Aviation Investigation Final Report

Location:	Lancaster, California	**Accident Number:**	WPR19LA240
Date & Time:	August 25, 2019, 14:05 Local	**Registration:**	N632MM
Aircraft:	SCODA AERONAUTICAL Super Petrel	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (total)	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

While the pilot was descending toward the destination airport near the conclusion of the cross-country flight, the engine lost total power. The pilot subsequently performed a forced landing to a field, during which the right wing sustained substantial damage.

During postaccident engine test runs, the engine lost power at high rpm settings. When the carburetor bowls were resealed, the engine ran with no anomalies noted. Both carburetor float bowls displayed contamination that likely affected the fuel flow to the engine; however, the extent to which the contamination contributed to the loss of engine power was not able to be determined during the investigation.

Probable Cause and Findings

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

The improper sealing of both carburetor bowls, which resulted in a total loss of engine power.

Findings

Aircraft	Fuel pressure - Failure
Aircraft	Fuel - Not specified

Factual Information

History of Flight

Enroute-descent	Loss of engine power (total) (Defining event)

On August 25, 2019, about 1405 Pacific daylight time, a Scoda Aeronautica LTDA Super Petrel LS airplane, N632MM, was substantially damaged when it was involved in an accident near Lancaster, California. The private pilot and passenger were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

According to the pilot, the airplane was refueled to capacity before departing on the cross-country flight. The flight was uneventful until the pilot reduced power to begin the descent toward the destination airport, when the engine lost total power and was not responsive to throttle input. The pilot positioned the fuel selector to the opposite tank and confirmed that the fuel shutoff valve was in the ON position. The pilot performed a forced landing to an open field, during which the right wing sustained substantial damage.

The airplane was equipped with a Rotax 914UL engine. The engine was equipped with dual carburetors. The engine remained relatively intact. All spark plugs were removed, with no anomalies noted. When the engine was manually rotated, no anomalies were noted through the drive train to the accessory section. The fuel pumps were examined and tested with no anomalies noted. The two carburetor float bowls and floats were removed and examined. One float bowl displayed contamination near the main jet and the other float bowl displayed contamination near one of the floats. The contamination was consistent with grease that was used on the float bowl gaskets.

Fuel was added to the header tank, and about 1/2 liter of oil was added before the engine was test run several times. During the first two runs, all engine parameters were normal at a low rpm setting. However, as the throttle was advanced from 2,000 to 3,500 rpm and higher, the engine began to run rough and lose power. Before the third engine run, the original carburetor floats were removed and replaced with new floats. The subsequent engine run results were similar to the earlier runs where the engine lost power. As the floats were determined not to be an issue, the float bowls were resealed. Additional engine runs were accomplished with the new floats installed in addition to the float bowls being resealed. At low rpm settings and when the throttle was advanced to a high rpm setting, no anomalies were noted.

On the final two engine runs, the original floats were reinstalled. and the float bowls resealed. During the first run, the throttle was advanced from 2,000 to 4,219 rpm with no anomalies noted. On the second run, the original floats were also checked for leaks. Additionally, when the carburetor bowls were intentionally loosened, at low power settings no anomalies were noted. However, when the throttle was advanced to 4,090 rpm, a loss of engine lost power was observed.

Pilot Information

Certificate:	Private	**Age:**	75,Male
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Glider; Helicopter	**Restraint Used:**	4-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	November 15, 2018
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	November 1, 2019
Flight Time:	(Estimated) 4280 hours (Total, all aircraft), 165 hours (Total, this make and model), 4000 hours (Pilot In Command, all aircraft), 25 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Passenger Information

Certificate:		**Age:**	
Airplane Rating(s):		**Seat Occupied:**	Right
Other Aircraft Rating(s):		**Restraint Used:**	4-point
Instrument Rating(s):		**Second Pilot Present:**	No
Instructor Rating(s):		**Toxicology Performed:**	
Medical Certification:		**Last FAA Medical Exam:**	
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	SCODA AERONAUTICAL	**Registration:**	N632MM
Model/Series:	Super Petrel	**Aircraft Category:**	Airplane
Year of Manufacture:	2017	**Amateur Built:**	
Airworthiness Certificate:	Special light-sport (Special)	**Serial Number:**	S0355
Landing Gear Type:	Tricycle; Amphibian	**Seats:**	
Date/Type of Last Inspection:	Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	Reciprocating
Airframe Total Time:	165 Hrs at time of accident	**Engine Manufacturer:**	Rotax
ELT:	C126 installed, not activated	**Engine Model/Series:**	914 UL2
Registered Owner:	On file	**Rated Power:**	115 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:	KWJF,2338 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	13:56 Local	**Direction from Accident Site:**	91°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	250°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.02 inches Hg	**Temperature/Dew Point:**	24°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Agua Dulce, CA (L70)	**Type of Flight Plan Filed:**	None
Destination:	Lancaster, CA (WJF)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class E

Airport Information

Airport:	General Wm J Fox Airfield WJF	**Runway Surface Type:**	
Airport Elevation:	2350 ft msl	**Runway Surface Condition:**	Dry;Rough;Vegetation
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	34.741111,-118.218612(est)

Administrative Information

Investigator In Charge (IIC):	Nixon, Albert
Additional Participating Persons:	Frank Motter; Federal Aviation Administration; Van Nuys, CA
Original Publish Date:	June 1, 2022
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=100139