



Government of India
Directorate General of Civil Aviation

**Final Investigation Report on M/s Redbird Flight Training Academy
Tecnam P2008JC Aircraft VT – RBS Runway Excursion Incident on
20.06.2023 at M/s AAI Belgaum.**

FOREWORD

In accordance with Annex 13 to the International Civil Aviation Organization Convention and the Aircraft (Investigation of Accidents & Incidents) Rules 2017, the sole objective of this investigation is to prevent aviation incidents/ accidents in the future. It is not the purpose of the investigation to apportion blame or liability.

This report has been prepared based upon the evidences collected during the investigation and opinions obtained from the experts. Consequently, the use of this report for any purpose other than for the prevention of future incidents /accidents, could lead to erroneous interpretations.

GLOSSARY

1	AAI	Airports Authority of India
2	AFM	Aircraft Flight Manual
3	AME	Aircraft Maintenance Engineer
4	AMSL	Above Mean Sea Level
5	ATC	Air Traffic Control
6	AMM	Aircraft Maintenance Manual
7	ARC	Airworthiness Review Certificate
8	BA	Breath Analyzer
9	CAR	Civil Aviation Requirements
10	CAS	Calibrated Air Speed
11	CRS	Certificate of Release to Service
12	CVR	Cockpit Voice Recorder
13	DGCA	Directorate General of Civil Aviation
14	FI	Flight Instructor
15	FL	Flight Level
16	FTO	Flying Training Organization
17	FTPR	Flying Training Progress Record
18	PFME	Pre – Flight Medical Examination
19	ICAO	International Civil Aviation Organization
20	IMD	Indian Meteorological Department
21	MATS	Manual of Air Traffic Services
22	MET	Meteorological
23	METAR	Meteorological Terminal Air Report
24	NLG	Nose Landing Gear

25	PDR	Pilot Defect Report
26	PIC	Pilot in Command
27	RT	Radio Telephony
28	RWY	Runway
29	SPL	Student Pilot License
30	TPM	Training Procedure Manual
31	TSN	Time Since New
32	UTC	Coordinated Universal Time
33	VMC	Visual Meteorological Conditions

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Final Investigation Report to M/s Redbird Flight Training Academy Tecnam

P2008JC Aircraft VT – RBS on 20.06.2023 at M/s AAI Belgaum.

1. Aircraft

Type : Tecnam
Model : P2008JC
Nationality : INDIAN
Registration : VT - RBS

2. Owner : M/s REDBIRD FLIGHT TRAINING ACADEMY PVT. LTD.
3. Operator : M/s RED BIRD FLIGHT TRAINING ACADEMY PVT. LTD.
4. Pilot-in-Command : SPL Holder
5. Extent of injuries : NIL
6. Date of incident : 20.06.2023
7. Time of incident : 07:45 UTC (approx.)
8. Place of Incident : M/s AAI Belgaum Airport
9. Co-ordinates of incident site : 15°51'34"N (Latitude), 074°37'22"E (Longitude)
10. Last point of Departure : VOBM (Belgaum Airport)
11. Intended place of Landing : VOBM (Belgaum Airport)
12. Type of operation : Circuit & Landing (Solo)
13. Type of Incident : Runway Excursion.

Synopsis: -

On 20.06.2023, M/s Redbird Flight Training Academy Private Limited Tecnam P2008JC Aircraft VT – RBS involved in Runway Excursion incident to the left side of Runway 26 during take-off roll while carrying out a solo circuit and landing sortie at M/s Airports Authority of India Belgaum Airport.

Solo Circuit and Landing flight was planned for the day for involved Student Pilot at time 0730 UTC and was the first flight of the day.

Student Pilot completed her Pre - Flight Medical Examination at time 0641 UTC. She got the aircraft refueled to 90 liters, filled the Load and Trim Sheets and made necessary entries in flight authorization book. After completion of flight briefing from flight instructor, carried out pre-flight checks and found to be normal.

During initial take-off roll, suddenly Student Pilot seat went backwards abruptly and aircraft started rolling on the runway and veering towards the left side of the runway and she could only able to reach the pedals partially and unable to control the aircraft completely.

Student Pilot tried to adjust the seat but in vain and could not stop the aircraft as she was not in full reach of pedals for braking. Aircraft continued veering towards the left side of the Runway "26" and entered the kaccha in between the Runway Edge Light RB47 & RB48.

Student Pilot manage to stop the Aircraft with the application of partial pressure onto the pedals and due to the traction created on the kaccha. Aircraft came to a complete halt at 1400 feet from Runway "26" threshold and 15 meters from left hand side Runway shoulder edge with respect to LH Main Landing Gear. Post complete halting of Aircraft, Student Pilot could not able to move her seat completely forward but able to brought throttle to idle and switched OFF the ignition. She was in aircraft till the help arrived and de-boarded the aircraft unhurt.

DGCA India, vide Order No DGCA-15018(19)/9/2023-DAS dated 26.06.2023 instituted investigation of the occurrence under Rule 13 (1) of Aircraft (Investigation of Accidents and Incidents), Rules 2017 by an Investigator-In-Charge.

