

**WE ARE ASKING FOR PERMISSION**

We are asking for permission to prepare and launch two [R-7] rockets modified to the variant [of launchers] of artificial earth satellites during the period of April-June 1957 before the official beginning of the International Geophysical Year conducted from July 1957 to December 1958.

At this time, the [R-7 ICBM] rockets are being tested on the ground and, according to the test program, the first rocket will have been prepared for launch by March 1957.

... By introducing certain modifications, the rocket can be made in a variant [allowing launch] of an artificial earth satellite with a payload weight of 25 kg for [scientific] instruments.

It is thus possible to launch to an orbit of an artificial earth satellite with an altitude 225–500 km the central [sustainer] stage of the rocket with weight 7700 kg and separating spherical container of the satellite with a diameter about 450 mm and weight 40–50 kg.

A special shortwave transmitting [radio] station with power sources for 7–10 days of operation can be installed among the satellite's instruments.

Two [R-7] rockets modified to this [satellite] variant could be ready in April-June 1957 and launched immediately after the first successful launches of the intercontinental [ballistic] missile.

The launch of the [earth satellite] rockets will allow simultaneous flight verification of a number of [technical] questions that were scheduled for the [ICBM] flight test program (launch; functioning of the side and central power plants; functioning of the flight control system; separation; etc.)

... At the same time, a very intensive preparation has been under way in the United States of America for launching an artificial earth satellite. The most well-known project is called "Vanguard" and it is based on a three-stage launcher with the rocket "Redstone" as the first stage in one of the variants. The satellites are a spherical container with a diameter 50 cm and weight about 10 kg.

In September 1956, the USA attempted to launch a three-stage rocket with a satellite at the Patrick [Air Force] Base, Florida, keeping the launch in secret.

The Americans failed to launch the satellite, and the third stage of the rocket, probably with a sphere-like container, had flown over a distance of about 3,000 miles, or about 4800 km, which was then publicized in the press as an outstanding national record. They emphasized that the American rockets flew higher and farther than all rockets in the world, including Soviet rockets.

From separate reports from the press, the USA is preparing new attempts of launching an artificial earth satellite in the nearest months, desiring to be the first [country to achieve the satellite] at any price ... .

S.P. Korolev, 5 January 1957, Memo to the USSR Council of Ministers

M.G.: The attempted launch in Florida referred to by Korolev was a test flight of the Jupiter C conducted by the U.S. Army on 20 September 1956. The missile was actually a four stage configuration with the last fourth stage inactive and carried as ballast. Had the Army been permitted to use the "live" stage, as was advocated by ABMA's Medaris and von Braun, the vehicle could have obtained sufficient velocity to place the world first artificial satellite in orbit at that time.

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# 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.

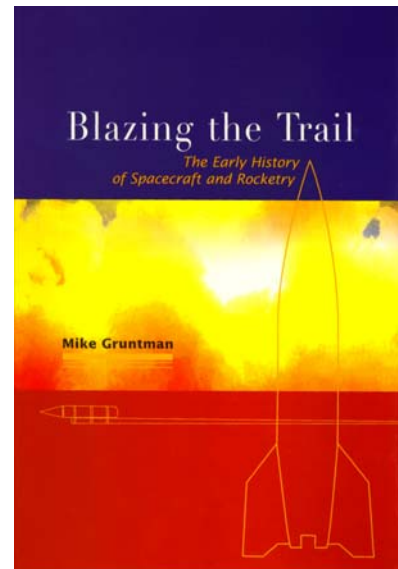
This world-encompassing view of the realization of the space age reflects the author's truly unique personal experience, a life journey from a child growing on the Tyuratam launch base in the 1950s and early 1960s, to an accomplished space physicist and engineer to the founding director of a major U.S.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

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