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INSIDE:
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—"THE CLOUD BUSTER", A BLAST FROM
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VOL 1, ISSUE 5



UNCLE RESULTS

THE SPAAR COUNTDOWN

Volume 1, Issue 5

October, 1988

This Month:

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ADVANCED MODEL ROCKET FINISHING TECHNIQUES, part II...pages 5 & 6

"BLAST FROM THE PAST" Classic rocket plan.....page 7*

* The "Blast From the Past" classic rocket plan series will feature plans of model rockets from the early days of model rocketry, 1957 - 1970.

This month's plan is "The Cloud Buster", which was first published circa 1961, in Volume 2, issue number 2 of Estes' Model Rocket News magazine.

There are some interesting points to note about the plan; the parts list calls for the use of body tube BT-30, and nose cone BNC-30D. Us old folks remember the BT-30, which was a parallel-wound body tube, and went out of production somewhere around 1971. Simply substitute body tube BT-20, and any BT-20 size nose cone. The BT-30 and the BT-20 were basically the same diameter. Also, note that the plans state that the model will fly over 1000' with a "B.8-6" motors; again, the old timers will recall that at one time, the total impulse of model rocket motors was measured in a different manner than it is today. A B.8-6 was a B6-6 in today's measurement. "C" class motors did not even exist in 1961. Additionally, the plans call for the use of parachute material "#FM-1". This was a very heavy black plastic that Estes sold to customers so that they could make their own chutes. In those days, chute kits were unheard of.

Construction looks straightforward, and should produce a nice little sport flyer.

On October 9, 1988, SPAAR held it's first model rocketry contest, "U.N.C.L.E.-1", which had originally stood for Un-Named Club Launches Eggs. Of course, by the time that the contest was flown, that didn't apply. But anyway, things got going at 2:09PM, when Contest Director Dave Wenrich cleared the range, gave the countdown, and launched the first Eggloft Duration flight, George Beever's Eggspress, which turned in a 31 second flight using the kit's 18" chute. Dan Weinhold's Eggspress was the next to fly, turning in a 22 second flight. By the way, did everyone notice that almost all of the egglofters looked suspiciously like Estes Eggspress'? One of those did not was Rick Hackman's "Here's Hopin'", a home-made design. The model turned in a 17.6 second flight with a C6-5. So, at this point, we had three successful flights, that had us novice egg flyers feeling pretty good about ourselves. This is a breeze! Uh-hu. Next up was Glenn Feveryear with his "Eggthing", powered by a C6-3. When last seen, Glenn was heading towards New York to track this thing down; when it disappeared from view, a 156 second duration flight had been timed. Someone was heard to ask, "Hey, do you think he's done this before?" All kidding aside, nice flight, Glenn! Soon, eggs were flying all over the place. John Yost flew his "Double Eggle II", which looks like it may have begun life as an Eggspress, to a 50.2 second flight, good enough to place second behind Glenn's 156 seconds.

Eventually, 13 Eggloft Duration flights were made, with only one DQ; This was Dave Bender's second flight, which pranged when the chute failed to deploy. And of course, we all know the results; YUK. Unfortunately, the model may have been damaged beyond repair. Bill Rhoat got a very good second flight using a large dry-cleaner bag chute on his second flight, staying up for 34.9 seconds. Beever thought he'd be real clever for his second flight, exchanging the 18" chute for a 24" job. In doing so, he dropped from 31 seconds to 23.5 seconds with the bigger chute. Figure that one out, folks. Dan Yost was very consistent with both of his flights, turning in times of 36 and 34.1 seconds.

Even while the last of the eggers were flying, the first "A" Streamer models were being launched. Here, the competition was a bit closer. Again, Glenn's contest experience showed, as his "Perihelion", powered by an A3-4T, turned in a first place time of 85.8 seconds. John was right behind him again with a 74 second flight with the "Orange Bird", also with an A3-4T. The Ed Miller/Dave Bender combination flew some very good flights in the 40+ second range, using huge streamers made from silver and orange mylar. In all, there were 15 Streamer Duration flights made by 11 flyers, with only 2 DQs.

