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MT 59/27

HR70-14

5124

2 September 1977

MEMORANDUM

Preliminary Exploitation
of a Soviet Document

APPROVED FOR
RELEASE -
HISTORICAL
COLLECTION
DIVISION
HR70-14 DATE:
07-18-2012

1. A recently acquired classified Soviet document [redacted] consists of two lists which provide comparative numerical ratings for the combat potential of a wide variety of combat equipment and division-size combat units of the Warsaw Pact and various of their potential enemies. The lists apparently were compiled for use in scoring the wargaming portions of Soviet command post exercises (CPXs). The equipment list provides the names and, in a few cases, the calibers of some new weapons which the Soviets apparently have either fielded or are developing. Also, the comparative relationships established in the lists allow some additional inferences to be made concerning the characteristics of combat equipment and units and the emphasis Soviet planners place on various characteristics. The comparative relationships established in the lists are complex and open to different interpretations and, thus, will require further analysis. Nonetheless, a few possible conclusions and questions are suggested by an initial, preliminary appraisal of this document. The following paragraphs

Comments and queries regarding this memorandum are welcome. They may be directed to [redacted]

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are an attempt to make others aware, as quickly as possible, of the potential usefulness of this document and of some of its possible implications (primarily those which relate to Warsaw Pact ground forces equipment and units). Follow-on studies will be conducted. For example, OSR [] in conjunction with OSR [] will undertake to determine more precisely the specific methodology used to evaluate these and other weapons characteristics.

2. *General.* Some new items of Soviet equipment are listed. In CPXs the Soviets frequently examine the potential uses of equipment and unit organizations which are not as yet available to operational units. Thus, the equipment listed probably includes both fielded items and equipment still under development.

3. All items of combat equipment listed are normalized on the T-55 medium tank which is given a combat potential value of 1.0. Other tanks, APCs, artillery, air defense weapons, antitank weapons, and even aircraft are rated relative to this standard. The compilers of this list no doubt recognize that placing such disparate categories of equipment on the same scale introduces artificialities. They apparently accepted this problem, however, to obtain ratings usable for scoring CPX play or for other forms of war-gaming. In our interpretation of the list, it became apparent that comparisons are least misleading when they are made among items of equipment in the same general category.

4. Although not specifically explained in the document, the determination of the relative combat potential of a weapons system appears, at a minimum, to account for firepower, survivability, and mobility (probably weighted in that order).

-- In terms of firepower, it appears that the compilers of the list give considerable weight to long-range, accurate fire against point targets (for example, the M60A2 with its tube-fired missile is rated 2.20 as compared to

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1.10 for the M60A1 and 1.40 for the M60A3 with their 105mm guns). Gun caliber, while undoubtedly a factor, does not appear to be as heavily weighted. For example, the 203mm towed howitzer is rated .62 while the 152mm towed howitzer is rated at .71. They apparently also give less weight than might be expected to automatic fire capabilities (for example, the "Vasilek", an 82mm vehicle-mounted automatic mortar, is rated only one-third higher than a simple man-pack 82mm mortar).

-- With respect to survivability our initial impression is that effective armor protection against direct fire is highly valued. This may be a major explanation for the very high rating given the XM-1 tank and may also account for the relatively low ratings given to unprotected or lightly armored field artillery pieces. The protection provided by light armor against indirect fire seems to be given relatively little consideration. For example, the improvement in rating given self-propelled 122mm and 152mm howitzers over their towed counterparts is less than might have been expected considering their total improvement in light armor and mobility over the towed weapons.

-- Mobility is clearly a factor considered but it also appears to have been given less weight in the rating system than firepower and survivability. The document contains several examples in which making a weapon self-propelled and improving it in other ways caused only a small improvement in rating. In particular, the rating of .80 given to the new SP 240mm mortar can be directly compared to the .74 rating given to the older towed 240mm mortar because the major, and perhaps only, improvement in this case was in mobility.

5. The ratings for combat units appear to have been derived by multiplying the quantity of each major item of equipment contained in a unit by the appropriate

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combat potential ratings of the items of equipment. The total weapons score (651) for a Soviet motorized rifle division equipped with T-55 tanks and BMPs was normalized to 1.0 for a new unit scale (e.g., a division with a total weapons score of 651 would equal 1.0; a division with a total weapons score of 842, for example, would equal 1.29). Thus, the equipment and unit scales are closely related and the unit scale measures only differences in equipment. Factors such as manning levels, training, relative national reliability, etc., evidently are not considered.