The most probable cause could be the improper locking of PIC seat by the Student Pilot while preparing for the flight i.e., non – adhering of the laid down procedure stipulated in the Airplane Flight Manual regarding the locking of PIC Seat before the engine start.

1. Factual Information: -

1.1 History of flight:

On 20.06.2023, M/s Redbird Flight Training Academy Private Limited Tecnam P2008 JC Aircraft VT – RBS involved in Runway Excursion Incident during take – off roll at M/s Airports Authority of India Belgaum Airport, Belgaum.

Incident Flight was the first flight of the day for the Student Pilot.

Chief Flight Instructor authorized Student Pilot's solo flight on the day of the incident. Solo flight coupon was issued post completion of weather briefing, BA Test (Pre-Flight Medical Examination), entry in the authorization book and checking the licenses.

Incident Aircraft was airworthy, there were two solo flights carried out for the duration of 01:00 Hour and 03:15 respectively before the incident flight on the day of the incident. After completion of pre-flight checks, flight briefing and necessary entries made by the Student Pilot.

Student Pilot placed cushion on the PIC seat as always as a practice to increase her height and elevate her perspective to make the nose of the aircraft visible. Student Pilot positioned herself comfortably and ran through the necessary checklist.

Student Pilot requested startup clearance for circuit and landing exercise for duration of one hour at time 0730 UTC and same was accorded by the tower with QNH of 1012 from Runway 26.

At the time of startup approval of the incident aircraft, another company aircraft was on the runway, was waiting for take-off approval and received the take-off clearance at time 073142 UTC. Student pilot was waiting at the bay after the startup for the above aircraft to depart.

At time 0734 UTC, Student Pilot requested Air Traffic Control to issue Taxi clearance for taxi to Runway "26" Holding Point via Lima Taxiway which was accorded by the Tower.

On reaching holding point on Runway "26", Student Pilot requested for lineup at time 0736 UTC, since another company aircraft (M/s Redbird Flight Training Academy Private Limited) VT – RBX was on finals, tower asked VT – RBS to continue to hold at holding point of Runway "26".

Post Touch & Go of VT – RBX aircraft, incident aircraft requested for line-up at time 0740 UTC, Tower asked the aircraft to backtrack and lineup Runway "26" and same was acknowledged by the aircraft. Student Pilot ran through the lineup checks (checks on engine instruments to be in green, Propeller RPM of 1500, Engine Fuel Pump to be on, Runway to be clear, Runway length monitored, windsocks checked and ailerons into the winds) and Student pilot completed the line up checks and aligned the aircraft with RWY26.

After lining up, VT – RBS requested for departure instructions from tower at time 0741 UTC. Tower cleared the aircraft for departure with the instructions "Clear for Circuit and Landing Runway "26", left hand circuit Runway "26" 1000 feet AGL and with QNH of 1011".

On receipt of departure instructions from Tower Controller, Student Pilot ran through the pre-departure checks. While doing the checks, Student Pilot seat went backwards abruptly and Aircraft started rolling on the Runway "26" and in the process of applying brake, inadvertently pilot applied more pressure to the left side pedal, causing the aircraft to turn towards the left side and veered outside the Runway in between the Runway Edge Light RB47 & RB48 by entering into the unpaved surface.

Student Pilot manage to stop the Aircraft with the application of partial pressure onto the pedals and due to the traction created on the kaccha. Aircraft came to a complete halt at 1400 feet from Runway "26" threshold and 22.86 meters (Nose Wheel in the kuccha to Runway Edge) from the left-hand side Runway edge.

On the other hand, Tower controller could not able to monitor the active movement of VT – RBS aircraft due reasons unknown and unaware of the above situation asked VT – RBS to confirm for departure at time 0745 UTC and Tower cleared VT – RBS for take-off with wind speed of 09 knots in direction of 20°. Subsequently, Flight Instructor monitoring the landings of Student Pilots came on RT and gave instructions “STOP...STOP IT, STOP IT, STOP IT.... NAME OF THE STUDENT PILOT STOP IT. STOP IT. POWER NEUTRAL POWER ZERO”.

On hearing this, Student Pilot tried to adjust her seat but failed to move the seat completely forward and able to brought back the throttle to idle and shut the ignition.

After the transmission of RT communication of Flight Instructor to the Student Pilot. Tower Controller asked incident Aircraft to confirm the operations to be normal and meanwhile Tower Controller alerted and advised the Crash Fire Tender to Proceed to the site.

Student Pilot was in Aircraft till the help arrives and as soon as company vehicle arrived, she came out of the aircraft unhurt.

1.2 Injuries to persons: -

Injuries	Crew	Passengers	Others
Fatal	Nil	Nil	Nil
Serious	Nil	Nil	Nil
Minor/None	Nil/01	Nil	

1.3 Damage to aircraft: -

Detailed inspection of the Aircraft post incident reveals there was no damage sustained due runway excursion.

