



AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:	CA18/2/3/8569	
Aircraft Registration	ZU-DMT	Date of Accident	24 October 2008		Time of Accident	0715Z
Type of Aircraft	Tecnam P92-S Echo		Type of Operation		Training	
Pilot-in-command Licence Type		Commercial	Age	21	Licence Valid	Yes
Pilot-in-command Flying Experience		Total Flying Hours	368.3		Hours on Type	148.1
Last point of departure		Rand Aerodrome (FAGM)				
Next point of intended landing		Rand Aerodrome (FAGM)				
Location of the accident site with reference to easily defined geographical points (GPS readings if possible)						
Farm Rietfontein in the Orange Farm area (GPS position: South 26°28.069' East 027°48.985')						
Meteorological Information		Surface wind; 300°10kt, Temperature; 19°C, with light rain at the time.				
Number of people on board	2 + 0	No. of people injured	0	No. of people killed	2	
Synopsis						
<p>A flight instructor, accompanied by a student pilot departed Rand Aerodrome on a training flight to the general flying area in the Orange Farm area. This was the student pilot's first official training flight following an introductory flight. According to an eyewitness account that was busy cutting grass in the area the wind was blowing fairly strong from the north at the time.</p> <p>The next moment he noticed that the aircraft started to break-up in-flight and pieces of debris started falling from the sky. One of the occupants onboard the aircraft was flung from the wreckage following the in-flight break-up. Both occupants that were onboard were fatally injured.</p>						
<p>The aircraft experienced an in-flight break-up due to an aerodynamic overstress failure, most probably induced during recovery from a flight manoeuvre.</p>						
IARC Date				Release Date		



AIRCRAFT ACCIDENT REPORT

Name of Owner/Operator : Aircraft Fractional Ownership Services (Pty) Ltd
Manufacturer : Tecnam
Model : P92-S Echo
Nationality : South African
Registration Marks : ZU-DMT
Place : Orange Farm (Gauteng Province)
Date : 24 October 2008
Time : 0715Z

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 (1997) 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 establish legal liability.***

Disclaimer:

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

1. FACTUAL INFORMATION

1.1 History of Flight:

- 1.1.1 A flight instructor, accompanied by a student pilot, departed Rand Aerodrome on a training flight to the general flying area in the Orange Farm area. This was the student pilot's first official training flight following an introductory flight. According to an eyewitness who was busy cutting grass in the area, the wind was blowing fairly strong from the north at the time.
- 1.1.2 The next moment he noticed that the aircraft started to break-up in flight and pieces of debris started falling from the sky. One of the occupants onboard was flung from the wreckage following the in-flight break-up. Both occupants were fatally injured.

1.1.3 The accident occurred during daylight conditions at a geographical position determined as South 26°28.069' East 027°48.985' at an elevation of 5 140 feet AMSL (above means sea level).

1.2 Injuries to Persons:

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

1.3 Damage to Aircraft:

1.3.1 The aircraft was destroyed following an in-flight break-up.



Figure 1. A view of the main fuselage following ground impact.

1.4 Other Damage:

1.4.1 There was no other damage caused.

1.5 Personnel Information:

1.5.1 Pilot-in-command (PIC):

Nationality	South African	Gender	Male	Age	21
Licence Number	*****	Licence Type	Commercial		
Licence valid	Yes	Type Endorsed	Yes		
Ratings	Instrument rating, Instructors rating Grade 3				
Medical Expiry Date	30 April 2009				
Restrictions	None				
Previous Accident	None				

The pilot applied for his student pilot license with the CAA on 31 July 2006, and on the 2 October 2006 he applied for his private pilot license. He performed his initial flight test for his commercial pilot's license on 17 May 2008 and he obtained his instructor rating on 29 August 2008.

Flying Experience:

Total Hours	368.3
Total Past 90 Days	125.0
Total on Type Past 90 Days	103.8
Total on Type	148.1

*NOTE: The hours tabled above was obtained from the pilot's flying logbook, with the last entry being on 21 October 2008.

1.5.2 Student Pilot:

This was the student pilot's first official training flight. He was not in possession of a student pilot licence at the time of the accident, nor was he required to hold such a licence as it was his first training flight in accordance with Part 61 of the Civil Aviation Regulations of 1997.

1.6 Aircraft Information:

1.6.1 General Description:

The Tecnam P92-S Echo is an all metal, high wing, two-place, single-engine airplane equipped with tricycle landing gear. This aircraft was designed and built in Italy. The aircraft was certified as a Non-Type Certified Aircraft (NTCA) in South Africa.



Figure 2. A photo of a Tecnam P92-S Echo type aircraft.

