

EXECUTIVE SUMMARY

The Federal Aviation Administration (FAA) sponsored a two-day meeting in June 1990 as part of a series of meetings to address Human Factors in Aircraft Maintenance and Inspection. At this meeting, particular attention was given to "Training Issues" in maintenance operations. Presentations were given by 15 individuals covering the full spectrum of interests in maintenance training. Representatives of all segments of the aviation maintenance community were in attendance. Their participation reflects recognition that changes taking place in the air carrier industry, with the introduction of high-technology systems and new structural materials, present real challenges for maintenance training. Changing dynamics of the workforce also must be addressed. Careful planning and work will be necessary to ensure a fully qualified work force in the coming decade.

The objectives of the meeting were to (1) review the range of training activities now in place to support airline operations, (2) describe the effect of current and planned regulatory oversight, (3) identify specific problems in training, and (4) learn of new technologies that might aid training in the future. Based on presentations given and ensuing discussions, the following recommendations are presented:

The Training Requirement

Recommendations

1. In light of strong support for the train-to-proficiency principle, the FAA should examine ways to move in that direction, possibly through use of the greater internal curricula flexibility to be provided in the revision of FAR Part 147.

Trainee Characteristics

Recommendations

1. The FAA should establish a minimum performance level for communication (reading and writing) skills and for math skills as a prerequisite for all A&P programs. If a sufficient number of applicants can be maintained using these standards, consideration should be given to elimination of math and physics as required subjects in the A&P curriculum.

Training Curricula

Recommendations

1. Airline operators should consider adding to their training efforts formal programs concerning proper use of the general aircraft manual and proper procedures for completion of paperwork required by the FAA. This course should be given very early in the work history of a maintenance technician.
2. The introduction of resource management training into maintenance training programs offers promise as a positive factor for improved productivity. Resource management training should be encouraged by the FAA and should be considered by airline operators.

Training Delivery Systems

Recommendations

1. The FAA should develop a short handbook on training to provide guidance for those planning and conducting in-house maintenance training programs. This handbook should present principles of training, describe proper instructor-student relationships, and discuss informal means of assessing training effectiveness. The handbook should be done completely in maintenance terms and should be structured as a "How To" book.

Measurement of Proficiency

Recommendations

1. The FAA and industry should be sensitive to the need for more systematic procedures for measuring the proficiency of trainee and technician performance in maintenance. The task analysis effort now being undertaken as part of the work of the FAA Human Factors Team in Aircraft Maintenance and Inspection will provide an excellent starting point for a proficiency measurement effort.

Training Feedback/Follow-Up

Recommendations

1. The FAA should conduct a national survey on the current placement and competency of A&P mechanics. This survey should produce sufficient information to allow meaningful feedback to the training system.