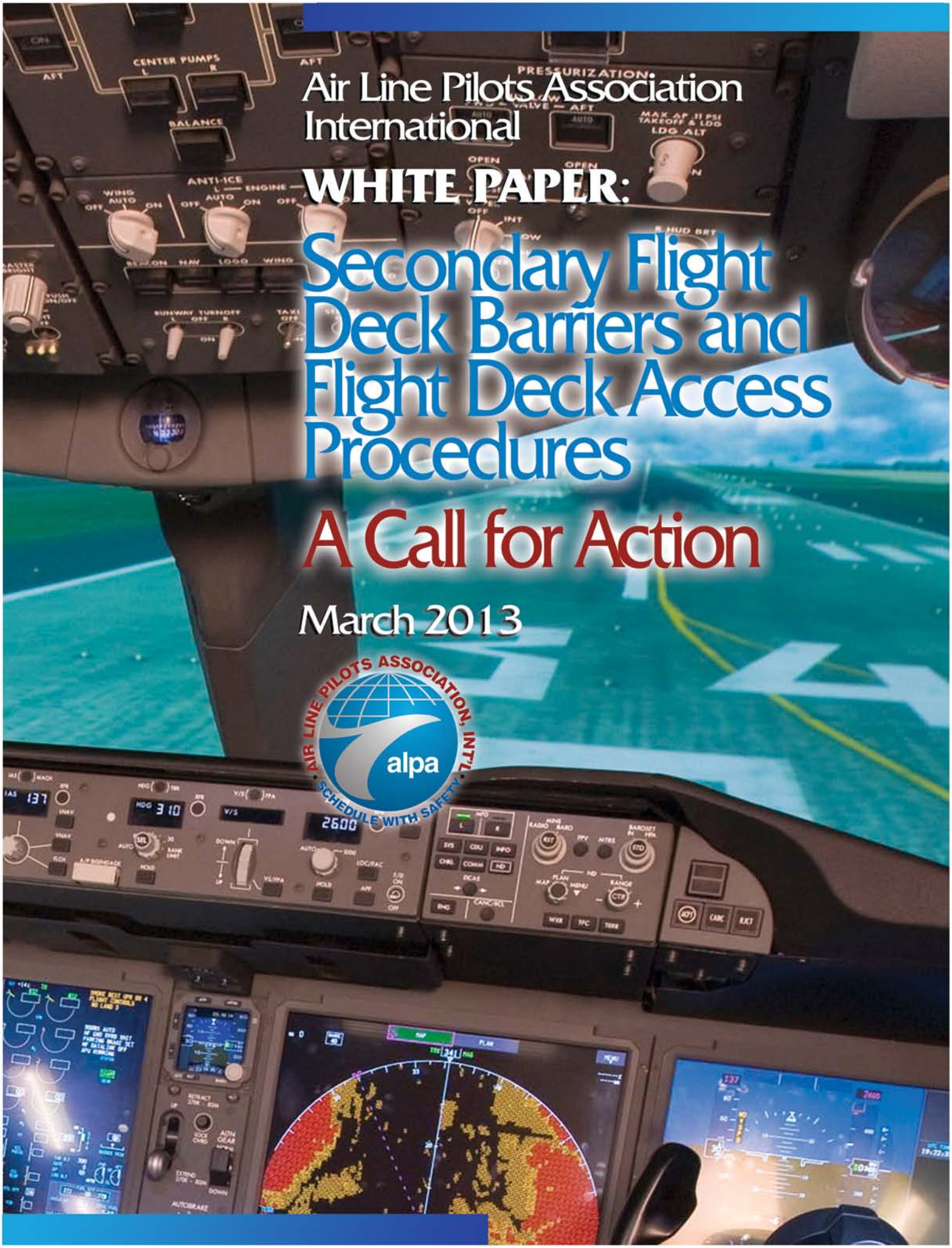

Air Line Pilots Association International

WHITE PAPER:

Secondary Flight Deck Barriers and Flight Deck Access Procedures

A Call for Action

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ALPA WHITE PAPER
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Secondary Flight Deck Barriers and Flight Deck Access Procedures
A Call for Action

A secondary barrier, accompanied by standardized procedures for protecting the flight deck door when opened in flight, significantly augments the fortified door and adds an important layer of security to prevent hostile takeover of the flight deck.

The Air Line Pilots Association, International (ALPA), founded in 1931, represents the safety and security interests of nearly 51,000 pilots who fly for 35 U.S. and Canadian domestic and international passenger and all-cargo airlines. To learn more about ALPA, visit www.alpa.org.

