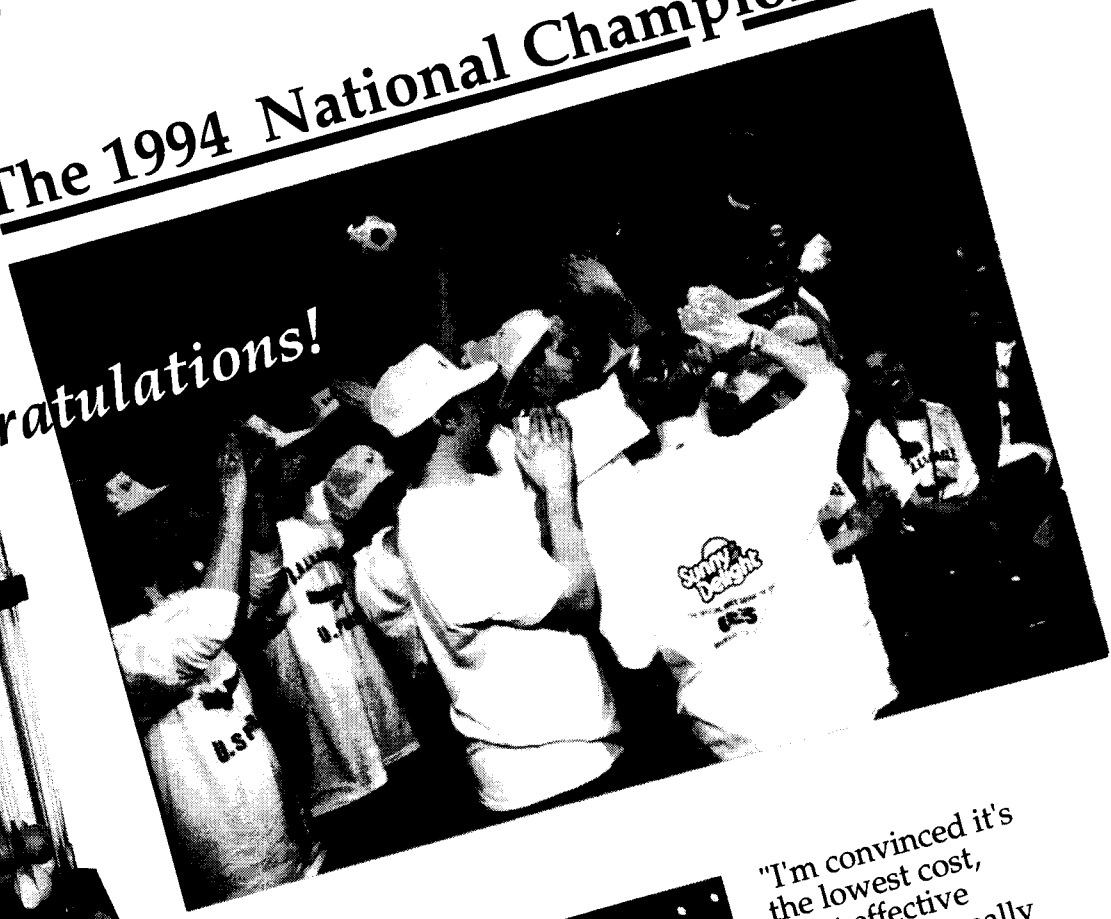
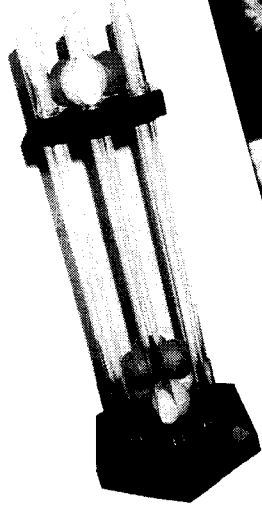


The Ball'ed Eagles

The Procter & Gamble Company Walnut Hills High School
Cincinnati, Ohio

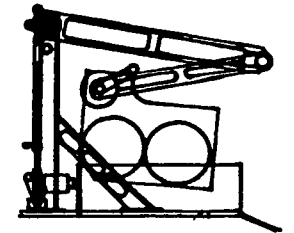
The 1994 National Champions

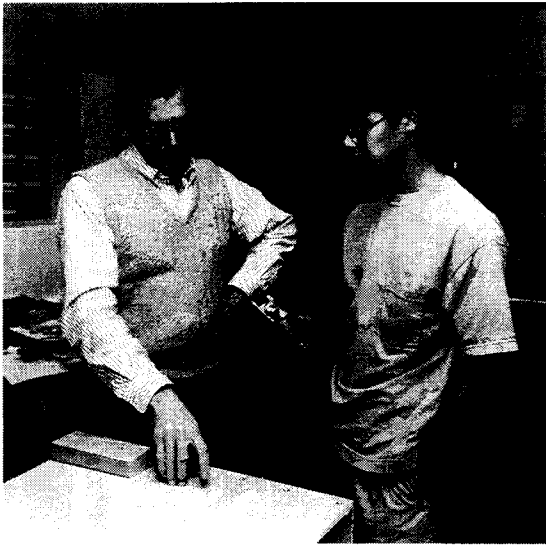
Congratulations!



"I'm convinced it's the lowest cost, most effective approach to really change the attitudes of our youngsters to science and technology. We'll be continuing to do what we can to further this objective."

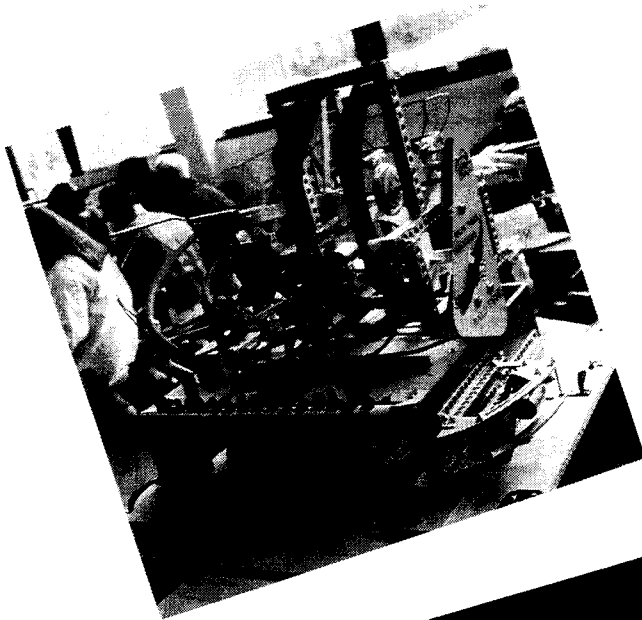
Gordon F. Brunner
Senior Vice President
The Procter & Gamble
Company





"They're doing very well on the design. You have to give them a lot of credit for what they've come up with. I think they are learning at the same time they are teaching us something."

