

 European Union Aviation Safety Agency	Equivalent Safety Finding to CS 22.925 (a), Propeller clearance	Doc. No. : ESF-E22.925-01 Issue : 1 Date : 12 Feb 2020 Proposed ☒ Final ☐ Deadline for comments: 04 Mar 2020
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SUBJECT : Equivalent Safety Finding to CS 22.925 (a), Propeller clearance

REQUIREMENTS incl. Amdt. : CS 22.925 Amdt. 2

ASSOCIATED IM/AMC¹ : Yes ☐ / No ☒

ADVISORY MATERIAL :

INTRODUCTORY NOTE:

The following Equivalent Safety Finding (ESF) has been classified as important and as such shall be 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 22.925 (a) requires a propeller ground clearance of 230 mm for powered sailplanes with a tail-wheel landing gear. This clearance must be complied with in level attitude, normal take-off attitude or taxiing attitude, whichever is the most critical. CS 22.925 provides also some additional conditions such as landing gear strut statically deflected or tyre deflected.

The intent of the requirement is to avoid any propeller ground strikes during taxiing, take-off, and landing.

The powered sailplane type for which the ESF is requested, meets the requirement of CS 22.925 (a) only in an attitude with the tail-wheel landing gear on ground and not in level attitude. The powered sailplane lifts-off with both the main-wheel and the tail-wheel landing gear at the same time (two point lift-off). A foldable propeller is installed at the nose of the fuselage.

It is proposed by the applicant

- To limit the use of the engine to take-off, climb, and cruise but to exclude landing. This means the propeller is retracted during landing and CS 22.925 is not applicable;
- To mandate by the Aircraft Flight Manual (AFM) a take-off procedure where the pilot has to maintain an attitude where the powered sailplane meets the requirements of CS 22.925 (a).

Justification of the ESF:

The intent of the requirements CS 22.925 (a) is to ensure propeller clearance in all applicable phases of flight and related attitude conditions. By removing the landing case (propeller is retracted) and by proposing a normal take-off attitude (e.g. tail-wheel landing gear on ground) which provides a propeller clearance of at least 230 mm, the level attitude can be removed from the requirements.

¹ In case of SC, the associated Interpretative Material and/or Acceptable Means of Compliance may be published for awareness only and they are not subject to public consultation.



