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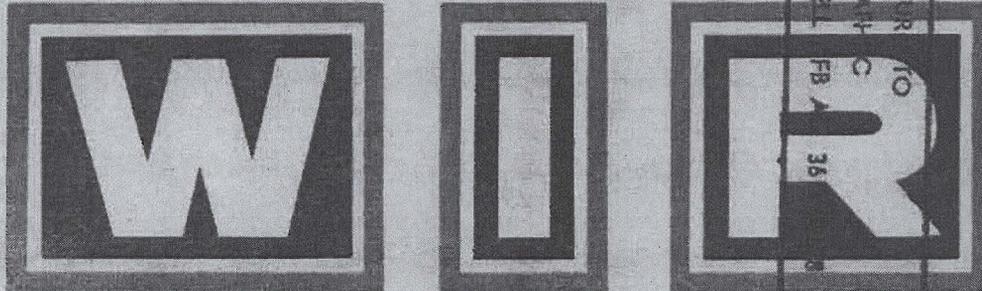


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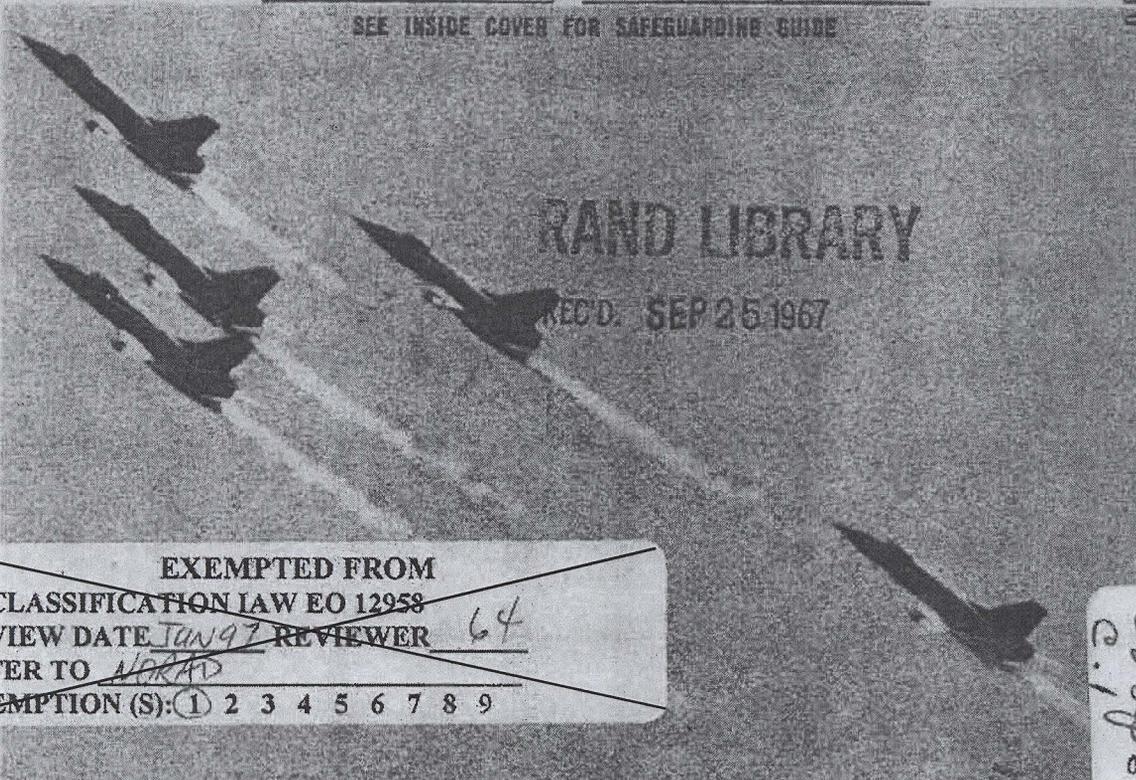
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NORTH AMERICAN AIR DEFENSE COMMAND



WEEKLY INTELLIGENCE REVIEW (U)  
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# NORAD

Issue No. 38/67, 22 September 1967

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## The WIR in Brief

Portion identified as non-responsive to the appeal

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### Space

LUNIK UPPER PROPULSION STAGE MAY BE DISAPPEARING FROM SOVIET SPACE PROGRAM

Venik stage appears to be replacing it.

