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## INFORMATION REPORT INFORMATION REPORT

## CENTRAL INTELLIGENCE AGENCY

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50X1-HUM

COUNTRY USSR

REPORT

50X1

SUBJECT Heavy Rocket Artillery - T.R.A.

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50X1-HUM

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50X1-HUM

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SECRET

50X1-HUM

50X1

50X1-HUM

Heavy Rocket Artillery (Tyazhelaya Reaktivnaya  
Artilleriya - T. R. A.)

Miscellaneous

1. The Soviet Army does not receive finished rockets from industry but separate components of rounds; in other words, T.R.A. in its finished form is assembled at the firing position. (ognevaya pozitsiya-O.P.).

2. Free rockets are sometimes called projectiles (snaryad). Guided missiles are sometimes called articles (izdeliye).

3. Bases and arsenals of the Soviet Army

First type - arsenals of artillery ammunition

Second type - central artillery ammunition bases (uncategorized)

Third type - central artillery ammunition bases of category 1.  
(mortar)

Fourth type - central artillery bases of category 2. (of depot character)

Fifth type - central artillery ammunition bases of the T.R.A.  
(storage of components)

Sixth type - central artillery bases for powder.

Seventh type - central categorized ammunition bases

Eighth type - central assembly bases of the T.R.A. (assembly of warheads, separate chambers, but not of the complete rocket).

4. There is a free rocket called the Luna - characteristics are not known. Range - up to 60 kms.

50X1

-2-

SECRET

50X1-HUM

50X1-HUM

~~SECRET~~

50X1-HUM

50X1

5. The rocket chambers reach the troops separately in individual, dispatched containers. The containers for the chambers of the "3R1" and "3R3" are made of wooden lathes, and each chamber has a separate container. The solid fuel charges (shashka) are stored separately, wrapped in foil (but not in hermetic packaging). They reach the assembly point in this form in wooden boxes.\* The warheads are packed in transport containers.

6. The oxidizer for the "3R7" is handled, and will be handled, in special cisterns and in trucks with the inscription "Nitrogen mixture '27-I'". The basic fuel travels in special cisterns with the marking "Product 130". The starting fuel is transported in barrels or in special cisterns with the inscription "Samin-Poisonous-Inflammable" on the container. (The barrels are painted green.)

7. \* The solid fuel charges in wooden boxes: for the "3R1" travel singly, for the "3R2" and "3R3", 4 charges in one box.

8. The diameter of the boxes (containers) of the rear chambers, is larger than those for the front chambers - because of the diameter of the stabilizers, for the "3R1" and "3R2"; the "3R3".

9. Both chambers of the "3R7" are arranged in one box (container).

10. A special workshop is set up for the assembly and fueling of "3R7" rockets. Forty-eight rockets are assembled in a shift (8 hours). An intermittent conveyor is used. Fueled rockets are stored for up to 6 months. The precision of fueling is plus or minus .1%. The weight tolerance is plus or minus .5 kgs.

11. One unit of fire for "3R7" is 4 salvoes. (One salvo is 72 rockets.)

50X1-HUM

50X1

-3-

~~SECRET~~

50X1

[REDACTED] SECRET [REDACTED]

50X1-HUM

50X1

13. The height of trajectory of a "3R1" is 9 kms, and of "3R2", 22 kms.

14. There are T.R.A. brigades. In a brigade there are 3 battalions, in a battalion, 3 batteries. In "3R1", "3R2", and "3R3" batteries there are 2 launcher mounts (ustanovka), and in a "3R7" battery there are 4 launcher mounts.

Fire-power of a salvo of a T.R.A. battalion

"3R1" - 3 batteries with 2 launcher mounts, a total of 6 rockets in a battalion salvo.

"3R2" - 3 batteries with 2 launcher mounts, a total of 6 rockets and "3R3" in a battalion salvo.

"3R7" - 3 batteries with 4 launcher mounts in each battery (with 6 launchers on each launcher mount), a total of 72 rockets in the salvo of a battalion.

15. Rate of fire

"3R1" - 5 minutes for one firing

"3R2" and "3R3" - 20-30 minutes for one firing

"3R7" - 10-15 minutes for one salvo

16. Atomic artillery weapons

Characteristics of the Atomic Artillery Weapons	Artillery Systems	
	310 mm. cannon (rifled)	420 mm. mortar (smooth-bore)
1. Maximum range	25 kms.	22 kms.
2. Weight of the system in firing position	64 tons	55 tons
3. Rate of fire	1 firing every 5 min.	1 firing every 8 min.
4. TNT equivalent	5-30 kilo-tons	* 5-30 kilo-tons
5. Means of traction	On an IS-3 base	On an IS-3 base

50X1

-4-

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50X1-HUM

**SECRET**

50X1-HUM

50X1

6. Speed of movement	30 kms. per hour	30 kms. per hour
7. Dispersion		
(Vd - range probable error)	1/500	1/500
(Vb - direction probable error)	1/1500	1/1500
8. Time to transfer from traveling to firing position	8-10 minutes	8-10 minutes
9. Time for preparation to open fire	15-20 minutes	15-20 minutes

\* There is not yet a 1 kilo-ton weapon in the Soviet Army.  
A battalion (2 batteries) has either 4 cannons of 310 mm. caliber  
or 4 mortars of 420 mm.

50X1

-5-

**SECRET**

50X1-HUM

**Page Denied**

Next 3 Page(s) In Document Denied