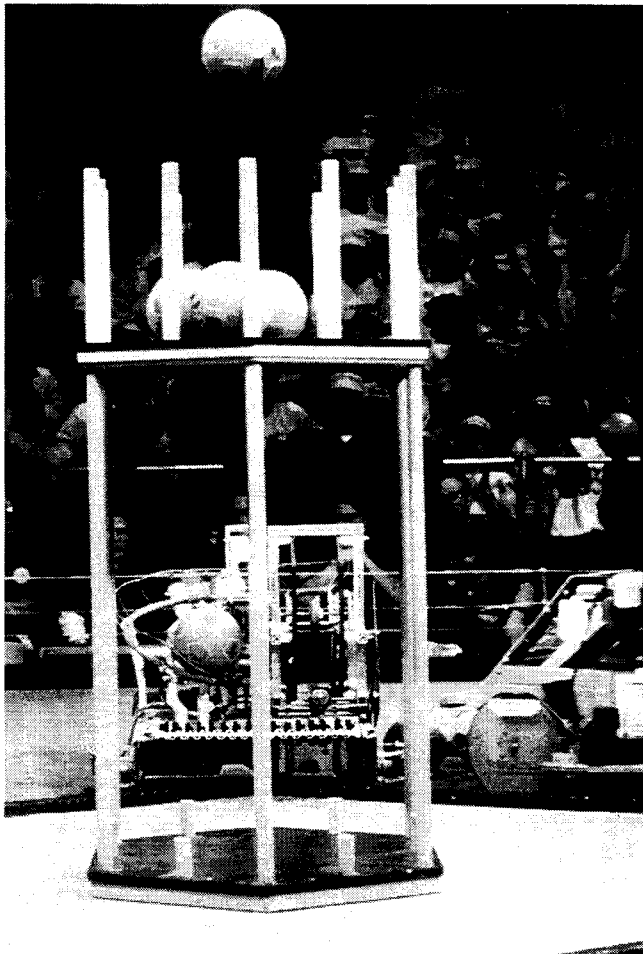
Norm Reibolt, Engineer



"I think it's good that there is something that's exciting and fun for kids to do in science. Usually, science is not considered a very fun activity but something very hard to do. ...This let's people know that science can be fun. ...It's really neat."

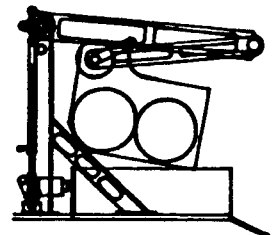
Naomi Feinman, Student

"The time I spent on the U.S. FIRST team was the most exciting time of my life. I would like to thank all the engineers involved.
Jeff Ernst, Student



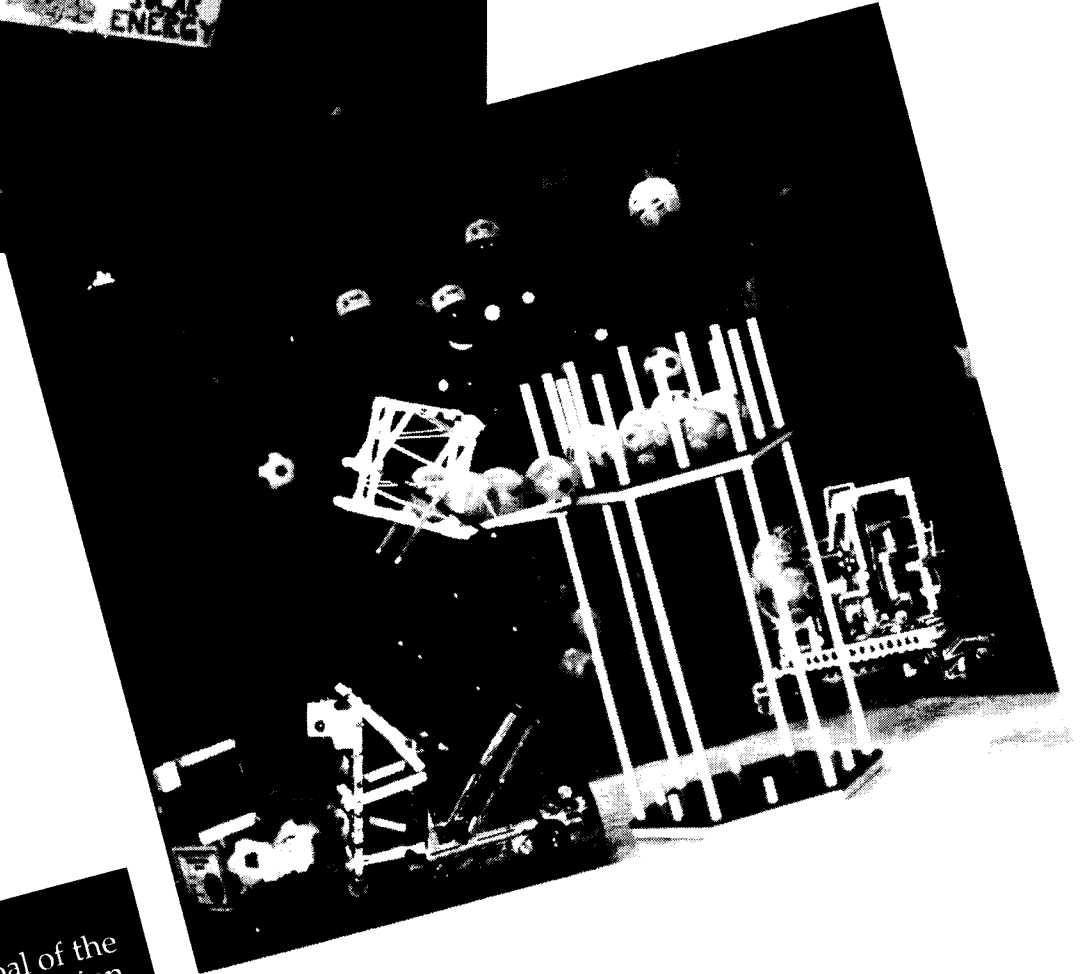
"I think that anytime students get to experience math and science in a creative and competitive way like this, something happens to the way we think about math and science. And it's something good.

Arielle Parker, Student





**WELCOME HOME
CHAMPIONS!**



"If the goal of the program is inspiration and recognition, we've met both. Win or lose, we'd already won."

Bob Dirksing, Research Fellow

Parents Reaction

"This is really impressive... I feel so fortunate that she's had the opportunity to do this..."

"It seem like he's begun to focus on what he wants to do with the rest of his life."

"I've seen my son start semi-interested (and grow) to totally interested now... It's been an incredible learning experience."

