SOUTH AFRICAN CIVIL AVIATION AUTHORITY

Section/division **Accident and Incident Investigations Division** Form Number: CA 12-12a

AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:	CA18/2/3/9684		
Aircraft registration	**ZU-EFY**	**Date of accident**	25 January 2018		**Time of accident**	1500Z	
Type of aircraft	Bantam B22J (conventionally controlled microlight)		**Type of operation**		Private (Part 94)		
Pilot-in-command licence type		National	**Age**	58	**Licence valid**	Yes	
Pilot-in-command flying experience		Total flying hours	220.0		Hours on type	113.7	
Last point of departure	Pyramid Aerodrome near Barberton, Mpumalanga Province						
Next point of intended landing	Pyramid Aerodrome near Barberton, Mpumalanga Province						
Location of the accident site with reference to easily defined geographical points (GPS readings if possible)							
Aylestone Private Reserve (GPS position: 25°39'49.52" South 030°57'01.91" East), elevation 2 830 ft. above mean sea level (AMSL)							
Meteorological information	Surface wind: 045° to 060° at 5 kts, Temperature: 27°C, Dew point: 17°C						
Number of people on board	1 + 0	**No. of people injured**	1	**No. of people killed**	0		

Synopsis

On Thursday 25 January 2018, the pilot, being the sole occupant on-board the microlight aircraft, departed Pyramid Aerodrome with the intention of carrying out circuit training. The pilot departed runway 15 and made a right-hand turn out to join downwind for runway 30. Abeam runway 12/30 and while cruising at 45 kt at 400 ft above ground level (AGL), the pilot experienced a sudden right-hand wing drop.

To recover from the in-flight upset, the pilot increased power and applied opposite aileron. However, he was unable to recover and impacted the ground.

The microlight aircraft impacted the ground in a nose-down, right-wing-low attitude, and skidded for approximately five metres before coming to rest in a nose-down attitude against a tree.

The aircraft was substantially damaged in the accident and the pilot received serious facial injuries. He was taken to a private hospital in Nelspruit and was discharged the same evening after receiving medical attention.

The pilot did not report the accident to the South African Civil Aviation Authority (SACAA) as per the requirements contained in Part 12.02.1 of the Regulations. The authority only became aware of the accident on the afternoon of 31 January 2018; an on-site investigation commenced the following morning.

Probable cause Causal: 7.26; 7.41

The pilot failed to maintain flying speed; when the in-flight upset occurred, whereby the wing dropped, he had insufficient altitude/height available to recover from the stall, which rendered ground impact inevitable.

SRP date	10 July 2018	Release date	27 July 2018

Name of Owner	**:** PG Eksteen
Name of Operator	**:** Private (Part 94)
Manufacturer	**:** Micro Aviation New Zealand Ltd
Model	**:** Bantam B22J
Nationality	**:** South African
Registration markings	**:** ZU-EFY
Place	**:** Aylestone Private Reserve, near Barberton
Date	**:** 25 January 2018
Time	**:** 1500Z

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.

Purpose of the Investigation:

In terms of Regulation 12.03.1 of the Civil Aviation Regulations (2011) this report was compiled in the interests of the promotion of aviation safety and the reduction of the risk of aviation accidents or incidents and ***not to establish blame or liability.***

Disclaimer:

This report is produced without prejudice to the rights of the CAA, which are reserved.

1. FACTUAL INFORMATION

1.1 History of flight

1.1.1 The pilot, who was the sole occupant on-board the conventionally controlled microlight (CCM) aircraft, crashed on a private reserve of savannah-type terrain, approximately 100 m north of runway 12/30 at Pyramid Aerodrome, from where he had taken off. The pilot was familiar with the area as the CCM aircraft was hangered at the aerodrome.

1.1.2 According to the ground impact markings, the CCM aircraft had been in a steep nose-down attitude with the right wing low when it impacted the ground. It would appear that the pilot had wanted to avoid colliding with a large tree head-on and had applied left rudder. The aircraft skidded for a distance of 5 m before coming to rest against a tree, tail high.

1.1.3 According to the pilot, he had wanted to conduct some circuit work. He refueled his aircraft with Mogas from a jerry can, but when he removed the fuel tank filler cap, it fell into the cabin area and underneath the seats, and he could not retrieve it. He then covered the fuel tank filler point with a plastic bag. After start-up, he backtracked along runway 30 to the threshold of runway 15, which he had selected for take-off. After take-off, he turned out right and positioned the aircraft on a right downwind for runway 30. He stated that he suddenly encountered a gust of wind from the north-east, which lifted the left wing. At that stage the speed indicated approximately 45 kts and the aircraft was approximately 400 ft. above ground level (AGL). He applied full power and opposite aileron in order to establish level flight to no avail, and the CCM aircraft impacted with terrain.

Figure 1: Google Earth overlay of Pyramid Aerodrome and the position of ZU-EFY

1.1.4 The CCM aircraft was substantially damaged during the impact sequence. According to available information, the pilot sustained several facial lacerations, which were bleeding profusely. A resident of the private reserve who arrived home found him standing at the main gate of the reserve, as he was unable to get out as the reserve was secured with a game fence. He was taken to a private hospital in Nelspruit where he received medical attention and was discharged later that same evening.

