

Fig. 15.30. Comparative sizes and masses of the first three Earth satellites, Sputnik 1, Explorer I, and Vanguard I. Figure courtesy of Mike Gruntman.

## BIRTH OF NASA

Launches of neither first Soviet Sputniks nor American Explorer and Vanguard drew any diplomatic protests about space vehicles flying over sovereign territories. The principle of the freedom of space for satellites has thus been accepted in practice. The American satellite reconnaissance program, the primary space objective of President Eisenhower, had the road cleared for implementation.

Several special interest groups pushed for a more aggressive space agenda in the United States. One such group included government and industrial scientists and managers with the vision of strong American military presence in space in order to fight and win the battles of the Cold War. Another “pressure” group consisted of university and government scientists interested in space exploration with the experience in high-altitude sounding-rocket research, coordinated for years by the Upper Atmosphere Rocket Research Panel. The members of this group had a growing appetite for more sophisticated and expensive space experiments. Yet another lobbying group comprised spaceflight enthusiasts in government, universities, and professional societies, who passionately advocated manned spaceflight, space stations, colonization of the moon, travel to planets, and other wonderful futuristic ideas leading, ultimately, to interstellar travel.

Space advocates had limited success in advancing their agenda so far although Eisenhower unambiguously supported measured progress in space technology. The Republican president stayed focused on a clearly defined goal of meeting national security objectives in space while containing expenses. The

**Freedom  
of Space  
Accepted**

**Emerging  
Space  
Lobby**

**page 375**

# Blazing the Trail

## The Early History of Spacecraft and Rocketry

**Mike Gruntman**

**AIAA, Reston, Va., 2004**

ISBN 156347705X; 978-1563477058

**505 pages with 340 figures**

**Index: 2750+ entries, including 650 individuals**

This book presents the fascinating story of the events that paved the way to space. It introduces the reader to the history of early rocketry and the subsequent developments which led into the space age. People of various nations and from various lands contributed to the breakthrough to space, and the book takes the reader to far away places on five continents.

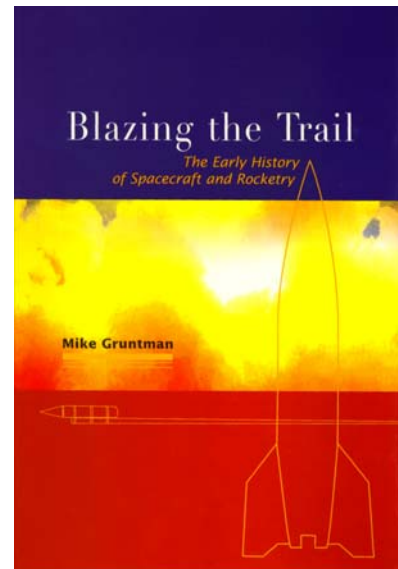
This world-encompassing view of the realization of the space age reflects the author's truly unique personal experience, a life journey from a child growing on the Tyuratam launch base in the 1950s and early 1960s, to an accomplished space physicist and engineer to the founding director of a major U.S. nationally recognized program in space engineering in the heart of the American space industry.

Most publications on the topic either target narrow aspects of rocket and spacecraft history or are popular books that scratch the surface, with minimal and sometimes inaccurate technical details.

This book bridges the gap. It is a one-stop source of numerous technical details usually unavailable in popular publications. The details are not overbearing and anyone interested in rocketry and space exploration will navigate through the book without difficulty. The book also includes many quotes to give readers a flavor of how the participants viewed the developments. There are 340 figures and photographs, many appearing for the first time.

### Table of contents

- Preface
- Foreword
- Humble Beginnings
- Rocket Proliferation – The First Wave
- Under Rocket Fire in India
- The Congreve Rocket
- Rockets Come to America
- First American Rockets
- Rocket Proliferation – The Second Wave
- Public Imagination on Fire
- Great Pioneers
- The First Modern Rocket
- JATO and Beyond
- Building the Foundation
- Road to Sputnik
- Gateways to Heaven
- The Breakthrough
- Opening the Skies
- Joining the Club
- The First Thousand Years



Book details (including **index** and **reviews**) at: <http://astronauticsnow.com/blazingthetrail/>

About the author. Dr. Mike Gruntman is professor of astronautics at the University of Southern California. Accomplished physicist, Mike is actively involved in research and development programs in space science and space technology. He has authored and co-authored nearly 300 publications, including 4 books.