

THE LEADING EDGE



VOL. 5 NO. 6 NOV.-DEC. 1982
WINNER OF THE 1982 LAC NEWSLETTER AWARD

COW-1

COW-1 was the contest NIRA was invited to on September 25. It was held at Bong Field in Wisconsin. The day started out very cold and wet with misting rain. In the morning session, only Ric Gaff, Tom Pastrick and myself were present from NIRA, with Warren Miller and company from Wisconsin. No flying was done; people spent the time shooting the breeze. The morning's highlight was Tom intimidating novice Plastic Model fliers with one of his F-104's. The morning's activities ended when Bob and Judy Kaplow arrived, Mark Schmitt in tow, in time to go for lunch at McDonald's.

The afternoon brought a small relief in the rain, so some flying started. The first flight was a cermonious prang by one of Tom's D swingwing gliders. The prang lost a sonic buzzer, so we mimiced the dog trials at Bong and searched for it. Walking over the stone parking lot was fun, and we eventually found the buzzer.

A mixed bag of flights followed, with little to none in the way of competition. Ric suitably awed the Wisconsin crowd with a flight of his Happy Meal, and Bob cleverly cornered the southeast Wisconsin market on this item by buying four of them at lunch. I was lucky enough to have two engine catos, including a really smoky FSI D18-4

Tom managed some real nice swingwing flights and a decent helicopter flight. Mark Schmitt and Wayne Schalk gave up on rockets and flew their sailplanes. Walt had both coffee pots, but the better one was filled with the beverage. Bob flew a $\frac{1}{4}$ A SD model off a piston for 27 sec. instead of the predicted 60.

Even under the poor weather conditions, the day was still fun. The Wisconsin folks seemed to possess a real interest in competition, judging from the number of gliders and non-sport kits I saw. Good weather would make Bong a super site. Perhaps the best summary of the day was Ric Gaff's F100 Black Brant. The air gods decreed the most powerful model of the day must cato, and so it was. But hey, (der hey for Wisconsin folk), Model Rocketry is supposed to be fun, and fun is what we had at COW. Maybe next year, we'll get better weather.

Conrad Helland and his daughter with their A B/G model at Raiders



NEXT ISSUE! Shooting Star 7 results with the Beach Boys!

WISCON RETURNS!

The rumors are true! There will be a WISCON-4. WISCON-4 will be held March 28-29, 1983. Unlike previous WISCON's, this will be held on the campus of the University of Wisconsin-La Crosse.

Four workshops featuring Mark Bundick, Bob Kaplow and Al Neinast have already been scheduled. Meals will be taken at the University's cafeteria for \$9 (lunch, dinner and brunch).

Six competition events are on the schedule; the traditional Original Design, Research and Development, Static Space-modeling, Photo Contest, Ugly Rocket contest, Most Active Section, and a special Craftsmanship contest for non-NAR members only. Of course, no WISCON would be complete without a modroc auction, and WISCON-4 will not be an exception. Any modeler can bring anything to sell.

Fees fro the convention are \$5 plus \$1 surcharge for competitors. For more information, write:

WISCON-4
ATTN: Scott Zingler
Room 205
Cartright Center
University of Wisconsin-
La Crosse
La Crosse, WI 54601

or call 715-785-8717 or
715-785-2722

after 5 PM.

HENRY VALDENS

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MODEL OF THE MONTH WINNERS



The Model of the Month Winner for September is Tim Marcy and his Centuri Black Bird. Congratulations, Tim!



The Model of the Month Winner for October is Henry Valdens and his MIG-21 plastic model. Congratulations, Henry!



THE LEADING EDGE

is published bimonthly by and for members of the Northern Illinois Rocketry Association (NIRA), NAR Section #117, and is dedicated to the idea that Model Rocketry is FUN! Suggestions for articles and plans are welcome. Articles, plans, other newsletters and news items of interest should be sent to the editors:

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RAIDERS

of the
LOST MAR

We arrived in Ft. Wayne early Saturday morning, June 19, for Raiders of the Lost MAR. The weather was far from welcoming; cold, rain and high winds. Few competition flights went up in the bad morning air. Those who waited till the afternoon and better air held a decided advantage.

