D E P A R T M E N T O F T H E A R M Y S U P P L Y B U L L E T I N

CHEMICAL MATERIEL (OTHER THAN CLASS V) STORAGE SERVICEABILITY STANDARD

Headquarters, Department of the Army, Washington, DC
27 February 1974

Section I. INTRODUCTION

1. Purpose. This bulletin provides the basic information and guidance needed to implement the requirements of appropriate bulletins issued for groups of chemical items. (Other than class V).

2. Scope. The provisions of this bulletin are mandatory for use in conducting surveillance on all chemical items, except class V, by all army depots and depot activities in CONUS and OCONUS.

3. Definitions

3.1 Commonly Used Quality Assurance Terms. Refer to MIL-STD-109 for definitions of these terms.

3-2. Specialized Terms. The following definitions

*This bulletin supersedes SB 30, 8 December 1965.

apply to specialized terms used in storage serviceability standards published for chemical items.

3.2.1 Depot Lot. A combination of lots, irrespective of manufacturer or age, of the same kind and type of materiel grouped into one large single lot for the purpose of economy in surveillance.

3.2.2 Grand Lot. All lots of the same kind and type of materiel from one manufacturer or reconditioning agency grouped into one large lot for the purpose of economy in surveillance.

3.2.3 Initial Receipt Inspection (IR). An inspection performed on newly manufactured materiel received directly from a vendor, manufacturer, or government activity. The purpose is to determine if the items, packing, or packaging has been damaged in transit, if preservation, packing, packaging and marking are correct, if count is correct and if proper documentation accompanies the shipment. This inspection is not intended as a manufacturer's acceptance-type inspection.

3.2.4 Manufacturer's Lot. A quantity of one item of chemical materiel manufactured or assembled in one plant from raw materials or components of the same physical characteristics, under uniform conditions designed to effect homogeneity and meeting definite physical and chemical requirements of established specifications and drawings (this includes renovated, reworked and reconditioned lots).

3.2.5 Miscellaneous Lot. A combination of small manufacturer's lots or lot fragments processing the same technical history.

3.2.6 Mixed Lot. A combination of the same kind and type of materiel wherein identification with regard to manufacturer, lot number or time of manufacturer is incomplete.

3.2.7 Occurrence Basis. A frequency of inspection without a predetermined time frame which is performed as the need occurs, i.e. Initial Receipt (IR) inspection is performed when the shipment arrives.

3.2.8 Periodic Cycle Inspection (P). Surveillance performed on materiel in storage on a cyclic basis as established in applicable supply bulletins. The purpose is to determine the serviceability status of items at the end of each cycle.

3.2.9 Pre-Issue Inspection (PI). A pre-issue inspection is the inspection and/or tests on materiel immediately prior to issue.

3.2.10 Prestorage Inspection (PS). A prestorage inspection is the inspection performed on materiel received from other depots, posts, camps or stations, or overseas returns received within CONUS. The purpose is to determine receipt condition and the current degree of serviceability of the items when serviceability status is unknown.

3.2.11 Quality Defect Code. A numeric code assigned to indicate the category of a given defect and to identify by explanation that particular defect.

3.2.12 Serviceability. Condition of an item which as a result of surveillance inspection has been determined to be satisfactory and safe for its intended use.

3.2.13 Shelf-Life Code. A code assigned to a shelf-life item to indicate its storage time period.

3.2.14 Shelf-Life Items. An item of supply possessing deteriorative or unstable characteristics to the degree that a storage time, period must be assigned to assure that it will perform satisfactorily in service.

3.2.15 Special Inspection (S). A special inspection is the inspection performed at the direction of higher headquarters or as deemed necessary to satisfy local installation requirements.

3.2.16 Storage Quality Level. A nominal value expressed in terms of percent defective or defects per hundred units, whichever is applicable, specified for a given group or defects of a product in storage.

3.2.17 Storage Serviceability Standard (SSS). Written instructions for use by all supply activities engaged in storage and issue of chemical materiel. SSS's contain type of storage instructions; guidance for preservation, packaging, packing, and marking; and the requirements for inspection and acceptance during the storage cycle, including criteria for the classification to determine the serviceability of materiel in storage.

3.2.18 Unit Basis Inspection. Inspection on a unit basis is a procedure for inspection where each unit in the lot is inspected for the defect characteristic under consideration. The unit basis is also used for serially numbered major end items that are considered separately for surveillance purposes.

3.2.19 Unserviceable. Condition of an item which as a result of surveillance inspection has been determined to be unsatisfactory or unsafe for its intended use.

