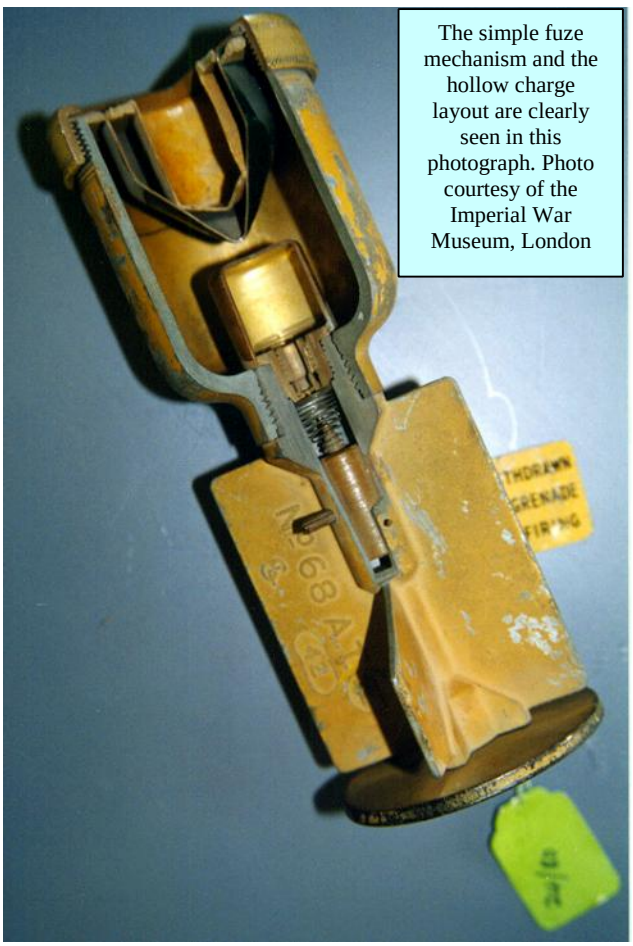
GRENADE RIFLE No. 68 ANTI-TANK

This grenade has the distinction of being the first application of the Hollow charge principle to a military munitions item. It was introduced in November 1940 in the darkest days of WWII when we were losing everywhere and even though it was efficient it must have taken a brave man to front up to a German tank with it. The supposedly effective range was 50 to 75 yards but it would have been a very lucky shot to score a killing hit at that range so closer would have been better but more frightening for the operator. The theoretical penetration was 50mm of armour at 0^{O} and 40mm at 30^{O}. The grenade was launched from a specially strengthened rifle called an “EY” rifle and it could also be fired from a “Northover Projector”.

It was filled with 5.5 oz of, Lyddite, Pentolite, RDX/BWX or PE. The original model was provided with small stabilizing vanes on the body that were later dispensed with and the gas check was secured by a Bakelite screw that fractured on firing allowing the gas check plate to fall away. This was later changed to a brass screw thus ensuring the gas check plate remained attached to the grenade throughout its flight. The original hollow charge liner was hemispherical in shape but this was later changed to a cylindro-conoidal shape as experimentation soon showed this to be a more efficient shape.



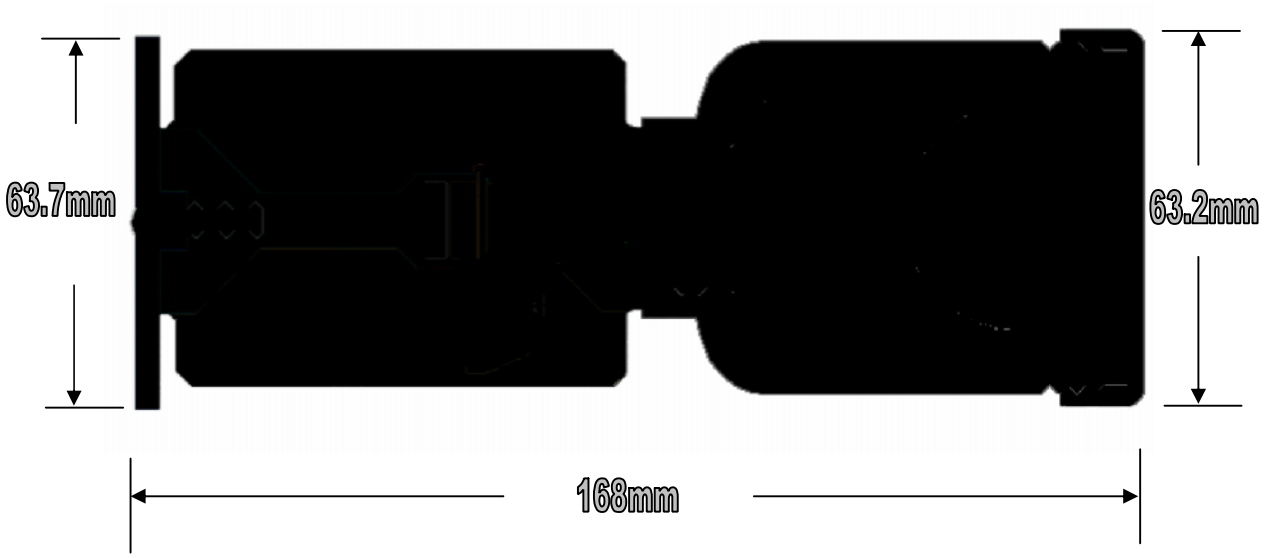
The simple fuze mechanism and the hollow charge layout are clearly seen in this photograph. Photo courtesy of the Imperial War Museum, London

