Aviation Investigation Final Report

Location:	Santa Barbara, California	**Accident Number:**	WPR23LA176
Date & Time:	May 2, 2023, 11:33 Local	**Registration:**	C-GXGS
Aircraft:	AkroTech Aviation Giles G-202	**Aircraft Damage:**	Substantial
Defining Event:	Fire/smoke (non-impact)	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot of the experimental airplane reported that after a normal landing, during rollout the local air traffic controller advised him that they saw flames or smoke under the fuselage. After coming to a stop, the pilot egressed and dispensed a handheld fire extinguisher, successfully extinguishing a fire that had developed in the area of the front seat. The pilot stated he then saw liquid venting from the main tank vent that was igniting on the ground. Because his fire extinguisher was emptied, he pushed the airplane away from the fire, and by the time emergency response personnel arrived it had extinguished itself. The fuselage sustained substantial damage from the fire.

According to the pilot, the fuel system consisted of two wing tanks and a main center tank in the fuselage. When a wing tank is selected for fuel delivery a distributor delivers fuel under constant pressure to the engine and returns excess to the main tank. The pilot stated that he typically switches fuel tanks during flight to manage the level in the main tank, and that landings, and takeoffs are typically performed with the main tank selected and partially full. However, for the accident flight, weather conditions caused an unplanned diversion, and he had to land the airplane with a full main tank.

Due to the fuel configuration at the time of the landing, the main tank fuel quantity level was above the vent inlet line and combined with the landing flare attitude, the fuel began to vent. The vent line was located near the engine exhaust stack, and it is likely that high temperature exhaust gasses ignited misted or vaporized fuel as it exited the vent line.

The pilot reported that there were no preaccident mechanical malfunctions or failures with the airplane that would have precluded normal operation, and the accident could have been avoided if the fuel vent was extended to vent into the relative wind at all speeds.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

A fire that resulted from venting fuel coming into contact with hot exhaust surfaces or exhaust gases. Contributing to the fire was the design and location of the main tank fuel vent.

Findings

Aircraft	(general) - Design
Aircraft	Fuel - Fluid level

Factual Information

History of Flight

Landing-landing roll	Fire/smoke (non-impact) (Defining event)

Pilot Information

Certificate:	Airline transport	**Age:**	37,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land; Multi-engine sea	**Seat Occupied:**	Rear
Other Aircraft Rating(s):	Glider	**Restraint Used:**	5-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	November 9, 2022
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	November 9, 2022
Flight Time:	7342 hours (Total, all aircraft), 279 hours (Total, this make and model), 2118 hours (Pilot In Command, all aircraft), 145 hours (Last 90 days, all aircraft), 60 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	AkroTech Aviation	**Registration:**	C-GXGS
Model/Series:	Giles G-202	**Aircraft Category:**	Airplane
Year of Manufacture:	2003	**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	61
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	May 10, 2022 Annual	**Certified Max Gross Wt.:**	1850 lbs
Time Since Last Inspection:	81 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	1091 Hrs at time of accident	**Engine Manufacturer:**	Aerosport Power
ELT:	C91A installed, not activated	**Engine Model/Series:**	IO-360-EXP
Registered Owner:	MKT Aerobatics LTD	**Rated Power:**	200 Horsepower
Operator:	MKT Aerobatics LTD	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KSBA,8 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	11:53 Local	**Direction from Accident Site:**	261°
Lowest Cloud Condition:	Scattered / 1500 ft AGL	**Visibility**	9 miles
Lowest Ceiling:	Overcast / 5000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	None /
Wind Direction:	220°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.93 inches Hg	**Temperature/Dew Point:**	13°C / 9°C
Precipitation and Obscuration:	Light - None - Rain		
Departure Point:	Santa Maria, CA (SMX)	**Type of Flight Plan Filed:**	VFR
Destination:	Winslow, AZ (INW)	**Type of Clearance:**	VFR
Departure Time:	10:50 Local	**Type of Airspace:**	Class C

Airport Information

Airport:	Santa Barbara Municipal Airport KSBA	**Runway Surface Type:**	Asphalt
Airport Elevation:	13 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	25	**IFR Approach:**	None
Runway Length/Width:	6052 ft / 150 ft	**VFR Approach/Landing:**	Full stop

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	34.426191,-119.84149

Administrative Information

Investigator In Charge (IIC):	Blum, Contessa
Additional Participating Persons:	Juan Herrera; Van Nuys FSDO; Van Nuys, CA
Original Publish Date:	September 8, 2023
Last Revision Date:	
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=107309