NORTH AMERICAN AIR DEFENSE COMMAND

WIR

WEEKLY INTELLIGENCE REVIEW (U)

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NORAD Intelligence Review

Issue No. 33/67, 18 August 1967

The WIR in Brief

Portion identified as non-responsive to the appeal

Portion identified as non-responsive to the appeal

Space

Portion identified as non-responsive to the appeal

COVER: Vostok and launcher, viewed from open rear of AN-22 transport (FTD) (OFFICIAL USE ONLY)

NOTE: Pages 24, 26, 27, 30, 31, 34, 35, and 38 of this issue are blank.

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significant intelligence on space developments and trends

Orbital Bombardment Test Vehicle Named Cosmos 171, Called Research Craft

The orbital bombardment test vehicle (OB-1) which the Soviets launched from Tyuratam at about 1605Z, 8 August (p. 8, WIR 32/67) has been named Cosmos 171 by the Soviets and described as another in a series of vehicles which is studying the near-Earth space environment.

The Soviets have launched 11 of these vehicles since December 1965 --3 in a suborbital mode, 8 in an orbital mode.

The acceleration of OB-1 launches in recent weeks is depicted in the chronological chart on page 29.

It is not known yet which way the Soviets will go from here:

- Whether they will freeze the design and deploy some limited number of these vehicles operationally; or
- Whether they will use the OB-1 only as a basis for developing more complex orbital weapon systems, such as multiple- or eccentric-orbit bombardment satellites.

Five of the eight OB-1s launched in the past year have been given the Cosmos designation -- Cosmos 139 (25 Jan 67), Cosmos 160 (17 May 67), Cosmos 169 (17 Jul 67), Cosmos 170 (31 Jul 67), and Cosmos 171 (8 Aug 67). (NORAD)
~~(SECRET)~~

Cosmos 172 Launched Earlier in the Day Than Any Other Soviet Recce Satellite

Cosmos 172, a Soviet military reconnaissance satellite which was launched from Tyuratam at about 0545Z, 9 August, was launched earlier in the day than any other Soviet recce satellite. (Last week's WIR erroneously reported that launch time as2345Z, 8 August.) Actual launch time was about 4 to 5 hours earlier in the day than is normal for this time of year.

The earlier launch time would place this satellite over North America and mainland China in the morning rather than during the usual afternoon hours. Although the amount of solar illumination is about the same, target shadows are on the opposite side, thus possibly affording some additional information about the objects of interest.
(NORAD)
~~(SECRET)~~

Spiral Antenna on 'Molniya' Models May Be Used as Telemetry-Command-Tracking Link

Models of the Soviet Molniya-series communications-relay satellites displayed at Expo-67 in Montreal and at the Paris Air Show in June were equipped with two hemispherical spiral antennas, in addition to the two parabolic antennas previously shown in Soviet open literature (photos on page 32). The spiral antennas are located at the opposite extremes of one pair of solar-battery panels.

Since they are essentially the same size and shape as similar antennas used for a combined telemetry-command-tracking link on Soviet lunar and planetary probes, the pair of spiral antennas on the Molniya is probably used for the same purpose. Previously, it was supposed that the parabolic antennas handled both the primary communications-relay mission of the satellite and the combined telemetry-command-tracking link. The spiral antennas, however, with their broad, almost omnidirectional transmitting pattern, are better for this purpose than the rather narrow, 20-degree beamwidth of the parabolic antennas. This is particularly true for early acquisition of the satellite by ground sites which depend on beacon tracking. Also, using separate antennas for communications relay and for support functions should reduce undesirable cross-talk.

50X1 and 3, E.O.13526

(FTD)
~~(SECRET~~ NO FOREIGN DISSEMINATION -- Releasable to NATO, Aus & NZ)

Space Status Report

Following is the box score of man-made objects in space as of 0900Z, 13 August 1967:

	USA	UK	Can	Italy	France	USSR	Total
Payloads in Earth Orbit	248	3	2	1	5	48	307
Payloads in deep space *	17					13	30
Debris in Earth Orbit	752	1	2		26	110	891
Debris in deep space *	17					5	22
TOTALS	1,034	4	4	1	31	176	1,250
Payloads de-orbited or decayed #	242			1		176	419
Debris decayed	379				1	869	1,249
TOTALS	621			1	1	1,045	1,668
GRAND TOTALS	1,655	4	4	2	32	1,221	2,918

*Includes objects in heliocentric (Sun), selenocentric (Moon), and barycentric (Earth-Moon) orbits.

