

MIL-STD-636

5 June 1958

MILITARY STANDARD

VISUAL INSPECTION STANDARDS

FOR

SMALL ARMS AMMUNITION THROUGH

CALIBER .50



FOREWORD

This standard was prepared under the direction of the Office, Chief of Ordnance, to be used to supplement specifications for small arms ammunition through caliber .50. It replaces the following publication on the same subject: ORD-SIP-S315, 1 January 1952.

This publication serves to create a military standard which evaluates and illustrates a practical majority of defects assembled as a result of extensive surveys covering all the small arms ammunition manufacturing facilities in this country.

The format retains most of the features of the format of the publication it replaces because experience has proved that the numbering of illustrations to conform to the numbering of visual defects in the applicable detail specifications, special treatment of indexes and specialized grouping have served to facilitate inspection, training, and general use.

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1. SCOPE AND PURPOSE

1.1 Scope. This standard provides procedures for determining and evaluating defects in small arms ammunition up to and including caliber .50, and the standard shall be used as a supplement to pertinent specifications.

1.2 Purpose. The purpose of this standard is to—

- (a) Provide a standard basis for the inspection of small arms ammunition at the various manufacturing facilities.
- (b) Serve as an instruction manual in the training of personnel engaged in the manufacture and inspection of small arms ammunition.

2. REFERENCED DOCUMENTS

2.1 Standards.

MIL-STD-105—Sampling Procedures and Tables for Inspection by Attributes.

3. DEFINITIONS

3.1 General. Definitions of Standard MIL-STD-105 are applicable.

3.2 Specific. For the purpose of this standard the following definition shall apply:

3.2.1 Permissible defect. A condition which, though not desirable from an appearance standpoint, may be permitted for reasons of economy.

4. GENERAL REQUIREMENTS

4.1 General. The description and definitions of defects established in this standard are those commonly occurring. Any other defects not listed, present in the lot, shall be reported. If, in the opinion of the Government inspector, the other defects be serious, complete information, recommendations and request for disposition shall be submitted through proper channels.

5. DETAIL REQUIREMENTS

5.1 Defect grouping. For convenience in referencing, the defect lists and defect photographs are grouped as follows:

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LIST OF DEFECTS

CALIBER .30

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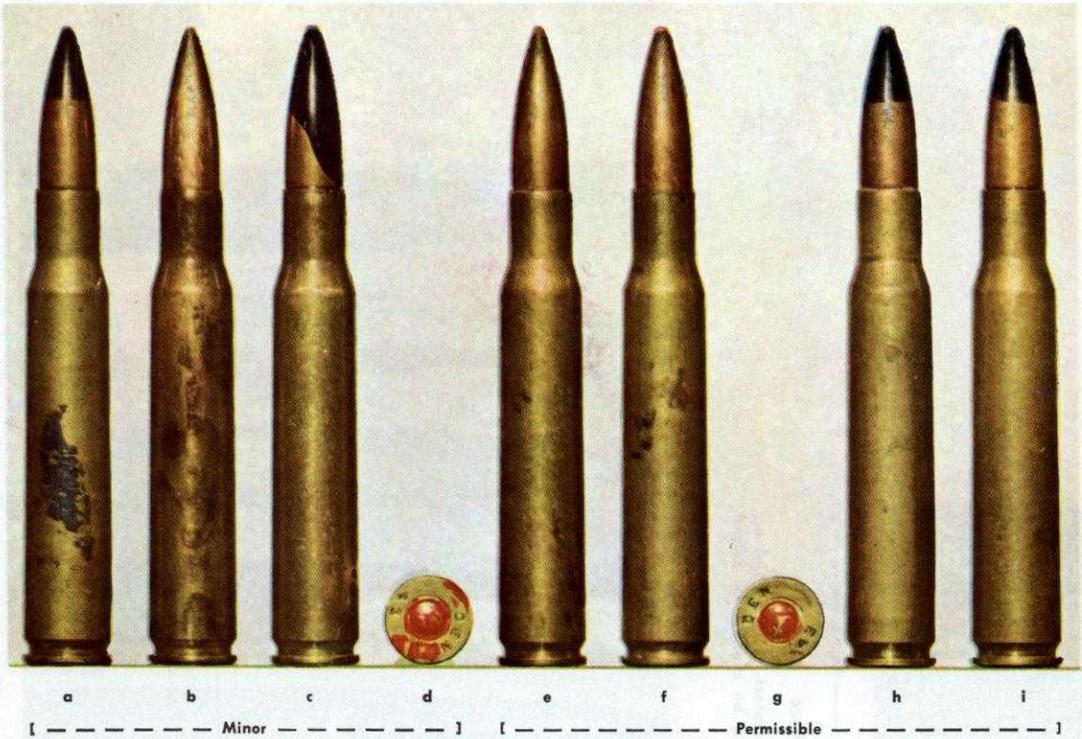
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No. 1. Discolored, Dirty, Oily, Smear'd (waterproofing)

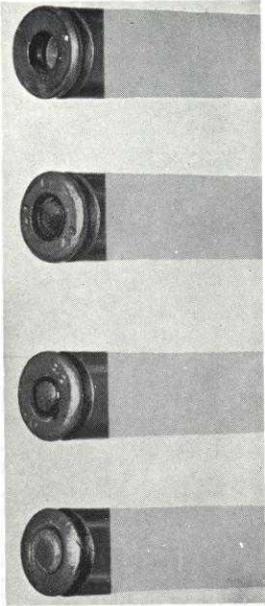
- | | | |
|----------------------|-----------------------------|-----------------------------|
| (a) } Smear'd | (d) } Smear'd Primer Water- | (g) } Smear'd Primer Water- |
| (b) } Identification | proofing. | proofing. |
| (c) } Paint. | (e) } Dirty Cartridge | (h) } Dirty Cartridge |
| | (f) } Cases. | (i) } Cases. |



No. 2. Corroded or Stained

Where etching appears in stained areas, local or general, the cartridge will be classified as a major defective.

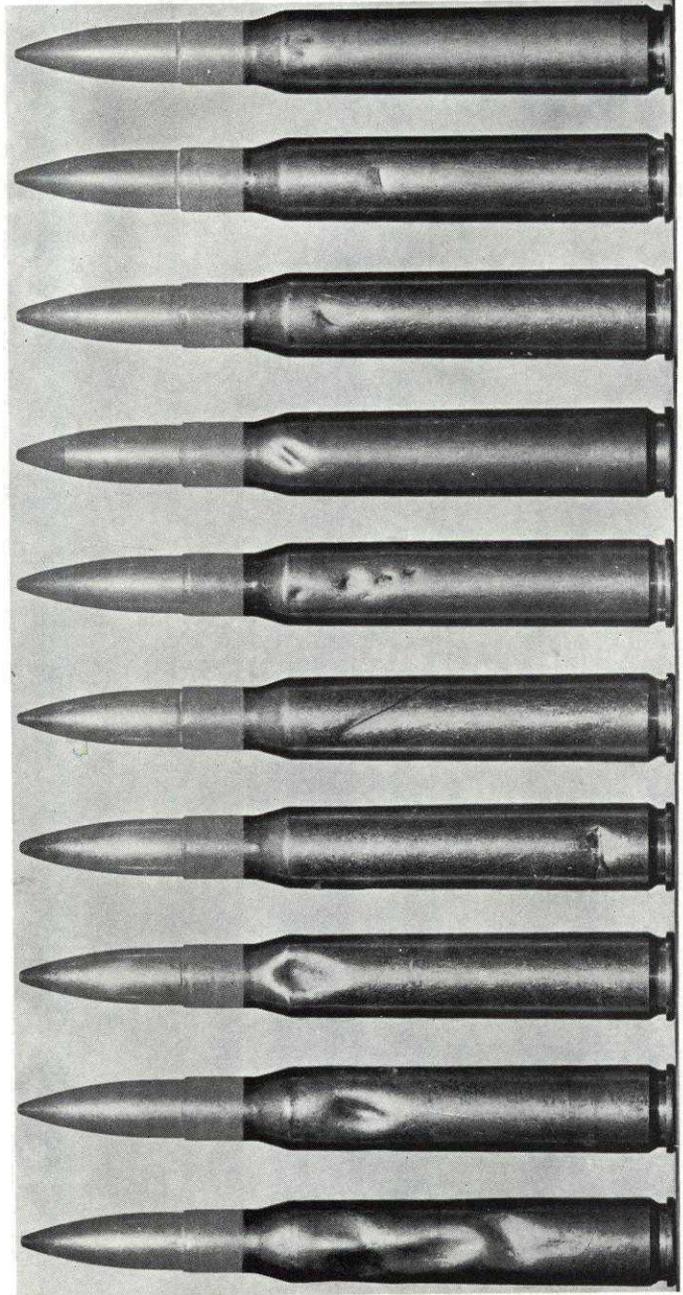
No. 3. Mixed Ammunition Types (Not illustrated). Critical, Major, or Minor depending on types mixed. See detail specification. (Also includes incorrect or poor identification.)



[- - - Major - - -] [- - - Permissible - - -]

No. 4. Round Head

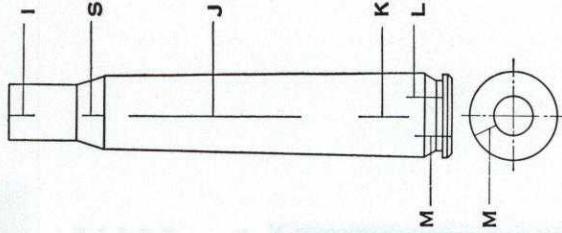
Cartridges having excessive head chamfers at any point on the circumference of the head are to be counted as Round Heads.



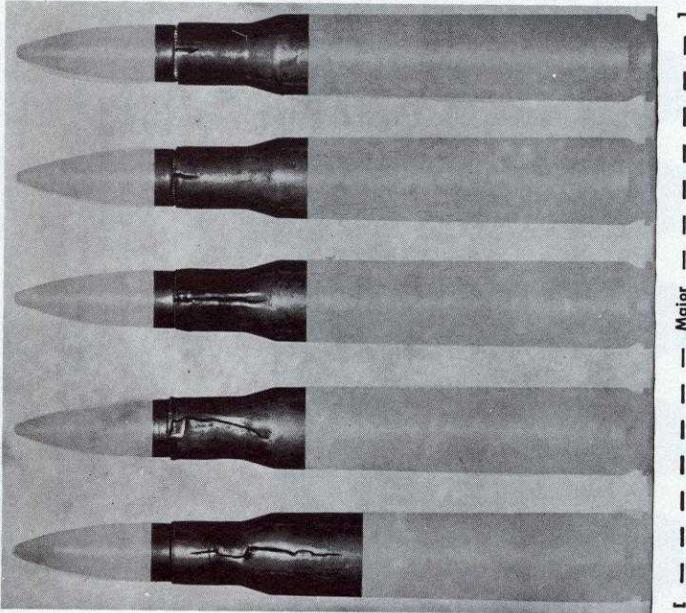
[- - - Major - - -] [- - - Major - - -] [- - - Major - - -] [- - - Major - - -] [- - - Major - - -] [- - - Major - - -] [- - - Major - - -] [- - - Major - - -] [- - - Major - - -] [- - - Permissible - - -]

No. 5. Dent (case)

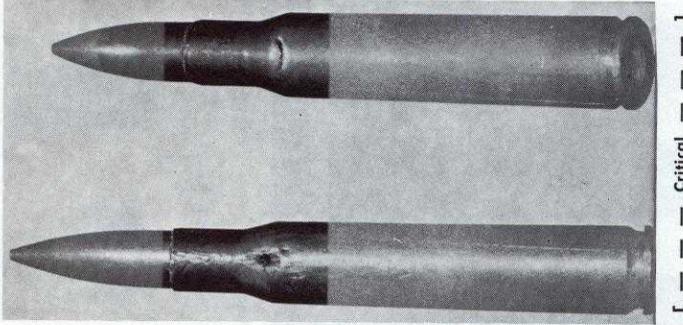
A cartridge is to be counted as a defective because of a split case if the cartridge case shows a definite separation of the metal entirely through the case wall.



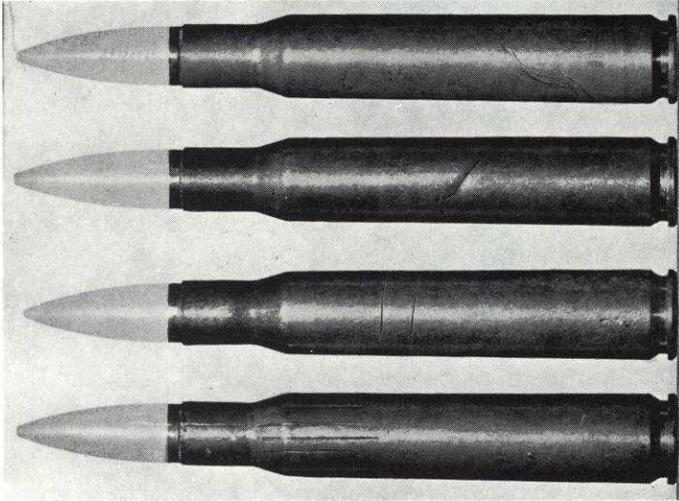
A cartridge is to be classified either as a "major" or "critical" defective depending on location of split. A split in the (I), (S) or (J) position shall be counted as a "major" defect when no loss of powder occurs; and as a "critical" defect when loss of powder occurs. A split in the (K), (L), or (M) position shall be counted as a "critical" defect.



No. 6. Split Case

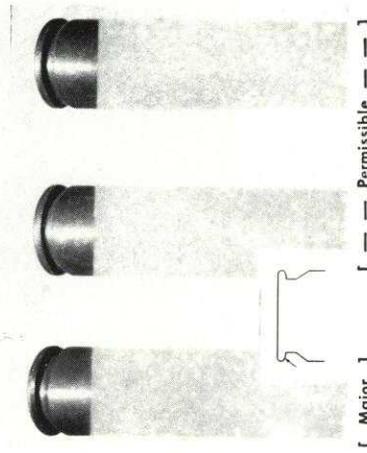


No. 7. Perforated Case



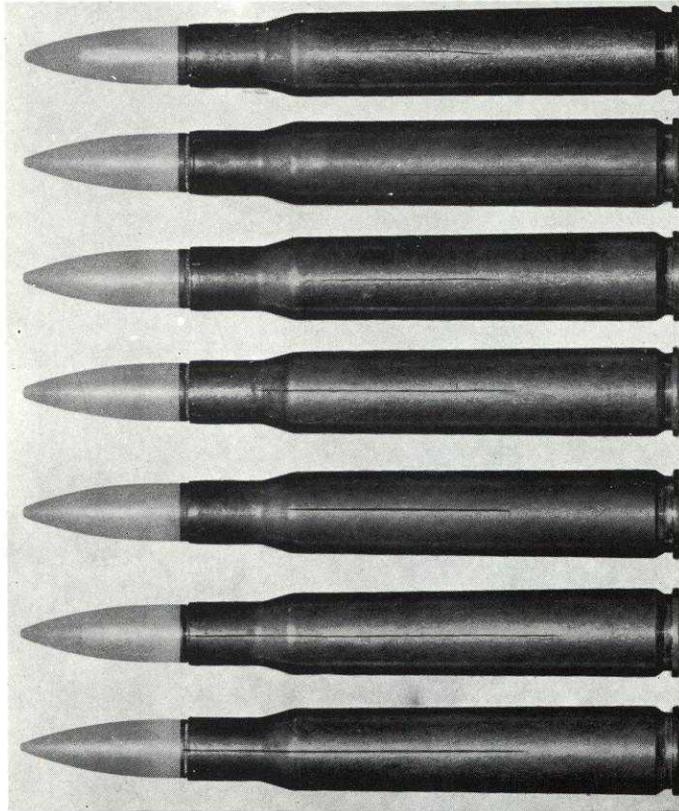
[--- Major ---] [--- Minor ---] [Permissible]

No. 9. Scratch (case)



[Major] [--- Permissible ---]

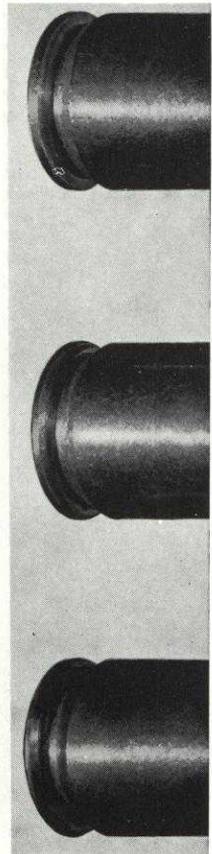
No. 10a. Beveled Underside of Head (normal size).



[--- Major ---] [--- Minor ---] [--- Permissible ---]

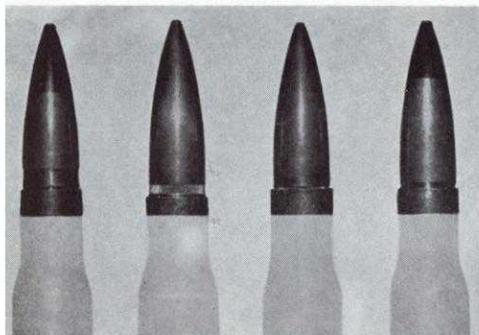
No. 8. Draw Scratch

The seriousness of a draw scratch is to be determined by the depth, location and shape of the scratch. Draw scratches which cannot be detected by the finger nail are permissible. Draw scratches which CAN be detected by the finger nail but do not extend into the neck section are to be counted as minor draw scratches. Draw scratches which CAN be detected by the finger nail and extend into the neck section are to be counted as major draw scratches.



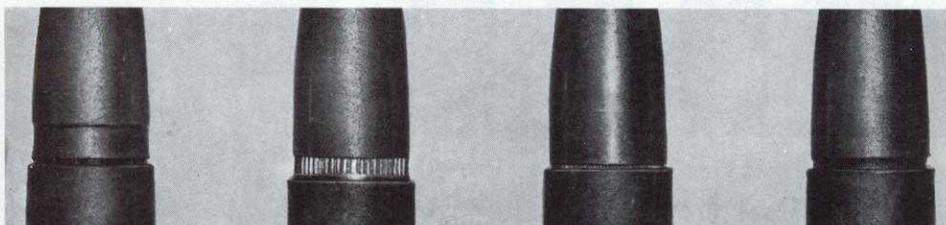
[Major ---] [--- Permissible ---]

No. 10b. Beveled Underside of Head (twice normal size)



[----- Major -----]

No. 11a. Case Mouth not Crimped in Cannelure



[----- Major -----]

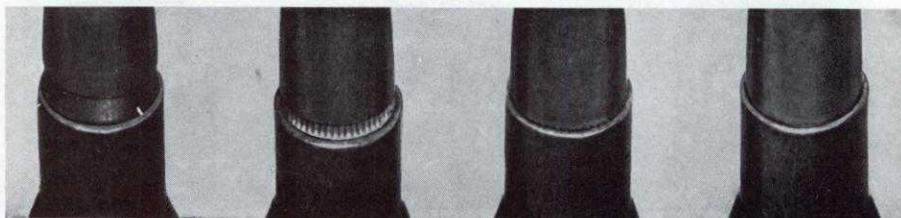
No. 11b. Case Mouth not Crimped in Cannelure (Twice normal size)

A cartridge is also to be counted as a defective because of case mouth not crimped in cannelure if the crimp does not extend around the entire circumference of the case mouth.



[----- Major -----]

No. 11c. Case Mouth not Crimped in Cannelure



[----- Major -----]

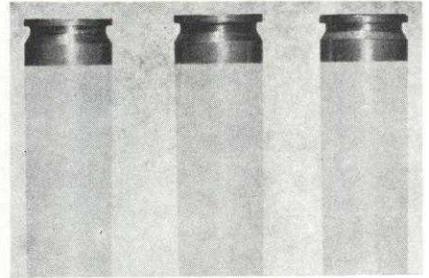
No. 11d. Case Mouth not Crimped in Cannelure
(Twice normal size inclined view)



[- - - - Major - - - -] [Minor] [Permissible]

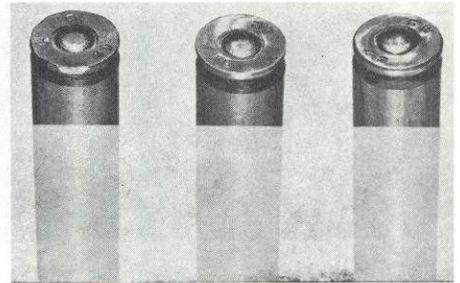
No. 12. Scaly Metal (case)

In classifying scaly metal cartridges, due consideration must be given to the depth as well as the area of the scale.



