More Pages! More Photos! More Plans!

Top Flyers Reveal Secrets of Their HOT ENGINES

Report from RUSSIA: What Really Happened at Kiev Internats

Dr. Good's Latest "WAG" Transmitter

MORE GOODYEAR RACERS FOR EASY BUILDING

World Champ Brett's Winning Radioplane "PERIGEE"

Now! Expanded, Exclusive Coverage by America's Top Experts on Race Cars • Rockets • Radio Control • Planes • Boats • Powerplants
ROCKET TRAILS
by G. Harry Stine

Amateur vs. Model Rocketry

Professional rocket engine: has 50-lb thrust by combining hydrazine-type fuel with nitrogen tetroxide in "detonation combustion" chamber. Fires 10 bursts/sec, each 1/500,000,000-sec. long. By Minneapolis-Honeywell; more precise than regular reaction rockets.

of the American free-enterprise system. Were the huge rocket boosters that the author spoke of a product of a free-enterprise system?

Finally, the theory that the Americans will win the "model space-race," due to the Russian youth nurturing themselves, is a bit maudlin. Incidentally, this is the first time I've heard of the "model space-race."—SPS Don McIntire, HHD, 88th Engt Bn, APO 259, New York, N.Y.

REPLY TO MCINTIRE: All present forms of modeling—autonautics, railroading, meteorology, boating, and rocketry—simply could not exist if modelers did not depend upon manufactured products. In any form of modeling, there are certain parts that are extremely difficult and/or even dangerous to make yourself. Ever try to make Code 79 HO rail?

(Continued on page 78)
FLYING OR FIDDLEING?

Some people actually like to fiddle with their transmitter, receiver, or servos. Keeps them out of the air. Saves airplanes. (Sometimes the fiddling is all wrong and it wrecks airplanes . . .)

Other people like to fly. Like to take the plane out of the car, start the engine and fly. They do their fiddling with things like Immelmanns and Chandeliers. These are the kind of people who like Quadruplex. Reliable. (And the smoothest Immelmanns and Chandeliers you ever saw!)

Oh... you do have to charge the batteries, and you haven't latched that one yet . . .

Transmitter shipped with charged nicks. Receiver and four servo wires, with plugs, ready to install. The only extra need is four nicks for receiver and servo power. (Left hand mode model transmitters made on request)

$349.95
Sold factory direct only - no dealers

write for technical brochure

DEE ENGINERING CO.
1102 S. BROADWAY
PITMAN, NEW JERSEY

Rockets

(Continued from page 64)

An .040 engine or its fuel? A boat pop and shift? A rubber tire? Or—in this particular case—a model rocket engine?

Sure, somebody had to make the first ones, and some hobbyists are still "scratch builders." But there are very few who have the skill, knowledge, and equipment. If modelers did not need manufactured products, the hobby industry would be back where it was 100 years ago non-existent! Certainly, a hobby must be devoted to craftsmanship and inventiveness! This is what separates a hobby model from a toy.

In the case of non-professional rocketry, before the introduction of the recoverable model powered by a manufactured rocket engine, there were probably about 1,000 non-professional rocketeers in America. Now that we have "commercial" products there are at least 50,000 rocketeers using them. The number of serious successful amateur rocketeers who still do it the hard way under conditions of high hazard has not appreciably changed.

Second point: When the Russians do catch on about our manufactured rocket engines, look out! They will milk it dry from American samples just as they have done with many other items. They will continue to subsidize and support their young rocketeers. We shall continue to conduct our hobby of model rocketry on a free enterprise, citizen-supported basis, which is the way we want it; the only government support that American model rocketeers want is in the form of permissive laws. Unless American legislators recognize the value and worth of model rocketry—and model aviation, too—we are likely to be stopped cold by state governments that will adopt regulations to quite righty keep Junior from blowing up the town. Unfortunately, these same laws could hobble the model rocketry hobby.