COSMOS 177-A RECCE SATELLITE

Launched from Tyuratam very early in the day. SOVIETS SEEM CONFIDENT THAT VENUS 4 WILL BE A SUCCESS

Say that course correction was made 29 July. RECCE COSMOS 175 DE-ORBITED ROUTINELY On Rev 125.

4th CONSECUTIVE SUCCESSFUL TEST OF ORBITAL BOMBARDMENT SYSTEM IS NAMED COSMOS 178

Launched 19 September.

Portion identified as non-responsive to the appeal

COVER: FLAGON A (from Aviation Week & Space Technology (OFFICIAL USE ONLY)

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significant  
intelligence  
on space  
developments  
and trends

### Lunik Upper Propulsion Stage May Be Disappearing from the Soviet Space Program

The Lunik upper stage may finally be on its way out of the Soviet space program. Mounted atop the SS-6 booster-sustainer, it has figured in more than 60 space events, including: (Photos on pp. 36 & 37.)

- 3 lunar probes in 1959
- 5 early recoverable experimental spacecraft (1960-1963)
- 6 manned Vostoks (1961-1963)
- 7 weather satellites (including prototypes) (1965-1967)
- 40 recoverable military reconnaissance satellites of the Cosmos series (1962-1967)

The Lunik stage, which is believed to weigh about 17,300 pounds and to generate about 14,850 pounds of thrust, has proved to be a reliable unit: it has been responsible for only a limited number of launch failures. However, over the years, it has been disappearing from one program after another, usually being replaced by the heavier, more efficient Venik upper stage, which is estimated to weigh 53,200 pounds and to provide 67,000 pounds of thrust.

- The Lunik was last used in the lunar-probe program in the abortive launch of 15 April 1960. The Venik has been used with all 17 subsequent lunar-probe attempts.
- The early (1960-1961) Korabl' experimental spacecraft series, having fulfilled its function, has disappeared from the scene.
- The Lunik was used with the first 6 manned space vehicles (Vostoks 1 through 6 -- 1961-1963), but the Venik took its place for the two Voskhods (1964 and 1965) and Soyuz 1 (April 1967) flights.
- The change from Luniks to Veniks came about more gradually in the Cosmos recce satellite program. Only the Lunik was used as the upper stage in the first 10 launches

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(1962 and 1963). The Venik first appeared in this program in November 1963; in 1964 it was used in only 3 of 12 launches. Between the spring of 1965 and the spring of 1967 the Venik was used in nearly half of the launches. For the last 10 recce satellite launch attempts, only the Venik was used; the last use of the Lunik for such an event occurred 12 May (Cosmos 157).

One possible reason for the apparent disappearance of the Lunik from the recce satellite program is a Soviet desire to simplify supply, maintenance, transport, handling, and launch procedures by using only one type of upper staging with the SS-6. The Venik would be the logical choice because it can inject the heavier payload which carries the high-resolution camera system; the Lunik cannot.

Standardization of the launch system may indicate that the Soviet recce satellite program has been transferred to operational launch crews, the reliability of the program having now been established. Such a transfer of responsibility to less experienced specialists might also explain why the SS-6/Venik system has had three recent launch failures (20 June, 21 July, 1 September).

The meteorological satellite program is the only remaining one in which the Lunik is still appearing: it has been used in all 7 known related launches, including the latest vehicle, Cosmos 156, which was launched on 27 April 1967. However, if the Soviets are particularly desirous of standardizing launch vehicles, especially at the Plesetsk space and missile complex, it may use the Venik with future operational weather satellites. Recently, Plesetsk has been the site of all weather-satellite launches and of most of the recce satellite launches.

(NORAD; DIA)

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50X1 and 3, E.O. 13526

### Cosmos 177 a Recce Satellite

Cosmos 177, which the Soviets launched from Tyuratam at about 0606Z, 16 September, is a military reconnaissance satellite.

[redacted] its mission is medium resolution photorecce and collection of ELINT.