[- - Major - -] [Permissible]

No. 13a. No Chamfer on Head (rim)



[- - - Major - - -] [Permissible]

No. 13c. No chamfer on Head (rim)



[- - - - Major - - - -]

[- Permissible -]

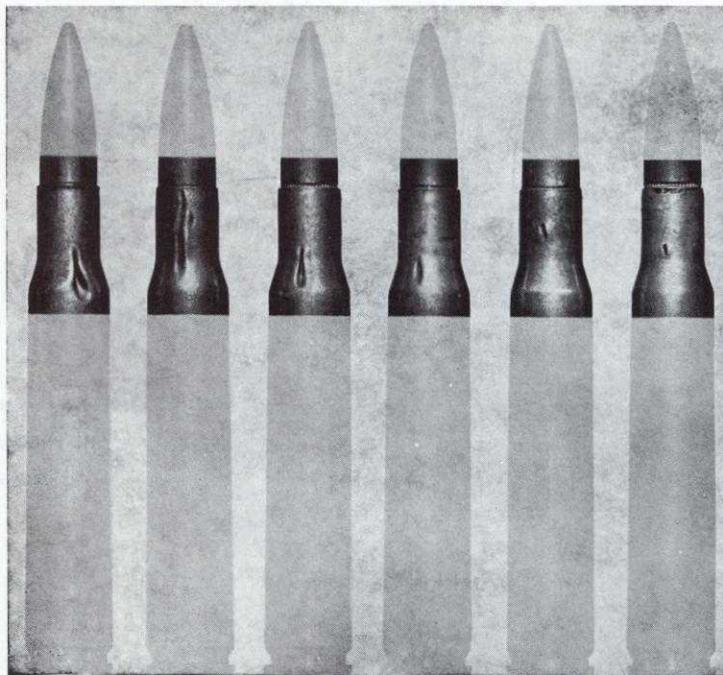
No. 13b. No Chamfer on Head (rim)
(Twice normal size)



[- - - - Major - - - -]

[- Permissible -]

No. 13d. No Chamfer on Head (rim) (Twice normal size, Inclined view)



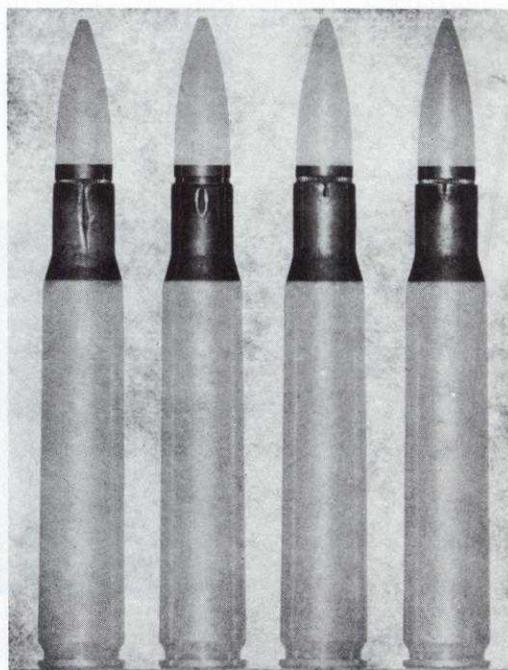
[--- Minor ---] [----- Permissible -----]

No. 14. Fold



[--- Minor ---] [Permissible]

No. 15. Wrinkle



[--- Minor ---] [Permissible]

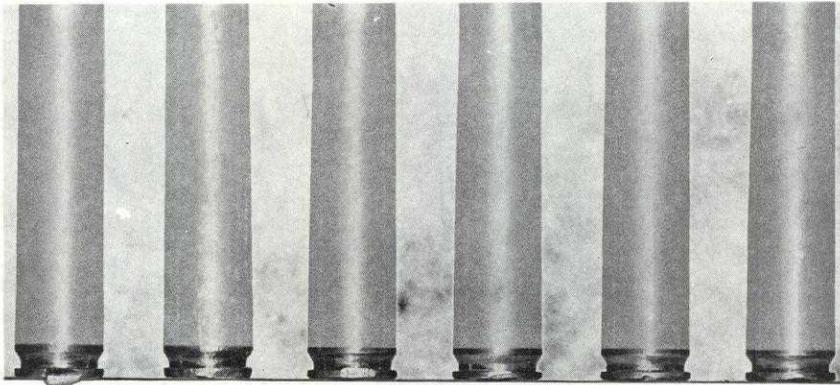
No. 16. Buckle



[- - - - - Permissible - - - - -]

No. 17. Bulge

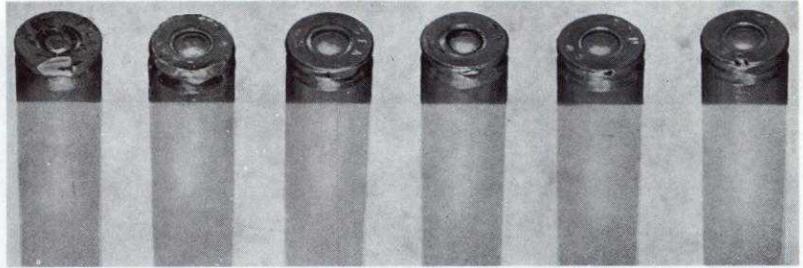
No. 18. Illegible or Missing Head Stamp
(Not illustrated)
Minor



[- - - - - Minor - - - - -]

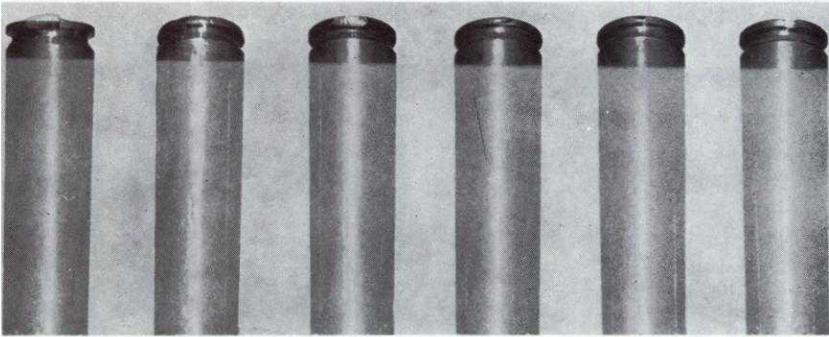
[- - - - - Permissible - - - - -]

No. 19a. Defective Head



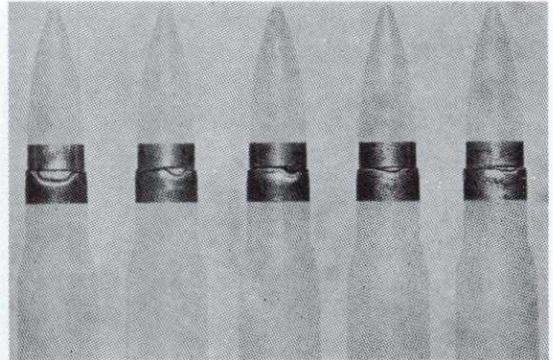
[- - - - - Minor - - - - -] [- - - - - Permissible - - - - -]

No. 19b. Defective Head



[- - - - - Minor - - - - -] [- - - - - Permissible - - - - -]

No. 19c. Defective Head



[- - - - - Minor - - - - -] [- - - - - Permissible - - - - -]

No. 20. Defective Mouth

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[— — Major — —] [— Permissible —]

No. 21. No Visible Evidence of Mouth Anneal

Gas Mouth and Neck Annealed Case
No Oxide Film Apparent — Major (see illustration)

Induction Mouth and Neck Annealed Case
No Visible Iris¹ — Major

¹ Doubtful cases to be decided by Rockwell 30T hardness reading of assembled cartridges taken on the case 1/8" from mouth. Absence of visible iris shall be considered a major defect if this hardness, when compared with the hardness taken on cartridges assembled with cases having visible evidence of mouth anneal, shows conclusively that the case has not been annealed.



[Minor] [— Permissible —]

No. 23. Scratch (bullet)



[— — — — Major — — — —]

No. 24. Split Bullet Jacket

A cartridge is to be counted as a defective because of a split bullet jacket if the jacket shows a definite separation of the metal so as to expose the core or slug.

No. 25. Loose Bullet (Not illustrated)
Major

A cartridge is to be counted as a defective because of a loose bullet if the bullet can be moved relative to the case by twisting, pushing or pulling while the cartridge is held in the hands.

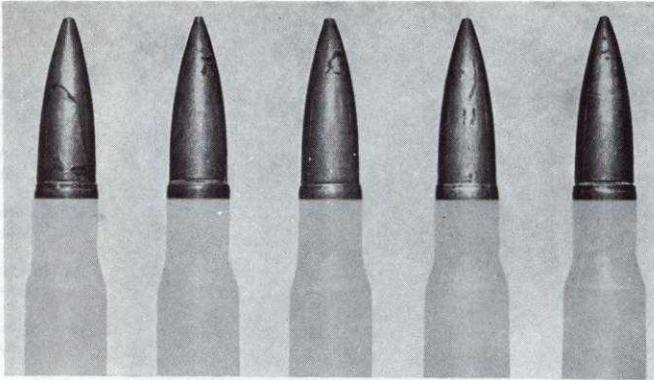
No. 26. Missing Cannelure (Not illustrated)
Major

The defect, missing cannelure, may be determined by pulling the bullet. However, the cartridge in question must not contain defect No. 11—Case Mouth not Crimped in Cannelure, wherein the case mouth is located above the cannelure (not illustrated).



[— — Minor — —] [— — — — Permissible — — — —]

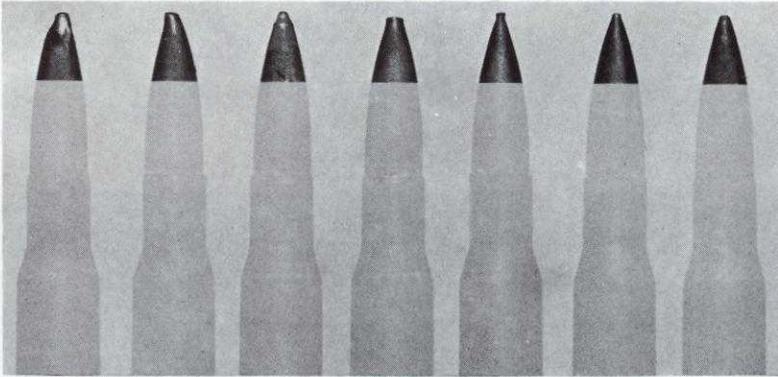
No. 22. Dent (bullet)



[Major] [— — Minor — —] [— — Permissible — —]

No. 27. Scaly Metal (bullet)

In classifying scaly metal cartridges, due consideration must be given to the depth as well as the area of the scale.



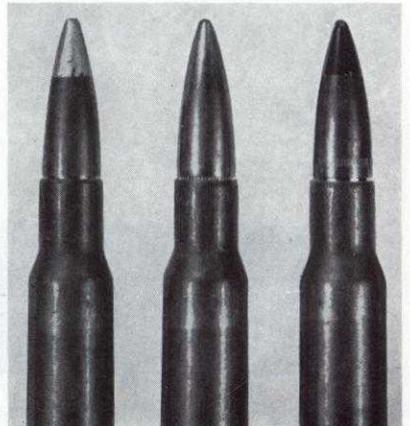
[— — — — — Minor — — — — —] [— Permissible —]

No. 28. Upset (crooked) Point



[— — — — — Minor — — — — —]

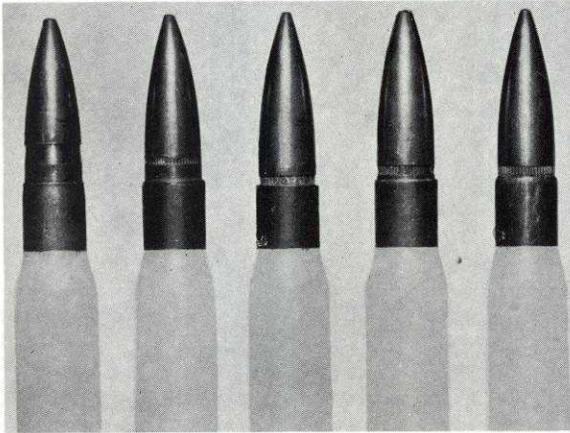
No. 29. Exposed Steel (clad jacket)



[— — — — — Permissible — — — — —]

No. 30. Blunt Point

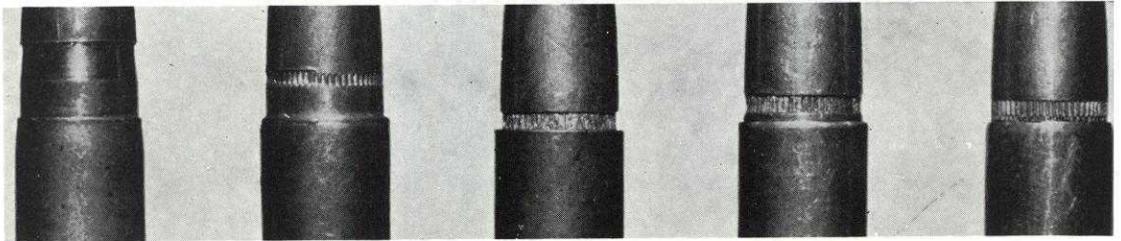
A cartridge is to be counted as a minor defective if point bluntness or flatness exceeds that shown.



- (a) Misplaced Cannellure.
- (b) Deformed Cannellure.
- (c) Double Cannellure.
- (d) Misplaced Cannellure.
- (e) Double Cannellure.

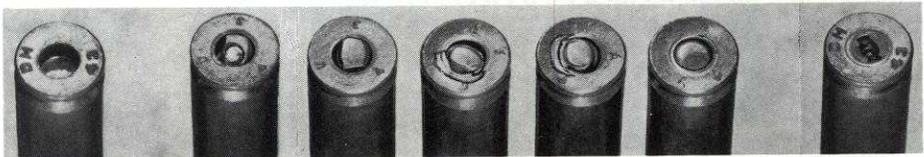
[- - - - - Minor - - - - -]

No. 31a. Defective Cannellure



[- - - - - Minor - - - - -]

No. 31b. Defective Cannellure
(Twice normal size)



[Critical]

[- - - - - Critical - - - - -]

[Critical]

No. 33. Cocked Primer

No. 32
No Primer

An obvious cocked primer, or a suspected cocked primer that fails to ignite the propellant is a critical defective. A suspected cocked primer that ignites the propellant is to be counted a major defective.

No. 34
Inverted Primer

No. 35. Loose Primer (Not illustrated)
Major

A cartridge is to be counted as a defective because of a loose primer if the primer can be moved within the primer pocket or if the primer can be shaken or jarred from the pocket.



(a) Deformed Primer.
(b) Nick extending to edge of primer cup.
(c-d-e-f-g) Small Nicks and Dents.

[--- Minor ---] [--- Permissible ---]

No. 36a. Nicked or Dented Primer



[--- Minor ---] [--- Permissible ---]

No. 36b. Nicked or Dented Primer



[Minor] [--- Permissible ---]

No. 37. No Waterproofing
(Primer pocket joint)



[--- Minor ---] [--- Permissible ---]

No. 38. Defective Crimp

LIST OF DEFECTS
NATO CALIBER 7.62-MM

CARTRIDGE

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CASE

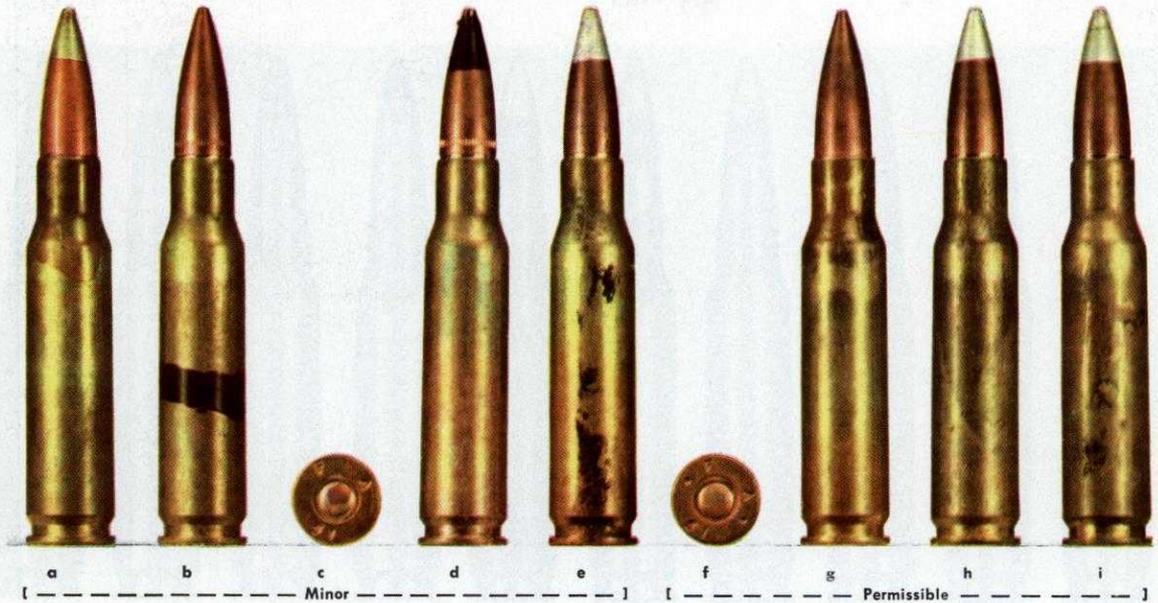
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23. Scratch (bullet).....	24
24. Split Bullet Jacket.....	24
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28. Upset (crooked) Point.....	25
29. Exposed Steel (clad jacket).....	25
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PRIMER

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34. Inverted Primer.....	25
35. Loose Primer.....	26
36. Nicked or Dented Primer.....	26
37. No Waterproofing (Primer pocket joint).....	26
38. Defective Crimp.....	26



No. 1. Discolored, Dirty, Oily, Smeard (waterproofing)

- (a) } Smeard Identification
 - (b) } Paint
 - (c) Smeard Primer
- Waterproofing

- (d) Oil on Cartridge Case
 - (e) Dirty Cartridge Case
 - (f) Smeard Primer
- Waterproofing

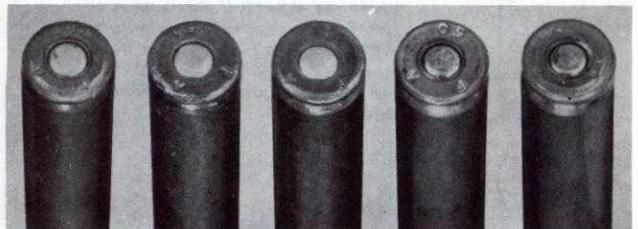
- (g) } Discolored Cartridge
- (h) } Cases
- (i) Dirty Cartridge Case



No. 2. Corroded or Stained

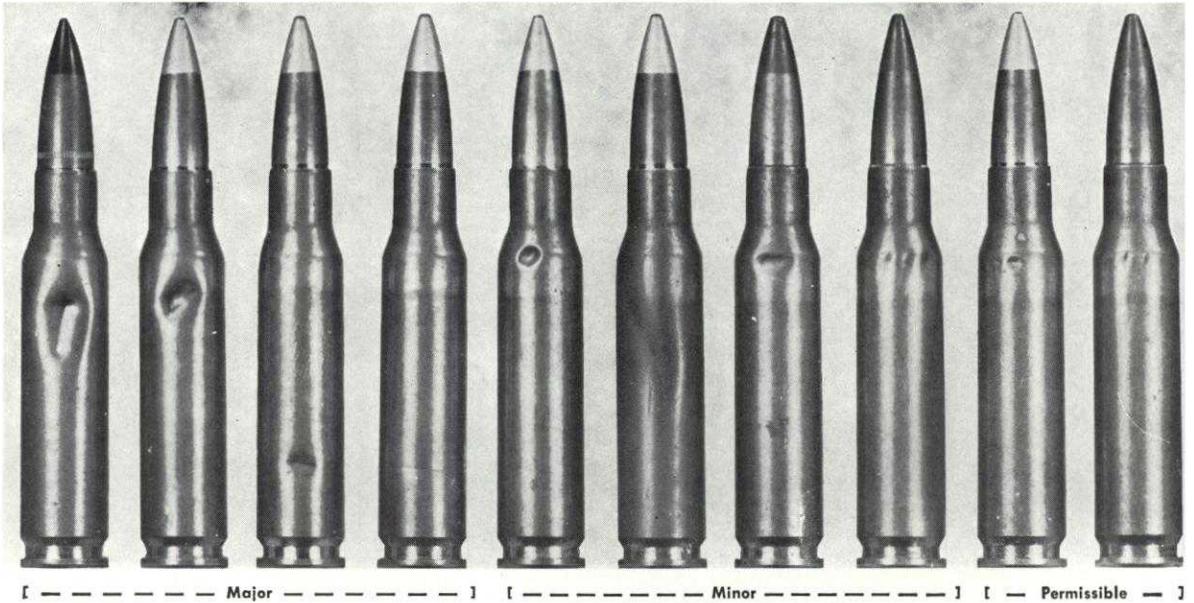
Where etching appears in stained areas, local or general, the cartridge will be classified as a major defective.

No. 3. Mixed Ammunition Types (Not illustrated). Critical, Major, or Minor depending on types mixed. See detail specification. (Also includes incorrect or poor identification.)

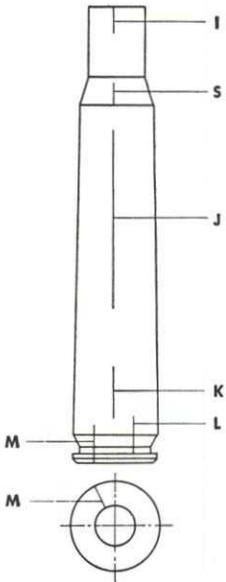


No. 4. Round Head

Cartridges having excessive head chamfers at any point on the circumference of the head are to be counted as Round Heads.

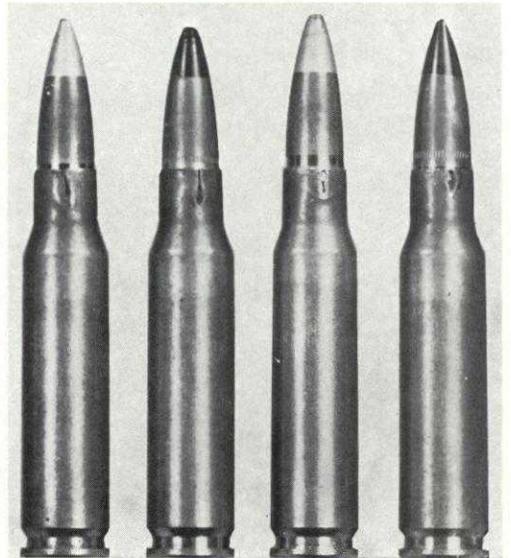


No. 5. Dent (case)

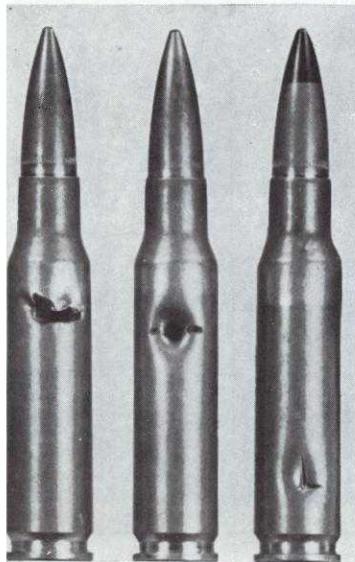


A cartridge is to be counted as a defective because of a split case if the cartridge case shows a definite separation of the metal entirely through the case wall.

A cartridge is to be classified either as a "major" or "critical" defective depending on location of split. A split in the (I), (S) or (J) position shall be counted as a "major" defect when no loss of powder occurs; and as a "critical" defect when loss of powder occurs. A split in the (K), (L), or (M) position shall be counted as a "critical" defect.

