

Fuze time & percussive graze No. 221B

This fuze was introduced in 1937 and was one of the first fuzes to pay attention to ballistics as can be seen by the long cap at right. It was designed for use in QF 25pr and BL 5.5" guns in BE smoke, flare, illuminating and chemical shells.

Internally it is rather a complicated fuze having a time combustion element and a graze percussion element.

The burning time of the rings was from 0 to 49.5 seconds.

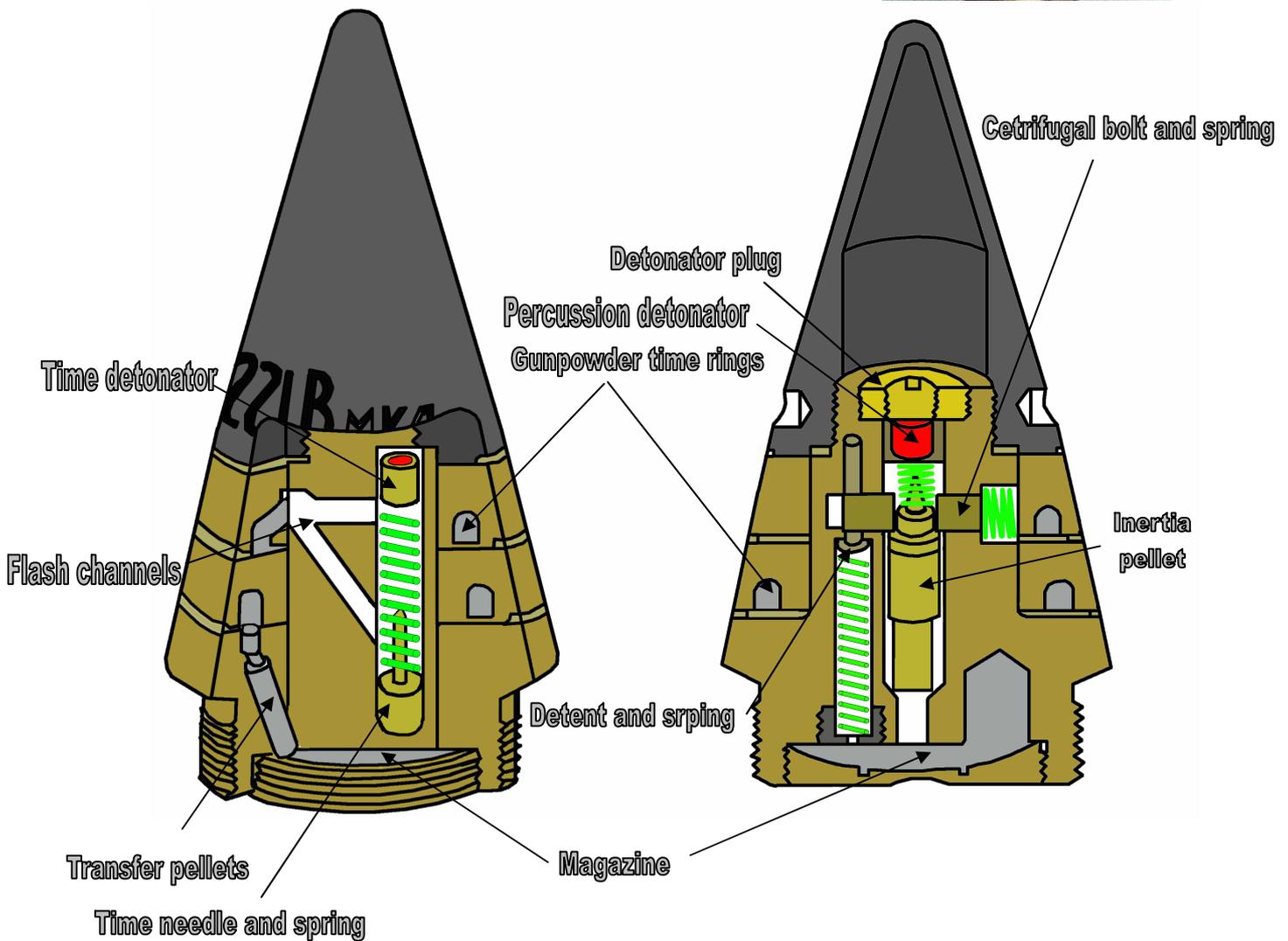
Prior to November 1944 some base plugs had an additional off centre filling hole.

