

Management of the Soviet Space Program

HONR 269i

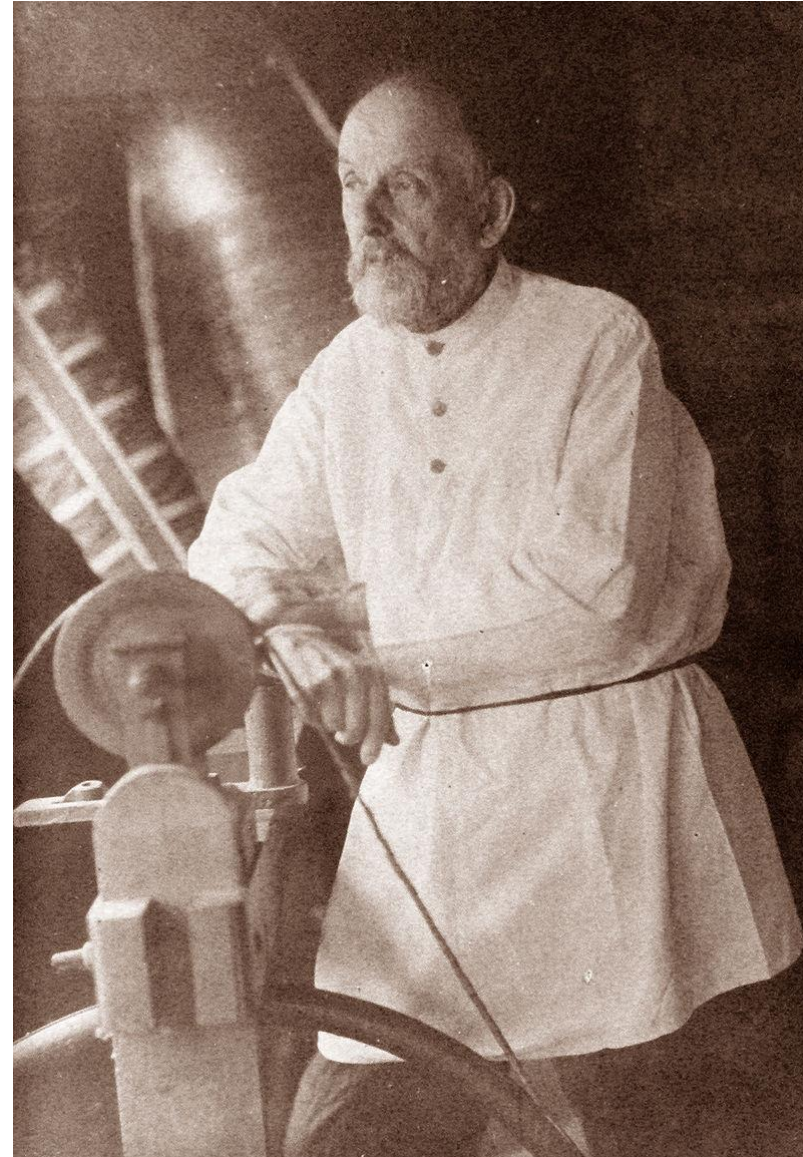
To the Moon and Back: The Apollo Program

[First Orbit](#)

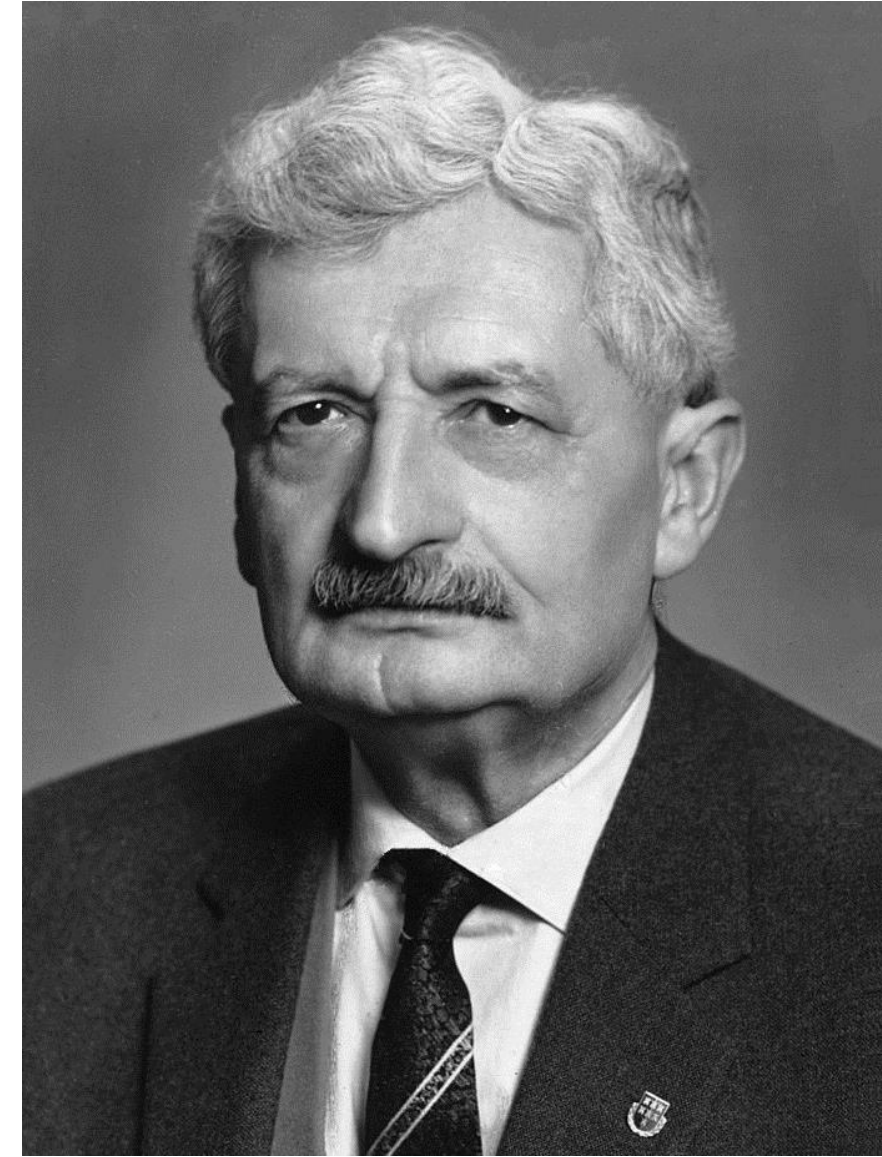
Jules Verne
(1828-1905)



