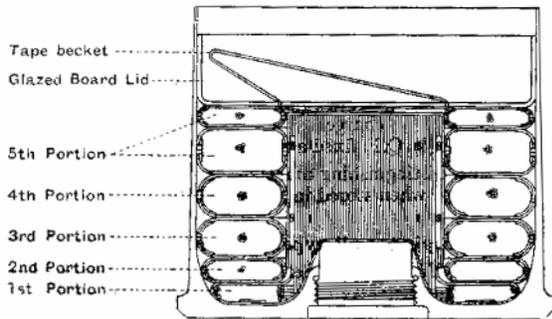
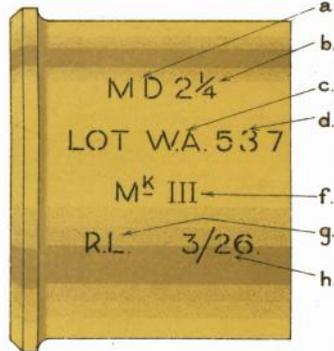
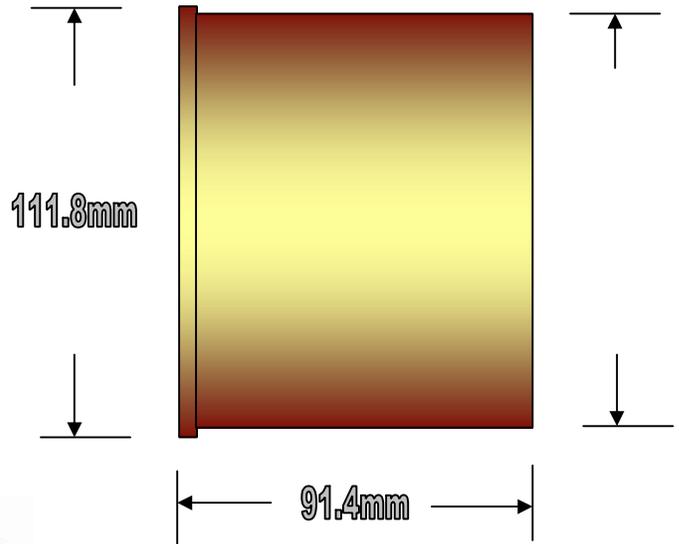


# 3.7inch MOUNTAIN HOWITZER

Adopted in 1915 this howitzer is a throwback, being a screw-gun with jointed barrel, shades of old India. It was kept in service right up until the end of WWII. The join can be clearly seen in the photograph below. The gun is interesting in that it was the first split-trail carriage introduced into British service.

