The Leader in High Performance Rocketry

AEROTECH® CONSUMER AEROSPACE

2009-2010 PRODUCT CATALOG

Dan Michael's 3/4 scale Patriot at the Red Glare IV launch
(left photo by Nancy Snyder; inset by Mark Canepa).

A Letter from Gary Rosenfield

Welcome to the AeroTech division of RCS Rocket Motor Components! I want to personally thank you for taking the time to examine the wide range of products found in this catalog. I still remember the rush I experienced when I flew my first model rocket as a 14-year-old in 1969-an “Alpha” on an “A” motor.

The kits, rocket motors and accessories that you will see on these pages are the culmination of over 40 years of personal experience as well as a dedicated and ongoing team effort. Having started in 1982 with the release of its first product, the G30 composite rocket motor, AeroTech Consumer Aerospace now offers a full line of high quality rocket kits, single-use and reloadable composite propellant rocket motors, building components and ground support equipment.

AeroTech rocket kits are designed for quick assembly and are engineered to withstand the stresses of multiple high performance launches and recoveries. We introduced the reloadable hobby rocket motor in 1990, and continue to lead the industry in rocket motor development. Our rocket motor line spans a wide range of performance characteristics and includes many choices from the single-use D10W to the reloadable N2000W with over 900 lbs. of peak thrust!

AeroTech has taken a proactive role in the regulatory environment that continually affects our hobby. Many of our products have evolved as a result of our success in this area, as well as from technical advances in the industry. We believe that our participation is key, and that our efforts will permit us to consistently offer a truly innovative and broadened product line to our customers for years to come.

We have set our sights towards meeting and exceeding your needs and expectations. To that end we are committed to continual enhancement to our production capacity, to expanding our professional staff, and to opening our customer service avenues as wide as possible.

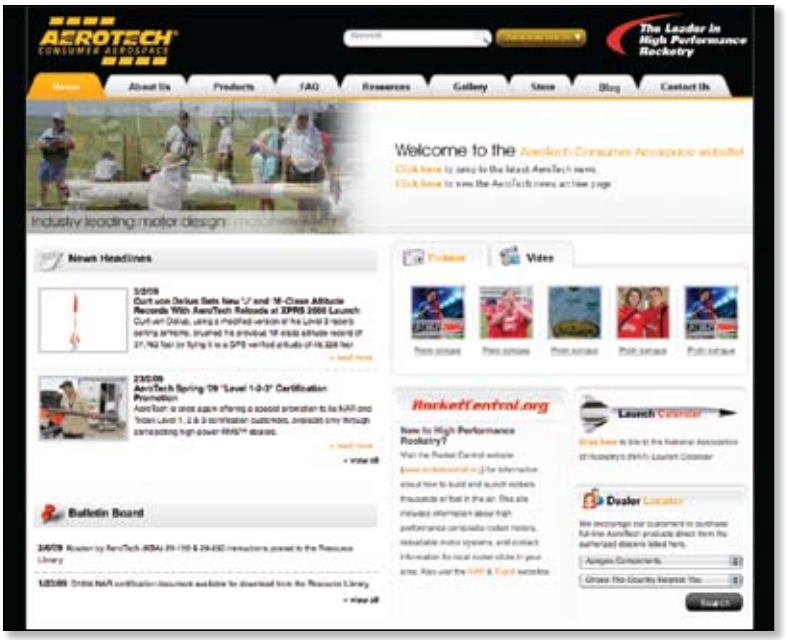
I and the entire staff here at RCS are dedicated to assisting you in the creation and recreation of your own rocketry experience!

Gary C. Rosenfield, President, AeroTech Division
RCS Rocket Motor Components, Inc.
May, 2009

Rocketeers at DairyAire (photo by Steve Jurvetson).

AeroTech Website

Launched in 1996, the AeroTech web site was created to provide a resource for customers and dealers. A customer can easily locate an authorized dealer near them by using the "Dealers" link. Another very valuable area on the web site may be found under the "Resources" tab. The Resources area contains hundreds of downloadable Adobe Acrobat PDF documents including product instructions, order forms, motor assembly drawings and regulatory documents which can be viewed on a computer screen or printed out to paper. One of the most helpful additions to the site is the "Gallery," an area containing photos and instructional videos to help customers to better use AeroTech products. This area also contains short video clips of rocket launches. The "Launches" page contains links to launch calendars listing rocket club launches around the country. Check the list regularly to find a rocket launch near you!



ValueRockets.com Webstore

The ValueRockets.com webstore was created by AeroTech to introduce rocketeers to composite propellant rocketry at the lowest possible cost. AeroTech believes that exposing more entry-level rocket customers to the benefits and high performance of composite propellant rocketry at dramatically lower prices and with easier availability, will result in increased participation in the hobby as a whole. Take advantage of this opportunity to purchase selected motors, reload kits and other products at a huge discount and get started in the world of high performance rocketry!

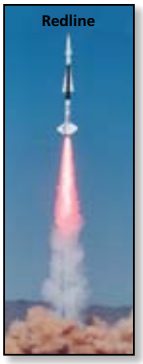
PROPELLANT TYPES

Composite Propellants

AeroTech composite rocket motors are the most technically advanced hobby motors in the world. These motors use the same solid propellant as America's space boosters. Pound for pound, this propellant delivers nearly three times the power of black powder, allowing you to fly larger rockets, heavier payloads and achieve higher altitudes than ever before. AeroTech composite rocket motors are produced in seven propellant formulations for both reloadable and single-use motors. Create your own special effects by choosing the performance, tracking and sound characteristics you desire.


Blue Thunder


Black Jack & Black Max


Redline


Warp-9


Mojave Green


White Lightning

Dan Michael's 3/4 scale Patriot takes off at the Red Glare IV launch (photo by Mark Canepa).

Motor Designations

Each AeroTech composite hobby rocket motor or reload kit has a designation which provides important information about performance. The designation is read as follows:

G64-4W

First Letter
The first letter is a code which indicates total impulse (in Newton-seconds) produced by the motor. Each succeeding letter has up to twice the power of the preceding letter. A 'G' motor has up to 160 N-seconds of total impulse.

First Number
The first number indicates the motor's average thrust in Newtons. A Newton is equivalent to 0.225 pounds of force.

Second Number
The second number shows the time delay, in seconds, between propellant burn-out and activation of the ejection charge.

Second Letter
The second letter indicates the propellant formulation of the motor. In this case the "W" indicates "White Lightning". Additional letters or numbers may be added to denote other performance characteristics.

Seven Propellant Types

White Lightning™ (W)

A brilliant white flame, dense bright white exhaust and a throaty roar are the hallmarks of this popular propellant. Easy to track. Exciting to watch! White Lightning looks and sounds like actual sounding rockets and launch vehicles. Special effects professionals and aerospace companies specify the AeroTech White Lightning propellant to achieve realistic simulation.

Blue Thunder™ (T)

Produces a bright violet-blue flame with a minimum of exhaust smoke. These motors provide a higher level of thrust than White Lightning or Black Jack motors of the same total impulse. Blue Thunder is the perfect propellant for high lift-off acceleration.

Black Jack™ (J) and Black Max™ (FJ)

Provides the high visibility tracking of dense black exhaust. In addition to a distinctive lift off roar, Black Jack motors give your models lower acceleration and longer powered flight than White Lightning or Blue Thunder motors of the same total impulse. Black Max provides slightly higher acceleration than White Lightning Propellant.

Redline™ (R)

Distinctly different from its propellant relatives, Redline provides unique visual and thrust characteristics for larger airframes and performance oriented flyers. The proprietary AeroTech formulation imparts Redline with its signature vivid scarlet flame. Redline's burning rate lies midway between that of White Lightning and Blue Thunder. Photos don't do justice to the "laser-beam" intensity and color of Redline… you have to see it to appreciate it!

Warp-9™ (N)

If you blink you'll miss it! Displaying a prominent yellow-orange flame studded with "mach diamonds", Warp-9 is AeroTech's fastest-burning propellant. Originally developed for Orbital's Pegasus® fin motors, Warp-9 is perfect when you need the highest thrust possible from a given motor size. Alternatively, when used in an "endburning" grain configuration, Warp-9 delivers unique thrust curve profiles such as that produced by the new G69N, I49N, I59WN and L339N reloads.

Mojave Green™ (G)

Mojave Green is AeroTech's newest propellant designed for its single-use and RMS reloadable motors. Named for the infamous green rattlesnake with two types of venom that roams the desert, Mojave Green produces a vivid emerald green flame with brilliant and distinct "mach diamonds" and a moderate amount of smoke. Mojave Green's high density and specific impulse delivers a higher total impulse in each motor size than any other AeroTech propellant. Motor burn times using Mojave Green are similar to those produced by Redline.

Single-Use Motors

AeroTech established its position as the leader in hobby rocket motor technology with its single-use composite motors. Hobby rocketry has come to depend on AeroTech single-use motors for sport and competition flying.

AeroTech's single-use composite model rocket motors are offered in over 50 different combinations of physical size, power, burn time, propellant type and delay length. All AeroTech single-use rocket motors have been certified by the National Association of Rocketry (NAR) or the Tripoli Rocketry Association (TRA).

In 1997, AeroTech introduced the "Econojet" line of single-use motors. AeroTech combined features of performance, design and packaging in the Econojets to create a line of motors that could be sold at a price point midway between its traditional single-use motors and RMS reload kits.

In 2003, AeroTech revolutionized single-use motor design with a one-piece molded case/nozzle unit and matching molded bulkhead with a threaded joint that was first used in the F20W Econojet. Since then, the new configuration has found its way into all 29mm AeroTech single-use motors and in 2009 into the new 24 x 95mm F32T.

With a propellant weight of 30 grams or less, The D10W, D21T, E15W, E30T, F20W, F23FJ, F27R, F32T and F42T single-use motors may be shipped via United States Postal Service (USPS) Parcel Post without incurring a "hazmat" charge.

In 2006, AeroTech re-introduced the K250PW as its first Loadable Motor System™ (LMS™) motor. The LMS is a single-use motor in kit form that is assembled by the user. The K250PW utilizes a disposable aluminum casing and internal components and reusable RMS end closures. The LMS concept was subsequently expanded into the model rocket line of motors between 2006 and 2008 with the F20W/L, F23FJ/L. F27R/L, F42T/L, G77R/L, G78G/L and the G79W/L. All the model rocket LMS kits, including 'G'-size, use all-disposable components and may also be shipped via USPS Parcel Post without incurring a hazmat fee.

Econojet Single-Use Motors

Motor	Diameter	Case Length	Total Impulse	Prop. Wt.	Motor Wt.	Delay Times
F20W (2-pak)	1.13" (29mm)	3.28"	55 N-sec	30 g	80 g	4, 7
F23FJ (2-pak)	1.13" (29mm)	3.28"	42 N-sec	30 g	83 g	4, 7
F27R (2-pak)	1.13" (29mm)	3.28"	50 N-sec	28 g	79 g	4, 8
F42T (2-pak)	1.13" (29mm)	3.28"	55 N-sec	27 g	76 g	4, 8

Hobby Line Single-Use Motors

Motor	Diameter	Case Length	Total Impulse	Prop. Wt.	Motor Wt.	Delay Times
D10W	.70" (18mm)	2.75"	20 N-sec	9.7 g	25 g	3, 5, 7
D21T	.70" (18mm)	2.75"	20 N-sec	9.6 g	25 g	4, 7
E15W	.94" (24mm)	2.75"	40 N-sec	20.1 g	48 g	4, 7, plugged
E30T	.94" (24mm)	2.75"	40 N-sec	19.3 g	47 g	4, 7
F32T	.94" (24mm)	3.75"	57 N-sec	25.8 g	65 g	4, 6, 8
F25W	1.13" (29mm)	3.88"	73 N-sec	38.8 g	97 g	4, 6, 9
F26FJ	1.13" (29mm)	3.88"	65 N-sec	43.1 g	101 g	6, 9
F50T	1.13" (29mm)	3.88"	70 N-sec	33.6 g	90 g	4, 6, 9
G38FJ	1.13" (29mm)	4.88"	87 N-sec	59.7 g	126 g	4, 7
G40W	1.13" (29mm)	4.88"	100 N-sec	53.8 g	123 g	4, 7, 10
G77R	1.13" (29mm)	4.88"	105 N-sec	58.1 g	122 g	4, 7, 10
G78G	1.13" (29mm)	4.88"	110 N-sec	60.0 g	125 g	4, 7, 10
G79W	1.13" (29mm)	4.88"	112 N-sec	60.0 g	124 g	4, 7, 10
G80T	1.13" (29mm)	4.88"	137 N-sec	62.5 g	128 g	7, 10, 13

Hobby Line Single-Use Loadable Motor System

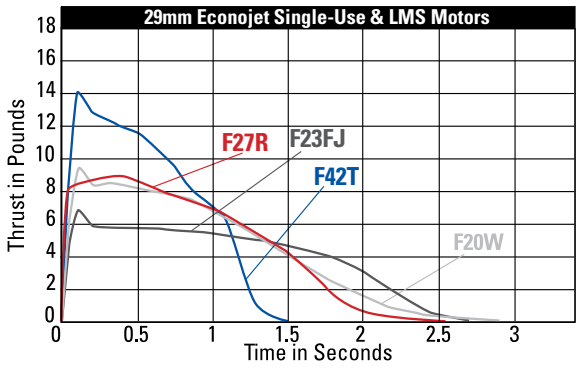
Motor	Diameter	Case Length	Total Impulse	Prop. Wt.	Motor Wt.	Delay Times
F20W (2-pak)	1.13" (29mm)	3.28"	55 N-sec	30 g	80 g	4, 7
F23FJ (2-pak)	1.13" (29mm)	3.28"	42 N-sec	30 g	83 g	4, 7
F27R (2-pak)	1.13" (29mm)	3.28"	50 N-sec	28 g	79 g	4, 8
F42T (2-pak)	1.13" (29mm)	3.28"	55 N-sec	27 g	76 g	4, 8
G77R	1.13" (29mm)	4.88"	105 N-sec	58.1 g	122 g	4, 7, 10
G78G	1.13" (29mm)	4.88"	110 N-sec	60.0 g	125 g	4, 7, 10
G79W	1.13" (29mm)	4.88"	112 N-sec	60.0 g	124 g	4, 7, 10

