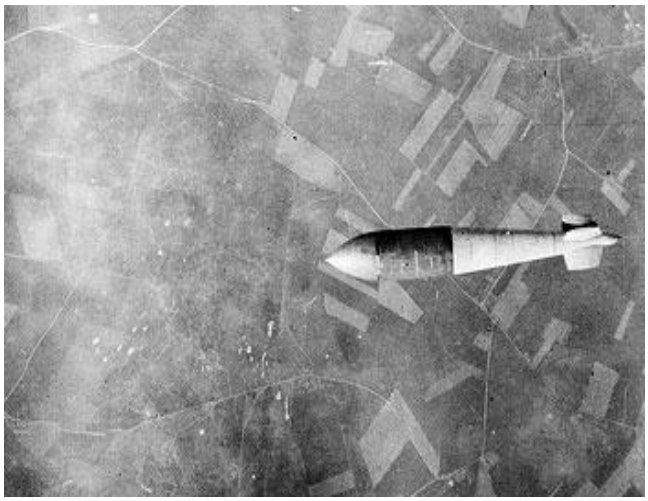
Written by David Boyd
Thursday, 01 January 2009 20:54 -

12000lb Tallboy Bomb



Development of the TallBoy bomb was completed by March 1944, these bombs were designed for the attack of targets such as Uboat pens, tunnels, bridges and viaducts as normal bombs were ineffective against such targets. It had also been considered to use the bombs in area attacks but it was felt that they would be less effective than the current 8,000 and 12,000lb High Capacity bombs. The bomb was designed by Barnes Wallis, designer of the Wellington bomb and the 'bouncing bomb', Mr Wallis had been pushing for very large bombs for years and he felt that a large bomb which could penetrate deep into the ground could damage or destroy large structures.

The Tallboy bomb was expected to penetrate up to around 60 feet deep in soil and 65 feet in clay and create a crater up to 110 feet wide and 45 feet deep. Against a 13 foot thick un-reinforced concrete roof the Tallboy was expected to go right though, it was known that reinforcement was the most important factor how how much reinforced concrete the bomb could penetrate. Penetration of around 8 feet was estimated but against a 13 foot thick reinforced roof, although complete penetration was not expected the explosion would most likely destroy a large part of the roof. Against a soft target such as a railway line it was expected that it would take at least 5 days for the resulting crater to be filled in, and if the bomb was dropped near a bridge or a tunnel the repair time could be weeks or even months.

Filling for the bomb was Torpex.

First use

The first target attacked with Tallboy bombs was the Saumur railway tunnel on the night of the 8/9th of June. The raid was carried out by 19 Lancasters of

617 Squadron and their bombs were fused for 0.025 seconds. They were assisted by a flare force of 10 other Lancasters and 3 Mosquitoes. The two aiming points were the entrances to the tunnel, these were marked by red spot flares from low level by Mosquitos, the flare carrying aircraft also carried 5-8 1,000lb General Purpose bombs which were dropped on the bridge over the river.

At the Southern end of the tunnel 18 Tallboys were dropped, due to the presence of cloud the aircraft were forced to drop from 8,400 and 10,500 feet another Tallboy was dropped on the Northern end of the tunnel. 13 of the bombs fail in close proximity to the markets, 4 has significantly greater error and another missed by 680 yards. The single bomb aimed at the Northern end fell 170 yards from the aiming point.

The average crater size was 80 feet by 25 feet, the largest had a diameter of 120 feet and a depth of

30 feet. Damage the tunnel and surrounding tracks was extensive with one bomb causing the tunnel to collapse, all bombs functioned correctly.