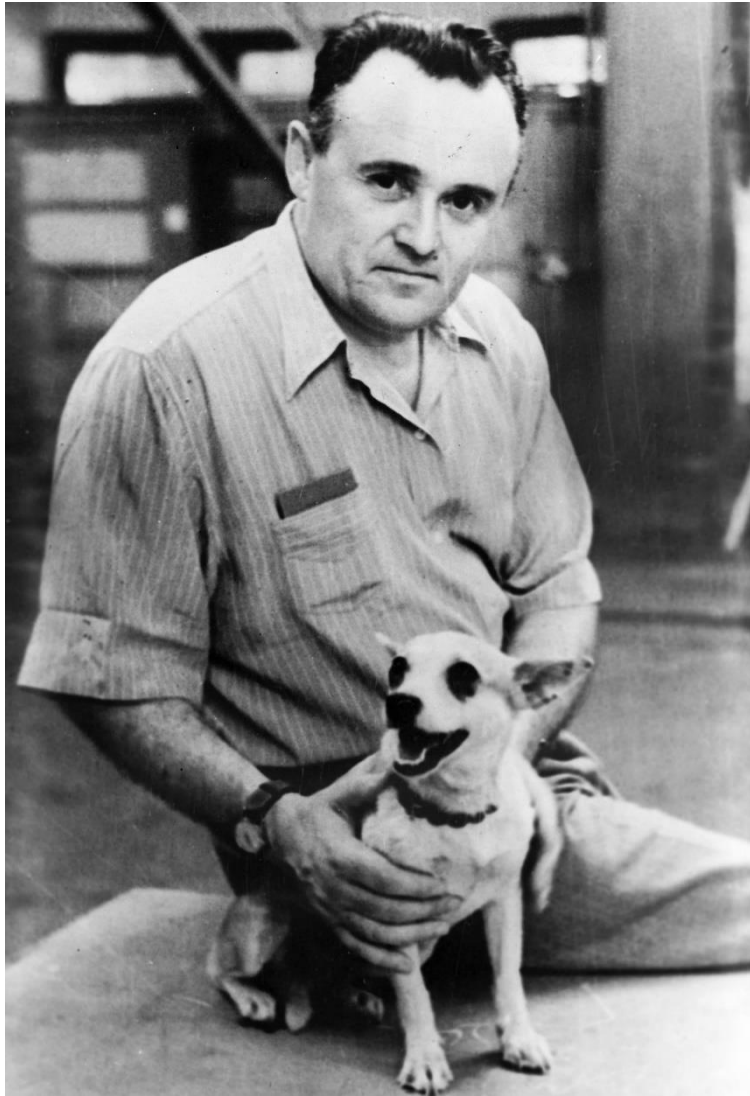
Konstantin Tsiolkovsky
(1857-1935)



Hermann Oberth
(1894-1989)



