Rocket Times



Includes mail-order info for 1976 catalog

Rocket Times EWS

Rocket Times

direct news. "Rocket Times" is published now and then as a free service to Centuri's friends. "Subscriptions" are not available. but a current issue is packed in each mail order shipment. Special issues accompan the Centuri catalog or are mailed to Aero Space Team Members.

Contents

NEWS	2.
SHOWCASE	
DESIGN CONTEST	
CLUB LAUNCH SYSTEM	6,
USEFUL GOODIES	
SWEEP-UP SALES	
KITS	
MAIL-ORDER	1
BONUS OFFER & CONTEST "X" Freebies & jet-rocket contest.	1

Photo contest

Send in your best photos about model roc-ketry. We'll select one for the next issue. We're looking for lift-off senes, weird rocket designs, humorous shots. As long as it con-cerns model rocketry. Pices of \$5 merchan-dise certificates are awarded for each photo published.

Here are a few tips: Have good contrast for our printing reproduction, make your subject fill out the frame, and stick to black & white prints. It's impractical for us to return the photo, so be sure you can spare them. Send entries to "Rocket Times" editor.

Editorial

By now you should have seen our newest catalog (No. 762-R) featuring the fabulous SUPER-KITS, FIGHTER-FLEET, and SPACE:1999. If not, then drop us a line and chew us out for not having you on our mailing list!

This is our special Contest issue . . . we have four (that's 4, count them; four) completely different kinds of contests.

Our old stand-by, the ever-lovin' Cartoon Contest is below at the right. This has been one of our most popular contests ever . . . so many entries that it's hard to pick a winner each issue!

Now off to the left on this page is the rather new Photo Contest, with its first winner. Can your shutterbug skills make you a winner in this one? Try it; maybe you'll become famous

Page 5 is devoted solely to the Rocket Times Design Contest. Our current winner's design is spread all over the page. Could it be your rocket next issue?

The back cover explains the brand new Conte "X". This is the one for you availion history buffs. Guessing each plane's name is a toughis owe've also included an easier version of the contest. Check it out, Faithful One!

About

YE OLDE

Yours, until the moon falls out of the sky. Wait a minute! That could happen, according to the SPACE:1999 television show... Heads Up!

the cover

This particular modified Atlas was launched This particular mobilitied Artiss with Issuinced from Cape Kennedy (Then called Canaveral) by NASA on April 75, 1961, It rested the Mercury spacecraft which was later used to carry John Glenn as America's first man in space, A Redistone rocket was used with the Mercury capsule for Glenn's famous sub-orbital Hight.



Book PEVĚW

HANDBOOK OF MODEL ROCKETRY, 4th HAMDBOOK OF MODEL ROCKETHY, 4th Edition, by G. Harry Stine, 352 pages, over 200 illustrations, Follett Publishing Co., Chicago, Paperbound: \$5,95, hardcover: \$7.95. (Prices approximate; to be published in the Spring of 1976).

nnish it the bise of model modelly. It's not the only book on the hobby, but its the first, and still the best. We've just had the privilege of seeing the publisher's proof sheets of the new revised 4th edition.

This is a handbook, in every sense of the word Each chapter covers a specific aspect of model rocketry. It starts with the fundamentals, and works right up into areas of the hobby which you may never have heard of before.

G. Harry, as he is known by thousands of rocketers, can write with authority. Not only did he design and produce the first commercial model rocket kirs; he practically invented the hobby. G. Harry is a founder and past president of the NAR as well.

A book review tries to point out a book's weaknesses, as well as its strength. However in the case of "The Handbook" it's been revised and upgraded so many times that it is basically flawless.

If you think we like this book, your're right, Every serious rocketeer gradually builds a lib-rary . . . the cornerstone of your library should be the HANDBOOK OF MODEL ROCKETRY

Books reviewed in this column may be found in school and public libraries. Major book-stores also stock them, or will order them for you if you request n.

Letters



Column. You can air your views about the magazine. Centuri products, model tocketry in general, or ask technical questions. We sometimes edit letters to save space.

We regret that we can not publish or always reply to non-business letters we receive, except thru this column. Address letters to:

Editor, Rocket Times P.O. Box 1988

Please let me know if the ENERJET series is still available; and send me a catalog if it is. Steve Erickson, Troy, Idaho

Thanks for your letter, Steve. We no longe have an Enerjet catalog available.

nave an energic datalog adulation. Energist Encoprolated, a bubidary of Centuri-Engineering Company, was founded over six years ago to produce high-performance pro-ducts for advanced rocketeers. Production was halted about a year ago due to issing costs and manufacturing considerations. Our stock has been deploted. We have a resonable quantity of E24+10 Energist motors left, but supplies are limited. Energists are recommended for older Rocketeers, who have exper-ience with standard power engines 15/A, Ad, A, B, C & Ob. Energist sequire special home-Energist engine mounts and kits are discon-tinued.