4. Errors or Omissions Comments regarding errors or omissions to this document will be forwarded on DA Form 2028 (Recommended Changes to Publications) to Commander, Edgewood Arsenal, Attn: SAREA-PA-PQ, Aberdeen Proving Ground, MD 21010; and an information copy to the Commander, US Army Armament Command, Attn: AMSARQAS, Rock Island, ILL 61201.

Section II. SURVEILLANCE

5. References. The following publications form a part of this bulletin to the extent specified.

AR 380-5	Department of the Army Information Security Program.
AR 750-25	Army Metrology and Calibration System.
TM 3-220	Chemical, Biological and Radiological Decontamination.
TM 3-250	Storage, Shipment, Handling and Disposal of Chemical Agents and Hazardous Chemicals.
TM 38-750	The Army Maintenance Management System (TAMMS).
TB 750-94-2	Reporting Unsatisfactory Newly Procured and Contractor Maintained Materiel.
MIL-STD-109	Quality Assurance Terms and Definitions.

6. Safety. During surveillance and handling of chemical items, inspection personnel shall observe the safety precautions prescribed for operations personnel, the safety precautions cited in applicable regulations, supply bulletins, TM3-220, TM 3-250, and technical manuals describing the materiel.

7. Lotting.

7.1 Type of Lotting Permitted. The serviceability standards shall specify the type of lotting permitted in conducting surveillance inspection for the group of items included in the standard.

7.2 Depot Lot. A depot is formed by combining lots regardless of manufacturer or age into a large single lot. Actual formation is a paper transaction, regrouping and marking of the materiel in storage is not required. A depot lot as such cannot be declared unserviceable. When through surveillance, it appears that a lot or lots within the depot lot may be unserviceable, the lot(s) concerned will be withdrawn and additional samples taken in accordance with the applicable serviceability standard. If the suspect lot is found serviceable, it remains a part of the depot lot. If found unserviceable, the lot is eligible for rework or disposal in accordance with existing regulations. When an appreciable proportion (20 percent) of the lots within the depot lot have become unserviceable, the depot lot shall be dissolved and the individual lots therein tested on a lot by lot basis. A depot lot must meet criteria as follows: 7.2.1 Kind and type. All items must be the same kind, type and model.

7.2.2 Storage. All items must be stored under similar conditions at the same depot.

7.2.3 Serviceability lot status. All lots must possess the same serviceability lot status; i.e. serviceability known (based upon prior surveillance) or serviceability unknown. However, when new procurement is involved, serviceability will be based upon acceptance inspection in lieu of prior surveillance.

7.3 Grand Lot. A grand lot is formed by combining all lots from one manufacturer into a large single lot. Actual formation is a paper transaction, regrouping and marking of the materiel in storage is not required. A grand lot as such cannot be declared unserviceable, When through surveillance, it appears that a lot or lots within the grand lot may be unserviceable, the lot(s) concerned will be withdrawn and additional samples taken in accordance with the applicable serviceability standard. If the suspect lot is found serviceable it remains a part of the grand lot. If found unserviceable, the lot is eligible for rework or disposal in accordance with existing regulations. When an appreciable proportion (20 percent) of the lots within the grand lot have become unserviceable, the grand lot shall be dissolved and the individual lots therein tested on a lot by lot basis. A grand lot must meet criteria as follows:

7.3.1 Kind, type and model. All lots must be the same kind, type and model.

7.3.2 Manufacturer. All lots must be the product of the same manufacturer or reconditioning agency.

7.3.3 Packing. All lots must have the same type packing and identification markings.

7.3.4 Storage. All lots must be stored under similar conditions at the same depot.

7.3.5 Serviceability lot status. All lots must possess the same serviceability lot status; i.e., serviceability known (based upon prior surveillance) or serviceability unknown. However, when new procurement is involved, serviceability will be based upon acceptance inspection in lieu of prior surveillance.

7.4 Manufacturer's Lot. A manufacturer's lot consists of those items manufactured or assembled by one manufacturer or reconditioning activity and bearing the same manufacturer's or reconditioning agency's lot identification number. The manufacturer's lot must meet criteria as follows:

7.4.1 Packing. All items must have the same type packing and identification marking.

7.4.2 Storage. All items must be stored under similar

conditions at the same depot.
7.4.3 Serviceability lot status. All items must possess the same serviceability lot status; i.e., serviceability known (based upon prior surveillance) or serviceability unknown. However, when new procurement is involved, serviceability will be based upon acceptance inspection in lieu of prior surveillance.