On to " $\frac{1}{2}$ A PD", and you guessed it, Glenn and John ran neck and neck again. On the tenth PD flight, Glenn turned in a 61 second flight, using the "Perihelion" with a $\frac{1}{2}$ A3-4T; this stood up until the very next flight in the PD event, when John, flying the "KB Special" with the same motor stayed up for 67.1 seconds. By this time, almost everyone had gone home, to get out of the chilly air, but those that left missed two of the most interesting moments of the whole afternoon. While John was off chasing down what he thought was going to be the winning PD entry, Glenn decided to fly a second time, as allowed, in PD; again, the "Perihelion" went up with a $\frac{1}{2}$ A3-4T, and when the stopwatches were stopped as it went out of sight behind the Middle School about a $\frac{1}{2}$ mile away, he had stayed up for 105 seconds, easily taking first in PD, and making a clean sweep of the day. In the mean time, Derrick Yost wanted to fly his "Alpha" with a B4-6 in a fun flight. The result was a CATO, or catastrophic failure of the motor. The propellant itself blew up through the motor casing into the parachute area, destroying the body tube.

The whole day, however, was not taken up by contest flying. Out of 61 flights logged for the day, 19 were fun flights, which provided thier share of excitement. Ed Miller had some more of his gorgeous models out with him, including a real nice Estes "CEO SAT IV", which he modified to a two-parachute system. Dan Weinhold had the most impressive PRANC when his "D-Region Tomahawk" came down just as it went up; hot, straight and true, without a chute. Damage didn't really look to be too bad. The most expensive PRANC was when Beever's AstroCam-110 did the old swan dive into the parking lot trick. Ever see what happens when one of those babies thuds into asphalt? It's not pretty, let me tell you. And just to keep everyone awake and on their toes, came Rick Hackman's E-powered ICBM, which hovered menacingly at about 20 feet while it completed it's 4.5 second burn time.

Dan Weinhold also had an Eates "ASP" do an oddity; it got hung up on the launch rod, about half of the way up, and just stayed there. Actually, it was very interesting to see all of the phases of the operation of a model rocket motor, right there in front of you. It was decided later that this problem flight was Beaver's fault, due to the fact that it was his launch rod that messed the whole thing up, anyway.

FINAL RESULTS AND SCORES

"C" Eggloft Duration:

Glenn Feveryear	Eggthing	Flight #1: 156.0	#2: -
John Yost	Double Eggle II	" #1: 50.2	#2: 46.9
Dan Weinhold	Eggspress	" #1: 22.0	#2: -
Rick Hackman	Here's Hopin	" #1: 17.6	#2: -
Dave Bender	Eggspress	" #1: 14.8	#2: 9.4 (DQ)
Bill Rhoat	Eggspress	" #1: 29.0	#2: 34.9
Dan Yost	Eggspress	" #1: 36.0	#2: 34.1
George Beever	Eggspress	" #1: 31.0	#2: 23.5

SCORES:

<u>Place</u>	<u>Name</u>	<u>Duration</u>	<u>Points</u>
1st	Glenn	156.0	60
2nd	John	50.2	36
3rd	Dan	36.0	24
4th	Bill	34.9	12

"A" Streamer Duration:

Glenn Feveryear	Perehelion	Flight #1: 85.8	#2: -
John Yost	Orange Bird	Flight #1: 74.0	#2: 7.2 (DQ)
Rick Hackman	Sprint/XR-22A	Flight #1: 18.0	#2: DQ
Dave Bender	X-1	Flight #1: 42.6	#2: 44.0
Bill Rhoat	Laser	Flight #1: 18.0	#2: -
Dan Yost	Silver Shot	Flight #1: 21.2	#2: -
Dayna Weinhold	Wizard	Flight #1: 18.0	#2: -
George Beever	Ugly Red/Paridigm	Flight #1: 32.5	#2: 69.0
Ed Miller	X-2	Flight #1: 28.5	#2: -
Jess Wenrich	Viking	Flight #1: DQ	#2: -
Dave Wenrich	Blazer	Flight #1: 18.6	#2: -

SCORES:

<u>Place</u>	<u>Name</u>	<u>Duration</u>	<u>Points</u>
1st	Glenn	85.8	50
2nd	John	74.0	30
3rd	George	69.0	20
4th	Dave B.	44.0	10

"A" Parachute Duration:

Glenn Feveryear	Perihelion	Flight #1: 61.0	#2: 105.0
John Yost	KB Special	Flight #1: 67.1	#2: -

1/2A PD results (cont.)