The "E" motors are still \$4.00 each, or two for \$7,50. Include 85£ for handling on each order. All orders and mail should be addressed to:

Enerjet, Inc.
P. O. Box 1988
Phoenix, AZ 85001

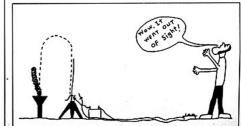
Club news

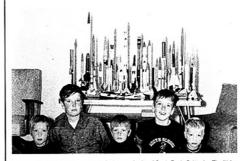
the press-release mailings we send to hobby magazines. So far, many clubs (such as Star-lord H.Q. in Hawaii, and NAR Butfalo, NY Section) have printed this information in their

Is your club newsletter included? If not, then send a sample copy and a note to the "Rocket Times" editor for our next press release.

Cartoon Contest

This issue's winner is KENT SCHNETZLER, of Jenks, Oklahoma. Kent's mystery prize is a Professional Firing Panel... a \$15 value. It really became obsolete... In fact, Kent gets the very last one! Whant to see your catoon published." Just draw what you hink is a furnity catoon about model rockety and send it to me, ye Olde Editor, "Rocket Times". Each issue will we pick the one most suitable for publication, and award an interesting "Mystery Prize".



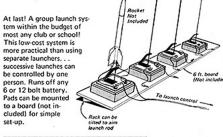


This issue's Photo Contest winner is the Breitkreutz family of Castle Rock, Colorado. The flight crew in their photo above: (left to right) Keith, Tim, Steve, Ron and Kevin. Mom and Dad are also very extrey rocksterse, who help build and Jaunch when the boys let them! Their collection



Rocket Times Useful éoodies





Here is what you get:

4 Launch bases

- 4 Launch bases
 4 Steel deflectors
 4 Asbestos pads
 4 Launch rods
 4 Sets of igniter clips
 5 Sets of hardware

- Sets of hardware
 Powr-Control with
 large battery clips
 Complete instruction
 and tips for having group faunches.

Group launcher





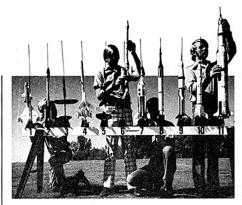
PROD. NO. 5464 (formerly RT-4)

CPT assortment

Page 3

Rocket Times

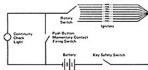
Club Launch system



A launch control center allows your club to operate in a safe smoothly organized manner. It is a must for conducting contests and also useful for staging impres-

Countless types of Club Launch Systems have been designed and constructed by individuals, over the years. The one explained here is a practical type which has been used by many clubs. (NOT available as a Centuri Kit.)

THE IGNITION CIRCUIT & HOW IT WORKS



Eight rockets are placed on the launch rack at one time, and the micro-clips hooked up to their igniters. By turning the Rotary Switch in the Firing Panel, one specific igniter circuit is chosen. The Key Safety Switch is closed, allowing current to flow through the outside circuit loop which includes the continuity check light and the igniter. Due to the high resistance of the continuity light, very little current is permitted to flow through this particular circuit. Of course, if the light glows, there is "continuity" in the circuit which means that the micro-clip attachments to the igniter are making good contact.

Now, when you're ready to launch you press the Firing Switch. The current takes the line of least resistance and flows full strength through the igniter. The igniter quickly heats up to the temperature which ignites the rocket propellant. After this launch, simply click the Rotary Switch to the next number and you're ready to fire the next rocket. You will note that unless the appropriately named Safety Key was inserted and turned ON, that the firing circuit could not be completed.

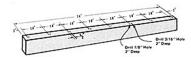
BUILDING THE LAUNCH RACK

There are many ways to build a club launch rack. Our plan is for a 8-rod unit on sawhorse legs which will be sturdy enough to last a long time and can handle all types of model rockets. The sawhorse legs raise the rockets high enough for spectators to see easily and also provide an additional safety factor; the rod tips are always above eye level.

An 8-rod launch rack will allow very efficient operation for clubs up to about 15 members. As your club grows in size you will eventually have to construct another 8-rod launcher. This will greatly increase launch rate efficiency since the two units can be kept a short distance apart. This allows safe loading of rockets on one rack, white launchings are simultaneously occurring on the other. This is called "DUAL AREA LAUNCHING" and is quite popular with large clubs.

LAUNCH RAIL LAYOUT AND DRILLING

The launch rail is made from a 74" long wooden 2 by 4. So that you'll be able to also launch rockets requiring the larger 3/16" diameter rod, it is suggested that holes for both 1/8" and 3/16" size rods be drilled as shown. Using a drill press rather than a hand drill will help insure vertical alignment of all rods.



