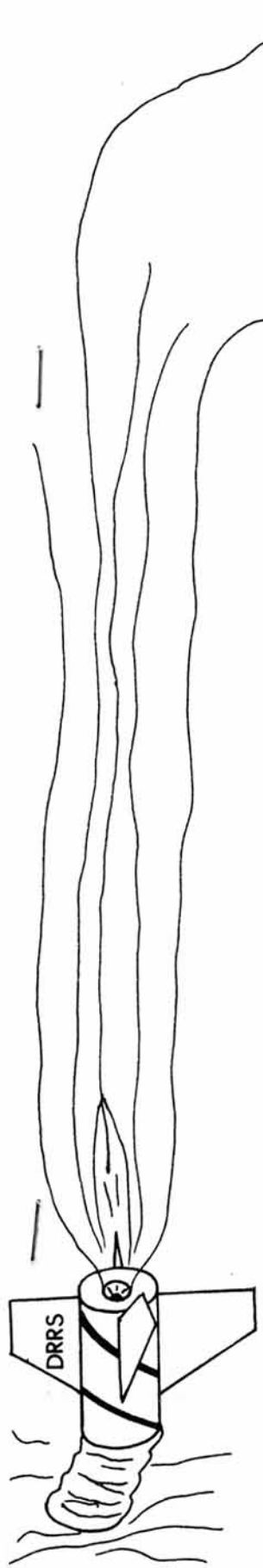
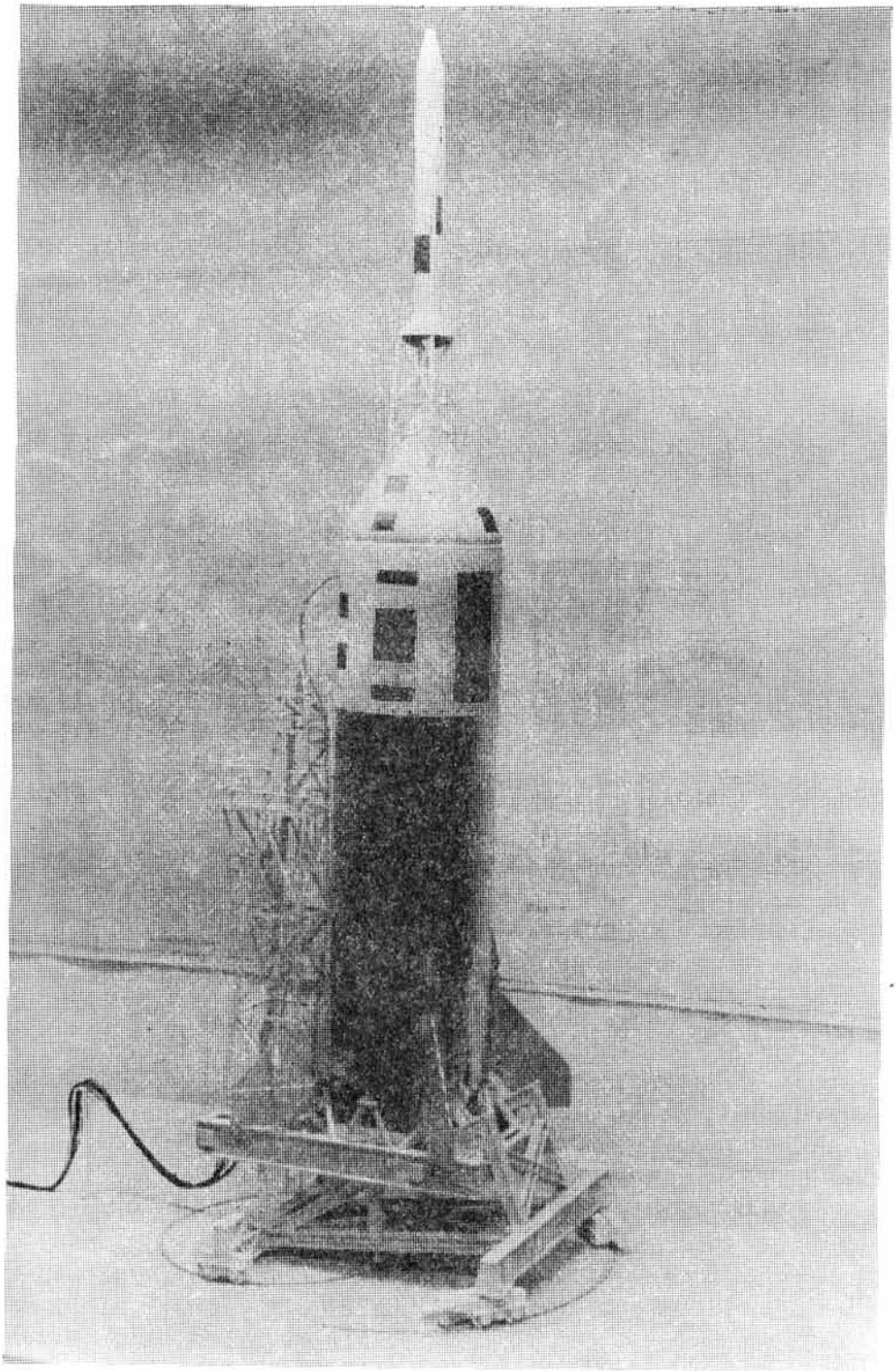
CORE SAMPLE

