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AN INTERVIEW WITH VERN AND GLEDA ESTES

THE GOLDEN DAYS OF MODEL ROCKETRY

Part 3

Celebrating 49 Years NAR

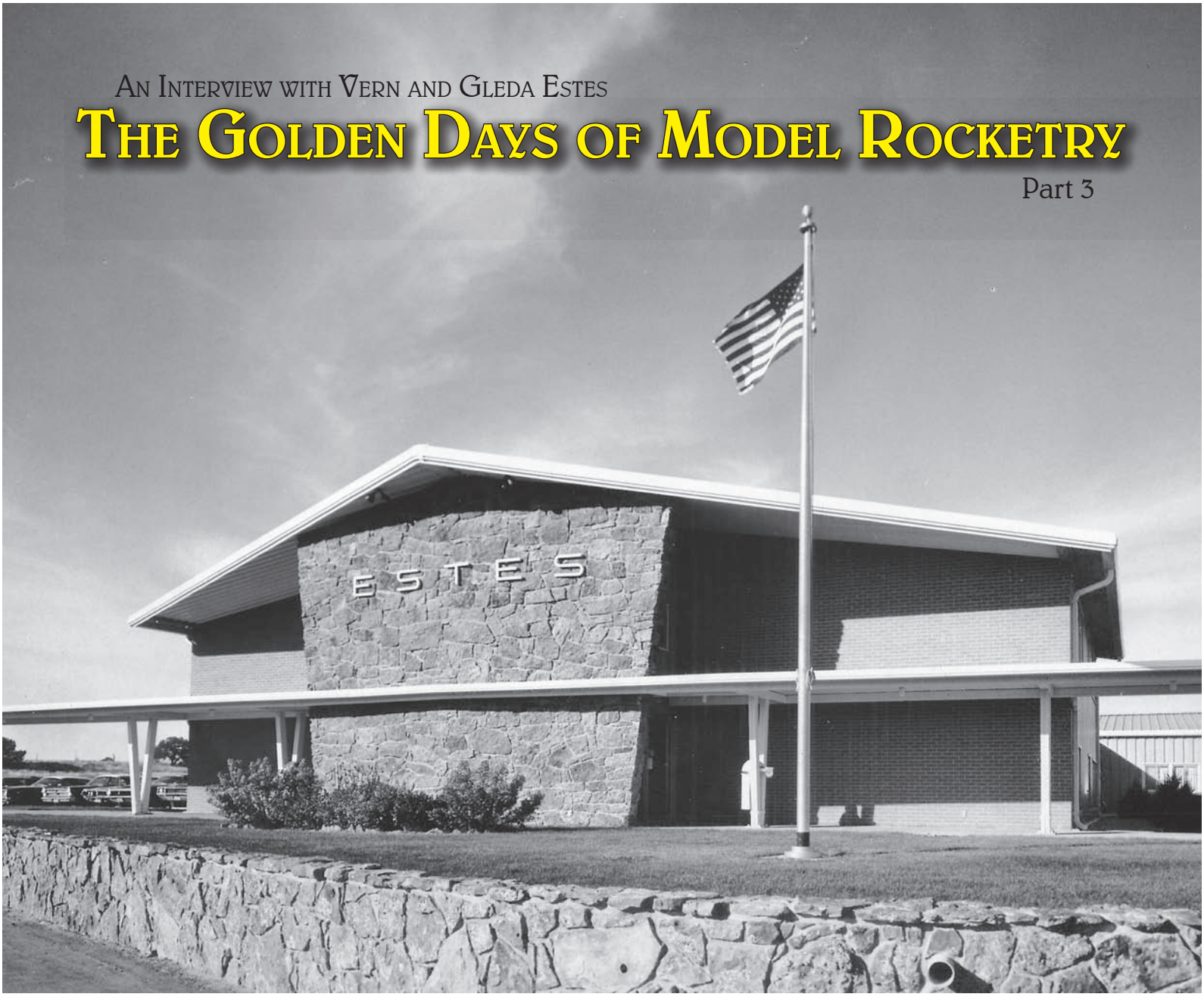
Building models for

INTERNATIONAL ROCKET COMPETITION

An Interview with Vern and Gleda Estes

The Golden Days of Model Rocketry

Part 3



The flag flies high over the new main office building of Estes Industries shortly after its completion in 1969.

Editor's note: This is a continuation of the interview from the previous issue of Sport Rocketry.

SR: Was Estes Industries a financial success from the beginning, or were things pretty iffy at first? Or was it a case of too many orders and too little production capacity?

