Aircraft Maintenance Planning And Scheduling An | d45ee0012631bbcc191f89f21ec25a70

Combined Scheduling and Maintenance Planning for an Aircraft Fleet

Aircraft Maintenance Management, Second Edition

Daily Labor Report

Navy inventory: parts shortages are impacting operations and maintenance effectiveness. Job Scheduling and Capacity Planning in Aircraft Maintenance

Mathematics of Industrial Systems

IIIU.S. Government Research & Development Reports

Annual Business and Corporate Aviation Management: On Demand Air Travel

Operations and Scheduling

Autonomous Negotiating Teams and Model-Integrated Computing for Autonomic Logistics

The Periodic Aviation Maintenance Stochastic Schedule Model (PAM-SS)

Aeronautical Engineering

Military Requirements for PO 1 & C Aircraft Maintenance Management

Aviation Week & Space Technology

World Aviation Directory

Research Report

Flight International

Coordination of Production

Negotiating Teams and Model-Integrated Computing for Autonomic Logistics

The Model-Integrated Computing and Autonomous Negotiating Teams for Autonomic Logistics (MICANTS) project described in this report addressed the problem of building advanced decision support tools for maintenance planning and scheduling using negotiation technology. The project has developed and applied negotiation tools for aircraft maintenance planning and scheduling, and has demonstrated the feasibility of the approach in real-life examples: in AV-8B squadrons and in space launch preparation scheduling. The report summarizes the technological contributions of the project, and the actual prototype systems constructed.

Here is a comprehensive and practical guide to choosing a business aviation model, setting it up, and making it work. The author, who has more than four decades in the aviation industry, skillfully blends business and aviation issues to provide solid decision-making strategies and smart operating practices for the establishment and management of business aircraft.

* Explains methods of evaluating air transportation needs and choosing appropriate means to meeting them
* Provides detailed how-to information for aviation personnel on running a flight department

Ties all facets of business aviation operation together: business, operations, administration, and financial

* Covers regulatory requirements, policies, scheduling, planning, security, safety, training, and more

* Includes extensive compilation of forms and checklists

Operations research techniques are extremely important tools for planning airline operations. However, much of the technical literature on airline optimization models is highly specialized and accessible only to a limited audience. Allied to this there is a concern among the operations research community that the materials offered in OR courses at MBA or senior undergraduate business level are too abstract, outdated, and at times irrelevant to today's fast and dynamic airline industry. This book demystifies the operations and scheduling environment, presenting simplified and easy-to-understand models, applied to straightforward and practical examples.

After introducing the key issues confronting operations and scheduling within airlines, Airline Operations and Scheduling goes on to provide an objective review of the various optimization models adopted in practice. Each model provides airlines with efficient solutions to a range of scenarios, and is accompanied by case studies similar to those experienced by commercial airlines. Using unique source material and combining interviews with alumni working at operations and scheduling departments of various airlines, this solution-orientated approach has been used on many courses with outstanding feedback. As well as having been comprehensively updated, this second edition of Airline Operations and Scheduling adds new chapters on fuel management systems, baggage handling, aircraft maintenance planning and aircraft boarding strategies. The readership includes graduate and undergraduate business, management, transportation, and engineering students; airlines training and acquainting new recruits with operations planning and scheduling processes; general aviation, flight school, International Air Transport Association (IATA), and International Civil Aviation Organization (ICAO) training...
The paper describes the design considerations for a 'Computer-Assisted Maintenance Planning and Control System, ' called CAMCOS, to support an Air Force base-level maintenance organization in the planning and control of its activities.

This report summarizes the results of a 3-year effort to study the planning and scheduling of aircraft turnaround functions using an expert system to minimize the turnaround time. This effort established the feasibility of using expert system technology to model aircraft turnaround functions in a teleoperated environment. The model opportunistically generates schedules based on aircraft turnaround functions (refueling, weapons loading, aircraft inspection, maintenance, etc.) and personnel assignments and automation technologies. The model is conceptualized for a dynamic environment. Thus, it is possible for the model to consult its knowledge base in order to identify scheduling strategies to maximize aircraft turnaround efficiency for a particular function. Expert Systems, Planning and Scheduling, Knowledge Based Systems.

