



LIMITED ACCIDENT INVESTIGATION REPORT
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Reference Number		CA18/2/3/10013					
Classification	Accident	Date	16 June 2021	Time	1230Z		
Type of Operation	Private (Part 91)						
Location							
Place of Departure	Virginia Aerodrome (FAVG), KwaZulu-Natal Province	Place of Intended Landing	Rand Aerodrome (FAGM), Gauteng Province				
Place of Accident	End of Runway 23 at Virginia Aerodrome, KwaZulu-Natal Province						
GPS Co-ordinates	Latitude	S29°46'15"	Longitude	E031°03'37.0"	Elevation	20 feet	
Aircraft Information							
Registration	ZS-OIK						
Model/Make	Piper PA-46-350P (Malibu Mirage)						
Damage to Aircraft	Substantial		Total Aircraft Hours	1429.2			
Pilot-in-command							
Licence Type	Commercial Pilot Licence (CPL)	Gender	Male	Age	64		
Licence Valid	Yes						
Total Hours on Type	68.2		Total Flying Hours	994.3			
People On-board	1 + 1	Injuries	0	Fatalities	0	Other (on ground)	0
What Happened							
<p>On Wednesday, 16 June 2021, the pilot accompanied by a passenger on-board a Piper PA-46-350P with registration ZS-OIK intended to conduct a private flight from Virginia Aerodrome (FAVG) to Rand Aerodrome (FAGM). The flight plan was filed, and the flight was conducted in visual meteorological conditions (VMC) by day under the provisions of Part 91 of the South African Civil Aviation Regulations 2011 as amended.</p> <p>The engine was started without fault where after the aircraft was taxied to Runway 23 at FAVG for departure. Pre-take-off checks indicated no abnormalities. During the take-off roll, the pilot noticed that the engine was not producing enough power for take-off. The pilot reported that he had 39 inches of turbo and the maximum turbo is 42 inches (manifold pressure); thus, the aircraft did not produce maximum power which would result in the aircraft not attaining the recommended rotation speed of 80 – 85 knots (kts). The pilot rotated at 65 kts and, by the time he decided to abort take-off, it was too late. The aircraft overshot the runway and came to a stop on the grass beyond the runway. During the accident sequence, the nose gear strut collapsed, and the propeller blade struck the ground. The aircraft sustained substantial damage, however, both occupants were unharmed.</p>							

The aircraft had 100 gallons of Avgas 100LL fuel in the tanks. The aircraft maintenance organisation (AMO) had a valid certificate with an expiry date of 31 March 2022.



Figure 1: The aircraft as it came to rest. (Source: Pilot)



Figure 2: The resting position of the aircraft taken from the front. (Source: Pilot)

The aircraft was fitted with the JPI instrument, which is used to monitor engine parameters. It gives warning to the pilot if any parameters exceed the programmed limit. The instrument also collects data. The instrument was removed from the aircraft and was taken to an avionics shop for downloading. The JPI did not record the accident flight and the only data retrieved was for the flight which took place on 30 October 2020.



Figure 3: Picture of the JPI instrument which monitors engine parameters. (Source: Pilot)



Figure 4: The last reading on the JPI instrument. (Source: Pilot)