Gleda: When we placed our first ad in May of 1960 we also rented a post office box in our local post office about five or six blocks away. If my daily trip to the post office netted two or three orders, we felt we were on our way. However, there were many trips with no orders in those days. Also, it became clear very early on with requests from our "customers" that we needed to sell more than just the motors. They wanted body tubes, plans, kits, nose cones, and other rocket parts. The time of overflowing orders and not being able to get them processed and out the door on the same day came about three years later.

Vern: In the beginning things were very bleak. Model Missiles had agreed to buy 5,000 rocket motors per day. That is what I was counting on when I built Mabel. After delivery of only a few thousand motors it became apparent things were not going as they had planned. After discussions with Harry I decided to try a mail order approach. MMI was concentrating on the standard channels of hobby distributors who sold to hobby shops who then sold to consumers, but it wasn't working. Yet, the time was ripe. The space race was getting under way and kids were attempting to build rockets with such dangerous things as chemicals, match heads, pipes, and CO_2 cartridges.

So we decided to try a classified ad in

one of the *Popular Mechanics* type magazines. At first we offered only rocket motors. Orders began to come in and we could begin to see some light. We built on this by offering other rocket related items such as nose cones, body tubes, and literature that encouraged safety and education.

SR: How many hours per week did each of you put into Estes Industries work when you started?

Vern: For me, the amount of time I was spending was "all the time there was." For several years this was about 80 and on occasion up to 100 hours a week. Just time to catch a nap, eat a quick meal with the family, and then get back to work. We kept hiring more help but it seemed like there was always more to do. Gleda had a more normal work schedule but also devoted a lot of time to taking care of kids and running the household.

I remember a situation in the mid 60's when a sudden increase in business left us unable to even open the mail. Boxes of mail stacked up in my office (the only room with a lock on it) as I did my best to locate new employees to get us back on schedule. I was overloaded with work so I asked that potential employees come in at night for application and interviews. Sometimes this ran late into the evening. A lot of the applicants were housewives. It wasn't unusual when the lady came to apply and be interviewed (at 10:00 or so at night) for her husband to wait patiently in the car just outside the office. Anyway, we finally got things back on schedule so the many orders that had come in just ahead of Christmas were delivered in time.

I am a workaholic at heart and have never worked less than 50-60 hours a week. I am still on this work schedule as this is what I enjoy doing most. I like to make things happen.

SR: What were the biggest problems that you encountered in making Estes Industries a success? Any lessons learned that might benefit someone thinking of starting a company?

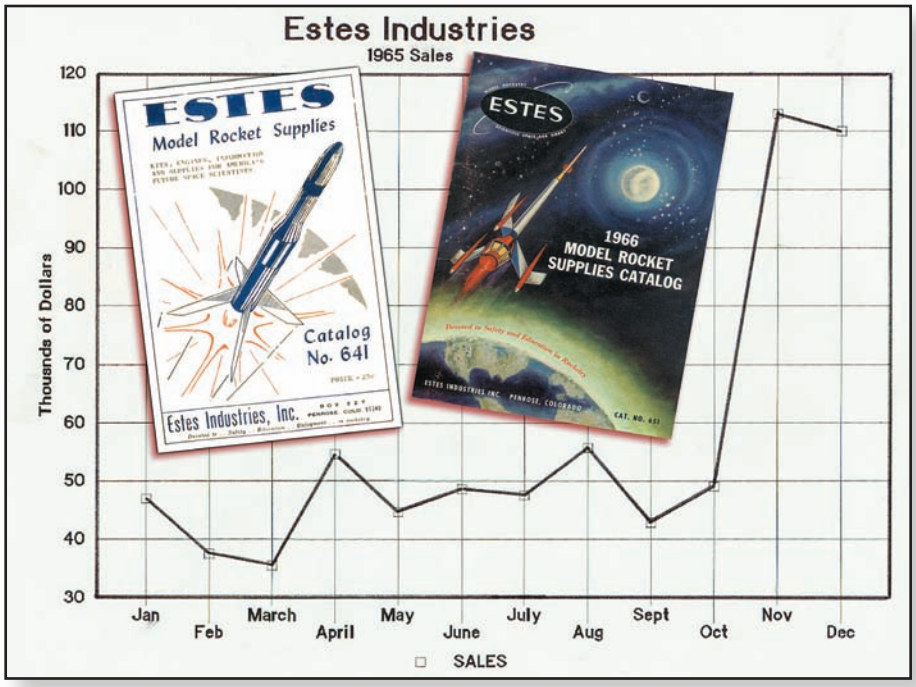
Vern: The two most important things I can mention are "having the right employees" and "treating your customers right." Of course success also depends on having

Vern Estes and Vice President Bill Simon look over prototypes of the Interceptor and Sandhawk in 1970. Bill's duties included Research and Development—he and his staff were very creative and developed innovative models for production consideration. Prior to the publication of the annual catalog, all prototypes were reviewed and decisions made as to how they could be produced and fit into the Estes line; some made the cut, while others fell by the wayside and were never produced.

a good product to sell and having enough markup to keep a few pennies along the way. And, perhaps most of all it takes dedication and a lot of hard work.

