MILITARY STANDARD

VISUAL INSPECTION STANDARDS

FOR

20MM AMMUNITION AND

COMPONENTS

TO ALL HOLDERS OF MIL-STD-651

1. The following pages of MIL-STD-651 have been revised and supersede the pages listed:

New Page	Date	Superseded Page	Date
127	27 February 1970	106	18 October 1962

2. The following pages are to be added:

New Page	Date
8a	27 February 1970
24a	27 February 1970
106-126	27 February 1970

3. The following pen-and-ink changes are to be made:

Page 13, delete item D.

4. RETAIN THIS NOTICE AND INSERT BEFORE THE TABLE OF CONTENTS.

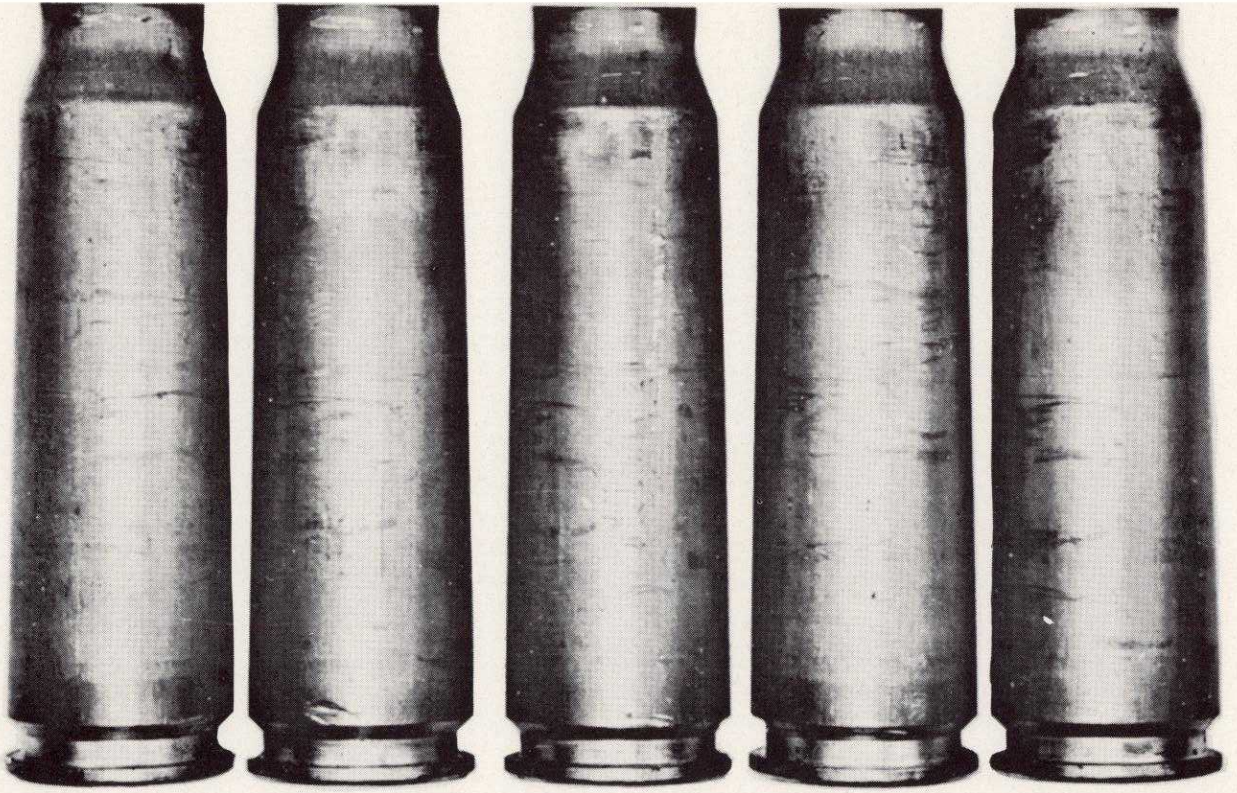
5. Holders of MIL-STD-651 will verify that page changes and additions indicated above have been entered and will destroy the previous notice (notice page only). The latest notice (notice pages) will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the Military Standard is completely revised or cancelled.