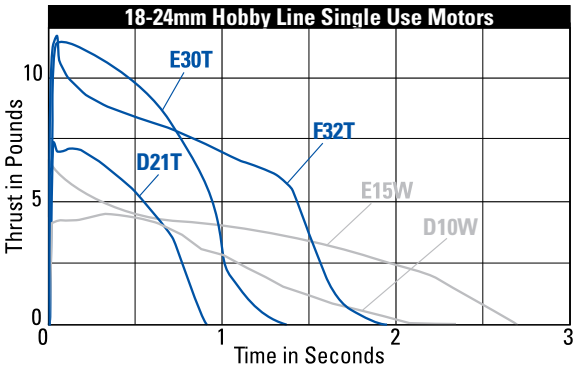
High Power Single-Use Motors

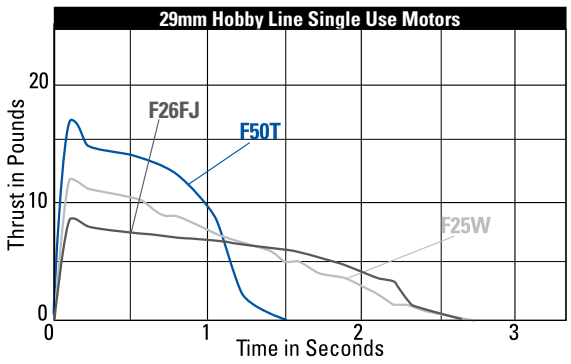
Motor	Diameter	Case Length	Total Impulse	Prop. Wt.	Motor Wt.	Delay Times
I350R	1.50" (38mm)	14.03"	634 N-sec	348 g	616 g	10

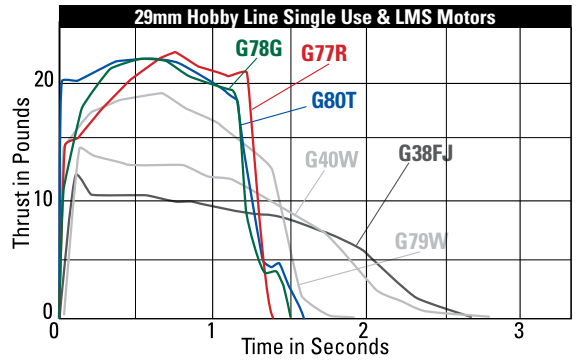
High Power Single-Use Loadable Motor System

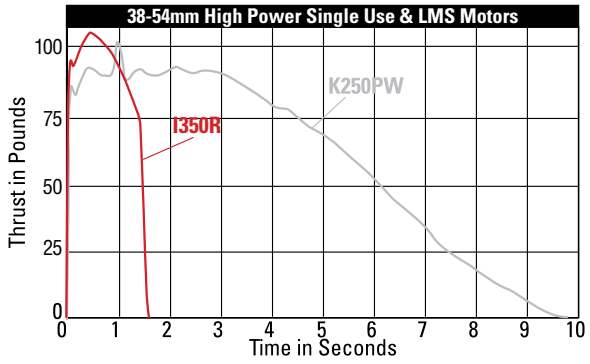
Motor	Diameter	Motor Length	Total Impulse	Prop. Wt.	Motor Wt.	Delay Times
K250PW	2.125" (54mm)	25.53"	2500 N-sec	1400.0 g	2294 g	plugged





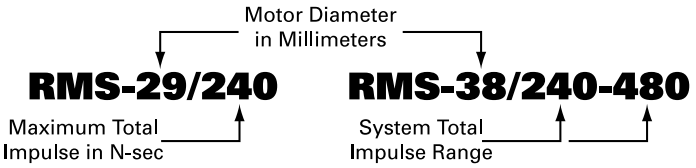






Reloadable Motor System™ (RMS™)

Now you can enjoy high power rocketry at greatly reduced cost, improved reliability and enhanced flexibility with the RMS Reloadable Motor System from AeroTech! Since 1990, when AeroTech revolutionized the hobby rocket industry with the invention and introduction of the RMS, rocket enthusiasts have been enjoying the cost and performance advantages of AeroTech's line of precision machined reloadable aluminum rocket motors and reload kits. With the availability of a growing line of Blue Thunder, White Lightning, Redline, Black Jack, Black Max, Warp-9 and Mojave Green propellant reloading kits, RMS high power rocket enthusiasts not only have tremendous versatility at their fingertips but also the advantage of flight costs significantly lower than that available from single-use high power motors!



Hobby Line RMS

AeroTech introduced the hobby line RMS in 1991. There are AeroTech RMS motors to fit just about all rocket kits designed for black powder and composite motors. No modification to the rocket is necessary. As is always the case, you should perform a stability and strength check to see that the power and weight of a motor is appropriate for the rocket the motor is to be used in. An investment in RMS give you a position in a wide range of reload kits. Each RMS motor offers flexible power options. Recent releases in this line include the black power 'E'-size RMS-24/60 hardware and F35W reloads, and the G53FJ, G71R and G76G reloads for RMS-29/40-120 hardware.

High Power RMS

AeroTech introduced the high power RMS reloadable motor in 1990 and has continued to expand the line ever since. In 1996, AeroTech released the 29mm H220T, the 38mm I300T, I195J, I435T and the 38/720 J350W. 1998 saw the introduction of the "King of Grunt", the 9 grain 38mm J570W. In 1999 AeroTech extended the power of 29mm motor line with the 29/360 motor and the six-grain I200W reload kit. In 2006, AeroTech offered the first Warp-9 reload for the 38/360 motor, the H999N-P, which has become a staple of the "Bowling Ball Loft" competition at LDRS. The 38mm Warp-9 series was later extended to include reloads for four of the 38mm motors. In 2007, the long-awaited J825R reload for the 38/1080 hardware became available, and AeroTech announced the first Mojave Green reloads for 29 and 38mm RMS hardware: the 29/240 H250G, 38/360 I245G and the 38/720 J500G.

AeroTech continues to lead the industry in supplying the larger "J" through "N" class high power reload kits. This includes AeroTech's highly popular "Long Burn 54's", the J90W, J135W, K185W and J270W reloads. 1996 saw the granting of DOT-E 10996 (now DOT-SP 10996), a special permit which allows the transportation of the larger reload kits by UPS® or FedEx ground service. 1999 saw the introduction of the awesome Blue Thunder reload kits for AeroTech's popular 98mm motors, and in 2001 AeroTech announced Redline reload kits for the 54, 75 and 98mm RMS hardware. Recent product releases in the larger high power RMS line include Black Max reloads for the 54mm hardware, 54/426, 75/1280 and 75/7680 hardware, the 75/7680 M1850W reload, and ultra-high thrust Warp-9 reloads for a growing number of 54, 75 & 98mm motors. During 2007-2008 AeroTech introduced the long burn 75/6400 M650W, 98/10240 M750W and the 98/15360 N1000W, and Mojave Green 54/1706 K805G, 75/5120 M1500G and 98/7680 M2100G reloads.

Also in 2007, AeroTech released the six Kosdon-by-AeroTech™ (KBA™) Animal-Compatible™ reload kits for Kosdon/Animal Motor Works™ (AMW™) motor cases using AMW nozzles and bulkheads. These reloads have the advantage of being 25% less expensive than equivalent competitive offerings. AeroTech also began offering KBA reloads in AeroTech White Lightning, Redline and Kosdon Fast™ propellants for all-Kosdon hardware. Many other products are under development and some recent releases are included in this catalog.

FirstFire™ & FirstFire Jr.™ Initiators

FirstFire initiators are now included with all AeroTech RMS 29 & 38mm high power reload kits and certain single use motors. FirstFire initiators provide an easy-to-use two lead system and a high temperature pyrogen mixture to light your motors reliably every time. FirstFire initiators are also sold separately in three packs. FirstFire: H & above. FirstFire Jr.: F & G only. FirstFire Jr. 3": D & E only.

Product No.: 89894 (FirstFire)
Product No.: 89895 (FirstFire Jr.)
Product No.: 89895-1 (FirstFire Jr. 3")

As of 5/16/09, a Bureau of Alcohol, Tobacco, Firearms and Explosives (ATFE) Low Explosives User Permit (LEUP) is no longer required for the purchase of AeroTech high power RMS reload kits. However, customers must possess the appropriate NAR or Tripoli user certification prior to sale.

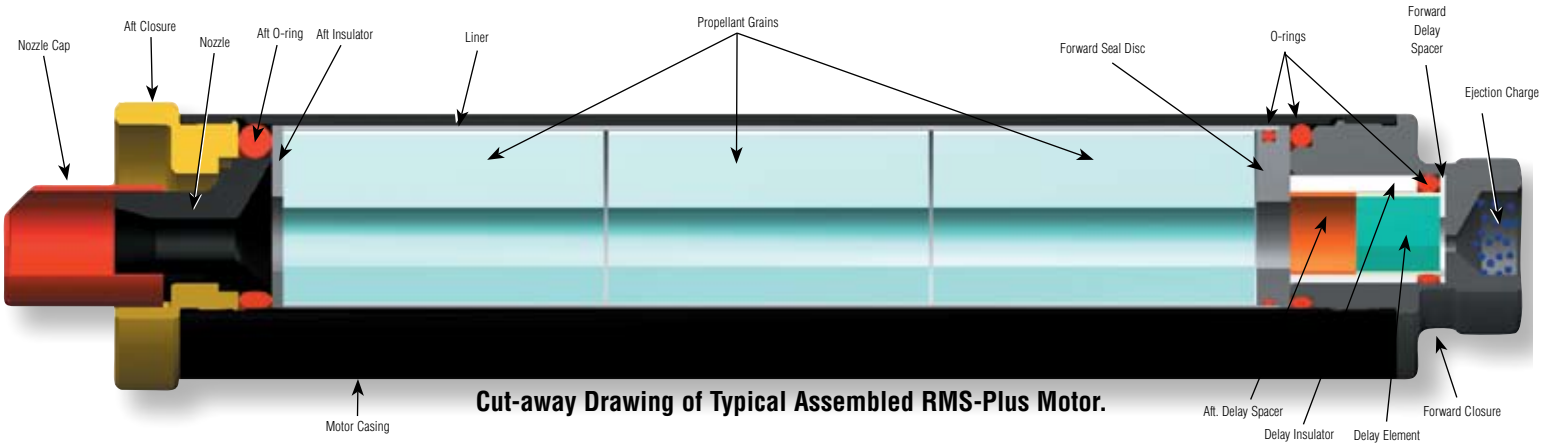
"High Power Style" Model Rocket RMS

"High Power Style" model rocket RMS reloads contain no more than 62.5 grams of propellant and do not require any federal licensing or user certification for purchase or use, although customers must be at least 18 years of age. "High Power Style" reloads and hardware are a "stand alone" product line and are not compatible with the "hobby line" 29/40-120 model rocket hardware and reloads. In 2004, AeroTech expanded the range of RMS capabilities with the "High Power Style" 29/120 motor and the G79W and G77R reload kits, and the 38/120 motor and the G61W and G67R reload kits. The 29/120 G77R and G67R were the first Redline reload kits released by AeroTech in the 'G' power class. The new G69N endburning reload for the 38/120 motor is the highest performance model rocket motor ever produced, delivering an astounding 137 N-sec of total impulse! Other "High Power Style" reloads available include the F37W and F62T for the 29/60 hardware and the G54W reload for the 29/100 hardware.

It should be noted that a growing number of the hobby line, 29mm high power and 29mm "High Power Style" RMS reload kits may be shipped via United States Postal Service (USPS) Parcel Post without incurring a hazmat charge.

RMS-Plus™ Delay Sealing System for 29, 38 and 54mm High Power RMS

The AeroTech RMS-Plus delay sealing system provides for more precise delay times, reduced chances of forward closure "blow-by", easier cleanup, and more! Motors may be left assembled indefinitely, and there is no need to remove the delay charge assembly if the closures are loosened. All RMS-Plus reload kits come with 3-D illustrated instructions. RMS-Plus technology is completely compatible with existing AeroTech RMS motor hardware.



Cut-away Drawing of Typical Assembled RMS-Plus Motor.

Hobby Line RMS™ Hardware Data

RMS-18 Hobby Line Motor Hardware Data

Hardware	Outer Diameter	Length (w/o aft closure)	Weight	Options
RMS-18/20	.698" (18mm)	2.895"	11.8 g	None

RMS-24 Hobby Line Motor Hardware Data

Hardware	Outer Diameter	Length (w/o aft closure)	Weight	Options
RMS-24/40	.938" (24mm)	3.473"	19.7 g	None
RMS-24/60	.938" (24mm)	4.346"	39.3 g	None

Note: RMS-24/40 motor parts not compatible with RMS-24/60 hardware.

RMS-29 Hobby Line Motor Hardware Data

Hardware	Outer Diameter	Length (w/o aft closure)	Weight	Options
RMS-29/40-120	1.125" (29mm)	5.639"	58g	EFC forward closure

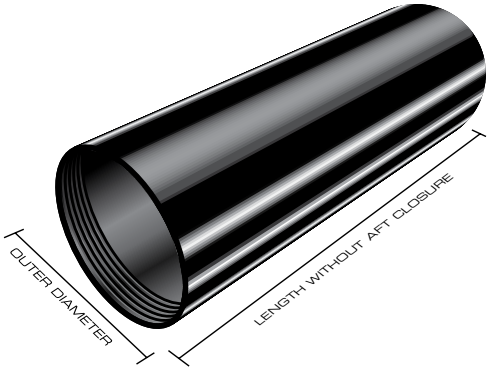
RMS-R/C-24 Hobby Line Motor Hardware Data

Hardware	Outer Diameter	Length (w/o aft closure)	Weight	Options
RMS-R/C 24/20-40	.938" (24mm)	2.718"	20 g	None

RMS-R/C-32 Hobby Line Motor Hardware Data

Hardware	Outer Diameter	Length (w/o aft closure)	Weight	Options
RMS-R/C 32/60-100	1.250" (32mm)	3.550"	56.9 g	None

About Measurements:
The diameter of the motor is measured from the outside of the motor tube to the opposite side. Length is measured without inclusion of the aft closure. See the external dimension drawings posted on the AeroTech website Resource Library for additional dimensional information.



