

Chapter IV-6: The Actual Strength of all Soviet Land Combat Units in a Deployed (D) State on 22nd June 1941

In Part IV 6 we will examine one of the main reasons why the Red Army forces in the Western Military Districts in June 1941 were unable to stop the German invasion. So far we have examined the authorised Table of Organisation and Equipment (TOE) of Soviet combat units deployed in the USSR in June 1941, and the actual units deployed (using the Deployment Matrix). We will now examine the actual manpower and equipment of these same combat units compared with their TOE, and where appropriate the overall state of these units on 22nd June 1941.

The actual strength of Soviet land combat units on 22nd June 1941 is determined using historical references, the principles of heterogeneous and homogeneous models, and checksums. Refer to the Part I 8. in order to see how different information relating to the actual manpower and equipment in a particular combat unit is reconciled between various sources.¹ If reconciliation between sources is impossible and only conflicting information is available, then the most likely and/or reliable source is used, and the source referenced.

Review of the Overall Strengths of Selected Red Army Units and PVO forces on 22nd June 1941

Before establishing the actual strength of individual combat units and reconciling this with the actual strength in each military district, we need to make some general observations about the actual strength of selected unit types and branches of the Soviet armed forces in June 1941. This is because reliable data is available on the actual manpower and equipment present in certain branches of the Soviet armed forces in June 1941. The particular forces examined in our initial review are rifle divisions, mechanised corps, anti-tank (AT) brigades, fortified sectors and PVO forces.

In later sections of this chapter we will be examining the actual strength of forces in each military district on 22nd June 1941. In these sections, we will reconcile the military district strength data with the actual strengths presented in this section.

The Rifle Divisions

On 22nd June 1941 no rifle division was at the strength authorised by the April 1941 TOE. There were several reasons for this. In June 1941 the Soviet army was on peacetime establishment strength, and the rifle divisions were closer to their peacetime authorised strengths than their wartime authorised TOE. Outside the Far East there were two peacetime strength levels, the '6' and the '12' based on 6 000 and 12 000 men respectively. Rifle divisions in the Far East had maintained a strength approximately 10% higher than the '12' strength since around 1939.

The table below indicates the authorised manpower and equipment for the various rifle division peacetime strength levels.

¹ Part I 8. - 'Military Simulations, and the General Structure of the Integrated Land and Air resource Model – The Heterogeneous vs. the Homogeneous Model'.

June 1941 rifle divisions peacetime authorised strengths			
	Full strength division	12000 division	6000 division
men	14 483	10 291	5 864
rifles and carbines	10 420	7 818	3 685
sub machine guns	1 204	1 159	691
light machine guns	392	371	324
heavy machine guns	166	164	163
AT gun (45mm)	54	54	52
artillery (76-122mm)	66	66	62
artillery (152mm)	12	12	12
mortars (all types)	150	150	108
horses	3 039	1955	905
trucks	585*	414	155
* Includes 447 trucks, 117 specialised trucks, and 21 kitchen trucks.			

In the spring of 1941 approximately 500 000 reservists were called up, primarily to bring the rifle divisions in the Western Military Districts up to the '12' level. However even with this additional manpower, most of the rifle divisions in the Western Military Districts were well below the '12' strength in June 1941. On 1st June 1941 the average strength of rifle divisions in the Western Military Districts was as follows:²

Leningrad Military District	11 985 men
Baltic Special Military District	8 712 men
Western Special Military District	9 327 men
Kiev Special Military District	8 792 men
Odessa Military District	8 400 men

The rifle divisions in the interior of the USSR, including many in the Stavka reserve, were considerably lower in strength than those in the Western Military Districts. They were more likely to be closer to the '6' level shown above.

The second major reason so many rifle divisions were below strength in June 1941 was to do with the massive expansion of the whole Red Army from 1939 to 1941. On 1st January 1938 the Red Army contained 84 rifle divisions, 14 mountain rifle divisions and five rifle brigades. By April 1940 this force had expanded to include 144 rifle divisions, ten mountain rifle divisions, three motorised rifle divisions and four mechanised rifle divisions. By June 1941 the rifle elements of the Red Army included 179 rifle divisions, 19 mountain rifle divisions and five rifle brigades. Even taking into account the very large TOE of earlier rifle divisions, this means that in only three and a half years the rifle elements of the Red Army had more than doubled, while the number of rifle corps had almost tripled. This is before we even consider the expansion of other Red Army units such as the new airborne corps, and the entirely new and very large RVGK anti-tank brigades.