Dave Bender	X-3	Flight #1: 30.8	#2: 32.3
George Beaver	OmegaIII/Ugly Black	Flight #1: 37.5	#2: 54.3 (DQ)
Bill Rhoat	Alpha/Laser	Flight #1: 5.0	#2: 8.0
Dan Weinhold	Meteor	Flight #1: 11.8	#2:-
Dave Wenrich	Old & Ugly	Flight #1: 8.6	#2:-
Rick Hackman	XR-19/XR-26	Flight #1: 4.0	#2: 8.0

SCORES:

<u>Place</u>	<u>Name</u>	<u>Duration</u>	<u>Points</u>
1st	Glenn	105.0	50
2nd	John	67.1	30
3rd	George	37.5	20
4th	Dave B.	32.3	10

OVERALL SCORES AND POINT TOTALS:

<u>Name</u>	<u>Eggloft</u>	<u>Streamer</u>	<u>Chute</u>	<u>Total</u>	<u>Final</u>
Glenn	60 pts.	50 pts.	50 pts.	160	160
John	36	30	30	96	96
Dan Y.	24	5	0	29 +20%	34.8
George	6	20	20	46	46
Bill	12	5	5	22 +15%	25.3
Rick	6	5	5	16	16
Ed	0	5	0	5	5
Dave B.	6	10	10	26 +20%	31.2
Dave W.	0	5	5	10 +15%	11.5
Dan W.	6	0	5	11	11
Dayna W.	0	5	0	5 +20%	6
Jess W.	0	0	0	0	0

OVERALL 1st place: Glenn Feveryear, 160 points;
 2nd place: John Yost, 96 points;
 3rd place: George Beaver, 46 points;
 4th place: Dan Yost, 34.8 points.

FLIGHT LOG

<u>FLIGHT#</u>	<u>NAME</u>	<u>MODEL</u>	<u>MOTOR</u>	<u>EVENT</u>	<u>TIME</u>	<u>DUR.</u>
1	George	Eggspress	C5-3	ELD	1409	31.0
2	Dan W.	Eggspress	C5-3	ELD	1411	22.0
3	Rick	Here's Hopin'	C6-5	ELD	1413	17.6
4	Glenn	Egg Thing	C6-3	ELD	1414	156.0
5	Dave B.	Eggspress	C5-3	ELD	1415	14.86
6	Bill	Eggspress	C5-3	ELD	1418	29.0
7	Dan Y	Eggspress	C5-3	ELD	1419	36.0
8	George	Eggspress	C5-3	ELD	1422	23.5
9	Dave B.	Eggspress	C5-3	ELD	1427	9.4 DQ
10	John	Double Eggle II	C5-3	ELD	1435	50.2
11	Dave W.	Blazer	A8-3	ASD	1436	18.6
12	George	Ugly Red	A10-3	ASD	1446	32.5

