Military Aviation Authority

MAA

This Interim Report contains facts which have been determined up to the time of issue. It is published to inform the military chain of command, aviation industry and the public of the general circumstances of this serious incident and should be regarded as tentative and subject to alteration or correction if additional evidence becomes available.

20140704-Lynx_ZF540_SI_Interim_Report

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INTERIM REPORT FROM THE SERVICE INQUIRY INVESTIGATING THE ACCIDENT INVOLVING LYNX MK9A ZF540 ON 26 APRIL 2014

(All times Local)

Headline

1. The investigation into the Lynx Mk9A accident[1] of 26 April 2014 is ongoing and a number of Technical and Human Factors lines of inquiry are being pursued. Whilst not yet in a position to confirm the cause of the accident, the Service Inquiry Panel is confident that the cause was not related to enemy action.

Introduction

2. The accident involving Lynx Mk 9A ZF540 occurred on 26 April 2014 at approximately 1031 hrs, when the aircraft crashed 20 km south of Kandahar Airfield, Afghanistan, killing all 3 crew members and the 2 passengers onboard. The aircraft was based at Kandahar Airfield. At the time of the accident, the aircraft was one of a pair of Lynx conducting an air-to-ground gunnery training sortie. A team from the Military Air Accident Investigation Branch deployed to Kandahar on 27 April 2014, followed by the Service Inquiry Panel on 29 April 2014. This update presents the key facts determined up to the time of issue of this Interim Report. The Service Inquiry is ongoing and will publish its full findings in due course.

History of the Flight

3. On Saturday 26 April 2014, the crew of ZF540 briefed at 0900 hrs as the lead element (Lynx 1) of a pair of Lynx aircraft for a training sortie which would involve air-to-ground gunnery live-firing. The sortie was planned to take place between 1000 and 1130hrs, and approval was gained to carry 2 passengers in Lynx 1 to give them an insight into the role and capabilities of the aircraft to better prepare them for their duties. The weather on the day was clear skies, with 40 km visibility, an outside air temperature of +25°C and light wind; at the gunnery location, a light northerly wind was reported by the crew of Lynx 2.

4. The area (‘*range’*) selected for this live-fire exercise followed a valley-type feature, orientated roughly north-south, with desert to the west and a number of practice targets in the uninhabited mountains along the eastern side. The floor of the valley was relatively level, with a hard, rocky desert surface and several dried-up water courses running east-west from prominent re-entrants within the rocky high ground. The training serials at the range were to include: a ‘dry’ clearance run, with both aircraft flying through the range; 3 gunnery runs, with tactical scenarios to include live-firing as a pair; followed by a number of further live-fire shoots as single aircraft. These final runs would involve one aircraft entering the range to the south as the other aircraft exited to the north, with an approximate separation of 1 to 3km, heights varying from 50ft to 200ft and speeds between 60 and 80 kts. The crews planned a left-hand circuit, with the ‘downwind’ element

[1] MAA defines an accident as ‘an occurrence which results in: a person being killed or suffering major injury or an aircraft sustaining category 4 or 5 damage’ MAA02: Military Aviation Master Glossary.

being flown just to the west of the desert ridge line, followed by a descending left turn in order to set up on a south-to-north profile in the valley for the firing runs.

5. Both aircraft took-off at 1000hrs and routed to the range area at low level. The clearance run, followed by the 3 'pairs' gunnery runs, were conducted without incident. The crew of Lynx 2 were in the trail position and reported nothing untoward with the lead aircraft and that the height, speed and firing profiles were as briefed. Upon completion of the 'pairs' runs, Lynx 2 overtook Lynx 1 on the downwind leg to take up the 'lead' position.

6. There then followed live shoots as single elements, during which the aircraft were not visual with each other due to terrain masking. Upon completion of their first run, the crew of Lynx 2 commenced a climbing, left-hand turn during which the Handling Pilot briefly observed Lynx 1 descending into the range approximately 3km to the south. Lynx 2 then repositioned and conducted a second crossing shoot. Following this, during the climbing, left-hand turn, the Handling Pilot observed black smoke towards the southern end of the valley, coming from an area roughly coincident with the previously-used entry point to the range. As Lynx 2 routed to the area, the black smoke was observed to be significant and it became apparent that Lynx 1 had been involved in an accident.

Analysis

7. Analysis of the crash site, aircraft wreckage and data available indicates that Lynx 1 impacted the base of the valley at approximately 1031 hrs in a 'wings-level', nose-up attitude with forward speed and a rate of descent which are yet to be determined. Evidence available to the Service Inquiry Panel is limited. There were no survivors or eye witnesses to the accident and the aircraft sustained considerable damage in the impact and post-crash fire. Although not fitted with an Air/Flight Data Recorder, the Cockpit Voice Recorder (CVR) was recovered in reasonable condition and has captured the voice data from the last 30 minutes of flight.

8. **Enemy Action**. The area surrounding the accident site is largely uninhabited and both aircraft conducted a clearance of the area before commencing the firing runs, as did Lynx 2 immediately following the accident; surveillance aircraft were also tasked to the overhead in the immediate aftermath, none of which discovered anything to suggest enemy action. In addition, neither the wreckage nor CVR offer any indication of enemy action. Pending further evidence coming to light, the Service Inquiry Panel is confident that enemy action was not a causal factor.

9. **Technical Analysis**. The wreckage recovered equates to less than 50% of the original aircraft due to the impact and ensuing fire. Further, much of the wreckage recovered has been subject to fire damage. Nevertheless, many of the major components such as: engines; electronic engine control units; main and tail rotor gearboxes; most of the tail boom; and main rotor head unit have been recovered and are subject to strip-down and expert technical analysis. The CVR offers evidence of controlled flight and no acknowledgement by the crew of a technical malfunction. At this stage, the Service Inquiry Panel has not discovered any evidence to suggest that technical failure led to this accident, and there are no immediate safety concerns regarding the Lynx Mk9A fleet. However, considerable further technical analysis will be undertaken to ascertain to the greatest extent possible whether all the major systems were functioning correctly.

10. **Human Factors**. The Service Inquiry Panel is continuing to look into a number of Human Factors-related lines of investigation.

Conclusion

11. Whilst not in a position to confirm the cause of this accident, given the weight of evidence, the Service Inquiry Panel is confident that Enemy Action can be ruled out as a potential causal factor. The inquiry continues to pursue a standard of evidence that will allow other lines of inquiry to be closed across a range of possible causes.

Director General Military Aviation Authority