Custodians:
Army - MU
Air Force - 70

Review Activities:
Army - MU
Air Force - 70

Preparing Activity:
Army - MU

Project No. 1305-0331

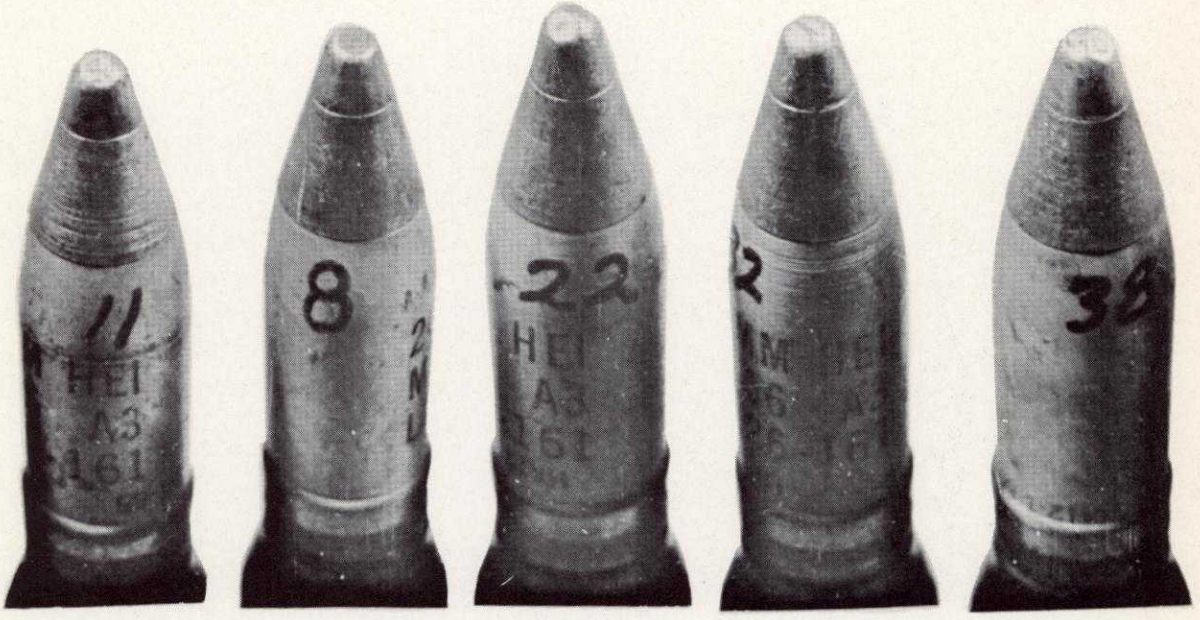


(. . . . . Acceptable. . . . . .)

Dent (Case)

Characteristic of delinked and relinked ammunition

(Added as additional acceptable "dent case," page 8)



(. . . . . .Acceptable. . . . . .)

Dent in fuze nose cap

(Added as "Acceptable" dent, fuze nose cap, page 24)

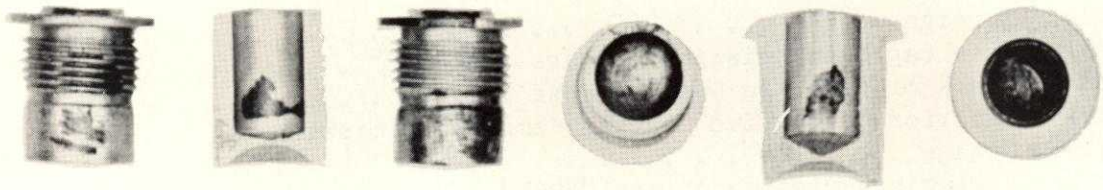
LIST OF DEFECTS

FUZE, POINT DETONATING, M505A3, PARTS FOR

No. Page

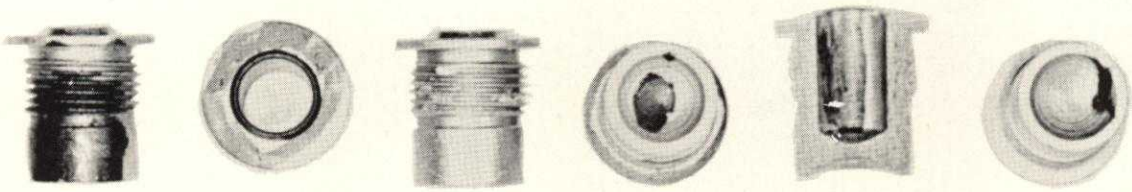
Metal Parts Assembly

Firing Pin



A B C D E F

(. . . . . .Nonacceptable. . . . . .)

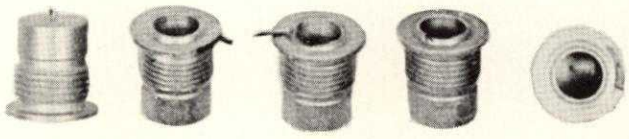


G H I J K L

(. . . . . .Nonacceptable. . . . . .)

A. Oil or grease, presence interior or exterior
B. Corrosion, interior
C. Corrosion, exterior
D. Corrosion, spherical area
E. Dirt, interior
F. Chips, interior
G. Dirt and stain, exterior
H. Chips, exterior
I. Dirt, exterior
J. Stain, exterior
K. Stain, interior
L. Stain, spherical surface

No. 208. Foreign matter



(. . . . . .Nonacceptable. . . . . .)

No. 209. Burr, sliver, sharp corner or edge

No. 210. Radii, external, max. (except spherical radius) (not illustrated) (Normally conformance of radii to specified dimensional limits will be judged visually. However, components having doubtful conformance to requirements shall be measured.)

A B C D E

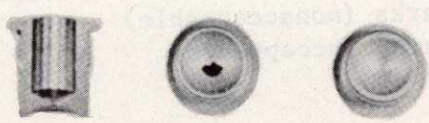
(. . . . . Nonacceptable. . . . .)

F G H

(. . . . .Nonacceptable. . . . .)

A. Missing
B. Bare spot, exterior
C. Bare spot, interior
D. Spotty
E. Blistered
F. Cut, nick, scratch or score
G. Basis metal exposed
H. Scratch, dent (basis metal not exposed)

No. 211. Protective coating damaged or missing

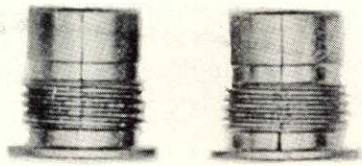


(. .Nonacceptable. .)(Acceptable)

A. Drill point in web (nonacceptable)*
B. Perforation (nonacceptable)
C. Normal

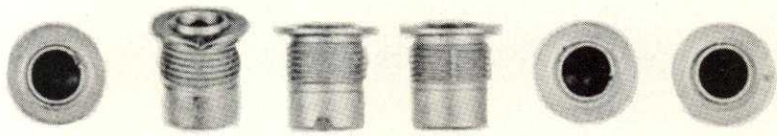
*A booster holder which complies with the specified dimensional requirements shall be classed defective if there is visual evidence of web rupture or perforation, as observed against an illuminated white background.