The point about large rocket boosters and the free enterprise system doesn't apply in this discussion. Big rocket boosters in both nations are paid for by the governments. In the U.S.S.R., the government owns the industries producing them. In America, the big rocket booster companies would not exist without government funds. Same game, but the rules differ. The Russians have big booster rockets now because they built them to heave the huge warheads of 10 years ago; in America, we waited until the bang-hoses got smarter.

We point out that American modelers with manufactured rocket engines are 100% likely to remain in one piece. If the U.S.A. feels they will never use their engines like their Russian counterparts, they would be exposed to hazards of handling explosives that Mr. McIntire, as a military engineer, should understand all too well.

If I erred in assuming that a manufactured model rocket engine is better than one fabricated by the individual, it is because I know of too many who have erred in assuming just the opposite. They include a science teacher, three rocket engineers, a businessman, and an unfortunately large number of young folks whose mutual error proved to be a fatal one. And I did not make any assumption . . . I have the grisly facts for anyone who cares to see them.

Via Dick Schwerzchild. Young man walked into Dick's hobby store and asked, "Do you carry Oxydol for plastic model missiles?" Did he mean "oxidizer?" Was he left high and dry on the bleach? Was he simply soaping up a sticky launch rail? Or (NASA take note) perhaps a bright new propellant formula?

Instant Rocketeer Bryant Thompson, USAF, is now a Captain, giving us now the perfect right to call him "Captain Red of the Space Patrol!"—at least on the range. Ours.

Hans-Scott Camera Rocket. They took NARAM-4 junior R&D award with it and flew it at USAF Academy with camera running. Got film back the other day, screened it, and got dizzy. In beautiful Hansco-Color, you can see the bird lift off and surge skyward, showing NARAM-4 launch area, parking lot, mountains. Parachute comes out and starts to lower nose cone with camera inside; picture flips upside down! Camera goes whirring away until chute gently lands the nose cone, whereupon picture turns up on its side.

This film should be part of eliminations tests for anyone who expects to do it, or if you can sit through it without getting space-sick, you're in. Model, called "Argus," also flew at NARAM-4 with fresh hen's egg, returning same in perfect condition.

Egging 'Em On. Steve More of White Plains, N. Y., became the second chicken-eater by flying and recovering an egg last September. He made two paper cups for nose, taped together and filled with water and plastic foam. Silk hankie for parachute on nose cone only. Model consisted of cardboard tube from roll of aluminum foil, balsa fins, three Type B-8-4 engines clustered in tail. Important thing to remember here is to block off spaces between engines so that all of ejection charge gas is used to dislodge the chicken; nose cone, it is to be kept rearward between gaps in engines, and you have a scrambled egg . . . and that's no yoke. Bird flew off 3-foot rod in perfect flight.

But you should have seen the mad chase to recover it! Twenty-five people running all-out across a field after a tiny parachute! Tension and apprehension were high as Steve's Scotch tape holding nose cone together. Egg emerged whole, and mighty cheerful went up. Remind me to get a trophy for Steve—a live hen.

Mail Bag. Ein getting lots of letters. I can't answer all personally, and I can't use all of 'em in this column, but I read every word you write. (I do like the ones who make it clear what they want, un qualified. Keep writing; flattery should get you everything.)

Leonard Daniel, NAR#2755 of San Diego, calls to my attention that the drawing of the Russian model rocket published here in July 1962, seems to be a dead-ringer for a picture of an early Russki research rocket built by Tikhonov. Leonard seems to think the Russian rocketeers have a great lack of imagination. I might point out that some American modrocs still look like the V-2 probe, the generator finds it difficult to use rounded fins and nose cones, because the result doesn't look like a rocket oughts look!

Many letters have been asking a wide
range of questions about a 1-2-oz. radio transmitter for model rockets that was written up in one of the electronics magazines several months ago. Gentlemen, if you can’t dig the circuit diagram or don’t savvy where to get the parts, you don’t know enough to attempt building.