1.1.5 The accident occurred during daylight conditions at a geographical position determined to be 25°39’99.52” South 030°57’01.91” East at an elevation of 2 830 ft above mean sea level (AMSL).

1.2 Injuries to persons

Injuries	Pilot	Crew	Pass.	Other
Fatal	-	-	-	-
Serious	1	-	-	-
Minor	-	-	-	-
None	-	-	-	-

1.2.1 The pilot suffered a laceration to his nose and his forehead as well as minor cuts and bruises to both his legs from the Plexiglas windscreen that fractured during the impact sequence. He was taken to a private hospital in Nelspruit where he received medical attention and was discharged the same evening at 2043Z.

1.3 Damage to aircraft

1.3.1 The aircraft sustained substantial damage during the impact sequence.

1.4 Other damage

1.4.1 No other damage was caused.

1.5 Personnel information

1.5.1 Pilot-in-command (PIC):

Nationality	South African	Gender	Male	Age	58
Licence number	0279016489	Licence type	National		
Licence valid	Yes	Type endorsed	Yes		
Ratings	None				
Medical expiry date	31 August 2020				
Medical class	4				
Restrictions	Must wear corrective lenses				
Previous accidents	The pilot had been involved in the following accidents;				

1. On 6 January 2013, the pilot, accompanied by a passenger, crashed near the Bridal Veil Waterfall in the Sabie area when the right wing clipped a tree. The passenger was seriously injured in the accident. Accident report reference: CA18/2/3/9120.

2. On 6 April 2013, being the sole occupant on-board, the pilot landed on a private farm runway near White River. The aircraft veered to the left after touch-down and he was unable to correct it. The nose wheel then entered a ditch and the CCM aircraft nosed over, coming to rest in an inverted attitude.

3. On 12 November 2017, being the sole occupant on-board, the pilot landed on the grass surface next to runway 04 at Nelspruit Aerodrome (FANS). The aircraft veered to the left after touch-down and he was unable to correct it. He applied brakes to no avail, and the aircraft impacted with a hangar.

4. On 16 December 2017, the pilot flew from Brits Aerodrome in a Jora UA2 (ZU-FGN) to The Ranch Hotel Aerodrome near Polokwane. His flight time was four hours and fifteen minutes. On landing, the nose wheel had a puncture, which was repaired. Without uplifting any fuel, he then took off, but during the initial climb the engine stopped and the pilot opted for a forced landing. The CCM aircraft sustained substantial damage. Accident report reference: CA18/2/3/9672.

5. On 25 January 2018, the pilot was involved in the accident in question.

1.5.2 Pilot-in-command flying experience:

Total hours	220.0
Total past 90 days	113.7
Total on type past 90 days	113.7
Total on type	113.7

The information entered in the table above was obtained from the pilot questionnaire.

1.5.3 According to available information, the pilot stopped flying on 21 April 2014 but started training to renew his national pilot licence on 12 August 2017. On 19 August 2017 he passed his flight test after he had flown a total of 6.0 hours, of which 3.0 hours were dual with a flight instructor and 3.0 hours were solo.

1.5.4 On 12 November 2017 the pilot was involved in a landing accident at FANS with the same microlight aircraft (ZU-EFY). It was repaired, and according to the maintenance facility, the pilot/owner took delivery of it on 21 December 2017. According to a copy of the flight folio, the pilot flew five flights during the month of January 2018 with the aircraft, including the accident flight. The total flight time of the four flights prior to the accident flight amounts to 5.7 hours.

1.5.5 During an interview with the pilot on Tuesday 20 February 2018, the pilot indicated that he was taking prescription medication for anxiety and a mental health condition. He held a valid aviation medical certificate; his last medical examination had been conducted on 1 August 2017. According to available information, the pilot had not declared this condition or the prescription medication he took during his medical examination. He therefore did not comply with the provisions of Part 67.00.9 and Part 185.01.2(d)(i)(ii) and (f) of the Civil Aviation Regulations (CARs) of 2011. The regulations mentioned here are attached to this report as Annexure A.

1.6 Aircraft information

Airframe:

Type	Bantam B22J	
Serial number	06-0296	
Manufacturer	Micro Aviation New Zealand Ltd	
Year of manufacture	2006	
Maximum take-off weight	438 kg	
Total airframe hours (at time of accident)	Unknown	
Last Annual inspection (hours & date)	471.5 hours	26 June 2017
Hours since last Annual inspection	Unknown	
Authority to Fly (issue date)	13 December 2017	
Authority to Fly (expiry date)	6 December 2018	
C of R (issue date) (Present owner)	13 June 2012	
Operating categories	Private	

Engine:

Type	Jabiru 3300A
Serial number	33A1100
Hours since new	23.5
Hours since overhaul	TBO not yet reached

Propeller:

Type	P-Prop
Serial number	Not available
Hours since new	23.5
Hours since overhaul	TBO not yet reached

The microlight aircraft had been involved in three previous accidents; following each accident it was repaired. The table below provides a summary of these accidents.