No. 212. Thickness of web

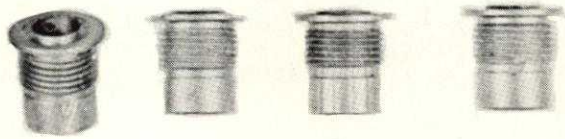


(. . . . Nonacceptable. . . .)

No. 213. Crack or split



A B C D E F



G H I J

A. Dent, crimping lip (nonacceptable)
B. Dent or nick (nonacceptable)
C. Dent, body (nonacceptable)
D. Dent, nick or score on thread*
E. Dent, crimping lip (acceptable)
F. Cut or nick, flange (acceptable)
G. Scratch, score, dent (basis metal not exposed)(acceptable)
H. Scores, tool marks (nonacceptable)
I. Scores, tool marks (acceptable)
J. Thread damaged*

*Damaged threads shall be checked using the specified "Go" thread gage to determine the extent of damage. The component item shall be classed defective if the damaged thread is not accepted by the gage.

No. 214. Damage

No. 215. Finish (not illustrated - refer to drawing)

(Nonacceptable)

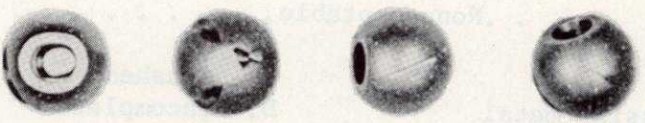
No. 216. Thread undercut missing

A B C D

(. . . . . .Nonacceptable. . . . . .)

A. Oil or grease
B. Chips
C. Dirt (exterior)
D. Dirt (interior)

No. 217. Foreign matter



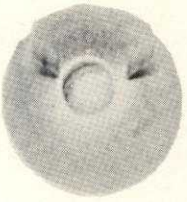
A B C D

(. . . . . Nonacceptable. . . . .) (Acceptable)

A. Deformity
B. Gouge
C. Score, dent or nick
D. Dent or nick*

*Raised metal protruding above the spherical surface shall be classed as damaged if the maximum spherical diameter, measured across the raised metal, is exceeded.

No. 218. Damage



(Nonacceptable)

No. 219. Detent spring seat encroaches upon flash hole

No. 220. Sharp corner or edge (not illustrated - refer to drawing)

No. 221. Finish (not illustrated - refer to drawing)

No. 222. Radius, base of detent spring seat (not illustrated) (Components having doubtful compliance with the requirements shall be gaged.)

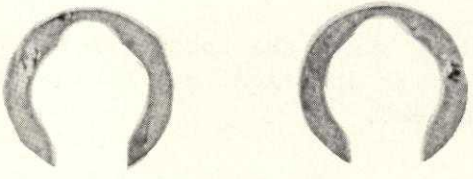
A B C D E

(. . . . . .Nonacceptable. . . . . .) (Normal)

A. Twisted*
B. Gouge, missing metal
C. Crushed
D. Incomplete
E. Normal

*Shown for information only and is detected by gaging.

No. 223. Deformity (excluding out of flatness)



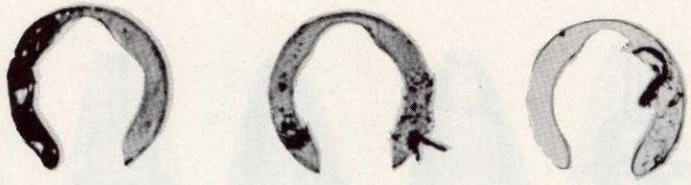
A (Nonacceptable)

B (Acceptable)

A. Burr

B. Burr

No. 224. Burr or sharp edge (For sharp edge - refer to drawing)



A B C

(. . . . . .Nonacceptable. . . . . .)

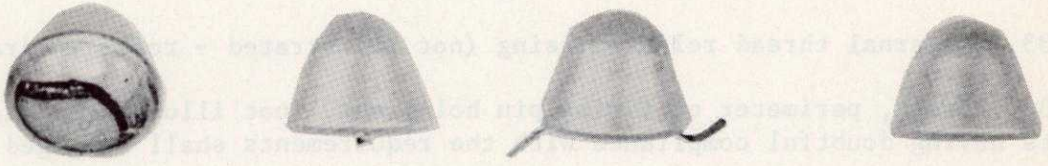
A. Grease B. Dirt C. Slivers

No. 225. Foreign matter including corrosion (corrosion not illustrated)

No. 226. Radii open end (not illustrated) (Components having doubtful compliance with the requirements shall be gaged.)

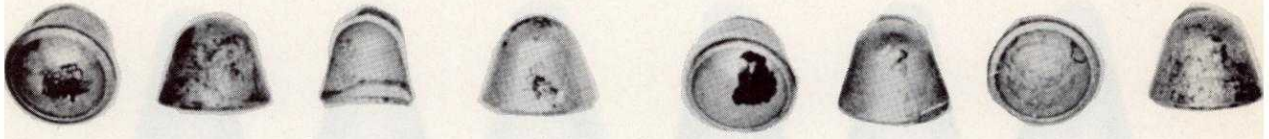
No. 227. Radius opposite open end (not illustrated) (Components having doubtful compliance with the requirements shall be gaged.)

