

Organization of the British Infantry Battalion 1938 to 1945

A www.bayonetstrength.uk PDF

1st draft uploaded 4th August 2018

2nd draft uploaded 2nd June 2019

Amendments include;

- 1. Updates to Signal Platoon wireless and line equipment (1943 to 1945).**
- 2. Clarification on 6-pdr Anti-tank gun ammunition allocation.**
- 3. Added Annex D on the Assault Pioneer Platoon (1943 to 1945).**
- 4. Correction of a number of lamentable typos...**

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Introduction

This is my attempt at analysing the evolving organization, equipment and weapons of the British Infantry Battalion during the Second World War.

It covers three distinct periods in the development of the Infantry Battalion structure; the pre-war reorganization utilised in France in 1940, the campaign in North Africa that expanded into the Mediterranean and the return to Northwest Europe in 1944.

What is not included is the British Infantry Battalion in the Far East, as sadly I have never been able to track down the relevant documents for the British Indian Army.

As far as possible, the information included here is obtained from contemporary documents, with a list of sources and acknowledgements given at the end. There will doubtless be omissions and it has already required some update.

A quick note on spelling; I have gone with the contemporary Serjeant rather than the modern Sergeant, and organization rather than organisation, as that was how the British Army spelled it in the 1930s and 1940s (which likewise extended to mechanized and motorized).

This document gives an outline of the development of the Battalion, before looking at its component subunits in more detail. Complete descriptions of the various British Infantry Battalions discussed here are available in PDF files accessible from the below linked area of the site.

[British Army organization during the Second World War](#)

This is the first step in replacing my defunct www.bayonetstrength.150m.com site, which had wandered around the internet since about 2000. This new attempt represents the content and detail I would have very much liked to have been able to include from the outset, but has taken a great deal more time, effort and of course expense to pull together than I ever imagined.

Even then there are always gaps in my understanding, so just after sources and acknowledgements is a list of topics I am still seeking information on. If anyone reading them can give me a pointer on where to look, or more direct assistance, I would be very interested to hear from you. See the Home page for contact info.

I hope this proves of use to anyone interested in the subject.

Gary Kennedy

August 2018 (updated June 2019)

British Army Ranks

The British Army rank system is effectively divided into two parts; Officers and Other Ranks (ORs). Officers include all commissioned officers. Other Ranks include all Warrant Officers (WOs), all Serjeants and Staff-serjeants, and all Rank and File. Rank and File includes Corporals and Privates

The full rank structure for commissioned officers in the British Army in the Second World War (from most senior to most junior) is given below.

Field Marshall
 General
 Lieutenant-general
 Major-general
 Brigadier
 Colonel
 Lieutenant-colonel
 Major
 Captain
 1st Lieutenant
 2nd Lieutenant

For the purposes of this piece the most senior rank to be found in an Infantry Battalion was a Lieutenant-colonel. British Army Officers below the rank of Captain were normally referred to as Subalterns.

The full rank structure for Other Ranks in the British Army in the Second World War (from most senior to most junior) is given below.

Warrant Officer, Class I
 Warrant Officer, Class II
 Warrant Officer, Class III
 Staff-serjeant
 Serjeant
 Corporal
 Private

All of these ranks would be found within an Infantry Battalion and some require a little more explanation.

Warrant Officer - within the Infantry Battalion the post of Regimental serjeant-major (RSM) was held by a Warrant Officer, Class I, and those of Regimental quarter-master serjeant (RQMS) and Company serjeant-major (CSM) by Warrant Officers, Class II. From the late 1930s there also existed the post of Platoon serjeant-major, which ranked as Warrant Officer, Class III. This rank was abolished by 1941, when all Platoons became an officer's command.

Staff-serjeant and Serjeant - within the Infantry Battalion the post of Company quarter-master serjeant (CQMS) was held by a Staff-serjeant. A Serjeant could append his particular specialism to his rank, as in for example Provost Serjeant or Intelligence Serjeant, but his rank was still Serjeant.

Corporal - a Corporal could be appointed a Lance-serjeant, indicating he held rank over fellow Corporals, but he was not an actual Serjeant and remained a member of the Rank and File. Within a Battalion a set number of Corporals could be appointed as Lance-serjeants; it tended to be used where a Section included several Corporals and their seniority needed to be defined.

Private - similarly, a Private could be appointed a Lance-corporal, indicating he held rank over fellow Privates, but again he was not an actual Corporal. Within a Battalion a set number of Privates could be appointed as Lance-corporals.

In the British Army Private was the lowest rank a soldier could hold. Not all arms of service used the term Private, and not all Regiments of the Infantry did either. Exceptions to the term of Private within the Infantry are given below.

Regiments of Foot Guards	Guardsmen
Regiments including the title Fusiliers	Fusilier
Regiments including the title Rifle	Rifleman

British Infantry Battalion structure and terminology

The British Army used an organizational approach that was different in a number of respects to those of its allies and enemies. (This was also reflected in its Commonwealth contemporaries such as Australia, Canada and New Zealand).

In the United States, Germany and the Soviet Union, the Infantry Regiment was a tactical organization, generally composed of a Headquarters, at least two Battalions and often various types of Companies providing specialised support.

In the British Army, the Infantry Regiment was not a distinct tactical unit. An Infantry Regiment would consist of multiple Battalions, but these would not necessarily serve alongside one another. For example, in 1942 a Regiment might have one Battalion in the United Kingdom, another in the Middle East and another still in the Far East. All of these Battalions were part of their parent Regiment, and each would be likely to think of itself as 'being' the Regiment; it is not unusual to see a unit refer to itself in a war diary or history as 'the Regiment' rather than 'the Battalion'.

The Rifle Companies of a Battalion were normally identified by letter, usually A to D inclusive, though some Battalions opted for W to Z inclusive instead. Platoons were numbered through the Battalion, beginning with Headquarter Company and ending with D Company. Examples from 1940 and 1943 are shown below.

Infantry Battalion - 1940		Infantry Battalion - 1943	
Battalion Headquarters		Battalion Headquarters	
Headquarter Company		Headquarter Company	
No.1 Platoon	Signal	No.1 Platoon	Signal
No.2 Platoon	Anti-aircraft	No.2 Platoon	Administrative
No.3 Platoon	Mortar	Support Company	
No.4 Platoon	Carrier	No.3 Platoon	Mortar
No.5 Platoon	Pioneer	No.4 Platoon	Carrier
No.6 Platoon	Administrative	No.5 Platoon	Anti-tank
		No.6 Platoon	Assault Pioneer
A Company (Rifle)		A Company (Rifle)	
Nos.7 to 9 Platoons		Nos.7 to 9 Platoons	
B Company (Rifle)		B Company (Rifle)	
Nos.10 to 12 Platoons		Nos.10 to 12 Platoons	
C Company (Rifle)		C Company (Rifle)	
Nos. 13 to 15 Platoons		Nos. 13 to 15 Platoons	
D Company (Rifle)		D Company (Rifle)	
Nos. 16 to 18 Platoons		Nos. 16 to 18 Platoons	

A Battalion was a unit, the constituent parts of which were subunits. Its principle subunits were Companies, which in turn were subdivided into Platoons, which were subdivided into Sections (not Squads). In some cases Sections were further divided into Sub-sections or Detachments.

Organization of the British Infantry Battalion

1938 to 1945

The evolution of the British Infantry Battalion during the Second World War can be effectively considered in three phases.

1938 to 1940; covering the immediate pre-war years and the campaign of 1940.

1941 to 1942; encompassing the first major reorganization and the impact of the war in the Western Desert.

1943 to 1945; seeing the Battalion in its final form and incorporating new weapons and equipment.

Overview

The Infantry Battalion as detailed herein was to be found as part of an Infantry Brigade serving in an Infantry Division, and from 1942 onwards that of an Infantry Brigade within an Armoured Division. In the latter case there were detail changes made to personnel and transport (the Infantry Battalion of an Armoured Division should not be confused with the specialised Motor Battalion, which will be detailed separately). It was also used in the Infantry Brigades of the short-lived Motor Division and the later Mixed Division.

Outline development - 1938 to 1945

The British Army began its reorganization in 1937, moving towards a force with five Divisions (these were in fact Infantry Divisions, but were referred to as Divisions until mid-war) and one Mobile Division. Each Division was built around three Infantry Brigades, composed of three Infantry (Rifle) and one Infantry (Machine Gun) Battalions. At the end of 1936 a new War Establishment (W.E.) was issued for both types of Infantry Battalion.

The Rifle version consisted of a Battalion Headquarters, a Headquarter Company and four Rifle Companies. Headquarter Company commanded four Platoons (Signal, Anti-aircraft, 3-inch Mortar and Administrative) while in each Rifle Company there were four Platoons, each of three Rifle Sections. Each Rifle Section was to have one of the newly adopted Bren light machine guns with four more in the Anti-aircraft Platoon for a total of 52 Bren guns. The Mortar Platoon had four 3-inch weapons and a total of 23 anti-tank rifles were authorised throughout the Battalion.

By the spring of 1938 a new Infantry (Rifle) Battalion W.E. had been issued. The Battalion now consisted of a Headquarters, Headquarter Company and four Rifle Companies. Headquarter Company contained Signal, Anti-aircraft (four Bren guns), 3-inch Mortar (two weapons), Carrier (ten Bren gun carriers in three Sections), Pioneer and Administrative Platoons. Each Rifle Company had three Platoons, each

of three Rifle Sections, with a Bren gun per Section and now a 2-inch mortar for each Rifle Platoon Headquarters. Anti-tank rifles were authorised on the basis of one for each Rifle Platoon, four for the AA Platoon, three for the Carrier Platoon and one each for the Signal, Mortar and Administrative Platoons.

Following the rebuilding of the Army after Dunkirk the Battalion organization underwent a number of changes, which were codified in a new establishment introduced in mid-1941. The outline of a Headquarters, Headquarter Company and four Rifle Companies was retained. Headquarter Company remained largely as described above. The Anti-aircraft Platoon now had four twin Bren gun mountings, while the Mortar Platoon was increased from two to six 3-inch weapons and its transport was altered from trucks to modified Universal carriers. The Carrier Platoon was increased from ten to 13 Universal carriers, in four Sections of three machines each, with a 2-inch mortar and anti-tank rifle per Section. An extra carrier was also added to Battalion Headquarters. The outline of the Rifle Companies was as before.

This was the Battalion organization at the outset of the war in the Western Desert, and it soon became apparent that this required modification. In Headquarter Company the Pioneer Platoon was effectively deleted and its place taken by a large Anti-tank Platoon with eight 2-pdr anti-tank guns. As will be described later, the Rifle Platoons were reduced in size, losing their 2-inch mortars and anti-tank rifles.

During 1943 moves were made in Home Forces (those based in the UK) to radically alter the Infantry Battalion, chief amongst the changes being a switch to three Rifle Companies, with an accompanying increase in Rifle Platoon strength. While some units appear to have changed over to the provisional structure it was quickly made redundant by a new establishment issued in April 1943, which would define the British Infantry Battalion for the coming campaigns in Italy and Northwest Europe.

The Battalion now consisted of a Headquarters, Headquarter Company, Support Company and four Rifle Companies. Headquarter Company was now just the Signal and Administrative Platoons. The new Support Company contained the 3-inch Mortar Platoon (six weapons), Carrier Platoon (thirteen Universal carriers), Anti-tank Platoon (six towed 6-pdr anti-tank guns) and Assault Pioneer Platoon. Each Rifle Company had three Platoons, each of three Rifle Sections, with a Bren gun per Section and a 2-inch mortar per Rifle Platoon Headquarters. Each Rifle Company Headquarters added a Universal carrier and had three projectors, infantry, anti-tank (PIAT) for issue to the Rifle Platoons. There were also Bren guns and PIATs distributed through both Headquarter and Support Company. With some minor amendments along the way this was the authorised Battalion organization used from the invasion of Sicily to the end of the war in Europe in May 1945.

Evolution of the British Infantry Battalion, 1938 to 1945

Detail	1938	1940	1941	1942(a)	1942(a)	1943	1944
i). Personnel							
Officers	22	22	33	36	36	36	36
Warrant officers	18	18	7	7	8	8	8
Staff-serjeants	5	5	5	6	5	6	6
Serjeants	27	28	34	42	42	37	38
Corporals	52	53	71	72	76	71	72
Privates	544	653	656	636	615	687	685
Total, all ranks (including attached)	668	779	806	799	782	845	845
ii). Transport							
Bicycles	35	35	31	31	31	33	33
Motorcycles	14	14	27	19	16	27	26
Cars (4-seater)	1	1	1	1	0	1	1
Cars (2-seater)	0	0	6	0	1	3	0
Cars, 5-cwt, 4x4	0	0	0	8	13	8	11
Trucks, 8-cwt (6-seater)	9	9	0	0	0	0	0
Trucks, 15-cwt	33	32	35	45	39	28	30
Lorries, 30-cwt	12	13	1	1	0	0	0
Lorries, 3-ton	0	0	13	13	16	13	14
Portees (anti-tank guns), 3-ton	0	0	0	9	9	0	0
Carriers, Bren gun	10	10	0	0	0	0	0
Carriers, Loyd	0	0	0	0	0	12	12
Carriers, Universal	0	0	14	14	14	19	19
Carriers, Universal, 3-inch mortar	0	0	7	7	7	7	7
iii). Weapons							
Pistols	45	45	47	55	113	36	36
Rifles	623	734	717	703	628	585	583
Machine carbines	0	0	42	41	41	176	178
Light machine guns	50	50	50	59	50	63	63
Twin light machine guns	0	0	4	4	11	0	0
Anti-tank rifles, .55-inch	22	22	25	23	21	0	0
Projectors, infantry, anti-tank	0	0	0	0	0	23	23
2-inch mortars	12	12	16	8	8	26	26
3-inch mortars	2	2	6	6	6	6	6
2-pdr anti-tank guns	0	0	0	8	8	0	0
6-pdr anti-tank guns	0	0	0	0	0	6	6
Cup dischargers (rifles)	0	0	0	49	57	0	0
Signal pistols	24	24	38	38	38	38	39

a). Theatre specific establishments for the Middle East (North Africa)

The elements of the Battalion, 1938 to 1945

Below follows a more detailed examination of each subunit (defined herein as Companies, Platoons and Sections) within the Battalion. As some of these changed relatively little over the course of time a single description will suffice while for others their evolution requires greater depth.