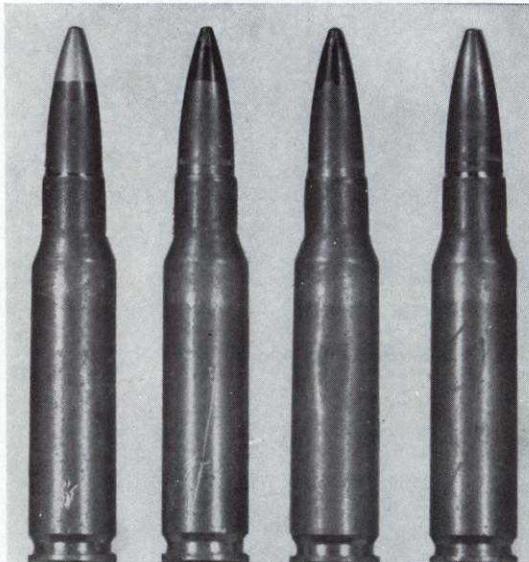


No. 6. Split Case



[--- Critical ---]

No. 7. Perforated Case



[--- Minor ---] [--- Permissible ---]

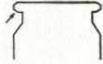
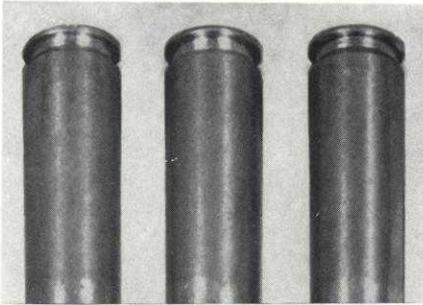
No. 9. Scratch (case)



[--- Major ---] [--- Minor ---] [--- Permissible ---]

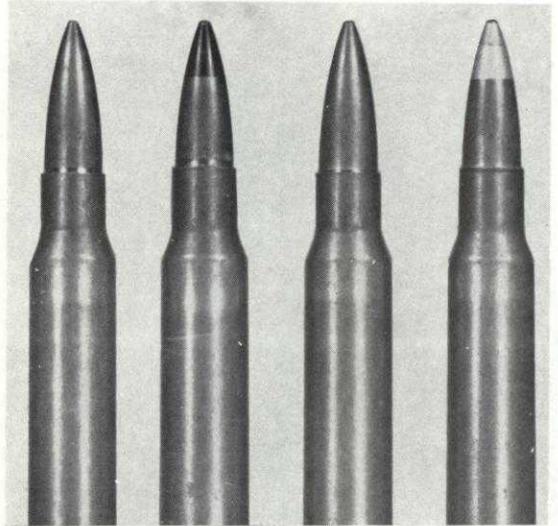
No. 8. Draw Scratch

The seriousness of a draw scratch is to be determined by the depth, location and shape of the scratch. Draw scratches which cannot be detected by the finger nail are permissible. Draw scratches which CAN be detected by the finger nail but do not extend into the neck section are to be counted as minor draw scratches. Draw scratches which CAN be detected by the finger nail and extend into the neck section are to be counted as major draw scratches.



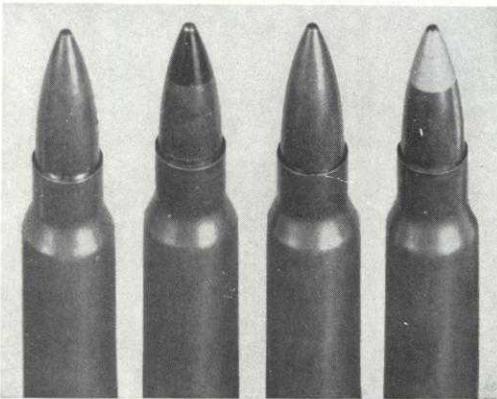
[— — Permissible — —] [Major]

No. 10. Beveled Underside of Head



[— — — — — Major — — — — —]

No. 11a. Case Mouth not Crimped in Cannelure. A cartridge is also to be counted as a defective because of case mouth not crimped in cannellure if the crimp does not extend around the entire circumference of the case mouth.



[— — — — — Major — — — — —]

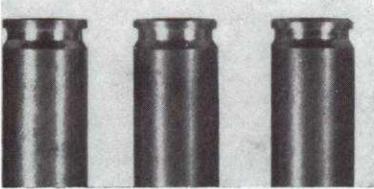
No. 11b. Case Mouth not Crimped in Cannelure

No. 12. Scaly Metal (case)

In classifying scaly metal cartridges, due consideration must be given to the depth as well as the area of the scale.

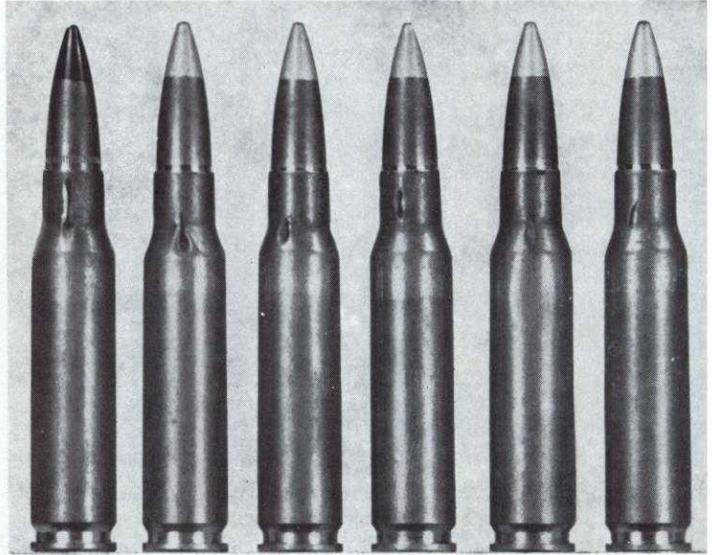


[— — — — — Major — — — — —] [Minor] [Permissible]



[Major] [--- Permissible ---]

No. 13a. No Chamfer on Head (rim)



[--- Minor ---]

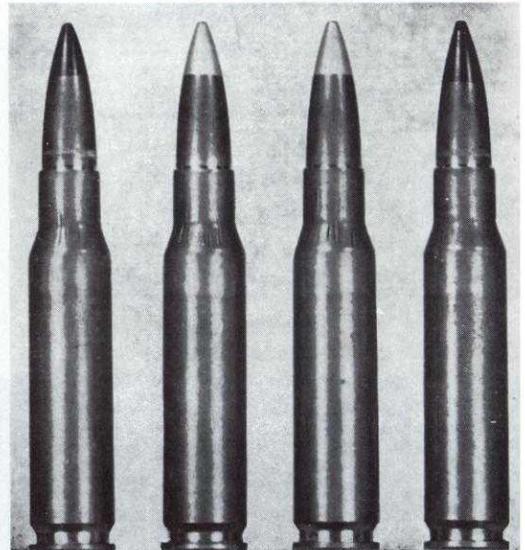
[--- Permissible ---]

No. 14. Fold



[Major] [--- Permissible ---]

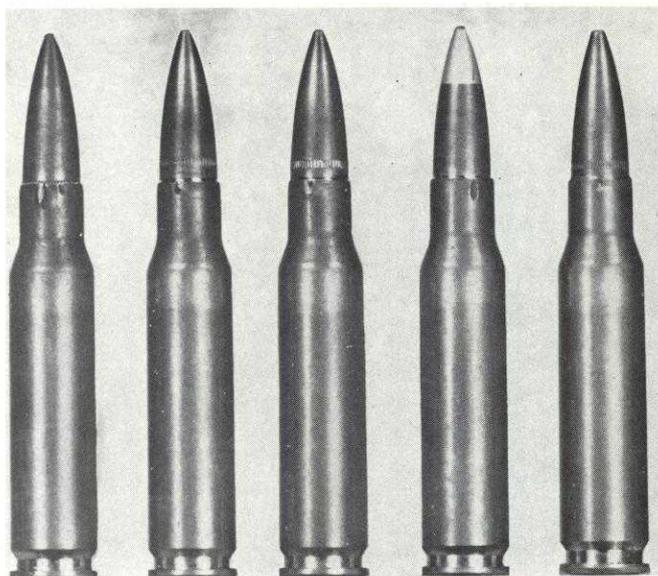
No. 13b. No Chamfer on Head (rim)



[--- Minor ---]

[Permissible]

No. 15. Wrinkle



[- - - - - Minor - - - - -] [- - - - - Permissible - - - - -]

No. 16. Buckle

No. 18. Illegible or Missing Head Stamp

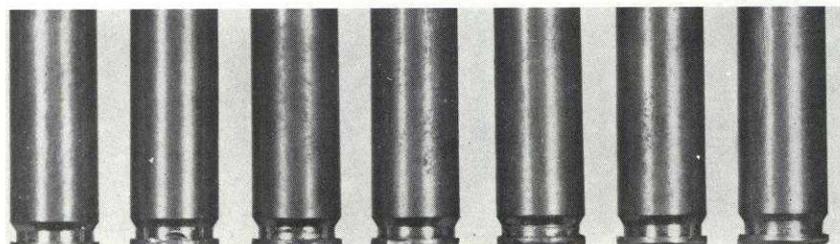
(Not illustrated)

Minor



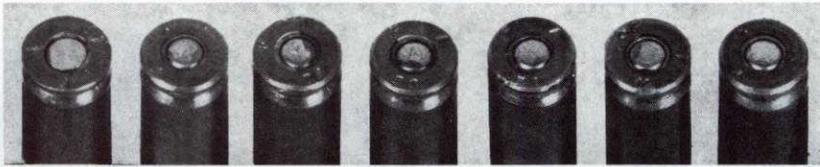
[- - - - - Permissible - - - - -]

No. 17. Bulge



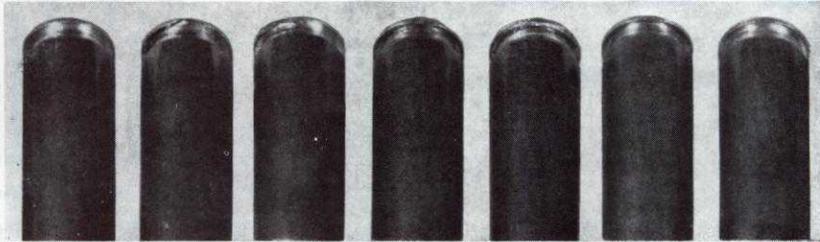
[- - - - - Minor - - - - -] [- - - - - Permissible - - - - -]

No. 19a. Defective Head



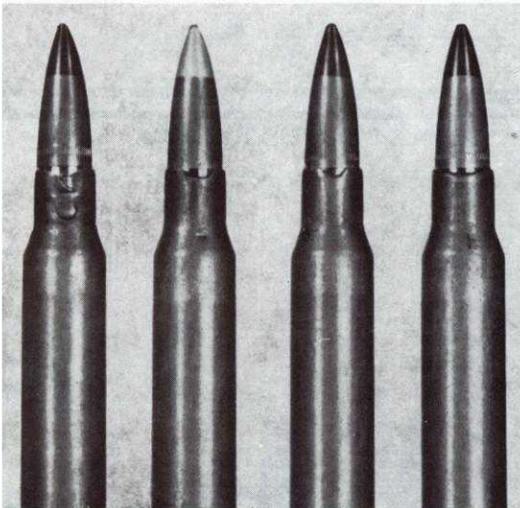
[— — — — — Minor — — — — —] [— — — — — Permissible — — — — —]

No. 19b. Defective Head



[— — — — — Minor — — — — —] [— — — — — Permissible — — — — —]

No. 19c. Defective Head



[— — — — — Minor — — — — —] [Permissible]

No. 20. Defective Mouth



[— — — — — Major — — — — —] [Permissible]

No. 21. No Visible Evidence of Mouth Anneal

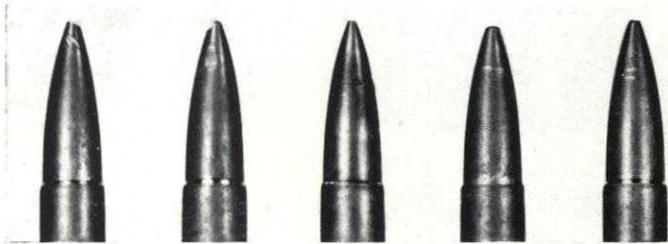
Gas Mouth and Neck Annealed Case

No Oxide Film Apparent — Major (see illustration)

Induction Mouth and Neck Annealed Case

No Visible Iris¹ — Major

¹ Doubtful cases to be decided by Rockwell 30T hardness reading of assembled cartridges taken on the case $\frac{1}{8}$ " from mouth. Absence of visible iris shall be considered a major defect if this hardness, when compared with the hardness taken on cartridges assembled with cases having visible evidence of mouth anneal, shows conclusively that the case has not been annealed.



[— — — — Minor — — — —] [— Permissible —]

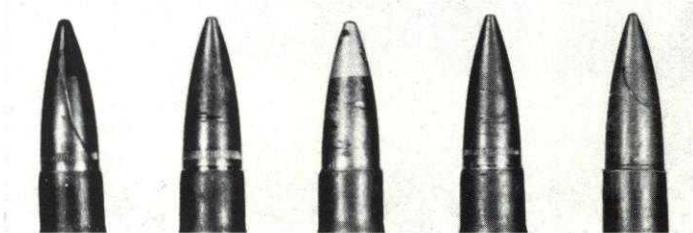
No. 22. Dent (bullet)



[— — — — Major — — — —]

No. 24. Split Bullet Jacket

A cartridge is to be counted as a defective because of a split bullet jacket if the jacket shows a definite separation of the metal so as to expose the core or slug.



[— — — — Minor — — — —] [— Permissible —]

No. 23. Scratch (bullet)

No. 25. Loose Bullet (Not illustrated)
Major

A cartridge is to be counted as a defective because of a loose bullet if the bullet can be moved relative to the case by twisting, pushing or pulling while the cartridge is held in the hands.

No. 26. Missing Cannelure (Not illustrated)
Major

The defect, missing cannellure, may be determined by pulling the bullet. However, the cartridge in question must not contain defect No. 11—Case Mouth not Crimped in Cannelure, wherein the case mouth is located above the cannellure (not illustrated).



[— — Major — —] [— — Minor — —] [Permissible]

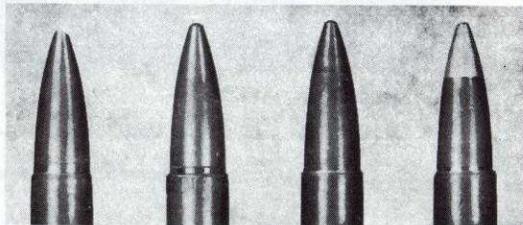
No. 27. Scaly Metal (bullet)

In classifying scaly metal cartridges, due consideration must be given to the depth as well as the area of the scale.



[- - - - - Minor - - - - -] [- Permissible -]

No. 28. Upset (crooked) Point



[- - - - - Permissible - - - - -]

No. 30. Blunt Point

A cartridge is to be counted as a minor defective if point bluntness or flatness exceeds that shown.



[- - - - - Minor - - - - -]

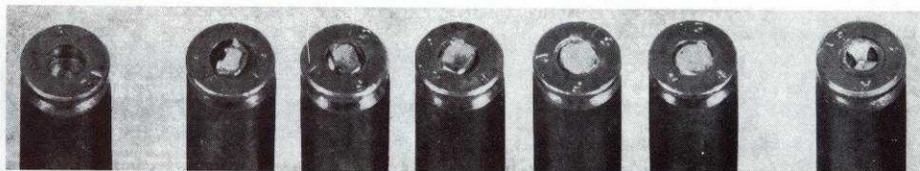
No. 29. Exposed Steel (clad jacket)



a b c d e

No. 31. Defective Cannellure

- (a) Misplaced Cannellure
- (b) Deformed Cannellure
- (c) Eccentric and Misplaced Cannellure
- (d) Misplaced Cannellure
- (e) Double Cannellure



[Critical]

No. 32. No Primer

[- - - - - Critical - - - - -]

No. 33. Cocked Primer

An obvious cocked primer, or a suspected cocked primer that fails to ignite the propellant is a critical defective. A suspected cocked primer that ignites the propellant is to be counted a major defective.

[Critical]

No. 34. Inverted Primer

No. 35. Loose Primer

(Not illustrated)

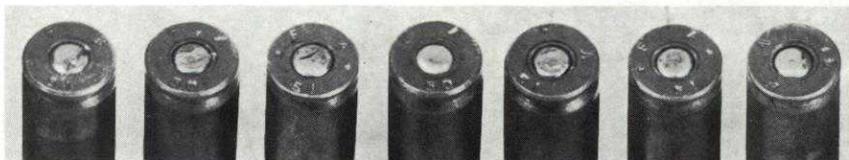
Major

A cartridge is to be counted as a defective because of a loose primer if the primer can be moved within the primer pocket or if the primer can be shaken or jarred from the pocket.



a b c d e f g
 [- - - - - Minor - - - - -] [- - - - - Permissible - - - - -]

No. 36a. Nicked or Dented Primer



a b c d e f g
 [- - - - - Minor - - - - -] [- - - - - Permissible - - - - -]

No. 36b. Nicked or Dented Primer

- | | |
|--|-----------------------|
| (a) Deformed Primer | (d) } Nicks in Center |
| (b) Deformed Primer | (e) } of Primer |
| (c) Nicks, Extending to Edge of Primer Cup | (f) } Small Nicks |
| | (g) } and Dents |



[- - - - - Minor - - - - -] [- - - - - Permissible - - - - -]

No. 37

No Waterproofing
 (Primer pocket joint)



[- - - - - Minor - - - - -] [- - - - - Permissible - - - - -]

No. 38. Defective Crimp

LIST OF DEFECTS

CALIBER .30 CARBINE

CARTRIDGE

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11.	Scaly Metal (case).....	29
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20.	Scratch (bullet).....	31
21.	Split Bullet Jacket.....	31
22.	Loose Bullet.....	31
23.	Scaly Metal (bullet).....	32
24.	Upset (crooked) Point.....	32
25.	Exposed Steel (clad jacket).....	32
26.	Flat Point.....	32

PRIMER

27.	No Primer.....	33
28.	Cocked Primer.....	33
29.	Inverted Primer.....	33
30.	Loose Primer.....	33
31.	Nicked or Dented Primer.....	33
32.	No Waterproofing (Primer pocket joint).....	33



a b c d

[— Minor —] [Permissible]

No. 1. Discolored, Dirty, Oily, Smeared (waterproofing).

- (a) Smeared Primer
- (b) Water-proofing
- (c) Dirty Cartridge Case
- (d) Dirty Cartridge Case

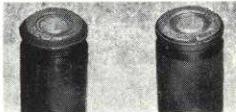


[— Major —] [Permissible]

No. 2. Corroded or Stained

Where etching appears in stained areas, local or general, the cartridge will be classified as a major defective.

No. 3. Mixed Ammunition Types (Not illustrated). Critical, Major, or Minor depending on types mixed. See detail specification. (Also includes incorrect or poor identification.)



[Major] [Permissible]

No. 4a. Round Head

Cartridges, having excessive head chamfers at any point on the circumference of the head are to be counted as Round heads.



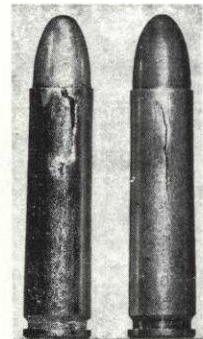
[— Major —] [Permissible]

No. 4b. Round Head (Twice normal size)



[— — Major — —] [Minor] [— — Permissible — —]

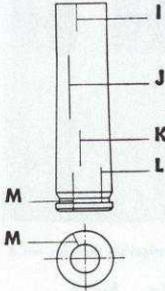
No. 5. Dent (case)



[— Major —]

No. 6. Split Case

A cartridge is to be counted as a defective because of a split case if the cartridge case shows a definite separation of the metal entirely through the case wall.



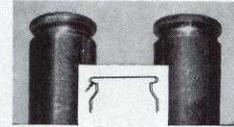
A cartridge is to be classified either as a "major" or "critical" defective depending on location of split. A split in the (I) or (J) position shall be counted as a "major" defect when no loss of powder occurs; and as a "critical" defect when loss of powder occurs. A split in the (K), (L), or (M) position shall be counted as a "critical" defect.



[Major] [Minor] [Permissible]

No. 8. Draw Scratch

The seriousness of a draw scratch is to be determined by the depth, location and shape of the scratch. Only those draw scratches which cannot be detected by the finger nail are permissible.



[Major] [Permissible]

No. 10a. Beveled Underside of Head



[— Major —] [Permissible]

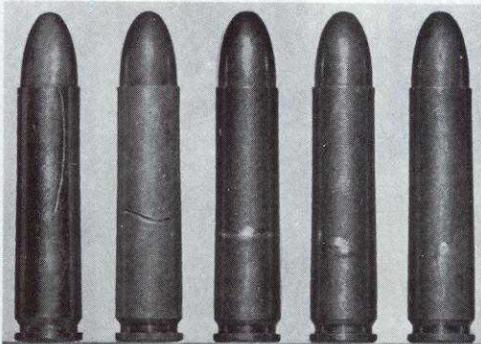
No. 10b. Beveled Underside of Head
(Twice normal size)



[Critical]

No. 7

Perforated Case



[— — — — Minor — — — —] [Permissible]

No. 9. Scratch (case)



[Major] [Minor] [Permissible]

No. 11. Scaly Metal (case)

In classifying scaly metal cartridges, due consideration must be given to the depth as well as the area of the scale.