1.4 Other damages: -

Nil

1.5 Personnel information: -

1.5.1 Student Pilot:

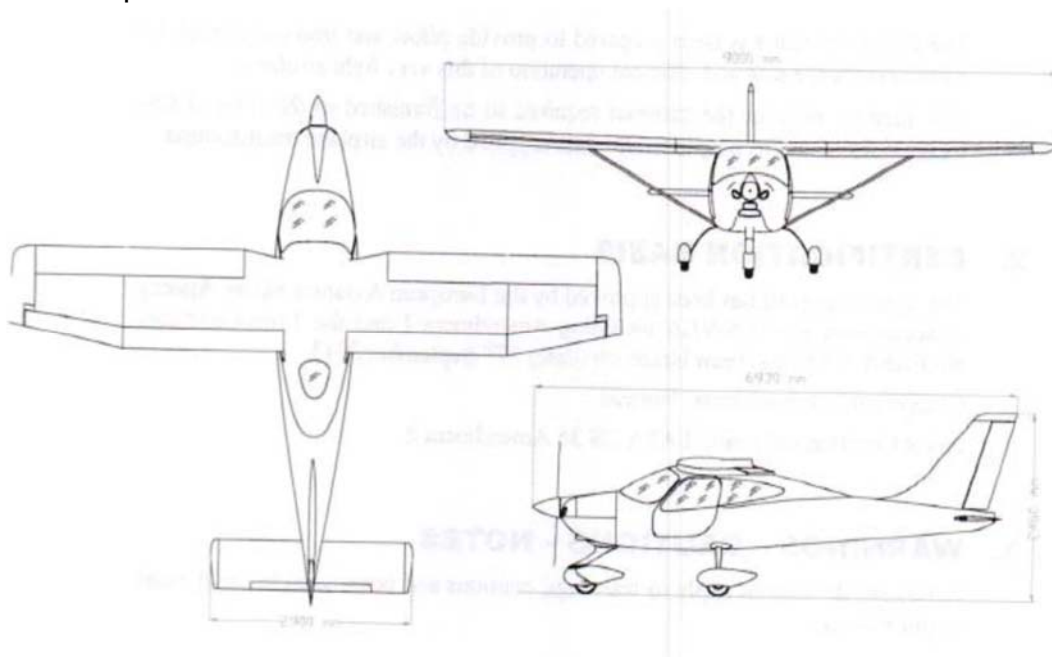
Details	
License	SPL
Date of Initial Issue	26 th March 2023
Valid up to	25 th March 2033
FRTOL valid up to	10 th April 2033
Total flying experience	45:35 Hours
Medical	Class - 1
Valid up to	26 th September 2023
Experience on type	45:35 Hours

Experience as PIC on type	10:00 Hours
Total flying experience during last 365 days	45:35 Hours
Total flying experience during last 180 days	45:35 Hours
Total flying experience during last 90 Days	45:35 Hours
Total flying experience during last 28 Days	10:40 Hours
Total flying experience during last 14 Days	05:45 Hours
Total flying experience during last 07 Days	03:10 Hours
Total flying experience during last 24 Hours	00:00 Hours
Involved in any incidents in the past	Nil

The Student Pilot is pursuing CPL flying course under the M/s Redbird Flight Training Academy Private Limited. The Student Pilot License was issued on 26.03.2023 by the flying school. She began her flying training on 04.04.2023 completed overall flying hours of 45 Hours 35 Minutes. First Solo Check was done on 17.05.2023 after completion of 26 Hours 40 Minutes of Dual flying and first solo circuit and landing flight was carried out on the same day and duration was for 25 minutes. Subsequently, Student Pilot did her ten (total eleven) solo flights for the period of 10 Hours 40 Minutes done on 18.05.2023, 22.05.2023, 23.05.2023, 24.05.2023, 29.05.2023, 30.05.2023, 03.06.2023, 13.06.2023, 17.06.2023 and 17.06.2023 respectively which were found to be satisfactory as per the Flight Training Progress Report (FTPR) before the incident.

1.6 Aircraft information: -

M/s Redbird Flight Training Academy Private Limited Tecnam P2008JC Aircraft is a single-engine two-seater aircraft with a strut braced high wing and fixed landing gear. This aircraft is fitted with ROTAX 912 S2 Engine. The Tecnam P2008 JC fuselage is mainly made up of carbon fibers composite materials. Three-dimensional pictorial representation of the Aircraft is shown in the picture below