Date	Circumstances
6 January 2013	Engine power loss, right wing clipped a tree, pilot lost control
6 April 2013	Veered off the runway during landing and entered a ditch
12 November 2017	Veered off the runway during landing at FANS
25 January 2018	The accident in question

1.7 Meteorological information

1.7.1 The information entered in the table below was obtained from the pilot questionnaire.

Wind direction	045°	Wind speed	~7 kts	Visibility	10 km
Temperature	19°C	Cloud cover	60%	Cloud base	1 000 ft
Dew point	17°C				

1.7.2 An official weather report was obtained from the South African Weather Service (SAWS). The most probable weather conditions at Pyramid Aerodrome at the time of the accident were: surface wind 060°/5 kts, temperature 27°C, dew point 17°C.

1.8 Aids to navigation

1.8.1 The aircraft was fitted with a magnetic compass. The pilot indicated that he also made use of a Garmin Aera 500 global positioning system (GPS). The GPS could not be retrieved post-accident.

1.9 Communication

1.9.1 The very high frequency (VHF) for Pyramid Aerodrome was 130.35 MHz.

1.9.2 According to the pilot, he did not broadcast any distress or Mayday call.

1.10 Aerodrome information

Aerodrome location	Pyramid Aerodrome near Barberton	
Aerodrome co-ordinates	25°40’4.95” South 030°57’15.95” East	
Aerodrome elevation	2 729 feet AMSL	
Runway designations	12/30	15/33
Runway dimensions	35 x 780 m	25 x 1 200 m
Runway used	15	
Runway surface	Grass	
Approach facilities	None	
Aerodrome status	Voluntarily registered: VR024	

Elevation at threshold of runway 15	2 866 ft (874 m)
Elevation at threshold of runway 33	2 683 ft (818 m)
Elevation at threshold of runway 12	2 866 ft (874 m)
Elevation at threshold of runway 30	2 801 ft (854 m)

Figure 2: An aerial view of Pyramid Aerodrome

1.11 Flight recorders

1.11.1 This was a non-type certified aircraft (NTCA) and was therefore not required by the CARs to be fitted with any recording devices.

1.11.2 The pilot stated that there was a Garmin Aera 500 GPS on-board during the flight; however, the unit was not recovered.

1.11.3 There was a GoPro camera mounting fitted to the left wing strut. During an interview with the pilot, he stated that the camera had not been installed during the flight.

1.12 Wreckage and impact information

1.12.1 The microlight aircraft impacted with the savannah-type terrain in a steep nose-down attitude, in a north-easterly (030°M) direction. The distance from the first point of impact to the final position was approximately 5 m.

1.12.2 At the point of impact, debris from the wooden propeller and the Plexiglas windscreen were evident. Due to the distortion of the fuselage on impact, the microlight aircraft came to rest in a tail-high attitude against a tree. The cockpit/cabin area was substantially distorted, with the nose landing gear pushed up into the floor structure of the cockpit/cabin area. It was noted that the pilot did not make use of the aircraft-equipped shoulder harnesses, as these were still secured. It was also noted that the elevator trim tab had been subjected to an unapproved modification. One propeller blade completely shattered on impact and the second blade partially shattered, indicating that the engine was delivering power on impact.

1.12.3 The area had experienced a large amount of rainfall in the prior week, therefore a large amount of grassy vegetation had begun to regrow, obscuring the ground scarring prior to the commencement of the on-site investigation.

Figure 3: Ground scarring leading up to the final resting position of the aircraft

Figure 4: The final resting position of the aircraft

Figure 5: Damage to the controls and cabin area. The Plexiglas window completely shattered and the fibre glass area around the pilot's legs collapsed due to the impact and fuselage distortion.

Figure 6: Distortion to the right wing and the collapsed right main gear

Figure 7: Collapse nose gear due to excessive impact forces

Figure 8: Damage to the empennage area, and the unapproved trim tab modification

Figure 9: Plastic bag covering in place of the fuel cap

Figure 10: The engine and propeller before recovery on the left and post recovery on the right

Figure 11: Propeller fragments and ground scarring

Figure 12: High tail attitude due to the distorted fuselage

1.13 Medical and pathological information

1.13.1 The pilot was admitted to a private hospital in Nelspruit on the day of the accident, and after receiving treatment was discharged the same evening.

1.14 Fire

1.14.1 There was no evidence of a pre- or post-impact fire.

1.15 Survival aspects

1.15.1 The accident was considered survivable.

1.15.2 The CCM aircraft was equipped with a three-point safety harness for both occupants. During an interview with the pilot, who was also the owner of the aircraft since 13 June 2012, he stated that he had never used the shoulder harnesses while flying this CCM aircraft.

1.15.2 The Aircraft Flight Manual (AFM) suggests that pilots wear a rigid safety helmet such as a motorcycle or helicopter helmet, but the pilot did not make use of a helmet or any other safety gear during the flight.

