

Bibliography on Ignition and Spark-Ignition Systems

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Bibliography on Ignition and Spark-Ignition Systems

George F. Blackburn



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Preface

This bibliography presents more than 425 references to published sources of information on ignition and spark-ignition systems. A majority of these references were assembled in the course of investigations sponsored by the National Advisory Committee for Aeronautics, the Navy Bureau of Aeronautics, and other national defense agencies. The scope and arrangement of the bibliography are discussed in the introduction.

A. V. ASTIN, *Director.*

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III

Bibliography on Ignition and Spark-Ignition Systems

George F. Blackburn

Approximately 425 references to books, papers, and reports are listed, on ignition of combustible gaseous mixtures and ignition apparatus. The ignition of gases includes ignition by electric sparks and arcs and by hot surfaces. The references on ignition apparatus are for the most part on ignition systems and components for internal-combustion engines, with spark plugs listed separately from other components.

1. Introduction

This list of publications supersedes National Bureau of Standards Letter Circular LC476, Bibliography on Spark Plugs, and is wider in scope than that publication. It covers the initiation of combustion in explosive gaseous mixtures by means other than compression ignition, as well as electric equipment for spark-ignition engines.

Part 2.1 lists books in which ignition or ignition equipment is either the main topic or is given fairly extensive treatment.

The references to other publications are presented under three main heads. The first concerns ignition of combustible mixtures of gases and vapors, and is subdivided into two parts, according to whether ignition is effected by an electric spark or arc or by a heated surface. Part 2.2.a includes references to work on measuring spark energy. Part 2.2.b covers both fundamental investigations of ignition by heated surfaces and ignition by hot spots in internal-combustion engines.

Although ignition is an essential stage in the combustion process, papers dealing primarily with the kinetics of combustion, flame propagation, and detonation, or with the flammability limits of composition, temperature, and pressure of gases, have not been included in this bibliography unless they were found to contribute also to an understanding of ignition phenomena.

Part 2.3 lists references on spark-ignition systems for internal-combustion engines, and their components. It includes work on testing and test equipment. Because there are so many references to spark plugs, these are listed separately as part 2.3.b.

Part 2.4 contains miscellaneous references on ignition that do not fall within the category of part 2.2. Included are a number of papers and reports concerning explosion hazards.

Within each topical subdivision the references are given in chronological order, and within each chronological subdivision, alphabetically by author, followed by anonymous references.

The journal abbreviations used are those employed in Chemical Abstracts, except that the abbreviation NACA is used for the National Advisory Committee for Aeronautics. An unpublished paper presented before a technical or professional society is designated by the abbreviation M. P. for "Meeting Paper." Volume numbers are in boldfaced type, and the date of issue is given in cases where page numbers do not run consecutively through a given volume.

In general, the reports and papers listed are available only in libraries, and none can be supplied by the Bureau. The Federal Specification for Spark Plugs, W-P-506a (listed in part 2.3.b), may be obtained for 5 cents from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Information as to the availability of other reports should be obtained from the author or from the sponsoring organization.

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2.3. Spark-Ignition Systems and Components

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