NORAD Space Defense Center gives its orbital parameters as follows:

Inclination	51.71 degrees
Period	88.56 minutes
Apogee	342.2 Km (184 n. m.)
Perigee	262.5 Km (142 n. m.)





There are a few slightly unusual features about this satellite launch:

- It came only 5 days after the launch of another recce satellite, Cosmos 175 ( 11 September). Assuming that both perform the usual 8-day mission, this will be the longest overlap of flight of any two Soviet recce satellites.
- The hour of launch was unusually early in the day. Two previous launches have also occurred at about this hour of the day (4 and 21 July 1967).
- This is the first September launch of a recce satellite into a 51-52° orbit since 1964; events of this type took place during 1965 and 1966 only in the months May-August.

(NORAD)  
~~(SECRET)~~

### Soviets Seem Confident that Venus 4 Will Be a Success

The Soviets apparently are confident that Venus 4, their latest Venus probe (launched 12 June 67), will be a success. Pravda has announced that the necessary inflight correction of Venus 4's trajectory was made on 29 July and that Venus 4 will reach Venus 18 October, one day before the arrival of the US's Mariner 5.

Western sensors have not detected the course change claimed by the Soviets.

(CIA: DIA)  
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### Recce Cosmos 175 Re-orbited Routinely

Cosmos 175, the high resolution photoreconnaissance satellite launched 11 September from Plesetsk, was apparently deorbited early on Revolution 125. The vehicle crossed the Equator at 0611Z, 19 September 1967; six minutes later the Diyarbakir (Turkey) radar site acquired and tracked the satellite, which seemed to be in a deorbit trajectory. [redacted]

[redacted] at 0621Z. Furthermore, the Shemya (Alaska) radar site had a predicted pass on a later portion of Revolution 125, but did not detect the sputnik. Impact would have occurred at about 0631Z.

(NORAD)  
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### 4th Consecutive Successful Test of Orbital Bombardment System is Named Cosmos 178

Cosmos 178 was launched from Tyuratam at about 1445Z, 19 September; apparently the vehicle was successfully de-orbited after one revolution.

[redacted] RADINT indicate that this vehicle was another test in the orbital mode of a fractional orbit bombardment system. The Soviets have conducted 12 tests of this system to date, using the large two-stage liquid-propellant SS-9 ICBM and an added third stage re-entry vehicle. The first 3 tests were conducted in a suborbital mode, the remainder in an orbital mode. The last 4 consecutive tests appear to have been successful. Four Soviet missile-range instrumentation ships dead in the water at a location east of Japan may have monitored this flight; the ships were straddling the Earth trace of Cosmos 178.

As usual, Moscow tried to conceal the nature of this test by giving the vehicle a Cosmos designation and claiming that it was performing space research. The Soviets apparently have also been trying to give the West the impression that at least some of these flights are associated with the Soviet man-in-space program, by "leaking" to the Western press stories by "informed" sources that two of the successful tests (Cosmos 170 and Cosmos 171) had tested new parachute gear to be used later in manned space flights (p. 6, WIR 36/67); the fact is that these vehicles, because of their steep re-entry angle, did not duplicate the re-entry conditions of manned flight.

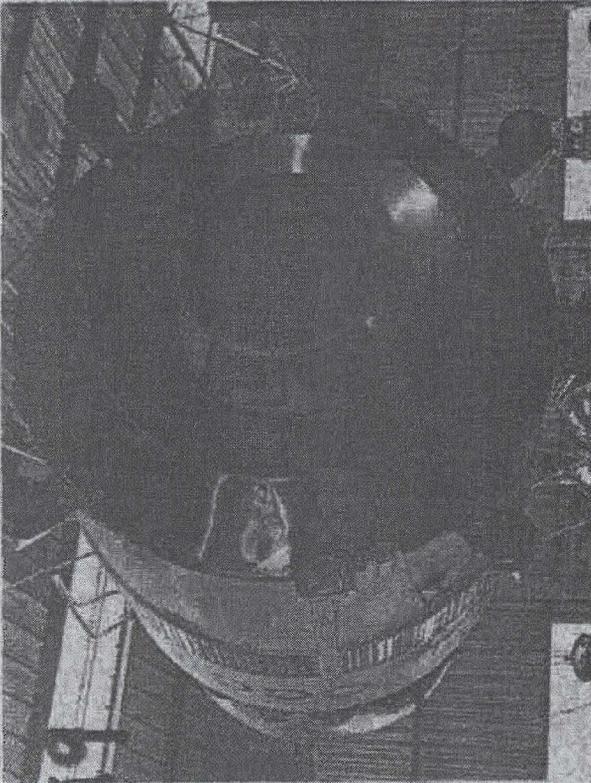
It is possible for the Soviets to conduct these tests without violating the letter of current international agreements to which they are signatory and which forbid detonating nuclear devices in space and even placing nuclear devices in orbit. These circumstances may explain a statement in an abstract of a recent Soviet book on space law: the demilitarization of space cannot succeed without disarmament on Earth.