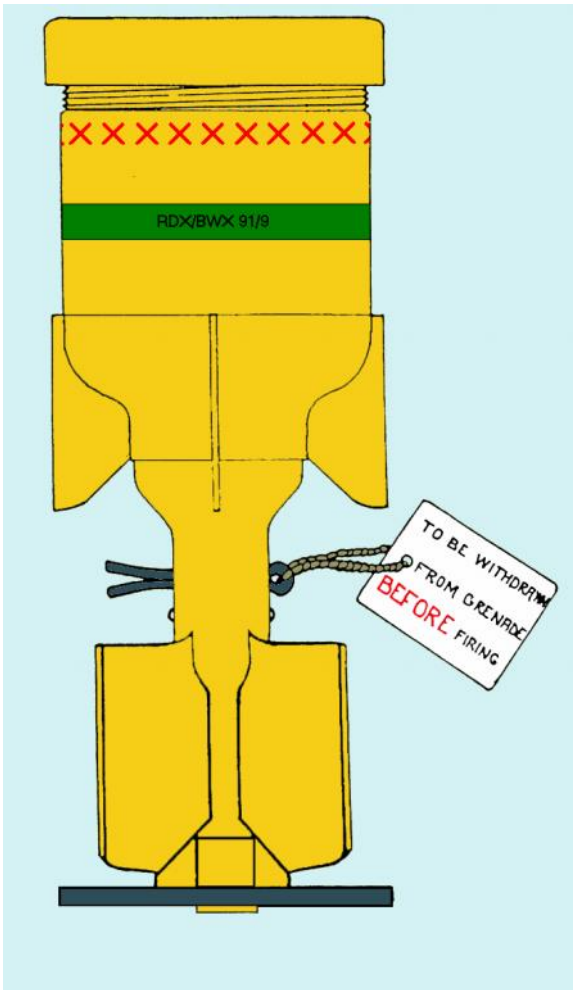
The fuze mechanism was simple being just a graze action element secured by a shear wire and, prior to firing a safety pin that was removed. On firing the setback forces sheared the wire freeing the graze element. On impact the graze element overcame the creep spring and drove the firing pin into the detonator. The detonator in turn initiated a CE stemming which in turn detonated a CE pellet thence the main filling.
It weighed .89kg and was 168mm long with a diameter of 63.2mm.

These grenades were manufactured up until 1945 with the Mk 5 pattern being made in the USA.