Battalion Headquarters (1938 to 1945)

Headquarters provided the Battalion with its command staff and also personnel for intelligence, policing and medical duties.

The Battalion commander was a Lieutenant-colonel, with a Major as his Second-in-command. Acting as aide to the commander was an Adjutant (normally a Captain but possibly a Lieutenant). Also found at Battalion Headquarters was the Regimental serjeant-major (RSM), who with the rank of Warrant Officer, Class I, was the most senior NCO of the Battalion. He was generally responsible for establishing the Battalion Headquarters site and also monitored ammunition supply.

As regards transport, the Lieutenant-colonel had a four-seater car and the Major a two-seater, though the latter vehicles gradually gave way to US supplied Jeeps. From 1941 a Universal carrier was added for use by the commander in forward areas. Throughout the war Battalion Headquarters included a 15-cwt truck for use as an office, fitted with lighting and map boards and staffed by two clerks.

The Intelligence Section consisted of a Subaltern (either a 1st or 2nd Lieutenant), a Serjeant and six men. Its duties included obtaining information on the likely dispositions of enemy forces, by means of interrogation of prisoners of war and examination of captured documents, as well as maintaining liaison with friendly units and higher headquarters. Ultimately its role was to provide the Battalion commander with the most up to date picture of the battlefield to assist his decision making.

Early on its transport was based on an 8-cwt truck with a motorcycle for the Serjeant and bicycles for three of the men. The 8-cwt truck was soon upgraded to a 15-cwt and by 1943 all six men had bicycles; also from this date for Battalions in an Armoured Division the bicycles were replaced by motorcycles.

The other major role of Battalion Headquarters was medical services. A Medical Officer (MO) from the Royal Army Medical Corps (RAMC) was attached to all Battalion or Regimental sized units. In the Infantry Battalion he was assisted by a Serjeant, an Orderly and 20 stretcher-bearers. All of these were infantrymen, not RAMC personnel, and the MO undertook their training in basic first aid procedures. A Regimental Aid Post (RAP) was established close to the Battalion Headquarters site, with casualties either making their own way as walking wounded or being brought by the stretcher-bearers who were attached to the Companies.

Medical section transport was initially a 15-cwt truck for the MO and his equipment. This was first changed to a 30-cwt lorry, before becoming two 15-cwt trucks by 1943.

The final element of Battalion Headquarters was the Regimental Police, throughout consisting of a Provost Serjeant and three policemen, each with a motorcycle.

Aside from detail changes, the only significant alteration to Battalion Headquarters came during 1944. From April 1943 each Rifle Company had carried two snipers on its Headquarters (see later). These eight snipers were subsequently moved from Rifle Company Headquarters to Battalion Headquarters, where they were formed into a Sniper Section of a Serjeant, Corporal, two Lance-corporals and four Privates. This change enabled it to operate more closely with the Intelligence Section, particularly in extending its observation capabilities. I have not found a dated amendment for this change, however it appears to have authorised in May 1944.

Headquarter Company

This part of the Battalion underwent a major change in its structure with the formation of Support Company (see later) in 1943. From 1938 to 1943 Headquarter Company contained all those Platoons not part of Rifle Companies, which consisted of the Signal, Anti-aircraft, Mortar, Carrier, Pioneer, Administrative and (added latterly in the Middle East) Anti-tank Platoons. With the reorganization of the Infantry Battalion in Spring 1943 Headquarter Company was reduced to the Signal and Administrative Platoons, all other subunits (excepting the deleted AA Platoon) moving to the Support Company. To avoid duplication those Platoons which left Headquarter Company will be reviewed under the Support Company heading.

Signal Platoon (1938 to 1945) - this is a subunit which most people have heard of but very few know much about. That is partly because in writing this I came to conclude there is very little detailed description on the means and methods of communication used by the Signal Platoon.

The fundamental role of the Signal Platoon was to ensure that Battalion Headquarters was able to communicate with the Rifle Companies and certain support Platoons, such as Carrier and Mortar. It was also necessary to keep contact with higher Headquarters, normally Brigade, and for this Divisional Signals provided a Brigade Signal Section to operate a Rear Link set. Communication was also required with any attached troops, though this would normally involve signal resources additional to those of the Battalion alone.

The strength of the Signal Platoon remained largely unaltered during the course of the war. In 1938 the Platoon consisted of a Signal officer and Serjeant and 32 men, plus two attached drivers. It had an 8-cwt truck for the Subaltern and a 15-cwt for stores. The Signal Serjeant and two men had motorcycles and eight other personnel had bicycles. By 1941 the 8-cwt truck was replaced by a second 15-cwt truck and the two drivers were counted on the strength of the Signal Platoon itself. In 1943 the

Signal Platoon was still 36 all ranks, with 5 bicycles, 3 motorcycles and now three 15-cwt trucks; during 1944 one motorcycle was replaced by a 5-cwt car (Jeep) towing a 10-cwt trailer.

Methods of communication (see Annex A for more detail)

The Signal Platoon would set up what was termed a Signal Office. This controlled traffic passing between Battalion and Brigade Headquarters and also communications to and from Battalion subunits. In the pre-war years the principal methods of communication at Battalion level were line, orderly and visual.

Line communication used a combination of switchboards linked by cable out to field telephones held by subunits, principally the Rifle Companies. While line was an established technology it had limitations; cable was prone to breaking and experience in the Great War had proven it was by no means totally secure. The personnel of the Signal Platoon had to lay the lines from the switchboard to the outstations and when the Battalion or subunits moved the cable had to be retrieved and laid again at the new location.

The most basic way of carrying messages, either verbal or written, was by orderlies who were equipped with either a bicycle or a motorcycle. Orderlies were also found in most Company and Platoon headquarters, but were not part of the Signal Platoon proper. Latterly the term signaller-orderly was introduced to differentiate those in the Signal Platoon, though this did not alter their role.

Visual means of communication was undertaken by flags and lamps, also ground indicators for identification to friendly aircraft.

The major development in Battalion level communications came with the introduction of man-portable wireless sets. First to see service was the No.18 set, which began production in 1940. It does not appear that the No.18 set was issued to Battalions of the British Expeditionary Force (BEF) for the 1940 campaign, but it became the standard Infantry Battalion wireless set from 1941 onwards. The scale of issue is a somewhat vexed question, and is covered in Annex A. In broad terms the No.18 set was used to link Battalion Headquarters with the commanders of the four Rifle Companies and the Mortar and Carrier Platoons.

The other important wireless set was the No.38, which began to be issued during 1942. This was a short range set, the allocation of which underwent several revisions, as covered in Annex A. While the No.18 set was operated by signallers from the Signal Platoon, detached to subunits as required, the No.38 was handled by the men of the Rifle Companies and Platoons themselves.

Administrative Platoon (1938 to 1945) - this existed in part because of the Brigade system of the British Army. In the 'Continental system' an Infantry Regiment would include some form of Regimental Train to handle the carriage of supplies and ammunition. In the British Brigade these duties were in part devolved to Battalions in

the form of the Administrative Platoon, while the more substantial Supply and Transport (S&T) was undertaken by Divisional troops.

Pre-war the British Army had undertaken to replace all horse-drawn transport with motor vehicles. Initially the Administrative Platoon was built around a dozen 30-cwt lorries (1½ British 'long' tons), which by 1941 were largely replaced by 3-ton lorries. Under the 1940 establishment the role of the 30-cwts was;

5 for Company rations and cook (Headquarter Company and four Rifle Companies)

2 for Regimental mess (one each for officers' and serjeants' mess)

1 for technical stores

1 for petrol

1 for baggage

2 for spare anti-gas capes and reserve clothing

There were also four 15-cwt trucks (three-quarter ton) for reserve ammunition (three for small arms and one for mortar), and two more 15-cwts as water tanks.

By 1943 the twelve 3-tonners were tasked as;

5 for Company rations and cook (Support Company and four Rifle Companies)

1 for Officers' mess and Headquarter Company cooks

2 for mortar bombs (one each for 2-inch and 3-inch ammunition)

1 for petrol

1 for Quarter-master stores

1 for mechanics and Motor Transport stores

1 for rations and also to draw a 180-gallon water trailer

There was now a single 15-cwt truck for small arms ammunition. The allocation as of late 1944 changed slightly by adding a 15-cwt water truck and a thirteenth 3-ton lorry for anti-gas stores, while the mechanics' lorry gained a winch.

As well as transport assets, the Administrative Platoon gathered the specialists and tradesmen needed to keep the Battalion fed and equipped. This included the cooks, originally infantrymen who were transferred to the Army Catering Corps (ACC) when it was formed in 1941. There were numerous storemen, mechanics, and clerks, while other constant posts included butcher, postman and equipment repairer.

Anti-aircraft Platoon (1938 to 1942) - this was part of Headquarter Company on both the standard and Middle East war establishment and was deleted from the Battalion under the 1943 reorganization.

The principle role of this subunit was the defence of the Battalion Headquarters and Headquarter Company areas against both air and ground attack, and it was sometimes termed the Protection Platoon. In an emergency it had to be able to act as a Rifle Platoon, albeit a rather small one.

The Platoon was commanded by either a Serjeant or Warrant Officer (Class III) and was built around four Detachments. Initially each Detachment had its own 15-cwt truck, which carried both a Bren light machine gun (on a Motley mounting in the rear of the vehicle) and an anti-tank rifle. By 1941 the Detachment's firepower was increased with the introduction of a twin Bren mounting, while its transport was changed to a light car or latterly a Jeep. This move saw two 15-cwt trucks added to the Platoon for the carriage of ammunition and stores.

Support Company (1943 to 1945)

Support Company was officially founded with the 1943 War Establishment. Before then all Platoons outside of the four Rifle Companies had been administered by Headquarter Company, which saw its commander having to cope with six Platoons each undertaking very different roles.

The four mainstays of Support Company were the Mortar Platoon, the Carrier Platoon, the Anti-tank Platoon and the Pioneer Platoon.

Mortar Platoon (1938 to 1945) - it is important to examine the Mortar Platoon in its two very different formats.

Under the 1938 establishment the Platoon was commanded by a Warrant Officer III, and had just two Detachments, each with a single mortar. A 15-cwt truck was provided for each Detachment, carrying the mortar, ammunition and equipment, while the crew of a Serjeant and five men marched.

The second incarnation of the Mortar Platoon appeared in 1941 and reflected the increased importance of the weapon and its place in the Battalion. The Platoon commander was now an officer, initially a Subaltern but promoted to a Captain by August 1944. Headquarters had its own carrier, without a mortar, plus three motorcycles and three 15-cwt trucks, the latter for ammunition and equipment.

There were now six Detachments, each still with a single mortar. The new Detachment was five strong, with a commander (Serjeants in Detachments 2, 4 and 6, Lance-serjeants in Detachments 1, 3 and 5), three mortar numbers and a driver-mechanic for the carrier. The adoption of the Universal carrier meant the Detachment was more mobile, largely self-contained and had a degree of protection.

The mortar could not be fired from the carrier as it was stowed disassembled on the rear of the vehicle, so the crew was still required to operate the weapon in the open.

In 1939 the maximum range of the 3-inch mortar was quoted as 1600 yards, which by early 1943 had been increased to 2700 yards. The 1944 manual gave range as up to 1500 yards using Charge I and 2800 yards with the more powerful Charge II.

From 1939 to 1943 the training literature for the 3-inch mortar identified the Detachment of a single weapon as the principle fire unit. The early short range of the mortar meant that Detachments needed to work closely with the leading troops to deliver accurate and effective fire, and up to 1941 only two Rifle Companies could be so supported.

The increase to six weapons did not bring an immediate change to the principle of the Detachment being the basic fire unit. The February 1943 infantry training manual noted it was now possible for each of the four Rifle Companies to be allocated a single Detachment, leaving two to form either a Battalion reserve or increase the firepower available to one or more leading Companies. This clearly dissipated the weight of fire that the Platoon could bring down on a single target, especially if the most the Platoon commander could expect to have under his direct control was as little as two reserve Detachments.

At the beginning of 1944 new instructions for handling the Mortar Platoon emerged. These outlined a reorganization of the Platoon to operate as a Headquarters and three Sections, each Section having two Detachments, with the Section now becoming the principle unit of fire. Under the new guidance the Platoon would more often be used as a single entity, with the Platoon commander exercising much greater control over his weapons. Increased communication equipment was allocated to the Platoon (see Annex A for more detail) to allow it to establish observation posts (OPs) closer to the leading Companies without necessarily having to expose the Detachments themselves to undue enemy fire.

The option of placing mortars under the command of leading Rifle Companies was not entirely discarded. When a Section of two mortars was detailed to provide direct support to a 'main effort' Company the senior Detachment commander would move with the Company Headquarters as a Mobile Fire Controller (MFC). He would be in wireless communication with the Mortar Section, which was positioned further back than under the previous system, and direct their fire as required. In the event that the wireless failed, the junior Detachment commander would control fire from an OP using a telephone link back to the mortars.

Carrier Platoon (1938 to 1945) - the carrier was introduced into the Infantry Battalion in 1938 and paired the Army's recently adopted light machine gun with the new vehicle, the first variant of which was resultantly known as the Bren carrier.

The carrier weighed approximately 4-tons, dependent upon the model and role, and its dimensions were within the range of 12 foot long by 7 foot wide by 5 foot high. The body was armoured to the front (10-mm), sides and rear (both 7-mm). It was

only considered protected against small arms fire and shell splinters and there was no overhead cover. It was fully tracked with a maximum speed of around 30 mph.

There was a small crew compartment at the front of the vehicle, with the driver seated on the right hand side and the carrier commander on his left. At their backs was a division plate, and behind that the engine, bisecting the rear compartment and forming two long, narrow, parallel sections either side of it. In the early layout the third crew member was seated in the section behind the driver, with later variants adding a seat on the other side for a fourth man. There were no doors and the crew were required to climb over the upper lip of the armour to enter and exit.