Now about the first item, the good people we had working for us to make it go: In most cases they possessed knowledge and skills that I did not have. Almost none of those great rocket kits that collectors pay dearly for today came from my brain. They were the brainchildren of people like Bill Simon, Gene Street, Wayne Kellner, and Mike Dorffler. Roy Burns and his crew in the machine shop made our improved Mabels, nose cone machines, and even the machine we developed to flameproof toilet paper. Of course Gleda, with the help of department heads Dianna White, Oakie Six, and June Harris, handled all of the mail processing, shipping, catalog and *Model Rocket News* processing, dealer orders, and a host of other duties. George Miller came on board to do our purchasing and Sadie Hedger ran the accounting department. John Schutz ran Mabel in the early days and designed the first boost glider—a concept that others had tried and many thought couldn't be done. Ed Brown was one of a kind and...the list goes on and on. It was the talent and dedication of these people that let us grow and prosper.

The second important item mentioned above was how we treated our customers. We felt a special relationship with each and every one. Our goal was to keep them safe while helping them become successful in pursuing their interest in rocketry and related subjects. We built on this by establishing a special relationship that transcended the normal relationship businesses have with their customers. We communicated through the *Model Rocket News,* addressing their interests and concerns. We helped them with science projects and even sponsored a contest to take one of our rocketeers to the Apollo 11 moon launch. Our mailroom had special personnel to answer letters because we knew how important a prompt answer could be to a young rocketeer with a question or problem.



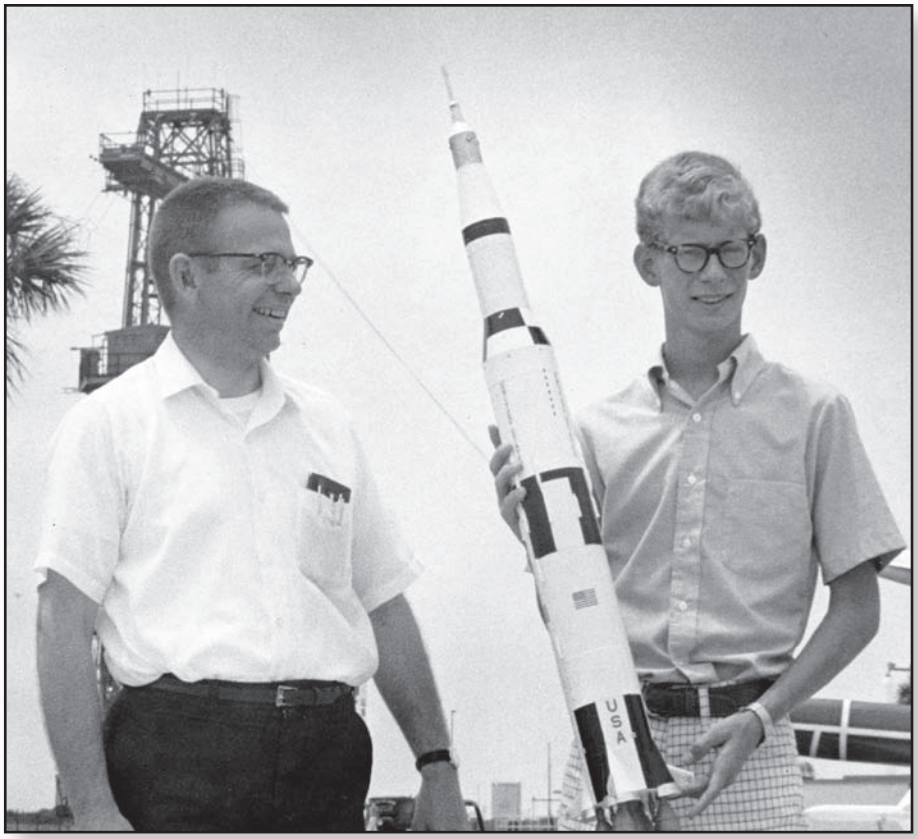
Estes Industries sales suddenly increased after customers received catalog #651 (labeled 1966, but mailed in Sept. 1965) having the first full-color cover. The flood of orders was more than the company could handle. Vern hired people as fast as he could, but for a while the boxes of unopened mail stacked up in his office, almost to the ceiling. It took weeks to get caught up, but all orders were shipped in time for Christmas.