(R7, N1, Vostok,
Voskhod, Soyuz, LK)
Sergei Korolev



(Engines)
Valentin Glushko



(UR 500)
Vladimir Chelomey





Physical features of the GDR

Peenemünde

Mittelwerk

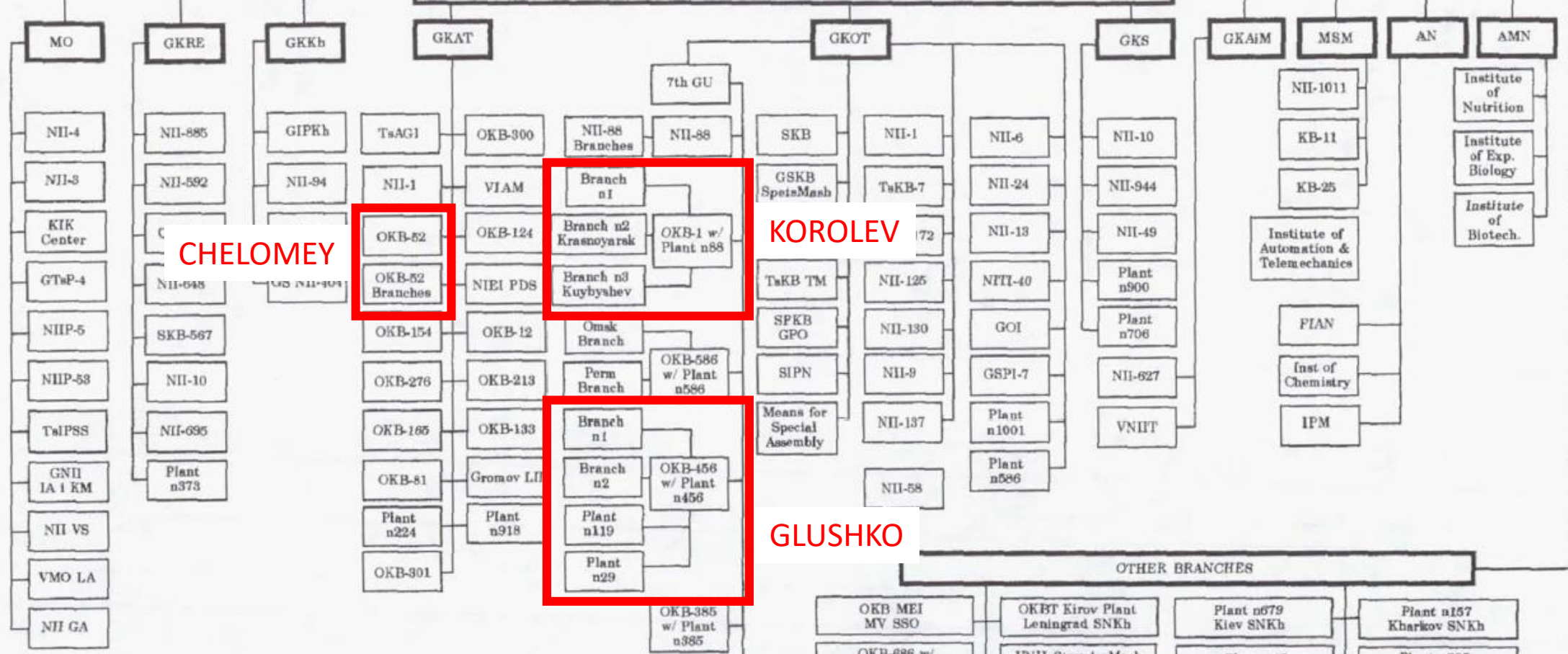
CZECHOSLOVAKIA

Learning Russian

- (Minister of Defense) MO
- (Military-Industrial Commission) VPK: Dmitry Ustinov
- (Strategic Rocket Forces) RVSN: Mitrofan Nedelin
- (State Committee for Defense Technology) GKOT
- (Scientific Research Institute) NII-88
- Council of Chief Designers
- (Experimental Design Bureau) OKB-1: Sergey Korolev
- (Experimental Design Bureau) OKB-456: Valentin Glushko
- (Experimental Design Bureau) OKB-52: Vladimir Chelomey
- (Cosmonaut Training Center) TsPK: Yevgeny Karpov