No. 228. Finish (not illustrated - refer to drawing)



(. . . . . Nonacceptable. . . . . .) (Acceptable)

No. 229. Burr or sliver, inside edge of crimping lip

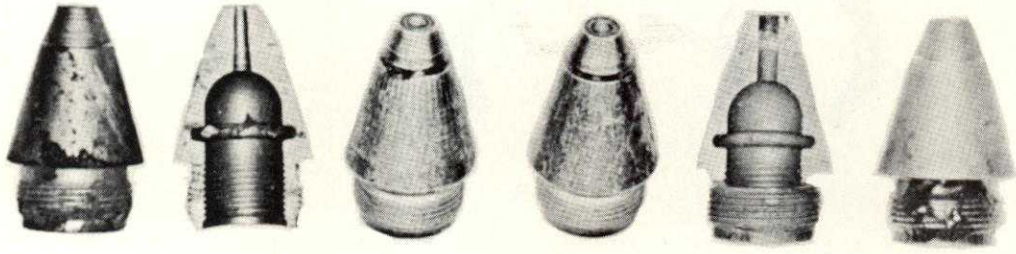


A B C D E F G H

A. Corrosion (interior) (nonacceptable)
B. Corrosion (exterior) (nonacceptable)
C. Dirt (interior) (nonacceptable)
D. Dirt (exterior) (nonacceptable)
E. Stain (interior) (nonacceptable)
F. Stain (exterior) (acceptable)
G. Stain (interior) (acceptable)
H. Stain (exterior) (nonacceptable)

No. 230. Foreign matter

No. 231. Finish, interior (not illustrated) (Components having doubtful compliance with the requirements shall be gaged)



A B C D E F

(. . . . . .Nonacceptable. . . . . .)

A. Dirt or corrosion
B. Chips, detent groove
C. Chips, crimp groove
D. Chips, crimp groove
E. Corrosion, firing pin hole
F. Oil or grease

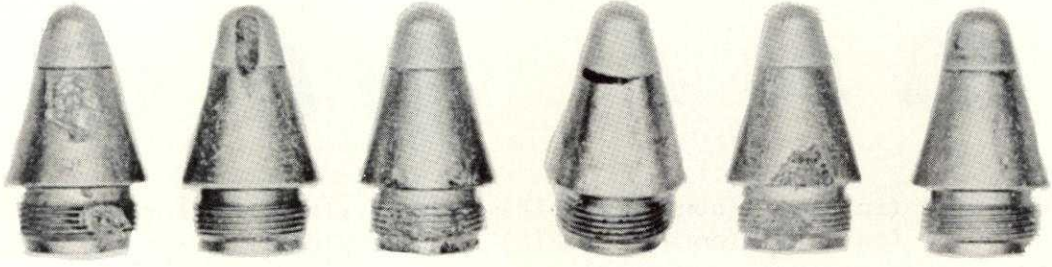
No. 232. Foreign matter

(Particular attention should be given to cleanliness of the rotor detent spring groove. The presence of foreign matter of any nature in the groove shall cause the body to be classed defective. Machining chips are especially objectionable. The use of a bent probe or other suitable inspection aid is suggested to detect the foreign matter in the groove area.)

No. 233. Internal thread relief missing (not illustrated - refer to drawing)

No. 234. Break, perimeter of firing pin hole, max. (not illustrated)(Components having doubtful compliance with the requirements shall be gaged.)

No. 235. Sharp corner or edge (not illustrated) (Components having doubtful compliance with requirements shall be gaged.)

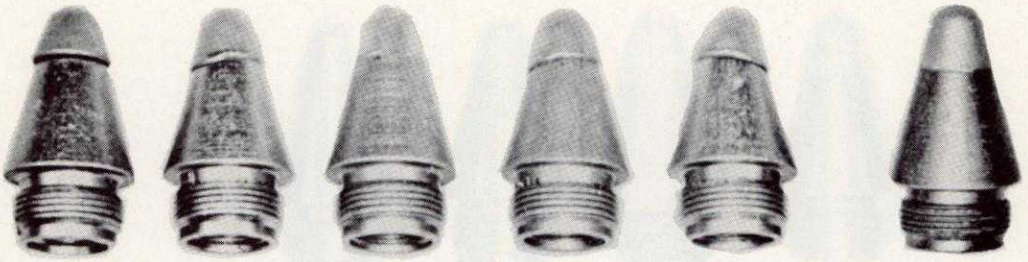


A B C D E F

(. . . . . Nonacceptable. . . . . .)(Acceptable)

A. Oil or grease
B. Corrosion
C. Dirt, threads
D. Foreign material, crimping area
E. Dirt, body and threads
F. Dirt

No. 236. Foreign matter

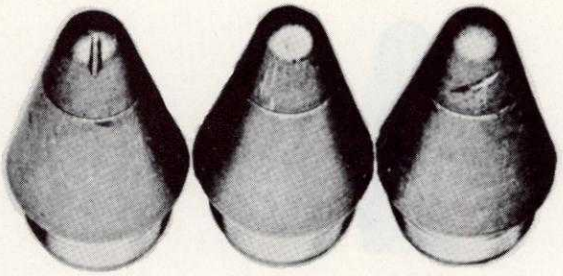


A B C D E F

(. . . . . Nonacceptable. . . . . .) (Acceptable)

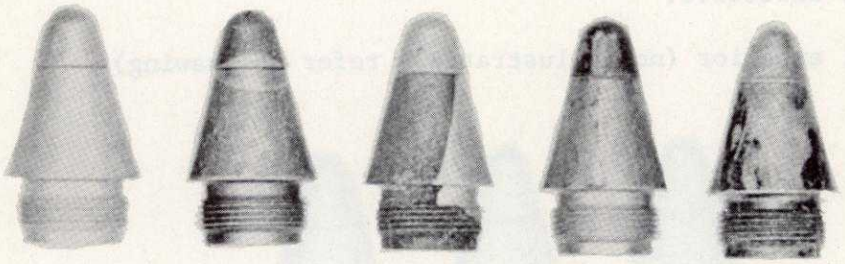
A. Crimp missing
B, C, D, E. Improper crimp
F. Normal

No. 237. Nose cap crimp missing or less than 360°



(. . . . . .Nonacceptable. . . . . .)