Dayton Rocket Research Society





Competition Strategy

F.L.A.M.

Rocket Ignition

Coming Events

Scale judging is an exacting job. It is not subject to unpredictable external influences. A model wins because it is constructed the best and flies the best. There is a minimum of luck involved.

Likewise, Research and Development is another example similar to Scale. Much time, careful experimentation and thorough preparation are invested in a winning R and D report. Also, external variables, such as weather, do not influence the competition in R and D.

A lower event like Parachute Duration, however, depends on many external factors. For example, these factors include wind, launch angle and drift. Parachute Duration is at the mercy of the sky; a model wins when the weather conditions are favorable. There are often unqualified judges for such events. Even a poorly constructed model can win ---- if it catches a strong thermal.

Thus, competition strategy must be formulated to cope with these different types of conditions. These guidelines are called Layne's Rules for Competition. They are listed in outline form below.

1. When competing in a rocket meet, always plan to enter at least one of the top six events. If a modeler plans for these events carefully, he is better assured of winning.

2. When impossible to enter one of the top six events, concentrate all preparation efforts on the next highest event. In other words, the event that requires the most skill and preparation will yield the greatest rewards. The hardest event to prepare for usually gives the contestant the best chance of winning ---- that is, if he has carefully prepared for that event.

3. Do not plan to bring home a trophy for the luck events. Luck events are a gamble.

4. Judges judge as they please. Do not depend on personal favors.

5. Prepare models to perform under the worst possible conditions; it seems there is never a perfect flying day.

These guidelines were formulated by over six years of national competition. By following these rules I have been able to win in national competition three first places in Scale, two first places in Research and Development , one first place in Super Scale, a first place in Parachute Duration and the National Junior Championship. These rules work. They have proven themselves in competition. It is not difficult to follow the rules; there are only five. It does not require "super-human" skill to win. All that is necessary is hard work, dedication, hard work, the proper strategy and more hard work.

ABOUT THE AUTHOR

SCOTT LAYNE (shown here with his "Little Joe II" model which won him 1st place in Super Scale at NARAM 13) has been active in Model Rocketry for over 6 years.

Although primarily known for his superb scale models, Schott was Junior National Champion at NARAM 11. He has competed at NARAMS 9 through 13, usually winning Scale and R and D. As mentioned, he won 1st place in both "C" Division Scale and Super Scale at NARAM 13.

Winning Strategy In Competition

by Scott Layne

There are two ways to win in model rocketry ---- luck or skill. Luck events require favorable wind conditions, good altitude trackers, sharp-eyed timers, proper launch angle, fast igniters, strong legs and poor competition. Skill events require hours of careful work and proper selection of materials. Steady patience, strong concentration, construction ability, good imagination, perfect timing, background knowledge,detailed planning and constant research are, also, necessary qualities to win. The winning of these events requires varied tactics. Below is an outline of the competition events listed in the pink book. They are given in the order of skill or luck considered necessary to win the event, e.g., Research and Development is at the top of the list. Drag Race ---- without doubt ---- is at the bottom of the list.

Order of Events	Degree of Exactness Necessary to Win	Basic Event Groupings
1. Research and Development	Skill	Science
2. Super Scale		
3. Scale		
4. Plastic Model		Modeling
5. Scale Altitude		
6. Space Systems		
7. Egg Loft	Luck and Skill	Altitude
8. Design Efficiency		
9. Drag Efficiency		
10. Payload		
11. Predicted Altitude		
12. Altitude		
13. Rocket Glider		Time
14. Boost Glider		
15. Streamer Duration		
16. Parachute Duration		
17. Quadrathon	Luck	Miscellaneous
18. Spot Landing		
19. Drag Race		

The more outside influences involved in competition, the more luck is involved in the particular event. These outside influences were considered in the placement of categories in the competition order list. For example, an event such as Scale is dependent on many factors. Care in construction, beauty of finish, accuracy of dimensions,degree of difficulty and performance in flight are just a few of the considerations in evaluating the model. These are all considered by a team of qualified judges who access the rockets qualities.

