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ESPN-R Hoist PCDS Guide V 1.0



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Preamble:

Helicopter Hoist Operations are considered as a full crew mission concept where responsibilities and leadership change within the crew throughout the completion of the mission.

*This document, which is focused on Helicopter Hoist Operation PCDS Personal Carrying Device System, aims to highlight on the composition of the equipment, usage, combination and potential incompatibilities. **It provides an overview of experience best practices and requirements for PCDS usage in helicopter hoist operations and helps clarifying certification aspects.***

This guide does not contradict the AIR OPS regulation (EU) 965/2012, AMC's or EU regulations it is furthermore a recommended guideline to create, not adding requirements, rather helping the operators to comply with existing European regulations.

This guide is not legally binding; it was developed by a group of experienced subject matter experts, hoist operators, equipment manufacturers, etc. and therefore it should be regarded as best practice.

The European Plan for Aviation Safety (EPAS), includes since 2019 a Safety Promotion Task (SPT) covering Helicopter Hoist Safety Promotion. This Helicopter Hoist Operation PCDS Guide delivered by the ESPN-R Hoist Safety Promotion Working Group, complements the hoist operator training guide and the hoist pilot training guide and focuses on the suitable combinations of PCDS for different kinds of operations, for the safety of persons on board and of hoisted persons. This guides specifically discusses Personnel Carrying Device System (PCDS) and their mutual interaction.

PCDS used for hoist operations are covered, whether they are under SPA.HHO or SPO.SPEC.HEC. Human external cargo operations with the cargo sling are outside of the scope of this guide

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1. Introduction

The ESPN-R Hoist Safety Promotion working group would like to support the growing Helicopter Hoist Operations market (HEMS, offshore wind energy, etc.) and address potentially operational safety risks and an increasing number of occurrences, by creating an equipment guide in order to increase safety in hoist operations of all types.

Equipment Manufacturer, Helicopter OEM's (*Original Equipment Manufacturers*), operators and Training Organizations have been associated with this initiative to define clearly PCDS recommendations.

This ESPN-R PCDS guide is compatible with the ESPN-R hoist operator training guide and pilot training guide.

2. Abbreviations

AMC	Acceptable Means of Compliance
CoG	Center of Gravity
EN	European Norm
H/C	Helicopter
HEC	Human External Cargo
HHO	Helicopter Hoist Operation
HHOP	Helicopter Hoist Operation Passenger
HO	Hoist Operator
ICAR	International Cooperation for Alpine Rescue
PCDS	Personnel Carrying Device System
prEN	pre European Norm
PPE	Personnel Protective Equipment
RFM	Rotorcraft Flight Manual
SAR	Search And Rescue
TCM	Technical Crew Member
T4S	together 4 safety
UIAA	Union Internationale des Associations d'Alpinisme

3. Intention / Scope of the document

This document provides an overview regarding PCDS equipment choice, set-up, and management, to ensure proper and safe operation in helicopter hoist operations by providing a guideline for operators on the configuration and use of PCDS.

The guide will further develop PCDS and their components, Hoist safety equipment, hoist support equipment, equipment supporting PCDS as per the table below. Further PPE is not part of the scope of this document but their compatibility with PCDS components need to be ensured and its compatibility with PCDS.

