# BOMB FUZE DATA


5 OCTOBER 1945

NAVY DEPARTMENT
BUREAU OF ORDNANCE
WASHINGTON, D. C.

**RESTRICTED** 5 October 1945

# ORDNANCE PAMPHLET 1548

## BOMB FUZE DATA

1. Ordnance Pamphlet 1548 contains a summary of pertinent information concerning all bomb fuzes of restricted and nonrestricted classifications now in use by the U. S. Navy or Army.

2. The purpose of this publication is to provide a condensed pamphlet which will enable interested personnel to identify fuzes and to obtain information concerning the characteristics and uses of each fuze. For more detailed information on bomb fuzes, Ordnance Pamphlet 988 should be referred to.

3. This publication does not supersede any existing publication.

4. This publication is RESTRICTED and shall be safeguarded in accordance with the security provisions of U. S. Navy Regulations, 1920, Article 76.

G. F. Hussey, Jr.
*Rear Admiral, U. S. Navy*
*Chief of the Bureau of Ordnance*

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# EXPLANATORY

Below are listed the headings shown in the description of each fuze. The explanatory notes are to clarify the information given under each heading.

## Action

This refers to the type of force that causes the fuze to function and the delay with which the fuze functions. (No delay time is given for hydrostatic fuzes. All hydrostatic fuzes fire instantaneously when caused to function by hydrostatic pressure.)

## Modifications

Under this heading are listed all Mods to date (1 June 1945), with a note concerning the major differences between the Mods.

## Status

This indicates availability. Terms used and their meanings are:

**Service**—The fuze is under current procurement or suitable for procurement if requirements exist.

**Obsolescent**—The fuze is becoming obsolete or is being superseded by another design. It is not in production and not suitable for future procurement.

**Obsolete**—Fuzes are listed as obsolete only when so declared by the Bureau of Ordnance and so stated in OP 1515, chapter 4. Fuzes may be declared obsolete for the following reasons: (1) Present stock is almost exhausted and will not be replenished. (2) Present stock is in excess of Bureau of Ordnance requirements. (3) The fuze, because of safety reasons, is unsuitable for Navy use. Obsolete fuzes may be used, when authorized by the Bureau of Ordnance, for special purposes, such as training.

## Restrictions on Use

These apply only to Navy usage of good lots of fuzes in the bombs for which the fuzes were intended. Tactical limitations, such as minimum altitude of release, are promulgated by the Chief of Naval Operations. Restrictions on the use of defective lots of fuzes are promulgated in Ordnance Circular Letters and OP 1515. See page 8 for special precautions in the use of certain fuzes.

Fuzes for which no restrictions are listed are safe for all take-offs and landings anywhere, including catapult take-offs and arrested landings.

## Air Travel to Arm

This gives an average figure (unless otherwise noted) for the air travel, along the trajectory of the bomb, required to arm the fuze when installed in bombs for which it is designed. The figure given is not to be confused with the minimum safe altitude of release, which depends on other factors.

## Indications of Arming

This term refers to the visual evidence of normal arming or partial arming of undamaged fuzes.

## Bombs in Which Used

This list includes the bombs for which the fuze was designed and the bombs in which it could be or has been used to give tactical results. See **Restrictions on Use.**

# VERTICAL FALL REQUIRED TO ARM BOMB FUZES

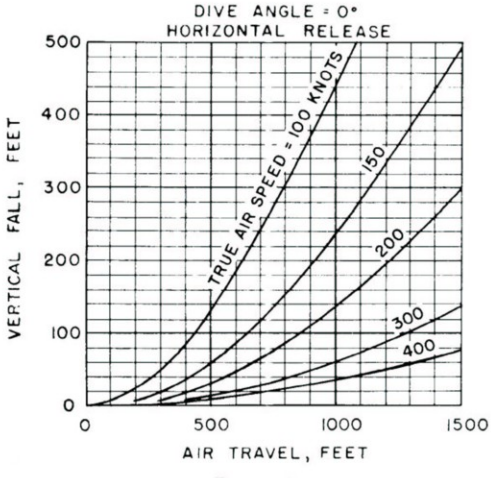


*Figure 1*

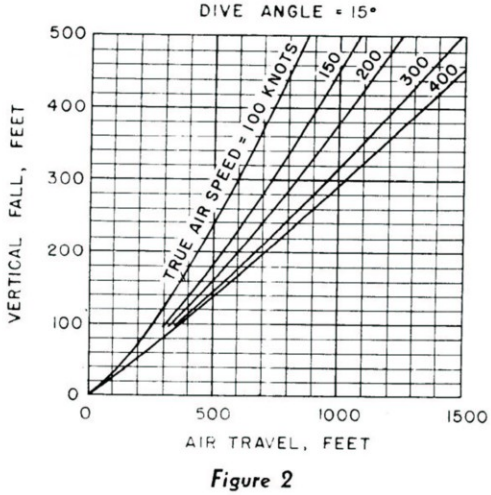


*Figure 2*

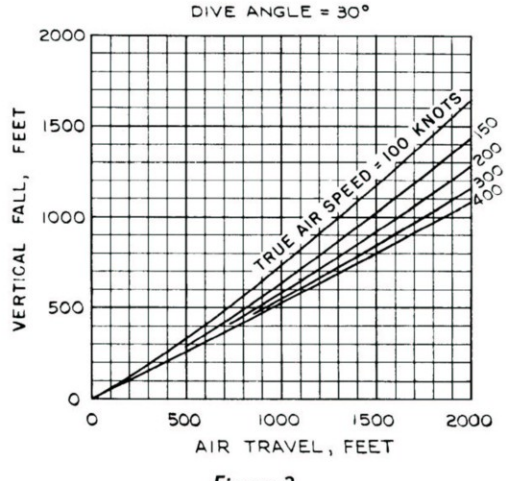


*Figure 3*

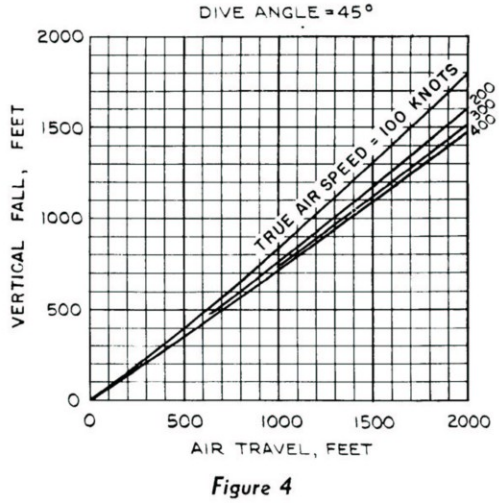


*Figure 4*

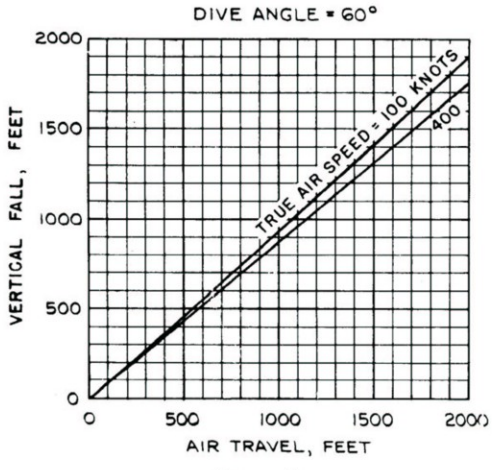


*Figure 5*

**Notes**—These charts provide a convenient means of determining the vertical fall in feet required to arm the various types of fuzes when the bomb is released in any combination of dive angle and speed. The "air travel" for entering the charts is the actual distance traveled by the bomb along the trajectory. Values of air travel are given in the description of each fuze. Vertical fall required to arm is defined as the vertical distance between the point of release of the bomb and the point where the fuze becomes fully armed.

**Procedure**—With air travel for a given fuze enter the chart for the appropriate dive angle. Project air travel vertically to the curve corresponding to speed of aircraft and from there horizontally to intersect the vertical fall scale. This intersection gives the vertical fall required to arm the fuze.

**Example:**

| | | |
|---|---|---|
| Given: | Air travel | 1,100 feet |
| | Dive angle | 30 degrees |
| | True air speed | 200 knots |
| From 30° chart: | Vertical fall | 650 feet |

In dives over 60 degrees, vertical fall may be considered as equal to air-arming travel.

These charts supersede BuOrd Sketch No. 120494

# SPECIAL PRECAUTIONS

## Bomb Nose Fuzes AN–M104, AN–M120A1, M170

To insure maximum safety, the following precautions should be taken when using clusters of bombs containing these fuzes:

1. Insure by repeated instruction that ALL men handling clusters containing bombs with these fuzes understand the construction and operation of the cluster and fuzes. Keep the number of men to a minimum.
2. Inform local Bomb Disposal Officer of the use of these clusters and have him stand by or be available upon call to assembly, handling, and loading areas.
3. Only Bomb Disposal Personnel, or other personnel similarly qualified, are to handle armed fuzes.
4. Insure that pilots and crews are informed of the possibility of a bomb's detonating following both land and water crashes. (The arming wire may be accidentally removed by impact, arming the fuze.)
5. Assemble fuzes to clustered bombs **prior** to hoisting into aircraft. (Because more care can be taken under more favorable conditions of light, weather, and accessibility.)
6. Fuze clusters only as needed.
7. After the cluster is positively fastened to the rack or shackle, the fuze arming wires should be checked and then the fuze safety cotter pins removed.
8. Do not mix loads of para-frags with other bombs.
9. Carry clusters only in TBF or other bomb-bay type aircraft of maximum safety.
10. These clusters may be used safely only with **continuous** maximum care.

## Bomb Nose Fuzes AN–M110A1 and AN–M126A1

The following precautions should be taken when using bombs or clusters of bombs containing these fuzes.

1. Insure that all people handling bombs, or clusters of bombs, containing these fuzes are aware that a blow crushing one of these fuzes may cause the fuze to fire, detonating the bomb. This could result from dropping a cluster of bombs five to ten feet onto a hard surface. Appropriate care must, therefore, be exercised.
2. It is recommended that clusters or bombs containing these fuzes not be carried on external racks in landings of carrier-based aircraft, since on arrested landings an accidentally released cluster or bomb might detonate as a result of crushing, even though the fuzes were unarmed.

Part 1

# NAVY

# BOMB FUZES

## NOTE

No Navy Bomb Fuzes have been issued for service use with the designations listed below:

Mk 200–218 inclusive
Mk 220
Mk 222
Mk 225
Mk 226
Mk 241
Mk 242

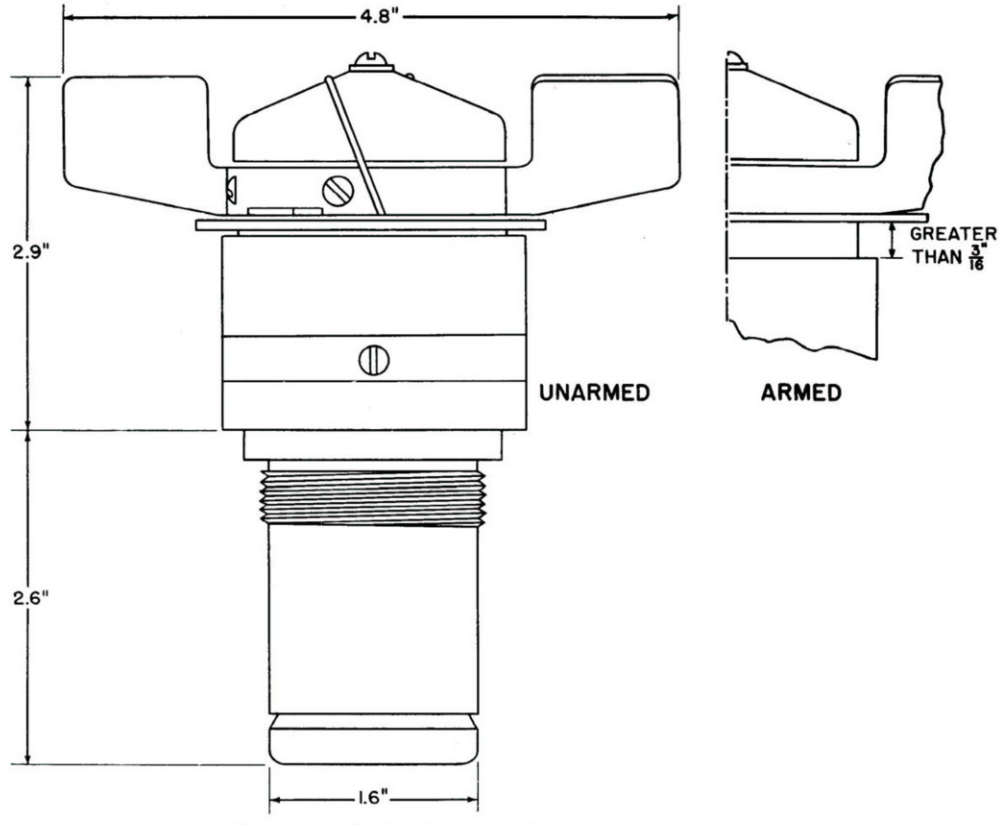


*Figure 6.—Outline Drawing of Nose Fuze AN–Mk 219*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 4.1 lb.
**Weight of Booster**—0.9 oz. tetryl.
**Standard Packing**—Six fuzes, each in a metal container, are packed in a metal crate measuring 15.5 in. x 10.7 in. x 6.3 in. and weighing about 36 lb. gross.

## Characteristics

**Action**—Instantaneous upon impact
**Modifications**—Mods 0, 1, 2, 3, and 4 differ only in the identity of the manufacturer.
**Status**—Service
**Restriction on Use**—None
**Air Travel to Arm**—Approximately 1000 ft.
**Indication of Arming**—If the striker flange has separated from the outer sleeve by more than 3/16 in., the fuze should be considered armed.

## Bombs in Which Used

100-lb. Chemical Bomb Mk 42
100-lb. G. P. Bomb Mk 4 and Mods
500-lb. G. P. Bomb Mk 12 and Mods*
1000-lb. G. P. Bomb Mk 13 and Mods*
500-lb. Demo. Bomb Mk 9*
1000-lb. Demo. Bomb Mk 9*
325–350-lb. depth bombs—All*
Army G. P. bombs—All service types**
AN-Standard G. P. bombs—All**

*With adapter ring and an additional Auxiliary Booster Mk 1.
**With adapter ring and an Auxiliary Booster Mk 4.


*Figure 7.—Nose Fuze AN–Mk 219*

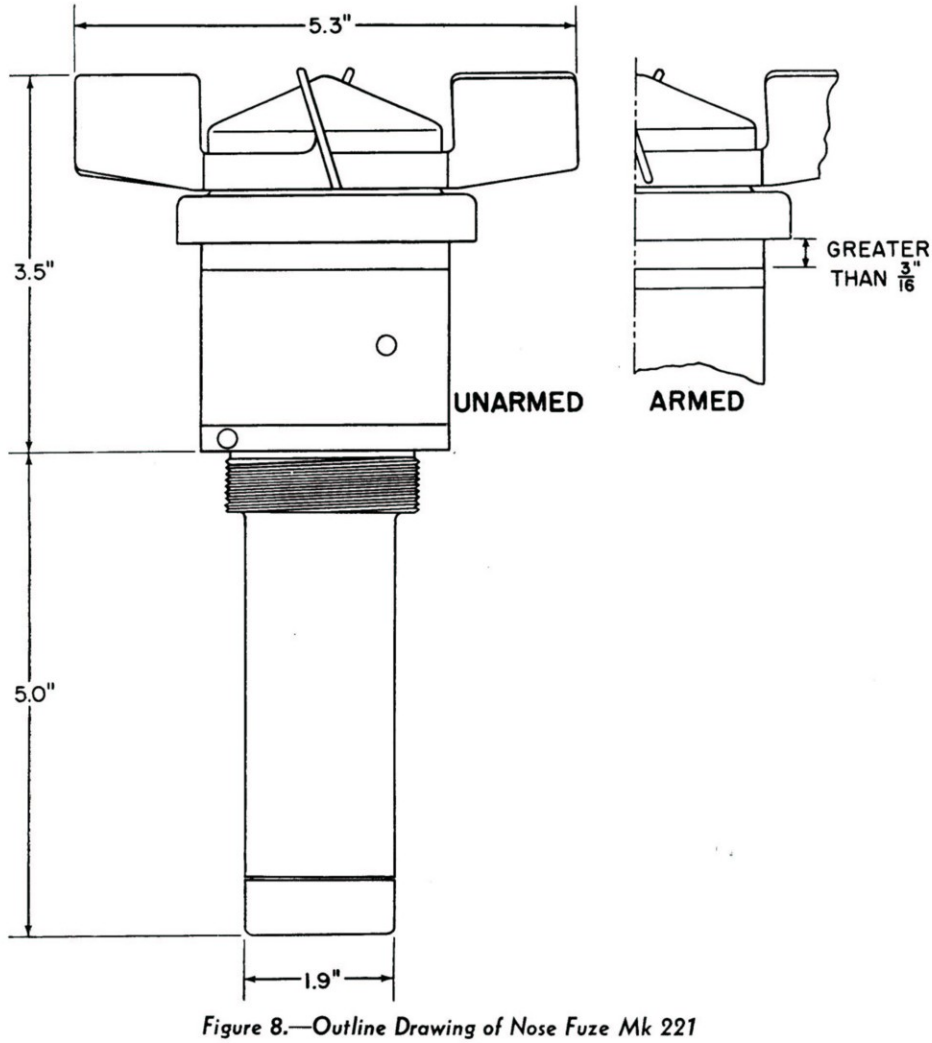


*Figure 8.—Outline Drawing of Nose Fuze Mk 221*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 7.6 lb.
**Weight of Booster**—1.4 oz. tetryl
**Standard Packing**—One fuze is packed in a single container with one Tail Fuze Mk 223. Two containers are packed in a metal crate measuring 27.1 in. x 12.3 in. x 6.3 in. and weighing about 65 lb. gross.

## Characteristics

**Action**—Impact, 0.01–sec. delay.

**Modifications**—Mods 0, 1, 3, and 4 differ only in the identity of the manufacturer. Mod 1 A. S. is modified for antisubmarine use.

**Status**—Obsolete.

**Restriction on Use**—Training purposes only.

**Air Travel to Arm**—Approximately 850 to 1100 ft.

**Indication of Arming**—If the protecting cap flange has separated from the horizontal index line on the outer sleeve by more than $\frac{3}{16}$ in., the fuze should be considered armed.

## Bombs in Which Used

500-lb. G. P. Bomb Mk 12 and Mods
500–lb. Demo. Bomb Mk 9
1000-lb. G. P. Bomb Mk 13 and Mods
1000-lb. Demo. Bomb Mk 9
1000-lb. G. P. Bomb Mk 36

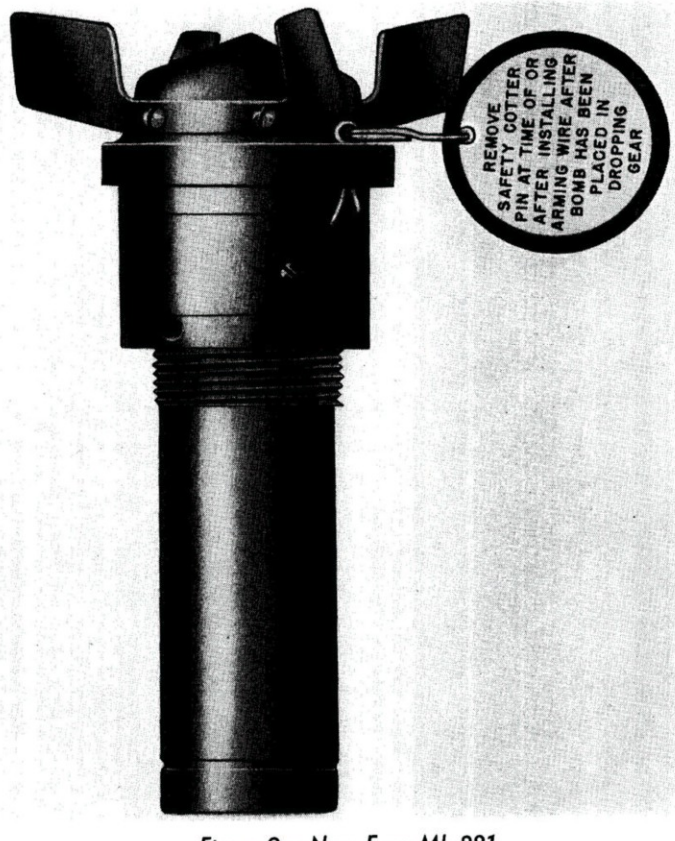


*Figure 9.—Nose Fuze Mk 221*

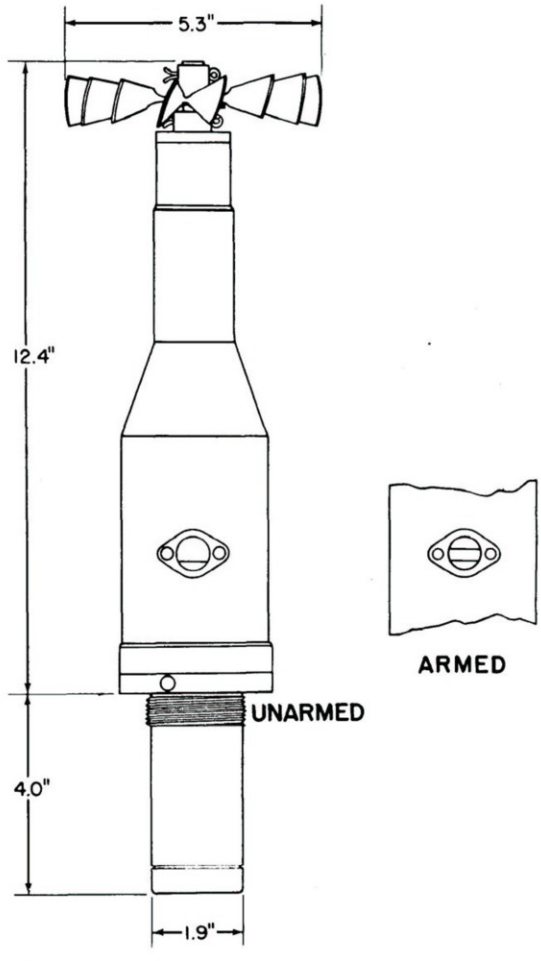


*Figure 10.—Outline Drawing of Tail Fuze Mk 223*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 10.5 lb.
**Weight of Booster**—1.4 oz. tetryl
**Standard Packing**—One fuze is packed in a single container with one Nose Fuze Mk 221. Two containers are packed in a metal crate measuring 27.1 in. x 12.3 in. x 6.3 in. and weighing about 65 lb. gross.

## Characteristics

**Action**—Impact, inertia firing, 0.01-sec. delay.
**Modifications**—Mods 0, 1, 3, and 4 differ only in the identity of the manufacturer. Mod 1 A. S. is modified for antisubmarine use.
**Status**—Obsolete.
**Restriction on Use**—Training purposes only
**Air Travel to Arm**—Approximately 850 to 1100 ft.
**Indications of Arming**—The window in the side of the fuze permits visual examination to determine the state of arming. If the upper surface of the striker has separated from the outer sleeve by more than $\frac{3}{16}$ in., the fuze should be considered armed.

## Bombs in Which Used

500-lb. G. P. Bomb Mk 12 and Mods
500-lb. Demo. Bomb Mk 9
1000-lb. G. P. Bomb Mk 13 and Mods
1000-lb. Demo. Bomb Mk 9
1000-lb. G. P. Bomb Mk 36


*Figure 11.—Tail Fuze Mk 223*

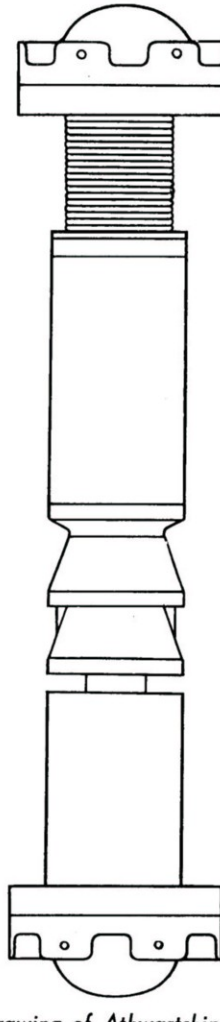

*Figure 12.—Outline Drawing of Athwartship Hydrostatic Fuze Mk 224*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 12.0 lb.
**Weight of Booster**—0.5 oz. tetryl, and 8.9 oz. TNT
**Standard Packing**—Four metal containers, each containing one complete fuze (including booster and booster extender) with bolts and gaskets, are packed in a metal crate measuring 17.2 in. x 7.8 in. x 7.8 in. and weighing about 56.5 lb. gross

## Characteristics

**Action**—Hydrostatic arming and firing.
**Modifications**—Mods 0, 1, and 2 differ only in the identity of the manufacturer.
**Status**—Obsolete.
**Restriction on Use**—Not to be used by Naval activities.
**Air Travel to Arm**—None required.

**Indications of Arming**—The fuze is partially armed when the jump-out pin is missing. Hydrostatic pressure is needed to complete arming.

## Bombs in Which Used

All depth bombs with athwartship fuze pockets. (Requires use of a spacer when used in 650- and 700-lb. depth bombs.)