Tech-Topix

Rocket Ignition pt 1.

by Bill Cadwallender

Back in the "Good Old Days" (Circa 1959), when the hobby was young, ignition was a simple process. Electrical ignition was a somewhat unreliable process at the time, so we stuck a length of miner's safety fuse or Jetex wick into the engine, lit it, and ran back; hoping that inquisitive children, police, and aircraft would stay away until the thing went off.

The "light-the-fuse-and-run" method is illegal now, as it should be. With the introduction of ignitors, electrical ignition has become both practical and reliable.

The best ignitor is the brand that works best for you. I am prejudiced: I use only the Estes variety. I consider all the others to be poorly designed (Cox), unreliable (Cox,MPC), or awkward and time consuming to use (Centuri Shure Shot). I know there are those who swear at Estes ignitors, but I swear by them. Installed properly, they give 90% or greater reliability.

The best way that I have found to install an Estes ignitor is to fold the ignitor double in the center of the blue coated part and insert it in the engine, making sure the wires do not cross. Take a small wad of recovery wadding and push it down into the nozzle between the wires. Then, take a pen or knife and wedge the wadding very tightly into the nozzle

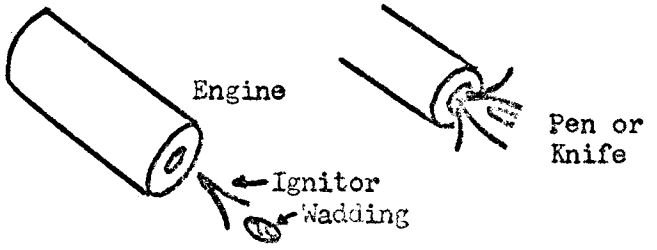


Fig. 1 Installing an Ignitor

Now that we have installed the ignitor, we need something to set it off with; an ignition system. The simplest system consists of a switch (doorbell or other push switch), a battery a set of micro-clips (use the Estes or Centuri products; all other clips such as paper clips and alligator clips, are a pain.), and some wire (lamp cord is excellant). Here is the wiring diagram:

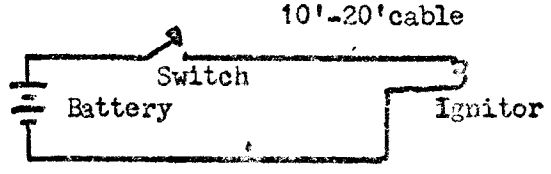


Fig 2 Simple Ignition System

The simple circuit can be improved to provide a lamp to indicate whether or not the ignitor is hooked up properly or not. In this circuit current flows through the lamp and ignitor at all times, lighting the lamp. The lamp also limits the current to a low value that will not fire the ignitor. If the ignitor has not been installed correctly, or the clips are dirty, the lamp will not light. When the firing button is pushed, the lamp is shorted out, and the full battery current flows through the ignitor, firing it.

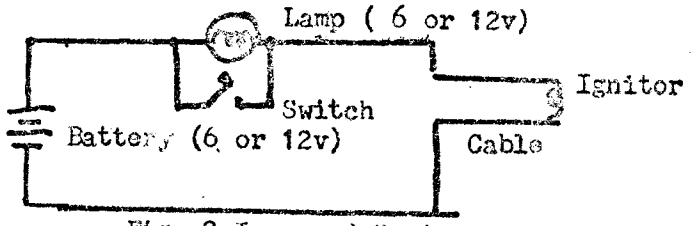


Fig. 3 Improved Basic System

The systems described so far have the disadvantage of sending the full battery current over long lines. This acts to limit the current available to the ignitor, which results in slow ignition or no ignition when the batteries are low, and the risk of having cluster models crash because one or two of the engines didn't ignite.

The third system uses an electrical relay to get around this problem. A relay is a device that uses a weak current to switch a much stronger one.

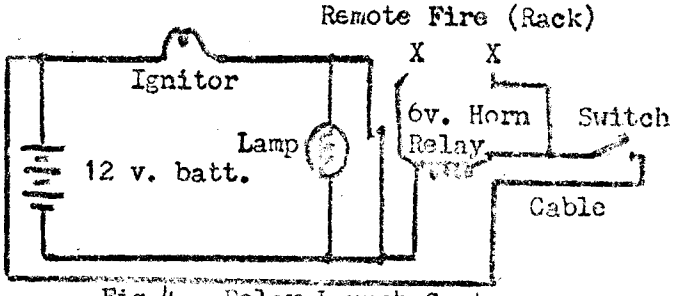


Fig 4 Relay Launch System

In this circuit, the relay contacts replace the push switch in the second circuit. Current flows through the ignitor and lamp, causing the lamp to light. When the firing switch at the end of the cable is pushed, current flows through the coil of the 6v. horn relay, causing the contacts to close, shorting out the lamp, and firing the ignitor. Almost any 6 or 12 volt relay with heavy duty contacts will do; however the horn relay for a 6v car is cheap and readily available.