6. *Tanks.* In addition to the T-62 and earlier model Soviet medium and heavy tanks, six later tank designators are listed--T-64A, T-64B, T-72, T-72 (w/ tank gun D-kl), T-80, and T-80 (improved). This confirms other intelligence which indicates that the Soviets have developed or are developing a number of new medium tank models, not all of which have been or are likely to be widely fielded. Interestingly, none of the new tanks which our other intelligence indicates have already been fielded is rated as highly as the XM-1 or the Leopard 2-- the next generation of NATO tanks. The Soviets do appear to have a tank under development (the T-80 improved), however, which the document projects to be better than the XM-1. Additional inferences which might be made about these tanks include:

-- The T-64A and T-72 are given identical ratings in the list. The T-72 was previously thought to be the production version of the T-64 development series. The identical ratings provide support for this and further suggest that these tanks may be very similar to each other (e.g., perhaps the same gun). Support for this interpretation is also provided by the document's description of Soviet motorized rifle divisions. T-64As and T-72s are listed together in the same type divisions. The rating and, therefore, the combat potential given these two tanks is comparable to the latest Leopard-1 version or to the latest Chieftan tank and is only slightly higher than the M60A3.

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- The T-64B is given a much higher rating similar to the US Army's missile-firing M60A2 tank. Although speculative, this may suggest that the T-64B is the missile-firing tank which other evidence indicates the Soviets attempted to develop in the late 60s and early 70s. As far as we know, this program did not result in a successful or widely fielded tank. The fact that it is not listed with any of the divisions also suggests that it is not in the operational inventory.
- The rating given the T-72 with tank gun D-k1 clearly differentiates it from the T-72. We have received other reports that two versions of the T-72 exist--one with a 115mm and the other with a 125mm gun. Thus, one interpretation is that the T-72 w/tank gun D-k1 is the version with the 125mm gun.
- There has been some [redacted] reporting on tank development programs following the T-72 series. The T-80 designator has been reported but in a very unclear context. What little evidence we have suggests that both the T-80 and the T-80 (improved) are developmental tanks--perhaps in a very early stage of development. Once again, neither of these tanks is listed in the document's description of Soviet divisions. The high value assigned to the T-80 (improved) suggests that the design may include advanced armor similar to that on the XM-1 and Leopard 2 and possibly a dual gun/missile launcher.

7. Some interesting comparisons can also be seen in the rating of the older tank series. For example,

- The T-62 is given an identical, rather than a higher, rating as compared to the T-55. Even though the 115mm T-62 gun is significantly better than the 100mm T-55 gun, we have long known that the Soviets were not entirely satisfied with the T-62. For example, the T-62 is longer than the T-55 and apparently does not provide as stable a gun platform when moving over rough terrain.

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Also, while the Soviets have stopped production on the T-62, they are still producing T-55s. The identical ratings given the T-62 and T-55 in this chart seems to confirm the assessment that the T-62 is not considered by the Soviets to be appreciably better than the T-55.

- the obsolescent T-10M heavy tank is rated about twice as highly as other older model Soviet heavy and medium tanks on this list and, in fact, is rated slightly *higher* than even the T-64A and T-72. This raises more questions than answers because there is no obvious reason why the T-10M should be rated this highly. The T-10M does have a higher velocity 122mm gun than its predecessors and, of course, heavy armor.

8. *Infantry Combat Vehicles and APCs.* One comparison is immediately noteworthy--the .10 rating given to BTR and BRDM type APCs and the .80 rating given to the BMP. This radical difference (factor of 8) probably indicates that the rating system strongly favors accurate long-range firepower and thus gives high credit to the ATGM on the BMP (the 73mm low recoil gun and improved survivability may also be factors).

9. *Field Artillery and Mortars.* One rather surprising observation is that none of these weapons, not even the most modern self-propelled artillery piece, is given as high a combat potential rating as a T-55 tank. If, as other portions of the list suggest, accurate long-range firepower and armor protection are the most important factors used in deriving these scores then the area nature of artillery indirect fire combined with the very light armor (or no armor) of these weapons probably influenced these low scores. Certain inferences can also be made concerning specific weapons:

- The caliber of the new self-propelled heavy gun is 203mm and has the Soviet name of "Pion" (Peony). In the past, we had estimated the caliber of this weapon to be 203mm, although a possibility remained that it might be a 180mm weapon.

