



## **AIR LINE PILOTS ASSOCIATION**

### **HAL MEC CENTRAL AIR SAFETY COMMITTEE**

### **HAL MEC AEROMEDICAL COMMITTEE**

## **PILOT ALERT SAFETY BULLETIN**

### **Purpose:**

This HAL MEC ALPA Pilot Safety Bulletin is being re-issued in response to continuing intermittent cabin fumes events, mainly occurring on the A330 aircraft. This bulletin will assist you in the proper recognition, response, and reporting of cabin fume events in the aircraft cabin if and when they occur.

### **Primary Information Source Document:**

ICAO Circular 344-AN/202 Guidelines on Education, Training and Reporting Practices Related to Fume Events.

### **International Federation of Air Line Pilots Association (IFALPA) Position Paper on Cabin Air**

#### **Quality:**

Refer to this [linked document from IFALPA](#) regarding cabin air quality issues.

### **Background:**

For years, the aviation industry has had reports of fumes or odors in the aircraft. Most of the odors detected were benign and harmless. In some instances however, cabin fume events may impair crew members and could potentially impact the safe operation of the aircraft.<sup>1</sup> Therefore, flight and cabin crew members should be able to recognize, characterize, respond to, and report fume events.

### **What are the possible sources of smoke and fumes in the aircraft?**

While most cabin air quality issues may be smelly and unpleasant, they typically do not make you sick. There are many potential sources of unpleasant odors, fumes, smoke, and haze in the cabin and cockpit. Aircraft sources of odors and fumes can include the aircraft's bleed air supply and ventilation system that could contain vaporized engine oil, hydraulic fluid, aircraft engine exhaust, ground service vehicle exhaust, fuel, deicing fluid, electrical faults, and ozone. More recently, it has been suspected that the routine chemical engine washes being conducted on the A330 are also a possible source of the cabin fumes. Cabin sources of odors and fumes can include the galleys, lavatories, cleaning products used onboard, electronic equipment, cabin insect spraying, new interiors and carpets, people (perfume, smokers, etc.), and possibly an item in carry-on baggage.

### **How do people describe the smell of these fumes?**

Most commonly, fumes in the cabin are described as smelling like dirty socks, smelly feet, or having a musty or moldy quality. Other descriptors include wet dog smell, acrid, electrical odor, foul, vomit-like, chemical, oily, noxious, old cheese, and pungent. Describing odors is subjective. Reports from multiple crewmembers on the same aircraft can describe the odor differently because the sense of smell varies

widely between individuals. Also, be aware that if you are continuously exposed to fumes or odors, over time you can develop olfactory fatigue or “nose blindness,” such that you will not notice the smell anymore. This is similar to someone walking into a room with a heavy perfume or cologne smell that gets noticed right away. However, the longer the person remains in the room the smell seems to disappear. Effectively reporting the description of the fumes will aid in the potential source of the fumes and allow proper corrective action to be made.

### **Isn't exposure to contaminated air only a problem if I can see smoke or haze?**

**NO!** Some contaminants whether sourced to the ventilation air, or an item in the cabin or flight deck, are typically odorous but are not usually accompanied by visible smoke or haze. For example, Carbon Monoxide is a colorless (and odorless) chemical that has the capacity to incapacitate or eventually kill a person if inhaled in sufficient quantities for a prolonged period of time. Crew members should not assume that visible signs of contaminants (e.g. smoke or haze) must be present in order to immediately report them.

### **Isn't the air in the aircraft filtered before I breathe it?**

In the B767 and A330, the recirculated air you breathe while airborne is filtered through the cabin HEPA filters. These filters are primarily for dust and other larger particles contained in the air. Some microscopic chemical particles can still get past those filters and into the aircraft's cabin air supply. The B717 uses 100% air from the outside and no recirculated cabin air.

### **What are the physical symptoms?**

Potential acute symptoms from exposure to oil or hydraulic fluid fumes include: irritated eyes, sinus congestion, respiratory symptoms, gastrointestinal upset and neurological symptoms.<sup>2</sup> The most common symptoms of Carbon Monoxide poisoning are headache, dizziness, weakness, upset stomach, vomiting, chest pain, and confusion (disorientation.)<sup>3</sup> Neurological symptoms may downgrade a crew member's performance during flight operations in areas such as: alertness, attention span, information processing, working memory and response time. Symptoms may develop slowly, and degraded performance may not be initially obvious.<sup>4</sup>

### **What should I do if I smell an unusual odor or get a call of an odor in the cabin during flight?**

If you detect an unusual odor or fumes in the cockpit, experience sudden unexplained physical symptoms (immediate coughing, irritated eyes or throat, dizziness, confusion, weakness, nausea), or get a call from the flight attendants reporting a noxious odor in the cabin you should **IMMEDIATELY DON THE OXYGEN MASK** (and smoke goggles) to prevent pilot incapacitation<sup>5</sup>.

You should not delay this very important step, even if you do not smell anything in the cockpit. While donning the oxygen mask may be deemed as extreme, delaying putting it on may put you, the crew, passengers, and the entire aircraft at risk if you become incapacitated from breathing potentially hazardous fumes or chemicals.<sup>6</sup>

Sometimes, the source of the odor isn't very obvious. Quickly try to identify the source of the odor. Are the fumes coming from the bleed air ventilation system or from either an item / person inside the aircraft?

Call the First Flight Attendant and query whether they are noticing the odor or feeling the same symptoms. Verify with them that there is no fire in the cabin or lavatory, that nothing smelly is being heated in the galley ovens, that the coffee pots are not empty and overheating, that the galley chiller is functioning properly, and the cabin lights are working and not shorted out. Keep the lines of communication open to the cabin until it is verified that the source of the fumes is not located in the cabin.<sup>7</sup>

Depending on the severity of the situation, refer to the specific guidance contained in the aircraft's QRH. If necessary, notify ATC of your situation. Depending on the severity of the cabin fume event, you should consider diverting and/or landing as soon as possible.

