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### HELPING HAND OF KGB AND GRU

Soviet rocket and space programs continuously benefited from the help of intelligence services. Actually, scientific-technical espionage in rocketry dates back to the days of the Russian Empire. The archives describe first successes in this area already in 1835 when the Russian Ambassador in Paris obtained “blueprints and description of a new type of incendiary rockets” (Primakov 1996, 147).

The recently published semiofficial history of the KGB's foreign intelligence (the publication was edited by Evgeny M. Primakov, who served consecutively as head of the Russian Foreign Intelligence, Foreign Minister, and Prime Minister in 1990s) describes the first achievements of rocket espionage in the United States:

One of the first Soviet illegals on the American continent was an intelligence officer known only by his pseudonym, Charlie. His name [his file] has not been preserved in the archives of the [KGB] intelligence service. In 1938 he was recalled to the Soviet Union and repressed [i.e. executed] and his file was likely destroyed. ... [This] intelligence officer succeeded in the early 1930s in obtaining a report by an American scientist [R.H.] Goddard ‘On the results of the work on development of a liquid-propellant rocket engine.’ The document was presented to [Marshal Mikhail] Tukhachevsky who highly praised it. (Primakov 1997, 174)

While Germany kept its fast-growing ballistic missile development top secret, the KGB quickly learned about the program through its agent who served as a midranking official in the German Secrete State Police Gestapo. (This Soviet agent was uncovered and shot in 1942.) In November 1935, the agent reported development of solid-propellant rockets for delivery of chemical weapons. In addition, he identified Wernher von Braun and described that “in the forest, in a remote part of the [Kummersdorf] test range, permanent stands are erected for testing rockets working with the use of liquids [propellants].”

The report of the KGB agent was forwarded to the Soviet dictator Joseph Stalin and Marshal K.E. Voroshilov in December 1935 and then passed to Marshal M. Tukhachevsky in January 1936. The head of the Soviet military intelligence, who was briefed about German liquid-propellant rockets, asked the KGB for further information:

Rockets and jet projectiles. a) Where does engineer Braun work? What does he work on? Are there possibilities to infiltrate his laboratory? b) Are there any possibilities to contact other workers in this area? (Primakov 1997, 344).

The rockets and space technology remained in the focus of the Soviet intelligence for the years to come. It was a sample of a solid rocket propellant and recruiting of a Thiokol's engineer in 1959 that launched a stellar career of Oleg D. Kalugin, who became the youngest general in the history of the KGB. Solid propellants are also prominently present in the recently published memoirs of Soviet intelligence officers.

Circumventing restrictions on export of military technologies established by the *Coordinating Committee for Multilateral Export Controls* (COCOM) was another key task of the KGB and especially of the military intelligence GRU. For example a large chamber for thermal-vacuum tests of spacecraft was obtained through a Japanese company that “ordered a chamber in Europe, shipped it to Japan, and there substituted it by a locally built [fake] chamber. The embargoed chamber was then delivered to the USSR, where Japanese specialists installed it” (Maksimov 1999, 108). Soviet intelligence officers even organized in Japan the development, based on the restricted Western technology, and manufacturing of photographic film with the desired characteristics for Soviet reconnaissance satellites.

# Blazing the Trail

## The Early History of Spacecraft and Rocketry

**Mike Gruntman**

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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.

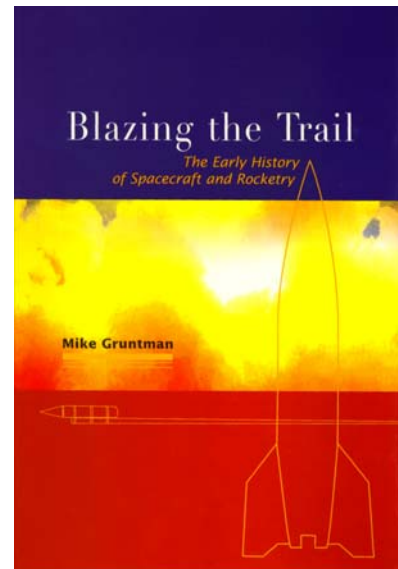
This world-encompassing view of the realization of the space age reflects the author's truly unique personal experience, a life journey from a child growing on the Tyuratam launch base in the 1950s and early 1960s, to an accomplished space physicist and engineer to the founding director of a major U.S.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

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