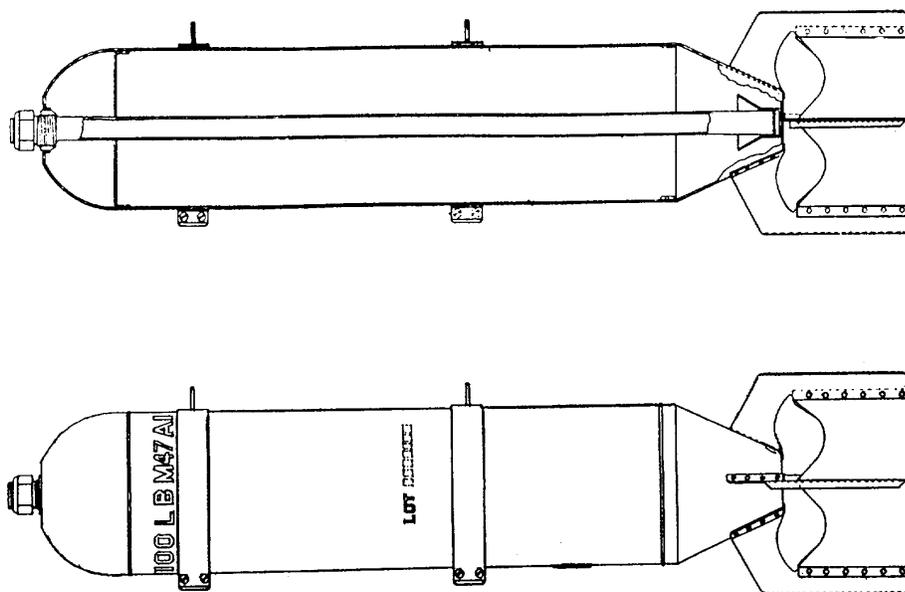


BOMB, CHEMICAL, 100-POUND M47 SERIES



General. The bomb was developed to meet the requirements of the Air Forces for a chemical bomb for "bombardment" purposes. It is a thin case bomb whose design and construction is such as to provide maximum efficiency after release from the plane.

Description. The body of this bomb is made of 1/32-inch sheet metal rolled and lap welded into a cylindrical shape 8-inches in diameter. The nose is hemispherical and welded to the body as is the box type tail fin assembly, which forms the tail taper of the bomb body. The over-all length is 45 inches excluding fuze. The burster well is screwed into the bomb body by means of pipe threads to make a gas-tight seal at the nose. It is held in place at the tail of the bomb body by an attached cone in the inner side of the fin assembly. It is internally threaded to receive a sleeve, which has a groove in its lower portion to seat the fuze, which is pressed in place. Around the bomb body are two suspension bands 14-inches apart which provide suspension lugs for horizontal suspension. One blade of the fixed box type tail assembly is in line with the suspension lug. The bomb utilizes the Bomb Fuze M108 (Nose) in conjunction with the M4 Burster, which has a charge of tetryl when used with a White Phosphorous (WP) or Mustard (H) filler. The H filler has been found to leak when loaded into this bomb. At the date of publication, the M47 and M47A1 were not allowed to be loaded. When loaded with H, the entire weight of the bomb is 93 pounds, of which 73 pounds is chemical agent.

The Bomb may be loaded with an incendiary filler of rubber and gasoline in the field. The base filling is gasoline supplemented by one of the four different incendiary ingredients as follows:

1. LA-60. Consists of crude latex or sap in combination with caustic soda, coconut oil, and water
2. Crepe rubber (CR). This is crude latex but is reduced to a solid by precipitation and kneading.
3. LA-100. This is crude latex dried until it is approximately 100 percent solid.
4. Smoked rubber sheets (SR) a crude latex, which has been dried over a smoky fire until it is approximately 100 percent solid.

When loaded with the incendiary filler the Bomb Fuze M108 (Nose) with a 1-pound black powder Burster Charge M7 is used. This burster charge bursts the bomb and scatters and ignites the filler. When filled, the body weighs 85 pounds of which 65 pounds is incendiary filler. This is a typical example of the scatter type of incendiary filler.

Painting. The bomb is painted as other chemical ammunition with a blue-gray base color. If loaded with H, it will have two green bands and will be stenciled in green. If loaded with WP, it will have one yellow band and will be stenciled in yellow. If loaded with incendiary filler, it will have one purple band and will be stenciled in purple. The stenciling for the incendiary bomb will indicate the type of rubber filling such as "incendiary oil, LA-60" or "incendiary oil SR".

Comparison. The M47A1 was designed to replace the 100-pound M47. The M47 was found to have too thin a wall section, and in handling and storage, it developed leaks due to corrosion and rough treatment. Consequently, the wall thickness was increased from 1/32 inch to 1/16 inch, and coating inside with acid-proof black paint protected the case. This special inside coat of paint was to provide a resistance of 100-pound pressure. However, chemical agent was still found to leak from the bomb case as with the previous bomb and is not to be loaded in empty 100-pound M47A1 Bomb Cases. In design, it is similar to the 100-pound M47. It is however, approximately 9 pounds heavier and weighs, when loaded with H, 102 pounds, of which 73 pounds is H. When loaded with Incendiary Oil, it weighs 94 pounds, of which 65 pounds is incendiary oil. An additional fuze, which may be found used with this chemical bomb, is Fuze Bomb M126 (Nose).

The M47A2 was designed to be able to receive the chemical filler mustard (H) without leaking. It was coated on the inside with special oil, which provided in theoretical tests too are resistant to filler pressure having a resistance of 400-pounds pressure. It does not differ from the 100-pound M47A1 in any appreciable way. It was found, however, that this bomb was also subject to leaking, but not to such an extent as its predecessors. The chemical agent H is still to be loaded into this bomb as temporary emergency filler. The fuze is the Nose Bomb Fuze M108 or Fuze Bomb M126 (Nose). When the M126 Fuze is used, the special adapter for the M108 Fuze is removed, as the M126 Fuze can screw directly in the burster well. In all other components, the bomb is exactly the same.

Reference: TM 9-1904, *Ammunition Inspection Guide*, and March 1944