The X-Cats

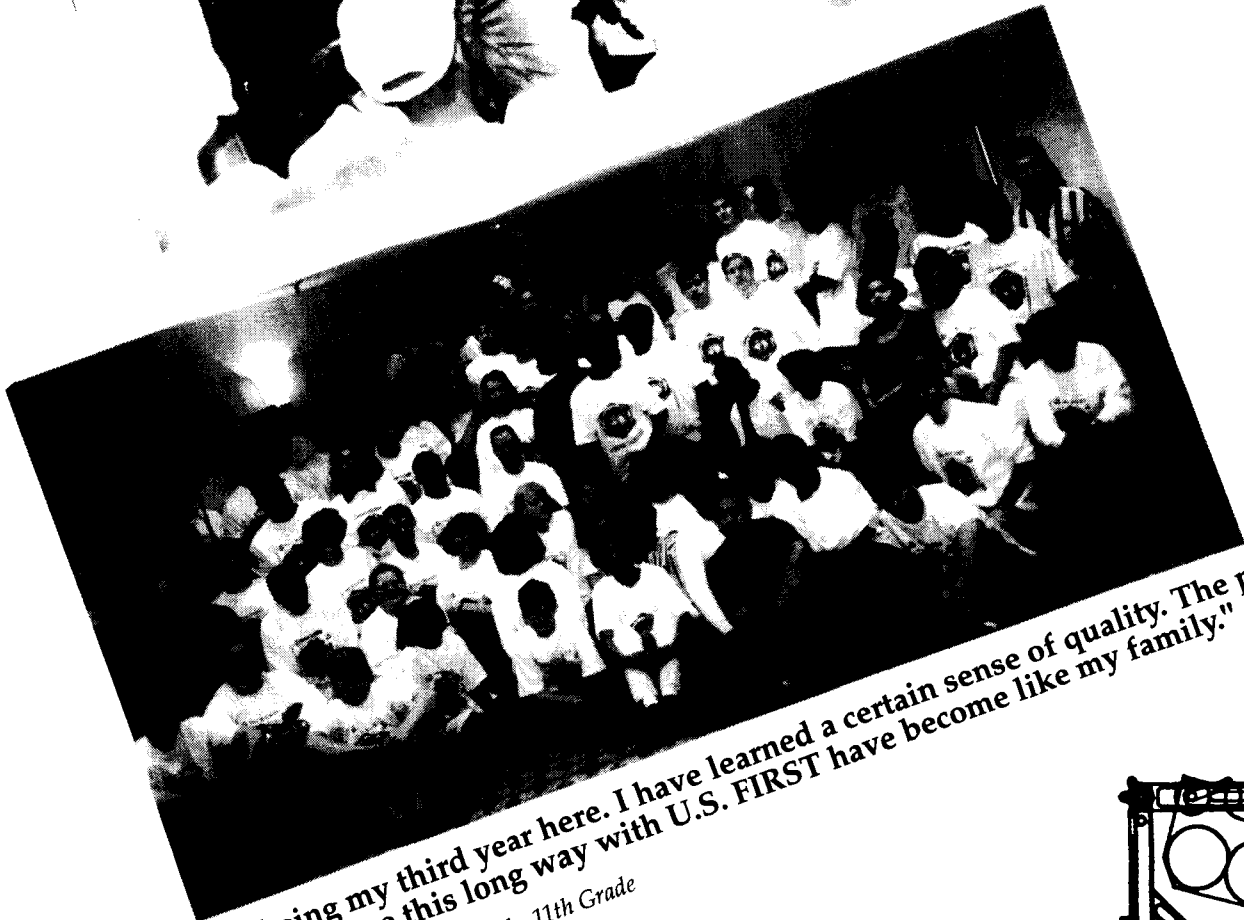
Xerox Corporation Joseph C. Wilson Magnet High School
Rochester, New York



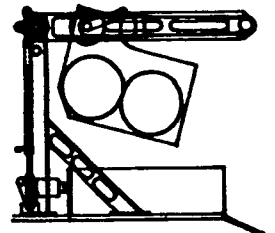
Chairman's Award Winner



"I am a role model."
Leonard Edmunds, 10th Grade



"This being my third year here. I have learned a certain sense of quality. The people that have come this long way with U.S. FIRST have become like my family."
LaShondra Edwards, 11th Grade





...For a young engineer, U.S. FIRST is a wonderful chance to work closely with experienced and gifted people whom we might otherwise never contact in the vast pool of a corporation. ...We've learned how to focus and complete tasks in an efficient manner, the advantages of teamwork, that engineers are not stereotypical 'nerds' and high school kids are not as bad as the media makes them out to be. *Molly Gregas, Mechanical Engineer*

"I realized something I hadn't realized before. That before U.S. FIRST I was a little bit prejudiced and it made me feel kind of bad because I was that way in the first place. But now, just today, I realized I started perceiving people from what I know about them instead of what I think I know about them." *Yolonda Flowers, 10th Grade*

"The engineers that I'm working with are very patient and open to new ideas. Even though they are very educated in this, they give us a chance to express our thoughts and they regard it very highly. For the few weeks that I have been working with them they've showed me that I can do anything that I want as long as I put my mind to it. They have taught me to take certain risks. ...All of this has made me feel very special and important. It has given me a feeling of maturity, because of the fact that I can get along with adults and act like an equal to them. It's such a good feeling!" *Mesode Sobe, 12th Grade*

“That’s the thrill of working with the kids. ...They ask the all important simple questions with difficult answers that make you scratch your head or raise an eyebrow.”...

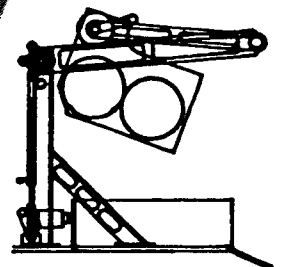
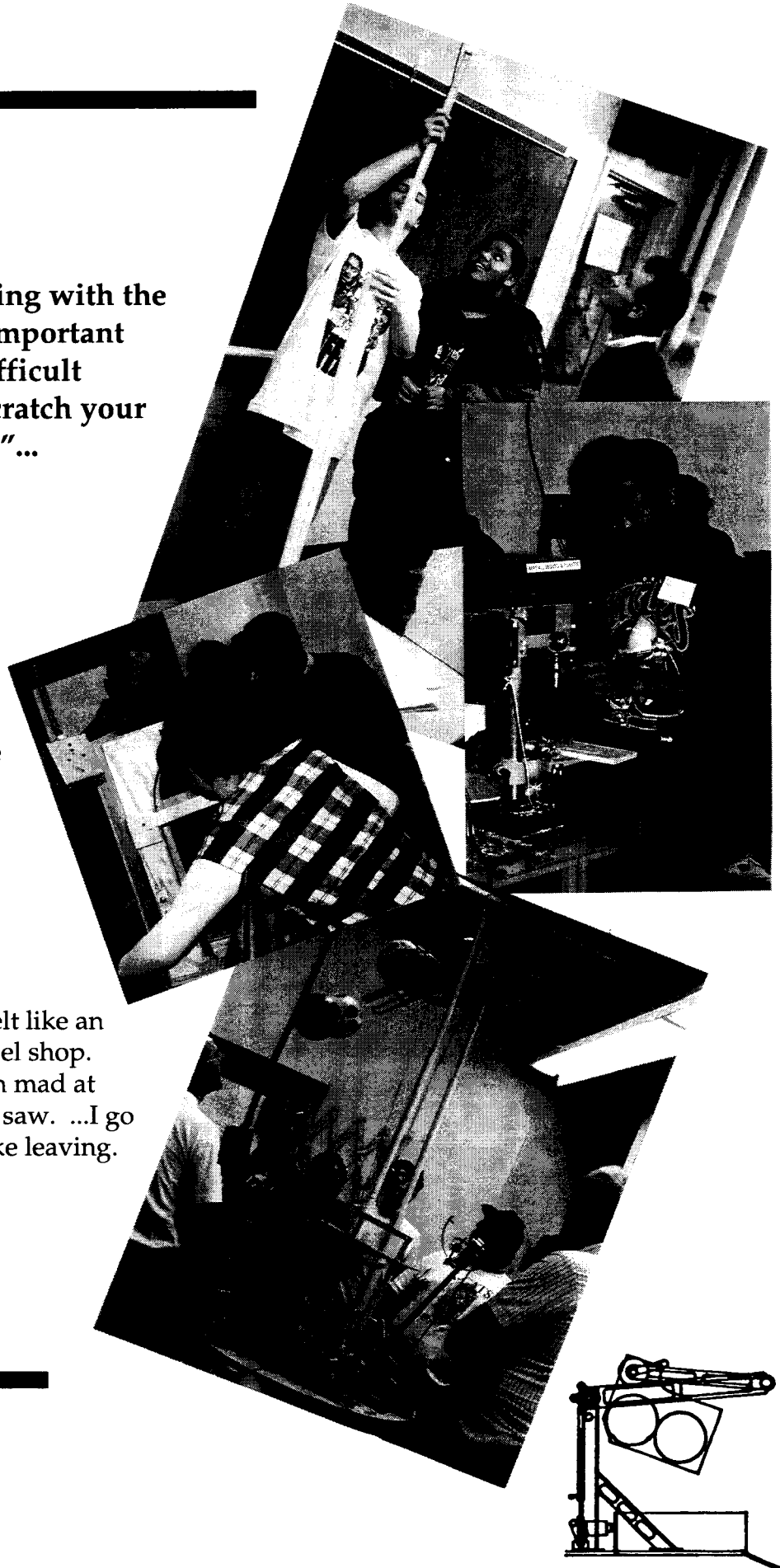
Peter Chu, Systems Analyst

