Preliminary Report: Accident involving M/s Samvardhane technologies' Cessna 152 Aircraft VT-BBB near Guna Airport on 11.08.2024

1. General Information

1.	Aircraft	Type	Cessna 152
		Nationality	Indian
		Registration	VT- BBB
2.	Owner and Operator		M/s Samvardhane Technologies Pvt Ltd
3.	Pilot		CPL Holder
	Extent of Injuries		Minor
4.	Observer		CPL Holder
	Extent of Injuries		Nil
5.	No.of Persons on board		02
6.	Date&Time of Accident		11.08.2024, 07:37 UTC
7.	Place of Accident		Near Guna Airport
8.	Co-ordinates of Accident Site		Lat: 24.655797 Long :77.343960
9.	Last point of Departure		Guna Airport
10.	Intended landing place		Guna Airport
11.	Type of Operation		Test flight
12.	Phase of operation		Go around

2. Aircraft Information

The Cessna 152 aircraft VT-BBB was manufactured in 1983 and fitted with a Lycoming engine. The CoA of Aircraft was last validated in 2013 and expired on 17.12.2014. The Aircraft last flew on 23.06.2014. As per records, the aircraft was presently owned by M/s M/s Samvardhane Technology Pvt ltd.

M/s Samvardhane Technology purchased this aircraft along with 02 other C152 aircraft in the year 2022. During the initial inquiry, the operator clarified that when the three aircraft were purchased, they were in a dismantled condition and were not airworthy. Subsequently, M/s Samvardhane had an agreement with M/s Sha-Shib Flying Academy to perform aircraft maintenance (CAMO and CAR 145 activities) on its three aircraft. The three aircraft were maintained by M/s Sha Shib Flying academy at their base in Guna.

Manufacturer was approached for guideline/recommendation to restore the aircraft to airworthy condition. Based on the manufacturer's recommendations, the quantum of work required for Return to Service (RTS) was approved by the DGCA.

A Special Flight Permit was subsequently issued by DGCA on August 6, 2024, to carry out a test flight at Guna, valid until August 14, 2024. The last Certificate of Release to Service (CRS) was issued on August 11, 2024, after conducting a pre-flight inspection and ground run for the check flight.

The aircraft is not fitted with any kind of flight data recorders or cockpit voice recorders.

3. Crew information

The PIC had valid license on type and was current to operate this flight. The test flight was planned to be conducted by the PIC, while other crew on board was assigned as observer to record parameters in the check flight schedule. Both the PIC and the observer were AFI rating holders and affiliated with other FTO situated at Hyderabad

4. Aerodrome Information

The Guna Airfield is owned by Government of Madhya Pradesh which is leased to M/s. Institute of management and technologies (IMT), Bhopal. It is an uncontrolled airfield with at coordinates of Lat 24.6543°N and Long 77.3467°E. It has only one runway designated 14/32, with a total length of 3000 feet and width of 75 feet. M/s Sha-Shib Flying Academy has set up an ATC tower and generally be manned by an instructor holding a RTR license.

5. Weather Information

There is no meteorological (MET) facility available at Guna. However, M/s Sha-Shib Flying Academy has identified visibility markers, but these are not recorded in the MET register. The MET register is currently used to record METARs from nearby airports.

As per PIC and personnel handled RT, weather conditions were good for Flying activities at Guna during the time of accident.

6. Brief description of accident

On August 11, 2024, two Cessna 152 aircraft owned by M/s Samvardhane Technologies were planned to carry out test flights. Both aircraft had been issued a Certificate of Release to Service (CRS) following satisfactory pre-flight inspections by the certifying staff. After the preflight check and ground run both aircraft were accepted for the test flights. The PIC decided to conduct the test sortie of VT-BBB first, followed by the other aircraft. The flights were to be flown by the PIC, and the other crew was assigned duties as Observer to observe the flight parameters recorded on the test flight for revalidation of ARC.

At approximately 07:00 UTC the aircraft commenced its ground run and found engine parameters normal. Thereafter, the aircraft entered the runway and carried out an aborted take-off on RWY 32 as part of test. Following this, the aircraft backtracked and lined up on RWY 32. After receiving clearance from ATC, the aircraft got airborne successfully and was flown for approximately 35 minutes following a box pattern covering the North Sector and overhead of Guna Airstrip. PIC reported all operation normal during this overflying. PIC descended to join the right downwind leg, which was reported to ATC and continued to the final approach. Thereafter, the PIC initiated a go-around at approximately 200 ft AGL, notifying ATC

As per PIC statement, after achieving a positive climb to approximately 400 ft AGL, the engine began to lose power. Finding no other options, the PIC initiated a left turn and decided to land the aircraft in a bushy area near the airstrip. Observing this, ATC tried to contact the aircraft," but no response was received. Subsequently, the aircraft crash-landed in a bushy area at approximately 200 meters to left side edge of RWY 32. ATC personnel immediately informed the company officials and activated the emergency siren. The Emergency Locator Transmitter (ELT) was activated upon impact.

The observer egressed the wreckage unhurt, while the PIC was rescued from the cockpit by the observer and company officials, with a bleeding cut on the forehead. No fire was reported

7. Wreckage and Impact information

The aircraft crash-landed in a bushy area at approximately 200 meters from the left edge of Runway 32. Before impacting the ground, it collided with trees along its flight path and came to final resting position. The force of the impact caused the nose landing gear to collapse, and the engine was dislodged completely from its mounting structure. The left horizontal stabilizer, right wingtip, and right-wing leading edge, and the left wingtip, sustained damages.

Most of the detached parts were found concentrated near the main wreckage.

The test flight was the first flight following maintenance. During an onsite investigation following the accident, corrosion was observed on the control cables and the firewall. Samples of these components were sent to the DGCA laboratory for further analysis. The laboratory report on the samples confirms the broken cable strand, rubbing signatures on the left-hand (LH) rudder control cable, as well as corrosion signatures on both the firewall and the control cables.

Figure 1: Aircraft's Main Wreckage

8. Progress of the Investigation

1. Engine, radio equipment and other components that may assist in investigation were retrieved from wreckage and preserved for further examination.
2. Techlog, engine logbooks, RTS task cards/work orders and on-board documents related to VT-BBB have been gathered from the operator for scrutiny.
3. Aircraft's fuel and oil samples has been collected for further analysis.
4. Documents/files related to Aircraft have been sought from DGCA.
5. Initial Statements from witnesses and concerned personnel has been obtained.

9. Interim Recommendation:

In view of the corrosion and rubbing signatures observed in the control cables, it is recommended that a one-time inspection be conducted by DGCA to ensure that the maintenance activities carried out on other two aircraft of the operator are compliance with relevant standards. The report on the same may be shared to AAIB.