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Subject: Classifying and Using a Belly Band System as a Portable Safety Device (PSD) in Part 133 Operations.

Purpose: This Info classifies the “belly band system” used in helicopter operations as a portable safety device. It also clarifies the use of PSDs for helicopter operators performing Title 14 Code of Federal Regulations (14 CFR) part 133 Class B external-load operations that involve the carriage of persons in accordance with § 133.35. It also provides recommendations for further equipment safety improvements for § 133.35 operations.

Background: A belly band system, also known as an emergency anchor, is classified as a PSD and has been used in helicopter external-load operations involving humans. This type of PSD is typically a strap that extends through the aft cabin doors around the helicopter’s flooring and belly. It hangs beneath the helicopter between the landing gear and is inserted through the primary attaching means to serve as a secondary attaching means for the external crewmember. The PSD is intended to improve human external cargo (HEC) safety by reducing the chance of an accidental death in case the primary attaching means release system fails.

Discussion: Section 133.35 permits the carriage of persons under rotorcraft-load combination Class B. The operator must determine that personnel carried under § 133.35 meet one of the requirements as stated in the rule. This type of carriage is often done in connection with the external-load activities directly associated with power line construction, inspection, and utility maintenance. PSDs are not typically manufactured under a Federal Aviation Administration (FAA) approval process (per 14 CFR part 21, § 21.8). Also, a supplemental type certificate (STC) is not required since PSDs are not permanently installed. However, along with the jettison requirements of the primary attaching means, commonly referred to as the cargo hook, the PSD should also be evaluated by the operator to ensure:

- The materials meets the accepted industry standard of National Fire Protection Association (NFPA) 1983, or equivalent;
- The system includes installation requirements and instructions necessary for continued serviceability;
- There are provisions for a quick release;

- There is an ability to jettison without endangering the helicopter; and
- There is no sudden and/or unacceptable shift in the center of gravity.

Operator Evaluation: Use of the PSD is not required for Class B external-load operations. However, if you choose to use the PSD, you must ensure that it does not endanger the safe operation of the aircraft. This would include an evaluation to show that the load is transportable and releasable, when necessary, without hazard to the helicopter during both normal and emergency flight conditions.

Recommended Action: To fully realize the safety benefits of the PSD, it must be adequately maintained. The crews utilizing the device must be trained. In addition, operators should apply the additional equipment upgrades associated with HEC.

1. Inspect and maintain the PSD. The operator should inspect and maintain PSDs as necessary to ensure they function properly and safely to protect crewmembers. This also ensures that the PSDs will not adversely affect the safe operation of the helicopter.
2. Develop operational training procedures for use of the PSD. The operator should develop operational training procedures that include procedures for emergency release of the PSD and the primary attaching means in case either system fails to release.
3. Additional cargo hook equipment upgrades (See 14 CFR 27.865):
 - Substantiate a higher static limit load [3.5 load limit] for the external load attaching means and corresponding personnel carrying device system;
 - Incorporate separate dual actuation devices in both the primary and backup quick-release systems in the aircraft;
 - Substantiate more stringent electromagnetic interference and lightning protection for the quick-release system in the aircraft;
 - Use a personnel carrying device system with improved structural integrity and personnel safety features.
 - Conduct a fatigue evaluation of the aircraft quick release system, attaching means, and personnel carrying device system.

Contact: Questions or comments regarding this InFO should be directed to the General Aviation and Commercial Division at (202) 385- 9600, or via email at 9-AFS-800-Correspondence@faa.gov; and the Aircraft Maintenance Division at (202) 267-1675, or via email at 9-AWA-AFS-300-Maintenance@faa.gov.