1.6.2 Airframe:

Type	Tecnam P92-S Echo	
Serial Number	806	
Manufacturer	Tecnam	
Year of Manufacture	2004	
Total Airframe Hours (At time of Accident)	2 080.1	
Last MPI (Hours & Date)	2 028.2	25 September 2008
Hours since Last MPI	51.9	
Authority to Fly (Issue Date)	24 June 2008	
Authority to Fly (Expiry Date)	24 June 2009	
C of R (Present Owner)	15 February 2006	
Operating Categories	Training School Authority to Fly	

Previous Accidents / Incidents	<ol style="list-style-type: none"> 1. 8 September 2006. Nose wheel broke off on landing. 2. 25 October 2006. Aircraft was blown onto its right-hand side while taxiing behind a large turboprop aircraft. 3. 8 March 2007. Left wing collided with a ladder while the aircraft was being maneuvered on the apron area in front of the flying school hangar. 4. 12 July 2007. Right main undercarriage strut broke off while student pilot was taxiing aircraft. 5. 29 August 2007. Aircraft performed forced landing short of Runway 35 at FAGM, following fuel mismanagement by pilot resulting in an engine stoppage. The aircraft collided with a rock, which separated the right main undercarriage from the fuselage and allowed the right wing to impact the ground. The nose wheel also broke off and the left wing strut bent approximately midway. (Photo on next page).
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NOTE: It was not possible to determine the actual aircraft hours at the time of the accident due to the destruction of the wreckage/cockpit area.

The hours entered in the table above were as it was recorded in the aircraft flight folio for the last flight, on 23 October 2008, with the aircraft prior to the accident flight.

According to an aircraft logbook entry dated 28 July 2008 the aircraft was subjected to an extensive repairs after it was involved in an accident on 29 August 2007. According to available information the aircraft had flown 134.2 hours since the aircraft was released to service following these repairs.



Photo of the aircraft displaying some of the damage suffered in a previous accident (29/08/2007).

1.6.3 Engine:

Type	Rotax 912 ULS
Serial Number	4428965
Hours since New	580.1
Hours since Overhaul	T.B.O. not yet reached.

1.6.4 Propeller:

Type	GT Tonini (GT2/173/VRR FW101 SRTC)
Serial Number	1467
Hours since New	985.3
Hours since Overhaul	51.9

*NOTE: The propeller was repaired, resprayed and balanced by a certified repair centre following the last accident. The number N2921 was placed on the propeller as reference.

1.6.5 Weight and Balance:

The aircraft was last weighed on 28 July 2008 and the empty weight was calculated to be 325 kg. The maximum take-off weight for this aircraft was 550 kg, which allowed for a maximum useful load of 225 kg.

1.7 Meteorological Information:

1.7.1 An official weather reported was obtained from the South African Weather Services.

1. Surface Analysis:

A trough of low pressure was present over the central interior with a cold front passing south of the country.

2. Satellite Image:

The satellite image shows partly cloudy conditions in the Orange Farm area. The image was taken on 24 October 2008 at 0730Z.