In Dayton, the Mendelson Electronics Co., a surplus vendor, is an excellent source of parts for ignition systems. Horn relays are $1.00 each,new.; rechargable 12v batteries are $6.25,charger included.

P.S. Weak launch batteries can be a problem at meets,too. By connecting wires XX to the micro-clips on the rack at a meet, the launch controller can fire your system with the range

CORE SAMPLE

"All the news that fits, We print"
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DRRS GETS FIELD***** PLANS AREA MEET

The DRRS has the use of a large field at last! Thanks to Jim Larsen and his father, we have obtained permission to use the field at Systems Research Laboratory on Indian Ripple Rd. Our first launch from the new field took place on August 13,and the second will be on Sunday, August 20th at 2:00.

Due to the availability of a field of adequate size, DRRS has made tentative plans for its first area meet,DIAMANT I. The meet will be held September 16th and 17th. The schedule of events will be announced via letter within a week.

....FLAM REVISITED

More complete details of Fred Long's Area Meet have been recieved recently. Here is the revised list of events.

SATURDAY Aug 26	SUNDAY Aug 27
8:00 Range Setup	9:00 Range Setup
9:00 Late Registration	10:00 Class II Streamer
9:30 Contestant Meeting	11:00 Sparrow R/D
9:45 Class "O" P.D.	12:00 Lunch
10:15 Pred. Altitude	1:00 Hawk B/G (C eng.)
11:30 Lunch and Plastic Model turn in	2:15 Plastic model
12:30 Robin Eggloft	3:00 Open Spot Landing and sport flying
1:30 Design Efficiency	
2:30 ¼A Streamer Dur.	4:30 Shutdown & Awards
4:00 Shutdown	

Motel reservations are available at the Kingswood Motel again. Rates are $10.00 for 1,12.00 for 2,and $14.00 for 3.

Meet fees are: $1.00 for A Div.,$2.00 for B,$2.50 for C, and $3.00 for D. Send meet reservations to: Rich Evens, 1356 Zollinger Rd., Columbus, Ohio 43221.

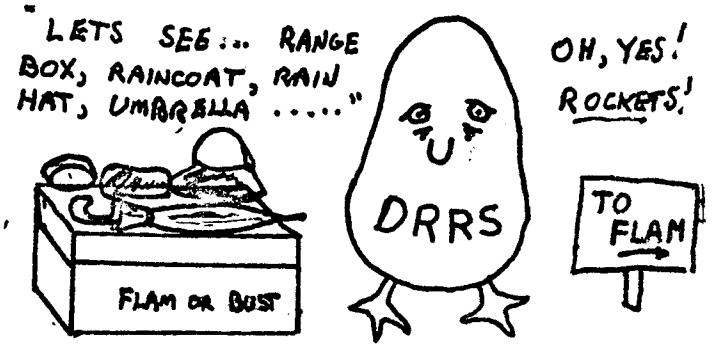
....COMING EVENTS

August

19 Meeting-Downtown Library- 4:00
"Flam and Diamant-I"
20 Launch - SRL field (indian Ripple Rd)
2:00 Tracking for Predicted Alt.
26,27 FLAM-Ashland Oil field-Columbus

September

3 Launch-SRL field- 2:00
9 Meeting-Downtown Library-4:00
"DiamantI"



Coming Events-continued
10 Launch-SRL field
16,17 DIAMANT I - SRL field

.... IN NEXT MONTH'S ISSUE

FLAM Coverage ... story and pictures.
ThunderBolt III ... an inexpensive capacitor discharge ignition system for long battery life and super sure ignition.
Final data on DIAMANT I
TechniTopix and other features.

.... THANKS

To Rienhold Sternat for assembling the second tracker for us.

To Jim Larsen and his father,Roger Larser for helping us to get the use of the SRL field and for the large rocket engine.

To SRL for letting us use their field.

.... AN INVITATION

We of the Dayton Rocket Research Society would like to take this opportunity to invite all rocketeers and interested persons in the Miami Valley to attend our meetings and to come and fly with us.

Meetings are as scheduled above and are usually at the downtown library (Third St. and Patterson). Launches are held on Sundays at 2:00 at Systems Research Lab's field at 2800 Indian Ripple Rd. We only require that your rockets pass an NAR safety check if you are not an NAR member.

.... THE COVER

This month's cover shows one of Scott Layne's fantastic Little Joe models: in particular, his NARAM 13 Super Scale entry. This model is extremely well detailed and took hundreds of man hours to complete. In this issue Scott writes about competition events and the strategy needed to be a winner.

SAVE BALSA - SHARE A POP-LUG.