Kevin Kucezk of SEMROCS blew away A Division in $\frac{1}{2}$ A SD by waiting. He had the best time of the meet, 157 sec. including one of the few maxes. The Skylords Team had a max, too, winning in B with 110 sec. Other A and B Divisioners were plagued with separations. C Division had problems, too, but more varied. George Riebesehl, Sr took first with three OK flights. Ben Roberto finished second using a similar strategy. Although the weather was poor, the overall quality of the flights was below what most expected.

$\frac{1}{2}$ A EG followed the pattern set in SD with lots of DQ's. Ric Gaff was an exception, flying Bunny's "Parksley Eaglett" design to 155 seconds. The only other time over 100 seconds was Kevin Kucezk's flexie. Ben Roberto had a fine effort fly away late Sunday; it would have placed higher but for the winds. Most models in the event were small balsa and pop-pod models.

$\frac{1}{2}$ A RG kept up to speed with few good flights. Many people still haven't gotten the hang of the event yet. The EG Team led all contestants, flying Jedi's small slidewing to 168 seconds. George Sr. took second with a similar design, and Mark Schmitt finished first in A. Most DQ's stemmed from "no glide" rather than from faulty activation systems.

The Skylords Team reigned over A EG, winning B Division with 174 seconds. Their pop-pod model was perfectly trimmed and aided by small thermals. The thermal action of Saturday afternoon caused two

of Pat Peterson's flexies to go into orbit. In C, the EG Team edged Mike Zienkiewicz. Mark Schmitt had the only qualified flight in A Division.

Most contestants spend Saturday night at the Hoelle Hilton (Tom's house for the non-informed). After a backyard barbeque, some went off to a late showing of "E.T." Those left behind kept ourselves entertained by Tom's photo albums. Well, sort of . . .

Sunday brought morning sunshine and afternoon thunderstorms. Altitude events went off OK, with minimal no closes and track losts. The EG team won $\frac{1}{2}$ A Altitude using an old SD model and a launch rod. The Dual Egglofters, Ben Roberto and John Kalb trailed their 142 meters. Larry London flew 128 mts. to win B. There were lots of towers and few pistons.

Ric Gaff's 187 meters paced the crowd in C Eggloft; the EG Team was second with 162. The mediocre performances were probably due to ever-increasing winds.



Ric Gaff with his range-rat nephew, Drew Douglas Mills. A rocketeer is born?

The craftsmanship events weren't affected by the weather, and the Raiders contestants put on quite a show. Plastic Model featured six F-104's in three sizes, two Saturn V's, a Viper, an A7 and an F14. Kevin Kuczek won A with an outstanding Airfix Saturn, featuring slide-on clear plastic fins. B Division had a closer race. Pat Peterson's psychedelic colored F-104 almost lost its static point lead by landing on a parked bicycle and re-kitting itself. He managed to hold on over Larry London's conventional F-104 which had a perfect flight. Bob Black's A-7 Corsair was third. Its nifty camouflage deserved higher points. In C, Tom Pastrick's typically excellent F-104 wasn't leading! Bob Hart's F-14 Tomcat was perfect in all aspects. Unfortunately, two A10's just didn't make the grade for the 6+ ounce model and it DQ'ed. Tom won, followed by George Sr.'s Saturn. The HG Team's F104 was a point behind with Conrad Helland taking fourth.

Sport Scale closed out Raiders in impressive fashion. A and B Divisions were combined when Mark Schmitt's brown Cruise Missile was not accepted for entry. Pat Peterson's Aerobee 350 posted its third contest win, edging Kevin Kuczek's custom D Region Tomahawk. The Skylord's Saturn 1-B was robbed in third place. Larry London's Nike Smoke was fourth.

C Division saw a tie between Tommy P's Bomarc and George Sr. Sandhawk. The Dual Egglofters' Saturn 1-B was close behind followed by the HG Team's Redstone. Overall, Kevin Kuczek took A, Pat Peterson and the Skylords Team tied in B, the the HG Team took C. Even the non-serious contestants had a good time at Raiders, and everyone left looking forward to the next MAR.