“The jobs I do aren’t very big but, I feel good that I know how to use these tools and I know what they are. The one thing I will try to change is the way women are looked at in engineering.”

Liz Taylor, 11th Grade

“Through this project I have felt like an equal to the people in the model shop. Rich and Mark have not gotten mad at me, even when I broke a band saw. ...I go to meetings and I never feel like leaving.

Joe Vellozzi, 10th Grade



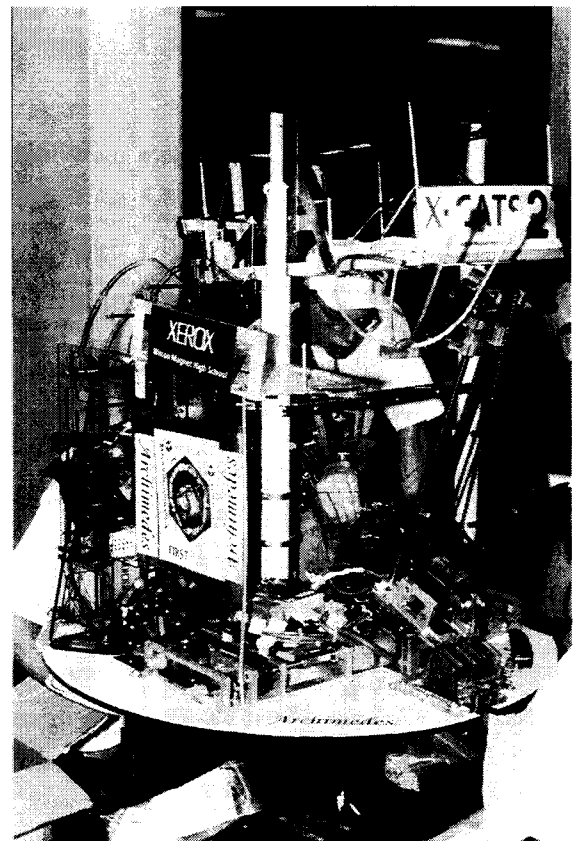


"I participated in and watched major discussions and debates over issues pertaining to our vehicle in which students of all educational backgrounds not only participated in, but took a leadership role. I had been part of programs before, but had never seen motivation on a level such as I saw there. 'Good' students were working along side 'bad' students, both respecting each other's ideas and working together to mesh them into a common product.

Gene Gordon, Physics Teacher

"When I think about the competition, I sometimes worry about the performance of our vehicle. Negative thoughts, like 'what if someone else has a better, more efficient design? What if our best is simply not good enough?' But then I realize what it is we are doing here. We're building an actual, real, working machine to perform a task. And that's just so incredible to me that I almost think the competition is irrelevant: we're doing something great here, whether we're the fastest or not.

Adriane Giebel, 11th Grade, January 12, 1994



Honeywell, Inc.

1994 Founders Award Winner

Sponsor of Five U.S. FIRST Teams:

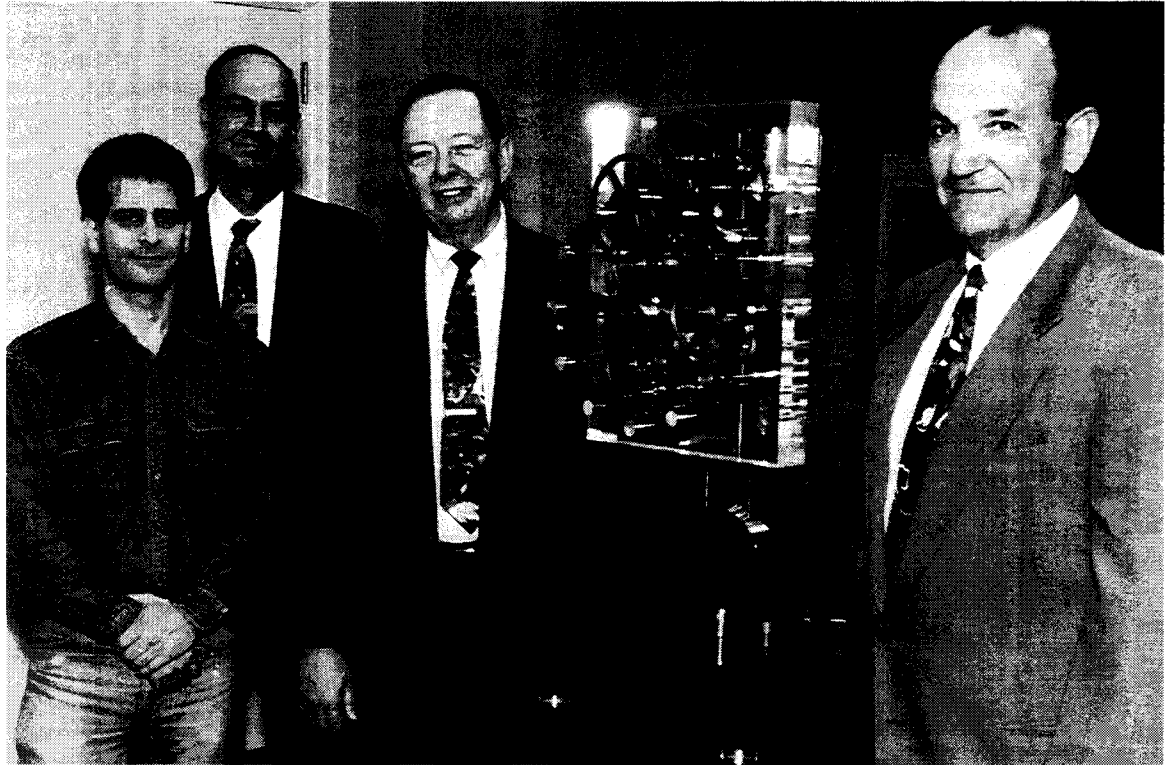
Alliant Techsystems, Inc., Washburn Senior High School, MN