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- The self-propelled mortar is confirmed to be a 240mm weapon. Its Soviet name is "Tyulpan" (Tulip).
- There has been previous reporting on the "Plamya" (Flame) which identifies it as a grenade launcher capable of firing 70mm grenades in bursts of 20 to 25 rounds. The combat potential list, however, cites its caliber as 30mm. The large difference between these two calibers presents a problem and the 30mm figure is particularly difficult to understand since it would seem as though such a small grenade with its greater requirement for miniturization would be both expensive and difficult to produce and not very effective.
- We know from other sources that the Soviets have fielded a new multiple rocket launcher firing large rockets--probably 240mm. The combat potential list contains a new MRL name, "Uragan" (Hurricane), which is rated as more effective than the 122mm BM-21 MRL. Thus "Uragan" may be the name of this new MRL.
- In addition to the standard Soviet MRL, the BM-21 "Grad" (Hail), the list includes a "Grad-1" which is rated slightly higher than the BM-21. We believe that the Soviets are developing their own version of the Czechoslovak 122mm MRJ, with reload capability and it is possible that "Grad-1" refers to this system.

10. *Antitank Means.* A comparison of current intelligence community assessments of new Soviet ATGMs with the Soviet names in the combat potential list makes it possible to identify several systems which the Soviets are believed to have fielded in at least limited quantities in recent years:

- "Falanga-M" (Phalanx) is an improved AT-2/Swatter missile which has recently been designated the AT-2c by western intelligence. It probably has an infrared terminal homing capability and may be in use on some models of the MI-24 helicopter.

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In the combat potential list it is given the same rating as the current version of an older French ATGM--the SS-11 B1.

- The "Malyutka-P" (Baby) is an improved AT-3/Sagger missile which has recently been designated the AT-3c. It probably has a semi-automatic guidance system and is mounted in a BRDM vehicle. It is given a slightly lower combat potential rating than the "Falanga-M".
- The "Fagot" (Bassoon) is a shoulder-fired ATGM similar to the US Dragon. It has recently been designated the AT-4. It is believed to have a range of about 2000 meters. The combat potential list gives it a somewhat better rating than the US Dragon.

11. The combat potential list also gives two names--"Konkurs" (Contest) and "Fleyta" (Flute)--which cannot immediately be associated with any ATGMs that are known to be under development. Apparently, these are developmental or projected weapons systems. Additional analysis of development programs may allow us to correlate the names with specific system characteristics. Even without knowing specifics, however, it is apparent from the combat potential ratings that, while the Soviets rate these systems as better than their present systems, their ratings are the same or lower than the present US "TOW" missile.

12. *Aviation and Air Defense Means.* [redacted] [redacted] are assessing these portions of the combat potential list separately.

13. *The Combat Potential of Large Units.* Although this is a separate combat potential list--giving ratings for division-size units--it is directly related to the individual equipment item list. The combat potential score for a division is calculated by totaling the scores of all of the major items of equipment in the unit (see methodology discussion at the beginning of this memorandum). This portion of the document will be valuable for

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a number of purposes such as checking our TO&E estimates by reconstructing the Soviet calculations, but will require more lengthy analysis. However, a few preliminary conclusions and questions are suggested by the combat potential list:

-- The list clearly shows that the Soviets have a number of different organizations for and methods of equipping their motorized rifle and tank divisions. The combat potential list gives eight different ratings for Soviet MRDs and three different ratings for TDs depending on their equipment. This is of interest in our ongoing effort to establish more precisely Soviet TO&Es and division categorization concepts.

-- It is apparent that the descriptions of the variations in organization and equipment for these divisions are not entirely complete. For example, two Soviet-type MRDs are described in identical terms (Soviet MRD with T-62s and BMPs), but are given different ratings (680 and 660). In another case the only difference in the description of two divisions (Soviet MRD with T-62s and BMPs vice Soviet MRD with T-55s and BMPs) is not one that should create a difference in ratings in that T-62s are given the same rating as T-55s in the equipment list. In these cases the compilers may be taking account of differences in the quantity of equipment assigned that are not explicitly specified.

14. This new information concerning the Soviet assessment of the relative combat potential of Warsaw Pact and NATO divisions also may have implications for MBFR. Even though this list was not prepared within the Soviet MBFR negotiating community and probably does not include a number of important qualitative factors that the negotiators would have to consider, it may provide some new insights concerning the types of mutual force reduction packages that the Soviets would consider to be "balanced" or "unequal".

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