

The Leningrad Military District (Northern Front from 24th June 1941)

In this section we will focus on the actual manpower and equipment strength of the land combat units deployed in the Leningrad Military District on 22nd June 1941. We will examine the strength of the individual combat units and reconcile this with the actual strength in the whole of the military district.

Rifle Divisions

On 22nd June 1941 there were 15 rifle divisions in the Leningrad Military District. On 1st June 1941 the average personnel strength in these divisions was 11 985 men, or 83% of the wartime authorised TOE.¹ In terms of personnel this made the rifle divisions in this district the strongest of any in the Western Military Districts when the Germans attacked. Three of the 15 rifle divisions (the 237th, 177th and 191st) were new and in the process of forming. The average strength of the 12 older established divisions was over 13 100 men, which made them close to full strength. Perhaps the Soviets maintained these divisions at higher than average strength due to the recent hostilities with Finland.

Table **Len MD Divs 1** shows the actual strength of the rifle divisions in the Leningrad Military District on 22nd June 1941. Most of the rifle divisions were well established divisions with six formed before 1939, five formed in 1939, one in 1940 and three in 1941. The average rifle division in the Leningrad Military District on 22nd June 1941 had an inventory containing: up to or over 100% of their authorised MGs and mortars, around 93% of their authorised AT guns, 73-89% of their authorised light artillery and infantry guns (76mm), 78-102% of their authorised medium to heavy artillery, and all their authorised heavy AA guns. In addition, they possessed around 80-90% of their complement of riflemen and would not need large numbers of mobilised reservists to be fit for battle.

In other regards the average rifle division was considerably weaker. They contained an average of approximately 35% of their authorised trucks, 83% of the required towing tractors, fewer than half the required horses, 40% of their authorised light AA guns, and 13-19% of their authorised AAMGs. Despite the apparently low number of available motorised vehicles, compared with many rifle divisions in other Western Military Districts on 22nd June 1941, and compared with the opposing Finnish divisions, the rifle divisions in the Leningrad Military District were fairly mobile. In addition, they were defending in terrain where motorised mobility was not the advantage that it was further south.

Applying the combat unit size equation and Minimum Divisional Size (MDS) value to the average rifle division in the Leningrad Military District on 22nd June 1941 yields interesting results.² Applying this equation to the average rifle division strength in table **Len MD Divs 1**, we find that the average rifle division was at 101% of the MDS value on 22nd June 1941: even at reduced peacetime strength the average rifle division in the Leningrad Military District could reasonably be called a divisional sized combat unit in 1941. The main reason the MDS values weren't higher was the lack of transport and because some of the divisions were in the early stages of forming. Despite this, the average division still contained around 12 000 men and most of its authorised weapons. It is noteworthy that the average rifle division in the Leningrad Military District on 22nd June 1941 was at 75% of its full size (a full TOE MDS value of 135%), and was

¹ C. C. Sharp, "Red Legions": Soviet Rifle Divisions Formed Before June 1941, Soviet Order of Battle WWII: Volume VIII, George. F. Nafziger, West Chester, OH, 1996, p. 5.

² Refer to Part I 10. 2) – 'Military Simulations, and the General Structure of the Integrated Land and Air Resource Model - A 'Divisional Sized' or 'Division Equivalent' Combat Unit in WWII - Measuring Whether a Combat Unit can Reasonably be Called a 'Divisional sized' Combat Unit,' for details on the equation used for calculating division size. The Minimum Divisional Size (MDS) value is essentially the minimum sized combat unit that can be reasonably called 'divisional sized' or a 'division equivalent' in 1941.

considerably larger than a full strength July 1941 rifle division (with a full TOE MDS value of 82%).

The following rifle divisions require special mention due to some specific and relevant circumstances:

The 237th Rifle Division had only started forming on the 14th March 1941 and was listed as “still forming” by the 7th Army on 22nd June 1941. Despite this, it was committed to action against the Germans south of Leningrad on the 6th July, having had a little time incorporate its mobilised reservists.

The 122nd Rifle Division had the 107th Tank Battalion attached. The division was stationed on a remote part of the Finnish border astride the direct easterly route to Kanadalaksa. It had approximately 7000 men when fighting started on this front at the end of June 1941.