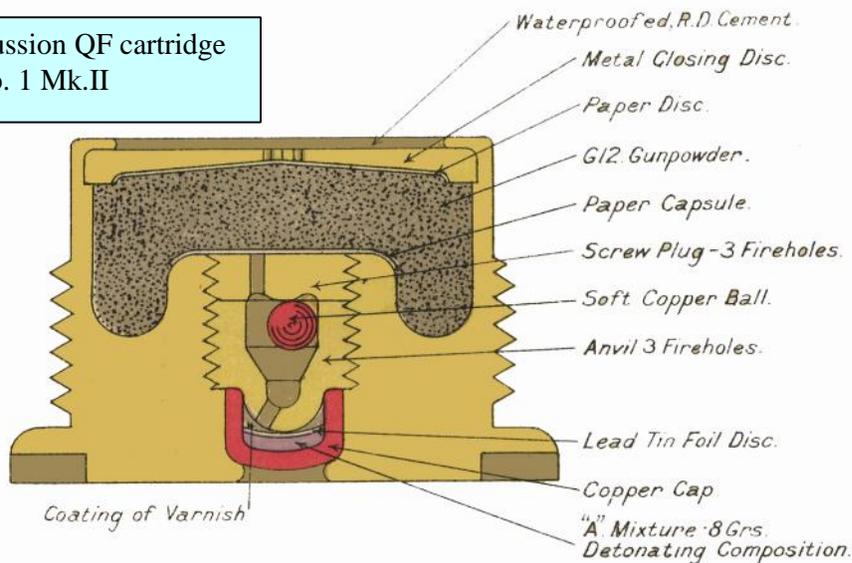


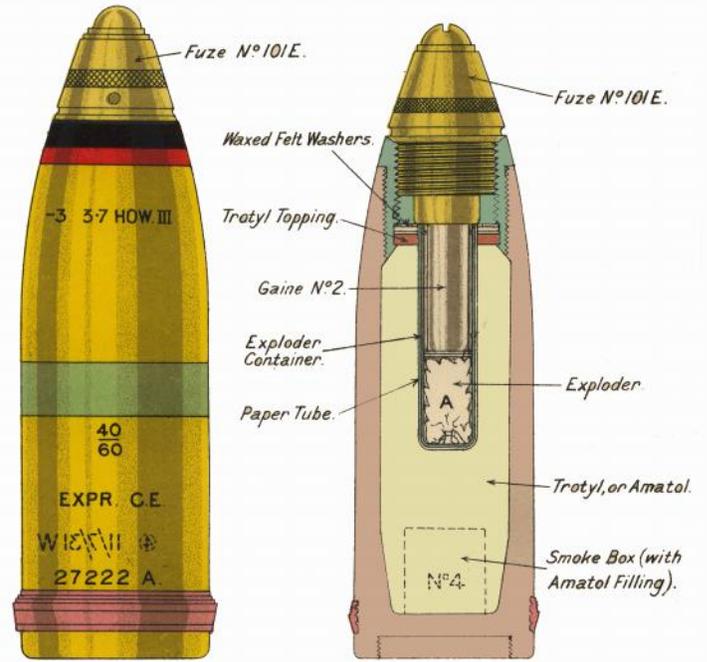
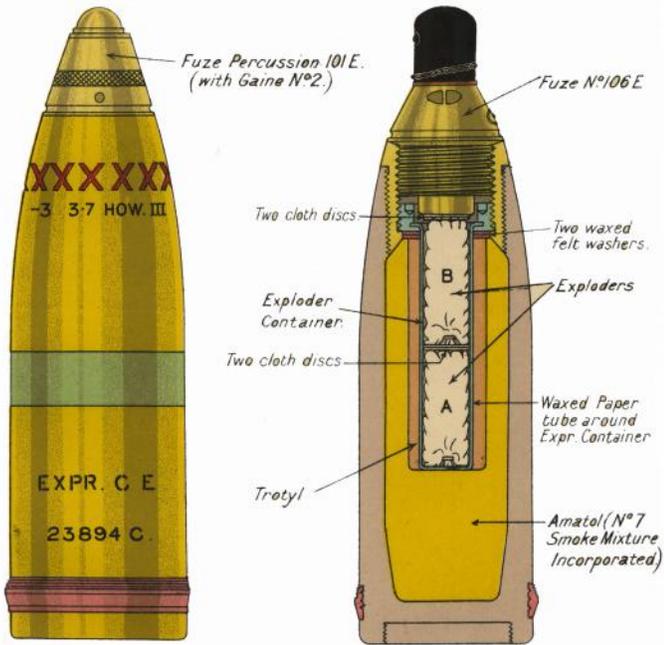
Typical propellant charge for 3.7inch Howitzer.



Typical cartridge case markings found on 3.7inch Howitzer cases.  
 a= Type of propellant  
 b=Size of propellant  
 c=Makers initials  
 d=Lot number of the propellant  
 f=Mark number of the filled case  
 g=Monogram of the filling factory  
 h=Date of filling.

