

## Executive Summary

The Federal Aviation Administration's (FAA) Flight Standards Service Aircraft Maintenance Division, together with the Office of Aviation Medicine (AAM), developed and formalized the agency's Human Factors in Aviation Maintenance and Inspection research program. This program was implemented in response to a congressionally mandated requirement (Aviation Safety Research Act, Pl. 100-591, 1988), and is aimed at reducing the number of accidents and incidents resulting from human error in maintenance.

The research program is an industry-government-labor partnership that involves numerous airline operators, maintenance facilities, universities, research laboratories, and government agencies worldwide. It is planned, integrated, and coordinated with the [FAA/NASA](#) Aviation Safety Program (ASP), formally known as the ASIST Program.

Through these partnerships, the research program has created, implemented, evaluated, and measured a variety of prototype products to enhance training, job aiding, and information systems for aviation maintenance personnel. Since 1989, the research program has conducted annual conferences attended by thousands of participants, and has generated more than 400 technical reports, journal articles, and presentations. The research program has the international reputation of representing the "real world" of aviation maintenance and addressing maintenance human factors issues accordingly. It has raised the awareness of the importance of human factors to the aviation industry, and a number of organizations are implementing programs specifically designed to reduce maintenance errors.

The research program's national and international interest is so pervasive, the Human Factors in Aviation Maintenance and Inspection (HFAMI) program recently developed a web site for efficient dissemination of informational materials. The web site not only contains a wealth of topical information, but also introduces interactive applications to the aviation industry via the internet.

The [HFAMI](#) web site has been accessed from over 80 countries, and by more than 125 government and military agencies, including the National Transportation Safety Board (NTSB), Department of Transportation (DOT), the Department of Defense (DOD), and National Aeronautics & Space Administration (NASA). Nearly 300 educational institutions have accessed the HFAMI web site, as well as airline industries and aircraft manufacturers, including Delta Air Lines, British Airways, and Boeing. Additionally, over 1,300 commercial businesses have accessed the HFAMI web site since January 1997.

This strategic program plan describes the on-going industry-government-labor partnerships that characterize the human factors in aviation maintenance and inspection research program. The plan provides scientific explanation and rationalization of the need for applied human factors research and development. The plan delivers historical, current, and future research and development goals and applied deliverables. Under continuing association with the aviation industry worldwide, the research program ensures that human performance is a central focal point of the aviation maintenance system.

The goal of the Human Factors in Aviation Maintenance and Inspection research program is to achieve significant reduction of aircraft maintenance accidents and incidents caused by human factors. Without such effort, the limitations of human performance will continue to be taxed by an increasingly demanding environment.