

NATIONAL RECONNAISSANCE OFFICE

NRO Overview

Director Bruce Carlson

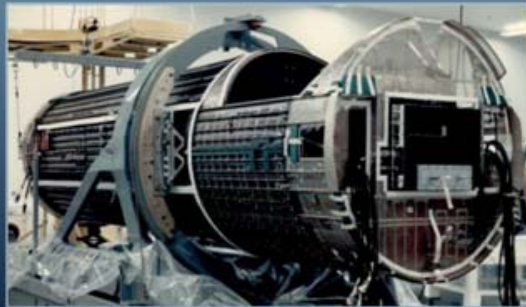
2 March 2012



VIGILANCE FROM ABOVE



GAMBIT



Office of the Director, NRO

- With its first Imagery Reconnaissance Satellite *CORONA* and its 40-foot resolution, the United States was able to determine the pace and scope of the Soviet Union's ballistic missile deployments and analysts were able to count Soviet heavy bombers - however better resolution was required for more detailed analysis
- In response and thanks to the efforts of Lockheed Martin and others, *GAMBIT 1* with the KH-7 camera system that included a 77-inch focal length camera was launched in July 1963 and operated until June 1967
 - *GAMBIT I* had thin film which permitted longer missions than *CORONA* and its roll capability and stereo cameras enabled increased target acquisition and gave images a 3D quality
 - *GAMBIT I* had a resolution of 4 feet, monitored key targets and provided key cartographic information that allowed DoD to produce accurate, large-scale maps - critical since we didn't have *GPS* then
- The follow-on system, *GAMBIT 3* operated from July 1966 to April 1984 and it had a KH-8 camera system and an 175-inch camera which provided resolution that was better than 2 feet