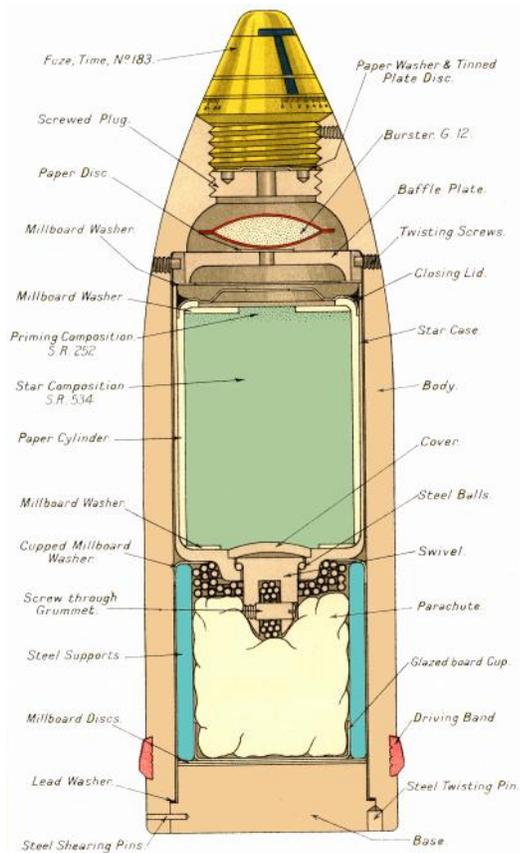
Primer percussion QF cartridge No. 1 Mk.II



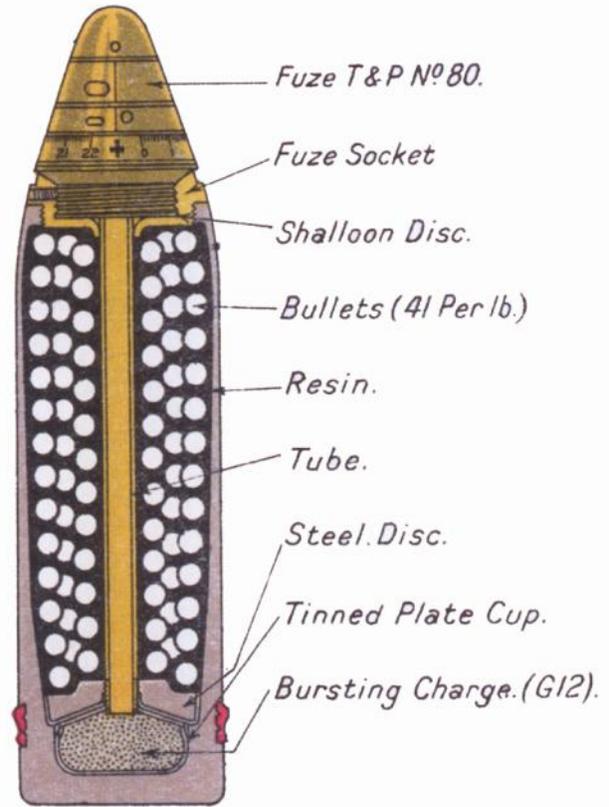


The markings and filling for a typical 3.7 Howitzer HE projectile.

The markings and typical 3.7 Howitzer HE projectile filled by the pouring method.



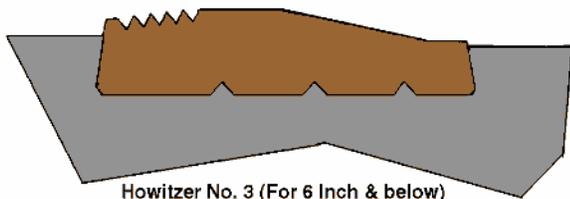
Typical method of filling for star shell for 3.7inch Howitzer.



Typical method of filling for Shrapnel shell for 3.7inch Howitzer.

Shrapnel projectile weighed 9kg

Propelling charge was 195gms of Cordite Mk 1 giving a muzzle velocity of 297mps.



