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NORTH AMERICAN AIR DEFENSE COMMAND

WOR

WEEKLY INTELLIGENCE REVIEW (U)

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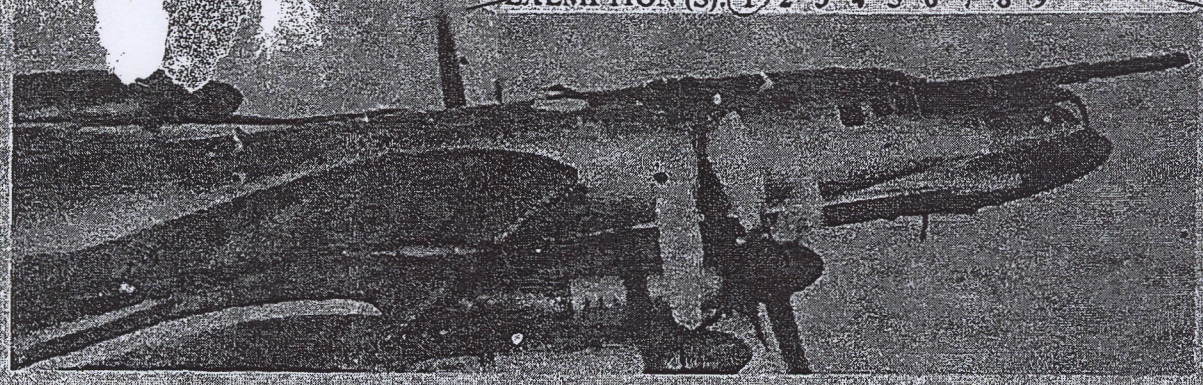

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NORAD Weekly Intelligence Review

Issue No. 43/65, 22 October 1965

K410.607-244

The WIR in Brief

Portion identified as non-responsive to the appeal

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Space

MOLNIYA 2 COULD BE REPLACEMENT FOR MOLNIYA 1, OR ITS TEAMMATE 9
Orbital separation is 180 degrees.

COSMOS 92 MISSIONS MIGHT BE PHOTORECCE AND TEST OF IR & UV RADIATION DETECTORS 10
Heavy Venik again used for injection into orbit.

COSMOS 93 PROBABLY A SPACE RESEARCH VEHICLE 11
Launched from Kapustin Yar.

Portion identified as non-responsive to the appeal 11

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COVER: Soviet BEAR bomber (over Iceland-Faeroes Gap (57th Ftr-Intcp Sq, COMICEDEFOR)

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

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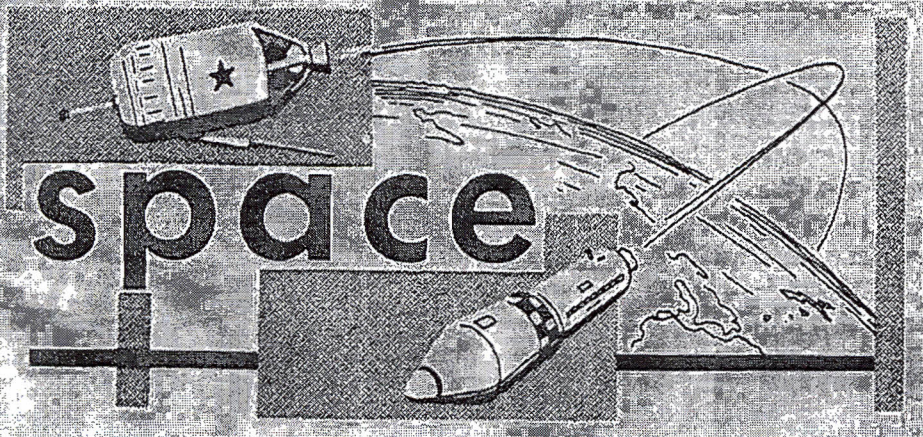

significant intelligence on space developments and trends

Molniya 2 Could be Replacement for Molniya 1, or Its Teammate

The Soviets launched Molniya 2, their second 12-hour (nominal) communications satellite from Tyuratam at about 0600Z, 15 October 1965. Molniya 2 may be a replacement for Molniya 1,

50X1 and 3, E.O.13526

Orbital parameters for Molniya 2 have been reported as follows:

	By SPADATS	By TASS
Inclination	65.189 degrees	65 degrees
Period	718.84 minutes	719 minutes
Apogee	39,992.11 km (21,555.68 n.m.)	40,000 km (21,598.28 n.m.)
Perigee	487.06 km (263 n.m.)	500 km (270 n.m.)

Apogee occurs twice daily at about 60° N., perigee at about 60° S.

Molniya 2's Earth trace is shifting westward about 0.5 degree daily, and its apogee is precessing southward by .02 degree daily. These shifts, though minor, could noticeably degrade Molniya's communications-relay coverage of the USSR in 7 months. As they did with Molniya 1, the Soviets may apply a station-keeping correction to Molniya's orbit, to keet it relatively constant with respect to the USSR each 12 hours.