No. 238. Crack or split in body or nose cap

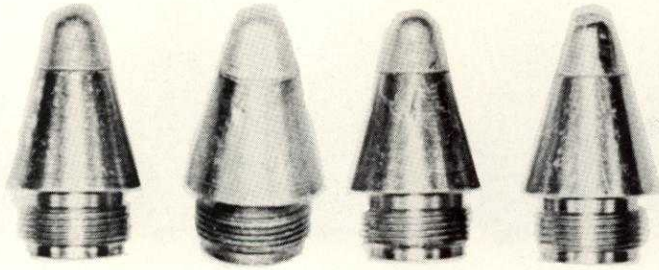


A B C D E

(. . . . . Nonacceptable. . . . . .)

A. Missing
B. Bare spot
C. Corrosion, stain
D. Corrosion, stain
E. Stain

No. 239. Exterior protective coating damaged or missing



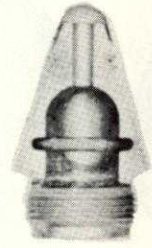
A B C D

(. . . . . .Nonacceptable. . . . . .)

A. Damaged threads
B. Nick on fuze body
C. Nick on fuze body
D. Nose cap dented

No. 240. Damage

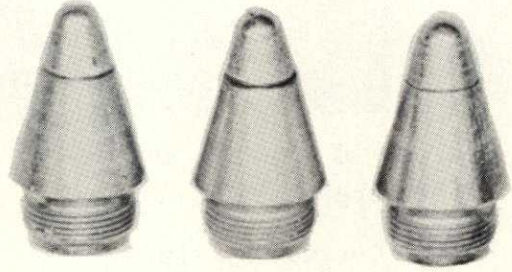
(Thread deformity shall be classed as damaged only if the assembly is rejectable by the "Go" thread gage.)



No. 241. Firing pin missing or not "FREE"* (nonacceptable)

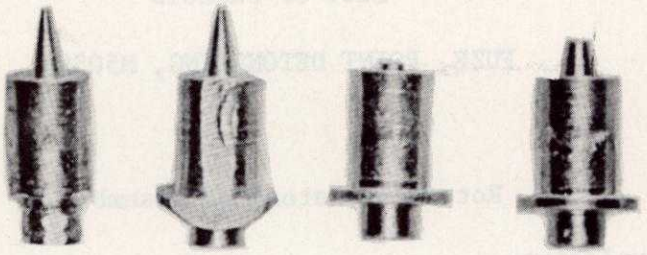
*A sample unit having no firing pin, as determined by visual inspection, or having a firing pin which does not move freely within the firing pin guide hole, as determined by shaking and audible sound (or other approved method), shall be classed defective.

No. 242. Finish, exterior (not illustrated - refer to drawing)



(. . . . . Nonacceptable. . . . . .)

No. 243. Nose cap crimp below flush with body taper

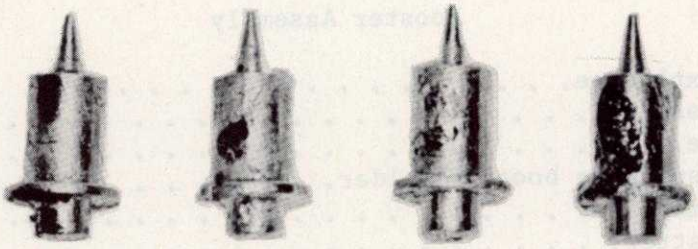


A B C D

(. . . . . .Nonacceptable. . . . . .)

A. Flange missing
B. Gouge or distortion
C. Firing pin point missing
D. Firing pin point missing

No. 244. Damage

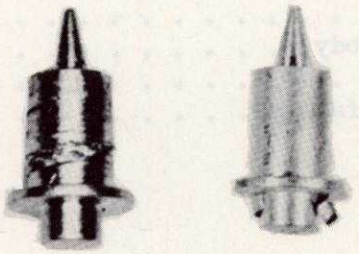


(. . . . . .Nonacceptable. . . . . .)

A. Oil or grease
B. Dirt
C. Dirt
D. Foreign matter

No. 245. Foreign matter

No. 246. Finish (not illustrated - refer to drawing)



(. . . . . Nonacceptable. . . .)

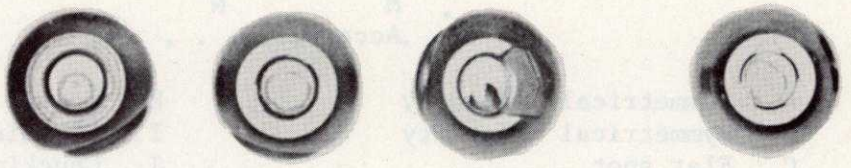
No. 247. Burr or sharp edge*

*Components having doubtful compliance with requirements shall be gaged.