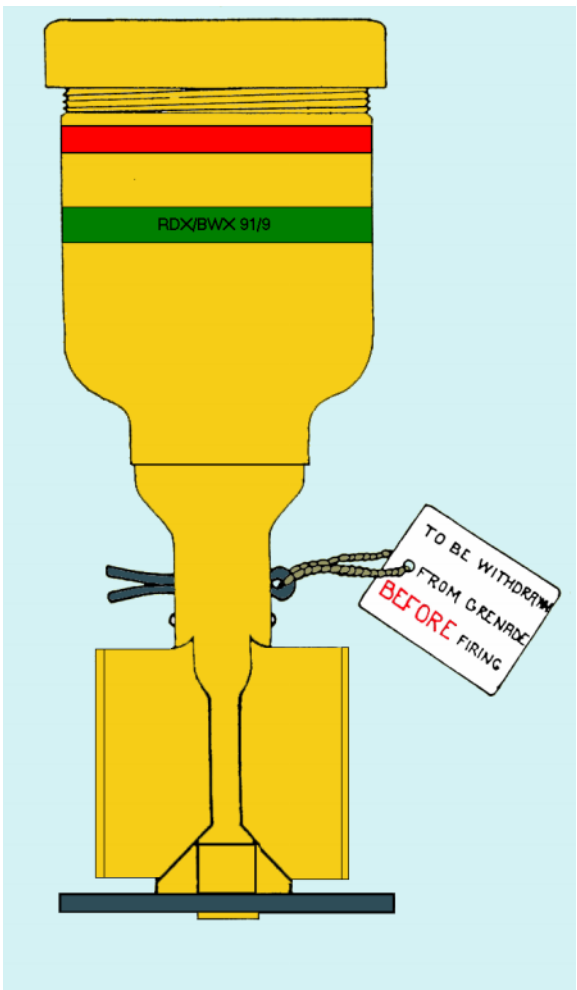
An “R” after the lot No. indicates a Mk 4 tail attached to a Mk 3 body.

Mk. No	Description
1	Fins on body, bakelite screw holding gas check and domed charge liner.
2	No fins on body, mazak body and brass screw holding gas check.
3	Larger CE pellet and cylindro-conoidal charge liner.
4	Mazak gas check
5	Steel gas check.
6	USA manufacture to Mk 5 pattern



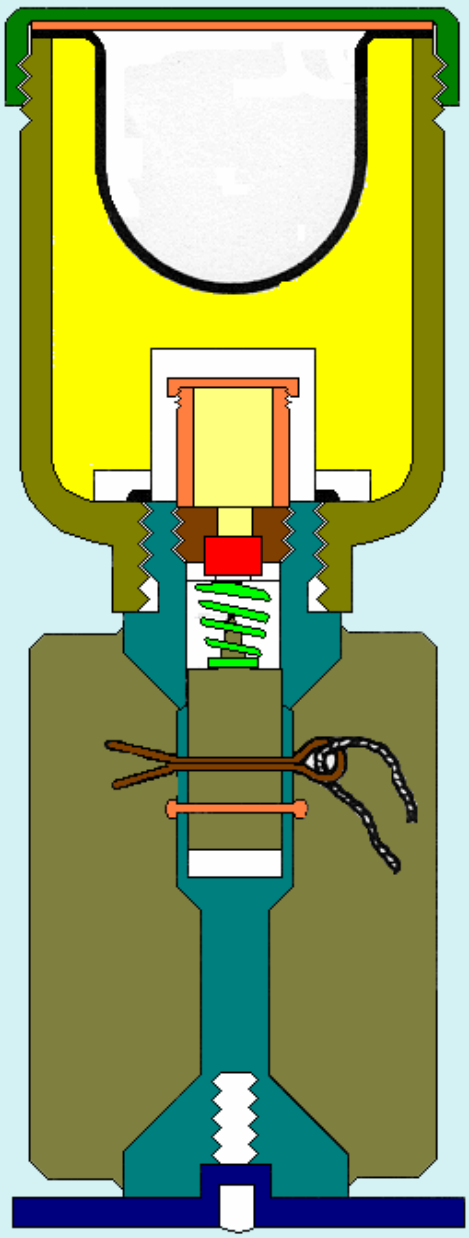


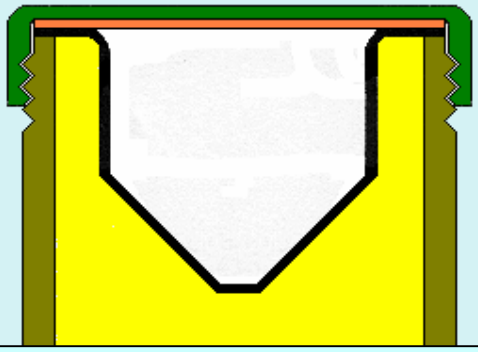
No. 68 Mk I with the additional fins.



No. 68 Mk II without additional fins

An original Drill grenade for the No. 68, a bit of a rare beastie today. Photo courtesy of the Imperial War Museum, London.





The later pattern hollow charge liner.

Colour bands indicating type of filling.

Filled with Lyddite

LYD

Filled with Pentolite

Filled with RDX/BWX in a ratio of 91% to 9%

RDX/BWX 91/9

Filled with Plastic Explosive

PE

Filled with CE/TNT in a ratio of 30% to 70%

CE/TNT 30/70