<i>Description of Aircraft</i>	
<i>Wing</i>	
Wing Span	9.00 meters (29.5 feet)
Wing Area	12.16 square meters
Aspect Ratio	6.7
Taper Ratio	0.8
Wing Chord	1.373 meters (4.5feet)
<i>Fuselage</i>	
Overall length	6.93 meters (22.9 feet)
Overall width	1.20 meters (3.9 feet)
Overall height	2.67 meters (8.8 feet)
<i>Empennage</i>	
Stabilator span	2.90 meters (9.51 feet)
Stabilator area	2.03 square meters (21.8 square feet)
Vertical tail area	1.06 square meters (11.4 square feet)
<i>Landing Gear</i>	
Wheel Track	1.8 meters (5.9 feet)
Wheel base	1.94 meters (6.4 feet)
Main Gear tire	5.00-5
Nose Gear tire	5.00-5
<i>Engine</i>	
Manufacturer	Bombardier - Rotax GmbH
Model	912 S2
Engine type	4 cylinders horizontally opposed with 1352 c.c. of overall displacement, liquid cooled cylinder heads, ram-air cooled cylinders, two carburetors, integrated reduction gear box with torsional shock absorber and overload clutch.
Maximum power (at declared rpm)	73.5 kW (98.6hp) @ 5800 rpm – 5 minutes maximum. 69.0 KW (92.5hp) @ 5500 rpm (continuous)
<i>Propeller</i>	
Manufacturer	GT Propeller
Model	GT-2/173/VRR-FW 101 SRTC
Blades	One-piece 2-blade fixed pitch, constructed of wood materials, protective layer of laminate
Diameter	1730 mm (no reduction allowed)
Type	Fixed pitch
<i>Flight Control Surfaces Travel</i>	
Ailerons	Up 22° Down 14° (± 2°)
Stabilator (refer to Trailing Edge)	Up 4° Down 15° (± 2°)

Stabilator (refer to Trailing Edge)	Up 2°, Down 12° ($\pm 1^\circ$)
Rudder	RH 25° LH 25° ($\pm 2^\circ$)
Flaps	0°; 35° ($\pm 1^\circ$)
<i>Fuel</i>	
2 Tanks	62 liters each one
Maximum Capacity	124 liters
Maximum Usable Fuel	120 liters
Approved Fuel	MOGAS ASTM D4814 MOGAS EN 228 Super/Super plus AVGAS 100 LL (ASTM D910)
Maximum Operating altitude	13000 feet (3962 meters) Mean Sea Level
Ambient temperature	-25°C to +50°C
Maximum takeoff weight	630 Kgs (1388 lb.)
Maximum landing weight	630 Kgs (1388 lb.)
<i>Center of Gravity Range</i>	
Datum	Vertical plane tangent to the propeller flange (the aircraft must be levelled in the longitudinal plane)
Levelling	Refer to the seat track supporting beams
Forward limit	1.841 m (20% MAC) aft of datum for all weights
Aft limit	1.978 m (30% MAC) aft of datum for all weights

Seats: -

The Tecnam P2008 JC Aircraft has two seats. Each seat is horizontally adjustable. They are mounted on two parallel tracks, attached to the compartment floor structure, which allow the seat to move forward or rearward.

Each seat consists of the following main components:

(a) Primary Structure Assembly consisting of the sitting and backrest assemblies.

(b) Horizontal Position Adjustment System allowing for the horizontal position adjustment. The device consists a lever located in the lower side of the structure.

(c) Vertical Position Adjustment System allowing for backrest position adjustment. The device consists a lever located in the upper side of the backrest structure. The Tecnam P2008 JC Aircraft has three different positions of the backrest: fully reclined to allows the access to baggage compartment, 20° or 25° for the best flight comfort.

(d) Seat Height Adjustment System which is designed to allow the seat height adjustment. It works with the system of horizontal adjustment, in fact, when the seat is in its most advanced position, this last will move in its highest vertical position

Seats are built with light alloy tube structure and synthetic material cushioning. A lever located on the right lower side of each seat allows for seat adjustment according to pilot size.

Seat position and safety belts as per the Aircraft Flight Manual:

Adjusted before engine starting (after pre-flight Inspection)

Warning: In-flight seat release can cause the loss of airplane control. Check that occupied seats are positively locked; after seat adjustment, make sure that the adjustment lever is well aligned with the aircraft longitudinal axis (neutral position) and that has a spring back return to the neutral position.

There are 13 seat positions to choose with keeping the perspective of the pilot in mind in order to see the nose of the aircraft. There is a gap of 20mm from one seat position to the other, caution needs to be exercised for seats are positively locked and seat adjustment lever is aligned with the aircraft longitudinal axis and spring of the seat adjustment lever back to the neutral position.



There are high chances of seat going backwards abruptly if the seat is not properly locked, it could impact the pilot's ability to access the cockpit controls.

Brakes: -

The Tecnam P2008 JC Aircraft is provided with an independent hydraulically actuated brake system for each main wheel. The brake system is hydraulically operated by dual toe-brakes located on the rudder pedals (both pilot and co-pilot side). The parking brake valve control knob is in the lower part of pedestal. A master cylinder is attached to each pilot's rudder pedal Hydraulic pressure, applied via the master cylinders, enters the brake via lines connected to the caliper.

A parking brake valve, mounted in correspondence of the cabin floor and operated by a knob on the cockpit central pedestal, intercepts the hydraulic lines, once pressurized by toe brakes, to hold the brake assemblies' linings tightened round the main wheels brake discs. Brakes can be operated from either pilot's and co-pilot's pedals: a single vented oil reservoir feeds the pilot side master cylinders which are connected, via hoses, with the co-pilot's side ones.