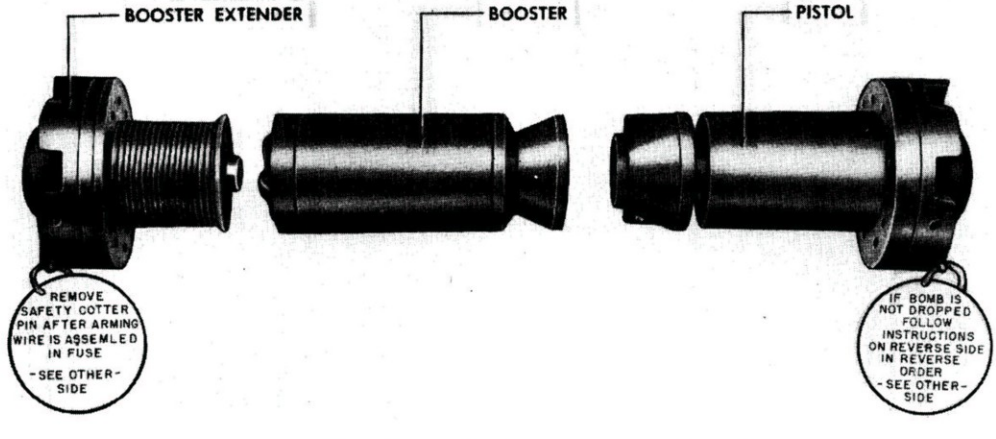


*Figure 13.—Athwartship Hydrostatic Fuze Mk 224*



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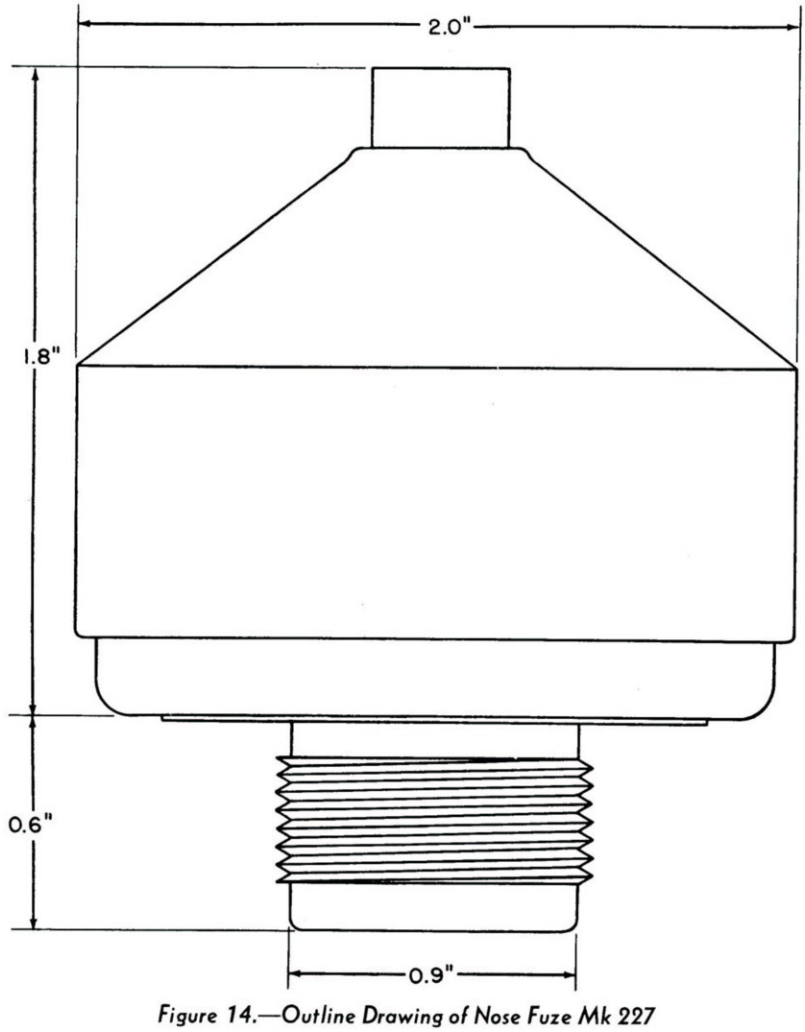


*Figure 14.—Outline Drawing of Nose Fuze Mk 227*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 0.7 lb.
**Weight of Booster**—0.1 oz. tetryl.
**Standard Packing**—Four metal containers, each containing 24 fuzes, are packed in a metal crate measuring 17.3 in. x 13.0 in. x 12.9 in. and weighing about 102 lb. gross.

## Characteristics

**Action**—Instantaneous upon impact.
**Modifications**—None.
**Status**—Obsolete.
**Restriction on Use**—None.
**Air Travel to Arm**—Approximately 1500 ft. when near sea level; 3000 ft. at an altitude of 20,000 ft.
**Indication of Arming**—No external indication of arming.

## Bomb in Which Used

5-lb. Antiaircraft Bomb Mk 34.

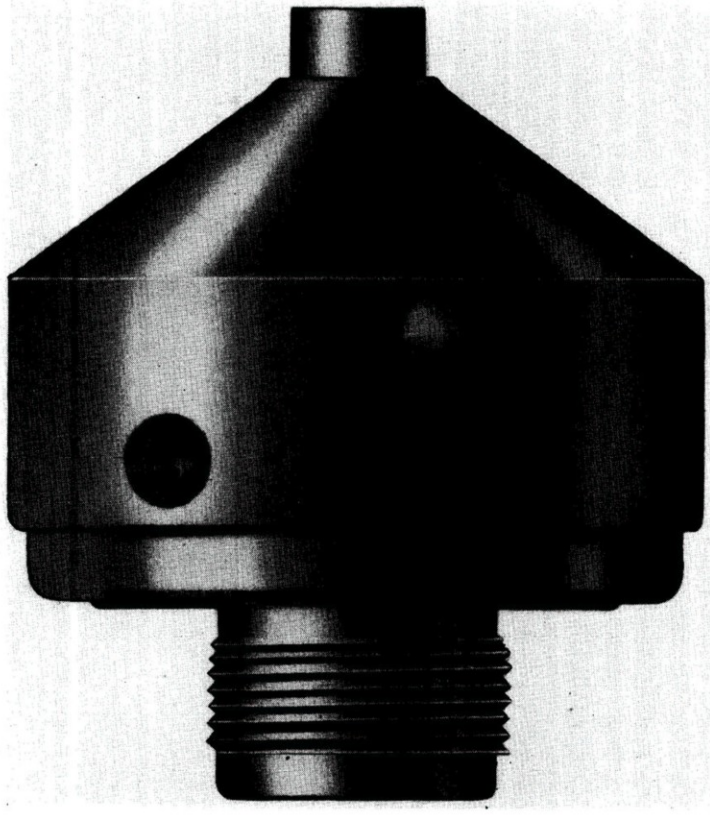

*Figure 15.—Nose Fuze Mk 227*

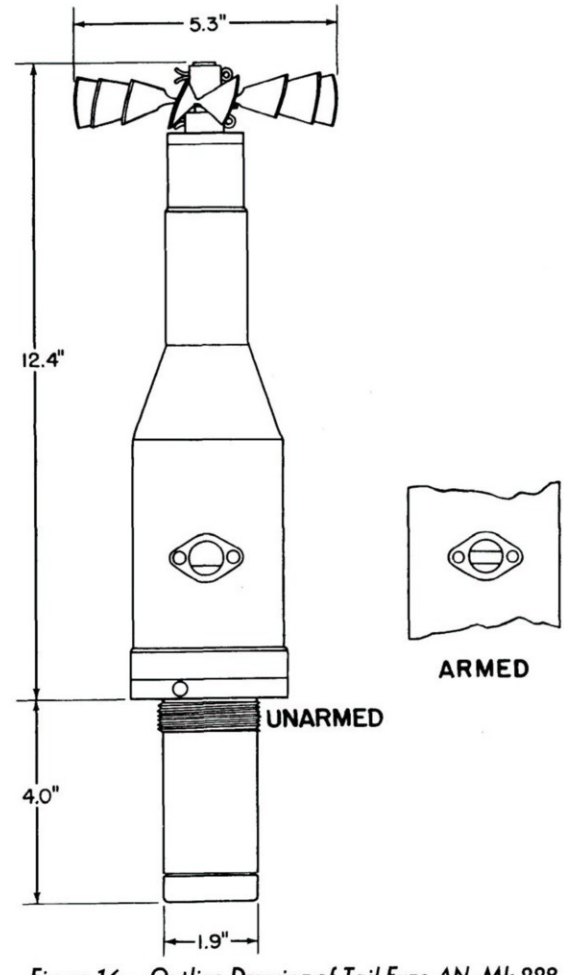


*Figure 16.—Outline Drawing of Tail Fuze AN–Mk 228*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 10.5 lb.
**Weight of Booster**—1.4 oz. tetryl
**Standard Packing**—Four fuzes, each in a metal container, are packed in a metal crate 17.1 in. x 11.6 in. x 11.6 in. and weighing about 60 lb. gross.

## Characteristics

**Action**—Impact, inertia firing, 0.08-sec. delay.
**Modifications**—Mods 0 and 1 differ only in the identity of the manufacturer.
**Status**—Service.
**Restriction on Use**—None.
**Air Travel to Arm**—Approximately 1,100 ft.
**Indication of Arming**—The window in the side of the fuze provides visual examination for arming. If the upper surface of the striker has separated from the outer sleeve by more than $\frac{3}{16}$ in., the fuze should be considered armed.

## Bombs in Which Used

1000-lb. A. P. Bomb AN–Mk 33.
1600-lb. A. P. Bombs Mk 1 and AN–Mk 1.


*Figure 17.—Tail Fuze AN–Mk 228*

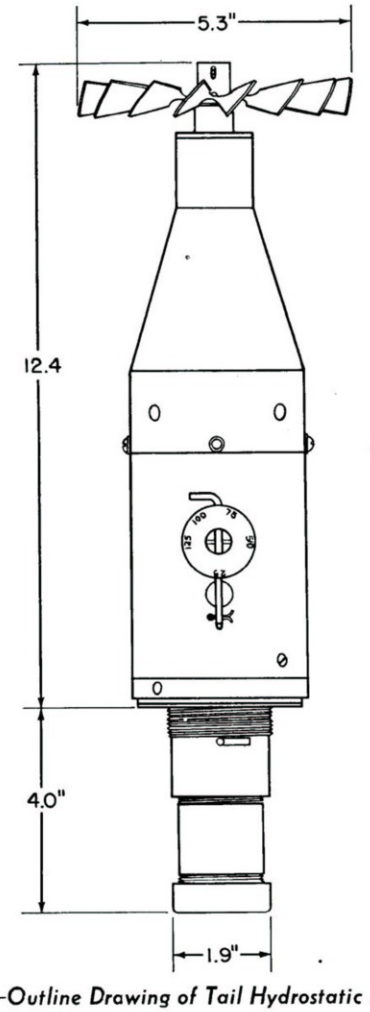


*Figure 18.—Outline Drawing of Tail Hydrostatic Fuze Mk 229*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 14.5 lb.
**Weight of Booster**—1.6 oz. tetryl.
**Standard Packing**—Four fuzes, each in a metal container, are packed in a metal crate measuring 17.5 in. x 11.6 in. x 11.6 in. and weighing about 75 lb. gross.

## Characteristics

**Action**—Hydrostatic arming and firing, adjustable to firing depths of 25, 50, 75, 100, and 125 ft.

**Modifications**—Mods 0, 1, and 2 differ only in the identity of the manufacturer.

**Status**—Obsolete.

**Restriction on Use**—Not to be used by Naval activities.

**Air Travel to Arm**—Approximately 400 to 500 ft.

**Indication of Arming**—No external evidence of arming.

## Bombs in Which Used

650- and 700-lb. depth bombs—All
500-lb. Demo. Bomb Mk 9
1000-lb. Demo. Bomb Mk 9
500-lb. G. P. Bomb Mk 12 and Mods
1000-lb. G. P. Bomb Mk 13 and Mods
1000-lb. G. P. Bomb Mk 36


*Figure 19.—Tail Hydrostatic Fuze Mk 229*

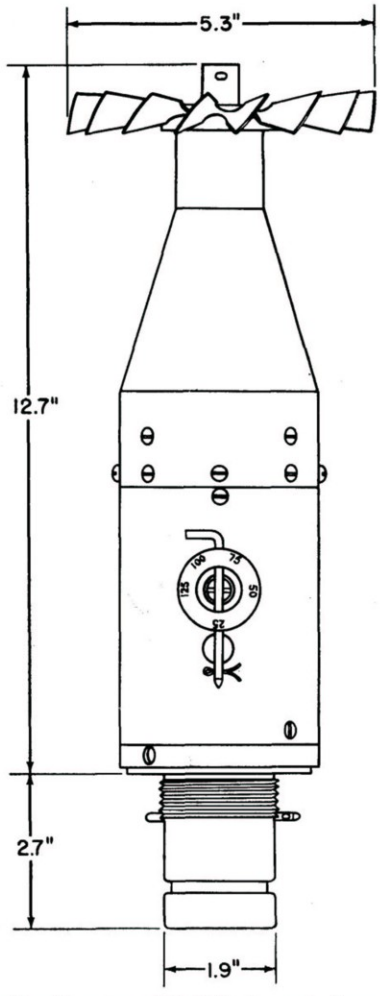


*Figure 20.—Outline Drawing of Tail Hydrostatic Fuze AN–Mk 230*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 14.5 lb.
**Weight of Booster**—0.9 oz. tetryl.
**Standard Packing**—Four fuzes, each in a metal container, are packed in a metal crate measuring 16.5 in. x 11.6 in. x 11.6 in. and weighing about 75 lb. gross.

## Characteristics

**Action**—Hydrostatic arming and firing, adjustable to firing depths of 25, 50, 75, 100, and 125 ft.
**Modifications**—Mods 1, 3, 4, 5, and 6.
Mods 0, 1, and 3 are similar; Mods 4, 5, and 6 incorporate added safety features. Mods 5 and 6 have accuracy of 25-ft. depth setting emphasized: Mod 4 has accuracy of 50-ft. depth setting emphasized.
**Status**—Mods 0, 1, and 3—Obsolete.
Mods 4, 5, and 6—Service.
**Restrictions on Use**—Mods 0, 1, and 3 are not to be used from Naval aircraft. No restrictions on use of Mods 4, 5, and 6; but use of Mods 5 and 6 is preferred because of more accurate 25-ft. depth setting.
**Air Travel to Arm**—Approximately 300 to 400 ft.
**Indication of Arming**—No external indication of arming.

## Bombs in Which Used

325-lb. Depth Bomb Mk 53 and Mods.
350-lb. Depth Bomb Mk 54 and Mods.
500-lb. G. P. Bomb AN–M64 and Mods.
1000-lb. G. P. Bomb AN–M65 and Mods.
2000-lb. G. P. Bomb AN–M66 and Mods.


*Figure 21.—Tail Hydrostatic Fuze AN–Mk 230*

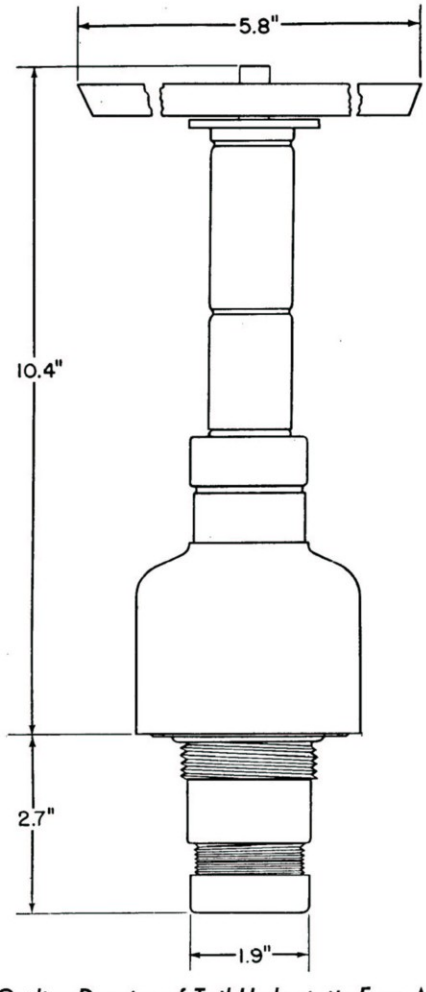


*Figure 22.—Outline Drawing of Tail Hydrostatic Fuze Mk 231 Mod 0*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 6.5 lb.
**Weight of Booster**—0.8 oz. tetryl (Includes relay pellets.)
**Standard Packing**—Six fuzes, each in a metal container, are packed in a metal crate measuring 9.2 in. x 13.7 in. x 13.8 in. and weighing about 55 lb. gross.

## Characteristics

**Action**—Hydrostatic arming and firing; fixed depth setting at 25 ft.
**Modifications**—None.
**Status**—Service.
**Restrictions on Use**—None.
**Air Travel to Arm**—Approximately 300 to 400 ft.
**Indication of Arming**—No external indication of arming.

## Bombs in Which Used

325-lb. Depth Bomb Mk 53 and Mods.
350-lb. Depth Bomb Mk 54 and Mods.
500-lb. G. P. Bomb AN–M64 and Mods.


*Figure 23.—Tail Hydrostatic Fuze Mk 231 Mod 0*

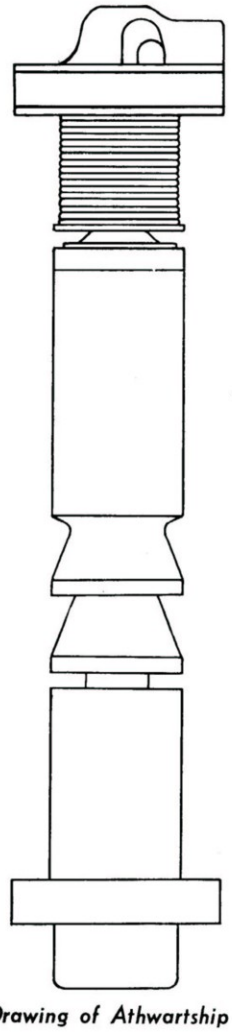

*Figure 24.—Outline Drawing of Athwartship Hydrostatic Fuze Mk 234*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 12.0 lb.
**Weight of Booster**—0.5 oz. tetryl and 8.9 oz. TNT.
**Standard Packing**—Four metal containers, each containing one complete fuze (including booster and booster extender) with bolts and gaskets, are packed in a metal crate measuring 17.2 in. x 7.8 in. x 7.8 in. and weighing about 60 lb. gross.

**Bomb Fuzes Mk 232 and Mk 233**—These special fuzes are described in OP 994. The fuzes and information concerning them may be obtained by special request to the Bureau of Ordnance.

## Characteristics

**Action**—Hydrostatic arming and firing, adjustable to firing depths of 25, 50, 75, 100, and 125 ft.
**Modifications**—Mods 0, 1, 2, and 3. Mods 0, 1, and 2 differ only in the identity of the manufacturer. Mod 3 has only one detonator slider.
**Status**—Obsolete.
**Restriction on Use**—Not to be used by Naval activities.
**Air Travel to Arm**—None required.
**Indication of Arming**—The fuze is partially armed when the jump-out pin is missing. Hydrostatic pressure is needed to complete arming.

## Bombs in Which Used

All depth bombs with transverse fuze pockets. (Requires use of a spacer with 650- and 700-lb. depth bombs.)

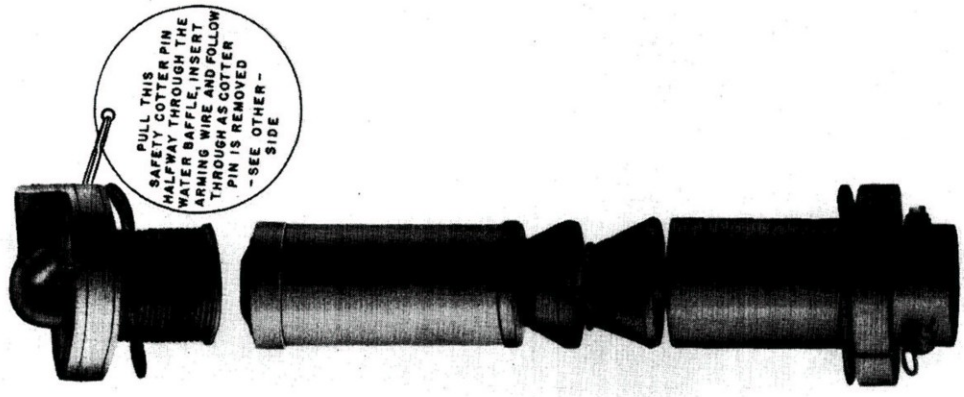


*Figure 25.—Athwartship Hydrostatic Fuze Mk 234*

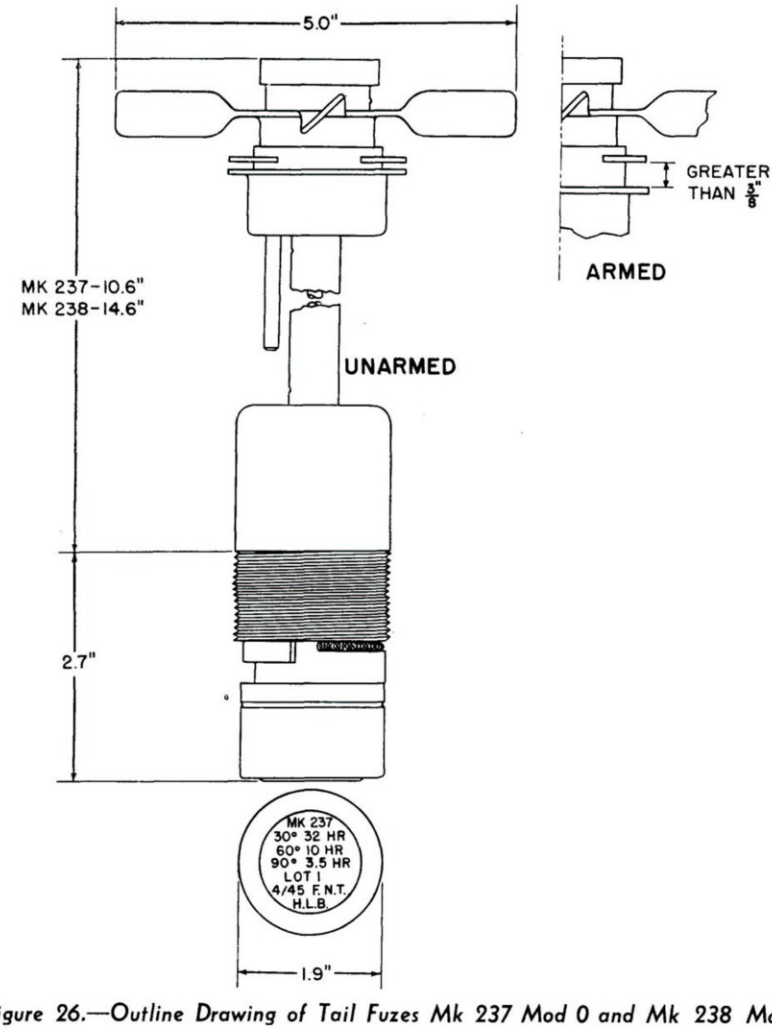


*Figure 26.—Outline Drawing of Tail Fuzes Mk 237 Mod 0 and Mk 238 Mod 0*

## Weight and Packing

**Weights of Fuzes Fully Loaded**—Mk 237 approximately 4.3 lb.
Mk 238 approximately 4.5 lb.

**Standard Packing**—Ten fuzes (without vanes), each in a metal container, and two containers, each holding vane assemblies, are packed in a metal crate whose weight and dimensions are:

| Fuze | Crate size | Weight (gross) |
|---|---|---|
| Mk 237 | 20.7 in. x 6.7 in. x 14.4 in. | 64 lb. |
| Mk 238 | 20.7 in. x 6.7 in. x 18.4 in. | 71 lb. |

**Bomb Fuzes Mk 235 and Mk 236**—These special fuzes are described in OP 690. The fuzes and information concerning them may be obtained by special request to the Bureau of Ordnance.

## Characteristics

**Action**—Lead shear wire, long delay, 2-, 10-, and 30-hr.
**Modifications**—Mods 0 and 1 differ only in arming mechanism details.
**Status**—Service.
**Restriction on Use**—None. Minimum release altitude is same as for instantaneous fuzes.
**Air Travel to Arm**—Approximately 400 to 500 ft.
**Indication of Arming**—If the distance between the eyelet on the gear mechanism and the flange on the stem cup is greater than ⅜ in., the fuze should be considered armed.

## Bombs in Which Used

Mk 237—500 lb. G. P. Bomb AN–M64A1*
Mk 238—1000-lb. G. P. Bomb AN–M65A1*
2000-lb. G. P. Bomb AN–M66A1*

*Bombs without the A1 modification may be used if the A1 Mods are not available.

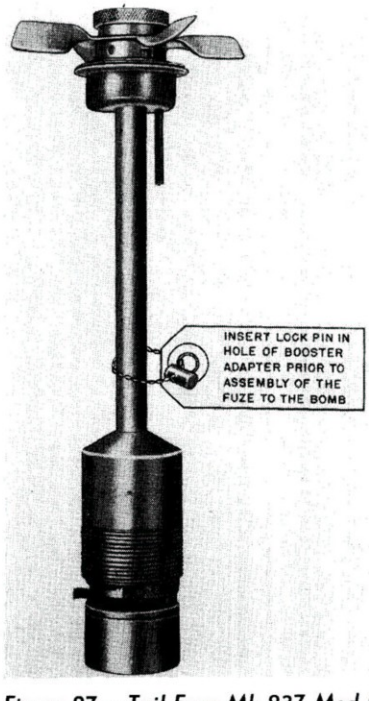


*Figure 27.—Tail Fuze Mk 237 Mod 0*

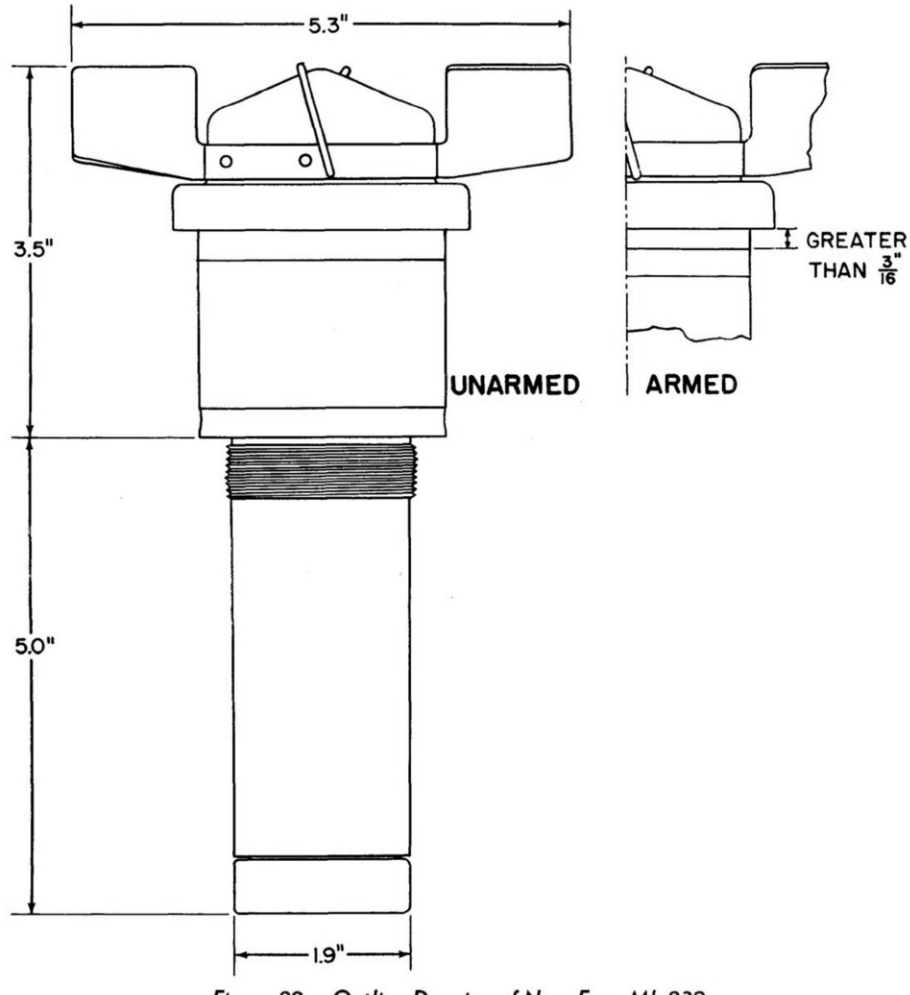


*Figure 28.—Outline Drawing of Nose Fuze Mk 239*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 7.6 lb.
**Weight of Booster**—1.4 oz. tetryl.
**Standard Packing**—One fuze is packed in a single container with one Tail Fuze Mk 223. Two containers are packed in a metal crate measuring 27.1 in. x 12.3 in. x 6.3 in. and weighing about 65 lb. gross.

## Characteristics

**Action**—Impact, 0.01-sec. delay. (Similar to Fuze Mk 221 except that booster has been cut down to fit Army G. P. bombs.)
**Modifications**—None
**Status**—Obsolescent
**Restriction on Use**—None
**Air Travel to Arm**—Approximately 850 to 1100 ft.
**Indication of Arming**—If the protecting cap flange has separated from the index line on the outer sleeve by more than $\frac{3}{16}$ in., the fuze should be considered armed.