Up to June 1949 the bottom time rings were painted red to indicate that they were filled with a slow burning powder

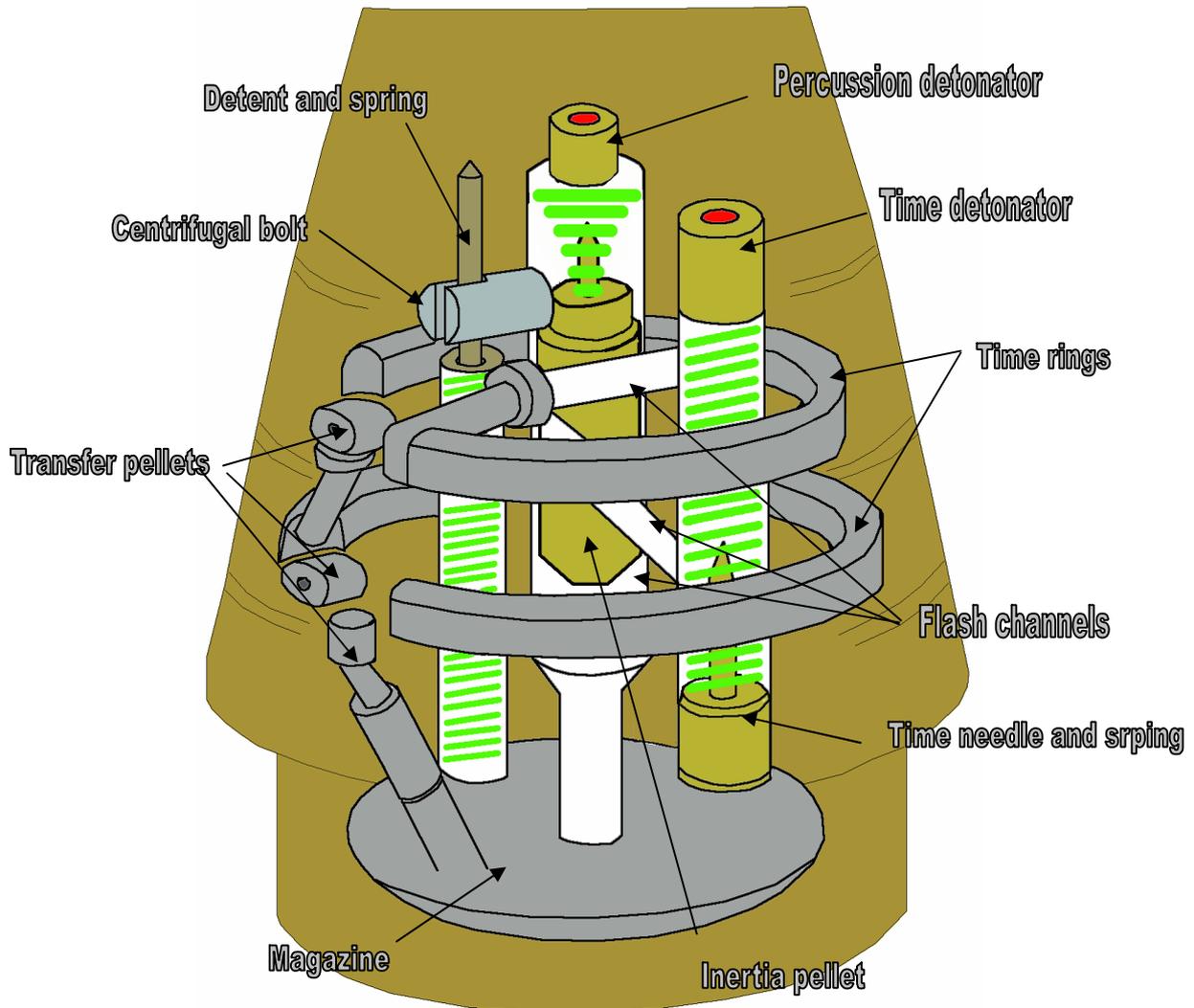
During 1943 the time ring tension was increased so that more effort was required to move it.

Prior to August 1943 some fuzes were fitted with a plastic nose cap as shown at right.

The Mk V version of this fuze was assigned to Pakistani manufacture



The very basic drawing below shows just how complex the insides of the 221B fuze is.



ACTION.

Prior to firing the hermetically sealed cover is removed and the time rings are adjusted to the required time setting.

On firing the time detonator sets back against its spring thus driving the detonator onto the time needle. The flash from the detonator is passed through the flash channels into the transfer pellets and then into the time rings. At the end of time as set the flash from the time rings is passed via another set of transfer pellets into the magazine. The flash from this is passed into the interior of the shell.

Should the shell strike the ground before the time rings have completed their burning time the inertia pellet is thrown forward driving the firing pin into the percussion detonator. The flash from this is passed around the inertia pellet and directly into the magazine with the same results as the time system.

Once the sealing cap was removed from these fuzes they had a very short shelf life from that point on. They were usually fired as they were unsealed.