The 177th Rifle Division had started forming in January 1941. By June 1941 it was still trying to finish its formation south of Leningrad. In early July, still very incomplete, it was rushed south to the Luga area and was part of the Luga Operations Group by 6th July 1941.

The 191st Rifle Division had only started forming on 5th April 1941. Unsurprisingly it was far from complete when war started. Despite this, the 191st joined the 177th (above) as part of the Luga Operations Group by 6th July 1941.³

The history, or fate of the rifle divisions deployed in the Leningrad Military District on 22nd June 1941 can be roughly divided in to two groups. The first group remained on the Finnish border north of Leningrad, while the second group was sent south of Leningrad to defend against the advancing German Army Group North.

The rifle divisions remaining on the Finnish border for the whole of the second half of 1941 constituted the 14th, 52nd, 54th, 71st, 104th, 122nd, 123rd and 142nd divisions (eight divisions). The 123rd and 142nd Rifle Divisions served in the 23rd Army in Northern and then Leningrad Front, defending Leningrad from the north west. The remaining divisions served in Northern and then the newly formed Karelian Front, defending against Finnish and German forces north of Lake Ladoga. These divisions all survived 1941 in a reasonable condition. The Finns started their assault in the Karelian Peninsula on 29th June 1941, although the main attack appears to have started on 10th July 1941.⁴ By mid December 1941, the mostly successful Finnish offensive had reached the Svir River, Lake Onega and the 1940 border north of Leningrad. At this point the Finns (or specifically Marshal Mannerheim) stopped and refused to go any further: ensuring Leningrad remained in a state of minimum supply across Lake Ladoga during WWII. Despite heavy casualties, the Soviet rifle divisions managed to conduct a fighting withdrawal in relatively good order and never came as close to total destruction as they did fighting German forces south of Leningrad. In the process they managed to inflict around 75 000 Finnish casualties.⁵

The rifle divisions sent to fight Army Group North at some point in 1941, constituted the 43rd, 70th, 115th, 168th, 177th, 191st and 237th divisions. The 43rd, 115th and 168th Rifle Divisions spent some time facing Finnish forces and were then moved south of Leningrad in August-October 1941. The 168th was evacuated south by the Ladoga Flotilla after it was cut off by advancing Finnish forces. The 43rd, 115th and 168th Rifle Divisions all went into the newly

³ C. C. Sharp, “Red Legions”: Soviet Rifle Divisions Formed Before June 1941, Soviet Order of Battle WWII: Volume VIII, George. F. Nafziger, West Chester, OH, 1996, p. 93.

⁴ C. Ailsby, Images of Barbarossa, Ian Allan Publishing, Shepperton, UK, 2001, p. 124.

⁵ C. Ailsby, Images of Barbarossa, Ian Allan Publishing, Shepperton, UK, 2001, p.130. Approximately 25 000 killed and 50 000 wounded. The Finns took around 47 000 Soviet POWs. It should be born in mind the terrain over which the Finns were attacking was terrible and was very suitable for defence. Enveloping type operations by fast mobile forces (even cavalry) was almost impossible in typical Karelian terrain in summer.

mobilised 54th or 55th Army to defend Leningrad from direct assault from the south and remained in this position for the rest of 1941.

After a short period of mobilisation to get up to strength, the 70th, 177th, 191st and 237th Rifle Divisions all went south to join the 'Luga Operations Group'. This group was formed in early July by the Northern Front to defend the Luga and Ostrov sectors against the rapidly advancing 4th Panzer Group. Not surprisingly, this group of four divisions came closest to total destruction in 1941. The 237th Rifle Division was so depleted it was effectively destroyed by August 1941. In September 1941 the remnants of the division were disbanded and it was removed from the Soviet order of battle. On 6th July 1941, the 70th Rifle Division went south to the Luga Operations Group with 14 000 men, and 200 mortars and artillery pieces. By 4th August 1941 it was part of the 48th Army, and the entire army (with several divisions) only had 6235 men and 31 guns left!⁶ Similarly, the 177th and 191st Rifle Divisions came close to total destruction in July-August 1941. All three surviving divisions were rebuilt in the Leningrad Front (in 55th Army) or the Volkhov Front (in 4th Army) in September-October 1941.