## Bombs in Which Used

All AN–M G. P. bombs and Navy G. P. bombs except the Navy 100-lb. G. P. Bomb Mk 4 and Mods

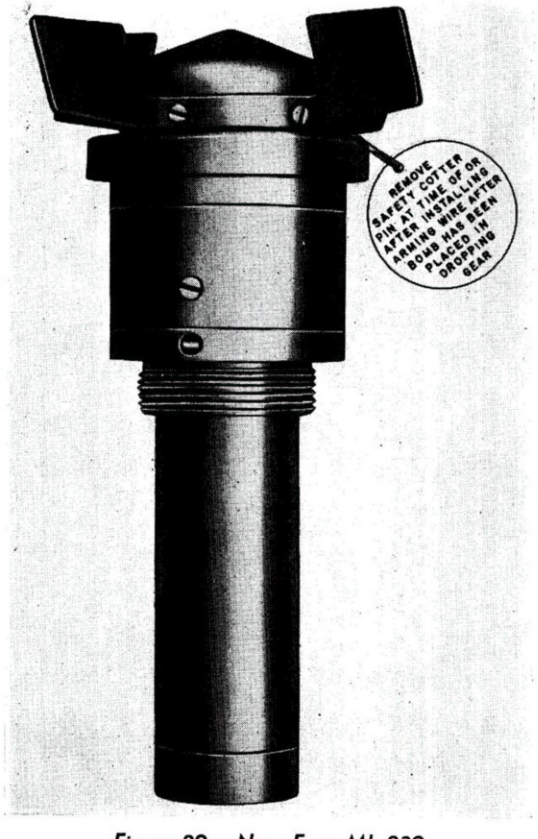


*Figure 29.—Nose Fuze Mk 239*

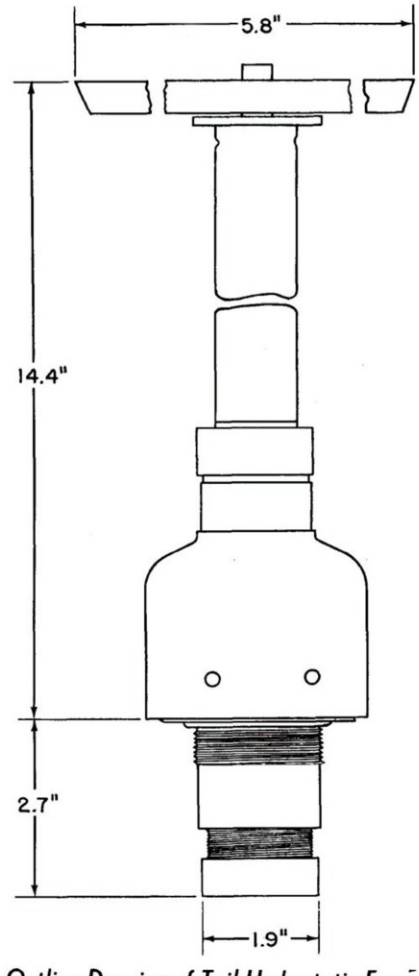


*Figure 30.—Outline Drawing of Tail Hydrostatic Fuze Mk 240 Mod 0*

## Weight and Packing

**Weight of Fuze Fully Loaded**—6.6 lb.
**Weight of Booster**—0.8 oz. tetryl (Includes relay pellets.)
**Standard Packing**—Six fuzes, each in a metal container, are packed in a metal crate measuring 9.2 in. x 13.7 in. x 17.8 in. and weighing about 58 lb. gross.

## Characteristics

**Action**—Hydrostatic arming and firing. (Similar to Fuze Mk 231, except for length of arming stem.)
**Modifications**—None.
**Status**—Service.
**Restriction on Use**—None.
**Air Travel to Arm**—Approximately 300 to 400 ft.
**Indication of Arming**—No external indication of arming.

## Bombs in Which Used

1000-lb. G. P. Bomb AN–M65 and Mods
2000-lb. G. P. Bomb AN–M66 and Mods

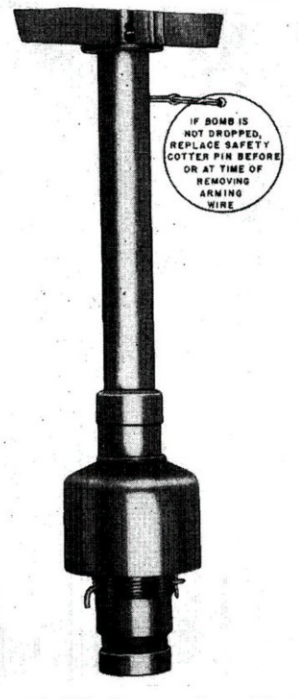


*Figure 31.—Tail Hydrostatic Fuze Mk 240 Mod 0*

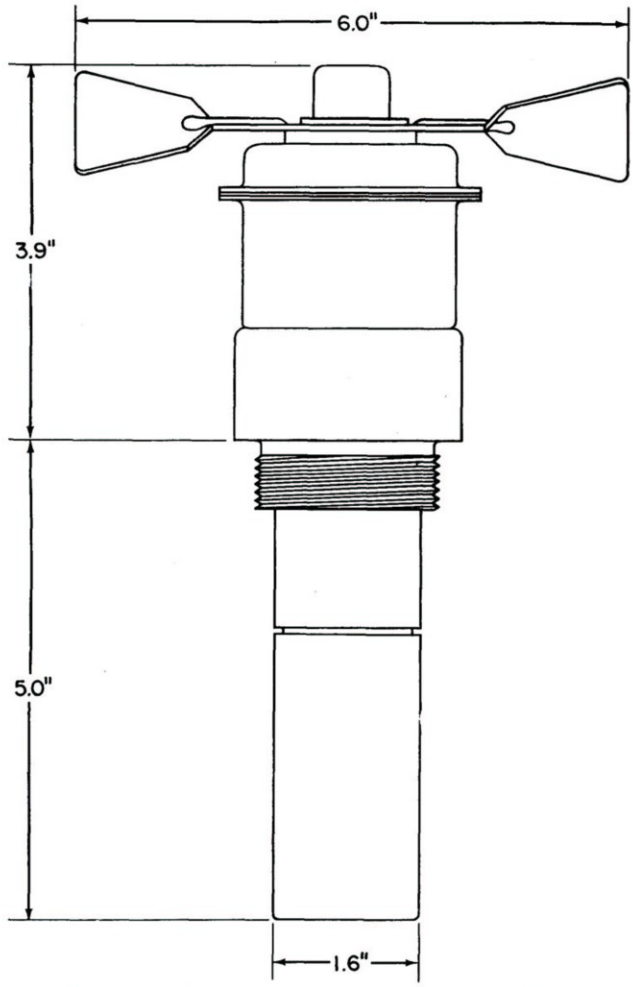


*Figure 32.—Outline Drawing of Nose Fuze Mk 243*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 4.4 lb.
**Weight of Booster**—1.9 oz. tetryl.
**Standard Packing**—Fifteen fuzes, each in a metal container, are packed in a wooden crate measuring 26.5 in. x 15.5 in. x 11.0 in. and weighing about 98 lb. gross.

**Bomb Fuzes Mk 241 and Mk 242**—These fuzes have not been produced as of 1 June 1945.

## Characteristics

**Action**—Impact (water discriminating), 0.025-sec. delay.
**Modifications**—None.
**Status**—Service.
**Restriction on Use**—None. (**Note**—Designed to be used in conjunction with AN–M100A2 series tail fuzes with 0.24-sec. delay primer detonator.)
**Air Travel to Arm**—Approximately 450 ft.
**Indication of Arming**—If the vane cup is missing, the fuze is armed.

## Bombs in Which Used

All AN–M G. P. bombs and Navy G. P. bombs except Navy 100-lb. G. P. Bomb Mk 4 and Mods


*Figure 33.—Nose Fuze Mk 243*

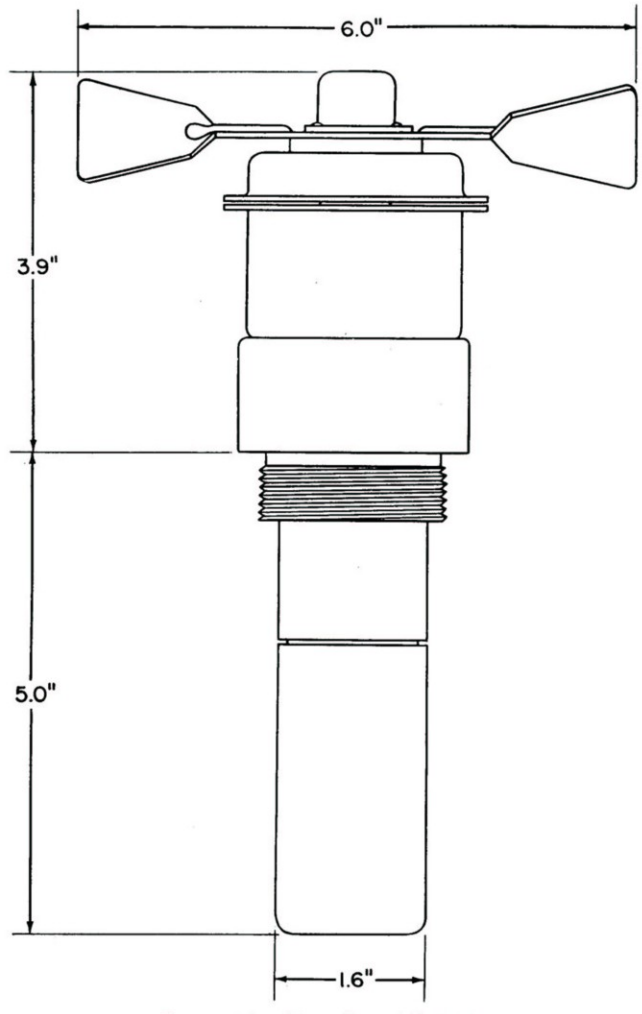


*Figure 34.—Nose Fuze Mk 244*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 4.4 lb.
**Weight of Booster**—1.9 oz. tetryl.
**Standard Packing**—Fifteen fuzes, each in a metal container, are packed in a wooden crate measuring 26.5 in. x 15.5 in. x 11.0 in. and weighing about 98 lb. gross.

## Characteristics

**Action**—Impact, four-sec. delay (Similar to Fuze Mk 243 except for differences noted below.)

**Modifications**—Fuze Mk 244 Mod 0 is the same as Fuze Mk 243 except for the delay element. Fuze Mk 244 Mod 1 differs from Fuze Mk 244 Mod 0 in that it has an added striker head and reduced shear threads. Fuze Mk 244 Mod 1 will function on ground impacts from altitudes of 1000 ft. and over.

**Status**—Service.

**Restriction on Use**—None.

**Air Travel to Arm**—Approximately 450 ft.

**Indication of Arming**—If the vane cup is missing, the fuze is armed.

## Bombs in Which Used

All AN–M G. P. Bombs and Navy G. P. bombs except Navy 100-lb. G. P. Bomb Mk 4 and Mods


*Figure 35.—Nose Fuze Mk 244*

Part 2

# ARMY

# BOMB FUZES

NOTE

The obsolete, prewar fuzes listed below are not described in this pamphlet. These fuzes are not to be used by Naval activities.

M105

M107

M109

The designation M141 has not been assigned to a service fuze.

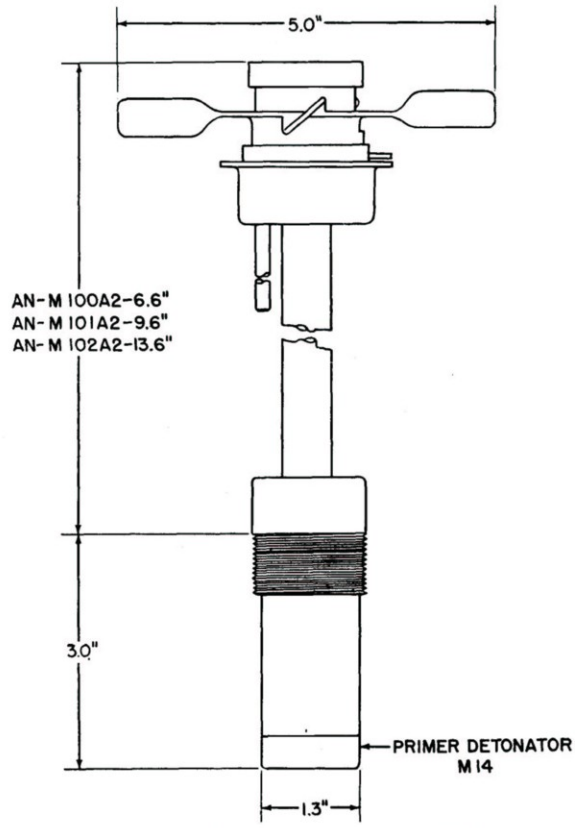


*Figure 136.—Outline Drawing of Tail Fuzes AN-M100A2, AN-M101A2, and AN-M102A2*

## Weight and Packing

**Weights of Fuzes Fully Loaded**—

| | |
|---|---|
| AN-M100A2 | 2.7 lb. |
| AN-M101A2 | 2.9 lb. |
| AN-M102A2 | 3.2 lb. |

**Standard Packing**—Twenty-five fuzes, each in a metal container, are packed in a wooden crate whose weight and dimensions are:

| Fuze | Crate size | Weight (gross) |
|---|---|---|
| AN-M100A2 | 24.3 in. x 14.8 in. x 15.1 in. | 116 lb. |
| AN-M101A2 | 27.3 in. x 14.8 in. x 15.1 in. | 129 lb. |
| AN-M102A2 | 31.3 in. x 14.8 in. x 15.1 in. | 145 lb. |

## Characteristics

**Action**—Impact, inertia-firing, interchangeable Primer Detonator M14 with non-delay, 0.01-, 0.025-, 0.10-, or 0.24-sec. delay

**Modifications**—M100 and M100A1 series. M100 series has an eight-bladed vane and a 0.1-sec. delay primer detonator permanently assembled to the fuze. AN-M100A1 series is similar to M100 series, except that it has an interchangeable primer detonator. AN-M100A2 series has a four-bladed vane and requires a shorter air travel to arm than either M100 or AN-M100A1 series.

**Status**—M100 series—Obsolete—Being replaced by AN-M100A2 series
AN-M100A1 series—Obsolete—Being replaced by AN-M100A2 series.
AN-M100A2 series—Service

**Restriction on Use**—None

**Air Travel to Arm**—(Approximate)
M100 and AN-M100A1 series—2000 ft.
AN-M100A2 series—445 ft.

**Indication of Arming**—If the distance between the eyelet on the gear mechanism and the flange on the vane cup is more than ½ in., the fuze should be considered armed.

## Bombs in Which Used

| | |
|---|---|
| M100, AN-M100, and AN-M100A2 | 100-lb. G. P. Bomb AN-M30 and Mods<br>250-lb. G. P. Bomb AN-M57 and Mods<br>220-lb. Frag. Bomb M88<br>260-lb. Frag. Bomb AN-M81 |
| M101, AN-M101A1, and AN-M101A2 | 500-lb. G. P. Bomb AN-M43 and Mods<br>500-lb. G. P. Bomb AN-M64 and Mods<br>500-lb. S. A. P. Bomb AN-M58 and Mods<br>500-lb. Incendiary Bomb AN-M76<br>500-lb. Chemical Bomb AN-M78 |
| M102, AN-M102A1, and AN-M102A2 | 1000-lb. G. P. Bomb AN-M44 and Mods<br>1000-lb. G. P. Bomb AN-M65 and Mods<br>1000-lb. S. A. P. Bomb AN-M59 and Mods<br>1000-lb. Chemical Bomb AN-M79<br>2000-lb. G. P. Bomb AN-M34<br>2000-lb. G. P. Bomb AN-M66 and Mods<br>4000-lb. L. C. Bomb AN-M56 and Mods |

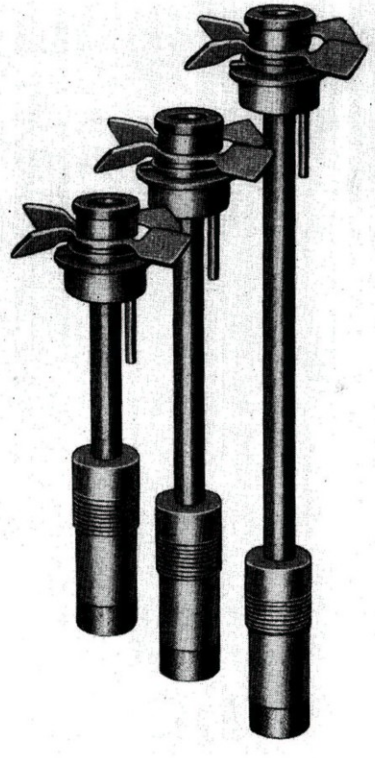

*Figure 37.—Tail Fuzes AN-M100A2, AN-M101A2, AN-M102A2*

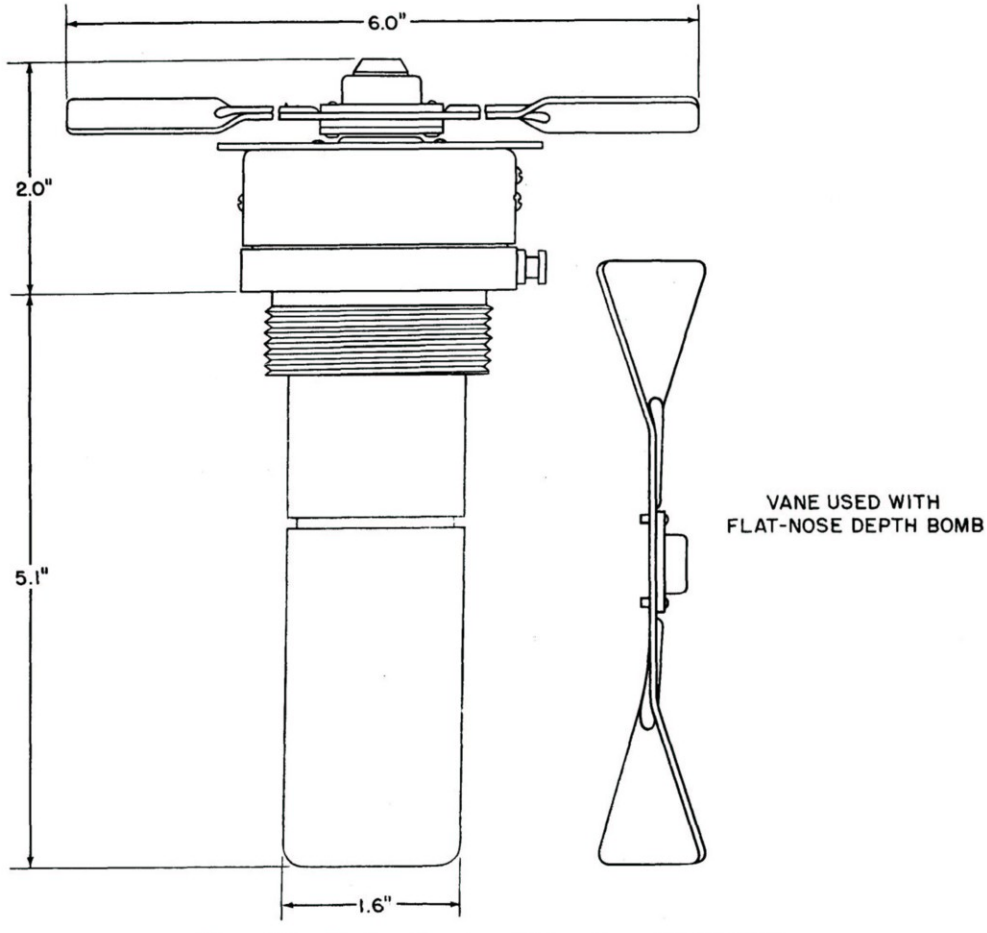


*Figure 38.—Outline Drawing of Nose Fuze AN-M103A1*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 3.7 lb.
**Weight of Booster**—1.9 oz. tetryl.
**Standard Packing**—Twenty-five fuzes each in a metal container, are packed in a wooden crate measuring 22.3 in. x 17.3 in. x 9.2 in. and weighing 132 lb. gross.

## Characteristics

**Action**—Impact, instantaneous, or 0.1-sec. delay.

**Modifications**—M103 and AN-M103. M103 differs from the AN-M103 in that it requires a longer air travel to arm. Fuze AN-M103 differs from Fuze AN-M103A1 in having inadequate safety features.

**Status**—M103 and AN-M103—Obsolete.
AN-M103A1—Service.

**Restrictions on Use**—M103 and AN-M103—Not to be used by Naval activities. No restriction on use of AN-M103A1.

**Air Travel to Arm**—(Approximate).

| | |
|---|---|
| M103 | 1140 ft. for delay. |
| | 1710 ft. for instantaneous. |
| AN-M103, AN-M103A1 | 510 ft. for delay. |
| | 765 ft. for instantaneous. |

**Indication of Arming**—If the arming discs are missing, the fuze is armed.

## Bombs in Which Used

1000-lb. Aircraft Mine AN-Mk 13 Mod 1.
90-lb. Frag. Bomb M82.
All bombs* 100 lb. and over that receive a nose fuze except the Chemical Bomb AN-M47A2, Chemical Bomb M70, and Navy 100-lb. G. P. Bomb Mk 4 and Mods.

*One auxiliary booster is required when used in Navy bombs. Must use special vane assembly when used with flat-nosed depth bombs. Special 4-in. diameter vane, required for use in the 90-lb. Frag. Bomb M82, is supplied with fin assemblies of bombs.

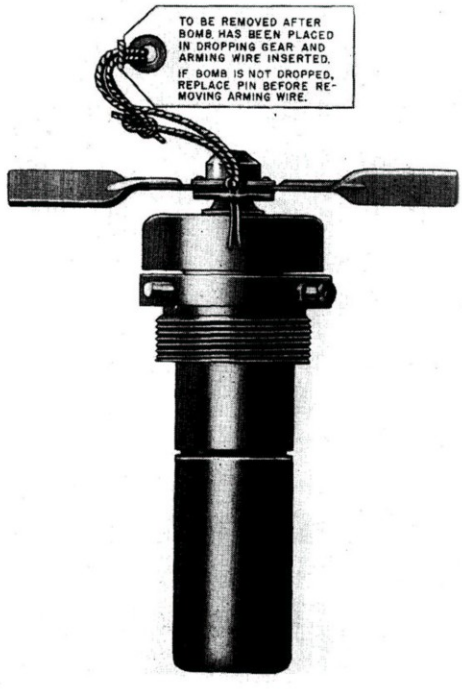


*Figure 39.—Nose Fuze AN-M103A1*

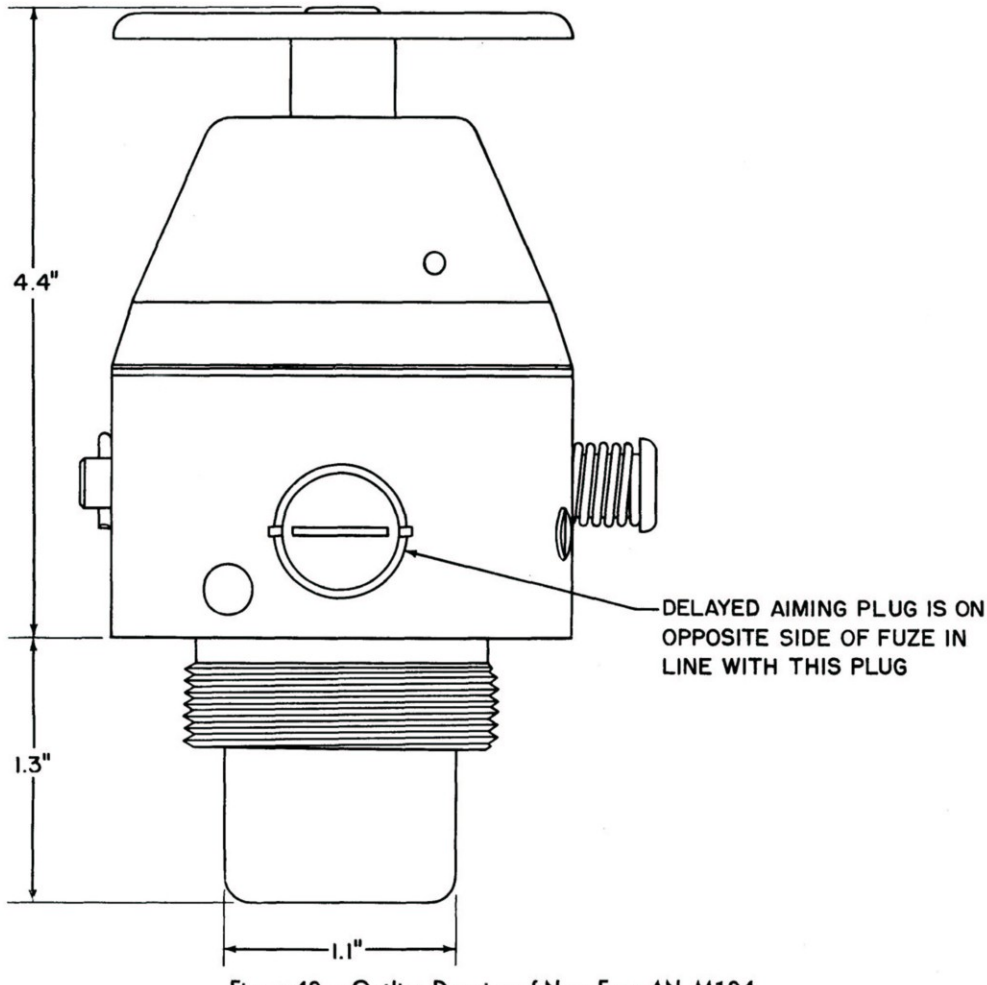


*Figure 40.—Outline Drawing of Nose Fuze AN–M104*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 1.2 lb.
**Weight of Booster**—0.7 oz. tetryl.
**Standard Packing**—Fifty fuzes, each in a metal container, are packed in a wooden crate measuring 17.2 in. x 16.3 in. x 11.4 in. and weighing 98 lb. gross.

