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SENSITIVE

**MIL-HDBK-831**

**23 April 1999**

**SUPERSEDING**

**MIL-STD-831**

**28 August 1963**

# **DEPARTMENT OF DEFENSE HANDBOOK**

## **PREPARATION OF TEST REPORTS**



**THIS HANDBOOK IS FOR GUIDANCE ONLY. DO NOT CITE THIS DOCUMENT AS  
A REQUIREMENT**

**AMSC N/A**

**FSC QCIC**

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## FORWARD

1. This handbook is approved for use by the Department of Defense and is available for use by all Departments and Agencies of the Department of Defense.
2. This handbook is for guidance only. This handbook cannot be cited as a requirement. If it is, the contractor does not have to comply.
3. Beneficial comments (recommendations, corrections, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Defense Supply Center Columbus, 3990 E. Broad Street, Columbus OH, 43216-5000 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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## 1. SCOPE

1.1 Scope. This handbook delineates the format and content criteria to be used in the preparation of test reports covering tests on systems, subsystems, equipment, components, and parts. This handbook is for guidance only. This handbook cannot be cited as a requirement. If it is, the contractor does not have to comply.

1.2 Purpose. The purpose of this handbook is to foster uniformity in the portrayal of test results on items of material. It also provides for greater ease in the evaluation of the design suitability and performance capability of test items for use in new applications.

## 2. APPLICABLE DOCUMENTS

NOT APPLICABLE

## 3. DEFINITIONS

3.1 Appendixes. An appendix is defined as any portion of a report which is necessary to its completeness but which is separated from the balance of the report for convenience, or because it does not logically fall under one of the preceding headings.

3.2 Exhibits. An exhibit is defined as any document which is furnished with a report but is not an integral portion thereof. It might consist of a separate test report on the same or similar item, or pertinent correspondence or vendor data sheets, or a memo reporting important conversations.

3.3 Universal document number. That number which should identify each test report and will be furnished by the procuring activity when it is required. This number is to be assigned in addition to any existing originator's report number.

## 4. GENERAL REQUIREMENTS

4.1 Basic data. All test reports should contain all the collected data and all conclusions resulting therefrom for the test performed.

4.1.1 Test file. A test file should be established and maintained which should include original log sheets, diagrams such as, wiring, piping, schematics or block, as necessary to completely describe the purpose, conduct and results of tests. Upon creating, this file should be given a permanent identifying number, which should appear on all subsequent documents associated with a particular test.

4.1.2 Notes. Notes of all incidents of the testing, such as adjustments made, servicing performed, leaks, vibrations, and any other irregular functioning of the product and corrective measures taken should be placed on log sheets and included in the test reports.

4.1.3 Use of supporting documents. When applicable data has been previously submitted as a result of a similar or related government-funded test, these should be quoted, excerpted, or used in whatever manner possible to direct, guide, support, substantiate, or shorten test reports.

4.1.4 Authentication. The test report should provide for the following signatures.

4.1.4.1 Responsible officer. The test report should be signed by a responsible officer of the contractor's organization.

4.1.4.2 Government representative. A Government representative may witness the test and countersign the report. The latter signature should constitute verification of the data contained in the report, and should not necessarily indicate concurrence in the conclusion presented.

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## 5. DETAIL REQUIREMENTS

5.1 Format. Test reports should be prepared in accordance with the following criteria.

5.2 Paper. Copies of documents intended for technical data repositories or data exchange programs should be designated "data interchange submittal copies" and should be on white opaque paper. Complete text should be clear and sharp, of consistent high contrast, and preferably black-on-white. "Brownline" transparencies and "Bluelines" should not be used for the above purposes. All other copies should be on carbon-backed vellum, pat, ozo-parchment, 14 pound bond or equivalent translucent material for reproduction purposes.

5.3 Pagination.

5.3.1 Page size. The size of each finished page should be 8 by 10 ½ or 8 ½ by 11 inches. The universal document number, page number and issue or revision date should be included on all sheets. Sketches, drawings and diagrams may exceed the 8 or 8 ½ inch dimensions to form foldouts where the alternative would be extreme reduction in size of graphic material.

5.3.1.1 Margins. Adequate margins should be allowed so that the complete text can be easily read when the report is in bound form.

5.3.1.2 Numbering. Beginning with the first page, all pages of the test report should be number consecutively. The page number should be placed in the center of the bottom margin.