"Old-Timer" John Kalb made a comeback debut at Raiders



RAIDERS OF THE LOST MAR results

Name	NAR#	Club	1/2A Alt	Egg Alt	1/2A Int SD	1/2A B/G	1/2A R/G	A B/G	Plastic Model	Sport Scale
A Division:										
Chuck Copeland	33887		102	91	dq	dq				
Kevin Kuczek	31593	SEMROCS	75	127	157	102	22	dq	850	955
Mark Schmitt	32216	NIRA	85	egg	71	60	49	18	640	
B Division:										
Robert Black	33045		118		79				681	
Paul Helland	31000		98	155	50			dq	603	
Tony Lentini	34196		95	dq	13	dq				
Larry London	32709	NIRA	128	t1	46	nr			770	720
Pat Peterson	30146	NIRA	92	63	95	77	nr	nr	792	980
Skylords	T-034		dq	105	110	dq	59	174	dq	910
C Division:										
B/G Team	T-117	NIRA	142	162	55	48	168	89	792	950
Kris Bullock	32290									970
Dual Egglofters	T-2	NIRA	126	146	80	dq				nf
Rick Gaff	22906	NIRA	t1	187	35	155				
Bob Hart	31763	SCAM		nr	dq	dq		27	dq	
Conrad Helland	31502		t1	151	42	55	dq	nr	755	880
Tom Hoelle	19103	SCAM			35					
John Kalb	21867	SCAM	123	nr	93	33	nr	51	732	dq
Tom Pastrick	2276	NIRA	nc	91	dq	63	29	55	902	990
George Riebesehl Sr	28988	NIRA	100	141	137	36	93	7	793	990
Ben Roberto	30426	SCAM	123		127	71				
Tim Vaccaro	25507		nc	133	85	dq		dq		nf
Mike Zienkiewicz	23049	SEMROCS	dq		29	12		81		

abbreviations used: dq=disqualified, egg=egg broken, t1=track lost, nr=not returned, nc=tracks not closed within 10%, nf=not flown

Larry London's 1/48th scale F104 conversion sported German markings.



Mark Schmitt and his Plastic Model

RAIDERS

of the
LOST MAR

Photos on this page by Ben Roberto;
boring captions by Ric Gaff



Jedi and Bunny enjoying Pat's F 104



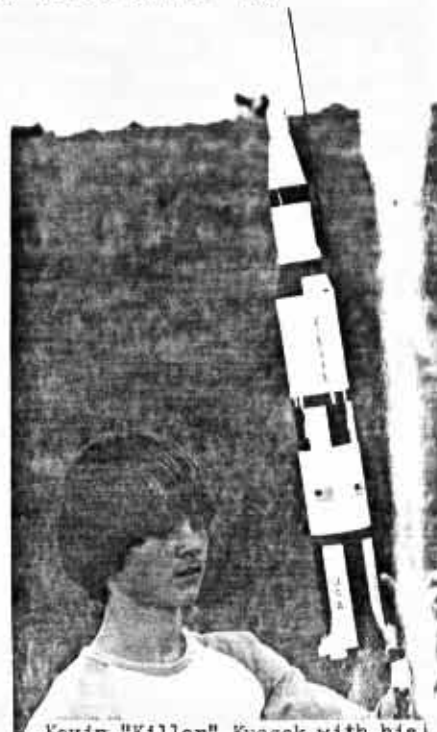
Darth Riebesehl in action at Raiders.
Windy enough for you, Darth?



Jedi George checks out the competition
for the HG Team's F 104.



Bob Hart prepares to fly his underpowered
F-14 Tomcat as Mark Schmitt looks on



Kevin "Killer" Kuczek with his
Saturn V conversion.

CHIROPTERA ENTERPRISES PRESENT...

THE BAT-PLANE!

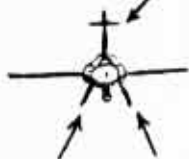
PLASTIC MODEL CONVERSION FOR 1/48th SCALE MIRAGE 2000

Carve Bat-Pilot to look like Bruce here



Range Utility Belt

Bat-Tail Bits



Glue each Bat-Ski to the rear of the wing section on the bottom

Use stand-off lugs on bottom of main body and tail cone of engine mount

Glue Bat-Tail Bits on each side of rudder

18" reinforced Bat-Chute tied to shock cord close to wing section

Glue engine mount inside one half of the main body then join the body halves

36" shock cord

Ejection tube should fit over the plug on the wings

Fill nose area and under the pilot's seat with lots of nose weight

Glue Bat-Tips to trailing edge of wings

Cut small plug from empty engine casing and glue to wing section lined up with the ejection tube. The plug fits into the ejection tube and holds the wing on during the boost (like a regular nose cone)

