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TECHNICAL ORDER MANAGERS HANDBOOK: UTILIZATION  
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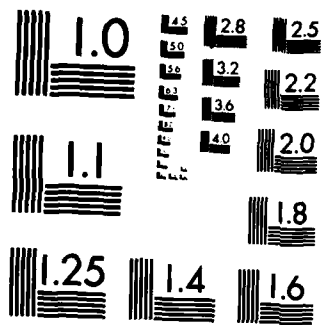
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**TECHNICAL ORDER MANAGERS HANDBOOK:  
UTILIZATION ASSESSMENT**

By

Douglas E. Blair

PLANS AND PROGRAMS OFFICE  
Brooks Air Force Base, Texas 78235

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Final Report for Period March 1983 - March 1984

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This report has been reviewed and is approved for publication.

ANTHONY F. BRONZO, JR., Colonel, USAF  
Commander

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<p>This report provides a utilization assessment of the Air Force Technical Order (TO) Managers Handbook. The handbook was developed by the Air Force Human Resources Laboratory to provide TO managers with guidelines for selection of the most appropriate format options and procurement of Air Force TOs. The requirement for development of this handbook was initiated by the Air Force Logistics Command. Although the primary user has been the Air Force Systems Command, the handbook has been distributed Air Force-wide to organizations having responsibilities for TO acquisition and management. A number of these organizations were contacted concerning their utilization of the handbook and the results indicated that the handbook is used as a quick reference source, especially for TO managers with limited experience. The handbook is also being used in the training environment where it has been a major source of information for the development of a formal TO acquisition and management course and is a useful tool for organizations that provide inhouse training.</p> <p>Whether the handbook is a guide for TO managers is debatable. A number of recommendations are provided for improving the content of the handbook and for maintaining its relevance when TO procedures, policies, and requirements change.</p>			
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UTILIZATION ASSESSMENT**

By

**Douglas E. Blair**

**PLANS AND PROGRAMS OFFICE  
Brooks Air Force Base, Texas 78235**

Reviewed by

**Alfred N. Giovine, Jr., Lt Colonel, USAF  
Applications Officer, Plans and Programs Office**

Submitted for publication by

**Herbert J. Clark  
Director, Plans and Programs Office**

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**This is a Special Report prepared for Headquarters, Air Force Logistics Command.**

## EXECUTIVE SUMMARY

### Objective

This report provides a utilization assessment of the Technical Order (TO) Managers Handbook prepared by the Air Force Human Resources Laboratory (AFHRL).

### Requirement

Request for Personnel Research (RPR) 77-20, Development of Guidelines and A Handbook for Selection of Format Options for Procurement of Technical Data, established the requirement for development of the TO Managers Handbook. The requirement was established by Headquarters, Air Force Logistics Command. The objective of the research and development (R&D) to support RPR 77-20 was to develop a handbook that would be useful to TO managers and other personnel concerned with the acquisition, development, and management of technical data for the Air Force.

### Products

Three AFHRL technical reports (TRs) resulted from this R&D effort, of which a TO Managers Handbook is the primary product. Documentation of the R&D is contained in AFHRL-TR-80-49, *Format Options and Procurement of Technical Orders*. The handbook is organized into two volumes: AFHRL-TR-80-50, *Technical Order Management and Acquisition*, contains the basic text, and AFHRL-TR-80-51, *Technical Order Managers Reference Data*, includes the reference data and supplementary material.

### Specifics

AFHRL received RPR 77-20 as a validated requirement in November 1977. The requirement was in response to a need for TO acquisition and management guidelines. Active support of RPR 77-20 by the AFHRL Logistics and Human Factors Division began in May 1978. The resulting TO Managers Handbook provides guidelines for selection of format options and procurement of Air Force TOs, with emphasis on the responsibilities involved in their acquisition. RPR 77-20 was completed on 27 August 1982.

### Assessment Results

Eight hundred copies of the handbook were printed. Since its publication in May 1981, the handbook has been distributed to Air Force organizations having responsibilities in TO acquisition and management. A number of these organizations were contacted either by personal interviews, telephone, and/or letter, followed by an assessment survey concerning utilization of the handbook. A primary use of the handbook has been in the training environment. The Air Force Institute of Technology (AFIT) of Systems and Logistics used the handbook as a major source of information for the development of a TO acquisition and management course. The handbook has been used as a training aid by organizations that provide their own training in TO acquisition and management. The handbook is also a good source of reference material, particularly for TO managers with limited experience. Opinions regarding the content of the handbook are varied. Some felt that the handbook was well written, concise, accurate, and complete; others felt the exact opposite. Many felt the handbook should be revised and updated on a regular basis because of frequent changes in TO policy and guidelines.