If a customer had not sent quite enough money for his order we shipped it anyway and asked that the difference be included with his next order. We knew that a lot of our customers began counting the days from the moment the order was dropped in the mail until they expected to get their rockets. Think of the disappointment, if instead of a package of rocket goodies, a letter arrived telling them to send more money.

And then there were our guided tours. The special relationship we had with our customers meant they wanted to come see us. We started giving tours in the early years of the company and it grew and grew. By the time we sold to Damon, our summer tour guide crew was up to seven with more than 10,000 visitors in just three months. Our eldest daughter Betty was one of the guides. Each tour ended with the visitor participating in launching a rocket at a special site at the plant designated by a small sign as "Cape Estes." The rocket was usually a Big Bertha.

SR: I've heard the stories of Gleda stitching early catalogs on her sewing machine and rolling body tubes on the kitchen table? Could you elaborate?

Gleda: Yes, I stitched up the catalogs on my sewing machine, after printing them on a mimeograph machine and hand folding the center sheet. Our first "catalogs" were just single sheets offering engines and later body tubes and some other parts



along with the Astron Scout. Then shortly before we moved to Penrose we decided to expand the catalog. The new catalog consisted of three 8-1/2" x 11" and one 8-1/2 x 14" sheets of paper. After mimeographing on both sides the long sheet was folded to make all the same length, then I collated the sheets and fed them through the sewing machine using a jig (guide) Vern had made. It was a fast operation as one catalog after another landed on the floor on the other side of the machine ready for the thread that still tied them together to be cut. Only a few hundred of these early catalogs with the Denver address were made.

However, the body tube rolling was actually done on the office floor initially—I was 7 months pregnant and that was easier for me than leaning over a table or desk. The paper for the tubes was from the heavy "negative" portion of a wet-bath copier (normally thrown away after making a copy). After we needed more body tubes than I could produce we then bought tubes from New England Paper Tube Company.

SR: What Estes kit surprised you the most with its popularity (if any)? What is your favorite kit?

Gleda: Probably my favorite kit was the Space Plane. Vern had set a glide duration record with his Space Plane, and then during a subsequent contest I set a new record for duration—and since this was under the old rules, which have been retired, my record still stands in perpetuity. I really enjoyed building duration rockets such as the Drifter, Sky Slash, and Falcon. Not always kits.

Vern: I don't remember which rocket met the criteria of "surprise" but when Bill Simon did a survey of the sales of various kits around the time we sold to Damon, it showed the award for the highest number of rockets sold went to the Alpha and the trophy for the rocket providing the most dollar sales went to the Big Bertha.

Big Bertha has always been my personal favorite. Big Bertha was an offshoot of the 3-engine cluster Ranger. We had a local rocket club called the Astron Rocket Society that met in the garage behind our house. We were all building rockets one evening and I decided my rocket would be the Ranger but with only one engine. I decorated it with decals of nice looking ladies and called it the Big Bertha. I wasn't sure a single engine would provide

Above: Vern with Sven England, the rocketeer who won the Estes contest for a trip to the Apollo 11 launch in 1969.

Right: Thousands of visitors stopped by Estes Industries each summer (one young rocketeer even convinced his family to drive 200 miles out of their way). Estes tour guides showed visitors though the various departments in the main office building, and then pointed out the engine manufacturing facilities. At the end of the tour they prepped and launched a rocket from a pad at Cape Estes. Of course, before leaving, everyone was invited to visit the on-site retail store. Photo from 1969.

enough power for a safe liftoff. Later when the countdown reached zero Bertha lifted gracefully into the blue sky leaving a white smoke trail behind. To me, its slow liftoff was an emulation of the birds lifting off at the cape. I still have the original Bertha and the last flight was in 2000 at NARAM 42 at the Estes Land launch site. No further flights are currently planned but...

SR: Your mention of the "Astron Rocket Society" sparks a question: Many of the classic Estes products had the name "Astron" tacked onto the beginning of their names. Was there any special significance to the term? Where did it originate?

Vern: I am frequently asked where the term "Astron" came from. I remember we decided to use it while still in Denver. My recollection has always been that the word meant "over and above" and that I had found it in a dictionary or other printed reference. Today, when I look for such a reference it cannot be found. Perhaps I coined the word with the intent of it having such a meaning. Today, when I Google for the word "Astron," I find a lot of businesses and organizations using it in their names. Perhaps, some of these entities are ones that were founded by some of our early model rocketeers.