Aircraft Details	
Name of the Operator/Lessee	M/s Redbird Flight Training Academy Pvt. Ltd.
Aircraft Type	Tecnam P2008 JC
Aircraft Registration & No.	VT – RBS & 5486

Issued on	26.08.2022
Date of Issuance of Certificate of Airworthiness & No.	19.09.2022 & #7584
Year of Manufacture	2022
Manufacture Serial Number	1252
Date of Last ARC	19.09.2022
ARC Validity	18.09.2023
Owned/Lessor by	M/s Redbird Flight Training Academy Pvt. Ltd.
Aircraft weighing done on	04.09.2022
Aircraft Empty Weight	433.45 Kg
Maximum Take-Off weight	650 Kg
Maximum Usable Fuel	120 Liters
Maximum Payload with full Fuel	250 Kg
Total Aircraft Hours	1841:35 Hours' Time Since New
No. of Landings	3114
Last major inspection	50 Hours Inspection on 17.06.2023
List of Repairs carried out after last major inspection till the date of incident	No repairs carried out
Total Engine Hours	1841:35 Hours' Time Since New
Last major inspection	Carried out 600 Hours Inspection on 13.06.2023
List of Repairs carried out after last major inspection till the date of incident	Nil
Propeller Hours	1841:35 Hours' Time Since New
Aero Mobile License details	WOLNRRLO040120221101452

The Aircraft is registered in "Normal" Category & Sub Division – "Passenger Aircraft". The Certificate of Airworthiness remains valid subject to validity of Airworthiness Review Certificate. Last Airworthiness Review Certificate was issued at 03 Hours on 19.09.2022 by O/o Deputy Director General of Civil Aviation (Western Region), Mumbai. The Aircraft was holding a valid Aero Mobile License No. WOLNRRLO040120221101452 at the time of incident. The Aero Mobile license was valid till 25.08.2023.

The Aircraft was operated for flying training purpose only under Flying Training Organization Approval No. 01/2020 issued on 23.07.2020 and valid up to 22.07.2025.

The Aircraft was last weighed on 13.06.2022 at Capua, Italy and the same was duly approved by the O/o Deputy Director General of Civil Aviation, DGCA (Western Region), Mumbai on 04.09.2022.

The Aircraft had logged 1841:35 hours till the date of incident. Last scheduled inspection carried out on the aircraft was 50 Hours inspection at 1813:45 Hours of Airframe Time Since New on 17.06.2023. The last scheduled 100 Hours inspection which covers the inspection of seat was carried out at 1744:35 Airframe Hours, Time Since New on 08.06.2023. The last Certificate of Release to Service was issued on 17.06.2023. Pre – Flight inspection was carried out by the AME (Aircraft Maintenance Engineer) before the first flight of the day on day of incident.

Before the incident, Aircraft had flown for 04:15 Hours with 02 landing on the day of the incident and there was no snag reported.

All concerned Airworthiness Directives and Mandatory Service Bulletins, DGCA mandatory modifications (Airframe, Engine & Miscellaneous) as on date of incident have been complied on Aircraft VT – RBS on the day of incident.

The Aircraft does not have any history of accident or incident. Scrutiny of the technical log book and Pilot Defect Report (PDR) register revealed that there was no snag pending on the aircraft prior to the incident. The last PDR entry made in the PDR register was on 05.06.2023 i.e., "LOW FUEL PRESSURE". The corresponding rectification was done on 05.06.2023 by replacing fuel pump with the new one, ground run carried out and all the parameters were found to be normal and aircraft was released for further flights.

1.7 Meteorological information: -

METAR issued between 0700 UTC to 0730 UTC at M/s AAI Belgaum Airport on the day of the incident is shown in the tabular column below:

Time in UTC	Wind Direction	Wind Speed (Knots)	Vis. (KM)	Clouds	Temp. (°C)	Dew Point (°C)	QNH (hPa)	Trend
0700	280	09	10	SCT 1200' SCT 1800'	32	21	1012	Nil
0730	290	09	10	SCT 1200' SCT 1800'	32	21	1011	Nil

As per the above METAR weather was within VMC operating limits.

1.8 Aids of Navigation: -

Belgaum Airport is equipped with DVOR/DME, PAPI is available on both the Runways, Runway "08" & Runway "26". Runway "08" is equipped with Short Approach Lighting System and Runway "26" is equipped with Abridged Approach Lighting System.

There were no evidences of navigational issues faced by the Student Pilot during the preparation for the incident sortie.

1.9 Communication: -

Two-way radio communications were available between the aircraft and ATC.

1.10 Aerodrome information: -

M/s Airports Authority of India Belgaum Airport is a domestic airport serving the city of Belgaum, in the state of Karnataka, India. It is located at Sambra about 10 Kilometers from the Belgaum city. Belgaum Airport serves as Hub for M/s Star Air. Belgaum Airport is fourth major airport in Karnataka in terms of aircraft movements and number of passenger traffic.

M/s Redbird Flight Training Academy Private Limited is also operating and utilizing the airport facility for flying training and maintenance related activity.