### Conclusions and Recommendations

The extent to which the handbook is a useful document to a TO manager depends on the individual's past experience, level of expertise, and program needs. Generally, the more knowledgeable and experienced individuals considered the

handbook the least useful, whereas the inexperienced individuals considered the handbook very useful. The handbook therefore has been a valuable document to many organizations with inexperienced TO managers. However, the extent of the handbook's usefulness is limited by the inaccuracies and deficiencies expressed by some organizations. These shortcomings can be explained in part by frequent changes in TO requirements, policies, and procedures. Other contributing factors may be the failure to have knowledgeable TO managers develop the handbook and insufficient attention given to the user's needs. In order that the handbook be relevant and have merit as an effective guide, it was recommended that it be reaccomplished by skilled Air Force TO managers. To ensure timely revisions, it was suggested that changes to the handbook be synchronized with revisions to an official TO publication such as TO 00-5-1, AF Technical Order System.



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# TECHNICAL ORDER MANAGERS HANDBOOK: UTILIZATION ASSESSMENT

## I. INTRODUCTION

The Air Force Technical Order (TO) system is the official medium for disseminating technical information and procedures for the operation and maintenance of Air Force equipment and systems. A Technical Order Management Agency (TOMA), headed by a TO manager, is responsible for the acquisition of technical publications for the operation and maintenance of a specific program or item of equipment.

Since the mid-1950s, the Air Force and other Department of Defense (DoD) agencies have performed research and development (R&D) to improve the content and format of technical data. Several types of improved TO formats have resulted, each type being more appropriate for some applications than for others. The R&D efforts have demonstrated that utilization of new and improved TO formats has a tremendous potential to improve aircraft maintenance performance and reduce the overall cost of maintenance. However, even though DoD approved new formats for use, few were implemented. This was due, in part, to the fact that many TO managers were not sufficiently familiar with the new formats to select and apply them effectively. A readily available source of information was needed to assist these managers in the selection, procurement, and development of TOs.

The need for appropriate TO guidelines was further exemplified by the fact that as weapon system complexity was increasing, so were the magnitude and variety of publications required to support a weapon system. As an example, over 4,000 individual TOs, consisting of several different types, are required to support the F-15. This increase in TO requirements has been very costly. In May 1977, HQ USAF/LE (Headquarters, United States Air Force, Deputy Chief of Staff for Logistics and Engineering) expressed concern over the alarming increase in the costs of TOs for new weapon systems compared to that of past acquisitions. An example was cited where the TO requirement for a weapon system was in excess of one million pages at approximately \$300 per page. While it was recognized that inflation was probably a contributing factor, ineffective TO acquisition management was also suggested as a factor adding to the increasing costs. The current cost estimate for procuring TOs for the B-1 is \$500M at \$500 per page which further illustrates the continuing problem and the magnitude of TO acquisition costs.

## II. R&D HISTORY

Headquarters, Air Force Logistics Command (HQ AFLC) is responsible for the management and operation of the TO system. This includes establishing TO requirements, determining TO distribution requirements, reviewing material content, and evaluating new methods of technical data presentation. In response to the apparent need for TO acquisition and management guidelines, HQ AFLC/LOLMP (now MMEMB, Deputy Chief of Staff for Materiel Management, Directorate of Engineering and Maintenance Policy), initiated Request for Personnel Research (RPR) 77-20, Development of Guidelines and A Handbook for Selection of Format Options for Procurement of Technical Data. RPR 77-20 was submitted to the Air Force Human Resources Laboratory (AFHRL) as a validated requirement in November 1977.

The objective of the R&D to support RPR 77-20 was to develop a handbook that would be useful to TO managers and other personnel concerned with the acquisition, development, and management of technical data for the Air Force. The guidelines developed by this effort were to provide data and procedures for requirements determination; format selection; and acquisition, development, and implementation of Air Force TOs.

Active contractor R&D support of RPR 77-20 was begun in May 1978 under Contract F33615-78-C-0016, with work unit 1710-04-31. The products that resulted from the R&D effort consisted of the following AFHRL Technical Reports (TRs):

1. Hatterick, G.R., & Price, H.E. (May 1981a). *Format Options and Procurement of Technical Orders*. AFHRL-TR-80-49, AD-A099 448. Wright-Patterson AFB, OH: Logistics and Technical Training Division, Air Force Human Resources Laboratory.

2. Hatterick, G.R., & Price, H.E. (May 1981b). *Technical Order Management and Acquisition*. AFHRL-TR-80-50, AD-A099 705. Wright-Patterson AFB, OH: Logistics and Technical Training Division, Air Force Human Resources Laboratory.

3. Hatterick, G.R., & Price, H.E. (May 1981c). *Technical Order Managers Reference Data*. AFHRL-TR-80-51, AD-A099 779. Wright-Patterson AFB, OH: Logistics and Technical Training Division, Air Force Human Resources Laboratory.