MILITARY-INDUSTRIAL COMMISSION

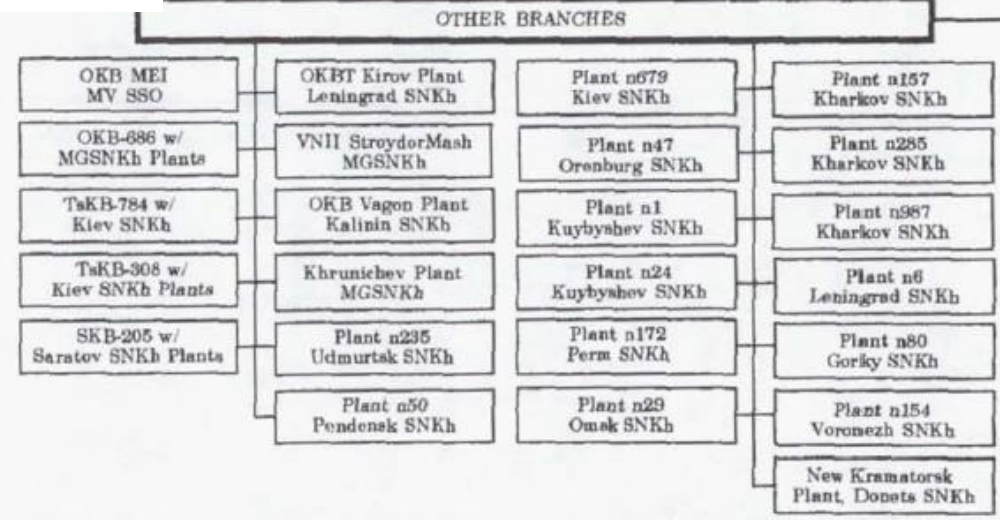


CHELOMEY

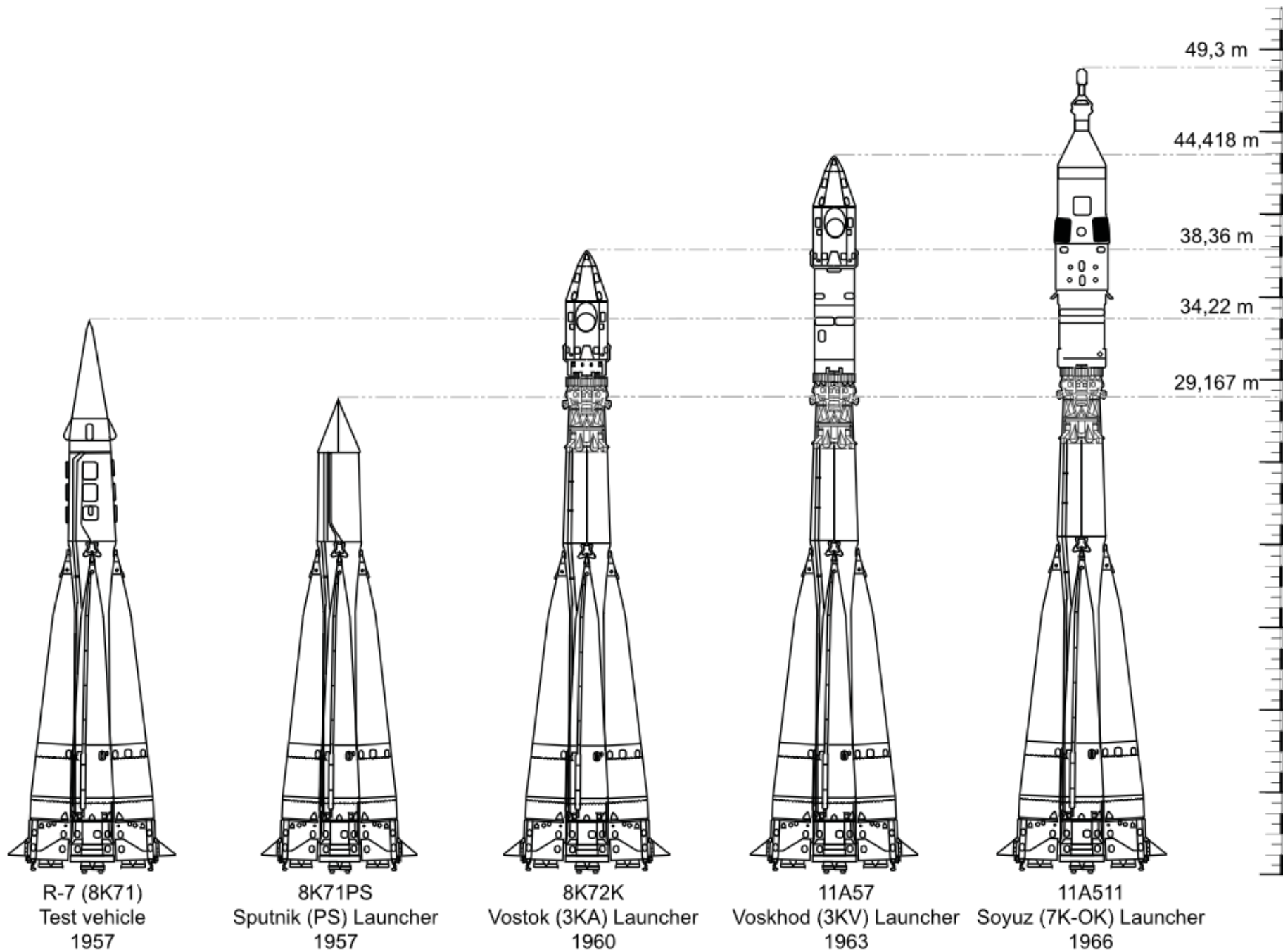
KOROLEV

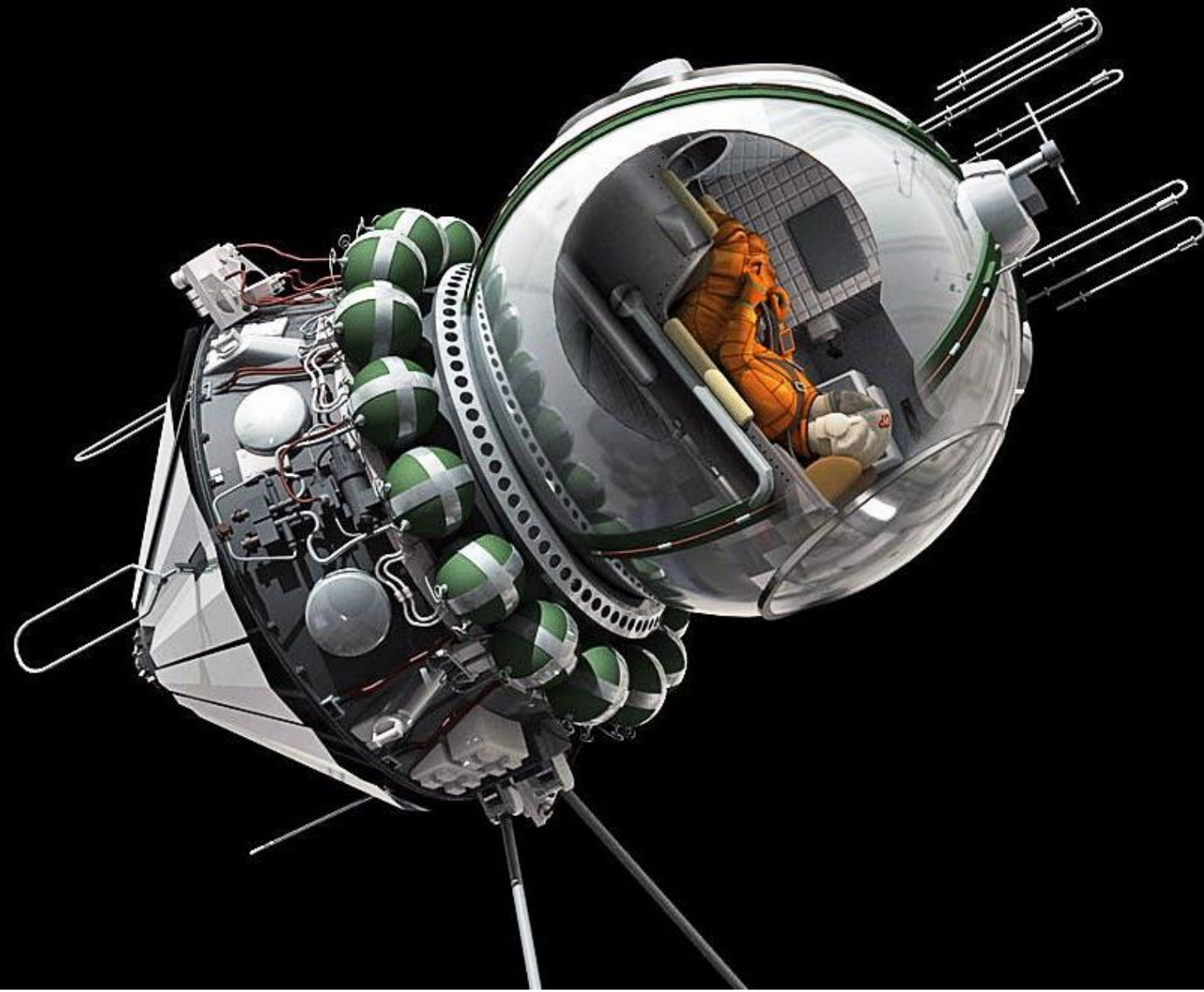
GLUSHKO

- ABBREVIATIONS FOR INDUSTRIAL BRANCHES**
- AMN Academy of Medical Sciences
 - AN Academy of Sciences
 - GKAIM State Committee for Automation and Machine Building
 - GKAT State Committee for Aviation Technology
 - GKOT State Committee for Defense Technology
 - GKKh State Committee for Chemistry
 - GKRE State Committee for Radio-Electronics
 - GKS State Committee for Ship-Building
 - GU Chief Directorate
 - MO Ministry of Defense
 - MSM Ministry of Medium Machine Building
 - VVS The Air Force



The organization of the Soviet ballistic missile and space industry in 1961. (copyright Asif Siddiqi)





BEGIN ORIENTATION
FOR RETRO BURN AT
8000 KM FROM
LANDING SITE
AT 9:51 MT

• RETRO BURN AND
INSTRUMENT MODULE
SEPARATION AT 10:25 MT
BEGIN REENTRY AT 10:35 MT

• FINAL STAGE SHUT DOWN,
ORBIT INSERTION AT 676 SEC.

