



# National Transportation Safety Board Aviation Accident Final Report

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|--------------------------------|--------------------------------------|-------------------------|-------------|
| <b>Location:</b>               | Collinsville, TX                     | <b>Accident Number:</b> | FTW04LA199  |
| <b>Date &amp; Time:</b>        | 08/01/2004, 1625 CDT                 | <b>Registration:</b>    | N7XD        |
| <b>Aircraft:</b>               | DRZYMALA RV-4                        | <b>Aircraft Damage:</b> | Substantial |
| <b>Defining Event:</b>         |                                      | <b>Injuries:</b>        | 2 Fatal     |
| <b>Flight Conducted Under:</b> | Part 91: General Aviation - Personal |                         |             |

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## Analysis

The 625-hour pilot was returning home from a long cross country flight in his single-engine experimental airplane, when the engine stopped producing power approximately 2 hours and 25 minutes after he last fueled. The pilot made a forced landing to a grass field on private property. Examination of the airplane revealed that the fuel tanks were intact and empty. The pilot had recently installed an overhauled engine on the airplane, which burned an average of 11.5 gallons of fuel per hour. The total fuel capacity of the airplane was 32 gallons, and the usable fuel was approximately 31 gallons.

## 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 planning, which resulted in a total loss of engine power due to fuel exhaustion.

## Findings

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Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL  
Phase of Operation: CRUISE

### Findings

1. (C) FLUID,FUEL - EXHAUSTION
2. (C) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND

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

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Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER  
Phase of Operation: EMERGENCY LANDING

### Findings

3. TERRAIN CONDITION - GROUND

## Factual Information

On August 1, 2004, approximately 1625, a Drzymala RV-4 single-engine homebuilt airplane, N7XD, was substantially damaged during a forced landing following a loss of engine power near Collinsville, Texas. The private pilot and the passenger were fatally injured. The airplane was registered to and operated by the pilot. A flight plan was not filed for the cross-country flight that originated at the Allen County Airport (K88) near Iola, Kansas, about 1400, and was destined for the Ironhead Airport (T58) near Sanger, Texas. Visual meteorological conditions prevailed for the personal flight conducted under 14 Code of Federal Regulations Part 91.

The pilot departed from Sanger, Texas, on July 24, 2004, and flew to Oshkosh, Wisconsin, to attend the Experimental Aircraft Association's annual fly-in event. He was returning from the fly-in when the accident occurred.

A witness observed the airplane flying in a southwesterly direction approximately 200 feet above the ground. The engine was not operating. The airplane then made a 90-degree turn to the east, and descended in an approximate 45-degree nose down attitude. The airplane came to rest upright on the front lawn of a private residence.

A Federal Aviation Administration (FAA) inspector, who responded to the accident site, reported that the fuel tanks were empty and not breached. The tanks appeared to be dry, and no residual fuel was found in the main fuel line from the fuel pump to the engine. He also reported that the airplane sustained structural damage. The flaps were set approximately 5-10 degrees, and flight control cable continuity was established for all flight control surfaces.

The airplane was powered by an overhauled 180-horsepower Lycoming O-320-E2A engine that was installed just prior to the trip to Oshkosh. There were no logbooks for the engine, which was part of the purchase agreement. Examination of the airframe logbooks revealed the last annual inspection was performed on June 21, 2003, and the airplane had accrued approximately 40 hours since that inspection.

Fuel receipts were obtained from locations along the pilot's route of flight. Based on these receipts, it was calculated that the newly installed engine burned approximately 11.5 gallons of fuel per hour. The total fuel capacity of this airplane was 32 gallons, of which, approximately 31 gallons were usable. The pilot purchased 24.6 gallons of fuel in Iola, Kansas, at 1343. The pilot's wife reported that her husband called her just before 1400 and told her that he would be departing soon. The accident occurred approximately 1625.

The pilot held a private pilot certificate for airplane single-engine land and was also a certified airframe and powerplant mechanic. His last Federal Aviation Administration (FAA) third class medical was issued on June 11, 2003. At that time, he reported a total of 625 flight hours.

At 1653, the automated weather observing system at the Denton Municipal Airport (DTO) near Denton, Texas, located approximately 28 nautical miles south of the site of the accident, reported wind from 100 degrees at 8 knots, visibility 10 statute miles, clear skies, temperature 93 degrees Fahrenheit, dew point 68 degrees Fahrenheit, and a barometric pressure setting of 29.99 inches of Mercury.