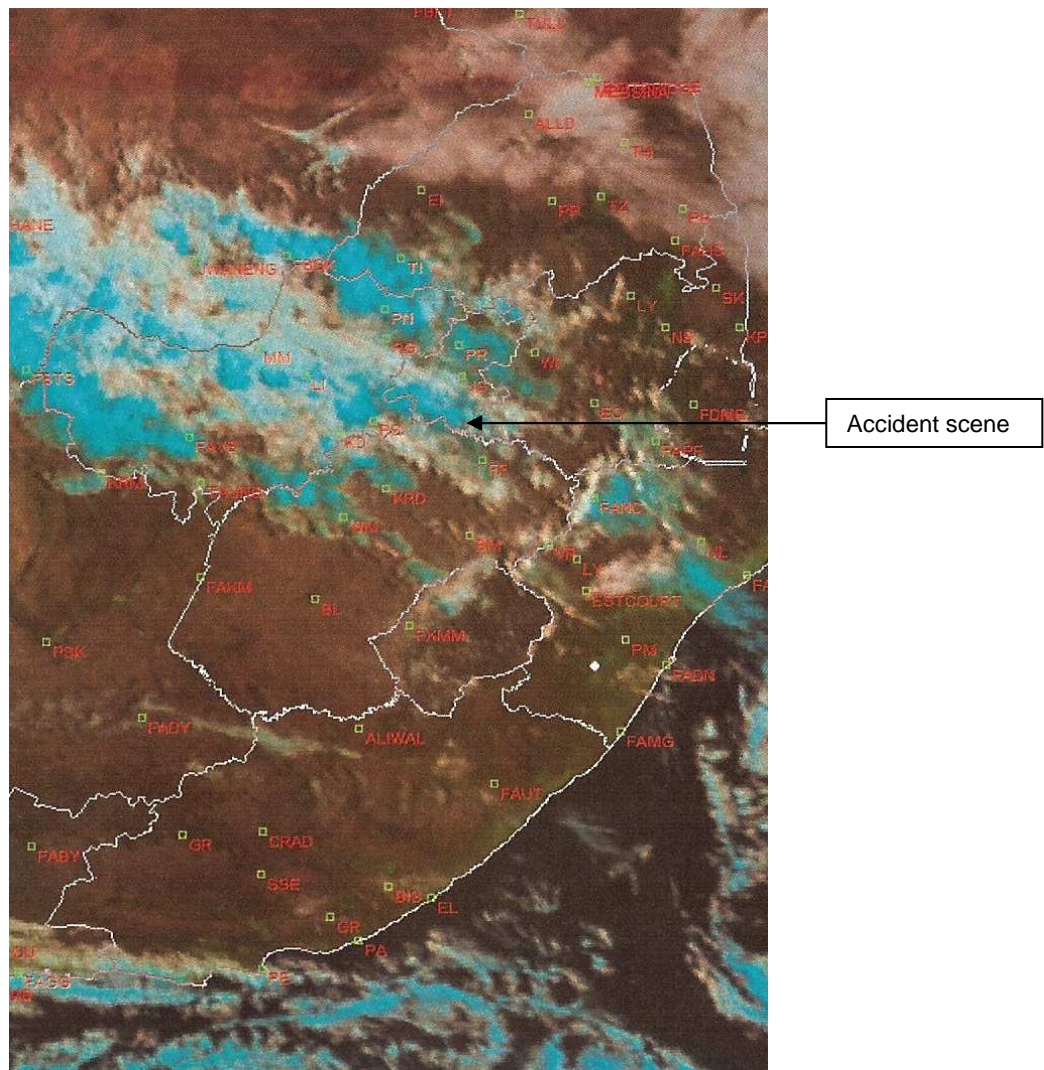


Figure 3. Satellite image indicating partly cloudy conditions at place of accident.

3. Weather conditions in the vicinity of the incident.

No official observations were available at the time and place of the incident. The most likely weather conditions at the place of the accident were as follows:

Time	-	0730Z
Temperature	-	19°C
Dew Point	-	10°C
Surface Wind	-	300°TN 10knots
Cloud covers	-	Scattered cloud at 2000ft broken at 8000ft
Weather	-	Light rain was falling from the middle cloud at 8000ft. Most of it evaporated before it reached the ground.
Visibility	-	10km

1.8 Aids to Navigation:

1.8.1 The aircraft was equipped with the following navigational aids:

- (i) Magnetic Compass
- (ii) ADF (automatic direction finder)
- (iii) VOR (variable omni range) direction finder.
- (iv) Transponder
- (v) Garmin GPSmap 196

There were no recorded or reported defects experienced with the navigation equipment.

1.8.2 The aircraft was not detected by secondary surveillance radar (SSR).

1.9 Communications:

1.9.1 The flight was conducted outside of controlled airspace below the TMA (terminal control area), which required the pilot to broadcast his intentions on the VHF frequency 125.8 MHz. There were no recorded or reported defects experienced with the radio equipment onboard.

1.10 Aerodrome Information:

1.10.1 The accident did not occur at or in close proximity of an aerodrome.

1.10.2 The accident occurred in an open piece of field near Orange Farm at a geographical position determined as South 26°28.069' East 027°48.985'.

1.11 Flight Recorders:

1.11.1 The aircraft was not equipped with a flight data recorder (FDR) or a cockpit voice recorder (CVR), nor was it required by regulation to be fitted to this type of aircraft.

1.12 Wreckage and Impact Information:

- 1.12.1 The main wreckage (fuselage) of the aircraft as well as several other failed flight surfaces was found in an open piece of grass land. The wreckage trail was in a north north-westerly direction with the main wreckage facing in a westerly direction. The debris was scattered over an area of approximately 710m in length. The aircraft was found to have broken up into ten (10) major sections.
- 1.12.2 These sections consisted of the main wreckage, left wing, right wing, vertical stabilizer, left horizontal stabilizer, right horizontal stabilizer, left cabin door, right wing flap, horizontal stabilizer trim actuator and right wing fuel tank.
- 1.12.3 The main wreckage consisted of the cabin/cockpit area, with the two seats as well as the engine, propeller and spinner and the landing gear (tricycle type) still attached to the structure. The one blade of the propeller was found partially buried in the ground and had consequently broken off; the other blade showed very little damage.
- 1.12.4 Although the left wing fractured in flight the wing was found to be complete with all flying surfaces attached including the wing strut. The sheet metal roof structure of the aircraft also formed part of the wing structure. This wing structure was found 208 m from the main wreckage. The left cabin door was found in close proximity to the left wing.
- 1.12.5 The right wing, which was substantially more deformed than the left wing, was found 503 m from the main wreckage. The wing fuel tank as well as the flap assembly was found to have separated from the wing during the break-up sequence. With the fuel tank assembly being located 78 m from the main wreckage and the flap assembly was 710 m from the main wreckage.
- 1.12.6 The left horizontal stabilizer was 653 m and the right horizontal stabilizer was 650 m respectively from the main wreckage. The horizontal stabilizer trim actuator assembly was found 108 m from the main wreckage.
- 1.12.7 All major components of the aircraft were accounted for. A wreckage diagram could be found attached to this report as Annexure A.