High Power RMS™ Hardware Data

RMS-29 High Power Motor Hardware Data

Hardware	Outer Diameter	Length (w/o aft closure)	Weight	Options
RMS-29/60	1.125" (29mm)	3.496"	57.5 g	Plugged & EFC forward closure
RMS-29/100	1.125" (29mm)	4.496"	61.6 g	Plugged & EFC forward closure
RMS-29/120	1.125" (29mm)	5.503"	61.6 g	Plugged & EFC forward closure
RMS-29/180	1.125" (29mm)	7.253"	84.7 g	Plugged & EFC forward closure
RMS-29/240*	1.125" (29mm)	9.013"	105.3 g	Plugged & EFC forward closure
RMS-29/360*	1.125" (29mm)	12.732"	138 g	Plugged forward closure

*Includes 29mm forward seal disk

RMS-38 High Power Motor Hardware Data

Hardware	Outer Diameter	Length (w/o aft closure)	Weight	Options
RMS-38/120	1.500" (38mm)	3.830"	125.5 g	Plugged & EFC forward closure
RMS-38/240	1.500" (38mm)	5.705"	125.5 g	Plugged & EFC forward closure
RMS-38/360	1.500" (38mm)	7.580"	147.4 g	Plugged & EFC forward closure
RMS-38/480*	1.500" (38mm)	9.455"	168.5 g	Plugged & EFC forward closure
RMS-38/600*	1.500" (38mm)	11.330"	190.4 g	Plugged & EFC forward closure
RMS-38/720*	1.500" (38mm)	13.205"	212.3 g	Plugged & EFC forward closure
RMS-38/1080*	1.500" (38mm)	18.830"	278 g	Plugged & EFC forward closure

*Includes 38mm forward seal disk

RMS-54 High Power Motor Hardware Data

Hardware	Outer Diameter	Length (w/o aft closure)	Weight	Options
RMS-54/426	2.125" (54mm)	5.792"	218.0 g	Plugged, ext, EFC & EFC ext fwd closure
RMS-54/852	2.125" (54mm)	9.115"	278.1 g	Plugged, ext, EFC & EFC ext fwd closure
RMS-54/1280	2.125" (54mm)	12.442"	338.2 g	Plugged, ext, EFC & EFC ext fwd closure
RMS-54/1706*	2.125" (54mm)	15.772"	398.6 g	Plugged, ext, EFC & EFC ext fwd closure
RMS-54/2560*	2.125" (54mm)	22.422"	519 g	Plugged, ext, EFC & EFC ext fwd closure
RMS-54/2800*	2.125" (54mm)	24.245"	579 g	Plugged, ext, EFC & EFC ext fwd closure

*Includes 54mm forward seal disk

RMS-75 High Power Motor Hardware Data

Hardware	Outer Diameter	Length (w/o aft closure)	Weight	Options
RMS-75/1280	2.965" (75mm)	9.764"	730 g	none
RMS-75/2560	2.965" (75mm)	15.077"	956 g	none
RMS-75/3840	2.965" (75mm)	20.390"	1182 g	none
RMS-75/5120*	2.965" (75mm)	25.703"	1408 g	none
RMS-75/6400*	2.965" (75mm)	31.015"	1684 g	none
RMS-75/7680*	2.965" (75mm)	36.328"	1910 g	none

*Includes 75mm forward seal disk

RMS-98 High Power Motor Hardware Data

Hardware	Outer Diameter	Length (w/o aft closure)	Weight	Options
RMS-98/2560*	3.875" (98mm)	11.413"	1140 g	none
RMS-98/5120*	3.875" (98mm)	17.476"	1530 g	none
RMS-98/7680*	3.875" (98mm)	23.538"	1926 g	none
RMS-98/10240*	3.875" (98mm)	29.601"	2367 g	none
RMS-98/15360*	3.875" (98mm)	41.711"	3204 g	none

*Includes 98mm forward seal disk

Hardware Systems

29/60-120 system
Includes three casings (29/60, 29/100 & 29/120), one aft and one forward closure

29/180-240 system
Includes two casings (29/180 & 29/240), one aft and one forward closure and one forward seal disc

38/240-480 system
Includes three casings (38/240, 38/360 & 38/480), one aft and one forward closure and one forward seal disc

54/852-1706 system
Includes three casings (54/852, 54/1280 & 54/1706), one aft and one forward closure and one forward seal disc

75/2560-6400 system
Includes four casings (75/2560, 75/3840, 75/5120 & 75/6400), one aft and one plugged forward closure and one forward seal disc

98/2560-10240 system
Includes four casings (98/2560, 98/5120, 98/7680 & 98/10240), one aft and one plugged forward closure and one forward seal disc

Professional Motor Design

AeroTech's sister division, Industrial Solid Propulsion (ISP), designs and manufactures rocket motors for government, research, aviation and space applications. AeroTech motors are designed by the same people who design motors for ISP.

Above: Static test firing of an eight foot long ISP motor destined for space application.

Hobby Line RMS™ Motors

RMS-18 Hobby Line Reload Kit Data

Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
RMS-18/20	D13W (3 pak)	20 N-sec	9.8 g	33 g	4, 7, 10
RMS-18/20	D24T (3 pak)	20 N-sec	8.7 g	31 g	4, 7, 10

Ejection charge included with all 18mm reload kits.

RMS-24 Hobby Line Reload Kit Data

Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
RMS-24/40	D9W (3 pak)	20 N-sec	10.1 g	45 g	4, 7
RMS-24/40	D15T (3 pak)	20 N-sec	8.9 g	44 g	4, 7
RMS-24/40	E11J (3 pak)	35 N-sec	25 g	61 g	3
RMS-24/40	E18W (3 pak)	40 N-sec	20.7 g	57 g	4, 7
RMS-24/40	E28T (3 pak)	40 N-sec	18.4 g	55 g	4, 7
RMS-24/40	F12J (3 pak)	43 N-sec	30.0 g	67 g	3, 5
RMS-24/40	F24W (3 pak)	50 N-sec	25.3 g	62 g	4, 7
RMS-24/40	F39T (3 pak)	50 N-sec	22.7 g	59 g	6, 9
RMS-24/60	F35W (2 pak)	57 N-sec	30.0 g	85 g	5, 8, 11

Ejection charge included with all 24mm reload kits.

RMS-29 Hobby Line Reload Kit Data

Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
RMS-29/40-120	E16W	40 N-sec	19 g	107 g	4, 7
RMS-29/40-120	E23T	40 N-sec	17.4 g	104 g	5, 8
RMS-29/40-120	F22J	65 N-sec	46.3 g	133 g	5, 7
RMS-29/40-120	F40W	80 N-sec	40 g	126 g	4, 7, 10
RMS-29/40-120	F52T	80 N-sec	36.6 g	123 g	5, 8, 11
RMS-29/40-120	G53FJ	92 N-sec	60.0 g	147 g	5, 7, 10
RMS-29/40-120	G64W	112 N-sec	60.0 g	151 g	4, 7, 10
RMS-29/40-120	G71R	108 N-sec	56.9 g	145 g	4, 7, 10
RMS-29/40-120	G76G	118 N-sec	60.0 g	147 g	4, 7, 10

Ejection charge included with all 29mm reload kits.

RMS-24 R/C Hobby Line Rocket Glider Reload Kit Data

Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
RMS-R/C 24/20-40	D7-RCT (3 pak)	20 N-sec	10.5 g	41 g	plugged
RMS-R/C 24/20-40	E7-RCT (3 pak)	30 N-sec	17.1 g	46 g	plugged
RMS-R/C 24/20-40	E6-RCT (3 pak)	40 N-sec	21.5 g	52 g	plugged
RMS-R/C 24/20-40	E12-RCJ (3 pak)	36 N-sec	28.3 g	59 g	plugged

RMS-32 R/C Hobby Line Rocket Glider Reload Kit Data

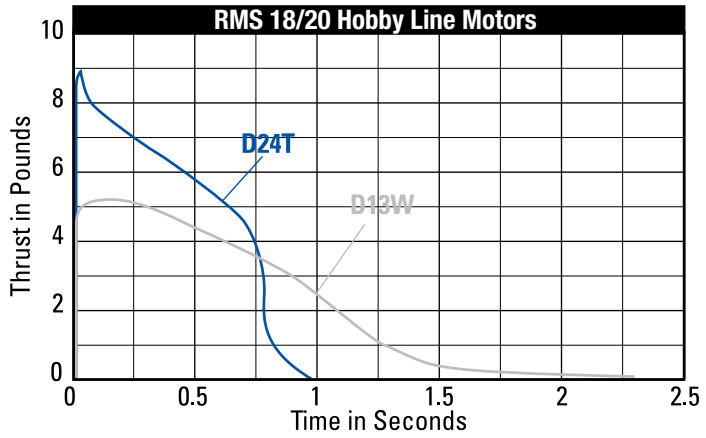
Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
RMS-R/C 32/60-100	F13-RCT (2 pak)	60 N-sec	31.2 g	105 g	plugged
RMS-R/C 32/60-100	F16-RCJ (2 pak)	80 N-sec	57.1 g	137 g	plugged
RMS-R/C 32/60-100	F23-RCW-SK (2 pak)	70 N-sec	35.2 g	127 g	plugged
RMS-R/C 32/60-100	G12-RCT (2 pak)	100 N-sec	51.1 g	126 g	plugged

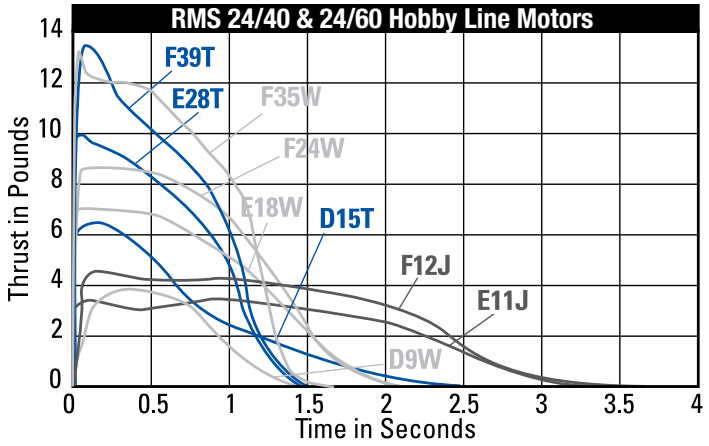
Electronic Forward Closure™ (EFC-1™)

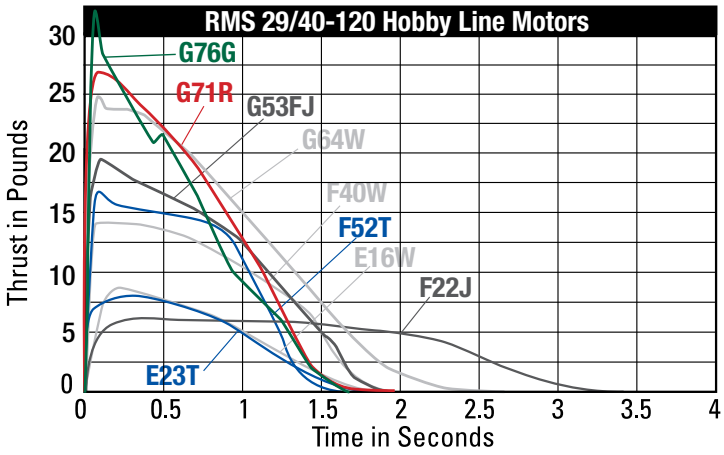
The new AeroTech EFC-1 Electronic Forward Closure provides an easy timer-based recovery system deployment module which connects to AeroTech 29, 38 or 54mm reloadable motor systems. Rather than using a typical electric match, the EFC-1 uses a reusable glow-plug initiator to ignite the ejection charge.

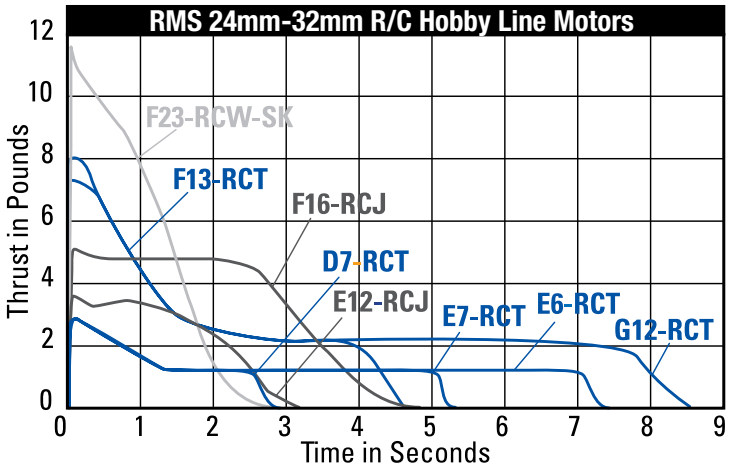
- World-class timer-based electronic recovery system deployment module
- Easy to set up and use
- Attaches to all RMS 29, 38 or 54mm reloadable motors
- Reusable glow-plug ejection charge ignition system
- Eliminates the need for electric matches and similar one-time use devices
- Robust anodized aluminum housing
- Protects against mechanical shock and ejection charge residue
- Integral ejection charge holder retains up to 3 grams of black powder
- Easily programmable
- Delivers virtually all time delay possibilities

Part Number: EFC-1









High Power & "High Power Style" RMS™ Motors

Note: "High power style" RMS reload kits do not require NAR/Tripoli user certification or ATFE licensing

RMS-29 "High Power Style" Model Rocket Reload Kit Data

Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
RMS-29/60	F37W	50 N-sec	28.2 g	112 g	S, M, L
RMS-29/60	F62T	50 N-sec	25.0 g	109 g	S, M, L
RMS-29/100	G54W	90 N-sec	46.0 g	141 g	S, M, L
RMS-29/120	G77R	105 N-sec	55.4 g	155 g	S, M
RMS-29/120	G79W	115 N-sec	58.6 g	158 g	S, M, L

Ejection charge and "medium" delay included with all 29mm reload kits.