1.16 Tests and research

1.16.1 None considered necessary.

1.17 Organizational and management information

1.17.1 This was a private flight, with the pilot also being the owner of the CCM aircraft.

1.17.2 The CCM aircraft was repaired by an approved facility following a landing accident at FANS on 12 November 2017.

1.18 Additional information

1.18.1 Notification of an accident:

The accident was not reported by the pilot to the SACAA, as called for in Part 12.02.1 of the CARs of 2011, which was reported by a third party on Wednesday afternoon, 31 January 2018. Annexure A attached to this presents Part 12.02.1.1.18.2, Modification to the elevator trim tab.

1.18.2 During the on-site investigation, it was noted that there was a modification to the elevator trim tab. During an interview with the pilot/owner, he stated that he had done the modification as he had difficulty during flight trimming the aircraft; he had to keep pulling back on the control stick. He extended the trim tab profile by extending the trim tab surface, by sticking a piece of cardboard to it. He indicated that he had flown several hours with the aircraft after performing the modification and that it had produced the desired effect.

This was found to be an unauthorised modification, as the pilot/owner did not comply with the requirements as stipulated in Part 44.01.10 of the CARs of 2011 as amended, attached to this report under Annexure A.

Figure 13: The elevator trim tab modification as it was found

Figure 14: An elevator trim tab of a similar type of aircraft

1.19 Useful or effective investigation techniques

1.19.1 No new methods were applied.

2. ANALYSIS

2.1 Man (Pilot)

The pilot was in possession of a national pilot licence was also the owner of the microlight aircraft ZU-EFY since 13 June 2012. He was involved in two accidents with this aircraft in 2013. According to available evidence, he then stopped flying in April 2014. On 12 August 2017, after he obtained his aviation medical certificate, he again took flying lessons on the same aircraft with an approved aviation training organisation for the purpose of revalidating his licence. On 19 August 2017 he was found proficient by a flight instructor and was issued with a national pilot licence again.

On 12 November 2017 he was involved in a landing accident at FANS with ZU-EFY. While this aircraft was being repaired, he bought himself another non-type certificated aircraft, a Jora UA2 (ZU-FGN). On 16 December 2017, he was involved in an accident with ZU-FGN when the engine stopped after take-off from The Ranch Resort Aerodrome near Polokwane due to fuel exhaustion and execution of an unsuccessful forced landing.

The pilot then returned to Nelspruit and continued flying with ZU-EFY after he received it back on 21 December 2017, until the day of the accident in question.

On the afternoon of 25 January 2018, the prevailing wind was from the north-east (between 045° and 060°). The pilot opted to use runway 15 for take-off. The aerodrome had two runways available, namely 12/30 and 15/33.

The pilot stated that he opted to fly the circuit at approximately 400 ft. AGL instead of the textbook-recommended altitude of 1 000 ft. when operating at an unmanned aerodrome. With reference to the height above ground during the accident flight, it does not appear that the pilot maintained the 400 ft. AGL circuit height throughout, as the threshold of runway 33 is 183 ft. lower than the threshold of runway 15. The threshold of runway 12 is at the same height as that of runway 15. In order for the pilot to have been at 400 ft. AGL while positioned on a right downwind for runway 30, he should have climbed to at least 600 ft. AGL after take-off from runway 15. It could have been that the pilot was not flying at 400 ft. AGL when he encountered the in-flight upset, which was most probably induced by a gust of wind from the left, as the wind was from the north-east. Apart from the gust and the height at which he was flying above ground, he was flying at an indicated airspeed (IAS) of approximately 45 kts; flying at this speed did not leave him with any margin for error. The pilot stalled and was found to have executed the incorrect stall recovery technique as prescribed in the AFM. In the pilot questionnaire, he stated that he applied opposite aileron to attempt to correct the attitude. The AFM states: “Recovery should be affected with neutral ailerons. Any attempt to apply opposite aileron in the case of a wing drop must be avoided, as this action may exacerbate the wing drop situation.”

With reference to crash survivability, the pilot failed to make use of the aircraft-equipped shoulder harnesses. In addition, he was not flying with a helmet or proper protective gear (such as a flying suit), which could have reduced his injuries. There were no eye witnesses to the accident and with the pilot unable to get out of the reserve until such time that one of the residents arrived at the main gate, a much more severe outcome could have resulted if his injuries had been life threatening.

It has been noted that the information provided by the pilot in his pilot questionnaire indicated that he had flown 113.7 hours during the past 90 days prior to the accident on the Bantam B22J. This information is considered inaccurate, given that the aircraft was out of commission for approximately six weeks while undergoing

repairs. Nor did the information that was available to the investigating team reflect any record of such a substantial amount of flying hours.

2.2 Machine (microlight aircraft)

The aircraft had recently been subjected to repairs after it was involved in its third accident on 12 November 2017. During the on-site investigation, flight control continuity as well as the structural integrity was ensured. However, it was found that an unapproved modification had been installed on the elevator trim tab by the pilot/owner. He stated that he had flown with the unapproved modification for several flights. There was no documented evidence to prove that this information was indeed accurate, and this might have been the first flight with this extended elevator trim tab. No engine malfunction was reported by the pilot and the engine displayed evidence of normal operation, with one of the blades found to be shattered up to the hub assembly and the second blade shattered approximately midway.

