

RICHARD KOWALSKI

1962

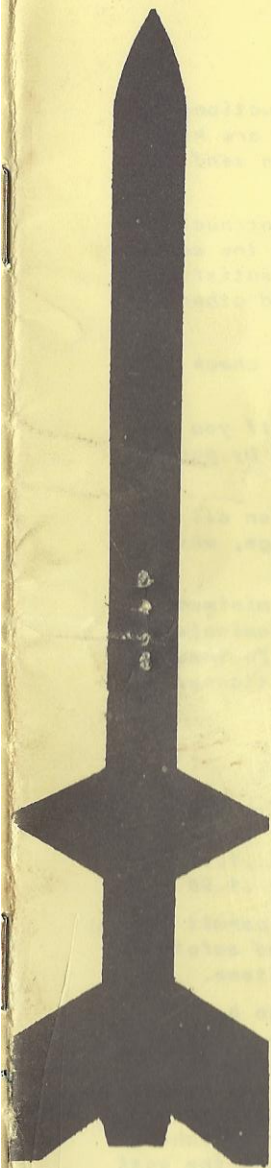
CATALOG

MODEL ROCKET SUPPLIES

CENTRAL ROCKET COMPANY

P. O. Box 89

WAUPACA, WISCONSIN



PLEASE READ THIS INFORMATION

IT'S EASY TO ORDER FROM CENTRAL! Follow the instructions to receive FAST service! Items listed in this catalog are kept in stock for immediate shipment and we usually can send out your order on the same day we receive it.

Our experience over the years has resulted in a continual improvement in the quality of our merchandise and in the service we offer. We can proudly refer you to hundreds of satisfied customers who have received Science Fair awards and other recognition.

REMITTANCE may be sent in the form of money order, check or cash well wrapped.

SIGNATURE of buyer must be written on all orders. If you are under 21 it is necessary to have your order signed by parent or guardian.

SERVICE CHARGE: There is a handling charge of 30¢ on all orders under \$5.00. This charge does not cover postage, which must also be included in your remittance.

POSTAGE: Refer to the table below to estimate the minimum amount of postage to send with your remittance. Chemicals and some other items will require additional postage. To insure speedy service please send sufficient postage remittance. Every cent not required will be refunded.

GUIDE FOR ESTIMATING POSTAL CHARGES

Amount to add for postage if your order amounts to:

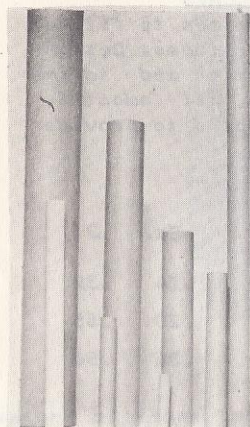
Up to	\$4.00 . . .	59¢	7.51 to	10.00 . . .	98¢
4.01 to	5.00 . . .	69¢	10.01 to	15.00 . . .	1.23
5.01 to	6.00 . . .	79¢	15.01 to	20.00 . . .	1.49
6.01 to	7.50 . . .	86¢	20.01 to	35.00 . . .	1.98

CANADIAN ORDERS: The Canadian government does not permit the importation of rocket chemicals, rocket engines and safety fuse. We cannot accept Canadian orders for these items.

NOTICE: We offer merchandise carefully selected to be, in our opinion, the safest and best obtainable in the field of rocketry. Nevertheless, you are cautioned to exercise the utmost care in the use of this merchandise. We do not assume any responsibility for accidents. We make no warranty, either expressed or implied, regarding the performance or reliability of any merchandise. We assume no liability beyond the cost of replacement of any merchandise which misfunctions or is found defective. Our materials are offered to buyers who intend to use the materials strictly in accordance with all laws which may apply. Prices in this catalog supersede all previous lists. Prices herein subject to change without prior notice.

CENTRAL ROCKET COMPANY
WAUPACA, WIS.

CENTRAL ROCKET COMPANY



ROCKET MOTOR TUBES

Tough, heat resistant fiberboard is laminated under pressure to form these high density, quality tubes. Stronger than metal, pound for pound, they will withstand extreme pressures. An improvement over metal tubing for model rockets. We do not sell grey cardboard or cheap spiral tubes.