## Characteristics

**Action**—Instantaneous upon impact.

**Modifications**—M104 and AN–M104. No appreciable difference.

**Status**—Obsolete—Replaced by AN–M120A1.

**Restriction on Use**—See page 8 for special precautions.

**Air Travel to Arm**—None required. Arms 2.5 sec. after arming pin jumps out.

**Indication of Arming**—Delayed arming plug missing.

## Bombs in Which Used

23–lb. Para-Frag. Bomb AN–M140 and Mods
23–lb. Para-Frag. Bomb AN–M72 and Mods

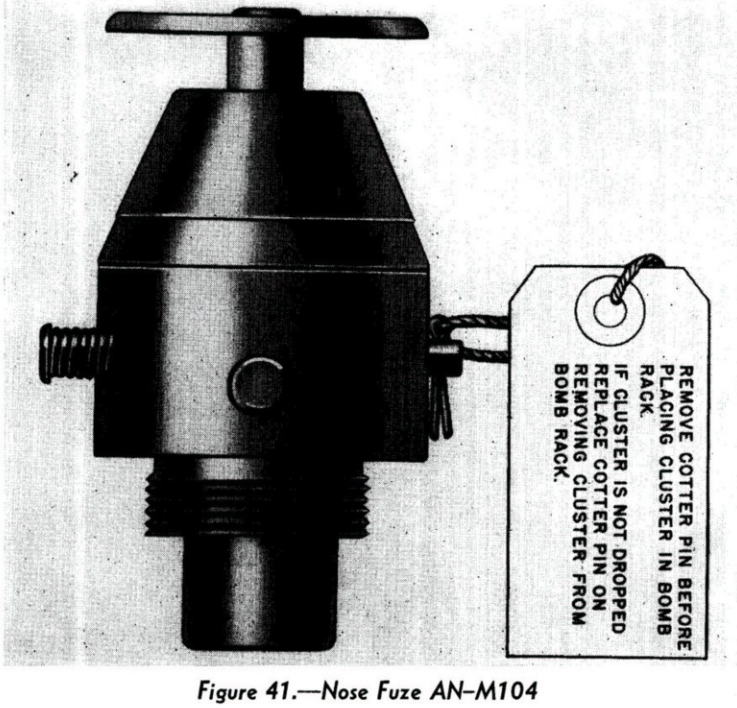


*Figure 41.—Nose Fuze AN–M104*

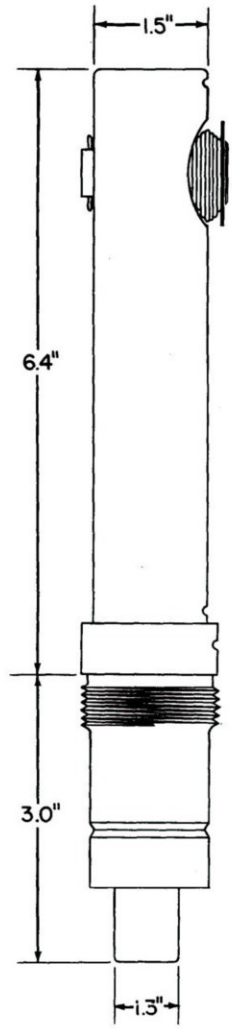


*Figure 42.—Outline Drawing of Tail Fuze M106*

## Weight and Packing

**Weight of Fully Loaded Fuze**—Approximately 2.4 lb.
**Standard Packing**—Fifty fuzes, each in a metal container, are packed in a wooden crate measuring 24.4 in. x 10.7 in. x 11.4 in. and weighing 157 lb. gross.

## Characteristics

**Action**—Impact, delay

**Modifications**—M106, M106A1, and M106A2 differ only in delay times as shown below.

| | |
|---|---|
| M106 | 4–5 sec.-delay |
| M106A1 | 8–11 sec.-delay |
| M106A2 | 4–5 sec.-delay |

**Status**—Obsolete—Replaced by M112 and M115 series fuzes.

**Restriction on Use**—Not to be used by Naval activities.

**Air Travel to Arm**—None required.

**Indication of Arming**—Safety pin missing.

## Bombs in Which Used

All Army and Army-Navy Standard G. P., S. A. P., and A. P. Bombs

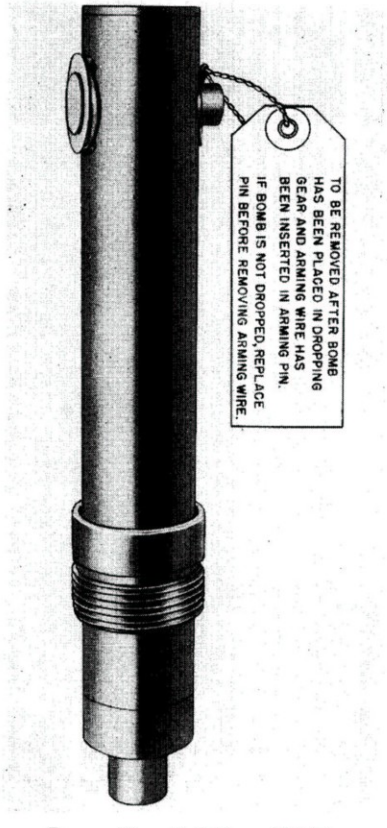


*Figure 43.—Tail Fuze M106*



670587—45——4

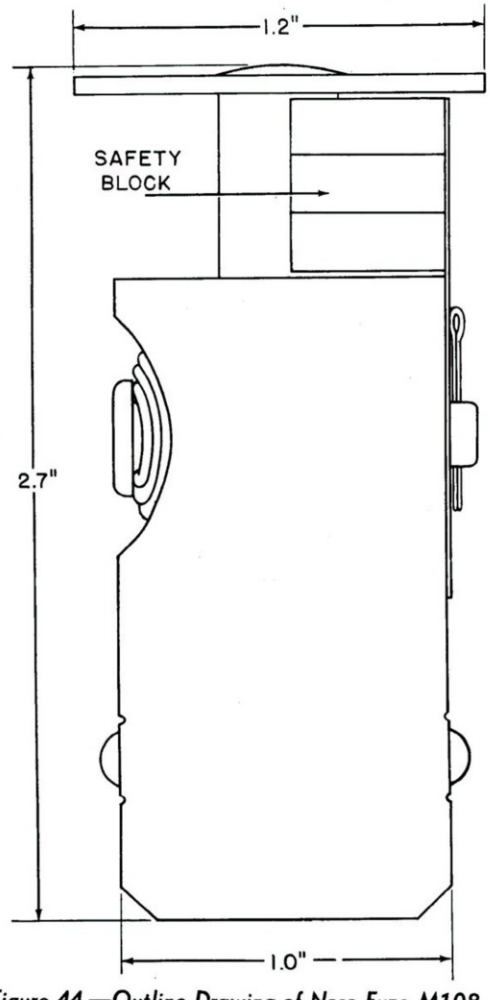


*Figure 44.—Outline Drawing of Nose Fuze M108*

## Weight and Packing

**Weight of Fully Loaded Fuze**—Approximately 0.5 lb.
**Standard Packing**—Two hundred fuzes, each in a metal container, are packed in a wooden crate measuring 17.8 in. x 16.2 in. x 8.2 in. and weighing 131 lb. gross.

## Characteristics

**Action**—Instantaneous upon impact.
**Modifications**—Early lots of Fuze M108 did not have a safety block inserted between the striker head and fuze body.
**Status**—Obsolete.
**Restriction on Use**—Not to be used by Naval activities.
**Air Travel to Arm**—None required.
**Indication of Arming**—Arming pin and safety block missing.

## Bombs in Which Used

100-lb. Target-Identification Bomb M75
100-lb. Incendiary Bomb Mk 28
100-lb. Chemical Bomb AN–M47 and Mods


*Figure 45.—Nose Fuze M108*

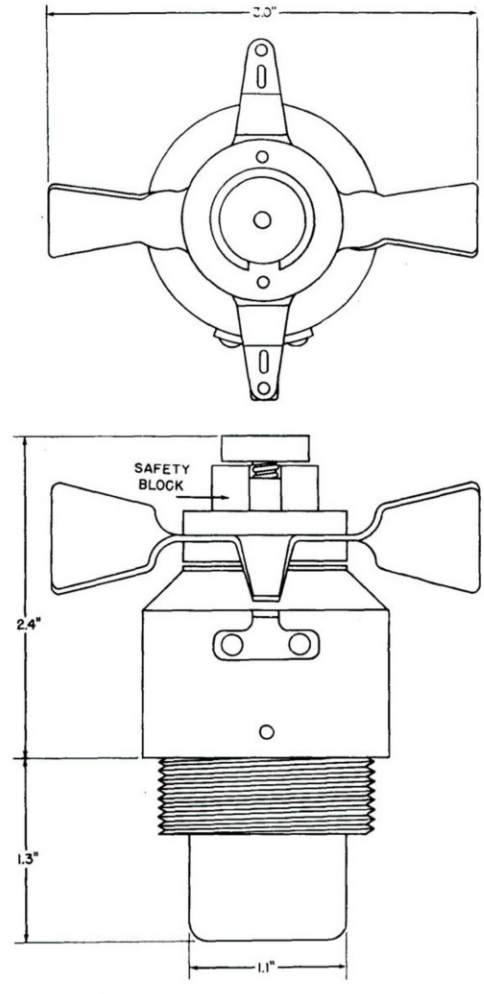


*Figure 46.—Outline Drawing of Nose Fuze AN–M110A1*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 1.0 lb.
**Weight of Booster**—0.6 oz. tetryl.
**Standard Packing**—When not issued with the bomb clusters—four wax-covered paper cartons, each containing twelve fuzes, are packed in a wooden crate measuring 22.9 in. x 10.9 in. x 10.9 in. and weighing 77 lb. gross.

## Characteristics

**Action**—Instantaneous upon impact.
**Modifications**—M110 differs from AN–M110A1 in that it requires a longer air travel to arm and has a three-segment safety block instead of a C-shaped safety block.
**Status**—M110—Obsolete; AN–M110A1—Service. (To be replaced by Fuze M158.)
**Restriction on Use**—Fuze M110 will not be used from Naval aircraft. See Page 8 for special precautions in the use of Fuze AN–M110A1.
**Air Travel to Arm**—(Approximate)

| | |
|---|---|
| M110 | 2200 ft. |
| AN–M110A1 | 725 ft. |

**Indication of Arming**—Safety block (or segments of block) missing.

## Bombs in Which Used

20-lb. Frag. Bomb AN–M41 and Mods
115-lb. Chemical Bomb M70

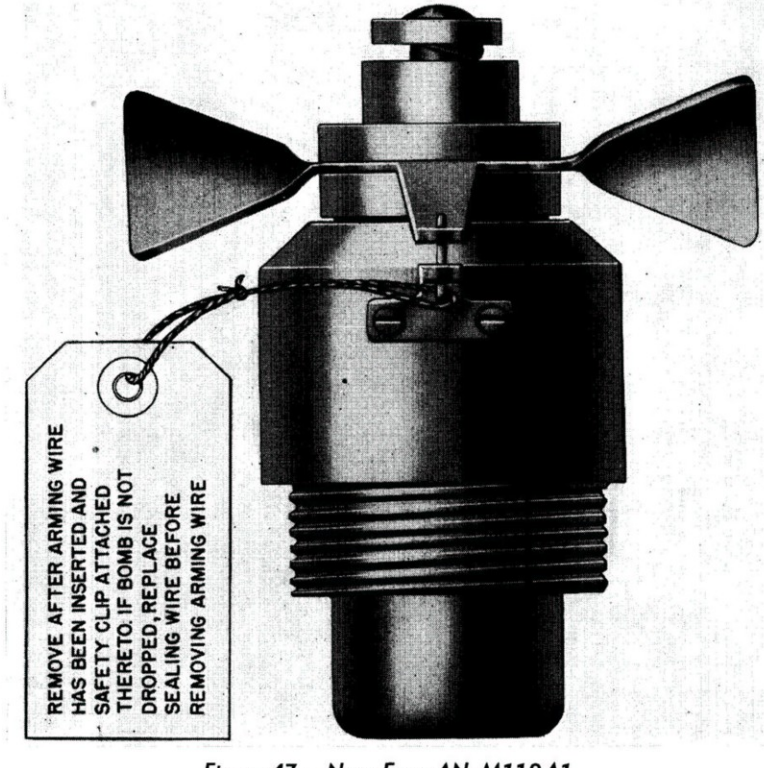


*Figure 47.—Nose Fuze AN–M110A1*

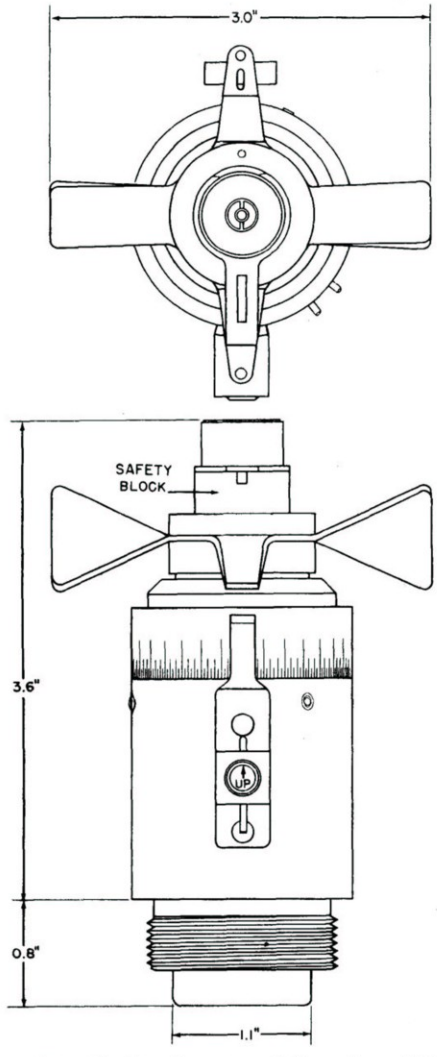


*Figure 48.—Outline Drawing of Nose Fuze M111A2*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 1.4 lb.
**Weight of Booster**—0.2 oz. black powder.
**Standard Packing**—Fifty fuzes, each in a metal container, are packed in a wooden crate 15.3 in. x 15.3 in. x 12.0 in. and weighing 74 lb. gross.

## Characteristics

**Action**—Mechanical time, 5- to 92-sec. delay or instantaneous upon impact.

**Modifications**—Fuze M111A1 has a three-segment safety block and an arming vane with a four-in. span as compared to the C-shaped safety block and the arming vane with a three-in. span of M111A2. M111A1 requires a longer air travel to arm than M111A2. M111 is like M111A1 except that its minimum time setting is 15 sec. Except for these differences, Fuzes, M111, M111A1, and M111A2 are similar.

**Status**—M111A2—Service; being replaced by Fuze AN-M146. M111 and M111A1—Obsolete.

**Restriction on Use**—Not to be used in shipboard operations.

**Air Travel to Arm**—(Approximate)

| | |
|---|---|
| M111A2 | 1300 ft. |
| M111 and M111A1 | 2200 ft. |

**Indication of Arming**—Safety block (or segments of block) missing.

## Bombs in Which Used

Flare—M26 and Mods
Photoflash Bomb M46 and Mods
Aimable "Butterfly" Clusters M28 and M29*

*Nose Fuze M111 is not suitable for use in these clusters, because the time setting normally used should be less than the minimum setting of 15 sec. on the Nose Fuze M111.

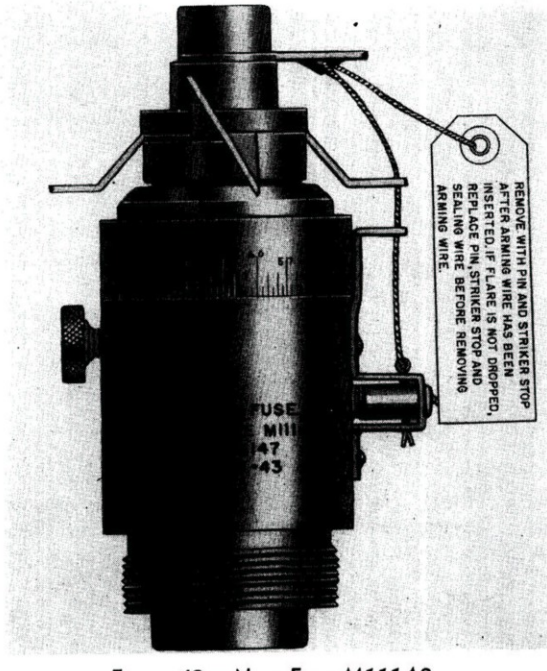


*Figure 49.—Nose Fuze M111A2*

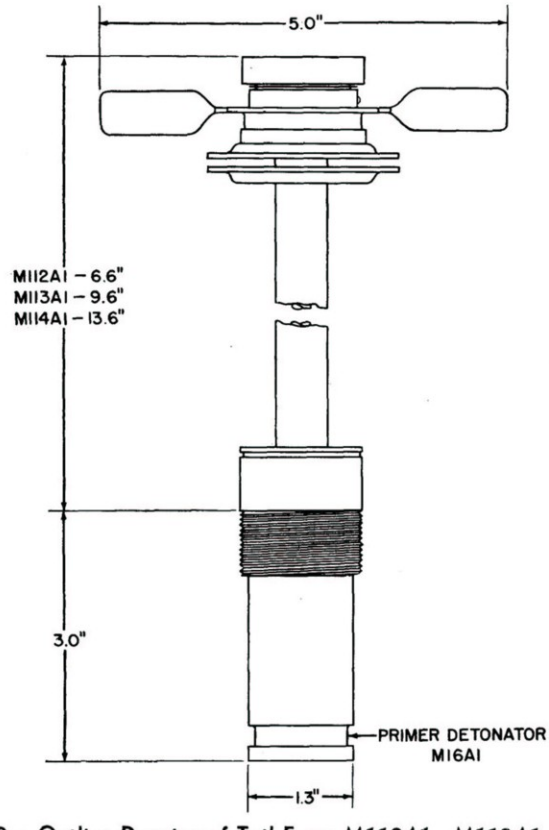


*Figure 50.—Outline Drawing of Tail Fuzes M112A1, M113A1, M114A1*

## Weight and Packing

**Weights of Fuzes Fully Loaded**—(Approximate)

| | |
|---|---|
| M112A1 | 2.3 lb. |
| M113A1 | 2.5 lb. |
| M114A1 | 2.8 lb. |

**Standard Packing**—Twenty-five fuzes, each in a metal container, are packed in a wooden crate whose dimensions are:

| Fuze | Crate size | Weight (gross) |
|---|---|---|
| AN–M112A1 | 18.6 in. x 14.8 in. x 15.8 in. | 112 lb. |
| AN–M113A1 | 21.6 in. x 14.8 in. x 15.8 in. | 124 lb. |
| AN–M114A1 | 25.6 in. x 14.8 in. x 15.8 in. | 141 lb. |

## Characteristics

**Action**—Impact, inertia firing, Interchangeable Primer Detonator M16A1 with 4–5 or 8–15 sec. delay.

**Modifications**—M112, M113, M114 will take only Primer Detonator M16. M112A1, M113A1, and M114A1 are modified to take Primer Detonator M16A1, but can also take Primer Detonator M16.

**Status**—M112, M113, M114—Obsolescent.
M112A1, M113A1, M114A1—Service.

**Restriction on Use**—Not to be used by carrier-based aircraft: 8–15 sec. delay to be used for shore targets; 4–5 sec. delay to be used for ship targets.

**Air Travel to Arm**—Approximately 100 ft.

**Indication of Arming**—If the distance between the arming-wire holder and stem cup is greater than ½ in., the fuze should be considered armed.

## Bombs in Which Used

| | |
|---|---|
| M112 and M112A1 | 100-lb. G. P. Bomb AN–M30 and Mods |
| | 250-lb. G. P. Bomb AN–M57 and Mods |
| M113 and M113A1 | 500-lb. G. P. Bomb AN–M43 and Mods |
| | 500-lb. G. P. Bomb AN–M64 and Mods |
| | 500-lb. S. A. P. Bomb AN–M58 and Mods |
| M114 and M114A1 | 1000-lb. G. P. Bomb AN–M44 and Mods |
| | 1000-lb. G. P. Bomb AN–M65 and Mods |
| | 2000-lb. G. P. Bomb AN–M34 and Mods |
| | 2000-lb. G. P. Bomb AN–M66 and Mods |
| | 1000-lb. S. A. P. Bomb AN–M59 and Mods |

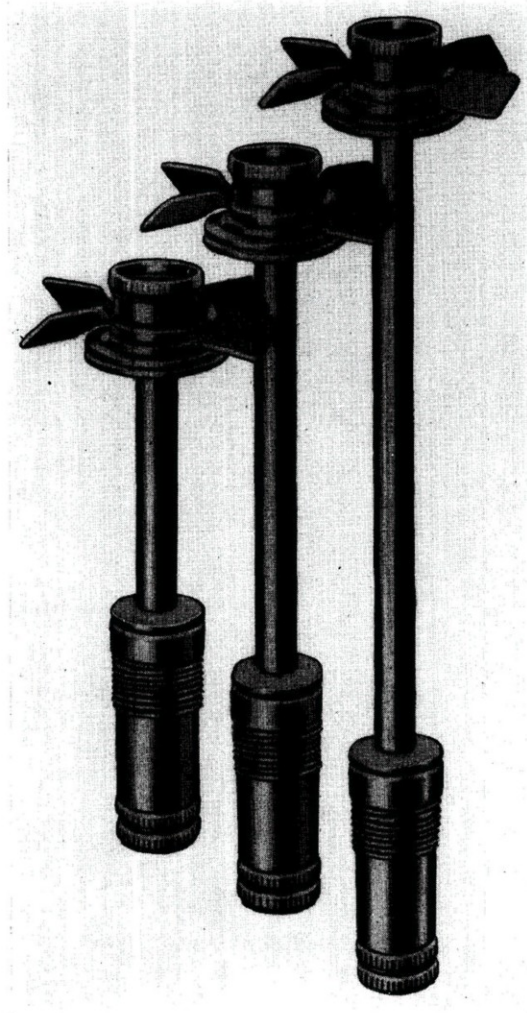

*Figure 51.—Tail Fuzes M112A1, M113A1, M114A1*

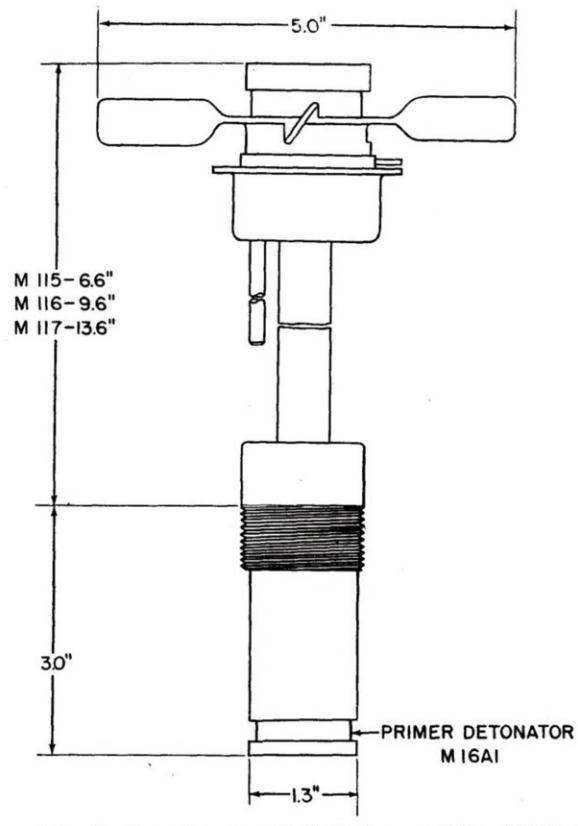


*Figure 52.—Outline Drawing of Tail Fuzes M115, M116, M117*

## Weight and Packing

**Weights of Fuzes Fully Loaded**—(Approximate)

| | |
|---|---|
| M115 | 2.7 lb. |
| M116 | 2.9 lb. |
| M117 | 3.2 lb. |

**Standard Packing**—Twenty-five fuzes, each in a metal container, are packed in a wooden crate whose dimensions are:

| Fuze | Crate size | Weight (gross) |
|---|---|---|
| M115 | 18.6 in. x 14.8 in. x 15.8 in. | 119 lb. |
| M116 | 21.6 in. x 14.8 in. x 15.8 in. | 131 lb. |
| M117 | 25.6 in. x 14.8 in. x 15.8 in. | 148 lb. |

## Characteristics

**Action**—Impact, inertia firing. Interchangeable Primer Detonator M16A1 with 4–5 or 8–15 sec. delay.

**Modifications**—None.

**Status**—Service.

**Restrictions on Use**—8–15 sec. delay to be used for shore targets, 4–5 sec. delay to be used for ship targets.

**Air Travel to Arm**—Approximately 450–650 ft.

**Indication of Arming**—If the distance between the eyelet and the vane-cup flange is greater than ½ in., the fuze should be considered armed.

## Bombs in Which Used

| | |
|---|---|
| M115 | 100-lb. G. P. Bomb AN–M30 and Mods |
| | 250-lb. G. P. Bomb AN–M57 and Mods |
| M116 | 500-lb. G. P. Bomb AN–M43 and Mods |
| | 500-lb. G. P. Bomb AN–M64 and Mods |
| | 500-lb. S. A. P. Bomb AN–M58 and Mods |
| M117 | 1000-lb. G. P. Bomb AN–M44 and Mods |
| | 1000-lb. G. P. Bomb AN–M65 and Mods |
| | 2000-lb. G. P. Bomb AN–M34 and Mods |
| | 2000-lb. G. P. Bomb AN–M66 and Mods |
| | 1000-lb. S. A. P. Bomb AN–M59 and Mods |

*Figure 53.—Tail Fuzes M115, M116, M117.*

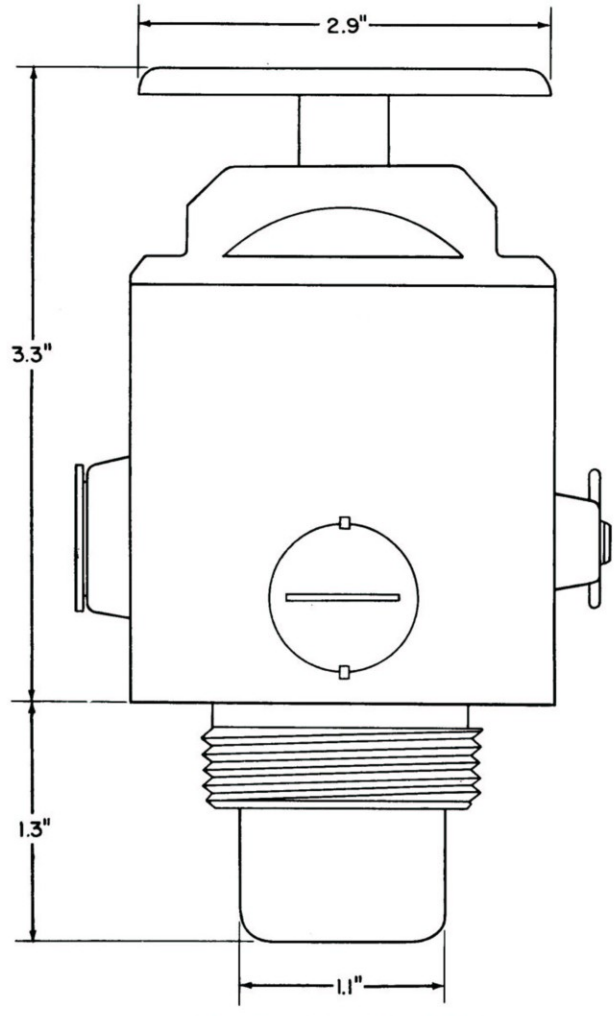


*Figure 54.—Nose Fuze AN–M120A1*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 1.1 lb.
**Weight of Booster**—0.7 oz. tetryl.
**Standard Packing**—Twenty-four fuzes, each in a metal container, are packed in a wooden crate measuring 20.4 in. x 18.2 in. x 7.5 in. and weighing 58 lb. gross. Older method packed 50 fuzes in a wooden crate weighing 98 lb. gross.

**Bomb Nose Fuzes T32 (M118), T33 (M119)**—Bomb Nose Fuze T32 was standardized as the M118 but has subsequently been destandardized to its previous T32 designation. The bomb Nose Fuze T33 has never been standardized. Neither of these fuzes is suitable for Navy use.

