

Advanced Rocketry Resources and Links

Estes Model Rocketry Primer (pdf)

Estes Model Rocketry Tech Manual (pdf)

Estes Engine Chart (pdf)

Flexie-Glider Plans (pdf)

NASA rocket page

<http://www.nasa.gov/audience/foreducators/rocketry/home/index.html>

<http://www.thrustcurve.org/>

<http://www2.estesrockets.com/cgi-bin/wedu150P.pgm>

<http://exploration.grc.nasa.gov/education/rocket/shortr.html>

<http://www.rocketshoppe.com/decals.htm>

<http://www.petealbrecht.com/modelrocketrylinks.htm>

http://www.skypirate.net/rocketry/con_fil_02.htm

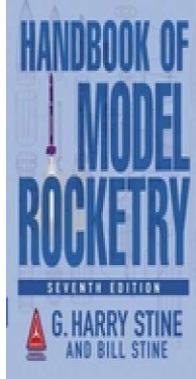
<http://www3.towerhobbies.com/cgi-bin/wti0001p?&I=LXAU63&P=M#tech>

<http://www.forums.rocketshoppe.com/printthread.php?t=2156>

<http://web.archive.org/web/20080117120905/http://www.geocities.com/wrgarage/millen.htm>

<http://www.boostervision.com/boostervision/default.asp>

Books and Publications



If you are new to model rocketry or want to refresh your memory before diving back in, there are many resources available to you. The book many consider to be the "bible" of model rocketry, and the official handbook of the National Association of Rocketry is the [Handbook of Model Rocketry](#) by G. Harry and Bill Stine.

Another excellent book to add to your library is [Model Rocket Design and Construction](#) by Tim Van Milligan. If you like SARG member Gina Gibson's exotic rocket designs, then this is the book for you as Tim covers some unique building techniques.

If you want to take your knowledge of rocketry to the highest level, then [Topics in Advanced Model Rocketry](#) is what you are looking for. The popular rocketry software program [Rocksim](#) was designed using this book.

If you plan to enter the world of high-power rocketry, don't start your journey before picking up a copy of [Modern High-Power Rocketry 2](#). Author Mark Canepa gives you step by step instructions on building a level 1, 2, and 3 high-power model rocket.

Other books include:

[50 Model Rocket Projects for the Evil Genius](#)

[The Model Rocketry Handbook](#)

Another source of printed material are booklets covering specific topics. Estes offers [downloadable pdf files](#) of its publications for free. Apogee Components continues the tradition of offering [technical publications](#).

Centuri and Estes Technical Publications

Estes and Centuri, two of model rocketry's pioneer manufacturers, produced technical reports and notes in the 1970s. Copies can fetch a pretty penny on eBay, but you can download them free from here:

Centuri

[Designer's Manual](#)

[TIR 24 - Lifting Bodies](#)

[TIR 30 - Stability of a Model Rocket in Flight](#) by Jim Barrowman

[TIR 33 - Calculating the Center of Pressure of a Model Rocket](#) by Jim Barrowman

[TIR 52 - Reliable Cluster Ignition](#)

[TIR 123 - Multi Staging Principles](#)

Estes

[Classic Collection of Technical Reports and Technical Notes](#)

[TR 3 - Altitude Tracking](#)

[TR 6 - Cluster Techniques](#)

[TR 10 - Altitude Prediction Charts](#)

[TR 11 - Aerodynamic Drag of Model Rockets](#) by Dr. Gerald M. Gregorek

[TR ? - Boost Gliders](#)

[The Theoretical Prediction of the Center of Pressure](#) by James and Judith Barrowman

Rocketry Software

All of the calculations described in the above literature has been bundled up in software programs that allow the hobbyist to design a model rocket on the computer. Here some of the available programs:

[Rocksims](#) - RockSim is a full featured rocket design and simulation program from Apogee Components. It comes bundled with **Engine Editor**, which is used to create engine files.

[RS-PRO](#) is an 6-degree-of-freedom flight simulator intended for researchers that want more information on their sub-orbital launches. An expensive professional version of Rocksims.

[Open Rocket](#) - The newest of the lot with the perfect price - free! The latest build allows the import of Rocksims files.

[SpaceCAD](#) - Less sophisticated than Rocksims, but some hobbyists prefer it. SpaceCAD uses wRASP format files.

[Burnsims](#) - BurnSim is a solid rocket steady-state ballistic simulation software package for the Windows platform.

[Visual Center of Pressure](#) - is a free Center of Pressure/Center of Gravity stability calculator for Windows.

[wRasp](#) - a free rocket altitude simulation program for Windows.

[Virtual Range](#) - a rocket flight simulator for Mac OS X.

[WinRoc](#) - a popular suite of rocketry programs, with a nice graphical user interface.

[AeroFinSim](#) - a structural analysis program, it determines how strong the fins are by determining the aerodynamic fin loads.

[Thrust Curve Tool](#) - designed to analyze rocket motor thrust data and to produce standard '.eng' files for use with flight simulators such as [wRASP](#) and [Rocksims](#).

