



**FINAL INVESTIGATION REPORT ON SERIOUS
INCIDENT TO M/s PRABHATAM AVIATION
PVT. LTD ALOUETTE III HELICOPTER VT-EGK
AT IGI AIRPORT NEW DELHI
ON 04/01/2013**

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Foreword

This document has been prepared based upon the evidences collected during the investigation, opinion obtained from the experts and laboratory examination of various components. The investigation has been carried out in accordance with Annex 13 to the convention on International Civil Aviation and under the Rule 11 of Aircraft (Investigation of Accidents and Incidents), Rules 2012 of India. The investigation is conducted not to apportion blame or to assess individual or collective responsibility. The sole objective is to draw lessons from this incident which may help to prevent such future accidents or incidents.

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AVIATION PVT. LTD ALOUETTE III HELICOPTER VT-EGK AT IGI
AIRPORT NEW DELHI ON 04/01/2013**

1. Aircraft
 Type : Alouette III Helicopter
 Nationality : INDIAN
 Registration : VT-EGK
2. Owner/ Operator : Prabhatam Aviation Pvt. Ltd
3. Pilot – in –Command : CHPL holder on type
 Extent of injuries : Nil
4. Passengers on Board : 04
 Extent of injuries : Nil
5. Place of Incident : IGI Airport, New Delhi
6. Date of Incident : 04th January 2013
7. Time of Incident : 0955 UTC (Approx.)
8. Last point of Departure : IGI Airport, New Delhi
9. Geographical location : N 28° 34' 07"
 E 077° 06' 44"
10. Point of intended landing : Greater Noida, UP
11. Type of operation : In-flight Vibrex Check
12. Phase of operation : Taxiing
13. Type of incident : Main rotor blades of
 helicopter hit the tail boom/
 stabilizer during taxiing.
14. Damage to helicopter : Substantial

(ALL TIMINGS IN THE REPORT ARE IN UTC)

SUMMARY:

Main rotor blades received after overhauling were installed on the helicopter on 01.12.2012 and rigging & duplicate inspection was carried out. On 03.12.2012 track check and vibration check was carried out on ground and was found satisfactory. Track and vibration check during hover were also satisfactory. Inflight vibrex checks were planned on 4.1.13. The helicopter started taxiing from the maneuvering area. As the helicopter reached juncture of maneuvering area and the 'E' taxiway (uneven surface) the helicopter went into ground resonance. An immediate pickup was carried out by the pilot but the helicopter went into very severe vibrations. Hurried sit-down/landing was carried out during which the main rotor blades had hit the tail boom and horizontal stabilizer causing damage to stabilizer & tail drive shaft. The tip of the main rotor blades was also damaged. There was no fire or injury caused to any of the occupants on board the helicopter.

1. FACTUAL INFORMATION.

1.1 History of the flight

In the month of April 2012, helicopter VT-EGK belonging to Prabhatam Aviation (P) Limited was parked at Greater Noida, where one main rotor blade was hit by a foreign object and sustained damage on the trailing edge. After the incident, on 30.04.2012, Main rotor blades, bearing serial nos. 0894, 0895 and 0896 were removed from the helicopter for repairs. The removed blades were sent to M/s HAL (overhauling facility). After

removal of these blades, main rotor blades bearing serial nos. 2197, 2198 and 3138 were installed on the helicopter.

In the month of Nov 2012 main rotor blades bearing serial nos. 0894, 0895 and 0896 were received from the overhauling facility after repairs and were installed on the helicopter on 01.12.2012. After installation of the blades, main rotor blades rigging and duplicate inspection was carried out. Aircraft was offered for ground run to carry out tracking by flag method and balancing by Analog balancer. On 03.12.2012 track check, balancing check and vibration check was carried out on ground and found satisfactory.

Due to non-availability of pilot from 04.12.2012 to 03.01.2013 further vibrations checks could not be performed. Once again the helicopter VT-EGK was planned for a VIBREX check including in-flight check on 04.01.2013. Vibrex equipment was installed to carry out vibrex check. Helicopter was positioned at bay no. 130 for start up and checks. Track and balance check was carried out on ground and was found satisfactory. Helicopter was cleared for track and vibration check during hover which was also satisfactory. Helicopter was then cleared for in-flight track and vibration check. As the weather reported was below minima (less than 1500 m), the flight was rescheduled till the weather improved.