## Characteristics

**Action**—Instantaneous upon impact.
**Modifications**—AN–M120A1 differs from the AN–M120 only in requiring a shorter time to arm.
**Status**—AN–M120—Obsolescent; AN–M120A1—Service. A new fuze, the M170, is similar to the AN–M120A1 except that it requires a still shorter arming time ($1.5 \pm 0.3$ sec.).
**Restrictions on Use**—None. Because this fuze requires no air travel to arm and is extremely sensitive when armed, extreme care should be taken when handling bombs containing this fuze. See page 8 for special precautions.
**Air Travel to Arm**—None required. AN–M120 arms by clockwork in $2.5 \pm 0.3$ sec. and AN–M120A1 arms in $1.9 \pm 0.3$ sec. after release of the arming pin.
**Indications of Arming**—Arming pin missing.

## Bombs in Which Used

23-lb. Para-Frag. Bomb AN–M40 and Mods
23-lb. Para-Frag. Bomb M72
120-lb. Para-Frag. Bomb M86

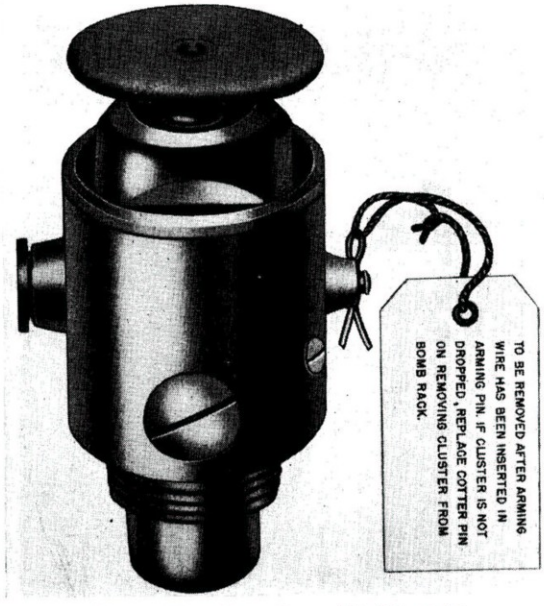


*Figure 55.—Nose Fuze AN–M120A1*

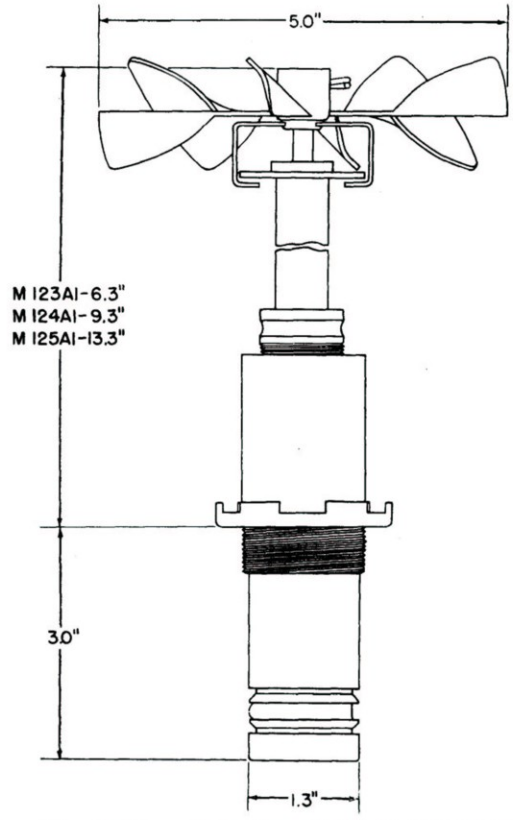


*Figure 56.—Tail Long-Delay Fuzes M123A1, M124A1 M125A1*

## Weight and Packing

**Weights of Fuzes Fully Loaded**—(Approximate)

| | |
|---|---|
| M123A1 | 2.9 |
| M124A1 | 3.1 |
| M125A1 | 3.4 |

**Standard Packing**—Twenty-four fuzes, each in a metal container, are packed in a wooden crate.

| Fuze | Crate volume | Weight |
|---|---|---|
| M123A1 | 2.5 cu. ft. | 122 lb. |
| M124A1 | 2.9 cu. ft. | 134 lb. |
| M125A1 | 3.5 cu. ft. | 149 lb. |

**Bomb Fuzes M121, M122**—These fuzes have been designed and produced for special uses. Information concerning them may be obtained by special request to the Bureau of Ordnance.

## Characteristics

**Action**—Chemical long-delay, 1–144 hours, or instantaneous on attempted withdrawal.

**Modifications**—M123A1 series differ from the M123 series in having no reduction gearing and an eight-bladed rather than a four-bladed arming vane.

**Status**—M123, M124, M125—Obsolescent
M123A1, M124A1, M125A1—Service

**Restriction on Use**—Not to be returned to airfields or carriers.

**Air Travel to Arm**—

M123, M124, M125—80 to 100 ft. to initiate delay action; 900 to 1400 ft. to seal fuze against leakage of solvent or entrance of moisture.

M123A1, M124A1, M125A1—Less than 100 ft. to initiate delay action and to seal fuze against leakage of solvent or entrance of moisture.

**Indications of Arming**—Any fuze which has been dropped more than 10 ft., or subjected to high temperatures, or which has had its vanes free to rotate must be considered armed. Special indicators are provided in each shipping box to show whether or not fuzes have been subjected to high storage temperatures.

## Bombs in Which Used

| | |
|---|---|
| M123, M123A1 | 100-lb. G. P. Bomb AN–M30 and Mods* |
| | 250-lb. G. P. Bomb AN–M57 |
| M124, M124A1 | 500-lb. G. P. Bomb AN–M43 |
| | 500-lb. G. P. Bomb AN–M64 and Mods* |
| | 500-lb. S. A. P. Bomb AN–M58 and Mods* |
| M125, M125A1 | 1000-lb. G. P. Bomb AN–M44 |
| | 1000-lb. G. P. Bomb AN–M65 and Mods* |
| | 1000-lb. S. A. P. Bomb AN–59 and Mods* |
| | 2000-lb. G. P. Bomb AN–M34 |
| | 2000-lb. G. P. Bomb AN–M66 and Mods* |

*The Modifications of these bombs that have the adapter booster and base plate locking devices are the preferred bombs for use with these fuzes.

*Figure 57.—Tail Long—Delay Fuzes M123A1, M124A1, M125A1*

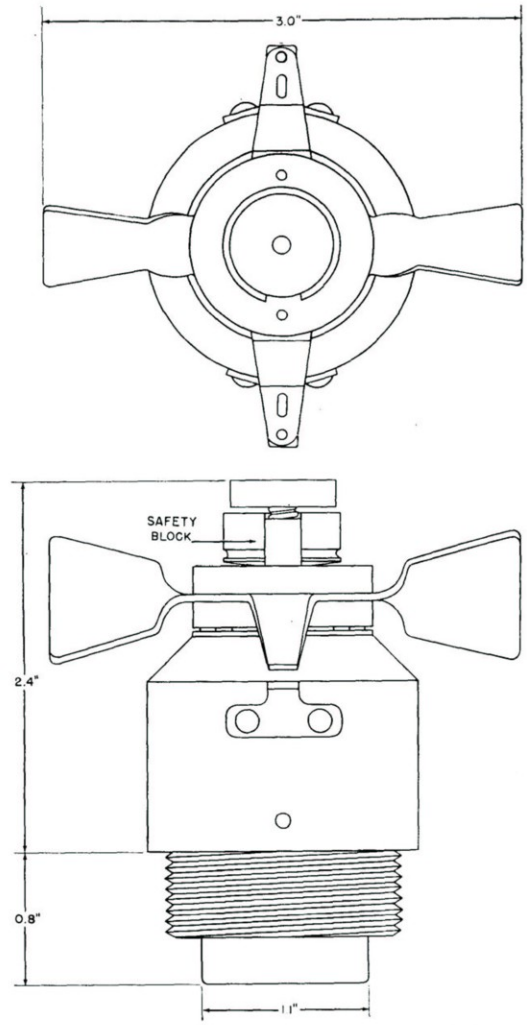


*Figure 58.—Outline Drawing of Nose Fuze AN-M126A1*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 1.1 lb.
**Standard Packing**—Fifty fuzes, each in a metal container, are packed in a wooden crate measuring 21.2 in. x 18.8 in. x 9.8 in. and weighing 101 lb. gross.

## Characteristics

**Action**—Instantaneous upon impact. (Similar to Fuze AN-M110A1 but has no booster, as it is loaded only with a detonator.)

**Modifications**—AN-M126 differs from the AN-M126A1 in that the AN-M126 requires a longer air travel to arm and has a three-segment safety block instead of a C-shaped safety block.

**Status**—AN-M126—Obsolescent.
AN-M126A1—Service (To be replaced by Fuze M159.)

**Restrictions on Use**—AN-M126 is not to be used by Naval activities. See page 8 for special precautions in use of AN-M126A1.

**Air Travel to Arm**—(Approximate).
AN-M126—2500 ft.
AN-M126A1—800 ft.

**Indications of Arming**—Safety block (or segments of block) missing.

## Bombs in Which Used

100-lb. Chemical Bomb M47 and Mods.

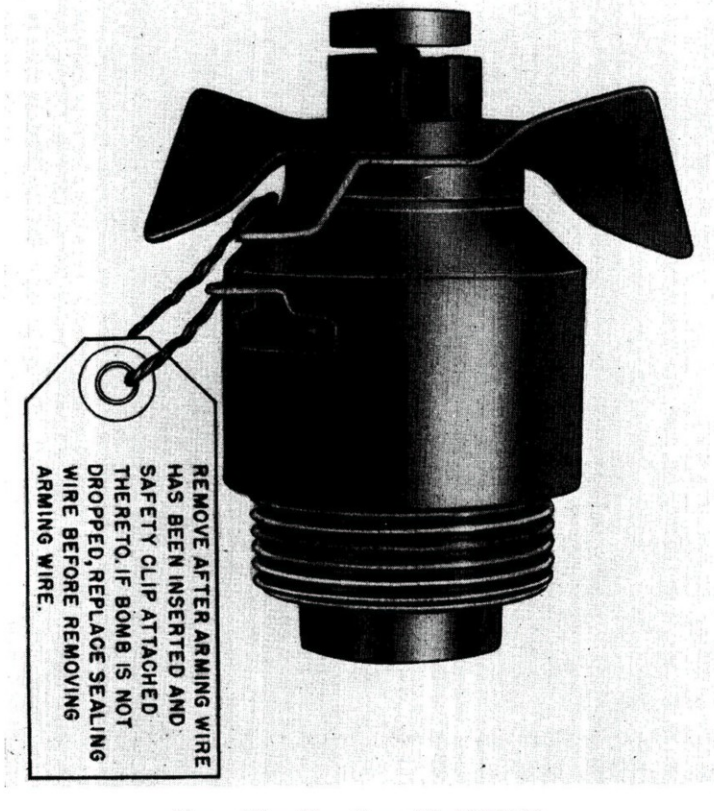


*Figure 59.—Nose Fuze AN-M126A1*



670587—45——5

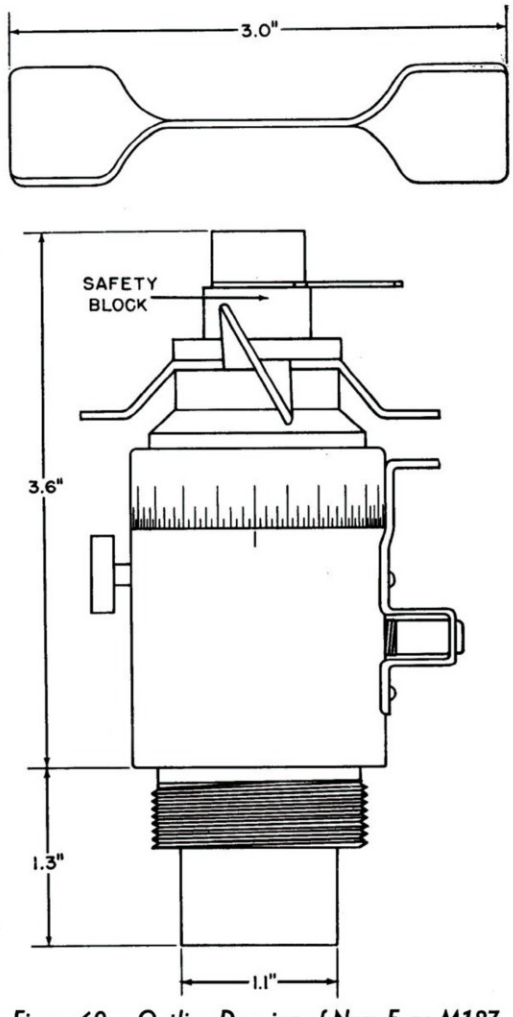


*Figure 60.—Outline Drawing of Nose Fuze M127*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 1.4 lb.
**Weight of Booster**—0.6 oz. tetryl.
**Standard Packing**—Twenty-five fuzes, each in a metal container, are packed in a wooden crate measuring 20.4 in. x 18.8 in. x 7.8 in. and weighing 59 lb. gross.

## Characteristics

**Action**—Mechanical time, 5–92 seconds, or instantaneous upon impact. (Similar to fuze M111A2 except that it has a 0.6-oz. tetryl booster.)
**Modifications**—None.
**Status**—Obsolescent—Being replaced by fuze M128.
**Restrictions on Use**—Not to be used in shipboard operations.

**Air Travel to Arm**—Approximately 1300 ft. Indications of Arming—Safety block missing.

## Bombs in Which Used

Aimable Incendiary Cluster, AN–M17A1.

500-lb. Chemical Bomb AN–M78 (with Adapter Booster M117.)

1000-lb. Chemical Bomb AN–M79 (with Adapter Booster M117.)

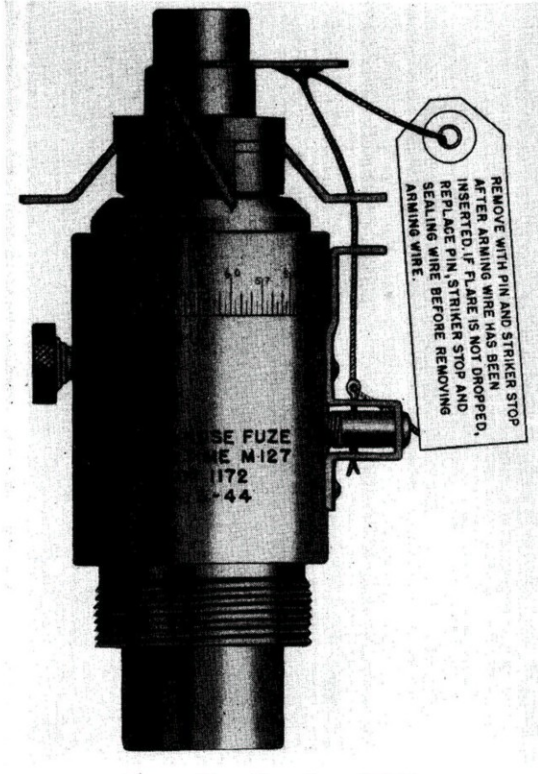


*Figure 61.—Nose Fuze M127*

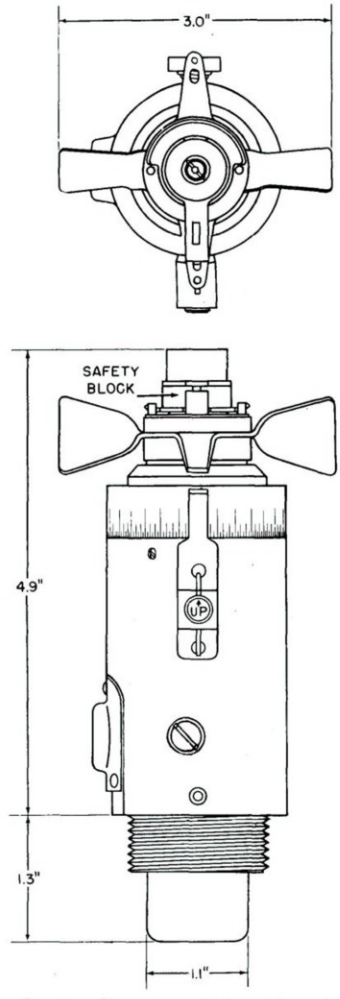


*Figure 62.—Outline Drawing of Nose Fuze AN–M128*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 1.6 lb.
**Weight of Booster**—0.7 oz. tetryl
**Standard Packing**—Fifteen fuzes, each in a metal container, are packed in a wooden crate measuring 20.6 in. x 9.1 in. x 12.2 in. and weighing about 45 lb. gross.

## Characteristics

**Action**—Mechanical time, 5–92 sec. or instantaneous upon impact. (Similar to Fuze AN–M146 except had a 0.6-oz. tetryl booster.)
**Modifications**—None.
**Status**—Service.
**Restrictions on Use**—None.
**Air Travel to Arm**—Approximately 1300 ft.
**Indication of Arming**—Safety block missing.

## Bombs in Which Used

Aimable Incendiary Cluster AN–M17A1
500-lb. Chemical Bomb M78 (with Adapter Booster M117)
1000-lb. Chemical Bomb AN–M79 (with Adapter Booster M117)

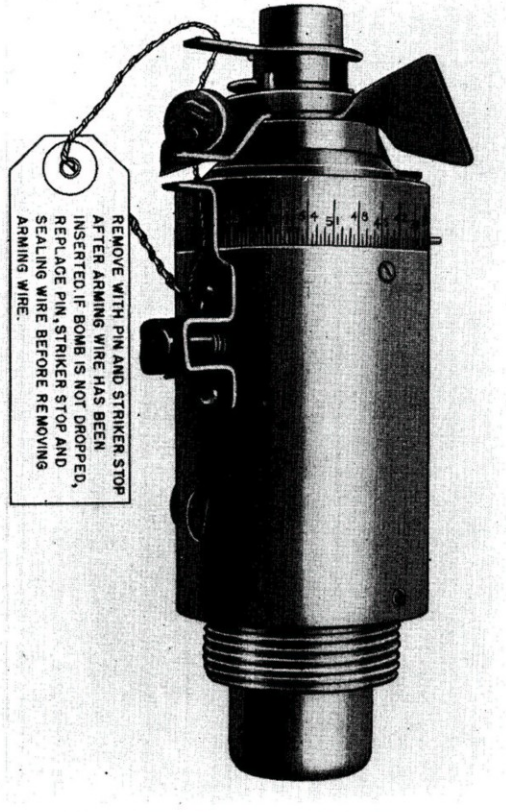


*Figure 63.—Nose Fuze AN–M128*

## BOMB (BUTTERFLY) AMIDSHIPS FUZE M129

### Characteristics

**Action**—Impact or aerial burst.*
**Modifications**—None.
**Status**—Service.
**Restriction on Use**—None.
**Air Travel to Arm**—After release from the cluster, approximately 50 ft. of air travel are required to activate the clockwork mechanism.
**Indication of Arming**—If the arming spindle is unthreaded more than ⅛ inch, the fuze should be considered armed.

*All fuzes preset by manufacturer for action upon impact—aerial burst feature not used by Navy.

### Bomb in Which Used

Four-lb. Fragmentation (Butterfly) Bomb M83
**Note**—Fuzes M129 are installed in the bomb and all settings are made at the factory. No attempt should ever be made to remove the fuzes, change the settings, or work on the fuzes in any way.

*Figure 64.—Fragmentation (Butterfly) Bomb M83, Side View, Open, Showing Location of Amidships Fuze*

## BOMB (BUTTERFLY) AMIDSHIPS FUZE M130 (T48)

### Characteristics

**Action**—Mechanical time, long delay 10 to 30 min.*
**Modification**—None.
**Status**—Service.
**Restriction on Use**—None.
**Air Travel to Arm**—After release from the cluster, approximately 50 ft. of air travel are required to activate the clockwork mechanism.
**Indication of Arming**—When the arming stem is withdrawn from the fuze more than ⅛ in., the fuze should be considered armed.

### Bomb in Which Used

Four-lb. Fragmentation (Butterfly) Bomb M83
**Note**—Fuzes M130 are installed in the bomb and all settings are made at the factory. No attempt ever should be made to remove the fuzes, change the settings, or work on the fuzes in any way.

*Delays vary with each fuze. Preset at either 10, 20, or 30 min. by the manufacturer.

## BOMB (BUTTERFLY) AMIDSHIPS FUZE M131 (T49)

### Characteristics

**Action**—Anti-disturbance.
**Modifications**—None.
**Status**—Experimental service.
**Restrictions on Use**—None.
**Air Travel to Arm**—After release from the cluster, approximately 50 ft. of air travel are required partially to arm the fuze. Completion of arming occurs after ground impact.
**Indication of Arming**—When the arming stem is withdrawn from the fuze more than ⅛ in., the fuze should be considered armed.

### Bomb in Which Used

Four-lb. Fragmentation (Butterfly) Bomb M83
**Note**—Fuzes M131 are installed in the bomb and all settings are made at the factory. No attempt ever should be made to remove the fuzes or change the settings, or work on the fuzes in any way.

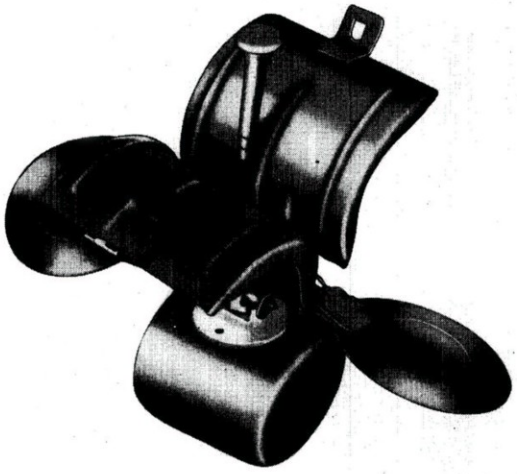

*Figure 65.—Fragmentation (Butterfly) Bomb M83, Top View, Open*

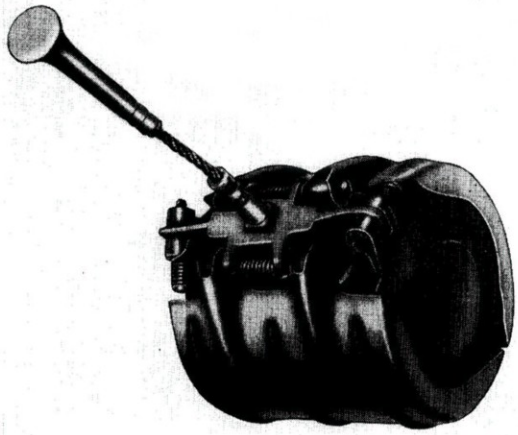

*Figure 66.—Fragmentation (Butterfly) Bomb M83, Closed*

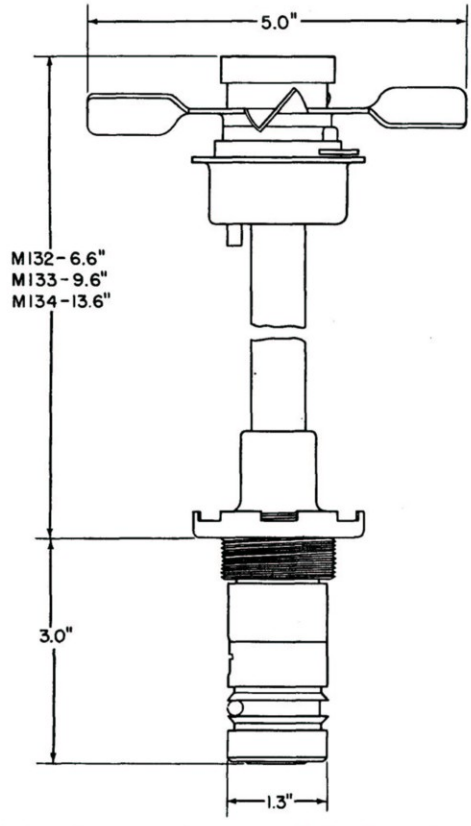


*Figure 67.—Outline Drawing of Tail Long—Delay Fuzes M132, M133, M134*

## Weight and Packing

**Weights of Fuzes Fully Loaded**—(Approximate)

| | |
|---|---|
| M132 | 2. 1 |
| M133 | 2. 3 |
| M134 | 2. 6 |

**Standard Packing**—Twenty-five fuzes, each in a metal container, are packed in a wooden crate whose weight and dimensions are:

| Fuze | Crate size | Weight (gross) |
|---|---|---|
| M132 | 14.8 in. x 15.8 in. x 19.2 in. | 124 lb. |
| M133 | 14.8 in. x 15.8 in. x 22.2 in. | 137 lb. |
| M134 | 14.8 in. x 15.8 in. x 26.3 in. | 153 lb. |

## Characteristics

**Action**—Chemical, long delay, 16 min. (average) at 80° F. or instantaneous on attempted withdrawal.
**Modifications**—None.
**Status**—Service.
**Restriction on Use**—Not to be returned to airfields or carriers.
**Air Travel to Arm**—Approximately 100 ft.
**Indication of Arming**—No external indications of arming.

## Bombs in Which Used

M132 100-lb. G. P. Bomb AN–M30 and Mods
250-lb. G. P. Bomb AN–M57

M133 500-lb. G. P. Bomb AN–M43
500-lb. G. P. Bomb AN–M64 and Mods
500-lb. S. A. P. Bomb AN–M58 and Mods

M134 1000-lb. G. P. Bomb AN–M44
1000-lb. G. P. Bomb AN–M65 and Mods
1000-lb. S. A. P. Bomb AN–M59 and Mods
2000-lb. G. P. Bomb AN–M34
2000-lb. G. P. Bomb AN–M66 and Mods

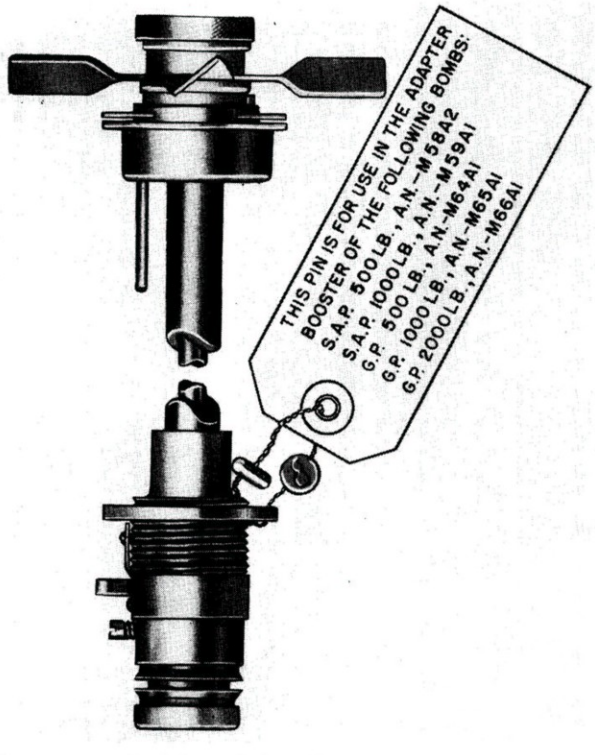


*Figure 68.—Tail Long-Delay Fuzes M132, M133, M134*

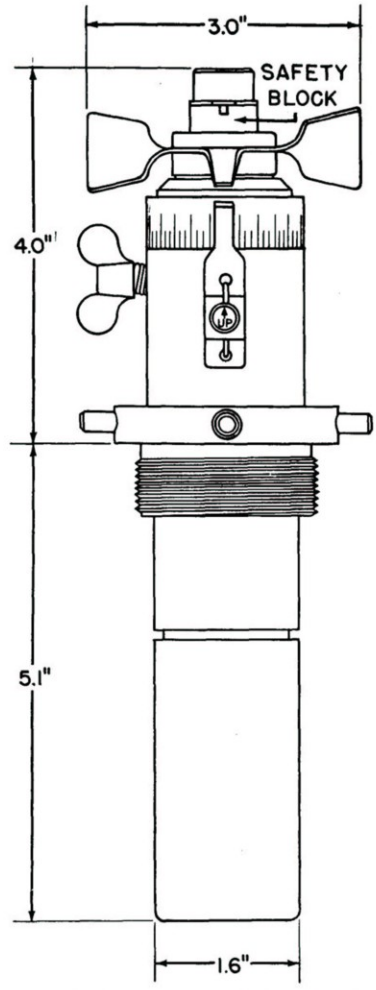


*Figure 69.—Outline Drawing of Nose Fuze M135A1*

**Weight of Booster**—1.9 oz. tetryl.

## Characteristics

**Action**—Mechanical time 5–92 sec. or instantaneous upon impact. (Similar toFuze M111A2, with lower body and booster of Fuze AN–M103).

