



Preliminary Report: Serious Incident to M/s Kestrel Aviation Pvt.ltd Augusta A119 Helicopter VT-CLR at Kedarnath Helipad on 24.05.2024.

1. General Information

1.	Aircraft	Type	Augusta A119
		Nationality	Indian
		Registration	VT- CLR
2.	Owner and Operator	M/s Kestrel Aviation Pvt. Ltd.	
3.	Pilot	CHPL Holder	
	Extent of Injuries	None	
4.	No. Of Persons on board	07	
5.	Date & Time of Occurrence	24.05.2024 ,01:30 UTC	
6.	Place of Occurrence	Kedarnath Helipad	
7.	Co-ordinates of Serious Incident Site	Lat :30° 43'53"N Long: 079°04'00"E	
8.	Last point of Departure	Badasu Kestral Helipad	
9.	Intended landing place	Kedarnath Helipad	
10.	Type of Operation	Charter Heli services for pilgrims	
11.	Phase of operation	Final Approach	

2. Aircraft Information

The aircraft is a single engine 4 bladed helicopter with 6 passengers and 2 flight crew seating capacity and certified for VFR operations.

On the day of occurrence the aircraft was flown after release by the certifying staff. As per the records the aircraft was found with valid CRS, C of A, C of R and no defect were reported.

The aircraft was loaded as per the weight schedule. The load and trim was prepared and C.G was within the prescribed limit. The aircraft is not fitted with any kind of recording device (flight data recorder) or cockpit voice recorders. The regulation doesn't mandate the same for the weight category of the helicopter.

3. Crew information

The PIC had valid CHP license on type and was current, compliant and proficient on the day of occurrence.

4. Aerodrome Information

The Kedarnath Helipad information as provided in the SOP is given below

HELIPAD	LAT/LONG	DIMENSION	PURPOSE
Kedarnath	30° 43'53"N, 079°04'00"E	30 M x 45 M	All commercial Operations
Wind Direction Indicator	One wind direction indicator is situated on Eastern side of Helipad.		



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Slope	The surface has a slope of 02"on either side to ensure adequate drainage of water or fuel spillage
Touch Down and Lift Off Area (TLOF)	30 M x30 M with 'H' mark in the centre.
Final Approach Take Off Area (FATO)	40 M X45M
Safe Area	Adequate area available on each side FATO.
Approach and Take Off	Clear of obstacles on two directions viz North &South.
Main Criteria	VFR operations only. HOGE and HIGE performance level possible.
Facilitation	Adequate infrastructure for handling of arrival/departure. Security and frisking of passengers is available.

5. Weather Information

The organization is capturing the METAR report of Dehradun which is interpolated with the prevailing weather condition in valley and briefed to flight crew before the flight.

The METAR of Dehradun which was captured at the time of occurrence is given below:

Time UTC HH:MM	Winds degree /knots	Visibility meters	QNH Hpa/ hg	InTemp °C	DP °C	Weather/ cloud
0130	310/03	2500	1008/297 6	28	21	HZ/ Scattered at 3000 and Broken at 6000ft

The weather was good and no adverse weather phenomenons were present during the time of occurrence.



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6. Brief description of Serious Incident

The Kedarnath shrine operation was opened for Kedarnath shrine on May 2024. M/s Kestrel Aviation is one among the operators providing shuttle services to Kedarnath shrine pilgrims from their helipad at Badasu.

On 24th May 2024 VT-CLR was scheduled to operate 6 shuttles during first slot in the morning .The aircraft was released for service after ensuring status of fuel, lubricants and helicopter systems serviceability.

The pilot after clearance from ground crew powered the helicopter and started the engine after transmitting in the common frequency. Post start-up, after satisfactory checks as per RFM checklists the helicopter took off for the sortie at 0540 IST. Five shuttles were completed. All sorties were uneventful.

During the sixth shuttle with six passengers from Badasu while on approach to land on helipad No2 at Kedarnath the Servo#1 warning light was annunciate followed by gradual drop of hydraulic system 1 pressure. The pilot felt stickiness/ hardness of anti torque pedal and the helicopter slowly started yawing to the right.

The pilot applied full left rudder to control but the helicopter continued to yaw. The momentum picked up and the yaw rate gradually increased. The pilot kept the rotor disc level and gradually lowered collective to settle down helicopter on the ground. The helicopter sank to ground while simultaneously spinning to right. The helicopter made total of five 360° rotation before making ground contact facing east and up slope. However the momentum of rotating tail turned the helicopter violently by which the helicopter got turned towards down slope. The pilot kept the disc level by which helicopter pitched up while spinning to right. The helicopter fin made ground contact and made a full Spin before coming to final rest in a sloping terrain at 0702 IST.

The tail rotor stopped after ground contact but the main rotor was rotating. The pilot rapidly initiated the shutdown procedure after the helicopter came to final rest at Approx 320 Ft short of Kedarnath helipad. The ground staff reached the helicopter after rotor stopped and helped disembarking the passengers. The pilot after securing the aircraft disembarked and was escorted to the waiting area.

There was no injury to any of the occupant on board the Aircraft. There was no fire during the occurrence.



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Figure1. Aircraft parked at last position

6. a. Wreckage and Impact information

Engine

After the aircraft settled down, the main rotor was still rotating and the engine was shut down by the Pilot. The tail rotor impacted the terrain and stopped rotation immediately due to which rear tail rotor drive shaft got sheared. Further both the tail rotor blades sustained shredding of honeycomb bonding and severe surface bruises due to ploughing of blades in terrain

Airframe:

- The ventral fin got sheared off the tail due to terrain contact while spinning and just before getting settled down. The left stabilizer bottom skin surface sustained puncture.



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- When the tail rotor transmission shaft got sheared, the shaft came in contact with the tail rotor drive shaft service door and sustained tear in the door.
- When the helicopter made initial ground contact while simultaneously spinning to right, the right skid forward section sustained damage and the cap got dislodged.
- Both the hydraulic system reservoir fluid levels were found empty and fluid was lost.
- The forward upper deck and rear upper deck surface was found with hydraulic fluid flow signs and there was puddle of fluid in rear upper deck. The upholstery mat of the cargo compartment was soaked with hydraulic fluid.
- The hydraulic fluid was dripping through the drain mast and signs of fluid were found in the rear belly of helicopter.

7. Progress of the Investigation

1. Engine display unit, Hydraulic hoses, 3 Actuators and Hydraulic oil were retrieved from the aircraft and preserved for further detailed examination.
2. Tech-log, engine logbooks, task cards/work orders, component history cards and on-board documents related to VT-CLR have been gathered from the operator and are being analyzed.
3. Other evidences like Fuel sample were collected and analyzed.
4. The Accredited Representative's of ANSV (Italian Civil Aviation Safety Investigation Authority, Italy) and Technical advisor from Leonardo Helicopter (Italy) are providing the assistance in this investigation.

8. Air transport of the helicopter from the Occurrence site:

After the Occurrence, M/s Kestrel Aviation planned to shift the helicopter from the occurrence site at Kedarnath to the Sahastradhara Helipad for further necessary actions. M/s Kestrel entered into a mutual agreement with the IAF for the Shifting the Helicopter from the Occurrence site. On 31.08.2024, the aircraft, VT-CLR, was being transported from Kedarnath to Sahastradhara Helipad via an under-slinging operation. During this operation, the helicopter got released and fell into the terrain near river passage and completely destroyed.

9. Interim Recommendation:

NIL.