

AD 742319

U. S. ARMY TEST AND EVALUATION COMMAND  
SYSTEM SERVICE TEST OPERATIONS PROCEDURE

AMSTE-RP-702-108

Test Operations Procedure 9-3-212

10 March 1972

TOOL SETS

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SECTION I  
GENERAL

1. Purpose and Scope. This TOP prescribes procedures for conducting tests of tool sets used by engineer units performing pioneer tasks and both rough and finished carpentry construction projects. These tests apply only to pioneer and carpenter tool sets issued to engineer elements.

2. Background. An essential part of any combat construction task is the availability of carpenter and pioneer tool sets. Pioneer sets contain heavy duty tools such as axes, block and tackle, shovels, picks, peavies, bolt cutters, climbers, and wrecking bars. Carpenter sets include tools such as files, framing chisels, hammers, levels, saws, rasps, screwdrivers, and squares for finished carpenter work. Pioneer sets currently in use include chests of hand operated tools as well as trailer-mounted electric powered tools. The powered tool sets are self-sufficient in that power requirements are met by power sources that are an integral part of the carrier unit. Trailer-mounted powered sets have an advantage in mobility which enables construction tasks to be performed rapidly in isolated areas.

3. Equipment and Facilities. As described in the supporting tests listed in Section II below, and a suitable construction project (i.e., timber trestle bridge, contonement area, etc.).

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SECTION II  
TEST PROCEDURES

4. Supporting Tests. Common Service TOPs, the test defined in Section III, and other published documents to be considered in formulating a service test plan are as follows:

<u>TEST SUBJECT TITLE</u>	<u>PUBLICATION NO.</u>
a. Operator Training and Familiarization	10-3-501
b. Safety Hazards	2-3-501
c. Preoperational Inspection and Physical Characteristics	2-3-500
d. Functional Suitability (refer to para 5)	
e. Human Factors Engineering	2-3-516
f. Compatibility with Related Equipment	2-3-512
g. Surface Transportability (Vehicles)	2-3-519
h. Air Portability, Internal - Suitability of Supplies and Equipment for	7-3-515
i. Air Portability, External - Suitability of Supplies and Equipment for	7-3-516
j. Maintainability	2-3-502
k. Maintenance Evaluation - Tools and Test Equipment	2-3-527
m. Maintenance Evaluation - Technical Manuscripts and Manuals	2-3-528
n. Reliability	2-3-507

SECTION III  
SUPPLEMENTARY INSTRUCTIONS

5. Functional Suitability.

a. Objective. To determine the capability of the test items to perform pioneering and carpentry tasks as described in the Material Need (MN) or applicable requirement documents.

UNCLASSIFIED  
Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author) U. S. Army Test and Evaluation Command Aberdeen Proving Ground, Maryland 21005		2a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED	
		2b. GROUP	
3. REPORT TITLE U. S. Army Test and Evaluation Command System Service Test Operations Procedure "Tool Sets"			
4. DESCRIPTIVE NOTES (Type of report and inclusive dates) Final			
5. AUTHOR(S) (First name, middle initial, last name)			
6. REPORT DATE 10 March 1972	7a. TOTAL NO. OF PAGES 6	7b. NO. OF REFS 3	
8a. CONTRACT OR GRANT NO.	8b. ORIGINATOR'S REPORT NUMBER(S) TOP 9-3-212		
b. PROJECT NO.	8c. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)		
c. AMCR 310-6			
d.			
10. DISTRIBUTION STATEMENT Approved for public release; distribution unlimited.			
11. SUPPLEMENTARY NOTES The report		12. SPONSORING MILITARY ACTIVITY Headquarters U. S. Army Test & Evaluation Command Aberdeen Proving Ground, Maryland 21005	
13. ABSTRACT: Provides a system for evaluation of pioneer and carpenter hand operated tools and electric powered pioneer tools. Describes pretest requirements, operator training, safety hazards, preoperational inspection, physical characteristics, functional suitability, human factors, compatibility with related equipment, transportability, maintainability, and reliability. Provides guidance for evaluation of maintenance of the test items with an analysis method for evaluating maintenance literature. Discusses data reduction, analysis, and presentation.			

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DD FORM 1473  
1 NOV 66

REPLACES DD FORM 1473, 1 JAN 64, WHICH IS  
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UNCLASSIFIED  
Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Carpenter hand tools						
Pioneer hand tools						
Tool Sets						

WHITE SECTION  
 BUFF SECTION  
 UNBOUNDED  
 DIVISION

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b. Method. The test items are employed on an appropriate construction project in accordance with applicable equipment specifications of instructions and TM 5-725 and TM 5-460 (appendix). The adequacy of individual components to perform their specified functions is noted. A specified percentage of operations are performed during darkness using light inherent to the test sets and/or lighting available on the test site.

c. Data Required.

(1) Nomenclature of test item and description of components and functions.

(2) Time and personnel required to complete test construction project.

(3) Deficiencies and shortcomings observed.

(4) Remarks concerning overall use of the test item.

d. Analytical Plan. Evaluate test results to determine whether or not the test sets meet stated performance requirements.

Recommended changes to this publication should be forwarded to Commanding General, U. S. Army Test and Evaluation Command, ATTN: AMSTE-PA-ME, Aberdeen Proving Ground, Maryland 21005. Technical information related to this publication may be obtained from the preparing activity, President, U. S. Army Armor and Engineer Board, ATTN: STEBB-MO, Fort Knox, Kentucky 40121. Additional copies of this document are available from the Defense Documentation Center, Cameron Station, Alexandria, Virginia 22314. This document is identified by the accession number (AD No.) printed on the first page.

APPENDIX  
REFERENCES

1. AR 70-38, Research, Development, Test, and Evaluation of Material for Extreme Climatic Conditions.
2. TM 5-725, Rigging.
3. TM 5-460, Carpentry and Building Construction.