<u>FLIGHT#</u>	<u>NAME</u>	<u>MODEL</u>	<u>MOTOR</u>	<u>EVENT</u>	<u>TIME</u>	<u>DUR.</u>
13	Dave B	X-1	A3-4	ASD	1446	42.6
14	Bill	Eggspress	C5-3	ELD	1449	34.9
15	Dayna W	Wizard	A8-3	ASD	1451	18.0
16	Ed	X-2	A3-4	ASD	1452	28.5
17	George	Paridigm-5	A10-3	ASD	1455	69.0
18	Bill	Laser	A8-3	ASD	1457	18.0
19	Dan Y	Eggspress	C5-3	ELD	1459	34.1
20	Rick	Sprint	A8-3	ASD	1504	18.0
21	John	Orange Bird	A3-4	ASD	1505	74.0
22	Jesse W.	Viking	A8-3	ASD	1506	DQ
23	Dave B	X-1	A10-3	ASD	1510	44.0
24	Rick	XR 22A	A8-3	ASD	1514	DQ
25	Glenn	Perihelion	A3-4	ASD	1516	85.8
26	Dave B	X-3	$\frac{1}{2}$ A3-2	$\frac{1}{2}$ APD	1519	30.8
27	George	Omega III	$\frac{1}{2}$ A6-2	$\frac{1}{2}$ APD	1522	37.5
28	Bill	Alpha	$\frac{1}{2}$ A6-2	$\frac{1}{2}$ APD	1523	5.0
29	Dan W.	Meteor	$\frac{1}{2}$ A6-2	$\frac{1}{2}$ APD	1525	11.8
30	Dave W.	Old Ugly	$\frac{1}{2}$ A6-2	$\frac{1}{2}$ APD	1530	8.6
31	Dave B	X-3	$\frac{1}{2}$ A3-4	$\frac{1}{2}$ APD	1531	32.3
32	George	Ugly Black	$\frac{1}{2}$ A3-2	$\frac{1}{2}$ APD	1532	54.3DQ
33	Rick	XR-19	$\frac{1}{2}$ A6-2	$\frac{1}{2}$ APD	1534	4.0
34	Dan W	SS Columbia	B8-5	FF	1539	11.7
35	Rick	XR-26	$\frac{1}{2}$ A6-2	$\frac{1}{2}$ APD	1542	8.0
36	Dan W	Tomahawk D-Region	D12-7	FF	1544	PRANG
37	Rick	XR-12 (1)A8-3 (8)	$\frac{1}{2}$ A3-2	FF	1551	PRANG
38	Bill	Laser	$\frac{1}{2}$ A6-2	$\frac{1}{2}$ APD	1553	8.0
39	Ed	Flying Saucer	C6-0	FF	1556	7.8
40	John	Double Eggle II	C5-3	ELD	1557	46.9
41	Dave B	TransStar Carrier	C6-5	FF	1559	27.5
42	Rick	Micro	E5-6	FF	1600	PRANG
43	George	AstroCam 110	C6-7	FF	1602	PRANG
44	Dan Y	Silver Shot	A3-2	ASD	1603	21.2
45	Dan W	Hercules	B6-0/A8-5	FF	1604	43.0
46	Ed	GEO SAT LV	C5-3	FF	1613	21.5
47	Dan W	SS Columbia	C6-5	FF	1615	20.0
48	Dave B	Astro	$\frac{1}{2}$ A6-2	FF	1616	7.2
49	Dave B	Astro	$\frac{1}{2}$ A602	FF	1624	7.5
50	Glenn	Perihelion	$\frac{1}{2}$ A3-4	$\frac{1}{2}$ APD	1626	61.0
51	Ed	Honest John	B4-4	FF	1628	29.2
52	Rick	XR-23	$\frac{1}{2}$ A6-2	ASD	1629	4.8
53	Dan W	ASP	A3-4	FF	1631	PRANG
54	John	Orange Bird	A3-4	ASD	1634	7.2DQ
55	Dave B.	Liberty	A8-3	FF	1635	10.4
56	Ed	Arrow	C6-5	FF	1639	37.5
57	Rick	XR-19	A8-3	FF	1640	10.0
58	Rick	XR-19	C6-5	FF	1648	30.6
59	John	KB Special	$\frac{1}{2}$ A3-4	$\frac{1}{2}$ APD	1700	67.1
60	Derek	Alpha	B4-6	FF	1707	CATO
61	Glenn	Perihelion	$\frac{1}{2}$ A3-4	$\frac{1}{2}$ APD	1709	105.0

In the first part of this article, we discussed methods of preparing the wooden parts of the model rocket, prior to painting the model. In this second part, we will discuss the materials that I use in painting my models.

PAINT MATERIAL SELECTION

Materials needed:

DuFont 1984S	Velvaseal Sealer
DuFont 3661	Lacquer Thinner - Medium Dry
DuFont 3613	Lacquer Thinner - Fast Dry
DuFont 3979	Lacquer Retarder
DuPont (your choice)	Lacquer Paint
DuPont 380S	Lacquer Clear
DuPont 580S	Urethane Enamel Clear Coat
DuFont 582S	Clear Coat Activator
DuFont 289S	Clear Coat Accelerator
3M 05964	Acryl-Blue Glazing Putty
3M	320 Grit Sandpaper
3M	400 Grit Sandpaper
3M	600 Grit Wet-O-Dry Sandpaper
Solvaset	Decal Setting Solution
Gerson	Tack Cloth

Material Description:

1984S Velvaseal - This is a buff colored sealer used for base coats. Will stick to almost anything. Will fill porosity in body tubes with one or two coats. Smallest size available is one quart.

Lacquer Thinners and Retarder - Used to dilute paint so it can be sprayed. Comes in several drying speeds. Thinners in gallons, retarder in quart size.