Glue in nose block for BT-20

Glue short piece of BT-20 perpendicularly into engine tube for ejection gases

Glue these edges

Bat-Tips (2) from .040 plastic sheet

Bottom detail of main body

Weight from here forward

Cut out area for parachute compartment

About 3.5 inches of BT-20

Shock Cord Mount

Masking tape

Carve tail-cone to fit and glue onto tube

Cut notch for engine hook in the tail-cone

Engine Mount Detail

Bat-Tail Bit (2)

Glue this edge

HAT- PATTERNS

Glue this edge

Bat-Ski Extra Stability Fins
Make two from .04 plastic sheet

Photos on Page Nine

MACH ROCKETRY

Question: What do you get when you combine five rocketeers, some composite motors, a couple of cameras and a dark night? Answer: an attempt to break the sound barrier with a model rocket.

Martin Huber, NIRA's spy at MIT, (now at Stanford University) has been interested in researching supersonic model rocket flight. While taking a short vacation this summer, Martin rounded up the NIRA gang to help him out. It turned out to be very educational.

The principle behind figuring out how fast a rocket flew is fairly simple. You photograph the model during boost while spinning a slotted disc in front of the camera lens. You know how fast the disc is spinning. When you look at the picture, you see a series of light flashes. These are the sections of exhaust visible when the disc wasn't blocking the camera's view. You measure the distance between them, you know the time between slots in the disc, and volia! Division gives you the rate at any point. All you have to do is get past the magic 700+ MPH mark and you're done.

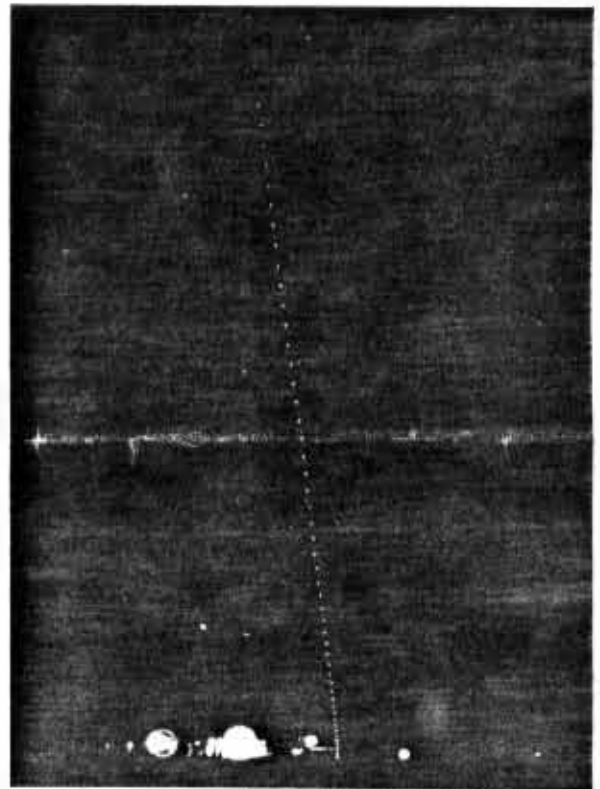
What it meant for the launch crew, was setting up cameras, spinning discs, measuring distances, finding walkie-talkies for communications, and preparing models. And a lot of that was done before dark.

The first flight was an E20 powered Big Bertha. No, sadly, Big Bertha won't go supersonic. This was just a test flight. We discovered that even with the tracking light installed in the model, finding them after dark is close to impossible. Next up was Bullet Bob with a slick F67 model. He shredded the fins about 100 feet up. The team was 0 for 2.

Martin had two models ready, an F67 model he felt sure would make it past the sound barrier, and an F40 ship that was marginal. Both flights went up OK, never to be seen again, and were photographed. Since then, Martin has reduced the data, and . . . YES! His F67 model did indeed go supersonic.

The whole effort was interesting. It showed me what a serious R&D effort takes,

The entire effort was interesting. It showed me what a really serious R&D project takes. It also jogged my memory; I hadn't flown rockets at night since 1971. Night flying is a real hassle, and not worth considering unless you have some special project in mind (like supersonic flight!) Congratulations to Martin on a neat project!



