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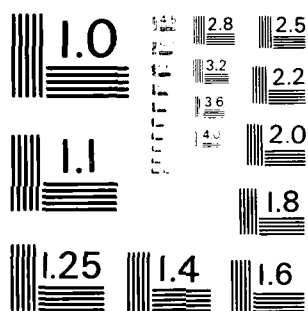
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MAINTENANCE MANAGEMENT INFORMATION AND CONTROL SYSTEM (MMICS):

ADMINISTRATIVE BOON OR BURDEN?

A Project Report
Presented to the Faculty of Lesley College
in partial fulfillment of requirements
for the Bachelor of Science Degree
in Organizational Behavior

Lesley College, Cambridge, MA

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PART I
INTRODUCTION

Thirteen years of Air Force design and development went into the Maintenance Management Information and Control System (MMICS), an automated maintenance information system, because maintenance managers need fast, up-to-date maintenance-related data. MMICS is an on-line computer system accessed through remote terminals located in the work area. These terminals communicate with a central base-level computer via telephone circuits. MMICS has wide application and provides automated information to managers of aircraft, missile and communications-electronic organizations. MMICS is currently in operation at one hundred forty Air Force units located at more than one hundred bases. Approximately eight hundred remote terminals and five hundred line printers are installed and in use worldwide. In aircraft maintenance organizations, MMICS provides information on changing aircraft and equipment conditions, parts requirements, aircraft schedules, equipment status and personnel resources and training. Personnel training is an important aspect of a manager's job and is vital to any organization that must maintain a proficient and experienced work force.

In 1980 MMICS was initially implemented at the 102nd Consolidated Aircraft Maintenance Squadron (102 CAM Sq.), Otis Air National Guard Base, Massachusetts with the receipt and installation of computer remote terminals and printing devices. The remote terminals are connected through telephone lines to the base-level computer located at Hanscom

Air Force Base, Bedford, Massachusetts.

In 1981 this researcher was appointed to the position of Training Management Technician in the 102nd CAM Sq, responsible for managing the organization's On-the-Job-Training program and the MMICS training subsystem.

PURPOSE OF THE PROJECT

The purpose of the project is to examine, determine and evaluate the benefit of the MMICS to managers and supervisors in conducting and monitoring training and training programs within their sections.

Upon appointment to the Training Management position in 1981, the researcher found the MMICS training subsystem only partially implemented and utilized, and greatly misunderstood. The researcher began to fully implement MMICS within the organization as outlined by Air Force directives and introduced to the organization's managers the full-range of MMICS reports and capabilities. The researcher encountered a great deal of resistance and negative reaction to the expanded utilization of MMICS.

The resistance and negative reaction raised questions in the researcher's mind in regard to the benefit of the MMICS program. Why did the Air Force spend thirteen years in the design and development of a system that would not be of some benefit or have practical application? Why were managers and supervisors questioning the usefulness of the reports that were being provided, when the reports were intended to make their jobs easier? Comments from high-level managers alluded to the fact

that the old system was better.

This project was designed to find answers to these questions and to determine what benefits, if any, MMICS has provided, and to learn the factors and reasons for the negative reaction and resistance to the utilization of MMICS.

The researcher plans to develop and implement the project by reviewing and making comparisons of documentation and procedures for conducting and maintaining training in an organization both before and after MMICS. A review of literature will be conducted in instituting organizational change and overcoming resistance to change. An evaluation of MMICS within the organization will be made by administering a questionnaire/survey to the managers and supervisors to determine their perception of the system.

STATEMENT OF THE PROBLEM

The implementation of MMICS in the Air National Guard was designed to improve the effectiveness and efficiency of management by providing a workable management information system. The objective of MMICS was to ease the administrative burden of managers and supervisors. Nearly four years after start-up, the program is reluctantly utilized by managers and supervisors, with complaints that MMICS has created more paperwork and is more of an administrative burden than before. Has MMICS provided the benefits for which it was designed? Is there a problem of perception? Has MMICS created an administrative boon or burden?

Within the Air National Guard there are approximately ninety-one flying units with aircraft maintenance organizations similar to the one described in this project. Some, if not all, of these units are in the process of implementing MMICS and are at various stages of operation at this time. The results of this project may be of some use and interest to these ninety Air National Guard units scattered across the country.

PROJECT TITLE, LOCATION AND DURATION

The title of this project is, "Maintenance Management Information and Control System (MMICS): Administrative Boon or Burden."

The project was conducted at Otis Air National Guard Base, in the city of Bourne, Massachusetts. The project concerns the implementation and use of MMICS within the 102nd Consolidated Aircraft Maintenance Squadron, an organization that maintains the F-106 fighter aircraft known as the "Delta Dart."

The duration of the project is estimated to span a period of seven months, from March 1983 to October 1983.

STATEMENT OF HYPOTHESIS

It is hypothesized that MMICS has benefited the supervisor in the conduct and administration of the training program. It is also hypothesized that MMICS has benefited the branch manager in monitoring branch training programs.

EVALUATION METHODOLOGY

A questionnaire/survey of organization managers and supervisors will be administered to determine and evaluate MMICS benefits. (Appendix A.)

OBJECTIVES

DEVELOPMENTAL OBJECTIVE 1

By July 1, 1983 design and field-test a questionnaire to elicit managers' and supervisors' perception of the benefit of MMICS.

Implementation Activities

1. Develop a questionnaire to evaluate the benefits of MMICS,
2. Prepare a draft,
3. Field-test the draft,
4. Review the questionnaire, and
5. Prepare cover letter and instructions.

Evidence of Completion

The objectives will have been met when the cover letter and questionnaire were completed in final form.

DEVELOPMENTAL OBJECTIVE 2

By July 1, 1983 identify the population and select the sample.

Implementation Activities

1. Obtain a list of the organization employees, and
2. Select from this list on the basis of branch chief or work-center supervisor.

Evidence of Completion

The list of selected managers and supervisors was evidence of completion.

DEVELOPMENTAL OBJECTIVE

By July 15, 1983 distribute the questionnaire to the selected managers.

Implementation Activities

Deliver to each of the selected managers a copy of the questionnaire and cover letter.

Evidence of Completion

The return of thirty questionnaires by the cut-off date of August 5, 1983.

EVALUATION OBJECTIVE 1

By August 30, 1983 review the literature available on conducting training within an Air National Guard Organization and compare documentation and administrative procedures both before and after MMICS; and review the literature on instituting organizational change and overcoming resistance to change. (The complete discussion of this objective was conducted in Part II.)

Implementation Procedures

1. Utilize the resources of the Boston Public Library,
2. Utilize the resources of SMU Library, and
3. Review pertinent Air Force regulations and directives available through the 102nd CAM Sq publication libraries.

Evidence of Completion

The written review of the literature found in Part II is evidence of completion.

EVALUATION OBJECTIVE 2

By August 30, 1983 analyze the results of the questionnaire to determine the respondents' perception of the benefits of the MMICS.

Implementation Activities

1. Tabulate responses to all items,
2. Group responses into three groups: total responses, responses from supervisors and responses from branch chiefs,
3. Segregate response categories of agree, disagree, always, sometimes, never, useful and not useful to categories of positive and negative responses,
4. Report the findings for all, for supervisors and for branch chiefs, in categories of positive and negative responses,
5. Develop recommendations based upon the analysis of the data.

Evidence of Completion

The presentation of the results from the questionnaire and the recommendations included in Part III were evidence of completion.

PARTICIPANTS

Thomas P. Murray, the researcher, training manager is employed by the Massachusetts Air National Guard as a Title 32 civil service employee and a military member of the Air National Guard. The researcher is qualified to evaluate the implementation and utilization of the MMICS training subsystem because of his nearly eighteen years of service,

with five years of experience in the training area, both before and after the implementation of MMICS, and because it is necessary for training management to manage the organization's training program and MMICS.

Questionnaire Recipients are employees of the Massachusetts Air National Guard at Otis ANGB, Massachusetts, who are managers and supervisors in the 102nd Consolidated Aircraft Maintenance Squadron. The aircraft maintenance organization is in an industrial setting comprised of craft-type occupations with over thirty-seven separate career fields. It is a structured military type of organization consisting of approximately three hundred and sixty personnel. The organization is divided into branch functions consisting of the Chief of Maintenance Branch, Field Maintenance, Munitions Maintenance, Avionics, and Organizational Maintenance. Functioning under the Chief of Maintenance Branch are staff functions consisting of Quality Control, Administration, Maintenance Control, Analysis, Programs and Mobility, and Training Management. The other four branches consist of a foreman or first-line supervisor (branch chief) and work-center supervisors reporting to the branch chief. (Operates under MGT concept in AFR 66-1 Vol. 4.) This population of approximately thirty-four individuals were administered the questionnaire. (See Appendix A for organizational charts.)

LIMITATIONS OF THE FINDINGS

Limited to members of the 102nd Consolidated Aircraft Maintenance Squadron (102 CAM Sq). at Otis Air National Guard Base Massachusetts.

who are affected by MMICS. No attempt will be made to address other sub-systems or functions that utilize MMICS such as Programs and Mobility, Analysis, or Plans and Scheduling.