RMS-38 "High Power Style" Model Rocket Reload Kit Data

Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
RMS-38/120	G61W	120 N-sec	60.9 g	194 g	S, M, L
RMS-38/120	G67R	110 N-sec	57.6 g	191 g	S, M
RMS-38/120	G69N	137 N-sec	62.2 g	195 g	Plugged

Ejection charge and "medium" delay included with all 38mm reload kits except Warp-9 reloads.

RMS-29 High Power Reload Kit Data

Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
RMS-29/100	G104T	90 N-sec	40.8 g	136 g	S, M, L
RMS-29/180	G75J	155 N-sec	105.6 g	228 g	S, M
RMS-29/180	H128W	175 N-sec	92.2 g	215 g	S, M, L
RMS-29/180	H165R	170 N-sec	83.1 g	205 g	S, M, L
RMS-29/180	H238T	175 N-sec	79.8 g	202 g	S, M, L
RMS-29/240	H97J	200 N-sec	140.9 g	282 g	S, M
RMS-29/240	H180W	230 N-sec	123.0 g	264 g	S, M, L
RMS-29/240	H210R*	220 N-sec	110.8 g	251 g	S, M, L
RMS-29/240	H220T*	220 N-sec	106.4 g	239 g	S, M, L
RMS-29/240	H250G*	231 N-sec	116.3 g	256 g	M
RMS-29/360	I200W*	330 N-sec	175.0 g	364 g	S, M, L
RMS-29/360	H268R*	320 N-sec	166.0 g	346 g	S, M, L

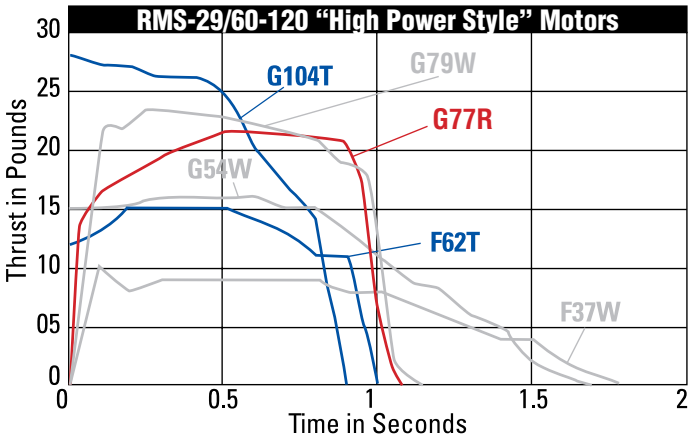
Ejection charge and "medium" delay included with all 29mm reload kits.
*29mm H210R, H220T, I200W, H250G and H268R reload kits must be used in conjunction with the 29mm forward seal disc.

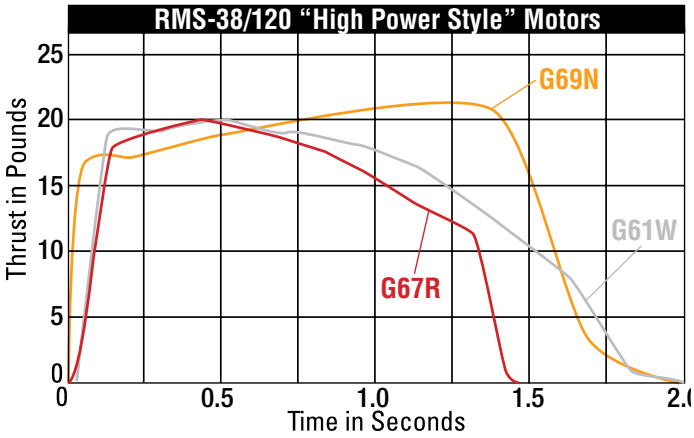
Reading Thrust Curve Charts

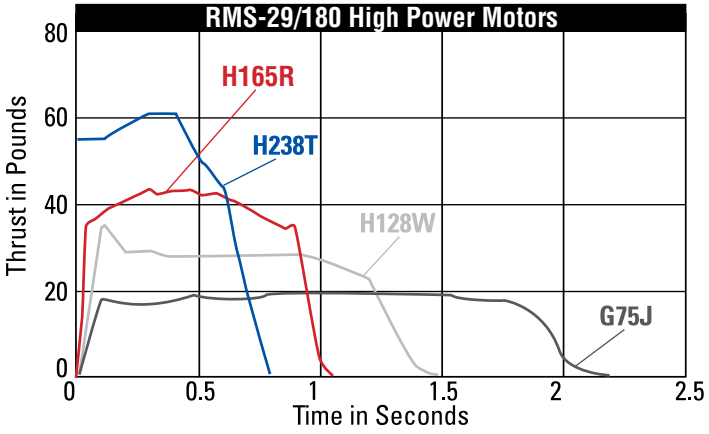
Thrust curve charts, like those to the right, are an easy way to compare motor performance between different RMS reload kits. Thrust in pounds is indicated by the height of each 'thrust curve'—the higher the curve, the more 'push' or 'thrust' a motor has. Warp-9 typically has the highest thrust per class. Longer burning motors have thrust curves that extend the longest distance from left to right indicating a longer burn time (indicated in seconds). The longest burning motors vary depending on propellant type and the shape of the motor grain (end burn and moon burn shaped propellant grains typically having the longest burn times). Additionally some propellants like Black Jack burn slower.

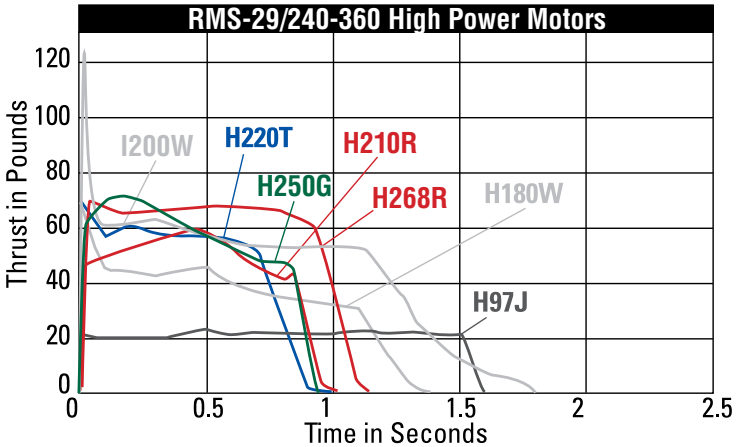
Contents of a Typical 38mm RMS Reload Kit

Notes:
- Total impulse shown is optimum
- Short=Approx. 6 sec.
- Medium=Approx. 10 sec.
- Long=Approx. 14 sec.
- X-Long=Approx. 18 sec.









RMS-38 High Power Reload Kit Data

Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
RMS-38/120	G339N	110 N-sec	48.0 g	181 g	Plugged
RMS-38/240	H73J	180 N-sec	125.0 g	293 g	S, M
RMS-38/240	H123W	230 N-sec	125.0 g	293 g	S, M, L
RMS-38/240	H148R	220 N-sec	115.1 g	283 g	S, M, L
RMS-38/240	H242T	230 N-sec	110.8 g	279 g	S, M, L
RMS-38/240	H669N	220 N-sec	96.0 g	252 g	Plugged
RMS-38/360	I49N†	383 N-sec	190.8 g	381 g	Plugged
RMS-38/360	H112J	280 N-sec	187.5 g	385 g	S, M
RMS-38/360	I161W	350 N-sec	187.5 g	385 g	S, M, L
RMS-38/360	I218R	330 N-sec	172.7 g	370 g	S, M, L
RMS-38/360	I245G	351 N-sec	181.3 g	365 g	M
RMS-38/360	I357T	350 N-sec	166.2 g	364 g	S, M, L
RMS-38/360	H999N	320 N-sec	144.0 g	331 g	Plugged
RMS-38/480	I59WN†	486 N-sec	251.7 g	481 g	Plugged
RMS-38/480	I154J*	360 N-sec	250.0 g	476 g	S, M
RMS-38/480	I211W*	460 N-sec	250.0 g	476 g	S, M, L
RMS-38/480	I225FJ*	360 N-sec	241.7 g	486 g	S, M, L
RMS-38/480	I285R*	420 N-sec	230.2 g	456 g	S, M, L
RMS-38/480	I300T*	440 N-sec	221.6 g	441 g	S, M, L
RMS-38/480	I1299N*	430 N-sec	192.1 g	422 g	Plugged
RMS-38/600	I195J*	478 N-sec	312.5 g	582 g	S, M
RMS-38/600	I284W*	590 N-sec	312.5 g	568 g	S, M, L
RMS-38/600	I305FJ*	450 N-sec	302.1 g	581 g	S, M, L
RMS-38/600	I366R*	550 N-sec	287.8 g	543 g	S, M, L
RMS-38/600	I435T*	600 N-sec	277.0 g	527 g	S, M, L
RMS-38/720	I600R*	640 N-sec	323.7 g	617 g	M
RMS-38/720	J350W*	700 N-sec	375.0 g	665 g	S, M, L
RMS-38/720	I364FJ*	560 N-sec	362.5 g	678 g	S, M, L
RMS-38/720	J420R*	650 N-sec	345.3 g	635 g	S, M, L
RMS-38/720	J500G*	723 N-sec	362.6 g	654 g	M
RMS-38/1080	J570W*	1060 N-sec	527.0 g	908 g	S, M, L
RMS-38/1080	J575FJ*	805 N-sec	519.0 g	932 g	S, M, L
RMS-38/1080	J825R*	970 N-sec	497.0 g	878 g	S, M, L

Ejection charge and "medium" delay included with all 38mm reload kits except Warp-9 reloads.
*38/480-38/1080 reload kits must be used in conjunction with the 38mm forward seal disc, except I59WN.
†I49N and I59WN reload kits must be used with endburning-style plugged forward closure, P/N 38EBFCPT

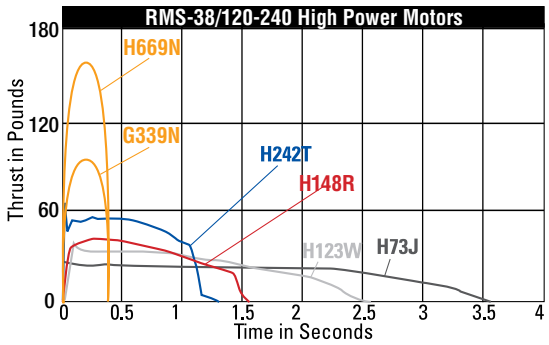
AeroTech Compatible Hardware Manufacturer

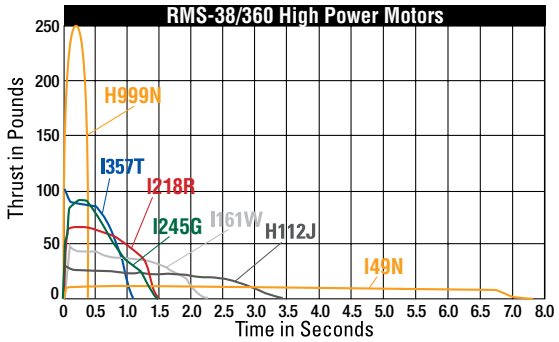
AeroTech has licensed Rouse-Tech to produce RMS motor hardware. Rouse-Tech provides a full line of anodized aluminum casings and closures that are completely compatible with AeroTech RMS hardware and reload kits. To purchase these products, please contact Rouse-Tech using the contact information below.

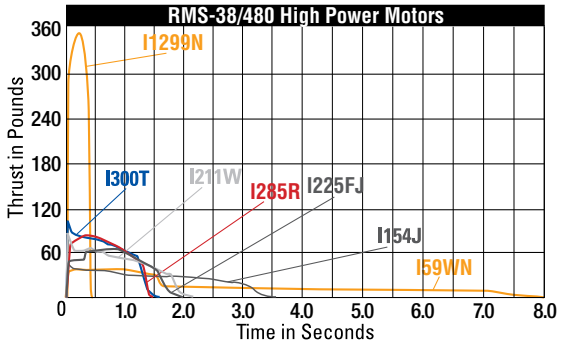
Vendor	Website	Phone
Rouse-Tech	www.rouse-tech.com	408.268.7440

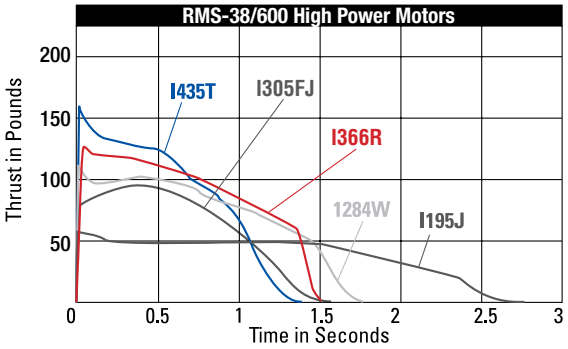
ROUSE-TECH

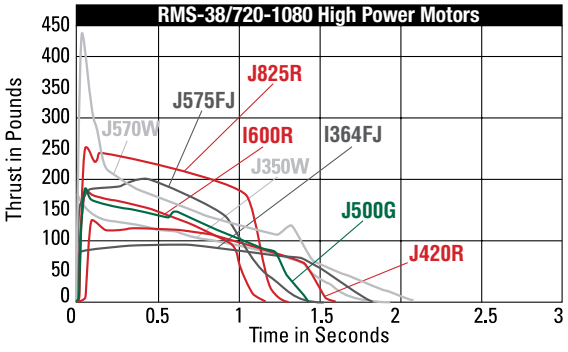
Dan Michael's Der Red Max on an Aerotech M2100G Mojave Green reload at Red Glare 2008 (photo by Mark Canepa).











