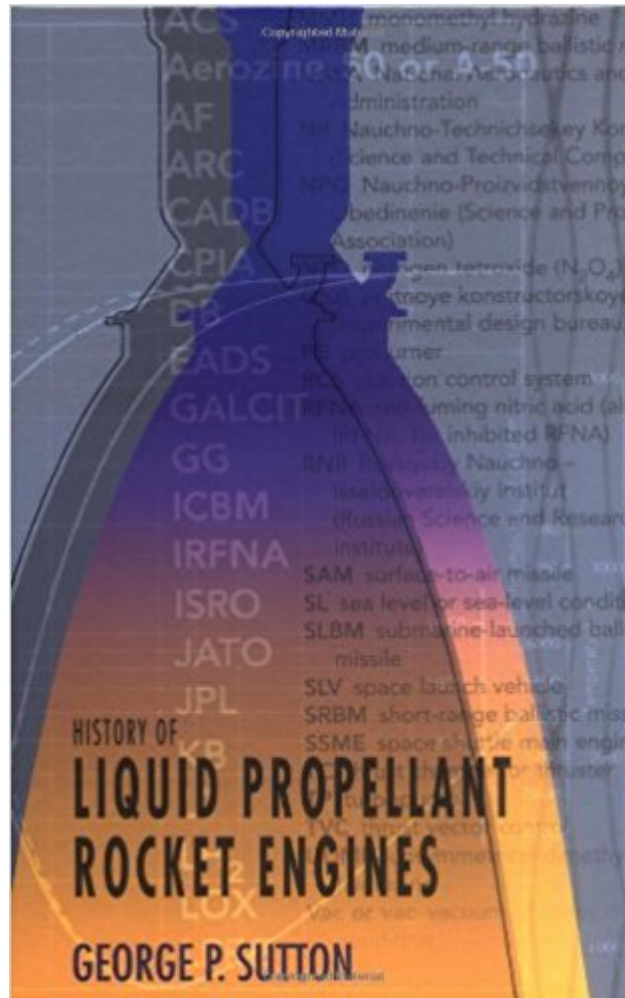


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History Of Liquid Propellant Rocket Engines (Library Of Flight)



Synopsis

Written by a rocket propulsion expert, this book gives an account of the liquid propellant rocket engine field. It includes information on the early pioneers, amateur rocket societies, evolution of hardware components, investigations of different liquid propellants, and the principal areas of application.

Book Information

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Customer Reviews

"George Sutton couples his tremendous technical knowledge and experience with a unique historical perspective to provide a fascinating look at the development of the liquid rocket engine. This book locates and traces the threads of the liquid rocket engine technology development and weaves those threads together to provide a truly remarkable and insightful book.--Mark F. Fisher, Manager, MSFC Office of Exploration Systems"

There's no one person better placed to write a history of liquid-propellant rocket engines than premier rocket-engine designer George Sutton, who worked in the field from the early 1940s at both Aerojet and Rocketdyne and later in academia and government as well. The breadth and depth of the author's experience comes through in the text as huge amounts of information are presented. Unfortunately, the presentation is deeply flawed: the book sorely needs an editor, which the publisher, the AIAA (American Institute of Aeronautics and Astronautics), seems not to have

provided. The result is a repetitious, turgid account that is no fun to read. For instance, the reader is told at least five times that the element niobium was formerly known as columbium, for example. Grammatical errors abound, as do misleading commas and clunky sentences. Another reviewer has complained that the book is just too big and heavy. Well, with a good editing it wouldn't be. The index is defective. Look up "Agena," the ground-breaking restartable upper stage, and you're referred to page 2000 -- of a 909-page book! Somebody was likely thinking of the proposed Agena 2000 stage but dropped the ball along the way. Interested in the famous H-1 engine? Although it deservedly receives extensive treatment in the text, it fails to appear in the index at all. And is it really necessary to use the abbreviation "LPRE" for "liquid-propellant rocket engine" throughout? In a book devoted to "LPREs," surely the word "engine" would be perfectly adequate and rather more pleasant. The many photographs (though not the line drawings) are of uniformly poor quality, as though they were photocopies. How the AIAA could have been willing to publish the book in its present state is a mystery. Books like this reinforce the stereotype of the the engineer who is unable to communicate. The book also suffers from a number of school-boy errors. For example, on page 426 one reads "In two of the flights [of the Saturn I], one of the eight H-1 engines' monitoring system detected an out-of-tolerance engine parameter, and this caused a premature but safe shutdown of that engine." The reader navigates the grammatical difficulties in this sentence only to arrive at a falsehood: on only one flight (SA-6) did an engine fail. In another case (SA-4), an engine was deliberately shutdown to verify the rocket's ability to survive an engine failure. This is not a serious error, but it's not unique, and I must wonder how many more errors that I can't detect might be present. It's a weak book, but I know of no other covering the same ground. As its principal flaws arise from a lack of proper editing, It makes me suspicious of AIAA publications in general.

This looks to be a library discard, with the typical black magic marker stripes on the page ends. It's a shame what libraries do to books they discard... The binding is excellent and text is high quality. Many of the photos in it are low quality, which is a shame because they are detailed, just small and poorly transferred, or old and grainy. For a copyright date of 2006 I think it could be improved. On the plus side, the line drawings came out very good. The info contained inside is a treasure to anyone interested in the engineering of LPRE's. I've been debating buying this book for a while, just get it! You won't regret what you will see. 900 pages of interesting, easily readable information on the history of one of the most challenging engineering disciplines. The LPRE has to operate at the most extreme ends of temperature and materials science while maintaining severe weight restrictions. Man-rating an engine is no small feat and this book will give you some valuable insight

into just how difficult it is, and the various methods engineers use to get there. If you have any interest in the space program, rocketry, or engineering, and have a technical background, I would highly recommend this book, you won't be disappointed.

Great book - necessary for any historian of rockets in America. Delivered on time and in great shape.

Sutton does a great job describing all the liquid rocket engines through out history. His chapters on the individual companies in the US and throughout the world are an excellent resource. I've learned a lot reading this book. Everyone interested or working in the liquid rocket engine business should buy this book.

Mr. Sutton has organised his 900 page work into fifteen chapters. Eight of these cover the development in the countries of USA, USSR, Germany, France, Japan, UK, China, and India up to 2006. The other chapters are concerned with the technology, hardware, and history. One chapter, called "The Early Years", covers 1903 to 1940's with the pioneers of LPRE in the USA (Goddard), Germany (Oberth), and USSR (Tsiolkowsky) and others. The book is liberally illustrated with photographs, cut-away drawings and component details, all of which are discussed in detail. Some of the photos, however, are less than perfect quality, perhaps copies of copies. The depth of Mr. Sutton's personal involvement with the subject is evident in the large number of References of each chapter, many of which he authored. Some references are personal communications which, unfortunately, we are not privy to. This is undoubtedly the only book that I will ever need on the history of LPRE's.

Whew! There is a lot to read here. Sutton is one of the father figures of rocket propulsion expositions, and when a man with his personal engagement in the development tells the story, well, there is a lot to tell. As an European I feel faintly disturbed by the parallel usage of the ancient feet-inches-pounds measurements along with the metric system, but then, concerning the developments in the US, that is a part of the scenery. The greatest drawback with a book like this, is the sheer physical weight. It makes for "heavy reading" in bed, although, it seems to lack a common failing with bedside books, that is, lulling the reader to sleep and then hitting his nose to re-awake him. I put Sutton down when my mental harddisc reach overload condition, but as eagerly, I go for more the next day. Simply a MUST for an armchair astronaut alongside the more

wellknown Sutton "Elements".

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