Alliant Techsystems, Inc., Kamiak High School, WA

Honeywell, Inc., North Community High School, MN

Honeywell, Inc., Commercial Flight Systems Group, Cortez High School, AZ

MICRO SWITCH, A Honeywell Division, Freeport High School, IL

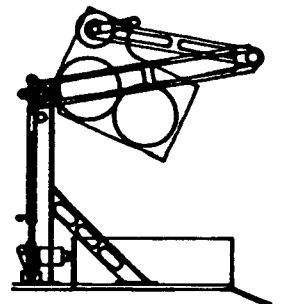


L-R Dean Kamen, Dallas Burns, retired Vice President of Technology, Dr. James Renier, retired Chairman, and Michael Bonsignore, current Chairman and Chief Executive Officer.

Honeywell proudly accepts the 1994 Founders Award in recognition of their contribution to the continued growth and expansion of the U.S. FIRST Competition.

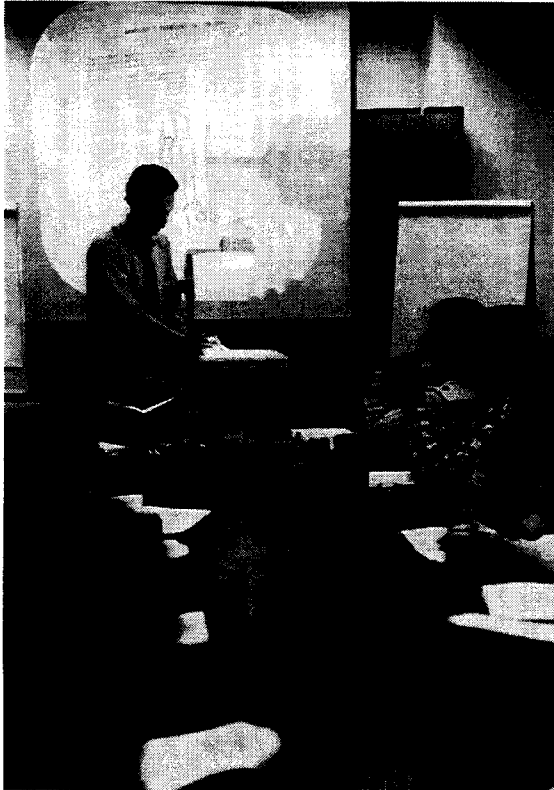
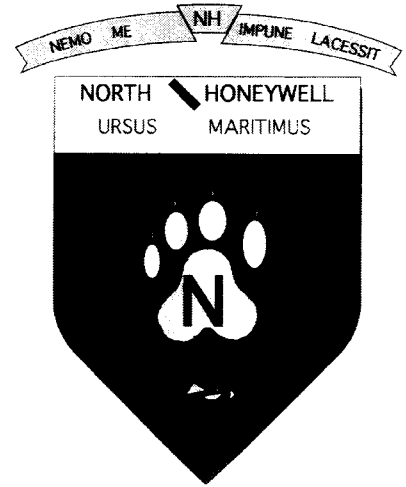
"We're extremely proud of the commitment and dedication of Honeywell employees to the U.S. FIRST effort. Their time and energy will surely pay off in the next generation of engineers."

The Founders Clock, so magnificent in its design and engineering, is a symbol of the kind of excellence that will inspire other companies to join. The spirit of this program is contagious, as is Dean's enthusiasm and energy. If anyone can convince kids that science and engineering are exciting, he can. Honeywell will be proud to have helped."

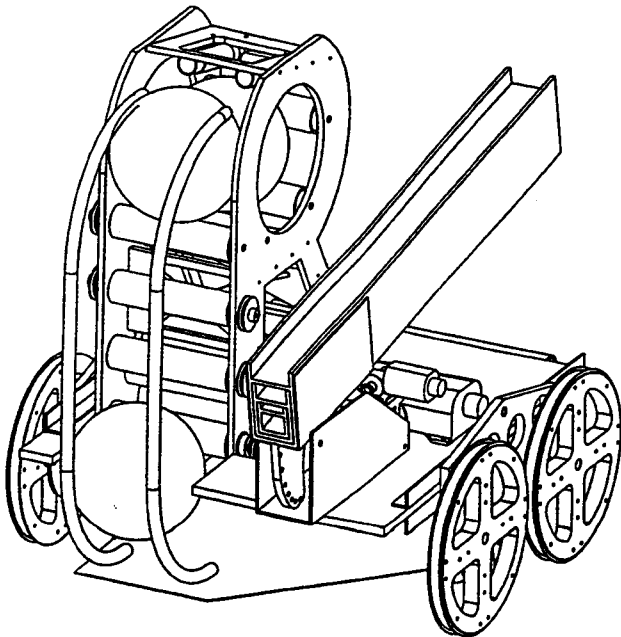
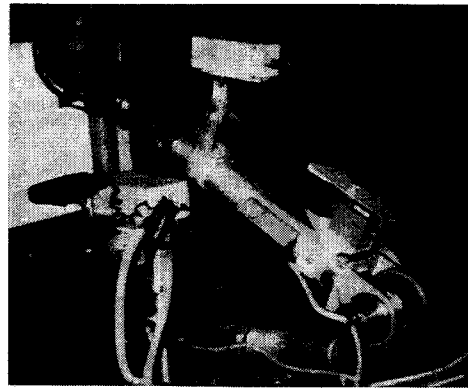


Ursus Maritimus (Latin for Polar Bear)

Honeywell, Inc. North Community High School
Minneapolis, Minnesota



We found the students, teachers, and engineers working side-by-side as genuine peers. ...In general, everyone involved with the program has experienced significant personal growth. We have all learned from each other and we have developed great friendships from working side-by-side toward a common goal—Being the best that we can be together!

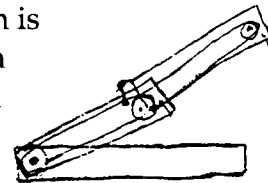


BOMB SQUAD!

To help stimulate the generation of design ideas, John Howard (a Honeywell engineer) invited the Minneapolis Police Department in for a demonstration of the robot that they use to diffuse bombs or handle hazardous materials. The van with its 'Bomb Squad' decal that they parked in front of the Honeywell facility generated a lot of attention from the building's occupants! Their robot was the embodiment of many of the features that we were talking about building in our system. It really helped to see how it was constructed and how it operated.