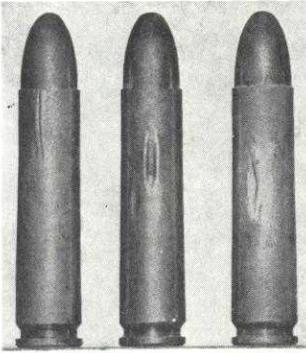
[— — Major — —] [Permissible]

No. 12a. No Chamfer on Head (rim)



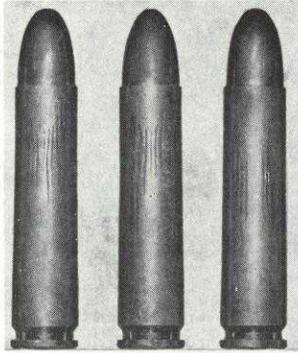
[— — — — Major — — — —] [Permissible]

No. 12b. No Chamfer on Head (rim)
(Twice normal size)



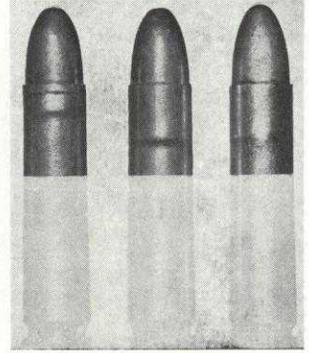
[Minor] [— Permissible —]

No. 13. Fold



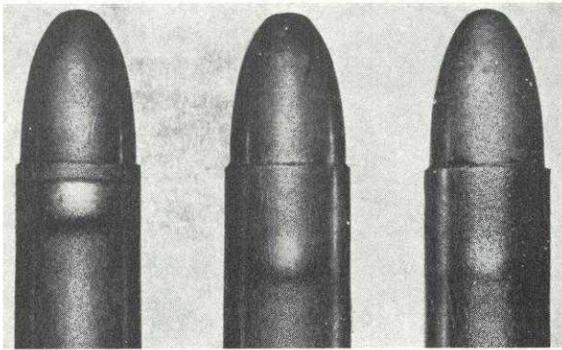
[— Minor —] [Permissible]

No. 14a. Wrinkle



[— — — Permissible — —]

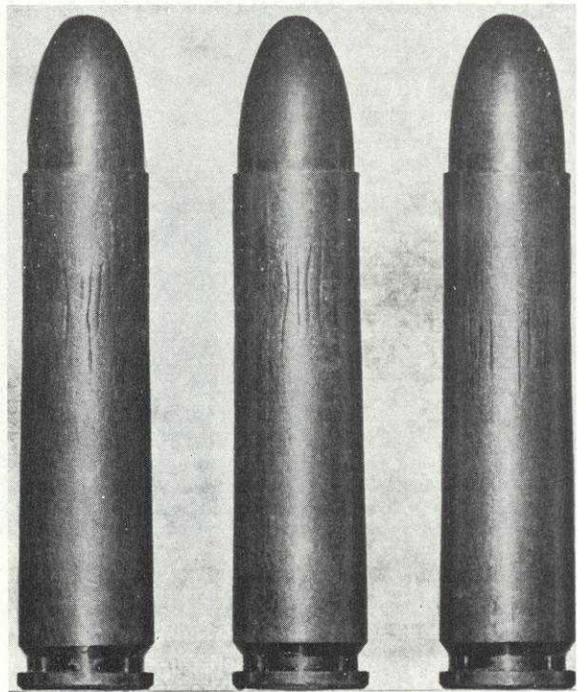
No. 15a. Bulge



[— — — — — Permissible — — — —]

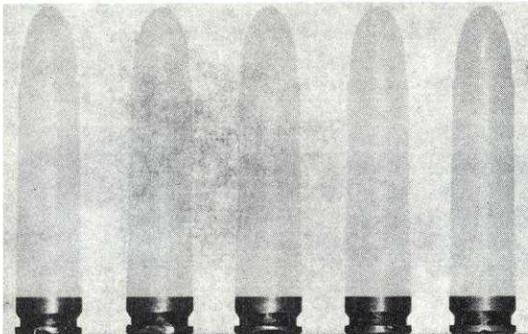
No. 15b. Bulge
(Twice normal size)

No. 16. Illegible or Missing Head Stamp
(Not illustrated)
Minor



[— — — — Minor — — — —] [Permissible]

No. 14b. Wrinkle
(Twice normal size)



[— — — Minor — — —] [— Permissible —]

No. 17a. Defective Head

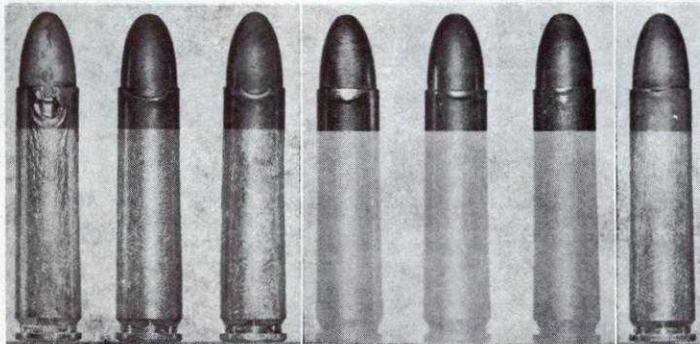
[— — — Minor — — —] [— Permissible —]

No. 17b. Defective Head



[— — — Minor — — —] [— Permissible —]

No. 17c. Defective Head

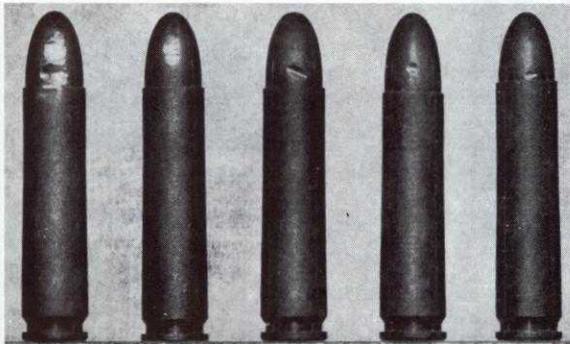


[— — — Minor — — —] [— — — — Permissible — — — —]

No. 18. Defective Mouth

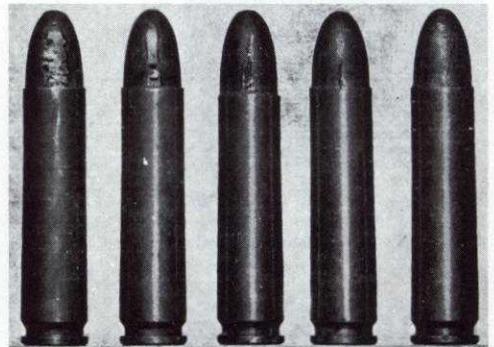
No. 18A. Defective Protective Finish
Minor

Refer to illustrations of Defect No. 17A, Defective Protective Finish, in Caliber .45 section of this Standard.



[— — — — Minor — — — —] [— Permissible —]

No. 19. Dent (bullet)



[— — — — Minor — — — —] [Permissible]

No. 20. Scratch (bullet)

No. 21. Split Bullet Jacket

A cartridge is to be counted as a defective because of a split bullet jacket if the jacket shows a definite separation of the metal so as to expose the core or slug.



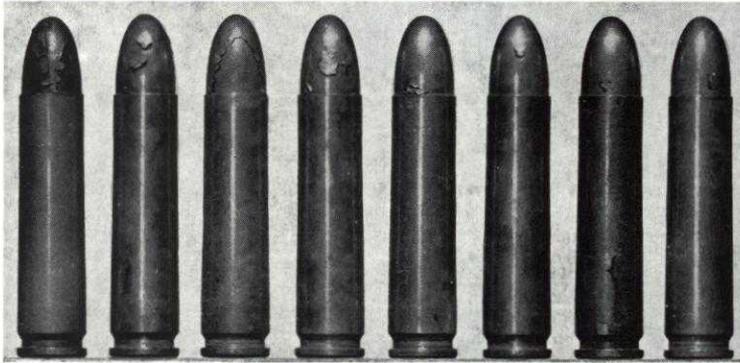
[— — — Major — — —]

No. 22. Loose Bullet

(Not illustrated)

Major

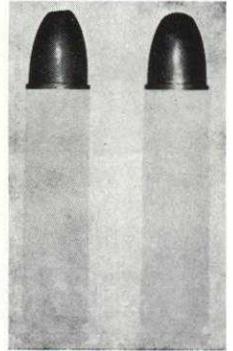
A cartridge is to be counted as a defective because of a loose bullet if the bullet can be moved relative to the case by twisting, pushing or pulling while the cartridge is held in the hands.



[— — — — Major — — —] [— Minor —] [— Permissible —]

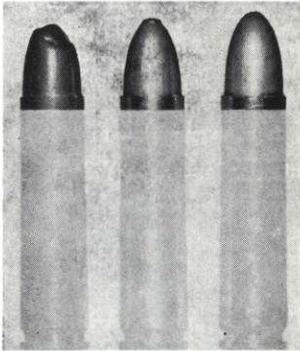
No. 23. Scaly Metal (bullet)

In classifying scaly metal cartridges, due consideration must be given to the depth as well as the area of the scale.



[Minor] [Permissible]

No. 26a.
Flat Point



[— Minor —] [Permissible]

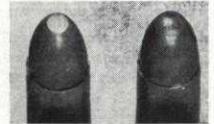
No. 24a. Upset (crooked) Point



[— Minor —]

No. 25.

Exposed Steel
(clad jacket)



[Minor] [Permissible]

No. 26b. Flat Point



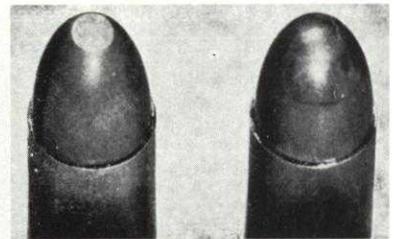
[— Minor —] [Permissible]

No. 24b. Upset (crooked) Point



[— — — — Minor — — —] [Permissible]

No. 24c. Upset (crooked) Point
(Twice normal size)



[— Minor —] [Permissible]

No. 26c. Flat Point
(Twice normal size)



[Critical] [— — — Critical — — —] [Critical]

No. 27. No Primer
 No. 28. Cocked Primer
 No. 29. Inverted Primer
 No. 30. Loose Primer (Not illustrated)

An obvious cocked primer, or a suspected cocked primer that fails to ignite the propellant is a critical defective. A suspected cocked primer that ignites the propellant is to be counted a major defective.

A cartridge is to be counted as a defective because of a loose primer if the primer can be moved within the primer pocket or if the primer can be shaken or jarred from the pocket.

- (a) Dented Primer.
- (b) Nick Extending to Edge of Primer Cup.
- (c) Deformed Primer Cup.
- (d) Small Nicks.



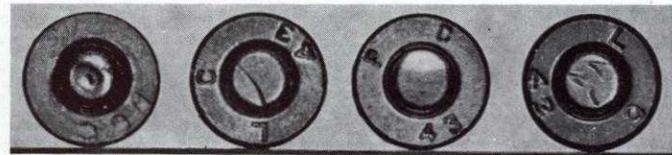
a b c d
 [— Minor —] [— Permissible —]

No. 31a. Nicked or Dented Primer



[Minor] [— Permissible —]

No. 32. No Waterproofing (Primer pocket joint)



a b c d
 [— — — Minor — — —] [— — — Permissible — — —]

No. 31b. Nicked or Dented Primer (Twice normal size)

LIST OF DEFECTS

CALIBER .45

CARTRIDGE

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9. Scratch (case).....	36
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PRIMER

26. No Primer.....	40
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28. Inverted Primer.....	40
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30. Nicked or Dented Primer.....	40
31. No Waterproofing (Primer pocket joint).....	40



a b c d e
[— — — Minor — — —] [— Permissible —]

No. 1. Discolored, Dirty, Oily, Smeared (waterproofing)

- (a) Smeared Mouth Waterproofing.
- (b) Smeared Primer Waterproofing.
- (c) Dirty Cartridge Case.
- (d) Dirty Cartridge Case.
- (e) Smeared Primer Waterproofing.



[Major] [— — — Permissible — — —]

No. 2. Corroded or Stained

Where etching appears in stained areas, local or general, the cartridge will be classified as a major defective.

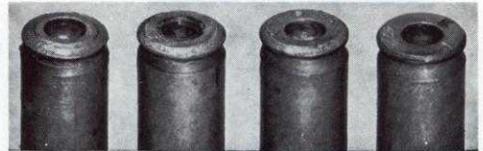
No. 3. Mixed Ammunition Types (Not illustrated). Critical, Major, or Minor depending on types mixed. See detail specification. (Also includes incorrect or poor identification.)



[— — — Major — — —] [Permissible]

No. 4a. Round Head

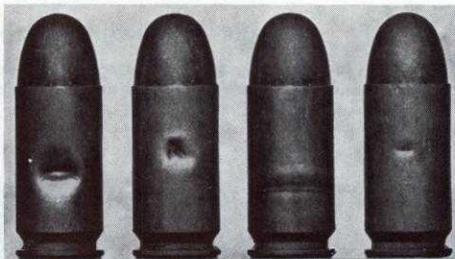
Cartridges having excessive head chamfers at any point on the circumference of the head are to be counted as Round Heads.



[— — — Major — — —] [Permissible]

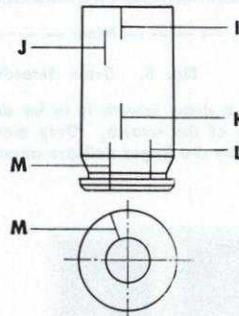
No. 4b. Round Head

A cartridge is to be counted as a defective because of a split case if the cartridge case shows a definite separation of the metal entirely through the case wall.

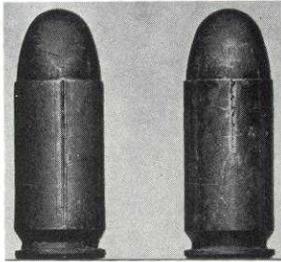


[— — Major — —] [Minor] [Permissible]

No. 5. Dent (case)

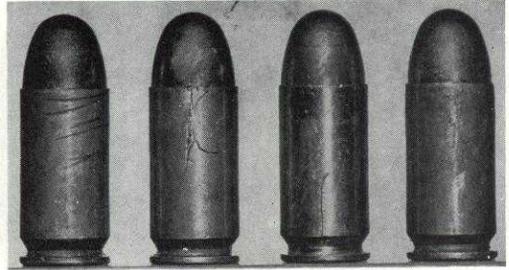


A cartridge is to be classified either as a "major" or "critical" defective depending on location of split. A split in the (I) or (J) position shall be counted as a "major" defect when no loss of powder occurs; and as a "critical" defect when loss of powder occurs. A split in the (K), (L), or (M) position shall be counted as a "critical" defect.



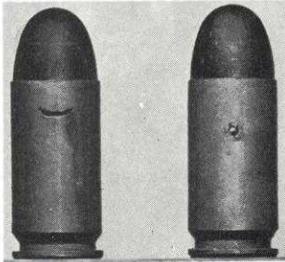
[--- Major ---]

No. 6. Split Case



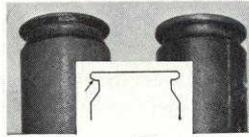
[--- Permissible ---] [--- Minor ---]

No. 9. Scratch (case)



[--- Critical ---]

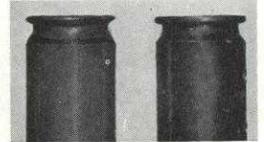
No. 7. Perforated Case



[Major]

[Permissible]

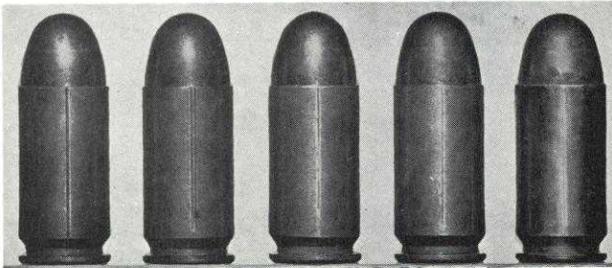
No. 10a. Beveled Underside of Head



[Major]

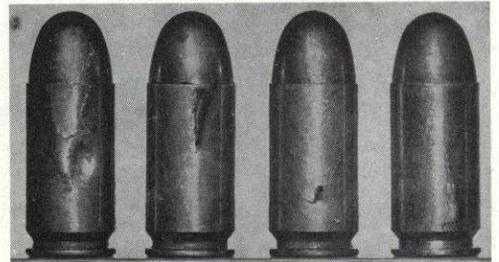
[Permissible]

No. 10b. Beveled Underside of Head



[Major] [--- Minor ---] [Permissible]

No. 8. Draw Scratch



[--- Major ---] [Minor] [Permissible]

No. 11. Scaly Metal (case)

The seriousness of a draw scratch is to be determined by the depth, location and shape of the scratch. Only those draw scratches which cannot be detected by the finger nail are permissible.

In classifying scaly metal cartridges, due consideration must be given to the depth as well as the area of the scale.



[Major]

[Minor]

[Permissible]

No. 12a. No Chamfer on Head (rim)

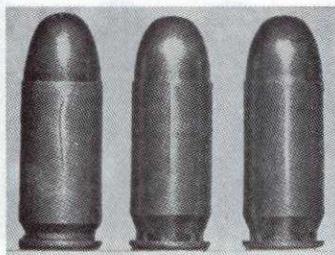


[--- Major ---]

[--- Minor ---]

[--- Permissible ---]

No. 12b. No Chamfer on Head (rim)
(Twice normal size, inclined view)



[Minor] [— Permissible —]

No. 13. Wrinkle

No. 15. Illegible or Missing Head Stamp

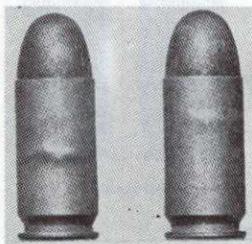
Not illustrated

Minor



[— — — — Minor — — — —] [— Permissible —]

No. 16a. Defective Head



[— — Permissible — —]

No. 14. Bulge



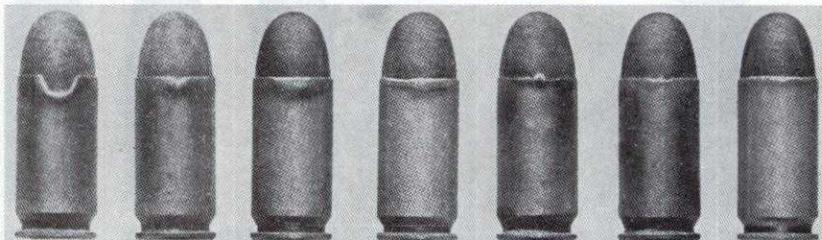
[— — — — Minor — — — —] [— Permissible —]

No. 16b. Defective Head



[— — — — Minor — — — —] [— Permissible —]

No. 16c. Defective Head



[Minor] [— — — — Permissible — — — —]

No. 17. Defective Mouth



[— — — — Minor — — — —] [Permissible] [— — Minor — —]

No. 17a. 1. Inadequate Zinc Plating



[— — Minor — —]

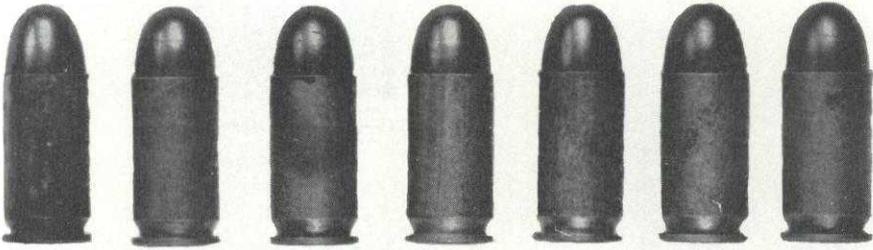
Defective Zinc Plating



[— — — — Minor — — — —]

[Permissible]

Chromate Stains



[— — — — — Minor — — — — —]

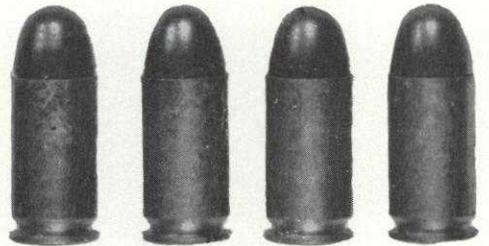
[— — Permissible — —]

Inadequate Surface Preparation and/or Contamination of Bath



[Minor]

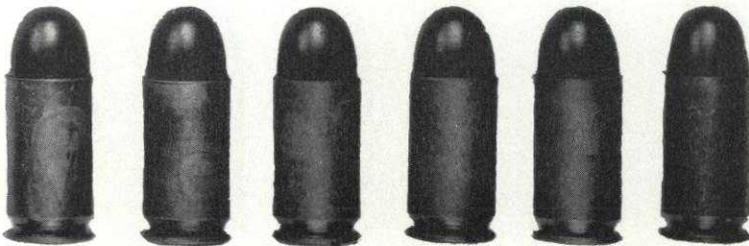
Plating Damage (from cartridge assembly)



[— — Minor — —]

[— — Permissible — —]

Defective Zinc Plating (craters caused by electrical short)

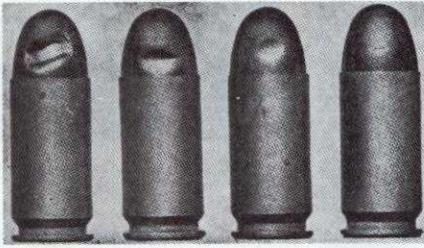


[— — — — — Minor — — — — —]

[— — — — — Permissible — — — — —]

Chromate Discontinuity

No. 17a. 2. Defective Protective Finish Steel Cased Ammunition



[--- Minor ---] [--- Permissible ---]

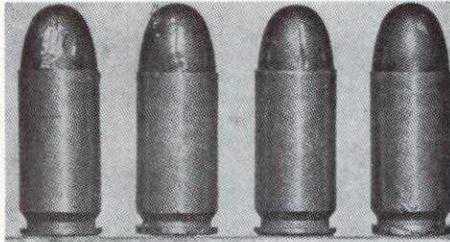
No. 18. Dent (bullet)



[Major]

No. 20. Split Bullet Jacket

A cartridge is to be counted as a defective because of a split bullet jacket if the jacket shows a definite separation of the metal so as to expose the slug.



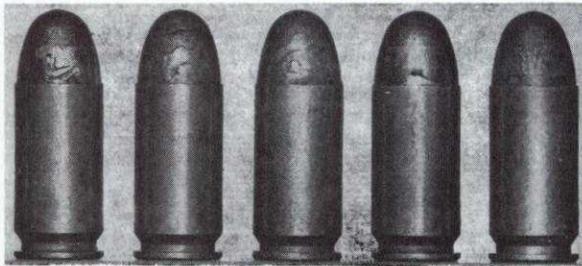
[--- Minor ---] [Permissible]

No. 19. Scratch (bullet)

No. 21. Loose Bullet (Not illustrated)

Major

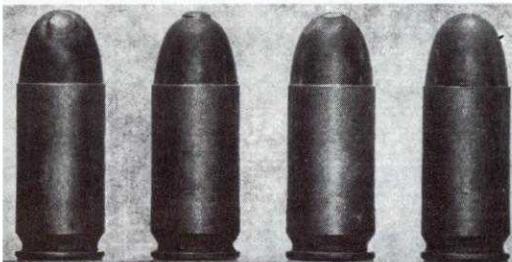
A cartridge is to be counted as a defective because of a loose bullet if the bullet can be moved relative to the case by twisting, pushing or pulling while the cartridge is held in the hands.



[--- Major ---] [--- Minor ---] [Permissible]

No. 22. Scaly Metal (bullet)

In classifying scaly metal cartridges, due consideration must be given to the depth as well as the area of the scale.



[--- Minor ---] [--- Permissible ---]

No. 23a. Upset (crooked) Point
(Normal size)



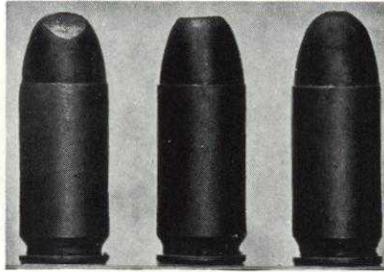
[--- Minor ---] [--- Permissible ---]

No. 23b. Upset (crooked) Point
(Normal size, inclined view)



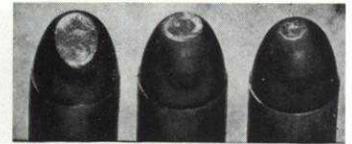
[— — — — Minor — — — —]

No. 24. Exposed Steel (clad jacket)



[— — Minor — —] [Permissible]

No. 25a. Flat Point
(Normal size)



[— — Minor — —] [Permissible]

No. 25b. Flat Point
(Normal size, inclined view)



[Critical]

[— — — — Critical — — — —]

[Critical]

No. 26.
No Primer

No. 27. Cocked Primer

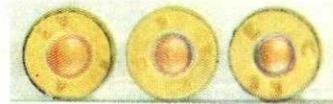
No. 28.
Inverted Primer

An obvious cocked primer, or a suspected cocked primer that fails to ignite the propellant is a critical defective. A suspected cocked primer that ignites the propellant is to be counted a major defective.