The armour plate protecting the commander's position extended out further than that on the driver's side, creating enough space for the Bren, or an anti-tank rifle, to be operated in the vehicle, firing through a narrow vertical aperture at the front. There was also a tall anti-aircraft mounting that could be fitted in various places in the right hand rear compartment, at its front, side or rear

The principle role of the Carrier Platoon was to provide the infantry with the means to move a small number of men over exposed ground while under some degree of protection from enemy fire. This would allow them to reach a position where two of them, the commander and gunner, could dismount with the Bren and move into a firing position while the carrier withdrew to cover. The gun team would then lay down fire under which the riflemen of the Battalion could advance.

In terms of organization the Carrier Platoon can be considered to have existed in three distinct forms; the original model of 1938, the expanded version of 1941-42 (itself modified in the desert campaigns) and the final variant of 1943-45.

Under the 1938 establishment the Platoon consisted of a Headquarters with a single carrier for the Platoon commander, a Subaltern, who led three Sections of three carriers each. Aside from its 15-cwt truck, and two men who were attached from the Administrative Platoon, the Carrier Platoon effectively consisted of nothing more than its ten carriers and their three-man crews.

The 1941 establishment made a number of important changes, chief of which was the addition of a fourth Section to bring the Platoon up to 13 carriers. Platoon Headquarters was expanded, the commander being promoted to a Captain and now assisted by a Subaltern. This was accompanied by the appearance of a Motorcycle Section. This looks to have been a development of post Dunkirk preparations by Home Forces for a possible German landing in the UK in late 1940, with Battalions directed to establish provisional Motorcycle Platoons for use in Home Defence.

These provisional Motorcycle Platoons were subsequently merged into the enlarged Carrier Platoon of the 1941 Higher Establishment Infantry Battalion. Now termed a Section it was authorised eight solo motorcycles (for a Serjeant, Corporal and six Privates) and four motorcycle combinations. Each combination carried three men,

including a Corporal in the first trio. One man per combination was armed with the US Thompson submachine gun while the remainder of the Section carried rifles.

The Motorcycle Section only appears to have been used by Battalions on Home Service. In August 1942 an amendment to the establishment replaced the motorcycle combinations with Jeeps.

For service in the Middle East the Carrier Platoon underwent surprisingly little amendment, aside from weaponry, for which see below. The Motorcycle Section was definitely absent in the desert, the Platoon having a Headquarters with a carrier and a 15-cwt truck, and four Sections of three carriers each.

April 1943 brought the final wartime reorganization of the Carrier Platoon. Platoon Headquarters transport now became a carrier, two 15-cwt trucks and three solo motorcycles. Each of the four Sections also added a motorcycle orderly while the crew of each Section carrier was increased from three men to four.

The structure of the Carrier Section underwent a number of changes during the course of the war. In 1938 the Section consisted of carrier one, crewed by a Serjeant, LMG number and a driver-mechanic, while carriers two and three each had a Corporal, LMG number and a driver-mechanic. Each man was armed with a rifle and each carrier had a Bren light machine gun, supplemented by an anti-tank rifle in the Serjeant's vehicle. The only change made with the mid-1941 establishment was the introduction of a 2-inch mortar, allocated to carrier two.

The carrier model of the 2-inch mortar could be secured to the top cover of the centrally placed engine. This provided a secure position from which the mortar could fire either angled or practically level, turning it into a gun almost. It was still able to be dismounted and fired from the ground as normal.

Under the Middle East establishments the firepower of the Section increased, with each vehicle carrying a Bren gun, an anti-tank rifle and a grenade discharger cup for one of the crew's rifles, with the 2-inch mortar being deleted.

The final version of the Carrier Section came with the 1943 establishment. Carrier one now had a Serjeant, two LMG numbers and a driver-mechanic, while carriers two and three each had a Corporal, two LMG numbers and a driver-mechanic. Each vehicle carried a Bren gun, with a PIAT (projector, infantry, anti-tank, the replacement for the anti-tank rifle) in carrier one and a 2-inch mortar in carrier two. A motorcycle orderly armed with a Sten gun completed the Section, now 13 strong. Carrier Section crews were still armed with rifles, excepting the gunner who now counted the Bren as his individual weapon.

Wireless communication was introduced to the Carrier Platoon around 1942. Each Section could net with either the Headquarters of a Rifle Company it was supporting, or let the Platoon commander stay in touch with his Sections, even if range was somewhat limited. See Annex A for more detail.

In terms of its tactical usage, the Carrier Platoon was (and in some respects still is) apt to cause confusion. The training literature of the day was often devoted to explaining what the carrier was not and how it should not be used. Despite its tracks it was not a light tank; its armour plate was proof against rifle calibre bullets but not heavier rounds, and while it could shield against shell splinters the lack of overhead protection made the crew vulnerable to airburst and even hand grenades.

At its best the Carrier Platoon represented an impressive concentration of firepower, each Section having the same number of Bren guns as a Rifle Platoon, combined with speed and mobility. During the early years of the war there had been cases where bold handling of carriers had achieved local successes, the sudden appearance of light armoured vehicles armed with machine guns destroying the resolve of enemy troops with no anti-tank weapons to hand. Its speed and mobility was demonstrated perhaps to fullest effect in the desert campaigns.

The last training document of the war years (Infantry Training Part V - The Carrier Platoon) issued in November 1943 still paid great attention to the offensive role of the carrier, expecting one or two Sections to be detached to support an equivalent number of Rifle Companies in the attack, with the balance held back under the Carrier Platoon commander as a mobile reserve. The role of the carrier crews as providing dismounted fire support was also reinforced (*"when in doubt, get out!"*).

By 1943 the battlefield had become a much more hostile place for armoured vehicles however, the German Army introducing a new range of anti-tank grenades as well as handheld weapons capable of destroying a tank, let alone a carrier. The mountains of Italy and the hedgerows of Normandy also curtailed the mobility of the carrier. Carriers had already been appropriated as a means of moving supplies and equipment in forward areas as well as evacuating wounded personnel. This was far from the offensive minded role envisaged back in 1938, but proved no less useful. Jeeps and trucks were vulnerable to even the most meagre enemy fire, and over some terrain wheeled vehicles simply could not cope while tracked carriers could.

As an aside, I think that in the internet age a school of thought has emerged via forums that the utility of the carrier was so reduced, particularly in the campaigns of 1944-45, that 'most' units either dismounted their carrier personnel to fill out the Rifle Companies, or relegated their carriers to purely haulage duties. With more than 100 British Infantry Battalions serving in 21 Army Group alone it would need over fifty units to have disbanded their Carrier Platoons for it to be more common than not, and regrettably I have not seen any contemporary analysis on the subject to support or disprove the notion.

Curiously, at the same time there is another well repeated argument that 'most' carriers were significantly 'up-gunned' by their crews, using a variety of weapons including Browning .30-cal and .50-cal machine guns as well as Vickers medium machine guns (not to be confused with those handled by machine gun units proper,

who by 1943 were themselves carrier equipped). Here at least there is photographic evidence that can be cited, as well as examples given in unit histories. The problem again to my mind is establishing how common this was. An Infantry Division of 1944 had almost 600 carriers authorised, of which 180 were found in infantry Carrier Platoons and Reconnaissance Regiment Scout Troops, which taken across 10 Infantry Divisions makes a potential 1800 carriers; could over 900 of those realistically be fitted with scrounged Allied and/or enemy weapons? My instinct says no, but again how to prove the idea one way or another I do not know.

One officially recognised augmentation came to the Carrier Platoon in 1944 in the form of the flamethrower. Britain and Canada had spent a good deal of time and effort on the development of flame weapons, not all of which were successful. In 1944 both nations adopted the Wasp Mark 2, a joint design between them. This could be fitted into a Universal carrier, firing through the front armour aperture and fed from two fuel tanks mounted in the rear compartments. The Canadian Army disliked the layout of the Wasp Mark 2, preferring a single fuel tank sited outside the compartments, to simplify fitting and maintenance (the Wasp Mk2C).

Canadian reports give the scale of issue as eight per Infantry Battalion (with the same for each Reconnaissance Regiment and Motor Battalion). It would seem reasonable to assume this was the also the figure for British allocation. The Wasp required the carrier to be modified and was regarded as an 'occasional' weapon, held by Ordnance Depots and issued as required. The first mention in British establishments is in an amendment from April 1945, which allows for six carriers to be replaced by Wasp armed vehicles, with an extra 3-ton lorry added to the Administrative Platoon for carriage of stores.

As will be mentioned later, Rifle Company commanders received a Universal carrier from 1943 onwards, the Battalion commander having got his several years earlier (see above). These were extra carriers, provided for on the relevant War Establishment, and not appropriated from the Carrier Platoon.

Anti-tank Platoon (1942 to 1945) - charting the development of the Anti-tank Platoon within the Infantry Battalion presents a number of challenges, key among them being when to begin from.

In the pre-war reorganization of the Infantry Division, Machine Gun Battalions were to include an Anti-tank Company of 16 guns in four Platoons. This role was removed in 1938 with the addition of Anti-tank Regiments, RA, to Divisions. In 1939 Infantry Brigades began to raise Anti-tank Companies from infantry personnel, based on three Platoons of three guns each, the weapons being French supplied 25-mm guns. These Companies were mostly disbanded by early 1941.

This leaves a gap of almost two years before the subject of organic Infantry Battalion anti-tank guns is next addressed. It is known from accounts of the units involved that Infantry Battalions participating in the invasion of North Africa in November 1942 had

2-pdr anti-tank guns, which are not shown on the War Establishment table. What is available though is an amendment issued in August 1942 to the June 1941 table, under which Battalions involved in the invasion should have been operating.

The amendment simply states that for Battalions issued with 2-pdr guns that other ranks could be reduced by seven Privates and increased by one Serjeant, three Lance-serjeants and three Corporals. My interpretation of this would be to furnish a Platoon Serjeant and six Detachment commanders for a total of six 2-pdr guns. Frustratingly, there is no mention of an increase in transport to move the guns and their ammunition. It seems the personnel of the Platoon would have to be found by reassigning men from the existing strength of the Battalion. The closest example in terms of dates for an Anti-tank Platoon with six 2-pdr guns comes from a Reconnaissance Regiment in early 1942; their Troop (Platoon) had 2 officers and 46 men, four motorcycles, two 15-cwt trucks and six Portees, each with a 2-pdr gun; this Anti-tank Troop also had a light reconnaissance car, which would be unlikely to feature in an Infantry Battalion in 1942.

In 1942 a new War Establishment was issued for use specifically by Infantry Battalions in the Middle East. The fighting in North Africa had demonstrated the suddenness with which units could find themselves under attack by Axis armour, while improved marks of Panzer were showing the anti-tank rifle was no longer fit for purpose. Some Battalions had responded in 1941 by pressing into service captured German guns as an immediate improvised answer.

In April 1942 Infantry Battalions in the Middle East were authorised an Anti-tank Platoon serving eight 2-pdr guns. At over 70 all ranks it was arguably more of a Company than a Platoon. It was subdivided into two Detachments, each of two Sections, with two guns per Section. The 2-pdr was the Army's standard anti-tank gun in 1938 and when introduced was considered an effective weapon, firing a solid shot armour piercing round capable of defeating the armour of most tanks then in service. Maximum effective range was cited as up to 2000 yards, though the greatest accuracy came at under 600 yards. The weapon was towed on two wheels, which could be removed to lower the silhouette. In this arrangement the gun sat on a tripod, two legs folding out from the front while the third was provided by the towing arm. When the tripod mount was used the gun could be traversed through a full 360 degrees without the crew having to shift gun's mounting. A shield was fitted to offer some protection for the gun numbers from small arms fire and shell splinters.

The problem with the 2-pdr was that by 1942 its capability was being increasingly left behind by developments in the armour of the Panzer III and Panzer IV in particular. Its chief user remained the Royal Artillery, who were beginning to transition to a new weapon, the 6-pdr (see below), which created a surplus of 2-pdr guns in theatre. The infantry needed a superior weapon to the anti-tank rifle which formed their current defence against Panzers, and by the end of 1941 was only capable of inflicting the most marginal damage to Axis tanks. Even so, the issue of the 2-pdr

anti-tank gun to the infantry felt akin to being given 'hand me downs' from someone who had moved onto better things.

In the desert the 2-pdr was carried 'Portee' on the flatbed of a 3-ton lorry. This afforded mobility but also significantly increased the target available to German and Italian troops, as the Royal Artillery gunners had already found to their cost. The gun could be off-loaded and fired from its own wheels, or the mounting as described, but this all took time, and even then, in the often featureless terrain of the North African battlefields there was precious little cover to be found.

By 1943 the 6-pdr was becoming more widely available, enough for issue to Infantry Battalions. The initial allocation was on the basis of four 2-pdr and four 6-pdr guns per Battalion, with the eventual aim being eight 6-pdr guns.

Back in the United Kingdom the new establishment of April 1943 brought in the Anti-tank Platoon that would be used through the campaigns in Italy and Northwest Europe. It was based on the 6-pdr gun but moved away from the Portee concept and introduced a new vehicle to the Infantry Battalion. The Loyd carrier (one of the most misspelt items of British equipment) bore a superficial resemblance to the Universal carrier but was a different vehicle. The driver sat centrally and there was no mounting for a Bren gun. While there was light armour plating at the front and sides there was none at the rear and the only overhead protection came from a folding canvas hood. The engine was at the back of the vehicle, taking up a good deal of the compartment space.

After the long reliance on the 2-pdr weapon, the 6-pdr anti-tank gun gave the infantry something far more capable of dealing with German tanks and self-propelled guns, though it would struggle against the frontal armour of the late war machines. It had a maximum effective range of 1200 yards, though engagement beyond 800 yards was not recommended. Ammunition for the 6-pdr was initially armour piercing and high explosive, the latter offering an important fire support option for the infantry. Newer armour piercing ammunition was introduced by 1944 which offered much greater penetration and kept the gun relevant.

The 6-pdr was a towed weapon fired directly from its carriage and served by a five-man crew. As well as the normal gun shield auxiliary side-shields were provided, carried on the outside of the Loyd, but these seem to have been rarely deployed.