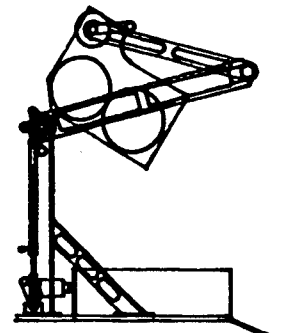
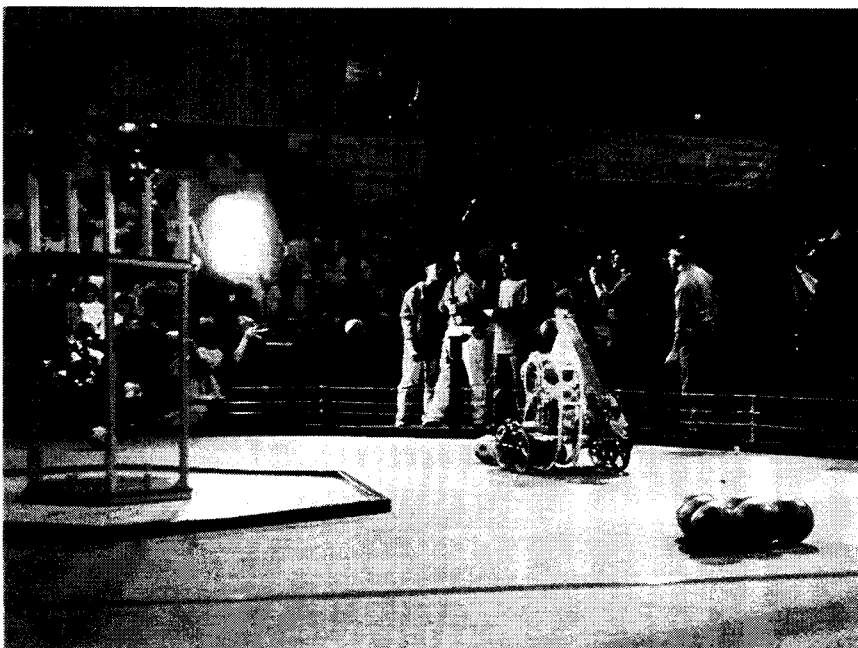


Along with the joy and pride of watching our team prepare for the tournament, there is sadness in knowing that this year's program is over and we won't be getting together over at Honeywell twice a week again - until next year... We had a great time and we have a treasure chest full of memories and experiences.



PULLEY/CABLE (ATTACH)
PARALLEL SECTION EXTEN.

- FAST
- LOW WEIGHT
- DRIVE BOTH SIDES
- DRIVEN RETURN
- EXTENSIBLE TO W-SHAW
- 1 MOTOR / 2 DIRECTION...
- WEAK LINK AT ATTACHMENT POINTS

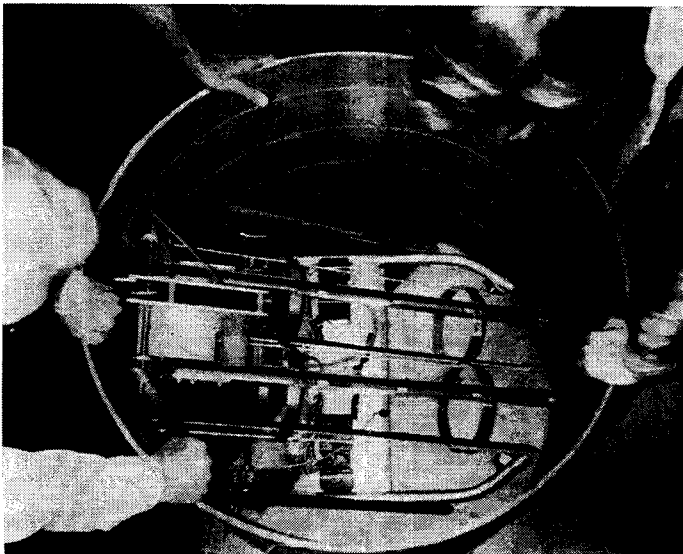
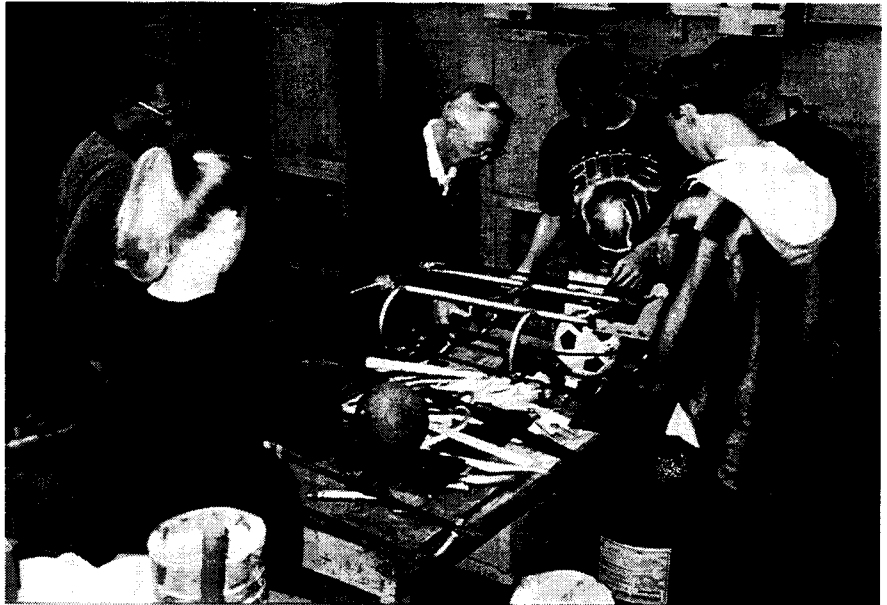




