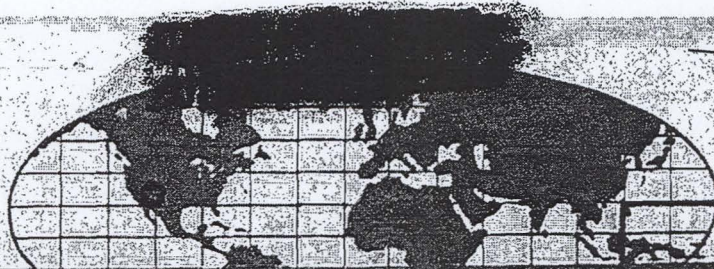


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E.O. 13526, SECTION 5.3(b)(3)

ISCAP APPEAL NO. 2009-068, document no. 41  
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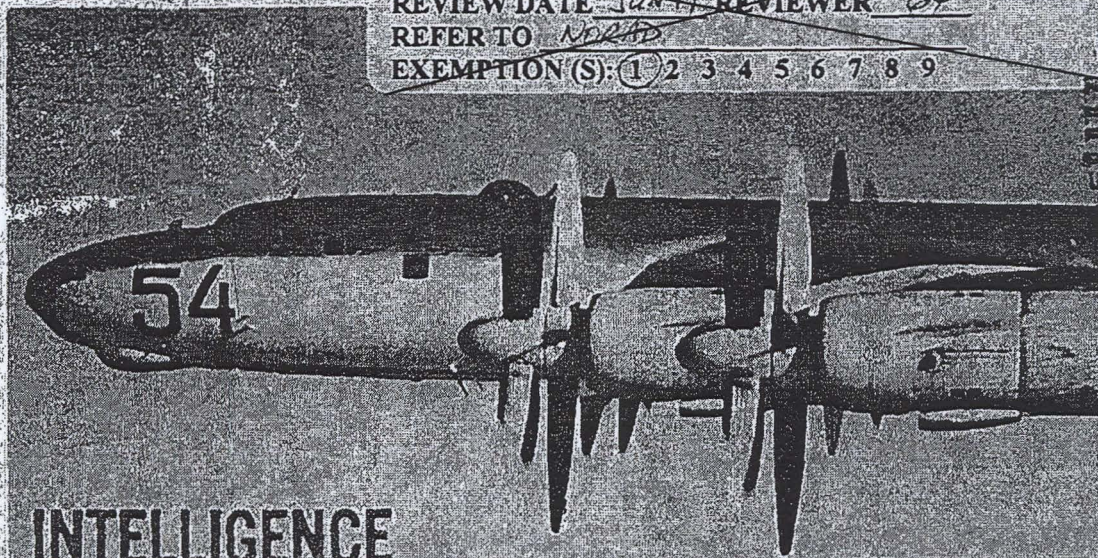
NORTH AMERICAN AIR DEFENSE COMMAND

**W I R**

**WEEKLY INTELLIGENCE REVIEW (U)**

K410.607-176

EXEMPTED FROM  
DECLASSIFICATION LAW EO 12958  
REVIEW DATE Jan 97 REVIEWER 64  
REFER TO NORAD  
EXEMPTION(S): (1) 2 3 4 5 6 7 8 9



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# NORAD

Issue No. 35/64, 28 August 1964

Weekly  
Intelligence  
Review

## The WIR in Brief

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MISSILE RANGE FIRING LOG PRESENTED  
For period ending 2400Z, 24 August.

Portion identified  
as non-responsive  
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### Space

COSMOS 37 DE-ORBITED ROUTINELY NEARLY  
8 DAYS AFTER LAUNCH

A carbon copy of 7 preceding de-orbits.

COSMOS 41 DEPARTS FROM PATTERN: PROB-  
ABLY TEST OR RESEARCH VEHICLE

May have been reliability test of 4th-stage  
rocket used in lunar and interplanetary probes.

COSMOSES 42 & 43 FIRST MULTIPLE LAUNCH  
FROM KAPUSTIN YAR

Lack of transmissions -- announced or inter-  
cepted -- suggests test mission.

Portion identified  
as non-responsive  
to the appeal

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to the appeal

COVER: Soviet BEAR bomber photographed  
by Iceland-based USAF crews.  
(OFFICIAL USE ONLY)

NOTE: Pages 30, 31, 32, 34, 35, 38, 39,  
42, and 43 of this issue are blank.

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### Missile Range Firing Log Presented

US radar detected the following Soviet missile launches between 2400Z,  
9 August and 2400Z, 24 August:

<u>Date &amp; Time</u>	<u>Vehicle</u>	<u>Launch Point</u>	<u>Distance</u>
0930Z, 14 Aug	Cosmos 37*	Tyuratam	Orbital
0915Z, 18 Aug	Cosmoses 38, 39, & 40#	Tyuratam	Orbital
2342Z, 20 Aug	SS-4 MRBM	Sovetskaya Gavan**	925 n.m.
0721Z, 22 Aug	Cosmos 41	Tyuratam	Orbital
1100Z, 22 Aug	Cosmoses 42 & 43##	Kapustin Yar	Orbital

\* Launched by an SS-6 ICBM

# Launched by a new type of booster, according to TASS.

\*\* In the Soviet Far East.