The objective of this research is to investigate the use of a mathematical modeling methodology for integrating maintenance planning and sortie scheduling issues. First, the relevant research literature for both selective maintenance and fleet assignment is presented. Next, background research is presented, which extends a current selective maintenance model to incorporate sets of systems. Here a selective maintenance model for a set of systems that must execute a set of missions with system maintenance performed only between missions is defined. Finally, we formulate a more complex optimization model that addresses a more dynamic mission profile. Specifically, missions start and end at different times, and maintenance and scheduling decisions are made over a series of time "buckets." We consider a planning horizon such that each system in the set returns from its previous mission and begins its future mission; however, no system returns from its future before the end of the planning horizon.

In Naval Aviation maintenance organizations, planning and scheduling of preventive maintenance actions tend to be left to ad hoc and traditional methods. The aviation operations exist in a highly dynamic environment; aircraft utilization, configurations, resource constraints and operational requirements change several times a day. To ensure that quality aircraft are available for operations, changes in maintenance schedules must be performed on a continuing, iterative basis, requiring integration of numerous data bases and intensive number crunching. Though operating in a more stable environment, commercial airlines attempt, as do Naval Aviation squadrons, to optimize aircraft utilization, mission readiness and/or maintenance yield under a set of constrained resources. In order to take advantage of the speed and efficiency related to automated software systems, a few airlines have recently developed and implemented integrated decision support systems (DSS) within their maintenance information systems. This has yielded extraordinary productivity improvements. In this thesis, the authors show that the implementation of an automated DSS, similar to those used in the airline industry, that could be integrated into the Naval Aviation Logistics Command Information System (NALCOMIS) would maximize resource utility while minimizing the impact of numerous ever-changing constraints. To reduce procurement lead time and minimize development risk and cost, the authors recommend the adaptation of a commercial off-the-shelf aviation-related DSS and provide a possible implementation plan.

This book reports on cutting-edge theories and methods for analyzing complex systems, such as transportation and communication networks and discusses multi-disciplinary approaches to dependability problems encountered when dealing with complex systems in practice. The book presents the most noteworthy methods and results discussed at the International Conference on Reliability and Statistics in Transportation and Communication (RelStat), which took place in Riga, Latvia on October 16 – 19, 2019. It spans a broad spectrum of topics, from mathematical models and design methodologies, to software engineering, data security and financial issues, as well as practical problems in technical systems, such as transportation and telecommunications, and in engineering education.
The effective scheduling of fighter aircraft maintenance in the Air Force is crucial to overall mission accomplishment. An effective maintenance scheduling policy maximizes the use of maintenance resources and aircraft availability. Currently, maintenance scheduling is a time-consuming process that is carried out by airmen whose sole responsibility is to manually generate a maintenance schedule that balances maintenance requirements and flying requirements. In this thesis, we seek to represent the maintenance scheduling process using a mathematical model that ultimately generates an optimal maintenance schedule. First, we address the scheduling of phase maintenance, the most significant preventative maintenance action, for fighter aircraft. We use a mixed integer program (MIP) to model the phase maintenance scheduling process. The MIP generates a daily maintenance and flying schedule that ensures that the maintenance workload is evenly distributed across the planning horizon. We find that the computational performance of the MIP formulation is less than desirable for large instances of real-world data. Motivated by the need for improved computational performance, we develop an alternative formulation that disaggregates the original MIP into two subproblems that are solved sequentially. The two-stage formulation of the phase maintenance scheduling problem has significantly better computational performance while generating a feasible daily maintenance and flying schedule. We then address the maintenance scheduling process that is unique to aircraft with low-observable (LO) capabilities. The LO capabilities of an aircraft degrade over time according to a stochastic process and require continuous maintenance attention. We show that the characteristics of the LO maintenance process allow it to be modeled as a variant of the multiarmed bandit (MAB) problem. We then present a variant of the heuristic proposed by Whittle that has been shown to provide near-optimal solutions for MAB problems. Applying Whittle's heuristic to the LO maintenance scheduling problem, we generate a simple index policy that can be used to schedule aircraft for LO maintenance. We then compare the index policy to alternate policies and show by simulation that the index policy leads to relatively better fully mission capable (FMC) rates, a common measure of overall fleet health.

Leena Suhl presents an integral view of the production planning and scheduling process from an airline's perspective. The concept integrates methods like optimization, heuristics and simulation with a knowledge base under a graphical user interface.

En gennemgang af vedligeholdelsen af luftfartøjer og kravene hertil. Egnet som lærebog.

A selection of annotated references to unclassified reports and journal articles that were introduced into the NASA scientific and technical information system and announced in Scientific and technical aerospace reports (STAR) and International aerospace abstracts (IAA)

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