(NORAD; JPRS)

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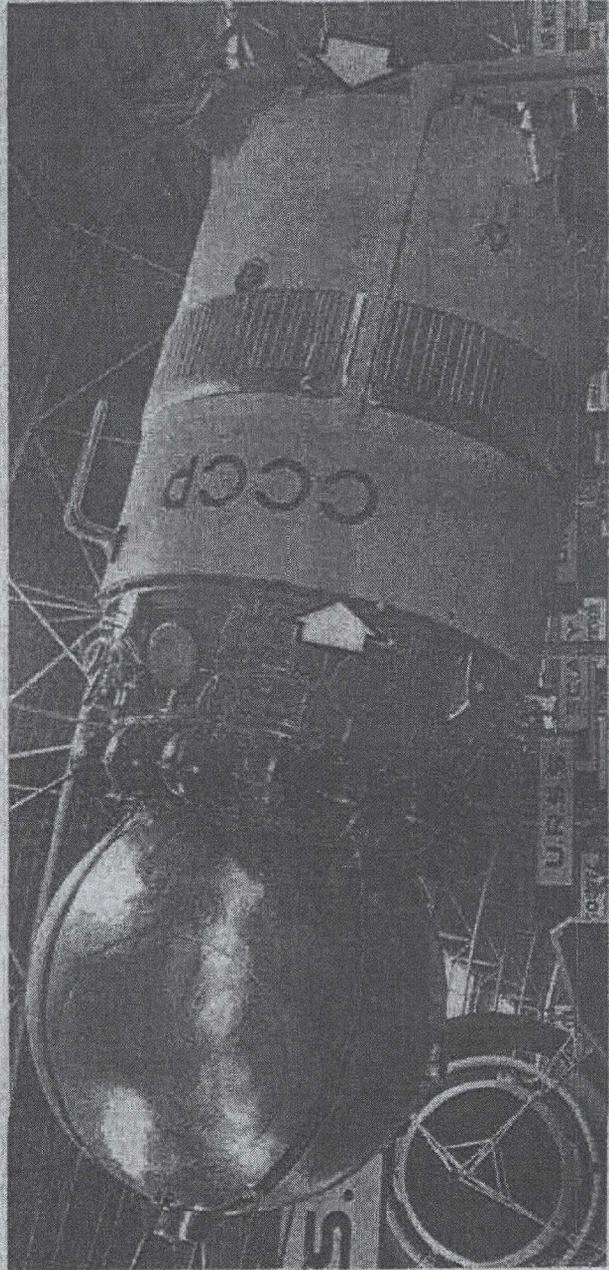


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(rear view) ↑

↓  
Lunik Upper Stage  
(between arrows)  
with Vostok Capsule,  
Paris Air Show 1967