2.3 Environment

The prevailing wind at the time was from the north-east, yet the pilot elected to conduct circuit work using runway 30, which was not the ideal runway for the prevailing wind conditions. The possibility that a gust of wind from the left could have resulted in the in-flight upset could not be ruled out, as the wind was very close to being a crosswind at the time the upset occurred, while the pilot was flying in a south-easterly direction.

2.4 Mission

The flight was nothing out of the norm and the pilot was familiar with the aerodrome; ZU-EFY was hangered at the aerodrome. The aerodrome was found to be well maintained with adequate wind socks from which pilots could make a proper wind assessment prior to landing.

3. CONCLUSION

3.1 Findings

3.1.1 According to available information, the pilot was the holder of a valid national pilot's licence. He was also the owner of ZU-EFY. He had accumulated a total of 220 flying hours, of which 113.7 hours were on the Bantam B22J when this accident occurred.

3.1.2 According to available information, the pilot was in possession of a valid aviation medical certificate.

3.1.3 According to the flying history of the pilot, this was the fifth accident he had been involved in since 6 January 2013.

3.1.4 The pilot did not report the accident to the SACAA as called for in Part 12.02.1 of the CARs of 2011 as amended. The accident was reported to the SACAA on Wednesday afternoon, 31 January 2018, by a third party, and an on-site investigation commenced the following morning; the wreckage had not been moved following the accident as the aircraft had crashed within a secure area.

3.1.5 Runway 15 at Pyramid Aerodrome was used for take-off according to the pilot; it consists of a grass surface, and is 1 200 m in length and 25 m wide. The aerodrome was well maintained and there were several windsocks that provided the pilot with a clear indication of what the prevailing wind was at the time.

3.1.6 According to the pilot questionnaire, the prevailing wind was from the north-east (045°) at 8 mph (just under 7 kts).

3.1.7 According to an official weather report obtained from the SAWS, the most probable weather conditions at Pyramid Aerodrome at the time were: surface wind 060°/5 kts, temperature 27°C, dew point 17°C.

3.1.8 There were no eyewitnesses to the accident. The accident occurred in a private reserve. The pilot could not get out of the reserve; he walked from the accident scene to the main gate where he waited until one of the residents arrived, who took him to hospital as he was bleeding profusely from his face.

3.1.9 The pilot, who was also the owner of the aircraft, performed an unapproved modification, namely he extended the elevator trim tab by means of sticking a

cardboard type of material to it. This was found to be in contravention of Part 44.01.10 of the CARs of 2011 as amended.

3.1.10 The pilot stated that he dropped the fuel tank filler cap during refuelling prior to the accident flight and was unable to retrieve it. He then covered the fuel tank filler point with a plastic bag as shown in Figure 9.

3.1.11 The pilot was being treated for a medical condition that he never declared to the medical practitioner during his last aviation medical, which was conducted on 1 August 2017.

3.2 Probable cause

3.2.1 The pilot failed to maintain flying speed when the in-flight upset occurred, during which the right wing dropped, and he had insufficient altitude/height available to recover from the stall, rendering ground impact inevitable.

3.3 Contributing factors

3.3.1 The pilot flew at a circuit height of approximately 400 ft. AGL instead of the recommended circuit altitude of 1 000 ft. AGL for an unmanned aerodrome. He therefore did not allow himself adequate altitude in case of an emergency or an in-flight upset.

3.3.2 The pilot was flying on the downwind leg at the stall speed limit of 45 kts IAS as listed in the AFM. The typical cruise speed for this microlight aircraft is 60 kts IAS.

3.3.3 In terms of the design of the microlight aircraft, there is little warning of an impending stall and it may not exhibit a pre-stall buffet. The pilot may have not been monitoring his airspeed and with no warning, the aircraft entered into a stall.

3.3.4 Based on the direction of the prevailing wind, which was from the north-east, the pilot should have conducted circuit work using runway 33 and not runway 30.

3.3.5 The prescription medication used by the pilot for his medical condition might have affected his decision-making ability as well as his reaction time.

4. SAFETY RECOMMENDATIONS

4.1 It is recommended that the Bantam B22J AFM manufacture to consider review to replace the term ‘caution’ with the term ‘warning’.

4.2 It is recommended to the Director of Civil Aviation that the pilot’s licence be suspended until such time as he can prove that he is medically fit for flight.

NOTE: By the time this report was concluded the Director of Civil Aviation has revoked the pilot licence and he will not be eligible to apply for a pilot licence again.