Documentation of the R&D that led to the development of the guidelines for selection of format options and procurement of TOs is contained in AFHRL-TR-80-49. The handbook for TO managers is organized into two volumes: AFHRL-TR-80-50 (basic text) and AFHRL-TR-80-51 (reference data and supplementary material). The two volumes may be used together as a basic reference publication or may be used independently. Some data are duplicated in the two volumes to support their independent use.

The TO Managers Handbook discusses two principal topics of importance:

1. The Air Force TO acquisition cycle, including responsibilities, methods, and data.
2. The types and characteristics of procedural data formats to be considered for use in Air Force maintenance manuals, and guidance in selection of the most appropriate techniques (Hatterick & Price, 1981a).

The organization and contents of the TO Managers Handbook is presented in Table 1.

### III. DEVELOPMENT COSTS

The requirement for development of the TO Managers Handbook, RPR 77-20, was closed out on 27 August 1982. Job Order Cost Accounting System (JOCAS) data indicated that the total cost of the effort was \$210,914. The R&D was conducted by the AFHRL Logistics and Technical Training Division (now the Logistics and Human Factors Division) for HQ AFLC.

### IV. UTILIZATION

#### Methodology

A number of organizations having responsibilities concerning the acquisition, development, or management of TOs was contacted from March to August 1983 to determine utilization of the TO Managers Handbook. A comprehensive listing of the organizations providing utilization information is shown in Appendix A. The organizations were contacted either by personal interviews, telephone, and/or letter, followed by the R&D Product Utilization Assessment survey developed by AFHRL/AZ, Applications and Liaison Office (now part of AFHRL/XR, Plans and Programs Office). A copy of the survey is shown in Appendix B. A consolidation of the views on the handbook is included. Footnotes are used to attribute utilization statements to specific user organizations. The footnote key is shown in Appendix C.

#### Product Implementation

The handbook is intended for use by all individuals involved in the acquisition, development, and management of Air Force TOs, with emphasis on the responsibilities and concerns of the TOMAs in those commands acquiring TOs. Since its publication in May 1981, 800 copies of the handbook have been distributed to Air Force organizations with responsibilities for TO acquisition and management. Although the list is not exhaustive, organizations receiving the handbook include HQ USAF, Air Force Institute of Technology (AFIT), AFLC locations such as Air Logistics Centers (ALCs) and the Air Force Acquisition Logistics Division (AFALD), Air Force Systems Command (AFSC) locations such as the Electronics Systems Division (ESD) and Systems Program Offices (SPOs) within the Aeronautical Systems Division (ASD), the Tri-Service Working Committee on Technical Data, and the Air Force TO Council (now the USAF Centralized Technical Order Management (CTOM) Group), which included representatives from Major Commands (MAJCOMs).

**Table 1. Organization and Contents of TO Managers Handbook**

<b>AFHRL-TR-80-50: <i>Technical Order Management and Acquisition</i></b>	
	Section
<b>General Information</b>	<div style="display: flex; align-items: center;"> <div style="border-left: 1px solid black; border-right: 1px solid black; border-bottom: 1px solid black; width: 30px; height: 30px; margin-right: 10px;"></div> <ol style="list-style-type: none"> <li>1. Overview</li> <li>2. The Air Force Technical Order System</li> </ol> </div>
<b>Format</b>	<div style="display: flex; align-items: center;"> <div style="border-left: 1px solid black; border-right: 1px solid black; border-bottom: 1px solid black; width: 30px; height: 30px; margin-right: 10px;"></div> <ol style="list-style-type: none"> <li>3. Maintenance Procedure Format Options-General</li> <li>4. Format Options: Job Performance Aid Systems</li> <li>5. Format Options: Primary Formats and Formats</li> <li>6. Format Option Selection Guidelines</li> <li>7. Familiarization of Users With New Formats</li> </ol> </div>
<b>TO Acquisition</b>	<div style="display: flex; align-items: center;"> <div style="border-left: 1px solid black; border-right: 1px solid black; border-bottom: 1px solid black; width: 30px; height: 30px; margin-right: 10px;"></div> <ol style="list-style-type: none"> <li>8. Technical Order Requirements Determination</li> <li>9. Technical Order Acquisition Management</li> <li>10. Quality Assurance of Technical Orders</li> <li>11. Technical Order Publication, Distribution, and Revision</li> </ol> </div>
<b>Bibliography, Glossary, and Index</b>	<div style="display: flex; align-items: center;"> <div style="border-left: 1px solid black; border-right: 1px solid black; border-bottom: 1px solid black; width: 30px; height: 30px; margin-right: 10px;"></div> <ol style="list-style-type: none"> <li>12. Bibliography of Reference Publications</li> <li>13. Acronyms and Abbreviations</li> <li>14. Topical Index</li> </ol> </div>