- . The limitations of the data collected with regard to the quantity and quality.
- . The limitations of the questionnaire used to collect data was designed by the researcher and was not a standardized instrument.
- . The population to which the findings will be limited. All questionnaire recipients were limited to the managers and supervisors in the 102 CAM Sq and reflected their perception and judgments.

DEFINITION OF TERMS

ANG: Air National Guard. A reserve component of the Air Force having full-time and part-time military employees working at bases performing Air Force related missions.

Background Report: A printed report of data held in MMICS data base.

DOR: Detailed OJT report. A background report given the details of an individual's training status.

F-106: The aircraft flown by the Massachusetts ANG at Otis ANGB, Massachusetts, and maintained by the 102 CAM Sq. The F-106 is known as the Delta Dart.

MMICS: Maintenance Management Information and Control System. An automated information system used in the Air Force, using remote terminals in the work area to access a central base-level computer data base.

NGB: National Guard Bureau. The command or agency that operates the Air National Guard and Army National Guard. It is based in Washington, D. C.

102 CAM Sq: An organizational designation identifying the 102nd Consolidated Aircraft Maintenance Squadron. Otis Air National Guard Base, Massachusetts.

OJT: On-the-Job training.

TMA: Training Forecast. A background report produced from MMICS which shows the status of an individual's training in regard to qualification, certification and proficiency requirements. The report shows completion data and due dates for receiving training and uses status indicators such as overdue, awaiting action, etc..

SUMMARY

The purpose of Part I was to give the reader the basic concept of the research project, how it was conducted and what it hoped to achieve. Part I defined the population to which this project was directed. Its purpose was to provide a general overview of the project so that the reader can determine if the project is beneficial to his or her needs.

In Part II, entitled "Literature Review," the researcher will provide relevant research findings consistent with the purpose of this project. Part II will contain a review of available literature on the documentation and procedures involved for conducting training within an Air National Guard organization, both before MMICS (non-automated) and after MMICS (automated). In addition, a review of literature on instituting organizational change and overcoming resistance to change will be presented. The goal of this section is to provide the foundation for the project and the assumptions that have been made regarding the project findings. Its development should reflect the required historical, psychological, sociological and philosophical foundation associated to this research project.

Part III will provide the description and analysis of the findings and contain the crux of the project. The project will be detailed to the reader to reflect the actual workings of the research. The results of the evaluation instrument will be discussed to illustrate whether initial assumptions made about the population were realized.

TIME LINE

STEP	ACTIVITY	M O N T H											
		J	F	M	A	M	J	J	A	S	O	N	D
1.	Plan Project			X									
2.	Prepare Questionnaire					X	X						
3.	Distribute Questionnaire							X					
4.	Review Literature						X		X				
5.	Collect Completed Data								X				
6.	Evaluate Findings								X	X			
7.	Prepare Conclusions									X			

PART II
LITERATURE REVIEW

On-the-Job Training (OJT)

The U.S. Air Force and Air Reserve Forces operate and maintain millions of dollars of equipment and resources. Thousands of men and women are employed in the management, operation and maintenance of this equipment. A constant need for training exists due to turnover, transfer, changing sophisticated equipment and the requirement to maintain proficiency.

The program for providing and maintaining qualified people to fill the various skills needed to operate, maintain and repair multimillion dollar aircraft, electronics and other equipment used in the Air Force and Air Reserve Forces is contained in Air Force Regulation (AFR) 50-23, On-the-Job Training.¹ This eighty-eight-page regulation contains the concept, structure and policy for training in the Air Force.

The Air Force believes in a dual channel OJT program consisting of knowledge training and qualification training.² Knowledge training is acquired by a new recruit or trainee, first through formal Air Force technical training schools (fundamentals and theory) for the particular career field; through correspondence courses developed and written by the Air Force, and through task knowledge. Qualification training is provided through hands-on, actual work area experience leading to the award of a skill level.³ This skill level advancement concept brings a young inexperienced recruit through a series of stages involving self-study and supervised instruction to a level of competence useful to

mission accomplishment in the Air Force and satisfying to the individual.

In the trades, apprentice, skilled and journeyman designations are comparable to what the Air Force calls the three-, five- and seven-skill levels, or semiskilled-, skilled- technician-skill level. Career advancement and promotions are tied to prerequisites of time, experience and skill level advancement.

Training in Air National Guard units is governed by two directives: AFR 50-23, On-the-Job Training, and by AFR 66-1, Vol. 4, "Maintenance Management, Air National Guard." "AFR 66-1, Vol. 4 provides the details of the maintenance responsibilities, management procedures and functions of the deputy commander for maintenance (DCM) and staff, and for the organizational, field, avionics and munitions maintenance branches."⁴ (See Appendix A for organizational charts.)

Training Management, a staff function of the deputy commander for maintenance, is responsible for the overall administration, control and policy for the training program.⁵ Training management works closely with the production activities of the four branches and DCM staff elements to ensure training requirements are identified, scheduled and done on a timely basis.⁶ "The administration of an individual's Upgrade Training (UGT) to meet the job knowledge and skill level of an Air Force specialty is vested in the individual's supervisor and training management."⁷

Documentation and Procedures

All enlisted members of the Air Force and ANG have an Air Force Form 623, On-the-Job Training Record. "This folder contains various documents and forms to record training, progress and job qualifications."⁸ The AF Form 623 record will stay and be monitored by the individual's supervisor in the work center beginning with initial assignment, when transferred, or until discharge or separation.

Non-Automated

In units with no MMICS capability, training documents and forms to record and monitor training are hand-posted by the supervisor in the work center on each assigned member. Even if all personnel are fully trained, qualification and semiannual or annual familiarization or proficiency training must be kept track of and scheduled.⁹

AF Form 1098, "Special Task Certification and Recurring Training" (see Appendix B), is used to record those tasks, certifications, proficiency checks or familiarization training not part of upgrade training but required because personnel work around aircraft or some industrial equipment. For example, some pieces of equipment like aerospace ground equipment (AGE) are self-contained motor-driven devices to supply electrical, pneumatic or hydraulic power, or air conditioning to aircraft so that trouble-shooting or maintenance can be accomplished without aircraft engine startup. These pieces of AGE require special operator training. Personnel receive training and entries are made in the individual's AF Form 1098.¹⁰ A one-time entry for certification is sufficient.

Other training requirements are conducted on an annual recurring basis for personnel safety reasons and to protect aircraft from damage. These include egress system familiarization (aircraft ejection seats have rocket and explosive systems and personnel unfamiliar with the cockpit could inadvertently come to serious harm), fire extinguisher familiarization, and foreign object damage familiarization (a forgotten bolt or tool accidentally injected into a jet engine could cause irreparable damage).

As many as twelve to thirty task items per individual may require periodic posting, review and updating. An administrative burden is imposed on the supervisor when upgrade training documentation and Air Force Form 1098 documentation are coupled with other administrative tasks.

Training management maintains the AF Form 2424, "Maintenance Training Document" (see Appendix B). Form 2424 is maintained as a summary of an individual's training.¹¹ The same information appearing on each individual's AF Form 1098 is transcribed on the Form 2424 in the training office. These summary records provide an informative source for determining training requirements and status reporting. This file could represent hundreds of records and hundreds of entries.

Still another form, AF Form 2426, "Training Request/Training Completion Notification" (see Appendix B), is used as the source document to update the Form 1098 and the Form 2424. This system is very paper intensive.

Individuals on formal OJT must study and complete a Career Development Course (CDC) as part of their upgrade training (UGT). The progress and status of the course is recorded on AF Form 1096, "CDC Status Record"¹³ (see Appendix B). The correspondence courses contain several volumes of study material and text. After each volume is completed, a volume review exercise is filled out. The volume review exercise is a booklet containing multiple-choice questions that reinforce the learning process. The answers are transferred to a machine-graded answer sheet and mailed to a central facility that grades each volume and a final exam. This data is entered by hand-posting the individual's AF Form 1096 maintained in the Form 623 and training management office.

Automated

For units with automated computer capability, the MMICS performs detailed administrative tasks automatically. In a paragraph outlining the MMICS training subsystem in AFR 66-1, volume 4, MMICS is said to, "extend the capability of supervisors and trainers by absorbing much of their administrative burden."¹⁴

MMICS stores the data base for monitoring, scheduling and managing the training program. When initially implemented in an organization, loading of the data base is labor and time consuming. Training requirements and events are loaded to the computer and are assigned three digit course codes. These codes are stored in MMICS and provide information as to course type; qualification, certification, proficiency, or career

development course, the course title, the frequency of training; one time or recurring, the status; completed, overdue, awaiting action, or scheduled, and the date completed or date due. In a description of the pool of data provided by MMICS, Air Force Pamphlet (AFP) 66-10, indicates that MMICS provides the necessary data "for determining and validating training needs...and training needs can be established and scheduled from the data stored in the computer."¹⁵

The Training Forecast (TMA) is a printed listing of each individual's training history stored in the computer (see Appendix B), and essentially replaces the hand-posted AF Form 1098, Special Task Certification and Recurring Training, and the AF Form 2424, Maintenance Training Document. The training forecast provides excellent visibility and scheduling capability by automatically projecting training coming due. Within ninety days of going overdue, MMICS automatically changes the status of a training requirement to "awaiting action," and enables the supervisor to plan in advance the actions necessary to obtain needed training classes.