No. 29. Loose Primer (Not illustrated)

Major

A cartridge is to be counted as a defective because of a loose primer if the primer can be moved within the primer pocket or if the primer can be shaken or jarred from the pocket.



[Minor] [— Permissible —]

No. 31. No Waterproofing
(Primer pocket joint)



a b c d

[— — — — Minor — — — —] [Permissible]

No. 30. Nicked or Dented Primer

- (a) } Deep Nick in
- (b) } Primer Cup.
- (c) Nick extending to edge of Primer Cup.
- (d) Small Nicks and Dents.

LIST OF DEFECTS

CALIBER .50

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CASE

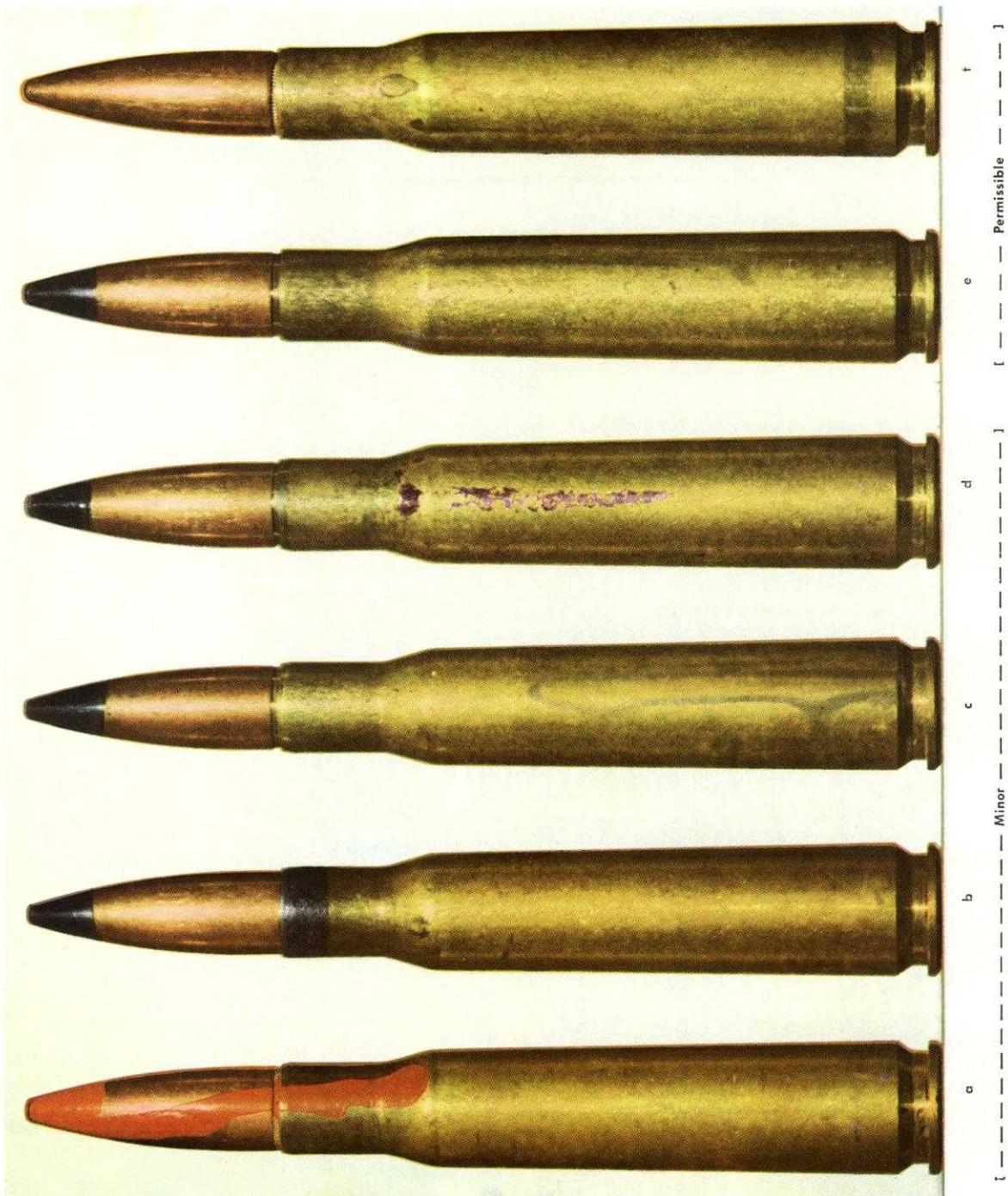
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- (a) Smeared Identification Paint.
- (b) Smeared Mouth Waterproofing.
- (c) Grease on Cartridge Case.
- (d) Smeared Primer Waterproofing.
- (e) Dirty Cartridge Case.
- (f) Dirty Cartridge Case.

No. 1. Discolored, Dirty, Oily, Smeared (waterproofing)

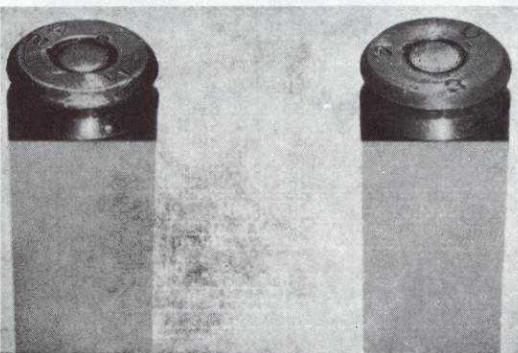


[— Major —] [— — — — — Permissible — — — — —]

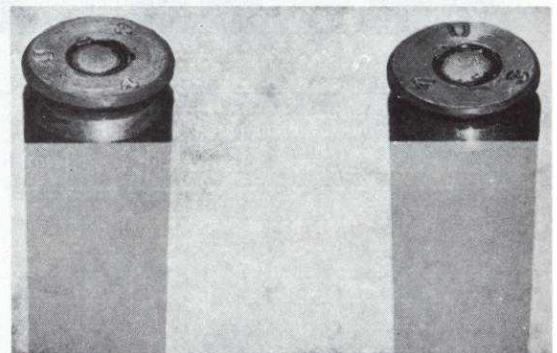
No. 2. Corroded or Stained

Where etching appears in stained areas, local or general, the cartridge will be classified as a major defective.

No. 3. Mixed Ammunition Types (Not illustrated). Critical, Major, or Minor depending on types mixed. See detail specification. (Also includes incorrect or poor identification.)



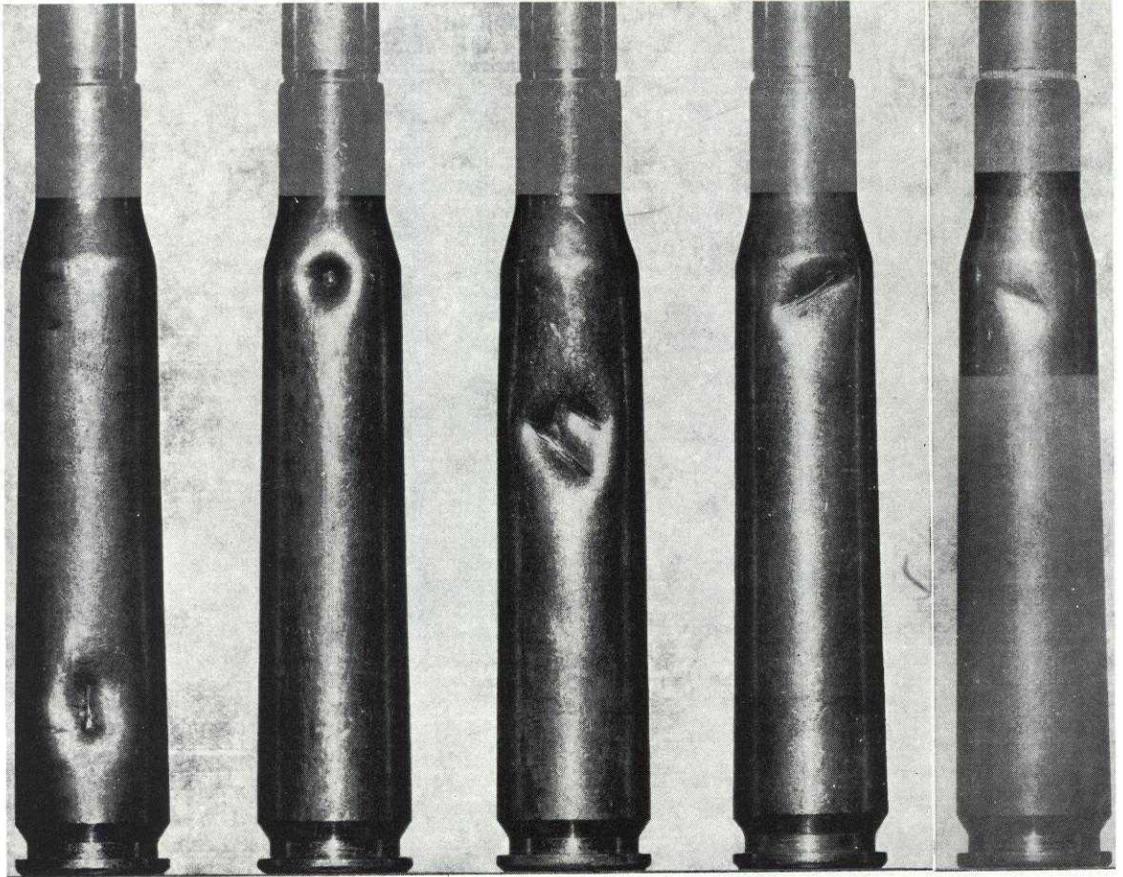
[— — — — — Major — — — — —]



[— — — — — Permissible — — — — —]

No. 4. Round Head

Cartridges having excessive head chamfers at any point on the circumference of the head are to be counted as Round Heads.

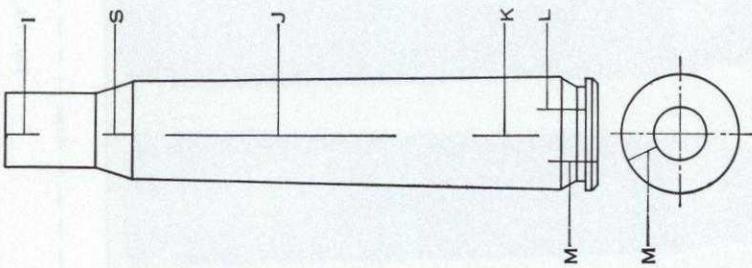


[- - - - - Major - - - - -]

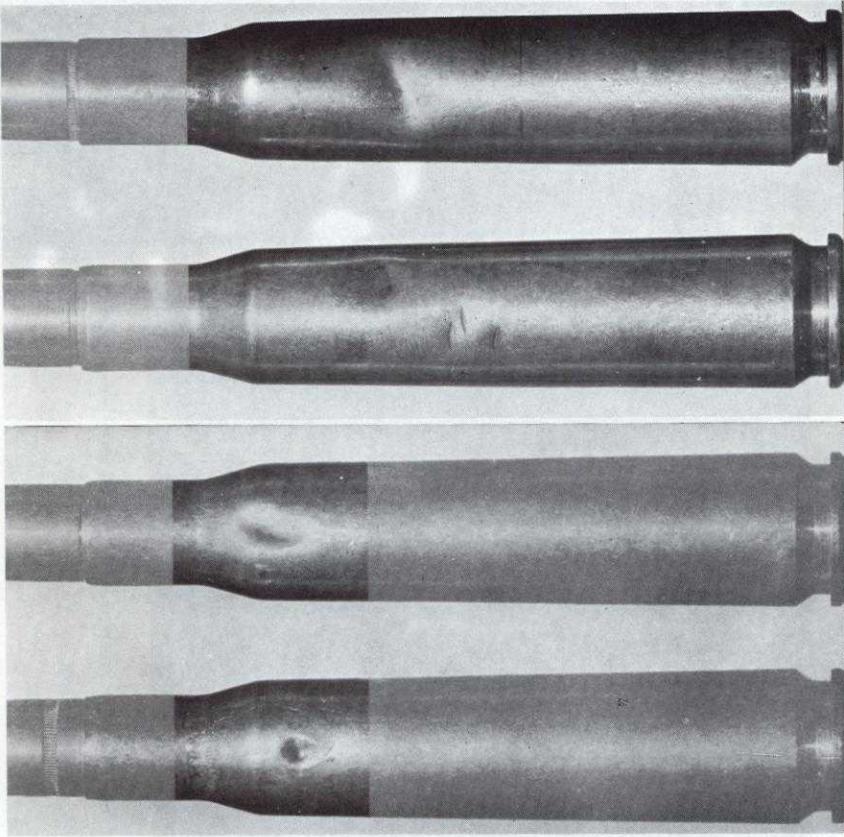
[- - - - - Minor - - - - -]

No. 5. Dent (case)

A cartridge is to be counted as a defective because of a split case if the cartridge case shows a definite separation of the metal entirely through the case wall.

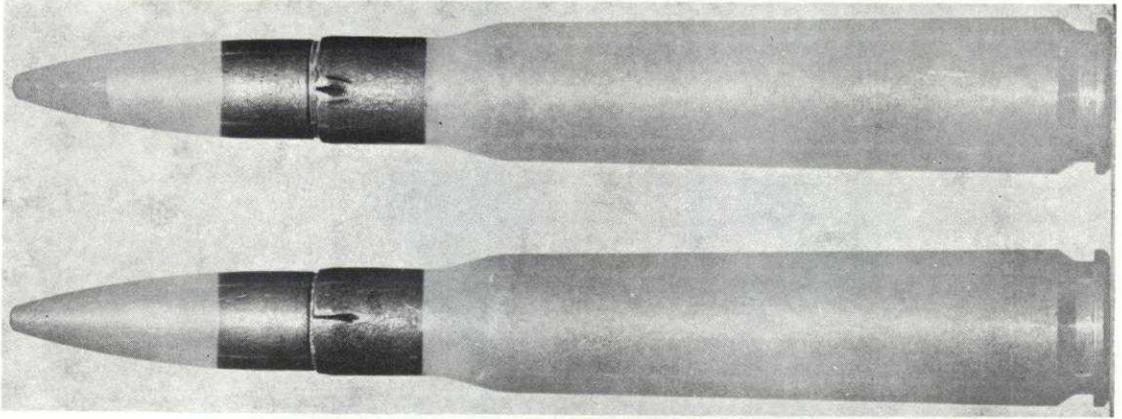


A cartridge is to be classified either as a "major" or "critical" defective depending on location of split. A split in the (I), (S) or (J) position shall be counted as a "major" defect when no loss of powder occurs; and as a "critical" defect when loss of powder occurs. A split in the (K), (L), or (M) position shall be counted as a "critical" defect.



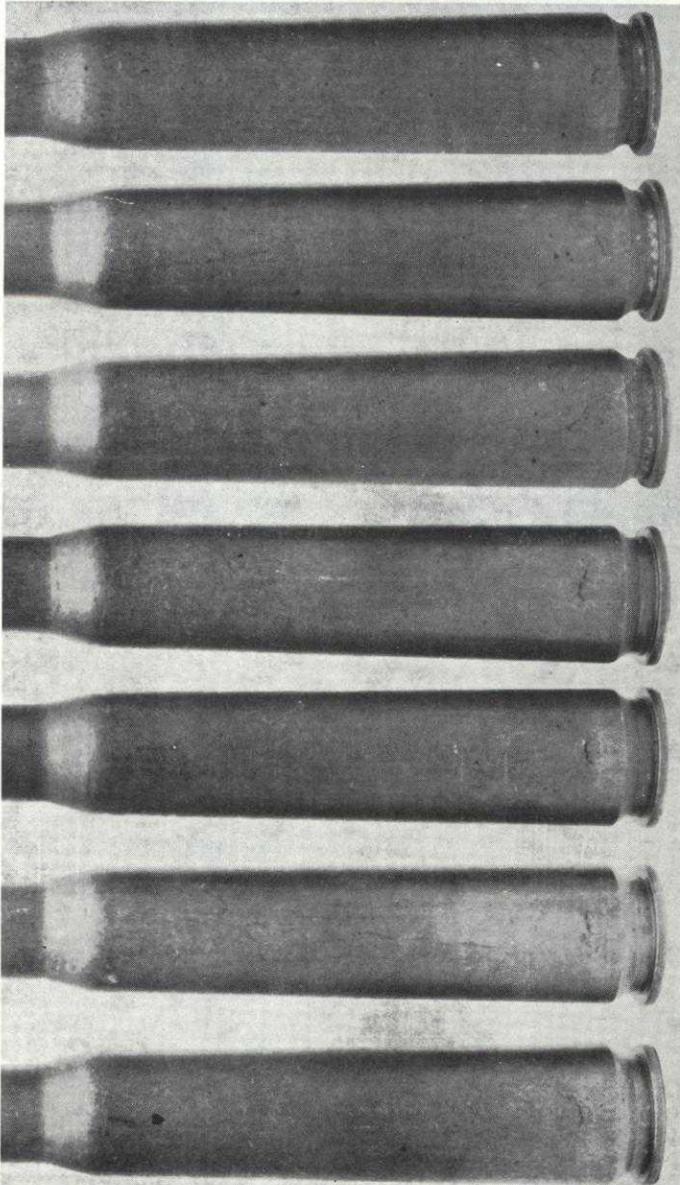
----- Permissible -----]

No. 5. Dent (case)—Continued



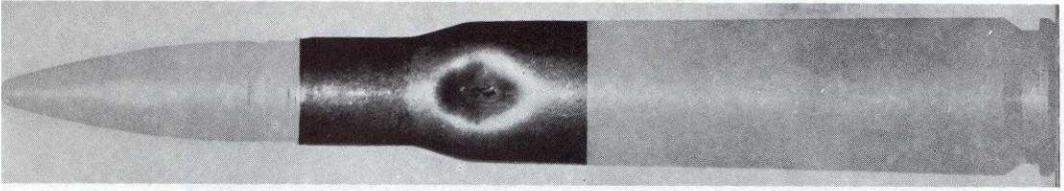
[--- Major ---]

No. 6. Split Case



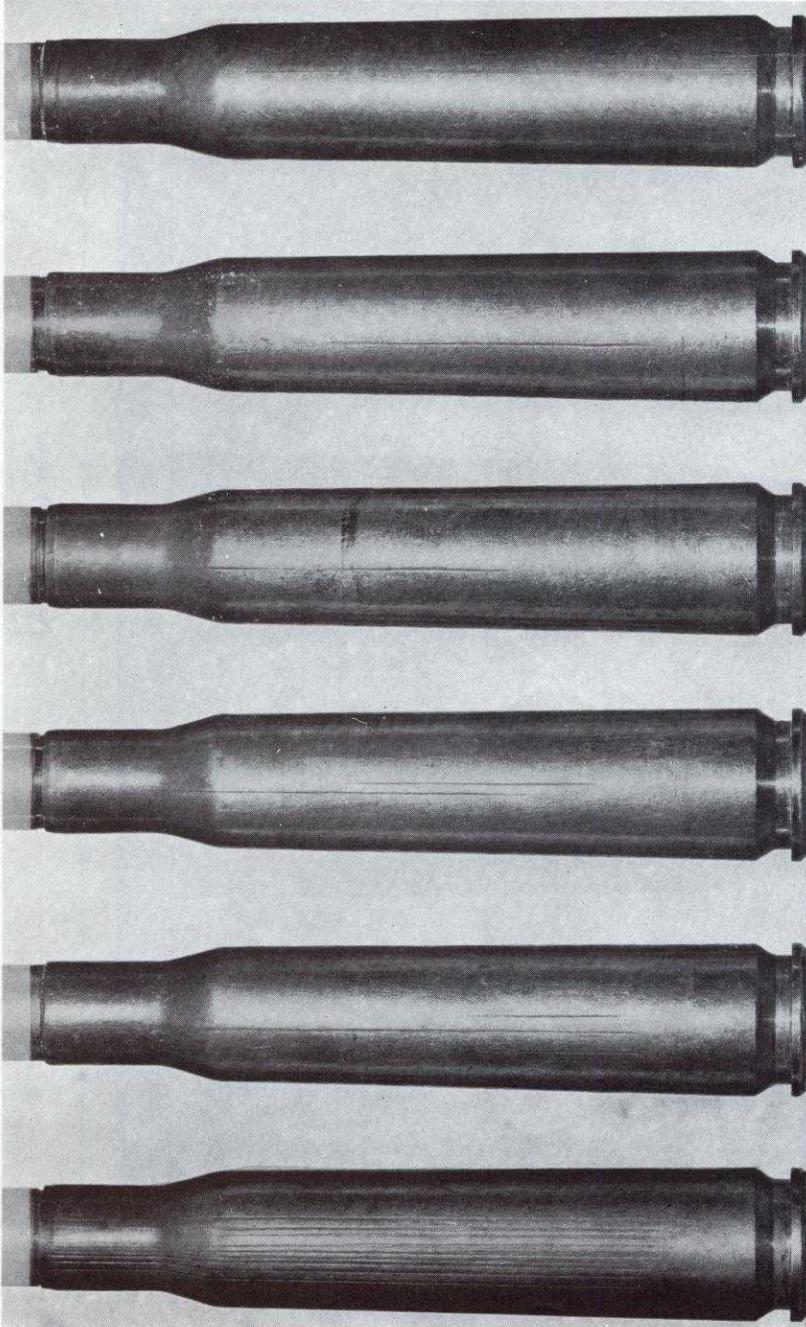
[--- Major ---] [--- Permissible ---]

No. 6A. Incipient Split Cal. .50 Steel Case



[--- Critical ---]