At 0930 UTC the visibility reported was 2 km with surface winds 320/ 04 kts. At 0951 UTC the pilot started the helicopter in front of hanger no.1 near taxiway 'E' and started taxiing towards 'E' taxiway. As per the tape transcript of frequency 121.9 Mhz, the ground cleared the helicopter VT-EGK to reach on taxiway 'E' (short of runway 09/27) and the start up for the helicopter was

approved after reaching on 'E'. The helicopter confirmed that the startup is approved after reaching taxiway 'E'. The ground informed the helicopter that Special VFR start up is approved, which was confirmed by the helicopter and by adding that "VGK is starting up", to which the ground control asked for the position of the helicopter. The helicopter intimated that we are starting up in front of hanger no. 1 short of E. Immediately ground asked 'VGK' to confirm that the helicopter is on taxiway E. The helicopter replied in negative and ground control once again approved the start up only after reaching on E, which was acknowledged by the helicopter.

The helicopter was under the command of a CHPL holder. There were 04 passengers including AME (Aircraft Maintenance Engineer) on board the helicopter. The all up weight was close to maximum permissible weight. As per the pilot, "as the helicopter moved onto the 'E' taxiway on an uneven surface vibrations were felt and the helicopter appeared to be going into ground resonance". An immediate pickup was carried out by the pilot but the helicopter went into very severe vibrations. A sudden sit-down/landing was carried out and the helicopter switched off immediately. The helicopter intimated ground control that there was some problem with the helicopter and helicopter is switched off on taxiway E. The ground control asked the helicopter to confirm, if operations were normal and helicopter replied in affirmative. Thereafter the helicopter informed ground control that "it is clear off 'E' and going off the air". The helicopter was then pushed back to front of hanger no. 1 by the technical staff of maintenance agency and the pilot. No photographs were taken or other evidence recorded at the site of incident.

On ground, during external inspection it was observed that main rotor blades had hit the tail boom including horizontal stabilizer due which the tail drive shaft was in two parts. The tip of the main rotor blades were found damaged. There was no fire or injury caused to any of the occupants on board the helicopter.

The incident was reported to Aircraft Accident Investigation Bureau (AAIB) by M/s Prabhatam Aviation Pvt. Ltd. The Ministry of Civil Aviation appointed a Committee of Inquiry to investigate into the causes of the incident under rule 11 of Aircraft (Investigation of Accidents and Incidents) Rules, 2012.

1.2 Injuries to persons.

INJURIES	CREW	PASSENGERS	OTHERS
FATAL	Nil	Nil	Nil
SERIOUS	Nil	Nil	Nil
NONE	01	04	

1.3 Damage to aircraft.

Following damages were observed.

- Leading edge tip of two main rotor blades was damaged along with the wrinkles at the bottom surface of both the blades.
- Horizontal and vertical stabilizers were damaged.
- RH and LH side of stabilizer attachment area was found damaged.

- Tail boom area between frame No. 6 and 7 was totally damaged.
- Tail rotor guard attachment bracket sheared off.
- 5th bearing support of the tail boom was broken.
- Stringers running through frame No. 5, 6 and 7 were found damaged.
- Tail drive shaft sheared off about 3 & ½ ft. from rear end. The front end of the drive shaft dislodged and shifted around 3 & ½ ft. to the rear side.

1.4 Other damage: Nil

1.5 Personnel information:

1.5.1 Pilot – in – Command:

AGE	: 58 years
License	: CHPL
Date of Issue	: 06/10/2011
Valid up to	: 05/10/2016
Category	: Single Engine
Class	: Land
Endorsements as PIC	: Allouette III/Chetak and Bell 407
Date of Medical Examination	: 28/08/2012
Med. Exam valid upto	: 28/02/2013
FRTTO License	: Valid
Last flown on type	: 04.01.2013
Total flying experience	: 3814:00 hours approx
Experience on type	: 2661:35 hours approx
Experience as PIC on type	: 2242:35 hours approx

Total flying experience during 90 days : 139:00 hours
Total flying experience during 30 days : 52:35 hours
Total flying experience during 07 Days : 00:30 hours
Total flying experience during 24 Hours : 00:30 hours

1.6 Aircraft information:

Alouette III helicopter was designed in the year 1964 and was being manufactured by HAL as “Chetak”. The main rotor system has fully articulated main rotor head having all three hinges namely, Flapping, Dragging and Feathering.