## Pilot Information

|                                  |   |  |            |
|----------------------------------|---|--|------------|
| <b>Certificate:</b>              | Private                                   | <b>Age:</b>                              | 43, Male   |
| <b>Airplane Rating(s):</b>       | Single-engine Land                        | <b>Seat Occupied:</b>                    | Front      |
| <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>             | Yes        |
| <b>Medical Certification:</b>    | Class 3 Valid Medical--w/<br>waivers/lim. | <b>Last FAA Medical Exam:</b>            | 06/11/2004 |
| <b>Occupational Pilot:</b>       |   | <b>Last Flight Review or Equivalent:</b> | 06/11/2003 |
| <b>Flight Time:</b>              | 625 hours (Total, all aircraft)           |  |            |

## Aircraft and Owner/Operator Information

|                                      |   |   |                 |
|--------------------------------------|---|---|-----------------|
| <b>Aircraft Make:</b>                | DRZYMALA  | <b>Registration:</b>                      | N7XD            |
| <b>Model/Series:</b>                 | RV-4  | <b>Aircraft Category:</b>                 | Airplane        |
| <b>Year of Manufacture:</b>          |   | <b>Amateur Built:</b>                     | Yes             |
| <b>Airworthiness Certificate:</b>    | Experimental  | <b>Serial Number:</b>                     | 2026PD          |
| <b>Landing Gear Type:</b>            | Tailwheel   | <b>Seats:</b>                             | 2               |
| <b>Date/Type of Last Inspection:</b> | 06/21/2003, Annual  | <b>Certified Max Gross Wt.:</b>           | 1500 lbs        |
| <b>Time Since Last Inspection:</b>   | 40.7 Hours  | <b>Engines:</b>                           | 1 Reciprocating |
| <b>Airframe Total Time:</b>          | 337.3 Hours as of last<br>inspection                      | <b>Engine Manufacturer:</b>               | Lycoming        |
| <b>ELT:</b>                          | Installed, activated, did not<br>aid in locating accident | <b>Engine Model/Series:</b>               | O-320-E2A       |
| <b>Registered Owner:</b>             | William Noel  | <b>Rated Power:</b>                       | 180 hp          |
| <b>Operator:</b>                     | William Noel  | <b>Operating Certificate(s)<br/>Held:</b> | None            |

## Meteorological Information and Flight Plan

|                                  |                   |   |                   |
|----------------------------------|-------------------|---|-------------------|
| Conditions at Accident Site:     | Visual Conditions | Condition of Light:                     | Day               |
| Observation Facility, Elevation: | DTO, 642 ft msl   | Distance from Accident Site:            | 28 Nautical Miles |
| Observation Time:                | 1653 CDT          | Direction from Accident Site:           | 220°              |
| Lowest Cloud Condition:          | Clear             | Visibility                              | 10 Miles          |
| Lowest Ceiling:                  | None              | Visibility (RVR):                       |                   |
| Wind Speed/Gusts:                | 8 knots /         | Turbulence Type<br>Forecast/Actual:     | /                 |
| Wind Direction:                  | 100°              | Turbulence Severity<br>Forecast/Actual: | /                 |
| Altimeter Setting:               | 29.99 inches Hg   | Temperature/Dew Point:                  | 34° C / 20° C     |
| Precipitation and Obscuration:   |                   |   |                   |
| Departure Point:                 | Iola, KS (K88)    | Type of Flight Plan Filed:              | Unknown           |
| Destination:                     | Sanger, TX (T58)  | Type of Clearance:                      | None              |
| Departure Time:                  | 1400 CDT          | Type of Airspace:                       | Class E           |

## Wreckage and Impact Information

|                     |         |                      |                       |
|---------------------|---------|----------------------|-----------------------|
| Crew Injuries:      | 1 Fatal | Aircraft Damage:     | Substantial           |
| Passenger Injuries: | 1 Fatal | Aircraft Fire:       | None                  |
| Ground Injuries:    | N/A     | Aircraft Explosion:  | None                  |
| Total Injuries:     | 2 Fatal | Latitude, Longitude: | 33.555556, -96.922778 |

## Administrative Information

|                                   |  |              |            |
|-----------------------------------|--|--------------|------------|
| Investigator In Charge (IIC):     | Leah D Yeager  | Report Date: | 12/28/2004 |
| Additional Participating Persons: | Tommy Tucker; Federal Aviation Administration; Dallas, TX  |              |            |
| Publish Date:                     |  |              |            |
| 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:pubinquiry@ntsb.gov">pubinquiry@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> . |              |            |

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).