The Detailed OJT Report (DOR) provides a single page of relevant data for each individual on upgrade training (see Appendix E). The DOR lists all correspondence course data by volume number and volume review exercise scores. The AF Form 1096, CDC Status Record, is eliminated by the MMICS report, DOR. Hand-posting is eliminated and handled by the computer. Other information pertinent to personnel on upgrade training

is displayed on the DOR in an easily readable format. Time consuming research of other documents is eliminated.

Scheduling of training and documenting completion of training is accomplished through use of the MMICS class update (CUP) routine.¹⁶ Personnel requiring training are loaded to a training event. Class schedules are produced from the CUP and distributed to work centers. The class schedule is used by the agency or instructor as an attendance roster. The roster is returned to training management for updating MMICS. The use of AF Form 2426, Training Request/Training Completion Notification, is greatly reduced or eliminated.

These reductions or eliminations of the requirement to complete certain forms, hand-post information or other administrative tasks such as duplicating records or transcribing, are real benefits of the MMICS training subsystem. To a large degree, MMICS is in keeping with the spirit of the Paperwork Reduction Act of 1980. In the Comptroller General's Report to the Chairman Committee on Government Operations House of Representatives, entitled, "The Air Force Can Improve Its Maintenance Information Systems," the Paperwork Reduction Act was described as follows:

Throughout both DOD and the Air Force, managers rely on information to make critical decisions about maintenance activities. Because of concern over federal agencies' continuing problems in managing their information activities, the Congress passed the Paperwork Reduction Act of 1980 (Public Law 95-511). The act requires that agencies manage their information as a resource -- information resources management

(IRM). IRM basically means managing information so that agency managers receive needed information at the right time and in the proper level of detail to permit them to efficiently and effectively carry out their responsibilities.¹⁷

The Comptroller General's report indicated that there were five functional areas of concern under the Paperwork Reduction Act of 1980. They include, "paperwork, statistics, records management, privacy and information technology."¹⁸

Instituting Organizational Change

The Air Force spent thirteen years in the design and development of the MMICS. "Work began on MMICS in 1966 and implementation of the system began in 1974," as indicated by the Comptroller General in the Report to the Chairman Committee on Government Operations House of Representatives, entitled, "The Air Force Can Improve Its Maintenance Information System."¹⁹ In 1980 MMICS was introduced to this organization with the receipt and installation of computer hardware.

Studies have shown that before a management information system (MIS) is introduced to an organization, members of that organization must be prepared for the change. In a textbook written by Robert G. Murdick, entitled, "MIS Concepts and Design," the author points out that, "unless members of an organization believe that changes are needed and will benefit them, they will resist change."²⁰

Introducing and implementing a computer system to an agency or an organization involves behavioral concerns not just technological concerns. Communicating the effects of a computer system on managers

as well as individual members of an organization can help a transition go more smoothly. Anxiety in an organization is introduced when questions surface about roles, status and power.

George I. Brabb, in his book "Computers and Information Systems in Business," pointed out that computers have affected management in three areas: operationally, functionally and the problems of the creative and technologically orientated workforce.²¹ A MIS affects the manner in which a manager carries out his duties. With computer printouts and listings, information previously seen by a manager is now accessed elsewhere by others. The placement of information could affect power and influence.

In a September 1982 Business Week article entitled, "Information Management," the author explained:

The biggest obstacle to installing an effective information management program, however, may be human nature. Agencies often lack the team spirit necessary to make a centralized management scheme work, some officials claim, since they feel they are losing power by giving up control of their information.²²

Management must take steps to facilitate change in the organization by management of the transition. Certain steps should be followed to begin the process. These steps are outlined in a textbook by Robert C. Murdick, entitled, "MIS Concepts and Design." They include, "(a) setting objectives, (b) changing social relationships, (c) building self-esteem of organizational members, and (d) providing incentives that motivate change."²³ These steps should be carried out by communicating

the impact of the system at all levels of the organization either through briefing, information programs, seminars, etc.

In the summer 1982 edition of Organizational Dynamics, David A. Nadler wrote an article entitled, "Managing Transitions to Uncertain Future States." In it he outlines the change scenario and brings up the idea that "most change is brought about by events or forces outside the organization."²⁴ He also developed the concept for dealing with the change state as it affects power, anxiety and control. Certain needs must be addressed by management to complete the change. These needs can be addressed as follows: "Power - creates a need to shape political dynamics associated with change; Anxiety - creates a need to motivate constructive behavior in the face of change; control - creates a need to systematically manage the transition state."²⁵

In an interview with an official of Otis ANGB regarding briefings or seminars to introduce MMICS to personnel in the organization, Master Sergeant Gordon Wixon said, "The National Guard Bureau had planned to send around teams to give briefings, but they did not materialize because of funding."²⁶ What the Guard Bureau did do, however, was to designate "lead bases" (first to receive equipment) and through experience with the system certain key individuals would "share" their expertise with other units in the region. The 103rd Consolidated Aircraft Maintenance Squadron, Connecticut Air National Guard, Bradley Field, Connecticut was such a lead base, and was tasked to assist ANG units in New England. In most cases, including the lead base, key individuals received no

training or briefing on the equipment, and, this researcher included, were faced with "here's the book, learn how to do it."

Overcoming Resistance to Change

Resistance to change occurs constantly in our daily lives. Changing technology, new methods and easier procedures are always being developed. Studies have shown that introducing a management information system causes resistance in the organization because of the technological and social changes induced. In a Harvard Business Review article by Paul R. Lawrence, entitled, "How to Deal With Resistance to Change," an understanding of change is described when he says,

Think of change as having both a technical and social aspect. The technical aspect of the change is the making of a measurable modification in the physical routines of the job. The social aspect of the change refers to the way those affected by it think it will alter their established relationships in the organization.²⁷

Guidance in overcoming resistance to change is offered in a number of concepts. Using participation is one method of reducing resistance. Get key individuals and managers to participate in making the change, get them involved in the process. Use outside experts to assist in the process. Act or assign someone as a "change agent" to facilitate the change. This "change agent" theory was explained in an article originally appearing in the periodical Personnel, entitled, "Strategies for Organizational Change: The role of the Inside Change Agent," by P. L. Hunsaker.²⁸

In the textbook MIS Concepts and Design, Robert G. Murdick offers a formula for overcoming resistance to change:

First identify targets for behavior modification such as key individuals, formal organizational components and informal groups. Second, increase the present forces for change and reduce opposing forces resisting the change.²⁹

The training manager at the 103rd CAM Sq Connecticut Air National Guard offered to assist this unit in introducing certain MMICS products to the organization when he learned of the resistance this researcher was encountering. Notifications were sent out to key branch chiefs and supervisors of the upcoming visit of the "outside expert," Master Sergeant Walter Desruisseaux. Meetings were held with him and he explained the purpose of the new MMICS products and how they work at his unit in Connecticut. Questions were fielded and a genuine understanding and commitment for participation in the implementation of the MMICS products was reviewed. The procedure was helpful.

In an interview with the training manager for the Connecticut Air National Guard, Master Sergeant Desruisseaux said, "We in Connecticut did not experience the resistance to MMICS you are encountering. We were going through an aircraft conversion from the F-100 to the A-10, and since MMICS was implemented at the same time, the organization took it in stride, in that they both came as a package and had to be learned together."³⁰ Acceptance here was right from the start. Becoming familiarized and qualified in the operational aspects of the new aircraft apparently, psychologically, included MMICS since they both were introduced simultaneously.

FOOTNOTES

1. AFR 50-23, On-the-Job Training, p. 1.
2. Ibid, p. 5.
3. Ibid, p. 5.
4. AFR 66-1, Volume 4, Maintenance Management Air National Guard, p. 1.
5. Ibid, pp. 2-5.
6. Ibid, pp. 2-5.
7. Ibid, pp. 2-5.
8. Ibid, pp. 2-6.
9. Ibid, pp. 2-6.
10. Ibid, pp. 2-6.
11. Ibid, pp. 2-6.
12. Ibid, pp. 2-6.
13. AFR 50-23, On-the-Job Training, p. 50.
14. AFR 66-1, Volume 4, Maintenance Management, pp. 2-10.
15. AFR 66-10, MMICS Guide for Maintenance Managers, p. 32.
16. AFR 66-1, Maintenance Management, pp. 2-12.
17. GAO, Comptroller General Report, p. 6.
18. Ibid, p. 65.
19. Ibid, p. 24.
20. Robert G. Murdick, MIS Concepts and Design, p. 241.
21. George I. Brabb, Computers and Information Systems in Business, p. 221.