A new constellation? NEIN!
Proof of supersonic speed:
Martin's F67 flight

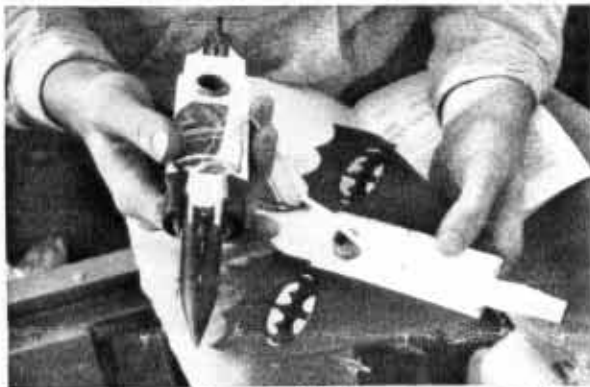


Martin, Bunny and Geoff Landis at the model and motor weigh-in

BAT-PLANE PHOTO'S



John Beach's Bat-Plane Mirage in its entirety.



John shows the Bat-Plane's unusual ejection system. Neat!!!



Front view: tracking camera and spinning disc strobe.



Bob Kaplow's F67 shread

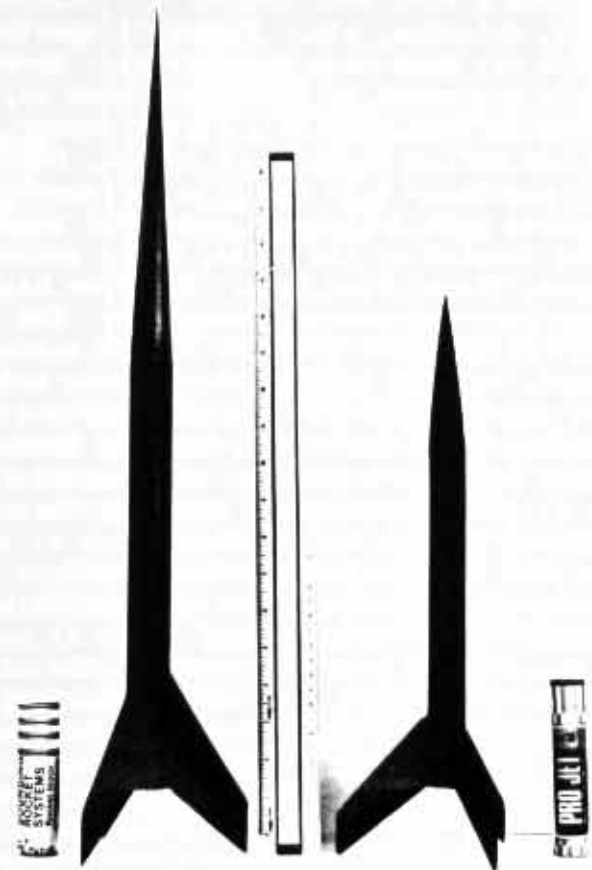
MACH ROCKETRY



Bob Kaplow and his Supersonic Clone



Martin Huber with the larger of his two supersonic models



Martin's F67 model (left) and F40 bird (right)

19TH LABOR DAY LAUNCH

RIC GAFF

NIRA's nineteenth annual Labor Day Launch was definitely not one of our better demos. Two hours before it was to start, the heavens opened and it rained cats and dogs. (I know. I just stepped into a poodle!) By the scheduled 2 PM start, a number of NIRA members and some spectators showed up. It was decided to fly some models, despite the terrible weather. The multi-pad satellite system was unavailable, so we set up Tom Pastrick's and my systems.

With only two pads, and several dozen spectators, the launch was considerably more intimate than past Labor Day Launches. People kept moving in closer to watch, and take cover under the club tarp. Flying got off to a slow start due to a continuing light drizzle. Tommy P. kept all entertained by answering lots of questions and showing off his models.

Eventually, various Estes and Centuri kits got a work out; an Orbital Transport, R2-D2, Colossus, etc. It wasn't spectacular, but it was good warm up material. Several models converted to "D" powered went up, including Mark Schmitt's Flying Saucer, and Ric Gaff's R2-D12. Of course, Oddrocs were popular. Walt Schalk's Coffeepot, complete with individual cream and sugar packs tangled up its chute, but a second flight, black, flew fine. Ric flew his Happy Meal conversion twice, too. The first flight cato left the engine casing behind, but the fireball lifted the model into the air anyway! Larry London's Colussus wowed the crowd, but his Beakers flight was more exciting. It tangled in the clips and lifted off carrying the launcher up with it. Gliders were popular. Those flown included Tom's flying wings, Mark Schmitt's competition models, and a Flying Jenny.

