



航空学报 » 2012, Vol. » Issue (4) :658-665 DOI: CNKI:11-1929/V.20111223.1225.001

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### 串件拼修对策下多级维修供应的装备系统 可用度评估

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### Evaluation of Equipment System Availability for Multi-echelon Maintenance Supply with Cannibalization

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摘要

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**摘要** 实施串件拼修对策是提高装备保障效能的有效途径,能够在现有保障条件下使装备可用度达到上限。针对该问题,在备件多级维修供应模式下,根据串件拼修的特点,并结合可修复备件库存分配建模理论(METRIC),建立了非串件系统、串件系统以及不完全串件系统可用度评估模型。研究了串件对策下装备保障效能的分析流程和方法。通过实验设计,确定初始备件库存方案,在给定的方案下,对不同串件对策下装备的可用度进行评估。采用VMETRIC平台对模型进行验证,结果表明,本文模型结果与VMETRIC仿真结果具有相当高的吻合度,证明了模型的正确性。

**关键词:** 装备保障工程 多级维修供应 串件拼修 METRIC模型 可用度 备件

**Abstract:** Cannibalization policy is an effective approach to improve support effectiveness. Under the current support condition, it can make equipment availability reach the upper limit. This paper establishes respectively availability models of a non-cannibalization system, a cannibalization system and a partial cannibalization system under the mode of multi-echelon maintenance supply in accordance with the characteristics of cannibalization combined with multi-echelon technique for recoverable item control(METRIC) theory. The analysis flow and method of support effectiveness are studied. In a given example, The initial spare parts inventory project is obtained under which the equipment availability is analyzed with different cannibalization policies. VMETRIC simulation is used to test the results, and the verification shows that there is high consistency between the two results, which proves the validity of the model.

**Keywords:** equipment support engineering multi-echelon maintenance supply cannibalization METRIC model availability spare part

Received 2011-06-20;

Fund: 国防预研项目(51304010206,51327020105)

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#### 引用本文:

阮旻智, 李庆民, 彭英武, 黄傲林, 王慎. 串件拼修对策下多级维修供应的装备系统 可用度评估[J]. 航空学报, 2012, (4): 658-665.

RUAN Minzhi, LI Qingmin, PENG Yingwu, HUANG Aolin, WANG Shen. Evaluation of Equipment System Availability for Multi-echelon Maintenance Supply with Cannibalization[J]. Acta Aeronautica et Astronautica Sinica, 2012, (4): 658-665.

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