



Preliminary Report: Accident involving M/s Alchemist Aviation Pvt Ltd Cessna 152 aircraft VT-TAJ near Jamshedpur on 20 Aug 2024

1. General Information

1.	Aircraft	Type	Cessna 152
		Nationality	Indian
		Registration	VT- TAJ
2.	Owner and Operator	M/s Alchemist Aviation Pvt Ltd	
3.	No. of Persons on board	02 (01 Instructor and 01 Student Pilot)	
4.	Extent of Injuries	02 Fatal	
5.	Date & Time of Accident	20.08.2024, 0605 UTC	
6.	Place of Accident	Chandil Dam	
7.	Last point of Departure	Sonari Aerodrome, Jamshedpur	
8.	Intended landing place	Sonari Aerodrome, Jamshedpur	
9.	Type of Operation	Training flight	

2. Aircraft Information

The aircraft VT-TAJ was manufactured in 1979 and had a valid Certificate of Airworthiness (CoA) as its ARC (No.2216) issued on 15.07.2024 was valid till 16.07.2025. According to the Certificate of Registration (CoR), the aircraft was owned and operated by M/s Alchemist Aviation Private Limited. The last scheduled inspection, a 50 hour check was carried out on 19.08.2024 at 16124:40 A/F Hrs. The aircraft was equipped with a Lycoming Engine. Before the accident flight, the aircraft had accumulated 16128:40 A/F hours while the engine had 1840:55 hours (TSO).

3. Crew information

Crew held valid licenses and were meeting the requirements to perform the training flight.

Crew Details	Instructor	Student Pilot
License	CPL (A)	SPL(A)
Date of Issue	18.09.2017	06.06.2023
Valid up to	17.09.2027	05.06.2033
Date of Class I Med. Exam.	18.11.2023	10.01.2023
Class I Medical Valid up to	06.12.2024	09.01.2025
Date of issue FRTOL License	18.09.2017	-
Total flying experience	2158:45 Hours (Approx)	81:35 hrs till July

4. Weather Information

Weather as per the METAR at Jamshedpur at the time of accident was as follows;

Time (UTC)	Wind	Visibility	Cloud	Temperature	QNH	Weather
0600	320/02 KT	5000 M	SKC 1800 Ft	32 degree C	1005	HZ

As per the METAR, the weather conditions were conducive to undertake training flight.

5. Brief description of accident flight

On 20 Aug, 2024, one Cessna 152 aircraft, VT-TAJ, belonging to M/s Alchemist Aviation Pvt Ltd, took off from Sonari Aerodrome at approximately 0502 UTC to conduct a local sortie. According to the flight plan, the aircraft was scheduled to perform general flying within 5 Nm below 4500 feet from JJS.

On the day of accident, 03 other company aircraft were also rostered for training flights. Once all the 04-company aircraft departed from Jamshedpur, they joined the allotted altitude 2500 feet in sector North. Thereafter, as per the SOP, all company aircraft transmitted 'OPS NORMAL' call at 10-minute intervals. VT-TAJ also had given a positional call on R/T "320 radial and 8 Nm from JJS".

At approximately 0605 UTC, Jamshedpur ATC transmitted METAR information of 0600 UTC. As per ATC, all other aircraft except VT-TAJ responded and gave a readback. Meanwhile, one training aircraft (VT-TEB) that had already established on finals carried out the landing at Sonari airport. Around the same time, aircraft VT-TSL belonging to M/s TATA Steel had also established R/T contact with Jamshedpur ATC and relayed its position "40 DME from JSS Altitude 035 ETA 0622". Thereafter, several attempts were made to establish contact with aircraft VT-TAJ but no corresponding readback was received. To locate the aircraft VT-TAJ, aerial search was initiated by Tata Steel aircraft along with M/s Alchemist aircraft based on the last know position communicated by VT-TAJ. However, the aircraft could not be located, and it was declared missing. The concerned authorities were informed to launch the search and rescue activities.

6. Wreckage and Impact information

On 25th Aug 2024, while carrying out the SAR operation in Chandil Dam, the Navy team, deployed for search and rescue, observed that the aircraft was lying in an inverted position at a depth of approximately 10 meters in the dam reservoir. Subsequently, on 26th Aug 2024, arrangements were made and aircraft was pulled out from the reservoir.

During initial assessment, major damage was observed at the nose section of the aircraft and, Nose landing gear was also found broken. In addition , other damages were also observed on both wings, the vertical fin, the rudder and the tail boom.



Figure 1: Aircraft's main wreckage taken out from the Chandil Dam

7. Progress of the Investigation:

1. Aircraft wreckage retrieved from the Chandil Dam
2. Wreckage was shifted and secured in a hangar at Sonari aerodrome.
3. Engine has been removed from the aircraft and quarantined for further analysis.
4. Aircraft logbooks, Engine logbooks, Techlog, METAR, Work Orders, copies of on-board documents, and inspection schedule records related to VT-TAJ have been collected from the operator for further scrutiny.
5. Fuel and oil samples have been collected and handed over to the DGCA lab for further analysis.
6. Statements of following personnel's has been recorded:
 - a) ATC personnel handled the RT call
 - b) Instructors flown with the Student Pilot
 - c) Students undergoing training at the Academy and in recent past, flown with the Instructor
 - d) Technical staff maintaining the aircraft
 - e) Eye Witnesses