Despite the horrible weather, the cold, the wind, the rain, the overcast skies, (YECHHHH!!!), I think the demo was worth the effort. We met several new people with strong interests in rocketry, made some new friends, and even got to fly some rockets. It wasn't that bad a day after all!

Liftoff of Ric Gaff's battle weary
Black Brant III



The Labor Day Launch in its entirety



Mark Schmitt and his Saturn V



Tom Pastrick demonstrates the preppin of a model rocket as everyone fights to stay dry.



Tony Lentini prepares to fly his
Estes Orbital Transport



OOPS! Scott Schmitt almost catches brother Mark's Saturn-V. Maybe Scott should try out with the Cubs.



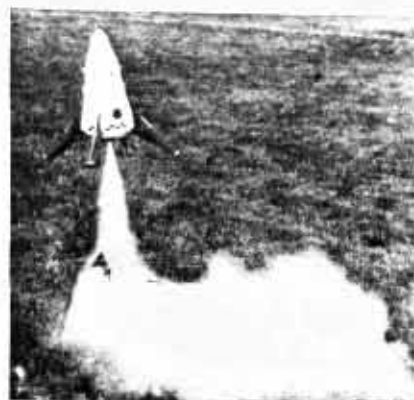
POST LABOR DAY LAUNCH



Mrs. Schalk demonstrates that flying model rockets is really a family affair!

Jedi George prepares his RC HG for another fascinating aerobatic flight.

Jedi George's RC HG lifts off on a Rebel mission to rid NIRA of mediocre model rocketry and generally to scare the heck out of people. Bunny lifts a finger to help.



Steve Sangerman's Mars Lander makes for the Red Planet. Say "Hi!" to John Carter for us.

A Maxi-Streak? Is this model for real? Who would want a Streak with a hyper-thyroid problem? Me, for one. I admit I'm rather taken with this squat, stubby little model. It looks good and flies like mad! Apparently, the original Streak and its miniature cousin, the Masquito, are fairly popular sellers.

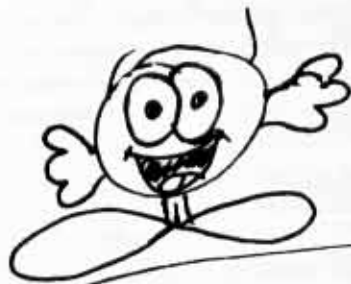
Increasing or decreasing the size of an old favorite is a popular way Estes uses to make new models. Just check your catalogue and you'll find: Mini-Bertha, Mini-Mean Machine, Maxi-Alpha, etc., etc. A Maxi Streak should not come as too big a surprise.

The model is very easy to build, though not as simple as its tiny progenitor. For a D12 powered model



it's a piece of cake. The only difficulty I had was with the fins. The fins are made from thick balsa ($\frac{1}{4}$ "). The only cutting you have to do is round off the tip of the fins. The wood is so thick that it's necessary for you to use a razor saw to get the fin to a rough shape and rough sandpaper to round it off. It's not so much cutting as carving!

Performance the Maxi Streak has plenty of. The model was flown in D Altitude at MWRRC. Tracked to 313 meters (1,027 feet, folks!), it took a fifth place. I missed being "in the money" by only one meter! Try a Maxi Streak for lots of fun with little effort.



Hi I'm THE PLAN MAN,
 I'm here enjoying myself
 AT ETR ON A SHORT LEAVE
 FROM THE TARHEEL ROCKETEERS.
 I'D LIKE TO INTRODUCE YOU
 TO MY FRIENDS, MR BILL
 AND ZIGGY, BUT I CAN'T

SEEM TO FIND THEM ANYWHERE: YOU DON'T SUPPOSE
 SOMETHINGS HAPPEN TO THEM? WELL ANYWAY UNTIL THEY
 RETURN LET ME TELL YOU ABOUT THE GLEN ELLYN
 TOY + CARD SHOP 476 MAIN ST.

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