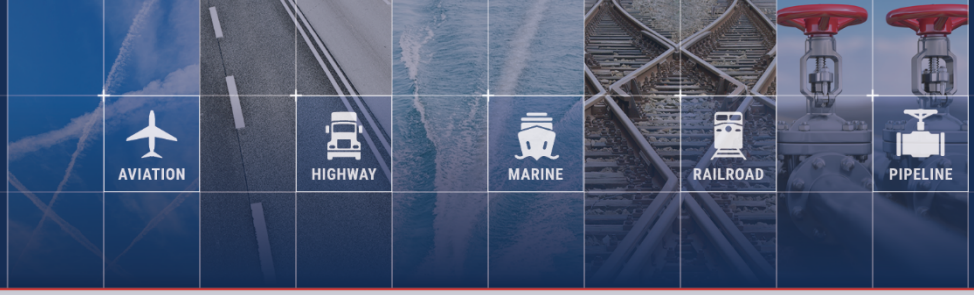

Aviation Investigation Factual Report

Location:	Kerrville, Texas	**Accident Number:**	DFW06LA101
Date & Time:	April 7, 2006, 14:30 Local	**Registration:**	N142SF
Aircraft:	Cirrus Design Corp. SR20	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Factual Information

On April 7, 2006, approximately 1430 central daylight time, a single-engine Cirrus Design Corporation SR20 composite airplane, N142SF, was substantially damaged during a forced landing following a loss of engine power near Kerrville, Texas. The airplane was registered to Freund Aviation LLC, of Glendale, Arizona, and was being operated by the Air Safety Flight Academy, of Glendale, Arizona. The non-instrument rated private pilot, sole occupant of the airplane, was not injured. Visual meteorological conditions prevailed, and a flight plan was not filed for the 14 Code of Federal Regulations Part 91 personal flight. The 260-nautical mile cross-country flight originated from the Kerrville Municipal Airport (ERV) approximately 1410, and was destined for the Anahuac Airport (T00), near Houston, Texas.

The pilot, who reported having accumulated a total of 18.3 hours in the make and model, received a private pilot's certificate on February 7, 2006. He reported that soon after leveling off at 5,500 feet, while approximately 35 miles from the point of departure, the engine "made a loud pop and the engine went dead." An attempt by the pilot to restart the engine was unsuccessful, and the pilot elected to initiate a forced landing to a pasture. During the emergency landing, the airplane rolled through a wire fence while striking several steel posts.

Examination of the airplane by an Federal Aviation Administration (FAA) inspector, who responded to the accident site, revealed structural damage to the leading edge of the right wing and the right elevator. Both magnetos were removed from the airplane by the NTSB and shipped to Unison Industries in Rockford, Illinois, for further examination.

On May 11, 2006, at Unison Industries, under the supervision of the FAA, an examination of both magnetos was conducted.

The left magneto (05100671) and M-2955 harness showed that the harness was severely damaged, but during a 5-minute run appeared to have no degradation of the operation of the magneto. After disassembly, a small amount of oil contamination was found inside the magneto. All other internal components appeared normal, with no signs of undue stress or wear. The capacitor and coil were removed and tested; both passed the standard acceptance test procedure.

The right magneto (05081979) and M-2598 harness showed that the magneto had previously been opened in the field, as evidenced by the missing torque seal. The harness was severely damaged, and the system would not fire any of the 6 spark plugs. Some external arcing was observed where the harness was damaged. Removal of the distributor block and gear revealed carbon tracking from the carbon brush recessed area to the bearing retainer cap. All other internal components appeared normal with no signs of undue stress or wear. The capacitor and coil were removed and tested; both passed the standard acceptance test

procedure.

Both ignition harnesses appeared to be original equipment for the application, and suffered from significantly more wear than would be expected. Visual analysis of both ignition harnesses revealed severe chafing of the external shielding on 10 of the 12 ignition harness wires. The airplane was powered by a 200-horsepower Lycoming IO-360-ES6 engine (serial number 360014). The pilot reported that the left magneto had accumulated 336 hours, while the right magneto had accumulated 478 hours.

At 1425, the automated surface observing system at ERV reported wind from 230 degrees at 10 knots gusting to 25 knots, visibility of 10 statute miles, clear skies, temperature 32 degrees Celsius, dew point minus 19 degrees Celsius, and barometric pressure at 29.72 inches of Mercury.

Pilot Information

Certificate:	Private	**Age:**	28,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
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 Without waivers/limitations	**Last FAA Medical Exam:**	June 1, 2005
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	March 1, 2006
Flight Time:	163 hours (Total, all aircraft), 18 hours (Total, this make and model), 21 hours (Pilot In Command, all aircraft), 33 hours (Last 90 days, all aircraft), 31 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cirrus Design Corp.	**Registration:**	N142SF
Model/Series:	SR20	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	1527
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	March 1, 2006 100 hour	**Certified Max Gross Wt.:**	3000 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	773 Hrs as of last inspection	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	IO-360-ES6
Registered Owner:	Freund Aviation LLC	**Rated Power:**	200 Horsepower
Operator:	Air Safety Flight Academy	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KERV	**Distance from Accident Site:**	
Observation Time:	14:25 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	10 knots / 25 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	230°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.72 inches Hg	**Temperature/Dew Point:**	31°C / -16°C
Precipitation and Obscuration:			
Departure Point:	Kerrville, TX (ERV)	**Type of Flight Plan Filed:**	None
Destination:	Houston, TX	**Type of Clearance:**	None
Departure Time:	14:10 Local	**Type of Airspace:**	

Airport Information

Airport:	Kerrville Municipal Airport KERV	**Runway Surface Type:**	
Airport Elevation:	1617 ft msl	**Runway Surface Condition:**	
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

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):	McGill, C Frank
Additional Participating Persons:	Michael P Garvin; FAA FSDO; San Antonio, TX Andrew Swick; Teledyne Continental Motors Inc.; Mobile, AL Mark Manning; Cirrus Design Corporation; Duluth, MN Dee Pinkston; Air Safety Flight Academy; Glendale, AZ
Report Date:	February 8, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=63489