The 1943 Anti-tank Platoon was organised as a Headquarters and three Sections, each Section with two Detachments consisting of one 6-pdr gun and two Loyd carriers. Platoon Headquarters added a Universal carrier for the commander. Each Detachment was equipped with a Bren gun for defence against enemy infantry and a 2-inch mortar with illumination and smoke bombs.

Experience had shown that anti-tank guns gained the best results when they were deployed in well camouflaged prepared positions. The role of the Platoon was to

protect the immediate location occupied by the Battalion. Its guns were to be deployed in a mutually supporting manner, covering the most likely avenues of enemy attack. Alternative positions were recommended for guns to move to once they were spotted. The key element of a successful anti-tank gun defence was known to be surprise, with the first few shots likely to do the most damage before the enemy knew where to direct their return fire.

Towed guns always presented problems in more mobile situations. They were entirely vulnerable both while travelling and being deployed and once setup the gun shield provided only marginal cover at best to the crew. In offensive operations the guns needed to be ready to quickly move up to a recently captured objective to provide defence against counterattack. This could see Sections of two guns allocated directly to Rifle Companies, though ideally one Section would need to be maintained as a Battalion reserve. During an advance to contact the leading Rifle Company would normally expect two guns to be in direct support of it.

There was no wireless communication allocated for the Anti-tank Platoon. Each Section included a motorcycle orderly but there was no line or radio equipment.

Pioneer, later Assault Pioneer, Platoon (1938 to 1945) - aside from perhaps the Signal Platoon, the Pioneer Platoon is probably the least examined element of the Infantry Battalion.

The organization of the Platoon changed little over the course of the war. Initially commanded by a Warrant Officer III, then a Subaltern from 1941, it consisted of a group of tradesmen (bricklayer, mason and carpenters) and originally ten Pioneers, with a truck, later a lorry, for stores and equipment. In 1938 the most immediate role for the Platoon was perceived as anti-gas duties, quickly attempting to clear areas contaminated by mustard gas. Under the Middle East establishment the Pioneer Platoon as such was deactivated, with the tradesmen and just four pioneers joining the Administrative Platoon.

By 1943 the potential for gas warfare seemed to have largely faded. The Platoon was renamed the Assault Pioneer Platoon, seemingly in an attempt to raise awareness of its value. It was now organised as a Pioneer Section, with the tradesmen and a 3-ton lorry, and two Assault Sections, each of four pioneers (one a Corporal) and driver with a Jeep, latterly adding a trailer, for tools and explosives.

From mid-war onwards the attention of the Assault Pioneer Platoon switched to a combination of mine removal and obstacle destruction. The German Army introduced a bewildering array of mines which would take a heavy toll on Allied personnel. By 1943 the Platoon was authorised eight 'Polish' mine detector sets, which could locate buried metallic objects. Later types of German mines deliberately omitted metal casings to nullify the use of such equipment, meaning much of the detection as well as removal had to be done by hand, probing suspect ground.

Other equipment available to the Platoon was the Bangalore Torpedo, two full sets, and also the Battalion's stock of No.75 anti-tank grenades. A weapon often attributed to the Assault Pioneer Platoon is the 'Lifebouy' man pack flamethrower. It seems that, like the Wasp kit for carriers, these were kept in stores and issued as required for particular operations, rather than held as standard. They only became available from the latter half of 1944.

The Rifle Company (1938 to 1945)

The foundation of the Infantry Battalion was its riflemen. Over the various War Establishments issued for the Battalion the basic outlined remained unchanged; four Rifle Companies, each with a Headquarters commanding three Rifle Platoons, each with a Headquarters commanding three Rifle Sections. The authorised strength of the Rifle Section altered multiple times, starting at eight men, rising briefly to eleven before being trimmed back to ten, dropping to nine men under the Middle East establishments, before settling back at ten from 1943 onwards.

The Rifle Platoon of the pre-war period provided the template that would be adapted over the coming seven years. Platoon Headquarters consisted of an officer, termed a Subaltern, who could be a 1st or more usually a 2nd Lieutenant. In the late 1930s the British Army had introduced a new rank, that of Warrant Officer, Class III, also known as a Platoon Serjeant-major. Two of the three Platoons in each Rifle Company were commanded by a WOIII to alleviate the shortage of young officers.

Also in Headquarters was a Platoon Serjeant, who acted as second-in-command in the absence of the officer or WOIII. There was then an orderly with a bicycle, a batman for the officer (note this post was deleted when a WOIII commanded) and two men responsible for the Platoon's 2-inch mortar. Also counted in Platoon Headquarters was a 15-cwt truck, for the carriage of tools, ammunition and the crew served weapons of the Platoon. The driver for this was counted on the strength of the Administrative Platoon through to 1941.

Each of the three Sections was to be eight strong, with a Corporal and seven Privates. In those Platoons with a WOIII one of the Sections was commanded by a Lance-corporal instead. Total strength for the Rifle Platoon in 1938 was 30 all ranks when led by a Subaltern and 29 all ranks with a Warrant Officer.

In terms of firepower the Platoon fielded a variety of weapons. The Platoon commander carried a revolver, either an Enfield or Webley model, in 0.38-inch calibre with a six round capacity cylinder. All other members of the Platoon were issued a rifle, either the Short, Magazine, Lee Enfield (SMLE) Mark III or its successor, the Rifle No.4. These were effectively the same weapon, though the No.4 was easier to produce. The SMLE was a bolt action rifle fed from a ten round magazine, firing the British Army's standard .303-inch calibre ammunition. In the hands of a skilled rifleman the SMLE was capable of producing a rate of fire of 15 aimed rounds per minute, despite the reloading required.

Paired with the SMLE in each Rifle Section was the Bren light machine gun. The Bren had been introduced in 1937, following a long contest to find a successor to the Lewis gun of Great War fame. Going into the final stages the Vickers-Berthier weapon seemed likely to be adopted but a new entrant appeared from a Czechoslovakian manufacturer in the shape of the ZB26. This gun, ironically chambered for the German 7.92-mm round, outshot the VB in the live firing trials and was recommended ahead of the Vickers model.

In British service the ZB26 was retooled to adopt the .303-inch round, leading to a distinctive, curved magazine due to the rimmed cartridge case of the British ammunition. The top loaded magazine held 30 rounds, however the practical maximum was found to be 28, otherwise stoppages could occur. The weapon was christened the Bren, from a contraction of Brno (where it was originally designed) and Enfield (where it was manufactured in the UK). While normally fired from its bipod each Bren was initially provided with a tripod, which could be used for firing on fixed lines, or reassembled to provide an anti-aircraft mount. There was a quick barrel change facility with a spare barrel per gun.

Pre-war it was thought that the Bren would be used primarily in a defensive role, while for offensive action rifles would suffice. The Bren gun manual of June 1939 however recognised the Bren as the principle weapon of the Rifle Section, to be operated under the direction of the Section commander. Of the seven Privates in the 1938 Section two were to act as No.1 (gunner) and No.2 (assistant) for the Bren, with the remainder serving as riflemen.

Platoon Headquarters added two more new weapons introduced at the end of the 1930s. First of these was the 2-inch mortar, which had a range of about 500 yards and was provided with both smoke and high explosive ammunition. Its principle use within the Platoon was to lay a local smoke screen and originally three rounds of smoke was provided to each one of high explosive. This ratio was subsequently reversed in early 1940. Finally came the anti-tank rifle, also known as the Boys in memory of the officer who had overseen its design but passed away prior to its introduction (note that the name is misspelt as Boyes perhaps more times than it is written correctly).

The anti-tank rifle fired a .55-inch round which could penetrate around 21-mm of armour plate at up to 300 yards. It was a bolt action weapon fed from a five round top mounted magazine. As with other weapons of its type it was extremely heavy, and was usually carried on the Platoon truck until needed. There was no standing crew and one of the Rifle Sections would operate it as required.

This was the Rifle Platoon organization in place at the outset of war then; 30 or 29 all ranks, three Bren light machine guns, one 2-inch mortar, one anti-tank rifle and one 15-cwt truck.

Company Headquarters in 1938 was two officers and ten men. The Company commander was normally a Major with a Captain as his second-in-command, though both officers could be Captains. There was also a Company Serjeant-major (the CSM, who was a Warrant Officer Class II) and a Company Quartermaster-serjeant (the CQMS, a Staff-serjeant). The CSM was principally responsible for discipline and maintenance of standards within the Company and its training when out of the line. The CQMS was largely concerned with supplies and messing, most welcome being ensuring the men got a hot meal.

Other posts present throughout the war years were those of a clerk and a storeman, three orderlies and two batmen (one for each officer) and a driver-mechanic. Transport was initially an 8-cwt truck and a 15-cwt truck, with two drivers attached from the Administrative Platoon.

Changes of 1940

In April 1940 a new 'Higher Establishment' table was published. This made a few changes to the 1938 edition, the most important being that the strength of the Rifle Section was increased to a Corporal and ten Privates, adding over 100 men to the Infantry Battalion. Given the late date at which this change appears to have been published, it is difficult to know if there was any scope for it actually to be implemented by units in the field before the German invasion of France in May 1940.

Somewhat confusingly, Army Training Memorandums (ATMs) published in 1940 and 1941 state that this increase was not intended to augment the fighting strength of the Section beyond eight men, but rather ensure it could be maintained at this level. Certainly training literature dealing with the Rifle Section continued to show eight men through to 1942.

Updates of 1941 and North African variations

In June 1941 a new Higher Establishment table was issued. In terms of the Rifle Company the following changes were made.

The Rifle Section was now ten men, with a Corporal and nine Privates. The rank of WOIII was abolished by 1941 and all Platoon commanders were 1st or 2nd Lieutenants, with an attendant batman. Each Platoon had a 15-cwt truck and Company Headquarters had two, all drivers now counted as part of the Company.

In terms of Section tactics the 1939 literature had referred to the Section moving forward with either the Bren gun or the riflemen providing covering fire. The Infantry Training, 1937, Supplement (Tactical notes for Platoon commanders) published in February 1941 expanded on this, outlining the Section being handled as two groups for 'tactical manoeuvre', termed the Rifle Group and the LMG or Bren Group.

The 1941 literature advised that while the Bren Group was illustrated as three men it could consist of fewer, even down to simply the gunner. When so divided the Rifle

Group would advance under fire from the Bren Group, and when the riflemen reached an intermediate position they would halt and provide covering fire in return so that the Bren Group could move up to a new location to lay down fire from.

A new weapon was also introduced to the Rifle Section from late 1940 onwards. The British Army received thousands of the US produced Thompson submachine gun, the first few arriving in mid-1940. They were officially added to the establishment of the Infantry Battalion at the end of 1940 on the basis of one per Rifle Section, for its commander.

The Thompson was the first submachine gun to be used by the British Army. The M1928 had gained a reputation as a 'gangster's gun' due to its use in the criminal violence that afflicted the US during the Prohibition era of the 1930s. This connection affected its chance of adoption as a military weapon however the use of submachine guns by the German Army in 1940 helped overcome US reluctance.

The original Thompson was chambered for the .45-cal round and fed from either a 20 round magazine or a large 50 round capacity drum. It was a heavy item, more so with the drum, but could deliver a devastating fusillade at close range, which the Section commander was to deploy in the final stages of an assault.

Overall these changes took the Rifle Platoon's strength to one officer and 36 men, with three Bren guns, three Thompsons, one 2-inch mortar and one anti-tank rifle, and a 15-cwt truck. Company Headquarters was now two officers and 11 men and two 15-cwt trucks (with a driver and driver-mechanic).

North Africa brought changes to the Rifle Company and Platoon by 1942. The Rifle Section was reduced by one Private and at Platoon Headquarters the 2-inch mortar and its two man detachment were both deleted, as was the anti-tank rifle. This reduced the Platoon down from 37 to 32 all ranks. While I will not claim to have seen it stated, I feel these changes were in part made to find the men needed to fill out the Anti-tank Platoon added to the Battalion at this time.

Company Headquarters added a pair of 2-inch mortars, which could be issued as required for use by Rifle Platoons, but was otherwise unchanged until late 1942, when one batman replaced a driver, bringing the Company to 108 all ranks.

1943 re-organization and the final format

At the outset of 1943 there was a move to, if not exactly reinvent the Rifle Platoon, then drastically change it. This does appear to have happened to an extent in Home Forces, but not with units in the field in North Africa.

Under the change the Platoon would have had a Headquarters, a 2-inch mortar team and a Bren Group (with one Bren), and three Rifle Sections, each of 12 men with a single Bren, for a total of 45 men, four Bren guns and a 2-inch mortar. It seems it took some heavyweight intervention for the proposal to be snuffed out, leading to a

new War Establishment being issued in April 1943. This introduced the Rifle Platoon organization that would be used through to the end of the war in Europe in 1945.

Platoon Headquarters was a Subaltern, Platoon Serjeant, batman and orderly (with bicycle) and a 2-inch Mortar Sub-section. This latter had a Lance-corporal overseeing a No.1 and No.2 serving a single such weapon. There were three ten strong Rifle Sections, each commanded by a Corporal, with a Rifle Group of six Privates and a Bren Group of a Lance-corporal, with a No.1 and No.2 for the Bren. The Platoon commander still carried a revolver, while each Section commander and the No.1 for the 2-inch mortar had Sten submachine guns. All others, apart from the Bren No.1, carried rifles. In late 1942 there had been a brief period when Bren gunners were to be issued a pistol as a sidearm, but this was abandoned in 1943.

This gave the Platoon an overall strength of one officer and 36 men, with three Bren guns and one 2-inch mortar.

Company Headquarters underwent its own modifications under the new establishment. It was increased to two officers, usually a Major and a Captain, though sometimes still two Captains, and 14 men. The latter included two dedicated snipers, something that had been missing from previous establishments. Both batmen were now also drivers, and there were three other dedicated drivers for the Company transport. This consisted of a Jeep, three 15-cwt trucks (replacing those previously held by the Rifle Platoons) and a Universal carrier, which mounted both a Bren and a 2-inch mortar.