• JETTISON CORE STAGE,
FINAL STAGE IGNITION
300 SEC.

• JETTISON HATCH AT 7000 M
COSMONAUT EJECTS 2 SEC
LATER AT 10:55 MT

• JETTISON
SHROUD
AT 156 SEC.

• JETTISON HATCH AT
4000 M AND DEPLOY
BRAKING CHUTE

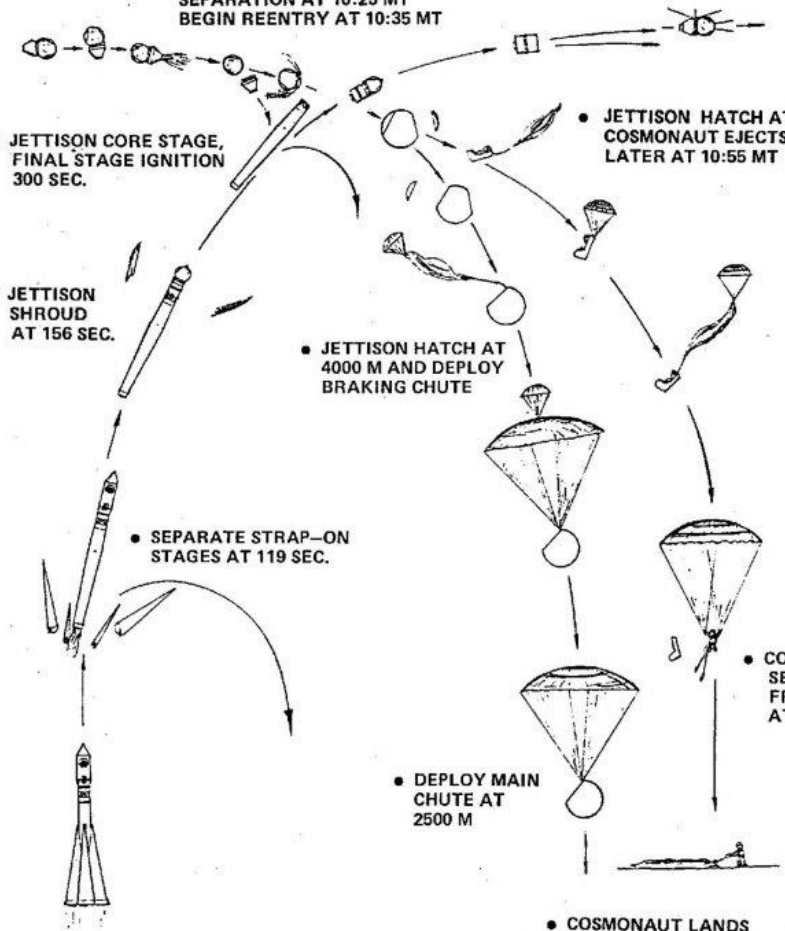
• SEPARATE STRAP-ON
STAGES AT 119 SEC.