TASS announced the launch about 7.5 hours after it occurred and said that the new satellite had already been used to relay TV programs and telephone calls between Moscow and Vladivostok.

(SPADATS; TASS; NORAD)

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Cosmos 92 Missions Might be Photorecce and Test of IR & UV Radiation Detectors

Cosmos 92, which the Soviets launched from Tyuratam (TT) at about 0815Z, 16 October, appears to be another in a series of recoverable satellites which the Soviets usually de-orbit 8 days after launch. Most of these recoverable Cosmoses have had a photoreconnaissance mission, which may also be the case for Cosmos 92.

50X1 and 3, E.O.13526

It could probably accommodate the equipment necessary for all these missions, since it was injected into orbit by the heavy Venik upper stage, which can orbit payloads of 12,000-14,000 pounds.

50X1 and 3, E.O.13526

If Cosmos 92 has a similar mission, then one or more vertical launches can be expected to occur when this satellite is within line of sight of the launch pad.

Orbital parameters of Cosmos 92 have been reported as follows:

	By SPADATS	By TASS
Inclination	65 degrees	65 degrees
Period	89.76 minutes	
Apogee	328.9 km (177.59 n.m.)	353.48 km (190.87 n.m.)
Perigee	198.58 km (107.23 n.m.)	212.1 km (114.54 n.m.)

Cosmos 92 is the 4th consecutive TT-launched Cosmos to be injected into orbit by the heavy Venik upper stage. Last year only 4 of the 12 TT Cosmoses used the Venik -- never consecutively -- and earlier this year, the Venik and lighter Lunik were used alternately.

Use of the Venik usually indicates that, if the satellite is a photo-recce vehicle, a camera system of high resolution (5-8 feet) is aboard.

Perhaps significantly, the launch time of each of the last 6 recoverable Cosmoses has been earlier in the day than the launch time of its predecessor:

Cosmos 77	1100Z, 3 August
Cosmos 78	1057Z, 14 August
Cosmos 79	1010Z, 25 August
Cosmos 85	0930Z, 09 September
Cosmos 91	0900Z, 23 September
Cosmos 92	0815Z, 16 October

(SPADATS; NORAD)

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Cosmos 93 Probably a Space Research Vehicle

Cosmos 93, which the Soviets launched from Kapustin Yar at about 0529Z, 19 October 1965, is probably a space research vehicle as claimed by the Soviet news agency TASS. Its orbital parameters have been reported as follows:

	By SPADATS	By TASS
Inclination	48.9 degrees	48.4 degrees
Period	92.5 degrees	91.7 minutes
Apogee	543.6 km	522 km (282 n.m.)
Perigee	259.3 km	220 km (119 n.m.)

(SPADATS; NORAD)

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SS-6 Engine Operation Sequence for Launch of 18 June 1959

MISSILE STATUS	TIME	BOOSTER (4 engines in parallel with sustainer engine)	SUSTAINER (1 engine)
ON PAD	T minus 18.5 sec	Pressurization initiated	Pressurization initiated
	T minus 4.5 sec	Start sequence initiated. Pump discharge pressure starts to rise immediately	
	T minus 3.85 sec	Main chamber pressures increase sharply	
	T minus 3.5 sec	Chamber pressures stabilized at 75% of maximum thrust	
	T minus 1.6 sec		Engine start sequence initiated
	?	50X1 and 3, E.O.13526	Chamber pressure starts to rise
LIFTOFF → IN FLIGHT	T minus 0.66 sec		Chamber pressure apparently at about 80% and rising
	T*	Engine thrust increased from 75% to 88% level	100% thrust
	T plus 5.2 sec	Thrust increased to 100%	
	T plus 7 sec	Thrust reduced to 96%	

50X1 and 3, E.O.13526

(Throughout rest of booster phase of flight, booster engines are throttled in pairs for pitch control and in unison for velocity control.)

*Flight timer starts; missile about 1/2 meter above pad.

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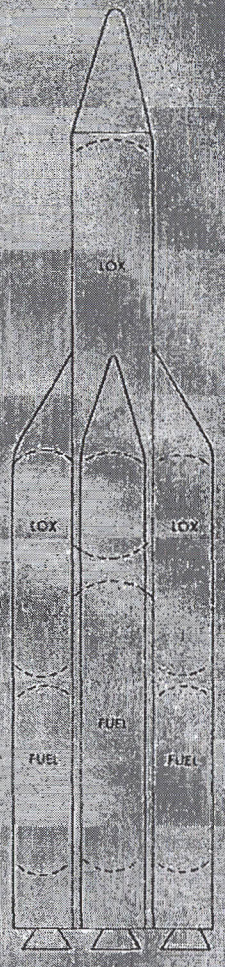
SS-6 ICBM

Never widely deployed as an ICBM.
Used primarily as a space booster.



Length 100 (± 10) feet
Body Diameter Approx. 10 feet

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