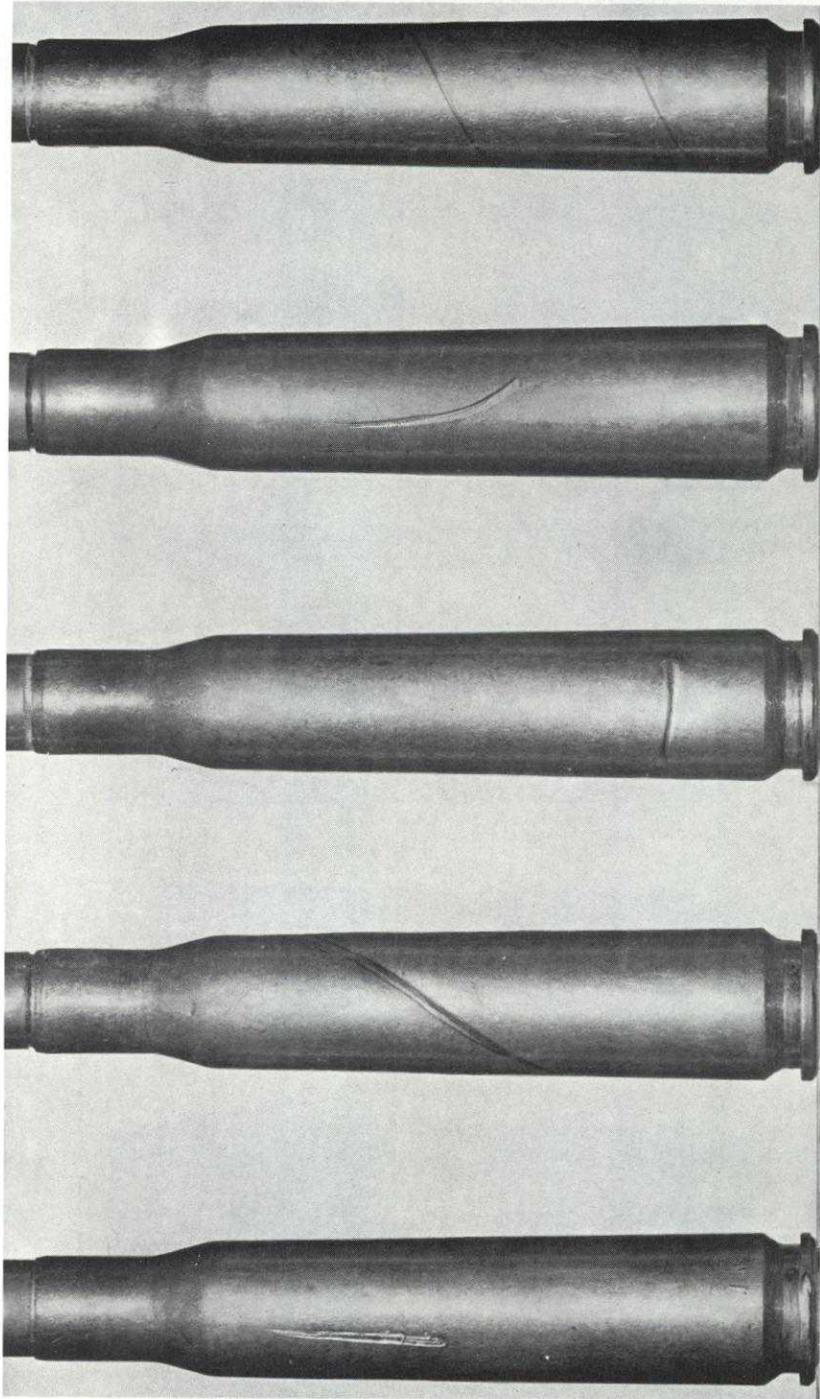
No. 7. Perforated Case



[--- Major ---] [--- Minor ---] [--- Draw Scratch ---] [--- Permissible ---]

No. 8. Draw Scratch

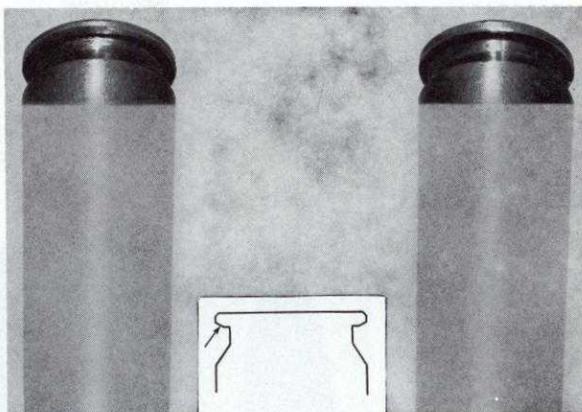
The seriousness of a draw scratch is to be determined by the depth, location and shape of the scratch. Draw scratches which cannot be detected by the finger nail are permissible. Draw scratches which CAN be detected by the finger nail but do not extend into the next section are to be counted as major draw scratches. Draw scratches which CAN be detected by the finger nail and extend into the neck section are to be counted as major draw scratches.



[- - - - - Permissible - - - - -]

[- - - - - Minor - - - - -]

No. 9. Scratch (case)



[— Major —]

[Permissible]

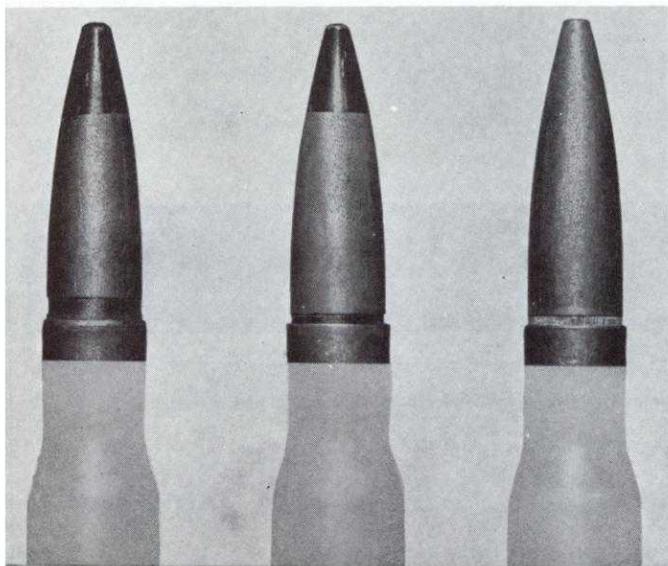
No. 10a. Beveled Underside of Head



[- - - - Major - - - -]

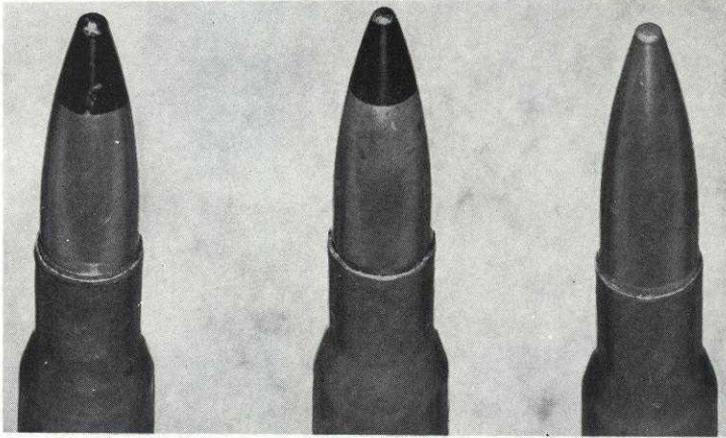
[- - - Permissible - - -]

No. 10b. Beveled Underside of Head (Twice normal size)



[- - - - Major - - - -]

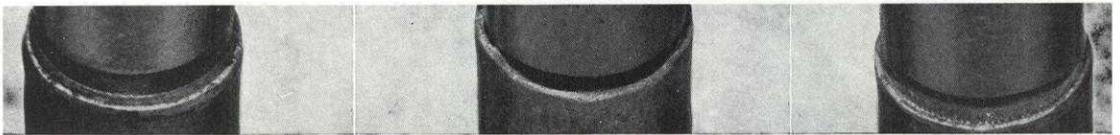
No. 11a. Case Mouth not Crimped in Cannellure



[----- Major -----]

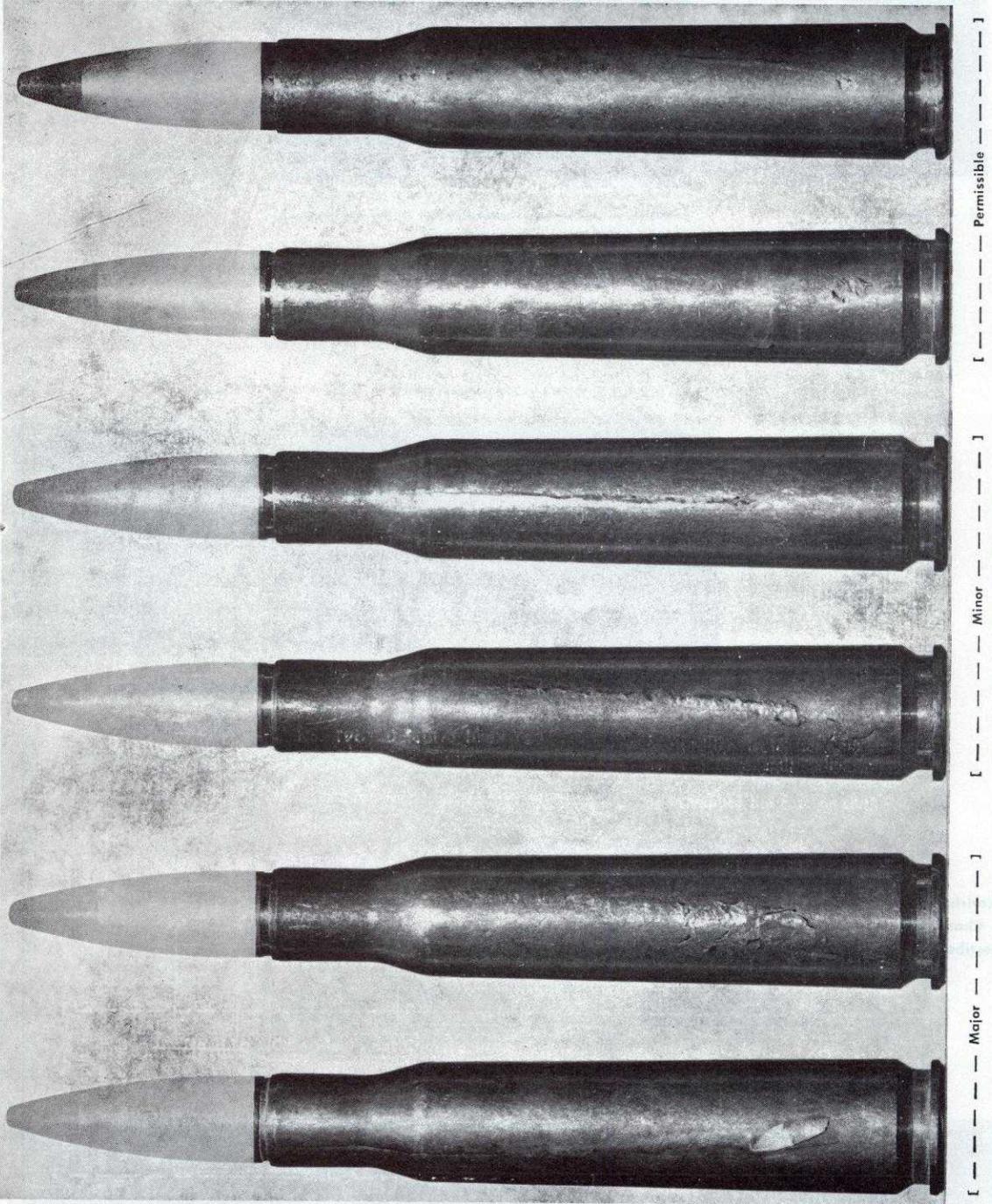
No. 11b. Case Mouth not Crimped in Cannelure

A cartridge is also to be counted as a defective because of case mouth not crimped in cannelure if the crimp does not extend around the entire circumference of the case mouth.



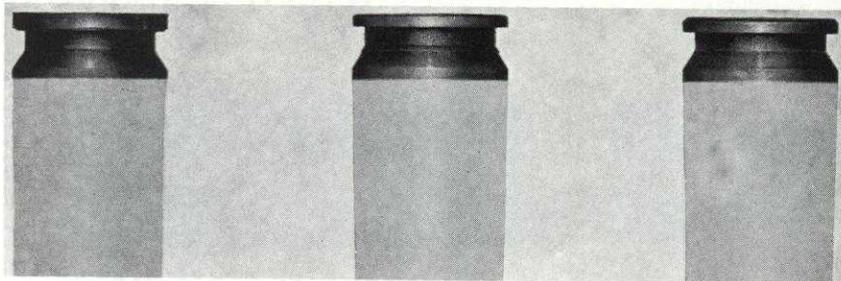
[----- Major -----]

No. 11c. Case Mouth not Crimped in Cannelure (Twice normal size, inclined view)



No. 12. Scaly Metal (case)
In classifying scaly metal cartridges, due consideration must be given to the depth as well as the area of the scale.

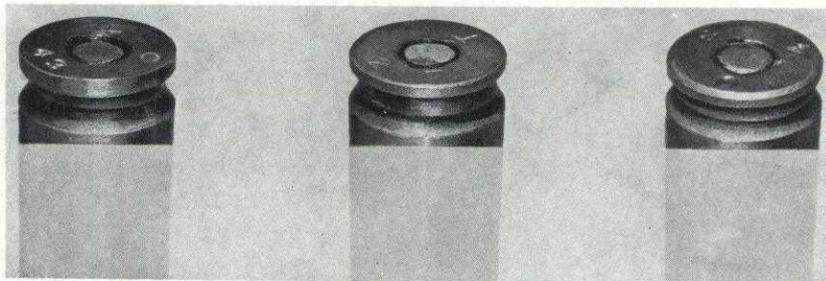
5 June 1958



[— Major —]

[- - - - - Permissible - - - - -]

No. 13a. No Chamfer on Head (rim)

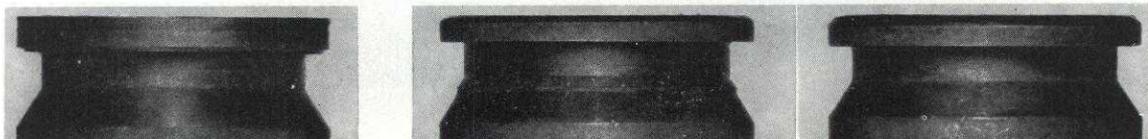


[— Major —]

[- - - - - Permissible - - - - -]

No. 13b. No Chamfer on Head (rim)

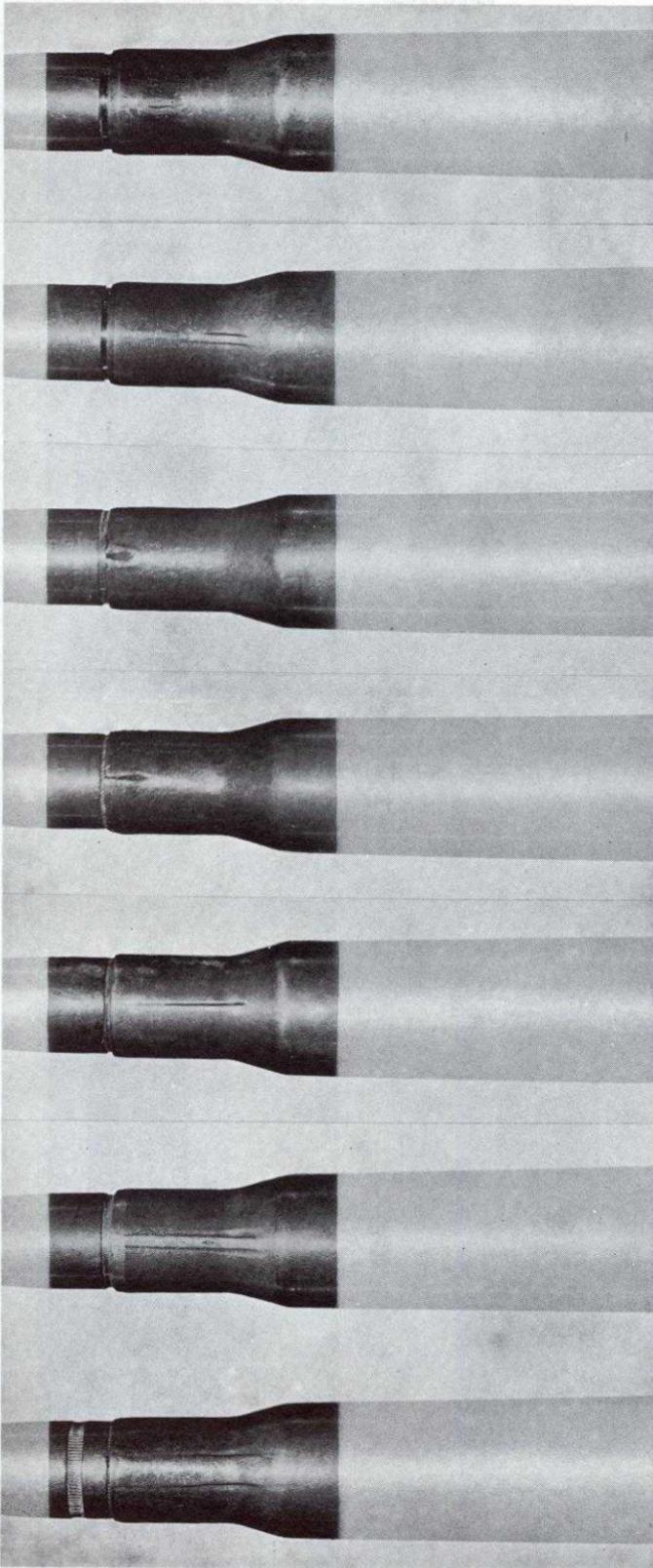
A cartridge will be classified as a critical defect for No Chamfer on Head if it fails in the function test prescribed in the applicable detailed specification.



[- - - - - Major - - - - -]

[- - - - - Permissible - - - - -]

No. 13c. No Chamfer on Head (rim) (Twice normal size)

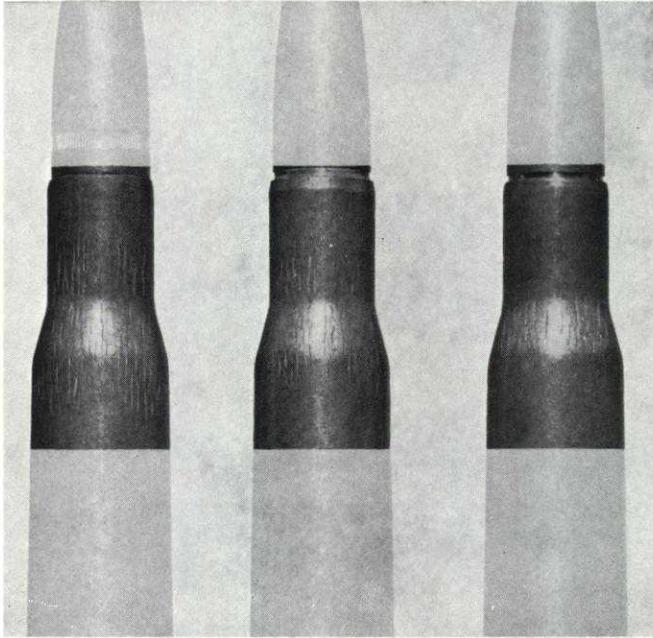


[- - - - - Permissible - - - - -]

[- - - - - Minor - - - - -]

No. 14. Fold

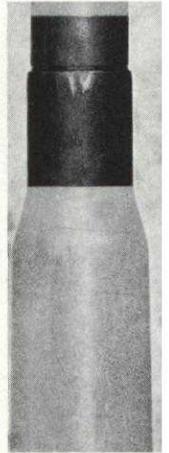
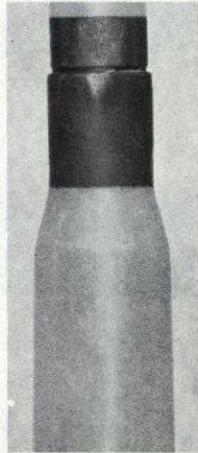
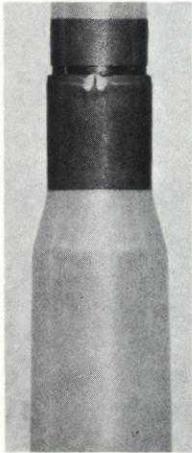
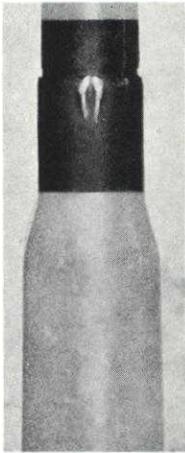




[- - - - - Minor - - - - -]

[Permissible]

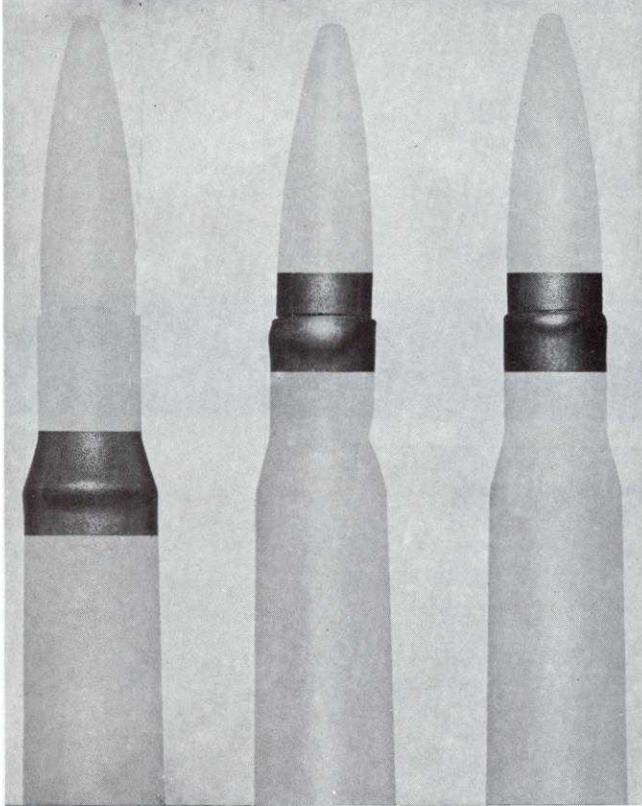
No. 15. Wrinkle



[- - - - - Minor - - - - -]

[- - - - - Permissible - - - - -]