LIST OF DEFECTS

FUZE, POINT DETONATING, M505A3

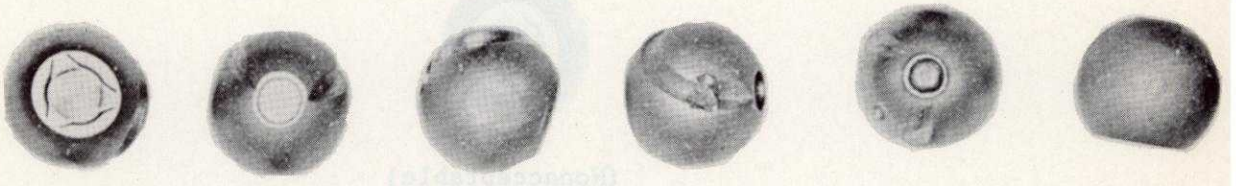
No. 248. Exposed explosive (not illustrated)
(Explosive, exposed through a split, crack, rupture, or perforation in the disc or cup, or loose explosive (flake or cake) or any other visible surface of the assembly, shall be cause for classifying the assembly defective.)



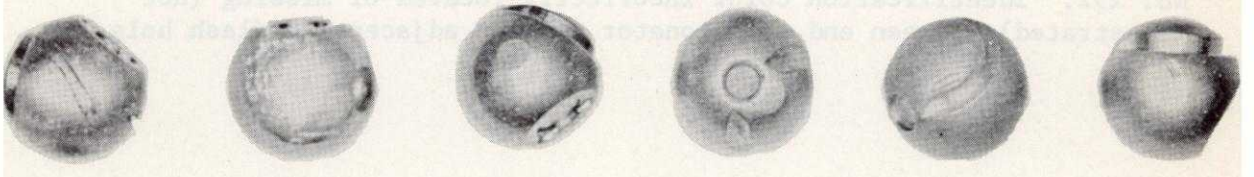
A B C D
(. . . . . .Nonacceptable. . . . . .) (Acceptable)

A. Missing
B. Light
C. Improperly positioned
D. Normal

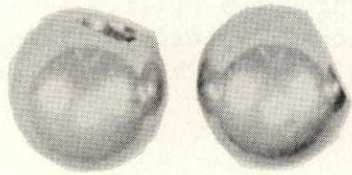
No. 249. Detonator stake missing



A B C D E F
(. . . . . .Nonacceptable. . . . .)



G H I J K L
(. . . . . .Nonacceptable. . . . .)

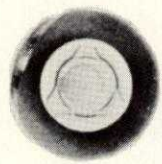


M N

(. . . .Acceptable. . . .)

A. Symmetrical deformity
B. Symmetrical deformity
C. Flat spot
D. Burr, detent spring seat
E. Burr flash hole
F. Dent
G. Fold
H. Scored
I. Chucking flat
J. Chucking flat
K. Nick
L. Dent
M. Dent
N. Scratch

No. 250. Spherical surface distorted



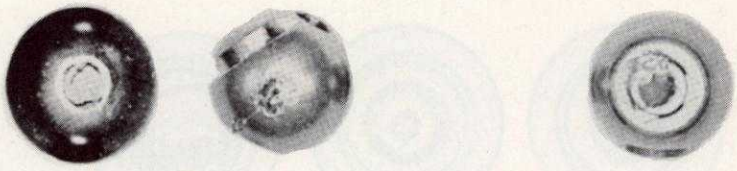
(Nonacceptable)

No. 251. Detonator missing

No. 252. Identification color incorrectly located or missing (not illustrated) (Green end of detonator must be adjacent to flash hole.)

A B C D E

(. . . . . Nonacceptable. . . . . .)

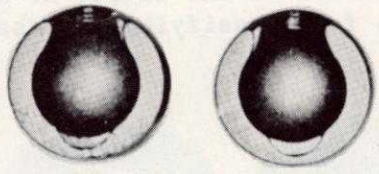


F G H

(. . . . Nonacceptable. . . .) (Acceptable)

A. Oil, dirt or grease
B. Foreign material, flash hole
C. Dirt, flash hole
D. Dirt, rotor detent spring seat
E. Metal obstruction in flash hole
F. Sealing compound in flash hole area
G. Dirt or grease, symmetrical surface
H. Sealant, detonator crimp area

No. 253. Foreign matter

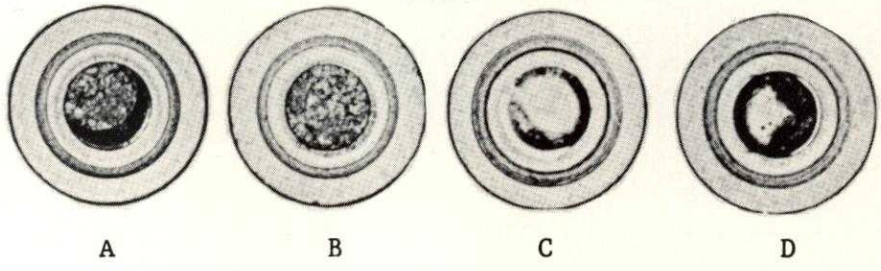


A B

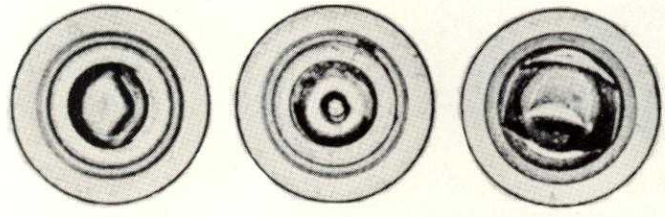
(. . . . Nonacceptable. . . .)