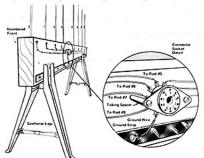
The "all steel" set of sawhorse legs used on the launch rail shown in our photos can be found in hardware and lumber stores. These have a built-in self-locking clamp to grip the 2 by 4 rail. A cheaper, though not as sturdy, alternative is to use the type into which you insert your own wooden 2 by 4 legs.

PAINTING AND NUMBERING

To protect the rail from warping, cracking, and getting dirty, paint the entire 2 by 4 with two or more coats of high-gloss enamel paint. Then, so that both contestants and spectators can identify the rocket about to be launched, number each rod position 1 through 8. Either use the pressure-sensitive metal house numbers available at most hardware stores or paint the numbers on by hand,

LAUNCH RAIL MAIN WIRING

Install the connector socket in the center of the 2 by 4. Solder the lead wire from each launch rod to the identically numbered socket lug as shown. Obtain a 1/32" thick strip of aluminum (or copper) which is 72" long and about 3/8" to %" wide from a local metal shop. Use an electric drill and a 1" long wood screw to fasten this aluminum (or copper) ground strip in place. Connect and solder a short wire from any of the remaining spare socket lugs to the metal ground strip.



TYPICAL INDIVIDUAL LAUNCH ROD WIRING

At each position install a launch rod, #ID-50 blast deflector, and a pair of micro-clips as shown. Firmly tightening all screws completes the construction of the launch rack.

ASSEMBLING THE FIRING PANEL

The Firing Panel is the most essential part of the launch complex system. It means that the control of all launches is the sole responsibility of just one person. The disorganized random launchings common to many individual launchers is prevented. Both rocketeers and spectators are always aware of exactly which rocket is being inched and the panel itself has internal safety devices which prevent the unin tentional firing of a rocket. In keeping with this safety philosophy the launch rack and panel, of course, should be roped off from spectators.

The panel we have chosen to illustrate is quite basic and only includes absolutely necessary devices. Some clubs will like to add a voltmeter and ammeter for occasionally checking battery power.

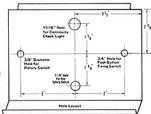
A COMPLETED FIRING PANEL



FRONT PANEL ASSEMBLY

First, lay out and ounch (cut or drill out) the holes in the panel face as shown here. A local sheet metal shop can do a perfect job of punching these holes for you, but they may charge \$5.00 or more.

Next, mount the indicated components onto the face using a crescent wrench or



PANEL WIRING DIAGRAM

WIRING THE ROTARY SWITCH

First, strip the insulation from all 12 leads in the wire bundle. Then solder one lead each to the first 8 rotary positions as sho

The remaining 4 wires are braided together and their exposed ends are twisted together to form the "ground" lead as shown in the

Next, the Continuity Light, Push Button Firing Switch, and Safety Key Switch are wired into the



COMPLETING THE PANEL FACE WIRING

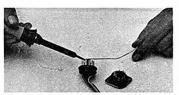
Finally, connect the ground lead and key switch point shown to the two battery power leads. This completes the firing panel wiring. The face can now be attached.



CONNECTOR PLUG WIRING

Slip the plug cover over the wire bundle, then strip %" of the insulation off each of the 12 wires. The wires are color coded and both the Rotary Switch and connector pin plug terminals are numbered. For example, if the red wire is connected to position #1 of the Rotary Switch, then the red wire at the other end has to be soldered into pin #1 of the connector plug. The four ground leads are then soldered into the oin number which corresponds to the socket hole used for the launch rail "ground strip connection". Lastly, the plug cover should be snapped onto the pin plug and the screws thoroughly tightened

SOLDERING CONNECTOR LEADS INTO



OBTAINING A POWER SUPPLY

The best source of strong current for your launcher is a 12 volt car battery. Hook ing up directly to a car guarantees a battery which will be in a good state of charge, and requires no additional money. Even if the launch site is inaccessible to a car, it is a simple process to remove the battery and carry it to the desired soot along with all the other equipment. The alternative is to spend the money for a car battery and a tricky charging device to keep power up between launchings -- or you can take the battery to your local gas station for a quick pre-launch charge which usually costs one or two dollars.