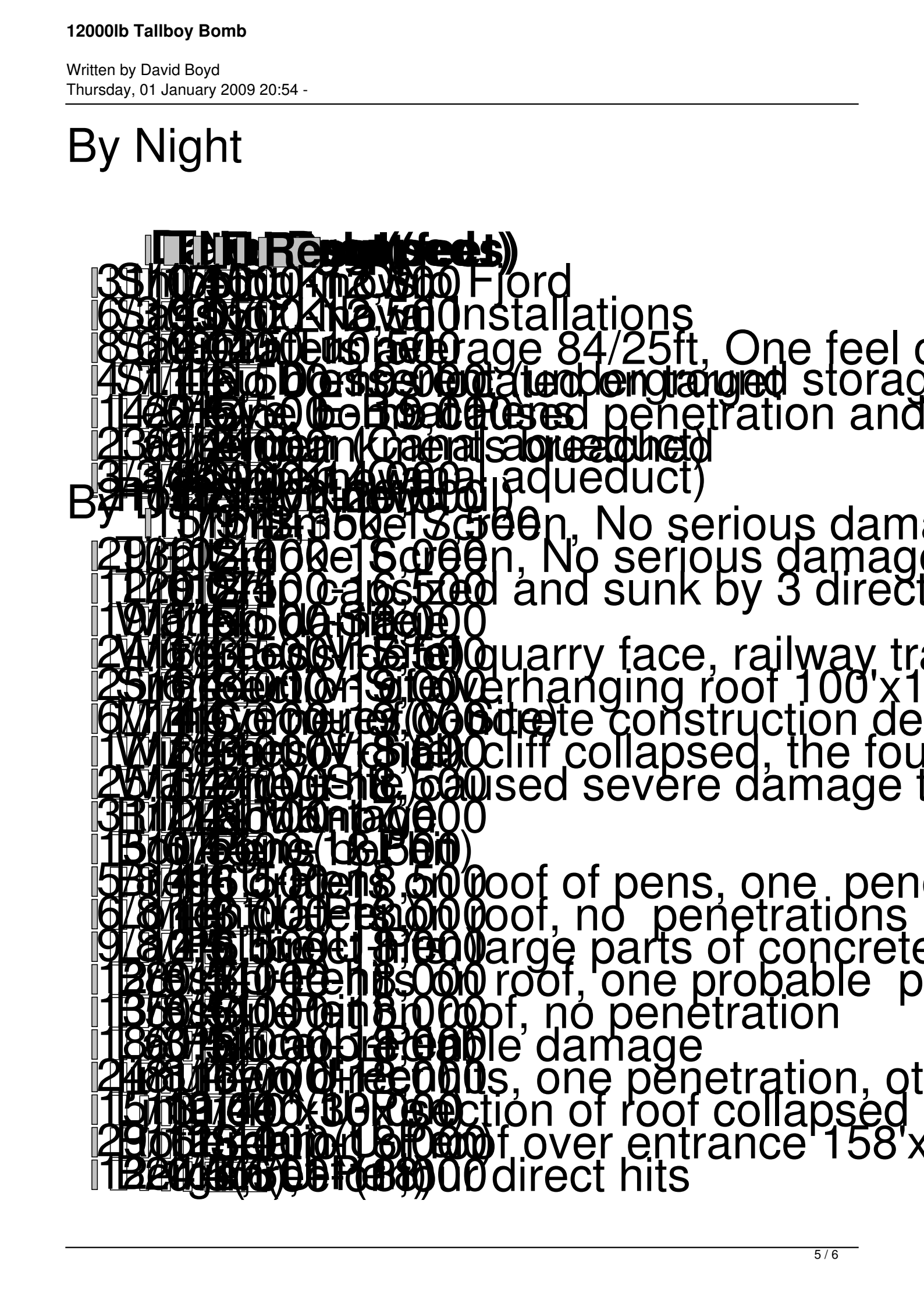
Tallboy bomb specifications

Bomb	12000-lb DP Mk I
Construction	Cast Steel
Usual weight	11,885lbt(5402.27kg)
Charge/weight ratio	46%
Total length	21ft 4in(640.08cm)
Body length	17ft 6in(533.52cm)
Body diameter	2ft 9in(84.96cm)
Wall thickness	1.25-4.1in(3.175-10.414cm)
Tail length	10ft 8in(325.12cm)
Tail width	3ft 6in(106.68cm)
Filling	Torpex

Summery of Tallboy raids

Over 700 of the bombs were dropped on enemy territory during the war.

By Night


Fjord
Installations
Screen, No serious damage
Screen, No serious damage
and sunk by 3 direct
quarry face, railway tra
overhanging roof 100'x1
cliff collapsed, the fou
roof of pens, one pen
roof, no penetrations
roof, one probable p
roof, no penetration
roof over entrance 158'x
direct hits

[illegible] or virtual destructi
[illegible] destroying uncomple
[illegible]s of roof but possible
[illegible] one viaduct destroye
[illegible] destroyed
[illegible] damage
[illegible] of each viaduct, destr
[illegible] tunnel entrance, blocke
[illegible] collapsed and embankmen
[illegible] damaged by near miss
[illegible]ched for 180 feet. One
[illegible] broken or torn off piers
[illegible] collapsed by year miss
[illegible] halves of bridge colla
[illegible] destroyed by d
[illegible] not breached

Sources: AVIA 46 285, AVIA 46 163