Rookie All-Stars National Semifinalists

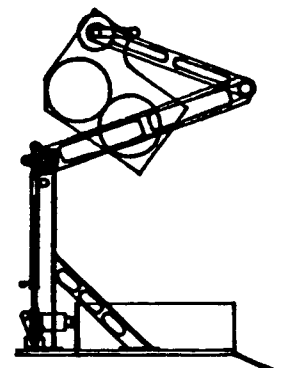
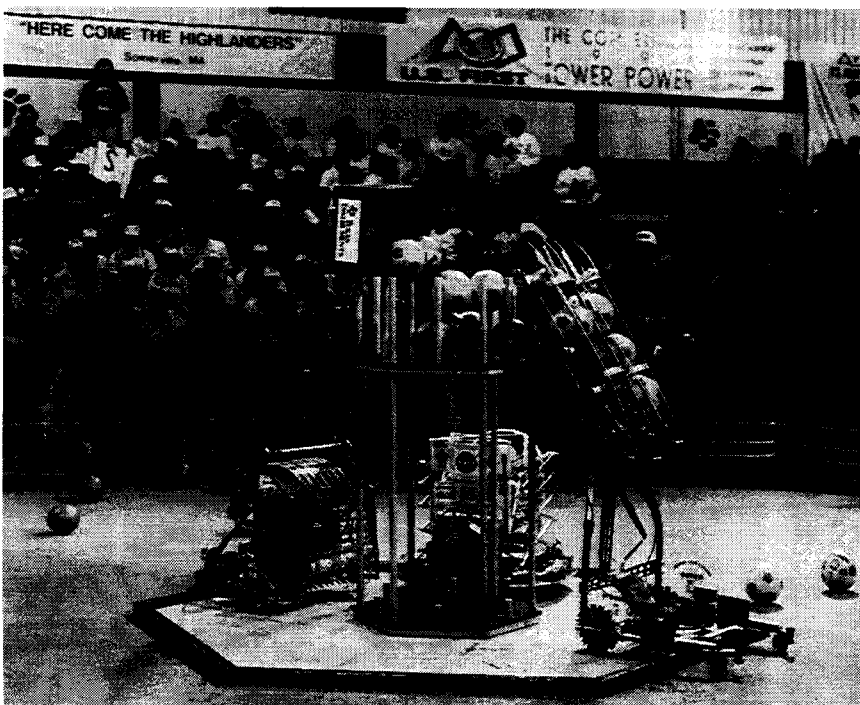
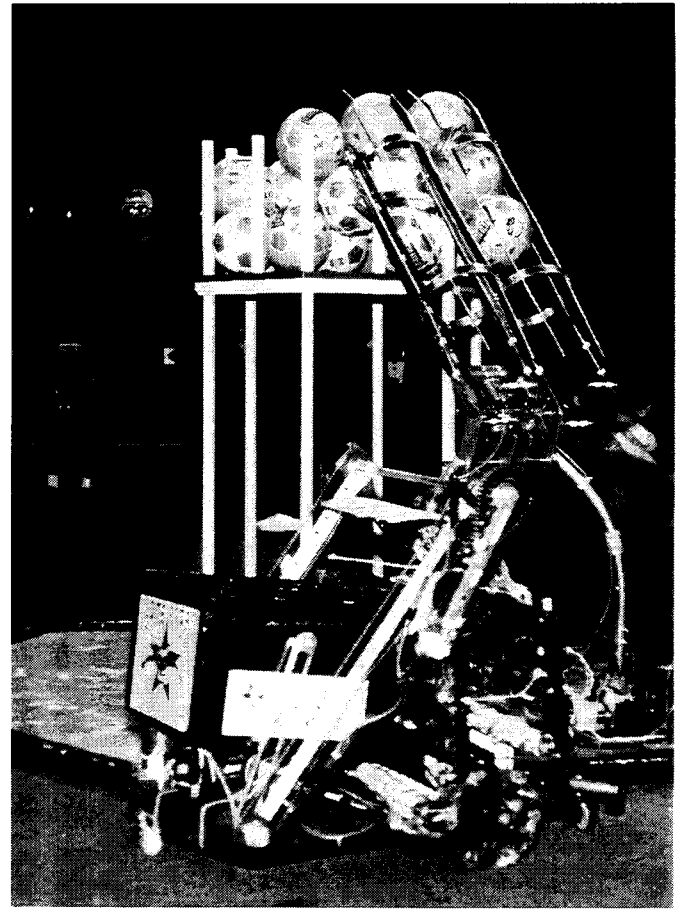


Our team is comprised of eleven students and eleven engineers. All of our engineers are volunteer retired engineers.



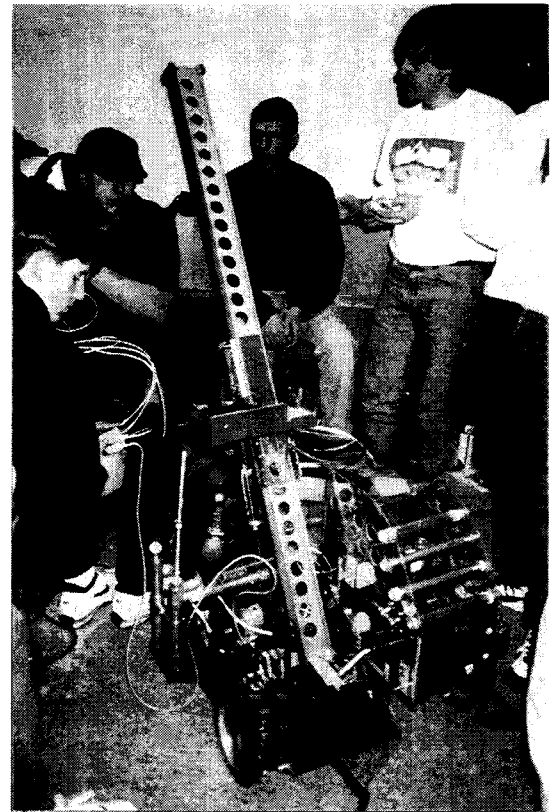
The Robocolt team was established prior to the Kick-Off Workshop. Copies of the 1993 Competition Rules were distributed to all on the assumption that the 1994 Rules would be generically equivalent, although significantly different in detail. On that basis, we identified all the tasks to be accomplished prior to January 10. The strategy was to be in position to move out immediately upon return of our delegation to the workshop.

...The students and engineers worked side-by-side through it all. The relationships that developed are priceless, and the experience was worth every minute spent on the project.
...Participation by the students, school staff, and engineers has been inspiring. Support by Honeywell management and shop facilities has been excellent.

