



DECLASSIFIED UNDER AUTHORITY OF THE
INTERAGENCY SECURITY CLASSIFICATION APPEALS PANEL,
E.O. 13526, SECTION 5.3(b)(3)

ISCAP APPEAL NO. 2009-068, document no. 177
DECLASSIFICATION DATE: February 25, 2015

NORTH AMERICAN AIR DEFENSE COMMAND

W I R

WEEKLY INTELLIGENCE REVIEW (U)

DOWNGRADED TO UNCLASSIFIED FOR
PUBLIC RELEASE
BY NORAD/NORTHCOM/CSO
SEPTEMBER 2009

RAND LIBRARY

REC'D. MAY 3 1967

2000

SCANNED BY ACD

H410. 6007-327

00880791

EXEMPTED FROM
DECLASSIFICATION IAW EO 12958
REVIEW DATE Jan 77 REVIEWER 64
REFER TO NORAD
EXEMPTION (S): 1 2 3 4 5 6 7 8 9

MICROFILMED BY ADM

PRIVILEGED INFORMATION

SEE INSIDE COVER FOR SAFEGUARDING GUIDE

FOR OFFICIAL USE ONLY

SECRET

SECRET

SPECIAL HANDLING REQUIRED
This document is releasable only
to U.S. and Canadian Nationals

EXCLUDED FROM AUTOMATIC
REGRADING, DOD DIRECTIVE 5200.10
DOES NOT APPLY

WIR 21/67
26 May 67

Postal Registry No. 264330 MAY 29 1967

NORAD - 5000th Printing Plant
The AFB, Colorado

NORAD

Issue No. 21/67, 26 May 1967

The WIR in Brief

Weekly
Intelligence
Review

RETURN
US AIRC
XVH-1
AL 36112-6678

K410.607-327

Portion identified as non-responsive to the appeal

Portion identified as non-responsive to the appeal

Space

FRACTIONAL-ORBIT BOMBARDMENT SYSTEM TESTED BY COSMOS 160 BUT PROBABLY FAILS

Next test may come in late July.

RECCE SATELLITE COSMOS 161 LAUNCHED, COSMOS 157 DE-ORBITED

No. 161 a high-resolution vehicle.

SOVIET PHOTORECCE SATELLITE COVERAGE IS FLEXIBLE; NO MASTER COMPUTERIZED PLAN FOLLOWED

US is chief target but coverage fluctuates.
CORRECTION: COSMOS 103 (NOT 105) LAUNCHED BY SS-8 PROPULSION SYSTEM

Item on p. 9, last week's WIR, in error.
PHOTOS OF CANVAS-COVERED COMPONENTS OF SL-3 LAUNCH SYSTEM PRESENTED

COVER: Upper part of one of SS-6 ICBMs 4 boosters, to be shown at Paris Air Show. (OFFICIAL USE ONLY)
NOTE: Pages 20, 21 and 24 of this issue are blank.

FOR OFFICIAL USE ONLY

MICROFILMED BY ADM

-1-

SECRET

SECRET

00880791

~~SECRET~~



significant
intelligence
on space
developments
and trends

Fractional-Orbit Bombardment System Tested by Cosmos 160 but Probably Fails

Cosmos 160 which the Soviets launched from the Tyuratam Missile Test Range at about 1605Z, 17 May, was the Soviets' eighth test of a FOBS (fractional-orbit bombardment system), the fifth in the orbital mode. Only one of the orbital-mode tests, Cosmos 139, appears to have been successful.

As with all the other FOBS tests, Cosmos 160 was launched by the SS-X-6 propulsion system, which includes the two stages of the SS-9 ICBM capped with a retro-stage and payload, into a very low orbit with an inclination of about 49 degrees.

Cosmos 160 is tentatively assessed as a failure. It appears that it was not de-orbited during the early part of Rev One, and that it might have been destroyed on command from the ground. At the end of Zero Orbit and the beginning of Orbit One, RADINT indicated the presence of a payload, a tank, and four fragments in orbit; one rev later there were 16 fragments but no tank and no payload.

The Soviets have been testing their FOBS in the orbital mode about once each 56 days. If this trend continues, the next test should be held in mid- or late July.

(NORAD)

~~(SECRET)~~

Recce Satellite Cosmos 161 Launched, Cosmos 157 De-orbited

Cosmos 161, which the Soviets launched from the Plesetsk space and missile complex at about 1400Z, 22 May, into an orbit with an inclination of about 65 degrees, is a reconnaissance satellite carrying a high-resolution camera system. It will probably be de-orbited on 30 May.

Cosmos 157, a military recce satellite which the Soviets launched from Tyuratam at about 1030Z, 12 May, was de-orbited nearly 8 days later, on Rev 128, impacting in the USSR at about 0910Z, 20 May.

(NORAD)

~~(SECRET)~~

-7-

~~SECRET~~

WIR 21/67 26 May 1967

~~secret~~



Soviet Photorecce Satellite Coverage is Flexible; No Master Computerized Plan Followed

The Soviets' photorecce program is not a highly automated program designed to insure maximum coverage of a very large number of high priority targets; it is, instead, a more flexible system based on individual targeting of each mission. This tentative conclusion is based on a survey of photographic coverage by nine Soviet recce satellites which carried high-resolution camera systems and which were launched between June 1964 and October 1965. The flexibility of the Soviets' "program" enables them to cover "hot spots" in the world situation as they boil over.