Of the 15 rifle divisions deployed in the Leningrad Military District (Northern Front) on 22nd June 1941 only one was officially destroyed and officially removed from the Soviet order of battle in 1941, although several were "virtually destroyed" with fewer than a thousand combatants left. All things considered, the rifle divisions in the Leningrad Military District (Northern Front) had the easiest time of any of the rifle divisions in the Western Military Districts in 1941. The Red Army soldiers who fought on this front in 1941, and for that matter the rest of WWII, may well believe they had a very bad time because the fighting was hard and the casualties were heavy. However everything is relative and as we shall see in later sections in this book, at least the majority of soldiers who remained on this front survived to tell the tale.

1st Mechanised Corps

The 1st Mechanised Corps started forming in June 1940. It comprised the newly formed 1st and 3rd Tank Divisions, the 163rd Mechanised Division and the 5th Motorcycle Regiment. On 22nd June 1941 it contained around 87% of its authorised personnel and was actually over strength in numbers of tanks, with 1037 tanks. In addition the 1st Mechanised Corps possessed almost 92% of its authorised motor vehicles and 75% of its authorised towing tractors.⁷ On paper at least, this meant the 1st Mechanised Corps was a strong formation at nearly full strength in June 1941. The detail status of the 1st Mechanised Corps, with all its component divisions on 22nd June 1941, is shown in table [Len MD IMCs](#). The 1st Mechanised Corps HQ was disbanded in August 1941.

The 1st Tank Division was formed in July 1940 and was virtually at full strength by October 1940. At this time the division had a mixture of tanks including T26s, T28s and BTs. By June 1941 the 1st Tank Division had received a handful of the latest KV and T-34 tanks. At this time it had 388 tanks on strength, including 208 T26s, 134 BTs, 31 T28s, 8 T34s and 6 KVs.⁸ In other respects the 1st Tank Division was also in good shape, with well over 90% of its motorised transport, armoured cars (reconnaissance vehicles) and heavy weapons. In June 1941 the 1st Tank Division was deployed near Kanadalaksa, but in July it moved south to defend Leningrad without its 2nd Tank Regiment. Severely worn down by August 1941, the 2nd Tank Regiment was disbanded to

⁶ C. C. Sharp, "Red Legions": Soviet Rifle Divisions Formed Before June 1941, Soviet Order of Battle WWII: Volume VIII, George. F. Nafziger, West Chester, OH, 1996, page 42.

⁷ Refer [Table Mech Cps WMD](#).

⁸ Some sources indicate the 1st Tank Division had mostly BT tanks. However there were 531 T26s and 146 specialised T-26 types (677 T26s total) in the Leningrad Military District on 1st June 1941. Given all sources agree the 1st Tank Division was at least at full strength and probably over strength, and knowing the tank types in the remainder of the Leningrad Military District, the predominant tank type in the 1st Tank Division must have been the T-26.

form separate tank battalions while the rest of the division was disbanded in September 1941 to form the 122nd and 124th Tank Brigades.⁹

The 3rd Tank Division was formed in July 1940 with mostly BT tanks and was at full tank strength by October 1940. The 3rd Tank Division never received any T34s or KV tanks, although it was at full strength with 375 BT and T-28 tanks when it went into action against 4th Panzer Group in July 1941. The most common BT type was the BT-7, the most modern BT tank in service and comparable to the majority of tank types in the 4th Panzer Group.¹⁰ Like the 1st Tank Division, the 3rd Tank Division was close to full strength in terms of personnel, artillery and transport in June 1941. When the 1st Mechanised Corps was disbanded in August 1941, the 3rd Tank Division was so worn down it is unlikely that it had many tanks left. The 3rd Tank Division withdrew to the area north of Lake Ilmen and by November 1941 it was reinforced, reorganised and redesignated, (without any tanks left) as the 225th Rifle Division.

The 163rd Mechanised Division was formed on 1st July 1940. By 22nd June 1941 its armour component was almost at full strength with 274 BT tanks. In addition, the 163rd Mechanised Division had approximately 90% of its authorised personnel and trucks, around 77% of its required tractors (prime movers), and all its authorised AT guns and artillery. By 2nd July 1941 the division was in action south of Pskov, fighting against the 4th Panzer Group. By mid August the division had lost virtually all its armour and was being used operationally as a rifle division. By September 1941 this became official by adding a new rifle regiment (the 1 318th) and redesignating the remains of the 163rd Mechanised Division as the 163rd Rifle Division.¹¹