• COSMONAUT
SEPARATES
FROM SEAT
AT 4000 M

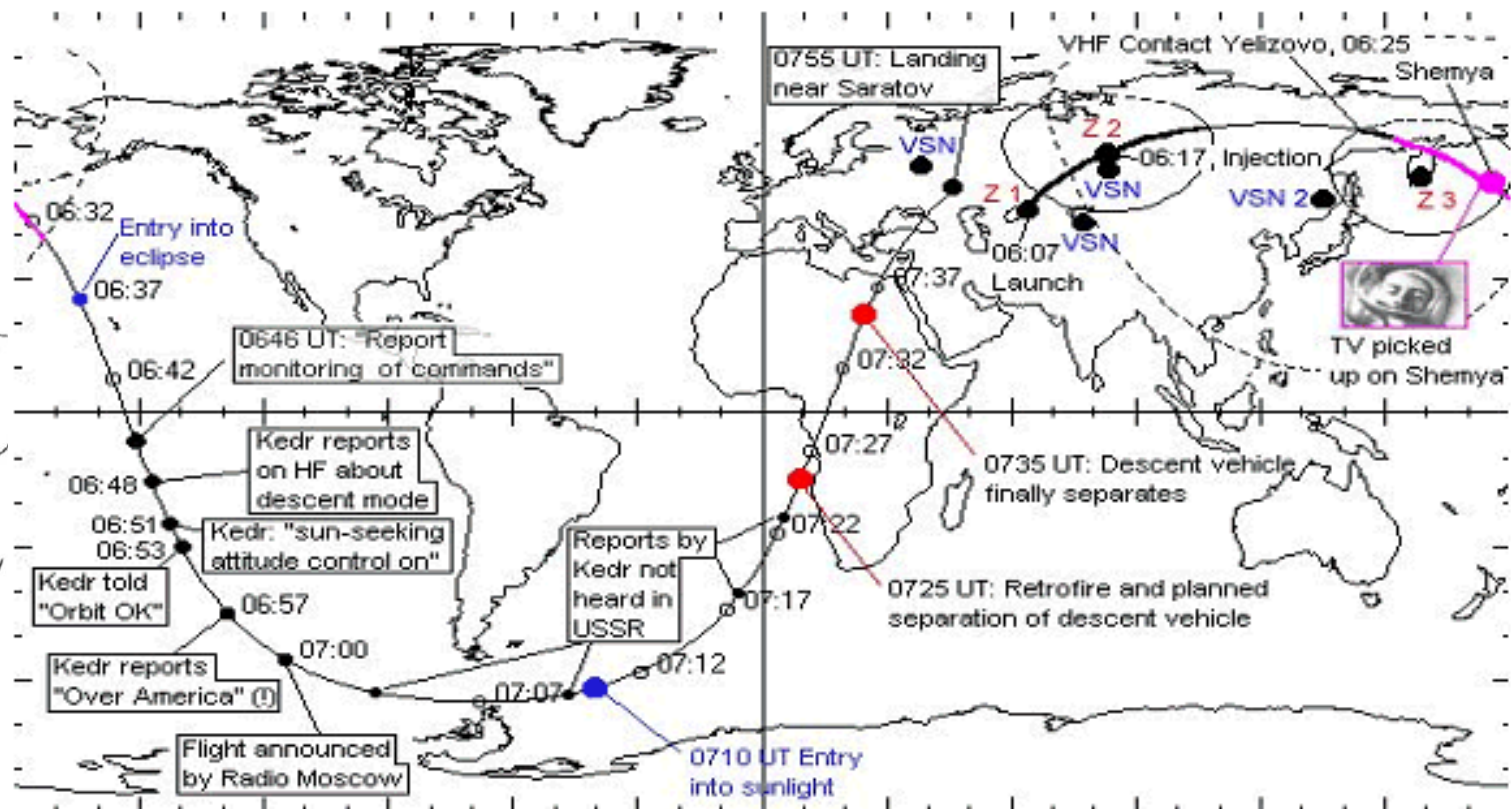
• DEPLOY MAIN
CHUTE AT
2500 M

• LAUNCH FROM BAIKONUR
KOSMODROME AT LENINSK
AT 9:07 MT

• COSMONAUT LANDS
IN SARATOV REGION
AT 11:05 MT (EST.)