<b>AFHRL-TR-80-51: <i>Technical Order Managers Reference Data</i></b>	
	Section
<b>Glossaries</b>	<div style="display: flex; align-items: center;"> <div style="border-left: 1px solid black; border-right: 1px solid black; border-bottom: 1px solid black; width: 30px; height: 30px; margin-right: 10px;"></div> <ol style="list-style-type: none"> <li>1. Glossary of Terms</li> <li>2. Abbreviations and Acronyms</li> </ol> </div>
<b>JPA and Format Data</b>	<div style="display: flex; align-items: center;"> <div style="border-left: 1px solid black; border-right: 1px solid black; border-bottom: 1px solid black; width: 30px; height: 30px; margin-right: 10px;"></div> <ol style="list-style-type: none"> <li>3. Job Performance Aid Research and Development</li> <li>4. Job Performance Aid Concepts and Techniques</li> <li>5. Format Test and Evaluation Data</li> <li>6. Format Option Selection Data</li> </ol> </div>
<b>Specifications and Standards</b>	<div style="display: flex; align-items: center;"> <div style="border-left: 1px solid black; border-right: 1px solid black; border-bottom: 1px solid black; width: 30px; height: 30px; margin-right: 10px;"></div> <ol style="list-style-type: none"> <li>7. Technical Manual Requirements and Guidelines Documents</li> <li>8. Requirements Documents Cross-Reference Tables</li> <li>9. Evaluation of Military Technical Manual Specifications</li> </ol> </div>
<b>Bibliography and Index</b>	<div style="display: flex; align-items: center;"> <div style="border-left: 1px solid black; border-right: 1px solid black; border-bottom: 1px solid black; width: 30px; height: 30px; margin-right: 10px;"></div> <ol style="list-style-type: none"> <li>10. Bibliography of Reference Publications</li> <li>11. Topical Index</li> </ol> </div>

Note. Extracted from Hatterick & Price, 1981a.

The handbook appears to be used to the greatest extent by TO managers with limited experience.<sup>1</sup> There are, however, experienced managers who also use the handbook.<sup>2</sup> A primary benefit provided by the handbook is that it is a good source of reference material.<sup>3</sup> Specifically, the handbook is a quick reference for terminology, acronyms, cross-references to other documents,<sup>4</sup> and options a TO manager has available in the acquisition of TOs.<sup>5</sup> One organization stated that by having the handbook as a ready source of reference, their operational effectiveness was increased.<sup>6</sup>

The Air Force Institute of Technology (AFIT) of Systems and Logistics located at Wright-Patterson AFB initiated a 2-week course of instruction in TO acquisition and management in May 1982. The course (SYS 010, Introduction to Acquisition Management) was designed to provide continued professional education to Air Force personnel with duties in the acquisition and management of TOs. The handbook was a major source of information for the development of the course.<sup>7</sup> The information presented in the course is directly referenced to official Air Force directives concerning TO acquisition and management; however, approximately 85% of the information presented in the course is contained in the handbook.<sup>8</sup> A copy of the handbook is provided to each student attending the course. The students have commented favorably concerning the content of the handbook, especially in regard to the sections listing reference documents and definitions of acronyms.<sup>9</sup>

A joint AFLC/AFSC survey discovered that it took a minimum of 6 months to 1 year to become knowledgeable in TO acquisition. Many organizations therefore provide their own training in TO acquisition and management and/or supplement the training by AFIT, which is not a mandatory course. The handbook is very beneficial as a training aid to these organizations.<sup>10</sup> One organization stated that use of the handbook probably reduced their total amount of training time by at least 1 month.<sup>11</sup>

There are other organizations that do not provide TO managers with any specific type of formal training. These individuals are required to learn their duties as a TO manager through on-the-job training. For many of these individuals, the handbook has been beneficial as a source reference document.<sup>12</sup>

There is some disagreement among users regarding the content of the handbook. It is considered by some organizations to be very well written and easily understood.<sup>13</sup> It has been said to be accurate, complete, and concise and addresses most, if not all, areas of TO acquisition management.<sup>14</sup> However, in contrast, other organizations considered the handbook to be poorly written and not easily understood.<sup>15</sup> It was said to be too voluminous to be an effective guide.<sup>16</sup> Criticisms were that there is too much history and background information,<sup>17</sup> in addition to a lot of unnecessary duplication of material contained in other sources.<sup>18</sup> Also, some organizations felt that the basic needs of a TO manager were inadequately addressed.<sup>19</sup> Specific examples of inadequacies mentioned include TO management concepts, TO management structure and where/who to go for assistance, and a listing of governing documents and their purpose.<sup>20</sup> Many organizations considered the information contained in the handbook to be inaccurate and in need of revision and update.<sup>21</sup> Some of the organizations that were critical of the handbook did, however, consider Section 9, Technical Order Acquisition Management, of AFHRL-TR-80-50 useful.<sup>22</sup>