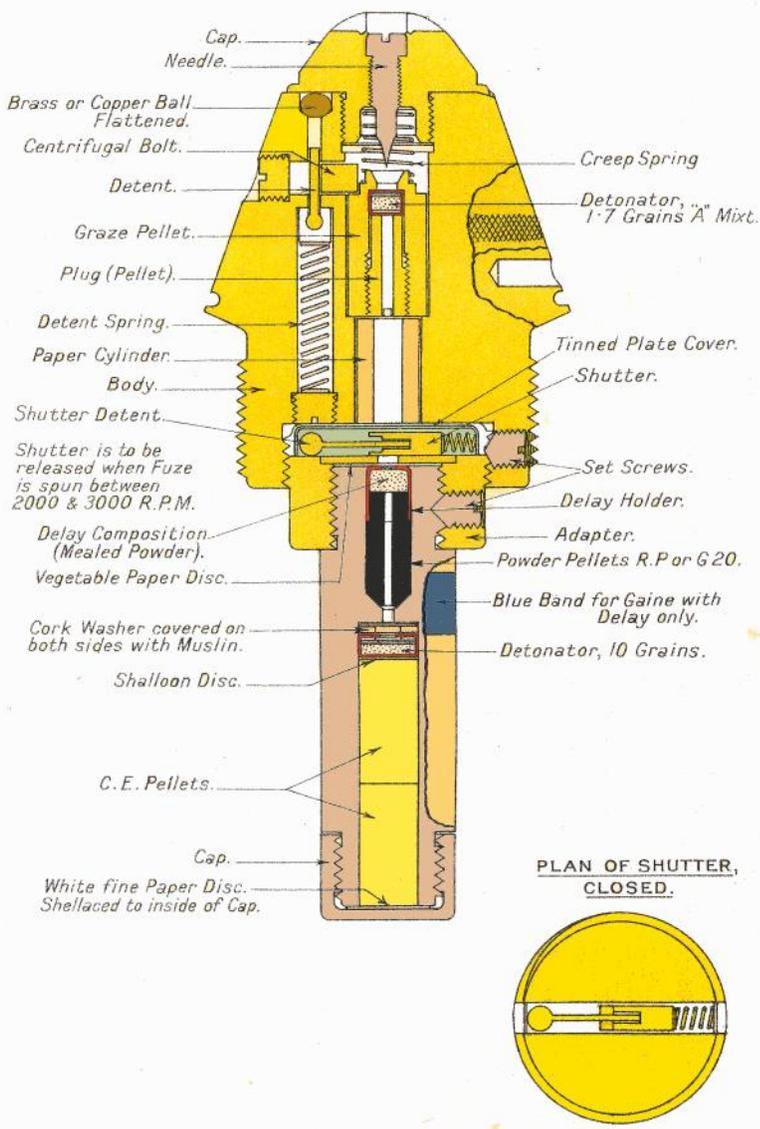
Howitzer No. 3 (For 6 Inch & below)

Typical driving band profile for 3.7inch Howitzer.

The propelling charge was arranged in 5 portions but the top two portions were taped together and thus constituted one element for charge adjustment. The reduced charge levels were used for star shell. Each portion was fitted with a loop. The mouth of the case was fitted with a glazeboard cup provided with a loop to facilitate its removal.

**FUZES USED IN THE 3.7inch HOWITZER**

Fuze percussion No. 101 E.