Background. The survey was based on analysis [redacted] of the following nine Soviet high-resolution-camera satellites:

Cosmos Number	Launch Date	% of Camera Activity Usable for Analysis	Remarks
34	1 Jul 64	65	
45	13 Sep 64	18	Camera failure, early de-orbit
59	7 Mar 65	23	Tape recorder failure
65	17 Apr 65	50	
67	25 May 65	50	
69	25 Jun 65	55	
79	25 Aug 65	41	
85	9 Sep 65	40	
91	23 Sep 65	68	

The areas being covered were determined by correlating camera-turnon and -turnoff times with the locations of the satellites at these times, and by determining the amount of satellite-roll motion before camera-turnon times.

Not all the data on camera activity during these missions is available [redacted]

[redacted] Thus, the survey implicitly assumes that the known coverage is a fair representation of all camera activity. This assumption is probably not valid for Cosmoses 45 and 59 because of the small sample sizes. Moreover, the Cosmos 59 data is biased because the tape-recorder failure permitted only real-time coverage, that is, photography only of areas adjacent to the Soviet land-mass. Also, possible camera coverage of Cosmos 77, which was also flown during the sample period, is omitted because of technical difficulties.

Coverage. The table on page 9 shows the percentage of film expended per mission on various areas of the world by the nine satellites, based on the elapsed times of camera activity over each area.



WIR 21/67 26 May 1967

~~secret~~

50X1 and 3, E.O.13526

50X1 and 3, E.O.13526

~~secret~~

Photographic Coverage of World Areas by 9 Soviet High-Resolution-Camera Satellites, Jun 64-Oct 65 (% of Film Expended, by Area)

Cosmos Number	34	45	59	65	67	69	79	85	91
Continental US except Alaska	47.3	30.8	4.3	28.2	18.9	35.0	18.7	11.0	14.9
Alaska	4.7			4.9		7.3			
US Possessions	4.0				1.9	6.5	6.9		3.9
Mexico	1.6	12.8					1.0	1.6	0.6
Canada	2.7		2.9	1.0		3.3			3.2
Cuba			2.9						
Dominican Republic					3.8				0.6
Greenland						1.6			
TOTAL—North America and US Possessions	60.3	43.6	10.1	34.1	24.6	53.7	26.6	12.6	23.2
Denmark	1.3		5.7	1.9		1.6	4.9		1.3
Greece	1.3		2.9		1.9	1.6	2.0	5.2	0.6
Iceland	2.7								
Italy			11.4	4.9	2.8	4.9	6.9	4.3	4.5
The United Kingdom			18.6	4.9	1.9	0.8	2.0	2.1	1.3
Spain			1.4	1.9	2.8				1.3
France			12.9	6.1	4.7		6.9	4.2	2.8
Norway			2.9			1.6			1.3
Portugal			5.7	3.9	1.9	0.8	2.0		
The Netherlands			5.7	4.1	3.8				
West Germany			5.7	4.1	7.6			2.2	7.5
Sweden			1.4			1.6		1.0	
Finland			1.4						
Belgium			5.7	6.1					2.1
East Germany					4.7				
Cyprus							2.0		
Austria								2.2	
Switzerland									0.6
TOTAL—Europe except the USSR	5.3		81.4	37.9	32.1	12.9	26.7	21.2	23.3
TOTAL—USSR	1.3				7.6	2.4			
Yemen	0.7								
Iran	2.7		2.9			3.3	2.0	4.2	
Turkey	2.0	12.8	5.7		6.6	1.6	5.9	13.2	12.3
Israel	2.0				1.9				
Saudia Arabia		2.6							
Kuwait		2.6							
Syria								1.6	
Pakistan	2.0					1.6		1.6	3.9
India							7.7		1.3
Kashmir								1.6	1.9
Communist China	5.7	2.6			3.8	9.8	15.7	7.3	7.8
Japan	5.4	15.4		4.9	11.4	0.8	5.9	5.5	1.9
Philippines	1.3								1.3
Singapore					1.9			2.1	
South Vietnam				9.7			5.9	16.7	10.4
South Korea		7.7				3.3		3.1	4.5
North Korea								3.1	1.3
TOTAL—Asia except USSR	21.8	43.7	8.6	16.5	23.7	20.4	43.1	60.0	46.6
Australia	1.3					4.1	2.9	4.2	1.3
Tuamotu Archipelago				2.9	2.8	2.4			1.5
TOTAL—Australia and Oceania	1.3			2.9	2.8	6.5	2.9	4.2	3.2
TOTAL—South America (Brazil)						0.8			
TOTAL—Ocean Area out of sight of land masses or islands	3.3	12.8		3.9	1.9	3.3	1.0		1.3
Congo	0.7								
Zambia	0.7								
Mozambique	0.7								
Kenya	0.7								
Southwest Africa	0.7								
Union of South Africa	0.7			3.9	3.8				
Bechuanaland	0.7								
Southern Rhodesia	0.7								
Tanzania	0.7								
Ethiopia	0.7								
Nyasaland				1.0					
Libya					3.8				
Malagasy Republic								2.1	
Tunisia									0.6
Ascension Island									1.3
TOTAL—Africa	7.0			4.9	7.6			2.1	1.9



WIR 21/67 26 May 1967

~~secret~~

~~secret~~



The table shows, expectedly, that the US is the chief single target, but it also shows that coverage of the US varies greatly from mission to mission. Nearly half of Cosmos 34's film was spent on the continental US, but coverage thereafter fluctuated widely -- from 4.3% of Cosmos 59's mission film to 35% of Cosmos 69's.