#### V. PAYOFF

The handbook is considered by many organizations to be a good source of reference material. It is useful as a desk reference and as a training aid, particularly for inexperienced TO managers. This lack of knowledge by TO managers is a common problem experienced by many organizations involved in the acquisition, development, or management of TOs. Their prior TO experience is often no more than that of a user in the field or, at best, as a MAJCOM participant in the TO verification process. Some of the factors that contribute to this problem are:

1. No mandatory training in TO acquisition management.
2. No specific Air Force Specialty Code (AFSC) for TO managers.
3. Relatively rapid turnover of personnel, particularly military personnel.
4. No specific qualifications involved in the assignment of TO managers.

As a result, many TO managers are untrained and inexperienced. According to one organization, approximately 50% of their present workforce is staffed with "trainees."<sup>23</sup> Use of the handbook has widespread implications, considering the number of TO managers that lack sufficient training and experience.

The handbook was also a very useful source of information for structuring the course offered by AFIT in TO acquisition and management. During the past 16 months, approximately 250 students have attended and been provided copies of the handbook.

A benefit that is difficult to measure is the impact the handbook has on the maintenance environment. The quality of technical data procured should be enhanced by using acquisition guidelines that assist a TO manager in selecting the best type of technical data available for a given application. When the type selected meets the needs of a specific weapon system, as well as the needs of the user in the field, improved maintenance performance and lower maintenance costs should result.

## VI. CONCLUSIONS

The TO Managers Handbook was prepared with the goal of serving as a valuable aid in all aspects of TO acquisition, development, and management. The broad target population for which the handbook was developed explains in part the different opinions expressed regarding its value. The past experience, levels of expertise, and program needs of each individual have a direct bearing on the handbook's usefulness. Generally, the more knowledgeable and experienced individuals considered the handbook the least useful, whereas the inexperienced individuals considered the handbook very useful, particularly as a quick reference document. Besides being a good training aid for organizations with inexperienced TO managers, the handbook was very useful in development of the AFIT course in acquisition management. Therefore, by measuring the value of the handbook by its usefulness to the TO professional, the handbook can be considered a success. However, the extent of the handbook's usefulness is limited because of the inaccuracies and deficiencies expressed by some organizations. These shortcomings can be explained in part by the frequent changes in TO requirements, format technology, specifications, Air Force policy, regulations, and procedures. For the handbook to have merit, these changes need to be incorporated periodically. It has been suggested that the handbook be published as a looseleaf document so that changes can easily be inserted.<sup>24</sup> To ensure timeliness, these changes or revisions should be synchronized with an official publication that deals with, or provides requirements for use of, the TO system, such as AFR 8-2, TO 00-5-1, TO 00-5-2, or TO 00-5-15. Other contributing factors to the handbook's shortcomings may be the failure to have knowledgeable TO managers actively participate in developing the handbook and insufficient attention given to the user's needs. Reaccomplishment of the handbook by skilled Air Force TO managers instead of a civilian contractor should better ensure that the handbook addresses the needs of the users. This should also satisfy most of the specific recommendations obtained during this assessment as to what topics should be included.

Eight hundred copies of the handbook were originally printed. In addition to the original distribution, AFHRL has been supplying copies to organizations on an as-requested basis and to AFIT on an as-needed basis for the students attending the acquisition management course. This original stock is practically depleted, and there is no provision or plan to provide additional copies or a revised form of the handbook. In addition to AFIT, it is anticipated that other organizations will continue to request copies periodically. As an example, 35 additional copies of the handbook were provided in response to requests from various organizations that were contacted for this utilization assessment. Unless AFLC, AFSC, or another interested agency initiates an effort to reaccomplish the handbook, its use and value as an effective guide to TO managers will be minimal. If AFLC feels that a handbook of this type is no longer warranted, the primary user, AFSC, should consider pursuing its reaccomplishment. Since the majority of the acquisition funds for TOs are provided by AFSC, an updated handbook that meets the needs of TO managers could have a substantial positive impact on the procurement of TOs in terms of quality and cost savings.

## VII. RECOMMENDATIONS

The organizations contacted recommended the following topics be included to better ensure that the TO Managers Handbook provides adequate guidelines in the acquisition, development, and management of TOs. (These topics are illustrative rather than exhaustive, and the order of presentation does not signify their degree of importance.)