Tube sizes 20 and 21 are recommended as most suitable with respect to effectiveness and economy. The No. 20 tube with approximately 15 grams of a standard pyrotechnical fuel develops up to about 5 lbs. thrust, capable of propelling a missile to well over 1,000 feet altitude. The No. 21 tube will hold about 50 grams of fuel. Larger tubes require proportionately more fuel but will not provide an equally proportionate increase in efficiency. Use a cluster of small motors to get extra power without sacrificing fuel economy.

Order by Number

	<u>I.D.</u>	<u>O.D.</u>	<u>Length</u>	<u>1/2 Dozen</u>	<u>1 Dozen</u>
No. 16	3/8"	1/2"	3-1/2"	.20	.38
No. 20	1/2"	3/4"	5"	.35	.65
No. 21	3/4"	15/16"	7"	.46	.90
No. 22	1"	1-1/2"	9"	.85	1.60

BODY TUBES

Used as outer hull casing or rocket body. Hard, smooth finished fiberboard. Furnished in proper sizes to accommodate rocket engine, parachute, payload, etc.

No. 24 Body Tube: For use with No. 16 Motor Tubes.
7" long x 1/2" I.D. x 5/8" O.D.

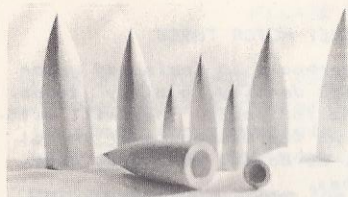
Price each12 3 for .30

No. 25 Body Tube: For use with No. 20 Motor Tube, No. 35 stabilizing unit, No. 29 nose cone.
10" long x 3/4" I.D. x 7/8" O.D.

Price each25 3 for .50

No. 26 Body Tube: For use with No. 21 Motor Tube, No. 30 nose cone. 20" long x 1" I.D. x 1-5/16" O.D.

Price each40 3 for \$1.00



NOSE CONES

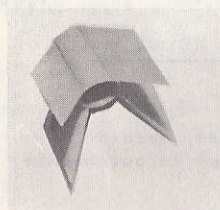
Furnished in various sizes to fit our hull casings and motor tubes. Designed to reduce air friction and to impart flight stability. All smoothly finished and hollow bored to provide maximum payload space.

No.	Material	O.D.	Length	For Tube No.	Ea.	3
28	Wood	5/8"	2"	24	.14	.39
29	Plastic	7/8"	3"	25	.20	.55
30	Wood	1-1/8"	4"	26	.35	.98

BALSA NOSE CONE STOCK

Easily shaped material for carving nose cones of your own design

No. 38	1" x 1" x 6"	. . .	ea. .10
No. 38-B	2" x 2" x 6"	. . .	ea. .30



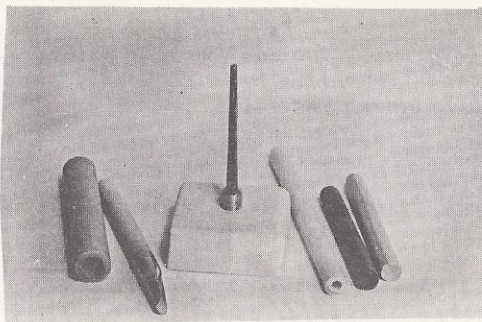
STABILIZING UNIT

This ready-made one-piece unit is formed of tough, resilient plastic material. The fins are fixed at a slight angle which imparts spin to the missile and improves flight stability. Adapted for use with No. 25 hull.

No. 35	.30
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FIN MATERIAL

No. 36-B	Select Balsa	1/8" x 3" x 9"	ea. .15
No. 37	Plywood	1/8" x 6" x 12"	ea. .30



FUEL LOADING SETS

Use one of these inexpensive sets for making your own high power rocket engines. Tools provided for shaping nozzle and for depositing fuel in correct solid form. No need to experiment, these tools are expertly machined to give you perfect results.