7.5 Miscellaneous Lot. A miscellaneous lot is formed by combining small manufacturer's lots or lot fragments into one lot. The size of miscellaneous lots is restricted by the applicable serviceability standard. Actual formation of the lot is a paper transaction, regrouping and marking of the materiel in storage is not required. A miscellaneous lot may be declared unserviceable as a whole. The miscellaneous lot must meet criteria as follows: *7.5.1 Kind, type and model*. All items must be of the same kind, type, and model.

7.5.2 Manufacturer. Each small lot or lot fragment must be the product of the same manufacturer or reconditioning agency.

7.5.3 Packing. All items must have the same type packing and identification marking.

7.5.4 Storage. All items must be stored under similar conditions at the same depot.

7.5.5 Serviceability lot status. All items must possess the same serviceability lot status; i.e., serviceability known (based upon prior surveillance) or serviceability unknown. However, when new procurement is involved, serviceability will be based upon acceptance inspection in lieu of prior surveillance.

7.6 .Mixed Lot. A mixed lot is formed by combining those items with incomplete identification into one lot. The size of the mixed lot is restricted by the applicable serviceability standard. Actual formation of the lot is a paper transaction, regrouping and marking of the materiel is not required. A mixed lot may be declared unserviceable as a whole. The mixed lot must meet criteria as follows: *7.6.1 Kind, type and model*. All items must be of the same kind, type and model.

7.6.2 Packing. All items must have the same packing.

7.6.3 Storage. All items must be stored under similar conditions at the same depot.

8. Sampling. Sampling shall be performed in accordance with this bulletin and the sampling tables and instruction provided in the applicable storage serviceability standard for the materiel.

8.1 Selection Of Samples.

8.1.1 All portions of the lot must be located for sampling.

8.1.2 Every reasonable effort must be made to obtain a random sample so the sample represents the quality of the entire lot. When conditions make it impossible to obtain a proper random sample, this fact and a brief description of the condition that prevents random sampling will be recorded under the remarks section of Form DA 984. (Munition Surveillance Report) 8.1.3 In selecting samples from depot lots, grand lots or miscellaneous lots, the items chosen shall adequately represent all materiel. To assure representativeness of the sample in the depot lot, grand lot or miscellaneous lot, the sample drawn from each manufacturer's lot should be proportional in size.

Thus, if a manufacturer's lot comprises one-third of the total lot, then one-third of the lot sample should be selected at random from that manufacturer's lot.

8.2 Samples packed in barrier materiel, which have been previously inspected and resealed with a sealing iron, will not be used a second time unless the lot size makes it mandatory.

8.3 Sample Disposition.

8.3.1 Barrier material should be resealed in accordance with instructions furnished with the material, printed on the material or furnished with the sealing iron. Detailed instructions for sealing barrier material are contained in MIL-P-116 and MIL-B-117.

8.3.2 Serviceable samples will be returned to storage with the parent lot. Samples with critical or major defects or that cannot be returned to the original package configuration will be segregated and reported.

9. Inspection. All inspection and tests shall be conducted under the control of a qualified inspector.

The inspection and or tests normally will be conducted at the surveillance workshop; however, when authorized, examinations and/or tests may be performed at the storage site or elsewhere, but must be within the limitations of all safety and security requirements.

9.1 Initial Receipt Inspection (IR).

9.1.1 Frequency. This inspection shall be performed on an occurrence basis.

9.1.2 Sampling. Sampling shall be performed on a lot by lot basis utilizing the sampling plan provided in the applicable storage serviceability standard.

9.1.3 Classification of defects. The following table shall be used to evaluate the incoming materiel.

Table 1. Initial Receipt Inspection

Categories	Defect	Inspection Methods
Critical:		
1	Item, packing or packaging damaged to the extent that hazardous chemicals are exposed.	Visual
Major:		
101	Lot count incorrect	Visual
102	Documentation missing or incomplete	Visual
103	Item damaged	Visual
104	Packing, preservation or packaging damaged to the extent that adequate protection is no longer afforded to the item or handling and storing would be adversly affected.	Visual
105	Item, packing or packaging contaminated, wet or mildewed	Visual
Minor:		
201	Slight damage to packing or packaging.	Visual

9.1.4 Reporting. Initial receipt inspection shall be reported on DA Form 984 in accordance with the provisions of this bulletin and the applicable storage serviceability standard for the item. Ir. addition, failure data and/or discrepancies encountered will be reported on DD Form 1686 (Report of Deficiencies Found in Materiel) in accordance with TB 750-94-2.

9.2 Prestorage Inspection (PS).

9.2.1 Frequency. This inspection shall be performed on an occurrence basis.

9.2.2 Sampling. Sampling shall be performed on a lot by lot basis utilizing the sampling plan provided in the applicable storage serviceability standard.

9.2.3 Examination and test. When the serviceability status is unknown the examination and test(s) shall be performed in accordance with the classification of defects and test requirements provided in the applicable storage serviceability standard for the item. All lots shall be examined for receipt condition utilizing the following table.

Table II. Prestorage Inspection

Categories	Defects	Inspection Methods
Critical:		
2	Item, packing or packaging damaged or deteriorated to the extent that hazardous chemicals are exposed.	Visual
Major		
107	Lot count incorrect	Visual
108	Documentation missing or incomplete	Visual
109	Item damaged	Visual
110	Item, packing or packaging contaminated wet or mildewed as a result of adverse shipping conditions.	Visual
111	Packing or packaging damaged to the extent that adequate protection is no longer afforded to the item or handling and storing would be adversely. affected.	Visual
112	Preservation, packing, packaging or marking incorrect.	Visual
Minor-		
202	Slight damage to packing or packaging	Visual

9.2.4 Reporting. Prestorage inspection shall be reported on DA Form 984 in accordance with the provisions of this bulletin and the applicable storage serviceability standard for the item.

9.3 Periodic Cycle (P) and Pre-Issue Inspection (PI). These inspections shall be performed in accordance with the requirements of the applicable storage serviceability standard for the item.

9.4 Special Inspection (S). This inspection shall be performed in accordance with the direction given by headquarters or instructions provided locally when it is deemed necessary to satisfy local installation requirements.

10. Coded Standards. The following is an explanation by heading of the codes used in the Coded Standard

section of the storage serviceability standards.

10.1 Quality Defect Codes. Quality defect codes are given as a two digit number. The first digit identifies one of the general groups; the second digit identifies the actual defect within one of the general groups.

Example: Code 13, 1-packaging group, 3-container damaged or deteriorated.

10.1.1 General Groups. (First digit).

Code	Group
0	Cleaning, preservation, painting, plating or other processing.
1	Packaging
2	Packing and loading
3	Marking and labeling
4	Material deficiencies
5	Material deficiencies
6	Functional certification of performance test.
7	Document recording or routing deficiencies
8	Reserved for future use

1*0.1.2 General groups and defects (First and second digit).*

10.1.2.1 Group "0" (cleaning, preservation, painting, plating, or other processing).

Quality Defect Code	Explanation
01	Cleaning improper or inadequate
02	Preservation improper or inadequate
03	Wrapping improper or inadequate
04	Protection afforded not compatible with mode of shipment, type of storage, destination, or other environment.
05	Inadequate coverage or improper thickness
06	Improper and inadequate preparation
07	Wrong type, method, and color
08	Drying improper or inadequate
09	Appearance (paint runs, overspray, not uniform, not up to standard).

10.1.2.2 Group 1 (Packaging).

Quality Defect Code	Explanation
11	Sealing defective (bags or containers)
12	Failed pressure retention, leak, or other test
13	Container damaged or deteriorated
14	Protection not compatible with mode of shipment, to of shipment, destination, or other environment
15	Wrong level applied
16	Containers or other packaging materials do not meet specifications (size, type, class, style, etc).
17	Wrong quantity per unit package
18	No packaging applied
19	Reserved for future use

10.1.23 Group 2 (Packing and loading).

Quality Defect Code	Explanation
21	Stapling, nailing, strapping, and/or banding improper or inadequate.
22	Excessive weight or cube for container
23	Containers, boxes, crates, or pallets damaged or deteriorated.
24	Intermediate or exterior container protection not compatible with mode of shipment, type of storage, destination, or other environment
25	Wrong level applied
26	Containers, boxes, crates, or pallets do not meet specifications.
27	Wrong quantity per intermediate or exterior container.
28	Improper loading, blocking, bracing, tiedown, etc
29	Reserved for future use

10.1.2.4 Group 3 (Marking and labeling).

Quality Defect Code	Explanation
31	Lables omitted, illegible, or incorrect
32	Special markings omitted, illegible, or incorrect.
33	Description or identification marking omitted, illegible, or incorrect (stock number, quantity, unit of issue, contract data, condition code, etc.)
34	Address marking omitted, illegible, or incorrect.
35	Marking improperly located or wrong method of marking used.
36	Packaging or packing (P/P) level marking omitted, illegible, or incorrect.
37	Reserved for future use
38	Reserved for future use
39	Reserved for future use

10.1.2.5 Group 4 (Materiel deficiencies)

Quality Defect Code	Explanation
41	Damaged or defective item or parts (bent, broken, scratched, chipped, marred, cracked. warped, torn, stripped, crimped, burned. twisted, burned out, perforated, pitted).
42	Does not meet specified tolerances or requirements (dimensional, finish, strength, torque, output, volume, color, stretch, size, illumination, weight).
43	Parts or components missing
44	Wrong part or component (found installed on end item or other assembly, or used to make up set or kit)
45	Parts, components, and/or controls loose, improperly installed or assembled, out of adjustment, do not fit, or fail to function properly.
46	Leak (other than test) air or gas (nitrogen, oxygen, hydrogen, etc).
47	Modification work order incomplete, improperly applied, or missing.
48	Soldering, welding, brazing, metalizing, or bonding defect.

10. 1.26 Group 5 (Materiel deficiencies).

Quality Defect Code	Explanation
51	Rust, corrosion, or verdigris

52	Excessive moisture, fungus, mildew, rot, infestation, or weather cracks.
53	Marking missing or incorrect (serial number, data plate, piece mark, cure dates
54	Shelf-Life date exceeded
55	Wrong item received or selected for shipment
56	Lubrication improper or incomplete
57	Item improperly classified
58	Improper identification
59	Other

10.1.2.7 Group 6 (Functional, certification, or performance test).

Quality Defect Code	*Explanation*
61	Failed test requirements (hydraulic)
62	Failed test requirements (electrical or electronics
63	Failed test requirements (environmental)
64	Failed test requirements (mechanical)
65	Failed test requirements (pressure)
66	Failed certification or laboratory test
67	Excessive heat and/or noise during operational test.
68	Parts or components damaged (due to functional (failure) during end item or component test.
69	Required test not accomplished.

10.1.2.8 Group 7 (Document, recording, or routing deficiencies).

Quality Defect Code	*Explanation*
71	Wrong count (overage)
72	Improper routing or process planning
73	Mixed materiel (two or more stock numbers recorded under the same stock number).
74	Historical records (including The Army Maintenance Management System (TAMMS)) missing, incorrect, or incomplete.
75	Contract, specifications, receiving reports, or other required documents incorrect, incomplete, not available, or changes not with contract.
76	Contract specifications or other required documents inadequate for inspection or acceptance purposes.
77	Materiel not segregated (serviceable and unserviceable items intermingled).
78	Stock selection deficiency (FI/FO)
79	Wrong Count (shortage)

10.1.2.9 Group 8 (Reserved).

Quality Defect Code	*Explanation*
81	Reserved for future use
82	Reserved for future use
83	Reserved for future use
84	Reserved for future use
85	Reserved for future use
86	Reserved for future use
87	Reserved for future use
88	Reserved for future use
89	Reserved for future use

10.2 Inspection Level. Inspection levels are given as follows:

Quality Code	*Level*
1	Tightened inspection
2	Normal inspection
3	Reduced inspection

10.3 Storage Quality Level. Storage quality level is given as a numerical value which shall represent maximum percent defective.

Example: 1.5 means 1.5 maximum percent defective is allowed.

10.4Shelf-Life Codes. Shelf-Life Codes are as follows:

Code	*Shelf-Life Period*
0	Nondeteriorative
A	1 month
B	2 months
C	3 months
D	4 months
E	5 months
F	6 months
G	7 months
H	8 months
J	9 months
K	10 months
L	11 months
1	12 months
M	13 months
N	14 months
P	15 months
Q	16 months
R	17 months
S	18 months
T	21 months
2	24 months
U	27 months
V	30 months
W	33 months
3	36 months
X	42 months
4	48 months
Y	54 months
5	60 months

10.5 Inspection Frequency Codes. A numeric code assigned to indicate the frequency of surveillance inspection during storage. These codes are as follows:

Code	*Period (months)*
1	6
2	12
3	24
4	30
5	60

10.6 Type of Storage Codes. An alpha or numeric code assigned to an item to indicate the recommended type of storage. These codes are as follows:

Code	*Explanation*
A	Heated warehouse space (general purpose)
B	Unheated warehouse space (general purpose)
C	Controlled humidity warehouse ace
D	Flammable warehouse space
E	Chill warehouse space
F	Freeze warehouse space
G	Shed, nonwarehouse space
T	Controlled humidity nonwarehouse space
U	Other nonwarehouse space
0	Open, concrete, improved space
2	Open, blacktop, improved space
4	Open, crushed stone, improved space
6	Open, gravel, improved space
8	Open, unimproved space

10.7 Packaging, Packing Codes. An alphabetic code that represents the minimum level of packaging/packing required based on the prescribed storage conditions. The codes are as follows:

Code	*Level of Packaging/Packing*
A	A/A
B	A/B
C	A/C
D	C/C

10.8 Test Required Codes. A two digit code to indicate the type test required and to be performed as care in storage.

10.8.1 Type tests.

Code	*Test*
10	Environmental
20	Functional
30	Leakage
40	Mechanical/Physical
50	Electrical/Electronic
60	Chemical
70	Reserved for future use
80	Reserved for future use
90	Reserved for future use

11. Evaluation

11.1 Serviceability Based On Sampling Inspection. A lot shall be classified as serviceable provided no critical defects observed, test requirements are met within the parameters established by the applicable storage serviceability standard and the number of major or minor defectives do not exceed the number allowed in the sampling plan for the item.

11.2Serviceability On Unit Basis Inspection. An item inspected on a unit basis or subjected to 100 percent inspection (screening), is serviceable if the following criteria are met:

11.2.1. No defects are observed.

11.2.2 All requirements for test and/or analysis are met.

11.2.3 All units have been modified in accordance with existing MWO'.

11.3 Special Instruction. In addition to applicable criteria for evaluation contained in this paragraph special criteria are provided when necessary for certain items or groups of items in the pertinent storage serviceability standard.

11.4 Procedure for Rounding Off Numerical Requirements. Numerical requirements stated in the storage serviceability standards indicate the number of significant digits to be retained (i.e., the last figure or decimal place to be reported). The procedure given below is to be used in rounding-off observed or calculated values for the purpose of evaluation.

11.4.1 When the figure next beyond the last figure to be retained is less than 5, the figure to be retained is kept unchanged. When the figure next beyond the last figure to be retained is greater then 5, the figure to be retained is increased by one, i.e., 2.51 = 3.0 and 2.49 = 2.0.

11.4.2 When the figure to be retained is odd and followed by a 5 and zeroes, the figure to be retained is increased by 1. When the figure to be retained is even and followed by a 5 and zeroes, the figure to be retained is not changed. i.e., 2.50 = 2.0 and 3.50 = 4.0.

11.5 *Rounded-Off Value*. The rounded-off value should be obtained in one step by direct rounding of the most precise value available and not in two or more steps of successive roundings For example, 89,490 psig rounded off to the nearest 1,000 psig is at once 89,000; it would be incorrect to round off first to the nearest 100, giving 89,500 and then to the nearest 10,000 giving 90,000.

12. Surveillance test and Measuring Equipment

12.1 *Availability and Adequacy*. The availability and adequacy of test and measuring equipment required to perform the examinations and tests required by the applicable storage serviceability standard shall be determined. Should it be determined that test and/or measuring equipment is unavailable or inadequate, this condition shall be reported within 30 days to US Army Armament Command, Attn.: AMSAR-QAS.

12.2 *Calibration*. Test and measuring equipment shall be calibrated at established intervals in accordance with applicable technical bulletin, technical manual or instruction manual. In the event that adequate calibration procedures are not included in these documents, inquiry as to the proper calibration procedure shall be made to the organization responsible for design and/or supply of the test equipment. A calibration system for the calibration

of inspection measuring gages and test equipment shall be established in accordance with the requirements of AR 750-25. The records and reports required in calibration of army equipment are described in TM 38-750.

13. Reports. Inspection and/or tests performed in accordance with this bulletin and the applicable storage serviceability standard for the item shall be reported to the designated command utilizing the applicable form(s).

13.1 *Forms*.

13.1.1 *Munitions Surveillance Report (DA Form 984).* This form will be used to record and report the results of all examinations and test when conducting prestorage inspection, initial receipt inspection, periodic cycle inspection or pre-issue inspection. (NOTE: This form may also be utilized for special inspection when so directed by higher headquarters). In completing the form the following instructions shall be followed:

Part I *Descriptive Data Of Ammunition Represented By Samples*

a. Block 1. Enter the actual storage location, which may not necessarily be the depot or storage activity having accountability.

b. Block 2. Enter the local report number.

c. Block 3. Enter the date of the report.

d. Block 4. Enter the complete standard nomenclature and model number of the item.

e. Block 5. Record complete manufacturer's lot number. When surveillance is authorized on the basis of a depot lot, miscellaneous lot or grand lot, enter the lot number applicable to the type of lot indicated in Block 15 and complete DA Form 985 (Data Sheet for Grand Lots, Miscellaneous Lots or Depot Lots).

