take it from here.' The guy yelled, 'mags off!', and I yelled 'mags off, but wait a minute!' He was way too close to the spinner. He pulled it through, I heard this 'clunk', and he fell down out of my view. The airplane did not start. We got out of the plane and saw that it hit his left knee. A witness who observed the pilot and passenger as they attempted to handprop start the engine described their actions as 'extremely thorough and conscientious.' According to the witness, the other person came over. The pilot waved him away, but he pulled the propeller through..

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The inadequate procedure for hand-prop starting of the engine.

## Findings

Occurrence #1: PROPELLER/ROTOR CONTACT TO PERSON  
Phase of Operation: STANDING - STARTING ENGINE(S)

Findings

1. (C) STARTING PROCEDURE - IMPROPER - OTHER PERSON

## Factual Information

On June 7, 1997, at 1024 eastern daylight time, a Piper PA-17, N4832H, received minor damage when the propeller struck the person hand propping the engine during engine start at the Mansfield Airport, Mansfield, Massachusetts. The certificated private pilot and passenger were not injured. The person who pulled the propeller through suffered serious injuries. Visual meteorological conditions prevailed and no flight plan was filed for the personal flight conducted under 14 CFR Part 91.

In a telephone interview, the pilot reported that he and the passenger had flown to Mansfield for breakfast. When preparing for engine start, prior to departure from Mansfield, the pilot noted that the engine was still "...hot." He stated that the engine was difficult to start when warm and that it flooded quickly if not started right away. The pilot said the passenger hand-propped the airplane unsuccessfully 8 to 10 times and the engine flooded.

The pilot stated that he turned the magneto switch to "OFF", pushed the throttle in, and instructed the passenger to pull the propeller through backwards 12 times to clear the flooded engine. The pilot stated:

"At this point a guy walks up and says, 'I'll take it from here.' The guy yelled, 'Mags off!', and I yelled 'Mags off, but wait a minute!' He was way too close to the spinner. He pulled it through, I heard this 'clunk', and he fell down out of my view. The airplane did not start. We got out of the plane and saw that it hit his left knee. He just went too quick. [The passenger] wasn't even in the seat. There's a sequence you go through when you hand prop an airplane."

During an interview, a witness reported that he was intrigued by the airplane and had come over to watch the start, taxi, and takeoff. He said he was immediately impressed with the pilot and passenger of N4832H. He stated that the pair was extremely thorough and conscientious. The witness said he was impressed by the woman hand-propping the airplane and that it was clear "...she really knew what she was doing." He said that after approximately three attempts to start the airplane, the woman started turning the propeller backwards. He further said:

"At that point the victim came over. He was fairly insistent, kind of take charge ... intimidating. The pilot waved him away but he pulled the prop through. I was shocked he just walked over and did this. I think maybe he suffered from complacency. Maybe he couldn't handle that a woman was hand propping the airplane, but those two really knew what they were doing. They were very thorough and cautious."

The pilot reported that he gave his passenger formal instruction on the hand-propping of his airplane and that she had performed this job successfully for 2 years.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	42, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Valid Medical-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	January 25, 1996
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	375 hours (Total, all aircraft), 275 hours (Total, this make and model), 375 hours (Pilot In Command, all aircraft), 25 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N4832H
<b>Model/Series:</b>	PA-17 PA-17	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Experimental (Special)	<b>Serial Number:</b>	17-130
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	April 30, 1997 Annual	<b>Certified Max Gross Wt.:</b>	1150 lbs
<b>Time Since Last Inspection:</b>	50 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	3400 Hrs	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	C-90-14F
<b>Registered Owner:</b>	PETER A. FELLMAN	<b>Rated Power:</b>	90 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	BOS ,20 ft msl	<b>Distance from Accident Site:</b>	25 Nautical Miles
<b>Observation Time:</b>	10:56 Local	<b>Direction from Accident Site:</b>	40°
<b>Lowest Cloud Condition:</b>	Scattered / 2500 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	Overcast / 20000 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	11 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	80°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	14°C / 10°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	(1B9 )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	CHATAM , MA (CQX )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	00:00 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	MANSFIELD MUNICIPAL 1B9	<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>	122 ft msl	<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	None

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Minor
<b>Passenger Injuries:</b>	1 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	1 Serious	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Serious, 2 None	<b>Latitude, Longitude:</b>	

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Rayner, Brian
<b>Additional Participating Persons:</b>	SHARON L FELTON; BOSTON , MA
<b>Original Publish Date:</b>	April 24, 1998
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=39367">https://data.nts.gov/Docket?ProjectID=39367</a>

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