GAMBIT 3 and the KH-8

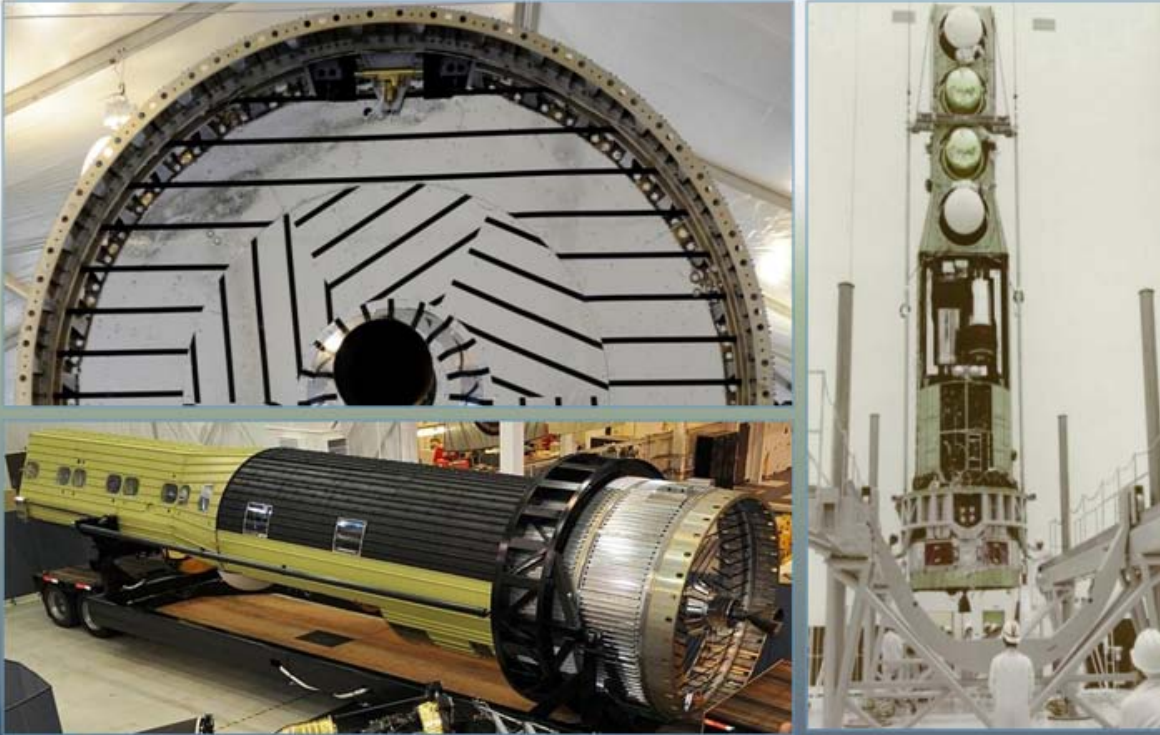


Office of the Director, NRO

- Like Gambit 1, *GAMBIT 3* and its *KH-8* played an important role in National Security - here's an example from a recently declassified image of the Tyuratam (tier-ah-tam) Missile Test Center.
- Tyuratam Missile Test Center, which is located in Kazakhstan, is also known as the Baikonur ((Bike-on-or) Cosmodrome and it is the site where the space age began, with the Soviet Union's launch of the Sputnik satellite in October 1957. In addition to other notable launches, it was also the launch site for Yuri Gagarin's flight in 1961 as the first human in space.
- This particular site is extremely notable since images taken by Gambit confirmed it as the site where the Soviet Union was working on a space vehicle to go to the moon. At the time, the Soviet Union denied any intentions of taking part in a "race to the Moon" with the United States, however, imagery in the hands of our national leaders proved otherwise.
- The Soviet's attempt to launch a space vehicle to the moon failed catastrophically on 3 July 1969, just days before Neil Armstrong set foot on the moon. Many of you will recall just where you were and what you were doing when you got that news.



HEXAGON



Office of the Director, NRO

- While *GAMBIT*'s imagery was very detailed, it could be compared to looking at a map through a soda straw. To work in concert with *GAMBIT*, *HEXAGON* was developed to provide a broad-area search and mapping capability - it operated from June 1971 to April 1986
- *HEXAGON* had multiple film recovery buckets and extended missions which lasted an average of approximately four-months - improvements which moved the United States closer to achieving a continuous space imaging capability
 - One *HEXAGON* frame covered a distance of more than 400 miles or about the distance from San Antonio to a point between St Charles and Baton Rouge, Louisiana
 - *HEXAGON* carried 60 miles worth of film, which was nearly 300 times the amount carried on *GAMBIT*
- Working together, *GAMBIT* and *HEXAGON* were America's Eyes in Space and were the most sophisticated satellites of their time
- But these systems were built with 1950s and 1960s technology -- the systems we put into orbit today are even more advanced



NRO LAUNCH SUCCESS



2010 - 2011



L-41
20 SEP 2010
Atlas V
Vandenberg



L-32
21 NOV 2010
Delta IV Heavy
Cape



L-49
20 JAN 2011
Delta IV Heavy
Vandenberg



L-66
6 FEB 2011
Minotaur I
Vandenberg



L-27
11 MAR 2011
Delta IV
Cape



L-34
14 APR 2011
Atlas V
Vandenberg

- Here is the centerpiece of the NRO's 50th Anniversary activities, our launch campaign
- Huge success: six satellites in seven months
 - Most aggressive launch schedule in 25 years and the satellites we launched were more complex and technically demanding than any we have launched before
 - True testament to the pioneering and innovative efforts of the men and women of the NRO
 - Refreshed the Nation's overhead reconnaissance constellation - Average age down 2 years --
 - Majority of Constellation is aging, but despite age of some satellites, still very robust, adaptable
 - Some, designed to monitor Soviet communication in Northern Fleet are now used to geo-locate sensitive signals in the war zone
 - Through this campaign and the dedicated efforts of the NRO workforce, we proved once again that the NRO knows how to develop, acquire, launch, and operate our nation's intelligence collection satellite constellation and our worldwide coverage is as good as it has been in years



(U) 2012 Launch Campaign



- Compared to our 50th Anniversary launch campaign, 2012's campaign may look easy, but a lot of hard work and focus will be required from the men and women of the NRO to ensure we're as successful with these four launches as we were with the past six
 - Especially when a Delta IV Heavy is on the schedule
 - The launch of these systems will not only improve on the NRO's capabilities, they will also help reduce the overall age of our Constellation and better deal with today's and tomorrow's global threats

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