**Modifications**—M135A1 differs from M135 only in having a minimum time setting of ten sec. instead of five sec.

**Status**—Not procured for Naval use.

**Restriction on Use**—Not to be used by Naval activities.

**Air Travel to Arm**—Approximately 1300 ft.

**Indication of Arming**—Safety block missing.

## Bombs in Which Used

May be used in any bomb in which Fuze AN–M103 will fit. (See page 15.)

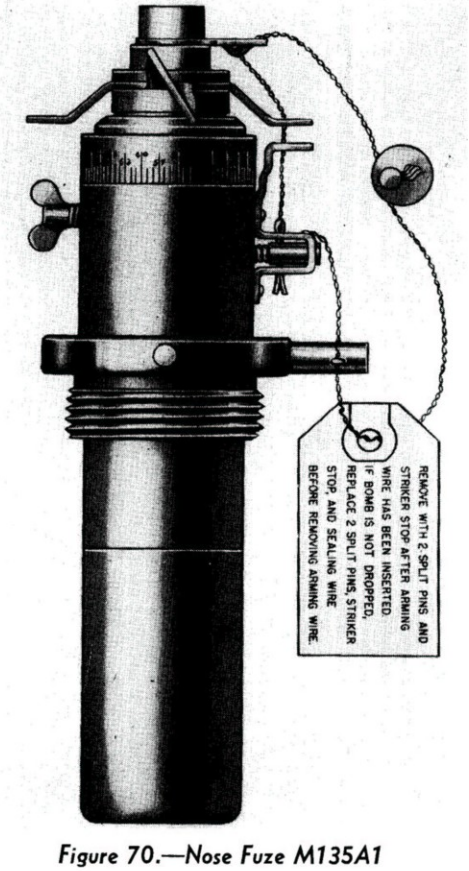


*Figure 70.—Nose Fuze M135A1*

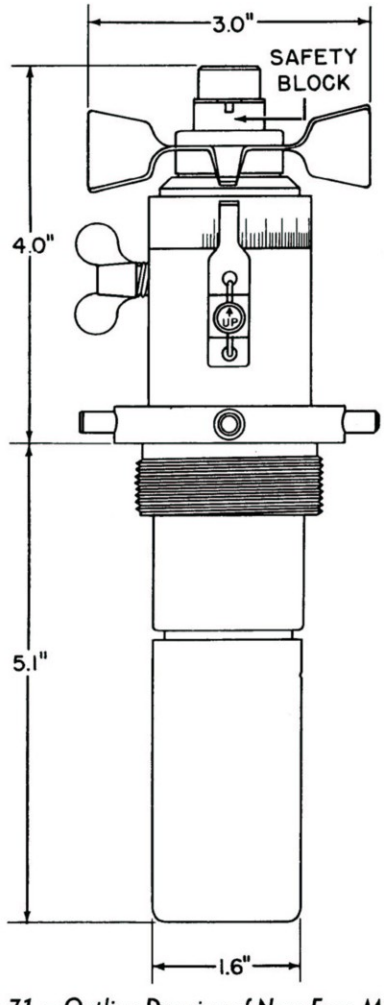


*Figure 71.—Outline Drawing of Nose Fuze M136A1*

**Weight of Booster**—1.9 oz. tetryl

## Characteristics

**Action**—Mechanical time, 5.0–30.6 sec. or instantaneous upon impact. (Same as fuze M135 except for faster clock and time scale.)
**Modification**—M136A1 differs from M136 only in having a minimum time setting of ten instead of five sec.
**Status**—Not procured for Naval use.
**Restriction on Use**—Not to be used by Naval activity.
**Air Travel to Arm**—Approximately 1300 ft.
**Indication of Arming**—Safety block missing.

## Bombs in Which Used

May be used in any bomb in which Fuze AN-M103 will fit. (See page 45.)

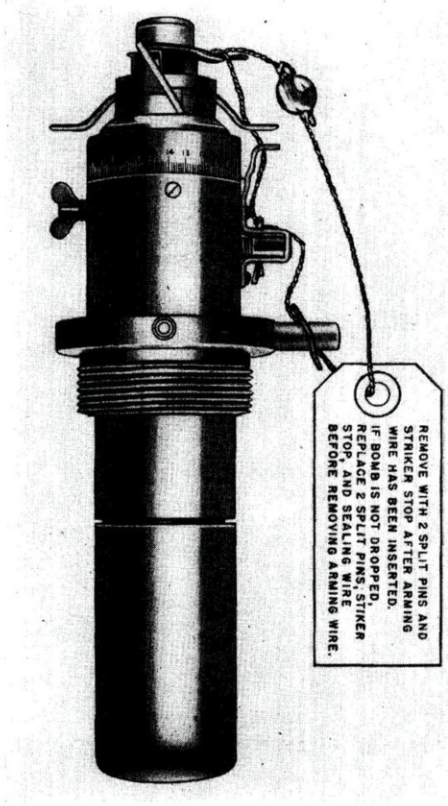


*Figure 72.—Nose Fuze M136A1*

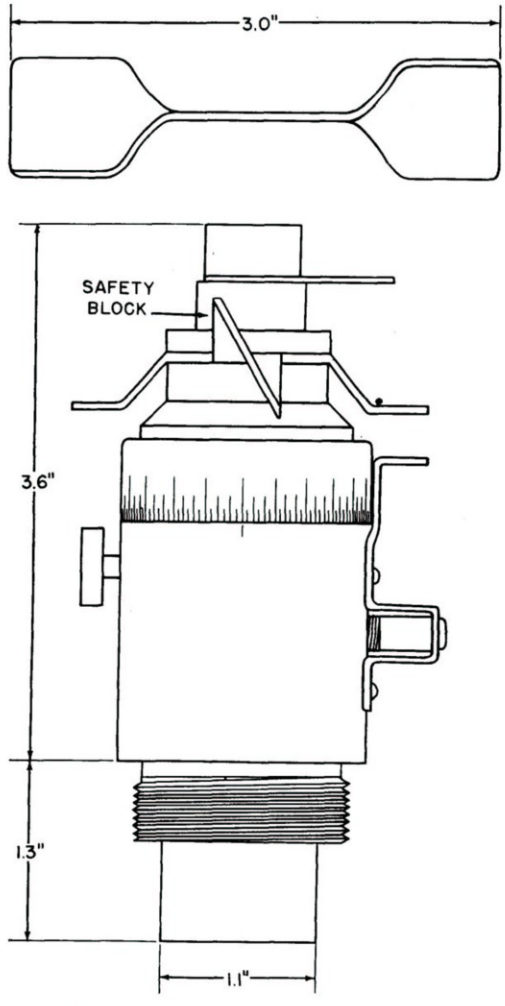


*Figure 73.—Outline Drawing of Nose Fuze M138*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 1.4 lb.
**Weight of Booster**—0.3 oz. tetryl.
**Standard Packing**—Twenty-five fuzes, each in a metal container, are packed in a wooden crate measuring 20.4 in. x 18.8 in. x 7.8 in. and weighing 59 lb. gross.

**Special Fuze M137**—This fuze has been designed and produced for special uses. Information concerning it will be supplied by special request to the Bureau or Ordnance.

## Characteristics

**Action**—Mechanical time, 5–92 sec. or instantaneous on impact. (Similar to Fuze M111A2 except that it has a 0.3 oz. tetryl booster.)
**Modifications**—None.
**Status**—Obsolescent—Being replaced by AN–M145.
**Restriction on Use**—Not to be used in shipboard operations.
**Air Travel to Arm**—Approximately 1300 ft.
**Indication of Arming**—Safety block missing.

## Bombs in Which Used

Aimable Incendiary Cluster AN–M17 and Mods
Aimable Incendiary Cluster E6R2

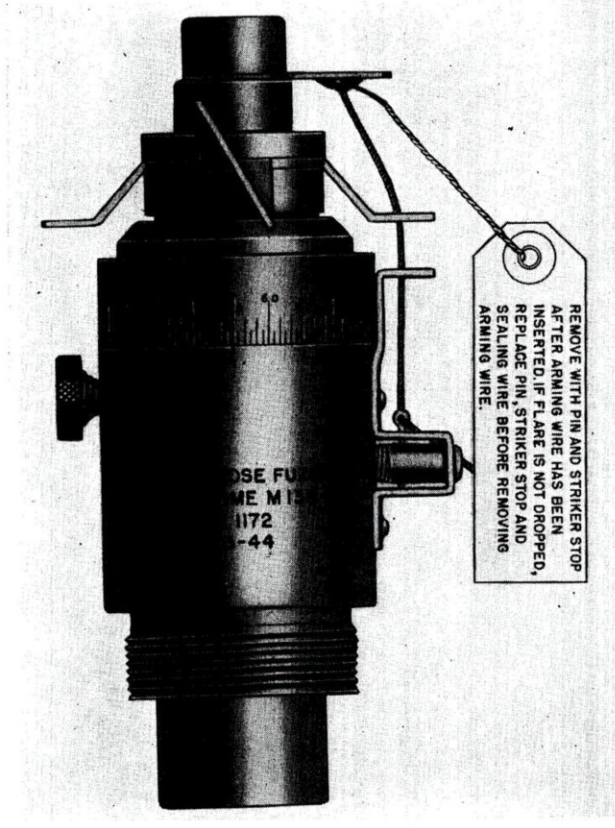


*Figure 74.—Nose Fuze M138*

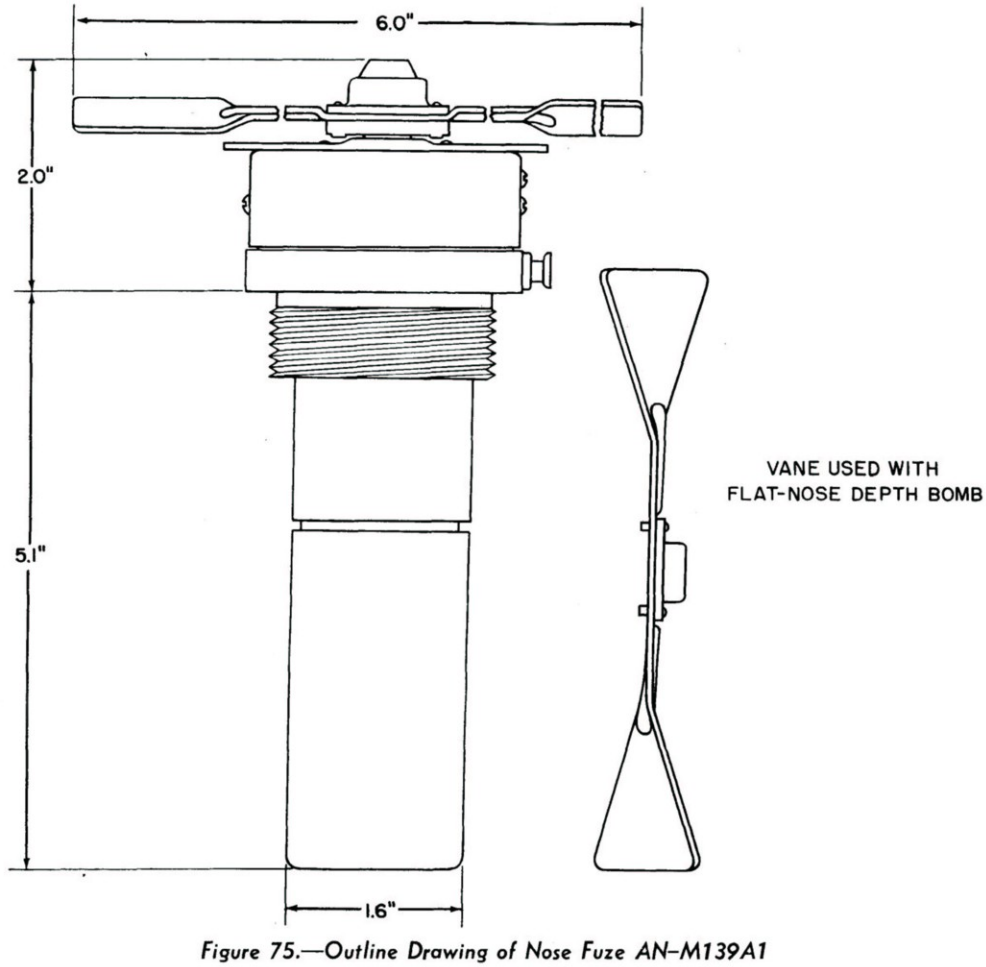


*Figure 75.—Outline Drawing of Nose Fuze AN-M139A1*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 3.7 lb.

**Weight of Booster**—1.9 oz. tetryl

**Standard Packing**—Twenty-five fuzes, each in a metal container, are packed in a wooden crate measuring 22.3 in. x 17.3 in. x 9.2 in. and weighing 132 lb. gross.

## Characteristics

**Action**—Impact, instantaneous or 0.01-sec. delay. (Similar to Fuze AN–M103A1 except for delay.)
**Modifications**—M139 is similar to Fuze AN–M103 except for 0.01-sec. delay time. Fuze AN–M139A1 incorporates added safety features of Fuze AN–M103A1.
**Status**—M139—Obsolescent
AN–M139A1—Service
**Restriction on Use**—M139—Not to be used by Naval activities because of inadequate safety features. AN–M139A1—No restrictions.
**Air Travel to Arm**—(Approximate)
510 ft. for delay
765 ft. for instantaneous

**Indication of Arming**—Safety discs missing.

## Bombs in Which Used

100-lb. Aircraft Mine AN–Mk 13 Mod 1
90-lb. Frag. Bomb M82
All bombs* weighing 100 lb. and over that receive a nose fuze except Chemical Bomb AN–M47A2, Chemical Bomb M70, and Navy 100-lb. G. P. Bomb Mk 4 and Mods.

*One auxiliary booster is required when used in Navy bombs. Must use special vane assembly and set on INST. when used with flat-nosed depth bombs.

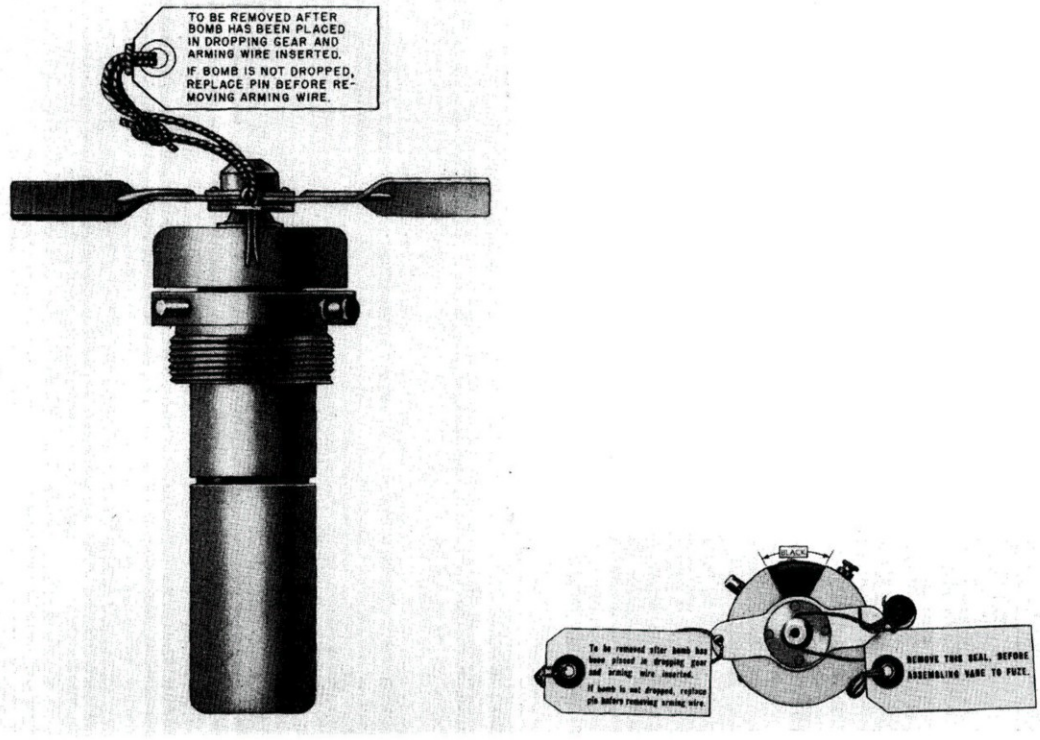


*Figure 76.—Nose Fuze AN–M139A1*


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## Characteristics

**Action**—Impact, instantaneous or 0.025-sec. delay. (Similar to Fuze AN-M103A1 except for delay time.)

**Modifications**—M140 is similar to Fuze AN-M103 except for 0.025 sec. delay. Fuze AN-M140A1 incorporates added safety features of Fuze AN-M103A1.

**Status**—M140—Obsolescent.
AN-M140A1—Service.

**Restriction on Use**—M140—Not to be used by Naval activities because of inadequate safety features.
AN-M140A1—None.

**Air Travel to Arm**—Approximately 510 ft. for delay; 765 ft. for instantaneous.

**Indication of Arming**—Safety discs missing.

## Bombs in Which Used

1000-lb. Aircraft Mine AN-Mk 13 Mod 1.
90-lb. Frag. Bomb M82.
All bombs* weighing 100 lb. and over that receive a nose fuze except the Chemical Bomb AN-M47A2, Chemical Bomb M70, and Navy 100-lb. G. P. Bomb Mk 4 and Mods.

*One auxiliary booster is required when used in Navy Bombs. Use special vane assembly set on INST when used in flat-nosed depth bombs.

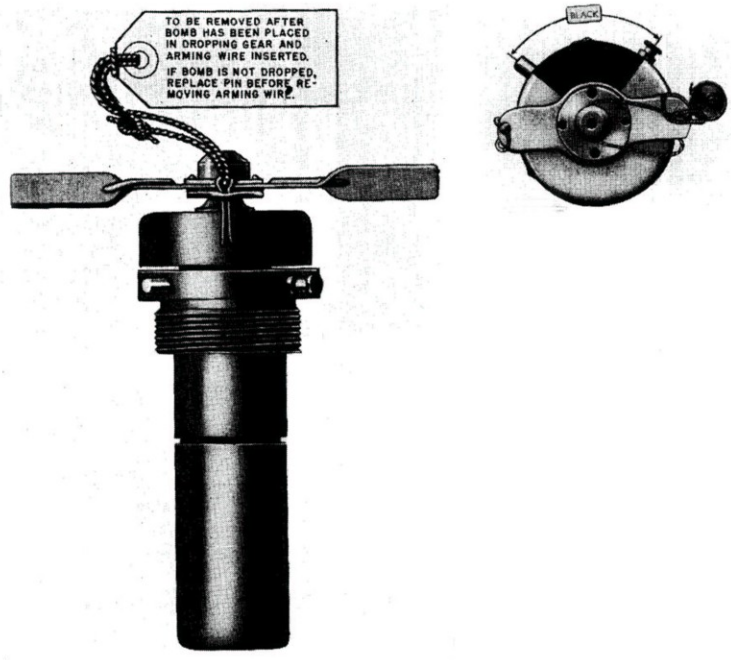


*Figure 78.—Nose Fuze AN-M140A1*

**Bomb Fuze M141**—No fuze has been issued with this designation as of 1 May 1945.

## BOMB NOSE FUZE M142

### Characteristics

**Action**—Impact (all-ways action), instantaneous.
**Modifications**—None.
**Status**—Service.
**Restriction on Use**—None.
**Air Travel to Arm**—None required. Arms upon release from cluster.
**Indication of Arming**—Arming pin missing.

### Bombs in Which Used

10-lb. Incendiary Bomb M74.
**Note**—This fuze always comes assembled in the bomb.

## BOMB TAIL FUZE M143

### Characteristics

**Action**—Bouchon, Grenade type.
**Modifications**—None.
**Status**—Service.
**Restriction on Use**—None.
**Air Travel to Arm**—None required.
**Indication of Arming**—No armed condition, fires upon withdrawal of arming wire.

### Bombs in Which Used

100-lb. Smoke Streamer M87

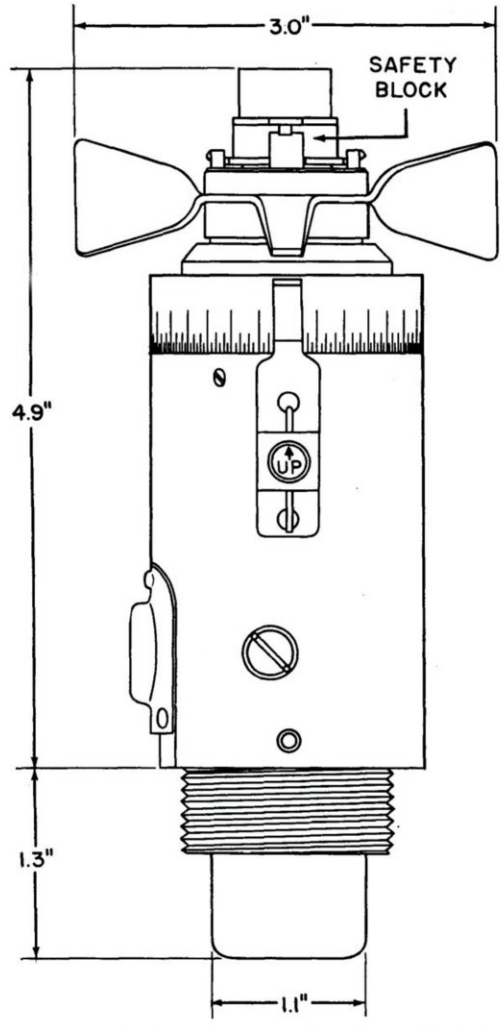


*Figure 81.—Outline Drawing of Nose Fuze AN–M145*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 1.6 lb.
**Weight of Booster**—0.3 oz. tetryl.
**Standard Packing**—Fifteen fuzes, each in a metal container, are packed in a wooden crate measuring 20.6 in. x 9.0 in. x 12.2 in. and weighing about 45 lb. gross.

## Characteristics

**Action**—Mechanical time, 5–92 sec. or instantaneous upon impact. (Similar to Fuze AN-M146 except that it has a smaller tetryl booster.)

**Modifications**—None.

**Status**—Service.

**Restrictions on Use**—None.
**Air Travel to Arm**—Approximately 1300 ft.
**Indication of Arming**—Safety block missing.

## Bombs in Which Used

Aimable Incendiary Cluster AN-M17 and Mods
Aimable Incendiary Cluster E6R2

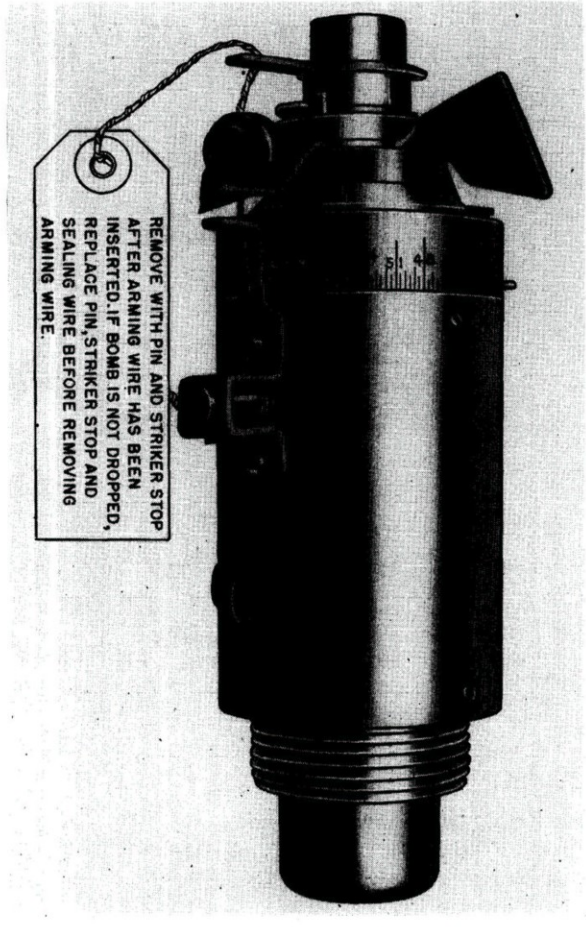


*Figure 82.—Nose Fuze AN-M145*

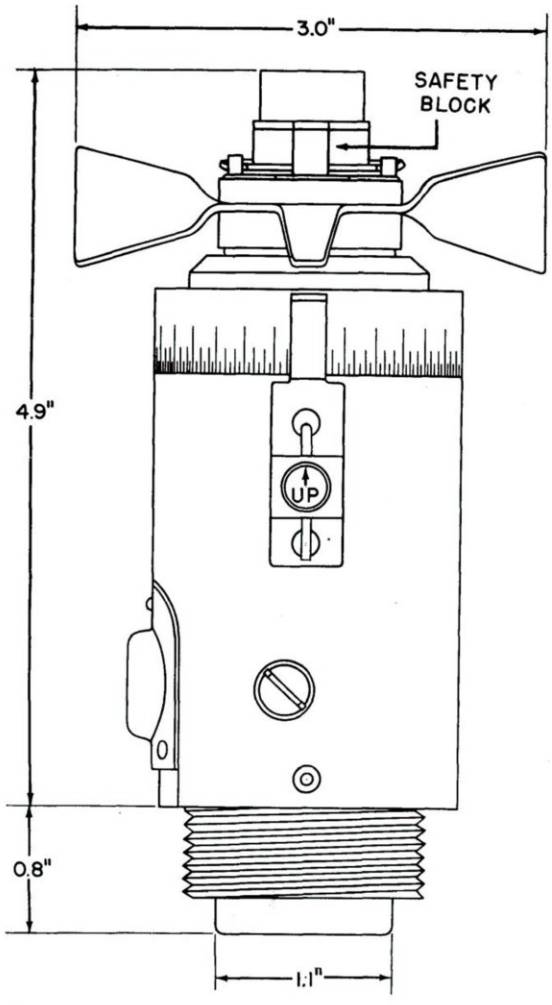


*Figure 83.—Outline Drawing of Nose Fuze AN-M146*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 1.6 lb.
**Weight of Booster**—0.2 oz. black powder.
**Standard Packing**—Fifteen Fuzes, each in a metal container, are packed in a wooden crate measuring 20.6 in. x 9.0 in. x 12.2 in. and weighing about 45 lb. gross.