By the end of 1944 Company Headquarters had been amended slightly; as noted previously the two snipers were bumped up to Battalion Headquarters, while the batmen-drivers swapped roles with two of the orderlies, who in turn became drivers. (One Regiment lamented the move to combining the role of batman with being a driver, recording that it 'tended to the neglect of both the officers and the vehicles').

Two new weapons were now used by the Rifle Company. Both were of British design and saddled with a poor reputation that persists to this day.

While the Thompson proved a popular weapon, it was difficult to produce in large enough numbers to satisfy the needs of the Allied armies. The British in particular greatly expanded the number of personnel to be armed with a submachine gun rather than a rifle, far more than could be supplied by the Thompson alone. Britain had already begun work on its own submachine gun design, back in 1940 when the threat of German invasion felt very real and there was an immediate need to re-equip the Army after the losses in France.

The Sten gun was a crude and rushed design. It acquired a variety of derogatory nicknames, including 'the Tin Tommy Gun' and 'Woolworth weapon'. Compared to the SMLE and Thompson, both finely machined weapons with traditional wooden furniture, the Sten looked to be a loosely assembled collection of metal piping.

It fired 9-mm ammunition, which was much easier to master than the .45-cal rounds of the Thompson, and had a 32-round capacity magazine loaded in the left hand side. The Marks I to III all followed a downward spiral in terms of quality as the demand for functional weapons in large numbers outweighed all other considerations. By 1944 the production situation had improved and the Mark V reintroduced a wooden stock and even added a fore grip. Users complaining about stoppages were frequently reminded not to use the magazine as a means of gripping the Sten when firing. These things aside, reports of unreliability persisted.

Despite the misgivings surrounding the weapon it was the standard submachine gun in both British and Canadian units in Northwest Europe. In Italy the Thompson saw continued usage.

The other new weapon was the replacement for the Boys rifle, namely the Projector, Infantry, anti-tank, or PIAT. The appearance of hollow charged munitions had allowed low velocity weapons to be used in an anti-tank role for the first time. In both US and German handheld anti-tank weapons the chosen means of delivery was rocket power, while the British opted for something entirely different.

The PIAT fired a projectile with a hollow charged warhead, similar enough to its contemporaries. What was different in the PIAT, however, was the use of a powerful spring to drive forward a spigot (a long metal rod) that entered the tail pipe of the bomb and detonated the propellant charge. It should be noted that the propellant fired the bomb, not the spring. The spring had to be compressed before the first bomb could be fired; if held correctly the ensuing recoil was sufficient to return the spigot back to the cocked position, allowing a second bomb to be placed in the trough ready for firing without needing to manually re-cock the weapon.

Despite its medieval appearance and the abuse directed towards it, both by users and historians, the PIAT did work and gave the Rifle Platoon a means to engage the majority of German tanks and self-propelled guns that might confront them. Effective range against armour was reckoned to be approximately 115 yards, although the bomb could be more accurately directed at around a quarter of this distance.

With its introduction in mid-1943 the Boys anti-tank rifle was withdrawn. The PIAT was effectively issued on a one-for-one replacement basis, with three allocated to each Rifle Company, intended to be held by Company Headquarters for issue to Platoons as required. As before there was no permanent crew, meaning one or two men from a Rifle Section would need to be assigned to operate the weapon. Given its physical requirements they would likely be on the large side.

Overleaf is a brief summary of the changes in Rifle Platoon organization.

Rifle Platoon, under W.E. ref II/1931/12B/3 - April 1938

Personnel	No.	Pistol	Rifle	Bren	2-inch	Boys
Platoon Headquarters						
Subaltern or WO Class III	1	1	-	-	-	-
Serjeant	1	-	1	-	-	-
Orderly (with bicycle)	1	-	1	-	-	-
Batman (deleted with WO III)	1	-	1	-	-	-
Mortar No.1	1	-	1	-	-	-
Mortar No.2	1	-	1	-	-	-
<i>Driver, IC (from Admin Pl)</i>	-	-	-	-	-	-
Truck, 15-cwt	-	-	-	-	1	1
Total, Headquarters	6	1	5	-	1	1
Three Rifle Sections, each						
Corporal or Lance-corporal	1	-	1	-	-	-
Rifleman	5	-	5	-	-	-
Bren No.1	1	-	1	1	-	-
Bren No.2	1	-	1	-	-	-
Total, Section	8	-	8	1	-	-
Total, Platoon	30	1	29	3	1	1

Rifle Platoon, under W.E. ref II/1931/12F/2 - June 1941

Personnel	No.	Pistol	SMG	Rifle	Bren	2-inch	Boys
Platoon Headquarters							
Subaltern	1	1	-	-	-	-	-
Serjeant	1	-	-	1	-	-	-
Orderly (with bicycle)	1	-	-	1	-	-	-
Batman	1	-	-	1	-	-	-
Mortar No.1	1	-	-	1	-	-	-
Mortar No.2	1	-	-	1	-	-	-
Driver, IC	1	-	-	1	-	-	-
Truck, 15-cwt	-	-	-	-	-	1	1
Total, Headquarters	7	1	-	6	-	1	1
Three Rifle Sections, each							
Corporal	1	-	1	-	-	-	-
Rifleman	7	-	-	7	-	-	-
Bren No.1	1	-	-	1	1	-	-
Bren No.2	1	-	-	1	-	-	-
Total, Section	10	-	1	9	1	-	-
Total, Platoon	37	1	3	33	3	1	1

Rifle Platoon, under W.E. ref VI/587/1 - April 1942

Personnel	No.	Pistol	SMG	Rifle	Bren
Platoon Headquarters					
Subaltern	1	1	-	-	-
Serjeant	1	-	-	1	-
Orderly (with bicycle)	1	-	-	1	-
Batman	1	-	-	1	-
Driver, IC	1	-	-	1	-
Truck, 15-cwt	-	-	-	-	-
Total, Headquarters	5	1	-	4	-
Three Rifle Sections, each					
Corporal	1	-	1	-	-
Rifleman	6	-	-	6	-
Bren No.1	1	-	-	1	1
Bren No.2	1	-	-	1	-
Total, Section	9	-	1	8	1
Total, Platoon	32	1	3	28	3

Rifle Platoon, under W.E. ref II/233/2 - April 1943

Personnel	No.	Pistol	SMG	Rifle	Bren	2-inch
Platoon Headquarters						
Subaltern	1	1	-	-	-	-
Serjeant	1	-	-	1	-	-
Orderly (with bicycle)	1	-	-	1	-	-
Batman	1	-	-	1	-	-
Lance-corporal	1	-	-	1	-	-
Mortar No.1	1	-	1	-	-	1
Mortar No.2	1	-	-	1	-	-
Total, Headquarters	7	1	1	5	-	1
Three Rifle Sections, each						
Corporal	1	-	1	-	-	-
Rifleman	6	-	-	6	-	-
Lance-corporal	1	-	-	1	-	-
Bren No.1	1	-	-	-	1	-
Bren No.2	1	-	-	1	-	-
Total, Section	10	-	1	8	1	-
Total, Platoon	37	1	4	29	3	1

Annex A - Signal communication

One of the hardest areas I have found to research is the communication equipment available to the Infantry Battalion. It is fairly easy to find technical specifications, however the scale of issue is another matter entirely. The following is updated from the first draft and I hope that I have now been able to resolve a number of queries regarding the allocation of wireless sets to Battalions through 1943 into 1945.

Line equipment

Within the Infantry Battalion two subunits used line equipment.

In 1938 the Signal Platoon's communication network was built around the 'Switchboard, Universal Call, 6-line', which as the designation implies could receive calls from up to six separate lines. The switchboard was fitted with its own handset or alternatively a microphone on a breastplate for hands free use. Working to the switchboard was the 'telephone set, D, Mk V', connected by 'cable, electric, D3'. Both the switchboard and telephone were powered by dry cell batteries. The D set could be used for normal voice calls or Morse code.

Another set used by the Signal Platoon was the Fullerphone. This had been introduced in the Great War when it was found that line communication was not entirely secure. Signals from telephone lines could be compromised remotely (a method termed induction allowed the enemy to eavesdrop on alternating current communications without accessing the line) or by physically tapping into the line at some point so they could overhear traffic directly.

The Fullerphone operated on direct current which was immune to induction. Earlier models could send and receive both Morse and speech, but the Mark IV model deleted the telephone handset, making it telegraph only. It was the Mark IV that was used at the outset of the Second World War. When used in conjunction with a 'superposing' unit the Fullerphone could operate on the same line as a normal voice telephone without causing any interference.

From 1939 to 1942 the likely line equipment allocated to the Signal Platoon was;

2 switchboards, UC 6-line

8 telephone sets, D

6 Fullerphones, Mk IV

2 superposing units (for Fullerphones)

8 miles, electric cable, D3 (single wire)

As the war progressed new equipment was introduced and existing items were upgraded. In the Signal Platoon the UC 6-line switchboard was replaced by the UC 10-line, which added capacity to the Battalion telephone network.

A new handset was introduced from 1941, the telephone set, L. The L set was used in the same role as the D set but the L had no Morse function, using speech only. Despite the appearance of the L set, the D remained in widespread use with the infantry through the war and after.

In late 1944 another telephone was introduced, the set, H. The D set could only be powered by its own 'local battery', while the L set could use either a local battery or be plugged into an existing civilian network and use the 'central battery' that powered it. The H set was though sound powered, needing no electric supply. It was noted that the H set could not be linked to the UC switchboard.

Another new piece of equipment was assault cable. This was made of PVC and was much lighter than the normal electric cable. A one mile length of D3 single wire cable weighed 44lbs while assault cable, No.1, weighed 14lbs per mile, and assault cable No.2 20lbs per mile. This made assault cable an easier load for signallers laying lines in an advance, however reports suggest that it proved very prone to breakage, so D3 remained the preferred option.

From mid-1943 the Signal Platoon's authorised line equipment was;

2 switchboards, UC 10-line

8 telephone sets, D or L

6 Fullerphones, Mk IV

2 superposing units (for Fullerphones)

8 miles, Electric cable, D3

6 miles, PVC assault cable (added 16 reels each of 1000 yards from January 1944)

Progress Bulletin (Infantry) No.12 of July 1944 noted the following increases;

14 telephone sets, D or L on a scale of; two each for Battalion Headquarters and Headquarter Company, five for Support Company (one for Headquarters and one for each Platoon), one per Rifle Company Headquarters, one spare.

6 telephone sets, H; noted as providing a pair each for three Observation Posts.

There are also mentions in several sources from late 1944 onwards that a third UC 10 switchboard was authorised.

A report of late 1944 suggests that few units involved in a survey had the set, H. The same report also notes that 'most' Battalions carried in excess of the 8 miles of D3 cable authorised, and recommended the figure be increased to 12 miles.

The other subunit of the Battalion issued with line equipment was the 3-inch Mortar Platoon. The earliest I have confirmed details for is 1943, when the Mortar Platoon

had eight sets of sound powered telephones, one in each carrier and one spare (note that this was not the telephone set, H, described earlier).

The sound powered sets used by the Mortar Platoon had headphones and a breast mounted microphone, which enabled the operator to keep his hands free to a large extent. Each pair of sets was connected by cable, wound on a one-third mile drum. The 1944 3-inch mortar manual suggests about 500 yards of cable was issued per pair of telephones. Oddly it does not seem the equipment was a success; the report of late 1944 cited earlier notes that few were being used by the units questioned. In the immediate post-war (September 1945) it was planned to replace the eight pairs of sound powered telephones with 16 sets D or L per Mortar Platoon.

Wireless equipment

The type of sets used is actually straightforward as there were only two man portable radios used by the British Infantry Battalion.

First to see service was the No.18 set, which began production in 1940 but does not appear to have been issued until 1941. This was a man-carried set which could both send and receive transmissions, either as voice (radiotelephony or R/T) or continuous wave (CW), which utilised Morse code.

The role of the No.18 set was to keep the Battalion commander in touch with the commanders of the Mortar and Carrier Platoons and his four Rifle Companies. For one No.18 set to communicate with another they each had to be tuned to the same frequency. This was achieved by means of a 'control' set, normally one at Battalion Headquarters, transmitting on the selected frequency to each 'outstation' (that is each other set in the group). The outstation operators would then tune their set's receiver and sender to this frequency, creating a wireless 'net' of sets capable of communicating with one another. If a portion of the unit needed to have at least two sets operating separately from the rest they would need to be allocated their own frequency and undergo their own netting procedure, and would have to be re-tuned to join the main net.

As was common for its day the No.18 used separate sender and receiver units. The operator switched between the two modes by pressing the 'pressel' switch on the handheld microphone to send and releasing to receive. The set was worn backpack style when carried and there was also an installation to mount it in a Universal carrier (with four authorised per Battalion).

It is in the area of establishing just how many wireless sets of each type units had and when that I have encountered the greatest difficulties. After some consideration I am going to concentrate on the situation as it can be confirmed from June 1943 onwards, which in itself is not a stress free exercise.

Army Form G.1098-708 (Provisional) for an Infantry Battalion issued June 1943 includes the allocation of No.18 sets within the unit. This is in large part reinforced

by a report compiled by 21st Army Group at the end of 1944, which indicates the same scale of issue at that date, even though a figure that would provide absolute confirmation is blurred in the original document.

No.18 set distribution, Infantry Battalion, 1943-1944

Subunit	No.	Comments
Battalion Headquarters	1	carrier station
	1	ground station
<u>Headquarter Company</u>		
Signal Platoon	1	carrier station (spare)
<u>Support Company</u>		
Company Headquarters	1	ground station
Mortar Platoon	1	carrier station
Carrier Platoon	1	carrier station
<u>Each Rifle Company</u>		
Company Headquarters	1	ground station
Sub-total, ground stations	6	
Sub-total, carrier stations	4	
Total, No.18 sets	10	

Each No.18 set was handled by a signaller from the Signal Platoon. Generally a man-packed set required two operators and a vehicle mounted set one. The November 1944 War Establishment does show 15 marching signallers, which could equate to six pairs (one each for Battalion Headquarters, Support Company Headquarters and each Rifle Company Headquarters) and three individuals (one each for the Battalion commander and the Mortar and Carrier Platoons). That could leave the fourth carrier set with the Signal Platoon as a spare.