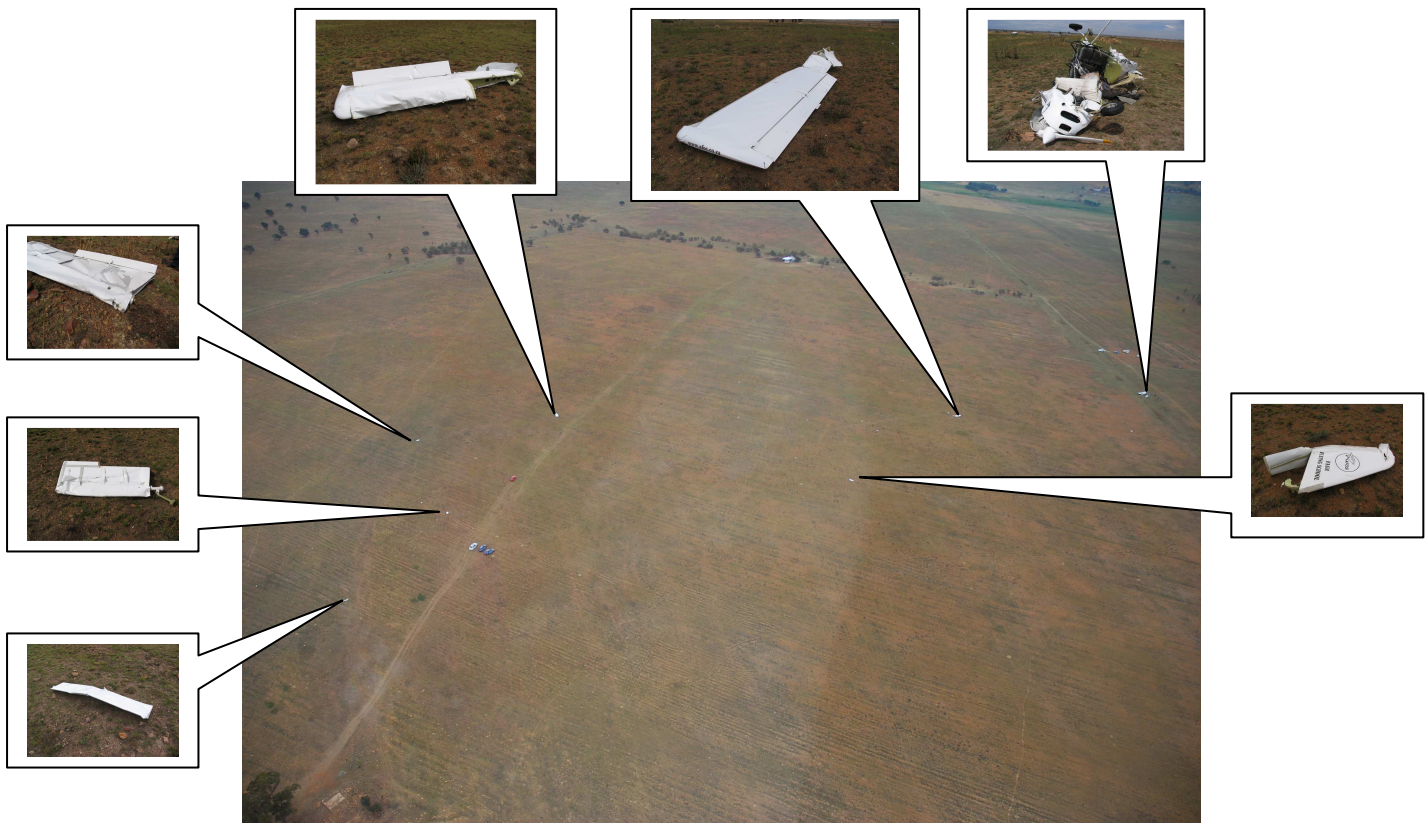


Figure 4. An aerial view of the accident site.

1.13 Medical and Pathological Information:

1.13.1 A post mortem examination was performed on the instructor pilot as well as student pilot. The results of the post mortem report and toxicology tests were not available at the time the report was compiled. Should any of the results indicate that medical aspects may have affected the performance of the flight crew members, this will be considered as new evidence and the investigation re-opened.