22. "Information Management," Business Week, September 1982, p. 86.
23. Robert G. Murdick, MIS Concepts and Design, p. 241.
24. David A. Nadler, "Managing Transitions to Uncertain Future States," Organizational Behavior, Summer, 1982, p. 41.
25. Ibid, p. 42.
26. Interview with Gordon Wixon, 102 CAM Sq, Otis, ANGB, Massachusetts, June 1983.
27. Paul R. Lawrence, "How to Deal with Resistance to Change," Harvard Business Review, (Reprint January-February 1969).
28. P. L. Hunsaker, "Strategies for Organizational Change: The Role of the Inside Change Agent," Personnel, pp. 18-28.
29. Robert G. Murdick, MIS Concepts and Design, p. 55.
30. Interview with Walter Desruisseaux, 103 CAM Sq, Bradley Field, Connecticut, September 1983.

PART III

FINDINGS

Overview

The purpose of the project was to examine, determine and evaluate the benefit of the MMICS to managers and supervisors of the 102 CAM Sq, Otis ANGB, Massachusetts in conducting and monitoring training and training programs within their sections.

The researcher, a training manager at Otis ANGB was required because of his position to manage the MMICS training subsystem. He believed that the system upon initially assuming responsibility for MMICS, was not being fully utilized as directives at his place of employment outlined. Further expansion and utilization was initiated, but was met with resistance and negative reaction. Questions arose as to the usefulness of the system. Statements were made that it was easier before MMICS. Has MMICS provided the benefits it was designed to? Is there a problem of perception? Has MMICS created an administrative boon or burden?

To examine, determine and evaluate the benefit of the system a review of the literature was conducted on the documentation and procedures involved for conducting training within an ANG organization, both before MMICS (non-automated) and after MMICS (automated). In addition, a literature search was conducted on instituting organizational change and overcoming resistance to change. An evaluation was conducted by distributing a questionnaire to thirty-four managers and supervisors to determine the perceived benefit of MMICS.

EVALUATION OBJECTIVE 1

By August 30, 1983 (1) review the literature available on conducting training within an ANG organization and compare documentation and administrative procedures both before and after MMICS; (2) review the literature on instituting organizational change and overcoming resistance to change. The complete discussion of this objective was conducted in Part II.

EVALUATION OBJECTIVE 2

By August 30, 1983 analyze the results of the questionnaire to determine the respondent's perception of the benefits of MMICS. The findings are presented later in this section as well as the implications, recommendations and conclusions.

Questionnaire

The questionnaire distributed was constructed of fifteen questions. Four of the questions were designed to establish some background and perspective on the supervisors and managers. The remaining questions focused on the major advantages and benefits of the system.

Survey Period

Questionnaires were distributed to thirty-four selected supervisors and managers of the 102 CAM Sq, Otis ANGB, Massachusetts on July 15, 1983. The cutoff date for returning the questionnaires was twenty days or by August 5, 1983.

Rate of Response

Within five days of distributing the questionnaire, twenty-three were returned and by the cutoff date thirty were returned which represented an eighty-eight percent return rate.

FINDINGS

The results of the questionnaire were tabulated and summarized into three groups: total responses, supervisor responses and branch chief responses. Results of the research are depicted in Table I and Table II, which represents the comparison of the three groups' perception of the benefits on MMICS.

The responses to each question were tabulated and directed into two categories: positive responses (strongly agree, agree, very useful, useful, very adequate and adequate) and negative responses (strongly disagree, disagree, very inadequate, inadequate, not very useful, not useful, sometimes, seldom and never).

Background on the participants derived from Questions 1, 2 and 3 provided information relevant to the supervisors' length of service, number of personnel supervised, and number of years as a supervisor.

Questions 13, 14 and 15 were answered only by branch chiefs.

Positive Perceptions

The following is the presentation of the respondents' positive perception of MMICS.

Eased Administrative Burden

Overall, the majority responded favorably to Question 4. Twenty-five, or eighty-three percent, of the total believe that the goal has been achieved. Twenty-two, or eighty-five percent, of supervisors, and three, or seventy-five percent, of the branch chiefs responded positively and agreed that the

administrative burden has been reduced.

Relieves Supervisors of "hand-posting" Tasks

To Question 5 twenty-seven, or ninety percent, of the total respondents believe that the MMICS Training Forecast has relieved them of performing detail-oriented administrative tasks. Twenty-four, or ninety-two percent, of the supervisors and three, or seventy-five percent, of the branch chiefs agreed or strongly agreed with the statement.

Reviews Background Reports

In Question 6, twenty-seven, or ninety percent, of the total said they always or usually review the MMICS reports to keep informed of and schedule required training. Twenty-five, or ninety-six percent, of the supervisors and two, or fifty percent, of the branch chiefs responded positively to the value of this report.

Easier to Monitor and Track Training

Twenty-two, or seventy-three percent, of the total respondents for Question 7 agreed or strongly agreed the Training Forecast and Detailed OJT Report made it easier to track and monitor training programs on their personnel. Twenty, or seventy-seven percent, of supervisors and two, or fifty percent, of the branch chiefs made a positive response.

Detailed OJT Report (DOR) and AF Form 1096

For Question 8, twenty-seven, or ninety percent, of the

total respondents agreed or strongly agreed that MMICS nearly eliminated administrative details for OJT and CDC status documentation. Twenty-four, or ninety-two percent, of the supervisors and three, or seventy-five percent, of the branch chiefs responded positively.

MMICS Created More of a Burden

Of the total answering Question 9, twenty-four, or eighty percent, said MMICS had created less of an administrative burden not more. Twenty-one, or eighty-one percent, of the supervisors and three, or seventy-five percent, of branch chiefs felt the burden was less under MMICS.

More Paper Intensive

Eighteen, or sixty percent, of the total respondents answering Question 10 felt that MMICS was less paper intensive than the pre-automated period. Fifteen, or sixty-five percent, of the supervisors and one, or twenty-five percent, of the branch chiefs responded positively to this question. It is interesting to note that seventy-five percent of the branch chiefs agreed that MMICS is more paper intensive.

Questions 13, 14 and 15 were answered by branch chiefs only.

The Chief of Maintenance Summary (TCM) is a Useful Tool

All four branch chiefs responded positively to Question 13. One hundred percent believed the TCM background report

was useful in checking the status and OJT statistics for their branches.

Effectiveness Monitored

For question 14, all branch chiefs, or one hundred percent, agreed that the OJT Report (OJR) is useful in monitoring the effectiveness of my supervisors in the administration of their OJT program.

Spot-trends and Training Deficiencies

Only one branch chief said he reviewed the TCM and OJR report to spot trends and training deficiencies within his branch on a monthly basis. Two referred to it periodically and one did not respond.

Table I (on page 33) is the comparison of the data gathered and represents the positive perception of the three groups.

Negative Perception

The following represents the respondents' negative perception of the benefit of MMICS.

Training

Question 11 required the circling of a number of a rating response scale ranging from 1 (very inadequate) to five (very adequate). Ten responded very inadequate and nine responded inadequate, or a sixty-three percent unfavorable response to the familiarization training provided by the National Guard

TABLE I
(Comparison of Positive Perception of the Benefit of MMICS)

	<u>Supervisors</u>		<u>Branch Chief</u>		<u>Total Responses</u>	
	N = 26		N = 4		N = 30	
<u>QUESTION</u>	<u>N = 30</u>		<u>N = 30</u>		<u>N = 30</u>	
4. Eased administration burden	22	85%	3	75%	25	83%
5. Relieves supervisor of "hand posting" tasks	24	92%	3	75%	27	90%
6. Reviews background reports	25	96%	2	50%	27	90%
7. Easier to monitor and track training	20	70%	2	50%	22	73%
8. Detailed OJT Report, DOR and AF Form 1096	24	92%	3	75%	27	90%
9. MMICS created more of a burden	21	81%	3	75%	24	80%
10. MMICS is more paper intensive	15	65%	1	25%	18	60%

Bureau (NGB) prior to and during the phasing in of MMICS. Seventeen, or sixty-five percent, of the supervisors and two, or fifty percent, of the branch chiefs responded negatively. Seven, or twenty-seven percent, of the supervisors and one, or twenty-five percent, of the branch chiefs were neutral.

Experience or Training with Other Computer Systems

Question 12 indicated that few managers or supervisors had any experience or training with another computer system. The results showed that few were familiar with a management information system before MMICS was implemented. Nineteen, or seventy-three percent, of the supervisors responded they had very little or no training or experience with another system similar to MMICS. Three, or seventy-five percent, of the branch chiefs responded they had no training or experience.

Table II (on page 35) is the comparison of the data gathered and presents the negative perception of the three groups.

TABLE II
(Comparison of Negative Perception of MMICS)

	<u>Supervisors</u>	<u>Branch Chief</u>	<u>Total Responses</u>
	N = 26	N = 4	N = 30
<u>QUESTION</u>	<u>N = 30</u>	<u>N = 30</u>	<u>N = 30</u>
11. Training	17 65%	2 50%	19 63%
12. Experience of training with other systems	19 73%	3 75%	22 73%

CONCLUSIONS

Has MMICS created more paperwork and become more of an administrative burden than before? Has MMICS provided the benefit for which it was designed? Is there a problem of perception? Has MMICS created an administrative boon or burden?