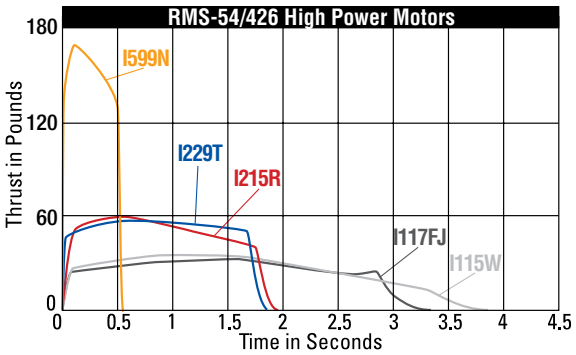
High Power RMS™ Motors

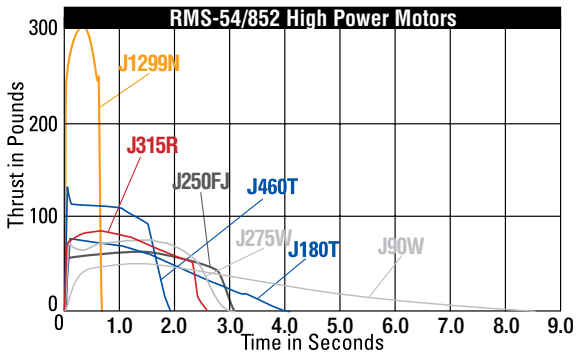
RMS-54 High Power Reload Kit Data

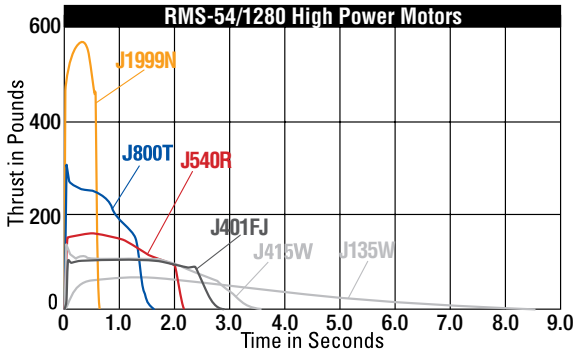
Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
RMS-54/426	I115W	412 N-sec	219 g	545 g	S, M, L
RMS-54/426	I117FJ	361 N-sec	243 g	566 g	S, M, L
RMS-54/426	I215R	399 N-sec	208 g	527 g	S, M, L
RMS-54/426	I229T	407 N-sec	196 g	514 g	S, M, L
RMS-54/426	I599N**	410 N-sec	186 g	505 g	plugged
RMS-54/852	J90W*	770 N-sec	391 g	834 g	S, M, L
RMS-54/852	J180T	800 N-sec	398 g	841 g	S, M, L
RMS-54/852	J275W	850 N-sec	440 g	883 g	S, M, L, X
RMS-54/852	J250FJ	731 N-sec	487 g	907 g	S, M, L, X
RMS-54/852	J315R	780 N-sec	415 g	844 g	S, M, L, X
RMS-54/852	J460T	850 N-sec	390 g	833 g	S, M, L, X
RMS-54/852	J1299N**	850 N-sec	373 g	834 g	plugged
RMS-54/1280	J135W*	1200 N-sec	587 g	1126 g	S, M, L
RMS-54/1280	J415W	1280 N-sec	660 g	1199 g	S, M, L, X
RMS-54/1280	J401FJ	1094 N-sec	730 g	1267 g	S, M, L, X
RMS-54/1280	J540R	1180 N-sec	622 g	1154 g	S, M, L, X
RMS-54/1280	J800T	1280 N-sec	595 g	1134 g	S, M, L, X
RMS-54/1280	J1999N**†	1150 N-sec	515 g	1100 g	plugged
RMS-54/1706	K185W*†	1500 N-sec	783 g	1418 g	S, M, L
RMS-54/1706	K513FJ†	1467 N-sec	974 g	1647 g	S, M, L, X
RMS-54/1706	K550W†	1700 N-sec	880 g	1515 g	S, M, L, X
RMS-54/1706	K695R†	1520 N-sec	830 g	1450 g	S, M, L, X
RMS-54/1706	K805G†	1762 N-sec	871 g	1543 g	plugged
RMS-54/1706	K1100T†	1500 N-sec	733 g	1368 g	S, M, L, X
RMS-54/2560	K270W*†**	2020 N-sec	1162 g	2083 g	plugged
RMS-54/2560	K700W**†	2400 N-sec	1232 g	2059 g	plugged
RMS-54/2560	K828FJ**†	2120 N-sec	1373 g	2223 g	plugged
RMS-54/2560	K1275R**†	2230 N-sec	1170 g	1990 g	plugged
RMS-54/2800	K1050W**†	2451 N-sec	1261 g	2203 g	plugged

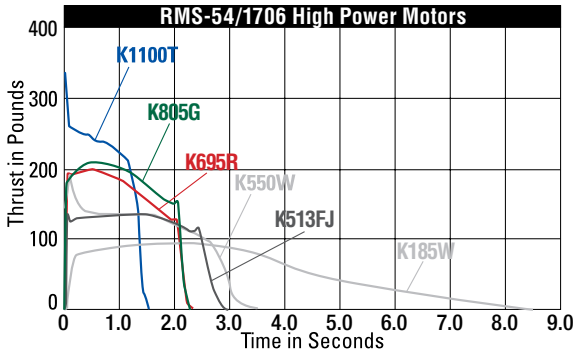
"Medium" delay included with all 54/426 reload kits except I599N.
"Long" delay included with all 54/852 reload kits and larger except plugged reloads. Ejection charge not included.
*54mm J90W, J135W, K185W and K270W must be used with extended forward closure.
**Plugged reload kits do not utilize a motor actuated ejection charge. Plugged motors must be used in conjunction with a timer, altimeter or radio-activated recovery system.
†54/1706-54/2800 reload kits and the J1999N must be used in conjunction with the 54mm forward seal disc.

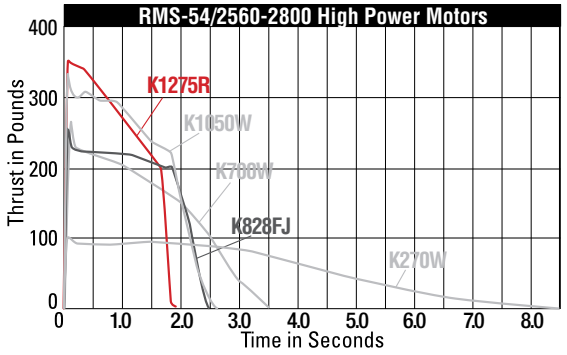
Rocketeers at Red Glare 2008 (photo by Mark Canepa).











RMS-75 High Power Reload Kit Data

Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
RMS-75/1280	K1499N**	1340 N-sec	604 g	1741 g	plugged
RMS-75/2560	K560W**	2560 N-sec	1341 g	2774 g	plugged
RMS-75/2560	K780R**	2360 N-sec	1268 g	2701 g	plugged
RMS-75/3840	L850W**	3840 N-sec	2011 g	3741 g	plugged
RMS-75/3840	L1150R**	3560 N-sec	1902 g	3632 g	plugged
RMS-75/3840	L1390G**	3965 N-sec	1973 g	3876 g	plugged
RMS-75/5120	L1170FJ**†	4218 N-sec	2800 g	5021 g	plugged
RMS-75/5120	L1420R**†	4610 N-sec	2535 g	4562 g	plugged
RMS-75/5120	L2200G**†	5104 N-sec	2516 g	4751 g	plugged
RMS-75/5120	M1297W**†	5417 N-sec	2681 g	4708 g	plugged
RMS-75/5120	M1500G**†	5224 N-sec	2631 g	4896 g	plugged
RMS-75/6400	M650W**†	5964 N-sec	3351 g	5125 g	plugged
RMS-75/6400	M1315W**†	6700 N-sec	3351 g	5675 g	plugged
RMS-75/6400	M1550R**†	5700 N-sec	3156 g	5480 g	plugged
RMS-75/7680	M1850W**†	7500 N-sec	3979 g	6871 g	plugged

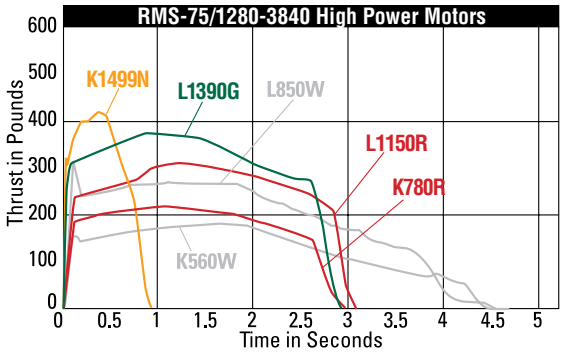
Smoke charge included with all 75mm reload kits. Ejection charge not included.
**Plugged reload kits do not utilize a motor actuated ejection charge. Plugged motors must be used in conjunction with a timer, altimeter or radio-activated recovery system.
†75/5120-75/7680 reload kits must be used in conjunction with the 75mm forward seal disc.

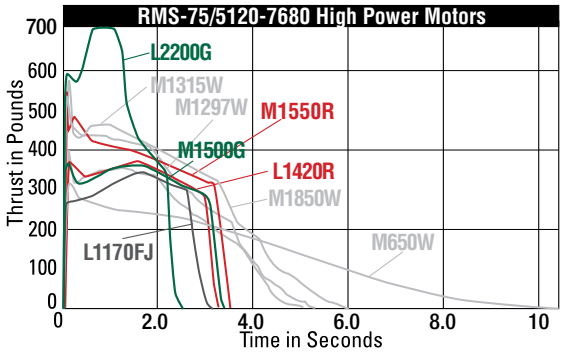
RMS-98 High Power Reload Kit Data

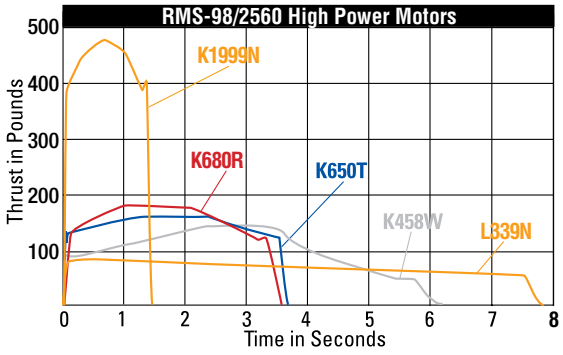
Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
RMS-98/2560	K458W**	2560 N-sec	1325 g	3106 g	plugged
RMS-98/2560	L339N**†	2793 N-sec	1355 g	3210 g	plugged
RMS-98/2560	K650T**	2560 N-sec	1176 g	2957 g	plugged
RMS-98/2560	K680R**	2358 N-sec	1254 g	3035 g	plugged
RMS-98/2560	K1999N*	2560 N-sec	1195 g	2989 g	plugged
RMS-98/5120	L952W**	5120 N-sec	2650 g	5027 g	plugged
RMS-98/5120	L1300R**	4567 N-sec	2508 g	4884 g	plugged
RMS-98/5120	L1500T**	5120 N-sec	2351 g	4728 g	plugged
RMS-98/7680	M1419W**	7680 N-sec	3975 g	6931 g	plugged
RMS-98/7680	M1600R**	7085 N-sec	3762 g	6717 g	plugged
RMS-98/7680	M2100G**	7802 N-sec	3948 g	6912 g	plugged
RMS-98/7680	M2400T**	7680 N-sec	3527 g	6483 g	plugged
RMS-98/10240	M750W**	9325 N-sec	5300 g	8776 g	plugged
RMS-98/10240	M1800FJ**	8267 N-sec	5592 g	9104 g	plugged
RMS-98/10240	M1939W**	10240 N-sec	5300 g	8845 g	plugged
RMS-98/10240	M2000R**	9218 N-sec	5016 g	8429 g	plugged
RMS-98/10240	M2500T**	10240 N-sec	4531 g	8025 g	plugged
RMS-98/15360	N1000W**	14583 N-sec	7925 g	12661 g	plugged
RMS-98/15360	N2000W**	14000 N-sec	7676 g	12412 g	plugged
RMS-98/15360	N3300R**	13410 N-sec	7338 g	12054 g	plugged

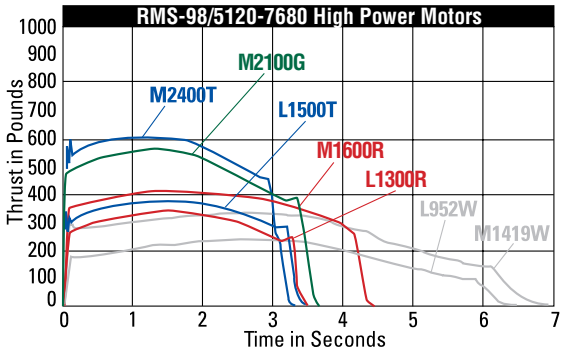
Smoke charge included with all 98mm reload kits except L339N. Ejection charge not included.
**Plugged reload kits do not utilize a motor actuated ejection charge. Plugged motors must be used in conjunction with a timer, altimeter or radio-activated recovery system.
†L339N reload kit must be used with 98mm forward closure bulkhead plug, P/N 98FCBP.
All 98mm reload kits must be used in conjunction with the 98mm forward seal disc.