Cosmoses 79, 85, and 91 were apparently Asian missions, while Cosmos 59 apparently was targeted against areas of Europe.

The apparent "top ten" among countries covered included:

<u>Rank order</u>	<u>Country</u>	<u>Average percent of film used/mission</u>
1	US (except Alaska & possessions)	24.9
2	Communist China	7.2
3	South Vietnam	6.1
4	Turkey	5.9
5	Japan	5.1
6	Italy	4.0
7	France	3.5
8	US possessions	3.3
9	West Germany	3.1
10	Alaska	2.4

It is not surprising that the US and its allies are the targets of primary interest, but some of the data from this tabulation and the one on page 9 may be of interest:

- Communist China accounted for the second greatest total of film exposed, with coverage greatest during the last four missions -- a possible indication that Soviet interest was then beginning to increase.
- There was virtually no photographic activity over the USSR's Eastern European allies. The USSR obviously knows these countries as it does the back of its hand.
- France and its possessions were covered to a surprising extent. Particularly striking are four passes in the last six missions over The Tuamotu Archipelago, all prior to the first French nuclear test there.

Other examples of the flexibility of the Soviet system of targeting each mission individually:

- There was no coverage of Kashmir or the areas bordering it in India and Pakistan until Cosmoses 85 and 91 were launched (9 and 23 September 1965), only weeks after the start of hostilities



~~secret~~



between India and Pakistan.

- The first of two photographic "takes" of the Dominican Republic was made by Cosmos 67, which was launched 25 May, 1965, shortly after the arrival of the bulk of the US forces in that area (28 Apr- 5 May).
- Coverage of South Vietnam did not begin until after US air attacks on North Vietnam commenced; coverage reached relatively high levels on the last two Cosmos missions.

Limitations. Since the survey covered only high-resolution satellites launched before October 1965, the results do not necessarily apply to:

- Operations by the recce Cosmoeses which carry wide-angle low-resolution camera systems for search missions, as well as known ELINT-collection systems.
- Operations after October 1965 by high-resolution satellites.

(CIA; NORAD)

~~(SECRET)~~

CORRECTION

Cosmos 103 (Not 105) Launched By SS-8 Propulsion System

The article on page 9 in last week's WIR about Cosmos 158 erroneously referred to Cosmos 105, which was launched 22 Jan 66 by the SL-3 propulsion system; the article should have referred to Cosmos 103, which was launched by the SL-8 system on 28 Dec 65.

(NORAD)

~~(SECRET)~~

Photos of Canvas-Covered Components of SL-3 Space-Launch System Presented

Photos of components of the Soviets' SL-3 space-launch system, which has launched large numbers of Soviet space events of many types, are shown on page 22.

(FTD; NORAD)

~~(SECRET)~~





WIR 21/67
26 May 67

~~SECRET~~
-22-

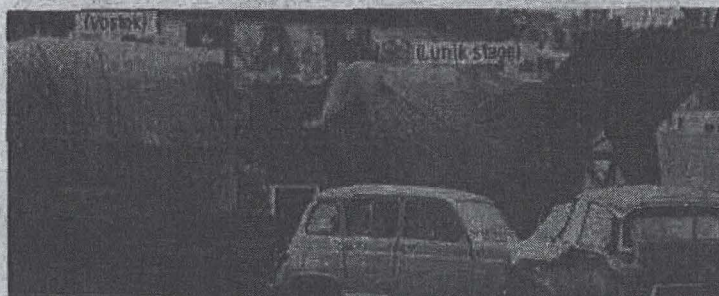


(lower part of booster)

~~SECRET~~

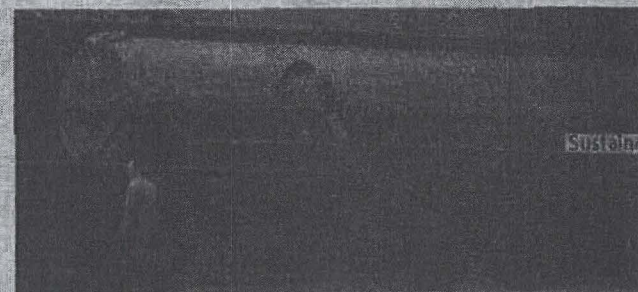
SL-3 Space Launch System Components

(Photos, less captions, are OFFICIAL USE ONLY)



(Vortex)

(unit stage)



(sustainer)