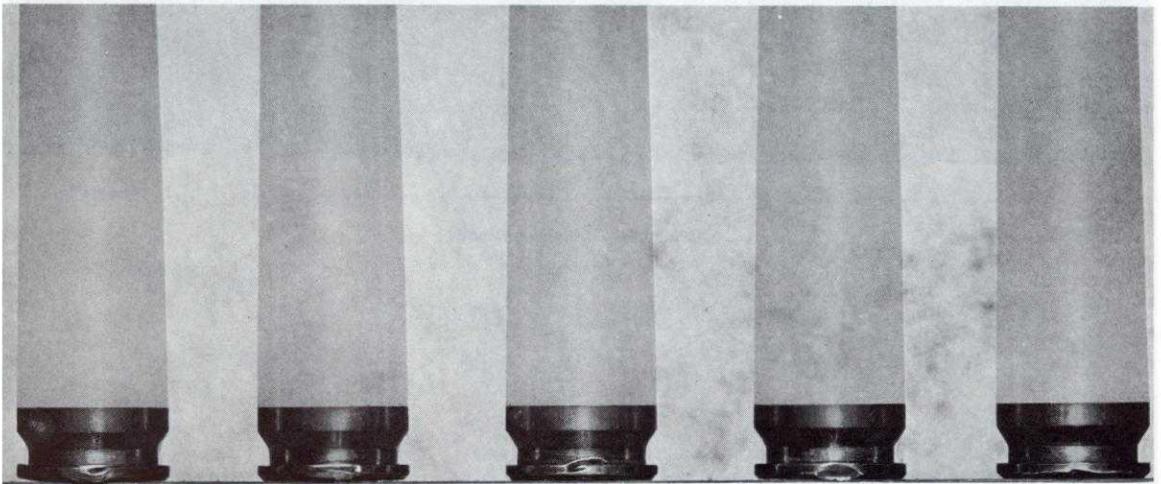
No. 16. Buckle



No. 18. Illegible or Missing Head Stamp
(Not illustrated)
Minor

[- - - - - Permissible - - - - -]

No. 17. Bulge



[- - - - - Minor - - - - -] [Permissible]

No. 19a. Defective Head



[----- Minor -----]

[Permissible]

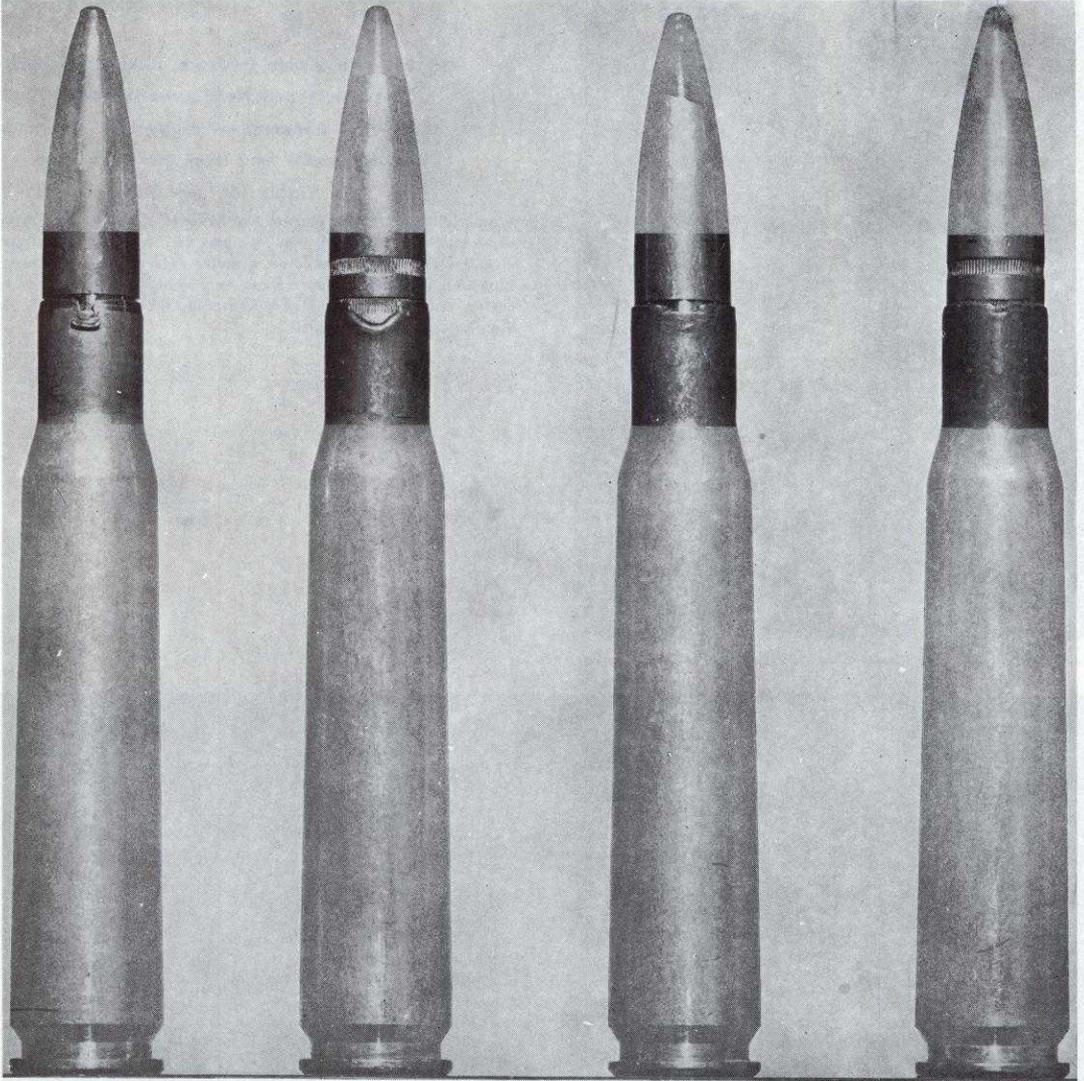
No. 19b. Defective Head



[----- Minor -----]

[Permissible]

No. 19c. Defective Head



[- - - - - Minor - - - - -]

[- - - - - Permissible - - - - -]

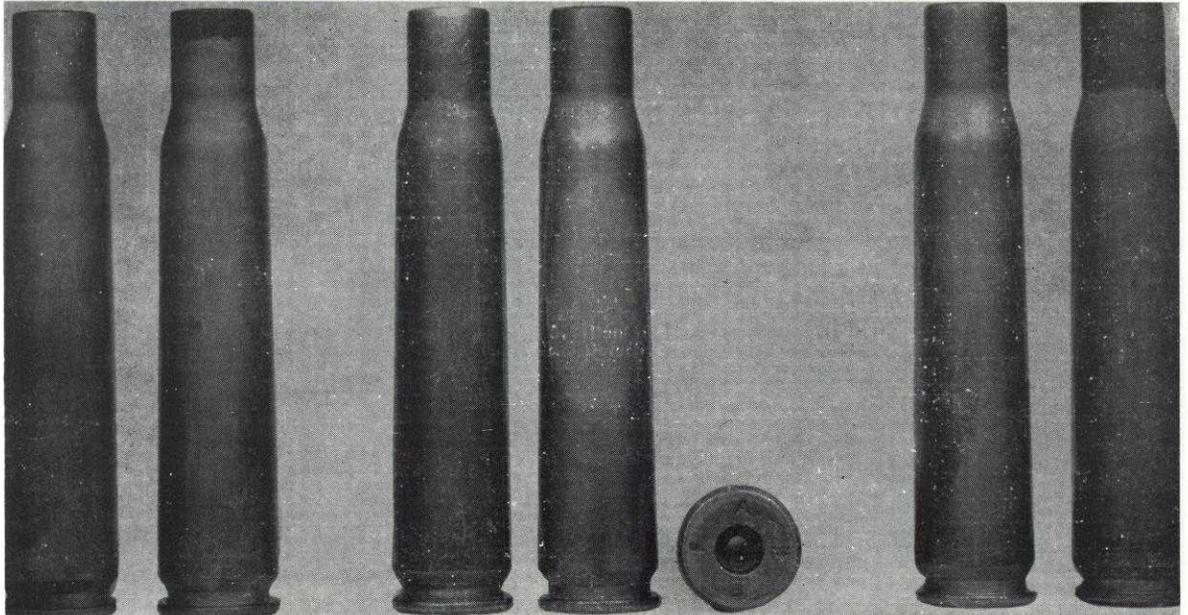
No. 20. Defective Mouth



No. 21. No Visible Evidence of Mouth Anneal
 Gas Mouth and Neck Annealed Case
 No Oxide Film Apparent — Major (see illustration)
 Induction Mouth and Neck Annealed Case
 No Visible Iris¹ — Major

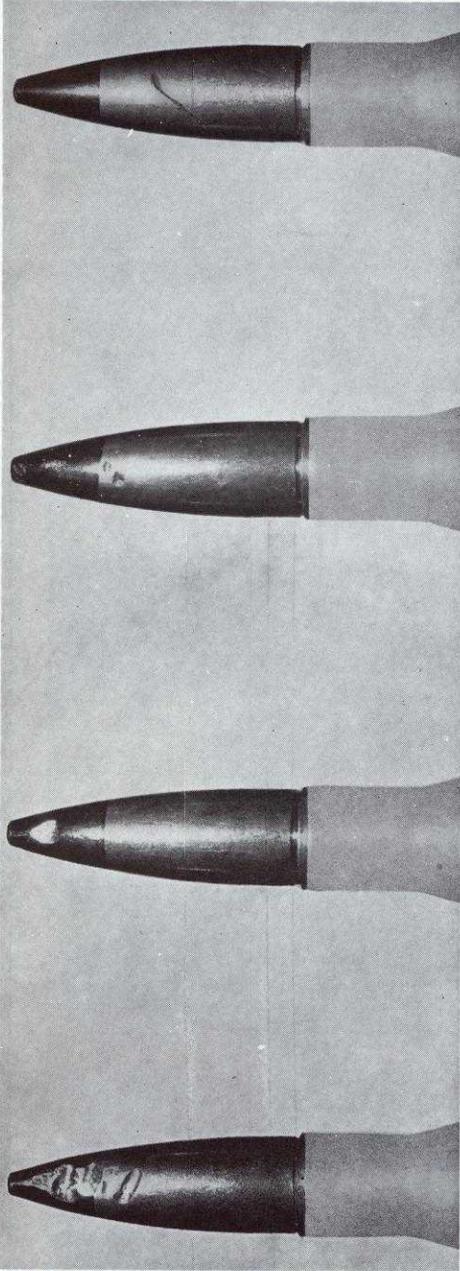
¹ Doubtful cases to be decided by Rockwell 30T hardness reading of assembled cartridges taken on the case $\frac{1}{8}$ " from mouth. Absence of visible iris shall be considered a major defect if this hardness, when compared with the hardness taken on cartridges assembled with cases having visible evidence of mouth anneal, shows conclusively that the case has not been annealed.

[— Major —] [— — — — Permissible — — — —]



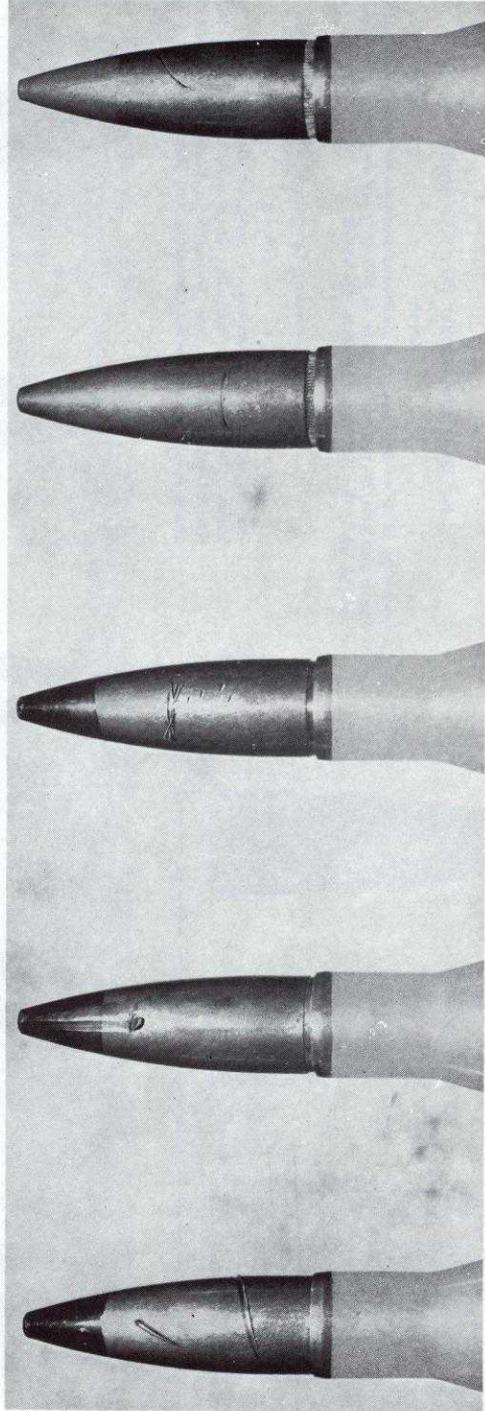
[— — — — Major — — — —] [— — — — Minor — — — —] [— — — — Permissible — — — —]

No. 21A. Defective Protective Finish
 Cal. .50 Steel Case



[--- Minor ---] [--- Permissible ---]

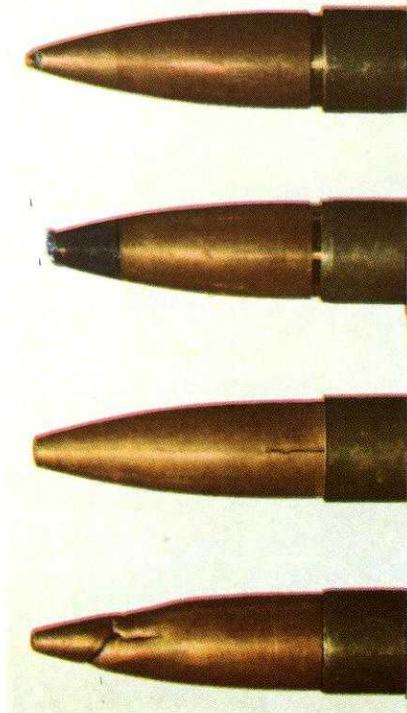
No. 22. Dent (bullet)



[--- Minor ---] [--- Permissible ---]

No. 23. Scratch (bullet)

← No. 24. Split Bullet Jacket



A cartridge is to be counted as a defective because of a split bullet jacket if the jacket shows a definite separation of the metal so as to expose the core or slug.

No. 25. Loose Bullet (Not illustrated)

Major

A cartridge is to be counted as a defective because of a loose bullet if the bullet can be moved relative to the case by twisting, pushing or pulling while the cartridge is held in the hands.

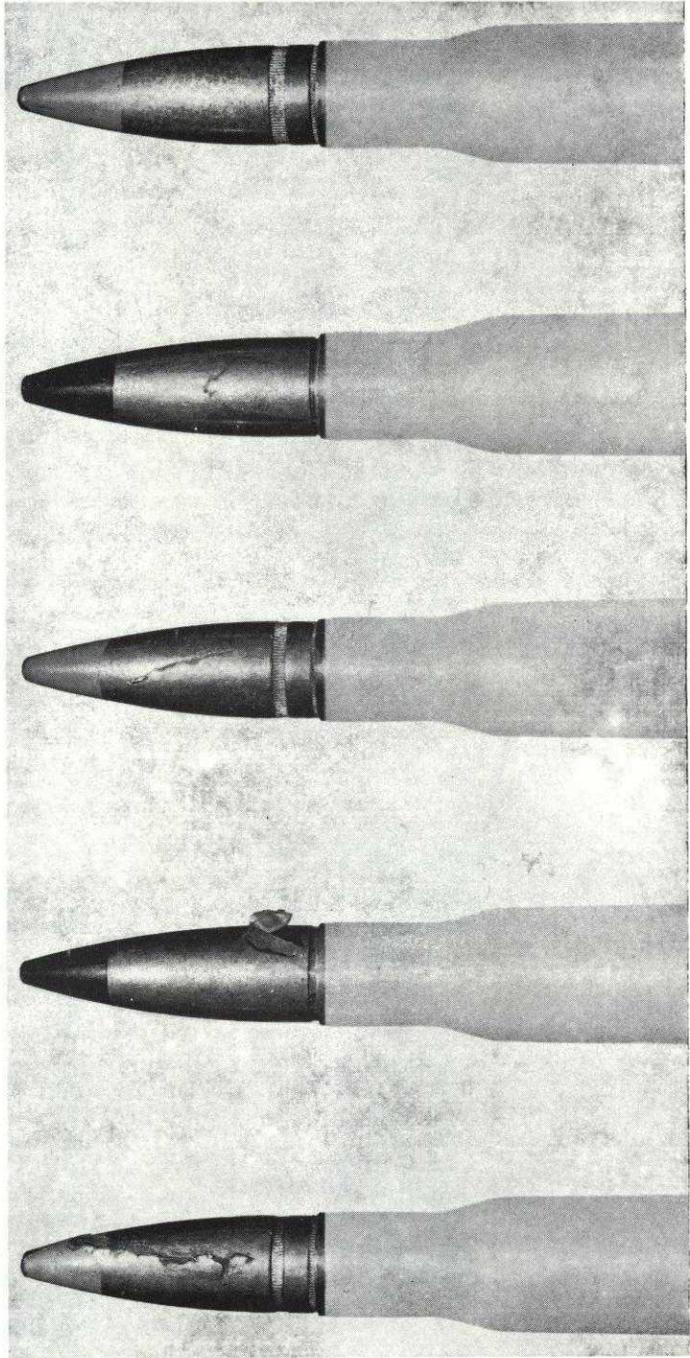
No. 26. Missing Cannelure (Not illustrated)

Major

The defect, missing cannelure, may be determined by pulling the bullet. However, the cartridge in question must not contain defect

No. 11—Case Mouth not Crimped in Cannelure, wherein the case mouth is located above the cannelure (not illustrated).

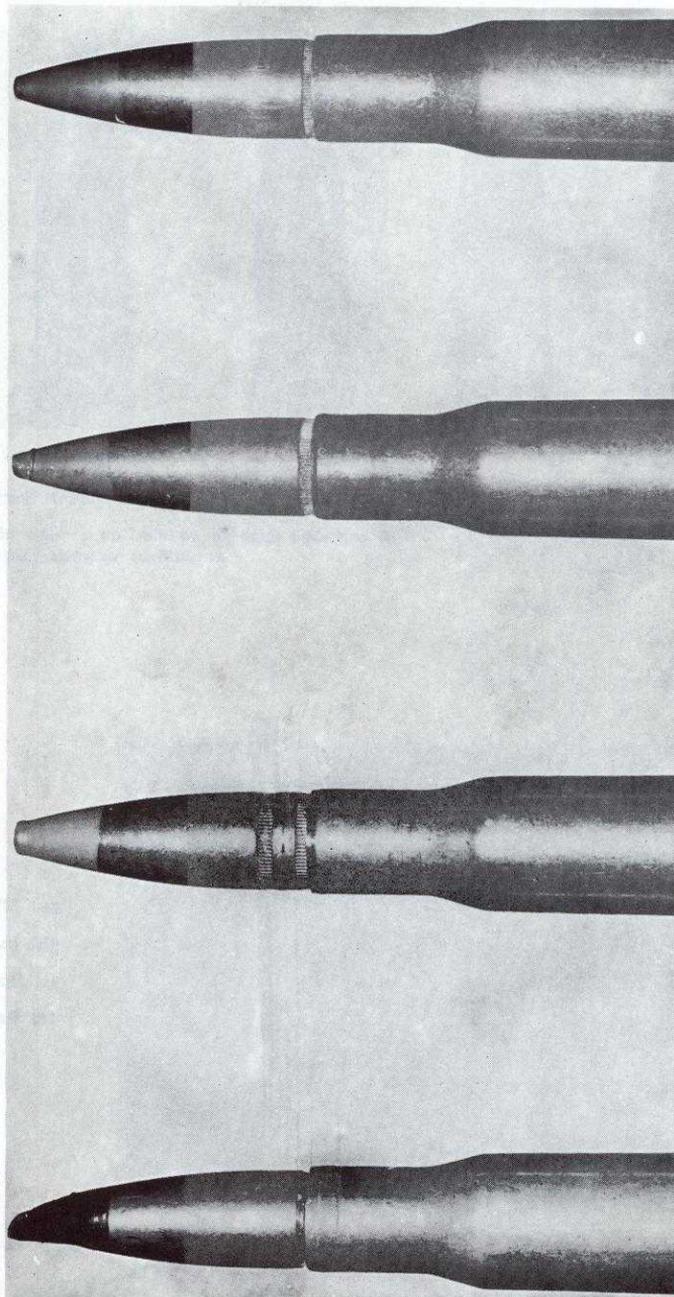
[----- Major -----]



[----- Major ----- Minor ----- Permissible]

No. 27. Scaly Metal (bullet)

In classifying scaly metal cartridges, due consideration must be given to the depth as well as the area of the scale.



[--- Minor ---]

[--- Upset (crooked) Point ---]

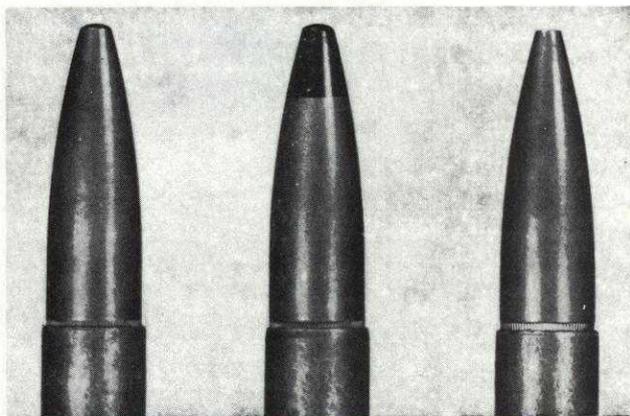
[--- Permissible ---]

No. 28. Upset (crooked) Point



Minor

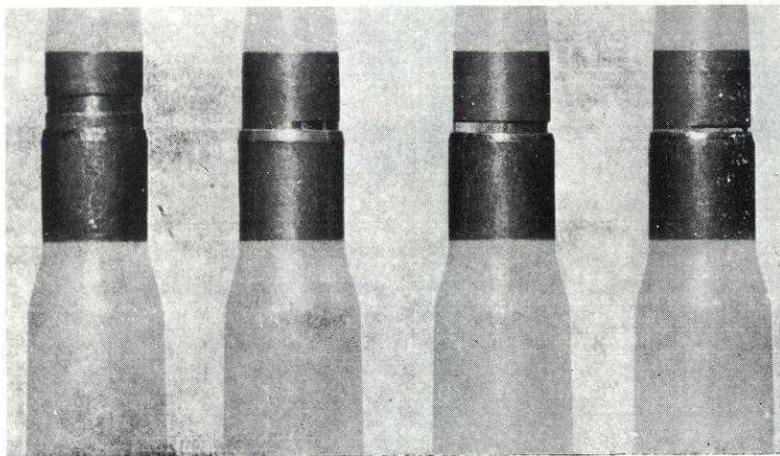
No. 29. Exposed Steel (clad jacket)



Permissible

No. 30. Blunt Point

A cartridge is to be counted as a minor defective if point bluntness or flatness exceeds that shown.



a

b

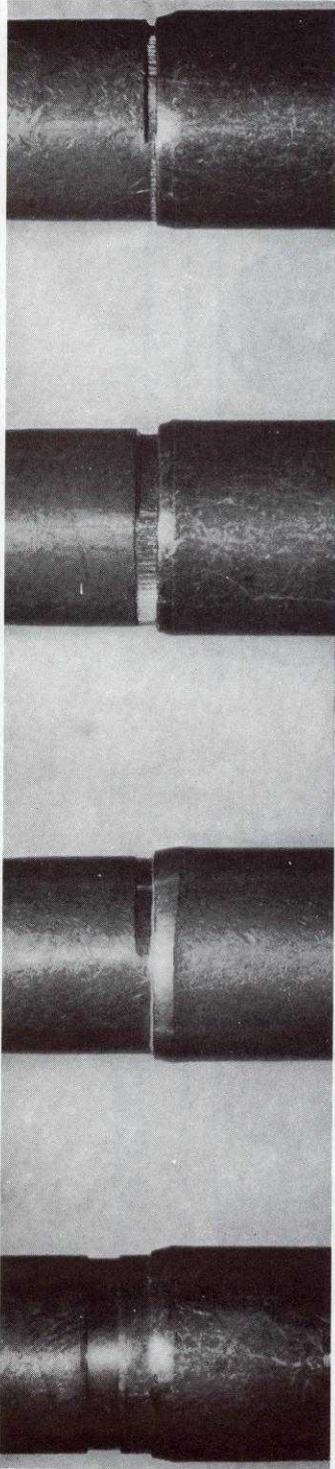
c

d

Minor

No. 31a. Defective Cannellure

- (a) Misplaced Cannellure.
- (b) Incomplete Cannellure.
- (c) Double Cannellure.
- (d) Deformed Cannellure.