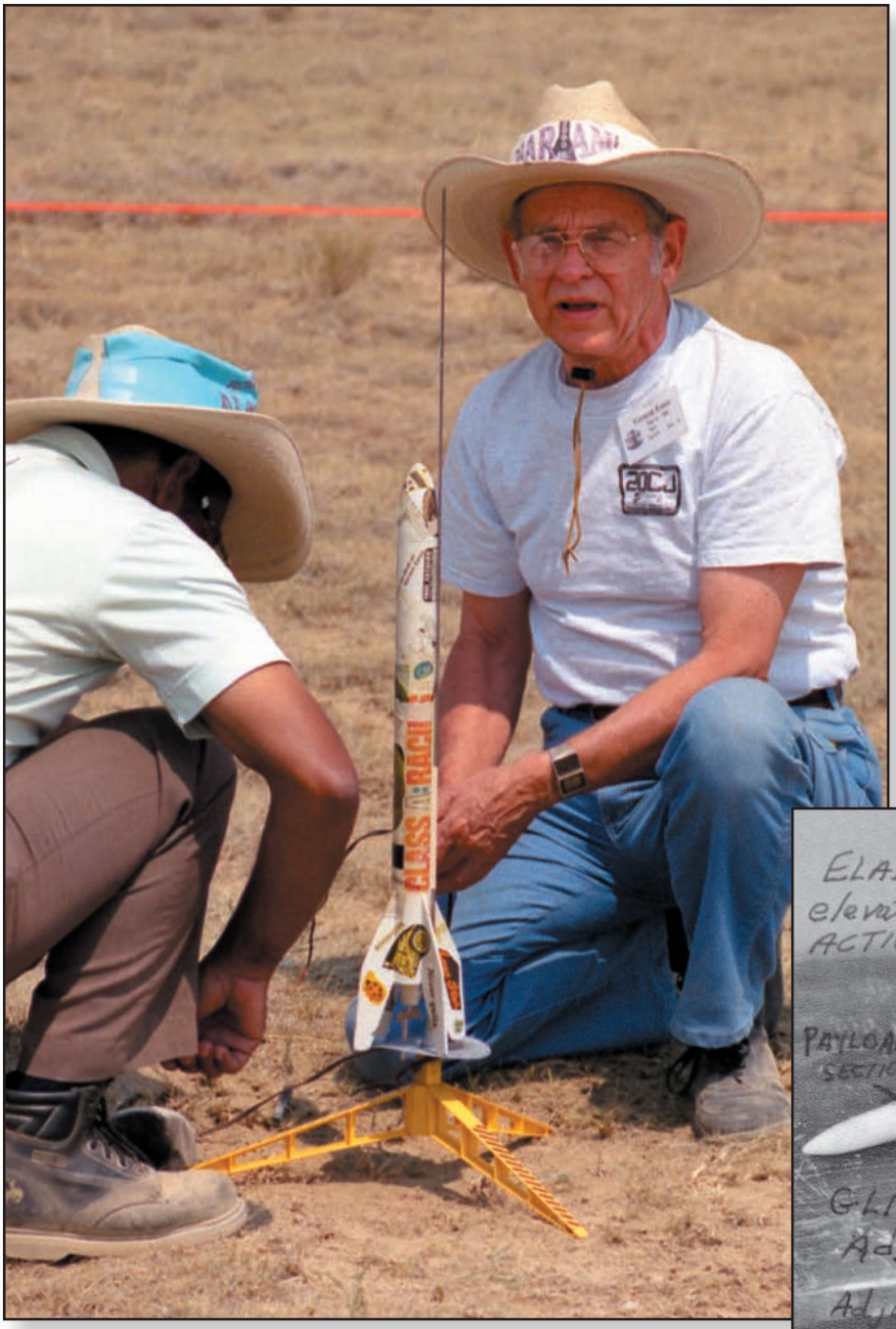
SR: What were your impressions of your competitors, the other model rocket companies?

Vern: Back in the early days the industry had problems that needed to be solved that related to the world we were living in. Many Fire Marshals didn't understand that model rockets were not fireworks and other officials needed to be told that we had a solution to their problems and were not a part of it. This brought on a special relationship between competitors that many industries don't share. We formed a loosely knit organization called the Model Rocket Manufacturers Association (MRMA). Our group set aside time to meet at NARAM and places like the Pittsburg Spring Convention. As we talked about our problems we also formed personal relationships.

