

The Aeronautical Journal RAeS September 1972
The Hague Convention on Hijacking of Aircraft 1970

A Symposium on the above subject was held by the Air Law Group of the Society and the following papers were given:—"The Legal Aspects" by Professor Bin Cheng; "The Operational Angle" by D. F. Newham and "Assessment of Measures, Legal and Physical to Fight Hijacking" by Sir Frederick Tymms.

The Aeronautical Journal RAeS September 1972
BATDORF, Dr. S. B.

On Sonic Boom Avoidance

Recently Dr. Hilton proposed the use of manoeuvres for creating zones of "no boom" which could be employed to protect cities situated in the flight path of supersonic aircraft. The idea was to make use of the fact that curved flight causes a local focus of shock waves, and that in regions closer to the centre of curvature than this focus, shocks do not form. In investigating this suggestion, the author found it advantageous to abandon the method used by Hilton and use in its place a technique which permitted plotting the shock front directly. The method used and the results are outlined briefly in the paper. (Dr. Hilton's comments on this method and the author's reply are also included.)

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BURROWS, A. A. and MILES, W. L.

Aircraft fault isolation based on pattern of cockpit indications —A human factors approach

This paper discusses the development of a unique approach to fault isolation software (handbooks, manuals, etc.) for the McDonnell Douglas DC-10 and future aircraft. The status of fault isolation effectiveness in current airline operations is reviewed to establish the need for and benefits available through improved maintenance techniques. A programme for developing software to meet these needs is outlined, with emphasis on a user-orientated approach, relying heavily on the human factors disciplines for its effectiveness. The general nature of the aircraft fault isolation problem is discussed and the Pattern of Cockpit (PC) method is proposed as a promising solution to the problem. The roles of human factors research and human engineering disciplines in the design, production and testing of fault isolation software formats based on PC are elaborated, together with areas in which further research and applications appear probable.

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LEECH, D. J. and EARTHROWL, D. L.

Predicting Design Costs

The records of times spent and predicted, on a number of design jobs in an aircraft accessory firm were analysed. The distribution of actual job times approached the log normal. The distribution of predicted times also appeared to approach the log normal when plotted but statistical analysis gives low confidence in assumption of such distribution. The distributions of actual and predicted times show a considerable tendency towards underestimating and there is reason for believing greater overspends are more likely with larger jobs. If single jobs are considered, the range of accuracy with which predictions are made, is very wide indeed, and skewed. As expected, if a large number of jobs is considered, the range of accuracies with which the prediction of total time is made, is small. Thus, while it does not appear possible to predict useful design costs on individual jobs, it seems likely that the tolerances on total effort and achievement in a design office in a year can be predicted with calculable confidence and results of such calculation could be used in formulating the corporate strategy.

HILL, H.

Concorde Navigation System

The navigation system of Concorde, as it will be introduced into airline service, is conventional by today's standards. It has evolved into this arrangement over a period of more than ten years. It began with a definition of requirements which was discussed and agreed with many different interests.

Studies were carried out of the means of meeting these requirements. They have led to a definition of the basic aircraft system described in the paper. The performance capabilities are presented.

While the basic system results in a viable aircraft capable of being operated in commercial service it has to be accepted that individual operators will require various options to be introduced to suit their routes and operating procedures. Consideration is being given to such features in order that the aircraft shall be capable of accepting them. They include new forms of display and so introduce problems in flight deck arrangement.

Possible solutions are shown in the paper.

Scientific Officer

The Research Department of the British Railways Board Headquarters has a vacancy for a Scientific Officer in the Aerodynamics Section located at Derby.

A Graduate Engineer, preferably with 1 or 2 years experience, is required to assist in the application of analytical aerodynamic techniques to high speed trains. He will also be involved from time to time with experimental investigations on full scale trains and with wind tunnel models. The applicant should have a degree with Aerodynamics as one of his main subjects and should have some experience of the use of computers involving aerodynamic problems. Knowledge of FORTRAN would be an advantage.

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