

EXECUTIVE SUMMARY

The Federal Aviation Administration (FAA) sponsored a two-day meeting in December 1990 as part of a series of meetings to address Human Factors in Aircraft Maintenance and Inspection. At this meeting, primary attention was given to "The Aviation Maintenance Technician." The vital cog in the air carrier maintenance industry is the Aviation Maintenance Technician (AMT). Quality performance by the AMT is essential both for aviation safety and for industry efficiency. The growing air carrier fleet, with its mix of new advanced-technology aircraft and a continuing number of older aircraft, places heavy demands on the maintenance workforce. Problems confronting the workforce must be understood and all necessary steps taken to ensure excellent workforce performance in the coming years.

The objective of this meeting was to review human factors issues of importance for the performance of Aviation Maintenance Technicians. The meeting was attended by representatives of the airline industry, aircraft manufacturers, the training establishment, human factors scientists, and others. Based on presentations given and ensuing discussions, the following recommendations are presented:

Availability of Qualified Entry-Level Personnel

1. The likelihood of a shortage of qualified entry-level personnel for air carrier maintenance in the next decade needs better definition. Some organizations such as the Professional Aviation Maintenance Association (PAMA) or the Future Aviation Professionals of America (FAPA) should undertake, with blessings from the FAA and financial support from the airline industry, a detailed manpower modeling study of the Aviation Maintenance Technician occupation as it is likely to change over the next decade. Factors which cause or which might serve to mitigate such changes should be documented.
2. The airline industry must begin a sustained program to draw women and minorities into maintenance. Problems, such as language, physical strength, etc., which might accompany greater use of these people should be identified early and corrective action taken before the numbers of these workers grow.
3. Efforts started by some airlines to increase the understanding of aviation maintenance by students in elementary and secondary schools are worthwhile and should be expanded. These programs should aid in improving the image of the Aviation Maintenance Technician and should encourage young students to consider airline maintenance as a career.

Applicant Qualifications

1. Lack of basic skills in reading, math, and physics on the part of applicants for maintenance training has been noted on a number of occasions and obviously is of real concern. A meeting should be convened to address this problem exclusively. Representatives of the Federal Aviation Administration, the Department of Education, the technical training schools, and the airlines should attend. Objectives of the meeting should be to describe the extent of the problem more clearly and to consider paths leading to improvement.

Role of the Aviation Maintenance Technician

1. Airline managers should review carefully the report of the U.S. Air Force Tactical Air Command (TAC) experiment in changing organizational factors to enhance aviation maintenance. While this military model certainly could not be adapted directly to a commercial organization, many features of it might be employed to advantage in airline maintenance operations.
2. Each airline should look to itself to determine if its working corps of maintenance technicians is given proper respect, opportunities, and management support. Enhancing the "image" of the Aviation Maintenance Technician certainly starts within the organization.
3. Under FAA auspices, a meeting should be convened to consider the working environment of the Aviation Maintenance Technician. This meeting should attempt to identify variables which enhance or detract from maintenance productivity. Recommendations for improvements in the working environment should be generated.