Alouette III helicopter bearing SI. No. AH-240 has a three bladed lifting rotor and an anti-torque tail rotor. It is powered by a Turbomeca "Artouste III B" turbine engine and is capable of carrying six passengers plus one pilot. It was manufactured by M/s Hindustan Aeronautics Ltd., Helicopter Division, Bangalore in the year 1979. The helicopter is fitted with a tricycle landing gear consisting of a main gear unit and a nose gear unit provided with a centering cam, which acts for angles up to +/-45° relative to the center line of the helicopter. The maximum height of helicopter to top of main rotor lifting eye, at empty weight is 3.090 in (10 feet 1.6 inch).

Fully articulated head is prone to ground resonance. For this type of Main Rotor Hub, (Fully Articulated Head) any hard contact with the ground can send shock wave to the main rotor head, resulting in the blades of a three-bladed rotor system moving away from their normal 120 deg relationship to each other. This could result in something like 122, 122 and 116 deg between blades. When one of

the other landing gear strikes the surface the unbalanced condition could be further aggravated.”

The helicopter was registered in India and was issued with Certificate of Registration No. 2185/3 in Cat. 'A' on 29.11.2006 with owner and operator as M/s Prabhatam Aviation Pvt. Ltd. Certificate of Airworthiness No. 1717 was issued in NORMAL Category having subdivision 'PASSENGER'. The last revalidation of Certificate of Airworthiness was done on 25.05.2012 & the certificate was valid till 24.05.2013. Aero-mobile license no. A-074/001-RLO (NR) was valid till 31.12.2016.

As on 03rd Dec 2012 the helicopter had logged 6240:55 Airframe Hours and 4467:15 Engine Hours. The last major inspection (400 Hrs/1 year schedule) was carried out on 02.04.2012 at New Delhi. All subsequent lower inspections were also carried out as per approved inspection schedule before the incident, whenever due. The maintenance of the helicopter was carried out by DGCA approved maintenance & repair organization (MRO) as per CAR 145. The MRO is approved for the maintenance of Alouette III helicopter fitted with Artouste IIIB/B1 engine upto 800 hrs/4 years inspection schedule.

There was no snag reported after the last inspection performed on the helicopter.

1.7 Meteorological information:

The following are the extracts from relevant METARs of the date of incident:

Time (UTC)	Wind Dir	Speed (kts)	Visibility	Clouds	QNH	Trend
0730	310	03	1.2 Km	NIL	1015	Becoming 1500 Mtrs
0930	320	04	2 Km	NIL	1016	--
1000	320	04	2 Km	NIL	1016	--

1.8 Aids to navigation:

At IGI airport, the VOR/DME, ILS landing facility and PAPI are available on either side of all the three runways.

1.9 Communications:

There was always two way communication between the ATS and the aircraft.

1.10 Aerodrome information:

The following are the relevant details of the IGI airport New Delhi

Co-ordinates

ARP : N 28° 34' 07"
E 077° 06' 44"

Elevation : 778' Ft.

Runway Orientation and dimension

Orientation- 10/28 Dimension 3810 x 45 (M)
11/29 Dimension 4430 x 60 (M)
09/27 Dimension 2813 x 45 (M)

The fire fighting services available is CAT – 10. The meteorological services are available round the clock. Trend forecast and briefing is available. Flight documentation is provided in Chart and Tabular form in English language. The communication between ground control and helicopter was carried out on 121.9 MHZ.

1.11 Flight recorders:

Helicopter was neither required nor fitted with any of the flight recorders.

1.12 Wreckage and impact information:

The wreckage was self contained. The helicopter impacted the ground at an angle with pitch up attitude. During impact there was damage to the tail boom and main rotor blades.

1.13 Medical and pathological Information:

The PIC had undergone Pre-flight medical examination including Breath Analyzer (BA) test. The BA test was negative.

1.14 Fire:

There was no fire after the incident.

1.15 Survival aspects:

The incident was survivable.