1.14 Fire:

1.14.1 There was no pre- or post-impact fire.

1.15 Survival Aspects:

1.15.1 This was not considered to be survivable accident due to the break-up mode of the aircraft in mid air, which resulted in the instructor pilot being flung from the aircraft

as well as the destruction of the cockpit/cabin area.

1.16 Tests and Research:

1.16.1 Metallurgical Examination:

With the aircraft suffering an in-flight structural failure, a substantial amount of fractured/failed surfaces were identified to be of concern and were subjected to metallurgical examination to determine the mode of failure. It was also important to determine what failed first. The metallurgical report concluded the following:

- (i) *“The rebuilding process of the relevant aircraft proved to have had no effect on this accident.*
- (ii) *All primary main wing structural member material compositions and conditions compared favourably with the aircraft manufacturer specifications.*
- (iii) *The right wing failed in-flight, in the area between the wing strut and the cabin truss/fuselage. The wing had been subjected to buckling due to several forces that acted upon it, in that area. The consequential buckling of the right wing would have been severely detrimental to the overall strength thereof. Taking into account that none of the fracture surfaces revealed any clear evidence/signs of pre-impact discrepancies, it can be derived that the right wing separated under high load conditions, induced by excessive lift forces during flight”.*

The metallurgical report could be found attached to this report as Annexure C.

1.16.2 Material Analysis Results:

A material harness tests, Spectroscopy and X-ray (energy-dispersive analytical system) were used to compare the compositions of the primary wing structural skins, ribs and spar caps to material specification as prescribed by the aircraft manufacturer. It was important for the investigating team to obtain this information following the rebuild of the aircraft after it was involved in an accident on 29 August 2007.

According to the aircraft manufacturer the wing skins and ribs were made of aluminium 6061-T6. The laboratory test result compared favourably with the specified material.

According to the aircraft manufacturer the spar caps were made of aluminium 2024-T3. The laboratory test result compared favourable to the specified material.

1.16.3 Engine

The engine was not subjected to any teardown inspection after the accident, as the engine examination did not reveal any pre-impact anomalies that would have prevented it from producing power. All the damage sustained by the engine was consistent with ground impact.

1.17 Organizational and Management Information:

1.17.1 The flight was conducted under aviation training organisation (ATO) No. CAA/0265, which was in possession of a valid ATO Accreditation and Approval Certificate, with an expiry date of 17 June 2009. The aircraft was duly authorised to operate under the ATO Approval Certificate. The two occupants that was onboard the aircraft have signed the ATO Training Authorisation Sheet prior to the training flight, but had left the column reflecting the applicable exercise(s) to be performed blank.

1.17.2 Major repairs were performed on the aircraft after it had been involved in an accident on 29 August 2007. The repairs/rebuild as well as the last maintenance inspection prior to the accident were carried out and were certified by AMO (aircraft maintenance organisation) no. 1044. A summarised logbook entry pertaining to the repair following the accident on 29 August 2007 could be found attached to this report as Annexure B.

1.18 Additional Information:

1.18.1 Pilot's Operating Handbook (POH)

(i) Section 2, Limitations, Approved Manoeuvres

This aircraft is intended for non-aerobatic operation only, which include:

- Any manoeuvre pertaining to “normal” flight.
- Stalls (except whip stalls)
- Lazy eights
- Chandelles
- Turns in which the angle of bank is not more than 60°.
- **Acrobatic manoeuvres, including spins, are not approved.**

(ii) Section 3, Emergency Procedures, Recovery from Unintentional Spin

In case of unintentional spin entry, follow the emergency procedure described below:

- Adjust throttle to minimum (full outward position).
- Activate rudder bar by pushing foot opposite spin direction.
- Push control stick full forward and keep in position until spin is halted.
- Centre rudder bar.
- Gradually recover flight attitude easing back on the control stick, avoiding to exceed V_{ne} (*velocity never exceed*) and maximum load factor.
- Readjust throttle to restore engine power.

1.18.2 Spin Manoeuvres:

The aircraft in question was being used by an ATO to conduct flying training, which included spin training, which was contrary to what the POH stipulated. This information was obtained from a flight instructor who used to do training at this ATO and had flown the accident aircraft.

1.19 Useful or Effective Investigation Techniques:

1.19.1 None.

2. ANALYSIS

2.1 Aircraft:

The aircraft was being used by an ATO for flight training. Since 8 September 2006 until the day of the accident in question the aircraft had been involved in five previous accidents. Following each of these accidents the aircraft was repaired to an airworthiness state and each time it was reissued with an Authority to Fly by the Civil Aviation Authority (CAA). At the time of this flight the aircraft was in possession of a valid Authority to Fly. The last maintenance inspection was performed on 25 September 2008 whereafter a Certificate of Release to Service was issued, indicating that the aircraft and its equipment was serviceable for flight and that all maintenance had been carried out in accordance with the Civil Aviation Regulations (CAR's) of 1997 (as amended) and its approved maintenance schedule.