- No. 40 Set T-20 For use with 1/2" I.D. motor tubes No. 20 \$1.00
Includes 3 rammers, spindle, scoop, instructions
- No. 41 Set T-21 For use with 3/4" I.D. motor tubes No. 21 \$1.95
Includes 3 rammers, spindle, scoop, instructions

TOOL PLANS

- No. 42 Prints and instructions for easily making your own tools to fit any size tubes. Exact measurements and all necessary information. (These plans are included in our Handbook)

No. 42 .50

ROCKETEERS HEADGEAR

Protects face and eyes. Should be used when working with fuel materials or when operating model rockets. Equipped with an adjustable headband and a formed fiber spark deflector. The clear plastic window snaps on to the headgear.

No. 56 Headgear assembly each 2.90

CENTRAL ROCKET COMPANY

SAFETY FUSE

Commercial safety fuse. Can be used for making electrical ignitors (plans sent free upon request). Best quality. Coated. Will burn under water.

No. 53	Small (3/32")	20 ft. coil49
		100 ft. coil ...	1.98
No. 51	Large (1/8")	20 ft. coil69
		100 ft. coil ...	2.79

RESISTANCE WIRE

Nichrome wire. 32 ga. 10 ohms per ft. For making electrical ignitors or squibs.

No. 54-W	5 ft. coil20
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QUICK MATCH COTTON WICK

Used for making pyrotechnic black match (fuse). Superior to ordinary cotton twine. Composed of soft untwisted strands.

No. 55	5 yard skein	.15
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PARACHUTES

These expertly hand-crafted parachutes are imported from Japan. Made of a very tough, silky tissue. Each chute made according to our specifications; pre-folded, and packed. Guaranteed to open perfectly. Can be re-used repeatedly. All are circular in form and are fitted with a minimum of 8 shroud lines.

No. 46	18"	ea	.35	No. 47	24"	ea	.50
				No. 48	36"	ea	.75

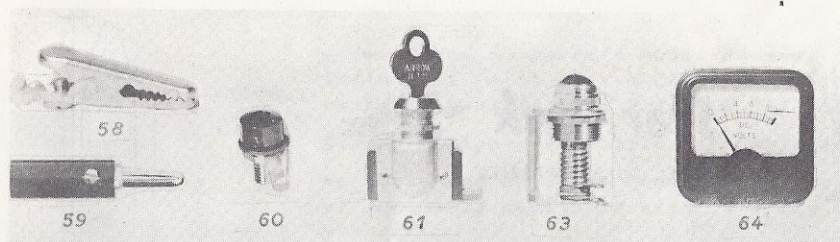
PARACHUTE MATERIAL: For making your own parachutes: Orange polyethylene plastic sheet 22" x 22"

No. 49	ea	.20
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RUBBER

Parachute shock cord material. 1/8" x 20" long. Model airplane contest rubber.

No. 43	net each	.10
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ELECTRICAL IGNITION ACCESSORIES

- No. 58 ALLIGATOR CLIPS Miniature size(1-11/16"). Ideal for connecting wires to an ignitor in a rocket motor. Cadmium plated, with screw connectioneach .10
- No. 59 BANANA PLUGS Miniature jack plugs for connecting ignitor wires to switch box control panel....ea. .25
- No. 60 JACKS For receiving banana plugs listed above. Fits 5/16" mounting holeeach .20
- No. 61 SAFETY SWITCH For master control of ignition console or firing box. Circuit can only be opened with key. Switch with key 1.95
- No. 62 PUSH BUTTON SWITCH Flat round push button mounts flush on panel surface. Momentary contact type ea .35
- No. 63 PILOT LIGHT Red jewel for indicating live circuit. Uses 6 V. screw type lamp. Complete with lampeach .65

PANEL METERS Sturdy, accurate. 2-1/4" square black case has binding post terminals.

- No. 64 Voltmeter 0-15 Volts D.C.each 2.30
- No. 64-A Ammeter 0-30 Amps. D.C.each 2.25



Starhawk

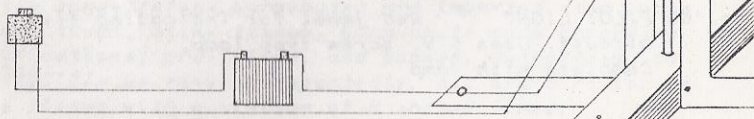
MODEL GUIDED MISSILE

SCIENTIFIC! SOLID FUEL BOOSTER

With famous ROCK-A-CHUTE* positive parachute missile recovery. This bird has more power, astonishing performance. Build it in minutes. Good for many launchings with extra engines. Does 1000 feet or more when maximum thrust engines are used. Kits contain ready-made easy to assemble parts.