1.16 Tests and research:

Nil

1.17 Organizational and management information:

The operator is a non schedule operator (NSOP no 3/2005) providing helicopter charters and passenger service. It has a fleet of four helicopters namely Alouette III, two Eurocopter AS350 B3 and a twin engine Eurocopter EC 135. The organisation is headed by Chairman, who is also Accountable Manager. The day to day operations are under CEO and COO. The CEO controls all activities concerning operations and maintenance. He is also responsible for interacting with the regulatory authorities in order to ensure that the regulations are implemented and manuals updated. He is also to ensure that in case of any accident/incident necessary action is promptly taken.

DGCA approved MRO was responsible for maintenance of the helicopter on day to day basis and was carrying out all the maintenance activities along with the rectification of defects/snags pertaining to all systems within the scope of approval granted by DGCA. It was maintaining relevant records in conformity with DGCA regulation in force and as per manufacturer's recommendations. As per the MOU between the operator and MRO, the MRO was required to deploy qualified certifying staff to ensure maintenance and certification of the aircraft. It was also required to inform any maintenance task which was deferred for later accomplishment and comply with airworthiness directives, service bulletins and

modifications for the helicopter and also assist in compilation of technical records and their control.

As per the MOU, the operator was required to supervise and advise the maintenance task to be performed by MRO and to provide the airframe hours, cycles on weekly basis to facilitate maintenance task. The operator was also required to provide all the necessary spares, consumable and special tools required for the maintenance tasks and also provide pilots for mobilizing the helicopter to/from the hanger and for any check/test flight as may be required as a result of any maintenance activity. The COO duties are to ensure that the flight dispatch office prepares passenger manifest & trim sheets for each flight and record of this is maintained for inspection by DGCA. He is also responsible to ensure safe, smooth and efficient operation and carry out all the administrative function of the organization.

The operator has got their office in the city at Jhandewalan, New Delhi. The Accountable Manger, Chief Executive Officer, Chief Operations Officer and heads of safety, training & operations have got their offices at the above premises. The maintenance is provided by DGCA approved MRO and is carried out at IGI airport.

The Flight Safety Manual was submitted to DGCA in July 2010 and certain observations were made by the DGCA and Flight Safety Manual was resubmitted in May 2013. Approval of chief of flight safety was valid till Dec 2012. The chapter 01 of their Flight Safety Manual contains requirements of CAR M i.e. Continuing Airworthiness Maintenance Exposition. As per the organization chart there is a post of chief of flight safety and deputy chief of flight safety. The responsibilities of chief of flight safety as per the resubmitted manual is to ensure that a flight safety manual is

prepared which describes the airline's safety policy and procedures that all employees are familiarized with the manual and comply with the same. Further, Flight safety manual is to be reviewed and amended periodically so that its contents are in compliance with the current requirements/changes, to establish a reporting system which provides for a timely and free flow of safety-related information.

The pilot operating the incident flight was designated as Chief of Flight Safety by the operator. The flight safety department was required to prepare monitoring checklist to enable the operator to carry out the checks thoroughly. As per the Flight Safety Manual the flight safety organization shall maintain a record of the checks carried out by them and of any deficiencies observed. They shall also take prompt action to have the deficiencies attended to. CAR Section 5 Series F Part I requires that periodic returns for compliance of the CAR shall be sent by the operator to the concerned Regional Air Safety Office with a copy to the Director of Air Safety, DGCA Headquarters. The operator is also required to carry out regular in flight monitoring of their flight operations to ensure compliance with the operating procedures. Based on the experience of flight operations, the operator is required to issue operations circulars to eliminate any weak or potentially dangerous area in their operations.

1.18 Additional information: NIL

1.19 Useful or effective investigation techniques: NIL

2. ANALYSIS

2.1 Serviceability of the helicopter:

The helicopter was operated under Non-Scheduled Operator's Permit No. 03/2005 which was valid at the time of incident. The Certificate of Airworthiness was current and was valid up to 24.05.2013. The Aircraft was holding a valid Aero Mobile License no. A-074/001-RLO (NR).

The helicopter and its engine is being maintained as per the maintenance program consisting of calendar period/ flying Hours or Cycles based maintenance approved by DGCA. All major inspections and subsequent all lower inspections (Preflight checks, Service Checks, Weekly Checks) were carried out as and when due before the incident.

All the concerned Airworthiness Directive, Service Bulletins, DGCA Mandatory Modifications on this helicopter and its engine have been complied with as on the day of incident.

The defect records were scrutinized and there was no defect pending on the aircraft prior to the flight. No Minimum Equipment List (MEL) was invoked prior to the incident.