1. What to procure in preproduction equipment that must be supported by Air Force personnel.<sup>25</sup>
2. What is required for equipment to be supported by contract under competitive bid.<sup>26</sup>
3. The application of commercial manuals and their common shortfalls.<sup>27</sup>
4. TO verification options and procedures for planning a TO verification.<sup>28</sup>
5. Interface between the other services.<sup>29</sup>
6. Types of multi-service manuals.<sup>30</sup>
7. Current contractor methods regarding TO development and verification processes.<sup>31</sup>
8. Types of specifications and their effectiveness.<sup>32</sup>
9. The role of AFLC and AFALD in acquisition and management of TOs.<sup>33</sup>
10. Adverse effects of ineffective TO manning.<sup>34</sup>
11. Results and/or cost savings of applying Military Specification MIL-M-82495, *Manuals, Technical, Organizational Maintenance Manual Set: General Requirements for Preparation of Aircraft, Missiles, and Space Vehicles*.<sup>35</sup>
12. Effectiveness of past programs.<sup>36</sup>

The following general recommendations were also expressed:

1. The handbook should be reorganized to better assist the user in locating specific items of information.<sup>37</sup>
2. The handbook should be reaccomplished by skilled Air Force TO managers to better ensure that basic requirements and problems encountered by a TO manager are adequately addressed.<sup>38</sup>

This apparent need to reaccomplish the handbook is further accentuated by the fact that as TO requirements, policies, and procedures change, the handbook's relevancy diminishes. An approach that was suggested is for AFLC (the requirements organization) and AFSC (the primary user) to jointly reaccomplish the handbook.<sup>39</sup> This joint effort could possibly be performed by the Air Force Acquisition Logistics Center (AFALC) since AFALC is a joint AFLC and AFSC enterprise which has acquisition logistics responsibilities for the Air Force.<sup>40</sup> This responsibility includes ensuring that the logistics disciplines are applied early in the procurement of equipment and TOs. To further expound on this approach to reaccomplish the handbook, it was recommended that a working group be formed consisting of representatives from TOMAs (AFSC) and representatives from the technical publication offices of ALCs (AFLC). Once reaccomplished, the handbook could be made an official Air Force publication, with AFALC as the Office of Primary Responsibility (OPR).<sup>41</sup> Future revisions of the handbook could be synchronized with changes to an official TO publication that assigns responsibilities or prescribes specific requirements, such as AFR 8-2, Air Force Technical Order System; TO 00-5-1, AF Technical Order System; TO 00-5-2, Technical Order Distribution System; or TO 00-5-15, Air Force Time Compliance Technical Order System. Foremost among these publications is TO 00-5-1. In addition to identifying and describing the various types of TOs, this publication describes the concept and management of the TO system and the specific responsibilities relating to the acquisition and use of TOs. To ensure success of the handbook's reaccomplishment and timely revisions, the USAF CTOM Group might have a supervisory role. The CTOM Group, which consists of representatives from all MAJCOMs, provides the mechanism for management and improvement of all facets of the TO system. In this capacity, the CTOM Group could assist in selecting well qualified TO managers for the working group and provide advice when needed.

## APPENDIX A: ORGANIZATIONS PROVIDING UTILIZATION INFORMATION

### Requirements Organization

**HQ AFLC/MMEMB (formerly HQ AFLC/LOLMP):** Headquarters Air Force Logistics Command, Deputy Chief of Staff Materiel Management, Directorate of Engineering and Maintenance Policy, Maintenance Engineering Branch

### Additional Organizations Responding to Utilization Assessment Survey

**HQ USAF/LEYE:** Headquarters United States Air Force, Deputy Chief of Staff Logistics and Engineering, Directorate of Maintenance and Supply, Acquisition Logistics Communications Group

**HQ AFSC/ALPG:** Headquarters Air Force Systems Command, Deputy Chief of Staff Acquisition Logistics, Directorate of Program Readiness and Evaluation, Program Readiness

**AFALD/PTJ:** Air Force Acquisition Logistics Division, Deputy for Engineering and Evaluation, Logistics Projects Office

**AFALD/PTJ:** Air Force Acquisition Logistics Division, Deputy for Engineering and Evaluation, Directorate of Lessons Learned, Lessons Learned Application Division

**AFIT/LSY:** Air Force Institute of Technology, School of Systems and Logistics, Department of System Acquisition Management

**ASD/AEGL:** Aeronautical Systems Division, Deputy for Aeronautical Equipment, Subsystems/Support Equipment System Program Office, Integrated Logistics Support

**ASD/AESL:** Aeronautical Systems Division, Deputy for Aeronautical Equipment, Life Support System Program Office, Deputy Program Manager for Logistics

**ASD/AFC:** Aeronautical Systems Division, Deputy for Airlift and Trainer Systems, Directorate of Configuration Data Management

**ASD/AFMCH:** Aeronautical Systems Division, Deputy for Airlift and Trainer Systems, Director of Consolidated Data Management Information Systems, Directorate of Configuration Data Management Division, Airlift Systems Branch Configuration Data Management Division

**ASD/AFYC:** Aeronautical Systems Division, Deputy for Airlift and Trainer Systems, Directorate of Consolidated Management Information Systems, KC-135/KC-10 Systems Division

