Aviation Investigation Final Report

Location:	Perry, Florida	**Accident Number:**	ERA23LA173
Date & Time:	March 5, 2023, 16:45 Local	**Registration:**	N9777Y
Aircraft:	Beech P35	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (total)	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

About an hour into the flight, while cruising at 8,500 ft, light smoke entered the cabin momentarily, and the engine oil pressure dropped to zero. The pilot turned toward a nearby airport and shortly thereafter the engine lost power. Unable to glide to the airport, he saw a cleared field and set up for a forced landing. The airplane touched down on sandy soil, the nose gear dug in and separated, and the airframe was substantially damaged. The pilot was not injured.

A postaccident examination of the engine revealed that the oil filter adapter separated at the engine case which likely resulted in a depletion of the engine's oil supply and the subsequent total loss of engine power due to lack of lubrication. Residual oil covered the area around the adapter-to-engine case opening and below. The adapter threads appeared stripped. The adapter was safety wired in position and there was red torque putty applied as well.

A review of the maintenance logbooks revealed that an annual inspection of the airframe and engine was completed about 29 hours before the accident. The logbook entries noted that an airworthiness directive that addressed security of the connection between the oil filter adapter and the engine case, including checking for proper torque, had been complied with during the inspection. The separation of the filter and stripping of the adapter threads were likely indicative of the oil filter adapter threads having failed due to improper torquing of the jam nut.

Probable Cause and Findings

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

Maintenance personnel’s incorrect torquing of the oil filter adapter jam nut, resulting in the failure of the adapter threads, a complete loss of oil, and subsequent total loss of engine power.

Findings

Aircraft	Recip eng oil sys - Incorrect service/maintenance
Personnel issues	Scheduled/routine inspection - Maintenance personnel

Factual Information

History of Flight

Prior to flight	Aircraft maintenance event
Enroute	Loss of engine power (total) (Defining event)

On March 5, 2023, about 1645 eastern daylight time, a Beech P35 airplane, N9777Y, was substantially damaged when it was involved in an accident near Perry, Florida. The private pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that he was on a cross-country flight from Peter O Knight Airport (TPF), Tampa, Florida, to Apalachicola Regional Airport (AAF), Apalachicola, Florida. About an hour into the flight, while cruising at 8,500 ft, light smoke entered the cabin momentarily and the engine oil pressure dropped to zero. The pilot turned toward Perry-Foley Airport (FPY), Perry, Florida, and shortly thereafter, the engine lost power. Unable to glide to the airport, he saw a cleared field and set up for a forced landing. He lowered flaps to full and lowered the landing gear. The airplane touched down on sandy soil. The nose landing gear dug in and separated. The airplane came to rest upright and the pilot egressed the cockpit and was met by first responders.

An initial examination of the wreckage by a Federal Aviation Administration inspector revealed that the lower, forward fuselage had structural damage. The pilot initially reported that the air hose to the oil-air separator failed, and the separator's canister was split open and empty of oil. The engine crankcase did not contain any oil and the engine was seized. Oil covered the lower fuselage surfaces.

Further examination of the engine by an airframe and powerplant mechanic revealed that the oil filter adapter was separated at the engine case. There was residual oil covering the area around the adapter-to-engine case opening and below. The adapter threads appeared stripped. The adapter was safety wired in position, and there was red torque putty applied as well.

A review of the maintenance logbooks revealed that an annual inspection of the airframe and engine was completed on December 9, 2022. At the time of the accident, about 29 hours had accrued on the engine since the last annual inspection. The logbook entries noted that Airworthiness Directive (AD) 96-12-22 had been complied with. The AD addressed security of the connection (jam nut) between the oil filter adapter and the engine case, including checking for proper torque.

An article from AOPA [Aircraft Owners and Pilots Association] Pilot Magazine, dated May 5, 2005, addressed the oil filter adapter AD. The article stated that, "If the proper torque isn't applied to the jam nut, the weight of the oil-filled filter combined with normal vibrations will

soon cause thread damage to the adapter. In a few cases maintenance practices have been so mindless that the threads got in bad enough shape that the adapter was blown completely out of the engine."

Pilot Information

Certificate:	Private	**Age:**	38,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Lap only
Instrument Rating(s):	None	**Second Pilot Present:**	
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	September 14, 2022
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	February 14, 2023
Flight Time:	70 hours (Total, all aircraft), 16 hours (Total, this make and model), 31 hours (Pilot In Command, all aircraft), 30 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N9777Y
Model/Series:	P35	**Aircraft Category:**	Airplane
Year of Manufacture:	1963	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	D-7160
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	December 9, 2022 Annual	**Certified Max Gross Wt.:**	3125 lbs
Time Since Last Inspection:	29 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	5364 Hrs as of last inspection	**Engine Manufacturer:**	CONT MOTOR
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	I0-470 SERIES
Registered Owner:	On file	**Rated Power:**	260 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:	KAAF,18 ft msl	**Distance from Accident Site:**	73 Nautical Miles
Observation Time:	16:53 Local	**Direction from Accident Site:**	262°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	130°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.08 inches Hg	**Temperature/Dew Point:**	24°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Tampa, FL (TPF)	**Type of Flight Plan Filed:**	None
Destination:	Apalachicola, FL (AAF)	**Type of Clearance:**	VFR
Departure Time:	15:45 Local	**Type of Airspace:**	Class E

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	29.91105,-83.63894(est)

Administrative Information

Investigator In Charge (IIC):	Hicks, Ralph
Additional Participating Persons:	Scott Kuhns; FAA/FSDO; Tampa, FL
Original Publish Date:	June 5, 2024
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=106979