

## BOMB NOSE FUZE AN-M110A1

### 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 pre-

cautions in the use of Fuze AN-M110A1.

**Air Travel to Arm**—(Approximate)

M110.....2200 ft.

AN-M110A1.....725 ft.

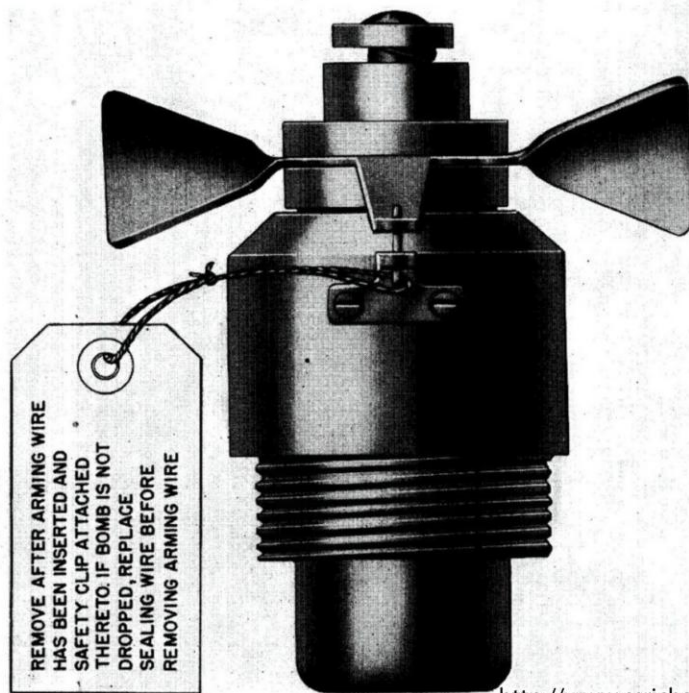
**Indication of Arming**—Safety block (or segments of block) missing.

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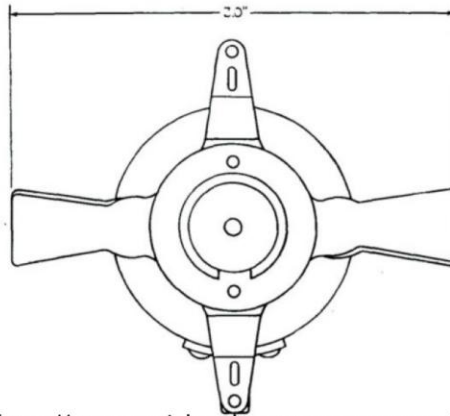
### Bombs in Which Used

20-lb. Frag. Bomb AN-M41 and Mods

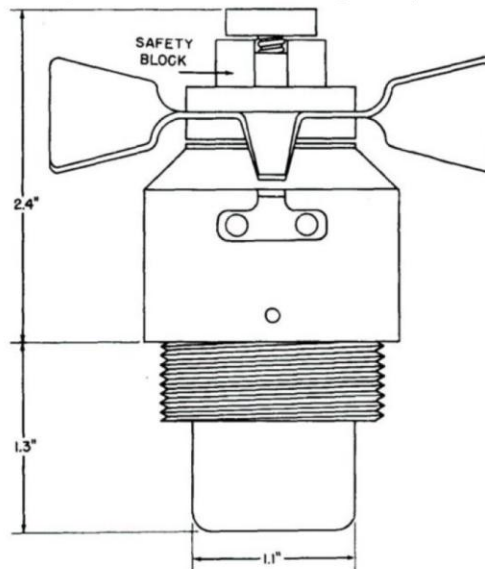
115-lb. Chemical Bomb M70



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-Nose Fuze AN-M110A1



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*Outline Drawing of Nose Fuze AN-M110A1*

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**Weight and Packing**

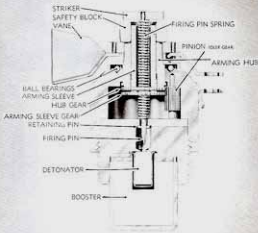
**Weight of Fuze Fully Loaded**—Approximately 1.0 lb.

**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.



FUZE, BOMB, NOSE, M110



FUZE, BOMB, NOSE, AN-M110A1

## FUZES, BOMB, NOSE,

### AN-M110A1, STANDARD—M110, LIMITED STANDARD

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These are nose fuzes of the arming vane type with mechanical delay arming and are designed to function on impact.

Striker and firing-pin form a unit held in the fuze by a pin passing through the firing-pin behind the end plate. Safety in the unarmed position is secured in the AN-M110A1 by a C-shaped safety block placed between the striker and the delay-arming mechanism. In the M110 fuze this block is made in three segments.

Operation of the delay-arming element can be understood more clearly by reference to the illustration of the AN-M110A1 fuze. The arming vanes are mounted upon a hub to the lower face of which is staked a gear with 33 teeth. The arming sleeve is threaded within the hub and turns with it on ball-bearings. A gear with 34 teeth is staked to the lower face of the sleeve and both gears mesh with an idler pinion in the fuze body.

When the bomb is released from the airplane the entire arming assembly, including the sleeve and its gear, begins spinning as a unit in the air stream under the impulse of the rotating vanes. Since the sleeve gear has one tooth more than the hub gear it necessarily lags behind for the distance of that one tooth, or

1/34 revolution, for each complete turn the sleeve and hub make together. This lag serves to withdraw the sleeve, threaded into the hub, a distance corresponding to that 1/34 revolution.

The result is that of a gear train with a reduction ratio of 34 to 1 between the revolutions of the arming hub and the withdrawal of the sleeve from its threads. After 260 revolutions of the arming vanes the sleeve is completely withdrawn from the C-shaped safety block which is then thrown clear of the fuze by centrifugal force. The fuze is now fully armed and the firing-pin is held from contact with the detonator only by its spring.

When the bomb strikes the target the resistance of this spring is overcome and the pin is driven into the detonator, firing the integral booster charge and the main explosive charge of the bomb.

The AN-M110A1 differs from the M110 in being constructed of stronger parts to insure functioning when released at high air-speeds. A single C-shaped safety block is employed instead of one consisting of three segments. The M110 has reduction gears with 57 and 56 teeth and is armed after approximately 455 revolutions of the arming vanes in the air stream.



FUZE, BOMB, NOSE, AN-M110A1—MECHANISM

#### BOMBS

##### M110

Bomb, Practice, 20 lb., AN-M48  
Bomb, Fragmentation, 20 lb., AN-M41  
Bomb, Fragmentation, 20 lb., AN-M41A1

##### AN-M110A1

Bomb, Gas, Persistent (HS), 115 lb., AN-M70  
Bomb, Fragmentation, 20 lb., AN-M41  
Bomb, Fragmentation, 20 lb., AN-M41A1

#### CHARACTERISTICS

	M110	AN-M110A1
Length overall.....	3.58 ins.	3.7 ins.
Weight.....	0.62 lb. (aluminum)	1.02 lb.
	1.1 lb. (steel)	
Diameter.....	1.75 ins.	1.75 ins.