Aerodrome is licensed under public category vide license no. AL/PUB/052 and valid till 07.11.2023. The airport has a single RWY (08/26) with a length of 2,300 meters and width of 45 meters. The surface of the RWY is level and paved with asphalt. The airport is equipped with DVOR and Distance Measuring Equipment. Airspace classification is "D" and Aerodrome category for firefighting is CAT – 6. The ATC is controlled by Airports Authority of India. Aerodrome Reference Coordinates point are 15°51'30" N Latitude and 07°43'704" E Longitude. Vertical limits of Belgaum Aerodrome are FL85. The declared distances for RWY are as under:

RWY Designation	Elevation	TORA(M)	TODA(M)	ASDA(M)	LDA (M)
08	2489 feet	2300	2300	2300	2300
26	2489 feet	2300	2300	2300	2300

1.11 Flight recorders:

As per the prevailing DGCA Civil Aviation Requirements, Cockpit Voice Recorder (CVR) and Digital Flight Data Recorder (DFDR) were neither fitted nor required. However, Garmin data in the form of images is shown below:

Flight Path Map

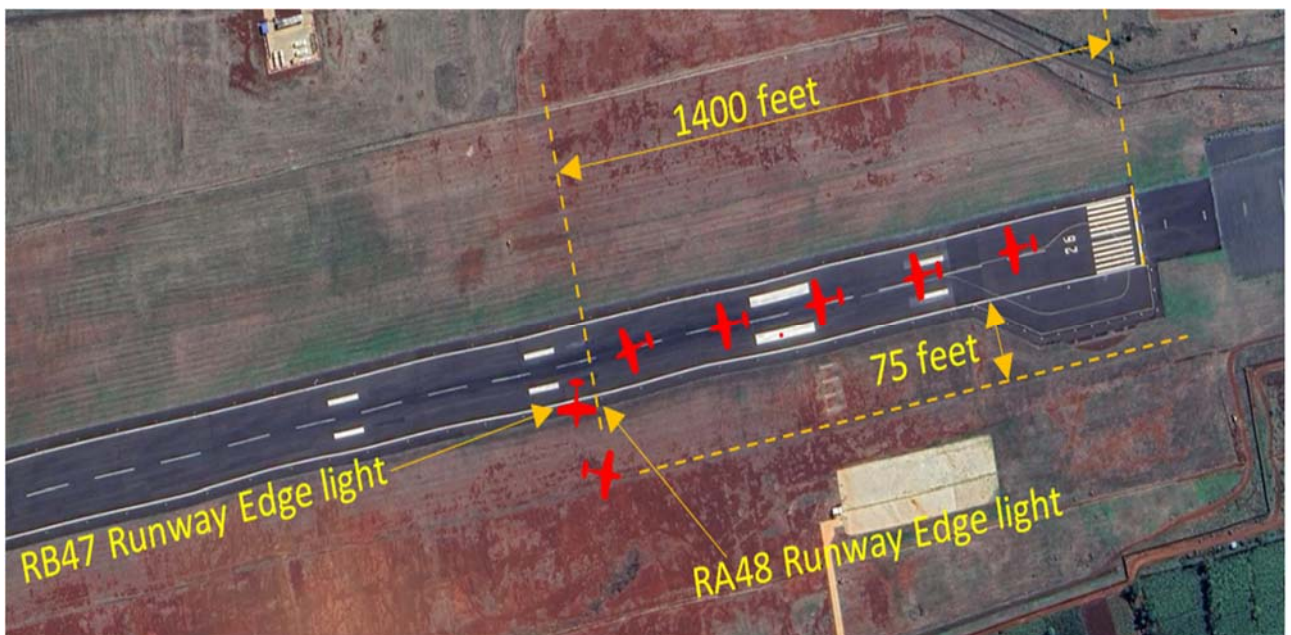


Image shows the path of aircraft rolling on the runway and veered to the left and entered kaccha

1.12 Wreckage and impact information: -

There was no structural disintegration of aircraft during the incident and on-site inspection revealed that there were neither damages nor defect on the aircraft due incident. The Aircraft came to a complete halt at 1400 feet from Runway 26 threshold, distance of 75 feet (22.86 meters) from the Left-Hand Side Runway Edge and track Aircraft followed is as shown in the picture next page and other distances measured is as shown in the tabular column.

S. No.	From	To	Distance
01	Runway 26 Threshold	Longitudinal Distance of Aircraft final position.	1400 feet
02	Runway Shoulder edge (LH)	Aircraft Nose	75 feet (22.86 meters)
03	LH Main Landing Gear	Runway Shoulder edge (LH)	14.8 meters
04	RH Main Landing Gear	Runway Shoulder edge (LH)	13.2 meters
05	Nose Landing Gear	Runway Shoulder edge (LH)	15.8 meters
06	Runway Edge Light RA48	RH Main Landing Gear track	13.2 meters
07	LH Main Landing Gear track	Runway Edge Light RA48	14.8 meters
08	Runway shoulder width measured through NLG travelled		7.9 meters



1.13 Medical and Pathological Information: -

Pre – Flight Medical Examination was conducted before the flight which was found to be negative and Post Flight Medical Examination was carried out and found that the Student Pilot is not under the influence of alcohol.

