

Consultation paper
Equivalent Safety Finding

Doc. No.: CPTS-0000669
Issue : 1
Date : 28 Sep 2026
Proposed ☐ Final ☒
Deadline for comments: 03 AUG 2026

SUBJECT : Breakaway Coupling - Lower Limit
REQUIREMENTS incl. Amdt. : CS 27.952 (c)(1)(i) since Initial Issue
ASSOCIATED IM/MoC : Yes ☐ / No ☒
ADVISORY MATERIAL :

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INTRODUCTORY NOTE:

The following Equivalent Safety Finding (ESF) has been classified as important and as such is subject to public consultation in accordance with EASA Management Board decision 12/2007 dated 11 September 2007, Article 3 (2.) which states:

"2. Deviations from the applicable airworthiness codes, environmental protection certification specifications and/or acceptable means of compliance with Part 21, as well as important special conditions and equivalent safety findings, shall be submitted to the panel of experts and be subject to a public consultation of at least 3 weeks, except if they have been previously agreed and published in the Official Publication of the Agency. The final decision shall be published in the Official Publication of the Agency."

IDENTIFICATION OF ISSUE:

CS 27.952 (c) as of Initial Issue onwards requires self-sealing breakaway couplings to seal off lines and prevent fuel spillage if fuel system components are displaced in a crash.

Further, and more specifically, for fuel lines with breakaway couplings, subparagraph CS 27.952(c)(1)(i) states "The load necessary to separate a breakaway coupling must be between 25 to 50 percent of the minimum ultimate failure load (ultimate strength) of the weakest component in the fluid-carrying line. The separation load must in no case be less than 300 pounds, regardless of the size of the fluid line." FAA Advisory Circular 27-1B §27.952 d(5) states that the minimum 300-pound load is necessary to prevent ground maintenance failures.

EASA received a helicopter manufacturer's application involving a tank and fuel system design where the separation loads of the couplings for specific load cases do not directly comply with the specific minimum value of 1334 N (300 lb)).

Considering all the above, the following Equivalent Safety Finding is proposed.

M-TS-0000669**Equivalent Safety Finding****Breakaway Coupling - Lower Limit****1. APPLICABILITY**

This ESF is applicable to CS 27 Category B rotorcraft with a breakaway coupling designed and installed not fulfilling the lower limit of 1334N (300lb), but complying with the 25 to 50% range of the minimum ultimate failure load.

1.1 AFFECTED CS

CS 27.952 (c)(1)(i), at Initial Issue

2. STATEMENT OF EQUIVALENT SAFETY FINDING

In lieu of direct compliance with the CS in chapter 1.1, and provided that **all** the below compensating factors are complied with, the safety equivalence is achieved. This ensures the intended protection against ground maintenance failures by an adequately substantiated separation load and at least two additional precautions against inadvertent load application.

3. COMPENSATING FACTORS

- a) The rotorcraft design places the coupling in-line with a flexible hose assembly. Measurable, visible hose slack and stretch must be taken up before any significant load is applied to the coupling.
- b) The installation location of the coupling shall be such that an inadvertent contact during maintenance is unlikely through shielding by surrounding structure and components.
- c) It shall be demonstrated that if a mechanic somehow manages to displace inadvertently the coupling enough to stretch the hose to its limits, a 250 pound load is **high enough sufficient** to be **obviously noticeable** readily detectable by maintenance personnel.