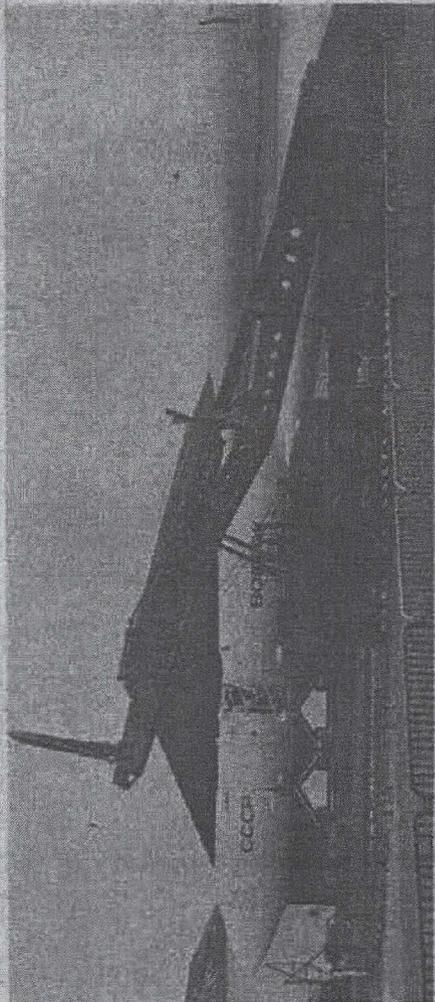
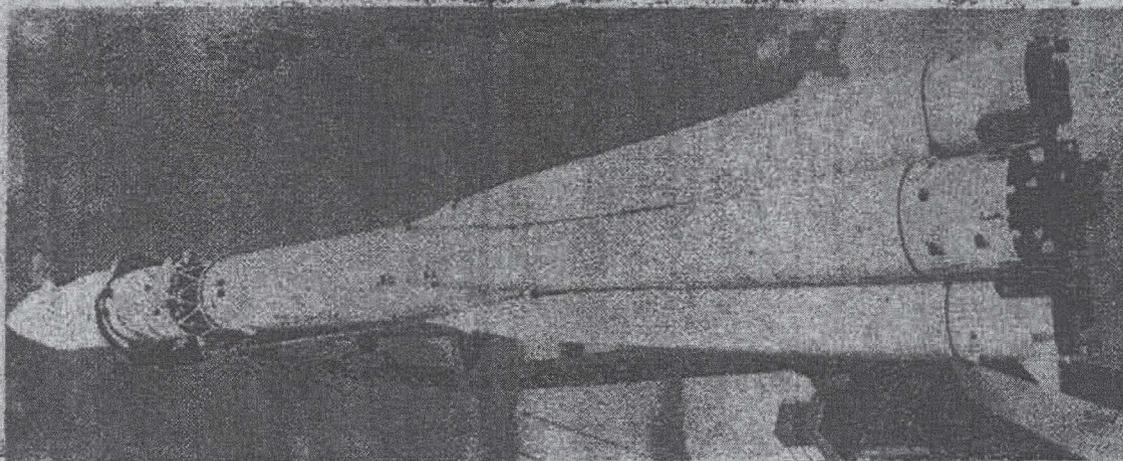
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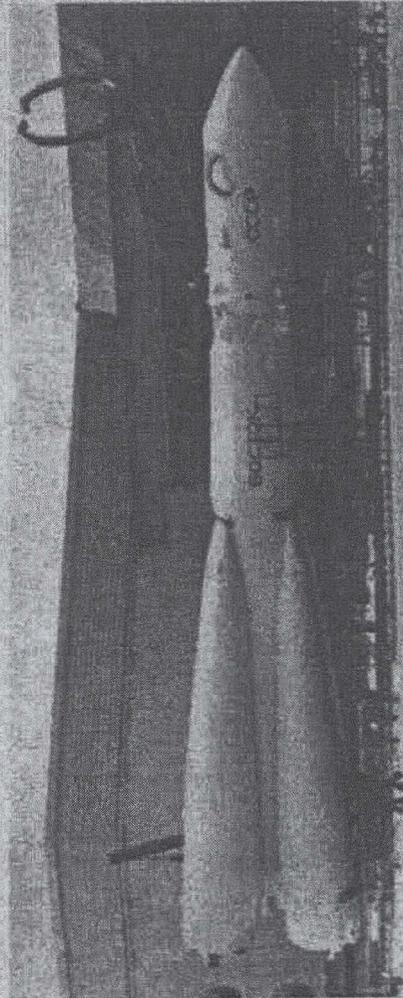
(Soviet press photo)



SL-3 Launch System  
(SS-6 Booster - Sustainer  
plus Lunik)  
(Paris Air Show 1967)

**NOVA**  
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