10th Mechanised Corps

The 10th Mechanised Corps was one of the late forming mechanised corps which started forming in February-March 1941. As a result, in June 1941 it was no where near as well established as the 1st Mechanised Corps (above). The 10th Mechanised Corps comprised the newly formed 21st and 24th Tank Divisions, the 198th Mechanised Division and the 7th Motorcycle Regiment. On 22nd June 1941 it contained around 73% of its authorised personnel but only 45% of its authorised armour (and these were mostly older T-26 models). The biggest problem was however the lack of motorisation, with the 10th Mechanised Corps having only 19% of its authorised motor vehicles and 10% of its authorised towing tractors. This meant the mobility of the corps was largely limited to what the operational tanks could carry with them, while the vast majority of the corps' supporting arms were left behind. In addition the tanks had to move without their supporting fuel and ammunition supply columns, and without recovery and maintenance units. More than any other factor, the lack of motorisation indicates that the 10th Mechanised Corps was mostly unformed and had had no mobile training as a unit. The detail strength of the 10th Mechanised Corps with all its component divisions on 22nd June 1941 is shown in table [Len MD 10 MCs](#).

The 21st Tank Division was formed in February 1941, and contained only 118 T26s and 15 OT 26s on 22nd June 1941. In addition the division had around 72% of its authorised personnel, only 19% of its required trucks, and although it had most of its medium and heavy artillery it had very few prime movers to move them. The division went into action on 10th July 1941 and quickly lost most of its armour which was not surprising given the division's overall unreadiness. Despite lacking almost all its tanks and motorisation the 21st Tank Division soldiered on, effectively as a reserve rifle division for several armies in the Leningrad Front (formed in August 1941 after the

⁹ Also some personnel may have been used to form the 123rd Tank Brigade. Colonel D. M. Glantz, research paper "Red Army Ground Forces in June 1941", Glantz, 1997, p. 68.

¹⁰ 4th Panzer Group had 71 Pz III (50mm), 27 PzBefWg III and 80 Pz IVs on strength on 22nd June 1941. The majority (467 tanks) were variations of the Pz I, Pz II, Pz 35(t) and 38(t), comparable or inferior to the BT-5 and BT-7 tank series.

¹¹ C.C. Sharp, "The Deadly Beginning", Soviet Tank, Mechanised, Motorised Divisions and Tank Brigades 1940-1942: Soviet Order of Battle World War II Volume I, George F. Nafziger, West Chester, OH, 1995, pp. 12, 19, 20, 59 and 60.

10th Mechanised Corps HQ was disbanded). The 21st Tank Division was officially disbanded in February 1942 to form the 103rd and 104th Tank Brigades.

The 24th Tank Division was formed in February 1941 and was in a very similar state to the 21st Tank Division (above) except that it had more armour. On 22nd June 1941 the 24th Tank Division had 209 old T26s and BT tanks. The 24th Tank Division went into action in July 1941 south of Leningrad and later as a mobile reserve for the Leningrad Front. By early September 1941 the division was had been virtually destroyed. The remnants were disbanded to form the 123rd Tank Brigade and possibly elements of 124th Tank Brigade.

The 198th Mechanised Division was formed in March 1941 and was still in the early stages of formation on 22nd June 1941. Most of the equipment in the division was issued for training purposes and included 127 tanks and tankettes, of which the large majority were the very light MG armed tankettes. The 198th Mechanised Division had around 75% of its authorised personnel but completely lacked motorisation with only around 15% of its authorised trucks. In addition it also lacked most of its AT and artillery weapons. The only thing the division had a reasonable number of, was personnel with light weapons. The division was so unready that it remained behind in 23rd Army reserve when the rest of 10th Mechanised Corps went in to action south of Leningrad in July. In the ensuing weeks the 198th Mechanised Division was broken up with its component regiments reinforcing various fronts and armies. In September 1941 the 198th Mechanised Division was disbanded, and the resultant personnel and equipment were added to two new rifle regiments (the 1 027th and 1 029th) to form the 198th Rifle Division.

The Hango Peninsula Garrison

As part of the terms of settlement of the Winter War in 1939/40, the Soviets laid claim to the Hango Peninsula southwest of Helsinki and the Finns agreed to a 30 year lease. By controlling the Hango Peninsula and the islands off Tallin, the Soviets could easily control the entrance to the Gulf of Finland and the distant approaches to Leningrad and Kronshtadt. As a result the Red Army and the Red Banner Baltic Fleet placed large forces in heavily fortified positions on the peninsula and in the Hango naval base. By 22nd June 1941 these forces amounted to 25 300 men.