In the month of April 2012, one main rotor blade was hit by a foreign object and sustained damage on the trailing edge. After the incident Main rotor blades were removed from the helicopter and sent to M/s HAL (overhauling facility). In the month of Nov 2012 main rotor blades were received from the overhauling facility. After receiving, the blades were installed on the helicopter on 01.12.2013. After installation, aircraft was offered for ground run to carry out track and balance check by flag method. The helicopter was planned for in

flight VIBREX check enroute to Greater Noida on 04.01.2013 during which it met with an incident.

Serviceability of the helicopter is not a factor to the incident.

2.2 VIBREX check of Helicopter:

The main rotor blades of the helicopter were changed and after carrying out ground vibrex, the helicopter was supposed to undergo in-flight vibrex check (to check dynamic balancing of main rotor blades in flight). In case the main rotor blades in-flight are not dynamically balance, it can cause initiation and diversion of resonance.

On the day of incident vibrex equipment was installed for the purpose of carrying out vibrex checks. The helicopter was started at bay no. 130 and track & balance check was again carried out on ground, which was found satisfactory. The helicopter was therefore cleared for track and vibration check during hover. During hover both track and balance checks were found satisfactory. The helicopter was cleared for flight by the ATC but as the visibility was below minima, pilot requested ATC for taxiing back the helicopter to hanger no.1. On improvement of the visibility, the helicopter was once again started in front of hanger no. 1 and taxied towards 'E' taxi way. At the junction of 'E' taxiway and the maneuvering area in front of hanger no. 1, the helicopter met with an incident and inflight vibrex check could not be carried out.

2.3 Weather:

The weather reported at 0730 UTC was below minima (less than 1500 m) so the flight was rescheduled till the weather improved. At 0930 UTC the weather reported was visibility 2 km with surface

winds 320/ 04kts. Accordingly the helicopter started taxiing for taking off from IGI airport and to land at Greater Noida. The visibility and other weather conditions were satisfactory for the conduct of flight and has not contributed to the incident.

2.4 Location of the incident:

As per the pilot, “as the helicopter moved onto the ‘E’ taxiway on an uneven surface, vibrations were felt and the helicopter appeared to be going into ground resonance”. At the point where the incident has occurred is uneven as the taxiway ‘E’ is approximately few cms. higher than the adjoining maneuvering area. In addition there is also an un-flush lighting point protruding outside, which can also contribute to imbalance the helicopter while the helicopter is taxiing under power.

2.5 Safety oversight and Safety Management System (SMS)

The operator has prepared manuals such as flight safety, operations etc. which elaborates the safety oversight responsibilities of the senior officers of the organization and the management. No documented systems were however in place, to indicate that the safety oversight functions were carried out in true spirit. The requirements of establishment of SMS have been laid down by DGCA and all operators by this time are required to have procedures in place. Safety Management System was non-existent in the organization. Better laid down procedures of hazard identification definitely can avoid such incidents.

2.6 Pilot handling & circumstances leading to the Incident:

The helicopter was parked in front of hanger No. 1. The start up for the helicopter was approved after reaching on E. The helicopter confirmed that the startup is approved after reaching taxiway E. Further the ground control informed the helicopter that Special VFR start up is approved, which was confirmed by the helicopter and by adding that "VGK is starting up". To which the ground control asked for the position of the helicopter. The helicopter intimated that they are starting up in front of hanger no. 1 short of E. Immediately ground control asked VGK to confirm that the helicopter is on taxiway E. The helicopter replied in negative and ground once again approved the start up only after reaching on E, which was acknowledged by the helicopter. The pilot has started the helicopter in front of hanger No. 1 despite the clearance given by ground to start the helicopter only at taxiway 'E'.

While taxiing out, it probably encountered ground resonance. The main rotors were at full operating rpm, the pilot had picked up the helicopter to a hover as per flight manual. While at hover, the vibrations were not reducing but on the contrary increasing. The helicopter was fully loaded and at approximately maximum all up weight. During hover the blades were at maximum angle of attack and the coning angle of the blades was also at maximum. Pilot lowered the collective in hurry from the hover height, which resulted in blades moving down at a faster rate and reaching a position lower than the normal. The helicopter at the same time had made a sudden touchdown with the ground causing main oleos to compress more than the normal and during the extension moving the tail upwards. This relative movement of blades coming down and tail

moving up simultaneously caused the main rotor blades to contact and damage the stabilizer/tail boom.

