

All-Cargo Aircraft, Security and Safety FAA Modernization and Reform Act 2012

Overview:

On February 14, 2012, President Obama signed into law the FAA Modernization and Reform Act, which provides \$63.6 billion for the agency's programs between 2012-2015. It also set forth studies, reports and the direction of programs. For one such study contained in Section 805, the Congress directed the FAA to determine the feasibility of developing a physical means, or a combination of physical and procedural means, to prohibit individuals other than authorized flight crew members accessing a flight deck of an all cargo aircraft.

The following report responds to Section 805 and provides the history, methods used and safety issues considered to determine the viability of a physical barrier – most likely a reinforced door – to the flight deck of an all-cargo aircraft.

History:

Following the tragic events of September 11, 2001, the FAA carefully considered flightdeck security on all-cargo airplanes. In addition, members of Congress introduced 3 separate bills¹ to address the security of all-cargo aircraft and the crews that operated them. These bills were introduced from March through June 2003, but the 108th Congress could not agree on their content. Thus, they did not move forward. Subsequent sessions of Congress focused on an FAA reauthorization bill which was passed and signed into law after nearly 4 years and 23 extensions.

The result of the FAA's efforts was a rule that provided options. Currently, all-cargo carriers who ferry cargo into the U.S., within the domestic borders and out of the country, either install reinforced flight deck doors or have procedures that will prevent entry of intruders or an explosive package be loaded onto the aircraft.

Method Used:

To study the viability of requiring physical barriers on all-cargo aircraft, we reviewed results of extensive discussions and information collected around the time of the rulemaking effort in 2003. Nearly a decade had elapsed since the FAA considered this, so we also reviewed current literature, security methods and protocols and requested input from stakeholders as legislation directed: air carriers, aircraft manufacturers, and air carrier labor representatives. From the available resources, we have developed this summary as a report to Congress.

Summary of the Case in Favor of a Physical Barrier:

In August 2011, Airline Pilots Association (ALPA) published a 'white paper' on Air Cargo Security that stated, "...to deter those persons with malicious intent and impede their ability to attack all-cargo flight crewmembers, gain access to aircraft controls or otherwise execute a hostile takeover of an all-cargo airliner, **physical barriers must be designed and installed** to separate the all-cargo airliner's flight deck from accessible passenger and cargo areas."

¹ H.R. 1103, HR, 2455 and S 165 were introduced into the 108th Congress between March and June 2003. They bills were referred to committee and were not voted upon by both the chambers or sent to the President for signature into law.

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ALPA's analysis further referenced the Department of Homeland Security Transportation Security Administration (TSA), which stated that it considers the hostile takeover of all-cargo aircraft to be a critical risk. Despite its identification of high risks with cargo, TSA did not issue security requirements.

While the FAA quickly moved to pass a rule requiring the reinforced doors to the flight deck of passenger-carrying aircraft, the debate continued among the aviation community regarding the advantages or disadvantages of having the same requirement for all-cargo aircraft. Within the Department of Homeland Security, Secretary Janet Napolitano and her predecessors have struggled with similar issues. Some security measures have been signed into law but subsequently have proven difficult to implement. One such case is the Congressional direction to screen or inspect all cargo entering the U.S. by any transportation mode. The requirement for 100% screening came as a result of 9/11 and the related 9/11 Commission Recommendations Act of 2007. Yet, as recently as July 25, 2012, Secretary Napolitano told the House Committee on Homeland Security that this screening is not being accomplished. She stated that it is, "...not feasible, practical, affordable or causes undue interference with cargo..."

Considerations:

The all-cargo portion of the aviation industry is distinct from the passenger-carrying industry. To undertake this study, we considered several factors that distinguish cargo from passenger air carriers.

While several all-cargo carriers are household names, there are far more all-cargo carriers that have smaller fleets or just a few aircraft. They operate as "supplemental air carriers" meaning that they do not have a set schedule (they fly when the cargo load is complete) and they are available on-demand for a full load of cargo.

Cargo aircraft do not have a single interior design configuration. There are distinctive configurations of the interiors which are tailored to the type of cargo that is being carried or configured to allow for maximum flexibility in loading cargo. An example of unusual cargo that illustrates this point is race horses that are delivered for sporting events or to new owners.

One aspect of interior design important to this report is the presence or lack of doors to the flight deck. While some all-cargo aircraft have doors, many others do not. For the ones currently configured without doors, the addition of a reinforced physical barrier would necessarily mean estimating the cost of design², retrofitting and/or installation. The initial investment would be prohibitively expensive for most of the smaller carriers. Also, the addition of doors adds weight, which in turn means extra fuel consumption, and lessens the amount of cargo that can be carried in each load.

² A design change to an aircraft requires a supplemental type certification (STC).

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Cargo pilots may need to depart and re-enter the flight deck multiple times during the course of their flight to check on the aircraft and its contents. This means that if the security of the flightdeck depends on a reinforced flightdeck door, i.e., additional screening procedures are not employed, security might actually be reduced over what it is now. This is because each time the flightdeck door must be opened, security would be reduced, particularly since there are no flight attendants on these airplanes as there are on passenger carrying airplanes.

Weighing the Benefits and Risks of the Physical Barrier:

From the viewpoint of aviation safety, FAA weighed the benefits and risks of adding a physical barrier to isolate the flight deck and crew on all-cargo aircraft. The aim is to protect the crew from intruders and potentially explosive cargo. We drew experience from our rulemaking in 2003.

At the time we received comments, several operators, the Cargo Airline Association (CAA) and the Air Transport Association opposed the mandatory installation of the reinforced flight deck doors in airplanes operated for the carriage of cargo. They commented that the application of the reinforced flight deck doors was impractical for the types of airplanes involved and the installation of doors would compromise emergency egress. They also identified technical issues, such as rapid decompression, that would be difficult to address when retrofitting flight deck doors to airplanes in which no door had been previously installed. Many were opposed to the installation of flight deck doors on cargo airplanes based upon economic considerations, including cost of the doors, installation costs, and lost revenues while airplanes were out of service for modifications. They offered that the government itself should bear the cost of the doors.

The CAA represents 13 all-cargo operators, including the largest operators. The CAA argued that the unique nature of cargo operations would allow a screening program to provide the same level of security as a retrofit flight deck door.

Conclusions:

In 2003, FAA issued a rule that requires flightdeck security for all-cargo operations. This rule allows operators of large cargo airplanes to either install reinforced flight deck doors or adopt enhanced security procedures approved by the Transportation Security Administration (TSA). The procedures call for screening personnel with access to the aircraft and the cargo itself. They are recorded in the all-cargo carrier's operation specification (OpSpecs). At this writing, over 60 carriers have opted to use procedures to secure crews and cargo from threats.

We have revisited this requirement and in particular, we have reconsidered the need to mandate the installation of reinforced doors as a physical barrier to the flight deck. We believe that having procedures as an option to the physical barrier provides the necessary security and safety for the crew and public.