We developed a special relationship with Leroy and Betty Piester, which included an agreement to supply rocket engines to their new company. Centuri soon became a serious competitor. Although they were claiming a larger and larger share of the market they were also providing services and ideas that were expanding the market. Keeping ahead was a real challenge. Centuri's presence and progress made us work harder and harder just to stay ahead. While I did not like giving up a share of the market to a competitor, at the same time their presence did make for a healthier industry. And most of all that extra effort we put in to stay ahead made our company grow even faster. I can honestly say that even though they were smart and fierce competitor, Centuri's presence was a major contributing factor in our success. And those great kits that Centuri produced are a collector's dream. Perhaps we encouraged them to work hard also.

I still have a unique gift that arrived at my office in Penrose with a postmark of Phoenix, Arizona. It contained a catalog, a beautiful full color model rocket catalog that was far superior to any we had produced. Also in the box was a second gift, a crying towel from my good friend Mr. Leroy Piester. I didn't forget his thoughtfulness, and later...well, that's a story for another day.

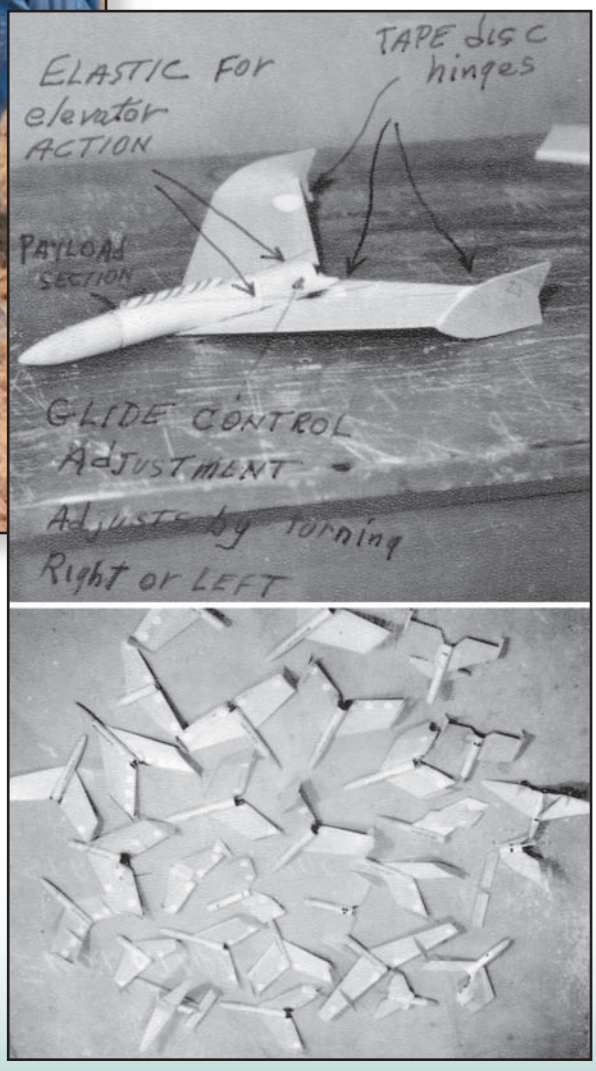
This well-worn copy of the 1961 Estes Catalog #261 was used as a reference in the manufacturing area of the Penrose plant.



I will always remember the many good times we had with the Piesters, especially our trip to the 1966 International Model Rocket Meet in Czechoslovakia. Gleda, our oldest daughter Betty, and I traveled with Leroy and Betty Piester through various countries in Europe, not as competitors, but just as friends with a common interest who enjoyed each other's company.

SR: You mentioned the difficulties of convincing some Fire Marshals that model rocketry was safe. Were there any particularly tough cases?

Vern: Yes, California. I well remember some of the antics Mr. Thomas G. Fisher, the California Fire Marshal, pulled when we visited to demonstrate the safety of model rocketry. He was thoughtful enough to gather all the fire officials together for Lee Piester and me to address. We told them about the safety of model rocketry, how it could prevent accidents, etc. Then Mr. Fisher took everyone outside, lined them up and demonstrated the dangers of rocketry in a way that only a person with a deranged mind could do. He had crushed the propellant from a large number of rocket motors, placed his concoction in a 60-gallon drum, aimed it directly at his fire officials, and set it off. KABOOM! I'm not



Above: Vern readies one of his early Big Berthas for a flight at NARAM-42 in EstesLand, Colorado. This is not Vern's original prototype Big Bertha, but one he built a short time later as part of his activities in the Astron Rocket Society.