MMICS has cut down on the amount of paperwork and has reduced the administrative tasks of supervisors in conducting training. Time consuming hand-posting of training forms and documents have been reduced under MMICS. AF Form 1096, CDC status record, AF Form 1098, AF Form 2424, Maintenance Training Document, The Monthly Maintenance Plan, letters of appointment and designation and some Maintenance Operating Instructions have been eliminated.

The majority of respondents to the questionnaire believe that MMICS has eased the administrative burden of supervisors, has lessened the amount of paperwork, not increased it, and has made it easier to monitor and track training on their personnel.

Not as strong a positive response was realized on whether MMICS was more or less paper intensive. Three of the four branch chiefs felt it was more paper intensive. This is probably due to the fact that for the first time training reports were provided to the branch chiefs for monitoring and keeping track of the performance of each section's training progress. Under MMICS, the branch chief is provided three reports, where as before no forms or documentation requirements were part of the branch chief's responsibilities. Resistance was felt here because the branch chief was required to concentrate on new procedures, learn to read and analyze the information provided, and alter the approach or style used to monitor his supervisors.

Problems with perception were experienced. Negative reaction and resistance to MMICS was prevalent. The Air Force and the National Guard Bureau concentrated on technological changes that would occur in the field. Hardware purchases, contracts, installation and starting dates were fairly punctual, well-publicized and coordinated. Training of operators of the equipment was conducted.

The social changes as a result of the new technology, however, were ignored. Threats to status and ego, interpersonal relationships and complexity caused by the implementation of MMICS were not anticipated or addressed. Resistance to change resulted. Insensitivity to how MMICS would affect the way supervisors do their jobs or the effect on supervisors in regard to the placement of certain information has ruffled some feathers. Working relationships and informal groups are altered.

Distributing the questionnaire has had some positive results. Apparently, the questionnaire brought about a change in perception on the respondents. By focusing the attention of the supervisor on the benefits of MMICS a mental shift took place. The wording of the questions forced the respondents to compare what they used to do to what they now do.

Acceptance of the system seems to have been achieved. No negative comments or complaints about MMICS have been received by my office since the end of August 1983.

My original expectation or hypothesis was proven true. I can conclude therefore that MMICS has benefited the supervisor and the branch chief in conducting and monitoring section and branch training programs.

Recommendations

Based on the findings of this research, several recommendations can be made for future research.

The Air Force and the National Guard Bureau should recognize the social implications of organizational life when considering implementing changes such as the MMICS. Issues such as roles, status and power, and the political balance and its implications affect organizational life. Too much consideration is given to technological changes and their implementation activities. Acceptance of MMICS and therefore the benefits were delayed at Otis ANGB because of their inattention. The effectiveness and efficiencies of utilizing MMICS were slowed by at

least three years because the organization was not prepared for the change. Acceptance and overcoming resistance to change was difficult and time consuming.

Even though key individuals, selected by NGB, to act in a "lead base" capacity to train and familiarize staff people at other units, progress was slow. The lead base personnel had to first master the system and set up their own units. Then other staff people were trained. However, in the case of training management, only the loading and operating of the MMICS subsystem was briefed, not the ensuing resistance encountered in the organization.

With Phase IV of the MMICS implementation fast approaching, coupled with the upcoming aircraft conversion to the F-16 with its own computer system, the Central Data System (CDS), I can see organizational difficulties occurring. Recommend a series of briefings be given to all levels of the organization both on the MMICS Phase IV and the CDS. These briefings should as a minimum encompass the benefits, the goals and the impact on workload, and the changes in the way personnel must perform their jobs. Those informal educational briefings will help smooth the transition and win acceptance of the new system when they are initially set up.

This study or a similar study is worthy of being repeated. Other MMICS subsystems such as plans and scheduling, programs and mobility, etc., could benefit from such a study. In retrospect, the evaluation instrument should have contained at least ten more questions focused on

the possible areas causing conflict and negative reactions.

Summary of the Project

The purpose of this project was to examine, determine and evaluate the benefit of the MMICS to managers and supervisors in conducting and monitoring training and training programs. A questionnaire was designed and distributed to determine the perceptions and acceptance of the system by the supervisors. A review of literature on making organizational changes and overcoming resistance to change was conducted.

APPENDIX A

MMICS SURVEY/QUESTIONNAIRE

1. Introduction

This questionnaire is designed to gather data to support research for a thesis on the Maintenance Management Information and Control System (MMICS).

The questions in the survey are designed to allow you to express your feelings and attitudes on a number of subjects, based on your actual work experience. There are no right or wrong answers. Please complete each question by selecting the response that best describes your experiences, feelings or attitudes.

Your responses will be considered confidential. You are not required to supply your name or social security number thereby protecting your right to privacy. None of the data from this survey will be released to any person or agency except in the form of statistical data. The completed thesis will, however, become a permanent document in the campus library of Lesley College, Cambridge, Massachusetts.

2. Instructions for completing this survey/questionnaire

Below are some sample sets of directions for completing this survey.

- (a) Please read each question carefully and place an X in the box corresponding to the response that best describes your experiences, feelings or attitudes.
- (b) If you feel you strongly agree with the statement, put a check-mark in the column labeled "strongly agree."

- (c) If you are provided a rating response scale, and you only agree with the statement, circle the appropriate rating that best expresses the strength of your agreement. For example:

Strongly Disagree 1 2 (3) 4 5 Strongly Agree

3. Please note that Questions 13, 14 and 15 are to be answered only by branch chiefs. Return your completed survey to Training Management.

MMICS SURVEY/QUESTIONNAIRE

1. How long have you been a member of the Massachusetts Air National Guard?

☐ 1 - 5 years	☐ 21 - 25 years
☐ 6 - 10 years	☐ 26 - 30 years
☐ 11 - 15 years	☐ 30 or more years
☐ 16 - 20 years	

2. How long have you been a supervisor?

☐ 1 - 5 years	☐ 21 - 25 years
☐ 6 - 10 years	☐ 26 - 30 years
☐ 11 - 15 years	☐ 30 or more years
☐ 16 - 20 years	

3. How many people do you supervise?

☐ 1 - 5	☐ 16 - 20
☐ 6 - 10	☐ 21 - 30
☐ 11 - 15	☐ 30 or more

4. One of the goals of the Maintenance Management Information and Control System (MMICS) computer system was to ease the administrative burden of the supervisor. Do you feel that MMICS has met that goal when considering the administration of the training program?

☐ Strongly agree	☐ Strongly disagree
☐ Agree	☐ Disagree

5. Prior to MMICS, recurring training, qualification and certification training were documented and updated by "hand-posting" the old AF Form 1098. The MMICS Training Forecast report has relieved the supervisor of these detail-oriented administrative tasks.

☐ Strongly agree	☐ Disagree
☐ Agree	☐ Strongly disagree

6. As a supervisor, I review the MMICS background reports provided by Training Management to keep informed of and schedule training needed by personnel in my section.

☐ Always	☐ Sometimes
☐ Usually	☐ Seldom
☐ Never	

7. Generally speaking, the Training Forecast and Detailed OJT Report have made it easier for me as a supervisor to monitor and track the training programs of my personnel.

Strongly Disagree

Strongly Agree

1 2 3 4 5

8. The AF Form 1096, CDC Status Record, was maintained in the AF Form 623 and required periodic "hand-posting" by the supervisor. The MMICS Detailed OJT Report now automatically accomplishes these administrative tasks and provides more complete OJT information on one sheet.

☐ Strongly agree
☐ Agree

☐ Disagree
☐ Strongly disagree

9. The implementation of MMICS for monitoring training and OJT programs has created more of an administrative burden for me as a supervisor.

☐ Strongly agree
☐ Agree

☐ Disagree
☐ Strongly disagree

10. The implementation of MMICS for tracking and monitoring training and OJT programs is more paper intensive than before.

☐ Strongly agree
☐ Agree

☐ Disagree
☐ Strongly disagree

11. How would you rate the familiarization training you received from NGB prior to and during the phasing in and start-up of MMICS to acquaint you with its purpose, operation and benefits?