## Characteristics

**Action**—Mechanical time, 5–92 sec. or instantaneous upon impact. (Similar to Fuze M111A2 except that detonator is out of line with the striker when the fuze is completely unarmed and has a spinner to aid in ejecting the safety block.)
**Modifications**—None.
**Status**—Service.

**Restriction on Use**—None.
**Air Travel to Arm**—Approximately 1300 ft.
**Indication of Arming**—Safety block missing.

## Bombs in Which Used

Aircraft Parachute Flare AN–M26 and Mods.
Photoflash Bomb AN–M46 and Mods.
Aimable "Butterfly" Clusters M28 and M29.

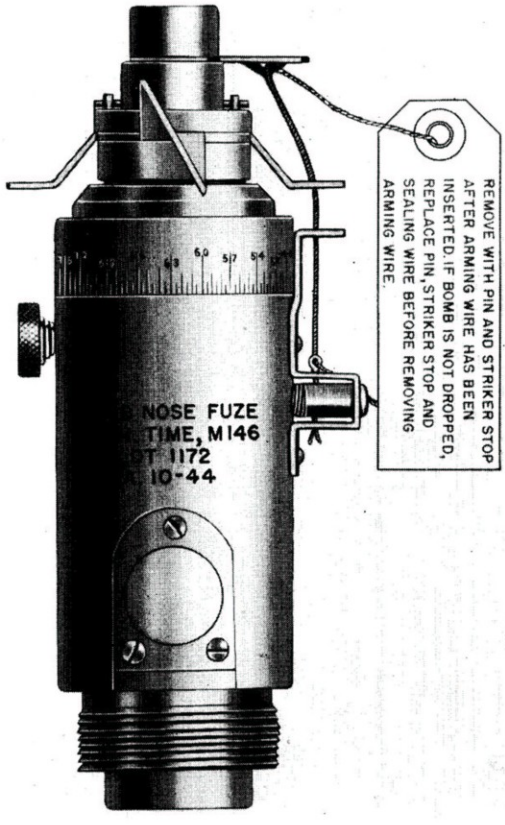


*Figure 84.—Nose Fuze AN–M146*

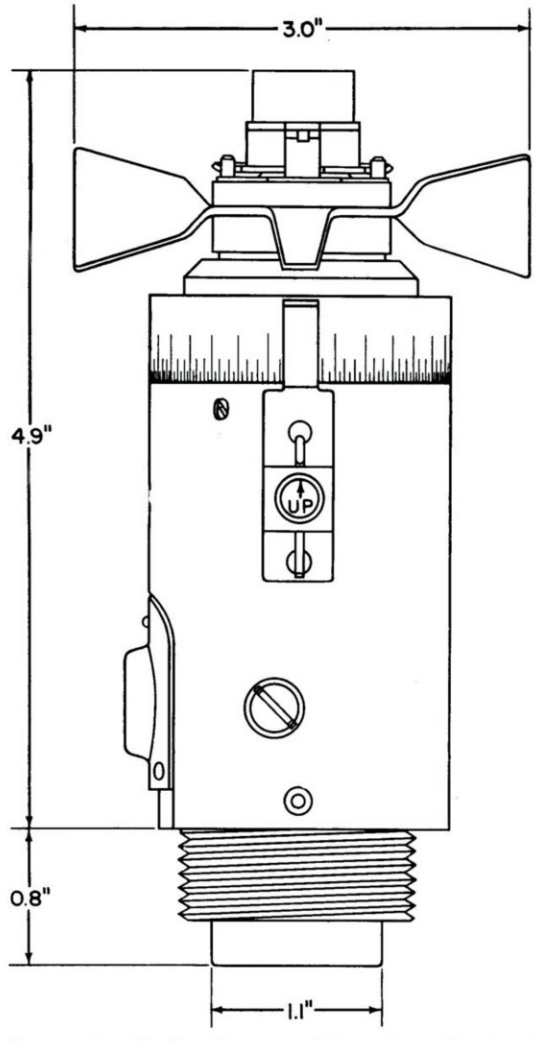


*Figure 85.—Outline Drawing of Nose Fuze AN–M147*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 1.6 lb.
**Weight of Booster**—0.3 oz. tetryl.
**Standard Packing**—Fifteen fuzes, each in a metal container, are packed in a wooden crate measuring 20.6 in. x 9.0 in. x 12.2 in. and weighing about 45 lb. gross.

## Characteristics

**Action**—Mechanical time, 5–92 sec. or instantaneous upon impact.

**Modifications**—None.

**Status**—Service.

**Restrictions on Use**—None

**Air Travel to Arm**—Approximately 1300 ft.

**Indication of Arming**—Safety block missing.

## Bombs in Which Used

100-lb. Target Identification Bomb M84


*Figure 86.—Nose Fuze AN-M147*

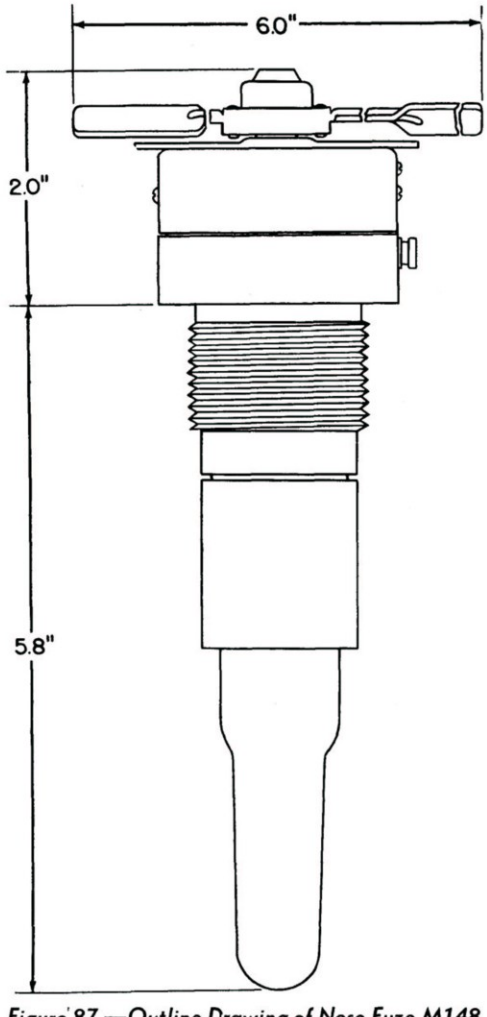


*Figure 87.—Outline Drawing of Nose Fuze M148*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 3.7 lb.
**Standard Packing**—Nine fuzes, each in a metal container, are packed in a wooden crate having a volume of 1.2 cu. ft. and weighing 50 lb. gross.

## Characteristics

**Action**—Impact, instantaneous or 0.10-sec. delay. (Similar to AN–M103A1 except that booster cap and body threads have been modified to fit Japanese Navy bombs.)
**Modifications**—Experimental lots had T54 designation and did not incorporate all safety features found in M148.
**Status**—Service
**Restrictions on Use**—Because of inadequate safety features, fuzes with experimental designation T54 are not to be used by Naval activities. No restrictions on use of fuzes with M148 designation.
**Air Travel to Arm**—(Approximate)
510 ft. for delay
765 ft. for instantaneous
**Indication of Arming**—Arming discs missing.

## Bombs in Which Used

Japanese Navy bombs up to 250 kg. in size

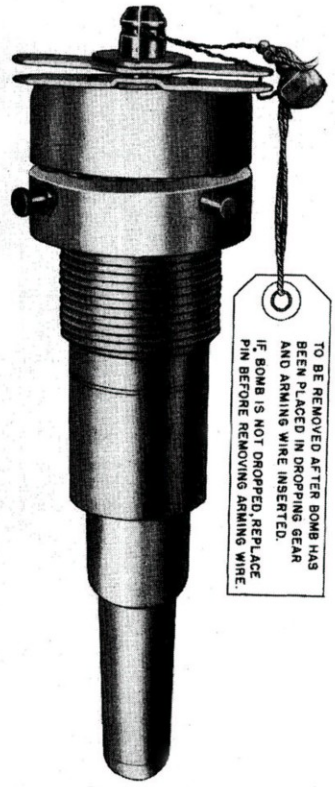


*Figure 88.—Nose Fuze M148*

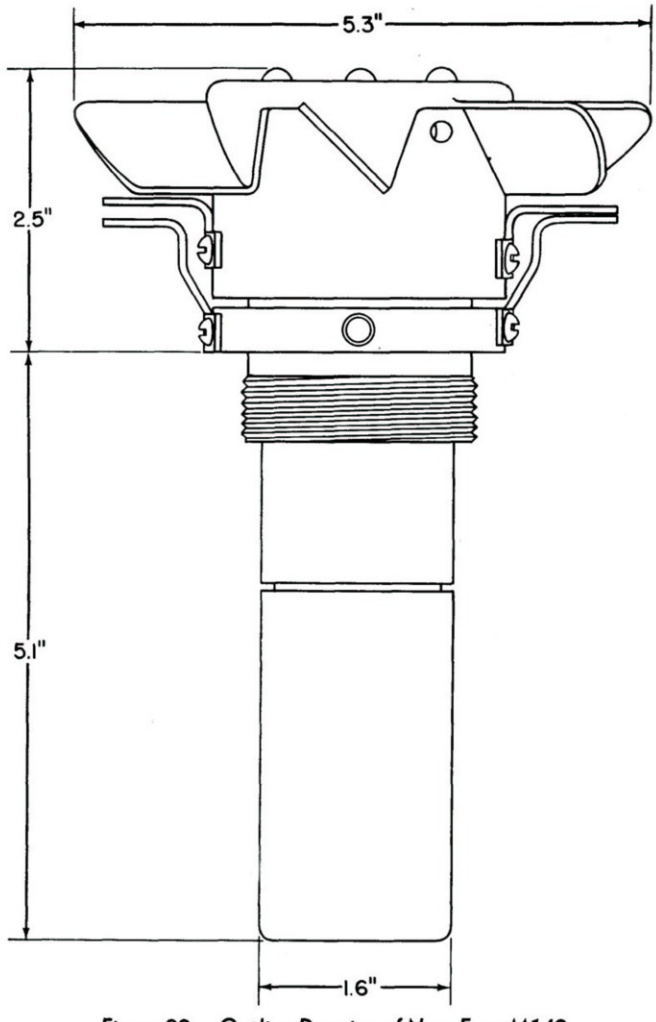


*Figure 89.—Outline Drawing of Nose Fuze M149*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 5.1 lb.
**Weight of Booster**—1.9 oz. tetryl
**Standard Packing**—Six fuzes, each in a metal container, are packed in a wooden crate 20.4 in. x 13.0 in. x 10.1 in.

## Characteristics

**Action**—Instantaneous upon impact or will burst in air from blast pressure.
**Modifications**—None.
**Status**—Service.
**Restrictions on Use**—Not to be used by carrier-based aircraft.

**Air Travel to Arm**—Approximately 250 ft.
**Indications of Arming**—If arming vane cup or release pin is missing, the fuze is armed.

## Bombs in Which Used

May be used in any bomb in which Fuze AN–M103 will fit. (See page 45.)

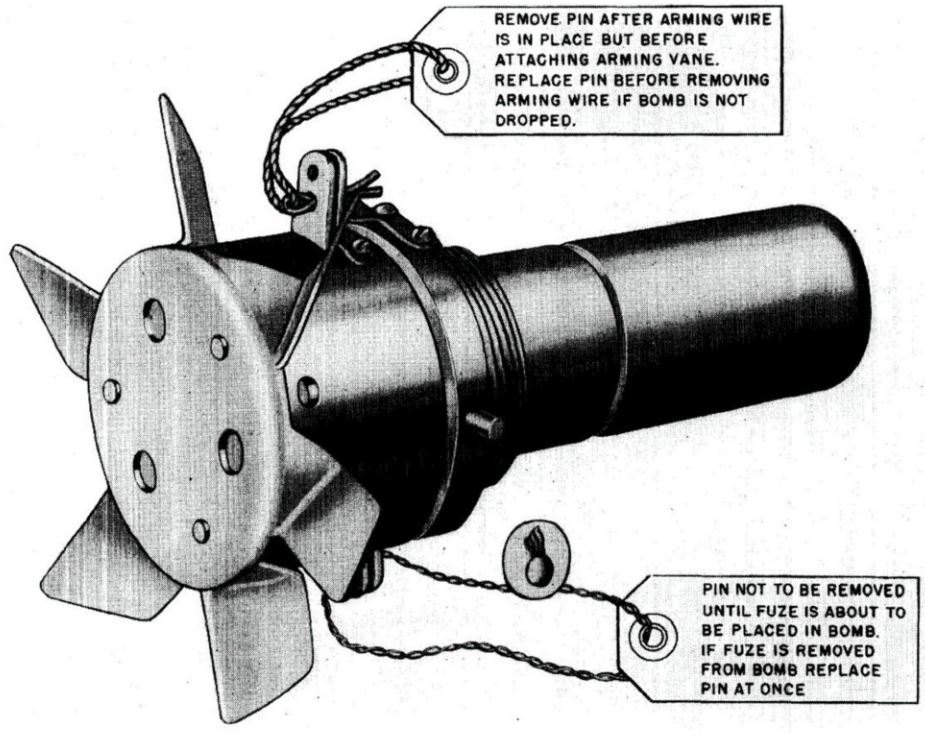


*Figure 90.—Nose Fuze M149*

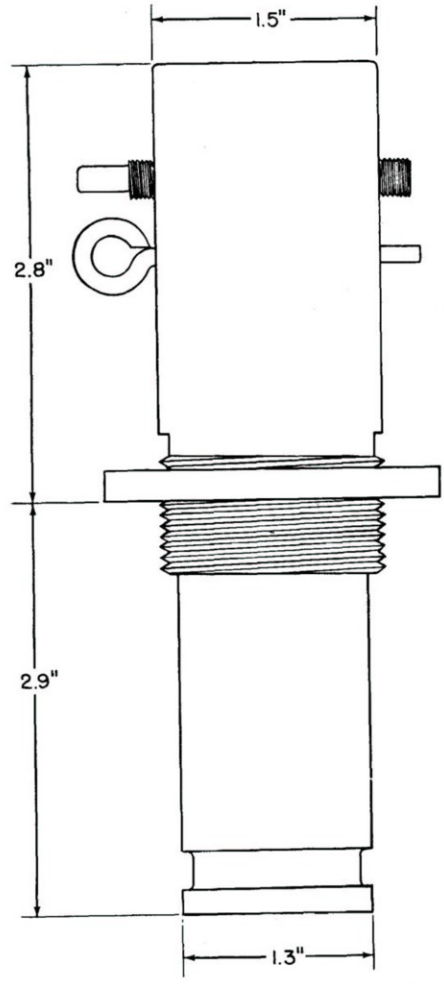


*Figure 91.—Outline Drawing of Tail Fuze M151*

## Weight and Packing

**Weight of Fuze Loaded**—Approximately 2.0 lb.
**Standard Packing**—Fifteen fuzes, each in a metal container, are packed in a wooden crate measuring 19.3 in. x 11.4 in. x 8.3 in. and weighing 51 lb. gross.

## BOMB TAIL FUZE M150

### Characteristics

**Action**—Impact (all-ways action), instantaneous.
**Modifications**—Fuze M150 was formerly designated Fuze M41.
**Status**—Service.
**Restrictions on Use**—None.
**Air Travel to Arm**—None required: arms upon release from cluster.
**Indications of Arming**—Arming pin missing.

### Bomb in Which Used

10-lb. Smoke Bomb M77.
**Note**—This fuze always comes assembled in the bomb.

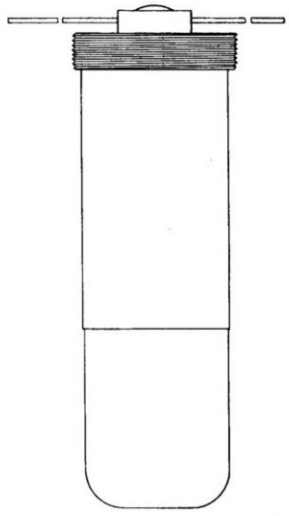

*Figure 92.—Tail Fuze M150*

## BOMB TAIL FUZE M151

### Characteristics

**Action**—Impact, inertia firing, 8–15 sec. delay.
**Modifications**—None.
**Status**—Service.
**Restriction on Use**—Should be used in bombs from wing racks only.
**Air Travel to Arm**—Approximately 200 ft.
**Indication of Arming**—If the arming stem is missing or more than 1¼ in. of the threaded portion of the arming stem is visible on one side of the fuze, the fuze should be considered armed.

### Bombs in Which Used

100-lb. G. P. Bomb AN–M30 and Mods (with Antiricochet Device M16)
250-lb. G. P. Bomb AN–M57 and Mods (with Antiricochet Device M16)
500-lb. G. P. Bomb AN–M64 and Mods (with Antiricochet Device M17)

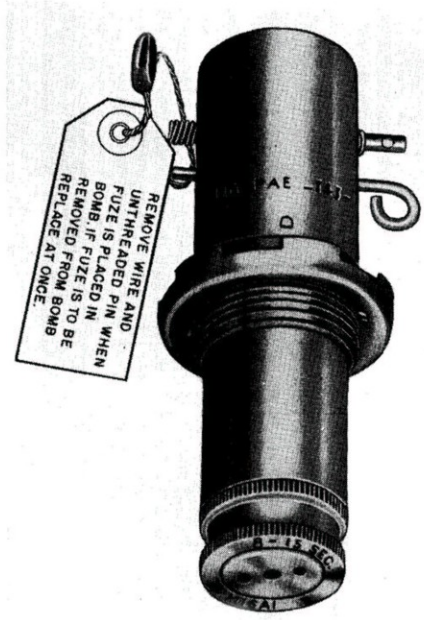


*Figure 93.—Tail Fuze M151*



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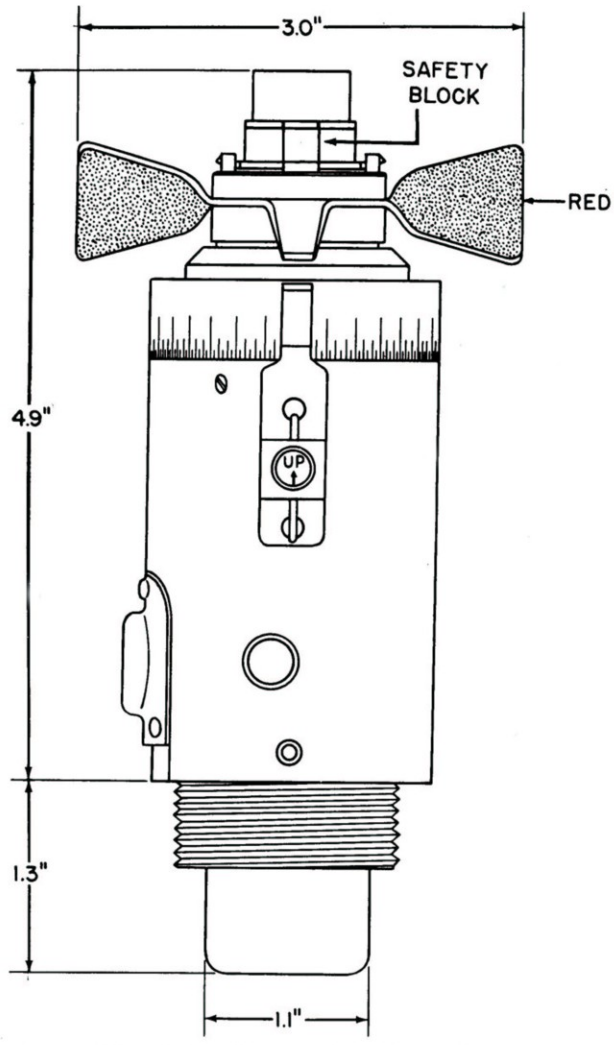


*Figure 94.—Outline Drawing of Tail Fuze M152*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 1.6 lb.
**Weight of Booster**—0.3 oz. tetryl.
**Standard Packing**—Fifteen fuzes, each in a metal container, are packed in a wooden crate measuring 20.6 in. x 12.2 in. x 9.0 in.

## Characteristics

**Action**—Mechanical time 5–92 sec. upon instantaneous impact. (Similar to Nose Fuze M146 except that vane pitch and thrust bearings have been reversed and it has a 0.3-oz. tetryl booster.)
**Modifications**—None.
**Status**—Service.

**Restriction on Use**—None.
**Air Travel to Arm**—Approximately 1300 ft.
**Indication of Arming**—Safety block missing.

## Bombs in Which Used

Aimable Incendiary Clusters E46 and E48
Aimable Chemical Bomb Clusters E61 and E67

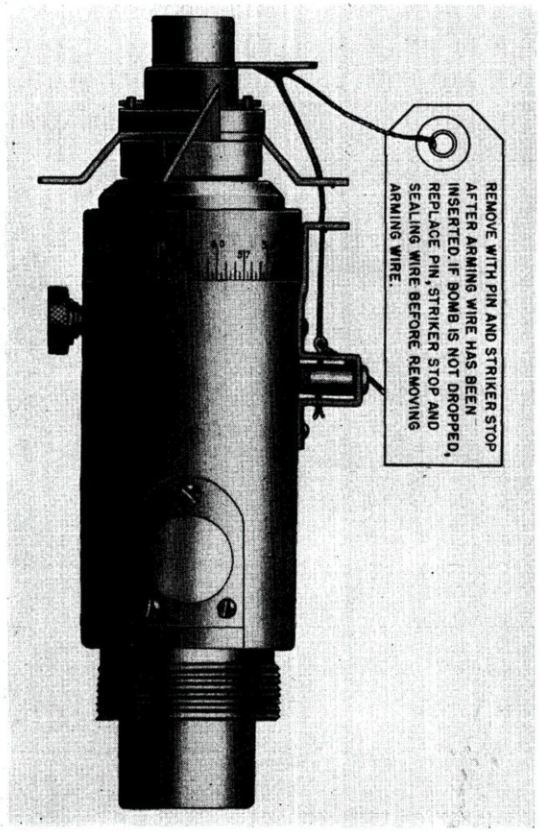


*Figure 95.—Tail Fuze M152*

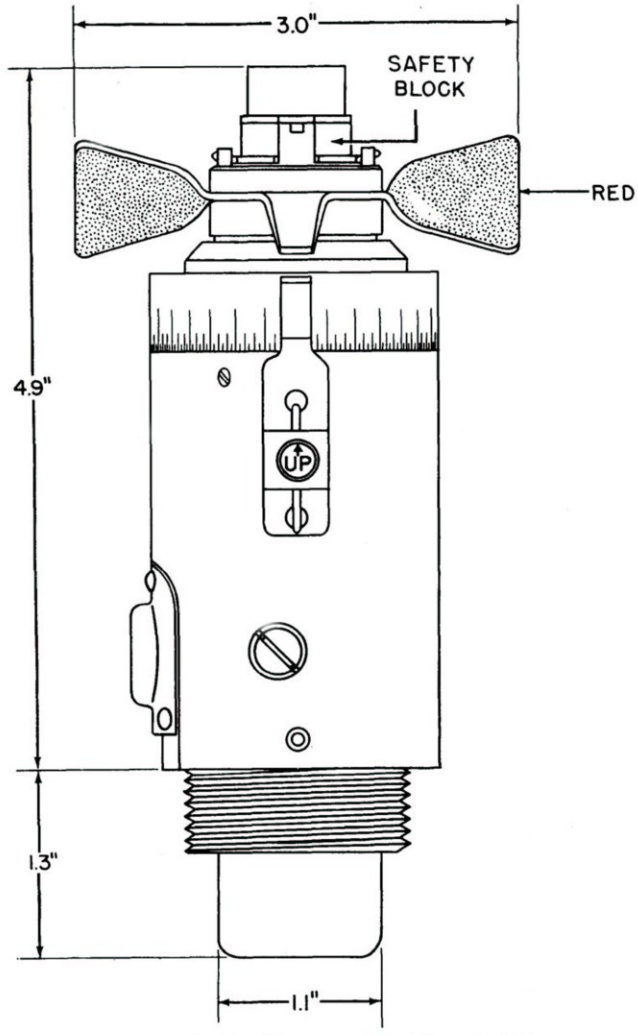


*Figure 96.—Outline Drawing of Tail Fuze M153*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 1.6 lb.
**Weight of Booster**—0.3 oz. tetryl.
**Standard Packing**—Fifteen fuzes, each in a metal container, are packed in a wooden crate measuring 20.6 in. x 12.2 in. x 9.0 in.

## Characteristics

**Action**—Mechanical time, 5–92 sec. or instantaneous upon impact. (Similar to Nose Fuze M146 except that vane pitch has been reversed and it has a 0.3 tetryl booster.)
**Modifications**—None.
**Status**—Obsolescent: replaced by M52.

**Restriction on Use**—None.
**Air Travel to Arm**—Approximately 1300 ft.
**Indications of Arming**—Safety block missing.

## Bombs in Which Used

Aimable Incendiary Clusters E46 and E48
Aimable Chemical Bomb Clusters E61 and E67

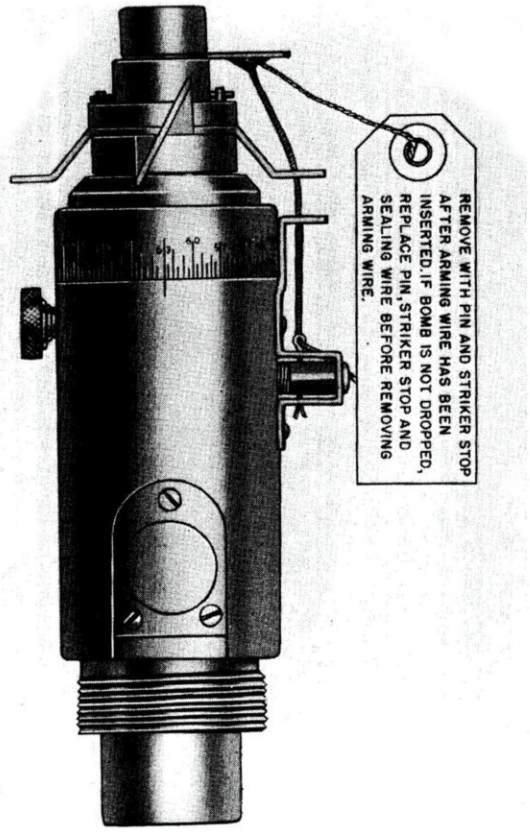


*Figure 97.—Tail Fuze M153*

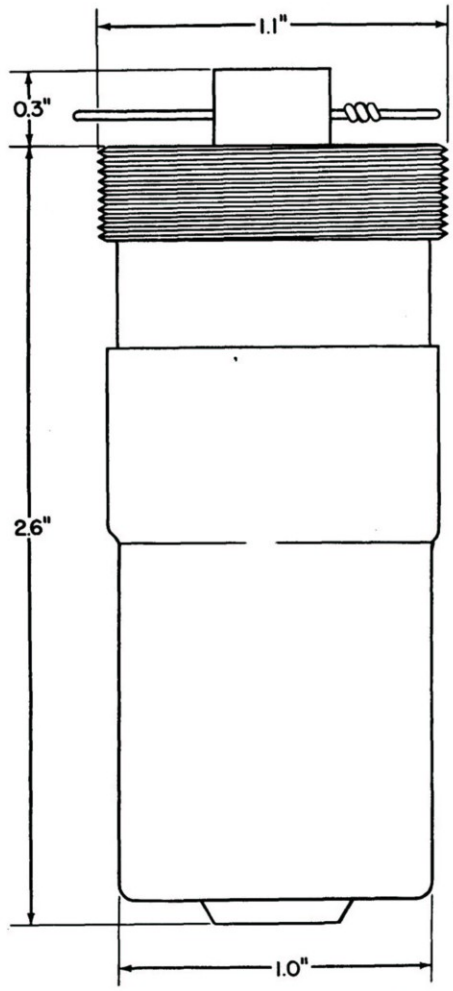


*Figure 98.—Outline Drawing of Tail Fuze M154*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 0.6 lb.
**Weight of Booster**—0.1 oz. tetryl.
**Standard Packing**—Fifty metal containers, each containing one fuze and one Burster C8R1, are packed in a wooden crate.