Right: Vern built many gliders while trying to come up with a kit version of John Schutz's boost glider that customers would be able to build and trim successfully. John had built the first successful boost glider—but the music wire spring he used to activate the control surfaces was nearly impossible to duplicate. The Space Plane, Estes's 3rd kit, first appeared in the Penrose edition of catalog #261 (but was not in the Denver edition, the very rare first edition stitched by Gleda).

sure what he proved by this, but he convinced most of us that, at heart, the California Fire Marshal was a first-class basement bomber.

Of course his greeting to Gleda was unique. On introduction, Mr. Fisher said something like "Welcome to California, Mrs. Estes. We have a very fine women's prison here."

SR: Who were the most important employees at Estes in the early years? What did they do that helped make Estes a success?

Vern and Gleda: Oh my goodness what a question. A lot of great people (hundreds) contributed to making the company a success. Here is a list of some of them:

John Schutz had some pyrotechnic experience and was the fourth employee to run Mabel when we were still in Denver. He was injured in one of the early Mabel incidents. He had been a model airplane builder for many years, and he developed the first boost glider. John was very "company success oriented," almost as though he were part of the family business. He ate his lunches with us in our house when we were still located in Denver (Mabel's house was in our back yard). John is retired now and lives in Cañon City. John's wife, Betty Schutz, came to work for us just before our youngest daughter, Linda, was born and helped Gleda with the mail processing, production, and shipping. She and John made the move from Denver to Penrose with us, and for a short while she was our only office and shipping employee.

Bill Simon was a very important employee in contributing to the growth of Estes Industries. He came to us in June of 1962 to edit and publish the *Model Rocket News* and other publications (he still asked Gleda to proofread all the catalogs before they went to press). Serving in many capacities he became Vice President of the company and was responsible for R&D of new kits and products, writing instructions, developing and publishing the catalog, photography, etc. Bill now lives in Mt. Vernon, Washington, and works as a recreational watercraft designer (boats, yachts, etc.).

George Miller was living in nearby Cañon City and came to us as a purchasing agent. He was extremely valuable in keeping supplies and materials on hand and keeping costs in line. Ed Brown first worked in the machine shop. His inquiring mind leaned toward rocket engines and this led him to engine manufacturing. Ed recently retired from his position as manager of the Estes engine manufacturing plant. Roy Burns designed and built automated equipment for many departments. Oakie Six managed the mail-processing department for over 25 years. Diana White managed shipping and kit packing until kit packing was split into another department in a different building. Lucile Barber handled and supervised our rocketeer mail department. June Harris worked in customer service and as dealer sales manager. John Hood was our multitasking warehouseman who could handle more freight or mailbags than just about any one around.

Leroy Piester and Vern Estes having a "friendly discussion" in 1969 over who had the better Saturn V kit, Centuri or Estes.

Norm Avery handled public relations and did the "Launch Pad," a bi-weekly publication for our employees. Bob Cannon was our education director who really made model rocketry work in the classroom. Gene Street served as artist, print shop and darkroom manager, and in R&D. Jean Curnutte was a printing press operator and then print shop manager, followed by Charlie Wagner who managed the print shop and visual graphics department. Alice Hammock ran our in-house walk-in store. Art Hunter came to work for us in 1961 to help us construct the needed buildings, and stayed for many years doing whatever carpentry or building work was needed (including our checking tables, special bookcases, etc.). Art's wife, Louise Hunter, took over stitching the catalogs from Gleda until we began staple stitching them. Sadie Hedger took over our bookkeeping when Gleda no longer had time to do it. The list goes on, including Dane Boles, Mike Dorffler, Earl Estes, Wayne Kellner, Carl Turse... and we've undoubtedly left out some key people, but these are the ones that quickly come to mind.

SR: Who designed and developed the Camroc?

Vern: That was my baby (patent #3,537,369). I wanted to be able to make a model rocket do more than simple launch and recovery and this seemed like a project that would advance the hobby. I deliberately chose to use a design that would provide an understanding of how a simple camera works. One of the biggest problems with the Camroc was the length of time it took from the moment one of our customers decided to order the Camroc until he (she) had a picture in hand to look at. The first step was to order the Camroc and film, then fly the rocket to take the pictures, and finally return the loaded film holders to us for processing. Not all of the pictures taken produced great results (blurry images, sky shots). However, I would speculate that in many cases just getting a picture of "something" from a rocket flight was enough to provide that feeling of accomplishment.

SR: I think it was Bob Kaplow who said the most amazing machine he saw at Estes was the one that made the flameproof wadding. Who designed that machine?