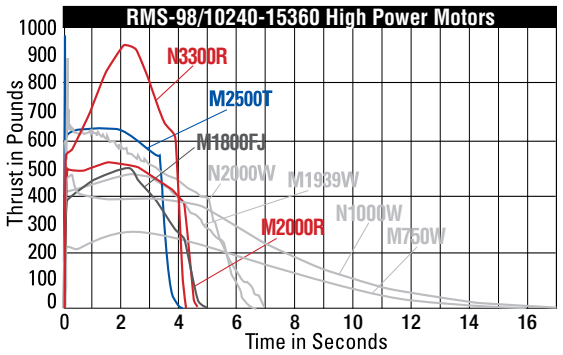
Chris Colby's Honest John flying on an Aerotech L2300G Mojave Green reload at Red Glare 2008 (photo by Mark Canepa).

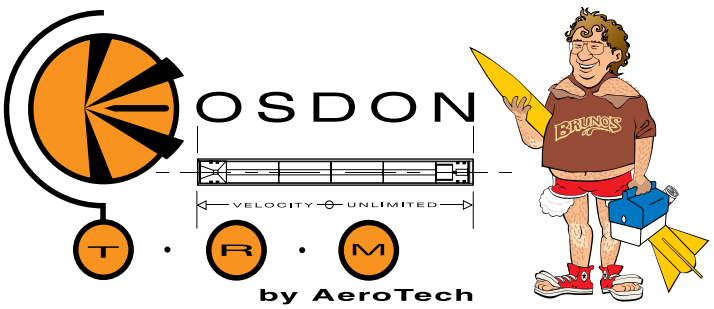












High Power Kosdon by AeroTech™ (KBA™) and KBA Animal-Compatible™ Motors

Note: KBA reload kits do not include initiator or ejection charge

KBA 29mm High Power Reload Kit Data

Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
Kosdon 29-150	G82W	140 N-sec	84 g	231 g	M
Kosdon 29-150	G135R	146 N-sec	80 g	226 g	M
Kosdon 29-250	H130W	244 N-sec	140 g	322 g	M
Kosdon 29-250	H225R	243 N-sec	133 g	316 g	M

KBA 38mm High Power Reload Kit Data

Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
Kosdon 38-640	J520F	648 N-sec	307 g	741 g	L

KBA 54mm High Power Reload Kit Data

Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
Kosdon 54-1400	K700F	1442 N-sec	697 g	1550 g	L

KBA Animal-Compatible 38mm High Power Reload Kit Data

Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
KBA A-C 38-640	I301W	580 N-sec	310 g	724 g	18
KBA A-C 38-640	I550R	590 N-sec	295 g	713 g	20
KBA A-C 38-640	J740G	668 N-sec	308 g	724 g	Plugged

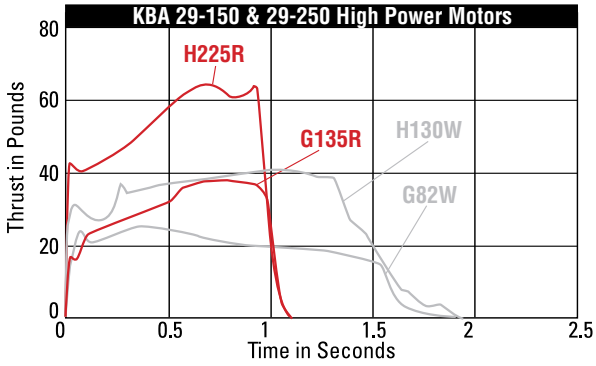
KBA Animal-Compatible 54mm High Power Reload Kit Data

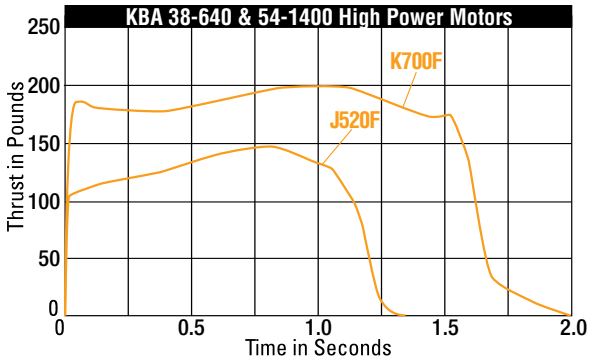
Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
KBA A-C 54-2550	K750W	2560 N-sec	1315 g	2620 g	Plugged
KBA A-C 54-2550	K1750R	2460 N-sec	1253 g	2560 g	Plugged
KBA A-C 54-2550	L2300G	2722 N-sec	1310 g	2624 g	Plugged

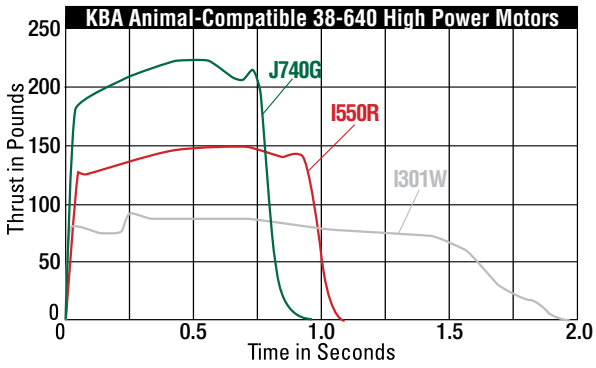
KBA Animal-Compatible 75mm High Power Reload Kit Data

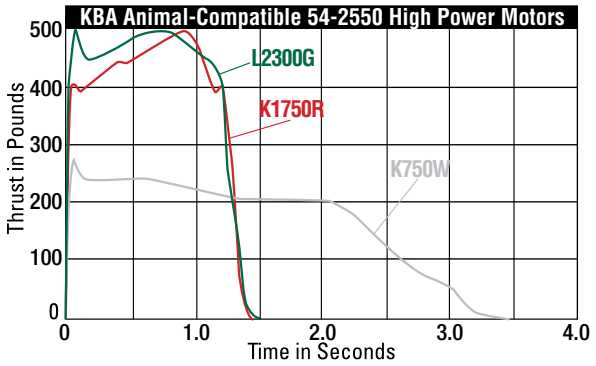
Hardware	Reload	Total Impulse	Prop. Wt.	Loaded Wt.	Delay Times
KBA A-C 75-7600	M1450W	8060 N-sec	4150 g	7600 g	Plugged
KBA A-C 75-7600	M3500R	7300 N-sec	3755 g	7205 g	Plugged

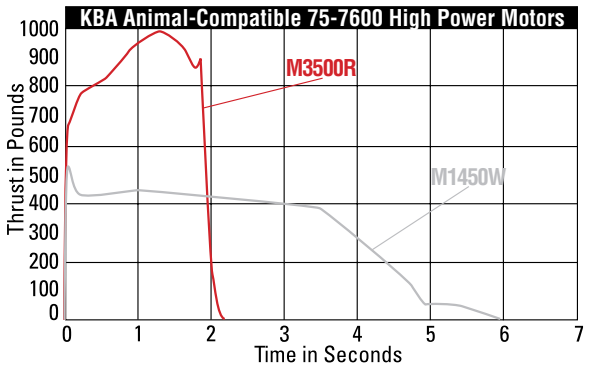
Dr. Frank Kosdon next to his cartoon alter-ego at LDRS 20, Lucerne Dry Lake, CA (photo by Gary Rosenfield).











Initiator Starter Set

The Initiator Starter Set is the perfect introduction to the thunderous experience of E, F, and G powered rockets. This comprehensive set of kits includes the over 3 foot tall Initiator rocket, Mantis launch pad, Interlock 12 volt launch controller, and complete illustrated assembly instructions. The Initiator Starter Set is available in two versions; one intended for use with single-use (SU) motors and one which includes a 29mm Reloadable Motor System (RMS) E, F, G rocket motor hardware. Single-use motors and RMS reload kits sold separately.

Product No. 89001 (for single-use motors)

Product No. 89002 (includes reloadable 29mm RMS E, F, G rocket motor hardware)

Starter Set Components

Initiator Rocket Kit

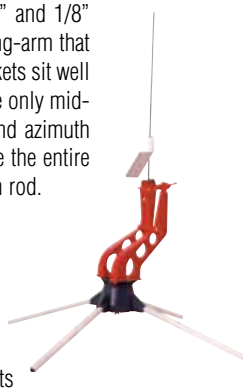
The Initiator established AeroTech's reputation for innovative and versatile advanced rocket design. Large, colorful, adhesive decals and molded plastic fins make it easy for you to achieve great looking results.

Product No. 89011

Mantis Launch Pad

The Mantis is perfect for flying both mid-power rockets (E, F, G) and small model rockets (A through D) as it accepts 1/4", 3/16" and 1/8" launch rods. Mantis makes loading a rocket easy with a swing-arm that can lower the launch rod to a horizontal position. Loaded rockets sit well off the ground for comfortable initiator hook up. Mantis is the only mid-power rocket launch pad that allows launch rod elevation and azimuth adjustments to be made without having to pick up and move the entire launcher. Mantis come with a two-piece 1/4" diameter launch rod.

Product No.: 89281



Interlock Launch Controller

A launch controller is only as good as it is safe and convenient. When armed, the Interlock controller emits a warning tone to alert spectators to a possible launch and after firing the Key Eject system automatically disarms the firing circuit for the utmost in personal protection. Our Interlock controller is conveniently designed to hook up directly to your car's 12 volt battery and to assist in placing you at a safe launch distance, incorporates 40 feet of heavy-duty power cord.

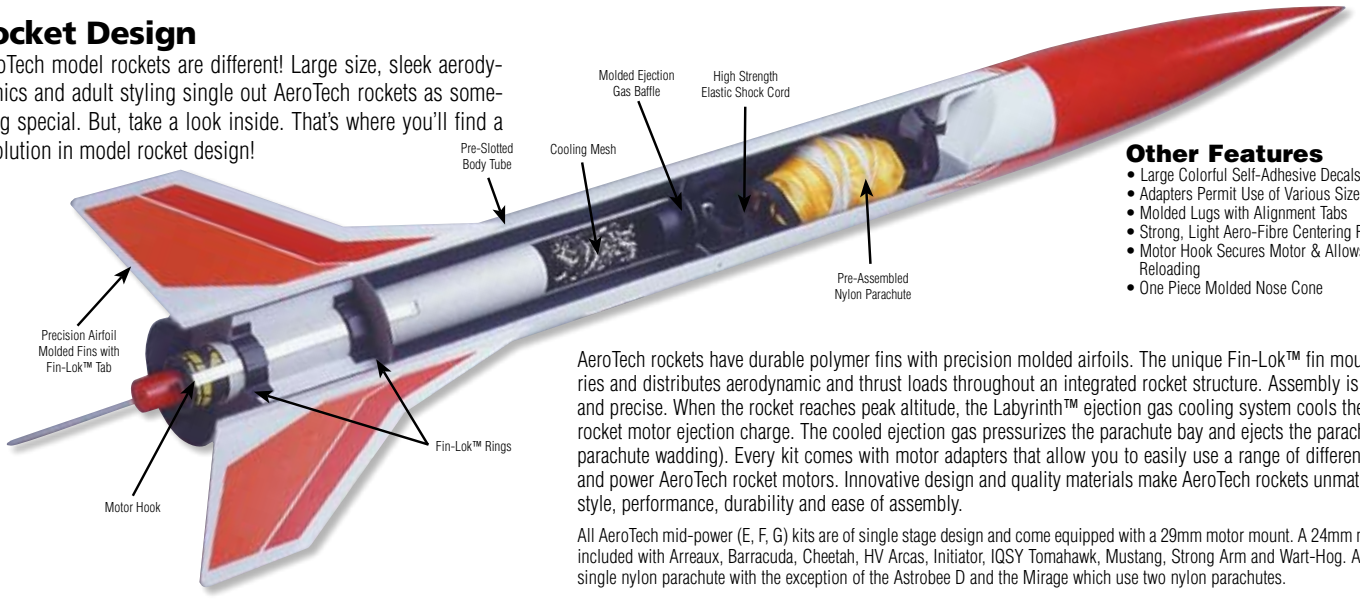
Product No.: 89381

Brian Rosenfield stands by the Initiator Starter Set.

Bob Sanford, designer of the Initiator.

Rocket Design

AeroTech model rockets are different! Large size, sleek aerodynamics and adult styling single out AeroTech rockets as something special. But, take a look inside. That's where you'll find a revolution in model rocket design!



Other Features

- Large Colorful Self-Adhesive Decals
- Adapters Permit Use of Various Size AeroTech Motors
- Molded Lugs with Alignment Tabs
- Strong, Light Aero-Fibre Centering Rings
- Motor Hook Secures Motor & Allows for Quick Reloading
- One Piece Molded Nose Cone

AeroTech rockets have durable polymer fins with precision molded airfoils. The unique Fin-Lok™ fin mounting system carries and distributes aerodynamic and thrust loads throughout an integrated rocket structure. Assembly is quick, easy, neat, and precise. When the rocket reaches peak altitude, the Labyrinth™ ejection gas cooling system cools the hot gas from the rocket motor ejection charge. The cooled ejection gas pressurizes the parachute bay and ejects the parachute (requiring no parachute wadding). Every kit comes with motor adapters that allow you to easily use a range of different length, diameter and power AeroTech rocket motors. Innovative design and quality materials make AeroTech rockets unmatched in precision, style, performance, durability and ease of assembly.

All AeroTech mid-power (E, F, G) kits are of single stage design and come equipped with a 29mm motor mount. A 24mm motor adapter is also included with Arreaux, Barracuda, Cheetah, HV Arcas, Initiator, IQSY Tomahawk, Mustang, Strong Arm and Wart-Hog. All kits recover with a single nylon parachute with the exception of the Astrobee D and the Mirage which use two nylon parachutes.

Initiator™

Itching to fly F and G motors? The Initiator is simply the best big rocket to build first. It features molded fins, beautiful color coordinated decals, and no-wadding ejection system. An impressive 3 feet tall, the Initiator is one gorgeous rocket.

