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Design, Development and Flight Tests of Trimethylaluminum, Diborane and Nitric Oxide Payloads for Upper Atmosphere Research.

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**Corporate Author:**

SPACE DATA CORP PHOENIX ARIZ

**Personal Author(s):**

Allen, Edward

F, Jr

Kosby, Richard K

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**Abstract:**  
Rocket borne chemical payload systems were provided to AFCRL and launched from Fort Churchill, Manitoba, Canada, in January 1968. Three types of payloads were developed: Trimethylaluminum, Diborane and Nitric Oxide. These payloads consisted of chemical canister, chemicals, aerodynamic envelope, fluid controls and associated plumbing and event programmers. The Trimethylaluminum and Diborane systems were carried to altitude as a tandem system aboard the Nike-Iriquois rocket, whereas the Nitric Oxide payload was carried aboard the Nike-Tomahawk rocket. A series of development tests were conducted to verify structural design, functional operation of the payload systems; and to size and calibrate fluid control devices. (Author)

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