

= Northover Projector =

The Projector , 2 @. @ 5 inch ? more commonly known as the Northover Projector ? was an ad hoc anti @-@ tank weapon used by the British Army and Home Guard during the Second World War . With a German invasion of Great Britain seeming likely after the defeat in the Battle of France , most available weaponry was diverted to the regular British Army , leaving the Home Guard short on supplies , particularly anti @-@ tank weaponry . The Northover Projector was designed by a Home Guard officer named Robert Harry Northover to act as a makeshift anti @-@ tank weapon , and was put into production in 1940 following a demonstration to the Prime Minister , Winston Churchill .

The weapon consisted of a hollow metal tube attached to a tripod , with a rudimentary breech at one end . Rounds were fired with the use of black powder ignited by a standard musket percussion cap , and it had an effective range of between 100 and 150 yards . Although it was cheap and easy to manufacture , it did have several problems ; it was difficult to move and the No. 76 Special Incendiary Grenades it used as one type of ammunition had a tendency to break inside the breech , damaging the weapon and injuring the crew . Production began in late 1940 , and by the beginning of 1943 nearly 19 @, @ 000 were in service . Like many obsolete Home Guard weapons , it was eventually replaced by other weapons , such as the 2 @-@ pounder anti @-@ tank gun .

= = Development = =

With the end of the Battle of France and the evacuation of the British Expeditionary Force from the port of Dunkirk between 26 May and 4 June 1940 , a German invasion of Great Britain seemed likely . However , the British Army was not well @-@ equipped to defend the country in such an event ; in the weeks after the Dunkirk evacuation it could only field twenty @-@ seven divisions . The Army was particularly short of anti @-@ tank guns , 840 of which had been left behind in France , leaving only 167 available in Britain ; ammunition was so scarce for the remaining guns that regulations forbade even a single round being used for training purposes .

Given these shortcomings , any modern weapons that were available were allocated to the British Army , and the Home Guard was forced to supplement the meagre amount of outdated weapons and ammunition they had with ad hoc weapons . One such weapon was the Northover Projector , the invention of Major Robert Harry Northover . Northover , an officer in the Home Guard , designed it to be an easily manufactured and cheap anti @-@ tank weapon , costing just under £ 10 to produce , excluding the required tripod . The Major wrote directly to the Prime Minister , Winston Churchill , with his design and arranged for Churchill to attend a demonstration of the Northover Projector . The Prime Minister approved of the weapon and gave it his personal endorsement , ordering in October 1940 that the weapon be mass @-@ produced on a scale of one for every Home Guard platoon .

= = Design = =

The Northover Projector ? which was officially labelled the " Projector , 2 @. @ 5 inch " by the War Office ? was formed of a hollow metal tube , resembling a drain pipe , mounted on top of a cast @-@ iron tripod . It weighed approximately 27 @. @ 2 kilograms . A simple breech was attached to one end of the tube , and rounds were fired from the Projector with a small quantity of black powder ignited by a " top hat " copper cap as used in muzzle loading rifles < Curtis ( HBSA ) 2014 > ; any recoil from the weapon was absorbed by the legs of the tripod , which were also hollow . It had a maximum range of approximately 300 yards but was accurate only to between 100 and 150 yards . Home Guard units often added their own modifications to the weapon , which included mounting it on carriages or even the sidecars of motorcycles . It was served by a crew of three . Ammunition for the weapon consisted of the No. 76 Special Incendiary Grenade , a glass bottle " containing a phosphorus mixture which burst into livid flames , giving off quantities of suffocating smoke upon exposure to the air " , as well as normal hand and rifle grenades .

The Projector had a number of defects . It was difficult to move , the tripod had the tendency to

damage itself if it was dropped , and its discharge pressure has been described as " feeble . " The phosphorus grenades exhibited a number of faults when used in the Projector ; they could often explode inside the weapon if too much black powder were added , or fall short if too little were used , or even fail to explode . They could also break inside the barrel when fired which often led to the weapon being damaged and its crew injured . Even when fired properly , the Projector gave off a large cloud of smoke which could take up to a minute to clear and revealed the weapon 's position . Bishop argues that its anti @-@ tank abilities would have been ' doubtful ' when it fired hand and rifle grenades , although he considers that the phosphorus grenades might have been more successful . To make handling easier , a lighter version of the weapon , the Northover Projector Mk 2 was developed in 1941 , but few were produced .

= = Operational history = =

The Northover Projector was issued to both Home Guard and regular British Army units , and by August , 1941 over 8 @, @ 000 Northover Projectors were in service . This number had increased to 18 @, @ 919 by the beginning of 1943 . Initial reactions to the Northover Projector were varied , with a number of Home Guard volunteers uncertain about the weapon 's unusual design , and some officers never accepted that it could be useful . However , most Home Guard units came to accept the weapon and have confidence in it , aided by large amounts of what Mackenzie terms " War Office propaganda " which cited the positive qualities of the weapon , such as its simplicity of use , ease of manufacture and low maintenance requirements . It was , as one Home Guard volunteer put it , " something to be accepted gratefully until something better arrived . " Like many of the obsolete weapons designed for the Home Guard , the Northover Projector was only taken out of service when it could be replaced with " marginally less ineffective " weapons provided by the Army , such as the 2 @-@ pounder anti @-@ tank gun .

= = = Official documents = = =

The Northover Projector . Tank Hunting and Destruction , Military Training Manual No 42 , Amendment No. 1 , Appendix F. War Office . December 1940 .