A. Broken B. Cracked

No. 254. Cracked, split or broken rotor detent spring



A B C D

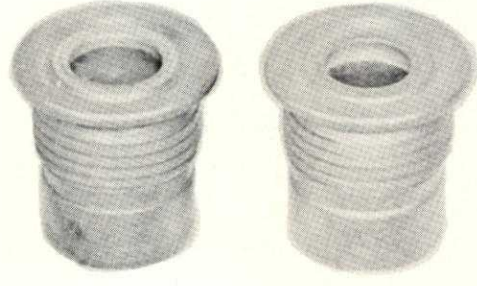


E F G

A. Closing disc crimped off center
B. Closing disc missing
C. Exposed explosive on closing disc
D. Partial closing disc
E. Partially crimped closing disc
F. Closing disc punctured
G. Closing disc damaged

No. 255. Exposed explosive

No. 256. Charge missing (not illustrated) (A booster holder found with the closing disc resting on the bottom of the cavity or any visual evidence of charge missing shall be cause for classifying the assembly defective.)

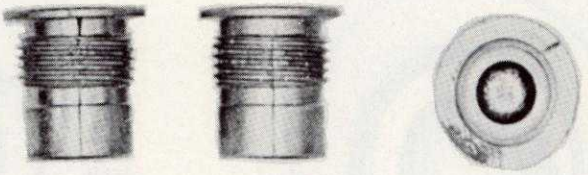


A B

(. . . . Nonacceptable. . . .)

A. Concave disc resting on charge
B. Loose disc resting on low charge

No. 257. Low charge



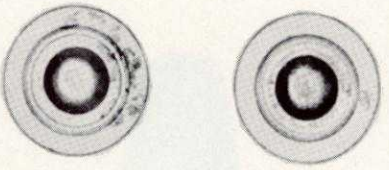
(. . . . . .Nonacceptable. . . . . .)

No. 258. Crack or split in booster holder

No. 259. Thread damaged (not illustrated) (The booster assembly shall be classed defective if the thread is crushed or otherwise distorted to a degree that prevents acceptance by the "Go" thread gage.)

A B C

(. . . . . .Nonacceptable. . . . . .)

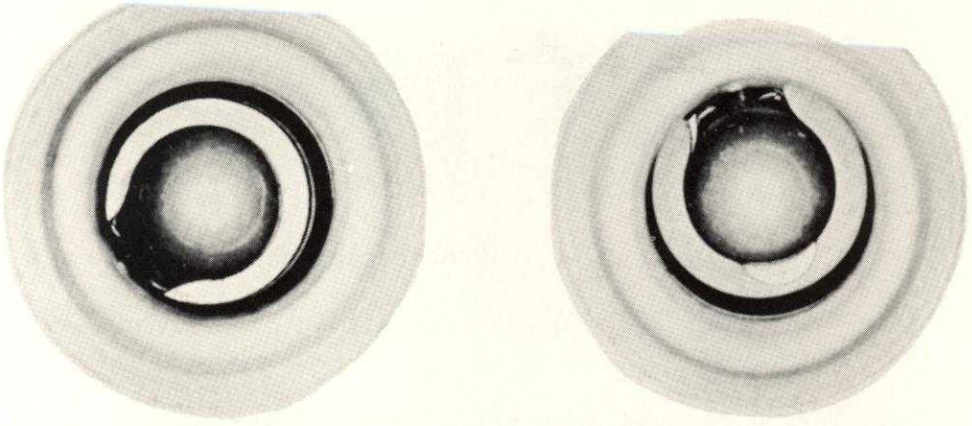


D E

(. . . . .Acceptable. . . .)

A. Corrosion
B. Dirt
C. Oil and dirt
D, E. Stain, discoloration

No. 260. Foreign matter



A
(. . . . . Nonacceptable. . . . .)

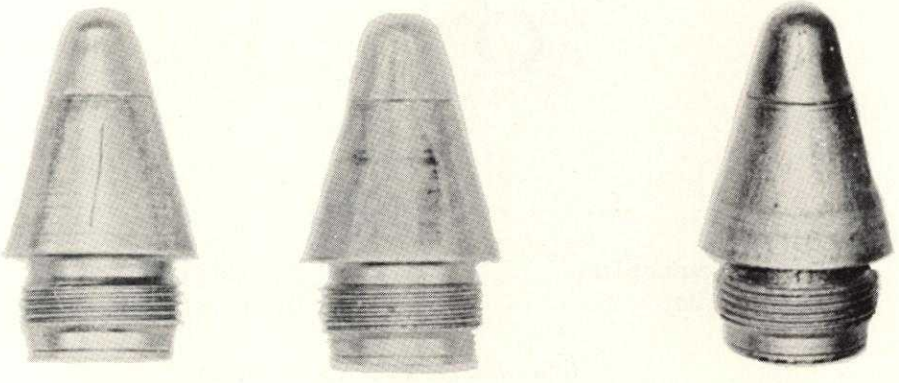
A. Spring missing

B
(. . . . .Acceptable. . . . .)

B. Spring in position

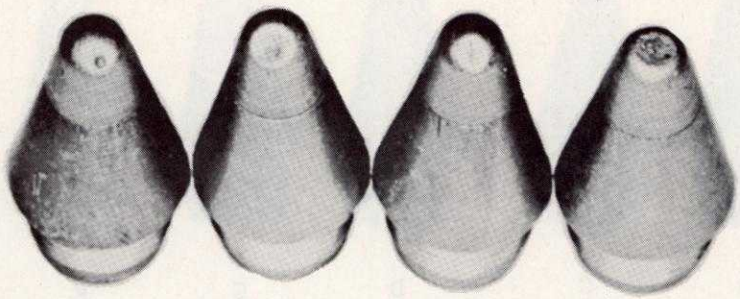
No. 261. Rotor detent spring missing
(Visual inspection for "rotor detent spring missing" shall be performed on the rotor-detonator and rotor detent spring assembly prior to and after its insertion into the metal parts assembly.)