Internet

Websites Dedicated to Model Rocketry

[Rocketry Planet](#) This site offer a wealth of information on model rocketry. Rocketry Planet offers a forum for members to discuss motors, rockets, electronics, high power certification, you name it and they talk about it. A favorite watering hole for many SARG members.

[EMRR Rocket Reviews](#) posts articles from hobbyists about their experiences building and flying model rocket kits. It also offers a large library of RockSim files.

[Rocketry Online](#) offers news, auctions, and forums plus more.

[The Rocketry Forum](#) is, as the name implies, a place for model rocketeers to exchange comments and ideas online.

[HobbySpace.com](#) covers model rocketry as well as astronomy, scale models, space simulators and many more topics relating to space and space travel.

[The Rocketry Blog](#) Rocketry History, Paper Rockets, Space, and the tales of a Rocketeer

[JimZ Rocket Plans](#) Looking to build an Estes or Centuri kit from your childhood? This is the place to find information on old kits and old documents from the golden age of model rocketry.

[Ye Olde Rocket Shoppe](#) is another place to research your retro rocket. Plus they have decal templates!

The internet offers a huge selection of resources about model rocketry. Many model rocket hobbyists post how to articles on building and videos or their triumphs (and disasters). Here is a sampling of some:

General How to Sites

[John Coker's Rocketry](#)

[Strib's Rocket Page](#)

[Vern's Rocketry Web Site](#) is an online scrapbook detailing the high power rocketry work of Vern Knowles.

Modifying a Low Power Model Rocket into a Mid to High Power

[Turbocharging the Estes Maxi Brute Honest John](#)

[Building the Estes D-Region Tomahawk](#)

High Power Certification

Hobbyists who wish to fly Class H and above rocket motors are required to obtain a Level 1, 2, or 3 high-power certification through the NAR or Tripoli. Many of our members hold a high-power certification.

[NAR Level 2 Online Study Guide](#)

[Tripoli Level 2 Online Study Guide](#)

[Astrobee D Rocket Project](#)

[Mike Fisher's Level 2 Project](#)

[Rocket Team Vaatsas Pershing I](#)

[Scott Rockdale's High Power Rockets](#)

[Wedge Oldham's Nike Project](#)

[Greg Lyzenga's Level 3 WAC Corporal Project](#)

VENDORS		
Member Favorites	Online Hobby Stores	Local Hobby Stores
What's Up Hobbies Hobbylinc.com	321 Rockets AC Supply Wholesale Always Ready Rocketry Apogee Components Discount Hobby Center Discount Rocketry	Hobbytown of Rocklin, CA R/C Country Hobbies
Electronics	Commonwealth Displays e Hobbies Hobbylinc.com Jon Rocket Performance Hobbies Pitsco Red Arrow Hobbies Rocketarium Tower Hobbies Rockets "R" us Uncle Mike's Rocket Shack What's Up Hobbies Wildman Rocketry	Rocketry Software Burnsim Open Rocket Rocksim SpaceCAD Visual Center of Pressure wRasp
AED Electronics Adept Rocketry Big Red Bee Booster Vision G-Wiz Missileworks Ozark Aerospace Pico Altimeters Radioshack.com Parallax Perfectflight Walston Retrieval Winged Shadow Xavien	Low/Mid Power	Decals decalpaper.com Excelsior Rocketry Graphixs & Stuff Kurt's Decal Page Tango Papa Decals Stickershock
Advanced Rocketry Group Art Applewhite Rockets ASP Apogee Components Balsa Machining Service Custom Rocket Company Dr. Zooch Estes Industries Fliskits Leading Edge Rocketry Mercury Engineering Neubauer Rockets Pratt Hobbies Qmodeling Quasar One Quest Aerospace Red River Rockets Semroc Astronautics Sirius Rocketry Squirrel Works Rocketry Sunriver Rocketry Sunward Aerospace True Modeler's Rocket Kits	Mid/High Power Aerocon Systems Aerotech Binder Design Commonwealth Displays Giant Leap Rocketry Hawk Mountain Launch Pad Rockets LOC Precision Madcow Rocketry Pemberton Technologies Performance Rocketry Public Missiles Rocket Dynamic Systems Rocket Motor Components Rocketry Warehouse U.S. Rockets	Nose Cones Roachwerks Scot glas
		Composite Materials Aerospace Composites CST Sales Soller Composites US Composites
		Epoxy & Fiberglass Fibre Glast TAP Plastics West Systems Epoxy
		Fin Alignment Tools High Tech Rocketry Fin Alignment Jigs & Parts
		Recovery Fruity Chutes RocketChutes.com Rocketman Enterprises SkyAngle Parachutes Spherachutes Top Flight Recovery
	Rocket Motors, Casings, & Retainers	Igniters/E-matches Fire Star Quick Burst Rocketflite MJG Technologies
Aeropack Aerotech Animal Motor Works Cesaroni Technology Contrail Rockets Estes Industries Gorilla Rocket Motors	Mostly Missiles RATTworks Rocket Motor Components Rockets "R" us Roadrunner Rocketry Rouse-Tech Motor Casings Sky Ripper Systems	Launch Rods & Rails

[HyperTEK](#)
[Loki Research](#)

[Quest Aerospace](#)
[West Coast Hybrids](#)

[McMaster-Carr](#)