**I think I may have been exposed to fumes during my flight, what should I do after I block in?**

1. Seek immediate medical attention for you or any crew member needing it.
2. Before you leave the aircraft, make a highly detailed aircraft maintenance logbook entry regarding the fume event. Include the phase of flight, carefully describe the odor, state if the odor was noticeable in the cockpit/cabin or both, state whether visible smoke also present, include all actions taken.
3. Use the Hawaiian Airlines Smoke and Fumes Reporting Form located in the forms binder in the cockpit to further assist in the description and location of the fumes. Take a photo of the completed document with your phone. Leave the completed form with the mechanic or in the Maintenance Logbook.
4. Notify HA Dispatch and especially HA MOC about your event.
5. Speak to a line mechanic if possible so they can fully understand your write-up.
6. File an electronic Pilot's Report of Incident detailing the circumstances of the fume event. If the Flight Attendants were also exposed to the fumes, get the crew list and further encourage them to file an In-Flight Incident Report.
7. Report the incident to the HAL MEC Aeromedical and Central Air Safety Committee for further assistance and independent follow-up.

**Do I need to see a doctor?**

For air quality issues that do not cause any obvious symptoms, seeing a doctor may not be necessary. However, potential acute symptoms from exposure to oil or hydraulic fluid fumes include: irritated eyes, sinus congestion, respiratory symptoms, gastrointestinal upset, and neurological symptoms such as dizziness or an inability to concentrate.<sup>8</sup> The most common symptoms of Carbon Monoxide poisoning are headache, dizziness, weakness, upset stomach, vomiting, chest pain, and confusion (disorientation).<sup>9</sup> **If you have any of the above listed symptoms or are just not feeling normal, then you should see a doctor immediately--DO NOT DELAY THINKING THAT WITH PASSING TIME YOU WILL FEEL BETTER.** Notify the Chief Pilot (or any Flight Operations Manager) as soon as possible that you have been injured while on duty<sup>10</sup> so that the process may be started for you to file a Workers' Compensation claim.

You may want to bring the following two documents to any doctor appointment:

Two-page ["Quick Reference For Health Care Providers: Health Impact Of Exposure To Contaminated Supply Air On Commercial Aircraft"](#) written by an occupational physician, funded by the DOT/FAA, and intended to educate other physicians on the health implications of aircraft air supply contamination and the Material Safety Data Sheet (MSDS), Product Safety Data Sheet (PSDS), or Safety Data Sheet (SDS) for the product that likely/definitely contaminated the air supply system.

The Association of Flight Attendants (AFA) has a written guide ["What Your Doctor Needs to Know"](#) for your physician. While primarily focused for the flight attendants, the document contains information that you may find useful.

There is other useful information on aircraft air quality on the AFA website and they can be accessed [here](#) and some practical information can be found [here](#).

**Note:** The Air Line Pilots Association, International provides the above hyperlinked documents as a courtesy to its members and **assumes no liability** for the accuracy of the information contained in the above linked documents.

**Using the Hawaiian Airlines Smoke and Fumes Reporting Form and Aircraft Logbook Write-Up**

Hawaiian Airlines has created a standardized aircraft fumes reporting form for all aircraft. It is located in the forms binder in each aircraft cockpit. You may want to grab a blank form from the binder and keep it in your flight kit. Captains and/or the First Flight Attendant should use this form to document a fume event on the aircraft. Make a detailed aircraft maintenance logbook entry of the event. Contact HAL Maintenance Control at (808) 838-5510 and advise them of your fume event. If possible, speak to the HA (or HA contract) maintenance representative before leaving the airport. Leave the completed smoke/fumes reporting form with the maintenance representative or leave it in the aircraft logbook. Make a legible photo copy of the completed form (front and back) and forward it to the HAL MEC Aeromedical and/or Central Air Safety Committee (see contact information below).

If you have any further questions on cockpit/cabin fumes or would like some additional information, please contact me or Capt. Peter “Clay” Searl, HAL MEC Aeromedical Chairman ([clay.searl@alpa.org](mailto:clay.searl@alpa.org) or at 808-284-3915).

Be safe, fly safe,

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<sup>1</sup> Section 2.1.2, ICAO Circular 344-AN/202 Guidelines on Education, Training and Reporting Practices Related to Fume Events

<sup>2</sup> Section 2.5.2, ICAO Circular 344-AN/202 Guidelines on Education, Training and Reporting Practices Related to Fume Events

<sup>3</sup> U.S. Center for Disease Control (<http://www.cdc.gov/co/faqs.htm>)

<sup>4</sup> Section 2.5.3, ICAO Circular 344-AN/202 Guidelines on Education, Training and Reporting Practices Related to Fume Events

<sup>5</sup> Section 3.2.1 a), ICAO Circular 344-AN/202 Guidelines on Education, Training and Reporting Practices Related to Fume Events

<sup>6</sup> Sections 2.5.3 and 2.6, ICAO Circular 344-AN/202 Guidelines on Education, Training and Reporting Practices Related to Fume Events

<sup>7</sup> Section 3.2.1 c), ICAO Circular 344-AN/202 Guidelines on Education, Training and Reporting Practices Related to Fume Events

<sup>8</sup> Sections 2.5.2, 2.5.3 and 3.2.1 d), ICAO Circular 344-AN/202 Guidelines on Education, Training and Reporting Practices Related to Fume Events

<sup>9</sup> U.S. Center for Disease Control (<http://www.cdc.gov/co/faqs.htm>)

<sup>10</sup> Hawaiian Airlines Workers’ Compensation Policy (01-08-07)