Specifications:
Length: 39"/99 cm
Diameter: 2.6"/6.7 cm
Weight (without motor): 14oz/400gms
Fins: 3
Product No. 89011

Recommended RMS Motors:

Motor	Proj. Altitude (ft/m)
E18-4W	600 / 180
E11-3J	450 / 140
E28-4T	650 / 200
F24-4W	700 / 210
F12-3J	600 / 180
F39-6T	850 / 260
F35-5W	870 / 270
E16-4W	550 / 170
E23-5T	500 / 150
F40-7W	1400 / 430
F22-5J	1050 / 320
F52-8T	1300 / 400
G53-7FJ	1650 / 500
G64-7W	2000 / 600
G71-7R	2000 / 600
G76-7G	2000 / 600

Recommended SU Motors:

Motor	Proj. Altitude (ft/m)
E15-4W	370 / 110
E30-4T	440 / 130
F32-4T	870 / 270
F20-4W*	870 / 270
F23-4FJ*	690 / 210
F25-6W	1120 / 340
F26-6FJ	880 / 270
F27-4R*	700 / 210
F42-4T*	770 / 230
F50-6T	1100 / 340
G38-7FJ	1460 / 450
G40-7W	1770 / 540
G77-7R	1850 / 560
G78-7G	1850 / 560
G79-7W	1850 / 560
G80-10T**	2450 / 750

*Econojet Motor
**137 N-sec version

Mustang™

3,000 foot flights, striking self-adhesive graphics, molded fins, and a durable nylon parachute give the Mustang performance and value that can't be equaled in any other mid-power rocket kit.

Specifications:
Length: 32"/81 cm
Diameter: 1.9"/4.7 cm
Weight (without motor): 11oz/310gms
Fins: 4
Product No. 89010

Recommended RMS Motors:

Motor	Proj. Altitude (ft/m)
D15-4T	350 / 100
E18-7W	1000 / 300
E11-5J	750 / 230
E28-7T	1050 / 320
F24-7W	1200 / 360
F12-5J	1050 / 320
F39-6T	1450 / 440
F35-8W	1480 / 450
E16-7W	950 / 290
E23-5T	800 / 240
F40-10W	2250 / 680
F22-7J	1700 / 520
F52-8T	2100 / 640
G53-7FJ	2650 / 800
G64-10W	3200 / 980
G71-10R	3200 / 980
G76-10G	3200 / 980

Recommended SU Motors:

Motor	Proj. Altitude (ft/m)
E15-7W	800 / 240
E30-7T	850 / 260
F32-8T	1480 / 450
F20-7W*	1480 / 450
F23-7FJ*	1230 / 380
F25-9W	1760 / 540
F26-9FJ	1490 / 450
F27-8R*	1300 / 400
F42-8T*	1350 / 410
F50-9T	1710 / 520
G38-7FJ	2140 / 650
G40-10W	2460 / 750
G77-10R	2600 / 790
G78-10G	2600 / 790
G79-10W	2600 / 790
G80-13T**	3370 / 1030

*Econojet Motor
**137 N-sec version

Arreaux™

Our trademark rocket. Pronounced "aero," the Arreaux's payload section makes it perfect for lofting altimeters, accelerometers, and other experimental projects. With "G" powered flights exceeding 3000 feet, this rocket cranks!

Specifications:
Length: 43"/109 cm
Diameter: 1.9"/4.7 cm
Weight (without motor): 12oz/340gms
Fins: 3
Product No. 89013

Recommended RMS Motors:

Motor	Proj. Altitude (ft/m)
D15-4T	300 / 90
E18-4W	900 / 270
E11-5J	700 / 210
E28-7T	950 / 290
F24-7W	1100 / 330
F12-5J	900 / 270
F39-6T	1350 / 410
F35-8W	1760 / 540
E16-7W	850 / 260
E23-5T	750 / 230
F40-10W	2100 / 640
F22-7J	1600 / 480
F52-8T	2050 / 620
G53-7FJ	2550 / 770
G64-10W	3150 / 950
G71-10R	3150 / 950
G76-10G	3150 / 950

Recommended SU Motors:

Motor	Proj. Altitude (ft/m)
E15-7W	1060 / 320
E30-7T	1080 / 330
F32-8T	1760 / 540
F20-7W*	1760 / 540
F23-7FJ*	1500 / 460
F25-9W	2050 / 630
F26-9FJ	1780 / 540
F27-8R*	1550 / 470
F42-8T*	1610 / 490
F50-9T	1970 / 600
G38-7FJ	2410 / 730
G40-10W	2730 / 830
G77-10R	2800 / 850
G78-10G	2800 / 850
G79-10W	2800 / 850
G80-13T**	3700 / 1130

*Econojet Motor
**137 N-sec version

Projected Altitudes
For a given motor/rocket combination, the projected altitude shown will vary from rocket to rocket and flight to flight because of differences in launch site elevation, completed rocket weight, smoothness of finish, weather conditions and normal variation in motor performance. Projected altitudes are for a sea level launch site and without the rocket carrying any payload.

Mirage™

For those who want to fly a really big rocket, the Mirage is it! Lift-offs are impressively slow and realistic when this 7 foot monster roars off the pad on "G" power. Recovery is on two big nylon parachutes.

Specifications:
Length: 87"/220 cm
Diameter: 2.6"/6.7 cm
Weight (without motor): 31oz/880gms
Fins: 3
Product No. 89019

Recommended RMS Motors:

Motor	Proj. Altitude (ft/m)
F40-4W	650 / 200
F52-5T	650 / 200
G64-4W	1300 / 400
G71-4R	1300 / 400
G76-4G	1300 / 400

Recommended SU Motors:

Motor	Proj. Altitude (ft/m)
F50-4T	510 / 160
G38-4FJ	680 / 210
G40-4W	870 / 270
G77-4R	950 / 290
G78-4G	950 / 290
G79-4W	950 / 290
G80-7T*	1210 / 370

*137 N-sec version

Sumo™

For those who love to see a short, fat rocket with slow lift offs, the Sumo is it! A big four inch diameter kit with impressive decals, the SUMO really stands out!

Specifications:
Length: 39"/99 cm
Diameter: 4.0"/10.1 cm
Weight (without motor): 32oz/907gms
Fins: 4
Product No. 89024

Recommended RMS Motors:

Motor	Proj. Altitude (ft/m)
G64-4W	1000 / 300
G71-4R	1000 / 300
G76-4G	1000 / 300
H128W-S*	2000 / 600
H165R-S*	2000 / 600
H238T-S*	2000 / 600
H180W-M*	2600 / 790
H210R-M*	2600 / 790
H220T-M*	2600 / 790
H250G-M*	2600 / 790

Recommended SU Motors:

Motor	Proj. Altitude (ft/m)
G38-4FJ	690 / 210
G40-4W	870 / 270
G77-4R	950 / 290
G78-4G	950 / 290
G79-4W	950 / 290
G80-7T**	1220 / 370

*29mm High Power RMS Motor
**137 N-sec version

LEVEL 1 READY!

Astrobee D™

The AeroTech flagship. A painstakingly crafted scale model, the "D" is nearly 6 feet of breathtaking molded detail. All of AeroTech's trademark construction features combine with "G" power to make this kit a "must have" rocket experience.

Specifications:
Length: 68"/173 cm
Diameter: 2.6"/6.7 cm
Weight (without motor): 28oz/790gms
Fins: 4
Product No. 89015

Recommended RMS Motors:

Motor	Proj. Altitude (ft/m)
F40-4W	750 / 230
F52-5T	750 / 230
G64-4W	1350 / 410
G71-4R	1350 / 410
G76-4G	1350 / 410

Recommended SU Motors:

Motor	Proj. Altitude (ft/m)
F50-4T	720 / 220
G38-4FJ	950 / 290
G40-4W	1140 / 410
G77-4R	1200 / 370
G78-4G	1200 / 370
G79-4W	1200 / 370
G80-7T*	1530 / 470

*137 N-sec version

G-Force™

This kit stands over five feet tall! Featuring a big four inch diameter, the G-Force provides spectacular slow lift-offs when powered by AeroTech "G" motors.

Specifications:
Length: 60"/152cm
Diameter: 4"/10.1 cm
Weight (without motor): 32oz/907gms
Fins: 3
Product No. 89021

Recommended RMS Motors:

Motor	Proj. Altitude (ft/m)
G64-4W	800 / 240
G71-4R	800 / 240
G76-4G	800 / 240

Recommended SU Motors:

Motor	Proj. Altitude (ft/m)
G38-4FJ	440 / 130
G40-4W	600 / 180
G77-4R	700 / 210
G78-4G	700 / 210
G79-4W	700 / 210
G80-7T*	880 / 270

*137 N-sec version

Rocketeers observe a launch at the Red Glare 2008 (photo by Mark Canepa).

HV Arcas™

This replica is 60% the size of the actual high-velocity Arcas sounding rocket and features precision molded fins, authentic decals, a data plate and detailed engineering blue-print.

Specifications:
Length: 56"/142 cm
Diameter: 2.6"/6.7 cm
Weight (without motor): 22oz/620gms
Fins: 4
Product No. 89012

Recommended RMS Motors:

Motor	Proj. Altitude (ft/m)
E28-4T	450 / 140
F24-4W	500 / 150
F39-6T	550 / 170
F35-5W	630 / 190
F40-4W	1100 / 330
F52-5T	1000 / 300
G53-5FJ	1300 / 400
G64-7W	1750 / 530
G71-7R	1750 / 530
G76-7G	1750 / 530

Recommended SU Motors:

Motor	Proj. Altitude (ft/m)
E30-4T	310 / 90
F32-4T	630 / 190
F20-4W*	630 / 190
F23-4FJ*	490 / 150
F25-6W	820 / 250
F26-6FJ	630 / 190
F27-4R*	550 / 170
F42-4T*	580 / 180
F50-6T	820 / 250
G38-7FJ	1090 / 330
G40-7W	1360 / 410
G77-7R	1500 / 460
G78-7G	1500 / 460
G79-7W	1500 / 460
G80-10T**	1920 / 590

*Econojet Motor
**137 N-sec version

IQSY Tomahawk™

If you have never built a scale model before, the Tomahawk makes the perfect first project. Loaded with striking detail and E, F, and G power capable, this is one scale model that flies like a real sounding rocket.

Specifications:
Length: 41"/104 cm
Diameter: 1.9"/4.7 cm
Weight (without motor): 11oz/310gms
Fins: 4
Product No. 89014

Recommended RMS Motors:

Motor	Proj. Altitude (ft/m)
E18-7W	900 / 270
E11-5J	600 / 180
E28-7T	850 / 260
F24-7W	1100 / 330
F12-5J	800 / 240
F39-6T	1250 / 380
F35-8W	1800 / 550
E16-7W	850 / 260
E23-5T	650 / 200
F40-10W	2100 / 640
F22-7J	1500 / 450
F52-8T	1950 / 590
G53-7FJ	2450 / 740
G64-10W	3150 / 950
G71-10R	3150 / 950
G76-10G	3150 / 950

Recommended SU Motors:

Motor	Proj. Altitude (ft/m)
E15-7W	930 / 280
E30-7T	1100 / 340
F32-8T	1800 / 550
F20-7W*	1800 / 550
F23-7FJ*	1530 / 470
F25-9W	1920 / 590
F26-9FJ	1640 / 500
F27-8R*	1500 / 450
F42-8T*	1510 / 460
F50-9T	2010 / 610
G38-7FJ	2290 / 700
G40-10W	2790 / 850
G77-10R	2900 / 880
G78-10G	2900 / 880
G79-10W	2900 / 880
G80-13T**	3780 / 1150

*Econojet Motor
**137 N-sec version

Strong Arm™

Featuring molded plastic fins and strakes, a huge self-adhesive decal sheet, and the styling of the Navy's Standard ARM missile, the Strong Arm is as beautiful to look at as it is to fly.

Specifications:
Length: 44"/112 cm
Diameter: 2.6"/6.7 cm
Weight (without motor): 18oz/510gms
Fins: 4
Product No. 89017

Recommended RMS Motors:

Motor	Proj. Altitude (ft/m)
E18-4W	450 / 140
E28-4T	500 / 150
F24-4W	700 / 210
F39-6T	700 / 210
F35-5W	810 / 250
E16-4W	400 / 120
F40-7W	1150 / 350
F22-5J	850 / 260
F52-8T	1150 / 350
G53-5FJ	1450 / 440
G64-7W	1800 / 550
G71-7R	1800 / 550
G76-7G	1800 / 550

Recommended SU Motors:

Motor	Proj. Altitude (ft/m)
E15-4W	300 / 90
E30-4T	420 / 130
F32-4T	810 / 250
F20-4W*	810 / 250
F23-4FJ*	640 / 200
F25-6W	920 / 280
F26-6FJ	720 / 220
F27-4R*	650 / 200
F42-4T*	660 / 200
F50-6T	1000 / 300
G38-7FJ	1180 / 360
G40-7W	1560 / 480
G77-7R	1650 / 500
G78-7G	1650 / 500
G79-7W	1650 / 500
G80-10T**	2160 / 660

*Econojet Motor
**137 N-sec version

Wart-Hog™

As tough and "stout" as its namesake, the AeroTech Wart-Hog blends E, F, and G performance with the construction convenience of molded fins and self-adhesive decals to create a large rocket of a different breed.

