

# Enroute A380 wake flips Challenger 604 upside down

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## New Guidance to Crews and Controllers issued March 19th, 2017

We normally don't report on individual aircraft incidents here, because the causal factors are related to a very narrow set of unique circumstances.

This instance is different, and should be of concern to all operators.

A Challenger 604 at FL340 operating from Male-Abu Dhabi passed an A380 opposite direction at FL350, one thousand feet above, about 630nm southeast of Muscat, Oman, over the Arabian Sea.

A short time later (1-2 minutes) the aircraft encountered wake turbulence sending the aircraft into an **uncontrolled roll, turning the aircraft around at least 3 times (possibly even 5 times), both engines flamed out, the aircraft lost about 10,000 feet** until the crew was able to recover the aircraft, restart the engines and divert to Muscat. The aircraft received damage beyond repair due to the G-forces, and was written off.

An official report is to be published by the German BFU. In the interim, the complete set of circumstances can be read at Aviation Herald.

### **The current synopsis is copied here:**

An Emirates Airbus A380-800, most likely registration A6-EUL performing flight EK-412 from Dubai (United Arab Emirates) to Sydney,NS (Australia), was enroute at FL350 about 630nm southeast of Muscat (Oman) and about 820nm northwest of Male (Maldives) at about 08:40Z when a business jet passed underneath in opposite direction. The A380 continued the flight to Sydney without any apparent incident and landed safely.

The business jet, a MHS Aviation (Munich) Canadair Challenger 604 registration D-AMSC performing flight MHV-604 from Male (Maldives) to Abu Dhabi (United Arab Emirates) with 9 people on board, was enroute over the Arabian Sea when an Airbus A380-800 was observed by the crew passing 1000 feet above. After passing underneath the A380 at about 08:40Z the crew lost control of the aircraft as result of wake turbulence from the A380 and was able to regain control of the aircraft only after losing about 10,000 feet. The airframe experienced very high G-Loads during the upset, a number of occupants received injuries during the upset. After the crew managed to stabilize the aircraft the crew decided to divert to Muscat (Oman), entered Omani Airspace at 14:10L (10:10Z) declaring emergency and reporting injuries on board and continued for a landing in Muscat at 15:14L (11:14Z) without further incident. A number of occupants were taken to a hospital, one occupant was reported with serious injuries. The aircraft received damage beyond repair and was written off.

Oman's Civil Aviation Authority had told Omani media on Jan 8th 2017, that a private German registered aircraft had performed an emergency landing in Muscat on Jan 7th 2017 declaring emergency at 14:10L (10:10Z) and landing in Muscat at 15:14L (11:14Z). The crew had declared emergency due to injuries on board and problems with an engine (a number of media subsequently reported the right hand engine had failed, another number of media reported the left hand engine had failed).

According to information The Aviation Herald received on March 4th 2017 the CL-604 passed 1000 feet below an Airbus A380-800 while enroute over the Arabian Sea, when a short time later (1-2 minutes) the aircraft encountered wake turbulence sending the aircraft in uncontrolled roll turning the aircraft around at least 3 times (possibly even 5 times), both engines flamed out, the Ram Air Turbine could not deploy possibly as result of G-forces and structural stress, the aircraft lost about 10,000 feet until the crew was able to recover the aircraft exercising raw muscle force, restart the engines and divert to Muscat.

The Aviation Herald is currently unable to substantiate details of the occurrence, no radar data are available for the business jet, it is therefore unclear when the business jet departed from Male and where the actual "rendezvous" with the A380 took place. Based on the known time of the occurrence at 08:40Z as well as the time when the CL-604 reached Omani Airspace declaring emergency and landed in Muscat, as well as which A380s were enroute over the Arabian Sea around that time The Aviation Herald believes the most likely A380 was EK-412 and the "rendezvous" took place 630nm southeast of Muscat, which provides the best match of remaining flying time (2.5 hours) and distance for the CL-604 also considering rather strong northwesterly winds (headwind for the CL-604, tailwind for the A380s).

On Jan 7th 2017 there were also other A380-800s crossing the Arabian Sea from northwest to southeast: a Qantas A380-800, registration VH-OQJ performing flight QF-2 from Dubai to Sydney, was enroute at FL330 about 1000nm southeast of Muscat and about 400nm northwest of Male at 08:40Z. An Emirates A380-800 registration A6-EDO performing flight EK-406 from Dubai to Melbourne, VI (Australia) was enroute at FL350 about 470nm southeast of Muscat at 08:40Z. Another Emirates A380-800 registration A6-EUH performing flight EK-424 from Dubai to Perth, WA (Australia), was enroute at FL350 about 350nm southeast of Muscat at 08:40z.

The Aviation Herald received information that Air Traffic Control all around the globe have recently been instructed to exercise particular care with A380s crossing above other aircraft. The Aviation Herald had already reported a number of Wake Turbulence Encounters involving A380s before:

Incident: Virgin Australia B738 near Bali on Sep 14th 2012, wake turbulence from A380

Incident: Air France A320 and Emirates A388 near Frankfurt on Oct 14th 2011, wake turbulence

Accident: British Airways A320 and Qantas A388 near Braunschweig on Oct 16th 2011, wake turbulence injures 4

Report: Antonov A124, Singapore A388 and Air France B744 near Frankfurt on Feb 10th 2011, wake turbulence by A388 causes TCAS RA

Report: REX SF34 at Sydney on Nov 3rd 2008, wake turbulence injures one

Incident: Armavia A320 near Tbilisi on Jan 11th 2009, turbulence at cruise level thought to be A380 wake

MHS Aviation told The Aviation Herald, that they can not provide any further details due to the ongoing investigation, Germany's BFU is investigating the occurrence (which confirmed The Aviation Herald's assumption, that the occurrence was over international waters, Germany as state of registration of the accident aircraft thus being responsible for the investigation).

Authorities in Oman have so far not responded to inquiries by The Aviation Herald.

In response to our inquiry summarizing the known information so far as described above (however, mistakenly assuming the date of the occurrence was Jan 8th 2017 based on the information thus far) Germany's BFU confirmed that they are leading the investigation. The occurrence happened already on Jan 7th 2017 at 08:40Z. The BFU is unable to provide further details at this time (in particular to which A380 caused the wake turbulence) because these details are subject to investigation. By Mar 8th 2017 no safety recommendations have yet been issued by the BFU. A preliminary report is estimated to be included in the January 2017 bulletin (which according to "tradition" should be released by mid of March 2017, however, the release of the Jan bulletin can currently not be estimated because so far only the August 2016 bulletin has been released by the BFU, the remaining 2016 bulletins are still being worked on).