

RRS NEWS

FOR THE ADVANCEMENT OF
ROCKETRY AND ASTRONAUTICS



PUBLISHED BY THE

97
Reaction Research Society

POST OFFICE BOX 1101 — GLENDALE 5, CALIFORNIA



REACTION RESEARCH SOCIETY NEWS

— FOR THE ADVANCEMENT OF ROCKETRY AND ASTRONAUTICS —

Published by the Executive Council of the
REACTION RESEARCH SOCIETY, INCORPORATED
Box 1101 - Glendale 5, California

R.R.S. NEWS NUMBER 97

FALL*WINTER . 1963

Meeting Notices.
A Letter from the President.
H₂ O₂ Report
The Inertia Switch: The why and When.
Publications available.
The Revitalized Society.
New Officers
Flame Propagation in a Liquid Fuel Chamber

REACTION RESEARCH SOCIETY MEETING NOTICE

Headquarters Section Discussion Meetings will be held on the second Mondays of February 10, March 9, April 13, and May 11, at the Casa Verdugo Branch of the Glendale Public Library, 1151 North Brand Boulevard in Glendale, at 7:30 p.m.

These next two meetings will present plans and discussion for a Field Trip to the M.T.A. one trip will be a Work Party in which to rebuild some structures and the other will be an actual test set-up to simulate conditions for practice toward real tests to be run in the immediate future.

The RRS NEWS is published quarterly by the Executive Council of the Reaction Research Society Incorporated.

Subscriber rates are: Single copy 50¢, Yearly \$2.00

A LETTER FROM THE PRESIDENT TO ACTIVE MEMBERS

The last issue of the R.R.S. NEWS included an article on making a research report. Before making a report, however, you must first decide on a field of study. Although there are numerous fields of research in rocketry, the rocket vehicle itself, generally, is the center of study. However, there may be a preference for such specific fields as propulsion, vehicle design and construction, guidance, tracking, telemetry, recovery, or a host of other subjects. The decision as to what to study is up to you. Once you decide what to study, I'm sure you will enjoy searching for answers to your problems. It is a valuable asset to cultivate the habit of going to the nearest library to read current magazines and books on the subject of your choice. Enough time should be taken to make organized notes for future reference. You may have tried this before but gave up because of lack of encouragement. The R.R.S. intends to provide the physical and moral encouragement necessary to see a project through.

Complete answers to the questions on the questionnaire recently sent to active members by the Executive Council will be of definite assistance to the Council in its attempt to disseminate pertinent information.

A program of textbook procurement is being studied at this time to aid in Society project research.

The research contract is being revised to include space for requests for materials, information, and equipment.

The task of providing test equipment for Society research has been initiated. Our Nine channel oscillograph is nearly ready for use. A load-cell is complete and other accessory equipment is on the way. There are many uses in which this instrument can be a most valuable tool for our research. Consideration is being given to the construction of a solid propellant strand-burner to measure burning rates. Static test facilities for motors of moderate thrust are now in the preliminary design stage.

The facilities and efforts of the R.R.S. are for the use of all active member's projects. If you don't have what you need, ask for it. If we don't have it, we'll try to get it.

The following listed books are suggested for general study:

Fuels and Reaction Principles;

Rocket Propellants, by Francis A. Warren, Reinhold Publ., Corp. New York, 1958.

Rocket Propulsion Elements, 3rd edition, George P. Sutton, John Wiley and Sons, N.Y.

Combustion Processes, Vol II of High Speed Aerodynamics and Jet Propulsion, Lewis B. Pease and R.N. Taylor, 1956
Princeton University Press, Princeton, N.J.

Internal Ballistics of Solid-Fuel Rockets, R.N. Wimpres, Mc Graw-Hill Book Co., New York, 1950.

(Continued)

A LETTER FROM THE PRESIDENT- (cont.)

Guidance Coverage Study Technical Books:

Fundamentals of Advanced Missiles, Richard B. Dow, John Wiley and Sons, Inc; N.Y. 1958

Exterior Ballistics of Rockets, Leverett Davis Jr., James W. Follin Jr., Leon Blitzler, D. Van Nostrand Co., Inc., Princeton, New Jersey, 1958

Guided Missile Engineering, Allen E. Puckett, Simon Ramo, McGraw-Hill Book Co. 1959.

Inertial Guidance, George R. Pitman Jr., John Wiley & Sons, 1962.

Telemetering Systems:

Radio Telemetering, Myron H. Nichols, John Wiley & Sons, 1957.

Event Recording Sensors:

The Strain Gage Primer, C.C. Perry, H.R. Lissner, 2nd edition, McGraw-Hill Book Co., 1957.

Electronic Instrumentation, Sol D. Premsky, Prentice Hall Book Co.,

Experiments in Electronics, W.H. Evans, Prentice Hall Book Co.

E.B.P.

DEVELOPMENT AND TESTING OF A HYDROGEN PEROXIDE ROCKET

The Reaction Research Society has recently re-printed a research paper on the Development and Testing of a Hydrogen Peroxide Rocket by David Elliot and Lee Rosenthal. This is the first report on the Reaction Research Society's project for developing a liquid propellant sounding rocket.

The report was honored with an award by the American Rocket Society. It describes the design, construction, and testing of the first liquid propellant rocket to be fired by the R.R.S. The report which is twenty three pages in length, contains four drawings and charts, and seven photographs.

Since there has become wide use of this highly concentrated hydrogen peroxide in space vehicles, the R.R.S. believes that this report will be of exceptional interest to rocket researchers.

The price is \$2.00 post paid (\$1.50 ppd to members), ordered from the R.R.S., P.O. Box 1101, Glendale, California (91209).