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The WIR in Brief

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SOVIET MISSILES APPEAR TO USE SIMILAR FABRICATION
Standardization makes for production ease.

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Space

MISSILE RANGE FIRING LOG
No sign of let up in increased activity.
COSMOS 114 ROUTINE DE-ORBIT
No apparent trouble for Plesetsk launched vehicle.
LUNAR LAUNCH POSSIBLE 29 or 30 APRIL
Much still to be learned in this area.
COSMOS 115 LAUNCHED FROM TYURATAM
Medium resolution photo mission.

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COVER: All-weather interceptors (from Red Star) (OFFICIAL USE ONLY)

NOTE: Pages 28, 30, 31, 34, 35, 38 and 39 of this issue are blank.

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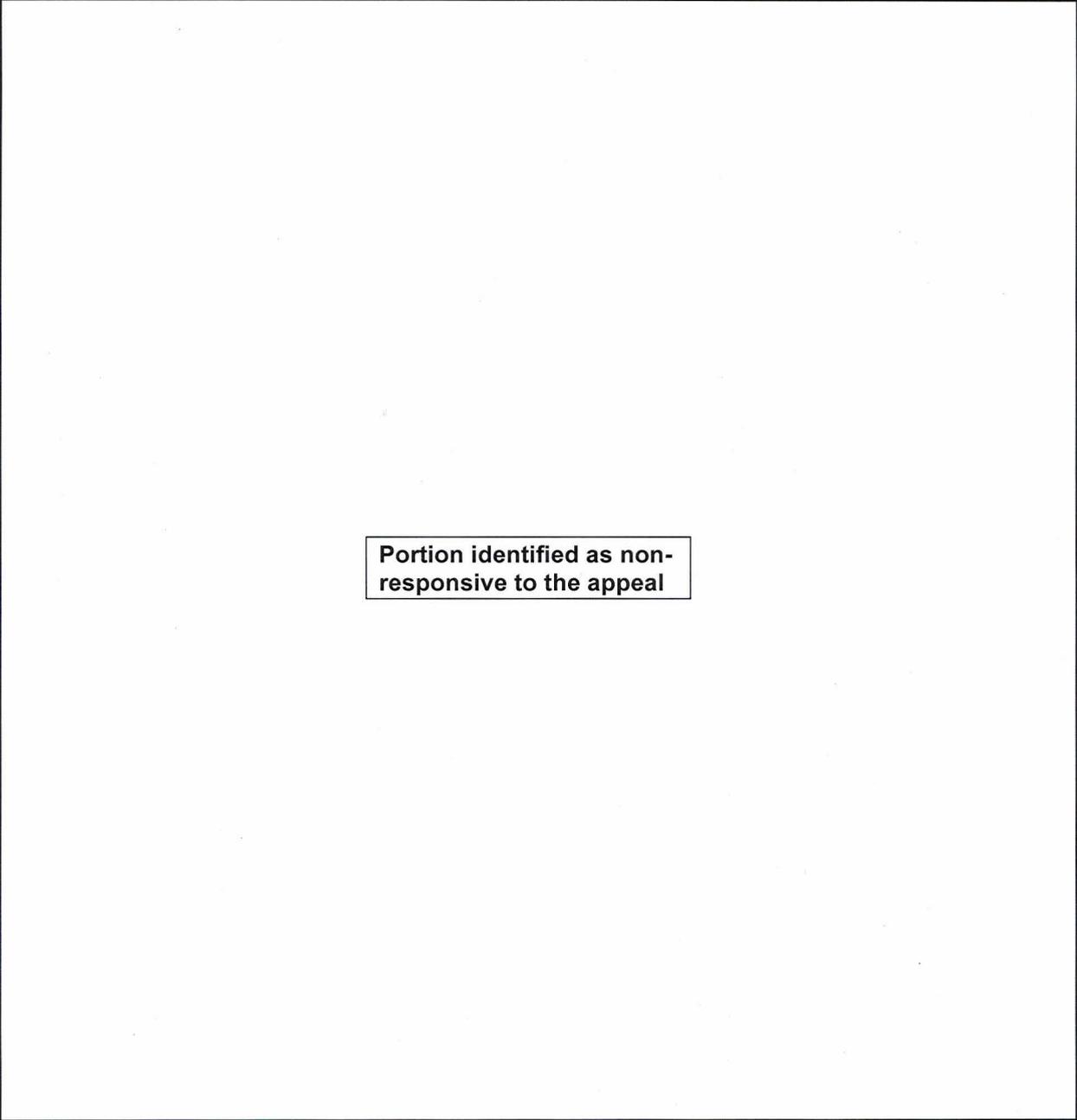
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Soviet Missiles Appear to Use Similar Fabrication

Soviet ballistic missiles reflect the application of a standardized approach to missile fabrication. Strong similarities in fabrication techniques employed have been noted among several Soviet ballistic missiles having different operational roles and developed over different time periods.