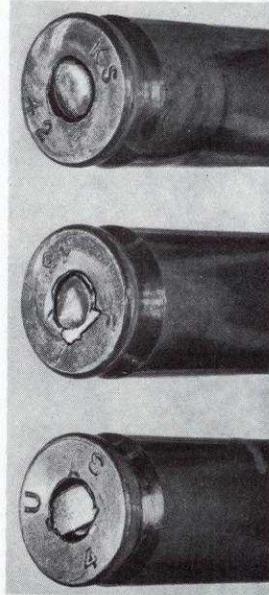
[- - - - - Minor - - - - -]

No. 31b. Defective Cannellure
(Twice normal size)



[- Critical -]

No. 32. No Primer



[- - - - - Critical - - - - -] [- Major -]

No. 33. Cocked Primer

An obvious cocked primer, or a suspected cocked primer that fails to ignite the propellant is a critical defective. A suspected cocked primer that ignites the propellant is to be counted a major defective.



[- Critical -]

No. 34. Inverted Primer

LIST OF DEFECTS

CALIBER .22 LONG RIFLE (COMMERCIAL)

CARTRIDGE

No.		Page
1.	Corroded or Stained.....	66
2.	Crooked.....	66

CASE

3.	Dented or Mashed.....	66
4.	Split Case.....	66
5.	Perforated Case.....	66
6.	Draw Scratch.....	67
7.	Draw Rough.....	67
8.	Scratch (case).....	67
9.	Scaly Metal.....	67
10.	Fold.....	67
11.	Wrinkle.....	67
12.	Bulge.....	67
13.	Defective Head.....	68
14.	Defective Mouth.....	68
15.	No Lubricant Coating.....	68

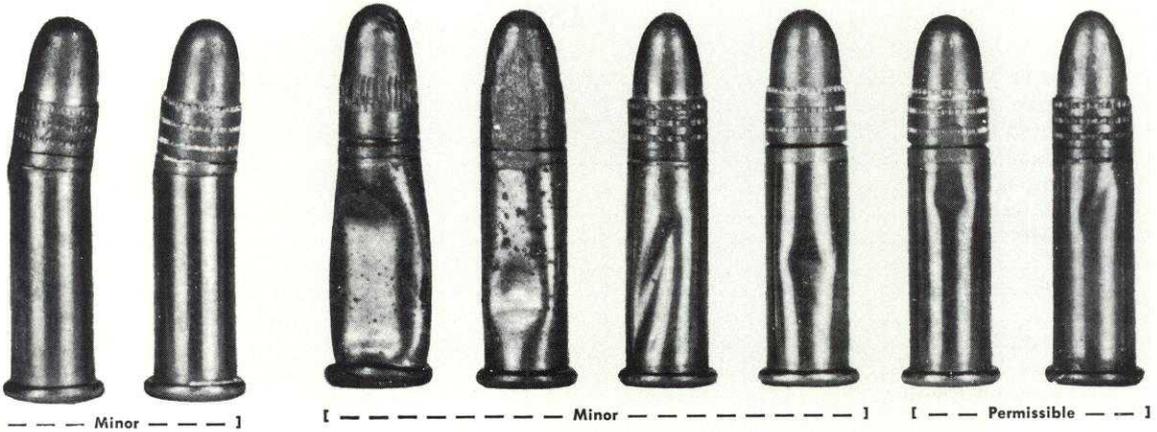
BULLET

16.	Dent (bullet).....	68
17.	Scratch (bullet).....	98
18.	Gash (bullet).....	68
19.	Upset Point.....	68
20.	Flat Point.....	68
21.	Jam.....	68



No. 1. Corroded or Stained

Where etching appears in stained areas, local or general, the cartridge will be classified as a major defective.



No. 2. Crooked

Classified as a major if cartridge fail to chamber in an M2 rifle.

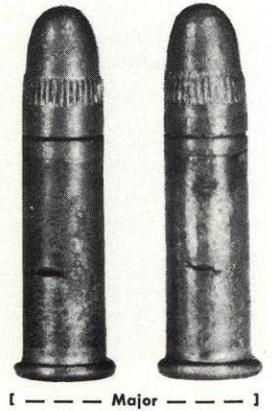
No. 3. Dented or Mashed

Classified as a major if cartridge fail to chamber in an M2 rifle.

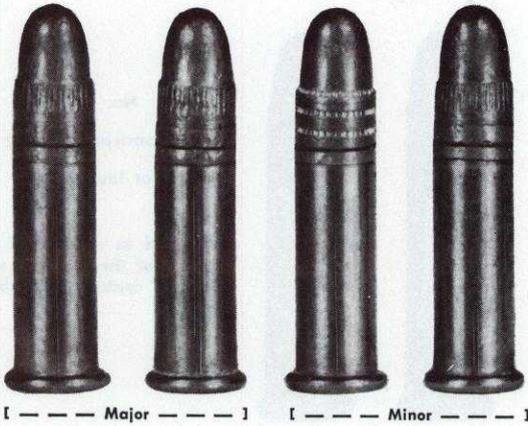


No. 4. Split Case

A definite separation of the metal entirely through the case wall.

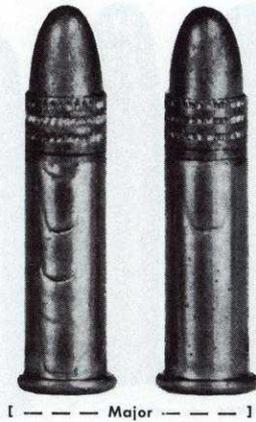


No. 5. Perforated Case



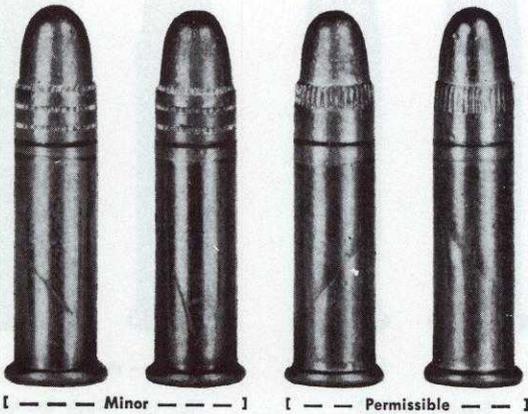
No. 6. Draw Scratch

The seriousness of a draw scratch is to be determined by the depth, location and length of the scratch. Only those draw scratches which cannot be detected by the finger nail are permissible.



No. 7.

Draw Rough

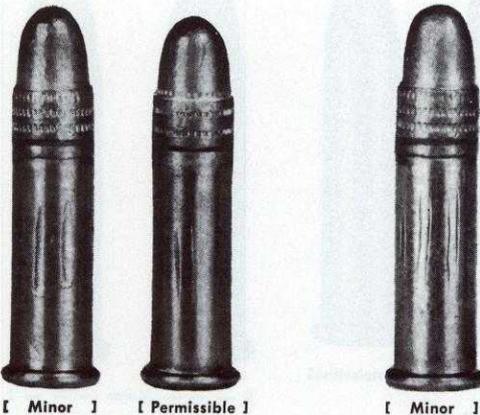


No. 8. Scratch (case)



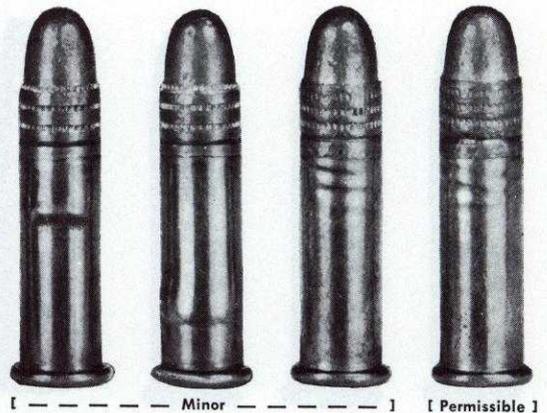
No. 9. Scaly Metal

In classifying scaly metal, due consideration must be given to the depth as well as the area of the scale.



No. 10. Fold

No. 11. Wrinkle



No. 12. Bulge

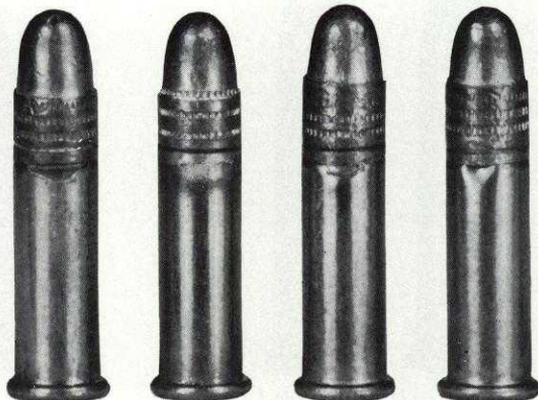
Classified as a major if cartridge fail to chamber in an M2 rifle.



[--- Minor ---]

No. 13. Defective Head

Classified as a major if cartridge fail to chamber or fire in an M2 rifle.



[--- Minor ---] [--- Permissible ---]

No. 14. Defective Mouth

No. 15.

No Lubricant Coating
(Not illustrated)

Classified as a minor if all or part of the bullet is not properly coated with lubricant.



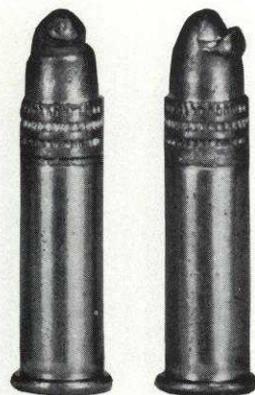
[--- Minor ---] [Permissible]

No. 16. Dent (bullet)



[--- Minor ---] [Permissible]

No. 17. Scratch (bullet)



[--- Major ---]

No. 18. Gash (bullet)



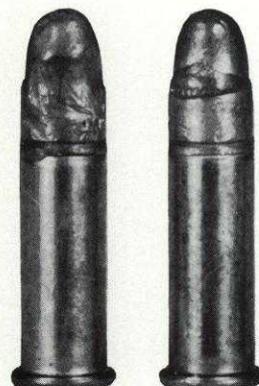
[--- Minor ---] [Permissible]

No. 19. Upset Point



[--- Minor ---] [Permissible]

No. 20. Flat Point



[--- Major ---]

No. 21. Jam

LIST OF DEFECTS

12-GAGE SHOTGUN SHELLS

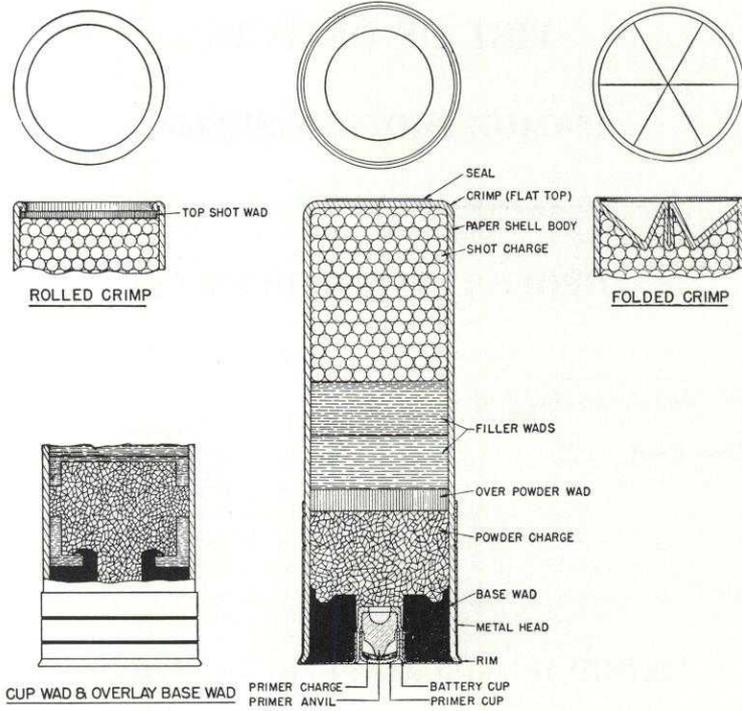
GROUP I—VISUAL DEFECTS

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1.	Tipped Wads.....	70
2.	Open Crimp.....	71
3.	Visual Defects Which May Cause Malfunctions:	
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b.	Sheared Paper Over Head.....	71
c.	Mashed Head.....	71
d.	Head Split.....	71
e.	Defective Body.....	71
f.	Shot Pimples.....	71
g.	Battery Cup Defects.....	71

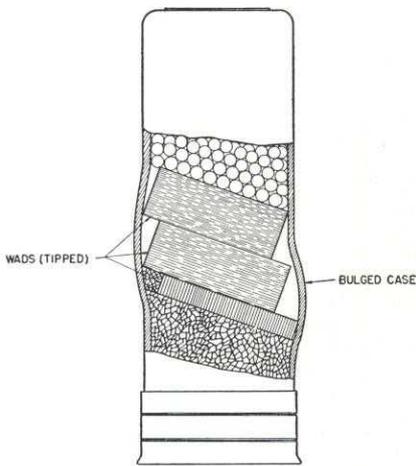
GROUP II—VISUAL DEFECTS—FIRING

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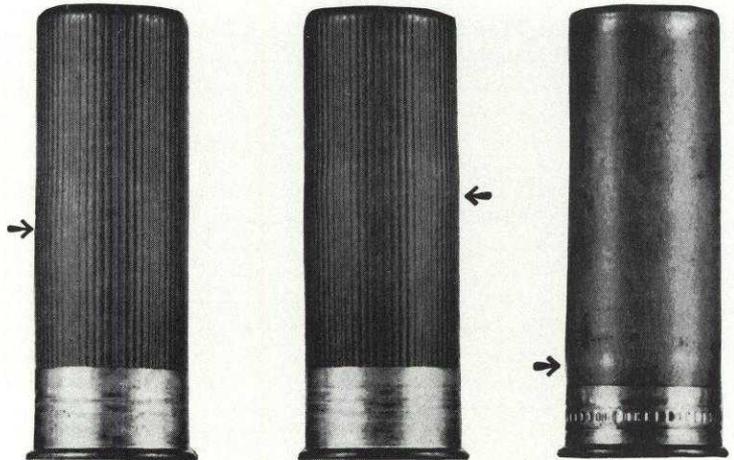
CROSS SECTION OF SHOTGUN SHELL
TYPE II AND III ONLY



GROUP I—VISUAL DEFECTS



CROSS SECTION OF SHOTGUN SHELL
ILLUSTRATING TIPPED WADS AND
RESULTING BULGED CASE



Bulged Shells, caused by
tipped filling wads.

Bulged Shell, caused by
tipped over powder wad.

No. 1. Tipped Wads



No. 2. Open Crimp

Exposing shot to extent that loss in shot charge can occur.



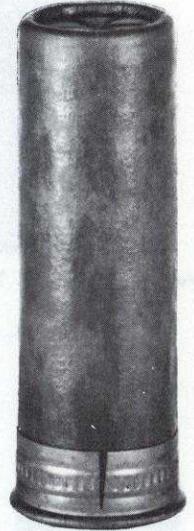
a. Defective Head



b. Sheared Paper Over Head



c. Mashed Head



d. Head Split



e. Defective Body



f. Shot Pimples



g. Battery Cup Defects

No. 3. Visual Defects Which May Cause Malfunctions. Note: Shells having visual defects, which, in the belief of the Government Inspector will cause malfunctions, shall be segregated at the time of visual inspection and tested separately for chambering through the magazine by the action of the gun, and fired. Such shells which, when chambered through the magazine, function, feed, fire and eject satisfactorily, shall not be counted as defectives. This does not apply to shells which have been subjected to the water absorption test.

GROUP II—FIRING DEFECTS



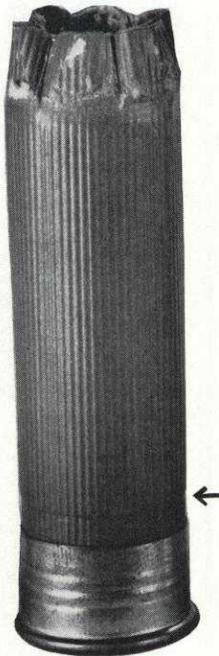
No. 4. Head Split, Through Head



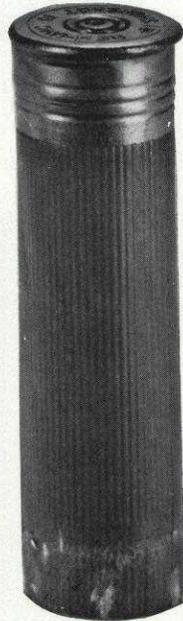
No. 5. Head Pulled Off



No. 6.
Head Start
Less Than $\frac{1}{8}$ "



No. 7.
Head Start
More Than $\frac{1}{8}$ "



No. 8.
Bulged Rim



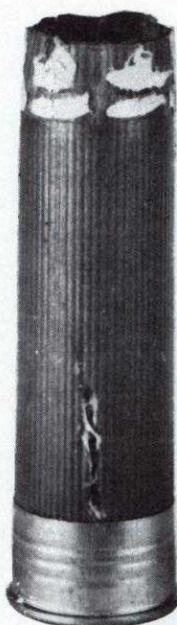
No. 9.
Burst Rim



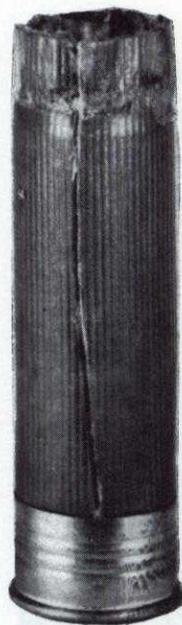
No. 10.
Split Knurl



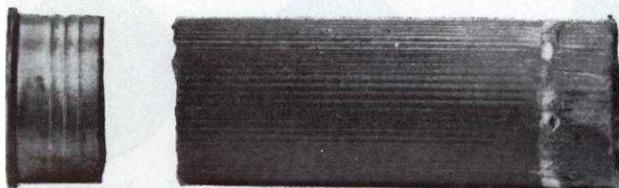
No. 11.
Split Mouth



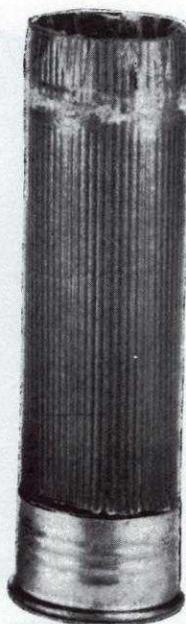
No. 12.
Partial Split
Less Than Shell Length



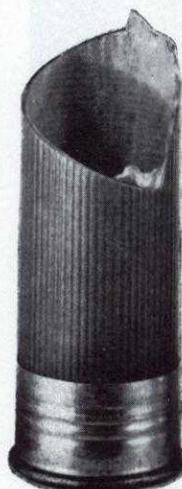
No. 13.
Body Split
Full Length



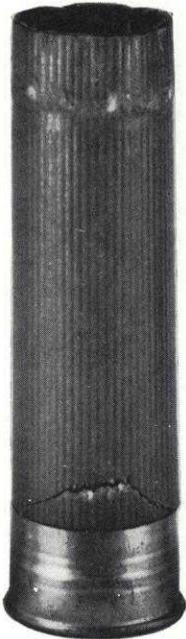
No. 14. Head Cut Off



No. 15.
Partial Cut Off



No. 16.
Body Cut Off



No. 17.
Rupture



No. 18.
Powder Burns



Blown Battery Cup



Blown Primer

No. 19. Blown Battery or Primer Cup



Deformed
Head



Deformed
Battery Cup



Anvil

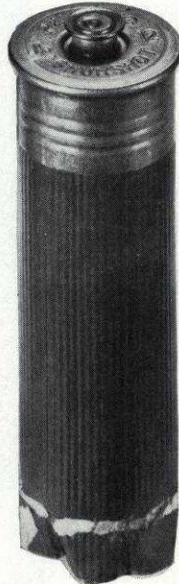


Deformed
Primer Cup

No. 20. Primer Blown Up



Primer Set Back



Battery Cup Set Back

No. 21. Primer Set Back



[— — Defect — —]



[— Permissible —]

No. 22. Primer Leak

A primer leak shall be considered a defect if there be signs of leakage around 50 per cent or more of the circumference, or if the leak be through the metal of the primer cup or battery cup.



No. 23.

Primer Punctured

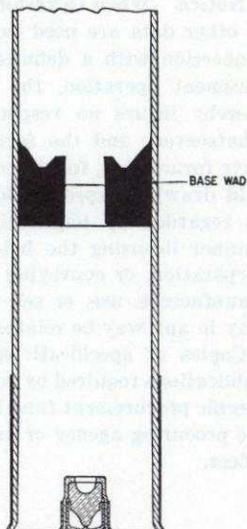
A perforated primer shall be considered a punctured primer if the diameter of the hole be smaller than the diameter of the firing pin.



No. 24.

Primer Pierced

A perforated primer shall be considered a pierced primer if the diameter of the hole be as large or larger than the diameter of the firing pin.



CROSS SECTION OF FIRED SHOTSHELL
ILLUSTRATING BLOWN BASE WAD
(WHEN BASE WAD IS BLOWN
IT MAY LODGE IN BORE)

No. 25.

Blown Base Wad



No. 26.

Misfire

5 June 1958

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