**ASD/AWL:** Aeronautical Systems Division, Deputy for Acquisition Support, Directorate of Logistics

**ASD/RWNL:** Aeronautical Systems Division, Deputy for Reconnaissance/Strike and Electronic Warfare Systems, Directorate of Strike Systems Program Office, Deputy Program Manager for Logistics

**ASD/TAAXL:** Aeronautical Systems Division, Deputy for Tactical Systems, Directorate of Fighter/Attack System Program Office, A-10 Program Division, Deputy Program Manager for Logistics

**ASD/TAFC:** Aeronautical Systems Division, Deputy for Tactical Systems, F-15 Systems Program Director, Configuration and Data Management Division

**ASD/TAMC:** Aeronautical Systems Division, Deputy for Tactical Systems, AGM-65 (Maverick) System Program Director, Configuration and Data Management Division



**ASD/YWLL: Aeronautical Systems Division, Deputy for Simulators, Directorate of Integrated Logistics Support, Logistic Support Division**

**ASD/YYL: Aeronautical Systems Division, Deputy for Strategic Systems, Directorate of Integrated Logistics Support**

**ASD/YZYL: Aeronautical Systems Division, Deputy for Propulsion, Strategic Engines Program Office, Strategic Engine Program Office**

**ESD/TCRL: Electronics Systems Division, Deputy for Tactical Systems, Directorate of Tactical Air Battle Management Systems, Logistics Division**

**AFLMC/LGM: Air Force Logistics Management Center, Directorate of Maintenance**

**SA-ALC/MMEDTA: San Antonio-Air Logistics Center, Directorate of Materiel Management, Deputy for Engineering Division, Operations and Support Branch, Technical Order Data Section, AGE, ATE, and Miscellaneous Commodities Requirements Center**

**SM-ALC/MMAA: Sacramento-Air Logistics Center, Directorate of Materiel Management, Deputy for Acquisition Division, Administrative Support Branch**

**SM-ALC/MMEDT: Sacramento-Air Logistics Center, Directorate of Materiel Management, Deputy for Engineering Division, Operations and Support Branch, Technical Order Data Section**

**ATC 3760 TTG/TTGRB: Air Training Command, 3760th Technical Training Group, Aircraft Principles Branch**

**ATC 3785 FTG/3751 FTS/405 FTD: Air Training Command, 3785th Field Training Group, 3751st Field Training Squadron, 405 Field Training Detachment**

AIR FORCE HUMAN RESOURCES LABORATORY  
AIR FORCE SYSTEMS COMMAND  
Brooks Air Force Base, Texas 78235

# R&D PRODUCT UTILIZATION ASSESSMENT

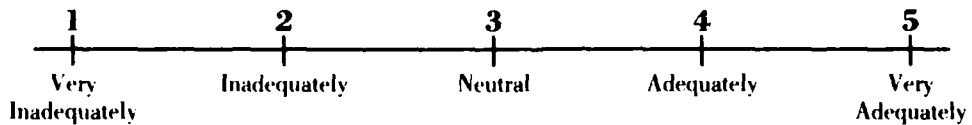
The Applications and Liaison Office of the Air Force Human Resources Laboratory (AFHRL/AZ) is responsible for tracking the utilization of AFHRL's research and development efforts. Your responses are needed to assess the utilization of:

Technical Order Managers Handbook

AFHRL-TR-80-49, AFHRL-TR-80-50, AFHRL-TR-80-51

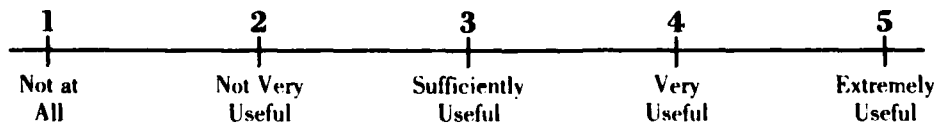
Note: For each scaled question, please circle the appropriate number and comment further as you desire. If necessary, attach additional pages for your comments.

1. To what extent were the *needs* of your organization addressed during this R&D effort?



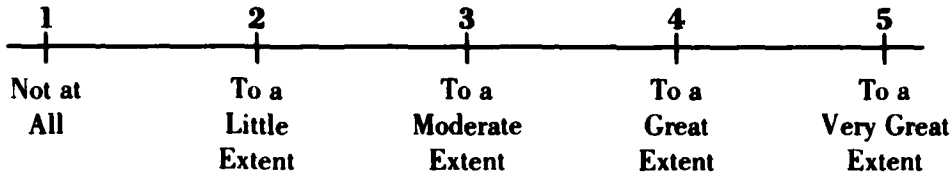
Comments: (Please be as specific as you can.)

2. How *useful* is this product to your organization?



Comments: (Please be as specific as you can.)