Vostok 1



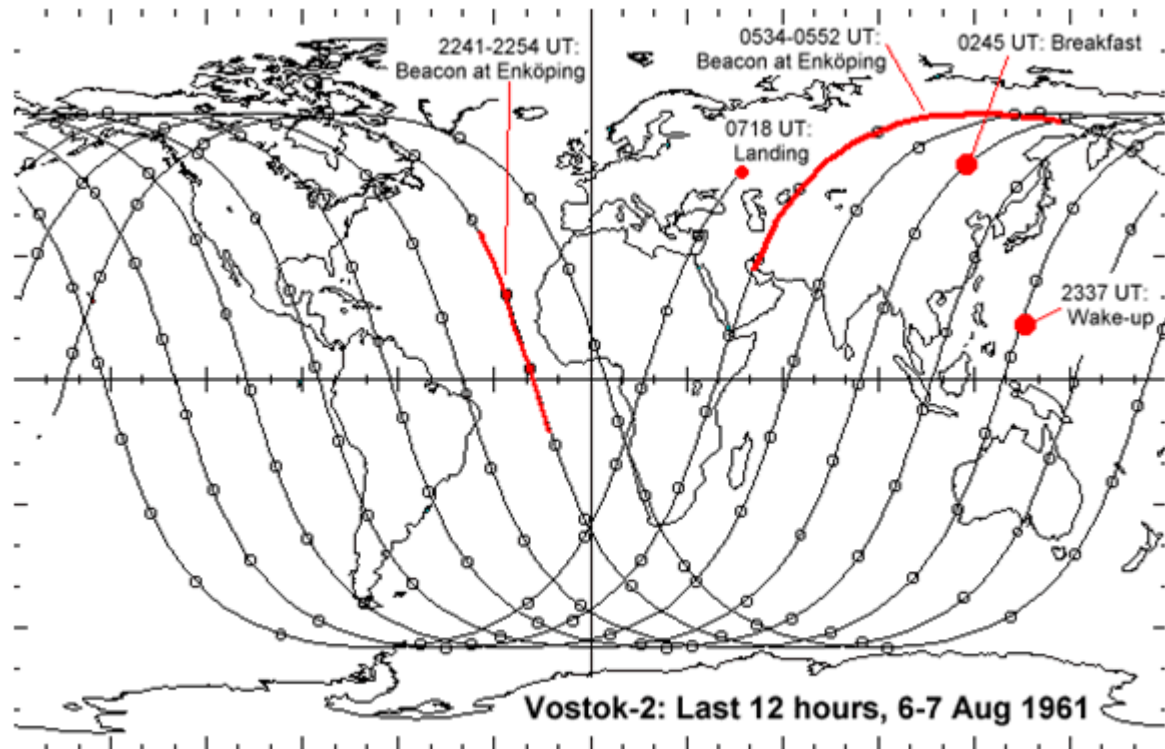


Figure A5.5: *Vostok 2* Ground Track, 7 August 1961

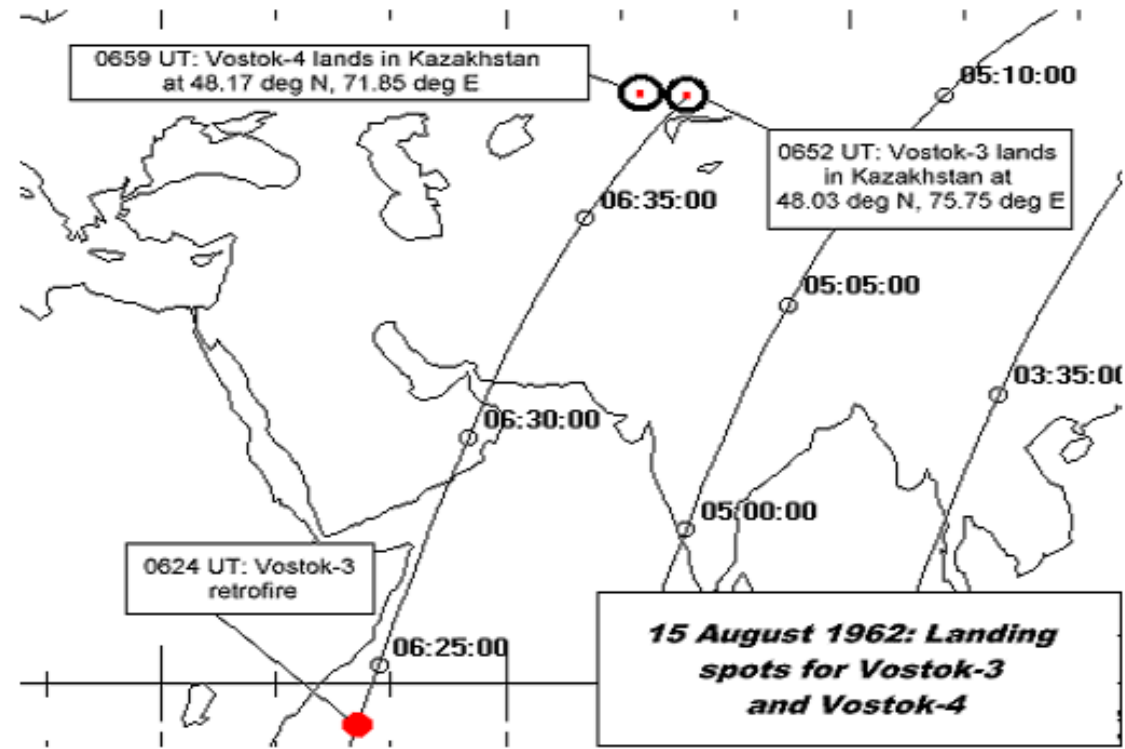


Figure A5.7: *Vostok 3* and *Vostok 4* Ground Tracks, 15 August 1962

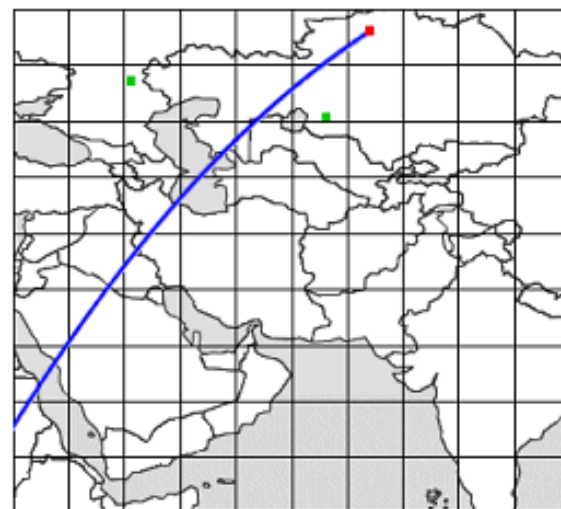
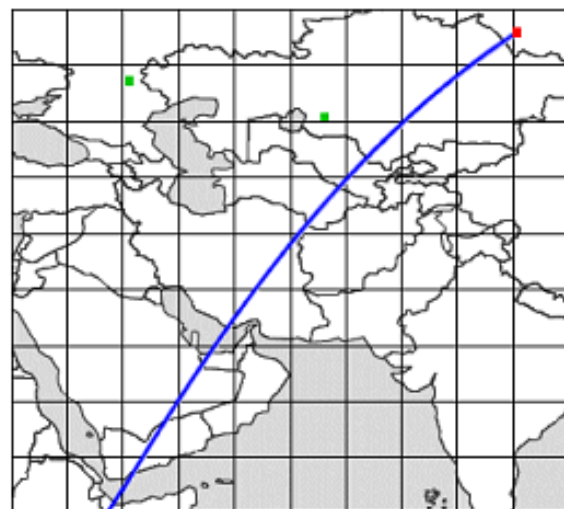
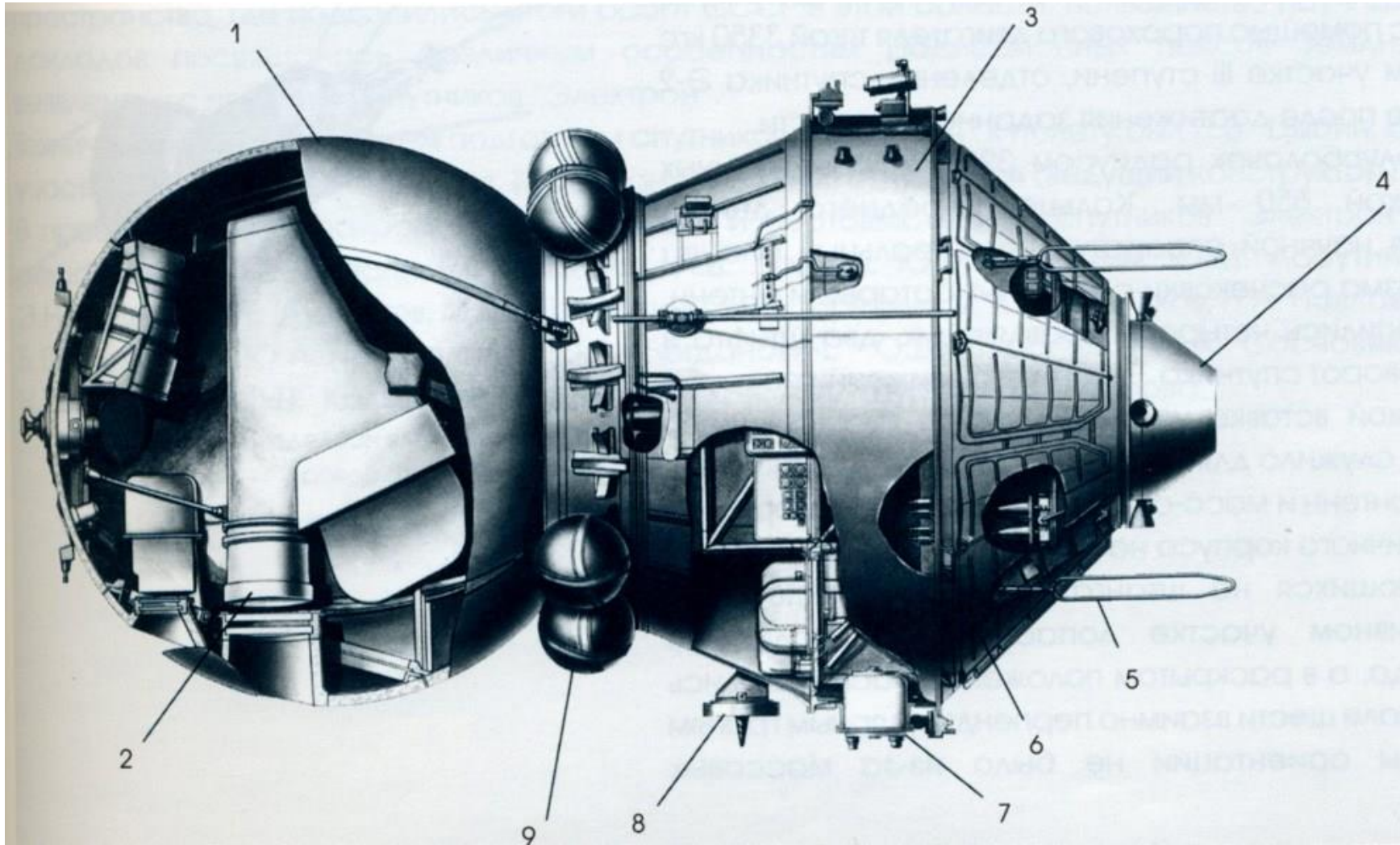


