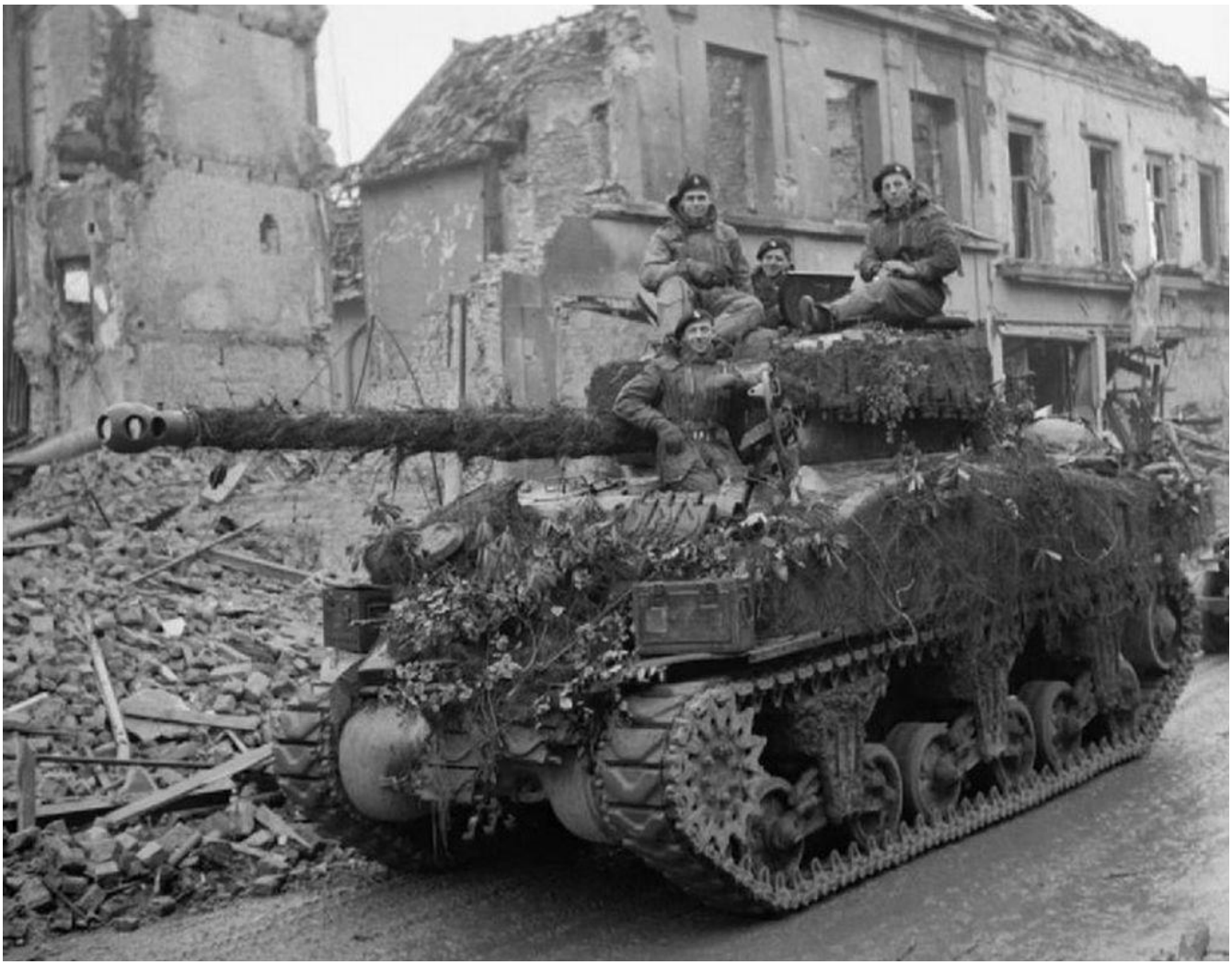
The Truth: How Effective Was The Sherman Firefly Against German Armour?



1942 marked the introduction of the Tiger I tank which sent the Allied forces into a frenzy. The need to overcome the armour of German vehicles was becoming more apparent to the British Army and lead to the development of new radical vehicles. The completely newly designed Cruiser Mk VIII Challenger (A30) and Cruiser Mk VIII Cromwell (A27M) had experienced delays and difficulties; this opened the eyes of the British government to the idea of modifying an existing tank. This new tank had to be able to deal with the German armour from a safer operating distance – over 1000 yards.