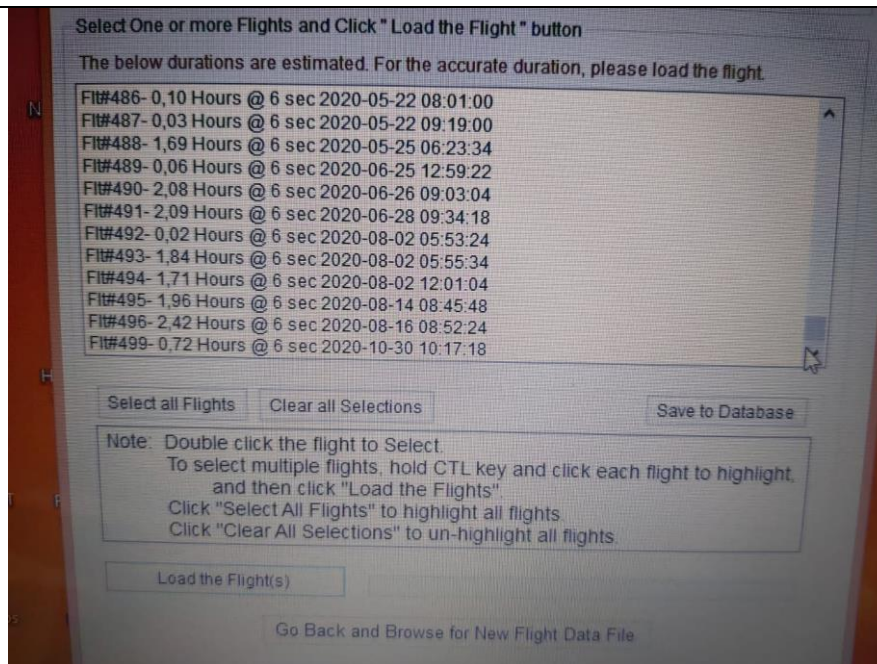


Figure 5: The last recording on JPI instrument. (Source: Pilot)

The aircraft's take-off distance is as follows:

- With no flaps = 1700 feet
- With 20 degrees flaps = 1250 feet

On the day of the accident, the aircraft had 10-degree flaps as per the Pilot's Operating Handbook requirements which would have given the 1475 feet distance required for take-off. The runway length at FAVG is 3035 feet.

The table below shows weight and balance provided by the pilot. The aircraft was operated within its limits.

Weights and balance Piper Malibu		aft datum line		
		Weight lbs	Arm ins	Moment
16th June 2021	Basic Empty Weight	3,089.0	135.3	417,818.1
	Baggage Front Max 100 lb	0.0	88.6	0.0
	Pilot & front passenger	396.0	135.5	53,658.0
	Passenger centre seats	0.0	177.0	0.0
	Passenger rear seats	0.0	218.8	0.0
	Fuel 120 gal max	600.0	150.3	90,186.0
	Baggage Aft Max 100 lb	60.0	248.2	14,893.8
	Ramp weight 4318	4,145.0	139.1	576,555.9
	Fuel allowance start & run up	-18.0	150.3	-2,705.6
	Takeoff weight Max 4358	4,127.0	139.0	573,850.4

Probable cause:

The pilot lifted off before reaching the recommended take-off speed and when he decided to abort take-off, it was too late. The aircraft overshot the runway and came to a stop on the grass (beyond the runway).

Safety Action/s	
None.	
Safety Message	
Pilots should ensure adherence to the manufacturers' procedures with special emphasis on take-off and landing phases of a flight.	
Purpose of the Investigation	
<i>In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011, this report was compiled in the interest of the promotion of aviation safety and the reduction of the risk of aviation accidents or incidents and not to apportion blame or liability.</i>	
About this Report	
<p><i>Decisions regarding whether to investigate, and the scope of an investigation are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, no investigation has been conducted, and the Accident and Incident Investigations Division (AIID) has relied on the information submitted by the affected person/s and organisation/s to compile this brief report. The report has been compiled using information supplied in the initial notification, as well as follow-up information to bring awareness of potential safety issues to the industry in respect of this occurrence, as well as possible safety action/s that the industry might want to consider in preventing a recurrence of a similar accident.</i></p> <p><i>This report provides an opportunity to share safety message/s in the absence of an investigation.</i></p> <p><i>All times given in this report are Co-ordinated Universal Time (UTC) and will be denoted by (Z). South African Standard Time is UTC plus 2 hours.</i></p>	
Disclaimer	
<i>This report is produced without prejudice to the rights of the AIID, which are reserved.</i>	

This report is issued by:

**Accident and Incident Investigations Division
South African Civil Aviation Authority
Republic of South Africa**