

# The 2 Pounder Anti-Tank Gun



The 2 pdr was originally designed as a tank gun in 1934 to replace the obsolete 3 pdr gun but it was decided to mount the gun on an anti tank carriage when it was realised that Continental armies were deciding to provide 'light guns firing shell for anti-tank defence' also the adoption of the same weapon for both tank and anti-tank would be a great advantage

from a manufacturing point of view. The first order of guns was placed in December 1935 with Woolwich Arsenal and the first deliveries were made in April 1937.

In January 1935 the 2pdr for tank armament was approved, immediately after designs for a low travelling carriage was requested, the carriage was to have all round transverse and be capable of being towed at 25mph. Mock-ups were viewed in May and June 1935 and orders of trial equipment were placed with Vickers and Woolwich.

Exhaustive trials were staged between November 1935 and June 1936, in July 1936 the Vickers design (Mk I) was approved 'owing to the political situation' and as deliveries could be made quickly, 44 of these carriages were requested. The carriage of Woolwich design (Mk II) was also approved for future manufacture on grounds of ease of manufacture, inspection and handling.

Over the years many modifications were made to the gun and carriage, the majority of these were designed to simplify production. In the autumn of 1939 a carriage of split-trail type was designed (Mk IV) to accommodate either a 2pdr or a 6pdr gun, this reduced transverse from 360 to 90, but was lighter to handle and easier to produce, this carriage was accepted in early 1940. A split-trail carriage had been suggested in 1936 but was turned down on the grounds that there would be no appreciable saving in weight, cost or ease of production - the advent of the 6pdr changed the situation, as did the employing of non-specialist firms on manufacture. The 2 pdr Mk IV

carriage was not produced as it was decided to produce 6pdr carriages instead.

### Ammunition

The 2 pdr was originally armed with AP Shell (an armour piercing round with an explosive filler), the design of this round was asked for in September 1934 and provided by January 1936 - these rounds were filled with Lyddite. In 1938 it was decided to provide a projectile with better penetration performance, the first AP Shot was asked for in 1938. Interim steps involved inert filling of stocks of empty AP shell.

Initially all production of 2pdr AP shot was by Hadfields, this shot was to their own specification and by processes which had not been divulged to either other members of the steel trade or the government. The dangers of this situation were noticed and with the big expansions in requirements in 1939 and 1940 it became impossible for one firm to satisfy the demand, the requirement for the first year of the war was 6 million rounds and the most Hadfields could be expected to produce was estimated to be 80,000 rounds monthly, new capacity was urgently required. Hadfields' process was made available in April 1940 but the process was complicated and difficult to replicate, initially production plants based on Hadfields process were installed in selective firms but in early 1941 a new process was devised and production increased rapidly peaking in February 1942 with just under 1 million rounds produced.

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In 1942 ways to improve the performance of the 2pdr gun were sought, the first attempt was to increase the muzzle velocity of the shot by the addition of a supercharge, this was provided around September 1942. Capped shot with a ballistic cap was also provided by the end of 1942, this improved performance, particularly against the Face Hardened armour plates employed on the frontal armour of German tanks.

A more long term approach to increase performance was the addition of a squeeze-bore adaptor, this tapered the barrel towards the muzzle and allowed a small tungsten round to be fired at very high velocities. This was known for security reasons as the "2pdr littlejohn", the Mk I entered production in January 1943 and the Mk II was approved in May 1944 to improve performance against spaced armour.

## 2 Pounder on Mark II/IIIA carriage stats

Total Length

135.5in

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Total Width

59.25in

Total Height

55.15in

Height to Muzzle

27.5in

Length of Barrel

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81.95in

Calibre

1.575in

Elevation when on platform

15 up 13 down

Elevation when on wheels

23 up 5 down

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Transverse

360

Transverse on wheels

14 left 10 right

Total weight of equipment and stores

1850lb

Total weight of gun

Sighting Telescope

### No.24b

## Performance of the 2 Pounder gun

**Ammunition**

**Weight of shot/shell**

**Bursting Charge**

**Propellant Charge**

**Muzzle Velocity**

**Angle**



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**Plate**

**100 Yards**

**500 Yards**

**1000 Yards**

**2000 Yards**

**HE - IT**

1.86lb

0.14lb

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0.67lb

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AP Shell - I

2.375lb

0.04lb

0.56lb

2600fps

30

MQ

50

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42

36

-

AP Shot - IT

2.375lb

-

0.56lb

2600fps

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30

MQ

56

46

38

22

AP HV Shot - IT

2.375lb

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-

0.62lb

2800fps

30

MQ

57

51

41

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24

APCBC Shot - IXBT

2.69lb

-

0.6lb

2650fps

30

MQ

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54

47

35

Littlejohn Mk I

0.93lb

-



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4400fps

30

MQ

-

90

71

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## Production of 2 Pounder guns and carriages by year

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### Pre-War

### Sep-Dec 1939

### 1940

### 1941

### 1942

### 1943

### 1944

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1945

2 Pdr Guns

1077

412

1773

8547

16830

5141

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370

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2 Pdr Carriages

407

138

1534

2607

4106

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2246

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Production of 2 Pounder ammunition by year ( Filled Only,  
o = overseas deliveries)

Ammunition

Pre-War

ep-Dec 1939

1940

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1941

1942

1943

1944

1945

AP Shell

562,000

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AP Shot

337,000

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135,000

836,000

4,619,000

8,202,000

1,712,000

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AP Shell 4,619,000

APCBC



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644,000

1,061,000

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APCBG (o) - 5340000

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Littlejohn

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115,000

127,000

56,000

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HE

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40,000

474,000

304,000

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