The other wireless set used by the Infantry Battalion was the No.38 set, which entered service during 1942. This was a smaller and lighter radio than the No.18, and was primarily intended for use by personnel other than signallers. The No.38 could both send and receive in voice and had no alternate CW function.

The No.38 set was simpler to operate and net than the No.18, partly as it was primarily used by 'non-signallers'. It used the same principle of netting as the No.18, but more frequencies would be needed to serve up to four Rifle Companies plus the Mortar and Carrier Platoons. Netting was slightly simpler as the same operation would tune both receiver and sender to the required frequency. A throat microphone was used so the operator could still handle a weapon. The initial model put the set and battery together in a metal case, while later variants separated the two, with the set being worn on the front and the battery on the back. A junction box linked the set, battery and microphone together

There is more information available on the allocation of No.38 sets than No.18 sets, which show this underwent a number of changes. Army Form G.1098-708 of June 1943 lists the allocation of No.38 sets as being;

No.38 set distribution, Infantry Battalion, 1943-1944

Subunit	No.	Comments
<u>Headquarter Company</u>		
Signal Platoon	4	(spare)
<u>Support Company</u>		
Mortar Platoon	7	1 per carrier
Carrier Platoon	6	1 per Section plus 2 for HQ
<u>Each Rifle Company</u>		
Company Headquarters	2	1 for Company commander 1 for one Rifle Platoon only
Total, No.38 sets	25	

At the beginning of 1944 Army Training Memorandum No.47 detailed the allocation of No.38 sets as follows;

Subunit	No.	Comments
<u>Headquarter Company</u>		
Signal Platoon	4	(spare)
<u>Support Company</u>		
Mortar Platoon	13	2 per mortar plus 1 for HQ
Carrier Platoon	6	1 per Section plus 2 for HQ
<u>Each Rifle Company</u>		
Company Headquarters	2	1 for Company commander 1 for one Rifle Platoon only
Total, No.38 sets	31	

Rifle Company No.38 sets; ATM No.47 says that under the revised issue “the sets previously allotted to rifle platoons no longer exist”. This does indicate that the original scale was one No.38 set per Rifle Platoon, plus one for Company Headquarters. The ATM explained that experience had shown the operator, not unnaturally, attracted a good deal of enemy fire, meaning it was difficult for him to remain with the Platoon commander. The commander then had to decide whether he was best placed leading the Platoon, or holding back with the operator so that he could stay in touch with the Company commander.

ATM No.47 says that this led to the decision to remove Platoon level radios “until a more inconspicuous set can be developed”. With two sets it was still possible for a leading Rifle Platoon to be linked to Company Headquarters, while the Battalion pool of spare sets could allow up to two Rifle Companies to be fitted out as before.

Mortar Platoon No.38 sets; the major user of the No.38 set in the Battalion was the Mortar Platoon. In 1943 the Platoon was authorised one set per Mortar Detachment plus one for the Platoon commander. When an individual Detachment was supporting a Rifle Company it was to net its No.38 set to the frequency of the Rifle Company. Where the Mortar Platoon commander was exercising control all Detachments operating directly to him would net on his set's frequency.

With the 1944 changes to the handling of the Mortar Platoon came an increase to 13 No.38 sets, still one per carrier (total seven) and two per 15-cwt truck (three trucks, six sets). The 1944 literature says the sets on the 15-cwt trucks were intended as spares. The move from handling mortars singly to in pairs meant a Section now had two mortars and two No.38 sets. This allowed the introduction of the Mobile Fire Controller (MFC), normally the Section commander, who could go forward with a Rifle Company, equipped with a No.38 set that was netted to another at the rear Observation Post (OP), handled by the Section second-in-command. The latter could keep in contact with the two Detachments via sound powered telephone, which linked him with the Section Corporal (or Lance-corporal) located back with the base plates. In a Platoon shoot with four mortars, two MFCs could operate with leading Companies and two rear OPs could be maintained.

Carrier Platoon No.38 sets; the six No.38 sets issued were on the basis of one per Section commander, one for the Platoon commander and one spare. Given the short range of the No.38 set it was of little use in keeping the Platoon commander connected with his four Sections unless they were tightly grouped. As noted earlier the Section set was largely intended for netting with the headquarters of the Rifle Company the Section may be supporting.

Later developments

Progress Bulletin (Infantry) of December 1944 advised that authority had been given for the Mortar Platoon to replace three of its No.38 sets with three No.18 sets. This was to allow an MFC to advance beyond the limited range of the No.38 set, and use the more powerful transmission of the No.18 set to communicate with the No.38 set at the mortar baseplate (the No.38 and No.18 set did share some frequencies).

Infantry Notes (21 Army Group) of April 1945 also noted that the Infantry Battalion was now authorised six extra No.18 sets, for a total of 16. This does not mention the seeming reduction of No.38 sets from 31 to 28 re the Mortar Platoon changes.

Two booklets were published just after the end of the war in Europe. The first is "Signals Training (All Arms) 1945 pamphlet No.10", which long shaped my view on the subject. This gives set numbers in May 1945 as;

No.18 sets 16

No.38 sets 28

It gives no outright detail on the allocation of No.18 sets beyond three being provided for the Mortar Platoon. The diagrams in the booklet mostly follow the distribution outlined back in 1943. The increased number of No.18 sets suggests there were four spare, but this is not explicitly stated. No.38 set allocation is provided and repeats their reduction in the Mortar Platoon from 13 sets down to ten.

There is also reference in "Infantry Notes No.13" dated July 1945 that details an amendment to G.1098 stores authorised 5th April 1945. This increased the number of No.18 sets from ten to 16, but does not mention a reduction of No.38 sets.

Changes when operating in an Armoured Division

When the Infantry Battalion was serving in an Infantry Brigade operating as part of an Armoured Division it used the No.19 set, which was principally intended for armoured fighting vehicles and could not be backpacked. In the Armoured Division of 1943 the Infantry Battalion was originally authorised nine No.19 sets, whose issue paralleled their No.18 sets, which were still held for use in the dismounted role.

AFG.1098-708 gives the below for June 1943;

No.19 set distribution, Infantry Battalion in an Armoured Division, 1943-1944

Subunit	No.	Comments
Battalion Headquarters <u>Headquarter Company</u>	1	carrier station
Signal Platoon <u>Support Company</u>	1	Truck, 15-cwt, fitted for wireless
Company Headquarters	1	Truck, 15-cwt, fitted for wireless
Mortar Platoon	1	carrier station
Carrier Platoon	1	carrier station
<u>Each Rifle Company</u>		
Company Headquarters	1	Truck, 15-cwt, fitted for wireless
Sub-total, 15-cwt trucks	6	
Sub-total, carrier stations	3	
Total, No.19 sets	9	

An alternative layout shows a truck mounted No.19 set with Battalion Headquarters instead of with Support Company Headquarters.

By November 1944 Infantry Battalions serving in Armoured Divisions were authorised a scout car to replace the Battalion commander's Universal carrier. Several of the signal related sources used above however assume both the scout car and carrier were held, and give the No.19 set issue as ten, with the additional set being found in the scout car.

The Rear Link

Throughout the war each Infantry Brigade had a Section or Troop attached from its parent Division's Royal Signals unit. This included wireless trucks which were attached to each Infantry Battalion within the Brigade whose function was to keep the Battalion commander in touch with his Brigade Headquarters.

The number of trucks and their wireless equipment went through numerous variations over the course of the war. In 1938 for example, the pre-war Infantry Brigade Signal Section included five 8-cwt trucks, in 1941 there were seven 15-cwt trucks each with a No.11 set, in 1942 eight 15-cwt wireless trucks with the No.22 set.

By late 1943 the Brigade Signal Section had three 15-cwt trucks, each designated as a rear link vehicle, with a No.19 set, and a fourth truck as the Brigade command and reconnaissance vehicle with two No.19 sets.

Below are some very basic notes on the performance of the No.38 and No.18 sets. They are derived from a number of sources and it is possible to find quite different, and sometimes contradictory, information on the same set.

See the sources and acknowledgements for links.

No.38 set

Frequency range - 7.3 to 8.8 megacycles

Aerial - section lengths of 4-foot each, maximum of three lengths for 12-foot

Anticipated range - $\frac{3}{4}$ -mile with 4-foot aerial, up to 2 miles with 12-foot

No.18 set

Frequency range - 6 to 9 megacycles

Aerial - section lengths of 1-foot each, maximum of ten lengths for 10-foot

Anticipated range, voice - 2 to 5 miles with 6-foot aerial, up to 10 miles with 12-foot

When using CW range approximately doubled. If set being used while operator is moving the range drops appreciably.

Annex B - Weapons and Ammunition

Up until late 1942 British War Establishment tables listed all weapons authorised the unit described. Beginning in early 1943 the detail of pistols, machine carbines and rifles began to disappear from newly published tables. A system was adopted whereby a soldier's individual weapon was determined by his trade or duty or his rank. So for example all drivers of cars, trucks and lorries and riders of motorcycles were to be issued Sten guns, while all officers (excluding Chaplains) were to have pistols. The exact allocation varied slightly by arm of service and there were notable differences between the Infantry, Royal Artillery and Royal Armoured Corps.

The tables issued up until the end of 1941 also included bonus information, in the form of unit ammunition scales for each weapon. This was expressed as ammunition 'on man or with gun' and the total of reserve ammunition carried in unit transport. Again this detail vanished when weapon detail was pared back to only support weapons.

The below data is then pulled together from British and Canadian war equipment tables, with the British information ending mid-1943.

i. Small arms

Revolvers - the British Army entered the war with the Enfield No.2 as its standard revolver. This fired a .38-inch round and had a cylinder holding six rounds. As British forces underwent massive expansion revolvers were found from other sources to meet demand. These included the Webley Mk4 (which maker had missed out on the contract that went to the Enfield in the 1920s) and the US made Smith & Wesson. Both fired the 38-inch round and had a six chamber cylinder.

The authorised ammunition allocation for the revolver in 1938 was 12 rounds carried, with 6 more per pistol held in unit reserve for a total of 18, which looks to have remained unchanged through to 1945.

Rifles - the standard rifle in 1938 was the Short, Magazine, Lee Enfield (SMLE) Mark III, effectively the same weapon that had taken the British Army through the Great War. It was a bolt-action rifle with a 10-round capacity magazine. With the outbreak of war a pre-existing successor, the Rifle, No.4, was finally put into production. Both weapons served during the Second World War, with the No.4 gradually becoming the more common.

Early war ammunition scale varied by the arm of service. In the infantry, the 'on man' amount was 50 rounds, in ten chargers holding five rounds each. Reserve per rifle was at least 100 rounds. There certain personnel in the Battalion, normally attached, who carried less ammunition, either 20 or 25 rounds.

By 1942 this practice looks to have ended, with 50 rounds shown for each rifle armed man. Where figures for reserve rifle ammunition are quoted in W.E.s these

are invariably in even thousands and do not correspond precisely to the number of rifles authorised, which suggest some rounding was involved. .303-inch ammunition was packaged in multiple ways, including bandoliers, each holding ten chargers, or four chargers in a case. Ammunition boxes H1 and H19 each held 1000 rounds total of .303-inch in either bandoliers (20 per box) or case chargers (50 per box).

Bren light machine gun - the Bren was adopted as the Section level light machine gun in the years just prior to the outbreak of war. The original Czechoslovakian weapon, the ZB26, fired the German 7.92-mm round, and had to be retooled for the British .303-inch round, whose rimmed cartridge case resulted in the magazine developing the curved line not present in the Czech produced gun.

The cyclic rate of fire for the Bren was approximately 500 rounds per minute, while the practical rate of fire, allowing for reloading, was around four magazines a minute. Ammunition feed was via a detachable box magazine, mounted on top of the weapon, which had a maximum capacity of 30-rounds. It was an air cooled weapon, and in the event of the barrel overheating after prolonged fire it could be removed and replaced by the spare one provided each gun. This operation was done without tools and took under ten seconds to complete.

Originally the Bren was issued with a tripod mount, for use when firing from static positions or on fixed lines. The tripod could also be assembled into a tall anti-aircraft mounting for the Bren. As the war progressed there was little call for either arrangement and it appears the tripod became an item only issued to Battalions at their request from perhaps mid-war onwards.

The authorised ammunition allocation for the Bren underwent little alteration between 1936 and 1945. The November 1936 War Establishment table showed 1000 rounds 'per gun' with a further 500 rounds in unit reserve for each weapon. "Small Arms Training, Pamphlet No.4" of 1939 outlined that 750 rounds was held ready in magazines with the balance of 250 rounds transported boxed on the Platoon truck.

Each Bren was provided with 25 magazines, transported in two boxes holding a dozen each, plus one in the weapon. It was found that the magazine, though designed to hold 30-rounds, functioned more reliably when the load was reduced to 28. This change meant there were now 700 rounds in magazines and 300 boxed.

The Bren fired normal .303-inch ball as well as tracer and incendiary variants. British figures show 1000 ball and 500 rounds tracer per Bren as of June 1943. Canadian documents show the 1500 rounds apportioned as 1100 ball, 300 of tracer and 100 incendiary by 1944, plus 25 rounds of armour piercing per Bren gun.

In terms of the practical distribution of magazines among the Rifle Section, this underwent some revision. The 1939 Pamphlet No.4 mentioned earlier outlined the eight-man Section as carrying three magazines apiece for a total of 24, omitting the last one issued (this is repeated by a training film of 1940 vintage).

The 1942 reissue of the same pamphlet continues to show a Section of eight men, despite the 1941 War Establishment having ten. It also shows 24 magazines being carried, but the individual load varies from one to four.

“Infantry Training, Part VIII” published in March 1944 shows what appears to be the definitive allocation for a Rifle Section of ten men. Each of the six men in the Rifle Group were to carry two magazines, while in the Bren Group the Lance-corporal and No.1 were to carry four apiece and the No.2 five. Additionally each man in the Rifle Group was shown with 50 rounds, presumably in chargers, specifically for the Bren. That gave the Section Bren a total of 1000 rounds ready ammunition.