Probably the greatest shortage of rifle division equipment, particularly all forms of motorised transport, was caused by the decision to create 29 full mechanised corps from June 1940 to February 1941. As late as February 1941, 20 mechanised corps HQs, 41 tank divisions and 21 mechanised divisions started forming. By any standards this was an immense undertaking and this

² C. C. Sharp, "Red Legions": Soviet Rifle Divisions Formed Before June 1941, Soviet Order of Battle WWII, Volume VIII, George F. Nafziger, West Chester, 1996, p. 5. By 22nd June 1941 it is likely the average division had an additional 100-300 men above that shown here.

mechanised force dwarfed any in the world at that time. Because newly forming rifle divisions had a low priority for equipment compared with the new tank and other units, many of these rifle divisions were very scantily equipped. At the same time existing rifle divisions were stripped of any attached tank forces in order to support the new mechanised units, while the need for motor transport in the new mechanised units meant the vast majority of rifle divisions were chronically short of trucks and to a lesser extent, tractors. Apart from a few select rifle divisions, only those in the Far East retained their tank units.

The Soviet mobilisation plan in wartime called for rifle divisions in the Western Frontier Districts to be brought up to full strength in a period of 7 to 14 days after commencing mobilisation. This required a large number of reservist personnel to be very rapidly mobilised, as well as a great many trucks and horses to be commandeered from the civilian economy. This was essential to enable these divisions to manoeuvre because the average '6' and '12' strength rifle divisions were short 33-66% of their required horses and 25-80% of their required motor vehicles. Unfortunately, the speed of the German attacks, and the unavailability of trucks and tractors, meant the mobilisation plan wasn't worth the paper it was written on from day one. Most divisions (not just rifle divisions) never received anything like the additional transport or further heavy equipment required for them to fully mobilise. This placed the bulk of the rifle divisions in the Western Military Districts at an immense disadvantage when faced with more mobile German infantry divisions, and was catastrophic when they were faced with highly mobile panzer forces.

Many of the rifle divisions dispatched to the front from internal military districts did not fair much better than those initially deployed in the Western Military Districts: generally they were also sent into action before they had had a chance to fully mobilise. On 22nd June 1941 these divisions were mostly in a far worse readiness state than their counterparts in the border military districts, and they often completely lacked rear service units and transport. Separated too early from their mobilisation base, they were never able to mobilise fully.³

In addition to general equipment shortages, it is important to understand that the Red Army as a whole was suffering from a shortage of trained and experienced officers due to the debilitating effects of the recent officer purges (entirely due to Stalin and his entourage). The officer purges also ensured a very centralised and hierarchical command system, where any officer literally risked his life by showing any independent initiative. Even at the height of Operation Barbarossa, many Soviet officers were more afraid of their own commissars than the Wehrmacht. The shortage of trained and experienced officers was one of the principal factors leading to poor communication, command and control, at the operational and tactical level, throughout the Red Army in the summer of 1941. The purges had more affect on rifle divisions than most large Red Army units, because the majority of surviving 'competent and trained' officers went into the more prestigious mechanised, cavalry and airborne corps, or the politically protected NKVD. The officer shortage in rifle divisions is not readily apparent when examining differences between the TOE and actual strength. However in terms of impact on the actual combat power of rifle divisions, the officer shortage was no less real than shortages of weapons and transport.

When the chronic shortage of transport is coupled with shortages of trained key personnel (especially NCOs and officers), AT guns, AA guns, and many types of ammunition, it is hardly surprising that the actual combat power of the rifle divisions Deployed (D) in June 1941 was far less than that indicated by their TOE strength.

³ D. M. Glantz, *Stumbling Colossus*, University Press of Kansas, Lawrence, Kansas, 1998, p 112.