Very Inadequate

Very Adequate

1 2 3 4 5

12. Do you have, or have you had, any prior experience or training with a computer system similar to MMICS?

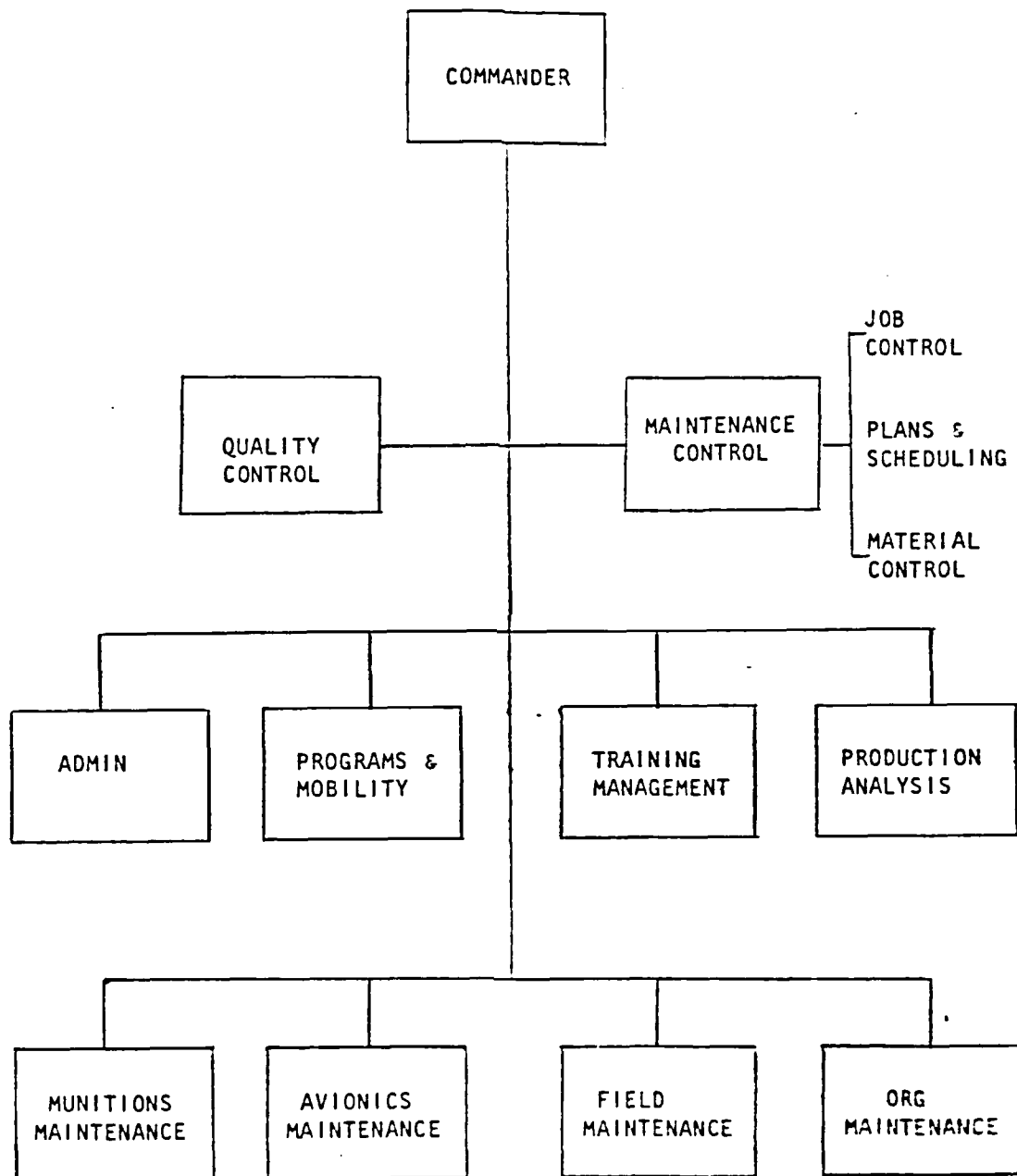
☐ Extensive
☐ Quite a lot
☐ Some

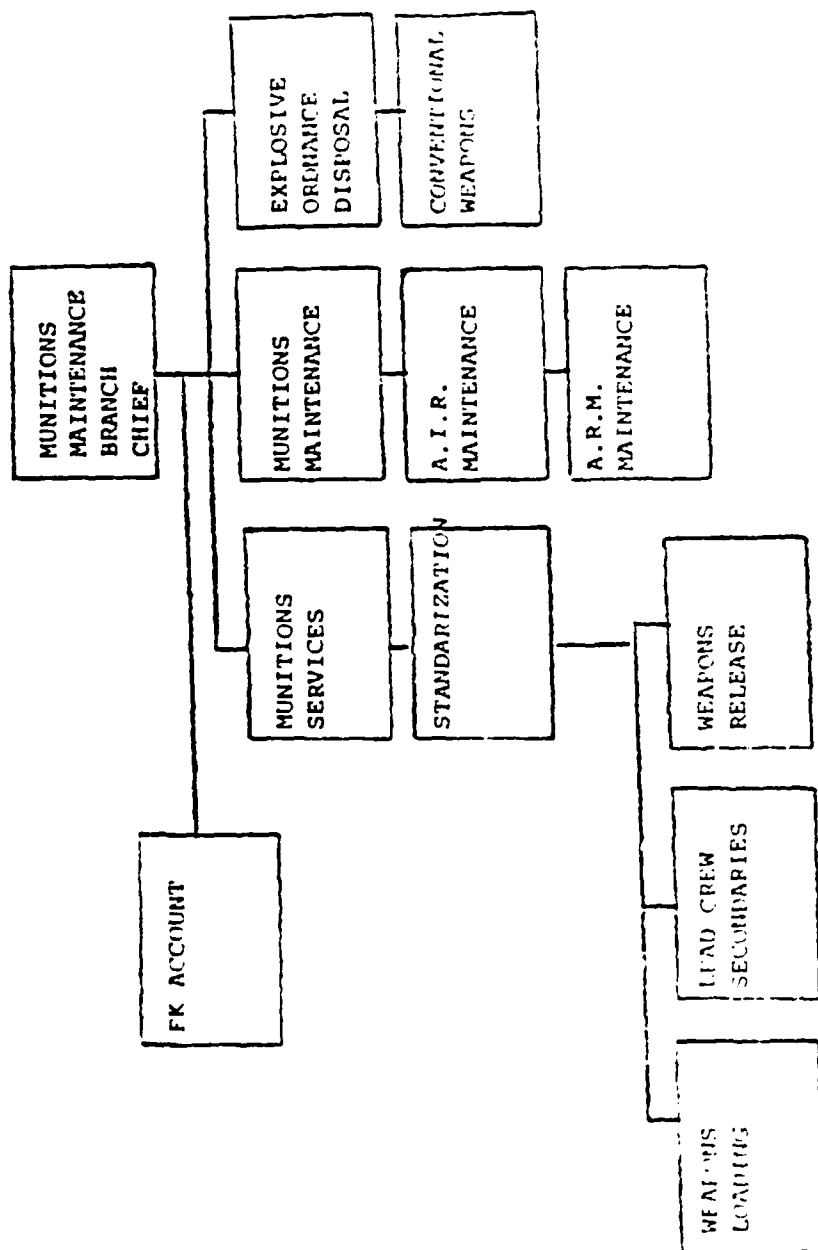
☐ Very little
☐ None

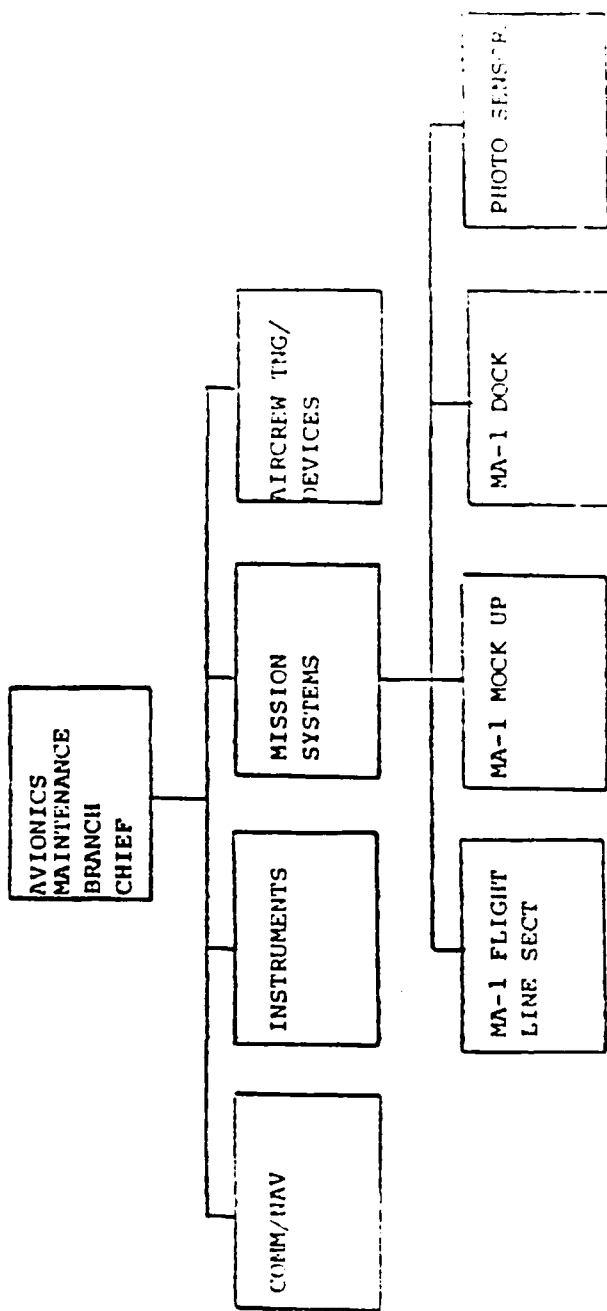
NOTE: Answer Questions 13, 14 and 15 only if a branch chief.

