



# National Transportation Safety Board Aviation Accident Factual Report

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<b>Location:</b>	Sparta, TN	<b>Accident Number:</b>	ATL05TA055
<b>Date &amp; Time:</b>	03/03/2005, 1615 CST	<b>Registration:</b>	N14449
<b>Aircraft:</b>	Cessna T-41B	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 Serious

**Flight Conducted Under:** Part 91: General Aviation - Public Aircraft

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On March 3, 2005, about 1615 central standard time, a Cessna T-41B, N14449, registered to and operated by the State of Tennessee Division of Forestry, nosed over during emergency landing in Sparta, Tennessee. The public use flight was operated under the provisions of Title 14 CFR Part 91 with no flight plan filed. Visual meteorological conditions prevailed. The private pilot received serious injuries, and the airplane sustained substantial damage. The flight departed Nashville International Airport, Nashville, Tennessee, at 1544.

The pilot stated the flight was cruising at 3,500 feet when the engine began to run rough. Moments later, engine oil sprayed on the windscreen and the cockpit filled with smoke. The pilot estimated he was five or six miles from the Upper Cumberland Regional Airport, Sparta, Tennessee, and he reported the emergency on the airport common traffic advisory frequency. The pilot continued flight towards the airport. The pilot ventilated the cabin by opening the passenger-side window, and attempted to maintain engine power but could see engine oil spurting out the oil service door in the cowling. Several hundred yards short of runway 4, the engine quit completely, and the propeller stopped. The pilot maneuvered the airplane to avoid trees and landed in a field. The pilot stated the field was soft with recent rains, and when the nose wheel touched down, it sank into the soft ground, and the airplane nosed over.

Examination of the airplane revealed the empennage was nearly separated aft of the baggage compartment, the fuselage was buckled aft of the firewall, and damage was observed on the engine crankcase.

Post-accident examination of the engine revealed the timing reference plug was missing from the crankcase. The timing reference plug threads in the crankcase were not stripped. The aircraft oil pressure gauge reference (45-degree fitting) located below and between the numbers two and four cylinder was loose at the union fitting in the crankcase. The crankshaft did not reveal any signs of movement or rotation, and the pistons, rings, and pins in all six cylinders revealed discoloration and mechanical damage. The crankshaft bearings revealed scoring, discoloration, and mechanical damage concentrated at the number two connecting rod journal. The crankcase was breached above the centerline of the number two-cylinder bay. The plug gasket seating area position on the crankcase revealed staining adjacent the crankcase

breach. There was no safety wire in the area of the timing reference plug.

Review of maintenance records revealed that the last 100 hour inspection was completed on December 16, 2004. During the 100-hour inspection both magnetos were installed and timed to the engine.

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	51, 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>	Seatbelt, Shoulder harness
<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 With Waivers/Limitations	<b>Last FAA Medical Exam:</b>	11/01/2003
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	10/01/2003
<b>Flight Time:</b>	407 hours (Total, all aircraft), 298 hours (Total, this make and model), 1 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N14449
<b>Model/Series:</b>	T-41B	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	R172-0208
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	12/01/2004, Annual	<b>Certified Max Gross Wt.:</b>	2500 lbs
<b>Time Since Last Inspection:</b>	0 Hours	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	4144 Hours as of last inspection	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	Installed, activated, aided in locating accident	<b>Engine Model/Series:</b>	IO 360-D
<b>Registered Owner:</b>	State of Tennessee, Division of Forestry	<b>Rated Power:</b>	210 hp
<b>Operator:</b>	State of Tennessee, Division of Forestry	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	KBNA, 599 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1553 CST	Direction from Accident Site:	0°
Lowest Cloud Condition:	Few / 5000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	110°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.07 inches Hg	Temperature/Dew Point:	12° C / -6° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Nashville, TN (KBNA)	Type of Flight Plan Filed:	None
Destination:	Sparta, TN (KSRB)	Type of Clearance:	VFR
Departure Time:	1544 CST	Type of Airspace:	

## Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	36.056111, -85.530556

## Administrative Information

Investigator In Charge (IIC):	Catherine E Gagne
Additional Participating Persons:	Rocky Davidson; FAA - Nashville FSDO - 03; Nashville, TN
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .