

INCH-POUND

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## MILITARY STANDARD

### VISUAL INSPECTION STANDARDS AND INSPECTION PROCEDURES FOR INSPECTION OF PACKAGING, PACKING AND MARKING OF SMALL ARMS AMMUNITION



Comments, suggestions, or questions on this document should be addressed to: Commander, U.S. Army ARDEC, ATTN: RDAR-EIQ-SA, Picatinny Arsenal, NJ 07806-5000 or e-mailed to <mailto:usarmy.picatinny.ardec.list.ardec-stdzn-branch@mail.mil>. Since contact information can change, you may want to verify the currency of this information using ASSIST Online database at <https://assist.dla.mil>.

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FOREWARD

1. This standard is approved by the Department of Defense and is mandatory for use by the Departments of the Army, the Navy and the Air Force, effective 3 December 1962.

2. Small arms ammunition is subjected to rigid inspection during manufacture for compliance with the technical requirements of the pertinent specification. The materials used in packaging and packing operations are designed to withstand rough handling, adverse climatic conditions and long term storage and are carefully inspected for compliance with applicable specifications. It is essential therefore, that the packaging, packing and marking of this ammunition, using approved materials and methods, be inspected to insure its arrival at various points of destination correctly identified, in proper amounts, in proper functional arrangement and in usable condition.

3. The use of this document by all authorized packaging and packing activities will minimize the possibility of the delivery of unusable small arms ammunition.

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## 1. SCOPE

1.1 Scope. This standard prescribes procedures for the inspection of packaging, packing and marking of small arms ammunition. It specifies the extent of the inspection of the container contents, the containers themselves, and overpacks of such containers. It also supplies classification of defects, verification levels, and visual defect standards, when necessary.

## 2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 of this standard. This section does not include documents cited in other sections of this standard, or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3, 4, or 5 of this standard, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

## DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-129	DOD Standard Practice – Military Marking for Shipment and Storage
MIL-STD-1168	Ammunition Lot Numbering and Ammunition Data Card
MIL-STD-1916	DOD Test Method Standard – DOD Preferred Methods for Acceptance of Product

(Copies of these documents are available online at <http://quicksearch.dla.mil/>)

2.2.2 Other government documents, drawings, and publications. The following other Government documents, drawings, and publications, form a part of this document, to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation or contract.

U.S. ARMY ARMAMENT RESEARCH, DEVELOPMENT AND ENGINEERING CENTER  
(ARDEC) DRAWINGS

7258836	M17 Type Links, Assembly Requirement For
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(Copies of these drawings are available from US Army ARDEC, RDAR-EIS-PE, Picatinny Arsenal, NJ 07806-5000, or email [usarmy.picatinny.ardec.list.drawing-request-help-desk@mail.mil](mailto:usarmy.picatinny.ardec.list.drawing-request-help-desk@mail.mil))

2.3 Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained. In the event that there is a conflict regarding defect classification between the item specification and this text, the item specification shall take precedence.

### 3. DEFINITIONS

3.1 Packaging. The application or use of adequate protective measures including, as applicable, the use of protective wrapping, cushioning, interior containers and complete identification marking, up to but not including the exterior shipping container.

3.2 Packing. Application or use of exterior shipping containers, and assembling of packaged items or items not requiring packaging therein, together with necessary cushioning, exterior strapping, and marking of shipping container.

### 4. GENERAL REQUIREMENTS

4.1 Incoming materials. Incoming packaging and packing materials inspection.

4.1.1 Manufacturer's responsibility. The manufacturer producing small arms ammunition is responsible for the quality of packaging and packing materials used. Incoming materials shall be inspected by the ammunition manufacturer for conformance with the technical requirements of the contract in accordance with his inspection system.

4.2 General inspection procedure.

4.2.1 Sampling methods. Inspection shall be performed on a class basis using the applicable sampling plans and criteria of MIL-STD-1916.

4.2.2 Inspection phases. For sampling and inspection purposes, units of the several packaging and packing phases shall be:

a. Phase I – Contents of container. A unit shall consist of the complete contents of a single packaged container, as shown on applicable drawings.

b. Phase II – Packaged and sealed container. A unit shall consist of a single packaged and sealed container. This could be a sealed envelope when used as a container.



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c. Phase III – Overpack and overpack contents. A unit shall consist of a single overpack complete with containers, separators, fillers, etc., as shown on applicable drawings. An overpack could be a wirebound wooden box or metal outer box.

d. Phase IV – Stretch wrapped container and container contents. A unit shall consist of a stretch wrapped single overpack complete with containers/boxes, fillers etc., as shown on applicable drawings.

4.2.3 Sequence of inspection. Provided no destruction to the inspection unit is entailed, unless this is not feasible, the various phases may be inspected simultaneously. However, during the inspection of the several phases, the sample size for each phase may be different. Should this be the case, the required sample size shall be used for each inspecting phase.

4.2.4 Defective material-sampling. Defective containers or overpacks, as defined in the applicable item specification, found during sampling inspection or Government verification of packaged or packed ammunition shall be replaced by acceptable units.

4.2.5 Defective material-process. Occurrence of damaged packaging and packing material attributed to the packing process shall be brought to the attention of the manufacturer, along with a request that the process be corrected. Continued occurrence of damage shall be cause for discontinuance of Government acceptance.

## 5. DETAIL REQUIREMENTS

### 5.1 Contents of container. Phase I inspections

#### 5.1.1 General.

5.1.1.1 Extent of inspection. During the inspection of container contents, the method of packaging shall be observed necessitating the removal of contents from the container. The contents of waterproof envelopes shall be inspected prior to sealing.

#### 5.1.1.2 Defective cartridges.

5.1.1.2.1 Critical. Critically defective cartridges as defined in applicable detail specifications, found during sampling inspection or Government verification shall be cause for rejection of the lot of ammunition.

5.1.1.2.2 Major and minor. Major or minor defective cartridges, as defined in applicable detail specifications, found during sampling inspection or Government verification shall be replaced by acceptable cartridges.

5.1.1.2.3 Damaged by process. Occurrence of damaged cartridges attributable to linking, clipping or other packaging operations shall be brought to the attention of the manufacturer,

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along with a request that the process be corrected. Continued occurrence of damage shall be cause for discontinuance of Government acceptance.

### 5.1.2 Carton package.

5.1.2.1 Prior to sealing. Prior to carton sealing, examination shall be performed for proper type and caliber of ammunition; location, type and number of fillers and separators; and the arrangement of ammunition in cartons. The occurrence of the above said defects shall be brought to the attention of the manufacturer, along with a request that the process be corrected. Continued occurrence of defects shall be cause for discontinuance of Government acceptance.

5.1.2.2 Verification Level. The verification levels for carton package defects shall be as follows:

TABLE I. Carton Package defects verification level.

Defect Class	Verification Level
Major	IV
Minor	II

5.1.2.3 Classification of Defects. The classification of carton package defects shall be as follows:

TABLE II. Carton package defects classification.

Defect Number	Defect Description	Major	Minor
1	Improper packaging of carton(s) in container (non-blank bullet points face primers)	X	
2	Improper packaging of carton(s) in container other than defect 1		X
3	Missing or improper fillers, separators, or removal tape		X
4	Short or missing resealing tape (when required)		X
5	Misplaced or missing label, or improperly sealed carton		X
6	Torn or ripped carton or label		X
7	Incorrect, illegible, or missing ammunition lot number		X
8	Incorrect or illegible identification of carton contents (type, caliber, etc.)		X
9	Missing cartridges(s)		X

5.1.2.3.1 Visual standards. Visual standards for defects 5 through 8 are illustrated in the appendix ([Figs. A-3 thru A-14](#))

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### 5.1.3 Waterproof envelopes package.

5.1.3.1 Prior to sealing. Prior to envelope sealing, examination shall be performed to assure that markings on the envelope correspond with the markings on the envelope contents. The occurrence of this defect shall be brought to the attention of the manufacturer, along with a request that the process be corrected. Continued occurrence of this defect shall be cause for discontinuance of Government acceptance.

5.1.3.2 Verification Level. The verification levels for envelope package defects shall be as follows:

TABLE III. Envelope package defects verification level.

Defect Class	Verification Level
Major	IV
Minor	II

5.1.3.3 Classification of defects. The classification of envelope package defects shall be as follows:

TABLE IV. Envelope package defects classification.

Defect Number	Defect Description	Major	Minor
1	Torn, ripped, or improperly sealed envelope	X	
2	Improper packaging of envelopes in container		X
3	Missing or improper fillers or separators		X
4	Incorrect or illegible identification of envelope contents (type, caliber, etc.)		X
5	Incorrect, illegible, or missing ammunition lot number		X

5.1.3.3.1 Visual standards. Visual standards are illustrated in the appendix for defects 1, 4 and 5 ([Figs. A-15 and A-16](#)).

### 5.1.4 Bulk package.

5.1.4.1 Verification Level. The verification level for bulk package defects shall be as follows:

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TABLE V. Bulk package defects verification level.

Defect Class	Verification Level
Major	IV
Minor	II

5.1.4.2 Classification of defects. The classification of bulk package defects shall be as follows:

TABLE VI. Bulk package defects classification.

Defect Number	Defect Description	Major	Minor
1	Missing or improper fillers, tubes, or separators		X
2	Improper packaging of cartridges in container		X
3	Missing cartridge(s)		X

5.1.4.2.1 Visual standards. There are no visual standards illustrated in the appendix for bulk package defects.

5.1.5 Clip package.

5.1.5.1 Verification level. The verification level for clip package defects shall be as follows:

TABLE VII. Clip package defects verification level.

Defect Class	Verification Level
Major	IV
Minor	II

5.1.5.2 Classification of defects. The classification of clip package defects shall be as follows:

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TABLE VIII. Clip package defects classification.

Defect Number	Defect Description	Major	Minor
1	Missing Cartridge (s)		X
2	Rusty, excessively oiled, or otherwise defective clips <u>1/</u>	X	X
3	Missing or torn carton (when required)		X
4	Missing or improper fillers or separators		X
5	Improper packaging of clipped ammunition in container		X
<p>NOTES:</p> <p><u>1/</u> Defect is major if clip will not function as intended; otherwise minor. If questionable, functioning test shall be made in appropriate service weapon or magazine, whichever is applicable.</p>			

5.1.5.2.1 Visual standards. Visual standards are illustrated in the appendix for defects 3 and 4 ([Figs. A-17 thru A-26](#)).

5.1.6 Metallic linked belt package.

5.1.6.1 Predecessor design. In some instances, metallic links shown in the appendix are of a predecessor design, but the visual standard is applicable to the present design.

5.1.6.2 Broken or soft links. The twist test ([Fig. A-1](#)) and the pull test shall be performed to detect broken or soft links in the belt of linked cartridges. Links that fail as a result of these tests shall be dismantled and scrapped. The cartridges shall be visually inspected prior to re-belted.

5.1.6.2.1 Twist test. With the belt extended full length on a table, grasp one end and flip it 180 degrees to its other side. The twisting action, which progressively moves along the belt to the free end, has enough snap to cause failure of weak links. After the test, the belt shall be inspected for any fractured or broken links that may be present.

5.1.6.2.2 Pull test. One end of the belt shall be attached to a suitable hook on a horizontal table and the load indicated below applied to the other end while keeping the belt in contact with the table during the application of the load.

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TABLE IX. Pull test load.

Caliber	Load	
	MIN	MAX
5.56mm	19 lbs.	30 lbs.
7.62mm	25 lbs.	35 lbs.
0.30	25 lbs.	35 lbs.
0.50	100 lbs.	115 lbs.
20mm	115 lbs.	135 lbs.

In lieu of a fixed load application a testing device may be used which stretches the belts to predetermined lengths correlated with the loads prescribed above. The length of these belts shall be verified frequently; however, all 20mm, M17 type linked belts shall be verified for a length of not greater than 13 feet 8.5 inches when measured from center to center of the end primers with an applied load of 10+1lbs. Subsequent to the test, inspection of the belts for broken and stretched links shall be performed.

5.1.6.2.3 Flexibility test. When 20mm cartridges are belted using the M17 link, a “frozen” link shall be detected by means of a flexibility test.

5.1.6.2.3.1 Flexibility test continued. The belt shall hinge freely and fold over smoothly without kinking when the belt is pulled over itself until belt is completely reversed. This procedure shall then be repeated after the belt has been reversed to assure full motion of the belt when flexed from either side and in either direction.

5.1.6.2.3.2 Flexibility test continued. A minimum of twenty-five (25) cartridges per belt shall be used for this test. If packaging instructions require belts of greater length, the connecting links used to lengthen the belts shall be flexed after assembly in both directions to assure free hinging.

5.1.6.2.3.3 Flexibility test continued. A “frozen” M17 link detected by means of this flexibility test is critical and shall be cause for rejection of the lot.

5.1.6.3 Verification level. The verification level for metallic link belt package defects shall be as follows:

TABLE X. Metallic link belt package defects verification level.

Defect Class	Verification Level
Major	IV
Minor	II

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5.1.6.4 Classification of defects. The classification of metallic link belt package defects shall be as follows:

TABLE XI. Metallic link belt package defects classification.

Defect Number	Defect Description	Major	Minor
1	Ammunition packaged in wrong direction in box (where applicable)	X	
2	Double loop of link on wrong end of linked ammunition in container (where applicable)	X	
3	Improper packaging of belt(s) in container other than defects 1 and 2		X
4	Incorrect linking sequence		X
5	Stretched, broken or "frozen" belt <u>1/</u>	X	
6	Foreign material, oil or grease; other than required.		X
7	Defective protective finish or rust on link(s)		X
8	Malformed link(s)	X	
9	Improper number of cartridges in belt(s) (exceeding 2 cartridges per belt); 20mm shall contain the specified amount.		X
10	Missing or improper fillers		X
11	Improper depth of insertion of cartridges in link(s) <u>1/</u>		X
12	Missing, broken or malformed metallic belt end (when required)		X
13	Sharp Contact Points <u>2/</u>	X	
NOTES:			
<u>1/</u> Defects are major for linked 20mm cartridges, except that a "frozen" link in M17 linked belt is classified as critical (see <a href="#">5.1.6.2.3</a> )			
<u>2/</u> Only apply for linked Cal .50 Cartridges.			

5.1.6.4.1 Visual standards. Visual standards are illustrated in the appendix for defects 5 through 8 ([Figs. A-27 thru A-52](#)), and 11 through 13 ([Figs. A-53 thru A-57](#)). The "frozen" belt illustrations in the appendix for defect 5 do not apply to 20mm.

5.1.6.5 Dimensional inspection, M17 linked belts of 20mm cartridges. Drawing C7258836, Cartridge, 20 MM, M50 Series with M17 or M17A1 Link, pertinent dimensional sizes, forward edge of link gripping band to case head.

5.1.6.5.1 Verification level. The verification levels for these dimensional characteristics of 20mm cartridges belted using the M17 link shall be as follows:

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TABLE XII. Dimensional defects verification level.

Defect Class	Verification Level
Major	IV
Minor	II

5.1.6.5.2 Classification of defects. The classification of dimensional defects for 20mm cartridges belted using the M17 link shall be as follows:

TABLE XIII. Dimensional defects classification.

Defect Number	Defect Description	Major	Minor
1	Length, forward edge of link gripping band to case head, max	X	
2	Length, forward edge of link gripping band to case head, min		X

5.1.6.5.3 Sampling. The prescribed sample of linked cartridges shall be selected randomly from 10 randomly selected linked belts. In the event a double sampling plan is used and a second sample is necessary, the prescribed second sample shall be selected randomly from an additional 10 randomly selected linked belts.

5.1.7 Bandoleer package.

5.1.7.1 Verification level. The verification levels for bandoleer package defects shall be as follows:

TABLE XIV. Bandoleer package defects verification level.

Defect Class	Verification level
Major	IV
Minor	II

5.1.7.2 Classification of defects. The classification of bandoleer package defects shall be as follows:



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TABLE XV. Bandoleer package defects classification.

Defect Number	Defect Description	Major	Minor
1	Incorrect or illegible identification of bandoleer contents (type, caliber, and clip)	X	
2	Incorrect illegible or missing ammunition lot number		X
3	Torn, ripped or otherwise defective bandoleer.		X
4	Missing cartridge(s) or clip(s)		X
5	Rusty, excessively oiled or otherwise defective clips <u>1/</u>	X	X
6	Missing or torn carton		X
7	Missing or improper fillers or separators		X
8	Improper packaging of clipped ammunition in bandoleer		X
9	Improper packaging of bandoleer(s) in container		X
10	Missing magazine filler (when required)		X
11	Missing safety pin (when required)		X
<p>NOTES:</p> <p><u>1/</u> Defect is major if clip will not function as intended; otherwise minor. If questionable, functioning test shall be made in appropriate service weapon or magazine, whichever is applicable.</p>			

5.1.7.2.1 Visual standards. Visual standards are illustrated in the appendix for defects 1 through 3 ([Figs. A-58 thru A-67](#)), 5 through 6 ([Figs. A-17 thru A-26](#)), and 7 through 8 ([Figs. A-68 thru A-70](#)).

5.1.7.3 Additional inspection requirements. In addition to the above inspection, when linked ammunition is packaged in cartons in bandoleers, the inspection procedures shall also include those listed under 5.1.6, Metallic linked belt package.

5.2 Packaged and sealed container. Phase II inspections.

5.2.1 Waterproof envelopes.

5.2.1.1 Verification level. The verification level for envelope defects shall be as follows:

TABLE XVI: Envelope package defects verification level.

Defect Class	Verification Level
Major	IV
Minor	II

5.2.1.2 Classification of defects. The classification of envelope package defects shall be as follows:

MIL-STD-644B  
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Defect Number	Defect Description	Major	Minor
1	Torn, ripped, or improperly sealed envelope	X	
2	Incorrect, illegible or missing ammunition lot number	X	
3	Other markings incorrect, missing or illegible		X

5.2.2 Gasket sealed ammunition boxes.5.2.2.1 Box leak test.

5.2.2.1.1 Wet vacuum test method details. Each box of the inspection sample shall be submerged under water in a vacuum chamber to the depth of at least one inch below the surface of water ([Fig. A-2](#)). Tap water at ambient temperature shall be used. The air pressure in the vessel shall be lowered by  $3.0 + 0.5$  psi gage and the box shall be observed for a period of 15 seconds after the turbulence in the water has ceased. The escape of a total of five or more bubbles per box from one or more leaking areas during the observation time shall be considered a leaker.

5.2.2.1.2 Pressure decay test method details. As an alternate to the vacuum test method specified in paragraph 5.2.2.1.1, a dry pressure decay method may be used for the box leak test. The dry pressure decay test procedure shall be submitted to the Government for approval. The test procedure shall include the periodic calibration procedure and the test device specification. Each box the inspection sample shall be tested for leakage in a chamber pressurized to  $3.0 + 0.5$  psi gage by measuring the mass flow of air into the box. Mass flow in excess of 5 cc/min over the minimum observation time of 15 seconds (1.25 cc total) shall be considered a leaker.

5.2.2.1.3 Dry vacuum test method details. As an alternate to the vacuum test method specified in paragraph 5.2.2.1.1 and the pressure decay test method specified in 5.2.2.1.2, a dry vacuum test method may be used for the box leak test. The dry vacuum test procedure shall be submitted to the Government for approval. The test procedure shall include the periodic calibration procedure and the test device specification. Each box of the inspection sample shall be tested for leakage in a vacuum chamber by measuring the leakage of air out of the box after lowering with pressure  $3.0 + 0.5$  psi gage. Air leakage in excess of 5 cc/min over the minimum observation time of 15 seconds (1.25 cc total) shall be considered a leaker.

5.2.2.1.4 Report of leaks. The location of the leak (s) (cover, bottom, side, side seam, or gasket), shall be reported.

5.2.2.2 Verification level. The verification level for gasket sealed ammunition box defects shall be as follows:

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TABLE XVIII. Gasket sealed ammunition box defects verification level.

Defect Class	Verification Level
Major	IV
Minor	II

5.2.2.3 Classification of defects. The classification of gasket sealed ammunition box defects shall be as follows:

TABLE XIX. Gasket sealed ammunition box defects classification.

Defect Number	Defect Description	Major	Minor
Physical Characteristics			
1	Incorrectly closed and secured box	X	
2	Severe dents, buckles, or other damage		X
3	Scratches or abrasions exposing bare metal		X
Markings			
4	Incorrect, illegible, or missing ammunition lot number	X	
5	Other markings, incorrect, missing, or illegible		X
6	Incorrect paint or ink		X
Gasket sealing			
7	Leaker (as defined in paragraph 5.2.2.1)	X	

5.2.3 Gasket sealed shipping and storage containers.

5.2.3.1 Storage container leak test.

5.2.3.1.1 Air tightness. The air tightness requirement, test equipment, vacuum test method and defect definition shall be as specified in the applicable shipping and storage container specification.

5.2.3.2 Verification level. The verification levels for gasket sealed shipping and storage container defects shall be as follows:

TABLE XX. Gasket sealed shipping and storage container defects verification level.

Defect Class	Verification Level
Major	IV
Minor	II

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5.2.3.3. Classification of defects. The classification of gasket sealed shipping and storage container defects shall be as follows:

TABLE XXI. Gasket sealed shipping and storage container defects classification.

Defect Number	Defect Description	Major	Minor
Physical Characteristics			
1	Incorrectly closed and secured container	X	
2	Severe dents, buckles, or other damage		X
3	Scratches or abrasions exposing bare metal		X
Markings			
4	Incorrect, illegible, or missing ammunition lot number	X	
5	Other markings, incorrect, missing, or illegible		X
6	Incorrect paint or ink		X
Air tightness			
7	Leaker, as defined in paragraph 5.2.3.1.1	X	

5.3 Overpacks and overpack contents. Phase III inspections.

5.3.1 Wirebound/wooden boxes.

5.3.1.1 Bar coding. Bar coding shall be applied to the wirebound/wooden box in accordance with MIL-STD-129 or the applicable marking drawing. The bar code must be machine readable.

5.3.1.2 Verification level. The verification level for wirebound/wooden box defects shall be as follows:

TABLE XXII. Wirebound/wooden box defects verification level.

Defect Class	Verification Level
Major	IV
Minor	II

5.3.1.3 Classification of defects. The classification of wirebound wooden box defects shall be as follows:

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TABLE XXIII. Wirebound/wooden box defects classification.

Defect Number	Defect Description	Major	Minor
Assembly and seal			
1	Unfastened outside binding wire	X	
2	Unfastened inside binding wire		X
3	Missing end	X	
4	Side, top or bottom extending beyond end cleat more than 1/8 in.		X
5	End cleat extending beyond side, top or bottom more than 1/8 in.		X
6	Gap larger than 1/4 in. between end of batten and cleat		X
7	Gap larger than 1/4 in. between side of batten and cleat		X
8	Gap larger than 1/4 in. between diagonal ends of more than one pair of cleats per box		X
9	Reversed or inverted end		X
10	Missing or incorrectly attached seal (box contents removable)	X	
11	Incorrectly attached seal (box contents not removable)		X
12	Exposed sharp edge or sliver, outside surface	X	
13	NSN, DODIC, or LOT - all missing or illegible or any incorrect	X	
14	DODIC or LOT - one missing or illegible		X
15	Markings other than above incorrect, missing or illegible		X
16	Marking touched up or repaired with non-permissible material (crayon, chalk, etc.)		X
Box contents			
17	Missing separator	X	
18	Incorrect, missing or illegible ammunition lot number	X	
19	Improper packing other than 17 and 18		X
20	Packed ammunition not in accordance with NSN	X	
21	Bar coding is missing or not readable	X	

### 5.3.2 Metal boxes.

5.3.2.1 Verification level. The verification levels for metal box defects shall be as follows:

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TABLE XXIV. Metal box defects verification level.

Defect Class	Verification Level
Major	IV
Minor	II

5.3.2.2 Classification of defects. The classification of metal box defects shall be as follows:

TABLE XXV. Metal box defects classification.

Defect Number	Defect Description	Major	Minor
<b>Marking</b>			
1	NSN, DODIC, or Lot - all missing or illegible or any incorrect	X	
2	DODIC or Lot - one missing or illegible		X
3	Markings other than above incorrect, missing or illegible		X
4	Marking touched up or repaired with non-permissible material (crayon, chalk, etc.)		X
<b>Workmanship and assembly</b>			
5	Box not properly closed and secured	X	
6	Severe dents, buckles or other damage		X
<b>Box contents <u>1/</u></b>			
7	Missing separator	X	
8	Incorrect, missing or illegible ammunition lot number	X	
9	Improper packing other than 7 and 8		X
10	Packed ammunition not in accordance with NSN	X	
<b>NOTES:</b>  <u>1/</u> When the metal box is the packaged and sealed container as well as the overpack, inspection of box contents shall be in accordance with the applicable contents of container paragraph outlined herein.			

5.4 Stretch wrapped container and container contents. Phase IV inspections.

5.4.1 Stretch wrapped pack.

5.4.1.1 Verification level. The verification levels for stretch wrapped pack defects shall be as follows:

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TABLE XXVI. Stretch wrapped pack defects verification level.

Defect Class	Verification Level
Major	IV
Minor	II

5.4.1.2 Classification of defects. The classification of stretch wrapped pack defects shall be as follows:

TABLE XXVII. Stretch wrapped pack defects classification.

Defect Number	Defect Description	Major	Minor
1	Tears or holes in stretch wrap greater than 1/4 inch	X	
2	Tears or holes in boxes	X	
3	Security tape loose or improperly placed	X	
4	Security tape providing a false reading	X	
5	Banding missing or improperly placed	X	
6	Banding does not have sufficient pull strength	X	
7	Stretch wrapped container improperly assembled	X	
8	Banding obstructs marking		X
9	Banding does not have sufficient slack		X
10	Banding tightness causes box to deform		X
11	Incorrect, illegible or missing ammunition lot number		X
12	Incorrect or illegible identification of carton contents (type, caliber, etc.)		X

5.4.2 Inner Fiberboard Box.

5.4.2.1 Verification level. The verification levels for inner fiberboard box defects shall be as follows:

TABLE XXVIII. Inner fiberboard box defects verification level.

Defect Class	Verification Level
Major	IV
Minor	II

5.4.2.2 Classification of defects. The classification of inner fiberboard box defects shall be as follows:

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TABLE XXIX. Inner Fiberboard box defects classification.

Defect Number	Defect Description	Major	Minor
1	Tears or holes in boxes	X	
2	Security tape loose or improperly placed	X	
3	Security tape providing a false reading	X	
4	Banding missing or improperly placed	X	
5	Banding does not have sufficient pull strength	X	
6	Banding obstructs marking		X
7	Banding does not have sufficient slack		X
8	Banding tightness causes box to deform		X
9	Incorrect, illegible or missing ammunition lot number		X
10	Incorrect or illegible identification of carton contents (type, caliber, etc.)		X

## 6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. This standard is intended to be used by the small arms ammunition manufacturer, by the Government for verification inspection, and by any government facility engaged in the packaging and packing of small arms ammunition. It forms an integral part of the applicable cartridge specification and is to be used in conjunction with the packaging, packing and marking drawings referenced therein.

6.2 Acquisition requirements. Acquisition documents should specify the title, number, and date of this standard.

6.3 Interpretation. Any doubt as to the meaning of the provisions contained in this inspection document or any obscurity in its wording will be explained. All directions and explanations, necessary or proper to make definite and certain any procedure and give them due effect, will be given by the contracting officer.

6.4 Patent notice. 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 nor 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 manufacture, use, or sell any patented invention that may in any way be related thereto.



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6.5 Change notations. The margins of this standard are marked with vertical lines to indicate modifications generated by this change. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

6.6 Changes incorporated. MIL-STD-644B W/CHANGE 2 incorporates the following Engineering Change Proposal: R18K2009.

6.7 Subject term (key word) listing

Bar coding  
Pressure decay  
Cartridges

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## ILLUSTRATIONS FOR INSPECTION OF PACKAGING, PACKING, AND MARKING OF SMALL ARMS AMMUNITION

### A.1 SCOPE

A.1.1 SCOPE. This appendix is a mandatory part of MIL-STD-644. The information contained herein is intended for compliance. The illustrations shown are common packaging defects found during normal inspection of container contents, Phase I. Each defect illustrated has a legend which defines the degree or extent of the nonconformance and also whether it is acceptable or unacceptable.

A.1.2 Cross reference listing. Any packaging defect may be readily associated with the pertinent "Classification of Defects" or illustration by checking the following listing.

### A.2. CARTON PACKAGE

A.2.1 Defect #5. Misplaced or missing label, or improperly sealed carton (referenced in [paragraph 5.1.2.3](#)).

TABLE A-I. Carton package defect #5 illustrations.

(a)	Misplaced label	<a href="#">Figs. A-3, A-4</a>
(b)	Not securely fastened	<a href="#">Fig. A-5</a>
(c)	Improper sealing	<a href="#">Fig. A-5</a>
(d)	Improper closure	<a href="#">Fig. A-6</a>

A.2.2 Defect #6. Torn or ripped carton or label (referenced in [paragraph 5.1.2.3](#)).

TABLE A-II. Carton package defect #6 illustrations.

(a)	Torn label	<a href="#">Figs. A-7, A-8</a>
(b)	Torn Carton	<a href="#">Figs. A-9, A-10</a>

A.2.3 Defect #7. Incorrect, illegible or missing ammunition lot number (referenced in [paragraph 5.1.2.3](#)).

[Figs. A-11, A-12](#)

A.2.4 Defect #8. Incorrect or illegible identification of carton contents – type, caliber, etc. (referenced on paragraph 5.1.2.3)

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TABLE A-III. Carton package defect #8 illustrations.

(a)	Smears	<a href="#">Fig. A-13</a>
(b)	Miscellaneous	<a href="#">Fig. A-14</a>

### A.3 WATERPROOF ENVELOPE PACKAGE

A.3.1 Defect #1. Torn, ripped or improperly sealed envelope (referenced on [paragraph 5.1.3.3](#)).

[Fig. A-15](#)

A.3.2 Defect #4. Incorrect or illegible identification of envelope contents (referenced in [paragraph 5.1.3.3](#)).

[Fig. A-16](#)

A.3.3 Defect #5. Incorrect, illegible or missing ammunition lot number (referenced on [paragraph 5.1.3.3](#)).

[Fig. A-16](#)

### A.4 BULK PACKAGE

A.4.1 There are no visual inspection standards illustrated in the appendix for bulk package defects.

### A.5 CLIP PACKAGE

A.5.1 Defect #2. Rusty, excessive oiled or otherwise defective clips (referenced in [paragraph 5.1.5.2](#)).

TABLE A-IV. Clip package defect #2 illustrations.

(a)	Rust and corrosion	<a href="#">Figs. A-17, A-18</a>
(b)	Oil or grease	<a href="#">Figs. A-19, A-20</a>
(c)	Miscellaneous	<a href="#">Figs. A-21, A-22</a>
(d)	Foreign matter	<a href="#">Fig. A-23</a>

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A.5.2 Defect #3. Missing or torn carton, when required (referenced in [paragraph 5.1.5.2](#)).

TABLE A-V. Clip package defect #3 illustrations.

(a)	Carton torn edge	<a href="#">Figs. A-24, A-25</a>
(b)	Carton torn seal	<a href="#">Fig. A-26</a>

## A.6 METALLIC LINK BELT PACKAGE

A.6.1 Defect #5. Stretched, broken or frozen belt (referenced in [paragraph 5.1.6.4](#)).

TABLE A-VI. Metallic link belt package defect #5 illustrations.

(a)	Stretched link	<a href="#">Figs. A-27 thru A-30</a>
(b)	Broken link	<a href="#">Figs. A-31 thru A-34</a>
(c)	Frozen link	<a href="#">Figs. A-35 thru A-38</a>

A.6.2 Defect #6. Foreign material, oil or grease, other than required (referenced in [paragraph 5.1.6.4](#)).

[Figs. A-39, A-40](#)

A.6.3 Defect #7. Defective protective finish or rust on link (referenced in [paragraph 5.1.6.4](#)).

TABLE A-VII. Metallic link belt package defect #7 illustrations.

(a)	Rust	<a href="#">Figs. A-41, A-42</a>
(b)	Protective Finish	<a href="#">Figs. A-43, A-44</a>

A.6.4 Defect #8. Malformed link(s) (referenced on [paragraph 5.1.6.4](#)).

[Figs. A-45 thru A-52](#)

A.6.5 Defect #11. Improper depth of insertion of cartridges in link(s) (referenced in [paragraph 5.1.6.4](#)).

[Figs. A-53 thru A-55](#)

A.6.6 Defect #12. Missing, broken or malformed metallic link belt end, when required (referenced in [paragraph 5.1.6.4](#)).

[Fig. A-56](#)

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A.6.7 Defect #13. Sharp Contact Points (referenced in [paragraph 5.1.6.4](#)).

[Fig. A-57](#)

## A.7 BANDOLEER PACKAGE

A.7.1 Defect #1. Incorrect or illegible identification of bandoleer contents – type, caliber, etc. (referenced on [paragraph 5.1.7.2](#)).

TABLE A-VIII. Bandoleer package defect #1 illustrations.

(a)	Single marking	<a href="#">Fig. A-58</a>
(b)	Illegible identification	<a href="#">Figs. A-59 thru A-60</a>

A.7.2 Defect #2. Incorrect, illegible, or missing ammunition lot number (referenced in [paragraph 5.1.7.2](#)).

[Fig. A-61](#)

A.7.3 Defect #3. Torn or ripped or otherwise defective bandoleer (referenced in [paragraph 5.1.7.2](#)).

TABLE A-IX. Bandoleer package defect #3 illustrations.

(a)	Torn pocket or flap	<a href="#">Fig. A-62</a>
(b)	Torn strap	<a href="#">Fig. A-63</a>
(c)	Stitching	<a href="#">Fig. A-64</a>
(d)	Stitching type 401	<a href="#">Fig. A-65</a>
(e)	Oil, grease, dirt or foreign matter	<a href="#">Fig. A-66</a>
(f)	Miscellaneous	<a href="#">Fig. A-67</a>

A.7.4 Defect #5. Rusty, excessively oiled or otherwise defective clips (referenced in [paragraph 5.1.7.2](#)).

TABLE A-X. Bandoleer package defect #5.

(a)	Rust and corrosion	<a href="#">Figs. A-17, A-18</a>
(b)	Oil or grease	<a href="#">Figs. A-19, A-20</a>
(c)	Miscellaneous	<a href="#">Figs. A-21, A-22</a>
(d)	Foreign matter	<a href="#">Fig. A-23</a>

A.7.5 Defect #6. Missing or torn carton (referenced in [paragraph 5.1.7.2](#)).

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TABLE A-XI. Bandoleer package defect #6 illustrations.

(a)	Carton torn edge	<a href="#">Figs. A-24, A-25</a>
(b)	Carton torn seal	<a href="#">Fig. A-26</a>

A.7.6 Defect #7. Missing or improper fillers or separators (referenced in [paragraph 5.1.7.2](#)).

[Fig. A-68](#)

A.7.7 Defect #8. Improper packaging of clipped ammunition in bandoleer (referenced in [paragraph 5.1.7.2](#)).

[Figs. A-69, A-70](#)

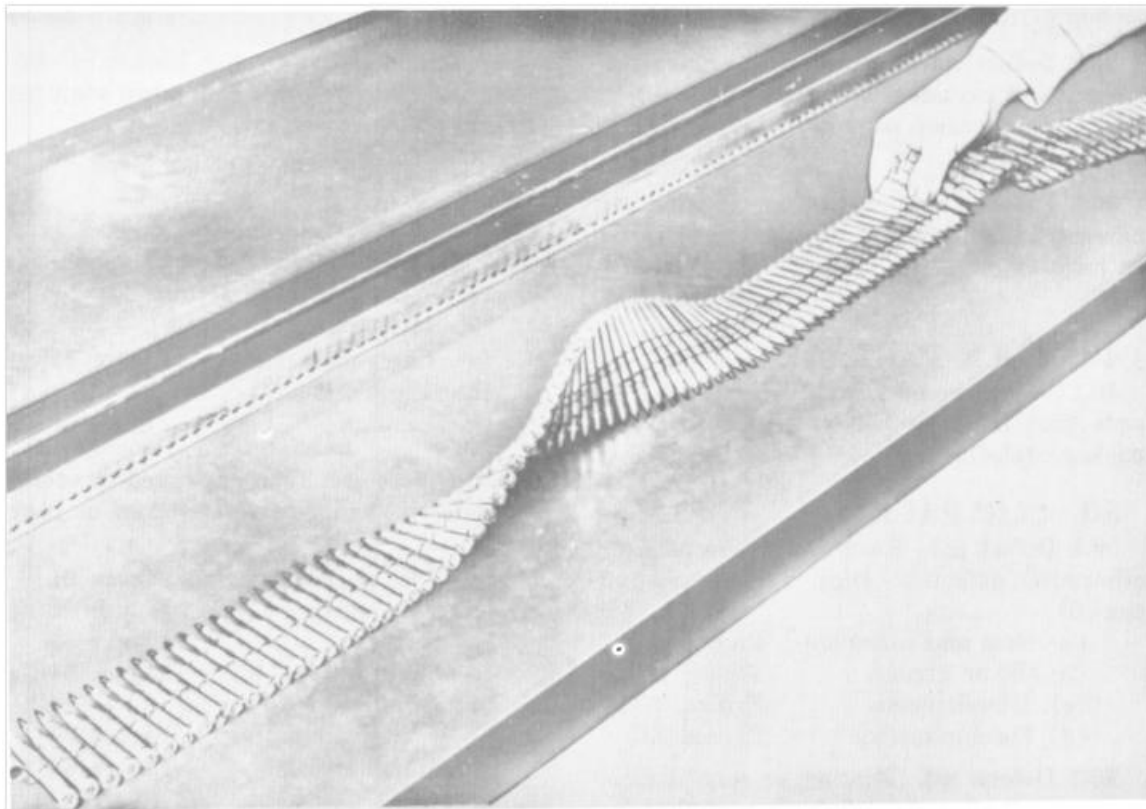


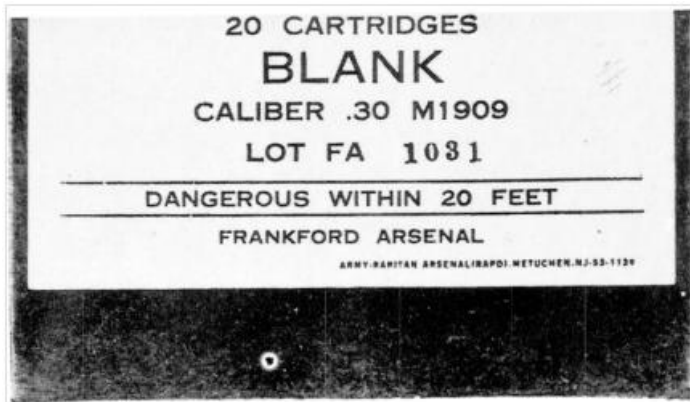
FIGURE A-1. Twist test.

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FIGURE A-2. Leak test.

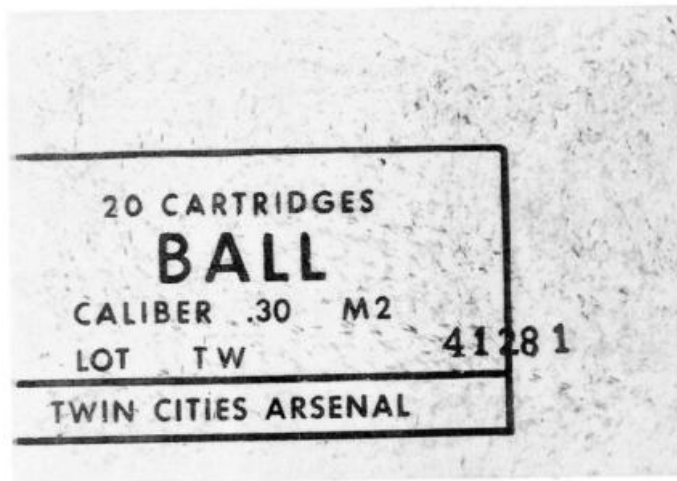
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A – Acceptable –

Misplaced label

When all identifying portions of label are on front of carton.



B – Acceptable –

Misplaced label

When all identifying portions of label are on front of carton and while ammunition lot number is partially illegible, it is identifiable.



C – Acceptable –

Misplaced label

When all identifying portions of label are on front of carton and label is affixed to carton 1/16 inch or more from short edge as shown

FIGURE A-3. Carton package defect #5 – misplaced or missing label, or improperly sealed carton.



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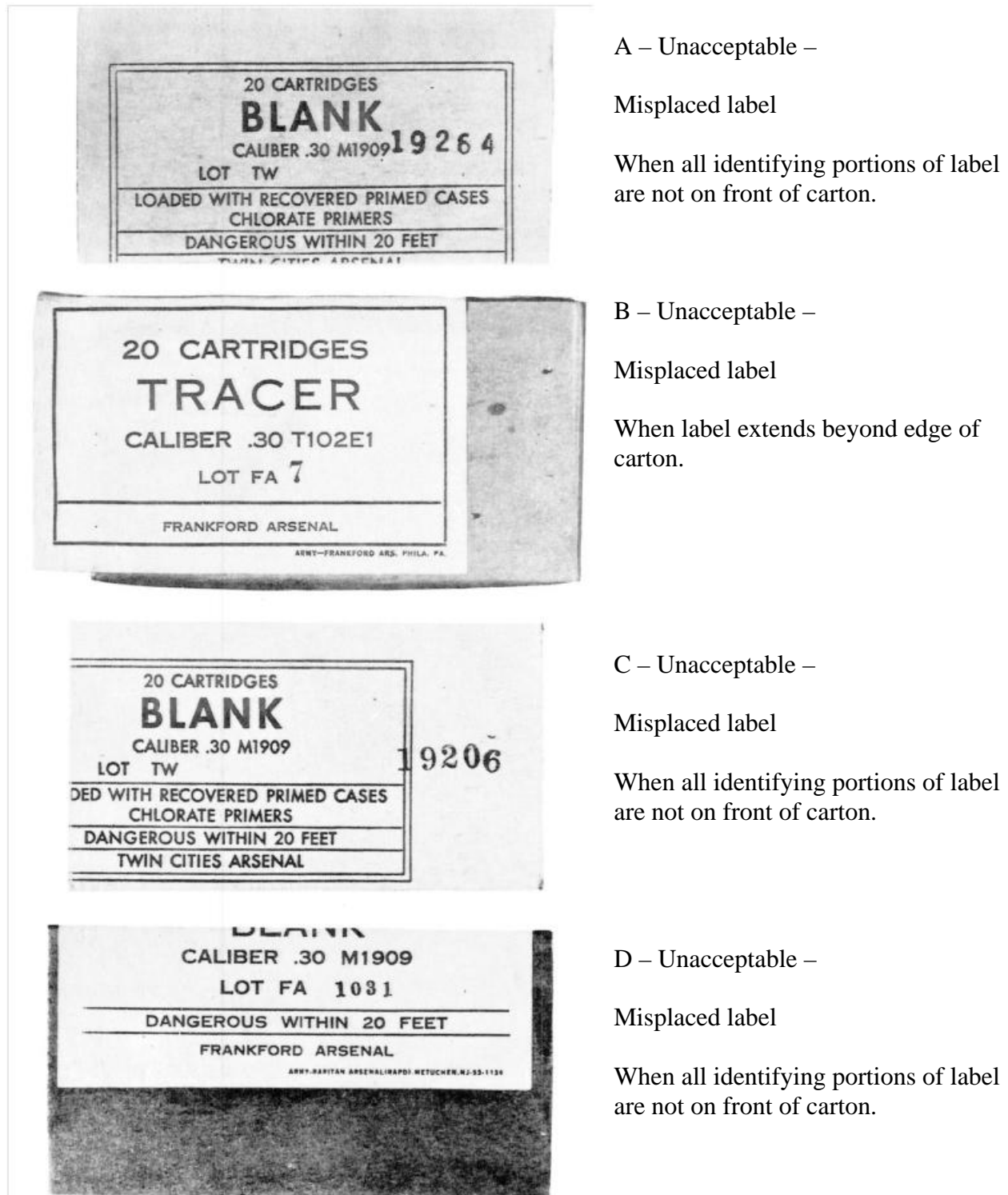


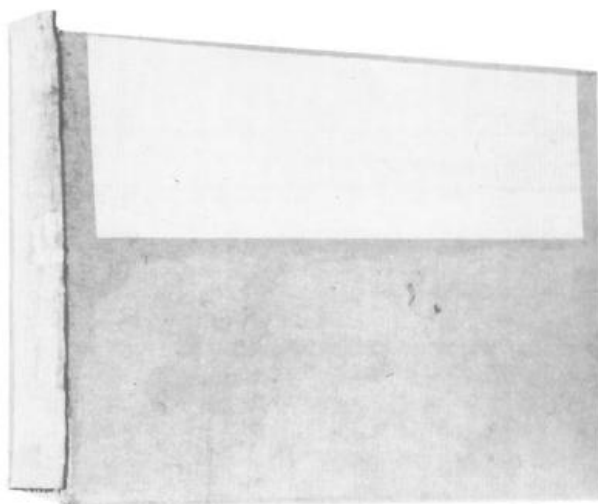
FIGURE A-4. Carton package defect #5 – misplaced or missing label, or improperly sealed carton.

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A – Unacceptable –

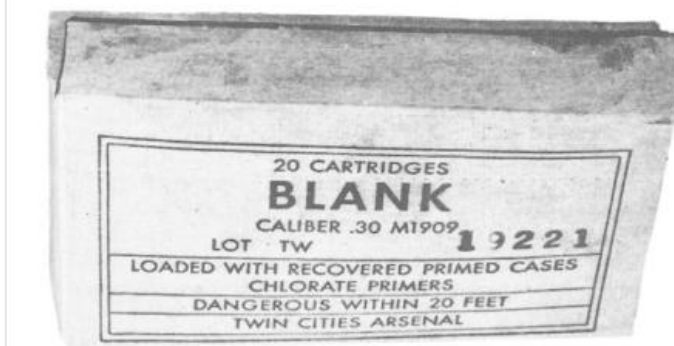
Label not securely fastened



B – Unacceptable –

Improper Sealing

Illustration shows back of box with  
improperly sealed box.



C – Unacceptable-

Improper sealing

Carton not closed and sealed securely

FIGURE A-5. Carton package defect #5 – misplaced or missing label, or improperly sealed carton.

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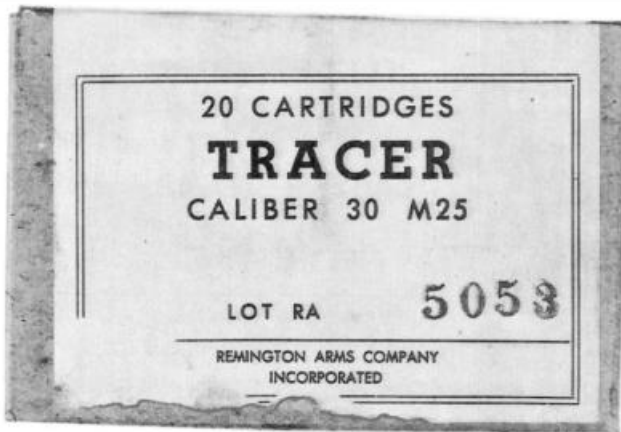
A – Unacceptable –  
Improper closure  
Carton not closed and sealed securely.

B – Unacceptable –  
Improper closure  
Carton not closed properly.

C – Unacceptable –  
Improper closure  
Top of carton not sealed, due to label being reversed.

FIGURE A-6. Carton package defect #5 – misplaced or missing label, or improperly sealed carton.

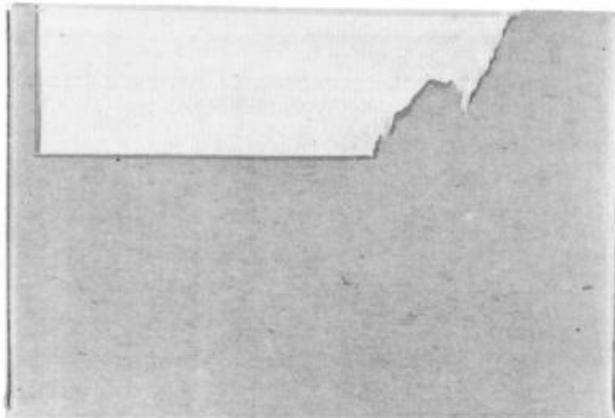
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A – Acceptable –

Torn label

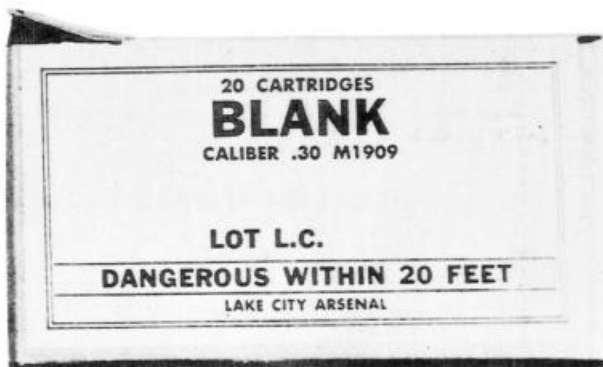
When all identifying portions of label are legible.



B – Acceptable –

Torn label

When the torn portion of the label does not extend more than one-third the effective sealing edge.



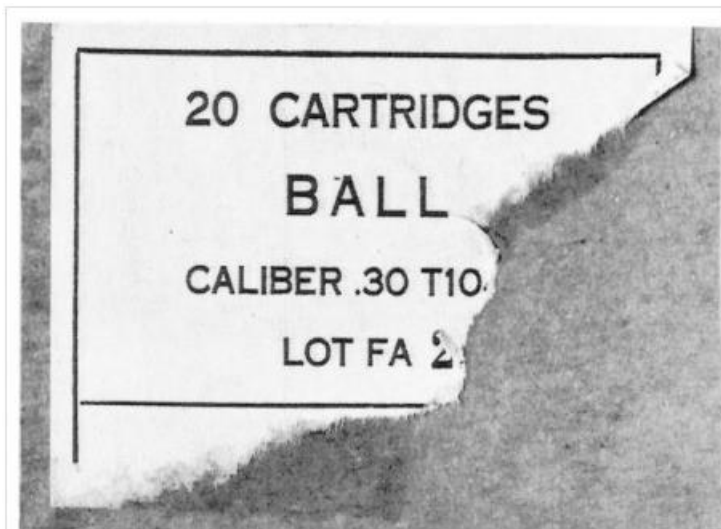
C- Acceptable –

Torn label

When one-third or less of effective sealing edge is torn.

FIGURE A-7. Carton package defect #6. – torn or ripped carton or label.

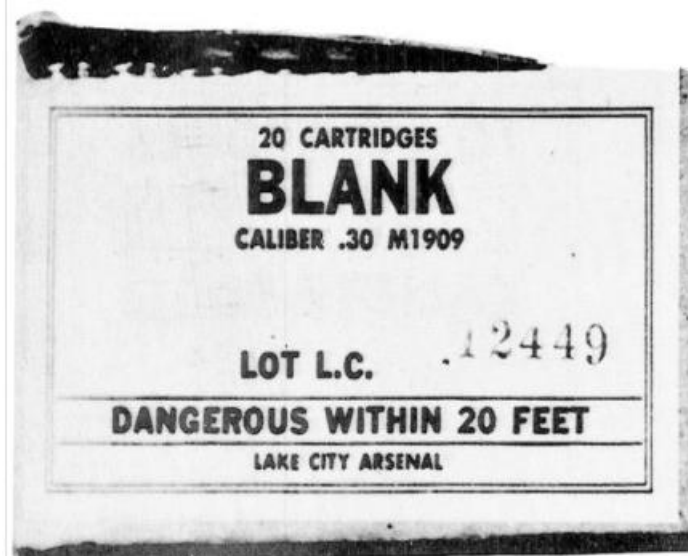
MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Unacceptable –

Torn label

When any of the identifying portions of the label are missing.



B – Unacceptable –

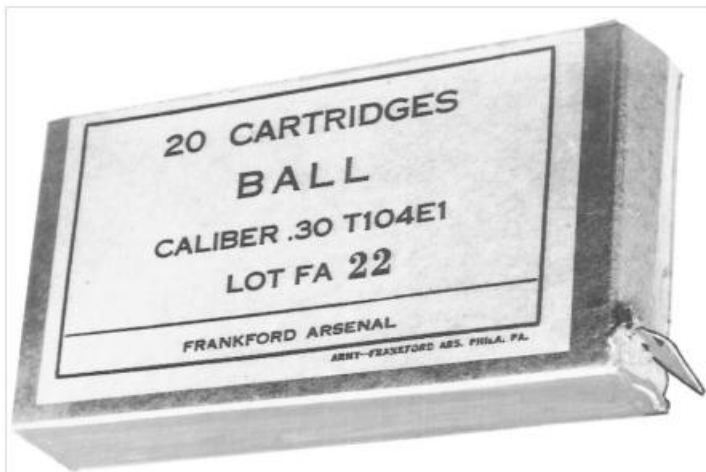
Torn label

When tear exceeds one-third length of effective sealing edge resulting in poor seal.

FIGURE A-8. Carton package defect #6 – torn or ripped carton or label.



MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Acceptable –

Torn carton

When not torn greater than shown (any location).



B – Acceptable –

Torn carton

When not torn greater than shown (any location)



C – Unacceptable –

Torn carton

Torn edge exceeding one-third length of edge.

FIGURE A-9. Carton package defect #6 – torn or ripped carton or label.

MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Unacceptable –

Torn carton

When torn to the extent shown or more.

B- Unacceptable –

Torn carton

When torn to the extent shown or more.

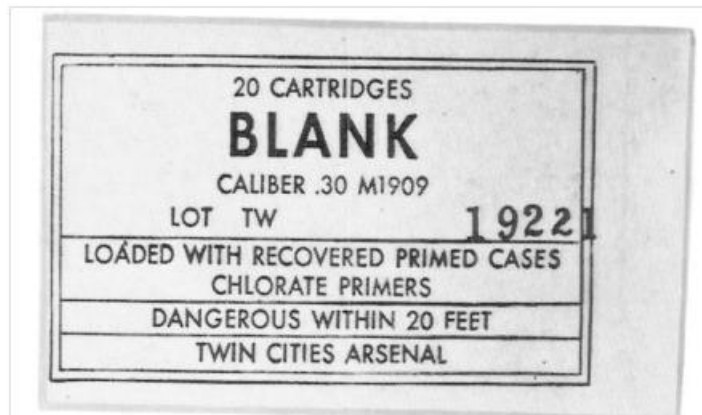
C – Unacceptable –

Torn carton

When torn to the extent shown or more.

FIGURE A-10. Carton package defect #6 – torn or ripped carton or label.

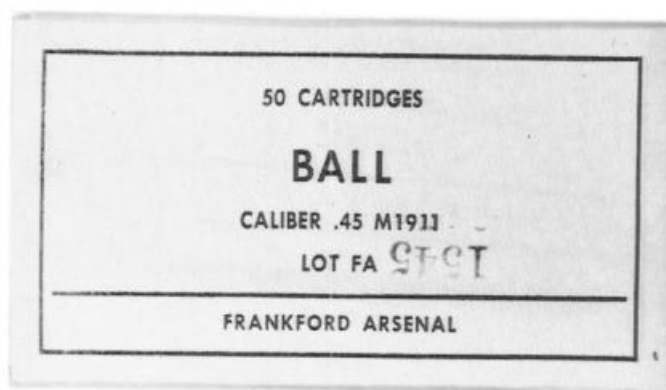
MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Acceptable –

Illegible lot number

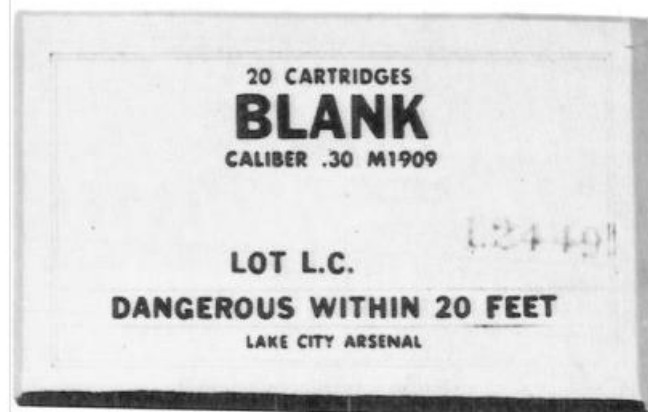
Partially illegible but identifiable.



B- Acceptable –

Illegible lot number

Inverted but identifiable



C – Acceptable –

Illegible lot number

Smeared but identifiable.

FIGURE A-11. Carton package defect #7 – incorrect, illegible or missing ammunition lot number.



MIL-STD-644B  
w/CHANGE 2  
APPENDIX A

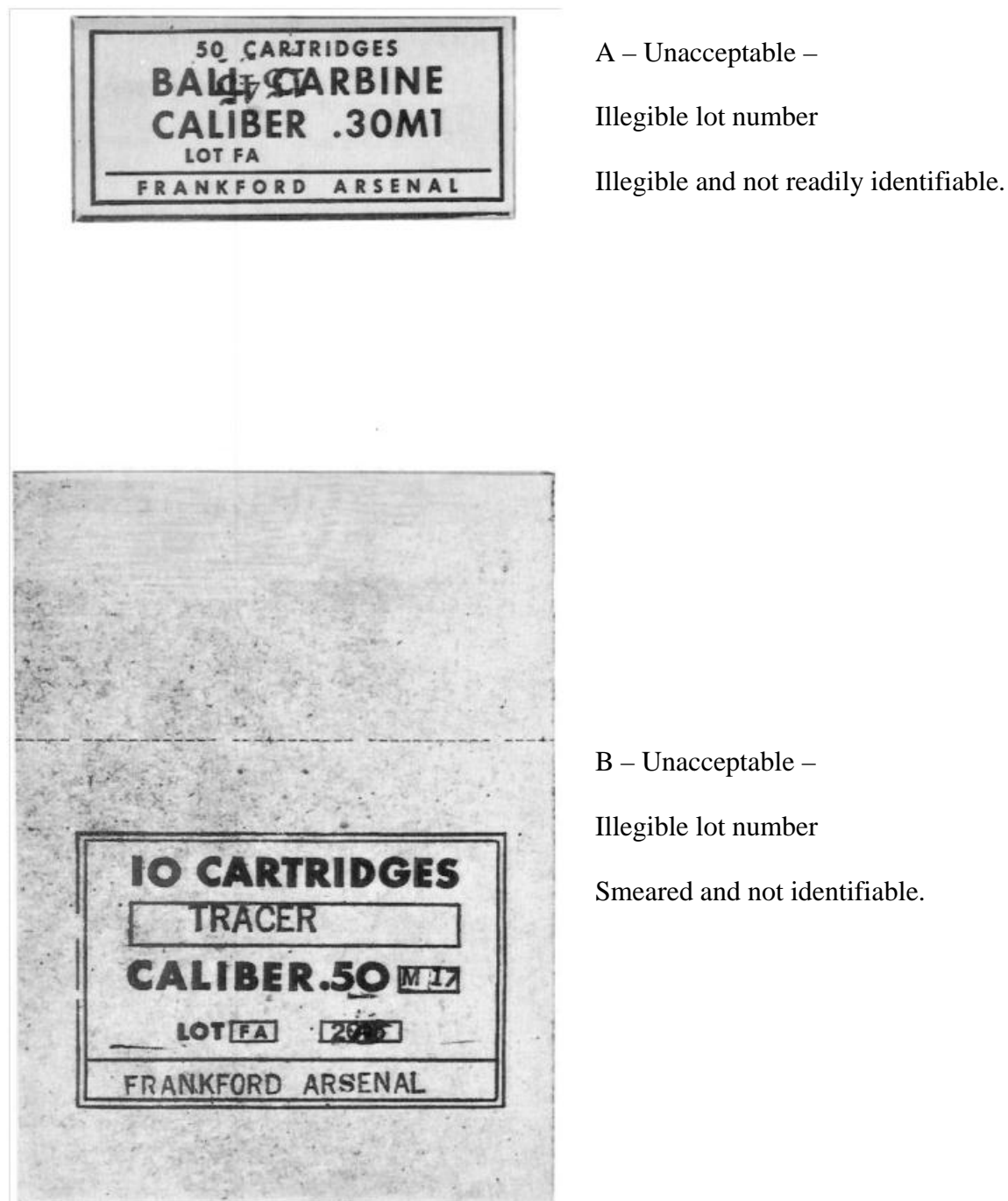
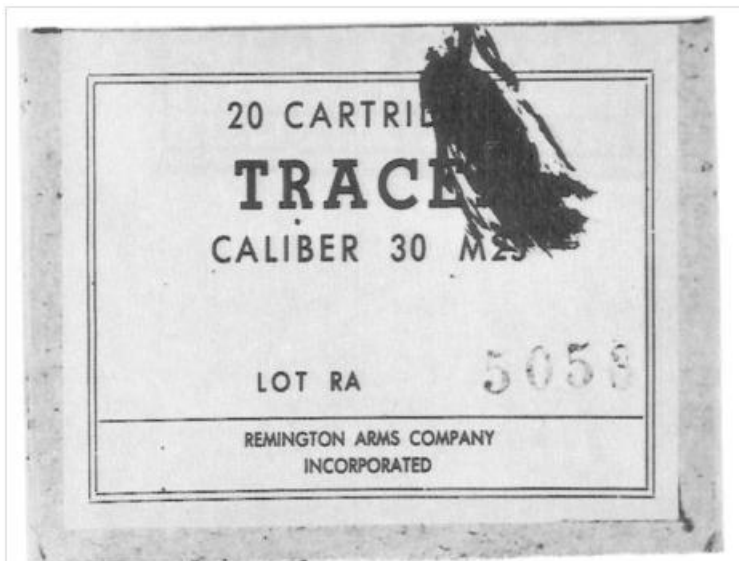


FIGURE A-12. Carton package defect #7 – incorrect, illegible or missing ammunition lot number.

MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Acceptable –

Smears

When partially illegible but identification of contents is positive.



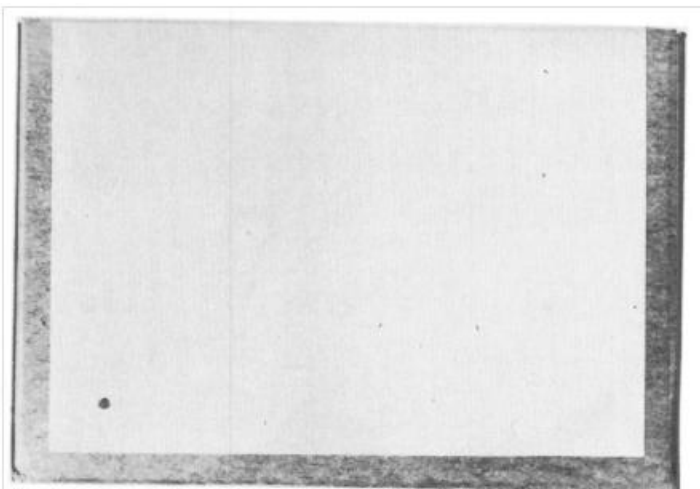
B – Unacceptable –

Smears

When Identifying portions of label are obscured.

FIGURE A-13. Carton package defect #8 – incorrect or illegible identification of carton contents.

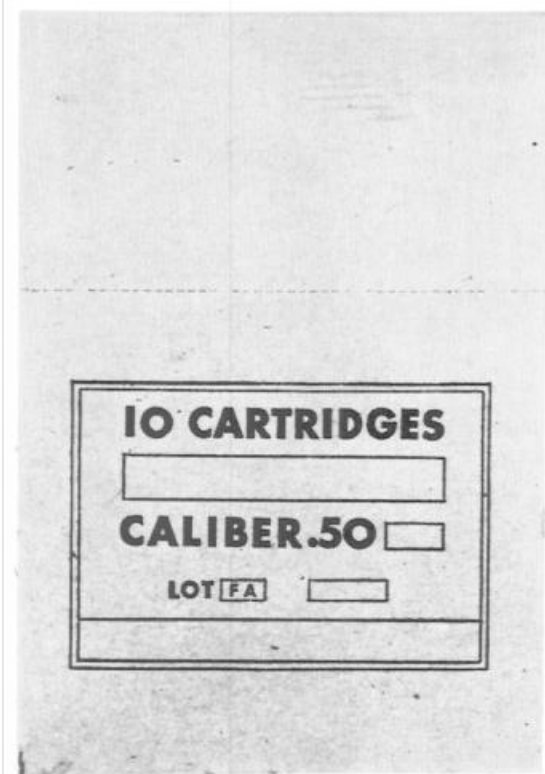
MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Unacceptable –

Miscellaneous

Reversed or blank label.



B – Unacceptable –

Miscellaneous

Incomplete identification.

FIGURE A-14. Carton package defect #8 – incorrect or illegible identification of carton contents (type, caliber, etc.).

MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Unacceptable –

Torn or ripped

Tear not in sealed edge

B – Acceptable -

Torn or ripped

Missing portion of sealed edge, not exceeding one-tenth of sealed edge area on one end, and confined to area between center line and outer boundary of seam.

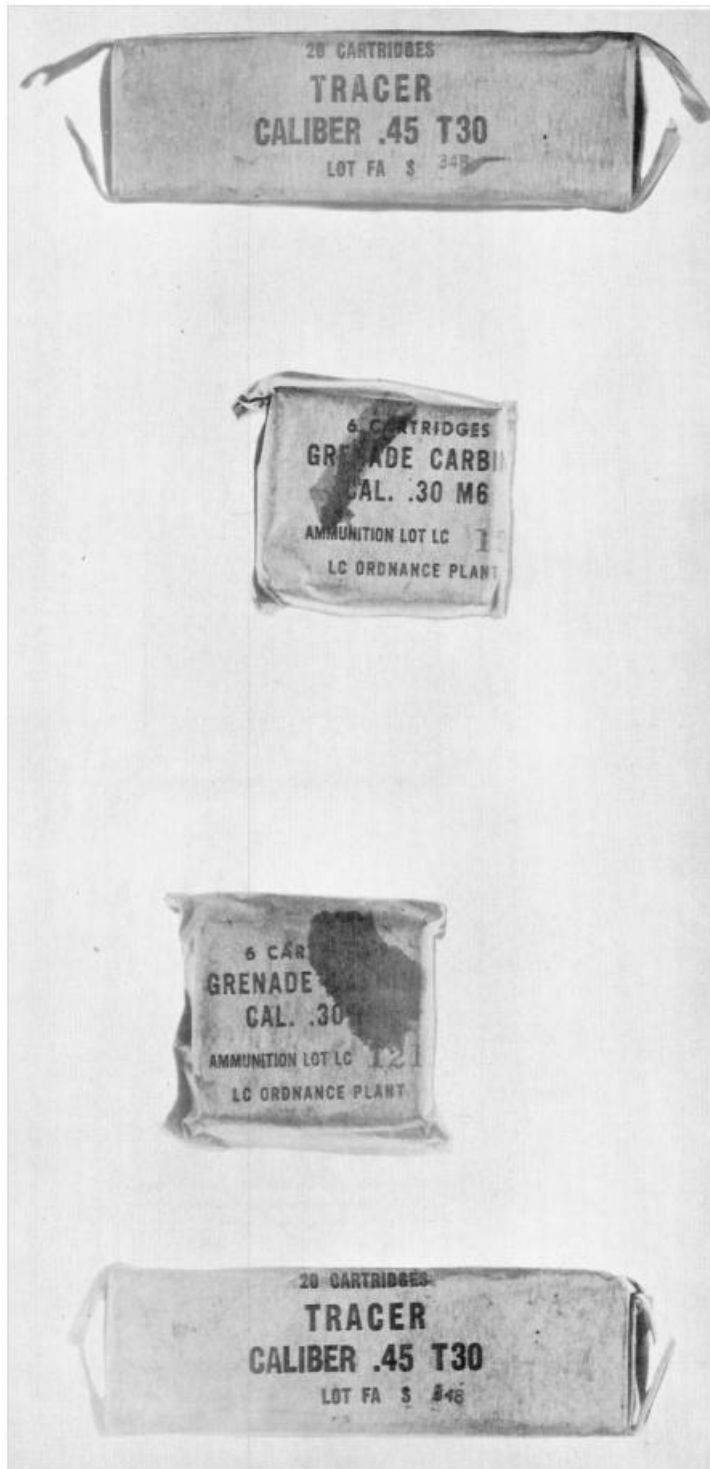
C – Acceptable –

Torn or ripped

Tear in sealed edge, one-fifth or less of length of edge and confined to area between center line and outer boundary of seam.

FIGURE A-15. Waterproof envelope package defect #1 – torn, ripped or improperly sealed envelope.

MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Acceptable –

Smears

When partially illegible but identifiable.

B – Acceptable –

Smears when partially illegible but identifiable.

C – Unacceptable –

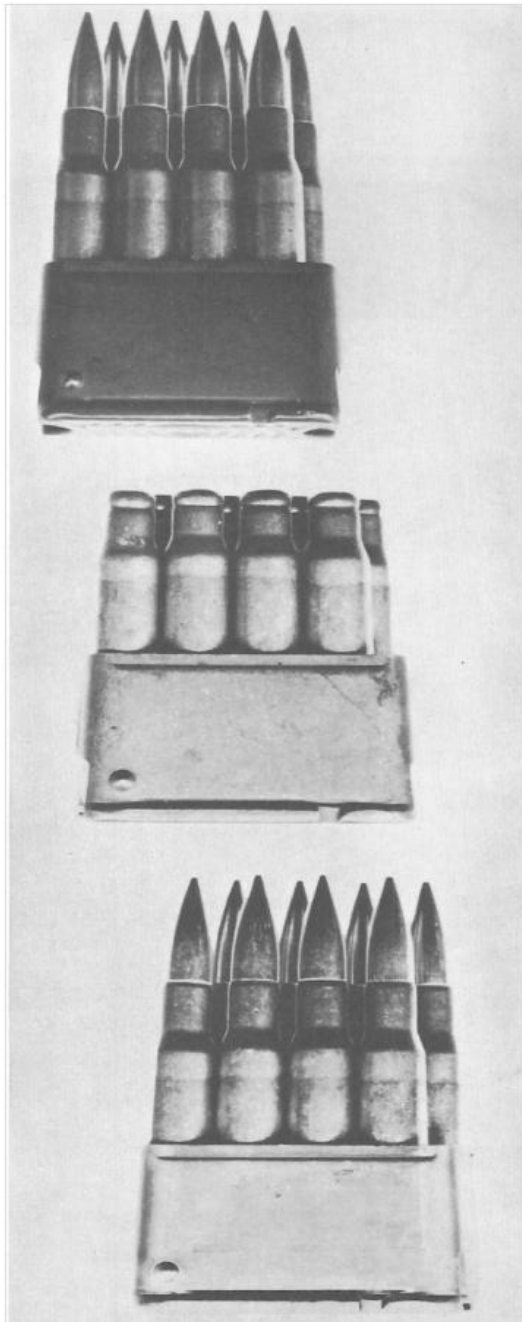
Smears when identification is not positive.

D – Unacceptable –

Smears when illegible and not identifiable.

FIGURE A-16. Waterproof envelope package defect #4 and defect #5 – incorrect or illegible identification of envelope contents; incorrect, illegible or missing ammunition lot number.

MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Acceptable –

Rust and Corrosion 1/

Non-defective clip shown for comparison.

B – Acceptable –

Rust and corrosion 1/

When rusted area does not exceed 0.03 square inches;  
either single spot or sum of several spots.

C – Unacceptable –

Rust and corrosion 1/

When there is no protective coating.

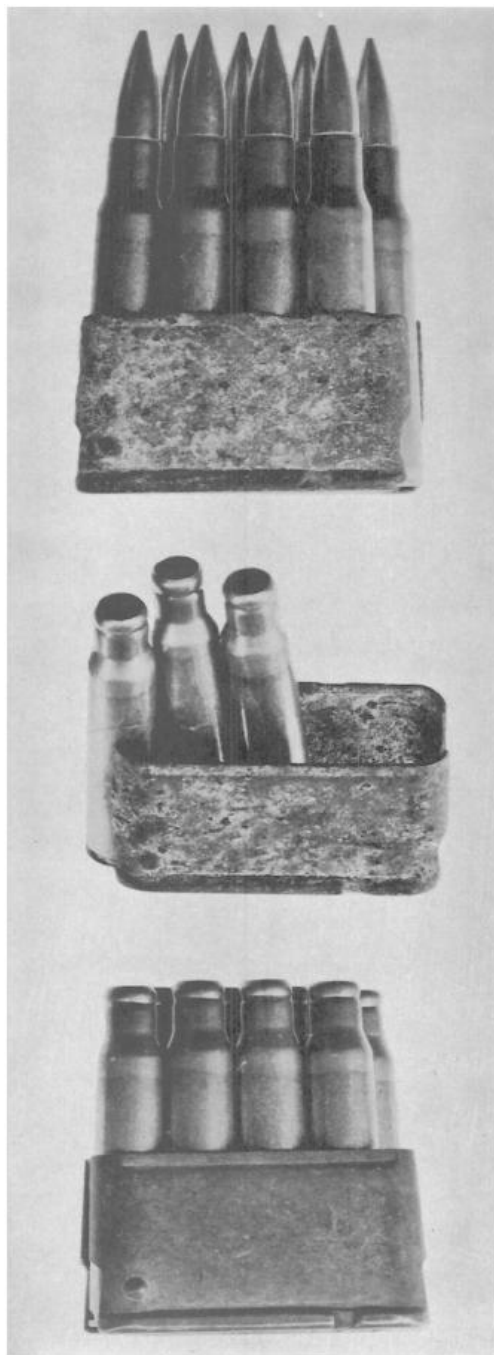
NOTES:

1/ Defect is major if clip will not function as intended; otherwise minor. If questionable, functioning test shall be made.

FIGURE A-17. Clip package defect #2 – rusty, excessively oiled or otherwise defective clips.



MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Unacceptable –

Rust and corrosion as illustrated. 1/

B – Unacceptable –

Rust and corrosion as illustrated. 1/

C – Unacceptable –

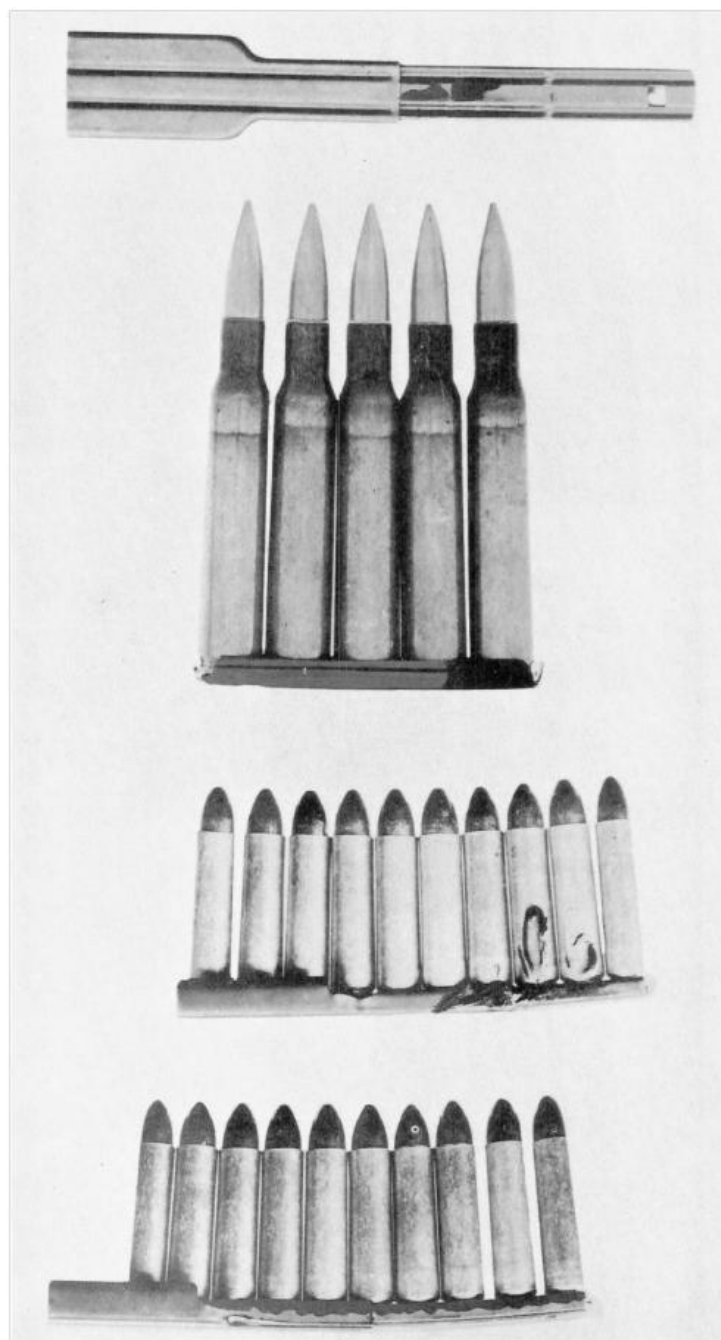
Rust and corrosion as illustrated. 1/

NOTES:

1/ Defect is major if clip will not function as intended; otherwise minor. If questionable, functioning test shall be made.

FIGURE A-18. Clip package defect #2 – Rusty, excessively oiled or otherwise defective clips.

MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Acceptable –

Oil or grease as illustrated. 1/

B – Unacceptable –

Oil or grease as illustrated. 1/

C – Unacceptable –

Oil or grease as illustrated. 1/

D – Unacceptable –

Oil or grease as illustrated. 1/

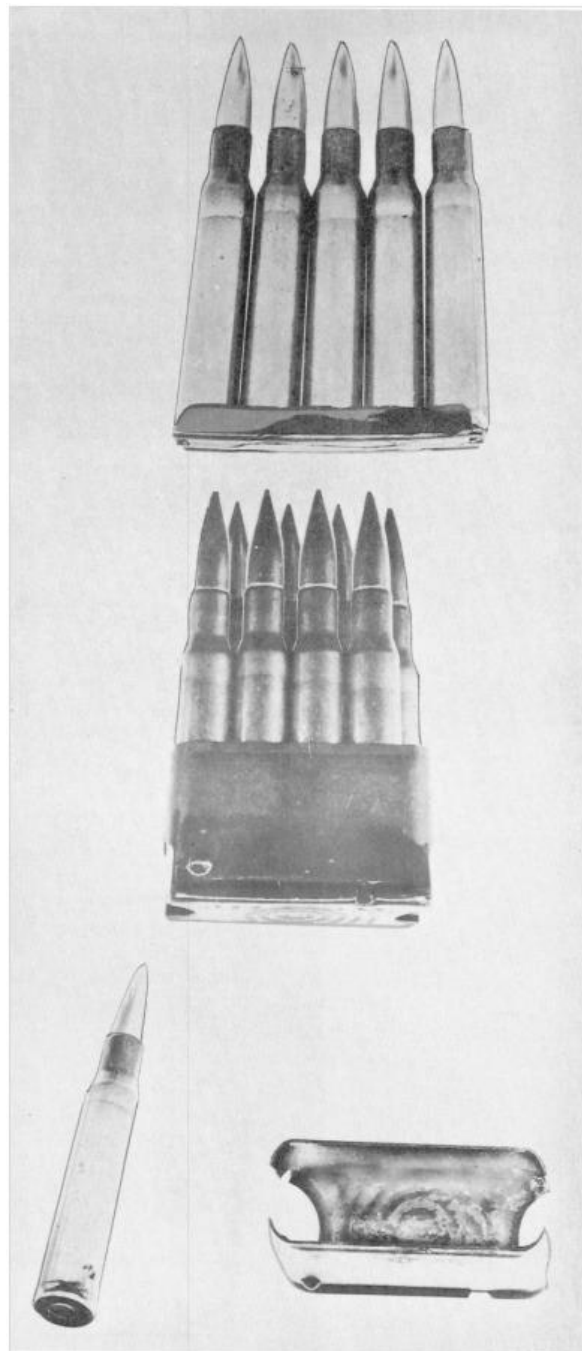
NOTES:

1/ Defect is major if clip will not function as intended; otherwise minor. If questionable, functioning test shall be made.

FIGURE A-19. Clip package defect #2 – rusty, excessively oiled or otherwise defective clips.



MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Unacceptable –

Oil or grease as illustrated. 1/

B – Unacceptable –

Oil or grease as illustrated. 1/

C – Unacceptable –

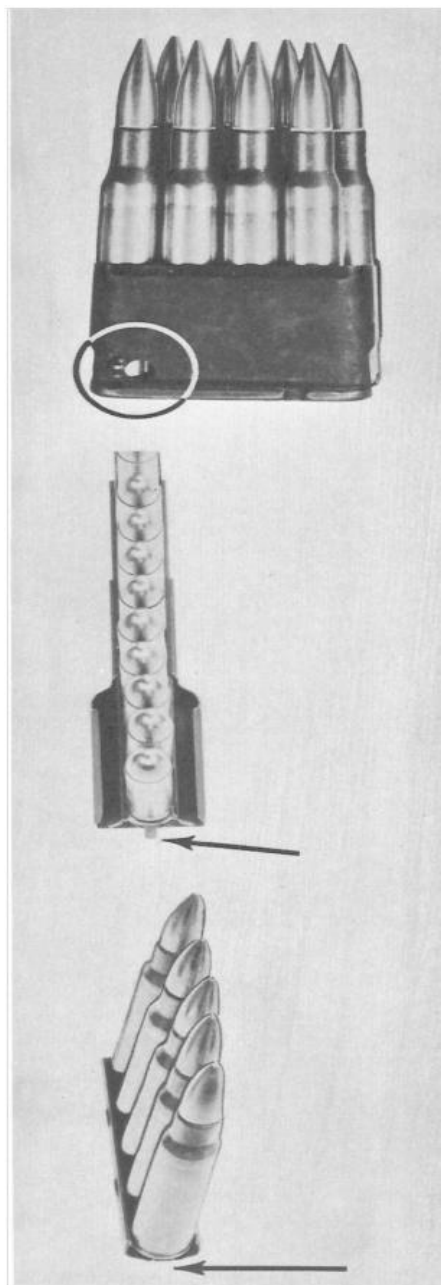
Oil or grease as illustrated. 1/

NOTES:

1/ Defect is minor if clip will not function as intended, otherwise minor. If questionable, functioning test shall be made.

FIGURE A-20. Clip package defect #2 – rusty, excessively oiled or otherwise defective clips.

MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Acceptable –

Miscellaneous malformed. 1/

B – Acceptable –

Miscellaneous cartridge spring tab not close. 1/

C – Acceptable –

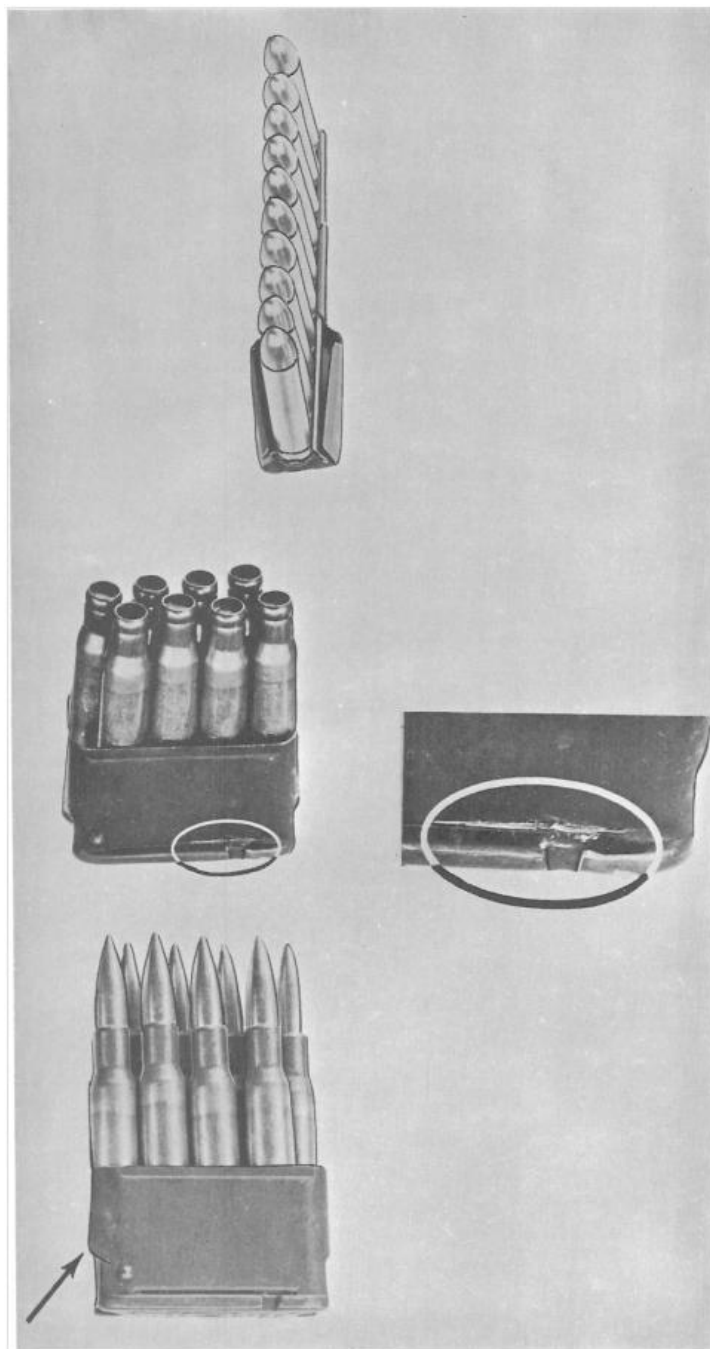
Miscellaneous missing cartridge spring tab. 1/

NOTES:

1/ Defect is major if clip will not function as intended; otherwise minor. If questionable, functioning test shall be made.

FIGURE A-21. Clip package defect #2 – rusty, excessively oiled or otherwise defective clips.

MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Unacceptable –

Miscellaneous bent shoe. 1/

B – Unacceptable –

Miscellaneous split clip. 1/

C – Unacceptable –

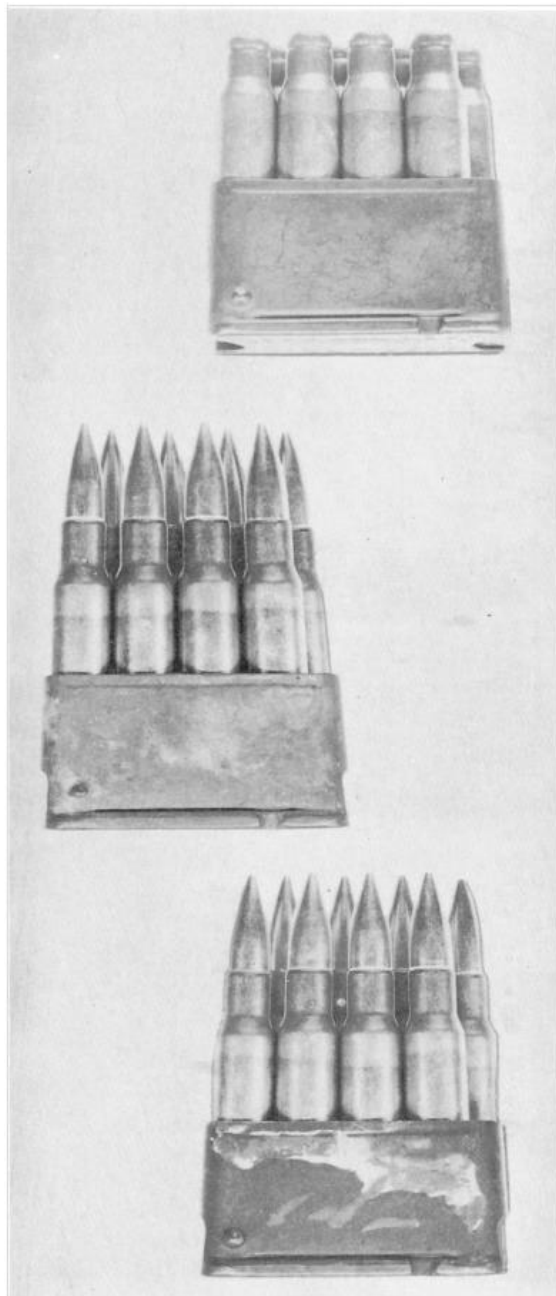
Miscellaneous bent cartridge lock tab.  
1/

NOTES:

1/ Defect is major if clip will not function as intended; otherwise minor. If questionable, functioning test shall be made.

FIGURE A-22. Clip package defect #2 – rusty, excessively oiled or otherwise defective clips.

MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Acceptable –

Foreign matter

Non-defective clip shown for comparison. 1/

B – Acceptable –

Foreign matter as illustrated. 1/

C – Unacceptable –

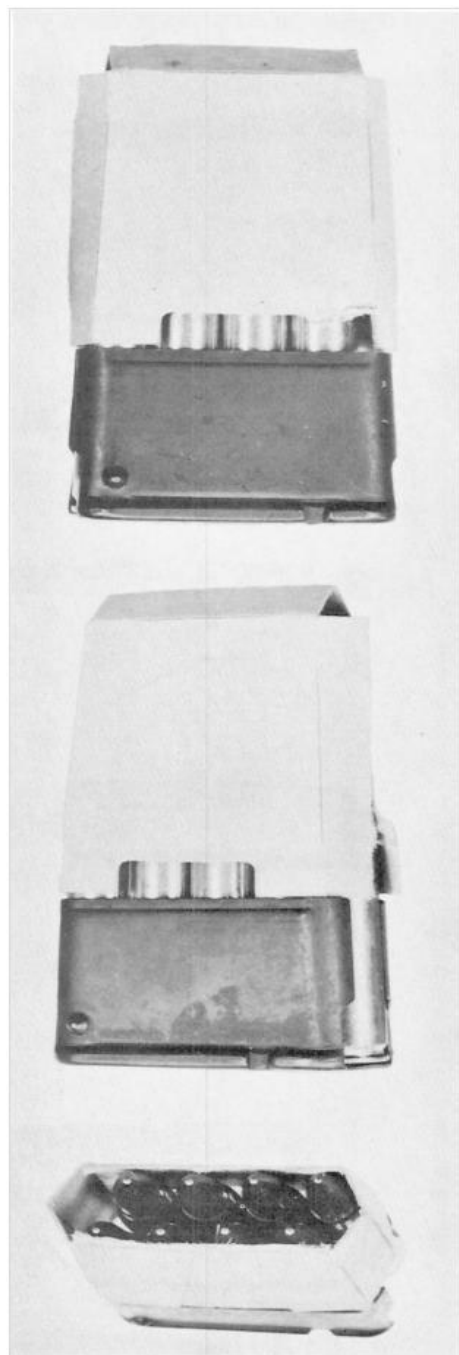
Foreign matter as illustrated. 1/

NOTES:

1/ Defect is major if clip will not function as intended; otherwise minor. If questionable, functioning test shall be made.

FIGURE A-23. Clip package defect #2 – rusty, excessively oiled or otherwise defective clips.

MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Acceptable –

Carton torn  
Edge one-third or less of edge.

B – Acceptable –

Carton torn edge  
One-third or less of edge.

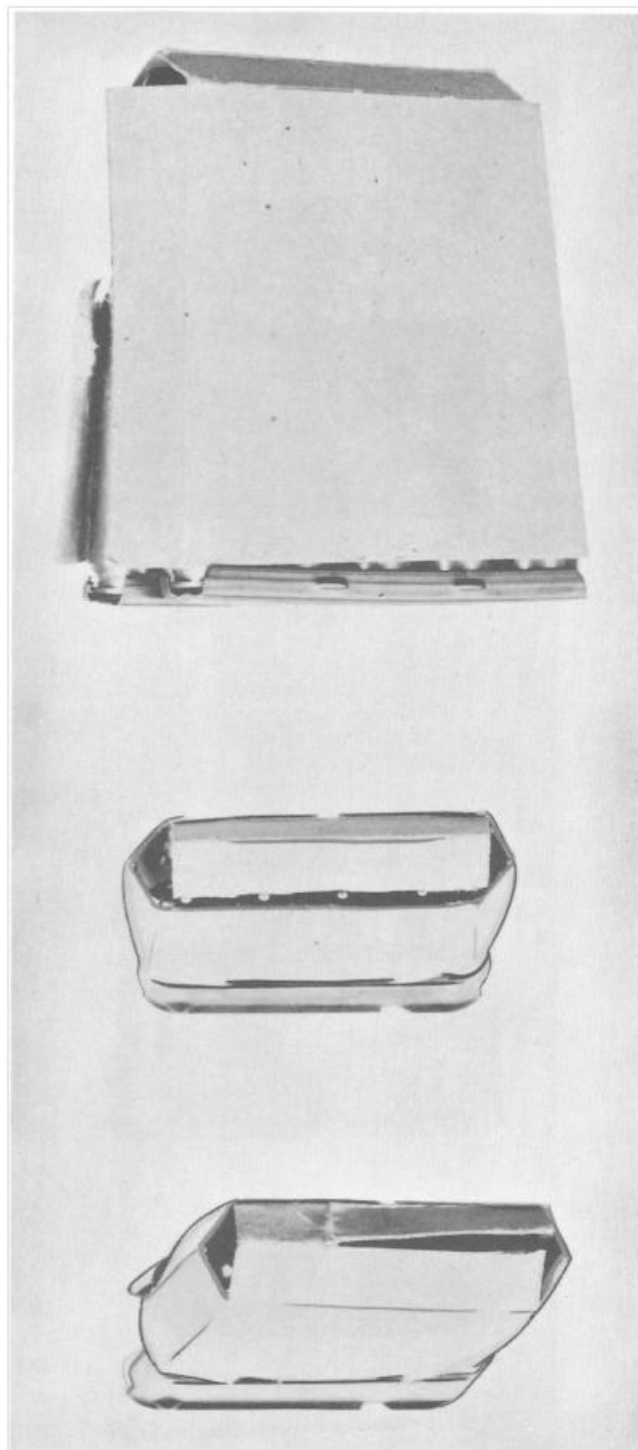
C – Unacceptable –

Carton torn edge

Missing top.

FIGURE A-24. Clip package defect #3 – missing or torn carton.

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w/CHANGE 2  
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A – Unacceptable –

Carton torn edge  
More than one-third of edge.

B – Unacceptable –

Carton torn edge  
Edge completely torn.

C – Unacceptable –

Carton torn edge  
More than one-third of edge.

FIGURE A-25. Clip package defect #3 – missing or torn carton.

MIL-STD-644B  
w/CHANGE 2  
APPENDIX A

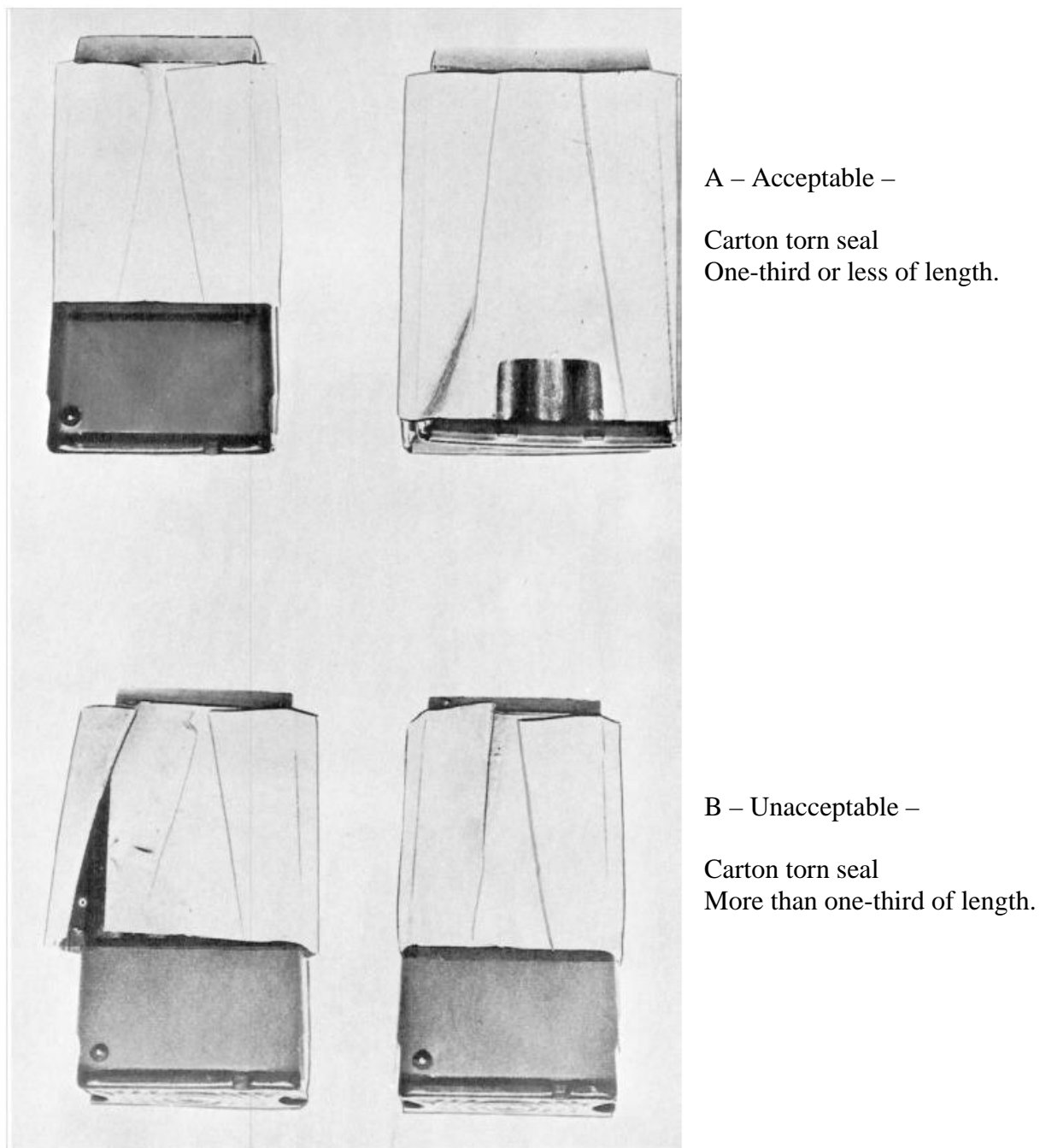


FIGURE A-26. Clip package defect #3 – missing or torn carton.



MIL-STD-644B  
w/CHANGE 2  
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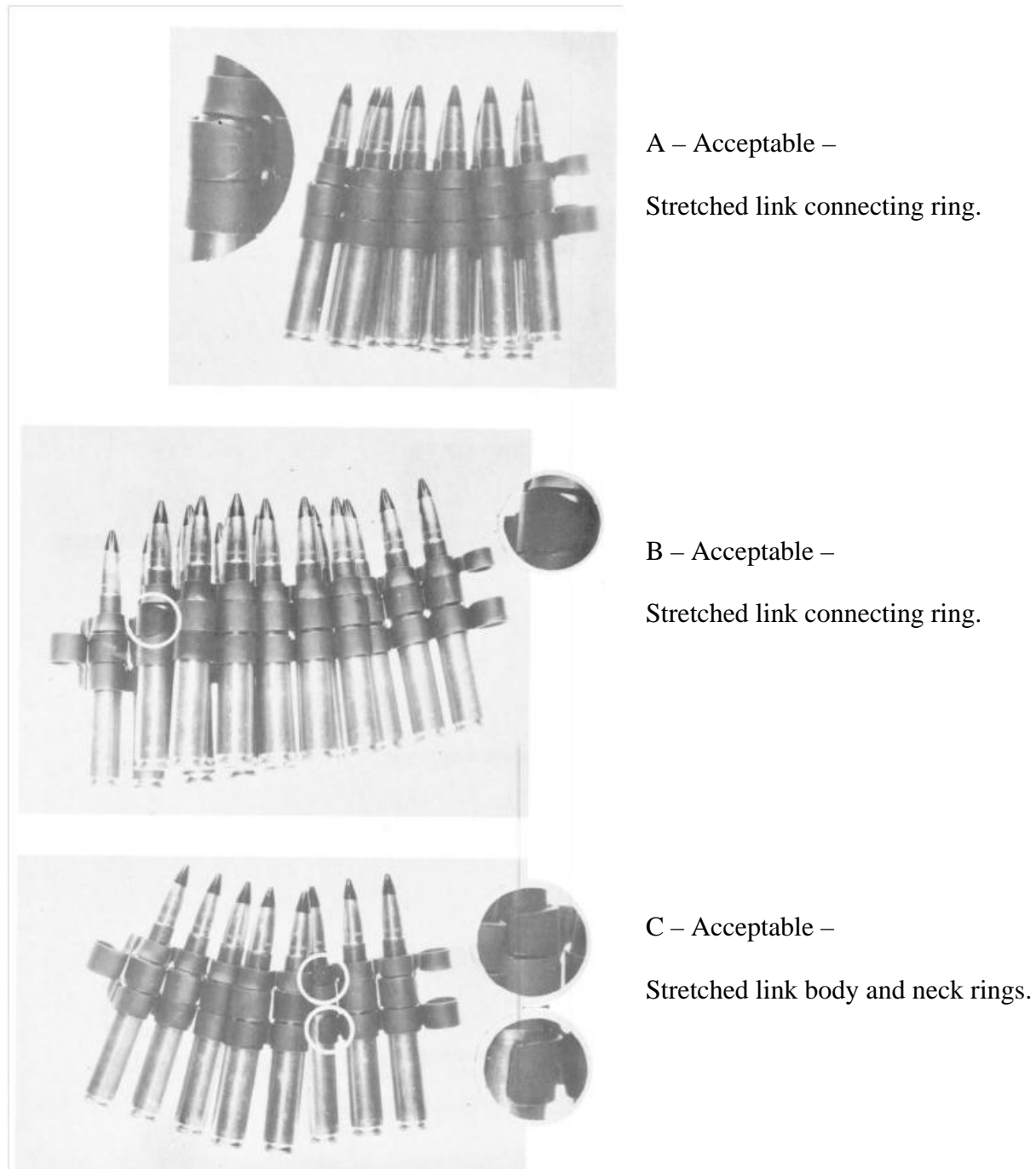
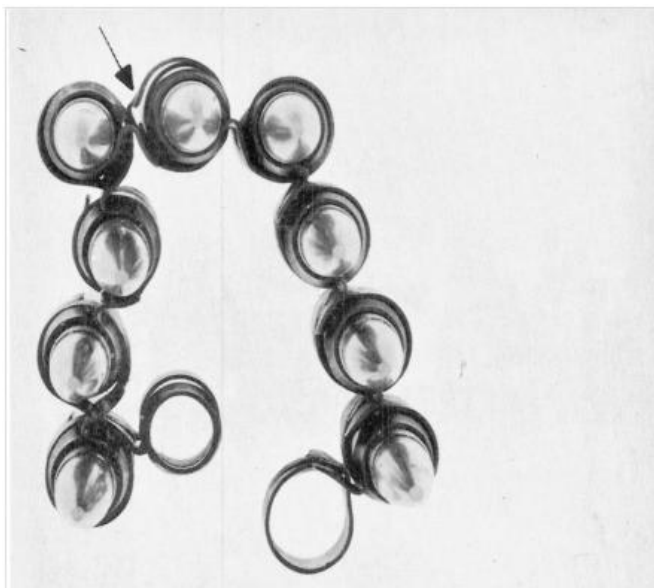


FIGURE A-27. Metallic linked belt package defect #5 – stretched, broken or “frozen” belt.



MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



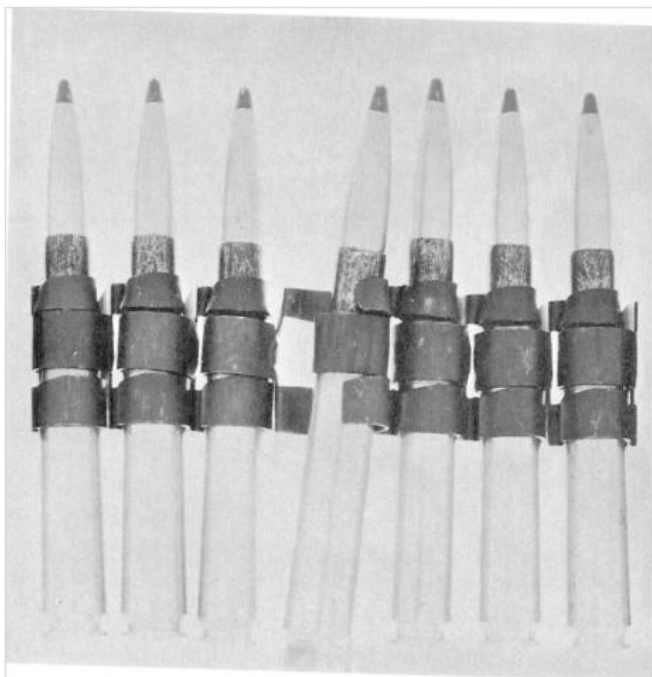
A – Acceptable –  
Stretched link connecting ring.



B – Unacceptable –  
Stretched link connecting ring.

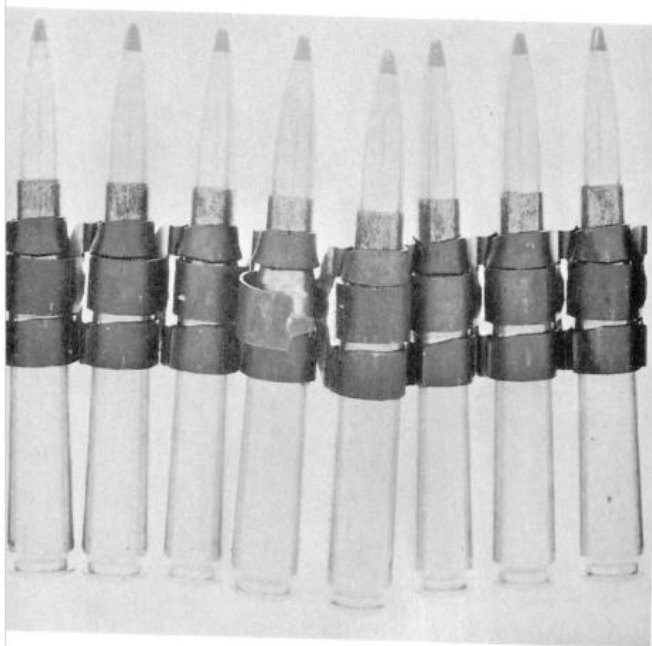
FIGURE A-28. Metallic linked belt package defect #5 – stretched, broken or “frozen” belt.

MIL-STD-644B  
w/CHANGE 2  
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A – Unacceptable –

Stretched link body and neck rings.

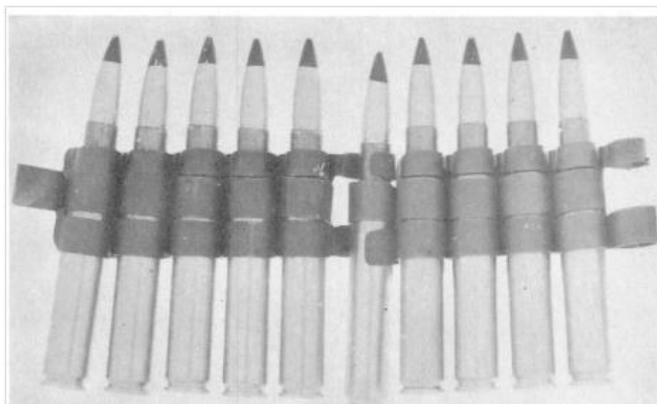


B – Unacceptable –

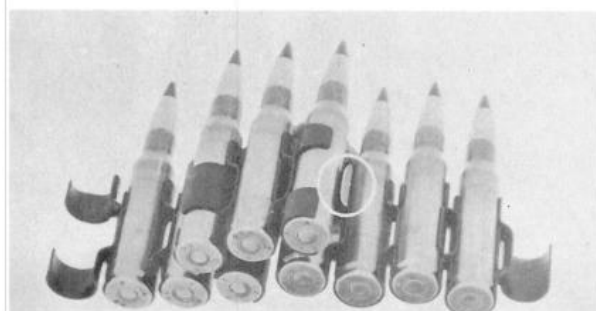
Stretched link connecting ring.

FIGURE A-29. Metallic linked belt package defect #5 – stretched, broken or “frozen” belt.

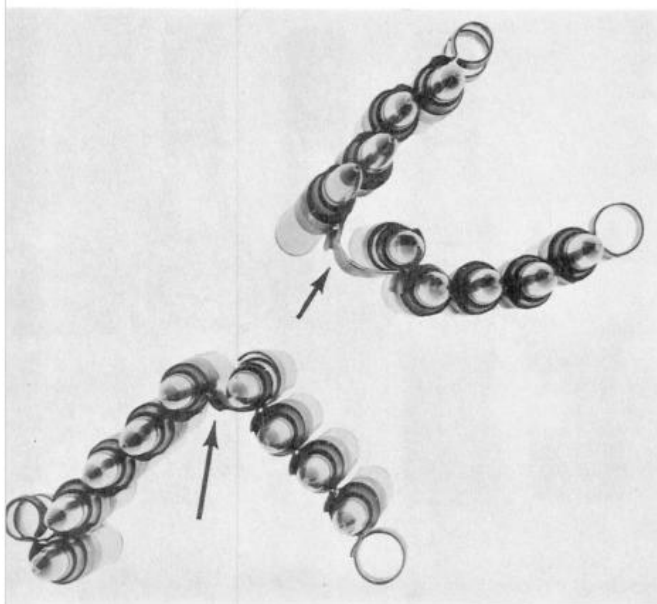
MIL-STD-644B  
w/CHANGE 2  
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A – Unacceptable –  
Stretched link body and rings.



B – Unacceptable –  
Stretched link  
Connecting half rings. Any visually  
detectable set appearing in belt pull test not  
acceptable for half link.



C – Unacceptable –  
Stretched link  
Laminated connecting ring stretched.

D – Unacceptable –  
Stretched link  
Connecting ring.

FIGURE A-30. Metallic linked belt package defect #5 – stretched, broken or “frozen” belt.

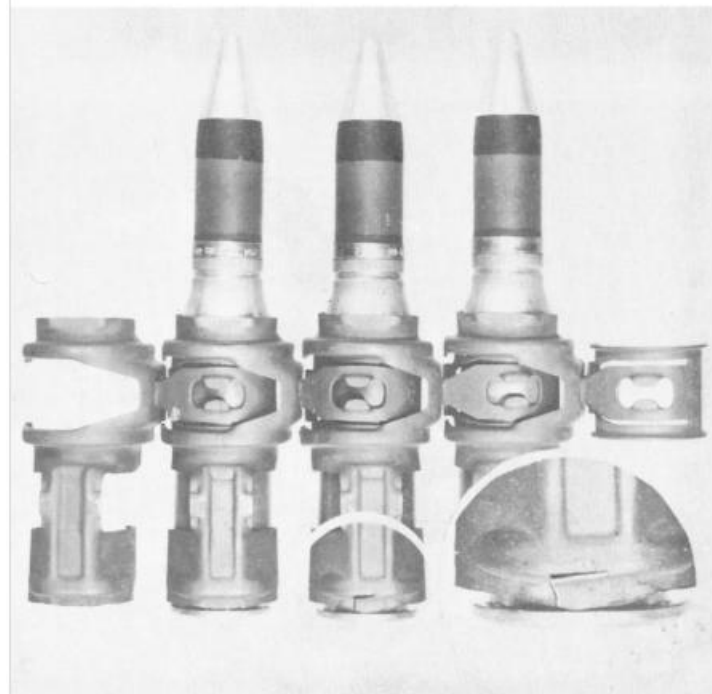
MIL-STD-644B  
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A – Acceptable –

Broken link

Flange broken on short loop.



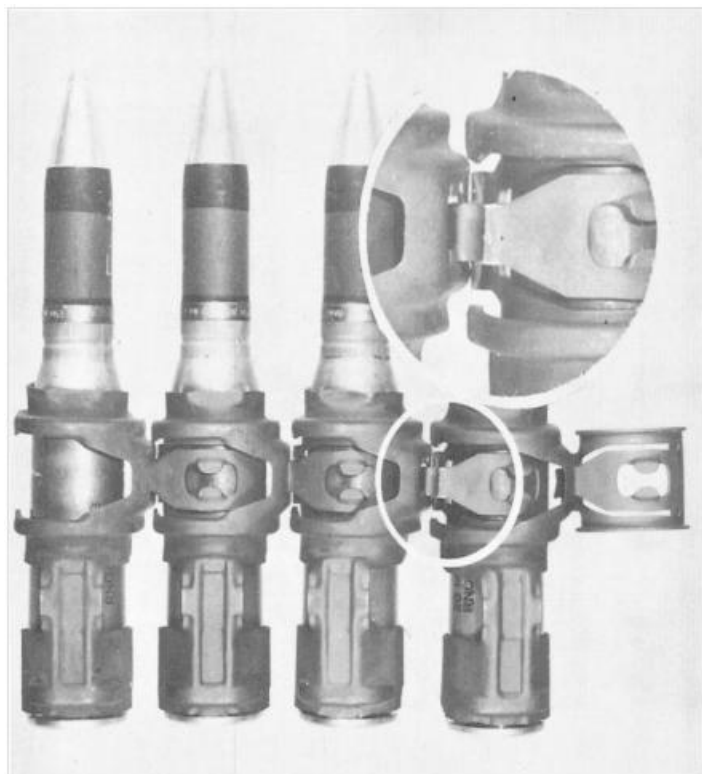
B – Unacceptable –

Broken link

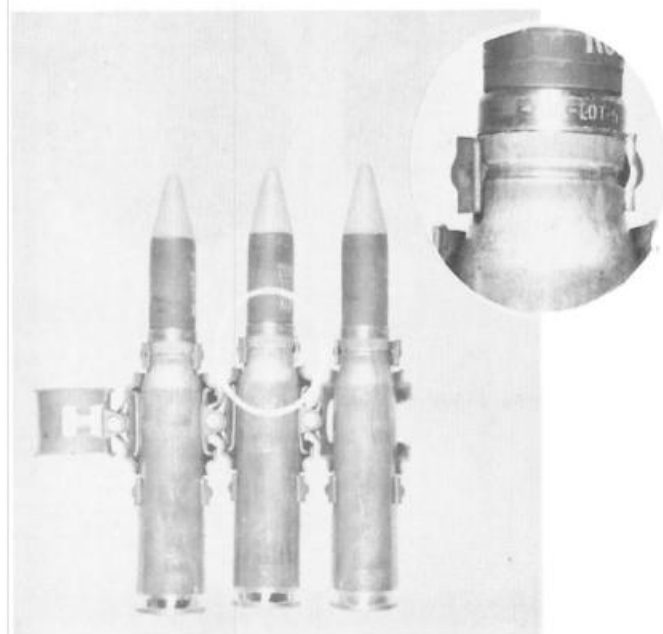
Split or cracked long loop.

FIGURE A-31. Metallic linked belt package defect #5 – stretched, broken or “frozen” belt.

MIL-STD-644B  
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APPENDIX A



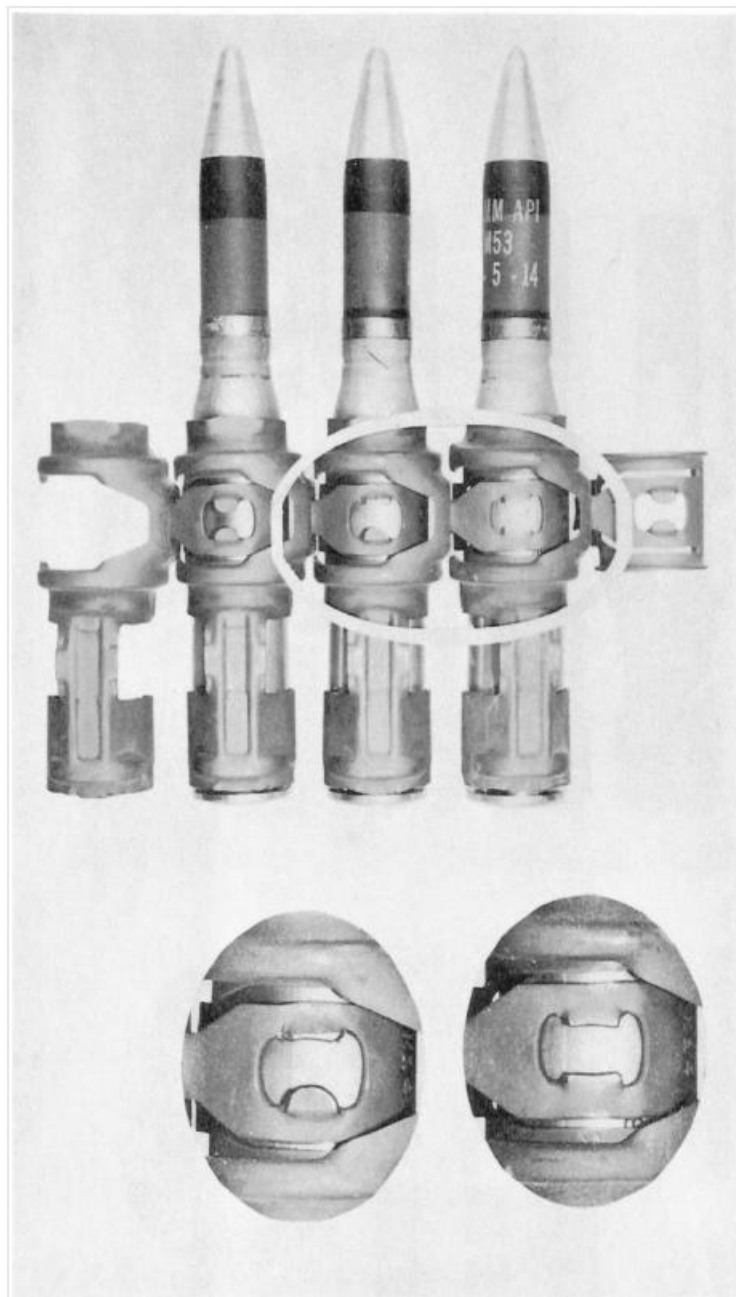
A – Unacceptable –  
Broken link  
Broken inter loop.



B – Unacceptable –  
Broken link  
Broken grip tabs.

FIGURE A-32. Metallic linked belt package defect #5 – stretched, broken or “frozen” belt.

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Unacceptable –

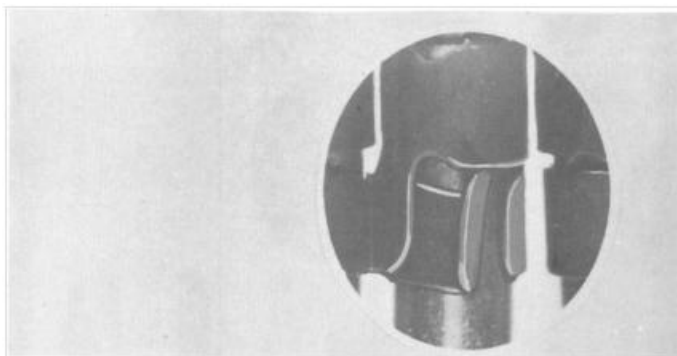
Broken link

Broken and/or missing guide tab.

FIGURE A-33. Metallic linked belt package defect #5 – stretched, broken or “frozen” belt.



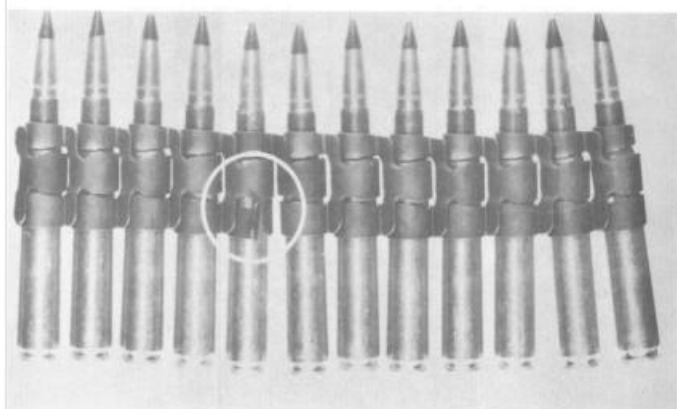
MIL-STD-644B  
w/CHANGE 2  
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A – Unacceptable –

Broken link

Body ring broken.



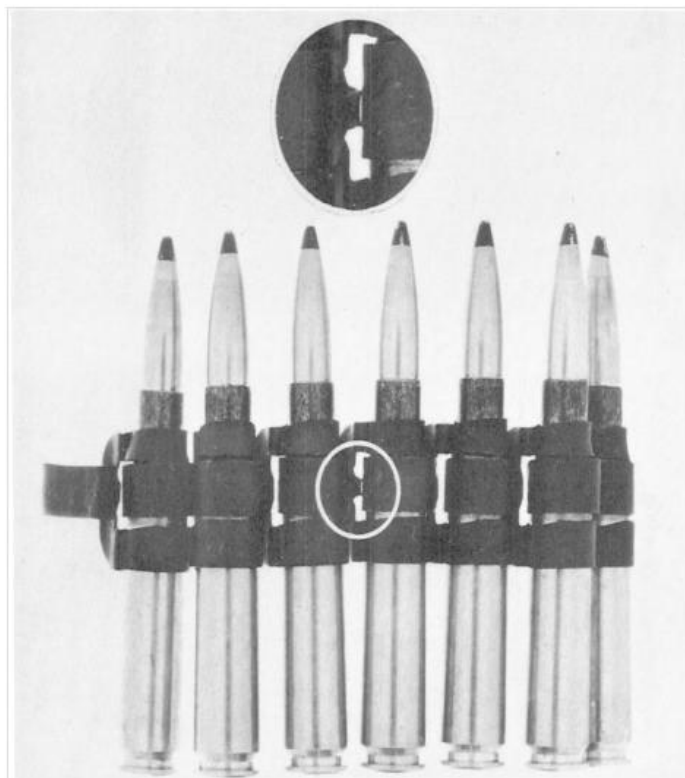
B – Unacceptable –

Broken link

Neck ring broken.

FIGURE A-34. Metallic linked belt package defect #5 – stretched, broken or “frozen” belt.

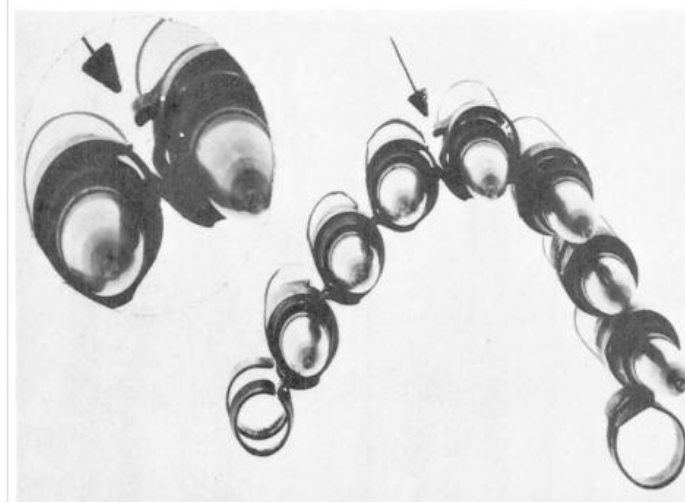
MIL-STD-644B  
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APPENDIX A



A – Acceptable –

Frozen belt 1/

Slight stiffness caused by malformed  
connecting ring.



B – Acceptable –

Frozen belt 1/

Slight stiffness caused by malformed

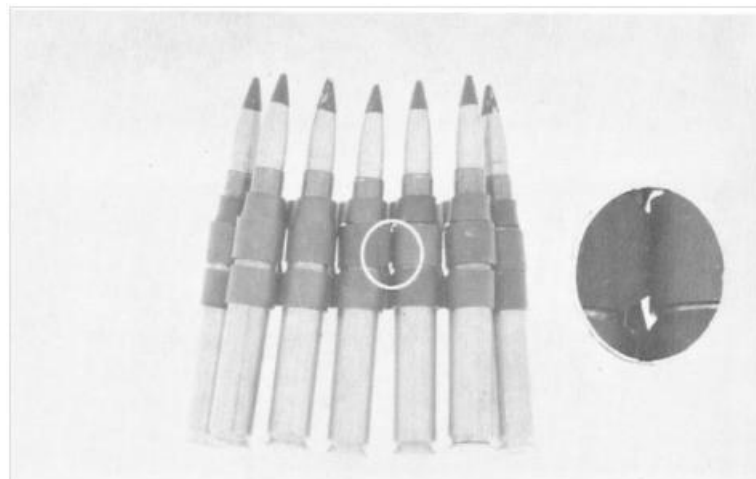
NOTES:

1/ Does not apply for 20mm.

FIGURE A-35. Metallic linked belt package defect #5 – stretched, broken or “frozen” belt.



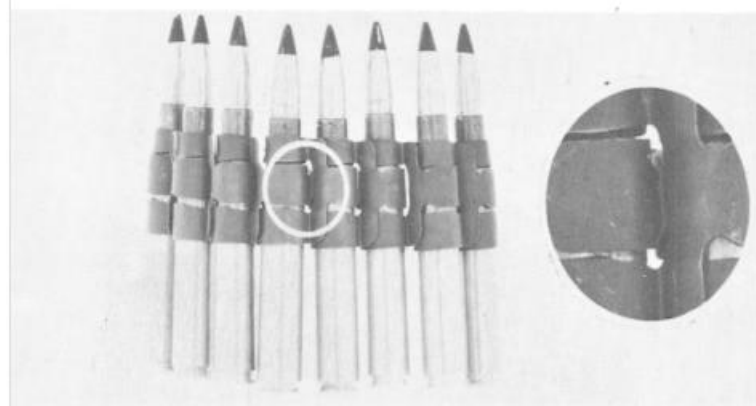
MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Acceptable –

Frozen belt 1/

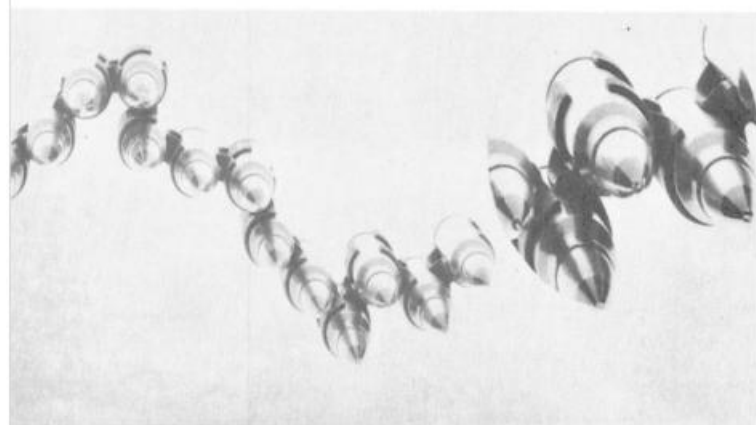
Slight stiffness caused malformed connecting ring.



B – Acceptable –

Frozen belt 1/

Slight stiffness caused by overlapped connecting ring.



C – Acceptable –

Frozen belt 1/

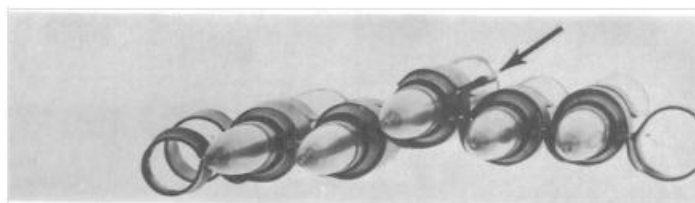
Belt not perfectly free; applicable only to type and size of half link shown.

NOTES:

1/ Does not apply for 20mm.

FIGURE A-36. Metallic linked belt package defect #5 – stretched, broken or “frozen” belt.

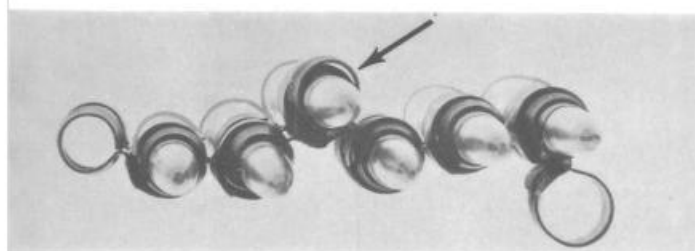
MIL-STD-644B  
w/CHANGE 2  
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A – Unacceptable –

Frozen belt\*

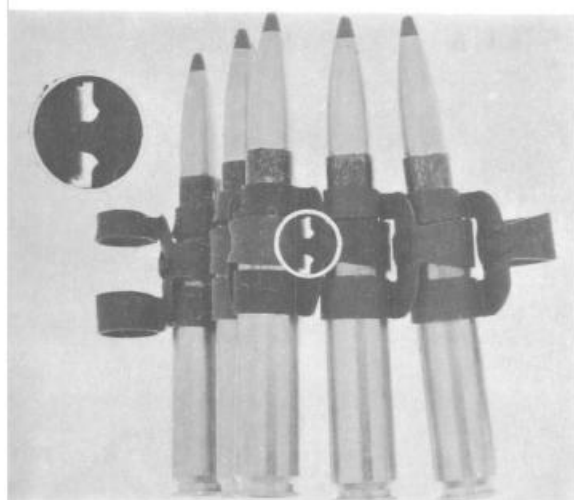
Caused by malformed connecting ring.



B – Unacceptable –

Frozen belt 1/

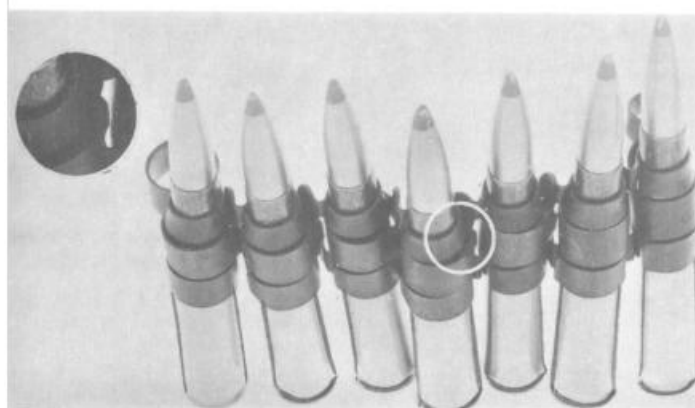
Caused by malformed neck ring.



C – Unacceptable –

Frozen belt 1/

Caused by malformed connecting ring.



D – Unacceptable –

Frozen belt 1/

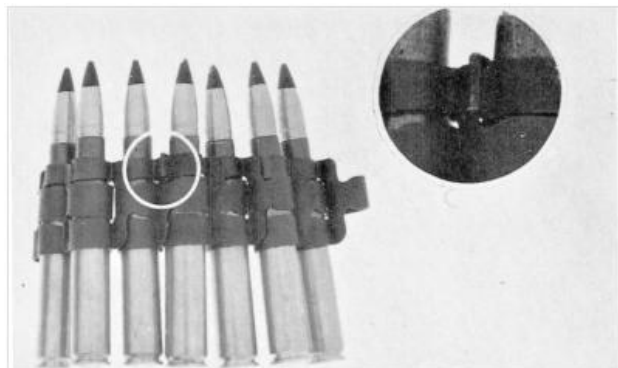
Caused by connecting ring bur. This defect may be critical depending on degree of cartridge distortion.

NOTES:

1/ Does not apply for 20mm.

FIGURE A-37. Metallic linked belt package defect #5 – stretched, broken or “frozen” belt.

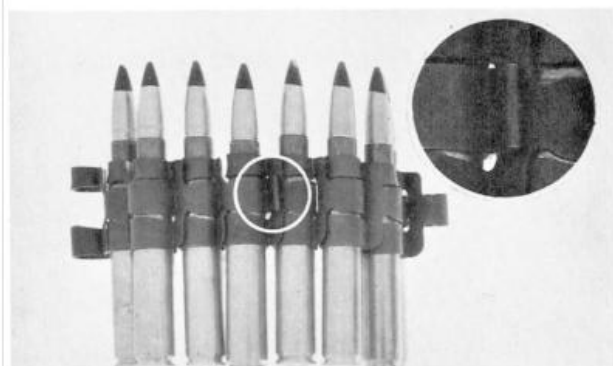
MIL-STD-644B  
w/CHANGE 2  
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A – Unacceptable –

Frozen belt 1/

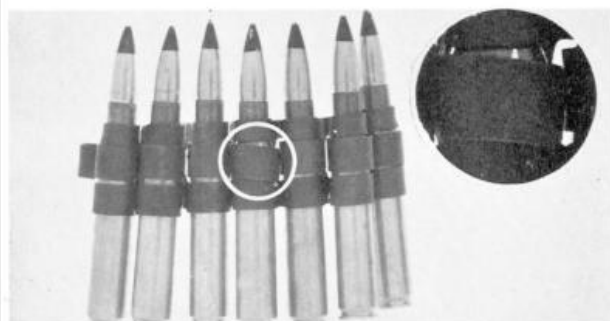
Caused by malformed neck ring.



B – Unacceptable –

Frozen belt 1/

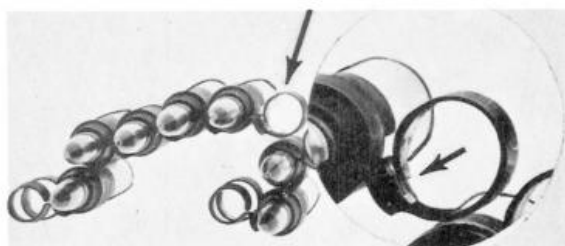
Caused by malformed connecting ring.



C – Unacceptable –

Frozen belt 1/

Caused by malformed connecting ring.



D – Unacceptable –

Frozen belt 1/

Caused by underlapped connecting ring.  
Disassembled belt shown.

NOTES:

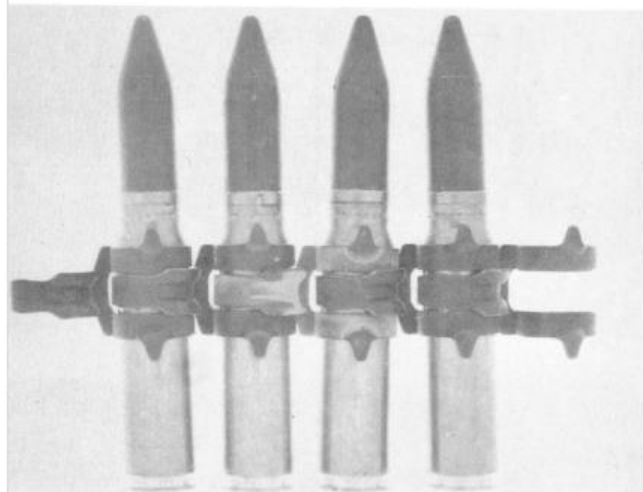
1/ Does not apply for 20mm.

FIGURE A-38. Metallic linked belt package defect #5 – stretched, broken or “frozen” belt.

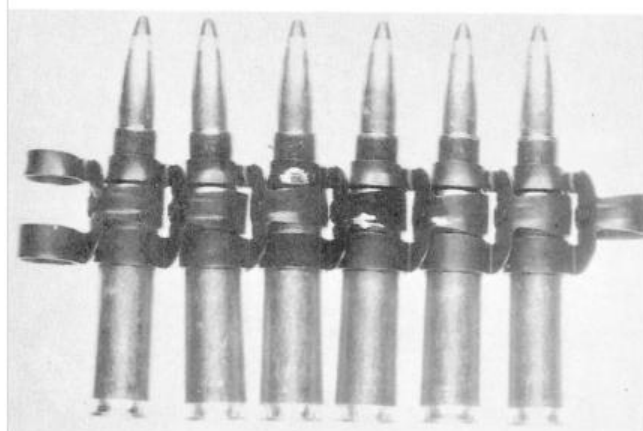
MIL-STD-644B  
w/CHANGE 2  
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A – Acceptable –  
Foreign matter  
Discolored.



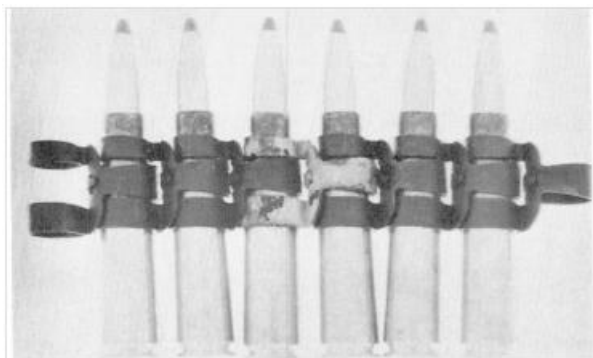
B – Acceptable –  
Foreign matter  
Discolored.



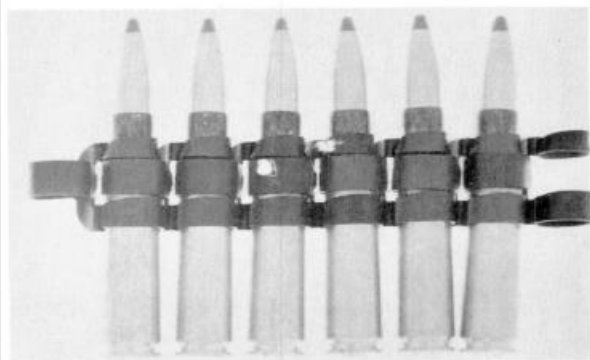
C – Acceptable –  
Foreign matter  
Light oil.

FIGURE A-39. Metallic linked belt package defect #6 - foreign material, oil or grease; other than required.

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w/CHANGE 2  
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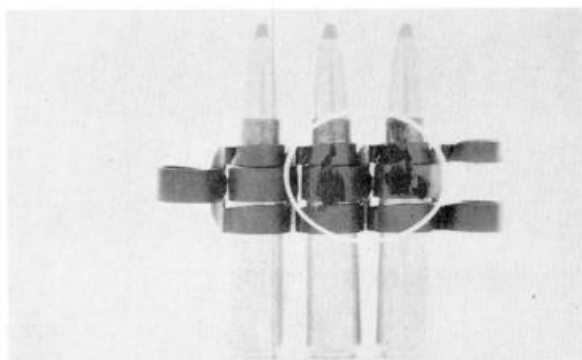
A – Unacceptable –  
Foreign matter  
Pronounced foreign material.



B – Unacceptable –  
Foreign matter  
Pronounced foreign material.



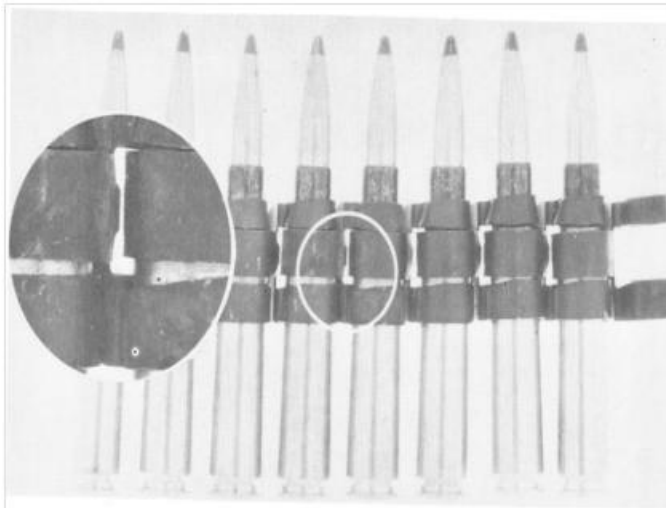
C – Unacceptable –  
Foreign matter  
Pronounced foreign material; some of cartridge  
body not shown.



D – Unacceptable –  
Foreign matter  
Free oil or grease.

FIGURE A-40. Metallic linked belt package defect #6 - foreign material, oil or grease; other than required.

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A – Acceptable –

Rust

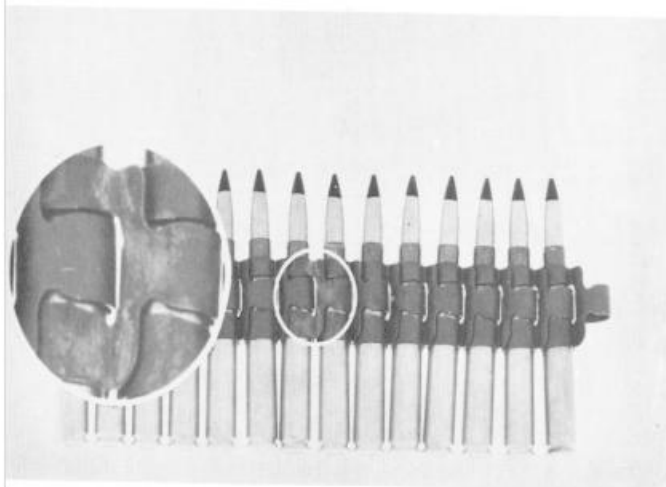
Rusted area on single link not exceeding 0.03 square inches, either a single spot or sum of several spots.



B – Acceptable –

Rust

Rusted area on single link not exceeding 0.03 square inches, either a single spot or sum of several spots.



C – Unacceptable –

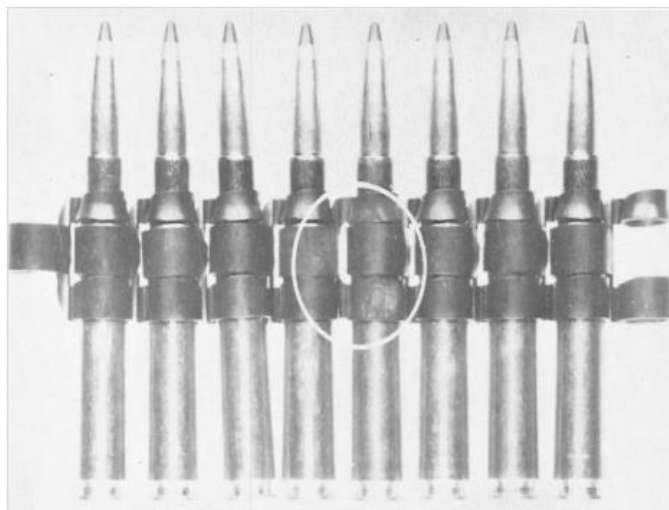
Rust

Rusted area on single link exceeding 0.03 square inches, either a single spot or sum of several spots.

FIGURE A-41. Metallic linked belt package defect #7 – defective protective finish or rust on link.



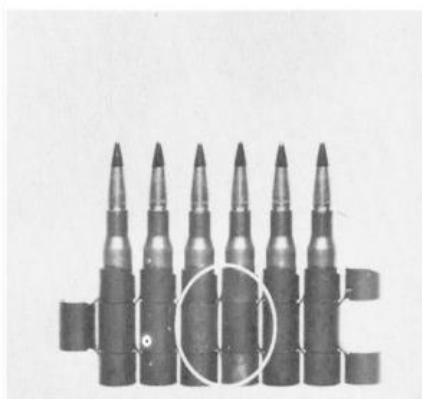
MIL-STD-644B  
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A – Unacceptable –

Rust

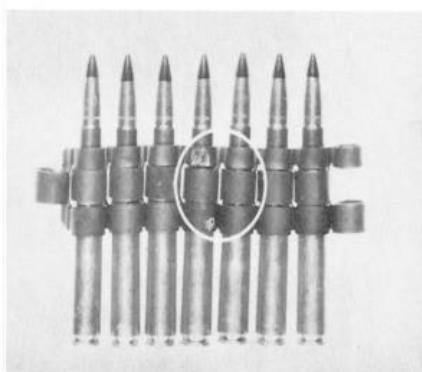
Total spots of rust on single link over 0.03 square inches in area.



B – Unacceptable –

Rust

Total spots of rust on single link over 0.03 square inches in area.



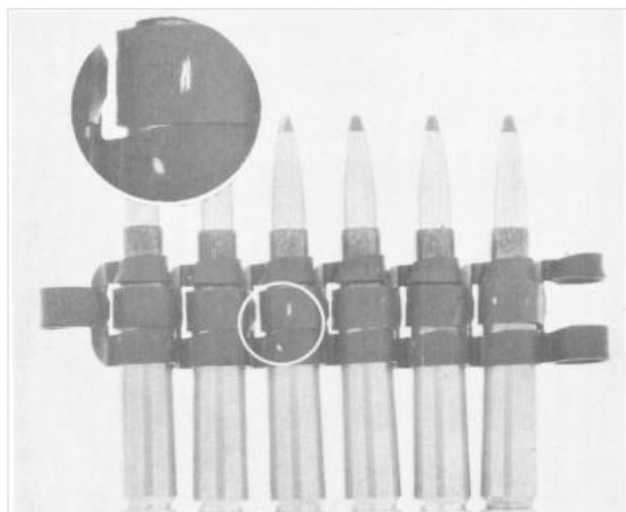
C – Unacceptable –

Rust

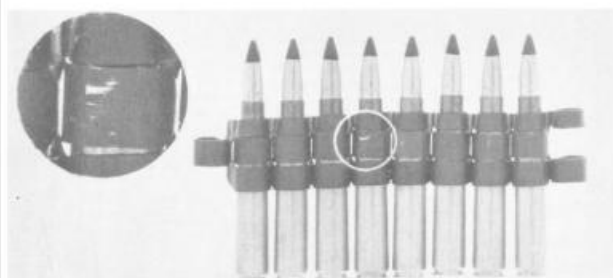
Total spots of rust on single link over 0.03 square inches in area.

FIGURE A-42. Metallic linked belt package defect #7 – defective protective finish or rust on link.

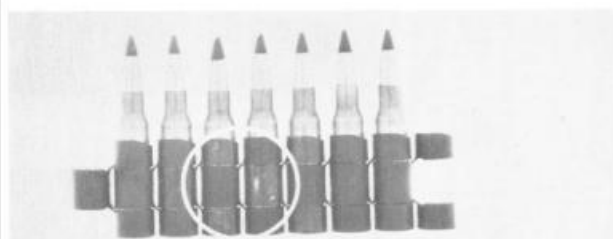
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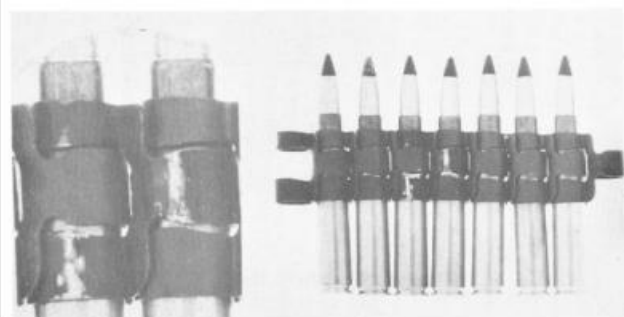
A – Acceptable –  
Protective finish  
Scratched.



B – Acceptable –  
Protective finish  
Scratched.



C – Acceptable –  
Protective finish  
Incomplete.

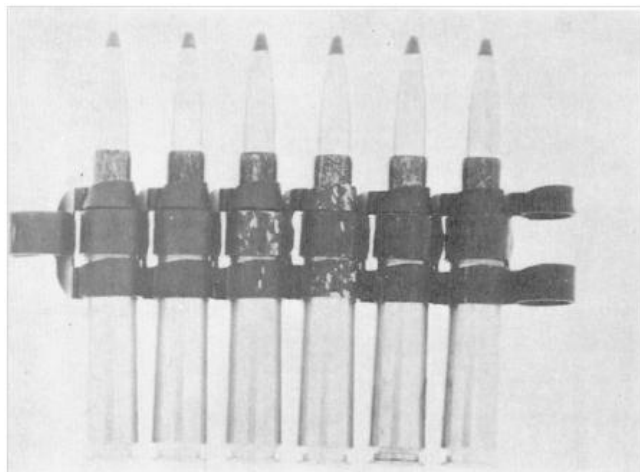


D – Unacceptable –  
Protective finish  
Missing.

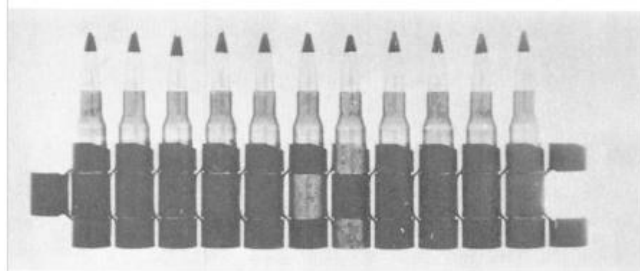
FIGURE A-43. Metallic linked belt package defect #7 – defective protective finish or rust on link.



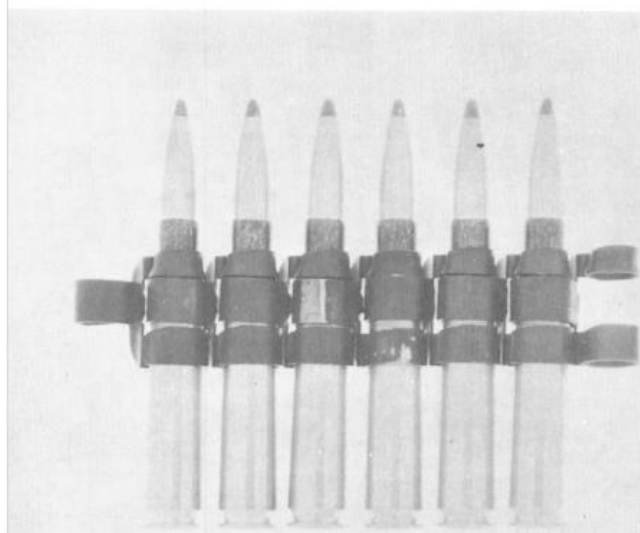
MIL-STD-644B  
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A – Unacceptable –  
Protective finish  
Spotty.



B – Unacceptable –  
Protective finish  
Missing.



C – Unacceptable –  
Protective finish  
Missing.

FIGURE A-44. Metallic linked belt package defect #7 – defective protective finish or rust on link.

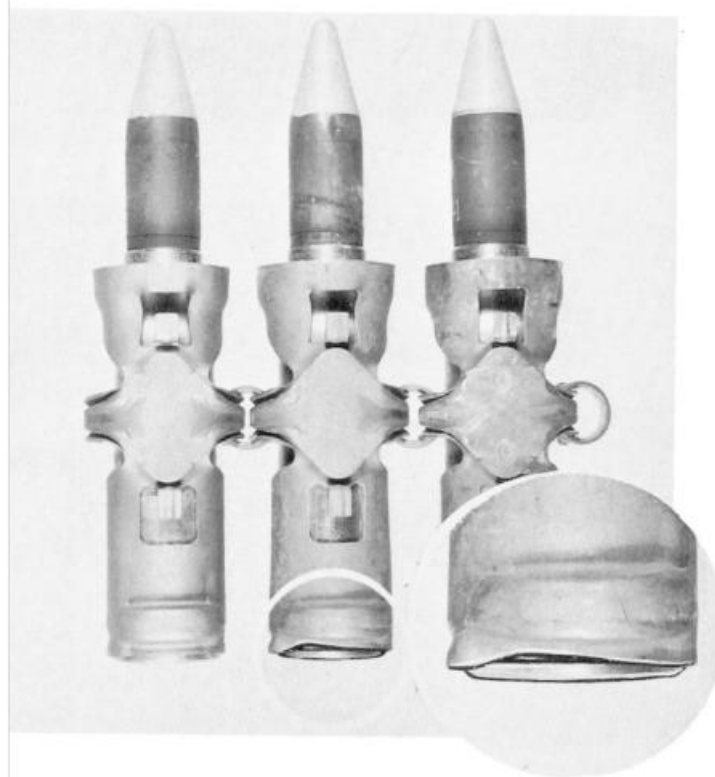
MIL-STD-644B  
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A – Acceptable –

Pronounced Malformation

Bent end of stress bridge.



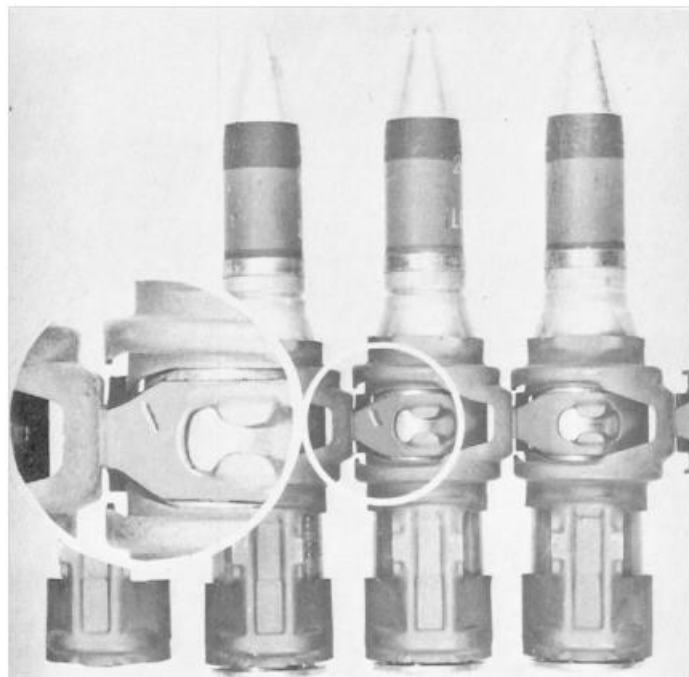
B – Acceptable –

Pronounced Malformation

Malformed guide tab.

FIGURE A-45. Metallic linked belt package defect #8 – malformed link(s) – pronounced.

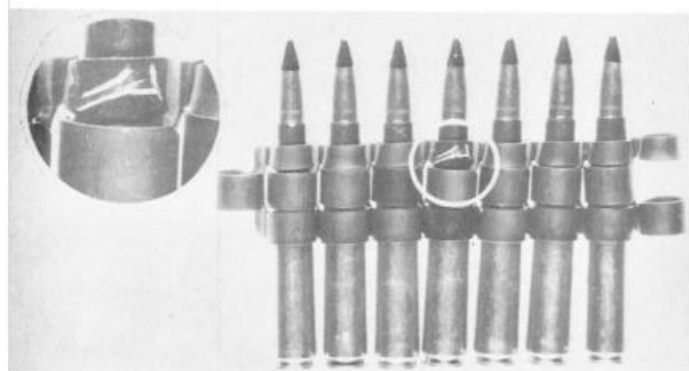
MIL-STD-644B  
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A – Acceptable –

Pronounced malformation

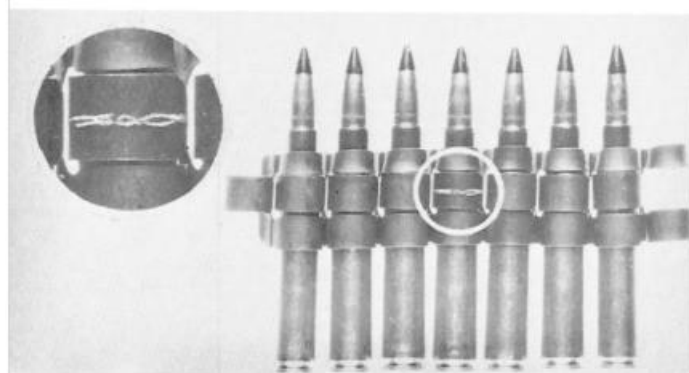
Slug or die mark on link.



B – Acceptable –

Pronounced malformation

Silver impression



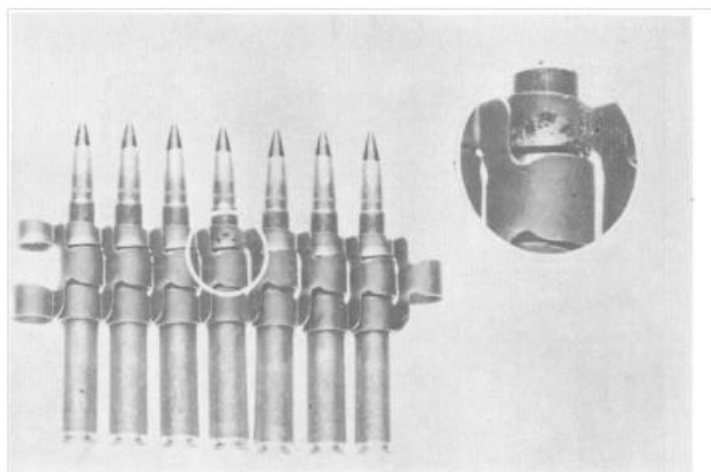
C – Acceptable –

Pronounced malformation

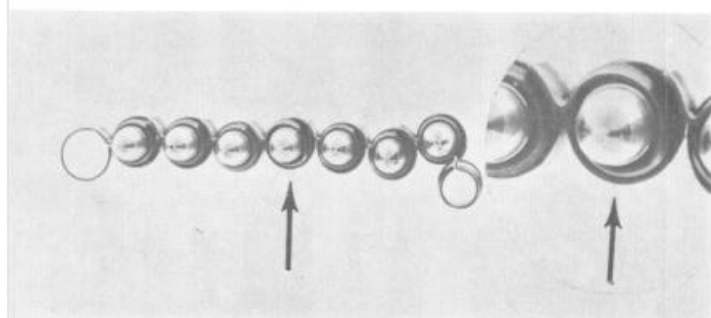
Scale or inclusions.

FIGURE A-46. Metallic linked belt package defect #8 – malformed link(s) – pronounced.

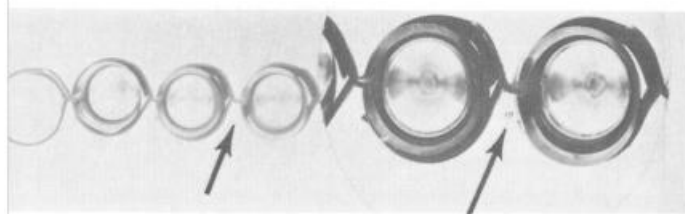
MIL-STD-644B  
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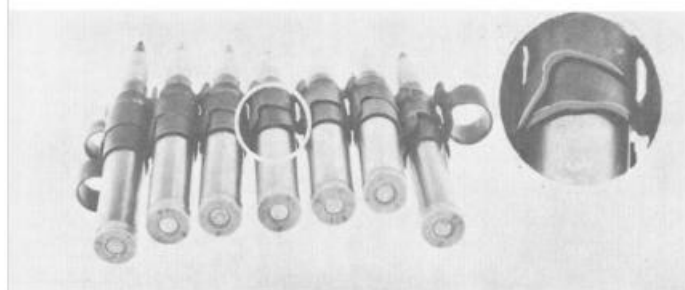
A – Acceptable –  
Pronounced malformation  
Scale or inclusions



B – Acceptable –  
Pronounced malformation  
Flattened neck ring.



C – Acceptable –  
Pronounced malformation  
Large neck ring.



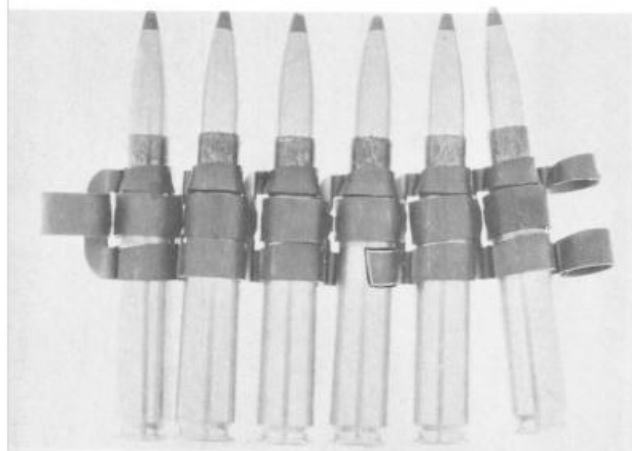
D – Acceptable –  
Pronounced malformation  
Flattened body ring.

FIGURE A-47. Metallic linked belt package defect #8 – Malformed link(s) – pronounced.

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A – Acceptable –  
Pronounced malformation  
Connecting ring.



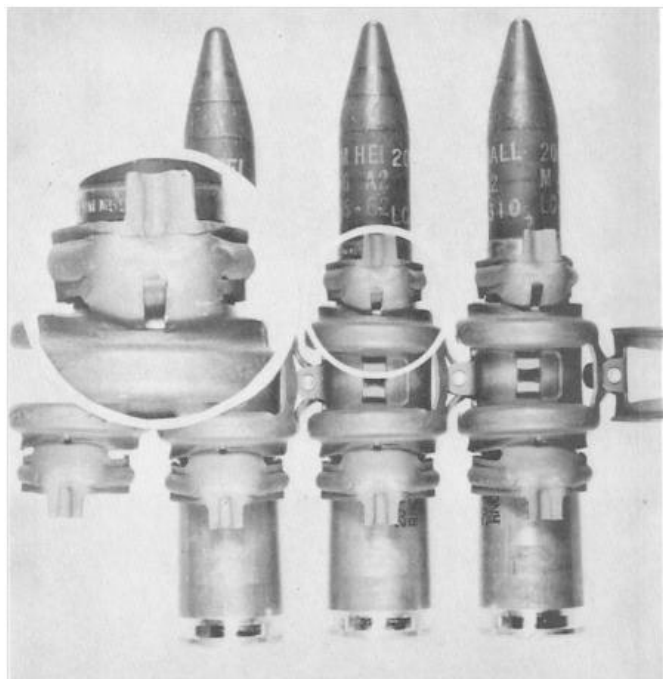
B – Acceptable –  
Pronounced malformation  
Partial body ring.



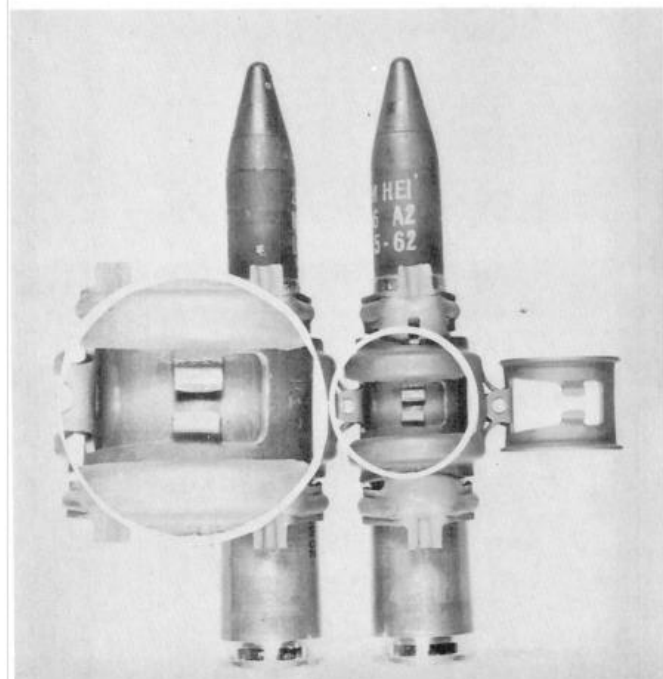
C – Acceptable –  
Pronounced malformation  
Partial neck ring. For half ring any missing  
portion of half ring(s) not acceptable.

FIGURE A-48. Metallic linked belt package defect #8 – malformed link(s) – pronounced.

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A – Unacceptable –  
Pronounced malformation  
Bent lance tab.

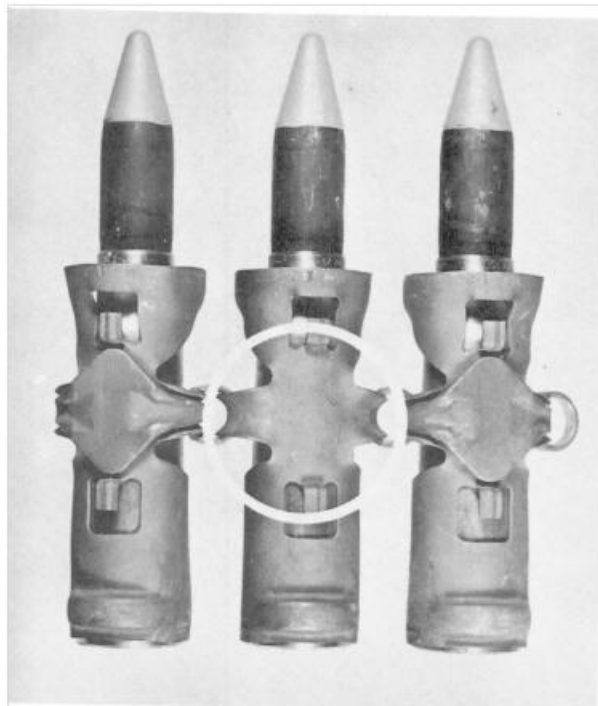


B – Unacceptable –  
Pronounced malformation  
Bent guide tabs.

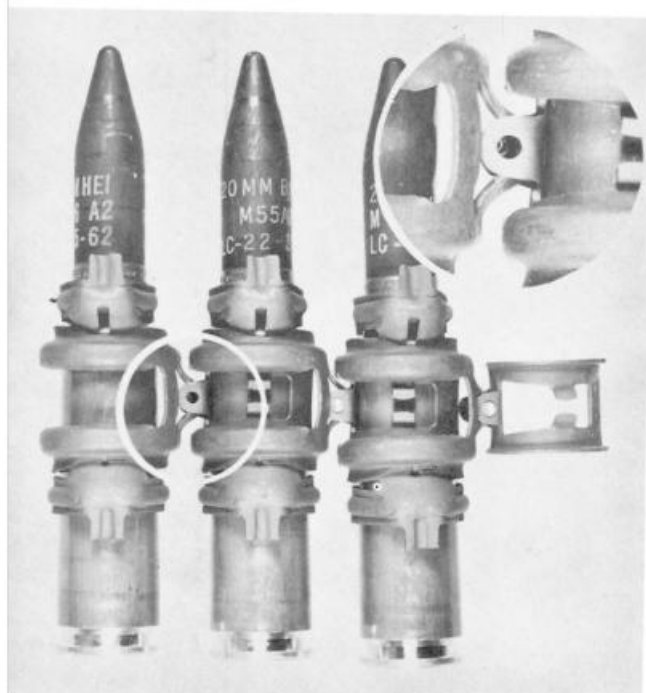
FIGURE A-49. Metallic linked belt package defect #8 – malformed link(s) – pronounced.



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A – Unacceptable –  
Pronounced malformation  
Stress bridge missing.

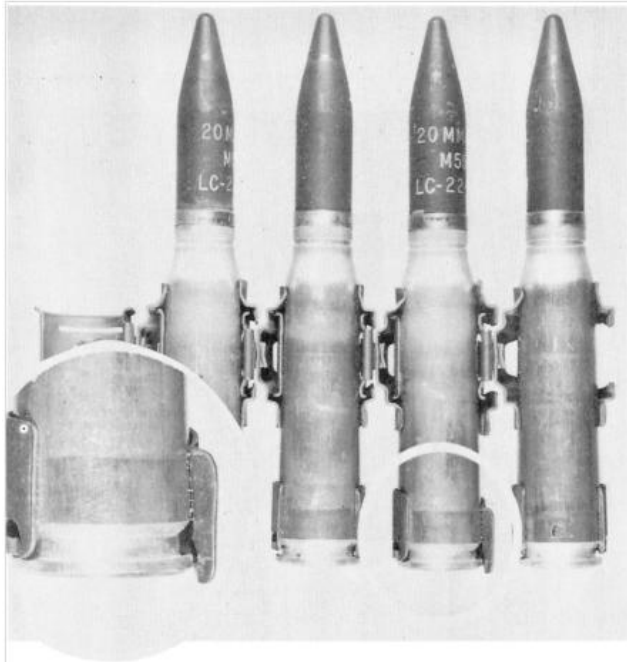


B – Unacceptable –  
Pronounced malformation  
Rivet not seated.

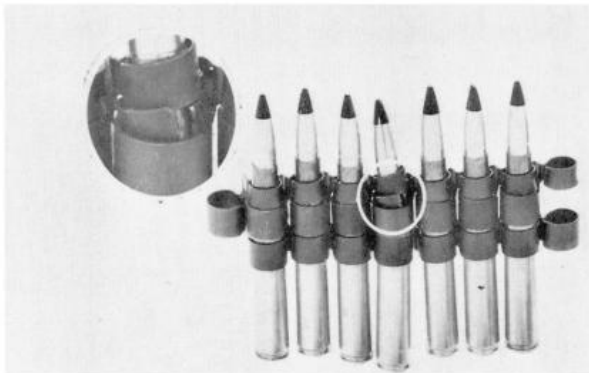
FIGURE A-50. Metallic linked belt package defect #8 – malformed link(s) – pronounced.



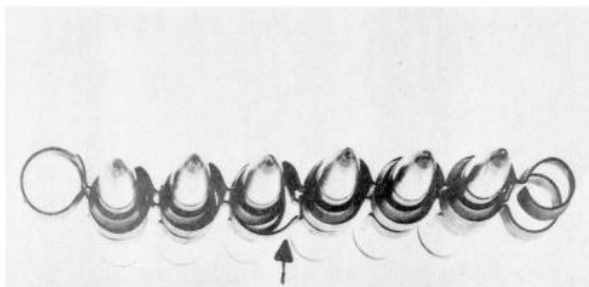
MIL-STD-644B  
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A – Unacceptable –  
Pronounced malformation  
Grip extended beyond extractor groove.



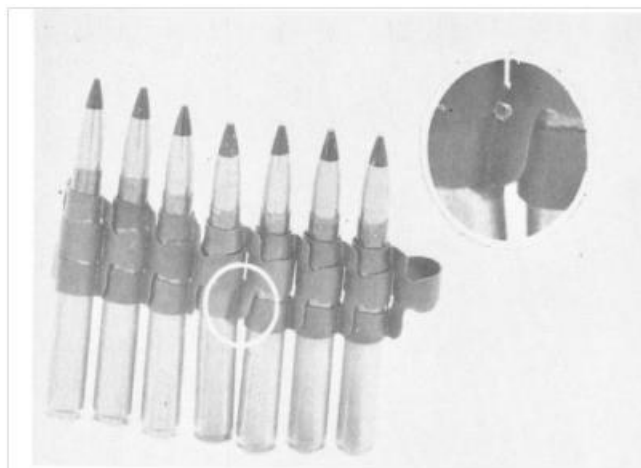
B – Unacceptable –  
Pronounced malformation  
Belt and cartridge distortion caused by presence of extra neck ring in body ring. This can be critical, depending on degree of cartridge distortion.



C – Unacceptable –  
Pronounced malformation  
Connecting ring.

FIGURE A-51. Metallic linked belt package defect #8 – malformed link(s) – pronounced.

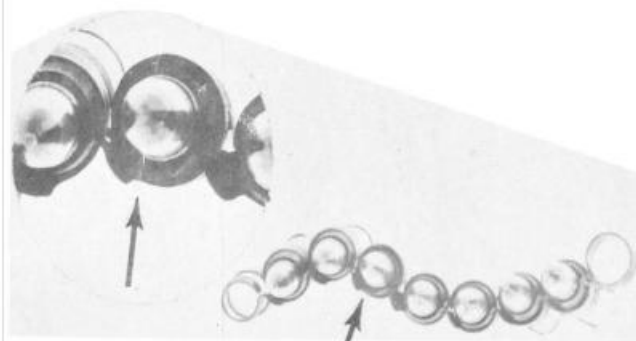
MIL-STD-644B  
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A – Unacceptable –

Pronounced malformation

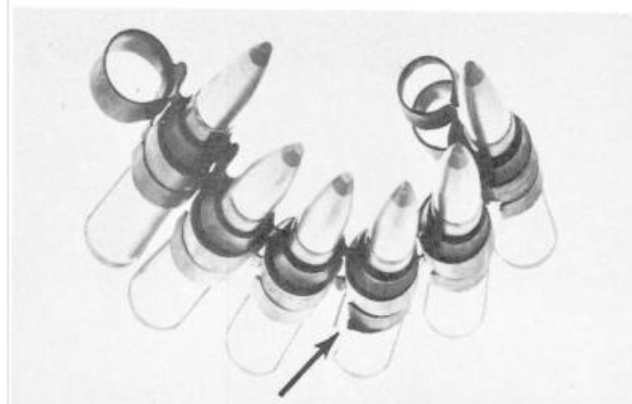
Malformed body ring. Could be critical, depending on degree of distortion.



