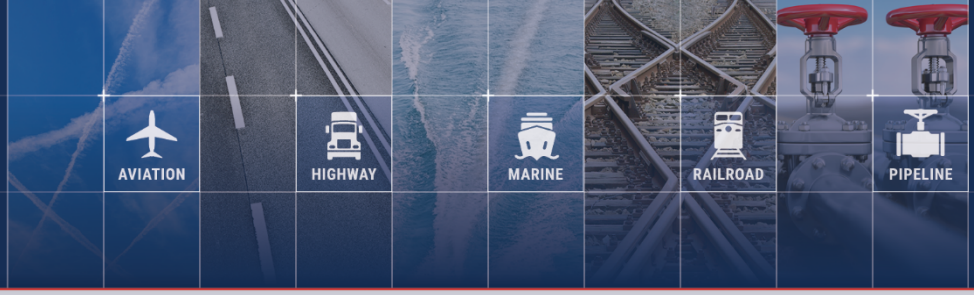

Aviation Investigation Final Report

Location:	Kingman, Arizona	**Accident Number:**	LAX08LA098
Date & Time:	April 11, 2008, 07:30 Local	**Registration:**	N9022N
Aircraft:	North American T-28C	**Aircraft Damage:**	Substantial
Defining Event:	Powerplant sys/comp malf/fail	**Injuries:**	1 Minor, 1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

About 15 minutes after takeoff, during cruise flight, the pilot observed the engine oil pressure drop and the temperature increase, followed by a total loss of engine power. The pilot made an intentional gear-up forced landing on rough terrain. A partial teardown examination of the engine revealed ferrous and non-ferrous metal in the oil screens. The number 3 connecting rod was found bent, and the number 4 and number 5 cylinders were damaged. Numerous pieces of metal were observed in the crankcase that were associated with the number 4 and number 5 cylinders and pistons. The internal engine component that initially broke at the beginning of the sequence was not identified.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A total loss of engine power during cruise flight due to an undetermined catastrophic internal engine failure.

Findings

Aircraft	(general) - Failure
Environmental issues	Rough terrain - Contributed to outcome

Factual Information

History of Flight

Enroute-cruise	Powerplant sys/comp malf/fail (Defining event)
Enroute-cruise	Loss of engine power (total)
Emergency descent	Off-field or emergency landing

On April 11, 2008, about 0730 mountain standard time, an experimental North American T-28C, N9022N, experienced a total loss of engine power while cruising about 5 miles east-southeast of the Kingman Airport, Kingman, Arizona. The pilot made a forced landing on open, rocky, desert terrain, and the airplane was substantially damaged. The private pilot was not injured, and the passenger sustained minor injuries. The airplane was owned and operated by the pilot. Visual meteorological conditions prevailed at the time of the personal flight, and no flight plan was filed. The flight was performed under the provisions of 14 Code of Federal Regulations Part 91, and it originated from Kingman about 0715.

The pilot reported to the National Transportation Safety Board investigator that the engine started running rough while cruising about 5,000 feet mean sea level (about 2,000 feet above ground level). The pilot checked the engine gauges and observed that the oil pressure was decreasing and the oil temperature was "maxing out." According to the pilot, the engine then lost all power and he made an intentional gear up landing because the tricycle gear airplane likely would have nosed over during rollout on the soft terrain. The propeller continued to rotate throughout the mishap. The pilot stated that his airplane's Curtis Wright model 1820-86B engine had been operated about 175 hours since receiving an overhaul.

At the direction of the Safety Board investigator, a Federal Aviation Administration (FAA) airworthiness inspector oversaw an examination of the accident engine. In pertinent part, the FAA inspector reported finding "an excessive amount of ferrous and non-ferrous" material in the oil screens. The number 3 cylinder was removed from the crank case and exhibited a bent connecting rod, along with "major damage to its piston and cylinder skirt." Also, numerous pieces of metal were observed in the crankcase that was associated with the number 4 and number 5 cylinders. The internal engine component that initially broke was not identified.

Pilot Information

Certificate:	Private	**Age:**	44,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	November 1, 2007
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	December 26, 2006
Flight Time:	2800 hours (Total, all aircraft), 700 hours (Total, this make and model), 2650 hours (Pilot In Command, all aircraft), 45 hours (Last 90 days, all aircraft), 20 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	North American	**Registration:**	N9022N
Model/Series:	T-28C	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	140666
Landing Gear Type:	Retractable - Tricycle	**Seats:**	2
Date/Type of Last Inspection:	October 1, 2007 Condition	**Certified Max Gross Wt.:**	8000 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	7000 Hrs as of last inspection	**Engine Manufacturer:**	Curtis Wright
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	R-1820-86B
Registered Owner:	On file	**Rated Power:**	1425 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	IGM,3449 ft msl	**Distance from Accident Site:**	5 Nautical Miles
Observation Time:	07:15 Local	**Direction from Accident Site:**	298°
Lowest Cloud Condition:	Clear	**Visibility**	50 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:		**Temperature/Dew Point:**	18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Kingman, AZ (IGM)	**Type of Flight Plan Filed:**	None
Destination:	Kingman, AZ	**Type of Clearance:**	None
Departure Time:	07:00 Local	**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Minor	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor, 1 None	**Latitude, Longitude:**	35.210556,-113.875556(est)

Administrative Information

Investigator In Charge (IIC):	Pollack, Wayne
Additional Participating Persons:	Kevin Bender; Federal Aviation Administration; Las Vegas, NV
Original Publish Date:	May 6, 2009
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=67807