No. 72-LP Starhawk kit. Complete with 2 engines, ignition material, launching pad assembly and pictorial directions. \$2.95

(U.S. Patent No. 2,841,084)



ROCK-A-CHUTE Solid Propellant Rocket Engines

For powering the Starhawk and other model rockets. Now made with super strong casings - more power. Improved nozzle design. Manufactured under rigid control and inspection.

Each motor provided with parachute expelling charge.

No. 74 Type CRX Rock-A-Chute engines. Maximum load. Furnished with ignition material and recovery items. 3 for .98

**NOVA
CRC7**

A two Stage Spacecraft Model Powered by Solid Fuel (with Rock-A-Chute positive recovery system, U.S. Patent 2,841,084.)

Strong Design---Sophisticated Performance!

Worlds ahead of other models, this latest of our newly developed kits is truly a winner!

Save for the launching of a full scale space probe, we guarantee the NOVA will exhibit more spectacular performance and draw more exclamations of amazement from observers than any other scientific demonstration in this category.

When you have completed assembly of your NOVA kit and have installed the powerful factory made engines, you can be proudly confident that you are taking a very important step in your education and progress as a rocketeer.

Nothing to weigh, measure or mix. No need to experiment. The accurately prefabricated parts and engines we supply will work every time!

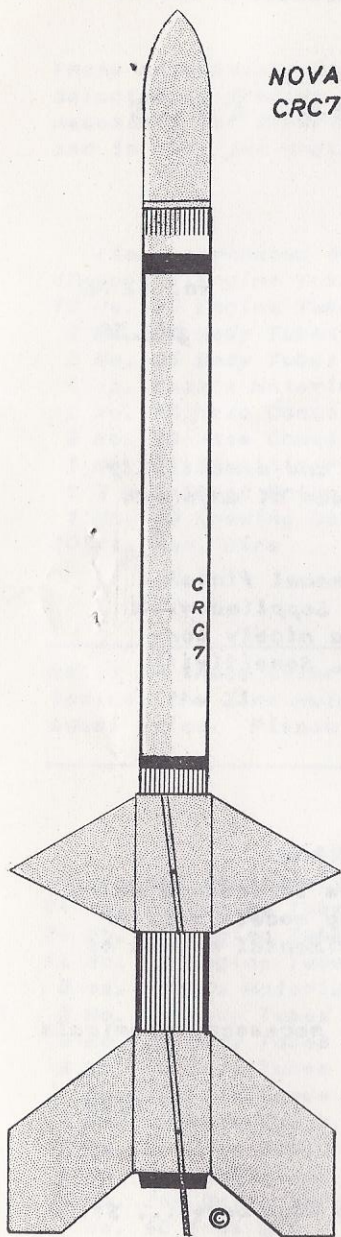
Will easily exceed altitudes beyond normal vision. Be prepared to have assistant spotters to watch as the parachute suspended second stage descends or you may lose it. Do not launch on foggy days or when skies are overcast.

KIT CONTAINS: Airframe tubes, prefabricated stabilizing units, nose cone, parachute and recovery assembly, ignition set, launcher pad and 2 engines---nothing else to buy---you get a complete outfit!

No. 75 NOVA CRC7 Kit . . . \$3.85

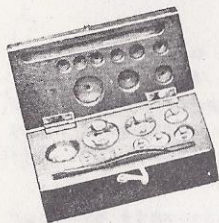
*EXTRA MOTORS . . . 3 sets (6 motors)
Each set includes one booster engine
and one second stage engine with ignition materials and recovery items.*

No. 75M . . . \$2.00



Get top performance with accurately formulated propellants

LABORATORY BALANCE



No. 62 MB

\$12.50

This fine balance has workmanship and sensitivity better than any balance we have seen at anywhere near this price!

Heavy cast metal base. Baked on enamel finish. Chrome trim on beam and fittings. Supplied with 12 metric weights and forceps in a nicely constructed case. Capacity 100 grams. Sensitivity to 1 mg. Imported.

CX-100 ENGINE KIT

Material for Making 10 Engines.

