

Airborne Rockets

Before the war and even in the first few months of the war when A.A. rockets were being used successfully, little interest had been shown in the use of rockets as an aircraft weapon. In July 1940 the Air Ministry discussed the possibility of using rockets fired from aircraft to break up large formations of enemy bombers - the idea was soon dropped. It was not until June 1941 that use of rockets was again considered, but for different targets.

Weapons for attacking tanks with aircraft were sought and while armour piercing ammunition was being developed for the 20mm Hispano cannon it did not have the performance to deal with the larger German tanks, bombs, while effective against tanks if dropped near them were not accurate enough to do the job. The Fleet Air Arm and Coastal Command also were looking for a weapon to attack submarines and shipping.

Priority for airborne rockets was first given for use against seaborne targets and greater interest was given when in August 1941 reports that the Russians had been using rockets against German tanks and bomber formations with good effect. Efforts were made to secure sample rockets/drawings but when these were received it was found that little could be learnt from them. As the development of airborne rockets was urgent, it was decided to use the 3 inch rocket motor used for A.A. use and to develop a 25lb shot and 60lb shell rocket head. The 25lb shot was relatively easy to design as it was similar to shot used in gun ammunition, these were first used in action in June 1942. It was also later found that 25dpr AP shot could be modified to

be fired from rockets, towards the end of 1944 a new type of shot was introduced, this also weighed 25lbs but had a more tapered shape and thus a straighter underwater trajectory.

The 25lb shot headed rockets were used successfully against seaborne targets, especially submarines. In trials the AP rockets were found to cause serious damage to tanks, especially as after penetration of the armour they introduced burning and unburnt cordite into the tank which virtually guaranteed a fire to take place inside the vehicle. Although very damaging, the rockets were inaccurate and even if several rockets were fired at once a hit was not guaranteed.

The 60lb shell was intended to be used against seaborne targets and was not completed until the end of 1942. It was introduced into service in mid 1943, these shells had a base fuse that allowed them to penetrate the target before exploding.

Trials of the 60lb shell has found them to be ineffective against seaborne targets so it was decided to restrict their use to land targets, for these a non delay fuse was developed. These rockets were found to have an extremely good destructive effect against land targets, they were able to penetrate the top armour of both the Panzer IV/Panther and with a direct hit were able to disable a Tiger tank. Results in France showed that the rockets destroyed tanks even if penetration of the armour had not occurred.

I've seen several websites claim 5% chance to hit with these

rockets, this seems a little low considering in a trial 9 hits were obtained with 116 rockets fired (7.76%) and the trial was carried out in extremely poor weather, some of the pilots had never fired the rockets before, most of the attacks were carried out on the front of the tank and the pilots were required to fire their rockets no closer than 400 yards, then again the pilots where not being shot at!

Later developments included attempts to launch a 250lb bomb using several rocket motors and a Hollow Charge 60lb rocket (RDX/TNT 50/50 filling).

60lb and 25lb AP rocket specifications

	60lb Mk I	60lb Mk II	25lb Mk I
Length	221in (5613mm)	214in (5441mm)	129in (3278mm)
Diameter	5in (127mm)	5in (127mm)	4 1/8in (108mm)
Total weight	60lb (27.2kg)	60lb (27.2kg)	25lb (11.3kg)
Fuz	No 396 Mk I	No 396 Mk I	No 396 Mk I
Filling	For RDX/TNT 60/40	For RDX/TNT 60/40	For RDX/TNT 60/40
Filling weight	21lb (9.5kg)	21lb (9.5kg)	8 1/2lb (3.8kg)

Rocket performance data

	60lb Mk I	60lb Mk II	25lb Mk I
Test firing	15000 yds	15000 yds	15000 yds

400 yards

(secs)

70000

25157,1000

60lb SAP/Shell

60lb SAP (Hollow Charge)

Production of Rockets

Type 1 1945

25157,1000

60lb SAP/Shell

60lb SAP/Shell (modified)