B – Unacceptable –

Pronounced malformation

Body ring. Bent neck ring.



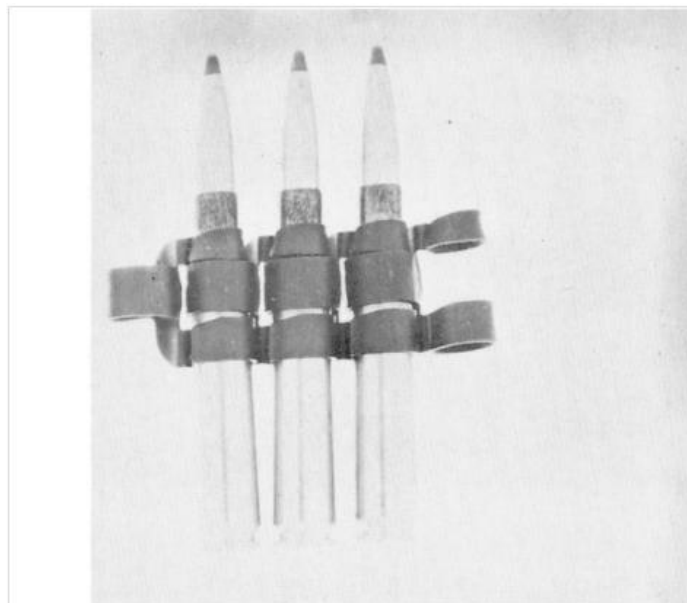
C – Unacceptable –

Pronounced malformation

Body ring. Bent neck ring.

FIGURE A-52. Metallic linked belt package defect #8 – malformed link(s) – pronounced.

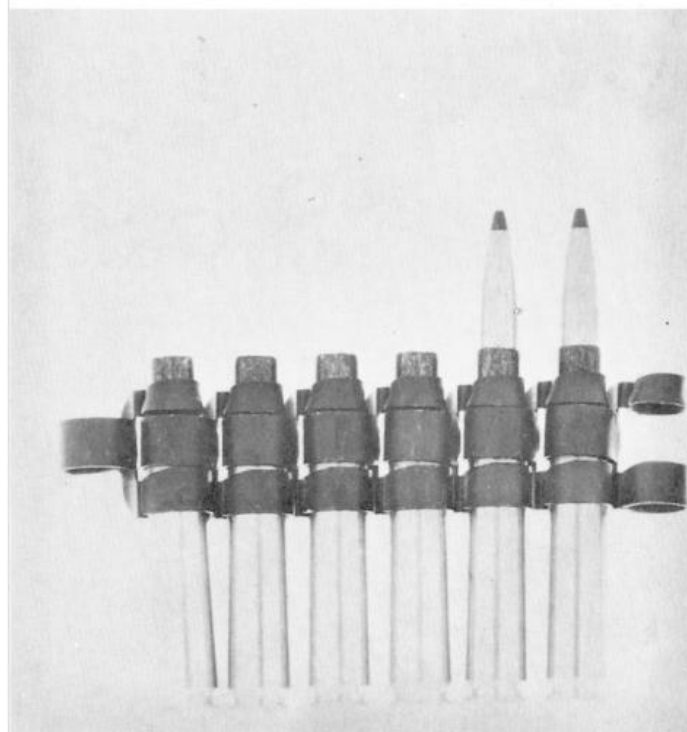
MIL-STD-644B  
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A – Acceptable –

Improper depth

Satisfactory shouldering of cartridges shown for comparison. (See below).



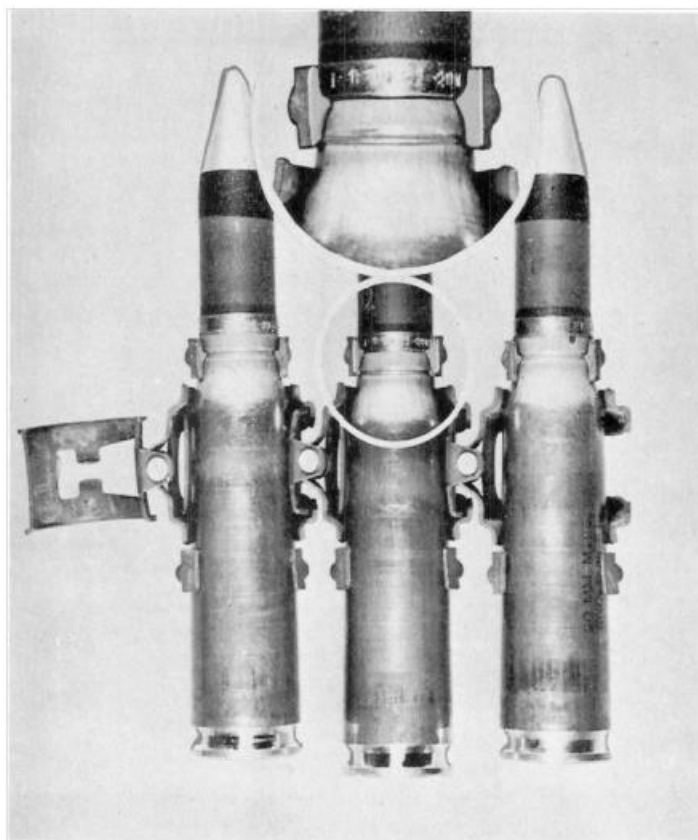
B – Unacceptable –

Improper depth

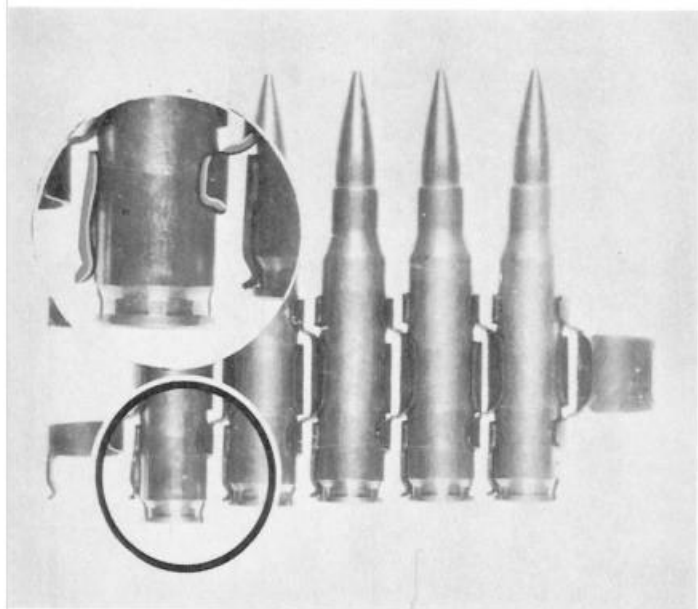
Cartridges not shouldered against neck ring.

FIGURE A-53. Metallic linked belt package defect #11 – improper depth of insertion of cartridges in link(s).

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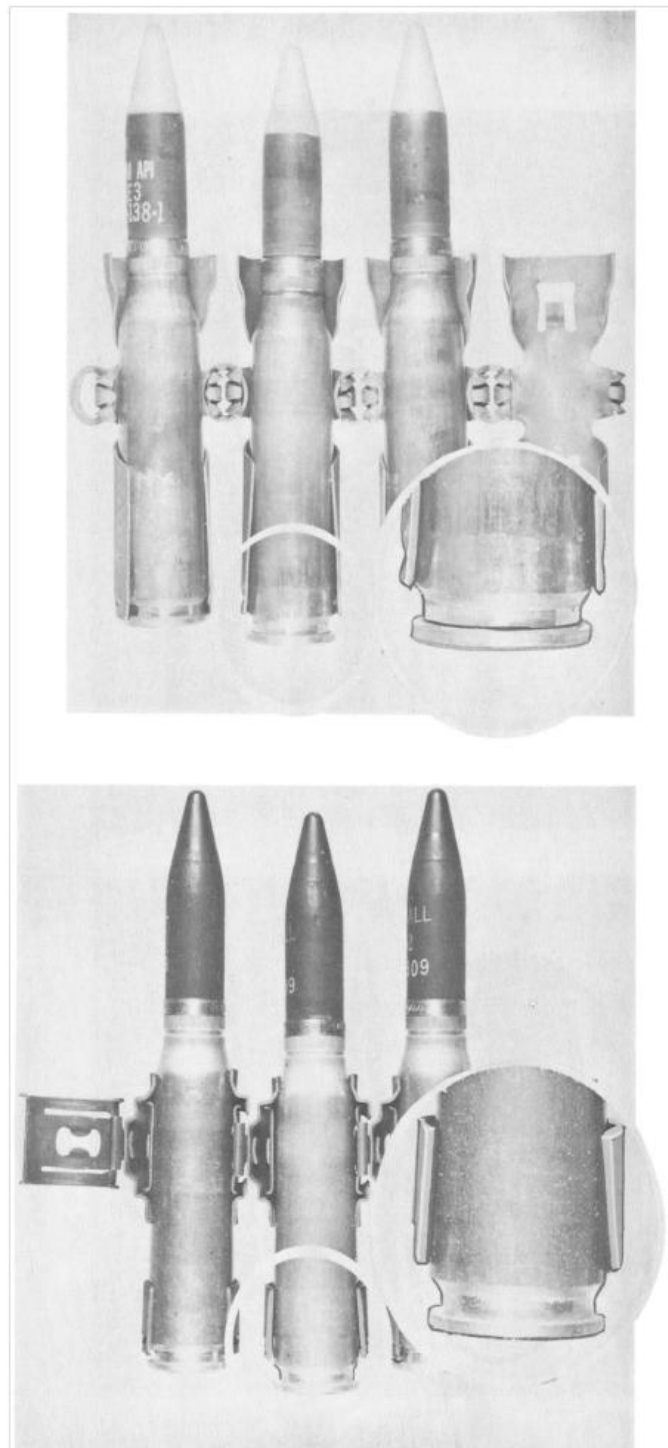
A – Unacceptable –  
Improper depth  
Link detent not in extractor groove.



B – Unacceptable –  
Improper depth  
Link detent not in extractor groove.

FIGURE A-54. Metallic linked belt package defect #11 – improper depth of insertion of cartridges in link(s).

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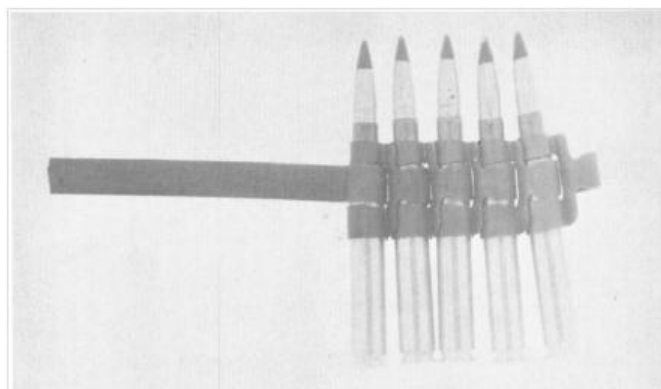


A – Unacceptable –  
Improper depth  
Link detent not in extractor groove.

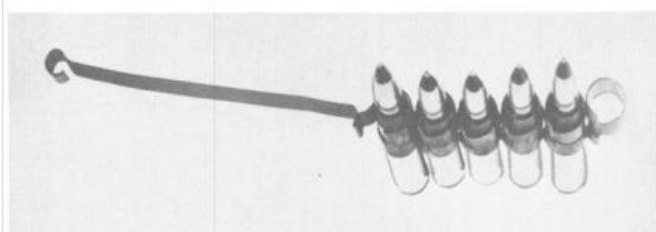
B – Unacceptable –  
Improper depth  
Link detent not in extractor groove.

FIGURE A-55. Metallic linked belt package defect #11 – improper depth of insertion of cartridges in link(s).

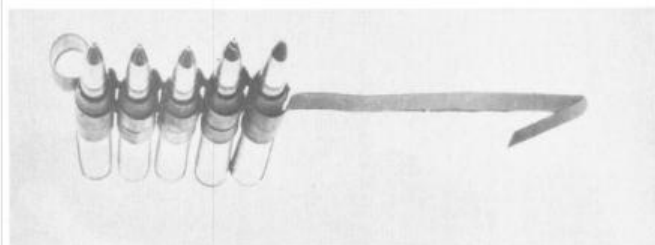
MIL-STD-644B  
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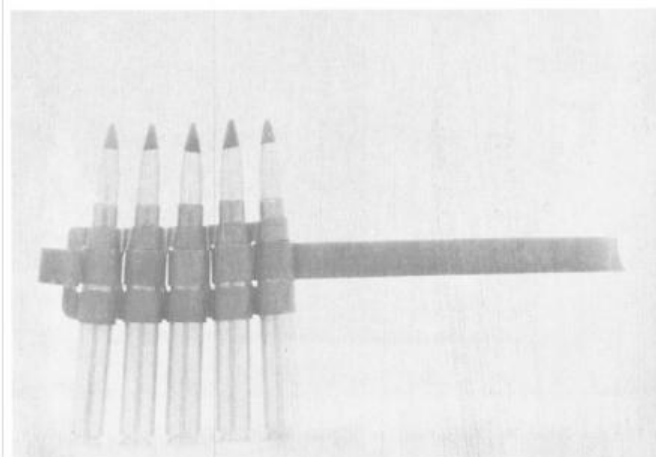
A – Unacceptable –  
Broken or malformed  
Broken.



B – Unacceptable –  
Broken or malformed  
Malformed.



C – Unacceptable –  
Broken or malformed  
Malformed.



D – Unacceptable –  
Broken or malformed.  
Broken.

FIGURE A-56. Metallic linked belt package defect #12 – missing, broken or malformed metallic belt end.



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A – Acceptable –

Flat Contact Points.

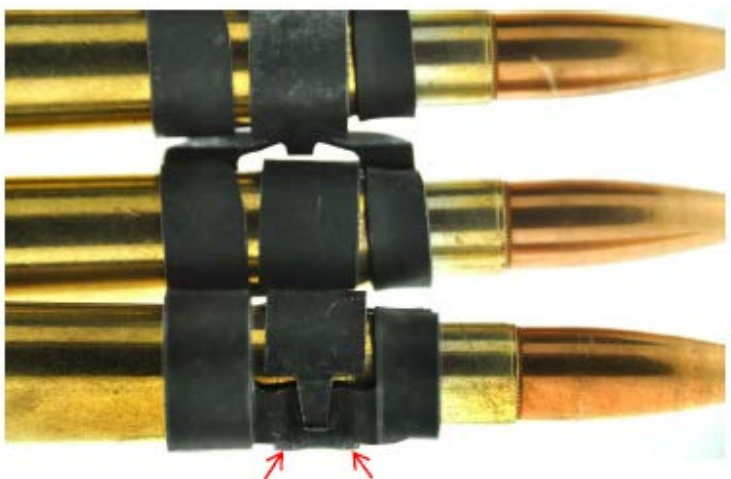
With last link of belt held with neck and body loops on a flat surface and hinged toward the observer, points contacting the surface are smooth and flat, containing no pointed edges. 1/



B – Acceptable –

Flat Contact Points.

With last link of belt held with neck and body loops on a flat surface and hinged toward the observer, points contacting the surface are smooth and flat, containing no pointed edges. 1/



C – Acceptable –

Rounded Contact Points

With last link of belt held with neck and body loops on a surface and hinged toward the observer, points contacting the surface are smooth and rounded, containing no pointed edges. 1/

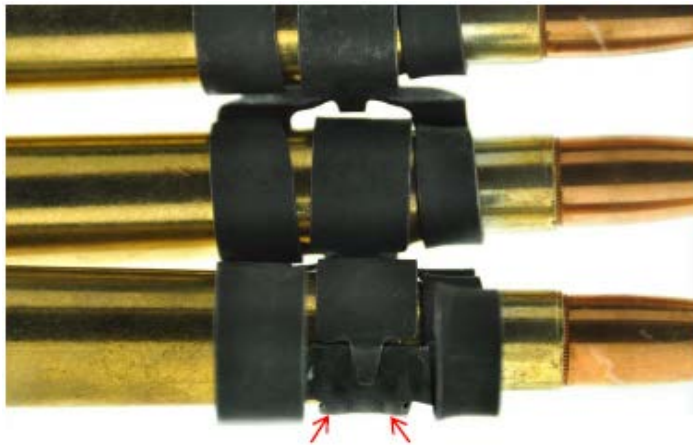
NOTES:

1/ Only apply for linked Cal .50 cartridges.

Figure A-57. Metallic linked belt package defect #13 – sharp contact points.



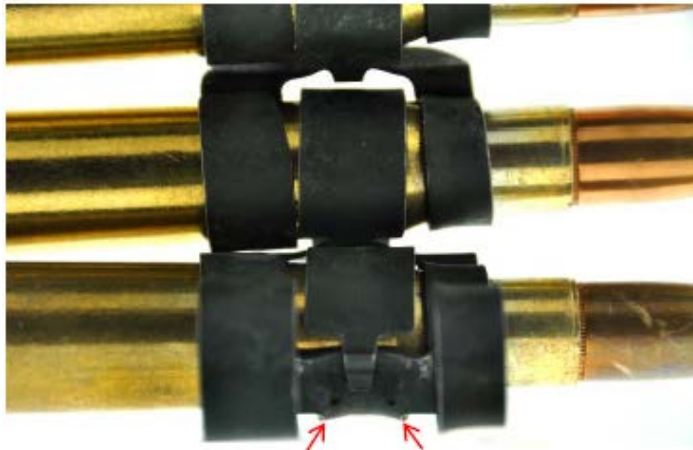
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D – Acceptable –

Rounded Contact Points

With last link of belt held with neck and body loops on a surface and hinged toward the observer, points contacting the surface are smooth and rounded, containing no pointed edges. 1/



E – Unacceptable –

Sharp Contact Points

With last link of belt held with neck and body loops on a flat surface and hinged toward the observer, points contacting the surface are pointed and sharp. 1/



F – Unacceptable –

Sharp Contact Points

With last link of belt held with neck and body loops on a flat surface and hinged toward the observer, points contacting the surface are pointed and sharp. 1/

NOTES:

1/ Only apply for linked Cal .50 cartridges.

FIGURE A-57. Metallic Link Belt Package Defect #13 – Sharp Contact Points – Continued.

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A – Acceptable –

Single marking

Any pocket.

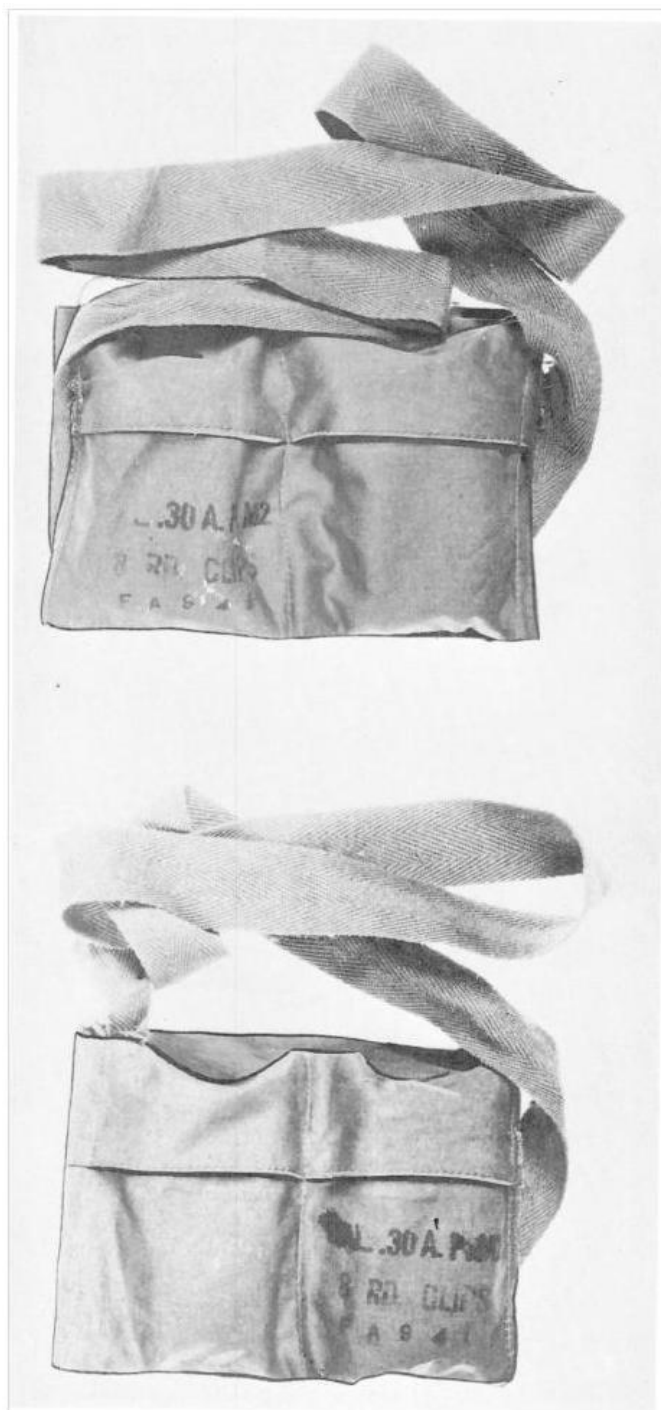
B – Acceptable –

Single marking

Inverted identification, if legible.

FIGURE A-58. Bandoleer package defect #1 – incorrect or illegible identification of bandoleer contents.

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A – Acceptable –

Illegible identification

Partially illegible but identification of contents is positive.

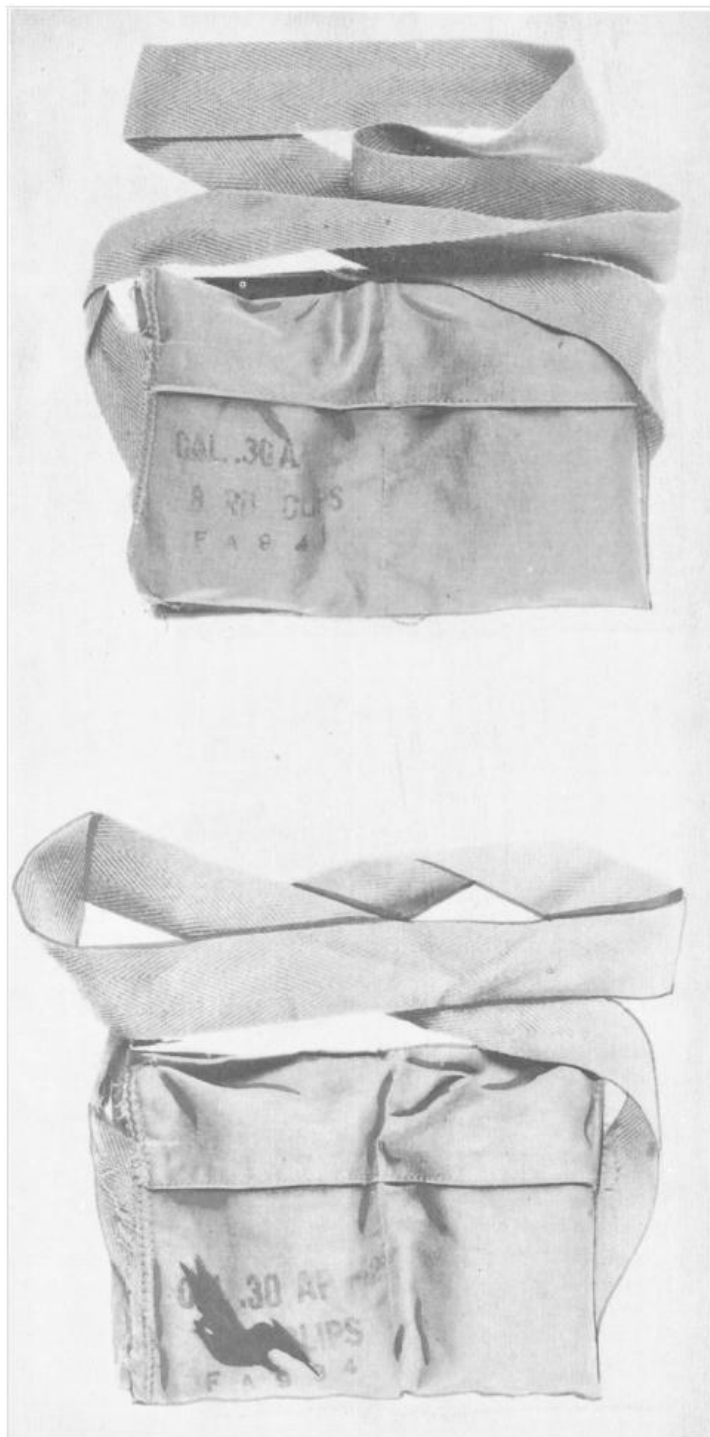
B – Acceptable –

Illegible identification

Marking smeared but identification of contents is positive.

FIGURE A-59. Bandoleer package defect #1 – incorrect or illegible identification of bandoleer contents.

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A – Unacceptable –

Illegible identification

When marking pattern is not legible or identifiable on one or more pockets.

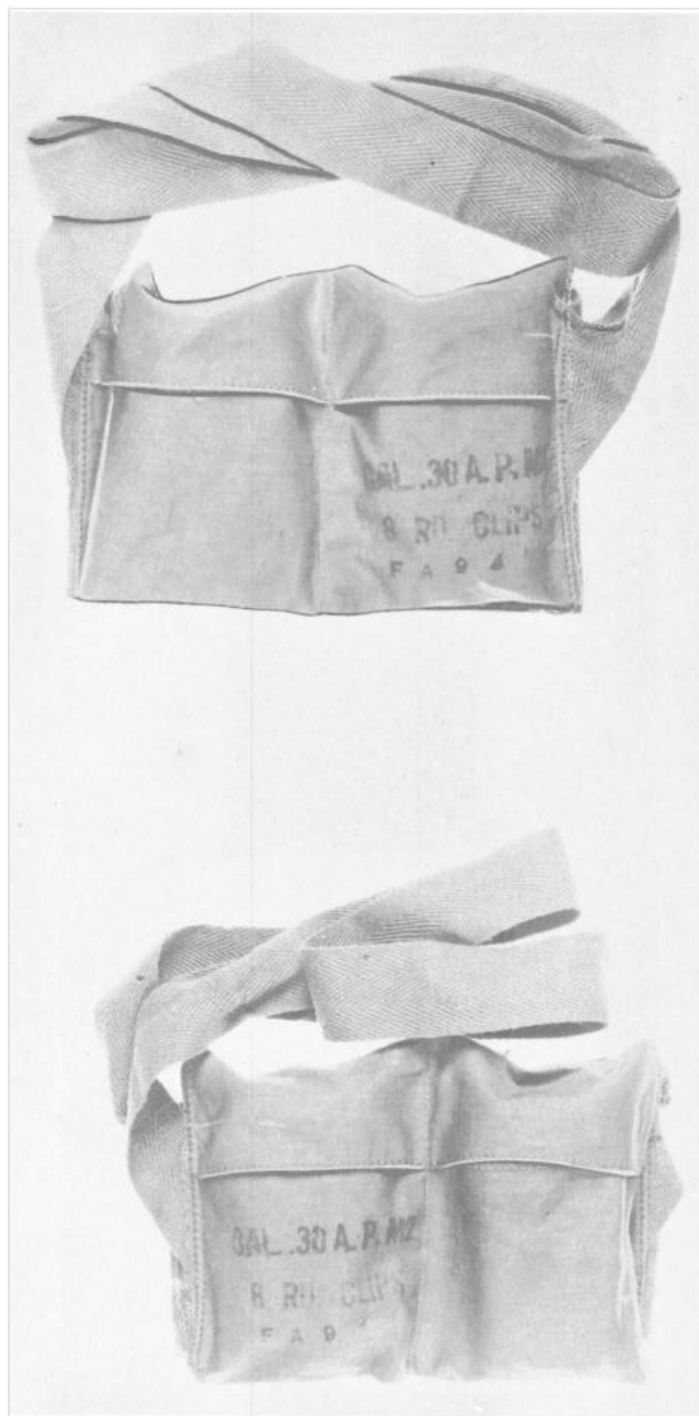
B – Unacceptable –

Illegible identification

Marking smeared, not identifiable.

