

Exemption No. 8618

**UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RENTON, WASHINGTON 98055-4056**

In the matter of the petition of

Raytheon Aircraft Company

for an exemption from §§ 91.613(b)(2)
and 135.170(c)(2) of Title 14, Code of
Federal Regulations

Regulatory Docket No. FAA-2005-22310

GRANT OF EXEMPTION

By letter dated August 26, 2005, Mr. John Tigue, Director, Airworthiness and Certification, Raytheon Aircraft Company, 9709 E. Central, 982/B12, Wichita, Kansas 67206, petitioned the Federal Aviation Administration (FAA) for an exemption from the requirements of §§ 91.613(b)(2) and 135.170(c)(2) of Title 14, Code of Federal Regulations (14 CFR). These operating rules require that all insulation materials installed in the cabin of a transport category airplane built after September 2, 2005, be compliant with § 25.856, flammability standards. The proposed exemption, if granted, would permit the use of hook and loop fastening material that meets the requirements of § 25.853 but does not meet the newly established requirements of § 25.856. The hook and loop material which meets § 25.856 is unavailable due to a worldwide shortage of components necessary to manufacture compliant hook & loop material. The proposed exemption is specifically for the use of hook and loop fastening material to attach insulation to the airframe of Raytheon Model 400A Airplanes, serial numbers (S/N) RK-440 through RK-491.

The petitioner requests relief from the following regulations:

Sections 91.613(b) and 135.170(c), which require compliance with the flammability requirements of § 25.856, at Amendment 25-111, for airplanes manufactured after September 2, 2005.

The petitioner's supportive information is as follows:

“Raytheon Aircraft Company (RAC) seeks an exemption which would allow the limited use of alternate hook and loop material (approximately 15 feet per aircraft) which meets the requirements of §25.853 until Aplix or any other manufacturer can supply hook and loop material compliant with §25.856. The sole manufacturer of compliant hook & loop

material, Aplix, is unable to meet the immediate needs of many manufacturers as there is a worldwide shortage of Polyphenylene Sulfide (PPS) yarn and resin which are the constituents of hook and loop material which is compliant with §25.856. The yarn and resin are in high demand by the U.S. military which has led to the resource shortage.

“Raytheon Aircraft Company has been notified by Aplix that our orders for hook and loop material compliant with §25.856 cannot be fulfilled until after mid-January as a result of the unplanned resource shortage. Raytheon Aircraft Company has determined that there is no substitute component which is compliant with §25.856 which can be used, nor is there any reasonable design change that can be implemented in lieu of a specific limited exemption.

“Raytheon Aircraft Company has determined that the following aircraft will be produced and delivered during the compliant hook and loop material shortage and RAC, therefore, asks that these aircraft receive exemption allowing the limited use of hook and loop material compliant with §25.853 in place of hook and loop material compliant with §25.856:

“Model 400A, S/N RK-440 through RK-491, scheduled for delivery from September 5, 2005, through September 1, 2006. RAC will make every effort to incorporate the Aplix hook and loop material into production as quickly as possible and considers the above affected aircraft a worse case scenario.

“Raytheon Aircraft Company has worked diligently and in good faith with the FAA to comply with the new §25.856 regulations and RAC appreciates the collaboration which has led to successful implementation of the majority of aircraft insulation components. Despite this collaboration, unforeseen material shortages based upon world events have led to the need for a specific limited exemption. RAC while testing installations using industry standard hook & loop material that meets flammability requirements of § 25.853 failed the § 25.856 test requirements. This testing was conducted in August 2005. RAC then learned the only supplier of compliant hook & loop material, Aplix, has determined they will be unable to ship material to RAC any sooner than mid-January 2006. RAC will be able to begin installation of hook & loop material compliant with § 25.856 into the Model 400A (S/N RK-492 and after) to meet delivery schedules of the following aircraft units.

“To assure the exempt aircraft remain safe, the hook and loop material used will be installed in small quantity on insulation compliant with §25.856 to assure there is no potential for fire propagation across the hook and loop material. Further, only hook and loop material compliant with §25.853 will be used as replacement as this is the safest available material substitute. A limited total amount of hook and loop material is being used in each aircraft insulation installation as an added precaution. As the safety benefit of §25.856 is based upon adjacent material compliance to §25.856, any insulation materials which are adjacent to or are in contact with hook and loop material will be compliant with §25.856. Additionally, the aircraft in which this substitute hook and loop

material will be installed carry only a small number of passengers (less than 10 seats). These guidelines assure there is no loss of safety in the aircraft being given exemption.