The main garrison unit on the peninsula was the 8th Rifle Brigade which was formed in March 1940. This unit was close to a division in size. It was supported by the 99th Border Guards Unit as well as various fortified coast defence battalions and batteries. In addition the Red Banner Baltic Fleet maintained naval aircraft and naval units in the Hango naval base. The detail personnel and equipment strength of the Hango peninsula garrison's ground forces on 22nd June 1941, excluding the 99th Border Guards Unit, is shown in table **Hango Gar**. In the event the Hango garrison never had to beat off a major assault, with only the Finnish 17th Infantry Division carrying out small scale attacks on the perimeter defences. When Leningrad became threatened from the south the Red Banner Baltic Fleet evacuated the entire garrison to Leningrad from 19th to 30th November 1941, with the loss of approximately 5000 men.¹² The 8th Rifle Brigade was committed to the Leningrad Front reserves for the remainder of 1941.

Leningrad Military District, Front, Army and Corps Support Units

In all military districts the exact strength of most of the smaller support units is not known. However the strength of the entire military district is known (refer next section for the Leningrad Military District), as well as the total strength of most of the divisional and brigade sized units within the district. In addition the actual strengths of certain unit types in the district can be

¹² C. C. Sharp, "Red Volunteers": Soviet Militia Units, Rifle and Ski Brigades 1941-1945, Soviet Order of Battle World War II: Volume 11, George. F. Nafziger, West Chester, OH, 1996, pp. 8 and 9. The Soviets evacuated 27 809 men with 3 000 tons of supplies and equipment. Of these 4 987 men were lost, mostly due to sea mines. It is not known how many of the heavy AA guns and artillery weapons were evacuated and/or lost.

established: these include fortified sectors, AT brigades and PVO forces. By combining all this information with the available qualitative (and in some cases quantitative) descriptions of the support units in the district, it is possible to deduce the most probable actual strength of the various support units in any particular district in June 1941. The results of this fairly laborious process for the Leningrad Military District are shown in tables [Len MD sup units 1](#) and [Len MD sup units 2](#).

The strengths of the various front, army and corps level support units in the Leningrad Military District on 22nd June 1941 are shown in table [Len MD sup units 1](#). In addition the strengths of the fortified sectors, PVO forces and NKVD forces in the Leningrad Military District on 22nd June 1941 are shown in table [Len MD sup units 2](#).

The following are some general observations regarding the various support units in the Leningrad Military District.

- The RVGK and corps artillery regiments were generally in a reasonable state of readiness with the exception that they suffered from lack of trucks. The artillery regiments averaged 71-83% of their authorised personnel and around 95% of their authorised towing tractors, but only around 40% of their required trucks. The trucks represent the regiment's ammunition, fuel and food supply columns, artillery signal (command and control) units, and maintenance and repair services. The effect of the absence of motor vehicles on the overall combat power of artillery regiments should not be underestimated, particularly in situations where the heavy artillery units were involved in a mobile battle.
- The average strength of the machine gun artillery battalions in the eight fortified sectors was lower than those on the western most borders of the USSR. This was because the latter were being reinforced immediately prior to Barbarossa, largely with personnel and equipment from the fortifications on the old 1939 border.
- The NKVD forces included an above average number of border guard units as the Leningrad Military District encompassed a very long border with Finland. In some cases the border guard units were not only responsible for patrolling large lengths of border, but also for providing the first line of defence or at least warning of an enemy (Finnish) incursion. As a result these units were close to 75% of their authorised personnel but had a lower proportion of their authorised heavy equipment.
- In terms of total numbers of heavy AA guns, the PVO air defence forces in the Leningrad Military District were the second strongest in the USSR, behind the Kiev Special Military District. They contained approximately 938 76-85mm AA guns and 58 37mm AA guns. In addition the Leningrad Military District had far more of the new 85mm M1939 AA guns than any other district in the USSR, except the Kiev Special Military District. There were 612 85mm M1939 AA guns available in the Leningrad Military District on 22nd June 1941.¹³

The PVO forces in the Leningrad Military District were stronger than in most Western Military Districts due to the presence of the 2nd PVO Corps defending Leningrad. Obviously Leningrad, its port and the surrounding area had strategic importance and was heavily defended against enemy air attack. The result was that the PVO batteries and regiments defending Leningrad were at 95-100 % of their authorised personnel and heavy AA gun strength. Their levels of motorisation was much lower than this, but as these units were mostly occupying fixed defences this mattered less than for regular Red Army units. The five PVO regional brigades were at a much lower strength compared to those defending Leningrad city.