Follow our easy, illustrated directions to produce extra powerful engines. Use them for lifting models similar to the "Star Hawk" or for flying experimental models of your own design.

Kit includes loading equipment and all necessary chemicals to form solid grain propellant.

No. 71	Kit CX-100	...	3.79
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No. 90	Launcher.	1/8" x 36" metal rod and wood base	... \$1.10
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No. 91	Launcher.	1/4" x 48" two piece metal rod and wood base. \$2.00
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CENTRAL ROCKET COMPANY

BARGAIN ASSORTMENTS

These assortments include top grade items of various sizes. Selected to provide a suitable variety of all the things necessary for experimentors to build their own model rockets and to make jet engines for powering them.

ASSORTMENT 5-B \$5.98

Items purchased separately would cost over \$7.00

12 No. 16 Engine Tubes	20 ft. Safety Fuse
12 No. 20 Engine Tubes	1 No. 46 Parachute
3 No. 24 Body Tubes	1 No. 49 Parachute Material
3 No. 25 Body Tubes	2 No. 43 Shock Cord
4 oz. Nozzle Material	2 No. 58 Alligator Clips
2 No. 28 Nose Cones	8 oz. Sulfur
2 No. 29 Nose Cones	8 oz. Potassium Nitrate
1 No. 35 Stabilizer	4 oz. Charcoal
1 3 x 9 Sheet Balsa	4 oz. Dextrin
1 No. 40 Loading Set	8 oz. Zinc Dust
10 ft. Res. Wire	1 Illustrated Plans

Note: If these assortments are not sent by Express we cannot include the Zinc Metal Dust, but will substitute an item of equal value. Please designate your choice of shipment.

ASSORTMENT 10-SB

AN EXCEPTIONAL VALUE \$10.95

Purchased separately would cost over \$15.00

24 No. 16 Engine Tubes	20 ft. No. 51 Safety Fuse
24 No. 20 Engine Tubes	10 ft. No. 54W Res. Wire
12 No. 21 Engine Tubes	2 No. 43 Shock Cord
8 oz. Nozzle Material	2 No. 46 Parachutes
3 No. 24 Body Tubes	2 No. 49 Parachute Material
3 No. 25 Body Tubes	2 No. 58 Alligator Clips
3 No. 26 Body Tubes	1 No. 62 Push Button Switch
2 No. 28 Nose Cones	1 lb. Zinc Metal Dust 320 mesh
2 No. 29 Nose Cones	1 lb. Potassium Nitrate
1 No. 30 Nose Cones	1 lb. Sulfur Flour
1 No. 35 Stabilizer	8 oz. Charcoal Dust
3 No. 36B Balsa Sheets	4 oz. Dextrin
1 No. 40 Tool Set	4 oz. Red Gum
1 No. 41 Tool Set	4 oz. Asphaltum
20 ft. No. 53 Safety Fuse	1 Illustrated Plans

CHEMICALS

Included in this list are chemicals commonly used in rocket fuel compositions. Also listed are chemicals for pyrotechny, laboratory and manufacturing purposes. We stock fresh, full-strength chemicals. Weight of containers and packing materials should be considered in estimating shipping weight. Add 50% of weight as a general rule.

Chemicals listed are sold upon the representation of the buyer that: 1. the buyer is an adult; 2. the buyer is fully cognizant of the character of the goods sold; 3. the buyer will keep the goods sold under his personal control; 4. no warranties, expressed or implied, are made by the seller.

