



AW139 Lightning strike

AW Customer Support Lunch Orlando, 7th March 2011



Short background story...

- Susanne H. Lastein;
 - CEO and owner of Bel Air Aviation in Denmark
 - AW139 😳 captain
 - married to Bjarne, we have 6 kids aged 3 to 18
 - living next to Bel Air at Holsted heliport

Bel Air Aviation;

- family owned company with a professional board
- started in 1994, expanded into offshore in 2009
- 45 flexible, dedicated, experienced employees
- operating 3 offshore AW139 1 owned, 2 leased
- AgustaWestland Service Center



Where there's a will, there's a way



- AW139 exceptional statistic;
 - 99.8% on time performance 4 delays - 1700 flights – 6300 takeoffs
 - Helicopter availability 98.8% including scheduled and unscheduled maintenance
 - Customized flexibility for every flight; 2 till 15 pax version, VIP, cargo, sling
 - 1 AW139 in operation the first year only 7 days backup due to 1 year check



A lightning strike in the North Sea

- On Saturday 27th November 2010, our AW139 helicopter experienced a Lightning Strike during an offshore mission.
- Weather was snowy and no thunderstorm activity in the area.
- During cruise, the pilots heard a loud bang outside followed by a CAS message HEATED WINDSHIELD FAIL.
- Pax went back to sleep again so he felt as comfortable as the pilots themself.
- The helicopter flew further 20 minutes to the platform and landed without noticing any problems.



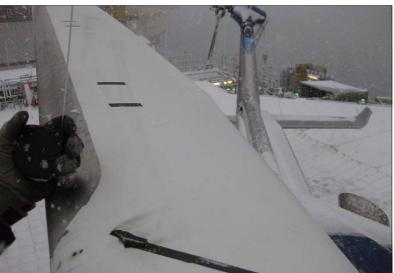




AOG on the platform...



- After landing our Bel Air technician noticed damages on the tail plane and on four MR Blades.
- The helicopter was AOG on the platform.
- We contacted AW 24.7 Fleet Operations Centre and additional manpower from Bel Air was send to the platform right away.
- As a natural solution, other helicopters was leased to fulfill the continous flight schedule for Maersk Oil.







Working in very hard environment...

 Bel Air employees started the preminary lightning strike inspektion on the platform with support from Agusta – Maersk Oil employees, the Bel Air pilots and Bel Air engineers was a great team in this though environment.

Everybody still remember working in windy and snowing weather conditions with a chillfactor of -18 degrees Celcius on the platform.





Test and inspections on the platform...



A lot of tests was performed on the platform – they were all satisfied – no fault found;

- HUMS and FDR download all parameters normal
- All possible selftest performed
- DCU download performed
- MGB upper deck inspected
- Flight controls
- Electrical system functional checked
- Avionic system tested
- Detailed inspection of the tail and tail boom







Bel Air need of AW 24.7 support...

- We were almost in hourly contact with AW 24.7 support operation center to get the helicopter back onshore for inspections.
- On 29th November, a ferry flight to our maintenance base was granted by AW Engineering team, having replaced the four Main Rotor Blades on a cautionary basis and after a lot of inspections on the platform.
- On the following day four new Main Rotor Blades were shipped by AW, direction North Sea.





A team-working experience



- On 30th November the new Blades arrived at the Esbjerg offshore harbor, ready to be dispatched by a Maersk vessel.
- The vessel was able to deliver the four Blades on 2nd
 December, after the weather conditions became acceptable for crane operations offshore.
- On 3rd December EASA approved the Ferry Flight and the aircraft left the platform and landed safely at our Bel Air main base one hour later.







7 days inspections was made day and night by our 12 engineers:

- MR Head (fully disassembled)
- MGB
- IGB removed for inspection
- Fuselage
- Tail boom
- Flight controls
- Hydraulic system
- Aft floats
- Avionic system
- in cooperation with AgustaWestland.







Back in flight again...



...the aircraft was finally released into service on **10**th **December**, having replaced:

- Tail plane
- 5th MR Blade
- MR Duplex Bearing
- MGB, for AW investigation

There have been no after-effects with the helicopter due to the lightning strike.









Bel Air conclusion;

The AW139 helicopter is a fantastic machine - able to continue flight operation after being hit by lightning strike without the pilots and passengers noticing it.

The AW 24.7 Fleet Operations Centre and the whole team behind did a fantastic job together with a very dedicated Bel Air team – everybody was working day and night to get our helicopter airborne again.

Thank you very much 🙂









New generation helicopter

- due to the high certification standard of the AW139 it was possible to safely continue flight after the lightning strike.
- Bel Air appreciate the AW139 safety
 level very, very much as the responsible
 manager it was so nice to be able to
 inform the families and our team, that



everybody involved was well after they experienced a lightning strike in our AW139 ...



Generation