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NORTH AMERICAN AIR DEFENSE COMMAND

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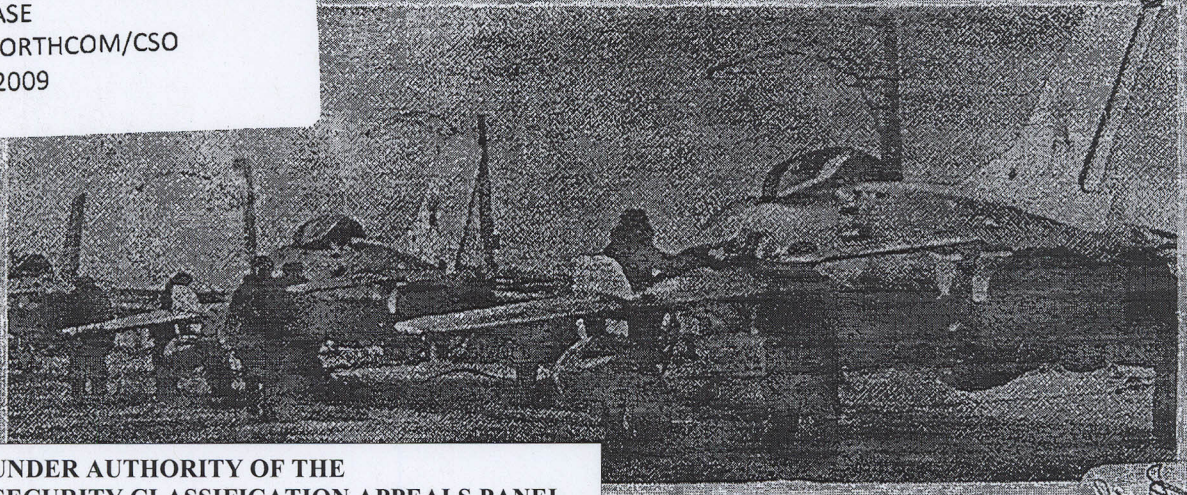

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WIR 5/65
29 Jan 1965

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NORAD Weekly Intelligence Review

Issue No. 5/65, 29 January 1965

The WIR in Brief

COVER: Soviet fighter aircraft (from Red Star; OFFICIAL USE ONLY)

NOTE: Pages 26, 27, 30, 31, 34, 35, 38, and 39 of this issue are blank.

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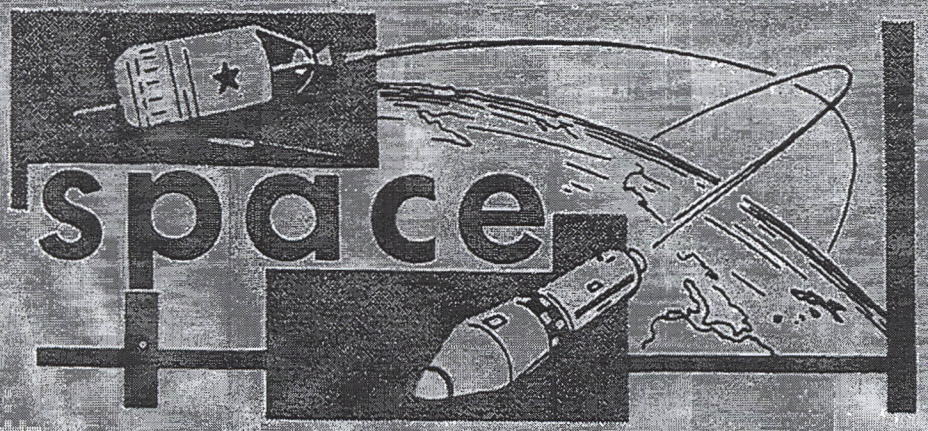

significant intelligence on space developments and trends

6 Records to Be Claimed for Voskhod Flight

The Soviets are filing claims for 6 records -- 2 absolute and 4 world records -- for the flight of the multimanned spaceship Voskhod, according to Red Star of 16 January. Claims are being made for:

Absolute Records (apparently for manned flight):

Mass sent into space	5,320 kilograms (11,704 pounds)
Altitude	408 kilometers (220 n.m.)

World Records for a 2- to 5-Man Crew:

Duration of flight	24 hours, 17 minutes, 3 seconds
Distance flown	669,784.027 km (about 361,000 n.m.)
Mass orbited	5,320 kilograms (11,704 pounds)
Maximum altitude	408 kilometers (220 n.m.)

Other data reported in the brief Red Star article:

	For Vostok 1-man vehicle	For Voskhod 3-man vehicle
Number of rocket engines	6	7
Maximum thrust of all engines	600,000 kilograms (1,321,000 pounds)	Over 650,000 kg (Over 1,416,000 lb)
Speed at perigee on 1st orbit	--	7.67 km/sec
Date and time of launch		0730:01/12 October
Date and time of landing		0747:04/13 October
Place of landing		312 km (168 n.m.) to the NE of the town of Kustanay

The Red Star data vary from Western estimates with respect to Voskhod weight and to the maximum thrust of the propulsion systems.

The West estimates that the Voskhod weighed about 12,000 to 15,000 pounds; the latter figure represents the estimated weight of the payload and fourth-stage propulsion of Soviet interplanetary probes, which are believed to have been launched by the same system as the Voskhod.