Lacquer Paint - This paint can be bought in factory packs to match new autos. Can also be mixed in thousands of other colors to match any older car. Can usually be obtained in pints.

Lacquer Clear - Can be obtained in quart size.

Urethane Enamel Clear - can be obtained in quart size.

Clear Coat Activator - Clear coat will not dry without this material added. This is a hazardous material. Wear respirator and have adequate ventilation. Available in pints.

Clear Coat Accelerator - This material is not absolutely necessary but it will speed drying time of Urethane Clear Coat. Available in pints.

Acryl-Blue Glazing Putty - This material comes in a large toothpaste type tube. It is used to fill minor surface imperfections.

Decal Setting Solution - This material is used immediately after application of decals. It will make the decals settle into surface irregularities.

Tack Cloth - Used to wipe off and pick up dust from a model.

Equipment Needed:

Air Compressor with Pressure Regulator

Badger Air Brush, Model 200 HD

Spray Booth

Plastic Spreaders

(cont.)

Masking Tape 3M
Fine Line Tape 3M
Paint Masks 3M

Equipment Description:

Air Compressor and Pressure Regulator - A steady supply of air at a constant pressure is very important. In a pinch, you can also use Badger Propellant Cans, but the pressure will drop off after you spray for a few minutes.

Air Brush - I prefer to use a Badger Model 200 HD. The model 200 HD is the best type to use with automotive paint. It gives a wide spray pattern and a high flow.

Spray Booth - This is necessary only for indoor painting.

Plastic Spreaders - These are used for application of body plastic and glazing putty. They are usually bright yellow.

Masking Tape - I prefer to use 3M tape because it sticks well but pulls off without leaving an adhesive residue.

Fine Line Tape - This tape is made from plastic instead of paper like masking tape. It is very good for masking off two color paint jobs. The only problem is that it does not make curves very well. You will have to cover an area and cut out the shape you need with an X-Acto knife. You must also cut sections of tape from roll - do not tear it off. Do not stretch it when applying it to model!

Paint Masks - Don't Forget These! It's your health.

NEXT MONTH: PAINTING AND FINISHING YOUR MODEL.

More U.N.C.L.E. - 1 facts and figures:

Number of participants: 13

Number of flights: 61

Number of contest flights: 42

Number of "fun flights": 19

Number of successful flights: 53

Number of DQ's, PRANGs & CATOs: 8

First flight at 2:09PM, last flight at 5:09PM; total flight time, 3 hours.

