

 European Union Aviation Safety Agency	<p style="text-align: center;">Deviation</p> <p style="text-align: center;">COLLINS AEROSPACE „Population 2“ Hoist System Installation</p>	<p>Doc. No. : DEV-POP2HOIST-01</p> <p>Issue : 1</p> <p>Date : 24 Sep 2021</p> <p>Proposed <input type="checkbox"/> Final <input checked="" type="checkbox"/></p>
--	---	--

Furthermore, the definition of a suitable flight envelope and the definition of the necessary provisions aimed at guaranteeing stable and predictable in-service performance have to be provided.

It has been determined that demonstrating full compliance with all elements of the requirements listed above, and reproduced here below for readers' convenience, is not possible with the current hoist design. A new or revised fully compliant design is not achievable or available in the period of time for which these hoist equipped rotorcraft are required to be available to conduct hoist operations. However, the purpose of this deviation is to support mainly HEMS and SAR operations pending a new or revised fully compliant hoist becoming available.

CS 29.865 External Loads

- (a) It must be shown by analysis, test, or both, that the rotorcraft external-load attaching means for rotorcraft-load combinations to be used for non-human external cargo applications can withstand a limit static load equal to 2.5, or some lower load factor approved under CS 29.337 through 29.341, multiplied by the maximum external load for which authorisation is requested. It must be shown by analysis, test, or both that the rotorcraft external-load attaching means and any complex personnel-carrying device system for rotorcraft-load combinations to be used for human external cargo applications can withstand a limit static load equal to 3.5 or some lower load factor, not less than 2.5, approved under CS 29.337 through 29.341, multiplied by the maximum external load for which authorisation is requested. The load for any rotorcraft-load combination class, for any external cargo type, must be applied in the vertical direction. For jettisonable rotorcraft-load combinations, for any applicable external cargo type, the load must also be applied in any direction making the maximum angle with the vertical that can be achieved in service but not less than 30°. However, the 30° angle may be reduced to a lesser angle if:
- (1) An operating limitation is established limiting external load operations to those angles for which compliance with this paragraph has been shown; or
 - (2) It is shown that the lesser angle cannot be exceeded in service."

CS 29.1301 Function and Installation

Each item of installed equipment must:

- (d) Function properly when installed.

CS 29.1309 Equipment, Systems, and Installations

- (a) The equipment, systems, and installations whose functioning is required by this CS-29 must be designed and installed to ensure that they perform their intended functions under any foreseeable operating condition.
- (b) The rotorcraft systems and associated components, considered separately and in relation to other systems, must be designed so that –
- (1) For Category B rotorcraft, the equipment, systems, and installations must be designed to prevent hazards to the rotorcraft if they malfunction or fail; or
 - (2) For Category A rotorcraft:
 - (i) The occurrence of any failure condition which would prevent the continued safe flight and landing of the rotorcraft is extremely improbable; and
 - (ii) The occurrence of any other failure conditions which would reduce the capability of the rotorcraft or the ability of the crew to cope with adverse operating conditions is improbable.