Post flight, Student pilot was taken to the hospital for Medical Examination and found she is medically and physically fit and without any physical injury.

1.14 Fire: -

There was no fire or smoke during or following the incident.

1.15 Survival aspects: -

The incident was survivable as the student pilot came out of the aircraft unhurt post incident.

1.16 Tests and research: -

Nil.

1.17 Organizational & Management Information: -

M/s Redbird Flight Training Academy Private Limited is a DGCA approved flying training organization headquartered at Baramati Airport, Pune, Maharashtra and operational bases are situated in following locations:

- a. Suktara Airport, Seoni, Madhya Pradesh,
- b. Lilabari Airport, North Lakhimpur district, Assam,
- c. Kalaburagi Airport, Karnataka,
- d. Belagavi Airport, Karnataka &
- e. Harton Technology Park, Sector – 18, Gurugram

Having fleet size of 26 Single Engine Aircrafts (22 Tecnam P2008 JC Aircrafts and 04 Cessna 172 Aircrafts) and a single Multi Engine Aircraft of Tecnam P2006T Aircraft.

DGCA approval #01/2020 and valid up to 22.07.2025.

1.18. Additional information: -

1.18.1 Excerpts from the statement of Student Pilot: -

Student pilot reported to the base at time 1130 IST, just like any other day. Carried out her pre-flight medical examination at time 1211 IST. After making necessary documentation like load and trim sheet and entries in authorization book, student pilot refueled the aircraft to 90 Kgs. Carried out the pre-flight checks as everything was in place, student pilot placed the cushion on the seat to elevate the perspective in order to make nose of the aircraft visible.

Student pilot positioned herself on the left-hand side seat of the aircraft to proceed for circuit and landing sortie and ran through the necessary checklists. Student pilot initiated the taxi and taxied to the holding point of Runway “26” via taxiway “L” after obtaining the taxi clearance from the ATC and waited for two minutes. Since, another aircraft of M/s Redbird Flight Training Aviation Academy was on its finals to land. Post landing of company’s aircraft, ATC gave clearance to the incident aircraft for lineup clearance to lineup on Runway 26. Student pilot carried out the lineup checks i.e., engine instruments green, propeller RPM of 1500, EFP on, Runway clear, monitoring of Runway length, checking of wind socks, ailerons into the wind and continued lining up on to the Runway 26. At this juncture, while completing the checks student pilot seat shifted backwards and

aircraft started moving towards the left side of the runway. Student pilot tried to reach for the brakes, but could only able to reach the brakes partially due to which aircraft couldn't come to complete halt and the inability of student pilot to bring back the seat to the initial position. Once aircraft came to complete halt in kaccha, student pilot put the throttle to idle and switched the ignition off to stop the aircraft from further going forward. Student pilot sat in the aircraft till the help came and deboarded the aircraft and was made to leave in the company vehicle.

1.18.2 Excerpts from the statement of Flight Instructor: -

Flight Instructor was assigned the duty of monitoring of landing for solo trainees as per the company policy. While Flight Instructor was waiting for the VT – RBX aircraft to carry out another landing at Runway 26. The Aircraft VT – RBS with solo trainee in it, was given the clearance to enter back track and line up on Runway 26.

After line up, flight instructor saw the VT – RBS Aircraft started to move and veered to the left. Immediately, instruction was passed to student pilot through RT to stop the aircraft by putting throttle to idle, apply brakes and hold the Aircraft.

Aircraft kept on moving to left. Flight Instructor repeated instruction and asked the trainee to switch of the engine. Aircraft moved out of the Runway and came to complete halt. Engine was switched off by the student pilot and was evacuated from the Aircraft safely.

1.18.3 Response of Tower Controller post incident: -

As soon as Tower Controller realized VT – RBS aircraft went into the kaccha informed CFT – 1 was informed about the same at time 074620 UTC. CFT – 1 confirmed their readiness to Tower for proceeding to Runway 26 at time 074722 UTC. CFT – 1 reached near the Aircraft at time 074845 UTC and confirmed the same to the ATC. Tower Controller asked the CFT – 1 to check any assistance required at the site. At time 074951 UTC fire station suggested Tower Controller whether to send the ambulance to the site.

1.19 Useful or effective investigation techniques: -

Nil.

2. ANALYSIS: -

2.1 Serviceability of the aircraft:

- The aircraft was having a valid Certificate of Registration (C of R) at the time of incident. It was holding a valid Indian Certificate of Airworthiness (C of A) Airworthiness Review Certificate (ARC) was valid at the time of incident. There was no snag reported by the pilot before the flight. All concerned Airworthiness Directives, mandatory Service Bulletins, and DGCA Mandatory Modifications were complied with as on date of incident.