5.3.1.3 Binding. The test report should be bound in such a manner that the pages can be removed without damage or mutilation to the pages. Full page tables, illustrations, etcetera, should be arranged so that the bottom of the table or illustration will be either at the bottom or at the right hand edge of the bound document.

5.4 Illustration. Where practical, illustrations should be provided when such would serve to clarify or otherwise aid in understanding the report. Illustrations should fit the required 8 by 10 ½ or 8 ½ by 11 inch dimensions of the report as noted in 5.3.1. Illustrations may include sketches, drawings, graphs, photographs, etcetera and may be included in the main body of the report as applicable and should have dark work lines on light background. Drawings of "C" size should be avoided. However, inclusion of illustrations as appendixes under a proper group heading is preferred, provided references are indicated in the main body of the report. All photographic prints should be of high contrast and definition and should be page-size. When photographs are to be used as illustrations, 8 by 10 glossy prints should be included in the bond copy, and a positive transparency should be provided with the reproducible copy. In data interchange submittal copies, negatives are not acceptable in lieu of prints.

5.4.1 Color differentiation. Color differentiation should not be used for graphs, diagrams, etc.

5.5 Abbreviations. Abbreviations should be held to a minimum.

5.6 Required elements. The report should contain the following elements in the degree of detail applicable to the size and complexity of the test item and the test performed, in the order specified.

5.6.1 Title page and cover. The cover is not mandatory, but if used should contain the information shown in figure 1, in approximately the same positions on the page. Cutouts may be used to allow the same information to show through from the title page shown in figure 2. Data interchange submittal copies should not bear "Company Confidential" or similar stampings restricting circulation by the procuring activity.

5.6.2 Tabular summary sheet. A tabular summary sheet should be included as the first page of all component or parts test reports, containing all of the information called for in figure 3 and 3A. Test reports on systems, subsystems, equipment, and others of a broad scope or general nature may require the use of the general report summary sheet, shown in figure 4 or the test summary sheet shown in figure 4A in lieu of that shown in figure 3. This alternative should be taken in reporting tests where the detail summary sheet (figure 3) is definitely not applicable.

5.6.3 Notice page. The notice shown in figure 5 should be included as a full size page of all data interchangeable submittal copies of reports. Only the first paragraph should be required as part of all other copies.

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5.6.3.1 Security considerations. Where security regulations are involved, the requirements herein should be adapted as necessary to comply, but whenever possible, classified or proprietary components or parts test reports should be downgraded by deleting classified or proprietary portions relating to usage and assemblies, without impairing the usefulness of documented contents pertaining to component or part performance.

5.6.3.2 Classified reports. In addition to the notice specified in 5.6.3, the following information should be typewritten on the notice page of classified test reports:

## WARNING:

This material contains information affecting the national defense of the United States within the meaning of the espionage laws, title 18, U.S.C., secs. 793 and 794, the transmission or revelation of which in any manner to an unauthorized person is prohibited by law.

5.6.4 Table of contents. A table of contents should include paragraph numbers, the subject of each paragraph, and the beginning page number for each.

5.6.5 Reason for test. The report should contain a statement describing the specific reason for conducting the test, together with pertinent background information as applicable.

5.6.6 Description of test samples. Whenever possible, each test report should describe tests on only one type of component, part equipment or sub-system. The number of vendors whose product is represented in a single report should be kept to a minimum. Where space does not allow sufficient detail on the summary sheet, additional description should include the part manufacturer's address and when available all of the following: size, type, rating, serial number(s), batch lot and date of manufacture. Vendor, trade association, federal stock, and military part number designations should be given when such numbers exist, but none of these should be substituted for a complete description. Further description should include method of sample selection and whether tested item(s) are prototypes, pilot samples, from a model shop, or production items. When specimen(s) are components of a system, a brief description of the function within the system should be given. Arbitrarily assigned numbers if used to identify specimens during test, should be tabulated against serial numbers or other means of positive identification.

5.6.7 Disposition of test specimens. Disposition of test samples should be given.

5.6.8 Narrative abstract, conclusions and recommendations. This combined paragraph should contain an expansion of the remarks on the tabular summary sheet or of any other portions of the test report. The test engineer should include in this section any corrective measures taken, his recommendations as to better test methods, procedures, and sampling quantities. In connection with preproduction or qualification testing, this section should contain a statement of the contractor's intention regarding each instance wherein the test items do not fulfill the specified requirements. ie., corrections to be made on production items, or a statement that it is intended to request a waiver.