The Mechanised Corps

The Soviet 1940-41 mechanised corps were very large and ambitious formations, and most of them were also entirely new in 1941. The order to form the first batch of eight mechanised corps and their component tank divisions came in June 1940, with another mechanised corps ordered in November 1940. This meant nine mechanised corps HQs and 20 tank divisions (two separate) were formed in around six months. With the simultaneous rapid expansion of other Red Army units, the ambitious mechanised corps programme had already over stretched the USSR's available equipment and transport resources. The notable exception to this was the numbers of available tanks and tankettes.⁴ The USSR possessed around three times as many tanks as the rest of the world's combined armed forces in December 1940, so there was still a very large tank pool available along with 45 separate tank brigades.⁵

If the Soviets had stopped at this point, they would already have possessed the largest concentrated mechanised force in the world. By June 1941 the 27 new tank and mechanised divisions making up this force would have had a good chance of getting to full strength in terms of motorised transport, modern tanks, artillery, motorised infantry and logistical support units. Equally important, the nine mechanised corps would have been ready (and hence able) to conduct divisional and corps level manoeuvres before June 1941.

However in February 1941 the Red Army started forming no fewer than 20 new mechanised corps, which required 40 new tank divisions and 20 new mechanised divisions! This tripling of the number of required divisions meant that all the remaining tank brigades, two out of three armoured car brigades and all except two independent motorised rifle divisions and brigades, had to be disbanded.⁶ The new mechanised corps started forming in March 1941. Consequently, the diversion of critical manpower, equipment and transport into the new units meant that the original nine mechanised corps also struggled to mobilise and to become anything like combat ready. Thus when the Germans struck on 22nd June 1941 the mechanised corps were all still forming. Many of them were barely equipped or trained, and most suffered chronic shortages in almost every department. This was the case despite many tank and mechanised divisions being close to full strength in terms of tank numbers. However simply having tanks on strength is very different to having operational tanks and supporting arms with the logistical infrastructure to support them. Many of these tanks were old and in desperate need of maintenance and repair: the very activities that the tank divisions and mechanised corps were least equipped or trained to carry out.

If there is one single piece of evidence that indicates that the Red Army had no intention of attacking Western Europe until mid 1942 at the earliest, it is the overall state of the mechanised corps. None of the mechanised corps in June 1941 were near combat ready and they would have required at least another year before sufficient of them were equipped, trained and ready to spearhead an attack on the required scale. The regular divisional training exercises were not even scheduled until August 1941. As the mechanised corps represented the main offensive arm of the Red Army, there was simply no way they would have launched an attack without them. When

⁴ A tankette denotes a very light tank, usually only armed with MGs and possessing a two man crew.

⁵ The Soviets had started an ambitious tank production program as early as 1930. Tank production in 1931, 32, 33, 34, 35, 36, 37, 38, 39 and 40 amounted to approximately 100, 3300, 3442, 3371, 3139, 3139, 3139, 1500, 3000 and 2794, respectively. This amounts to approximately 26 900 tanks produced in 10 years, of which over 24 000 were still in service in December 1940. Figures from, J. Milsom, *Russian Tanks 1900-1970: the Complete Illustrated History of Soviet Armoured Theory and Design*, Galahad Books (A&W Promotional Book Corp), New York, 1970, Appendices, p. 180. Also refer to Part IV 6. 18) – 'The Soviet 'Tank Deployment Matrix' for further information on tanks produced in the USSR prior to June 1941, including alternative sources.

⁶ C.C. Sharp. *The Deadly beginning: Soviet Tank, Mechanised, Motorised Divisions and Tank Brigades 1940-1942*, Soviet Order of Battle World War II: Volume 1, George F. Nafziger, West Chester, 1995, p. 10. The 36th and 57th motorised rifle divisions remained in the Transbaikal.

coupled with the many overall problems in the Red Army at this time, the evidence becomes overwhelming.

Reasonably detailed information on the location and strength of the Soviet mechanised corps in the Western Military Districts on 22nd of June is available. This information is shown in table **Mech Cps WMD**.⁷ Below the basic strength information is a brief analysis of the following: the average mechanised corps strength in the Western Military Districts, the average mechanised corps strength in each of the five military districts in the Western Military Districts, the average mechanised corps strength in the Western Military Districts for those corps formed from June to December 1940, and the average mechanised corps strength in the Western Military Districts for those corps formed from February to March 1941. The actual average strengths are all expressed as a percentage of the full TOE strength in order to gauge the state of the mechanised corps formations in each category (above) on 22nd June 1941.