5. APPENDICES

5.1 Annexure A (CARs of 2011 as amended)

5.2 Bantam B22J AFM extracts

ANNEXURE A

Source: Civil Aviation Regulations of 2011 as amended

Notification of an accident

Part 12.02.1 *(1) The PIC of an aircraft involved in an accident within the Republic, or if he or she is killed or incapacitated, a flight crew member, or if there are no surviving flight crew members or if they are incapacitated, the operator or owner, as the case may be, shall, as soon as possible but at least within 24 hours since the time of the accident, notify—*

(a) the Executive Manager: Aircraft Accident and Incident Investigation;

(b) an ATSU; or

(c) the nearest police station, of such accident.

(2) If an ATSU or police station is notified of an accident in terms of sub-regulation (1), such ATSU or police station shall, immediately on receipt of the notification, notify—

(a) the Executive Manager: Aircraft Accident and Incident Investigation; and

(b) where such accident occurs on an aerodrome, the aerodrome manager.

Modification to elevator trim tab

Part 44.01.10 *(1) If a person intends to carry out any modifications, including changes to equipment or the installation thereof, which affect, or are likely to affect, the serviceability of the aircraft, or the safety of its occupants or any other persons or property, in relation to an amateur-built aircraft or a production-built aircraft—*

(a) in the case of a minor modification a notification of the modification must be submitted to the Director, or the organisation designated for the purpose in terms of part 149, as the case may be, within 30 days of the modification being performed. All subsequent modifications shall be an amendment to the build standard;

(b) in the case of a major modification an application for the approval of the modification and authority to fly, as prescribed in Document SA-CATS 44, must be submitted to the Director or the organisation designated for the purpose in terms of part 149, as the case may be, before the modification has been performed.

(2) The application referred to in subregulation (1) must be accompanied by the appropriate fee as described in part 187.

(3) All approved modifications shall be entered into the appropriate logbook(s).

(4) An appropriately rated approved AMO, AME or approved person, rated in accordance with subpart 4 of part 66 shall sign in the appropriate logbook(s) that all procedures, as stated in the application for modification, were adhered to and that he or she is satisfied with the quality of the work which was carried out.

Medical certificate

Part 67.00.9 *(1) The holder of a medical certificate shall—*

(a) carry such medical certificate on his or her person when carrying out the duties as a flight crew member, an air traffic service personnel member or a cabin crew member, as the case may be;

(b) not under any circumstances act as a PIC, or in any other capacity as a flight crew member, an air traffic service personnel member or a cabin crew member, as the case may be—

(i) while he or she is aware of any medical condition or medication which could affect the validity of such medical certificate;

(c) without undue delay, notify the designated body or institution of any—

(i) injury;

(ii) hospitalisation;

(iii) surgical operation or invasive procedure;

(iv) regular use of medication;

(v) pregnancy;

(vi) absence due to illness for a period of more than 21 days; or

(vii) psychiatric treatment, which renders such holder unable to comply with the appropriate medical requirements and standards referred to in regulation 67.00.2 (6).

(2) For the purposes of sub-regulation (1) (c), the holder of a medical certificate shall, before such holder resumes the exercising of the privileges of the license held by him or her, furnish the designated body or institution with proof that he or she has fully recovered from the decrease in medical fitness.

***Part 185.01.2** A person commits an offence if that person—*

(d) makes or causes to be made, either orally or in writing—

(i) any fraudulent, misleading or false statement for the purpose of obtaining any licence, rating, certificate, permit, approval, authorisation, exemption or other document in terms of the regulations;