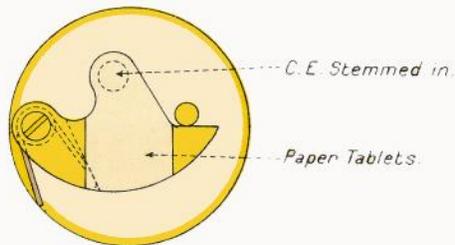
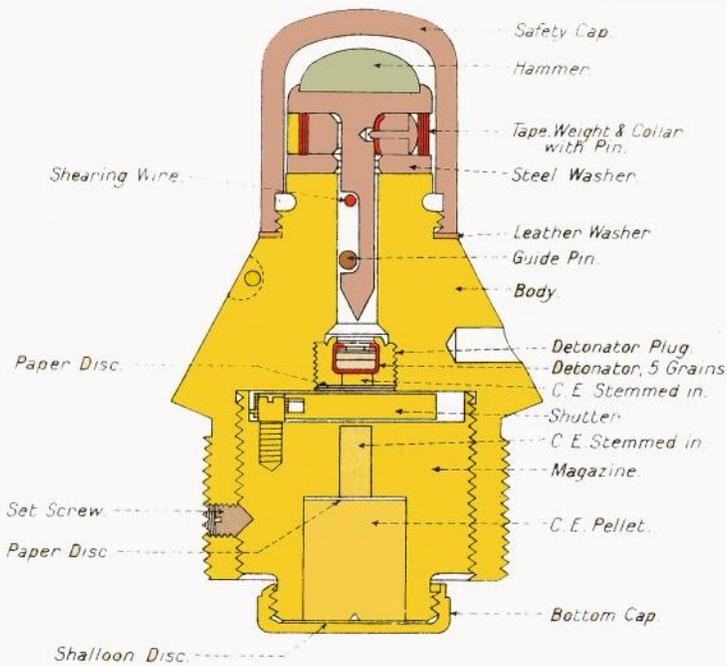


**ACTION.**

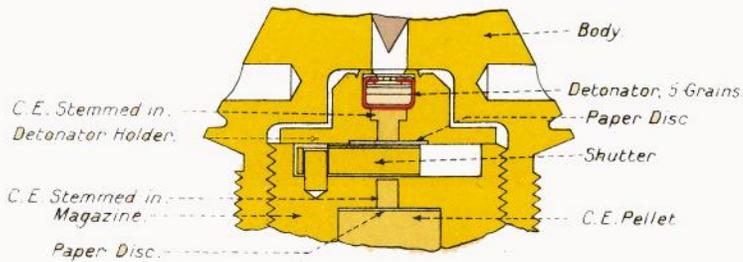
On firing the detent sets back and flops sideways thus locking it out of the way so that it can't rise up again. All other components are jammed until the initial acceleration ceases. When this occurs the centrifugal bolt slides outward and clears the graze pellet to move forward on impact. At the same time the shutter moves outward against its spring allowing the shutter detent to drop down thus locking the shutter in the armed position. This action puts the explosive train into the armed state.

On impact the graze pellet moves forward and plunges onto the needle thus firing the detonator. The flash from this travels down through the channel in the plug, through the paper cylinder, through the tinned plate cover of the shutter and then ignites the delay composition. This in turn ignites the gunpowder pellets. The flash from this causes the detonator to explode thus detonating the CE pellets and then the projectile contents.

Fuze percussion DA No 106 E



PLAN OF SHUTTER.



MARK VI Z.

**ACTION.**

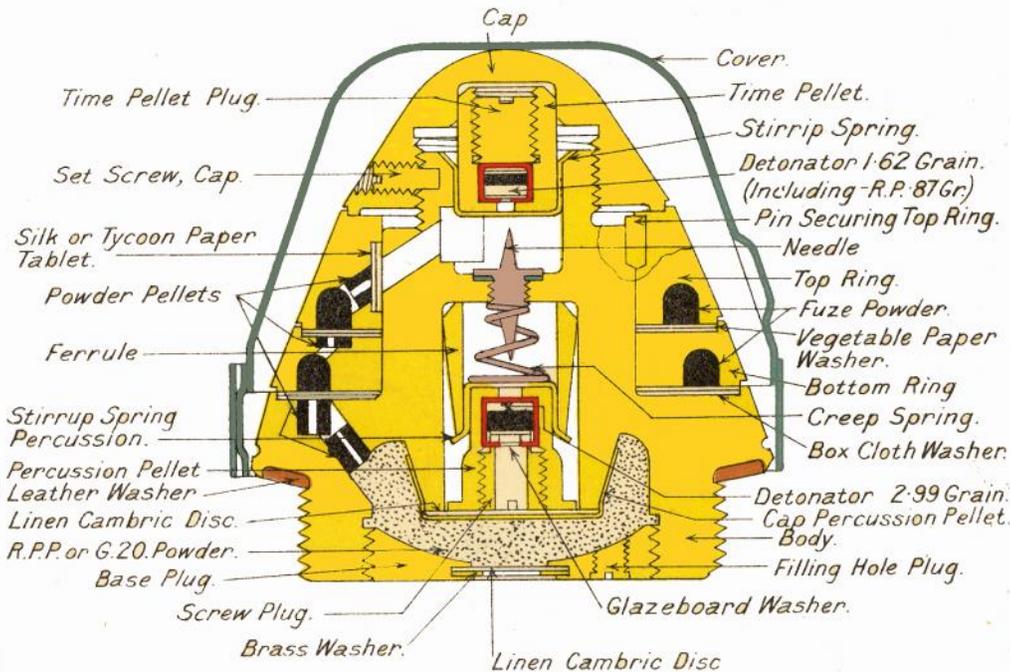
Prior to firing the safety cap must be removed.