The metallurgical analysis revealed that the right wing structure failed first due to an aerodynamic overload/overstress condition induced by excessive lift forces during operation. If the flight instructor demonstrated to the student pilot an incipient spin and how to recognise and recover from it, the aircraft could have entered a fully developed spin. During an attempt to recover from such a manoeuvre, the pilot most probably overstressed the aircraft's structural integrity, resulting in the failure of the right wing, which then impacted with the upper aft fuselage fibreglass fairing and the empennage structure, which as a result separated from the fuselage followed by the two horizontal stabilizers and the elevator trim actuator and thereafter the left wing.

Following the in-flight break-up debris was found scattered over an area of approximately 710m. The wreckage of the aircraft was found broken into ten (10) major sections as discussed in paragraph 1.12 of this report. Available evidence (metallurgical report) indicates that the integrity of the airframe was not compromised during the repairs following the accident of 29 August 2007.

2.2 Pilot

The flight instructor who was the pilot-in-command (PIC) during this flight was properly licensed and medically fit to fly the aircraft. He held the required ratings as called for by the Civil Aviation Regulations (CAR) of 1997 as amended. He had

also flown the aircraft the previous day, which was the last flight prior to the accident flight. According to the aircraft flight folio no defects were recorded following the flight.

2.3 Student Pilot

This was the student pilot's first official training flight. He did not hold a student pilot licence at the time of the flight, as it was not required to do so in accordance with the Civil Aviation Regulations of 1997 as amended.

2.4 Weather

The official weather report obtained by the South African Weather Services reported scattered clouds in the vicinity of the accident, with light rain, which would have evaporated before reaching the ground. The wind was reported to be the north-west at 10 knots. No evidence could be obtained to indicate that the prevailing weather conditions had any bearing on the accident.

2.5 Summary:

It was not possible to establish with any certainty who was manipulating the flight controls at the time of the accident. As it was the student pilot's first official training flight, one could conclude that the flight instructor might have wanted to demonstrate the recovery from an unusual manoeuvre to the student. The aircraft most probably entered into a spin, and in an attempt to recover at a safe altitude above ground level the aircraft's flight limitation as well as design limits was exceeded. From the metallurgical analysis it is evident that the right wing structure failed first and impacted with the upper fuselage fibreglass fairing located between the aft cabin area and the empennage structure. Following impact with the fuselage the right flap assembly as well as the fuel tank assembly separated from the wing structure. If one compares the damage sustained by the right wing with that of the left wing, which was basically intact, it becomes evident that the right wing inner structure was severely deformed. Following the impact with the empennage all four major empennage components (vertical stabiliser, left and right horizontal stabilizer as well as the stabilizer trim actuator assembly) failed in overload and separated from the fuselage structure. A detailed analysis of the failed surfaces revealed no evidence indicating that the integrity of the aircraft structure could be questioned (i.e., pre-existing fatigue cracking or corrosion-induced failure). It was concluded that all failed surfaces were consistent with an aerodynamic overload condition

most probably induced during flight, which resulted in the structural integrity of the aircraft being compromised.

3. CONCLUSION

3.1 Findings

- 3.1.1 The flight instructor was the holder of a valid commercial pilot licence and had the aircraft type endorsed in his licence.
- 3.1.2 The flight instructor was the holder of a valid aviation medical certificate that was issued by an approved CAA medical examiner.
- 3.1.3 The flight instructor had flown the same aircraft on a training flight the previous day, with no recorded defects being entered in the aircraft flight folio.
- 3.1.4 The aircraft had a valid Authority to Fly at the time of the accident.
- 3.1.5 The flight was operated as a training flight (Part 141) under VFR flight rules.
- 3.1.6 Light rain prevailed in the area of the accident site at the time of the accident, which most probably evaporated before it reached the ground.
- 3.1.7 The prevailing weather conditions at the time were not considered to have had any bearing on the accident. The wind was reported as north-west at 10 knots.
- 3.1.8 Both occupants were fatally injured.
- 3.1.9 The aircraft suffered from an in-flight break-up.
- 3.1.10 All major components of the aircraft were accounted for.
- 3.1.11 The aircraft was loaded within limits.
- 3.1.12 The aircraft had been involved in five (5) previous accidents.
- 3.1.13 For this flight, the column indicating the applicable exercise(s) on the ATO Training Authorization Sheet had been left blank.

