

**WADC — UNIVERSITY OF MINNESOTA
CONFERENCE ON ACOUSTICAL FATIGUE**

Edited by
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Materials Central

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FOREWORD

This report was prepared by the Strength and Dynamics Branch of the Materials Central, Wright Air Development Division. It contains the proceedings of the Wright Air Development Center - University of Minnesota Conference on Acoustical Fatigue held at Beecher's Resort, Annandale, Minnesota from 29 September 1959 through 2 October 1959. The conference was sponsored under Air Force Contract No. AF 33(616)-5426 with the University of Minnesota. The contract was initiated under Project No. 7360, "Materials Analysis and Evaluation Techniques", Task No. 73604, "Fatigue and Creep of Materials".

While the planning and execution of this conference represents the combined efforts of many individuals from the Materials Central of Wright Air Development Division and the University of Minnesota, special thanks are due in particular to the following persons : to Professor R. F. Lambert for his able performance as Conference Chairman; to the members of the Steering Committee for their work in designing the technical agenda and compiling the list of invitees - members were P. M. Belcher (North American), I. Dyer (Bolt Beranek and Newman), L. E. Goodman (Univ. of Minnesota), E. M. Kerwin (Bolt Beranek and Newman), R. F. Lambert, B. J. Lazan, R. H. Lyon, T. J. Mentel (all of the Univ. of Minnesota) and W. J. Trapp (Wright Air Development Center); to Mrs. Ester Wallingford who served as the Conference Receptionist and handled correspondence and other affairs pertaining to the conduct of the conference; and to Messrs. James Whittier and Duane Tack for their handling of visual aids and sound system requirements.

A debt of gratitude is owed to Dr. Alan Powell who accepted the difficult task of delivering the on-the-spot summary of the conference and to Colonel John P. Stapp, Chief of the Aeromedical Laboratory, Wright Air Development Center, for his very timely and informative talk "Rocket Age Man" following the banquet held during the evening of the first day of the conference.

This work was performed under the direction of Professor R. F. Lambert for the University of Minnesota and W. J. Trapp for the Materials Laboratory, WADC.

ABSTRACT

This report is composed largely of invited papers and some selected seminar material presented at the Conference on Acoustical Fatigue held at Beecher's Resort, Annandale, Minnesota, from 29 September 1959 through 2 October 1959. The conference was organized jointly by the Materials Laboratory of Wright Air Development Center and the University of Minnesota. It was designed to establish communication between individuals from the several disciplines involved in acoustical fatigue problems, namely, acoustics, applied mechanics, and service failure analysis. It was hoped thereby that an improvement in the over-all understanding of the acoustical fatigue problem would ensue. Another important objective was to define clearly the critical problem areas and aspects which would require emphasis in the future. Over 100 participants from the United States and abroad were invited to attend and take part in the discussions. A list of attendees is included in this report.

PUBLICATION REVIEW

This report has been reviewed and is approved.

FOR THE COMMANDER:



W. J. TRAPP
Chief, Strength and Dynamics Branch
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Conference Chairman: R. F. Lambert
University of Minnesota

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