

# Airlines ordered to install new fuel system to reduce chance of explosion

By Leslie Miller  
THE ASSOCIATED PRESS

WASHINGTON — The government will order airlines to install a system to reduce the chance of fuel tank explosions like the one that downed a TWA Boeing 747 in 1996, Federal Aviation Administration chief Marion Blakey said Tuesday.

The decision affects about 3,800 Boeing and Airbus aircraft operated by domestic airlines.

In the past 14 years there have been three fuel tank explosions, including the TWA accident, resulting in 346 deaths. Blakey said the new device could eliminate up to four accidents over the next 25 years.

"We have a plan that will virtually eliminate fuel tank explosions aboard aircraft," Blakey said at a news conference.

A cost-benefit analysis still must be done and airlines need time to plan for the change, so the requirement is not expected to take effect for at least two years. Once the rule is issued, the so-called fuel-tank inerting program will be phased in over seven years. During that time existing planes will have to be retrofitted with the device and new planes will have them as standard equipment.

Some jetliners may be fitted with the systems before they're required. Jim Proulx, Boeing spokesman, said the company plans to start producing new planes and retrofitting existing ones late next year.

TWA Flight 800 crashed off the coast of Long Island, N.Y., on July 17, 1996, killing all 230 people aboard. The National Transportation Safety Board blamed the accident on an explosion, saying vapors in a partly empty fuel tank probably were ignited by a spark in the wiring.

The accident prompted FAA scientists to step up research aimed at eliminating potential ignition sources for such explo-

sions and reducing the flammability of vapors in fuel tanks.

They came up with a way to make fuel vapors less likely to ignite. The system pumps air flowing from the aircraft engine into yard-long, 8-inch-wide canisters. A ropelike substance in the canisters filters oxygen and water from the air. The resulting nitrogen-rich mixture, which is much less likely to combust than normal air, is pumped into fuel tanks. The filtered oxygen and water is dumped off the aircraft.

Though the new system probably wouldn't be fitted onto all planes that need it until 2013, the FAA has already ordered airlines to make 60 changes to eliminate possible ignition sources, Blakey said.

For example, in 2002 the FAA told airlines to replace fuel pumps that have faulty wiring. The agency also ordered airlines to fly certain model jetliners with extra fuel to prevent fuel pumps from overheating.

But the government might not have identified all the ways a spark could possibly ignite fuel, Blakey said. The new system would add a safety net by making it nearly impossible for fuel to explode.

NTSB Chairman Ellen Engleman-Conners said the new system is essential.

"Ignition-source prevention alone cannot protect transport airplanes from this potential danger," Engleman-Conners said in a statement. "The issue of fuel flammability had to be confronted."

The FAA estimates the cost between \$600 million and \$700 million, Blakey said, or between \$140,000 and \$220,000 per aircraft.

In 2001, a government-industry task force concluded it would be too expensive — up to \$20 billion — to retrofit airliners with the equipment neces-

## Safety device for airlines

The government will order airlines to install a system to reduce the chance of fuel tank explosions.

### On-Board Inert Gas Generation System

Engine air cooled to 180 degrees



Oxygen is separated from air.

Oxygen reduced air goes into fuel tank lessening the risk of explosion.

SOURCES: Federal Aviation Administration; Associated Press

sary to pump nonflammable nitrogen into fuel tanks.

But Ivor Thomas, a former Boeing scientist who went to work for the FAA, made several research breakthroughs within the past two years that allowed FAA scientists to develop a cheaper, simpler solution.

The FAA thought it was necessary to reduce the oxygen to 10 percent of the air siphoned from aircraft engines into fuel tanks. Thomas discovered that oxygen only needed to be reduced to 12 percent. The air we breathe is 21 percent oxygen.

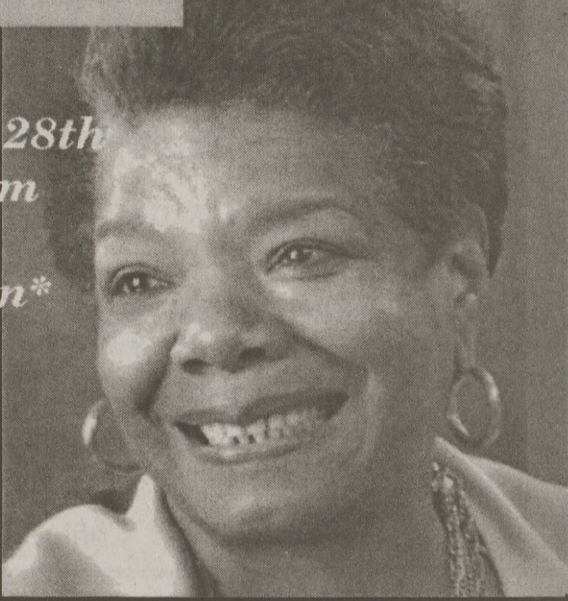
Thomas also discovered that nitrogen would remain in the fuel tank, which eliminated the need for a compressor to force it to stay.

Some airlines, such as Southwest and JetBlue, will be affected more than others by the rule because their fleets are made up entirely of Boeing or Airbus jets.

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Rudder Auditorium  
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### NEWS IN BRIEF

#### Study finds violence, unlabeled content in video games

CHICAGO — Many teen-rated video contain content that is not listed on the label, including sexual themes, alcohol and profanity, a study found.

Given the results, parents should be aware that popular T-rated video games might include a wide range of unexpected content that could have a negative influence on their children, said Harvard University researchers Kevin Haninger and Kimberly Thompson.

The current voluntary rating system "is not providing complete information to parents," Haninger said. "In many games there's content we think parents would care about."

The authors reviewed labels on all 396 mainstream T-rated video games available as of April 2001, and watched a random sample of 87 games. Violence was listed in content labels on 373 games, or 94 percent; 15 percent were labeled as having sexual themes; 14 percent were labeled for profanity; and 2 percent were labeled for depicting substances such as tobacco or alcohol.

## Liberal Arts Career Week

### "Resume Day"

Wednesday, February 18, 2004

Blocker lobby & Harrington south outside

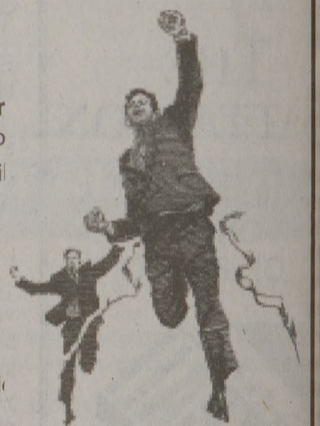
- \*Have your resume critiqued for presentation to pro
- \*Helpful hints on how you can best present your skill

### "Liberal Arts Career Fair"

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