- The Leningrad Military District was well equipped with coastal artillery defence units which were maintained in a relatively high state of readiness. This was because the district was

¹³ C. Crofoot, *The Order of Battle of the Soviet Armed Forces: The Sleeping Bear, Volume 1: 22nd June 1941, Part One*, The Nafziger Collection Inc, West Chester, OH, 2001, p. 59.

responsible for defending the coast around Leningrad and also in the far north around Murmansk (covered by the 14th Army).

Total Manpower and Equipment in the Leningrad Military District, 22nd June 1941

Table **Len MD Total** shows the total manpower and equipment present in the Leningrad Military District (designated the Northern Front from 24th June 1941) on 22nd June 1941.

Allocated to Combat Units

The first column in table **Len MD Total** titled ‘Allocated to Combat Units’ indicates the total personnel and equipment allocated to combat units (and hence in a Deployed (D) state) in the Soviet Army, NKVD, Air Force ground units, PVO ground units, and Naval ground units, in the Leningrad Military District on 22nd June 1941. All the combat units concerned are shown in the ‘Deployment Matrix’ for the Leningrad Military District. All these units make use of a TOE and all the equipment allocated to them is covered in the relevant sections above.

Rear Area, Other

The second column titled ‘Rear Area, Other’ indicates the total personnel and equipment present in the Leningrad Military District, which is in one of the following states,

- In transit to or from a combat unit and as yet unassigned.
- In training and unassigned to a combat unit.
- In additional military district rear area services (eg additional RVGK signal personnel or non-combat, rear area supply and support infrastructure units).
- Servicemen and military construction workers on the People’s Commissariat for Defence ration strength, who were serving in formations which came under civilian departments.
- Unassigned equipment in depots, undergoing major repairs or being rebuilt.
- In Air Force (VVS) and PVO aviation or support units.
- In naval seagoing or support units.

The manpower and equipment in all of these categories is very important in the Soviet FILARM model. This is because a large portion of the manpower and almost all the combat equipment listed, historically ended up in Soviet ground combat units in 1941, either in the form of direct Replacements (R) or in newly Mobilised and Deployed units (MD units).¹⁴ The available motorised transport in this column is also very important because it is a major component of the armed force’s Supply Distribution Efficiency (SDE) rating in this district.¹⁵

Total in the District

The third column titled ‘Total in the District’ lists the total personnel and equipment in the Soviet Army, NKVD, Air Force, PVO and Navy in the Leningrad Military District on 22nd June 1941.¹⁶ Note, all columns in table **Len MD Total** include the personnel and equipment in the 1st

¹⁴ Refer to Part I 3. 3) – ‘Military Simulations, and the General Structure of the Integrated Land And Air Resource Model – The Structure of the Fully Integrated Land and Air Resource Model (FILARM) – Resource Allocation States inside the FILARM Model’. This manpower and equipment is considered to be in the ‘Campaign Start Reserves’ resource allocation state in the Soviet FILARM model. Note, all the manpower and equipment allocated to combat units in table **Len MD Total** is initially in the ‘Deployed (D)’ resource allocation state in the Soviet FILARM model.

¹⁵ Manpower and equipment used for the district’s SDE is considered to be in the ‘Supply and Support Infrastructure’ resource allocation state in the Soviet FILARM model.

¹⁶ The primary source for data in this column is C. Crofoot , The Order Of Battle Of the Soviet Armed Forces: The Sleeping Bear, Volume 1: 22nd June 1941, Part One, The Nafziger Collection Inc, West Chester, OH, 2001, pp. 59-63. This document is quoted as “an extraction of the official Soviet order of battle for the entire armed forces of the USSR

Naval Infantry Brigade, coastal artillery defence units and railroad artillery units, which were mostly manned by Soviet naval personnel. Soviet naval personnel and equipment is not usually included in lists of Red Army, NKVD and Red Air Force orders of battles (OOBs).