#Includes objects which have impacted on the Earth, Moon, and Venus.

(NORAD Space Defense Center)

(UNCLASSIFIED)

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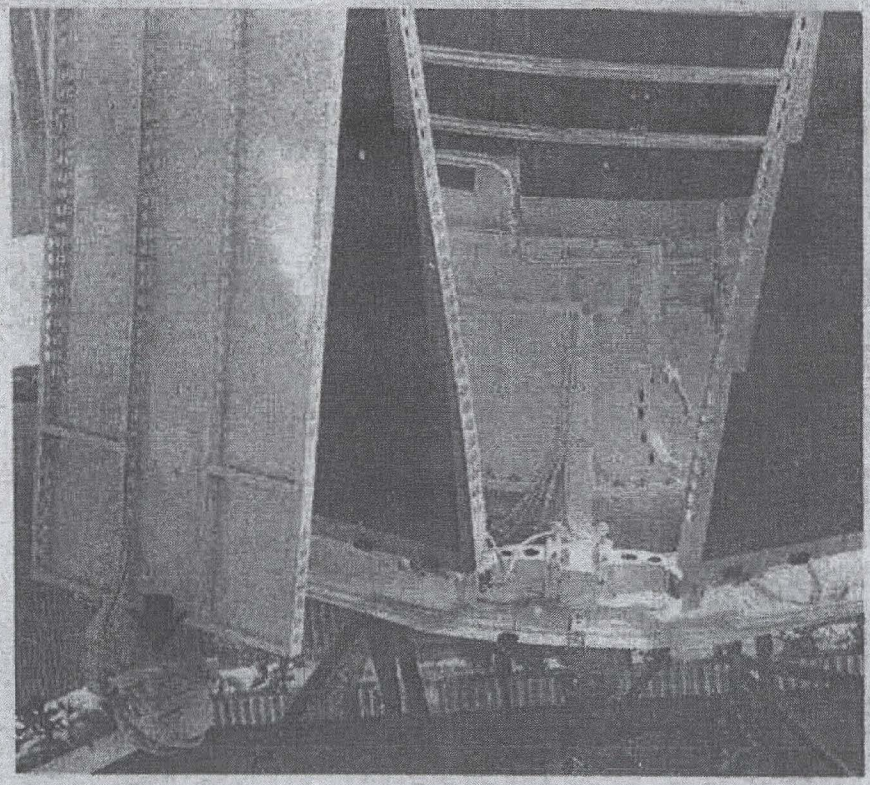
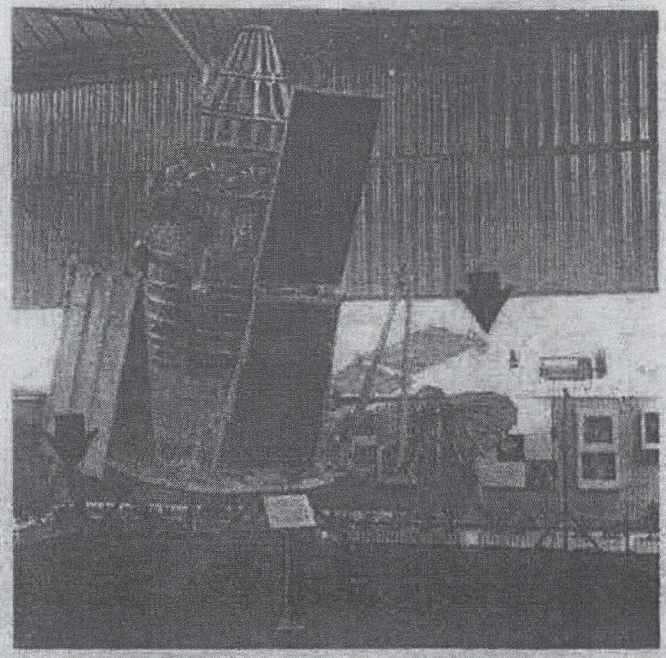
Spiral Antennas (Arrows) on
Molniya Model Displayed at
Paris Air Show 1967





Also Note Parabolic Antennas