5.6.9 References. If not already completely listed on the tabular summary sheet, all specifications and other applicable documents referred to in the report should be listed here. Specifications and other documents necessary for proper report interpretation, which are not normally available to persons outside the report originating location, should be included with the report either as an appendix or an exhibit, and should be listed as "attached".

5.6.10 Main body of report.

5.6.10.1 Factual data. The following sections should be included under a main heading entitled "Factual Data".

5.6.10.1.1 Description of test apparatus. A description of test apparatus should include a tabulation of all instruments and equipment used, the manufacturers' names, serial numbers, ranges, accuracy, and dates of latest calibration.

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5.6.10.1.2 Test procedure. This section should contain a detailed explanation of what test or measurements were made, how they were made, and any other pertinent criteria which may affect the interpretation of the test data in sufficient detail for separate formulation of conclusions by interested parties not witnessing the test. When sketches, diagrams and drawings are used, they should be presented on separate sheets following the test data. Curves and graphs showing the spread of the results should be provided, with performance tolerance brackets superimposed on graphic data. Sample calculations should be included in this section. Criteria used to define a success or a failure should be clearly stated after each test. If a military specification or standard specifies precisely the limits used as pass-fail criteria for the test, it may be referred to by specific paragraphs for each test in lieu of writing out detailed descriptions. Also, when internal (company) specifications, drawings, or other corporate documents are included with a report as appendixes or exhibits, and these include test procedures and limits in detail, such documents may be referred to in the same manner. However, where the limits for a particular test cannot be precisely identified by such reference, they must be stated in detail. Where feasible, each test procedure should reference the data page(s) containing the detail of the corresponding measurements obtained.

5.6.10.1.3 Results of test: summations and analyses. In tests that are very long, data should be summarized for study and analysis using either graphical or tabular techniques indicating the spread and distribution density of results, means and deviations, mean-time-to-failure, or any applicable expressions or techniques summarizing the facts shown by test data. Instructional detail may be added to a statistical and graphical presentation. More detailed test results should be added when a test is of such complexity that such detail is not covered by summations and test data tabulations. All results should be keyed to the test procedure, test data tabulations, and to specifications requirements to ensure ease of identification and relations between requirements, procedures and results.

5.6.10.1.4 Test data. Test data compiled in the performance of tests or measurements should be included as data sheets or as an appendix. All tabulated data should show the exact measurement value regardless of whether or not a failure is the result of deliberate test to destruction. Data interchange submittal copies of reports may include only summarizations of significant occurrences from a number of data pages in a single tabulation, or one representative page of each type included with a statement that the balance of "n" pages is available on request from the test file.

## 5.7 Revisions, additions, re-issues.

5.7.1 Title page. The title page should bear the notation "Revision" directly under the originator's report number. The latest revision letter should be used to identify this issue of the entire report. A revision letter should not be used on the initial issue.

5.7.2 Revision page. A revision page listing the revised pages and a brief description of the change should be inserted between the cover and the title page, or between the title page and the tabular summary sheet if not cover is used. This insertion should be numbered 1a, 1b, etc.

5.7.3 Corrected pages. All corrected pages in a revised report should bear the notation "Revision A," "Revision B," etc., directly under each page number.

5.8 Appendixes. When only small parts of a long related document are applicable to a report, those portions may be excerpted and included as an appendix. Each appendix should be properly identified on each page and in the table of contents.

## 6. NOTES

6.1 Intended use. This document is intended to be a guideline for preparation of test reports. This handbook is not mandatory and cannot be cited as a requirement.

## 6.2 Subject term (key word) listing.

Authenticate  
Classified  
Data  
Disposition  
Format  
Results  
Test file



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Universal Report No.* _____	Originator's Report No. _____ Revision _____
REPORT OF TEST ON * _____ (Add necessary additional detail of type, size, rating, Mfg., brief purpose or type of test.)	

TEST PERFORMED BY:
TEST AUTHORIZED BY:**
CONTRACT NO. _____

\* As defined by the Procuring Activity

\*\* Included only if other than the organization performing test

NOTE: The cover should contain information shown, either reproduced on the cover itself, or visible through openings cut in the cover.

FIGURE 1. Cover page.