There are various instructive observations that can be made from the analysis of the strength figures in table **Mech Cps WMD**, which include:

- i. **There was a very large variation in strength between mechanised corps in particular military districts, and overall.**

For example, in the Western Special Military District the 6th Mechanised Corps was close to full strength. It had almost a full complement of tanks (including 238 T34s and 114 KVs) and almost 93% of its authorised vehicles. In sharp contrast, the 17th Mechanised Corps in the same district was barely formed with only 36 tanks (all very light tankette ‘training tanks’) and only 12% of its authorised vehicles. It is no surprise at all that the 17th Mechanised Corps ceased to exist shortly after contact with German forces.

- ii. **The average mechanised corps in the Western Military Districts was fatally short of all types of motorised transport.**

This is highlighted in table **Mech Cps WMD**, which shows severe shortages in most categories, but fatal shortages in motor vehicles. The average mechanised corps in the Western Military Districts had only 38% of the required motor vehicles, 39% of the required armoured cars, 48 % of the required tractors and 17% of the required motorcycles.

In 1941 the Soviet tank and mechanised division TOEs were not extravagant in terms of the number of authorised motor vehicles (unlike the number of tanks). On the whole, the minimum number of motor vehicles was authorised that could just do the job. For example, a Red Army tank division in June 1941 was authorised 1 568 trucks and light transports to support 375 tanks (i.e. 4.2 motor vehicles per tank in the division). In comparison, a panzer division in June 1941 was authorised 2 304 trucks and light transports to support 182 tanks (i.e. 12.7 motor vehicles per tank in the division).⁸ In addition panzer divisions were largely equipped with 2.5 ton supply trucks while most Soviet supply trucks were lighter 1.5 ton trucks. The average full strength panzer division had close to five times as much ‘transport lift capacity’ per tank, as the average full strength Red Army tank division.

⁷ Most information is from D.M. Glantz, *Stumbling Colossus*, University Press of Kansas, Lawrence, Kansas, 1998, p. 155, table 5.5. His reference: *Nachal'nyi period Velikoi Otechestvennoi voiny* [The initial period of the Great Patriotic War], Moscow: Voroshilov Academy of the General Staff, 1989, 49-50. Also *Stroitel'stvo i boevoe primeneniye sovetskikh tankovykh voysk gody Velikoi Otechestvennoi voiny* [The formation and combat use of Soviet tank forces during the Great patriotic War], Moscow: Voennizdat 1979. Tank strength is derived from Part IV 18. in this book titled *The Soviet ‘Tank Deployment Matrix’*. The mechanised corps full TOE strength is derived from the sum of the TOEs of all the mechanised corps components, i.e. two tank divisions, one mechanised division, one motorcycle regiment and all the mechanised corps HQ elements.

⁸ Refer Part IV 3. 2) b. and Part V 3. for details on the TOEs of Soviet tank divisions and German panzer divisions in June 1941.

Therefore mechanised corps having fewer than half their authorised vehicles had little hope of remaining mobile, or sustaining themselves under combat conditions, for very long. Notably, the mechanised corps in the Western Special Military District and the Kiev Special Military District had an average of only 29% and 32% of their required motor vehicles respectively. These were the largest and most important districts in the Western Military Districts, and as such they bore the brunt of the initial German invasion.

Without motor vehicles and trucks there is no fuel and ammunition supply, no tank recovery, no transport for supporting arms such as infantry and artillery, and probably little to no command and control. Without trucks and logistics the biggest and most powerful armoured formations rapidly screech to a halt in a few days, and the tanks become little more than static defences or scrap metal.⁹ The chronic shortage of motor transport meant the destruction of most 1941 mechanised corps in the Western Military Districts was ensured.

iii. **The principal reason for the mechanised corps' weaknesses was NOT shortage of tanks, but shortage of almost everything else.**

It is often stated that “the 1941 mechanised corps did not have their authorised number of tanks” and that “they had relatively few T34 and KV tanks”. The implication is that lack of tanks was therefore the mechanised corps' most critical weakness and that this was exacerbated by not having sufficient numbers of the most modern tanks. At first glance the data from table **Mech Cps WMD** would appear to support this view, with the average mechanised corps in the Western Military Districts having 51% of the tanks called for in their TOE.