	1 oz.	4 oz.	1 lb.
ACID, GALLIC, powder.....	.70	2.35	---
ACID, STEARIC, powder.....	.20	.45	1.30
X ALUMINUM metal, fine powder...	.30	.65	1.75
X AMMONIUM NITRATE, powder.....	---	.45	1.10
X AMMONIUM PERCHLORATE, pure....	.30	.70	1.85
**ANTIMONY SULFIDE, black, powd..	.20	.60	1.79
X ARSENIC SULFIDE, red, powder..	.50	1.50	----
ASPHALTUM, powder.....	.20	.45	1.10
X BARIUM CARBONATE, powder.....	---	.35	.90
X BARIUM NITRATE, powder.....	.14	.25	.75
CHARCOAL, wood, dust.....	---	.40	.98
CHARCOAL, wood, powder, med....	---	.25	.55
CLAY, rocket nozzle material..	---	.30	.70
X COPPER ARSENITE, (Paris Green).	.25	.60	1.60
DEXTRIN, yellow, powder.....	---	.25	.60
GUM YACCA (Red Gum).....	.15	.30	.75
GUM K. D., dust.....	.20	.45	1.10
GUM SHELLAC, fine powder.....	.25	.60	1.85
HEXACHLORETHANE, (smoke ingred)	.30	.75	1.85
INDULIN, powd. (purified lignin).	.15	.30	.90
IRON METAL, powder.....	---	.20	.45
LAMPBLACK.....	---	.45	1.25
X LITHIUM PERCHLORATE, pure.....	.85	2.63	----
MANGANESE DIOXIDE.....	.20	.35	.95
X MAGNESIUM METAL, powder.....	.45	1.10	4.30
**POTASSIUM NITRATE, (N.F.) pulv..	.15	.35	.80
x POTASSIUM PERCHLORATE, powder.	.20	.45	1.35
**POTASSIUM PERMANGANATE.....	.25	.50	1.50

CHEMICALS-continued

	1 oz.	4 oz.	1 lb.
**SODIUM NITRATE, powder.....	---	.20	.65
X SODIUM OXALATE.....	.29	.64	1.69
STRONTIUM CARBONATE, powder.....	.25	.60	1.50
X STRONTIUM NITRATE.....	.20	.40	.95
SULFUR, flour.....	---	.25	.55
X ZINC, metal, dust, 325 mesh.....	.16	.40	.89

X Items indicated by this mark are classed as unmailable by the Post Office department. They may only be sent by Rail Express or Freight. Minimum order \$5.00.

** Items indicated by this mark may be sent by parcel post in quantities up to 1 pound. Each one pound item must be sent separately.

All other items in the above list are mailable the same as ordinary merchandise.

Discount: You may deduct 10% if your order for chemicals totals \$10.00 or more. This applies to any assortment or quantity of chemicals ordered at one time. No other discounts may be applied. These prices supersede all previous lists.

EXPRESS RATES: The minimum express charge is about \$2.57, which covers up to 5 lbs. To save on shipping costs, you may order other catalog items to be sent together with chemicals in one express shipment.

Please do not send postage money when ordering for Express shipment. Pay Express charges when your parcel is delivered.

ESTIMATED EXPRESS RATES

Shipping Weight	100 miles	300 miles	500 miles	700 miles
5 pounds	2.57	2.57	2.57	2.89
10 pounds	2.57	2.70	2.85	3.38
30 pounds	3.13	3.77	4.20	5.19
100 pounds	5.34	7.49	8.93	11.23

MERCURY SWITCHES

HYDROGEN ARC-QUENCHED MERCURY SWITCHES

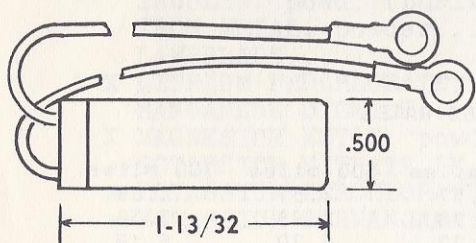
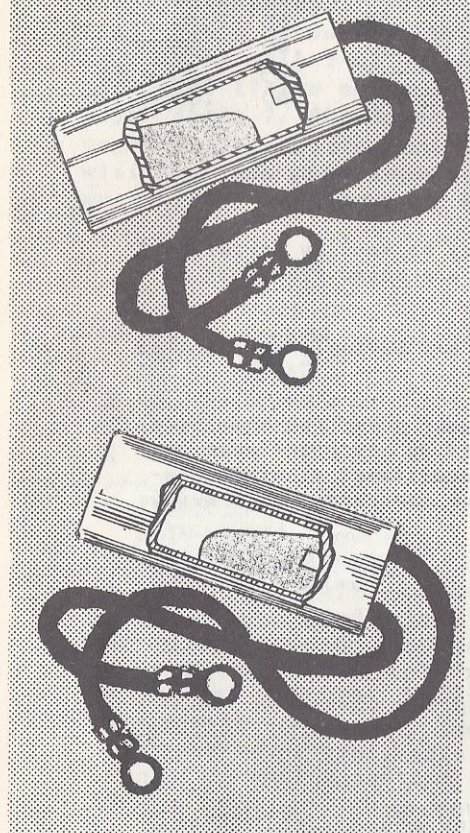
These precision built switches will stand rough treatment! Seamless steel body construction! Hydrogen gas filled at 50 P.S.I. quenches spark arc and dissipates heat.