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Universal Report No.* _____	Originator's Report No. _____ Revision _____
REPORT OF TEST ON * _____	
(Add necessary additional detail of type, size, rating, Mfg., brief purpose or type of test.)	

TEST PERFORMED BY:  _____ TEST AUTHORIZED BY:  _____ CONTRACT NO. _____
---

	Date	Signature	
Test Initiated			
Test Completed			
Report Written By			
Technician			
Test Engineer			
Supervisor			
Supervisor			
Government Rep. (If applicable)			
Final Release			

FIGURE 2. Title page.

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## REPORT SUMMARY SHEET

1. Component/Part name per Generic code				2. Program or Weapon System		3. Test Comp.	Day	Mo.	Yr.	
				3. Originator's Report No.						
4. Originator's Report Title				6. Test Type		Report. Comp.				
7. THIS TEST (SUPERSEDES)(SUPPLEMENTS)REPORT No:										
8	8A. Part type, Size, Rating, Lot			9. Vendor		10. Vendor Part No.		11. IND/GOV STD NO.		12. Total tested
1										
2										
3										
4										
13. Internal specs, etc, req'd to utilize report.			ENCL	Sent with report no.		14. MIL Specs/STDS Referenced in 15C				
A						D				
B						E				
C						F				
15A. Test or Environment		C. Per spec	D. Spec paragraph/ method/condition			E. Test levels, duration and other details			F. No. Tested	G. No. Failed
16. SUMMARY OF REPORT, NATURE OF FAILURES AND CORRECTIVE ACTIONS TAKEN.										21. REPORT NO.
over										
17. Tested beyond vendor catalog specifications		yes <input type="checkbox"/>	18. Vendor informed of test results by: Letter <input type="checkbox"/> Cy of Rpt. <input type="checkbox"/> email <input type="checkbox"/>		19. Dated		20. Contractor		Subcontractor	

REPRODUCTION OR DISPLAY OF THIS MATERIAL FOR SALES OR PUBLICITY PURPOSES IS PROHIBITED.

FIGURE 3. Report summary sheet.





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## Test summary sheet

ITEM:	CONTRACTOR:	CONTRACTOR'S TYPE	DATE TEST COMPLETED	SAMPLE NO.				
SPEC:	MFR:	MANUFACTURER'S TYPE	DATE TESTED FROM: TO:					
LINE	TEST GROUP	DATA REF. PAGE	SPEC. REF. PAGE	TEST CONDITION	SPEC. LIMITS	MEASURED VALUE Min Max	No. Samples tested passed	Remarks

Bind this end

FIGURE 4A. General test summary.

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When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility no any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data, is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacturer, use or sell any patented invention that may in any way be related thereto.

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***Omission of Charges for Follow-on Access***

Any compliance by the report originator with requests from recipients for more detailed information on reports originated under Government contracts will be considered within the scope of present contractual obligations. Compliance with such requests will be at the discretion of the report originator and will be performed without cost or obligation to the requestor unless otherwise negotiated in advance.

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FIGURE 5. Notices page.

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Custodians:

Army – AV  
Navy – AS  
Air Force – 11  
DLA - CC

Preparing Activity:

DLA - CC  
(Project QCIC-0150)

Review activities:

Army – CR4, MI, MT  
Navy – YD2  
Air Force - 99



## STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

### INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7, and send to preparing activity.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

### I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER  
MIL-HDBK-831

2. DOCUMENT DATE (YYYYMMDD)  
23 April 1999

### 3. DOCUMENT TITLE

Preparation of Test Reports

### 4. NATURE OF CHANGE *(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

### 5. REASON FOR RECOMMENDATION

### 6. SUBMITTER

a. NAME *(Last, First Middle Initial)*

b. ORGANIZATION

c. ADDRESS *(Include Zip Code)*

d. TELEPHONE *(Include Area Code)*  
(1) Commercial  
(2) DSN  
*(If applicable)*

7. DATE SUBMITTED  
(YYYYMMDD)

### 8. PREPARING ACTIVITY

a. NAME  
Tom Hess

b. TELEPHONE *(Include Area Code)*  
(1) Commercial 614-692-0547 (2) DSN 850-0547

c. ADDRESS *(Include Zip Code)*  
DSCC-VA  
P. O. Box 3990  
Columbus, Ohio 43216-5000

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Telephone (703)767-6888 DSN 427-6888