However the mechanised corps were very tank heavy formations with far more authorised tanks than most contemporary tank corps. The mechanised corps' TOE called for a huge number of tanks (1 031 tanks) and having 50% of TOE didn't in itself mean that the mechanised corps were weak because they had “few tanks”. The average mechanised corps still had over 530 tanks compared to the average panzer corps with 340-380 tanks (in two panzer divisions and a motorised division). Thus the average mechanised corps in the Western Military Districts in June 1941 still had considerably more tanks than any of the invading panzer corps. In addition the most common Soviet tanks of the day, namely the T26 and BT tanks, were superior or comparable to the Pz Is, Pz IIs, Pz 35(t)s, Pz 38(t)s and Pz III (37mm)s, which together represented the bulk of German armour in June 1941.

Consider the case of the 6th Mechanised Corps. On paper at least, the 6th Mechanised Corps (in the Western Special Military District) was one of the best equipped units in the Red Army in June 1941. Its tank divisions were better equipped with heavy and medium tanks than any German panzer division throughout 1941 and well into 1942. The 6th Mechanised Corps had 1 021 tanks on strength including 352 T34 and KV tanks, the most modern and powerful tanks in service anywhere in the world at that time. In fact it is safe to say that based on tank

⁹ Many authors take pains to point out that only 11 900 lend lease tanks and SP guns were received by the Soviets in WWII, which ‘only’ represented around 11% of the total received by the Red Army during WWII. What is often not pointed out is that lend lease also supplied 401 000 motor vehicles and over 5 000 APCs. This represents almost twice the Soviet wartime production of motor vehicles and as the US trucks were much better and heavier, it represent around 60-70% of the total Red Army truck lift capacity in WWII. The impact on not having these vehicles in the Red Army from 1942 onwards can not be overstated, especially on the ability for large tank and mechanised forces to carry out sustained offensive operations. Even with these additional trucks, a relatively weak Supply Distribution Efficiency (SDE) plagued the Red Army for most of WWII and possibly caused a halt to more offensive operations in 1943-45 than stubborn German defenses did. In defence, or even when repelling a large counter attack, lack of these vehicles invariably proved fatal to a large armoured force. This was because lack of fuel, ammunition, supplies, spare parts, recovery vehicles, and mobile support units, meant that large armoured forces often had to abandon their heavy equipment if forced to retreat. The destruction of many mechanised corps in 1941 is an excellent example of the latter occurrence.

strength alone, the 6th Mechanised Corps represented the most potent tank corps anywhere in the world in June 1941 (the closest competitor to this title being the 4th Mechanised Corps in the Kiev Special Military District). Despite this, the corps' 4th and 7th Tank Divisions, and the 29th Mechanised Division (the entire 6th Mechanised Corps) were all completely destroyed in less than two weeks of combat without inflicting any serious damage on any German units.

There are many reasons why this occurred, suffice to say here that most tanks were abandoned due to lack of fuel or breakdowns. Those tanks that did manage to engage the enemy were usually committed to action piecemeal and without any infantry or artillery support. The latter were usually dispersed, out of command control, elsewhere, or simply immobile due to lack of transport. The fate of the 6th Mechanised Corps serves to provide a perfect example of why tank strength alone should never be used (but often is used in WWII literature) to assess any armoured units overall combat power or its ability to sustain prolonged combat operations.

iv. **The Western Special Military District contained the weakest average mechanised corps.**

The most important strength categories in table **Mech Cps WMD** for assessing a mechanised corps' overall combat power are manpower, tank, artillery, motor vehicles and tractors.

In every important category, the mechanised corps in the Western Special Military District were the weakest of any in the Western Military Districts. In particular they only possessed 29% and 31% of their required motor vehicles and tractors respectively. It is little wonder that their combat readiness dropped so rapidly when they attempted to attack or even retreat. Being hit by the strongest German forces, namely Army Group Centre, simply accelerated the rate with which the mechanised forces in the Western Front were destroyed.

v. **The average mechanised corps (in the Western Military Districts) formed in 1940, were substantially stronger than those formed in February-March 1941.**

This was true in every category, and especially true in the critical categories of manpower, tanks, artillery, motor vehicles and tractors. The average mechanised corps formed in 1941 had only 23% of their required motor vehicles. This means many of these mechanised corps were barely able to move and were extremely fragile. On balance, the Red Army would have been better served to have used the resources in the 1941 mechanised corps to fill up the ranks of the 1940 mechanised corps (the 1st to the 9th Mechanised Corps). Of course this is easy to say in hindsight as the Soviet high command was not expecting an attack in 1941. They assumed the USSR had at least another year to build up and train the 20 new 1941 mechanised corps before they would need to be combat ready.
