

# AEROSPACE INFORMATION REPORT

**SAE** AIR4740

REV. A

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Superseding AIR4740

## Safety Considerations – Smoking in Lavatories of Transport Aircraft

### RATIONALE

This Document has been replaced by ARP4740 published Nov 2009.

### CANCELLATION NOTICE

This document has been declared "CANCELLED" as of November 2010 and has been superseded by ARP4740. By this action, this document will remain listed in the Numerical Section of the Aerospace Standards Index noting that it is superseded by ARP4740.

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## 1. SCOPE:

This SAE Aerospace Information Report (AIR) discusses the question of smokers and their opinions and intentions toward smoking in lavatories of transport aircraft during flight. The study has implications for instructions and warnings given to passengers.

## 2. REFERENCES:

### 2.1 Applicable Documents:

The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other documents shall be the issue in effect on the date of the purchase order.

2.1.1 SAE Publication: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

2.1.1.1 ARP577 Emergency Placarding - Internal and External

2.1.2 U.S. Government Publications: Available from Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

2.1.2.1 U.S. Department of Transportation (DOT) Regulation, 14CPR 252.5

### 2.1.3 Other Publications:

2.1.3.1 Mohler, Stanley R., M.D., Dept. of Community Medicine, Wright State University, School of Medicine, Dayton, OH 45435

2.1.3.2 Johnson, Daniel A., A Survey of Smoker's Attitudes and Intentions Toward Smoking in Lavatories During Flight, Interaction Research Corporation, 1991, 1220 E. Fourth Street, Olympia, WA 98506

### 3. BACKGROUND:

Many airlines do not allow passengers to smoke during flight. And no U.S. airline can allow passengers to smoke during U.S. flights of 6 h or less in duration (Reference 2.1.2.1). However, it is well known that nicotine users suffer withdrawal symptoms over time. As the deprivation period increases so does the subjective need for nicotine intake (Reference 2.1.3.1). When not allowed to smoke in the cabin some will go to the lavatories to smoke.

Lavatory smoking poses a fire safety problem if burning materials are placed in a receptacle containing combustibles. Though fire extinguishers may be in place, it is possible burning material in an overloaded container may still cause a fire.

### 4. SURVEY:

Fifty smokers were surveyed to determine their attitudes and intentions toward smoking on future flights (Reference 2.1.3.2). Average age of the 30 men and 20 women was 28, and included teenagers to those in their sixties. On average, they had taken four flights each in the past two years, and 65% had flown since the U.S. ban on smoking was established.

As the described length of flight increased from 1 h, to 3h, to 5 h the percentage who stated they would be tempted to smoke rose from 4%, to 18%, to 32%, respectively. While 84% said they would not smoke in the lavatory even if tempted, 10% said they might, and 6% said they would smoke in the lavatory on future flights.

About 18% said the smoke detector in the lavatory would probably not stop them from smoking. Several methods for avoiding detection were reported including covering of the detector, smoking into holes (e.g., sink or toilet when being flushed), removing the detector from the wall, or removing the batteries from the detector.

While 67% thought the reason for not smoking in the lavatory was a danger of fire, 22% thought it was for odor control, and 11% did not know the reason for the rule.

### 5. ESTIMATED INCIDENCE OF LAVATORY SMOKING:

About 30% of the U.S. adult population smokes. If we assume 30% of passengers also smoke, and if 32% of smokers are tempted to smoke on long flights and if half of them intend to smoke in the lavatory (as the survey results indicate), then about 5% of passengers can be expected to smoke on flights of 5 h or more:

- a.  $(.30 \text{ of pax. smoke})(.32 \text{ tempted})(.5 \text{ intend to smoke in lav.}) = 4.8\% \text{ intend to smoke in lavatory on long flights}$