FIGURE A-60. Bandoleer package defect #1 – incorrect or illegible identification of bandoleer contents.

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A – Acceptable –

Illegible identification

Partially illegible but identification of contents is positive.

B – Unacceptable –

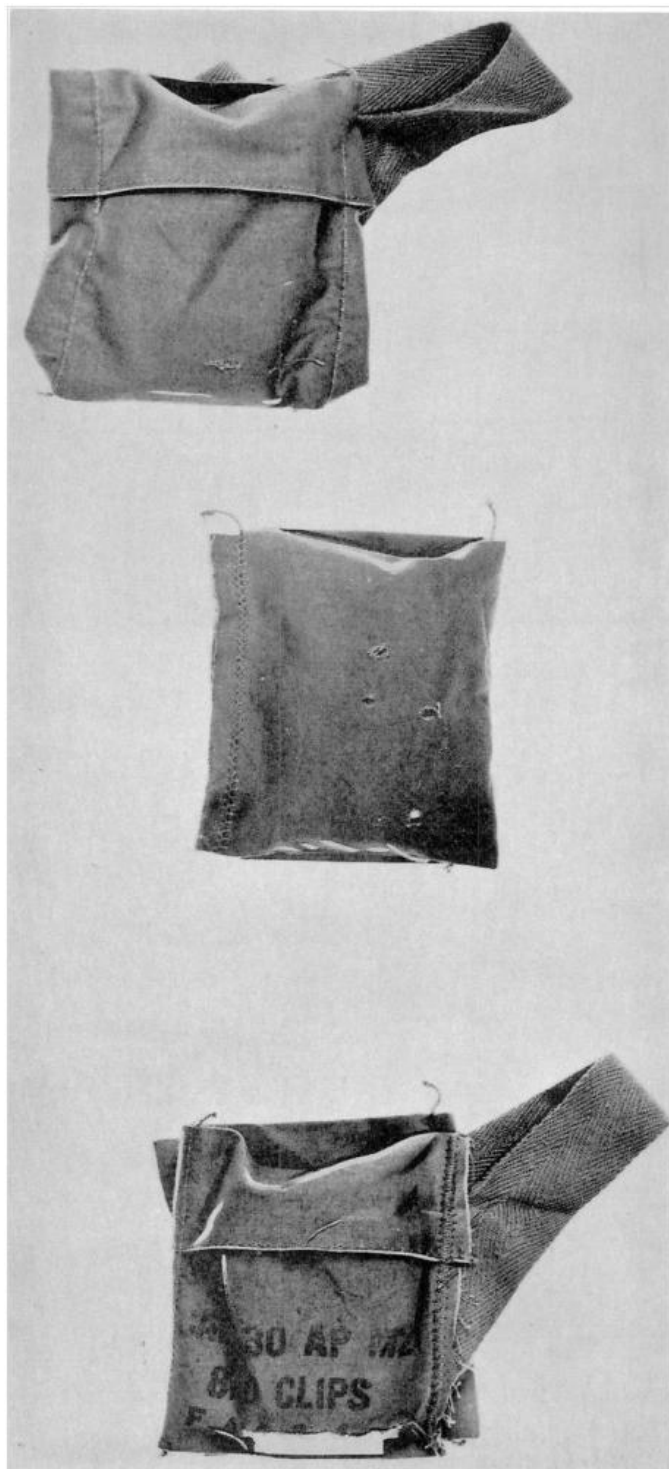
Illegible identification

Marking smeared, not identifiable.

FIGURE A-61. Bandoleer package defect #2 – incorrect illegible or missing ammunition lot number.



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A – Acceptable –

Torn pocket or flap

When torn one-quarter inch or less in length.

B – Acceptable –

Torn pocket or flap

Holes front or back.

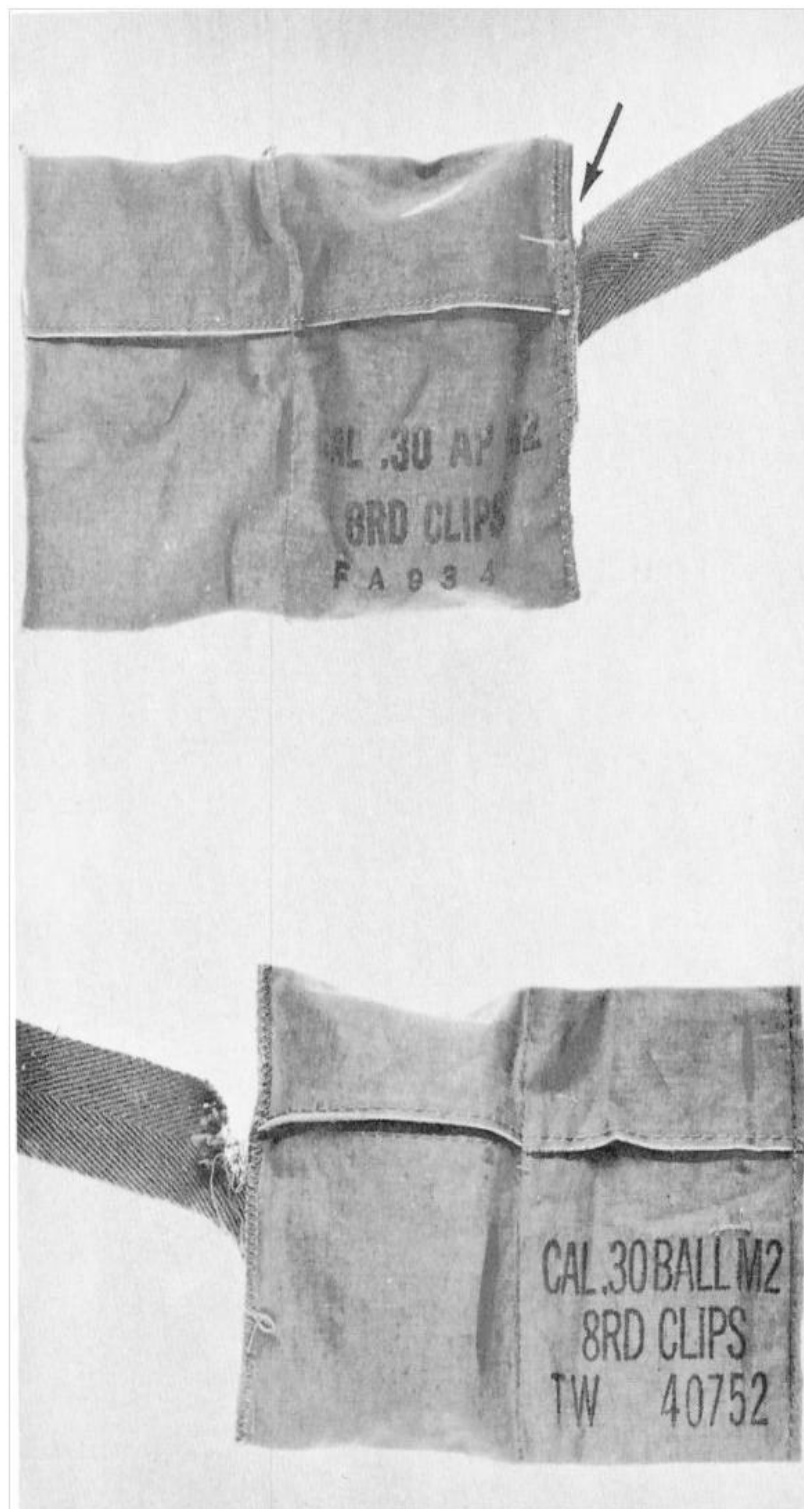
C – Unacceptable –

Torn pocket or flap

When more than one-quarter inch in length is torn.

FIGURE A-62. Bandoleer package defect #3 – torn, ripped or otherwise defective bandoleer.

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A – Acceptable

Torn strap

When torn one-eighth inch or less in length

B Unacceptable

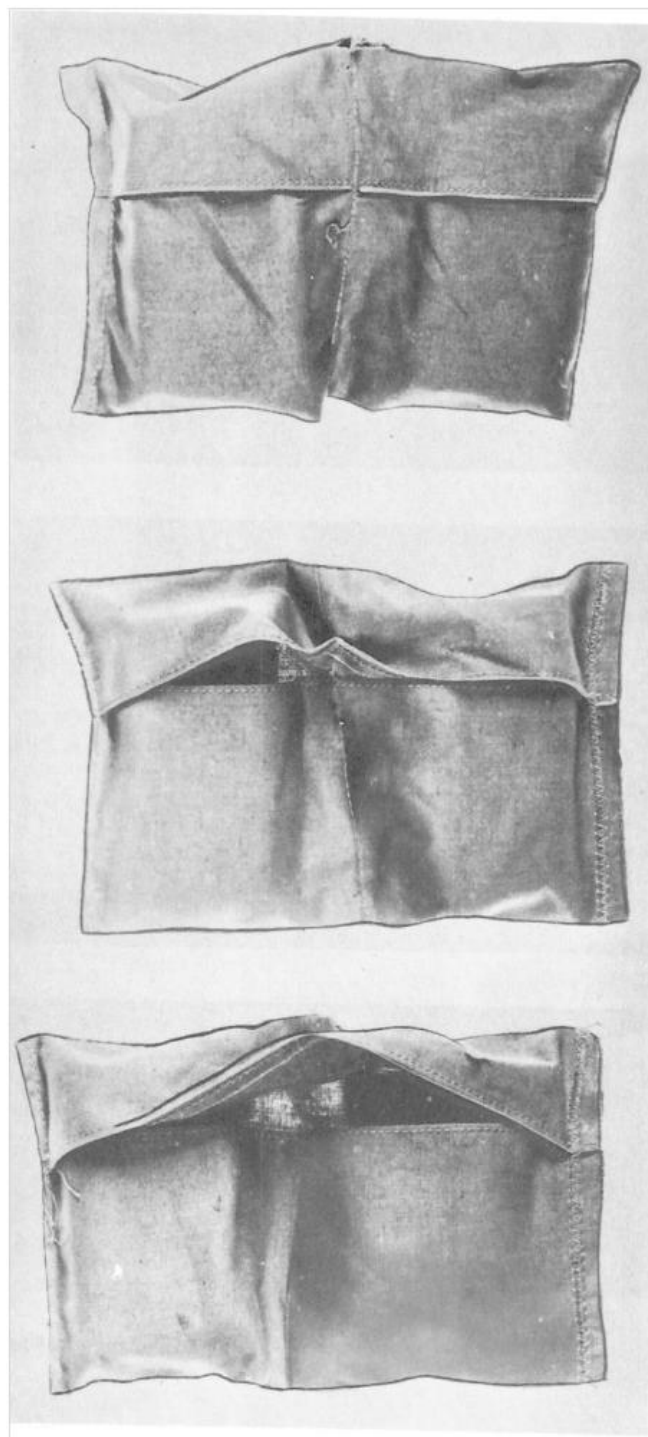
Torn strap

When torn more than one-eighth in length.

FIGURE A-63. Bandoleer package defect #3 – torn, ripped or otherwise defective bandoleer.



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w/CHANGE 2  
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A – Acceptable –

Stitching

Loose thread ends.

B – Acceptable –

Stitching

When torn out or missing not more than one-half inch.

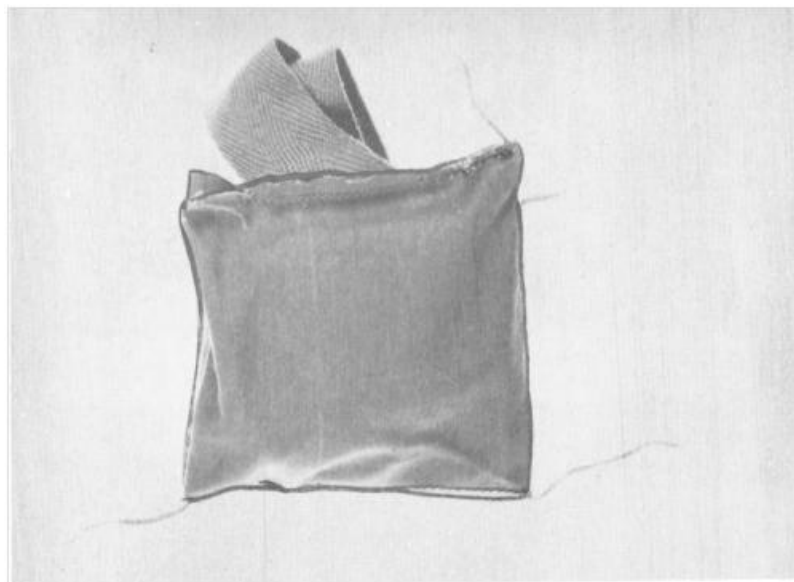
C – Unacceptable –

Stitching

When torn out or missing more than one-half inch.

FIGURE A-64. Bandoleer package defect #3 – torn, ripped or otherwise defective bandoleer.

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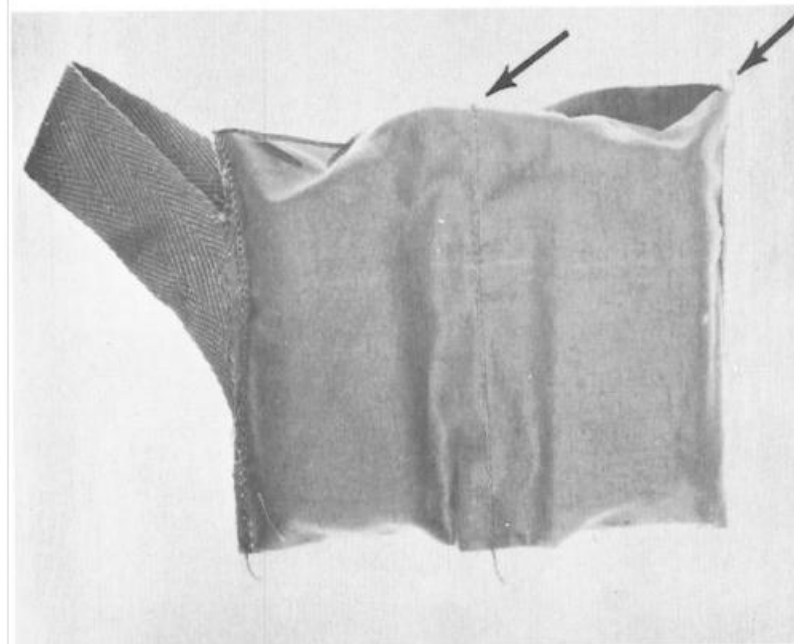


A – Acceptable –

Stitching extension of end or pocket

Type 401 stitch.

When long or more than one-half inch.



B- Unacceptable –

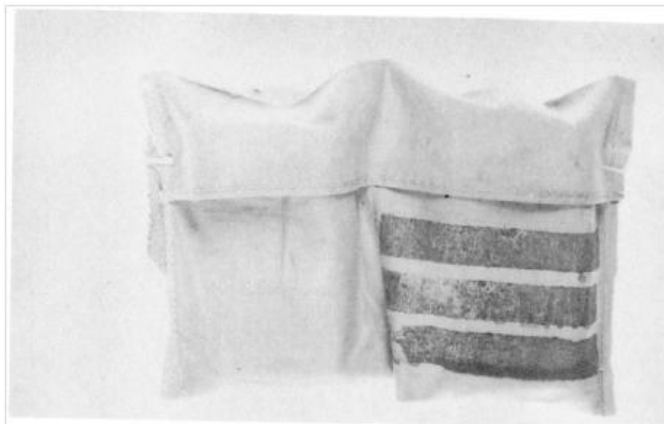
Stitching extension of end or pocket

Type 401 stitch.

When short or less than one-quarter inch.

FIGURE A-65. Bandoleer package defect #3 – torn, ripped or otherwise defective bandoleer.

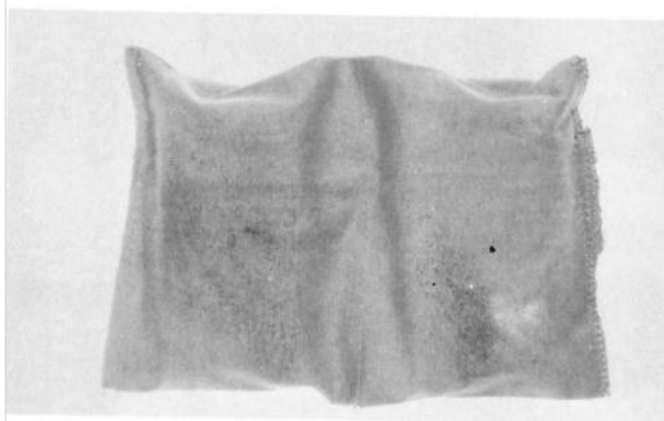
MIL-STD-644B  
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A – Acceptable –

Oil, grease, dirt or other foreign material

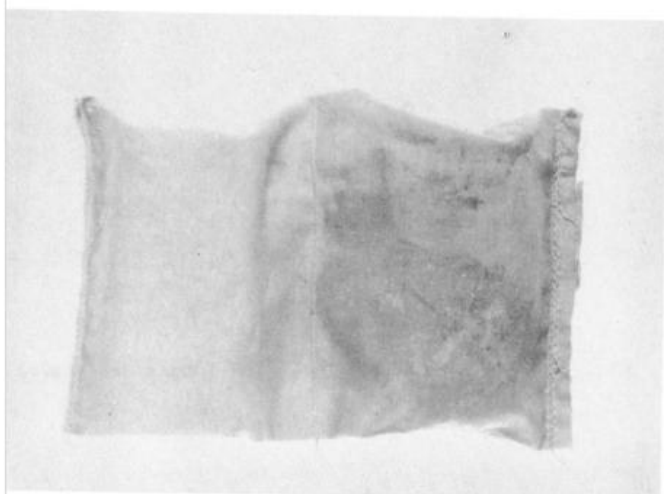
Cancelled stenciling.



B – Acceptable –

Oil, grease, dirt or other foreign material.

Soiled.



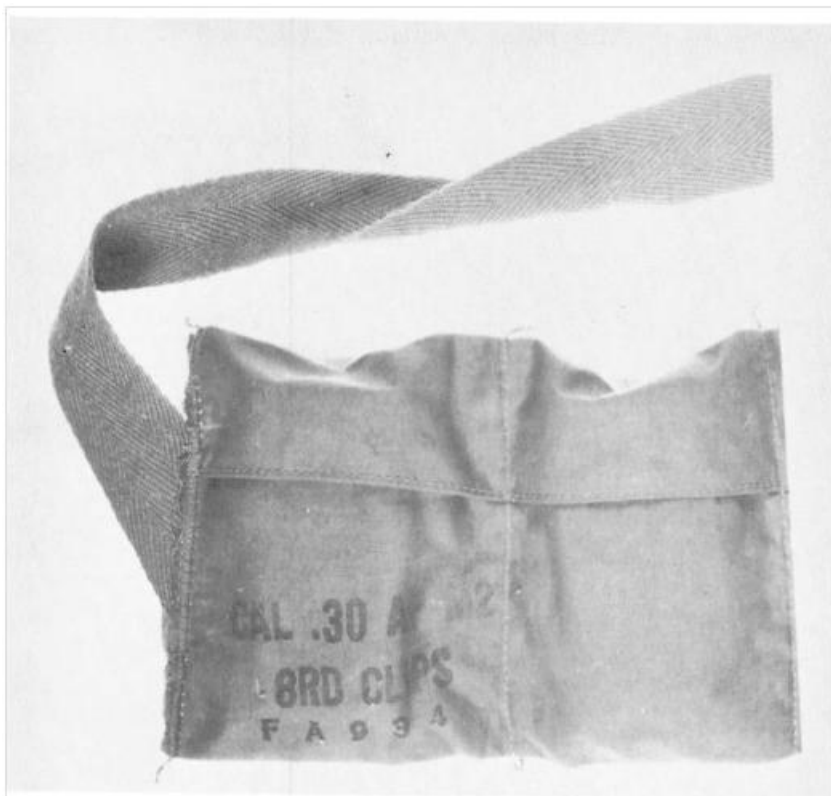
C – Unacceptable –

Oil, grease, dirt or other foreign material.

Oil or grease.

FIGURE A-66. Bandoleer package defect #3 – torn, ripped or otherwise defective bandoleer.

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A – Acceptable –

Miscellaneous

One-half twist

Note. Twisting exceeding  
one-half inch is not  
acceptable.



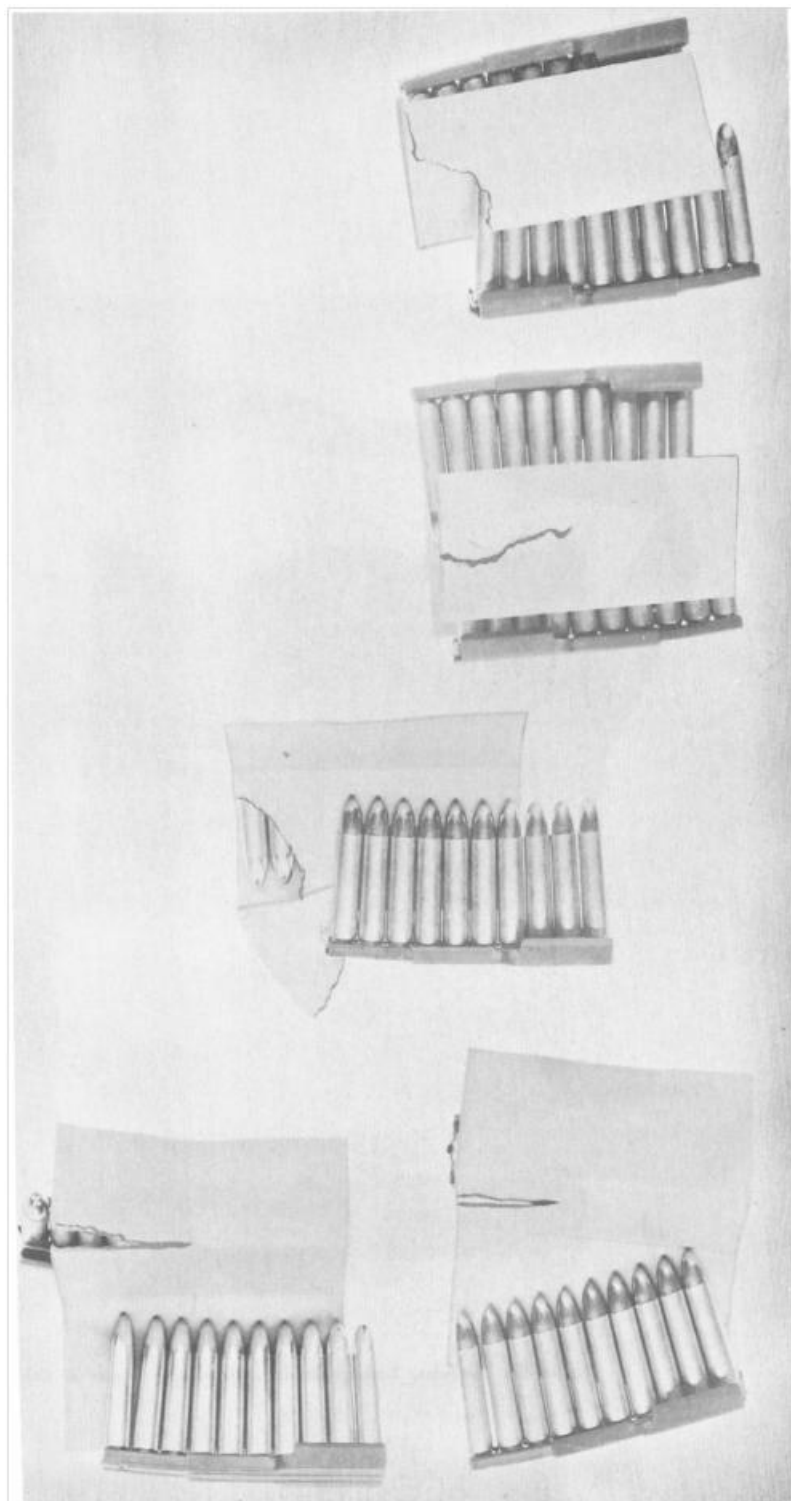
B – Unacceptable –

Miscellaneous

Defective weave.

FIGURE A-67. Bandoleer package defect #3 – torn, ripped or otherwise defective bandoleer.

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A – Acceptable –

Torn

Folded back or missing portion  
one square inch or less in area,  
outer panel.

B – Acceptable –

Torn

When two inch or less in length  
is torn on outer panel

C – Unacceptable –

Torn

When folded back or missing  
portion exceeds one-half square  
inch in area, separation panel.

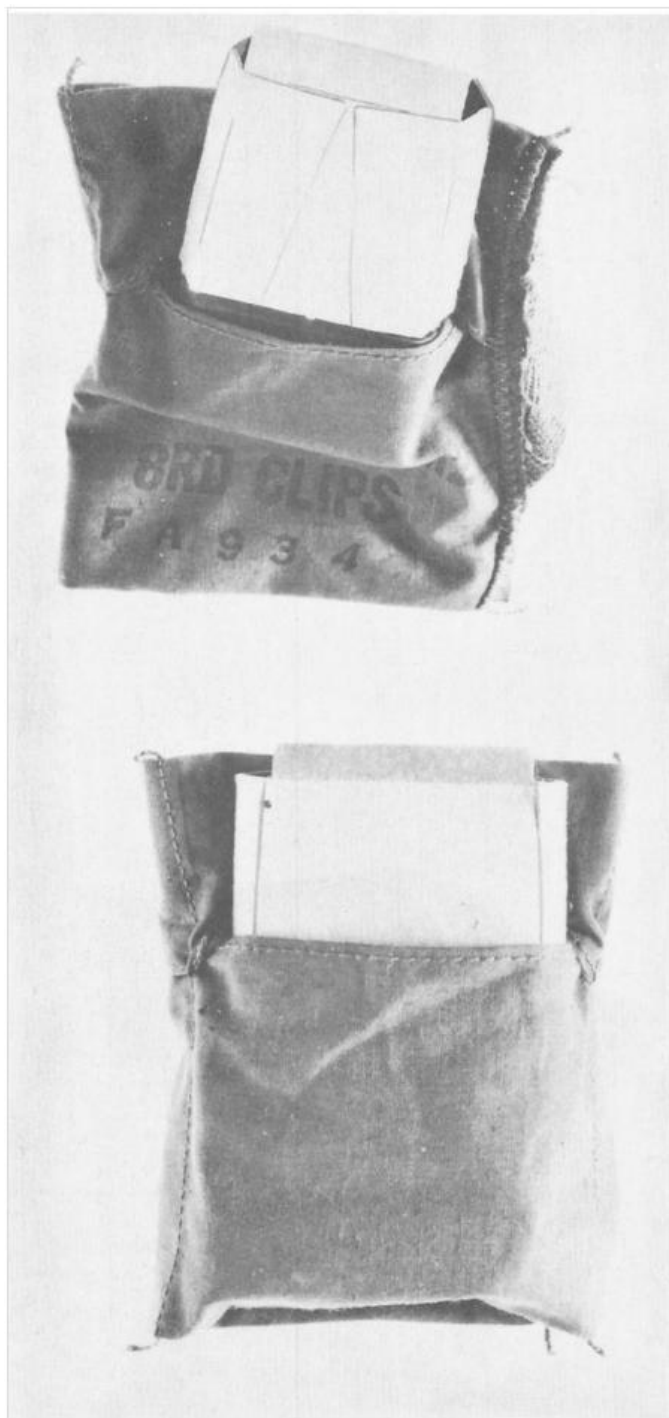
D – Unacceptable –

Torn

When torn edge exceeds one  
inch in length.

FIGURE A-68. Bandoleer package defect #7 – missing or improper fillers or separators.

MIL-STD-644B  
w/CHANGE 2  
APPENDIX A



A – Acceptable –

Miscellaneous

Improper insertion in pocket.

B – Acceptable –

Miscellaneous

Improper insertion in pocket.

FIGURE A-69. Bandoleer package defect #8 – improper packaging of clipped ammunition in bandoleers.



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w/CHANGE 2  
APPENDIX A



A – Unacceptable –  
Miscellaneous  
When clip shoes are not alternated.

B – Unacceptable –  
Miscellaneous  
Improper use of filler.

FIGURE 70. Bandoleer package defect #8 – improper packaging of clipped ammunition in bandoleers.



MIL-STD-644B  
w/CHANGE 2

Custodians:

Army—AR  
Navy—OS  
Air Force-170

Preparing Activity:

Army-AR  
(Project # 1305-2018-095)

Review activities:

Army- AV, MI, MR  
Navy- AS, MC, SH  
Air Force- 69

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>