Equipment Readiness Categories

The row titled 'Equipment Readiness Category' is part of a readiness monitoring system used by the Soviet forces to indicate the readiness of equipment. There appears to have been four readiness categories for tanks and five readiness categories for other equipment. In general the readiness categories were defined as follows:

- Category 1: New tanks and new equipment, almost 100% serviceable.
- Category 2: Serviceable tanks and equipment, requiring only "routine maintenance" in the combat unit concerned.
- Category 3: Tanks and equipment requiring "medium repairs".

For tanks medium repairs required repairs to be done at the district level in peacetime, or army or higher level in wartime.

For most other equipment medium repairs could probably be done at a lower level, possibly in the combat unit itself.

- Category 4: Tanks and equipment requiring "capital repairs".

For tanks capital repairs were done in central depots or in the factory.

For other equipment capital repairs could probably be done at a district level in peacetime, or army or higher level in wartime.

- Category 5: For all equipment this required the equipment to be rebuilt in central depots or in the factory. Old and obsolete equipment, which is no longer functional and for which spares are scarce, would fall into this category.

In table **Len MD Total** equipment allocated to combat units can be considered to have been in at least a Category 3 state of repair or better, while tanks allocated to combat units were at least in a Category 2 state of repair or better. It should be noted however that the Soviet June 1941 reports on equipment readiness, especially tanks, appear to have been very optimistic. Almost all Soviet armoured formations had many tanks classified as in a Category 2 state of repair, while in reality these tanks needed a great deal more work done on them than "routine maintenance".

In addition to this the reader should note that equipment (except tanks) shown in the 'Rear Area, Other' column was equipment in any state of readiness. For example, it could have been newly arriving equipment in depots or old equipment withdrawn to depots for rebuilding. Tanks listed in the same column were generally only in a Category 3 or 4 state of repair in June 1941.

during the great patriotic war". The primary sources used are *Boevoi Sostav Sovetskii Armii* for the army, and *Boevaya Letopis* and *Korabli i Suda* for the navy. Crofoot's excellent work currently represents the most comprehensive and detailed western publication available on details of the actual Soviet equipment present in the various military districts in the USSR in June 1941. Crofoot does not detail the OOB of Soviet naval ground forces in the military districts. Therefore it is possible that the total manpower listed for the Leningrad Military District (i.e. 404 470 in total on page 63) does not include the approximately 11 000 naval personnel in the 1st Naval Infantry Brigade, the coastal artillery defence units and the railroad artillery units, in this district on 22nd June 1941. For the purposes of the Soviet FILARM model, it is assumed the figure of 404 470 includes all personnel in all Soviet armed forces in the Leningrad Military District on 22nd June 1941.

Summarised Total Personnel and Equipment in the District

Summarising the reconciled results for the entire district, we can see that there were 15 755 crew served MGs (excluding 12.7mm AAMGs), 3 687 mortars, 2 996 artillery pieces (including AT guns but excluding AA, coastal and rail guns), 1 228 AA artillery guns, 1 857 tanks and tankettes, and 404 470 personnel present in the Leningrad Military District on 22nd June 1941. In general this total is consistent with other up to date published sources.¹⁷

¹⁷ For example, D. M. Glantz, *Barbarossa*, Tempus Publishing Ltd, Stroud, UK, 2001, p. 217, notes 2, note 28. Glantz gives the Leningrad Military District strength on 22nd June 1941 as 404 470 men, (including 49 227 in training), 7 901 guns and mortars, 1 857 tanks (1543 operational). His reference is: *Boevoi i chislennyi sostav vooruzhennykh sil SSSR v period Velikoi Otechestvennoi voiny (1941-1945 gg.): Statisticheskii sbornik No.1 (22 iunია 1941 g), 16-17*. [The combat and numerical composition of the USSR's armed forces in the Great Patriotic War (1941-1945); Statistical collection No 1 (22 June 1941) (Moscow: Institute of Military History, 1994), 16-17].

Table **Len MD Total** gives the same total number of personnel and total number of tanks (with 1569 in a Category 1 or 2 state of readiness i.e. operational) and 7 911 guns and mortars of all types (excluding 131 coastal defence guns manned and operated by the Soviet Navy).