In all the publications mentioned above the total of .303-inch ammunition carried ‘on man’ when armed with the rifle is 50 rounds. This is separate from any intended for the Bren (the 1939 and 1942 pamphlets also show the Bren No.1 carrying 50 rounds, while this is eliminated in the 1944 manual).

Machine carbines (submachine guns) - the first submachine guns used by the British Army were imports of the US made Thompson. The M1928 fired the .45-cal ACP (Automatic Colt Pistol) round from a 20-round magazine or a large 50-round drum. It had a cyclic rate of fire of approximately 700 rounds per minute. The Thompson does appear to have made a very limited debut in France in 1940 before becoming the Rifle Section commander’s weapon from 1941 onwards.

Ammunition allocation was initially 250 rounds ‘on man’ and 750 rounds in unit reserve, neither figure fitting neatly with the 20-round magazine. By 1941 the reserve figure was reduced to 350 rounds per gun. Figures for Thompsons in the Reconnaissance Regiment of 1942 suggest the split was changed to 200 ‘on man’ and 400 in unit reserve. The British details for June 1943 indicate 200 rounds per gun, in ten magazines, plus a further 200 rounds per gun in unit reserve.

The Thompson was largely replaced in British service by the Sten gun, a weapon stripped back to the barest essentials (and then perhaps even some of these were omitted). It fired the 9-mm pistol round and had a 32-round magazine that protruded from the left-hand side. British ammunition figures for the Sten in June 1943 give 160 rounds per gun with 96 rounds in unit reserve, with eight magazines per gun. 1944 Canadian figures show their allowance for the machine carbine as 600 rounds per weapon, in ten magazines (with the same figures for either Thompson or Sten).

ii. Mortars

2-inch mortar - this weapon was adopted with the 1938 War Establishment on the basis of one per Rifle Platoon. It was muzzle loaded but trigger fired using a lever at the base of the barrel, which meant that unlike most mortars it could be fired at a very low trajectory.

The allocation of bombs to the 2-inch mortar appears to have remained at 96 per weapon from pre-war to 1945. What did fluctuate constantly though was the ratio of smoke bombs to high explosive within this figure, as outlined below.

Year	High explosive			Smoke		
	with gun	reserve	total	with gun	reserve	total
1938	9	15	24	27	45	72
1940	27	45	72	9	15	24
1941	27	45	72	9	15	24
1942	24	36	60	12	24	36
1943-45	12	18	30	24	42	66

The 1938 figure is taken from the ammunition table of the War Establishment. Army Training Memorandum No.28 of January 1940 advised that the proportion of HE bombs to smoke for both 2-inch and 3-inch mortars was to be altered to three HE for one smoke. This change was not reflected in the two Infantry Battalion W.E.s published later on in 1940, but was in the 1941 table.

The 1942 figures are taken from the New Zealand W.E. for an Infantry Battalion in the Middle East, which is almost identical to the British. The same ratio of 2-inch mortar bombs is found in the March 1942 Reconnaissance Regiment British W.E., so I think the extrapolation can be made with a degree of confidence.

The British AFG.1098 for June 1943 shows the emphasis changing again, now with 30 HE to 66 smoke bombs, which is the same in Canadian figures for 1944. "Infantry Training" recommended the Lance-corporal commanding the 2-inch Mortar Sub-section carry three HE and nine smoke, the No.1 carry three HE and three smoke (plus the mortar) and the No.2 six HE and six smoke. It notes that signal bombs could replace these as required. Illuminating bombs and signal bombs were counted separately to the 96 HE or smoke bombs per 2-inch mortar. The 1943 British figures show 18 illuminating and nine each of red and green signal per mortar.

By 1941 the 2-inch mortar was also used by the Carrier Platoon. A 1943 sketch showing loading for a Universal carrier puts 30 rounds boxed at the rear of the vehicle with six 'ready' rounds in the front compartment. A later user of the 2-inch mortar was the Anti-tank Platoon (with the 6-pdr gun and Loyd carriers). The British AFG.1098 shows the same mix of bombs as for Rifle Platoons and the carriers, while the Canadian 1944 version eliminates the HE and smoke rounds with only ten bombs each of smoke and illuminating per 6-pdr gun Detachment.

2-inch mortar bombs were pre-packed in a container consisting of three tubes stacked one atop another with the uppermost having a carrying handle attached. Each tube held two bombs, separated from one another by a partition disc inside the tube, making six per carrier. Ammunition was issued in boxes holding three carriers each, totalling 18 rounds.

3-inch mortar - this followed the conventional design of weapons of its type. It consisted of three main parts, namely a barrel, bipod stand and base plate. To this load was added the sighting unit, spare parts bag and ammunition.

Ammunition allocation for the 3-inch mortar was set at 156 bombs per weapon in 1936 and remained so throughout the war. What did alter over time was the ratio of high explosive to smoke bombs and the way they were distributed over unit vehicles.

The Mortar Platoon of 1938 had two 15-cwt trucks, each transporting a single 3-inch mortar and 120 bombs in 40 carriers. Bombs were packed in carriers of three tubes, each tube holding a single bomb. There was also a 15-cwt truck in the Administrative Platoon that carried a further 36 bombs for each mortar, giving a total of 312 3-inch mortar bombs for the Battalion.

In 1941 the Universal carrier became the primary vehicle used to transport the 3-inch mortar. The weapon was carried disassembled on the rear of the vehicle, outside the crew compartment. Unlike the 15-cwt truck the Universal carrier could lift the crew of the mortar along with its ammunition.

With the switch to Universal carriers bomb distribution was changed. Under the 1941 War Establishment the Platoon included six carriers, each with a mortar and 72 bombs. Two of the Platoon's three 15-cwt trucks each carried 72 bombs and the Administrative Platoon added a 3-ton lorry with 360 bombs.

The odd thing with this distribution is that every sketch of the Universal carrier as fitted for 3-inch mortar shows it loading 66 bombs, not 72. The available diagrams show 30 in the left hand compartment (behind the commander's seat), 24 in the right hand compartment (behind the driver's seat) and 12 in the driving compartment (six on the exterior side of each seat).

In an amendment to the 1941 Infantry Battalion W.E., dated September 1942, the distribution of bombs changed to 66 per mortar carrier, 72 bombs for each of the three 15-cwt trucks and 324 for the 3-ton lorry. In 1943 the figures were changed again, this time to 66 bombs per Detachment carrier, 90 per 15-cwt truck (still three trucks) and 270 in the Administrative Platoon's 3-ton lorry.

Alongside these changes were modifications to the proportion of high explosives bombs to smoke.

Year	High explosive			Smoke		
	with gun	reserve	total	with gun	reserve	total
1938*	75	22.5	97.5	45	13.5	58.5
1940	90	27	117	30	9	39
1941	72	45	117	24	15	39
1943-45**	96	28	124	24	8	32

* 1938 figures based on 195 HE and 117 smoke for the two weapons combined

** no split is given for 1943-45, so above is extrapolated, overall totals are correct

As mentioned earlier, the mix of 3-inch HE to smoke was altered at the beginning of 1940 to three HE bombs for each one of smoke, though again this is not embodied in War Establishment tables until 1941. The 1943 figures are taken from British and Canadian war equipment tables and are in line with the British manuals of 1943 and 1944, which both specify a proportion of four HE to one smoke. This requires a little rounding up when working with a total of 156 bombs.

iii. Anti-tank weapons

Anti-tank rifle - the Boys was a heavy weapon, weighing 36lbs empty and each magazine another 1-½lbs when loaded with five rounds of .55-inch armour piercing ammunition. It was a bolt action weapon, fed from a top loaded 5-round magazine. Penetration was stated as approximately 23-mm at 100 yards, dropping to 21-mm at 300 and under 18-mm at 500 yards.

Ammunition allocation was 200 rounds 'with gun' and 40 rounds per weapon in unit reserve. A box of eight magazines was issued per rifle, plus an ammunition box containing 16 bandoliers of 10-rounds each.

The Boys was normally fired from the prone position and was fitted with either an inverted T-shaped monopod on early marks, or a simple bipod on later models. It could also be fired with the gunner kneeling or seated, but needed the weight of the weapon to be supported in some manner.

Projector, infantry, anti-tank (PIAT) - it had long been recognised that the anti-tank rifle, firing a simple bullet, had been left behind in the race between anti-tank ammunition and tank armour. Infantrymen though still needed a man portable weapon that could be carried by Platoons rather than relying entirely on towed Battalion level guns. During 1942 hollow charge munitions for use against armour were introduced. These did not require a high velocity means of delivery, which opened up the possibility of using light weight, low recoil weapons.

The PIAT was built around an enormously powerful spring, which needed to be compressed in order to cock the weapon. This was done by standing upright, feet on the T-shaped butt, and pulling the body of the weapon up while twisting it. Once cocked a bomb was laid in the 'half-pipe' trough at the front of the weapon. When the large and brutal looking trigger was pulled, the coiled spring was released, sending forward a spigot which entered the long tail pipe of the waiting bomb and detonated its propellant charge.

The substantial recoil was then, in theory, harnessed to re-cock the weapon for its next shot. If the gunner was not correctly braced however this would not happen, meaning the spring would have to be compressed again manually, with the approximate 200lbs of pressure this took.

While subject to almost universal scorn, the PIAT did have some advantages over its contemporaries. Its firing system meant the weapon had a minimum of visual

signature and none of the attendant back-blast found with a rocket launched projectile, so it could be fired from within a room or other confined space.

Ammunition allowance was 18 bombs per projector, carried in triple tube containers in the same way as mortar bombs. The 'on man' figure was six, with the balance in unit reserve. One of the annoyances regarding the PIAT is its stowage on the Universal carrier. Practically all sketches and schemes show the carrier with the Boys anti-tank rifle. A 1944 sketch for the carrier in the medium machine gun role shows the PIAT mounted in the compartment behind the driver, with four ammunition carriers at the rear of the vehicle, two either side, for a dozen bombs.

2-pounder anti-tank gun - continuing the general theme of British anti-tank weapons with extreme reputational damage comes the next entrant, the 2-pdr (also abbreviated as 2-pr) anti-tank gun. The 2-pdr had been introduced in the late 1930s and was originally intended to form part of the armament of the Infantry (Machine Gun) Battalion in each Infantry Brigade. With the reorganization of the Infantry Division in 1938 the 2-pdr guns were transferred to the Royal Artillery, who took over responsibility for Divisional anti-tank defence.

When it was adopted the 2-pdr was considered a capable weapon, expected to defeat the frontal armour of most enemy machines in service in 1939. German tanks though underwent rapid improvements in armour thickness that greatly reduced the effectiveness of the 2-pdr round. Despite this the 2-pdr was kept in frontline usage right through into mid-1943, as both an anti-tank and tank main armament, largely because it was available. As noted previously, Infantry Battalions in the Middle East were issued 2-pdr guns from 1942 under their official War Establishment, though provisional issues had been made before then.

2-pdr ammunition was issued in boxes holding 16-rounds split over two containers of eight rounds each; 32-rounds could be carried on the gun itself, 16 of them in an emergency ammunition box next to the gunner. In the pre-war Machine Gun Battalion the ammunition scale was 112 rounds per gun, 16 on the carriage and 96 on the 15-cwt truck. By 1941 Royal Artillery Anti-tank Regiments in North Africa had switched to the 3-ton Portee, each of which carried 112 rounds of ammunition with a further 30 rounds per gun in unit reserve.

Figures from New Zealand establishments indicate this same loading was used by Infantry Battalions in the desert, perhaps until 1943, when there was a change to 100 rounds per Portee and 44 per gun in unit reserve. This change was presumably also made by British Infantry units using the 2-pdr in the theatre.

6-pounder anti-tank gun - in 1942 the successor to the 2-pdr appeared in North Africa, the 6-pdr (or 6-pr) anti-tank gun. This went first to Anti-tank Regiments, who were in dire need of something more effective than the 2-pdr.

By 1943 the 6-pdr anti-tank gun was the standard weapon of the Infantry Battalion Anti-tank Platoon, finally relegating the 2-pdr to the ordnance depot. In its early use in North Africa it was deployed in the same manner as the 2-pdr, carried Portee on the flatbed of the 3-ton lorry, but under the 1943 War Establishment its prime mover was the Loyd carrier.

Unusually no British, or indeed Canadian, W.E. gives an indication of the ammunition allocation for the 6-pdr when serving with either Infantry or Reconnaissance units. The June 1943 British G.1098 equipment table gives a total of 96 rounds per gun, which was the same as for the 6-pdr in Anti-tank Regiments. In January 1944, Progress Bulletin (Infantry) No.6 stated that, following recommendations from theatres, the amount of 6-pdr ammunition carried by Infantry Battalions was to be reduced from 96 to 60 rounds per gun.

Stowage sketches were issued for the Loyd carrier in September 1943. Those for the Loyd in the Infantry Anti-tank role showed two different schemes; the vehicle towing a 6-pdr was to carry four boxes of ammunition, with the accompanying Loyd a further ten. Each box held six rounds of 6-pdr ammunition. The same sketches show the gun tower with the 2-inch mortar and the auxiliary vehicle the Bren light machine gun authorised for each 6-pdr Detachment.

There is no direct reference to the Administrative Platoon having reserve ammunition, but both 15-cwt trucks in the Anti-tank Platoon are noted as carrying an unspecified number of rounds

In the Royal Artillery it was usual for 6-pdr ammunition to be issued in the scale of three rounds armour piercing to one round high explosive, at least from late 1943 onwards. The Infantry Battalion AFG.1098-708 only states both types of ammunition could be issued as ordered. Progress Bulletin (Infantry) No.8 of March 1944 stated that "when production permits HE will be provided on a theatre of war basis up to 25% of the total holding".

In PBI No.8 of 15th March 1944 it was noted that this would continue to be the case for Infantry units 'when production permits'.

An immense amount has been written over the decades concerning the performance of various types of munition in the armour piercing role. The below figures are those offered by the Royal Artillery in 1950 on the performance of the 2-pdr and 6-pdr gun when impacting armour plate at an angle of 30 degrees.

<u>Gun</u>	<u>500 yards</u>	<u>1000 yards</u>
2-pdr	53-mm	40-mm
6-pdr	75-mm	63-mm

By comparison the PIAT was reckoned to be able to defeat 100-mm in the most favourable of circumstances.