The helicopter intimated ground control that there is some problem with the helicopter and helicopter is switched off on E. The ground control asked the helicopter to confirm, if operations were normal and helicopter replied in affirmative. Thereafter the helicopter informed ground control that it is clear off E and going off the air. The helicopter was then pushed back to front of hanger no. 1 by the technical staff of maintenance agency and the pilot.

3. CONCLUSIONS:

3.1 Findings:

1. The Certificate of Airworthiness and the Certificate of Registration of the aircraft was valid on the day of incident.
2. The Certificate of Release to Service was valid on the day of incident.
3. All the concerned Airworthiness Directives, Service Bulletins, DGCA Mandatory Modifications on this helicopter and its engine were found complied with.
4. There was no defect reported or pending rectification prior to the incident.
5. Pilot was having valid license and other ratings to undertake the flight. His medical was valid on the day of incident.
6. The weather at Delhi was fine with visibility and has not contributed to the incident.
7. The helicopter was fully loaded and the all up weight was close to maximum permissible weight.
8. The Helicopter Main Rotor Blades had been changed and in flight Vibrex check was to be carried out.

9. The Vibrex equipment used to carry out ground Vibrex was the analog one.
10. The Helicopter was started in front of Hanger Number 1 at 'E' taxi way, and was in the process of taxing out on to 'E' taxi way.
11. From parking space in front of Hanger Number 1 to 'E' taxi way, due to the level difference, the helicopter has to climb on to the taxi way and the helicopter nose up attitude while negotiating this level difference is considerable and careful handling is required.
12. During Taxi out the Air Traffic Control had instructed the Pilot 'Not To Start' the helicopter in parking area of Hangar Number 1, but by then the helicopter had already started up and was taxing towards 'E' taxi way.
13. Main Rotor system has Fully articulated Main Rotor Head, having all three hinges namely, Flapping, Dragging and Feathering.
14. Fully articulated head is prone to ground resonance.
15. The Helicopter while taxing out from parking area in front of Hangar Number 1 on to taxi way 'E' encountered ground resonance.
16. The helicopter was going in for in flight Vibrex recording for the main rotor blades (Dynamic balancing). In case the main rotor blades were not dynamically balanced, it can cause initiation and divergence of resonance.
17. As the Main Rotors were at full operating RPM, the Pilot picked up the helicopter to a hover as per flight manual.

18. As the helicopter was at approximately maximum all up weight during hover, the blades were at maximum angle of attack and coning angle of the blades was also maximum.
19. PIC lowered the collective in a hurry from hover height which resulted in blades moving down at a faster rate and reaching a position lower than normal.
20. There was hard touchdown causing main oleos to compress more than normal and during extension moving the tail to rise more than normal.
21. Blades coming down and tail moving up simultaneously caused the Main Rotor Blade and Stabilizer/tail boom, come in contact, resulting in the damage.

22. The pilot who is also chief of flight safety of the organization intimated to the ATC that there is some problem with the helicopter and the helicopter is switched off on 'E'. Thereafter the helicopter was pushed from 'E' to the parking area in front of hanger No. 01 without following any procedures.
23. The ground control asked specifically if the operations were normal to which the helicopter has replied in affirmative.

3.2 Probable cause of the incident

During taxiing, for undertaking an in-flight vibrex recording, for the main rotor blades, the helicopter went into ground resonance. In order to control the resonance, the pilot picked up the helicopter for hover, but as the resonance could not be controlled, the helicopter was hurriedly put down which resulted in the main rotor blades contacting the Stabilizer/tail boom with consequential damages. The

undulated surface at the place of incident probably contributed to the initiation of resonance.

4 SAFETY RECOMMENDATIONS

1. GMR may be advised to remove the unevenness at the junction of taxi way 'E' and the parking area in front of hanger No. 01 at IGI Airport, New Delhi.
2. Operator may be advised to formulate and execute procedures for carrying out meaningful oversight on the day to day operations and the MRO.
3. The operator may be advised to follow the laid down procedures in case of any incident or accident to their helicopter.
4. DGCA may consider discontinuing the ground track check with the flag method.
5. The operators may be advised to ensure that their pilots adhere to the instruction of ATC/Ground.


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