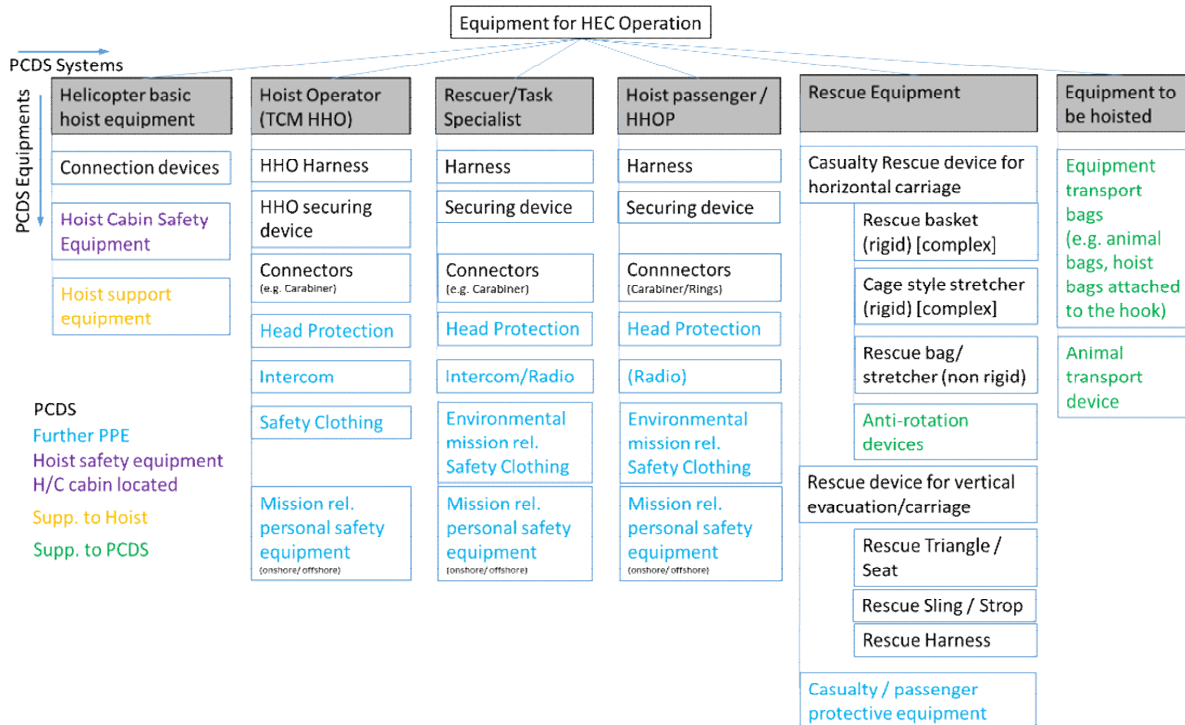


Table 1: Involved PCDS components in Hoist operations (with naming of further hoisting involved equipment)

4. Background and References

[Easy Access Rules for Air Operations \(Regulation \(EU\) No 965/2012\)](#)

[CS 27 small rotorcraft Certification Specifications \(CSs\) | EASA \(europa.eu\)](#)

[CS 29 large rotorcraft Certification Specifications \(CSs\) | EASA \(europa.eu\)](#)

Further regulatory detailed references are provided in Annex D.

5. Definitions and PCDS categories

5.1. PCDS definition and PCDS categories

PCDS: means a system including one or more PCDS devices that is either attached to a hoist or cargo hook or mounted to the rotorcraft airframe attachment interfaces during human external cargo (HEC) or helicopter hoist operations (HHO). The PCDS devices have the structural capability and features needed to transport occupants external to the helicopter.

PCDS has to read here as category III PPE. Equipment (acc. to (EU) 2016/425 or European Council Directive 89/686/EEC * (*if validity marked before 21/04/2019)). This is all Equipment, which is involved in the direct load chain of securing/preventing from fall from height.

In general, PCDS are designed and manufactured to be worn or held by a person for protection against fall from height.

In PCDS are also included connection systems for the equipment described above and designed to:

- connect to other equipment
- connect to the helicopter
- be temporarily fixed and not requiring fastening works before use
- to restrain no more than a single person inside the cabin – simple PCDS
- to restrain no more than two persons outside the cabin (this includes transferring to the outside or vice versa) – simple PCDS
- to restrain more than two persons outside the cabin – complex PCDS

In the helicopter applications seen, the PCDS have the structural capability and features needed to transport occupants external and internal to the aircraft i.e., being a life safety harness preventing the rescuer or the “to be rescued person” or any person from danger of getting disconnected from the aircraft, hence falling.

Based on AMC No.3 to CS 27.865 and AMC No.2 to CS 29.865, two types of PCDS have to be distinguished: simple PCDS and complex PCDS.

Simple PCDS:

A PCDS is considered to be simple if:

- (a) it meets an EN standard under Regulation (EU) 2016/425 or Directive 89/686/EEC * (*if validity marked before 21/04/2019), as applicable, or subsequent revision;
- (b) it is designed to restrain no more than a single person (e.g., hoist or cargo hook operator, photographer, etc.) inside the cabin, or to restrain no more than two persons outside the cabin;
- (c) it is not a rigid structure such as a cage, a platform or a basket.

PCDSs that cannot be considered to be simple are considered to be complex.

NOTE: EASA or the relevant Authority should be contacted to confirm the classification in the event that:

- a PCDS includes new or novel features;
- a PCDS has not been proven by appreciable and satisfactory service experience;

OR

- there is any doubt in the classification.

NOTE: ESPN-R hoist working group recommends to not limit it to the cabin, but also when operating the helicopter hoist with doors open and potentially standing on the helicopter landing skid or step.

NOTE: EN / UIAA Norms are applicable when an equipment is made available on the market.

Equipment with applicable norms at time of introduction in operation can be used until end of its service life limit.