Armour piercing rounds were the primary type issued for the 2-pdr and 6-pdr gun. During the course of the war the original armour piercing (AP) was supplemented by a number of variations. The first was armour piercing capped (APC), which fitted a cap on the point of the round, followed by armour piercing capped, ballistic cap (APCBC). APC was intended to maintain the integrity of the nose of the round when it impacted at an angle greater than 90 degrees while the ballistic cap improved its flight and increased velocity, which in turn improved penetration. Armour piercing discarding sabot (APDS) was also introduced for the 6-pdr in 1944. This used a sub-calibre 'penetrator' that was sheathed inside a sabot casing matching the calibre of the gun. When fired the sabot was discarded in flight leaving the projectile contained within it to travel to the target. 6-pdr APDS was reckoned to give 146-mm of penetration at 1000 yards range. High explosive rounds were available for the 6-pdr but not seemingly the 2-pdr, at least not in infantry usage.

The ratio of issue of these various types of ammunition within the overall rounds per gun figure is not something I have seen information on; I suspect APDS was though more likely to be found in Anti-tank Regiments proper than Infantry Battalions.

iv. Grenades and signal pistols

Hand grenades - the Grenade, No.36M, was the standard British hand grenade at the outbreak of war, often called a Mills bomb after its Great War predecessor. The No.36M was a fragmentation grenade, with a case of cast iron, which was serrated to facilitate its break up into multiple pieces upon detonation. They were packed in boxes of 12 and in 1940 the allocation was 15 boxes for an Infantry Battalion, based on one per Rifle Platoon and three in reserve.

Supplementing the No.36M from around 1942 was the No.69. This had a Bakelite body, which produced non-lethal fragments, and relied on concussion to debilitate the enemy rather than shrapnel. It was packaged in boxes of 34.

Anti-tank grenades - alongside the hand grenade were several models of anti-tank grenade. The No.68 was fired from a cup discharger fitted to the normal rifle, using a ballistite round in place of the usual ball cartridge. The No.68 had a short range, in the order of 75 to 100 yards, and the rifle had to be braced against a solid object rather than simply fired from the shoulder. It appeared around 1941, packaged in boxes of 17, and was largely withdrawn with the introduction of the PIAT.

The No.75 anti-tank grenade weighed in around a kilo, so while termed a grenade was more normally used as a mine. It had an impact fuse that was triggered by a vehicle driving over it. It was packaged in boxes of 12. The No.75 was also commonly known as the Hawkins anti-tank mine.

Signal pistols - these were initially issued on the basis of a pool of 24 for the Infantry Battalion, plus one per Bren or Universal carrier. By 1943 AFG.1098-708 showed a distribution to subunits which is given in the detailed tables. The Very pistol could fire illumination or coloured signal rounds.

Example grenade issues for British and Commonwealth Battalions

Type	NZ -1942	British -1943	Canada -1944	Comments
No.36M	120	456	120	
No.68	442	-	-	Middle East
No.69	170	374	170	
No.74	-	100	-	Sticky bomb
No.75	408	456	108	
No.77 (WP)	-	484	408	Both White Phosphorous
No.80 (WP)	-	-	72	

British issues may have undergone revision after these figures were published in 1943 and if so could have been aligned more with the Canadian totals by 1944.

Annex C - The Lorried Infantry Battalion

The Infantry Battalion in its normal form had a large allocation of motor vehicles, but not sufficient to move all its personnel and equipment without additional resources.

In 1939 the British Expeditionary Force included a formation termed a Motor Division (50th Division providing the sole fully equipped example). This consisted of two Brigades rather than three, with a proportionate reduction in supporting units. The three Battalions of each Brigade were normal Rifle Battalions, and to become 'Motor' units they required the addition of a Troop Carrying Company of the Royal Army Service Corps (RASC). The RASC were responsible for Supply and Transport (S&T) in British formations. The Troop Carrying Company consisted of a Headquarters, a Workshop Section and three Transport Sections. Each Transport Section had five Sub-sections, each of which had five 3-ton lorries for personnel and stores, for a total of 25 per Section.

The allocation was one Sub-section to each Rifle Company and one to Battalion Headquarters and Headquarter Company, with a full Section capable of lifting the 'marching personnel' and bicycles of one Battalion. Each Battalion retained its own transport, and drivers, which carried their normal load.

In 1942 the British Armoured Divisions in the UK were re-organised to consist of an Armoured Brigade and an Infantry Brigade. The Armoured Brigade included a Motor Battalion, which had a very different organization to the standard Infantry Battalion (the Motor Battalion will be subject to its own discussion at a later date). The Infantry Brigade consisted of three normal Infantry Battalions, which required extra vehicles to make them full mobile.

By 1942 the RASC had adopted a 'modular' system, which allowed a standard Company Headquarters to administer from two to five Transport Platoons, each with 30 task vehicles of a type particular to their role. These were further divided into five Sections, each of six task vehicles. Along with the new organization the RASC also altered its nomenclature to roughly parallel that of the Infantry.

For personnel Transport Platoons used the Troop Carrying Vehicle (TCV), a 3-ton lorry fitted out with folding seats down the centre and both sides of the rear compartment. The TCV was stated as being able to accommodate 29 men in the rear of the vehicle, plus one more in the cab next to the RASC driver. While not stated it would be a fair assumption that one Section of six TCVs was allocated to Battalion Headquarters and Headquarter Company and to each Rifle Company, as was the case in Motor Division of 1939-40.

There are two oddities which I have never been able to reconcile to my own satisfaction. Firstly, the RASC Armoured Divisional Troops Company only had two Platoons with TCVs, its other two having normal 3-ton lorries. If each TCV Platoon carried a Battalion, why not three Platoons to lift the Brigade?

Secondly, and more irritatingly, is just how many TCVs it would take to lift a single Infantry Battalion. Under the 1943 War Establishment, Battalion Headquarters could carry around half its personnel using its own transport, Headquarter Company all but around half the Signal Platoon, while each Rifle Company had a little under 120 men designated as marching; Support Company could in theory lift all its personnel with the vehicles assigned to it.

Overall then a Battalion of 1943-45 might expect to have around 540 men deemed as marching personnel, which based on 30 men per TCV would only require 18 TCVs. A full Platoon of 30 TCVs could carry 900 men, well in excess of what a single Battalion could possibly require.

On the 1943-45 Infantry Battalion War Establishments there were a few modifications to personnel and vehicles when the Battalion was serving in an Armoured Division. These are detailed in the relevant entry detailing the full authorised strength of the Battalions available elsewhere on the site.

Annex D - The Assault Pioneer Platoon

In July 1945, 21 Army Group produced a detailed list of the roles and duties of the Assault Pioneer Platoon within the Infantry Battalion, which is summarised below.

1. The arming and laying of anti-tank and anti-personnel mines and booby traps, and the marking and recording of their locations.
2. The breaching of enemy minefields.
3. The recognition, detection and removal of enemy booby traps.
4. Providing improvised methods of floatation in river crossings.
5. The handling of all equipment carried by the Assault Platoon of a RASC Bridge Company (including assault boats, Kapok equipment and various types of rafts).
6. Undertaking the destruction of equipment, vehicles, stores and weapons.
7. Use of assault demolitions including Bangalore torpedoes and pole charges.
8. Demolition techniques needed to destroy concrete blocks or steel rail blocks.
9. Concussion charges for the destruction of buildings or walls in street fighting, or to clear fields of fire.
10. Use of detonating fuze, Primacord and Cordtex.
11. Construction of road blocks and obstacles, weapons slits and emplacements.
12. Strengthening and defence of buildings.
13. Construction of breastworks, revetments and drainage.
14. Technical skills in camouflage.
15. Use and care of tools.
16. Anti-gas duties, including reconnaissance of contaminated areas, marking of safe areas, laying improvised surfaces on contaminated areas and decontamination of ground by dry bleach.
17. Improvising roads and tracks.

Below is a summary of the principle items of equipment of the Assault Pioneer Platoon, as detailed in Progress Bulletin (Infantry) No.3 and No.9.

<i>Principle items of equipment of the Assault Pioneer Platoon</i>			
AFG.1098 of June 1943	No.	Additions of April 1944	No.
No.75 grenades	108	Primers, 1-oz (CE) filled	120
Bangalore torpedoes;	8	Primacord or Cordtex	2000ft
Initiating devices	2	Detonators, No.27	100
Noses	2	Tubes, fuze sealing	100
Safety fuze, No.11;	192ft	Safety fuze, No.11;	100ft (extra)
Igniters, percussion	10	Igniters, percussion	10 (extra)
Matches, safety fuze	12 boxes		
Igniters, safety fuze	1 box	Folding boat,	1
Mine detector (Polish)	8*	reconnaissance	

*note in January 1944 that the initial allocation was to be 6 per Battalion

Sources used and Acknowledgements

War Establishment tables and War Equipment table

An Infantry (Rifle) Battalion, ref II/1931/12B/3, notified in Army Council Instructions 6th April 1938

An Infantry Battalion (Higher Establishment), ref II/1931/12F/1, notified in Army Council Instructions 10th April 1940

An Infantry Battalion (Higher Establishment), ref II/1931/12F/2, notified in Army Council Instructions 4th June 1941

An Infantry Battalion, Middle East, ref VI/587/1, notified in Army Council Instructions 30th September 1942, effective date 4th April 1942

An Infantry Battalion, Middle East, ref VI/587/2, notified in Army Council Instructions 3rd February 1943, effective date 30th November 1942

An Infantry Battalion, ref II/233/2, notified in Army Council Instructions 19th May 1943, effective date 30th April 1943

An Infantry Battalion, ref II/233/3, notified in Army Council Instructions 29th November 1944, effective date 12th November 1944

Army Form G.1098-708, June 1943 - Provisional War Equipment Table for an Infantry Battalion

Amendments to tables II/1931/12F1 and II/1931/12F/2 courtesy of Tony Chadwick

Amendments to tables II/233/2 and II/233/3 from Canadian Archives

British Army training publications

Infantry Training (Training and War) (31st August 1937) *

The Training of an Infantry Battalion (MTP No.37) (June 1940) **

Infantry Training, 1937, Supplement (6th February 1941) **

Infantry Training, Part I: The Infantry Battalion (15th January 1944)

Infantry Training, Part IV: The Mortar Platoon (6th February 1943)

Infantry Training, Part IV: The Mortar Platoon (15th May 1944)

Infantry Training, Part V: The Carrier Platoon (6th November 1943)

Infantry Training, Part VI: The Anti-tank Platoon (18th September 1943)

Infantry Training, Part VIII: Fieldcraft, Battle Drill, Section and Platoon Tactics (4th March 1944)

(Note - the anticipated Parts II, III and VII of this series do not appear to have been published)

Other British Army publications

Progress Bulletin Infantry (PBI), published by the Directorate of Infantry; issues 1 to 20 inclusive, with publication dates of 11th July 1943 to 20th March 1945.

Infantry Notes (21 Army Group); issues 7 to 13 inclusive, with publication dates of October 1944 to July 1945.

Weapons and ammunition publications

Small Arms Training - Volume I, Pamphlet No.4 - the Light Machine Gun ***

(Versions dated 28th June 1939 and 12th August 1942)

Handbook for the Ordnance, ML 2-inch mortar, Mk.II 1939 ***

(Note - I have not been able to obtain a copy of the 1944 edition)

Small Arms Training - Volume I, Pamphlet No.9 - Mortar (3-inch) 1939 ***

Small Arms Training - Volume I, Pamphlet No.9 - Mortar (3-inch) 1944 ***

Regulations for Army Ordnance Services, Part 7, Pamphlet No.11, small arms ammunition (24th February 1945) ***

(Note also thanks to 'ClankyPencil' over on www.ww2talk.com for sharing his notes on the subject).

DWS Notes on Ammunition, Issue No.12, Grenades ***

General

US Army's Technical Manual TM30-140, Handbook on the British Army (supplements on RAF), September 30 1942 *

Army Training Memoranda (various)

Stowage sketches, Universal carriers (various), from Tank Museum, Bovington.

War Equipment Tables (various) for Canadian Infantry Battalions (various dates).

Signals equipment

Signal Training (All Arms) Pamphlet No.8; Signal Office Training (6th May 1944) **

Signal Training (All Arms) Pamphlet No.10; Signal Tactics Part II - the Infantry Battalion (30th May 1945) **

Royal Signals Pocket Book Part II - Wireless Diagrams (July 1945)**

Wireless Set No.38 and Wireless Set No.18 working instructions available from -

http://www.vmarsmanuals.co.uk/archive/files_index.htm

Details from several reports compiled during World War Two on signal communications within the Infantry Battalion.

Also thanks to respondents of <https://www.vintage-radio.net/forum> re my numerous queries on line equipment.

Notes

* indicates can be found online

** indicates obtained as reprint from <https://robvanmeel.nl/>

*** indicates obtained from <https://www.mlrsbooks.co.uk/>

Still searching for...

Below is a list of items I would still very much like to track down.

Army Form G.1098 tables

Also known as War Equipment Tables, these were the documents issued in concert with War Establishment tables. The establishment table showed all personnel, transport and weapons (at least until around 1943, when individual weapons ceased to be included), while the equipment table listed all other items authorised to units.

I have only been able to obtain a copy of the AFG.1098-708, as issued for the Infantry Battalion in June 1943. This looks to include amendments made up to May 1944, but not beyond that. I have also used Canadian Army equivalents, known as Militia Form M23 and they have proved highly informative, but the British and Canadian documents were not identical.

I would be very interested to know if any other AFG.1098 tables issued for British Infantry Battalions remain on file, so if anyone knows where I should look then please let me know.

Handbook for the Ordnance, ML 2-inch mortar, (various marks), 1944

Just interested if anyone has a copy they might share? The one at the Imperial War Museum is a little bit expensive to order a copy of and I cannot find a reprint.

Infantry Notes

These were published by 21 Army Group and continued into the post-war era with the British Army of the Rhine. I have been able to obtain copies of No.7 to No.13 inclusive, and any directions on finding issues No.1 to No.6 would be very welcome.

Gary Kennedy

June 2019