I hope to write up the details of a more advanced transmitter in these pages. Remember that you’ve gotta have more than the transmitter. Also required are an antenna on the model, a ground antenna, a ground receiver, and some sort of recording device. Don’t start a radio rocket project unless you can get your hot little hands on 100 clams or so for equipment—or unless you’ve got friends in an electronics lab somewhere.

I still get letters from the “ram-it-yourself” amateur fuel makers. These I read, while suppressing a shudder and putting in the file; if they persist in living dangerously, I don’t wish to be involved at all with their untimely demise.

Letters and photos from Bill Loefler indicates he and colleagues are flying in a cemetery. “I don’t worry,” he sez. “It wouldn’t bother me to have some kid flying rockets over my resting place if positions were reversed.”

Ted Ellis, NAR #2497, wants to know what “fin chord” is. Model airplane builders could tell him. It is the fin dimension parallel to the long axis of the model, or parallel to the body tube of a model. “Root chord” is the dimension next to the body, while “tip chord” is the diameter at the tip (nach). If the fin is tapered, they aren’t the same (again nach). Average chord is root chord plus tip chord divided by two.

Terry Schmidt, NAR #1442 sends the following definitions for you to ponder:

Fins: what should be worn to make you swim faster.

Countdown: the way people count who are too stupid to count up.

Stings: a big glass of beer (thankies).

Nose cone: if this is on the bottom of the rocket, it is a sign that you are trying to fire it upside-down.

Tracker: good if eaten with soup.

Parachute: what to cuss at if the payload breaks.

CP: initials of Calvin Peppershine who made the sad mistake of holding his model when it took off. Last seen trying to hitch a ride with Wally Shirra.

Record Attempts. Irv Wait reports that he set the altitude record for a static test. Seems he had neglected to lag down the stand. When the thrust hit it, it kind of rolled over and over. Sez that the recording drum kept going; I would hate to try to decipher that data!

I claim the absolute altitude record for static testing. Happened one day a few months ago when I was running a large engine on a recording type stand in a nozzle-up position. It blew through forward and sent the casing arcing up into the blue while all eyes followed it. Casing landed okay and the nozzle was in place, but it would probably be disqualified because it wasn’t in condition to fly again and there was no recovery system deployment.

Tellies. Yet. NAR now has a wonderful 15-minute sound film in 16mm color that tells the story of model rocketry. It had its world premiere at the US Air Force Academy this summer. It features the Old Rocketeer and a cast of thousands. NAR sez film is available on free loan if requested by a responsible adult. Movie has scenes from all four national meets and Cape Canaveral.
Aero-Bat Rocket Glider Kit

CENTURI MODEL ROCKETRY PRODUCTS

Aero-Bat
- Powered flight straight up—Glide return
- Measures 14” from tip to tail
- Easy to assemble—kit form
- Uses B. 8-4 rocket engines

Aero-Bat Award Winner at NARAM-4

Most Complete Line of Model Rocketry Supplies

MODEL ROCKET ENGINES — SILK PARACHUTES
NAR APPROVED ROCKET KITS
FIRING PANELS BODY TUBES
LAUNCH APPARATUS NOSE CONES

Write for new illustrated catalog
SEND 25 CENTS FOR POSTAGE AND HANDLING TO:

CENTURI ENGINEERING COMPANY
340 W. Wilshire Drive, Phoenix 3, Arizona
Dealer Inquiries Invited
Best of Class!

- ASTRON SPACE PLANE -


Astron Space Plane Kit... $1.80 less engine

booster-glide event, senior division.

Follow Science with the Estes Program of MODEL ROCKETRY
the new space-age hobby

These birds good for many flights

We offer a full line of Model Rocket Supplies engines; nose cones; fins; launchers; tubes; plans; complete kits; parts for your own rocket designs

Astron Scout
Kit... $2.00 with engines

Fact filled, illustrated catalogue... 25¢

SAFETY — EDUCATION — ENJOYMENT in Rocketry

Astron Mark
Kit... $1.25 less engines

ORDERS SENT SAME DAY RECEIVED

ESTES INDUSTRIES
Penrose 4, Colorado