

No phone zone

Why mobiles, laptops and other electronic devices are just plane unfriendly.

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THE USE OF Personal Electronic Devices (PEDs) on aircraft has come under the spotlight in the last few weeks, with CASA plans to change the regulations to introduce fines for passengers for unsafe use of these items. The question is being asked – just how dangerous are PEDs and how can they affect flight operations?

Most recently, the New Zealand Civil Aviation Authority reported on two aircraft incidents said to have been caused by mobile telephones being used during flight. In one, an aircraft cruising on autopilot suddenly rolled 30 degrees after a mobile phone rang in a bag in the cockpit.

Research by the Civil Aviation Authority (UK) has shown that signals from mobile telephones can reflect inside metallic surfaces in the aircraft.

This can reinforce their signal, allowing them to interfere with aircraft instruments. What this means in practice is that a passenger does not have to use the phone, or even have it in their cabin baggage, for it to affect instruments.

A passenger who packs a mobile which is switched on in their checked baggage should be aware that this could contribute to interference with equipment on the flight deck.

Emergency landing: In January this year a Slovenian airliner made an emergency landing after instruments showed there was a fire onboard. In fact, the electronics system had malfunctioned



due to a portable phone in the baggage compartment, which had not been switched off.

Examples of other PED related incidents reported include problems with loss of autopilot, heading, airspeed and attitude indicators, course director indicators, the compass and navigational radios.

Incidents were blamed on a wide range of PEDs, including mobile phones, laptops, CD players and even a set of earphones being used as part of a hearing aid.

A mobile phone may have been responsible for the crash of a Saab 340 in Zurich last year, killing all

10 people on board.

Investigators have already shown in tests that a mobile telephone will disrupt the navigation system of the Saab 340. Now the UK Civil Aviation Authority is investigating whether a call was made or a message sent just before the crash.

PEDs and air rage: Educating passengers about the possible dangers of using PEDs is even more important when you consider reports that a proportion of "air rage" incidents are triggered by the prohibition of these items.

One survey showed that only alcohol featured more often as a

cause of such incidents. In one extreme case in 1999 a British traveller was sentenced to a year in jail for refusing to switch off his mobile telephone.

NASA Langley and Delta Airlines are currently embarking on a three-year study that they hope will assist them in identifying specific aircraft system anomalies that may be caused by particular PEDs.

However, the vast range of devices, and the speed with which they are developing, raises real problems with aircraft manufacturers developing an aircraft that is guaranteed against PED interference.

One of the difficulties in promoting the safety aspects of restricting or banning PED usage is the unpredictability of their effects.

An unusual laptop: Boeing is one manufacturer that has tried to duplicate PED interference for research purposes, even to the extent of purchasing a laptop that had reportedly caused a problem on a London to Paris flight.

The same laptop was flown on the same route in the same seat but did not duplicate the alleged interference with the autopilot.

The uncertainty surrounding the PED issue is one that can only grow, given the increasing numbers of travellers who own one or more of these devices.

The new regulation will protect both pilots and the travelling public from the consequences of PED interference with avionics. The risk may be small but it is still very real.