NORAD estimates that the propulsion system of the 6 rocket engines used in the Vostok launches (the SS-6 ICBM booster/sustainer and Lunik upper stage) had maximum vacuum thrust as follows:

4 booster engines	710,000 pounds
1 sustainer (main) engine	155,000 pounds
verniers	30,000 pounds
1 Lunik-type upper-stage engine	11,000 pounds
Total available thrust	906,000 pounds

This is 415,000 pounds short of the 1,321,000 announced by the Soviets.

The Voskhod vehicle is believed to have been orbited by the same propulsion system except that the upper stage was a Venik instead of a Lunik. Maximum vacuum thrust of this system would be:

4 booster engines	710,000 pounds
1 sustainer (main) engine	155,000 pounds
verniers	30,000 pounds
1 Venik-type upper-stage engine	65,000 pounds
Total available thrust	960,000 pounds

This is 456,000 pounds short of the 1,416,000 pounds announced by the Soviets; also, the NORAD figure is based on 6 engines, the Soviet announcement on 7 engines.

(Red Star; NORAD)

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Space Listing and Over-all Space Status Report

The over-all space-vehicle status as of 1300Z 26 January 1965 was as follows:

	US	UK	Can	Italy	USSR	Total
Payloads in Earth orbit	113	2	1	1	14	131
Payloads in Sun orbit	7				5	12
*Payload in Earth-Moon orbit					1*	1
Pieces of debris in Earth orbit	346	1	2		16	365
Pieces of debris in Sun orbit	6					6
Payloads impacted on Moon	3				1	4
TOTALS	475	3	3	1	37	519
Objects decayed or de-orbited	224				242	466

*Soviets claim Lunik 4 is now in Sun orbit (WIR 51/64); claim may be true but cannot be verified.

A listing of Soviet payloads and their principal orbital parameters is shown on page 28.
(SPADATS)
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Most Recent Intercepts of Soviet Space-Vehicle Transmissions

Following are the most recently reported intercepts of transmissions from Soviet space vehicles which may still be transmitting:

Vehicle	Date of Launch	Signal Characteristics	Date of Intercept
Electron 4	10 Jul 64	50X1 and 3, E.O.13526	
Cosmos 36	30 Jul 64		
Zond 2	30 Nov 64		
Cosmos 51	09 Dec 64		

The payloads of other Soviet satellites still orbiting the Earth -- Cosmoses 17, 41, 42, 43, 44, and 49; Polyots 1 and 2; and Electrons 1, 2, and 3 -- are believed to electronically inactive: no intercepts have been made of their transmissions for more than 45 days.
(Various ELINT monitors)
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Soviet Space Vehicle Listing, as of 26 January 1965

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Soviet Vehicles in Earth Orbit

Soviet Designation	Launch Date	Inclination to Equator (degrees)	Period (Minutes)	Apogee (kilometers)	Perigee (kilometers)	Life Expectancy or Decay Date
Cosmos 17	22 May 63	48.95	91.4	448.	236.23	Mar 1965
Polyot 1	1 Nov 63	58.94	102.31	1394.1	342.87	1967
Electron 1	30 Jan 64	60.88	169.28	7118.5	399.86	Over 50 years
Electron 2	30 Jan 64	59.11	1356.2	67468.	951.78	Over 50 years
Polyot 2	12 Apr 64	58.04	91.94	443.42	297.36	1967
Electron 3	10 Jul 64	60.80	168.52	7060.1	397.72	Over 50 years
Electron 4	10 Jul 64	59.89	1313.8	66071.	645.9	Over 50 years
Cosmos 36	30 Jul 64	48.98	90.151	331.40	231.36	Apr 1965
Cosmos 41	22 Aug 64	65.64	714.51	39601.	593.51	Over 50 years
Cosmos 42	22 Aug 64	48.96	96.538	959.05	225.66	3d Qtr., 1966
Cosmos 43	22 Aug 64	48.97	96.508	957.18	224.63	3d Qtr., 1966
Cosmos 44	28 Aug 64	65.09	99.516	871.03	601.34	Over 50 years
Cosmos 49	24 Oct 64	48.95	91.525	438.24	259.54	2d Qtr., 1966
Cosmos 51	9 Dec 64	48.75	92.416	527.44	257.44	1967

Soviet Vehicles in Heliocentric (Sun) Orbit

		Inclination to Ecliptic (degrees)	Period (Days)	Aphelion (in AUs)*	Perihelion (in AUs)*	
Lunik 1	2 Jan 59	0.01	449.5	1.315	0.9766	Indefinite
Venus 1	12 Feb 61	0.58	300	1.019	0.7183	Indefinite
Mars 1	1 Nov 62	2.683	519.1	1.604	0.9237	Indefinite
Zond 1	2 Apr 64	(Not Available)				Indefinite
Zond 2	30 Nov 64	(Not Available)				Indefinite

Soviet Vehicles in Barycentric (Earth-Moon) Orbit#

Lunik 4	2 Apr 63	(Not Computed)	Indefinite

Soviet Vehicles Resting on Surface of the Moon

Lunik 2	12 Sep 59	(Not Applicable)

*AU -- astronomical units. Roughly, 1 AU = 93 million statute miles (mean distance from Sun to Earth).
#Soviets claim Lunik 4 is in Sun orbit (WIR 51/64); claim may be true but cannot be verified.

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