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InFO

Information for Operators

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An InFO contains valuable information for operators that should help them meet certain administrative, regulatory, or operational requirements, with relatively low urgency or impact on safety. The contents of this document do not have the force and effect of law and are not meant to bind the public in any way. This document is intended only to provide clarity to the public regarding existing requirements under the law or agency policies.

Subject: Cargo Compartment Loading Height Exceedance.

Purpose: This InFO serves to remind Title 14 of the Code of Federal Regulations (14 CFR) Part 121 Operators of systemic cargo loading height exceedances and its potential consequences/ implications.

Background: On some aircraft a red or black stripped markings or similar visual placard is installed around the top perimeter of each cargo compartment linings (both sides) for easily identifying the cargo loading height limits. When loading cargo on these aircraft, verifying that the red or black stripped markings or similar visual placard is visible, helps to prevent cargo or baggage from interfering with the functioning of the fire protective features of the compartment. Federal Aviation Administration (FAA) surveillance on United States (US) Operators' cargo loading operations has revealed systemic non-compliances with baggage and cargo being loaded above the allowable height in the forward and aft cargo compartments, on various make/ model aircraft.

Discussion: Part 25 §§ 25.855 (f), Cargo or Baggage Compartments and 25.858, Cargo or Baggage Compartment Smoke or Fire Detection Systems requires the following:

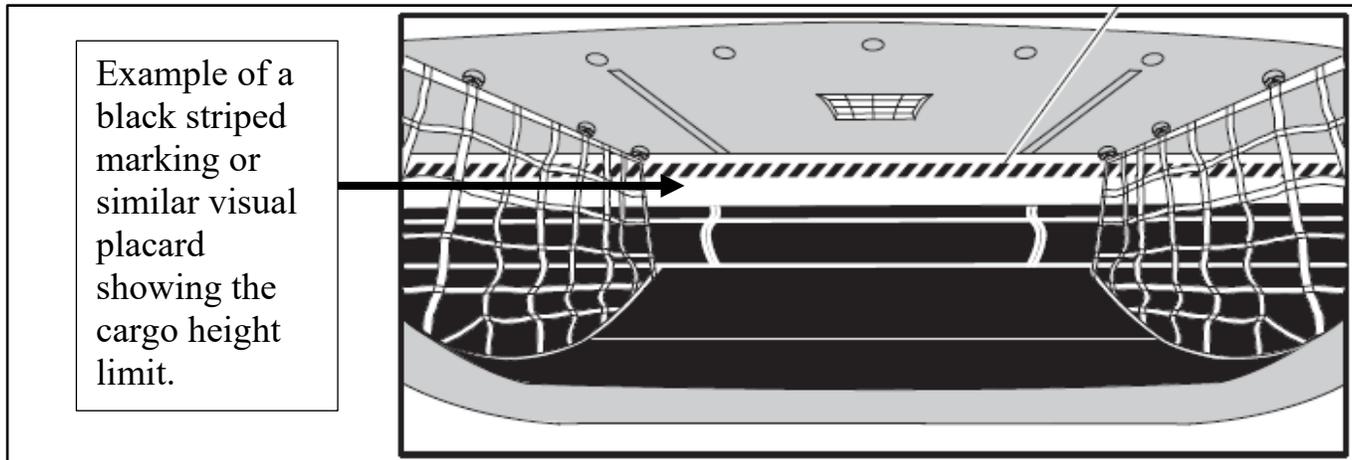
- § 25.855 (f). There must be a means to prevent cargo or baggage from interfering with the functioning of the fire protective features of the compartment.
- § 25.858. Smoke or fire detection systems with provisions listed in (a) (b) (c) and (d).

Many Design Approval Holders (DAH) have elected to use a vertical gap between the cargo and ceiling as a means of compliance to ensure air and suppression flow throughout the compartment. A common gap used on several airplanes is 2 inches, however the rule does not require a specific height. Regardless of the height, if such a gap is used, it should be documented as a limitation in the airplane's Aircraft Flight Manual (AFM)/Weight and Balance Manual (WBM) or placard. A common misunderstanding is that all airplanes are designed to require a 2-inch gap.

AC 25.851-1, Built -in Fire Extinguishing / Suppression Systems in Class C and Class F Cargo Compartments dated February 3, 2016, now suggests in paragraph 14.1 that placards and marking should be installed to inform the operators if a gap was used by the DAH as a means of compliance. Over the last

few years, some DAHs that previously did not publish this data as a limitation or install such a placard have now elected to do so in later revisions to the airplanes AFM/WBM.

To meet the requirements of § 25.855(f), and § 25.858, many Class C Cargo compartments are composed of multiple smoke detectors and discharge nozzles. Loading cargo to the marked limits allows for smoke to circulate for detection as well as for fire retardant to be uniformly discharged for fire suppression. To ensure proper operation of the smoke detection and fire suppression systems under all operating conditions, it is imperative that the ceiling gap be maintained. The image below shows an example of the red or black-stripped marking.



During cargo loading the operator must, per § 91.9(a), verify that the red or black striped markings or similar visual placard is visible, and that the cargo does not encroach the gap area of the cargo compartment ceiling.

Cargo loaded up to the ceiling may cause a baffle effect and prevent dispersion of smoke in the compartment, resulting in delays in detection time. The proper dispersion of fire suppression agent in the compartment may also be affected if the cargo is installed in such a manner that it blocks the area surrounding the protection cage of the suppression nozzle.

Recommended Action: Part 121 Operators should be aware of the operating limitations defined in their airplanes AFM/WBM and/or compartment placards for the cargo height limitations for their fleet type and ensure that it's not being exceeded. Operators should also review current versions of their W&B manuals to determine if a gap is required for loading.

Certificate holders should perform a Safety Risk Management (SRM) Assessment. If an SRM was previously performed, then revisit the SRM, and ensure that safety risk controls are in place to mitigate the risks.

Contact: Direct questions or comments regarding this InFO to the Aircraft Evaluation Division at 9-avs-afs-100@faa.gov.