f. Block 6. Describe packing of items in narrative form.

g. Block 7. Enter Federal Stock Number (FSN) of the item.

h. Block 8. Enter current and past type of storage, i.e., heated warehouse, unheated warehouse, outdoor (indicate type of outdoor storage).

i. Block 9. Record the number of samples selected for examination and test(s).

j. Block 10. Record the number of items less sample size, remaining in the lot at the depot.

k. Block 11. Self-explanatory.

l. Block 12. Enter date and type of last inspection; i.e., Prestorage, 10 July 70.

m. Block 13. Enter type inspection and date that this inspection was complete, i.e., Periodic cycle, 1 July 72.

n. Block 14. Enter the surveillance cycle required by the applicable supply bulletin and reference that bulletin by number.

o. Block 15. Self-explanatory.

p. Block 16. Record the manufacturer or reconditioning agency. When more than one manufacturer is represented due to the nature of the lot enter N/A.

q. Block 17, and Block 18. Self-explanatory.

r. Block 19. Enter date of manufacture or reconditioning. When more than one manufacturer is represented due to the nature of the lot, enter N/A.

s. Block 20 thru Block 25. Record condition of packing, packaging, and marking.

t. Block 26. State if not passed or failed the visual examination requirements established in the applicable supply bulletin. Record all visual defects or defectives as applicable observed by category, defect number, and number of defects or defectives. (Category and defect number shall be as given in the classification of defects table of the applicable supply bulletin). Reference the applicable supply bulletin and appendix.

Example:

SB 740-94-9 APPENDIX D

Categories	Defect	Number of Defectives
Critical		None
Major	105	1
	108	2
Minor	204	1
	207	1

u. Block 27. Any observations relevant to the condition of the items or to the actual inspection should be noted in this block. Examples of such observations are: different storage conditions of lot segments, unlisted defects, inspection equipment not available or calibration interval exceeded, severity of defects listed in block 26, etc.. A brief lot history shall be included.

v. Block 28a. Self-explanatory.

w. Block 28b. Based on the results of visual examination (Part 1, Block 26) and test results (Part II, block 12) enter condition code.

x. Block 29. Self-explanatory.

PART II: Results of Surveillance Test

a. Blocks 1 through 4. Enter meteorological conditions at test area if relevant to the test. If not relevent, enter N/A.

b. Blocks 5, 5a and 5b. Enter supply bulletin number, revision or change, and date of supply bulletin revision or change. When applicable, enter the letter of authority or directive for any special surveillance performed not in accord with the basic document indicated above.

c. Blocks 6 and 7. Outer packages from which samples were selected and individual samples should be numbered consecutively starting with "1". Record these numbers in blocks 6 and 7.

d. Block 8. In the heading of each column describe the test characteristic to be tabulated adjacent to the particular sample number below. Attribute deficiencies will be indicated by an "x" at the intersection of defective sample number and defect description.

e. Blocks 9 and 10. In the space above blocks 9 and 10 indicate whether the evaluation is based on "defects" or "defectives" by crossing out the one which does not apply. Enter an "x" at the intersection of the applicable defective column and sample number when deficiencies have been noted in block 8 and evaluation is based on defectives. Enter total number of defects observed for each sample in appropriate columns when evaluation is based on defects.

f. Block 11. State if lot passed or failed the test requirements established in the applicable supply bulletin. Enter any additional information which might have had an affect on test results. Enter any recommendations on lot disposal; i.e., screen, renovate, etc.

g. Block 12. Self-explanatory.

h. Block 13. Not applicable.

13.1.2 Data Sheet for Grand Lots, Miscellaneous Lots, or Depot Lots, (DA Form 985). This form will be used by the depot or storage activity to record the information of these lots in accordance with this bulletin. The following instructions are for the accomplishment of this form:

a. Block 1. Enter the complete standard nomenclature and model number of the item. Enter the Federal Stock Number.

b. Block 2. Enter the depot or storage activity where the items comprising the lot are stored.

c. Block 3. Enter the type of storage.

d. Block 4. State previous serviceability of each lot composing the grand lot, miscellaneous lot or depot lot.

e. Block 5. Enter method of packing and preservation.

f. Block 6. Not applicable.

g. Column a. Enter the manufacturers of the individual lots forming the grand lot, miscellaneous lot, or depot lot.

h. Column b. Enter the manufacturer's lot number for each of the individual lots.

i. Column c. Enter the date of manufacturer of each lot.

j. Column d. Enter the lot size for the individual lots listed in column b. Total the column and enter in the total block at the foot of the column.

k. Column e. Record the number of samples selected for test from each lot listed in column b. Total the column and enter in the total block at the foot of the column.

l. Column f. Record the number of samples selected for visual examination from each lot listed in column b. Total the column and enter in the total block at the foot of the column.

m. Columns g, h and i. Not applicable.

n. Remarks. Enter any pertinent information regarding formation of the lot or sampling procedure.

o. Supplementing serviceability report number. The report number entered here will correspond with that entered on DA Form 984.

p. Other blocks. Self-explanatory.