Number of Eggloft Duration Flights: 13

Number of "A" Streamer Duration Flights: 16

Number of "1/2A" Parachute Duration Flights: 13

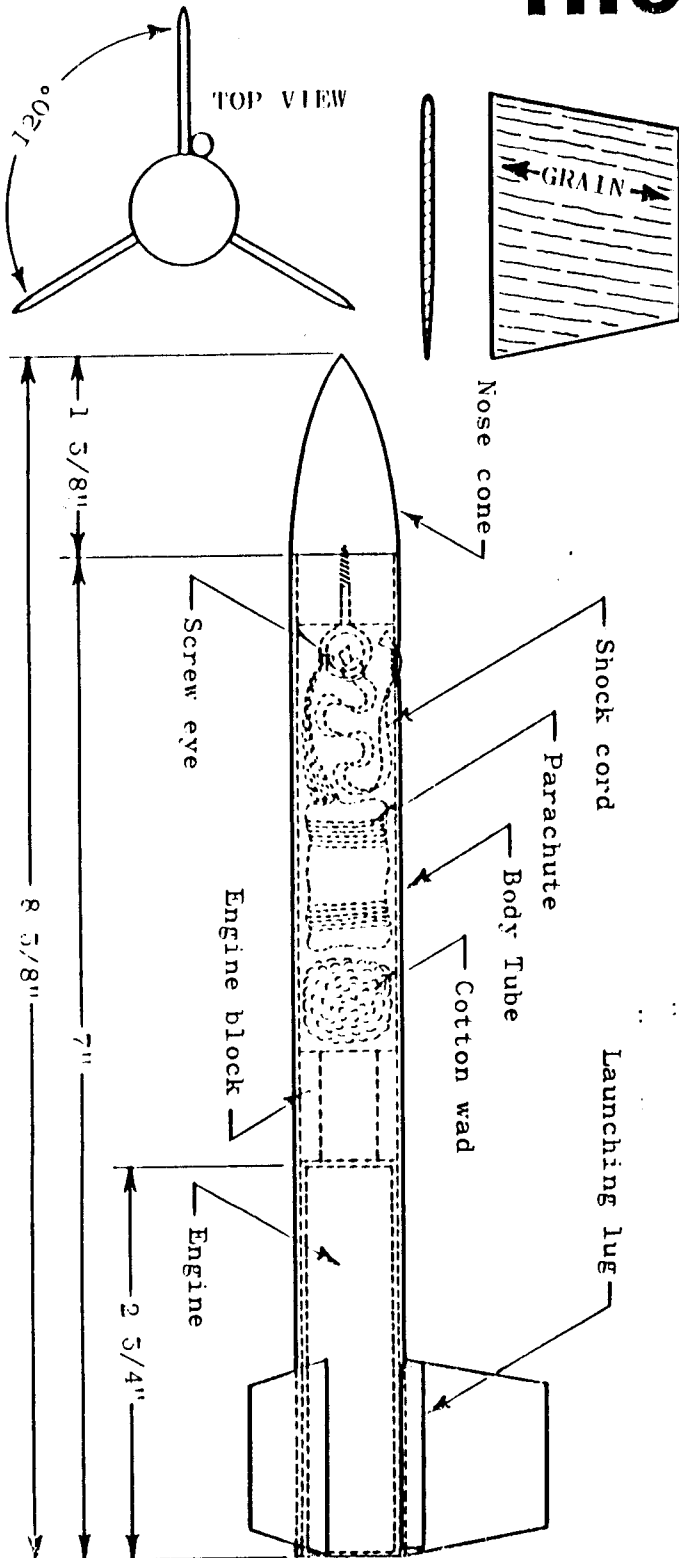
Break down of motors fired, by type: Number of flights, per person:

1/2A3-2....10	Glenn....4
1/2A3-4.... 4	John....5
1/2A6-2....10	Rick....10
A3-2..... 1	Dan W....7
A3-4..... 6	Dave B...10
A8-5..... 1	Bill....5
A8-3..... 9	Dan Y....3
A10-3.... 3	Derek Y..1
B4-4..... 1	George...7
B4-6..... 1	Dave W...2
B6-0..... 1	Dayna W..1
B8-5..... 1	Jess W...1
C6-0..... 1	Ed.....5
C6-3..... 1	
C6-5..... 5	
C6-7..... 1	
C5-3.....10	
D12-7.... 1	
E5-6..... 1	

(From Volume 2, Number 2)

the Cloud Buster

FIRST PLACE DESIGN, SINGLE STAGE CONTEST
by JOHN JANKOWSKI



PARTS LIST

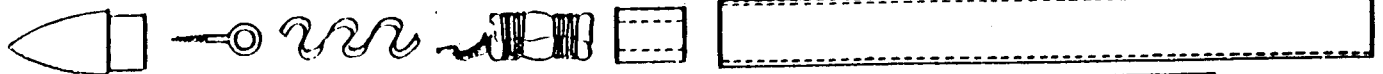
1 Body Tube	Part #BT-30
1 Nose Cone	Part #BNC-30D
1 Screw Eye	Part #SE-1
1 Shock Cord	Part #SC-1
1 Parachute	Part #PM-1
1 Engine Block	Part #EB-30
1 Fin Stock	Part #BFS-20
1 Launching Lug	Part #LL-1B

Use B.8-6 engines
for flights over 1000'.
(Be sure engine is secure
in body tube.)

ASSEMBLY INSTRUCTIONS

First cut a body tube 7" long. Then glue the engine block in place 2 5/4" from the rear of the body tube. To do this, place a large dab of glue on the end of your little finger, reach into the end of the body tube as far as possible, and spread the glue around the inside of the tube. Insert the engine block into the end of the tube, and using an engine casing push it forward until it is the right distance from the rear. Do not stop until it is in its proper position.

Glue the fins solidly in place. Attach the launching lug. Attach the screw eye to the nose cone. Hook one end of the shock cord to the body tube near the top, glue in position, and fasten the other end to the screw eye. Put the nose cone in place, sand the balsa parts of the rocket, and apply several coats of paint or dope, sanding between coats.



The rocket plans and technical report in this booklet are the current revised versions; all other articles are reprinted as they originally appeared.