3.2 Probable Cause/s

- 3.2.1 The aircraft experienced an in-flight break-up due to an aerodynamic overstress failure most probably induced during recovery of a flight manoeuvre.

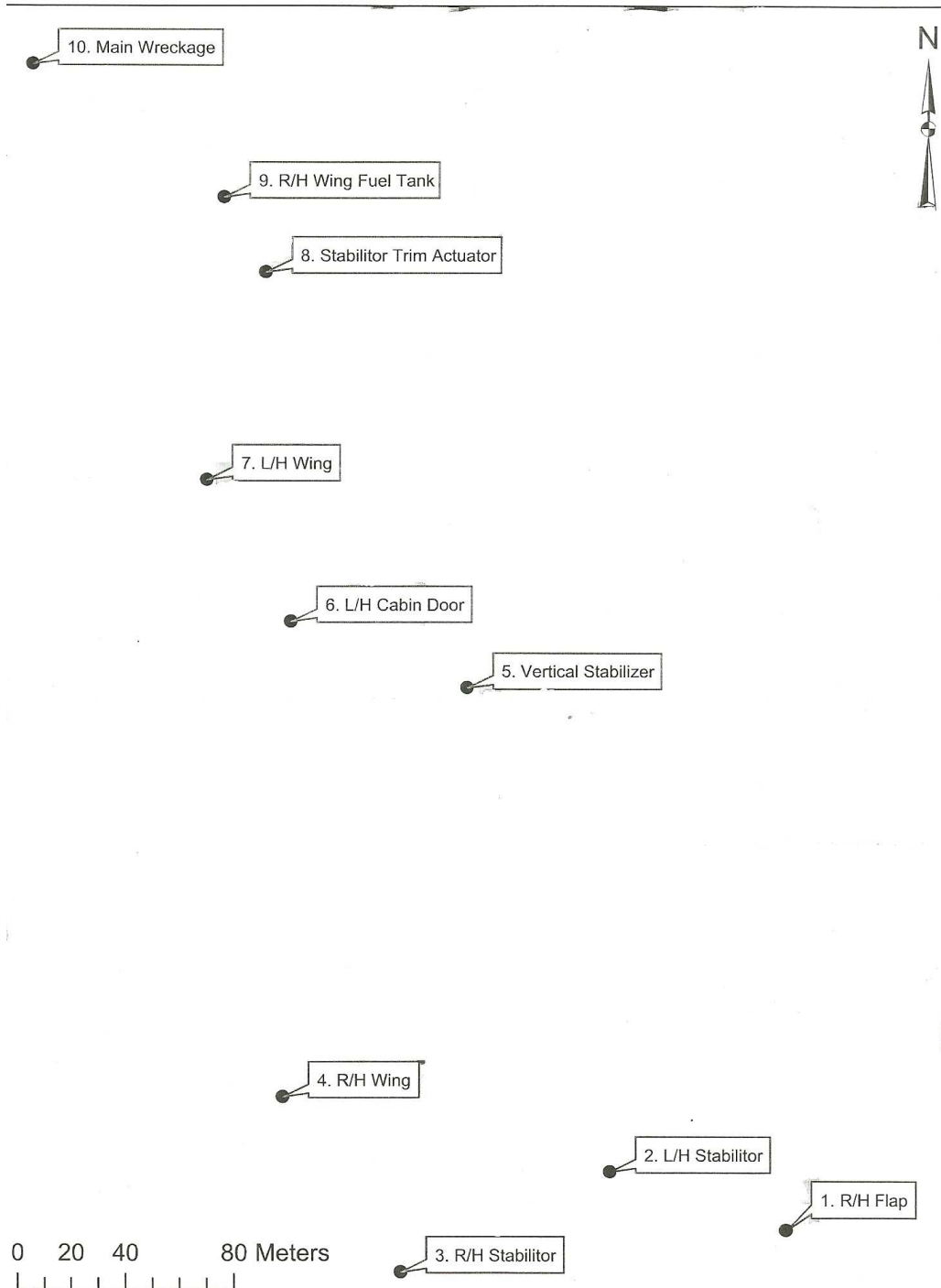
4. SAFETY RECOMMENDATIONS

- 4.1 None

5. APPENDICES

- 5.1 Annexure A (Wreckage Diagram)
5.2 Annexure B (Aircraft Logbook Entry following Major Repairs after previous accident)
5.3 Annexure C (Metallurgical Report)

Report reviewed and amended by the Advisory Safety Panel on 18 May 2010
-END-

ANNEXURE A**Tecnam P92 S Echo**

ANNEXURE B**MAINTENANCE AND DEFECT RECTIFICATION OR ANY RELEVANT MATTER
CONSIDERED NECESSARY TO RECORD OTHER THAN SCHEDULED INSPECTIONS**