13.1.3 Report of Deficiencies Found in Material (UMR) (DD Form 1686). This form will be submitted when initial receipt inspection reveals unsatisfactory new material from a manufacturer or unsatisfactory renovated, repaired or modified material from a contractor. The preparation and distribution of DD Form 1686 is specified in TB 750-94-2.

13.2 Errors in Reports.

a. Only errors which affect the serviceability status of the materiel evaluated will be corrected by replacing those specific pages affected by the error with "Corrected Copies".

b. The inspection activity which initiated the erroneous report will prepare and distribute the corrected pages required by "a" above. Each such page will be marked "Corrected Copy". The corrected entries will be indicated by encircling. The surveillance reports described herein are exempt from Reports Control Symbol.

13.3 Classified Data. Unless specifically authorized by Edgewood Arsenal, Security Office, no classified information will be placed on materiel serviceability reports. Full use will be made of special codes, in preparing the documents when materiel and/or information is classified. If classified information is required, it will be placed on a cover sheet (not the materiel serviceability report forms) which may accompany mail copies of the report in accordance with AR 380-5. Attention is directed to AR 380-5 which prohibts overclassification.

13.4 Submission of Reports. With the exception of reports utilized for "Special Inspection", an original and two copies of all reports required by this document and the applicable supply bulletin shall be submitted to the Commander, US Army Armament command, Attn: AMSAR-QAS Rock Island IL 61201.

By Order of the Secretary of the Army:

CREIGHTON W. ABRAMS
General, United States Army
Chief of Staff

Official:

VERNE L. BOWERS
Major General, United States Army
The Adjutant General

Distribution:
To be distributed in accordance with DA Form 12-34 (qty rqr block No. 52), requirements for Storage Serviceability Standards: SB 740 Series.

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RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL.

SOMETHING WRONG WITH PUBLICATION

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE

BE EXACT PIN-POINT WHERE IT IS

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.

IN THIS SPACE, TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT.

PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER	SIGN HERE

TEAR ALONG PERFORATED LINE

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE.

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

THE METRIC SYSTEM AND EQUIVALENTS

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3.2808.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .035 ounce
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu in.
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Square measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. in.
1 sq. decimeter = 100 sq. centimeters = 15.5 inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 feet
1 sq. dekameter (are) = 100 sq. meters = 1.076.4 sq. ft.
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 hectometers = .386 sq. miles

Liquid Measure

1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons
1 liter = 10 deciliters = 33.81 fl. ounces
1 centiliter = 10 milliliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3 38 fl. ounces
1 metric ton = 10 quintals = 1.1 short tons

Approximate Conversion Factors

To change	To	Multiply by
inches	centimeters	2.540
feet	meters	.305
yards	meters	.914
miles	kilometers	1.609
sq. inches	sq. centimeters	6.451
sq. feet	sq. meters	.093
sq. yards	sq. meters	.836
sq. miles	sq. kilometers	2.590
acres	sq. hectometers	.405
cubic feet	cubic meters	.028
cubic yards	cubic meters	.765
fluid ounces	milliliters	29.573
pints	liters	.472
quarts	liters	.946
gallons	liters	3.785
ounces	grams	28.349
pounds	kilograms	.454
short tons	metric tons	.907
pound inches	newton-meters	.11296

To change	To	Multiply by
ounce inches	newton-meters	.0070062
centimeters	inches	.394
meters	feet	3.280
meters	yards	1.094
kilometers	miles	.621
sq. centimeters	sq. inches	.155
sq. meters	sq. yards	10.764
sq. kilometers	sq. miles	1.196
sq. hectometers	acres	2.471
cubic meters	cubic feet	35.315
milliliters	fluid ounces	.034
liters	pints	2.113
liters	quarts	1.057
grams	ounces	.035
kilograms	pounds	2.205
metric tons	short tons	1.102
pound-feet	newton-meters	1.356

Temperature (Exact)

°F Fahrenheit temperature — 5/9 (after subtracting 32) — Celsius Temperature °C

PIN : 022665-000