On firing the all parts are jammed in their unarmed position by set-back forces. When this ceases the tape, weight and collar are flung off the fuze and, in doing so it removes the pin from its safety hole. Only the shear wire is keeping the hammer away from the detonator.

At the same time the shutter swings into the armed position against the resistance of its spring. This action brings into line the stemmed CE with the detonator above it and below it. This completes the explosives train.

On impact the hammer is driven onto the detonator shearing the shear wire as it does so. The detonation wave passes into the CE stemming and then into the CE pellet in the magazine. The wave then passes into the shell filling.

Fuze time & percussion No. 80.



The fuze for the 3.7inch Howitzer was numbered 83, which is a number 80 as shown above. The only difference is that the No. 83 has stronger stirrup springs and the body metal was different.

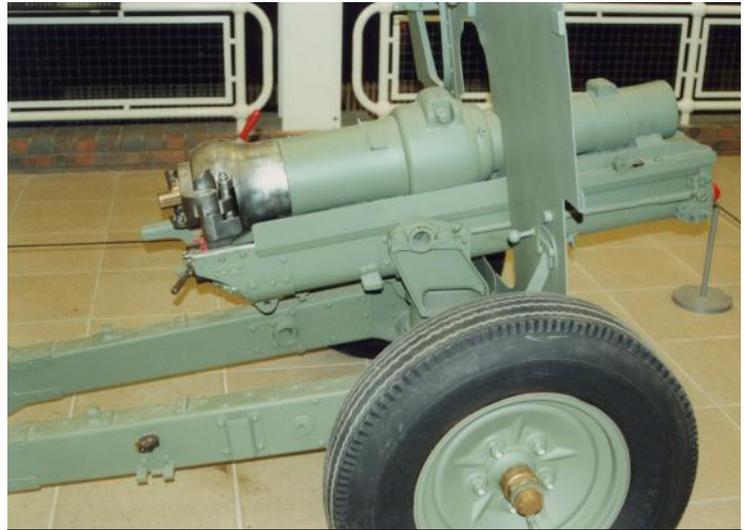
**ACTION.**

On firing the time pellet sets back thus driving the detonator onto the needle. To achieve this the time pellet crushes the lips of the stirrup spring. The resulting flash passes through the channel to the left and into the powder pellets. These commence burning until the flame reaches the time set. The flame then ignites the magazine. At the same time the ferrule sets back also, crushing the lips of the stirrup spring this frees the percussion element for action as described below.

Should the projectile strike the ground prior to the time set then the Percussion pellet is driven forward onto the bottom of the needle. The resulting flash from this is passed straight to the magazine and thence into the shell filling



Early model 3.7inch How with spoked wheels. Photo courtesy of The Artillery Museum, Woolwich.



Later model with pneumatic tyres, smaller shield and a generally more modern appearance. Photo courtesy of the Imperial War Museum, London.