The platform chosen was the M4 Sherman, however different variants of hull were utilised. The first hull used by the Firefly was the standard M4 Sherman base (which was designated by the British as the Sherman I). The second hull some Fireflies used the M4A4 Sherman base (re-designated again by the British to the Sherman Vc). Finally, and most interestingly, some Fireflies used the M4 Composite Sherman hull (re-designated as the Sherman Ic Hybrid). It is important to note that the c designation was given by the British to the tanks sporting the 17-pounder gun and standard Shermans (with the 75mm) would just be designated as the Sherman V for example. The Sherman Ic Hybrid is interesting as the hull consisted of a cast front and welded back. This gave the front of the tank the stronger armour capabilities (where it was needed) but kept the simple construction and maintenance of the welded hull where armour was less vital (the back half). The cast front mitigated any weaknesses in weld lines as it was one whole cast piece. It also meant that the hull was more likely to ricochet incoming fire. This is often confused as a M4A1 hull when in actual fact the Ic Hybrid is an M4A1 front attached to a standard welded Sherman rear.

The standard Sherman's 75mm gun M3 and to some extent the up-gunned 76mm gun struggled to compete with the German big cats. This meant that a more powerful gun had to be capitalised upon to give the tank the capability it required. For this, the Ordinance Quick-Firing (QF) 17-pounder (76.2mm) anti-tank gun was chosen as it was the most powerful British gun of the Second World War and is argued to be one of the most powerful guns of the Second World War. It could penetrate more armour than the infamous and deadly German 8.8cm KwK 36 fitted to the German Tiger or the 7.5cm KwK. The 17-pounder also used a new kind of ammunition APDS (Amour Piercing Discarding Sabot) which on paper could penetrate every piece of German armour on the battlefield at any likely combat range.

The new gun was too big to fit in the standard Sherman turret so some modifications had to be made. Firstly, the radio system, which had previously been mounted in the back of the turret, had to be moved into a bustle on the outside of the back of the turret (in an armoured box). Secondly, the gun's breach block had to be mounted to the gun sideways, turned through 90 degrees, to how it would usually be mounted. This meant it could be loaded from the left instead of the top (which allowed for easier loading of the large 17-pound rounds). The recoil system also had to be shortened and modified to fit the new gun into the Sherman turret and the gun cradle had to be shortened; a new barrel and gun mantlet were also designed and constructed to properly protect the front of the turret as the 17-pounder would not fit in the standard mantlet.

Figure 1 shows us a row of Polish Fireflies, the one closest to the camera appears to be a Sherman Ic (as the road wheels are fairly close together); the next Firefly along is the Sherman Ic Hybrid and you can see the sloped cast front and how it differs to the first vehicle.

The 17-pounder gun was a formidable weapon, and it gave the Firelfly real punch on the battlefield. It finally gave the British a gun and tank that could penetrate the German big cats at over 1000m. New types of ammunition were also being developed and deployed with the 17-pounder. APDS (armour piecing discarding sabot) dramatically increased the penetration of the gun; however the APDS lacked accuracy, furthermore, the 50mm penetrator (the part of the round that penetrated the target) was less powerful than the standard APCBC shell.

The Germans saw the new threat and their tank crews were allegedly told to take out the Fireflies first, however, this has never been verified by the German tank crews. The British also knew that the new powerful weapon, that was easily identifiable due to its much greater length, would be targeted first so they came up with a genius way of masking the Fireflies. They painted a white wavey pattern along the second half of the gun barrel; this acted like a form of dazzle camouflage and made the gun

In figure 2, you can see the Firefly closest to the camera is of the Sherman Vc Hybrid variant and also has the camouflage painted on the gun barrel. Note also the extra armour welded onto the side of the hull over the ammo racks to give them increased protection. These Fireflies are also fitted with the '6olb' high-explosive 3-inch rockets and were known as the 'Sherman Tulips'.

Despite its incredible gun and reliable hull, the Firefly wasn't without its own problems. Firstly, even with the modifications, the turret wasn't designed for such a big gun. This meant that it would've been awkward to load the gun and move around the inside of the vehicle. Also, due to the now larger recoil, the gun had to move almost all the way back in the turret; which could potentially lead to some very nasty injuries. Muzzle blast was another of the Firefies issues. The flash out of the muzzle break was so large, that it would have been easy to see where the Firefly was firing from. The gun also kicked up a lot of dust upon firing which again would've pointed to the tank's location. There was also a lot of flames spat out of the gun after firing. Not only did this blind the crew (and sometimes caused night blindness) and prevented them from seeing the fall of shot or if it hit, it also destroyed and set light to any bush cover surrounding the tank. The HE round of the Firefly was also lacking and not effective. A better HE solution wasn't available untill late 1944, this made it inferior to the standard 75mm gun against soft targets.

armour and take out, on paper, all of the German vehicles of the time. After all, it was Fireflies that took out German tank ace, Michael Whitman.

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