13. The Chief of Maintenance Summary is a useful tool in checking status and OJT statistics for your branch.
- | | |
|--------------------------------------|--|
| ☐ Very useful | ☐ Not very useful |
| ☐ Useful | ☐ Not useful |
14. As the branch chief, the OJR Report is useful in monitoring the effectiveness of my supervisors in the administration of their OJT program.
- | | |
|--------------------------------------|--|
| ☐ Very useful | ☐ Not very useful |
| ☐ Useful | ☐ Not useful |
15. As a branch chief, I use the OJR and Chief of Maintenance Summary to spot trends and training deficiencies within my branch.
- | | |
|------------------------------------|--|
| ☐ Monthly | ☐ Periodically |
| ☐ Quarterly | ☐ Never |
| ☐ Sometimes | ☐ Don't receive reports |

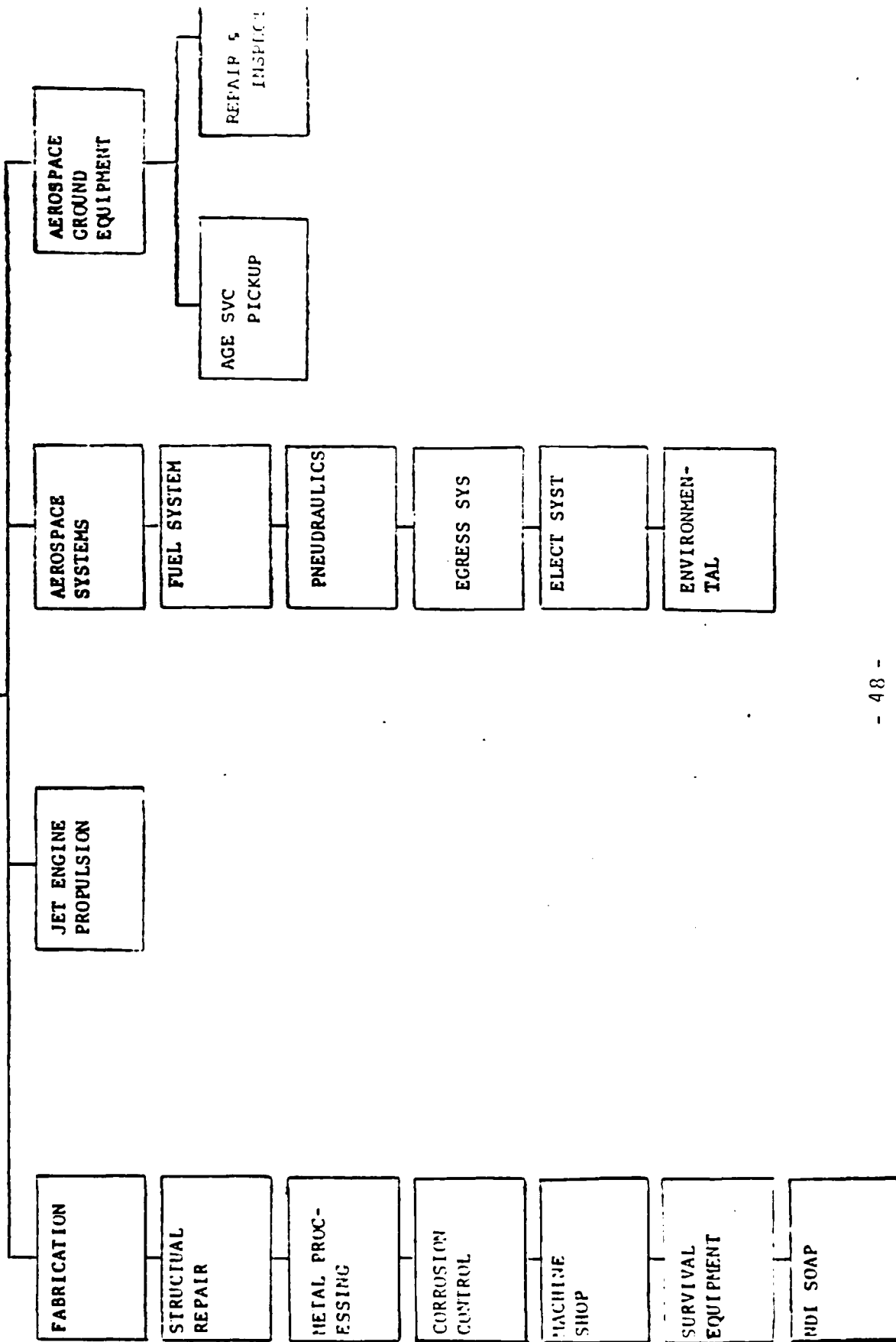
DEPUTY COMMANDER FOR MAINTENANCE

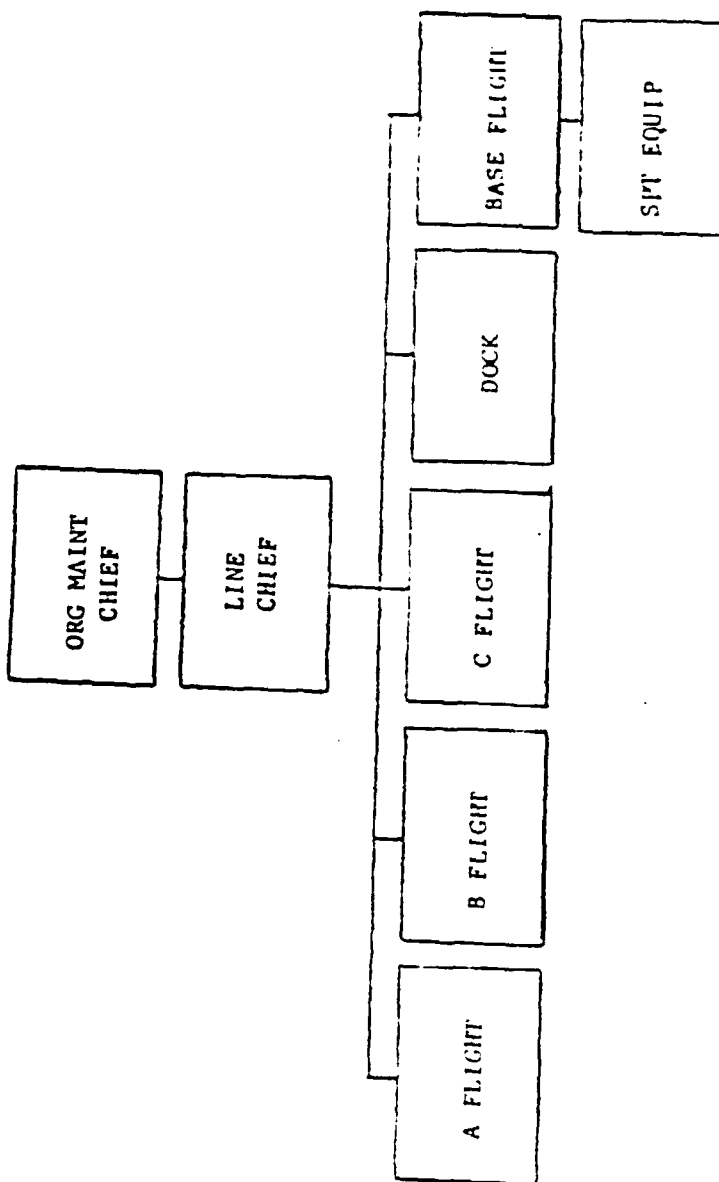






FIELD
MAINTENANCE
BRANCH
CHIEF





APPENDIX B

AVIONICS

SPECIAL TASK CERTIFICATION AND RECURRING TRAINING

TASK OR RECURRING TRAINING AND STUDY REFERENCES	EVALUATION OR TRAINING				EVALUATOR OR INSTRUCTOR	TRAINEE INITIAL	SUPERVISOR OR CERTIFYING OFFICIAL
	TYPE	DATE COMPLETED	SCORE OR HOURS	DUE DATE			
ADDRESS SYSTEM FAM F106A/B INOR 66-31	C/P	21 JAN 80	SAT	21 JAN 81	A CLINTON	JH	R. J. [Signature]
ADDRESS SYSTEM FAM T-331 INOR 66-31	C/P						
FIRST AID SHOCK & CPR AFR 127-101	C/P						
AUDIO GRAM AFR 127-101	T						
HANGER DOOR QUAL AFR 127-101	P						
ALERT CELL DOOR QUAL AFR 127-101	P						
ARMAMENT BAY DOOR & LAUNCHER OPERATION	C/P						
LOCAL FIRE ALARM SYS FAMILIARIZATION	C						
FIRE EXTINGUISHER FAM AFR 92-1	C/P	8 FEB 80	SAT	8 FEB 81	UCMT		J. [Signature]
CERTIFY CONDITION OF AF PROPERTY AFM 66-1							
PRODUCTION INSPECTION AFM 66-1							
RADIO OPERATOR TRNG AFM 66-1							
FOO FAMILIARIZATION AFM 66-3 & AFM 66-1	C	23 AUG 80	SAT		Jcha Saul [Signature]		R. [Signature]
NUCLEAR SAFETY TRAINING AFR 122 SERIES	C						
CAM LOC TRAINING F106A/B	C						
CORRECTION CONTROL T.O. 1-1.2	C						
NAME OF TRAINEE (Last, First, Middle Initial)	SSAF				GRADE	AFSC	
GARY					1A1V	321324	

