MMIR BENEFITS:

❏ Provides a direct savings to any user.
❏ Provides a case history database.
❏ Detects incipient failures on a real-time basis.
❏ Supplies justification data to extend life limits and/or overhaul times.
❏ Provides fleet analysis in all areas.
❏ Detects problems of similar nature reported by other operators.
❏ Recommends corrective actions where provided by other users.
❏ Information gathered can be an indicator for needed extensions for life and/or overhaul of parts, product improvements and problem areas.
❏ MMIR system will be flexible and compatible with other modern aircraft monitoring systems and FAA existing information systems.
❏ MMIR system will be quick response, increase load handling, improve in security and user friendly.

SEMINARS/PRESENTATIONS:

❏ During the two-year period HAI worked with the FAA, HAI conducted 8 regional seminars in the various locations. The program gained exposure at various aviation trade shows such as HAI's HELI-EXPO, the Professional Aviation Maintenance Association's Symposium, the National Business Aircraft Association's Annual Meeting, and the Airline Owners and Pilots Association.

❏ Other presentations were given to the FAA Flight Standards District Office Division Chiefs Conference in Herndon, Virginia, and the Interagency Committee for Aviation Policy (ICAP). ICAP agreed to use the MMIR system for reporting SDRs on Government owned and operated aircraft.

ENDORSEMENTS:

"MMIR enhances safety and reduces operating cost, it is the program that everybody has been waiting for."
Robert F. Lannerd, Aviation Maintenance Consultant

"MMIR is my dream program."
Raylund Romero, A1 Inspector PHI

When asked if the MMIR was user friendly?
"It looks as if HAI invented the term. The FAA fully supports HAI's MMIR efforts."
James D. Erickson, Director, FAA Office of Environment and Energy

SUMMARY:

This FAA/industry partnership, in coordination with DOD, will focus on the need to gather and analyze reliability data to help ensure the operational integrity of aircraft, thereby minimizing the likelihood of in-flight failures. The outcome of this research and the improvement in assured aviation safety will be of significant benefit not only to the FAA, HAI, and BFG, but most importantly to the flying public.

Author: Judy Huggard-Gallagher
Office of Research and Technology Applications

AVIATION RESEARCH GRANTS PROGRAM

"Highly Successful Research"
Helicopter Association International

The Federal Aviation Administration (FAA) and the Helicopter Association International (HAI) have joined forces to make available to the aviation community the Maintenance Malfunction Information Report (MMIR) system. The main thrust of the MMIR system is to enhance aviation safety and reduce operating costs through early identification of potential failures of aircraft components. This system can provide overwhelming positive benefits to the aviation industry, and to the general public. The MMIR program, using proven computer technology, clearly has the potential to provide critical data that is otherwise not available.
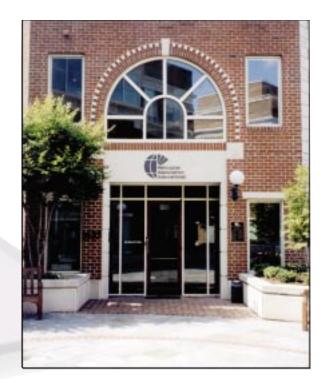
BACKGROUND

In 1983, a survey conducted by HAI showed conclusively that only about 15 percent of helicopter service difficulties were being reported on FAA's Service Difficulty Report (SDR) system. The principal reasons given for the failure to report were the complexity of the forms and that the SDR system was perceived to be cumbersome. Also, warranty claims were submitted on a different form for each manufacturer, duplicating the SDR process. This administrative workload was burdensome to many aviation maintenance professionals, resulting in the loss of a huge volume of service difficulty/reliability data.

In 1984, HAI began to develop a system that would simplify the reporting process, combining the SDR and the warranty claims forms. The objective was to create a universal form that would be accepted by the FAA in lieu of the SDR, and by every manufacturer for warranty claims.

HAI's Technical Committee took the lead on this project. Working with representatives of the FAA, manufacturers and operators, a system was developed that would facilitate the collection, collating, and archiving of empirical data on failures of any removable helicopter component or part, which became known as the MMIR system.

With the approval of the HAI's Board, the Technical Committee, supported by the HAI staff, and in cooperation with the FAA, helicopter operators and manufacturers designed a one-page, four-copy, self-carbon MMIR form. Ten thousand copies of this universal form were printed and distributed for field trial. This manual MMIR form was quickly accepted by operators, the FAA, and manufacturers.

Maintenance personnel appreciated the simplicity of this manual MMIR form: Fill out one page, pressing hard with a ball-point pen, keep a file copy, and send one copy each to the FAA, the manufacturer, and HAI. As completed reports were received and actual experience gained, modifications were made to the form. All processing was done manually,

Helicopter Association International (HAI) Headquarters

with HAI entering the data from the hard copies into a computer database. This was done as an interim measure, with the full realization that a better system of processing would eventually be required.

As computer hardware and software became available, HAI began automating the MMIR system. Using "off-the-shelf" FoxPro software, HAI developed an MMIR package that uses lookup tables which include aircraft model numbers, ATA codes, and part numbers to ensure standardization of reports. These lookup codes enhanced database accuracy and expedited submission of reports.

During the intervening 14 years, HAI has continually improved and updated the MMIR system, including the software, with significant assistance from operators, manufacturers, and the FAA.