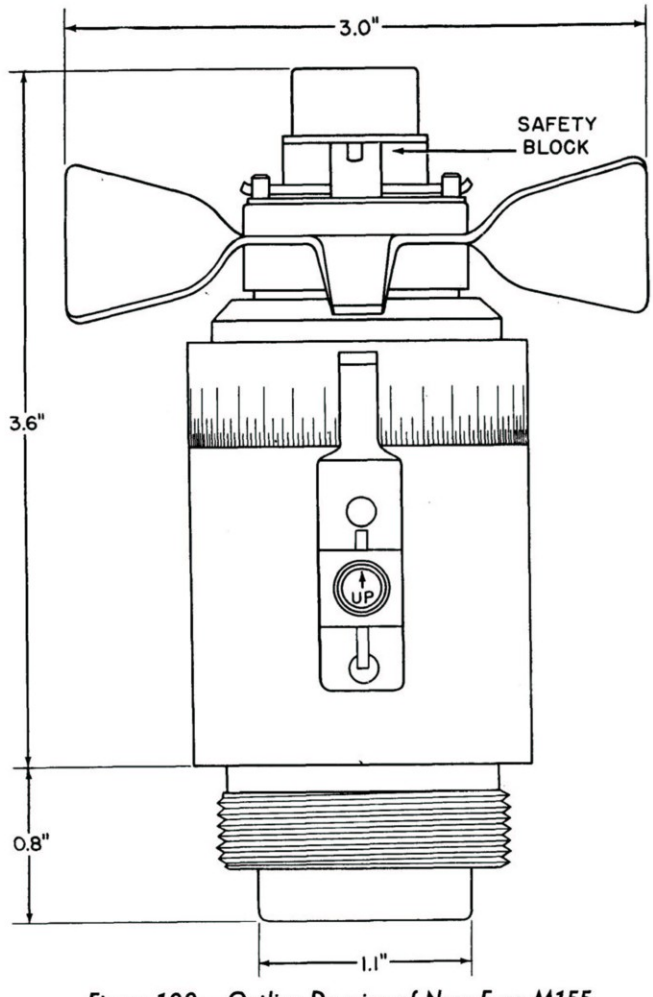


*Figure 100.—Outline Drawing of Nose Fuze M155*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 1.4 lb.
**Weight of Booster**—0.2 oz. black powder.
**Standard Packing**—Twenty-five fuzes, each in a metal container, are packed in a wooden crate measuring 20.4 in. x 18.2 in. x 7.5 in. and weighing 58 lb. gross.

## Characteristics

**Action**—Mechanical time, 5–92 sec. or instantaneous upon impact. (Similar to Fuze M111A2, but lacks reduction gearing and has safety block ejection spinner.)
**Modifications**—None.
**Status**—Service.
**Restrictions on Use**—Not to be used with flares or photoflash bombs.

**Air Travel to Arm**—Approximately 50 ft. (6–9 turns).

**Indication of Arming**—Safety block missing.

## Bombs in Which Used

Fragmentation Cluster M26
Fragmentation Cluster M27

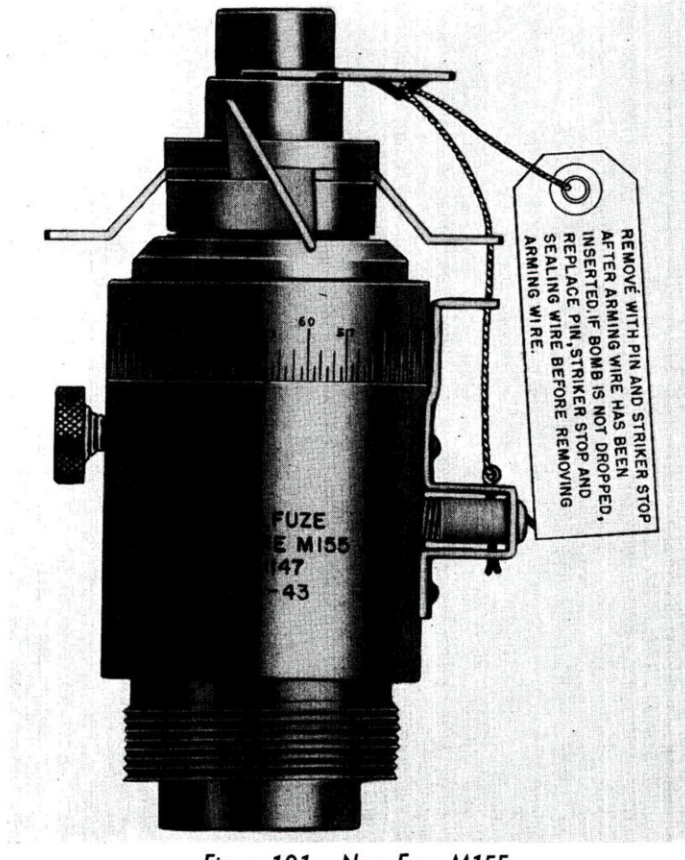


*Figure 101.—Nose Fuze M155*

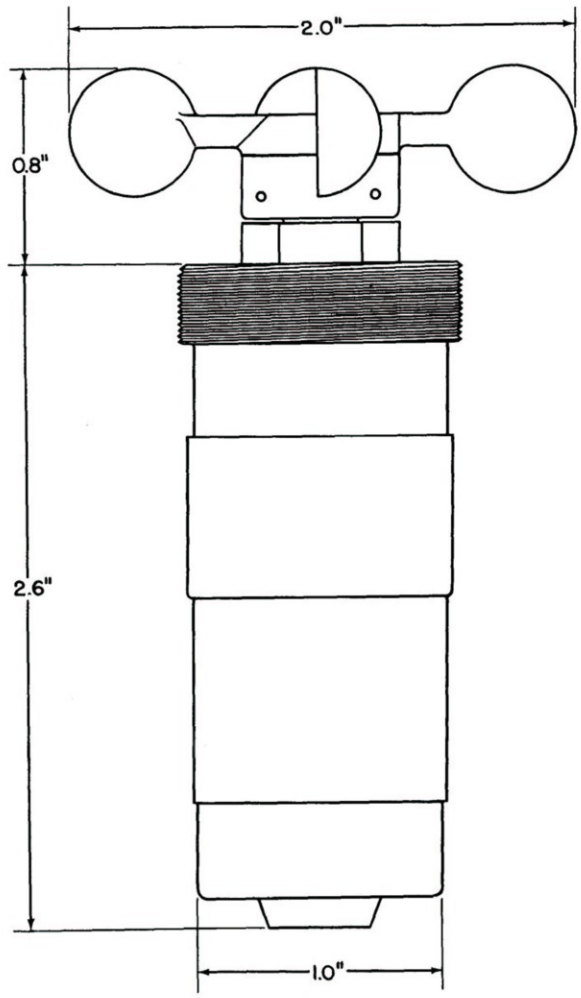


*Figure 102.—Fuze M157*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 0.8 lb.
**Weight of Burster**—2.5 grains tetryl.
**Standard Packing**—Fifty metal containers, each containing one fuze and one burster C8R1, are packed in a wooden crate.

**Bomb Fuze M156**—This fuze has been designed and produced for special uses. Information concerning the Fuze M156 will be supplied on special request to the Bureau of Ordnance.

## Characteristics

**Action**—Impact (all-ways action), instantaneous.
**Modifications**—None.

**Status**—Service.

**Restriction on Use**—None.

**Air Travel to Arm**—Approximately 150 ft.

**Indications of Arming**—The fuze is armed when the vanes are missing. If the arming vane assembly has separated from the fuze body by more than ⅛ in. the fuze must be considered armed.

## Bombs in Which Used

Droppable gas tanks (Napalm filled) with Igniters M15 and M16.

*Figure 103.—Fuze M157*

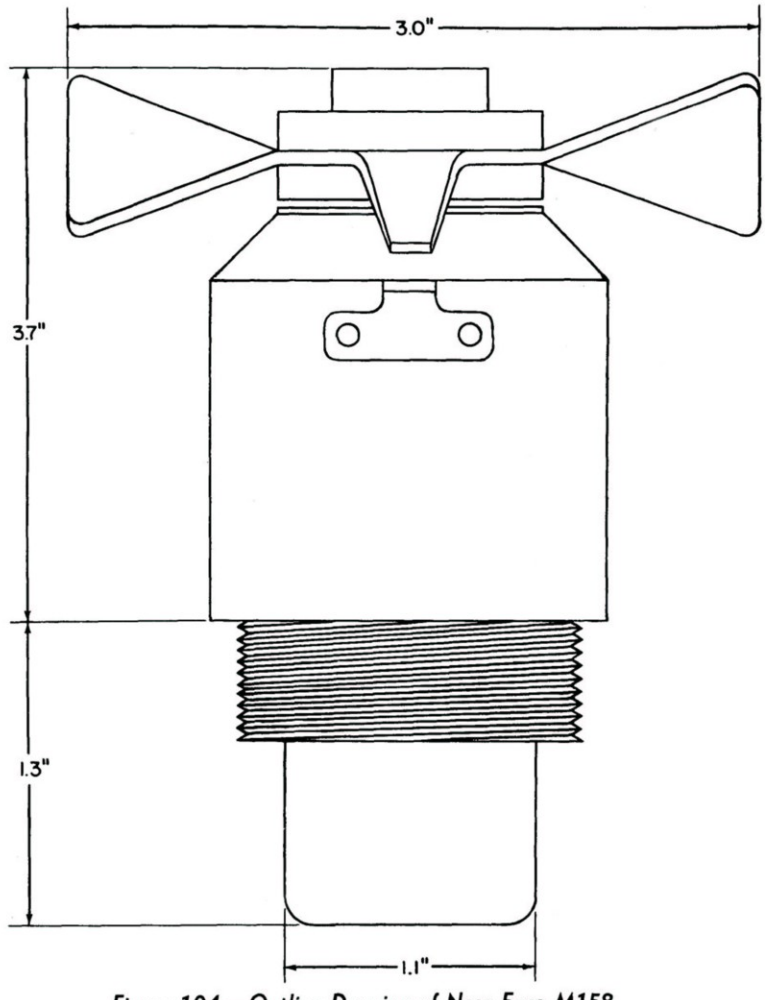


*Figure 104.—Outline Drawing of Nose Fuze M158*

## Weight and Packing

**Weight of Booster**—0.6 oz. tetryl.
**Standard Packing**—Fifty fuzes, each in a metal container, are packed in a wooden crate measuring 21.2 in. x 18.8 in. x 9.8 in. and weighing 101 lb. gross.

## Characteristics

**Action**—Instantaneous upon impact. M158 and M159 are the same except that in M159 the booster is replaced by a small tetryl column in a metal holder.

**Modifications**—None.

**Status**—Service.

**Restrictions on Use**—None.

**Air Travel to Arm**—Approximately 1200 ft.

**Indications of Arming**—If the distance between the striker plate and the arming vane is ¼ in., the fuze should be considered armed.

## Bombs in Which Used

M158 20-lb. Frag. Bomb AN–41 and Mods
115-lb. Chemical Bomb M70

M159 100-lb. Chemical Bomb M–47 and Mods


*Figure 105.—Nose Fuze M158*

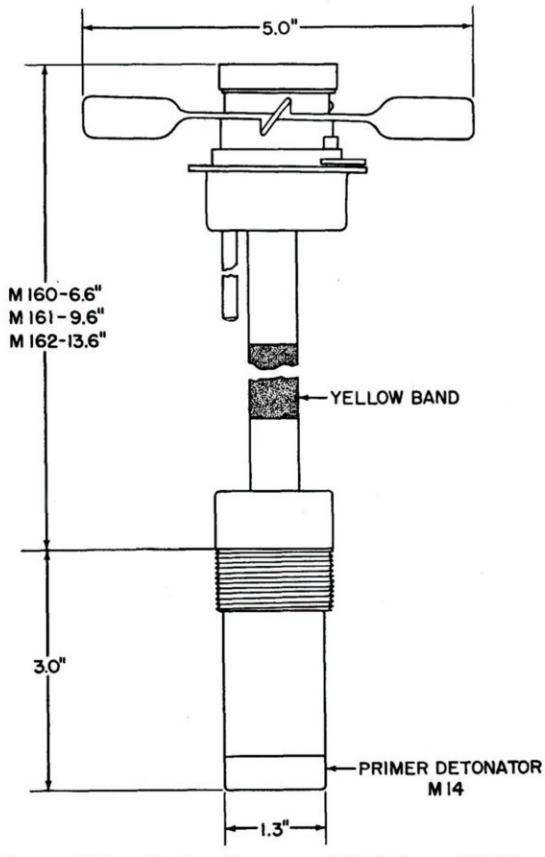


*Figure 106.—Outline Drawing of Tail Fuzes M160, M161, M162*

## Weight and Packing

**Weights of Fuzes Fully Loaded**—(Approximate)

| | |
|---|---|
| M160 | 2.7 lb. |
| M161 | 2.9 lb. |
| M162 | 3.2 lb. |

**Weight of Booster**—1.9 oz. tetryl.

**Standard Packing**—Twenty-five fuzes, each in a metal container, are packed in a wooden crate whose weight and dimensions are:

| Fuze | Crate dimensions | Weight (gross) |
|---|---|---|
| 160 | 24.3 in. x 14.8 in. x 15.0 in. | 116 lb |
| 161 | 27.3 in. x 14.8 in. x 15.0 in. | 129 lb. |
| 162 | 31.3 in. x 14.8 in. x 15.0 in. | 145 lb. |

## Characteristics

**Action**—Impact, inertia firing, interchangeable Primer Detonator M14 with non-delay, 0.01-, 0.025-, 0.10-, or 0.24-sec. delay. (Similar to AN–M100A2 Series fuzes, but have longer arming time.)
**Modifications**—None.
**Status**—Service.
**Restriction on Use**—None.
**Air Travel to Arm**—Approximately 2000 ft.
**Indications of Arming**—If the distance between the eyelet on the gear mechanism and the flange on the vane cup is more than ½ in., the fuze should be considered armed.

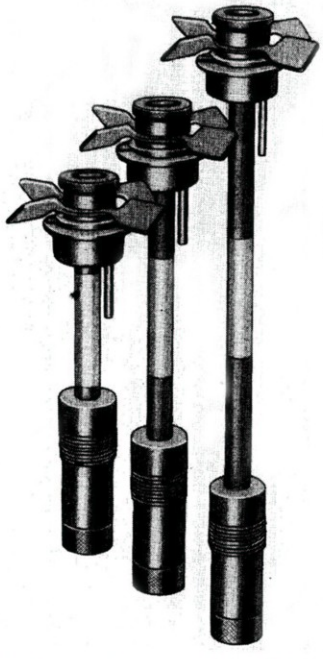

*Figure 107.—Tail Fuzes M160, M161, M162*

## Bombs in Which Used

M160
- 100-lb. G. P. Bomb AN–M30 and Mods
- 250-lb. G. P. Bomb AN–M57 and Mods
- 220-lb. Frag. Bomb AN–M88
- 260–lb. Frag. Bomb M81

M161
- 500-lb. G. P. Bomb AN–M43 and Mods
- 500-lb. G. P. Bomb AN–M64 and Mods
- 500–lb. S. A. P. Bomb AN–M58 and Mods
- 500-lb. Incendiary Bomb AN–M76
- 500-lb. Chemical Bomb AN–M78

M162
- 1000-lb. G.P. Bomb AN–M44 and Mods
- 1000-lb. G.P. Bomb AN–M65 and Mods
- 1000-lb. S. A. P. Bomb AN–M59 and Mods
- 1000-lb. Chemical Bomb AN–M79
- 2000-lb. G. P. Bomb AN–M34
- 2000-lb. G. P. Bomb AN–M66 and Mods
- 4000-lb. L.C. Bomb AN–M56 and Mods

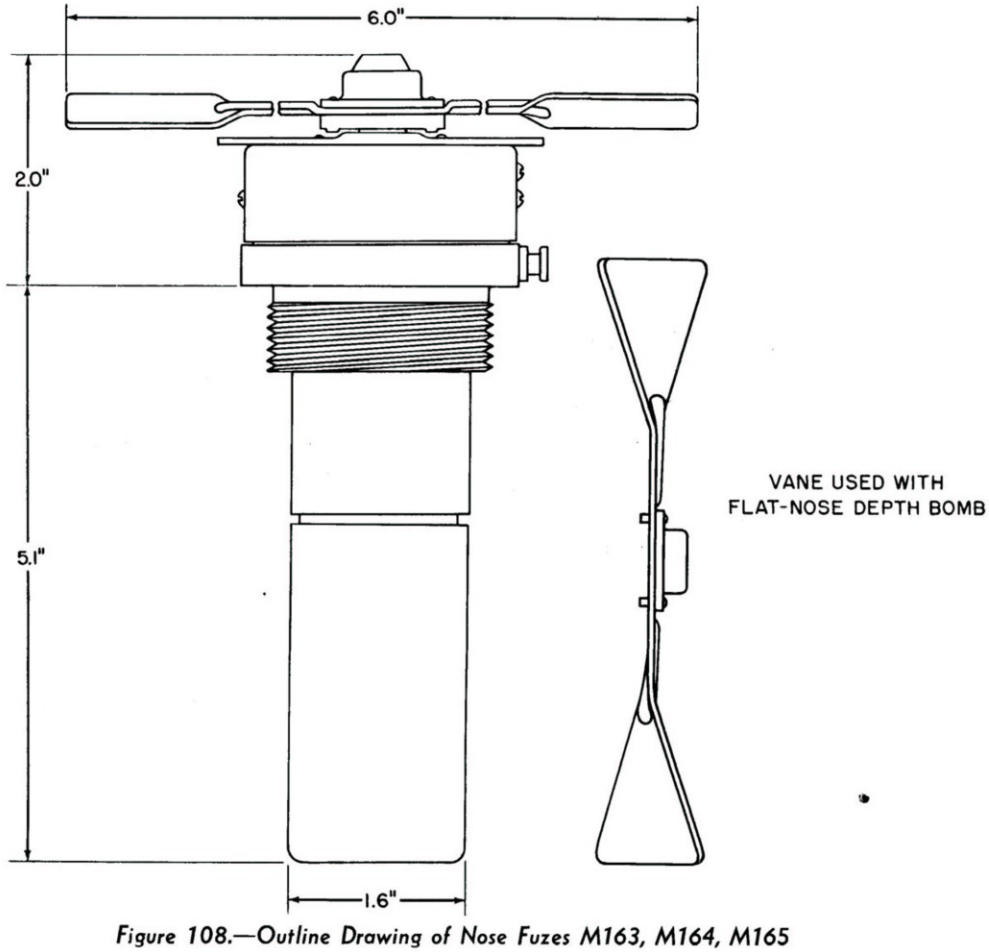


*Figure 108.—Outline Drawing of Nose Fuzes M163, M164, M165*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 3.7 lb.
**Weight of Booster**—1.9 oz. tetryl
**Standard Packing**—Twenty-five fuzes, each in a metal container, are packed in a wooden box measuring 22.3 in. x 17.1 in. x 9.2 in. and weighing 132 lb. gross

## Characteristics

**Action**—M163—Impact, instantaneous or 0.10 sec. delay
M164—Impact, instantaneous or 0.01 sec. delay
M165—Impact, instantaneous or 0.025 sec. delay
(These fuzes are similar to Fuzes AN–M103A1, AN–M139A1, and AN–M140A1.)

**Modifications**—None.

**Status**—Service.

**Restrictions on Use**—None.

**Air Travel to Arm**—Approximately 1500 ft. for delay: 2200 ft. for instantaneous.

**Indication of Arming**—Safety blocks missing

## Bombs in Which Used

1000-lb. Aircraft Mine AN–Mk 13 Mod 1
90-lb. Frag. Bomb M82.

All bombs* weighing 100 lb. and over that received a nose fuze except the Chemical Bomb AN–M47A2, Chemical Bomb M70, and Navy 100-lb. G. P. Bomb Mk 4 and Mods.

*One auxiliary booster is required when used in Navy bombs. Must use special vane assembly when used in flat-nosed depth bombs. Special 4-in. diameter vane, required for use in the 90-lb. Frag. Bomb M-82, is supplied with the fin assemblies of bombs.

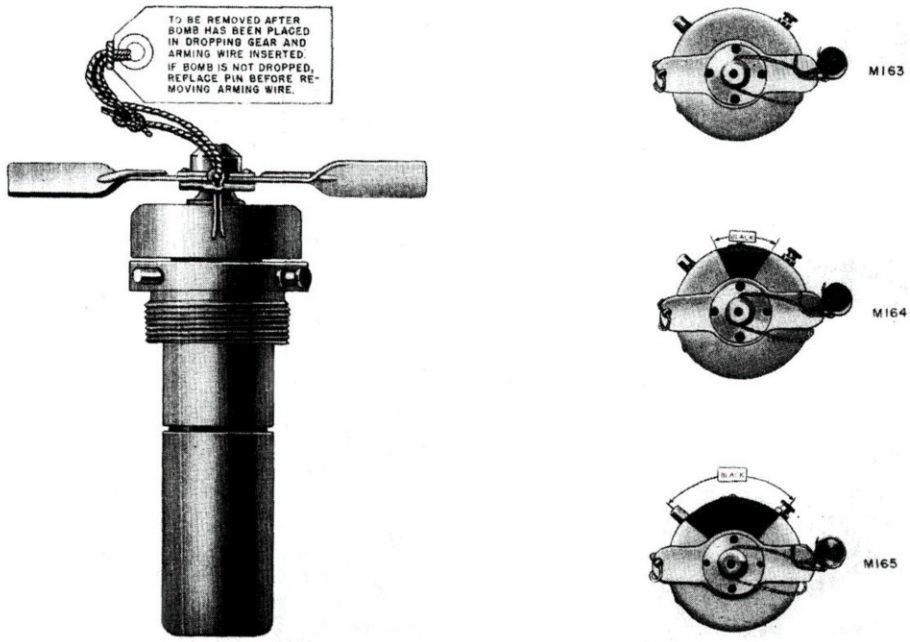


*Figure 109.—Nose Fuzes M163, M164, M165*



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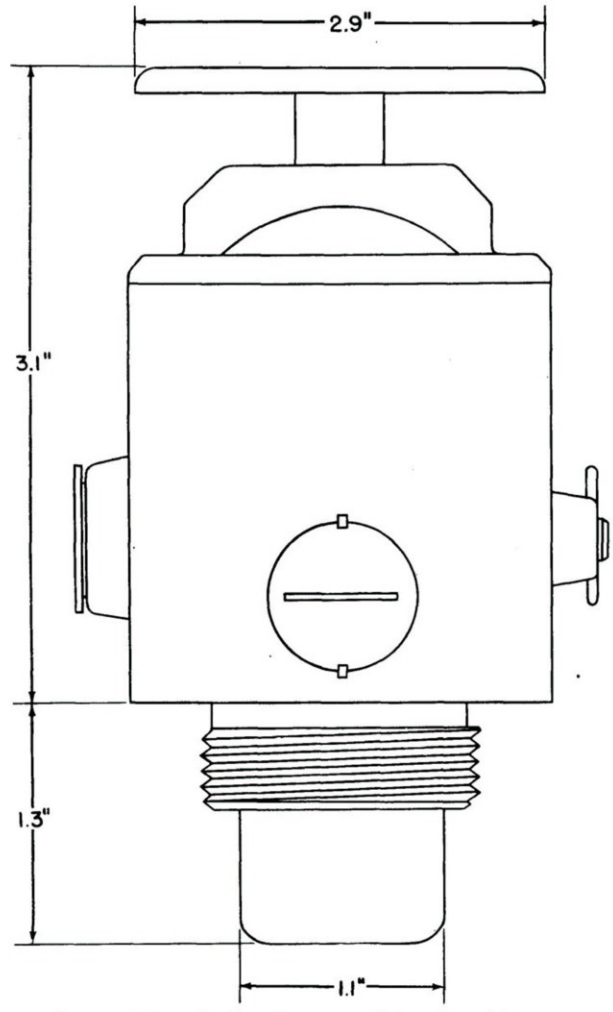


*Figure 110.—Outline Drawing of Nose Fuze M170*

## Weight and Packing

**Weight of Fuze Fully Loaded**—Approximately 1.12 lb.
**Weight of Booster**—0.7 oz. tetryl.
**Standard Packing**—Twenty-four fuzes, each in a metal container, are packed in a wooden crate measuring 20.4 in. x 18.2 in. x 7.5 in. and weighing 58 lb. gross.

**Bomb Fuzes M166, M167, M168, M169**—No fuzes with these designations have been issued as of 1 May 1945.

## Characteristics

**Action**—Instantaneous upon impact. (Similar to Fuze AN–M120A1, but has shorter arming time.)
**Modifications**—None.
**Status**—Service.

**Restrictions on Use**—None. Because this fuze requires no air travel to arm and is extremely sensitive when armed, extreme care should be taken in handling bombs containing it.

**Air Travel to Arm**—None required—Arms in 1.5 ±0.3 sec. after release of the arming pin.

**Indication of Arming**—Arming pin missing.

## Bombs in Which Used

23-lb. Para-Frag. Bomb AN–M40 and Mods
23-lb. Para-Frag. Bomb M27

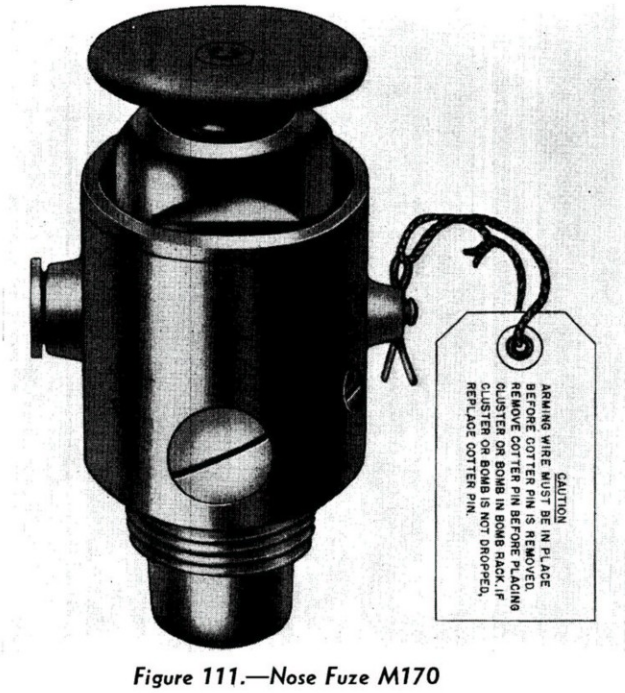


*Figure 111.—Nose Fuze M170*

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