- There was no active MEL invoked on the aircraft as on the date of incident.
- After the incident, detailed inspection of the aircraft was carried out and found to be satisfactory without any damages on the Aircraft
- Last scheduled inspection carried out on the aircraft was 50 Hours inspection at 1813:45 Hours of Airframe Time Since New on 17.06.2023. The last Certificate of Release to Service was issued on 17.06.2023. Pre – Flight inspection was carried out by the AME (Aircraft Maintenance Engineer) before the first flight of the day on day of incident.
- There were two solo flights carried out for the duration of 01:00 Hour and 03:15 respectively before the incident flight on the day of the incident. In view of the above, it is inferred that the maintenance aspects were not the contributory factors to the incident.

2.2 Student Pilot Handling of the Aircraft: -

- Incident flight was the first flight of the day for the Student Pilot.
- Student Pilot had successfully completed 45 Hours 35 Minutes of overall flying training including 10 Hours 40 Minutes of Solo flying comprising of 11 Solo flights before the incident.
- On the day of incident, engine start up, taxiing and lining up of the incident Aircraft on to the runway, procedures followed by the student flight were normal. Since the student pilot could not ascertain the positive locking of PIC seat after the pre-flight inspection and before engine start, after completing the pre-departure checks, seat of the student pilot released and moved back inadvertently from the initial set position leading to the loss of airplane control from the student pilot.
- The Student Pilot's access to the brakes became limited because of the backward movement of the PIC seat from the initial set position. In the process of attempting to apply the brakes, the student pilot applied excessive pressure to the left - side pedal, resulting in aircraft veering to the left side of the Runway.
- Student pilot failed to lock her seat and check the seat is properly locked or not before engine starting which needs to be checked by the pilot flying after the completion of pre-flight inspection and before the engine start as per the Aircraft Flight Manual checklists.
- Non – adherence of stipulated instructions prescribed in the Aircraft Flight Manual related to the Handling of the aircraft by the Student Pilot led to the incident and Pilot Handling of the Aircraft is the causal factor to the incident.

2.3 Weather:

Clear weather was prevailing at the time of the incident and the visibility reported at the M/s AAI Belagavi Airport is ten kilometers and wind speed reported at time 0730 UTC was around 09 knots. Weather was very much conducive for flying training. Weather was not a contributory to the incident.

2.4 Circumstances Leading to the incident:

Non-adherence to laid down procedures stipulated in the Aircraft Flight Manual by the Student Pilot related to the PIC seat locking before engine start and after the completion of Pre – Flight Inspection led to this incident.

2.5 ATC Role: -

Tower Controller informed CFT – 1 at time 074620 UTC as soon as he realized VT – RBS aircraft went into the kaccha, when the flight instructor gave instructions to the Student Pilot through RT (Tower Controller missed the active movement of VT – RBS aircraft). CFT – 1 confirmed their readiness to Tower for proceeding to Runway 26 at time 074722 UTC. CFT – 1 reached near the Aircraft at time 074845 UTC and confirmed the same to the ATC. Tower Controller asked the CFT – 1 to check any assistance required at the site.

3. CONCLUSION:

3.1 FINDINGS:

- 3.1.1** The Student Pilot was holding a valid Student Pilot License and meeting all qualification requirements for operating are appropriately licensed and qualified to operate the intended solo and circuit training flights.
- 3.1.2** The aircraft was operated within the provision of valid Certificate of Airworthiness and Certificate of Registration before the incident flight.
- 3.1.3** All the concerned Airworthiness Directive, Service Bulletins, DGCA Mandatory Modifications on this aircraft and its engines were found complied with.
- 3.1.4** The aircraft was maintained in airworthy condition as the incident aircraft was flown for 04:15 Hours on the day of the incident before the incident flight and no defect/snags were neither reported nor pending for rectification.
- 3.1.5** The intended incident flight was authorized by the Chief Flight Instructor. The Student Pilot was adequately rested before the intended incident flight.
- 3.1.6** The weather was very much conducive for the flight training.

3.1.7 The Student Pilot had successfully completed overall flying hours of 45 Hours 35 Minutes including 10 Hours 40 Minutes of Solo Flying after completion of 11 Solo flights.

3.1.8 Student Pilot was subjected Pre-Flight Medical Examination before the incident flight and found not under the influence of alcohol.

3.1.9 Non - Adherence of laid down procedure stipulated in the Aircraft Flight Manual by the Student Pilot regarding the locking of seat after the pre-flight inspection and before the engine start led to the seat going backwards on the runway during the take-off roll resulted in Runway Excursion incident.

3.1.10 No damage to the aircraft post incident during detailed inspection

3.2 Probable Causes:

Improper locking of PIC seat by the Student Pilot while preparing for the flight i.e., non – adhering of the laid down procedures of the locking of PIC Seat before the engine start.

4. SAFETY RECOMMENDATIONS:

(a) Corrective training for the student pilot regarding the preparation of flight.

(b) Any other action as deemed fit by the DGCA Headquarters.

Date: 12/09/2023

Place: Bengaluru

(Narayana Vislavat)
Deputy Director of Air Safety,
Investigator-In-Charge.