Specifications:
Length: 37"/94 cm
Diameter: 2.6"/6.7 cm
Weight (without motor): 14oz/400gms
Fins: 4
Product No. 89018

Recommended RMS Motors:

Motor	Proj. Altitude (ft/m)
E18-4W	600 / 180
E11-3J	450 / 140
E28-4T	650 / 200
F24-4W	850 / 260
F12-3J	600 / 180
F39-6T	850 / 260
F35-5W	1290 / 390
E16-4W	500 / 150
E23-5T	500 / 150
F40-7W	1350 / 410
F22-5J	1050 / 320
F52-8T	1300 / 400
G53-7FJ	1650 / 500
G64-7W	1900 / 580
G71-7R	1900 / 580
G76-7G	1900 / 580

Recommended SU Motors:

Motor	Proj. Altitude (ft/m)
E15-4W	730 / 220
E30-4T	800 / 240
F32-4T	1290 / 390
F20-4W*	1290 / 390
F23-4FJ*	1100 / 340
F25-6W	1430 / 440
F26-6FJ	1240 / 380
F27-4R*	1100 / 340
F42-4T*	1060 / 320
F50-6T	1450 / 440
G38-7FJ	1710 / 520
G40-7W	1990 / 610
G77-7R	2100 / 640
G78-7G	2100 / 640
G79-7W	2100 / 640
G80-10T**	2660 / 810

*Econojet Motor
**137 N-sec version

Cheetah™

Like its namesake, this rocket is simply fast! The Cheetah is also AeroTech's altitude champ, soaring to over 4000 feet on "G80T" power. Our patented no-wadding ejection system and nylon parachute bring this cat back home flight after flight.

Specifications:
Length: 32"/81 cm
Diameter: 1.9"/4.7 cm
Weight (without motor): 10oz/280gms
Fins: 3
Product No. 89016

Recommended RMS Motors:

Motor	Proj. Altitude (ft/m)
D15-4T	400 / 120
E18-7W	1150 / 350
E11-5J	900 / 270
E28-7T	1150 / 350
F24-7W	1500 / 450
F12-5J	1200 / 360
F39-9T	1550 / 470
F35-8W	2040 / 620
E16-7W	950 / 290
E23-8T	900 / 270
F40-10W	2300 / 700
F22-7J	1850 / 560
F52-8T	2200 / 670
G53-7FJ	2750 / 830
G64-10W	3200 / 970
G71-10R	3200 / 970
G76-10G	3200 / 970

Recommended SU Motors:

Motor	Proj. Altitude (ft/m)
E15-7W	1130 / 340
E30-7T	1290 / 390
F32-8T	2040 / 620
F20-7W*	2040 / 620
F23-7FJ*	1760 / 540
F25-9W	2180 / 660
F26-9FJ	1880 / 570
F27-8R*	1700 / 520
F42-8T*	1720 / 520
F50-9T	2240 / 680
G38-7FJ	2540 / 770
G40-10W	3050 / 930
G77-10R	3150 / 960
G78-10G	3150 / 960
G79-10W	3150 / 960
G80-13T**	4110 / 1250

*Econojet Motor
**137 N-sec version

Barracuda™

Sleek, slender and over 4 feet tall, the Barracuda is sure to impress everyone with its standout good looks and majestic flights. As with all our kits, the features include molded fins and nose cone, and a no-wadding ejection system!

Specifications:
Length: 56"/142 cm
Diameter: 1.9"/4.7 cm
Weight (without motor): 14oz/400gms
Fins: 3
Product No. 89020

Recommended RMS Motors:

Motor	Proj. Altitude (ft/m)
E18-4W	750 / 230
E11-3J	500 / 150
E28-4T	800 / 240
F24-7W	1100 / 330
F12-5J	700 / 210
F39-6T	1150 / 350
F35-8W	1510 / 460
E16-4W	600 / 180
E23-5T	600 / 180
F40-7W	1900 / 580
F22-7J	1400 / 430
F52-8T	1850 / 560
G53-7FJ	2350 / 710
G64-10W	3000 / 910
G71-10R	3000 / 910
G76-10G	3000 / 910

Recommended SU Motors:

Motor	Proj. Altitude (ft/m)
E15-4W	820 / 250
E30-4T	820 / 250
F32-8T	1510 / 460
F20-7W*	1510 / 460
F23-7FJ*	1260 / 380
F25-9W	1630 / 500
F26-9FJ	1360 / 410
F27-8R*	1200 / 370
F42-8T*	1250 / 380
F50-9T	1730 / 530
G38-7FJ	1990 / 610
G40-10W	2480 / 760
G77-10R	2600 / 790
G78-10G	2600 / 790
G79-10W	2600 / 790
G80-13T**	3380 / 1030

*Econojet Motor
**137 N-sec version

Building Components

Motor Mount/Fin-Lok™ Kits

Product	Part Number
Fin-Lok™ Kits Include: Motor Tube, Fin-Lok™ rings, motor hook, cooling mesh, ejection gas baffle, screw eye, thrust ring, thrust ring flange, centering rings and launch lugs.	
29mm x 12" Motor Mount Tube Only	12912
29mm x 17-3/4" Motor Mount Tube Only	12918
1.9" / 3-fin Kit	21903
1.9" / 4-fin Kit	21904
2.6" / 3-fin Kit	22603
2.6" / 4-fin Kit	22604
4.0" / 3-fin Kit	22605
4.0" / 4-fin Kit	22606

Precision Airfoil Molded Fins

Product	Part Number
Precision airfoils molded from high impact white polystyrene or ABS. All have Fin-Lok fin tabs. Most fins can be used on either 1.9", 2.6" or 4.0" diameter tubes.	
Mustang/Arreaux style	11710
Initiator style	11711
Arcas/Wart-Hog style	11712
Tomahawk/Strong Arm style	11714
Astrobee D/Mirage/G-Force/Sumo style	11715
Cheetah style	11716
Barracuda style	11720

Body Tubes & Couplers

Product	Part Number
Strong and smooth. Choose from slotted and unslotted types. Slotted tubes come with launch lug alignment slots, too.	
1.9" Slot / 3-fin 22.75"	11924
1.9" Slot / 4-fin 22.75"	11923
1.9" Unslotted 22.75"	11926
1.9" Unslotted 12.00"	11912
1.9" Unslotted 9.00"	11909
1.9" Coupler 4"	11804
2.6" Coupler 6"	12606
2.6" Unslotted 15"	12615
2.6" Unslotted 19"	12619
2.6" Slot / 4-fin 24.00"	12623
2.6" Slot / 3-fin 24.00"	12624
2.6" Slot/ 3-fin 24.00" (Mirage Lower Tube)	12625
2.6" Unslotted 24"	12626
2.6" Launch Lug Slot 24.00" (Mirage Center Tube)	12627
2.6" Slot/ 4-fin 27.00" (Astrobee Lower Tube)	12628
2.6" Launch Lug Slot 27.00" (Astrobee Upper Tube)	12629
2.6" Tube sleeve 4"	12704
4.0" Coupler 6"	14008
4.0" Unslotted 19"	14019
4.0" Unslotted 23"	14033
4.0" Slot / 3-fin 23"	14023
4.0" Slot/ 4-fin 23"	14040

Bulkhead Assemblies

Product	Part Number
Bulkhead Assemblies include: Coupler tube, bulkhead, and screw eye.	
1.9" Diameter body tubes	14819
2.6" Diameter body tubes	11614
4.0" Diameter body tubes	11615

Nose Cones

Product	Part Number
Blow molded with built-in shock cord attachment loop.	
1.9" 5:1 Ogive	11191
2.6" 5:1 Ogive	11261
4.0" 4:1 Ogive 5 oz. (Color: White)	11401
4.0" 4:1 Ogive 9 oz. (Color: Grey)	11405

Recovery Systems

Product	Part Number
Preassembled fabric parachutes with six shroud lines.	
16" Fabric parachute	13016
22" Fabric parachute	13022
30" Fabric parachute	13030
42" Fabric parachute	13042
3/8" x 6' Shock cord	17386
3/8" x 8' Shock cord	17388
5/8" x 18' Shock cord	17201

Motor Accessories

Product	Part Number
Motor Hook (Std)	19001
Motor Hook (Sumo)	19001-Y
"E" adapter, "F" spacer	14005
RMS Aft Closure Wrench	91295

Decals & Scale Details

Product	Part Number
Mustang™ decal sheet	18010
Initiator™ decal sheet	18011
Arcas decal sheet	18012
Arreaux™ decal sheet	18013
Tomahawk decal sheet	18014
Astrobee D decal sheet	18015
Cheetah™ decal sheet	18016
Strong Arm™ decal sheet	18017
Wart-Hog™ decal sheet	18018
Mirage™ decal sheet	18019
Barracuda™ decal sheet	18020
G-Force™ decal sheet	18021
Sumo™ decal sheet	18023
Arcas data plate	18912

AeroTech Polo Shirt (L) part #94525
AeroTech Polo Shirt (XL) part #94530
AeroTech Polo Shirt (XXL) part #94535

AeroTech Hat part #94400

RMS Aft Closure Wrench part #91295
Actual wrench configuration may vary from photo shown.

Finding a Rocket Club in Your Area

Putting together a mid-power or high power rocket launch takes a lot of work. This task is generally undertaken by a rocket club for periodic organized launches. Clubs are almost mandatory for all but model rockets, but even model rocketeers benefit from club membership.

A club will have a field somewhere near the majority of their membership base where they will have periodic launches. Most model rocket clubs have monthly or weekly launches and most high-power clubs have launches less frequently (some as little as twice a year). Because the launches are periodic, most of the club will attend and this creates a social atmosphere and the launches become "events" with flyers, friends and spectators.

Another good reason to attend club launches is that the club provides the launch equipment. Launchers and ignition systems are complex and bulky and having the club provide these facilities makes it much easier to come out and fly. Also, many clubs have vendors who will sell motors (and other parts and equipment) right at the launch site. Even if you don't plan to join a club, look for a club in your area and attend a launch to see first-hand what it's all about.

Probably the best reason to join a club is the chance to learn from more experienced rocketeers. The Internet is great for gathering information, but nothing beats seeing other's rockets and showing them yours for gaining knowledge. Just seeing what other people are doing is the best way to get your own creative juices flowing and thinking about cool new things to do.

There are two basic national organizations located in the United States:

National Association of Rocketry (NAR) • www.nar.org
NAR chartered Sections are locally-organized rocket clubs. Each Section has five or more modelers, at least one of whom is an adult. Sections hold and participate in sport launches, competitions, conventions, and other local, regional, and national rocketry activities. In addition, Sections can apply to host the NAR National Competition Meet (NARAM), Sport Launch (NSL), or Convention (NARCON) at their local site.

Tripoli Rocketry Association (Tripoli) • www.tripoli.org
The Tripoli Rocketry Association, Inc. is divided into regional groups called "Prefectures". These Prefectures are like mini-organizations within an organization. They hold meetings and organize launches in their geographical area. Currently, Tripoli has Prefectures in the United States, Canada, Europe, Israel and Australia.

Dan Michael, NAR Level 3 rocketeer says "There are lots of motors available, but NOTHING BURNS LIKE A WHITE LIGHTNING™!!"

Sledgehammer rocket at lift off (photo by Steve Jurvetson).

Hobby Rocket Categories

"Traditional" Model Rocketry

As children, many of us launched model rockets. Today, Estes, Quest and several other manufacturers make these rockets. Estes and Quest model rockets are available in many hobby shops, and Estes rockets are commonly sold in Walmart stores. These rockets use black powder motors up to 'D' (20 N-sec) size. Each succeeding letter denotes up to twice the impulse of the smaller letter; for example a 'C' motor is up to twice as powerful as a 'B' motor. Composite propellant single-use and reloadable model rocket motors of 'D' size are also available from AeroTech. These rockets usually weigh less than a pound and fly to limited altitudes, which allows them to be flown in many open spaces without special permission or licenses. Model rockets are usually simple to build and are quite safe. Model rocket motors are relatively inexpensive, costing only a few dollars apiece.

Mid-Power Rocketry

Beyond "traditional" model rocketry is what many call "mid-power rocketry". Rockets in this category typically use composite propellant model rocket motors in the `E` through `G` sizes, although black powder `E` model rocket motors are also available. The largest manufacturer of mid-power model rocket kits and motors is AeroTech. Mid-power model rockets generally weigh less than two pounds, but can fly higher than traditional model rockets. Mid-power model rockets containing no more than 4.4 ounces (125 grams) of propellant and weighing no more than 3.3 pounds (1500 grams) may also be flown without special permission or licenses. Mid-power model rockets are not necessarily more difficult to build than traditional model rockets. Composite propellant mid-power model rocket motors are more expensive than the smaller black powder model rocket motors ($5-$27 per flight), but usually cost less per unit of power. Mid-power model rocket motors are produced in both single-use and reloadable types.

High-Power Rocketry

The largest rockets built with commercially manufactured motors and sanctioned by national organizations are classified as "High-Power Rockets". Rocket motors used in this class range from `H` through `O` in size and are almost always the reloadable type. The largest manufacturers of high-power kits are LOC/Precision and Public Missiles, Ltd., although there are several other companies making these kits. These rockets generally weigh from a few pounds up to a hundred pounds or more and can fly up to 25,000 feet high or more. High-power rocket motors require national user group (National Association of Rocketry or Tripoli Rocketry Association) certification to purchase and fly and can only be flown at organized club launches held in unpopulated areas of large open space with Federal Aviation Administration (FAA) clearances. High-power rockets are the most challenging rockets which fly on commercially-manufactured motors and appeal to those who like large vehicles and enjoy the impressive flights with the larger, more powerful and more expensive ($20-$1,000 per flight) motors. More advanced materials and techniques are required for high-power rockets because of the dramatically increased stresses encountered in flight.

Experimental Rocketry

Those who build their own rocket motors rather than using commercially manufactured motors engage in a hobby rocket category known as "Experimental Rocketry". Motors can be any size, though generally they tend to be in the larger high-power range. FAA requirements are the same as for high-power rocketry. Making your own motors can be dangerous and should not be undertaken lightly. Experimental rocketry is appealing to people who either want to do everything themselves or enjoy the process of developing and making their own motors. It should be noted, however, that making your own motors is rarely a money-saving proposition.

A rocket launched at night using Mojave Green propellant (photo by Steve Jurvetson).

AEROTECH® CONSUMER AEROSPACE

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