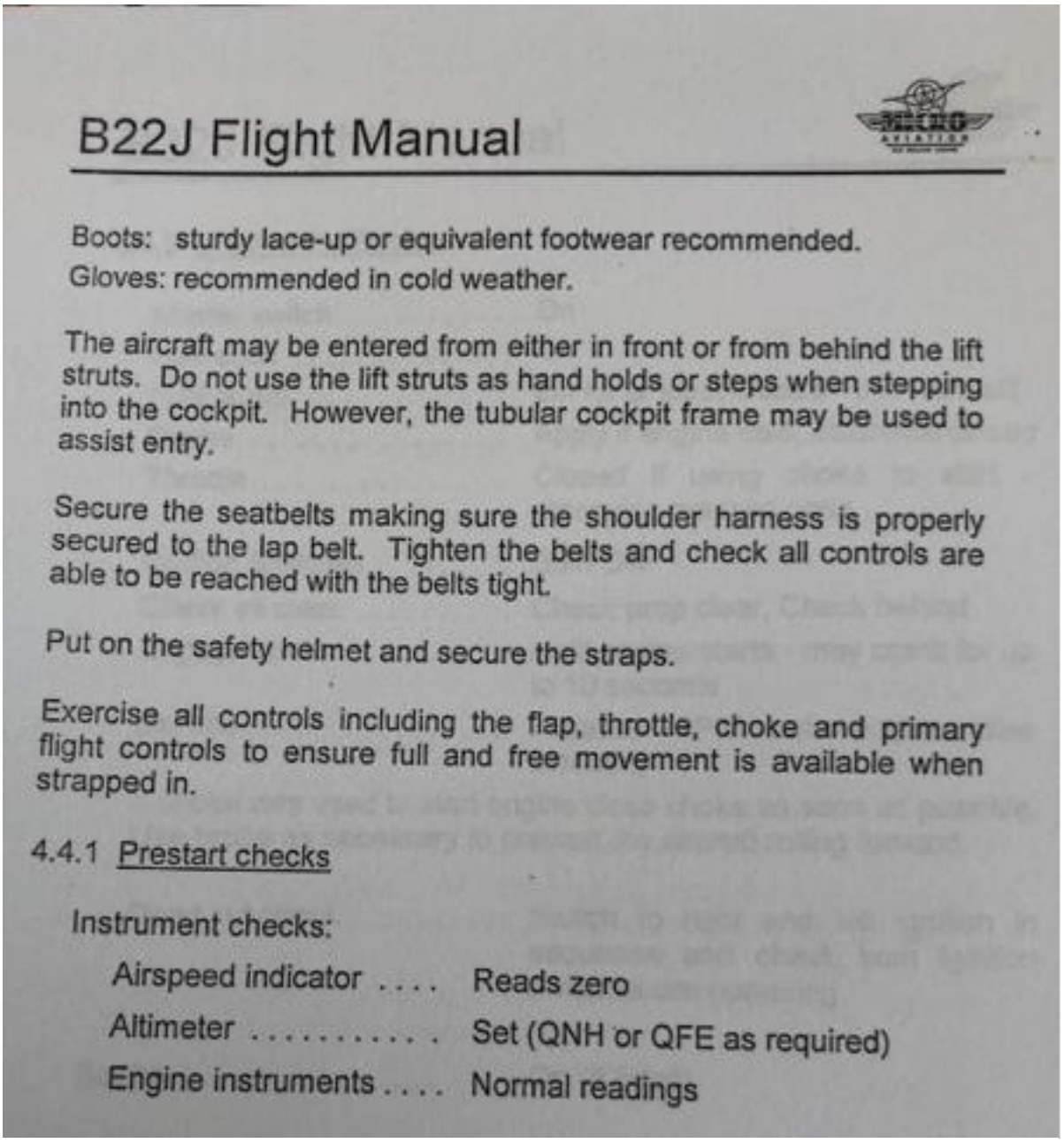
(ii) any fraudulent, misleading or false entry in any logbook, record or report which is required to be kept, maintained, made or used to show compliance with any provision of the regulations;

(f) does or causes, or permits to be done or caused, any act contrary to, or fails to comply with, any provision of the regulations, or a direction given or a prohibition made or a condition imposed or a rule, order or directive made in terms thereof;

ANNEXURE B

Source: Bantam B22J Airplane Flight Manual (revision 1, January 2007)

Requirement to use the shoulder harness and helmet



B22J Flight Manual

Boots: sturdy lace-up or equivalent footwear recommended.
Gloves: recommended in cold weather.

The aircraft may be entered from either in front or from behind the lift struts. Do not use the lift struts as hand holds or steps when stepping into the cockpit. However, the tubular cockpit frame may be used to assist entry.

Secure the seatbelts making sure the shoulder harness is properly secured to the lap belt. Tighten the belts and check all controls are able to be reached with the belts tight.

Put on the safety helmet and secure the straps.

Exercise all controls including the flap, throttle, choke and primary flight controls to ensure full and free movement is available when strapped in.

4.4.1 Prestart checks

Instrument checks:

Airspeed indicator	Reads zero
Altimeter	Set (QNH or QFE as required)
Engine instruments	Normal readings

Stall recovery procedure requiring neutral ailerons

B22J Flight Manual

4.11 Stalls

CAUTION:
The aircraft gives little warning of an impending stall. For some configurations of load, power setting and flap setting the aircraft may not exhibit any prestall buffet.

In all configurations the aircraft gives little warning of an impending stall. Depending on the load, power setting and flap setting the aircraft may or may not exhibit any prestall buffet.