Figure A5.8: *Vostok 5* Ground Track, 19 June 1963

Figure A5.9: *Vostok 6* Ground Track, 19 June 1963

Zenit-2 Series Reconnaissance Satellites (Object OD-2)



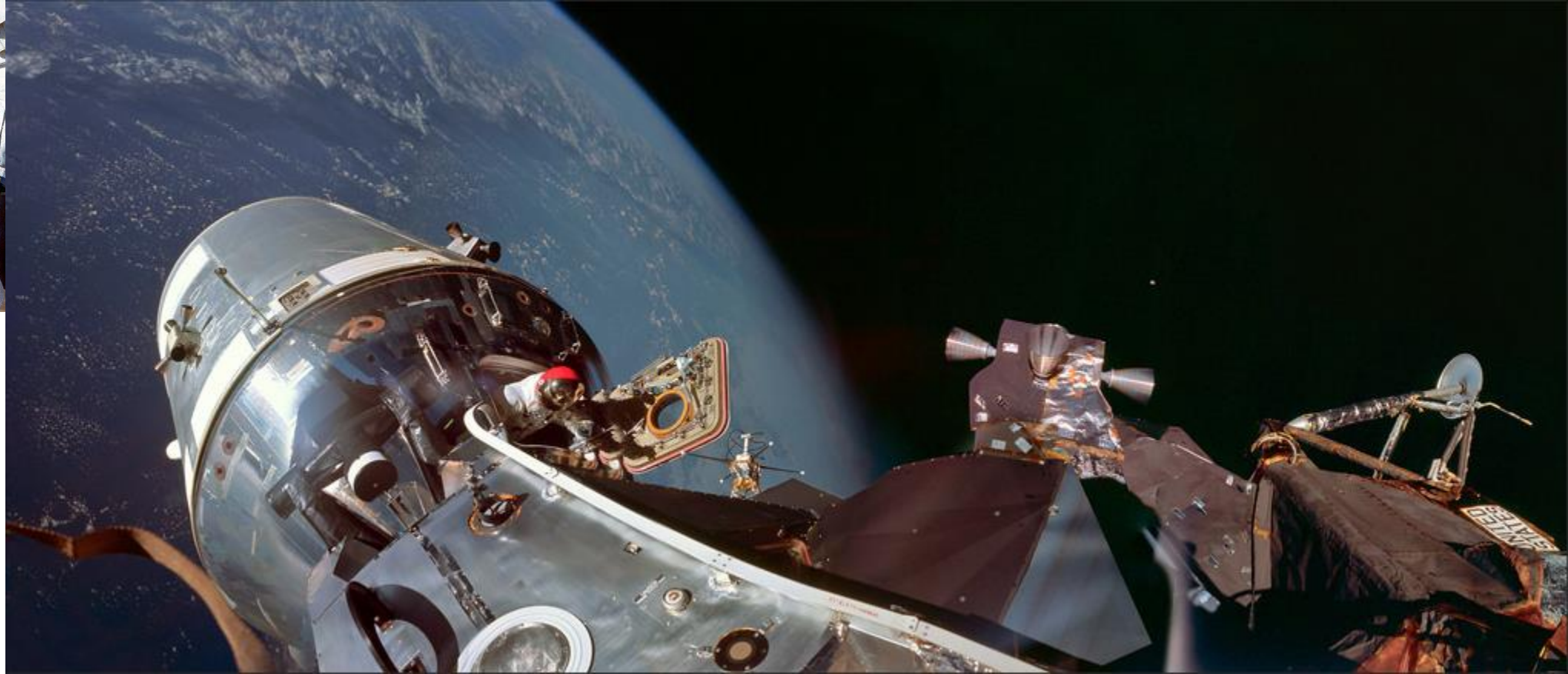
Timeline

- Vostok 1: Yuri Gagarin, 2 hours (April 1961)
- Vostok 2: Gherman Titov, 25 hours (August 1961)
 - Mercury-Atlas 6: John Glenn, 5 hours (February 1962) [+STS-95]
 - Mercury-Atlas 7: Scott Carpenter, 5 hours (May 1962)
- Vostok 3: Andriyan Nikolayev, 94 hours (August 1962)
- Vostok 4: Pavel Popovich, 71 hours (August 1962) [+Soyuz 14]
 - Mercury-Atlas 8: Wally Schirra, 9 hours (October, 1962) [+Gemini 6, Apollo 7]
 - Mercury-Atlas 9: Gordon Cooper, 34 hours (May, 1963) [+Gemini 5]
- Vostok 5: Valery Bykovsky, 119 hours (June 1963)
- Vostok 6: Valentina Tereshkova, 71 hours (June 1963)

Discussion Groups

- Chertok Volume 2 Chapter 9 (“Managers and Colleagues”)
 - An insider’s view of the time when OKB-1 split off from NII-88
- Siddiqi Chapter 6 (“Organizing for the Space Program”)
 - How the management structure above OBK-1 evolved
- First Orbit video
 - The story of Vostok 1
- Siddiqi Chapter 9 (“Space Politics”)
 - The rise of Chelomey

Apollo 9



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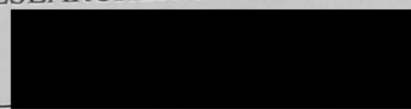
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Case Study Comments

- Accuracy
- Compliance with instructions
 - Single-spaced, length
- Citations
 - Missing, bracketed superscript, author but no year
- Grammar