Executive Summary

Reinforced flight deck doors, mandated by the U.S. Congress and Canadian Parliament after the terrorist attacks of Sept. 11, 2001, have added a valuable level of protection to airliner flight decks. However, reinforced doors alone do not provide a complete solution to the problem they were intended to resolve. There are times when operational necessity requires that the flight deck door be opened in flight. That period, however slight, represents a vulnerability that must be addressed. An installed physical secondary barrier, accompanied by standardized crew procedures for protecting the flight deck when the reinforced door is opened in flight, will significantly augment the intended benefits of the fortified door and other TSA-approved onboard protective measures, and add an important layer of security to prevent hostile takeover of the flight deck.

Pursuant to a request from the Federal Aviation Administration (FAA), RTCA, a private, not-for-profit corporation that functions as a federal advisory committee, developed secondary barrier system guidelines containing design characteristics, minimum performance criteria, and installation and certification guidance. RTCA Special Committee (SC)-221 developed and published these guidelines in September 2011 as DO-329.[1] This document provides the FAA with guidance needed to develop and issue a clear interpretation of Federal Aviation Regulation (FAR) 121.584 to its principal operations inspectors as they evaluate an airline's security procedures for compliance. It also provides airlines and manufacturers with approved design standards that are suitable for meeting FAA aircraft equipment requirements for the production and installation of secondary barriers.

ALPA believes that the guidance of RTCA document DO-329 should be followed by all air carriers in installing physical secondary flight deck barriers on all aircraft fleets and in implementing appropriate crew flight deck access procedures.

The Threat Is Real

Government intelligence agencies remain concerned that terrorist organizations will seek to hijack airliners to use them as improvised weapons of mass destruction. Despite improved worldwide government and industry attempts

[1] RTCA document DO-329, Aircraft Secondary Barriers and Alternative Flight Deck Access Procedures, September 28, 2011

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A Call for Action

to prevent persons likely to engage in this criminal behavior from boarding airliners, individual hijacking attempts continue to occur.

There have been 10 hijacking attempts around the world since 2007. Three of the incidents involved two or more attackers, three incidents involved the use of a firearm, one involved the use of a knife, and, in three of the incidents, the hijackers claimed to have an explosive device. Each of these events represented a serious threat to the flight deck. In a 2008 incident involving a New Zealand airliner, both pilots received cuts when the hijacker attacked them with a knife while demanding that the flight be diverted to Australia, and one passenger also sustained injuries in the struggle to overpower the hijacker.

In light of the fact that terrorists are known to repeat their successes and attempt to correct their failures, government sources confirm that the threat of hijacking resulting in the use of an airliner as a weapon of mass destruction is legitimate and ongoing.

A reinforced door

Operational Experience with Reinforced Doors

After Sept. 11, 2001, the U.S. Congress and Canadian Parliament mandated that airlines replace standard flight deck doors with reinforced doors on certain types of airliners. The reinforced flight deck door has proven to be a valuable enhancement to flight deck security for those aircraft.

If the door could remain closed and locked throughout all flight operations, flight deck security would be better ensured. However, operational experience has shown that, on many flights, the flight and/or cabin crewmembers must open the flight deck door during extended operations for a variety of reasons, including crewmember coordination, meal service, and the pilots' physiological needs. During this time of opening and closing, known as "door transition," the protective characteristics of the fortified door are negated and the flight deck becomes vulnerable to attack. Additionally, if aggressors were to gain entry to the flight deck during door transition and lock themselves inside, the intended benefit of the reinforced door would become a liability and facilitate the commandeering of the aircraft.

Crew Procedures and Supplementary Measures

The reinforced door is a vital element in flight deck protection, but it alone is not sufficient to protect the flight deck from attack. This fact is recognized in 14 CFR 121.584(a)(1), which specifies that the flight deck door may not be unlocked unless "the area outside the flight deck is secure." This protocol is similarly required by Canadian Aviation Regulation (CAR) 705.45(3). As a result, many airlines have established

Secondary Flight Deck Barriers and Flight Deck Access Procedures
A Call for Action

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supplemental flight deck access procedures to ensure that door transitions are made safely, securely, and expeditiously. As part of that effort, a number of airlines improvise with onboard equipment as a supplementary, interim protective barrier whenever the reinforced door is opened in flight.

For example, a flight attendant will position a galley/beverage cart across the aisle and monitor the cabin during the door transition. In some circumstances, cabin crewmembers, without the aid of additional physical devices, act as "human shields" during door transitions. While using a galley/beverage cart in the aisle with properly executed door transition procedures or deploying human shields may provide an improvised method of protecting the flight deck, these combined precautions do not establish a reliable system capable of significantly slowing and deterring a hijacker intent on seizing control of the flight deck. Further, a cabin crewmember used as a human shield to block access to the flight deck is exposed to obvious danger.

The use of such practices provides further evidence that reliance on a reinforced flight deck door, and supplementary crew procedures, does not provide a complete solution for securing the flight deck.

Flight Deck Security in the All-Cargo Environment

In the unique all-cargo segment of the airline industry, many airliners, including wide-body designs, operate with no flight deck doors at all, and, unlike their passenger counterparts, newly manufactured cargo airliners are not required to be equipped with flight deck doors. This lack of protection for all-cargo flight decks becomes more significant in light of the fact that all-cargo airliners and flight crewmembers do not benefit from the support of flight attendants, able-bodied passengers, or air marshals.

