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## Aeroacoustics of flight vehicles: Theory and practice. volume 1. noise sources.

**Accession Number :** ADA241141

**Title :** Aeroacoustics of Flight Vehicles: Theory and Practice. Volume 1. Noise Sources

**Descriptive Note :** Technical rept.

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**Full Text :** <http://www.dtic.mil/dtic/tr/fulltext/u2/a241141.pdf>

**Report Date :** Aug 1991

**Pagination or Media Count :** 600

**Abstract :** The field of aeroacoustics has matured dramatically in the past two decades. Researchers have gained significant theoretical and experimental understanding of the noise generated by aircraft power plants and their components. In addition, airframe noise and

interior noise have been investigated extensively. The physical understanding obtained from these efforts has resulted in the development of hardware capable of reducing community noise and of meeting strict noise certification requirements. Reductions in overall sound pressure level of 20 to 30 dB have been obtained for some types of power plants, while in the same period their installed power has increased significantly. Current quiet flight vehicle designs are based on information reported in a multitude of journals, conference proceedings, research reports, and specialized books. Each of these scientific publications represents only incremental steps in the evolution of our present understanding of the various aeroacoustic noise generation and propagation mechanisms and procedures for noise control.

**Descriptors :** \*SOUND PRESSURE , \*AIRCRAFT ENGINES , PROPAGATION , SOURCES , COMMUNITIES , FLIGHT , INTERNAL , AIRFRAMES , LEVEL(QUANTITY) , ACOUSTICS , VEHICLES , NOISE , QUIET , AERODYNAMICS , SCIENTIFIC LITERATURE , AERODYNAMIC NOISE , NOISE GENERATORS , CONTROL , REQUIREMENTS

**Subject Categories :** Military Aircraft Operations

**Distribution Statement :** APPROVED FOR PUBLIC RELEASE

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