Suitably compact to use in electronic circuitry of miniature missile instrumentation.

A few applications are:
Initiating parachute release systems (switch works at any position around its diameter)

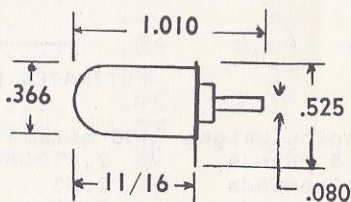
Ignition of second stage rocket motors (deceleration of a first or booster stage will force the mercury into contact position).

For starting or stopping any electronic device or instrument when the device assumes a pre-determined position.



Type C-A1 Mercury Switch
Insulated. 6" wire leads.
Switch is fully encased
in bakelite.

No. 67 each \$1.27



Type C-NB Mercury Switch
Steel body, not insulated.
Can be insulated with tape,
plastic or paper.

No. 68 each .69

SAFETY TIPS

Safety rules have resulted from the work and experience of experts and amateurs over a period of many years. The following suggestions are offered as friendly advice, but are not to be regarded as a complete or final guide. You can profit by accumulating all other available knowledge concerning safe procedures.

1. Do not perform experiments except where full control over materials can be exercised, and after a complete study is made of the possible results.
2. Do not try to use liquid fuels. Liquid fuels require costly apparatus and involve problems too complex for consideration by an amateur.
3. Do not make the mistake of believing that highly sensitive mixtures are necessary to make good rocket propellants. Avoid the use of chlorates and all other sensitive chemicals. Rocket fuels should react smoothly over an extended period of time---never explosively.
4. Do not make large, impractical rockets. Adopt a scientific approach in learning to design and build in miniature. Aim for perfection.
5. Do not use metal tubing or metal parts for model rockets unless you work with a group which utilizes the facilities of an approved launching range.
6. Be sure to wear a face shield or some other form of eye protection during all rocket activities.
7. Do not grind or strike any dry fuel mixture or subject it to temperatures near its flash point.
8. Do not be anxious to examine a device which has apparently failed to ignite. Establish a minimum waiting period of at least 15 minutes before approaching the device.
9. Know the laws which apply to rockets in your locality. Your local authorities can provide this information. An attorney should be consulted when regulations are obscure or require expert interpretation.
10. Do not work alone or in secret. Keep your friends, parents, and associates informed of your activities. Join a club or group and work with others to realize the greatest benefit from your efforts. If no local group exists you may be able to organize one. Talk to any civic official, teacher, pastor or your local U.S. Army representative, and you will undoubtedly receive assistance.

CENTRAL ROCKET COMPANY

"CENTRAL ROCKET HANDBOOK"

Basic methods of making small solid fuel engines are disclosed in this 14 page booklet. Contents include: "Fuel materials, formulas. How to mix chemicals. How to make non-metallic nozzles. Instructions and diagrams for making loading tools, fin jigs, etc. How to make and prepare tubes for jet engines." Illustrated with drawings and photographs.

Price75 PP

"PYROTECHNIC FORMULAS"

This pamphlet includes formulas of special interest to those interested in rocketry. Contents: Smoke trail compositions, Chemical whistles, Colored flare signals.

Price35 PP

SPECIAL: Both items;

Central Rocket Handbook and Pyrotechnic Formulas . . \$1.00 PP

HERE IS A BOOK YOU MAY FIND INTERESTING!

"Rocket Manual for Amateurs"
by Capt. Bertrand R. Brinley

This 382 page book contains over 100 illustrations of rocket parts and apparatus you can make. Includes chapters on the design, testing, instrumentation and launching of amateur rockets. Tells how rocket clubs are organized. Gives summary of State laws governing amateur rocketry.

Price \$1.00 PP

CENTRAL ROCKET COMPANY
P. O. Box 89 --- Waupaca, Wis.