Type of maintenance performed		* Signature AMO/AME Licence number and Date	
AFOS AMO 1044 - Hanger 40, Rand Airport Certificate Relating to Maintenance of an Aircraft		J/C: 0254	DATE: 28-Jul-08
A/C Registration: ZU-DMT	A/C Type: Tecnam P92 S Echo	A/C S/N: 806	Airframe TT: 1945,9 hrs

A/C Damaged in landing incident @ Rand Airport on the 29/08/2007. R/H undercarriage was torn off and R/H wing struck the ground. Repairs were carried out in accordance with AC43.13-1B/2A

The following repairs were carried out:

- 1 A/C Dismantled to facilitate repairs
 - 2 Fuselage completely stripped, frame 92-2-008-000 replaced with new
 - 3 New firewall 96-4-415-000 made up and fitted
 - 4 Rear fuselage section aft of cabin repaired as follows:
 - a all skins removed
 - b No. 4 bulkhead PT 92-3-440-1 replaced new, side skins 92-3-460-1, 92-3-460-3, 92-3-460-2, 92-3-460-4, 92-3-460-8, 92-3-460-9, 92-3-460-10, 92-3-460-5, 92-3-460-6, 92-3-460-7, 92-3-500-1 all made up new, and fuselage assembled.
 - 5 Rear fuselage fitted to frame assembly and aligned.
 - 6 Fitted original cabin bulkhead 92-3-410-000
 - 7 Made up the following components, 92-2-100-1, 92-2-101-1, 92-2-122-1, 92-2-100-2, 92-2-101-2, 92-2-122-2, 92-2-103-1, 92-2-103-2, 92-2-122-3, 92-2-122-4, 92-2-102-3, 92-2-102-4, 92-2-106-1, 92-2-100-3, 92-2-104-1 and assembled
 - 8 Made up new floor panels and fitted
 - 9 Fitted LH and RH Doors
 - 10 Fitted vertical Fin & Rudder, repaired Dorsal Fin and Fitted
 - 11 New windshield obtained and fitted, fitted instrument panel, instruments and wiring harness, fitted rudder cables and pedals.
 - 12 Fitted ailerons and elevator control mechanisms etc, flap mechanism and flaps, brake mechanisms and plumbing, fitted throttle mechanisms, fitted safety belts.
 - 13 Fitted new seat rails, tail skid, torque tube and elevator trim, rudder strobe and nav lights
 - 14 Fitted new engine mount and new front undercarriage c/w all components, 92-10-002-000, 92-8-100-000, 92-8-120-1, 92-8-120-2.
 - 15 Original LH and RH undercarriage legs painted, fitted with new hardware, new tyres and tubes, original brake disks and slave cylinder. Brakes bled.
 - 16 LH wing was damaged and the following repairs were carried out:
 - a 92-1-701-6, 92-1-707-6, 92-1-701-2, 92-1-111-7, 92-1-111-8, 92-1-111-9, 92-1-111-5 parts made up and fitted.
 - b 92-1-310-1, 96-1-008-0001, 96-1-005-001 repaired. Wing outboard section 96-1-005-001, new skins made and damaged ribs replaced with new.
 - c Main spar angle 92-1-708-1 damaged, splice repaired.
 - d Lift strut attachment parts 92-1-706-1 and main wing pick up brackets 92-1-706-2 inspected and found satisfactory
 - 17 RH wing suffered minor damage and the following repairs were carried out:
 - a New skin 92-1-111-7 made up and fitted, Inboard rib replaced with new.
- General**
- i LH and RH wings including struts fitted with new hardware
 - ii Horizontal stabiliser fitted. R/H Aileron and R/H Flap, ex ZU-DFO fitted (154hrs)
 - iii Flying controls connected and rigged
 - iv Cable tensions, R of M's checked
 - v Electrics connected
 - vi Pitot and altimeter checks carried out, all satisfactory
 - vii Engine installation carried out - refer engine logbook, fuel system connected
 - viii Compass swing carried out
 - ix New battery fitted
 - x Initial and duplicate inspection of controls carried out
 - xi MPI carried out in accordance with SA Cats GMR's and Tecnam Maintenance Manual P92 S Echo.
 - xii Test flight carried out

Initial: G. V. Peche

Duplicate: A. Karatzas

I hereby certify that in carrying out the foregoing specified maintenance and repairs, all the requirements prescribed in the Civil Aviation Regulations, 1977, as amended, which are applicable hereto, have been completed with. I certify that aircraft ZU-DMT has been inspected in accordance with Mandatory Periodic Inspection and in accordance with the Civil Aviation Regulations 1977, as amended, and is fit for release to service.

Licence or Approval Number (Stamp):



Athas Karatzas
Athas Karatzas
AP 148

ANNEXURE C