Vern: Most of the specialized equipment was a combined effort between Roy Burns and myself. I would make a few sketches, then sit down with Roy to discuss the concept and he took it from there. Sometimes the equipment looked a lot like my original thoughts and sometimes not. I don't remember exactly how we came up with this particular piece of equipment, but probably as described above. Later, Roy came up with a much more efficient process, which was strictly his baby.

Speaking of flame-proofed toilet paper, I have often wondered what those semi drivers thought as they drove up to our plant with a full load of toilet paper. There were lots of jokes around the plant about this. So far as I know we were the only employer in the world that flame proofed its toilet paper.

Prior to the flame-proofed toilet paper we used a folded paper protector, printed on and cut from the engine instruction sheets. I believe our first effort with flameproof material was stuffing the body tube behind the chute with fiberglass insula-

Above: This is one of several order picking and packing stations used in 1969. All products were within reach allowing for efficient processing. From here the orders went to the Penrose Postal Annex room for stamping, sorting, and bagging ready for loading into mail trucks for shipment to rocketeers throughout the country.

Center: Robert L. Canon, the Estes Education Director, talks model rocketry with Egypt's representative to the World Federation of Aerospace Education (circa 1975).

Bottom: Mail was sorted and then went to the mail opening and processing clerks working at special desks. Sometimes clerks hand-wrote simple notes to accompany orders. Envelopes containing special requests were directed to the "Rocketeer Mail" department for a personal response. Orders were promptly passed along to the shipping department for processing to be mailed out the same day. 1969 photo.

tion. The flameproof wadding proved to be by far the best.

SR: Why did you eventually decide to sell Estes Industries? How did the involvement with Damon come about?

Vern: The company was doing great. It was 1969 and I saw the moon landing as a point in time where interest in rocketry could begin to wane. I had enjoyed success and felt it was time to move on to other endeavors. Earlier in my life I had set of goal of being able to retire before I was 40 and I was now at the ripe old age of 39.

I had received an unsolicited inquiry about buying the company that triggered my action to sell. I contacted a firm in Denver that specialized in

matching buyers and sellers of companies like ours. They made the contact with Damon and handled most of the negotiations. We signed on the dotted line and I agreed to continue to manage the company. We subsequently had some disagreements on business matters. This led to my buying out my management contract and entering into a consulting agreement with Damon. I kept my personal and consulting office at the company for several years before final separation in the early 1980's.

SR: As you reflect on the past are there any additional thoughts you would like to convey?

Gleda: Answering your questions has given me a chance to reach back in my life and reflect on the most hectic venture I could imagine. I was managing several departments as the company grew and expanded. At the same time I was raising our three girls and running things on the home front. But most of all I remember the great relationship we had with our customers and how we were so important to each other.

Vern: Yes, just to say that those years were a wonderful time in my life-from 1958, when I first met Harry Stine in Denver, until 1969 when the company was sold to Damon. Just eleven years to join with others to establish an activity that met the needs of the youth of the day and nearly 50 years later still provides the same benefit to both the young and "not so young." I will always be thankful for all who participated in this venture and especially the millions of America's youth who sent us their orders and then waited "patiently" for the mailman to deliver.

And thank you for this chance to answer your questions and tell about our participation in those "golden days of model rocketry." As you know, I am in the process of writing a book titled "Dear Mr. Estes." In this book each chapter begins with questions taken from letters I received from our young rocket customers during the early days. Instead of answering your questions I will be answering theirs.

Readers may contact me through my web site (www.vernestes.com) if they would like to contribute to my book by telling about their own youthful model rocket experiences or posing questions that they would like to have answered in the book.

Gleda and Vern pose with two of Vern's historic Big Berthas at NARAM 42 in EstesLand, Colorado. Gleda is holding the original prototype Big Bertha model.

Vern Estes Discusses Merger

Vernon Estes and wife Gleda chat with newsmen after announcing that Estes Industries has been merged with Damon Engineering, Inc., a Massachusetts firm. He sold Estes Industries for an undisclosed amount of stock in Damon and will remain president of the Estes Division of the Damon Educational Division. The merger, he said, will give him the capital to expand and maintain his dominant position in manufacture and sales of model hobby rockets. (Daily Record Photo).

Photo from a newspaper article in the Cañon City Daily Record (September 1969) about the merger of Estes Industries with Damon. The story was important local news because Estes employed about 275 people with an annual payroll of over $1 million. The article also reported that the assessor's valuation of the Estes plant had jumped from $28,633 in 1967 to $340,366 in 1969.