## Launched by a missile of unknown type.

(Shemya & Diyarbakir RADINT)

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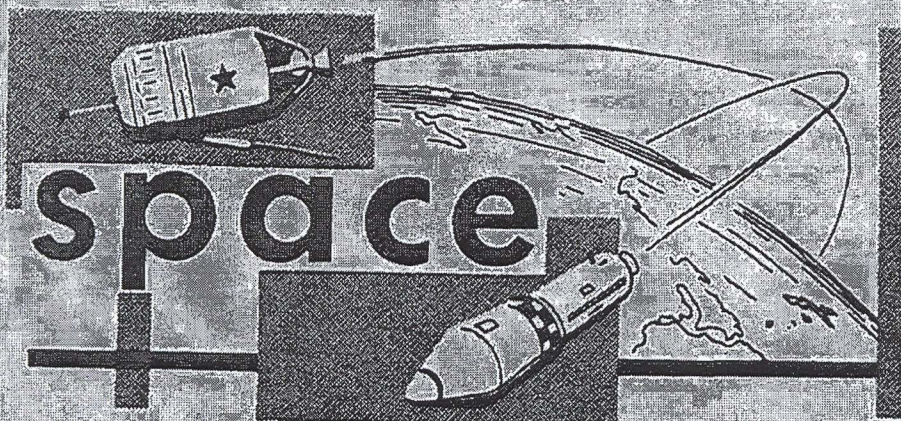
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significant  
intelligence  
on space  
developments  
and trends

### Cosmos 37 De-orbited Routinely Nearly 8 Days After Launch

Cosmos 37, which was launched from Tyuratam at about 0930Z, 14 August, was de-orbited at about 0651-0656Z, 22 August, nearly 8 days after launch, on Revolution #127. This event adhered to the pattern of the 7 previous consecutive de-orbited Soviet Cosmos vehicles, all of which were de-orbited on Orbits 126-128, nearly 8 days after launch. All were launched from Tyuratam and all 8 are believed to be members of an operational series of photoreconnaissance vehicles.  
(SPADATS; NORAD)

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### Cosmos 41 Departs from Pattern; Probably Test or Research Vehicle

The Soviets launched Cosmos 41 from the Tyuratam missile test range at about 0721Z, 22 August 1964. This vehicle departs from the pattern of the usual Tyuratam-launched Cosmoeses in that it appears to be a test and/or research vehicle rather than a photoreconnaissance vehicle. Another unusual facet is injection of the vehicle from a parking orbit into a highly eccentric orbit of high apogee by a fourth stage rocket: this technique is customarily used only for injection of lunar and interplanetary probes into trajectories toward their targets; it has never previously been used for a Cosmos vehicle.

SPADATS computed the initial parameters of Cosmos 41's initial orbit -- prior to injection into the high-apogee orbit -- as follows:

Inclination to Equator	64.70 degrees
Orbital period	91.14 minutes
Apogee	466 kilometers (250 n.m.)
Perigee	195 kilometers (102 n.m.)

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SPADATS sensors did not detect Cosmos 41 after Zero orbit.

The Soviets, 16 hours after launch, announced a set of parameters for Cosmos 41 entirely different -- except for inclination -- from those announced by SPADATS:

Inclination to Equator	64 degrees
Orbital period	11 hours, 55 minutes
Apogee	39,855 kilometers (21,500 n. m.)
Perigee	394 kilometers (212 n. m.)

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the Soviets' heavy (Venik) third stage, which is used to inject lunar and interplanetary probes into parking orbits, preparatory to fourth-stage injection of the payload into transfer trajectory toward its target.

These circumstances suggest that the Soviets injected Cosmos 41 into a parking orbit with a Venik third stage and, shortly prior to completion of Zero orbit (before crossing the Equator), re-injected it into a highly eccentric orbit of high apogee by means of a fourth-stage rocket.

The mission of Cosmos 41 may be either or both of the following:

- Test of reliability of fourth-stage rocket ignition. This would be desirable in view of the numerous fourth-stage ignition failures suffered since 1960 -- 8 out of 12 known attempts. The Soviets will want to be assured of better reliability of their fourth-stage starts, since this staging will figure in Soviet attempts to launch Mars probes late this year, when Mars and the Earth will be favorably situated for such attempts. The Soviets probably plan a major "assault" on Mars during the coming "target season." The US also plans to launch two Mariners toward that planet late this year.
- The Soviets may want to obtain more consistent data on the Van Allen belts than is now given them by their Electron-series satellites. This is suggested by the fact that the orbital period of the new vehicle is very close to 12 hours: a satellite with a



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12-hour period would pass through essentially the same four areas of the Van Allen belts once each day. Other data-collection missions are also possible for this satellite.

(SPADATS; NORAD; various ELINT monitors)

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## Cosmoses 42 & 43 First Multiple Launch from Kapustin Yar

The Soviets launched Cosmoses 42 and 43 from the Kapustin Yar missile test range at about 1100Z, 22 August. This is the first time that they have launched two payloads with a single rocket from Kapustin Yar.

Orbital parameters have been furnished as follows:

	<u>TASS</u> (both vehicles)	<u>SPADATS</u> Payload #1	<u>SPADATS</u> Payload #2
Inclination (degrees)	49	48.97	48.96
Period (minutes)	97.8	97.92	98.05
Apogee (kilometers/n.m.)	1099/592	1097/591	1110/593
Perigee (kilometers/n.m.)	232/125	228/122	229/123

Soviet announcements have never made any distinction as to which payload is Cosmos 42 and which is Cosmos 43.

Preliminary radar signature analysis indicates that Payload #1 is about 3 feet long and 1-2 feet in diameter, possibly with short protrusions -- probably antennas -- about 3 feet long. Payload #2 may be identical in configuration to Payload #1, judging by preliminary data.

The TASS announcement about this event mentioned no radio transmission frequencies. [REDACTED]

[REDACTED] The apparent lack of transmissions suggests either that the vehicle's mission is a test of launch and/or payload-separation techniques or that the event was a failure.

The launch of Cosmoses 42 and 43 appears to have no connection with Cosmos 41, which was launched from Tyuratam about 3 hours and 39 minutes earlier.

(SPADATS; NORAD; various ELINT monitors)

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50X1 and 3, E.O.13526