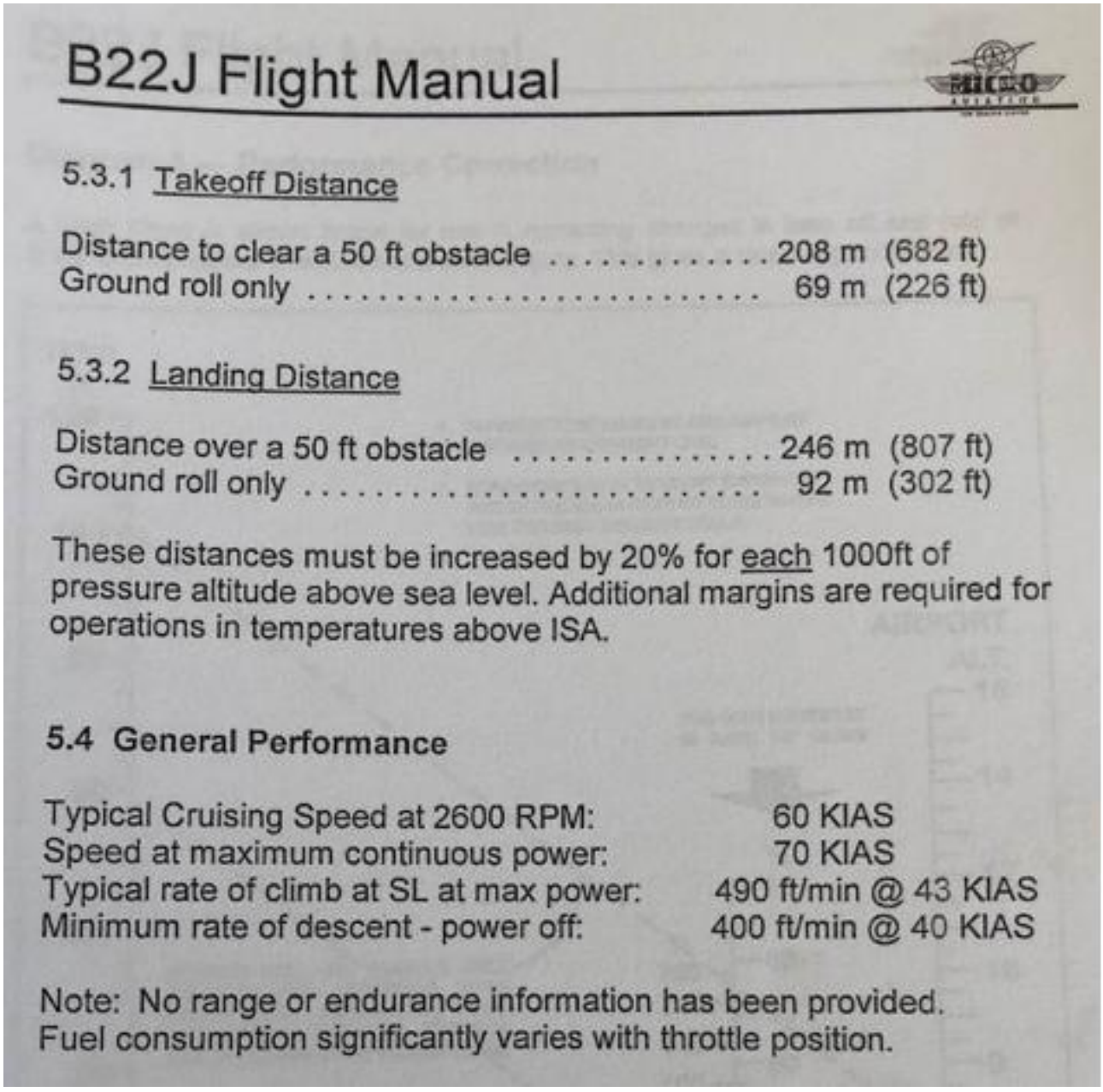
However flight testing has demonstrated that the B22J in the stall is very docile, the aircraft remains fully controllable throughout and the height loss is small when recovered immediately.

The onset of the stall is evidenced by a drop in the nose attitude together with a loss of altitude. Nose down pitch will not be greater than 5° below level flight attitude. If the aircraft is unbalanced there may be a tendency for a wing to drop.

To recover apply full power and lower the nose. Prevent yaw with the rudder until the controls become fully effective and the aircraft has recovered from the stall. Raise the nose once recovery has been effected and regain any lost altitude. If recovery is prompt altitude loss will not exceed 40 ft.

Whilst the ailerons remain effective up to the stall, recovery should be effected with neutral ailerons. Any attempt to apply opposite aileron in the case of a wing drop must be avoided as this action may exacerbate the wing drop situation. Should a wing drop apply opposite rudder to prevent yaw while effecting the recovery.

Typical cruising speed



B22J Flight Manual

5.3.1 Takeoff Distance

Distance to clear a 50 ft obstacle ..... 208 m (682 ft)
Ground roll only ..... 69 m (226 ft)

5.3.2 Landing Distance

Distance over a 50 ft obstacle ..... 246 m (807 ft)
Ground roll only ..... 92 m (302 ft)

These distances must be increased by 20% for each 1000ft of pressure altitude above sea level. Additional margins are required for operations in temperatures above ISA.

5.4 General Performance

Typical Cruising Speed at 2600 RPM:	60 KIAS
Speed at maximum continuous power:	70 KIAS
Typical rate of climb at SL at max power:	490 ft/min @ 43 KIAS
Minimum rate of descent - power off:	400 ft/min @ 40 KIAS

Note: No range or endurance information has been provided. Fuel consumption significantly varies with throttle position.

Stall speeds in a power off condition

5.1 General

This section gives figures for performance for an aircraft in the Standard Configuration. The figures apply to International Standard Atmosphere (ISA) conditions at sea level and at maximum AUW.

5.2 Stall Speeds

Power Setting	Flaps	KIAS
power off	Nil	35
power off	Full	34

5.3 Take Off and Landing Performance

Data appearing below is applicable to the following conditions and aircraft configuration:

Air field surface:	short dry grass
Airfield pressure altitude:	sea level, ISA conditions
Aircraft configuration:	Full flap
Airspeed at 50 ft AGL:	45 KIAS