PARTS LIST

This launch system and most of its parts are not available from Centuri! We suggest you patronize a well equiped electronic supply house, or one of the many chain stor-which cater to electronic hobbyists. The lumber and much of the hardware is available at lumber, hard ware and home-building sup

*These parts are available from Centuri:

ID-50 Deflector (20¢ each) LR-125 Two-piece 1/8"x36" launch rod (75¢ each) EMC-34 Micro clips (two for 604

Cabinet Parts
Metal Cabinet (Bud #C15846H)
Chrome carrying handle
Clamp for wire bundle strain relief

Panel Face Components Safety Key Switch Continuity Check Light and 12 Volt Bulb Push Button Firing Switch Rotary Switch (Mallory \$22112J) and numbered face

Wire Bundle Assembly 25 feet of 12 conductor cable (Belden #8427) Plug, Socket, and Cover (11 pin) (Amphenol #M1P1) Two 13° long wood screws to attach socket to launch rail 2 one-inn't metal tubes to support Socket

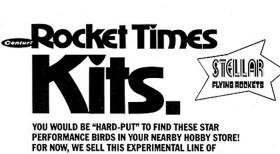
Launch Rail Parts
20 feet of #18—2 conductor wire ("ZIP") 9 solderless terminals
72" long almmum for copped ground strip
8 pressure sensitive numbers, 8 metal blast deflectors
8 one piece faunch cods 11.6" dameter by 35" longl welding rod or "piano wire"
29 implated U-anis to tie down and stratege lead wires!
74" long weedon? by 4, sonhers less, point

CO Clip Lead Assembles

16 micro-clips, 16 ft. of #18–2 conductor wire (separate the conductors and cut to 12" lengths

16 solderless terminals, 16 one inch long round head wood screws

Main Battery Leads 15-20 feet of battery cable, 2 heavy duty battery clips (these may be salvaged from an old set of jumper cables)



"STELLAR" KITS ONLY TO MAIL ORDER CUSTOMERS



- · Drogue Streamer Recovery
- Altitudes to 1800 Feet
- · "Sounding Rocket" Decals
- Ideal Beginner Kit
 Pre-Cut Balsa Fins
- Molded Nose Cone
- · Engine Lock

SPECIFICATIONS:

RECOMMENDED ENGINES: %A6-4 A8-5 84-6 86-6 C6-7

PROD. NO. KD-1

TWO-STAGE

SOUNDING ROCKET

Altitudes to 2200 Feet

· Passport Staging*

2-Color Decals

. 6 Pre-Cut Balsa Fins

Molded Nose Cone

SPECIFICATIONS:

RECOMMENDED ENGINES:

1st Stage A8-0 86-0 C6-0 2nd Stage A8-5 84-6 C6-7

Drogue Streamer Recovery

*U.S. Pat. No. 3,721,193

SKILL LEVEL 3 \$250 Ship. wt.

SKILL LEVEL 1



- · Biggest "Stellar" Kit Parachute Recovery
- Large 2-Color Decals
- Pre-Cut Balsa Fins
 Molded Nose Cone
- · Engine Lock

SPECIFICATIONS:

RECOMMENDED ENGINES:

Hercules



- · Highly Detailed · Chute Recovery
- Giant Decal Sheet
- Pre-Cut Fins · Engine Lock

SPECIFICATIONS

Weight 2,15 oz Length 19,2" Diameter 1,64"

RECOMMENDED ENGINES:

Photon



HI-ALTITUDE RESEARCH PROS

- · Altitudes to ¼ Mile
- Parachute Recover Decal Sheet
- · Pre-Cut Balsa Fins
- Molded Nose Cone
- · Engine Lock

SPECIFICATIONS: Weight 1.15 oz. Length 16.3" Diameter908"

RECOMMENDED ENGINES: %A6-4 A8-5 84-6 86-6 C6-7

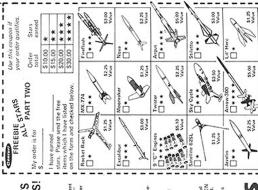
SKILL LEVEL 1



- · Clear Plastic Capsule · Parachute Recovery
- · 2-Color Decals · Pre-Cut Balsa Fins
- Molded Nose Cone
- Pre-Shaped Reducer Engine Lock

SPECIFICATIONS:

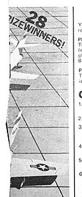




CHOICE OF 15 P HERE'S

\$10.00 \$20.00 \$30.00

CONTEST TIMES CONTEST "X" **KETS** E NEW CENTURI CATALOG!



ocket/jet aircraft, or guess the types

PRIZES FOR GUESSING THE NAMES: PRICES FOR ASSESSION ASSES

PRIZES FOR GUESSING THE TYPES: The first twenty-five people to correctly state whi is a jet (see rule 3) will each win a MACH-10 Kit!

CONTEST RULES

- . Entries must use the above coupon (or facsimile) with either the names or types printed in, along with your complete address.
- 2. Entries cannot be accepted after this deadline: JUNE 30, 1976.

- Employees of model rocket companies and their families are not eligible to enter.
- 6. Winners will be notified by mail with-in one month after the deadline. Their names will be published in a future issue of Rocket Times. Centuri P.O. Box 1988 Phoenix, AZ 85001



C ass Page 10

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RECOMMENDED ENGINES: Empty: Same as Spartan Payload: Same as Hercules