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Articles

Guest Article: The Aerotoxic Association

The Aerotoxic Association was officially launched at the Houses of Parliament, London on 18th June 2007. But where does the word 'Aerotoxic 'come from?

The term aerotoxic syndrome was proposed in 1999 to describe the association of symptoms observed amongst flight crew such as pilots and flying officers or cabin crew such as flight attendants, cabin managers exposed to hydraulic or engine oil vapours or mists.

Does this refer to exhaust fumes or fuel vapours from aircraft which could be damaging to health? No, not many passengers realise that all of the 'fresh' air that they breathe on most jet airliners has come part way through the jet engine. The high pressure air is bled off and called 'bleed air' it is then piped into the air conditioning units and finally into the cabin to provide pressurised air, necessary to sustain life at high altitude where the air is thin.

Prior to the mid 1960's all of the air on board was indeed fresh but then engineers discovered that they could save a lot of weight by using the bleed air alone.

This is all well and good while the system is in good condition, but as with all mechanically driven equipment, it can become worn and leaky. The jet engine requires oil for lubrication and as it gets very hot, it also takes surplus heat away. But what if this hot oil were to mix with the bleed air, which is then piped into the cabin?

It is not too hard to imagine that on occasions, the oil fumes and air could mix to contaminate the air, which is then breathed by everybody on board.

How might the oil fumes be dangerous? Aircraft engine oil has a special additive called tricresyl phosphate or TCP. It is from a group of chemicals called organo phosphates. These were originally designed many years ago to damage the central nervous system of living organisms but they were also found to have other properties. When added to oil, they make the engine last much longer and have some fire retardant properties. In recent years there has been much talk about airline health ailments such as Deep Vein Thrombosis (DVT) and now researchers at The Research Institute for Sport and Exercise Sciences at John Moore's University in Liverpool have written in *The Lancet* that Jet lag may affect passengers, just as much as the aircrew. The symptoms of jetlag are poor and interrupted sleep, mood changes, headaches, irritability and gastrointestinal difficulties.

However, the warning on the oil tin and on Manufacturers Chemical Data Sheets states:
Warning!:

-Contains tricresyl phosphate

-Swallowing this product can cause nervous system disorders including paralysis

-Prolonged or repeated breathing of oil mist, or prolonged or repeated skin contact can cause nervous system effects.

So here we have very similar symptoms and a definite possible cause of ill health. What then may be the cause mysterious ill health on aircraft? Jet lag or simply breathing contaminated air or a combination of both.

Extensive medical research by respected independent International Scientists in recent years has shown that some pilots and cabin crew have become chronically and acutely sick from contaminated air; equally many have no symptoms. TCP has even been found covertly on the walls of the aircraft by swab testing.

Over a hundred MP's from the UK House of Commons are now demanding that existing jet aircraft have filters fitted to remove any contaminants. Each filter system would cost around £15,000. The fitting of contaminated air detectors on board would also seem a sensible and long overdue move on behalf of aircrew and passengers, who readily and trustingly place their health and well being in the hands of the Airlines. It must be remembered that everybody, from the aircrew to low cost passengers and Royalty, breathe the same air on jet aircraft which use bleed air. One may well ask why aircraft manufacturers aren't going back to the pre 1960's technology. Coincidentally perhaps, that is exactly what is happening; jet engine bleed air is beginning to go out of fashion now in favour of electrically compressed air. In the short term, perhaps aircrew and passengers would be wise to fit their own nose filters. Aerotoxic Association has been specifically set up by prematurely retired ill health air crew to support, inform and represent other pilots, cabin crew, engineers and passengers. If you are exposed to abnormal fumes on an aircraft, worry. The answer may be under your nose.

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If you have been affected by any of the issues raised in this article, and would like to receive advices, then please contact HolidayTravelWatch without delay.

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