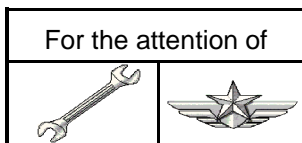


SAFETY INFORMATION NOTICE

SUBJECT: GENERAL

Update on EC225LP accident in Norway dated April 29th



AIRCRAFT CONCERNED	Version(s)	
	Civil	Military
AS332	L2	
AS532		A2 - U2
EC225	LP	
EC725		AP

A - New AIBN report:

The latest AIBN report issued on June 28th, 2016 mentions:

- "At this stage of the investigation, the AIBN finds that the accident most likely was the result of a fatigue fracture in one of the second stage planet gears. What initiated the fatigue fracture has not yet been determined."
- "Scenarios under consideration as part of this investigation have included failure of a suspension bar attachment or failure of the MGB conical housing as the initiating event. The investigation activities since the previous report do not suggest that either of these scenarios were the initiating event. "

Airbus Helicopters takes note of the AIBN's preliminary report update and welcomes the significant progress made by the investigation. We continue to focus our efforts on providing assistance to the investigation team and the authorities as they work toward the identification of the accident root cause.

In parallel, we are putting precautionary measures in place to support our global customers and address potential initiating events. This SIN describes all AH precautionary measures.

B - Investigation progress and precautionary measures: Airbus Helicopters views

As explained in SIN 3043-S-00 dated May 30th, 2016 four possible initial events were still open:

- 4) MGB conical housing failure
- 5) Jamming (seizing) of the epicyclic module
- 6) Opening of the MGB fixed ring gear following internal epicyclic module damage
- 7) Suspension bar attachment failure

Regarding event 4) MGB conical housing failure, AH still assesses the conical housing rupture as a consequence and not as a cause. Work is in progress to definitely close this scenario.

Regarding event 5) Jamming (seizing) of the epicyclic module, AH observes that the jamming event is contradicted by available evidences. Work is in progress to definitely close this scenario.

Regarding event 6) Opening of the MGB fixed ring following internal epicyclic module damage: this potential initial event is under specific scrutiny following the metallurgical findings of fatigue and surface deterioration in the outer race of a second stage planet gear of the MGB epicyclic module. The cause for the initiation of the fatigue fracture remains to be determined. It may be the followings:

- a) Unusual event suffered by the MGB (for example a transport incident)
- b) FOD in the MGB
- c) Other MGB causes (including manufacturing process, metallurgical issues,...)

Some tests and calculation are being performed on the second stage planet gears.
The purpose of these tests is to reproduce the fatigue crack, determine its origin and better define its speed propagation

Airbus Helicopters has introduced the following precautionary measures:

For a) and b): EASB 05A049 (EC225LP), 05A045 (EC725AP), 05.01.07 (AS332L2), 05.00.82 (AS532A2/U2) :

- Identification of the epicyclic modules which have been involved in an unusual event since new or Complete Overhaul, for a return for Complete Overhaul.
- Inspection of the MGB oil filter and chip detectors after the last flight of the day

For c) : EASB 63A030 (EC225 LP), 63A029 (EC725AP), 63.00.83 (AS332L2), 63.00.38 (AS532A2/U2) issued on June 29th, 2016 asks for a systematic replacement of specific second stage planet gears of the epicyclic module with another type.

As a precautionary measure, it was decided to maintain only one of the two types of epicyclic module second stage planet gears in service. This decision is based on the following observations on the planet gear type maintained in service:

- The detailed design of the planet gear bearing has an increased damage tolerance
- Modeling and calculation reveal a lower load level on the external race of the planet gear bearing
- In service experience shows enhanced reliability

Regarding event 7) Suspension bar attachment failure

- Several tests on the installation are ongoing in AH facilities to close this scenario.
- AH released, for the EC225 and EC725, on 2nd June, 2016 EASB 53A057 and 53A059 requesting a complete reset of the installation in order to correct some observed discrepancies

C - Conclusion

All the seven scenarios listed in SIN 3043 are closed, in progress to be closed and / or addressed by a precautionary measure.

Scenarios 1); 2); 3) were considered closed in SIN 3043.

Scenarios 4) and 5) are in the process to be closed.

Scenario 6) is addressed by EASB 05A049 (EC225LP), 05A045 (EC725AP), 05.01.07 (AS332L2), 05.00.82 (AS532A2/U2) and 63A030 (EC225LP), 63A029 (EC725AP), 63.00.83 (AS332L2), 63.00.38 (AS532A2/U2)

Scenario 7) is in the process to be closed. EASB 53A057 (EC225), 53A059 (EC725) remains applicable.