No. 262. Thread damaged (not illustrated) (The fuze assembly shall be classed defective if the thread is crushed or otherwise distorted to a degree that prevents acceptance by the "Go" thread gage.)



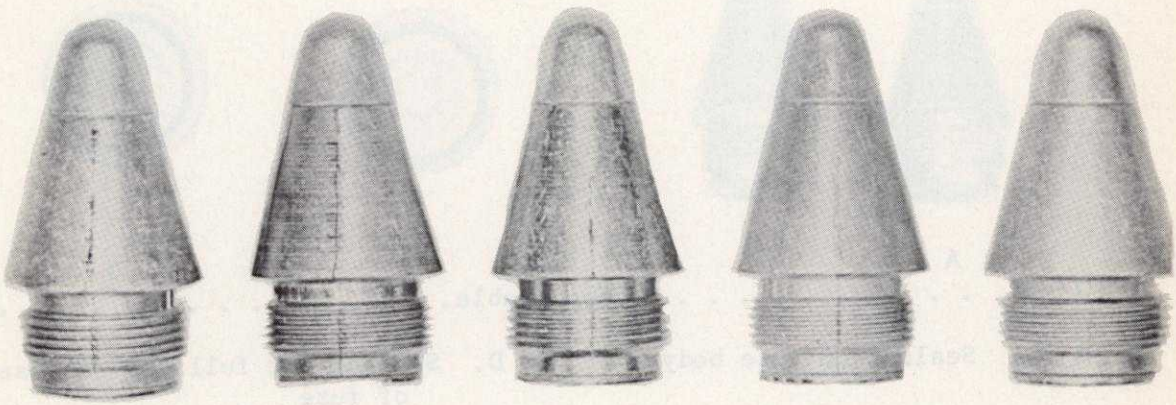
(. . . . . Nonacceptable. . . . .)

No. 263. Protective coating damaged
(The fuze assembly shall be classed defective if the plating film on the nose cap or body ogive is scored or otherwise broken to visibly expose basis metal.)



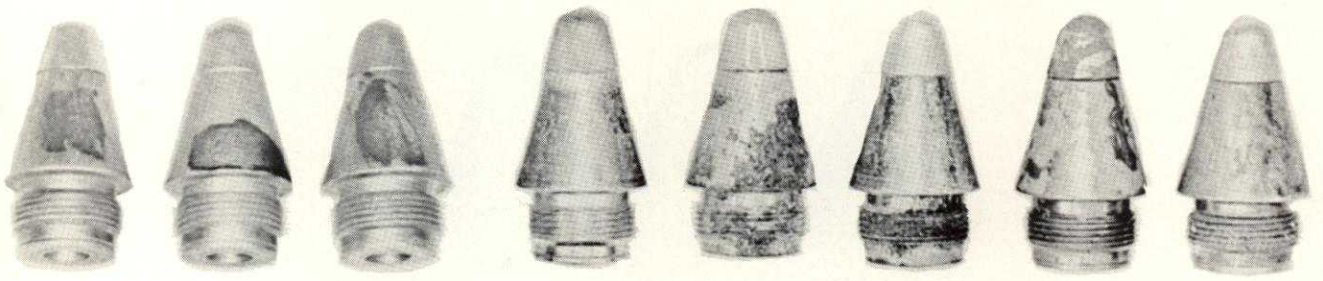
(. . . . . .Nonacceptable. . . . .)

No. 264. Nose cap damaged
(The fuze assembly shall be classed defective if the nose cap is cracked, split, perforated, dented or otherwise deformed.)



(. . . . . .Nonacceptable. . . . . .)

No. 265. Crack or split in body

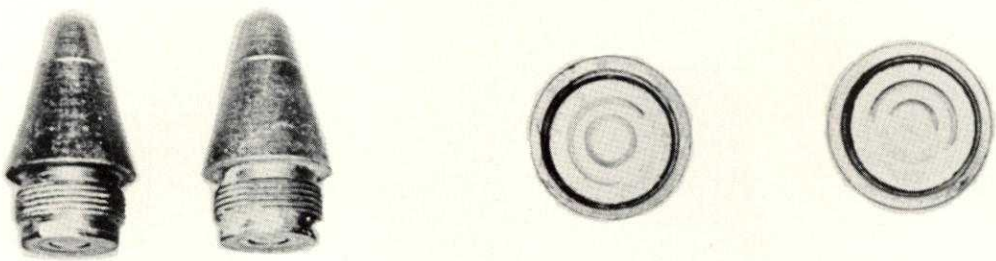


A B C D E F G H

(. . . . . Nonacceptable. . . . . .)

A, B, C, D. Stain E. Grease F, G, H. Dirty

No. 266. Foreign matter



A B C D

(. . . . . Nonacceptable. . . . . .)

A, B. Sealant on fuze body C, D. Sealant not full 360° on base of fuze

No. 267. Sealant missing or faulty

(This characteristic applies only if base sealant is required. The assembly shall be classed defective, if the sealant does not seal crimp 360° and cover damaged plating on base of fuze, or if the sealant is present on fuze body.)

Notice. Copies of specifications, standards drawings and publications required by contractors in connection with specific procurement functions should be obtained from the procuring agency or as directed by the contracting officer.

Custodians:

Army - MU
Air Force - 70

Preparing Activity:

Army - MU

Review Activities:

Army - MU
Air Force - 70

Project No. 1305-0331