SPECIAL TASK CERTIFICATION AND RECURRING TRAINING

TASK OR RECURRING TRAINING AND STUDY REFERENCES A	EVALUATION OR TRAINING				EVALUATOR OR INSTRUCTOR F	TRAINEE INITIAL G	SUPERVISOR OR CERTIFYING OFFICIAL H
	TYPE B	DATE COMPLETED C	SCORE OR HOURS D	DUE DATE E			
MC-1A GEN SET T/O. 35C2-2-34-21		28 JAN 80	—	—	W. STEWART	JH	R. Oliver
MD-4MO GEN SET T/O. 35C2-2-31-31		28 JAN 80	—	—	W. STEWART	JH	R. Oliver
MB-18/W DIESEL GEN. T/O. 35C2-3-339-11							
NP-2 LIGHTCART T/O. 35P5-5-11-31		28 JAN 80	—	—	W. STEWART	JH	R. Oliver
MD-3/MD-3M GEN SET T/O. 35C2-3-304-1		28 JAN 80	—	—	W. STEWART	JH	R. Oliver
MA-3 AIR CONDITIONER T/O. 35E9-9-41		28 JAN 80	—	—	W. STEWART	JH	R. Oliver
MA-3M AIR CONDITIONER T/O. 35E9-9-21		28 JAN 80	—	—	W. STEWART	JH	R. Oliver
A/M32C-5 AIR CONDITIONER T/O. 35E9-9-11							
MC-1 HEATER T/O. 35E7-2-5-1							
MD-1 HEATER T/O. 35E7-2-5-2							
HDU-13/M HEATER T/O. 35E7-6-9-2							
MC-11 AIR COMPRESSOR T/O. 34Y1-125-1		28 JAN 80	—	—	W. STEWART	JH	R. Oliver
MC-2A AIR COMPRESSOR T/O. 34Y1-87-11							
MA-1A GTC COMPRESSOR T/O. 2G-GTCB5-2							
MJ-2A HDY MULE T/O. 33A2-24-11		28 JAN 80	—	—	W. STEWART	JH	R. Oliver
MK-1 HYD TEST STAND T/O. 33A2-2-23-31							
MK-3A HYD MULE T/O. 33A2-2-30-31		28 JAN 80	—	—	W. STEWART	JH	R. Oliver
AF/M24T-2 CABIN PRESS T/O. 33A4-4-18-1							
MB-1 CABIN PRESS TEST T/O. 33A4-4-8-1							
A/E24T-12 LOAD BANK T/O. 33D2-4-18-11							
A-1 BLOWER T/O. 35E11-3-51							
MA-1 BLOWER T/O. 35E11-2-3							
NAME OF TRAINEE (Last, First, Middle Initial) (Ink)				SSAN (Ink)	GRADE (Pencil)	AFSC (Pencil)	
GARY					MAN	52132A	

MAINTENANCE TRAINING DOCUMENT

[illegible]

PERSONAL DATA - PRIVACY ACT OF 1974

PCN 56073-25P

TRAINING FORECAST (PA)

TRACA

TRAINING FORECAST (ALL DRG ID'S & W/C'S) FOR UNIT ID C.

ORG ID 4202 0102 2AM 50

NAME	ESP	GRS	DIFFSC	DIFFSC	W/C	COURSE	NARRATIVE	DUR	STATUS	DATE	DATE	DATE
								INTVL		COMP	COMP	COMP
101	102	43151	43171	AFLT	101	PROF INITIAL EVALUATION		001Y	COMPL	74 AUG 28		
104					104	PROFRADIO OP TRAINING		001Y	COMPL	75 OCT 14		
106					106	CERTIF-106 REFUEL		001Y	QUAL	81 FEB 17		
110					110	CERTIF106A/B CR CHIEF QUAL		000Y	QUAL	81 FEB 17		
115					115	DUALALERT DUTY QUAL		005Y	QUAL	83 JUN 10		
116					116	CERTEGRES MAINT ONLY F106		000Y	QUAL	80 NOV 14		
118					118	CERTACT TOWING & MARSHAL		001A	QUAL		84 DEC 28	
123					123	CERTF106 EGRESS RECT		008E	QUAL		84 DEC 03	
124					124	DUAL MILITARY DRIVE LICENSE		004Y	QUAL	73 SEP 06		
126					126	CERTIF-106 RUN-UP AND TAXI		003A	QUAL			
127					127	CUALHAGAR DOOR OPERATOR		001Y	QUAL	75 JUL 11		
141					141	CERTIND-4 GEN		001Y	QUAL	73 FEB 22		
142					142	CERTIND-4 GEN		001Y	QUAL	73 FEB 22		
143					143	CERTIND-1A GEN		001Y	QUAL	75 JUL 13		
145					145	CERTIND-1 COMPRESSOR		001Y	QUAL	73 FEB 22		
146					146	CERTIND-2 COMP		001Y	QUAL	73 FEB 22		
148					148	CERTIND-1 HTR		001Y	QUAL	73 FEB 22		
150					150	CERTIND-3 HTR		001Y	QUAL	73 FEB 22		
151					151	CERTIND-1 HTR		001Y	QUAL	81 NOV 15		
153					153	CERTIND-2 LIGHT CART		001Y	QUAL	75 JUL 13		
161					161	PROFFD PROGRAM TRNG		001A	COMPL		85 JAN 07	
162					162	CERTIF-106 COCKPIT FAM		001A	COMPL		85 JAN 08	
168					168	PROFFD PROGRAM TRNG		001Y	COMPL	75 OCT 14		
169					169	DUALALERT CELL DOOR OPER		001Y	QUAL	75 JUL 13		
178					178	LASTEST372-024FID6GRSSYSTCH		018Y	COMPL	80 JUN 06		
191					191	CERTREMOVE SURVIVAL KIT		001Y	QUAL	82 MAY 15		
201					201	PROFFD DEPLOYMENT PROCOR		001A	COMPL		84 MAY 14	
206					206	CERT3MC11 DIESEL COMPRESS		001Y	QUAL	82 MAY 24		
271					271	PROFFD EXT TNG MAZ AREA		001A	COMPL		84 MAY 14	
279					279	CERTIND-1 LOX CART		001Y	QUAL	73 FEB 23		
280					280	CERTIND-3A LOX CART		001Y	QUAL	73 FEB 23		
281					281	PROFFD EXT TNG MAZ AREA		001Y	QUAL	73 FEB 23		
318					318	CERTSTART CART OPERATION		001B	ARACY		84 APR 17	
319					319	CUALDARM EX TANK F-106		001A	QUAL	83 APR 06		

PCN 56073-25P

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VERSION DATE 110582

PAGE 1

PERSONAL DATA - PRIVACY ACT OF 1974

TRAINING REQUEST/TRAINING COMPLETION NOTIFICATION									
1. COORDINATION ROUTING			2. TRAINING DESIRED						
A TO	B. DATE	C. INITIALS	3. COURSE TITLE		4. COURSE NUMBER (If applicable)		5. PDS CODE (If applicable)		
			6. COURSE LENGTH		7. REQUESTED TRAINING DATE		8. SCHEDULED TRAINING DATE AND TIME		
			9. TRAINING LOCATION		10. COMPLETION DATE		11. SCORE/RATING		
12. NAME (List Additional Names on Reverse)			13. GRADE		14. EMPLOYEE NO.		15. UNIT/ACTIVITY		
16. REMARKS			17. FROM (Signature, Activity, Date)						
			18. INSTRUCTOR OR EVALUATOR (If Required) (Printed or Typed Name and Signature)						
			19. TRAINING ACTIVITY (Signature, Activity, Date)						

AF FORM 2426 JUN 77 PREVIOUS EDITION WILL BE USED

PERSONAL DATA - PRIVACY ACT OF 1974

PCN 5G073-43PC

PREPARED 84MAR19 10150

DETAILED OJT REPORT (PA)

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ORGANIZATION: 0102 CAM SQ

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• INVALID SUPERVISOR LOADED *

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DUTY STATUS DATA INIT EVAL DATE MSEP EVAL DATE

TRAINING STATUS DATA TAESC 46250 EST COMP DATE 84SEP07 AKI SCORE 5 REMARKS JQS IND
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EVALUATION DATA PER ACT NBR CODE B 46250 BOARD ACTION DATA GEN PART 1 PART 2
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COURSE PREFIX/TITLE COURSE NBR VOL DATE DATE START EST COMP COURSE ACT COMP CE RETEST DATA
CCDC 46250 WEAPONS MECH 252 1 07 030 83MAY01 83MAY24 83JUN05 84MAR04 COMPL 84FEB14 078

VOLUME STATUS	VOL NBR	START DATE	EST COMP DATE	ACT COMP DATE	VOLUME SCORE	REMARKS
C	01	83JUN05	83JUN05	83JUL28	096	
C	02	83JUL28	83AUG27	83AUG19	096	
C	03	83AUG19	83SEP18	83SEP16	094	
C	04	83SEP16	83OCT16	83OCT11	099	
C	05	83OCT11	83NOV10	83NOV18	097	
C	06	83NOV18	83DEC18	83DEC13	093	
C	07	83DEC13	84JAN12	84JAN16	090	

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