Because all-cargo airliners often carry supernumeraries (i.e., company employees or handlers of unique types of cargo), their flight crews are vulnerable to attack any time a flight deck door is not installed, closed, and locked during flight. Additionally, all-cargo aircraft are not as robustly protected while on the ground as passenger aircraft, which contributes to their accessibility to those with intent to do harm. Recent history has shown the ease with which stowaways can board all-cargo airliners, and terrorists or other persons with malicious intent can readily exploit this vulnerability. According to the TSA, hijacking and hidden explosives pose the greatest threats to the all-cargo segment of the airline industry.

All-cargo airliners are operated in the same airspace as their passenger counterparts. Cargo airliners, if commandeered, can inflict damage at least as severe as that caused by passenger aircraft, so they must be protected in the same fashion.

Secondary Flight Deck Barriers and Flight Deck Access Procedures
A Call for Action

A barrier in position as viewed from the galley.

The Solution: Secondary Barriers

Because protecting the air transportation system is critical to the national economies and defense of the United States and Canada, the security of the flight decks of passenger and all-cargo airliners must be ensured. While the reinforced flight deck door has contributed greatly to accomplishing this goal, an additional, highly effective and practical layer of security is obviously needed. Clearly, the reinforced door is only one component of a multifaceted system necessary for protecting the flight deck.

The solution to this security deficiency is a secondary barrier—a lightweight device that is easy to deploy and stow, installed between the passenger cabin or cargo deck and the flight deck door—that blocks access to the flight deck whenever the reinforced door is opened in flight. The combined system of the reinforced flight deck door and secondary barrier must be accompanied by mandatory, standardized crew procedures governing use of the secondary barrier in conjunction with opening the reinforced door. On all-cargo aircraft that do not have a door between the flight deck and cargo deck, the secondary barrier is especially needed.

Installing and using a secondary barrier, coupled with the implementation of standardized flight deck access procedures, will provide a number of security benefits to airlines and the traveling public:

- The secure zone established between the secondary barrier and the flight deck door provides a buffer area that gives the crew an opportunity to visually assess a perceived threat.

- Any attempt to breach the secondary barrier would confirm a perpetrator's hostile intent to air marshals, federal flight deck officers and other armed law enforcement officers, crewmembers, passengers enlisted to help defend the airplane and would afford them the benefit of critical extra seconds to react.

- It will create a greater deterrent effect and a more formidable obstacle to gaining access to the flight deck as compared to cabin crewmembers acting as human shields in front of the flight deck door.

Voluntary industry movement toward designing and deploying secondary barriers and flight deck access procedures began in 2003 at one legacy airline that equipped a number of its aircraft with these devices. Unfortunately, that commitment has deteriorated significantly since 2010.

Design Standards and Crew Procedures

In 2008, ALPA urged government and industry to collaborate on the development of minimum performance criteria for secondary barrier systems and flight deck access procedures. The RTCA created a special

Secondary Flight Deck Barriers and Flight Deck Access Procedures
A Call for Action

ALPA encourages all air carriers to use RTCA document DO-329 to equip their fleets with secondary barriers . . .

committee (SC-221) for that purpose, and the organization ultimately published these guidelines in September 2011 with the release of DO-329.

SC-221 participants included U.S., Canadian, and other government personnel and federal law enforcement, industry, and labor representatives. The RTCA process for developing the guidelines incorporated criteria including effectiveness; ease of installation; maintenance; impact on airplane liability insurance rates; ease of operation (i.e., functionality and impact on flight and cabin crew procedures); minimal activation and stowage time; weight; flight and cabin crew safety issues related to emergency ingress/egress situations; current and future aircraft design issues; and future adaptability of such secondary barrier devices.

ALPA encourages all air carriers to use RTCA document DO-329 in equipping their fleets with secondary barriers and in incorporating appropriate flight deck access procedures as described in that document.

Conclusions and Recommendations

The reinforced flight deck door has added a valuable level of protection, but the flight deck remains vulnerable whenever the door is unlocked and open; therefore, methods to mitigate this vulnerability must be adopted. ALPA believes that the installed physical secondary barrier is the simplest, most reliable and cost-effective means available for this purpose.

Delaying a potential attacker by five seconds via an installed physical secondary barrier, coupled with standardized crew procedures for flight deck door transitions, will add a dramatically higher level of security to protection of the flight deck.

ALPA believes that physical secondary barriers must be installed on all commercial aircraft in order to properly address the significant threat to aviation security and safety.

ALPA encourages the FAA to publish an advisory circular that provides additional guidance to the airlines about FAA interpretation of compliance with existing regulations, as well as about the installation and use of installed physical secondary barriers.


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