“Granting of this specific limited petition for exemption is in the public interest. Allowing an exemption of this limited nature benefits the public at large by assuring there will be no additional pressures to divert the PPS resin and yarn needed by the U.S. military in a time of war. The financial impact of delaying/not delivering 51 Model 400A aircraft would be devastating to RAC. The Model 400A average retail price is \$6,690,000. The resulting delay/loss of revenue of approximately 341.2 million dollars will have an immediate affect on RAC employment and a waterfall effect on local and other supplier jobs throughout the U.S. RAC employs 8,600 and has total sales of \$2.4 billion. Additionally, of the 51 aircraft, approximately 10 will be sold internationally and 20 will be sold to fractional companies. Aircraft delivered internationally helps the U.S. trade deficit with foreign trading partners. Without the exemption, the economic impact this would have on RAC employees, local business owners, the national economy, operators, owners, passengers, maintenance facilities etc., is obviously, considerable and unnecessary. RAC believes that an exemption for the hook and loop material is in the public’s interest since there is no loss in safety and granting this exemption would allow deliveries to continue uninterrupted.”

Federal Register publication

The FAA has determined that good cause exists for waiving the requirement for Federal Register publication. Any delay in acting on this petition would be detrimental to Raytheon Aircraft Company.

The FAA’s analysis/summary is as follows:

Background

Sections 91.613(b)(2) and 135.170(c)(2) require that thermal/acoustic materials installed in transport category airplanes manufactured after September 2, 2005, must meet the flame propagation requirements of § 25.856 effective September 2, 2003. The flame propagation test requirements are contained in part VI of Appendix F of part 25. This upgraded flammability standard was necessary because the previous standards did not realistically address situations in which thermal or acoustic insulation materials may contribute to the propagation of a fire. The new standard enhances safety by reducing the incidence and severity of cabin fires, particularly those in inaccessible areas where thermal and acoustic insulation materials are installed, and providing additional time for evacuation by delaying the entry of post-crash fires into the cabin.

The petition for exemption is from the requirements of § 91.613(b)(2) and § 135.170(c)(2) for the hook and loop fastener that is used to retain insulation blankets in the airplane.

The petitioner was informed by its supplier that orders for flammability compliant hook and loop material cannot be filled until after mid-January of 2006. This unplanned resource shortage is the result of component materials being diverted to meet the needs of the U.S. military. The petitioner was unsuccessful in locating another supplier. The petitioner was also unsuccessful in finding a substitute material that is compliant with § 25.856. In addition, the petitioner determined that there are no viable design changes available that can be implemented in lieu of an exemption to the requirements.

The FAA considers that it is in the public interest to issue a time limited of exemption for the following reasons:

The amount of hook and loop material is minimal (approximately 15 feet per aircraft) and it will meet the current flammability requirements of § 25.853.

Hook and loop material meeting the requirements of § 25.856 is unavailable due to a worldwide shortage of components necessary to manufacture compliant material as a result of military demand.

The applicant has worked diligently and in good faith with the FAA to comply with the new § 25.856 regulations and has successfully implemented the change for the majority of aircraft insulation components.

The effect on the flying public is further minimized as the aircraft in which this substitute hook and loop material will be installed has only 10 passenger seats or less.

Significant economic impact would be imposed on the applicant if the petition were not granted.

Although the petitioner requested a 12-month exemption, the FAA has determined that a 9-month extension is more appropriate. Assuming that materials are available in mid-January to begin installation, and assuming Raytheon will anticipate and plan accordingly, a 9-month extension will still permit approximately 6 months to incorporate the compliant hook and loop into production. The FAA considers that a six month implementation period is sufficient.

FAA's decision

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. §§ 40113 and 44701, delegated to me by the Administrator, Raytheon Aircraft Company is hereby granted an exemption from 14 CFR 91.613(b)(2) and 135.170(c)(2) to the extent necessary to allow Raytheon to install interior arrangements on Raytheon Model 400A airplanes manufactured prior to June 2, 2006, that do not meet the flammability requirements of §25.856. This grant of exemption is subject to the following provision:

The hook and loop fastener installed must meet the current flammability requirements of § 25.853.

Issued in Renton Washington, on September 6, 2005.

/S/

Kalene C. Yanamura
Acting Manager
Transport Airplane Directorate
Aircraft Certification Service