**3. To what extent is the R&D product being used by your organization?**



Comments: (If the product is not being used, please explain why this is the case. If it is used, please specify any concrete benefits, e.g., cost savings, increased operational effectiveness, improved force structure. Also, if possible, please include the time required for implementation, the cost of implementation and any barriers to implementation/utilization.)

**4. Please identify (name/office symbol) other organizations that currently use this product.**

\_\_\_\_ Unknown

**5. Please specify any additional possible uses for this product.**

\_\_\_\_ Unknown

6. Please identify (name/office symbol) other organizations that *could* possibly use this product.

\_\_\_ Unknown

7. What follow-on R&D would your organization consider potentially beneficial?

\_\_\_ Unknown

8. Please comment additionally on this product (*relevance, timeliness, clarity, completeness, etc.*).

9. Please complete the following information:

ORGANIZATION/OFFICE SYMBOL: \_\_\_\_\_

NAME: \_\_\_\_\_ RANK or GRADE: \_\_\_\_\_  
Person completing survey

POSITION: \_\_\_\_\_

AUTOVON/COMMERCIAL PHONE NUMBER: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
Street or P.O. Box  
\_\_\_\_\_  
City or Base State Zip

**APPENDIX C: PRODUCT IMPLEMENTATION FOOTNOTE KEY**

<sup>1</sup>HQ USAF/LEYE, ASD/AEGL, ASD/RWNL, ASD/TAMC, ASD/YWLL, ASD/YYL, SA-ALC/MMEDTA

<sup>2</sup>ASD/YYL

<sup>3</sup>HQ AFLC/MMEMB, AFIT/LSY, ASD/AESL, ASD/AFC, ASD/AFYC, ASD/RWNL, ASD/TAMC, ASD/YYL, SA-ALC/MMEDTA

<sup>4</sup>HQ USAF/LEYE, AFIT/LSY, SA-ALC/MMEDTA

<sup>5</sup>ASD/AFC, ASD/AFMCH, ASD/RWNL

<sup>6</sup>ASD/AFC

<sup>7</sup>AFIT/LSY

<sup>8</sup>AFIT/LSY

<sup>9</sup>AFIT/LSY

<sup>10</sup>HQ AFLC/MMEMB, HQ USAF/LEYE, ASD/AFC, ASD/YYL, SA-ALC/MMEDTA

<sup>11</sup>ASD/YYL

<sup>12</sup>HQ AFLC/MMEMB, ASD/AESL, ASD/AFC, ASD/AFYC, ASD/RWNL, ASD/TAMC, ASD/YYL, SA-ALC/MMEDTA

<sup>13</sup>AFIT/LSY, ASD/AESL, ASD/RWNL, SA-ALC/MMEDTA

<sup>14</sup>AFIT/LSY, ASD/RWNL, ASD/TAMC, AFLMC/LGM, 3760 TTG/TTGRB

<sup>15</sup>HQ AFSC/ALPG, ASD/TAFC

<sup>16</sup>HQ USAF/LEYE, HQ AFSC/ALPG, ASD/AWL, SM-ALC/MMEDT

<sup>17</sup>HQ USAF/LEYE

<sup>18</sup>ASD/AWL, SM-ALC/MMEDT

<sup>19</sup>ASD/TAAXL, ASD/TAFC, ASD/YWLL

<sup>20</sup>ASD/TAFC

<sup>21</sup>HQ AFLC/MMEMB, HQ USAF/LEYE, HQ AFSC/ALPG, AFALD/PTLA, ASD/AWL, ASD/RWNL, ASD/TAAXL, ASD/TAFC, ASD/YWLL, SM-ALC/MMAA, SM-ALC/MMEDT

<sup>22</sup>HQ USAF/LEYE, ASD/AWL, ASD/TAFC

<sup>23</sup>SA-ALC/MMEDTA

<sup>24</sup>ASD/AFYC, ASD/TAAXL

<sup>25</sup>ASD/TAFC

<sup>26</sup>ASD/TAFC

<sup>27</sup>ASD/AFYC, ASD/TAFC

<sup>28</sup>ASD/TAAXL, ASD/TAFC, SM-ALC/MMEDT

<sup>29</sup>ASD/AFYC

<sup>30</sup>SM-ALC/MMEDT

<sup>31</sup>SM-ALC/MMEDT

<sup>32</sup>SM-ALC/MMEDT

<sup>33</sup>AFIT/LSY

<sup>34</sup>ASD/AFC

<sup>35</sup>ASD/AFC

<sup>36</sup>SM-ALC/MMEDT

<sup>37</sup>HQ AFSC/ALPG, AFALD/PTLA

<sup>38</sup>ASD/TAFC

<sup>39</sup>ASD/TAFC

<sup>40</sup>ASD/TAFC

<sup>41</sup>ASD/TAFC

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