Examples of a standardized approach to missile fabrication have been observed as follows:

- Missiles having the same diameter (5.4 ft).
 - SS-1A (German V-2)
 - SS-2 (SIBLING)
 - SS-3 (SHYSTER)
 - SS-4 (SANDAL)

- The use of a welded skin, stringer, and frame fabrication technique.
 - SS-3 - thrust and intertank areas
 - SS-4 - thrust and intertank areas
 - SS-5 - thrust and intertank areas
 - SS-8 - thrust, intertank and interstage areas
 - SCRAG - thrust areas, all three stages; intertank area of first and second stages.
 - SAVAGE - thrust section, all three stages
 - SARK - thrust section
 - SERB - thrust section

- The use of the roll and weld tank fabrication technique.
 - SS-3 - entire tankage
 - SS-4 - entire tankage with overlapping longitudinal welds
 - SS-5 - forward 1/4 of oxidizer tank
 - SS-8 - oxidizer and fuel tank of second stage
 - SCRAG - entire first stage tankage; pressurized areas of second and third stage
 - SAVAGE - motor casing, all three stages
 - SERB - tankage section, with diagonal welds to form cylindrical sections
 - SARK - entire tankage

- The use of longitudinal panels for missile tankage.
 - SS-5 - entire fuel tank; aft 3/4 of oxidizer tank
 - SS-8 - fuel and oxidizer tank on first stage

- The use of metal sculptures on missile structure.
 - SS-5 - longitudinal panels on tankage
 - SS-8 - longitudinal panels on first stage tankage

- Truss-type interstage.
 - SCRAG - between all three stages
 - SAVAGE - between all three stages





These similarities strongly suggest standardization not only of missile diameters, but structural design criteria and fabrication techniques by Soviet missile authorities which control applicable design/development specifications. This standardized approach thus far predominates regardless of design team affiliation, type of propellants used, and development timing.

This trend in standardization of fabrication techniques is expected to continue as it reduces production problems and cost and improves or maintains production efficiency.

(FTD)

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significant
intelligence
on space
developments
and trends

Missile Range Firing Log

US sensors detected the following Soviet space-missile launches during the period 21 March-18 April 1966:

<u>Approximate Time & Date of Launch</u>	<u>Propulsion System</u>	<u>Launch Site</u>	<u>Range</u>
0940Z, 21 Mar 66	Cosmos 113*	Tyuratam	Orbital
0550Z, 24 Mar 66	SS-7	Tyuratam	Kamchatka
1441Z, 24 Mar 66	Proton system	Tyuratam	Failure
0618Z, 26 Mar 66	SS-8	Tyuratam	Kamchatka
0720Z, 27 Mar 66	Unidentified	Tyuratam	Failure of Probable ESV
0328Z, 28 Mar 66	SS-11	Tyuratam	Kamchatka
0133Z, 30 Mar 66	SS-9	Tyuratam	Kamchatka
1048Z, 31 Mar 66	Luna 10#	Tyuratam	Lunar orbit
0418Z, 01 Apr 66	SS-11	Tyuratam	Kamchatka
1140Z, 06 Apr 66	Cosmos 114*	Plesetsk	Orbital
0558Z, 12 Apr 66	SS-11	Tyuratam	Kamchatka
0747Z, 12 Apr 66	SS-7	Tyuratam	Kamchatka
0650Z, 18 Apr 66	SS-7	Tyuratam	Kamchatka

*Launched by SS-6 ICBM booster-sustainer, injected into orbit by heavy Venik third stage.

#Launched by SS-6 ICBM booster-sustainer, injected into parking orbit by heavy Venik third stage, injected into Moon trajectory by fourth (interplanetary stage) and into lunar orbit by retrorocket.

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Cosmos 114 Routine De-Orbit

Cosmos 114, launched on 6 April 1966 from Plesetsk, was apparently de-orbited on the early portion of Revolution 125. Based on negative reports from Shemya the vehicle was apparently de-orbited within the Soviet Union. Cosmos 114 crossed the equator at 0702Z, on 14 April at 313 degrees West and impact probably occurred twenty to twenty-five minutes later.

(Space Defense Center, NORAD)

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Lunar Launch Possible 29 or 30 April

Optimum times and dates for the next Soviet lunar attempts are:

0947, 29 April, and
1016, 30 April,

assuming that the usual parking orbit technique will be used, that the parking orbit will have an Equatorial inclination of about 52 degrees (true for the last four Soviet lunar attempts), and that the mission will involve either a soft landing on the Moon or injection into lunar orbit, similar to the Luna 9 and Luna 10 operations.

There is ample reason for repeating both of these operations, not for any lack of success of Luna 9 or Luna 10 but because much information remains to be collected.

Another lunar soft-lander similar to Luna 9 could:

- Transmit pictures of the lunar surface from areas suspected of being unlike the site of landing of Luna 9.
- Collect surface and subsurface temperatures of the Moon.
- Determine the chemical composition and crystalline structure of minerals on and below the lunar surface.
- Test systems designed for use on later, more sophisticated lunar missions, such as manned ones.

Another lunar orbiter, similar to Luna 10, could:

- Collect photography of the lunar surface.

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- Continue the mission of Luna 10 -- collection of radiation data in the vicinity of the Moon, data on the solar plasma, and gravity and shape of lunar magnetism and the Moon's





infrared emanations -- when Luna 10's solar batteries fail.

• Supplement the mission of Luna 10 by simultaneously collecting similar data but in a different orbital plane of the Moon.

The deciding influence on whether the Soviets launch a lunar probe on 29 or 30 April would be availability of a payload. The unprecedented launch rate of lunar probes since early 1965 suggest that the Soviets will have another payload ready by that time.

(NORAD)

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Cosmos 115 Launched from Tyuratam

Cosmos 115 was launched from the Tyuratam missile test range on 20 April 1966 at 1039Z. The TASS announced and Space Defense Center (SDC) parameters are as follows:

	<u>Space Defense Center</u>	<u>TASS</u>
Apogee	294.4 kilometers (159 nm)	294.0 kilometers (159.0 nm)
Perigee	201.9 kilometers (109.0 nm)	190.0 kilometers (103 nm)
Period	89.4 minutes	89.3 minutes
Inclination to Equator	65.04 degrees	65.0 degrees

If this medium resolution photoreconnaissance vehicle follows the normal 8 day mission, then de-orbit can be expected on 28 April 66.

(NORAD Space Defense Center)

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