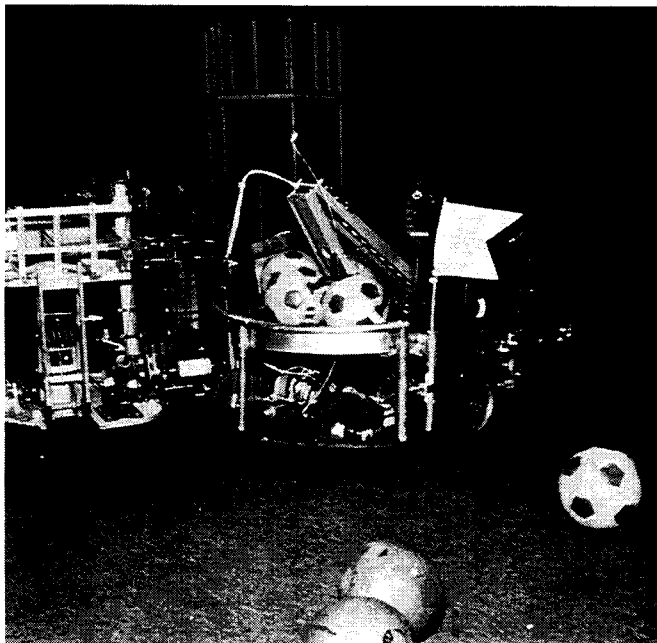


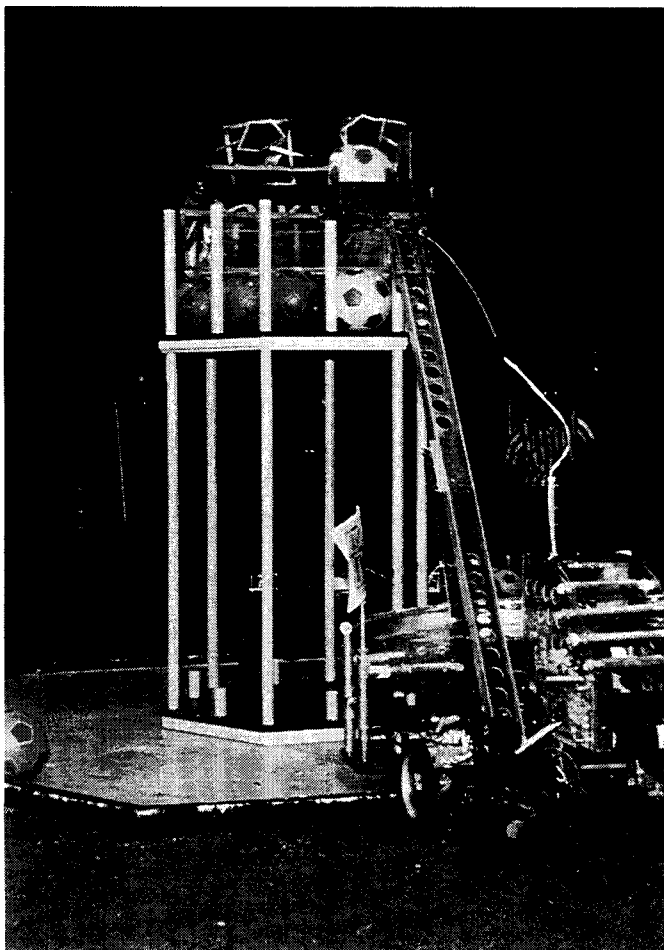
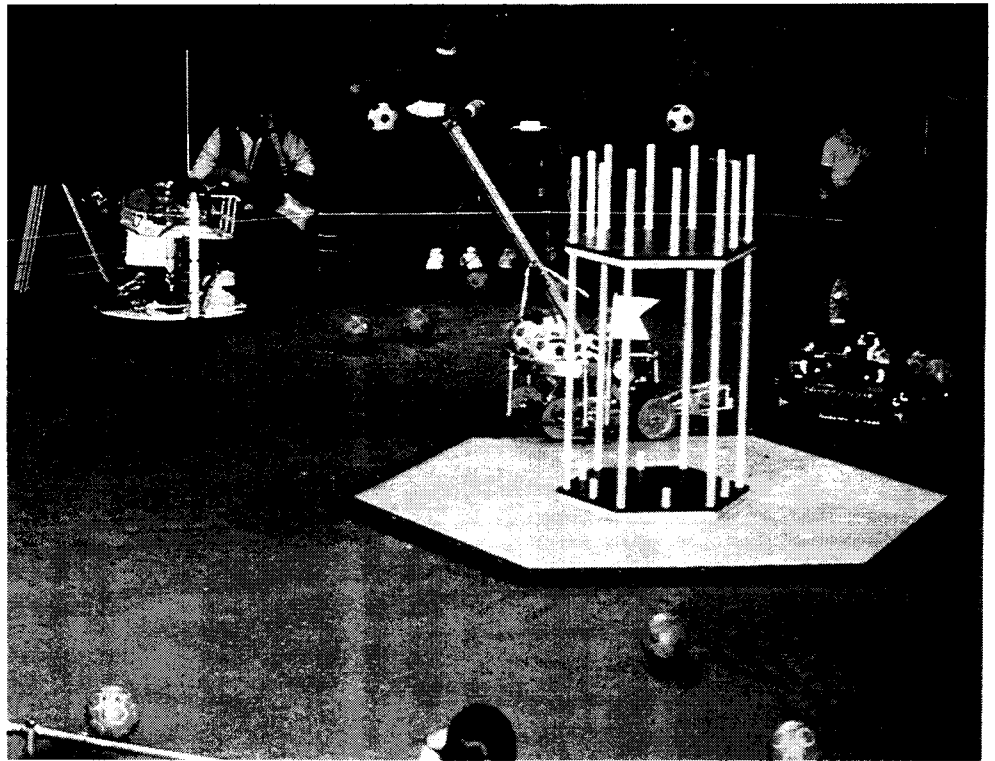
Purple Haze

Alliant Techsystems, Inc. Kamiak High School
Mukilteo, Washington

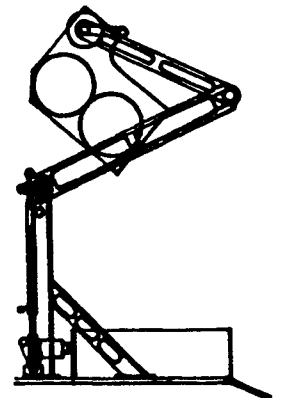


Twenty-five Kamiak students and 12 Alliant Techsystems engineers built the Purple Haze machine. Kamiak students from the video and journalism departments became the public relations leaders. Five groups of engineers and students designed, developed and produced the major subsystems. Each group also elected one student to represent the group in the cross-functional teams. Once the competition rules were received, the entire team developed potential design and operational strategies. From there, smaller groups of two engineers and five students proceeded to design and build major subsystems. Prototyping these components aided in the selection process for the final design concept. Communication between smaller work groups was highly emphasized. To maximize the student's hands-on experience the robot was built at Kamiak High School.



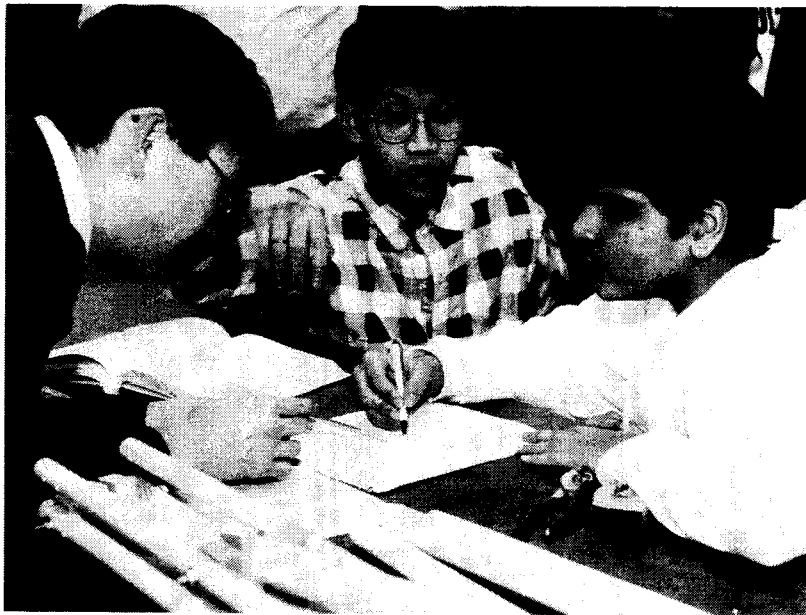


The overriding design principle was to keep Purple Haze as simple as possible. As a first year team, with no seniors, our primary objective was to build a rugged, reliable machine that would operate as well at the end of the competition as it did at the beginning.



The Mighty Millers

Alliant Techsystems, Inc. Washburn Senior High School
Minneapolis, Minnesota

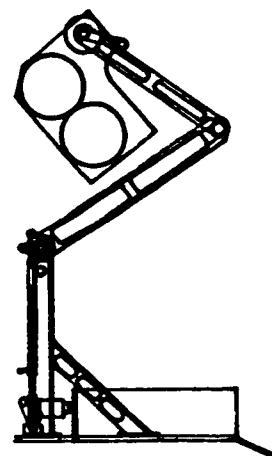
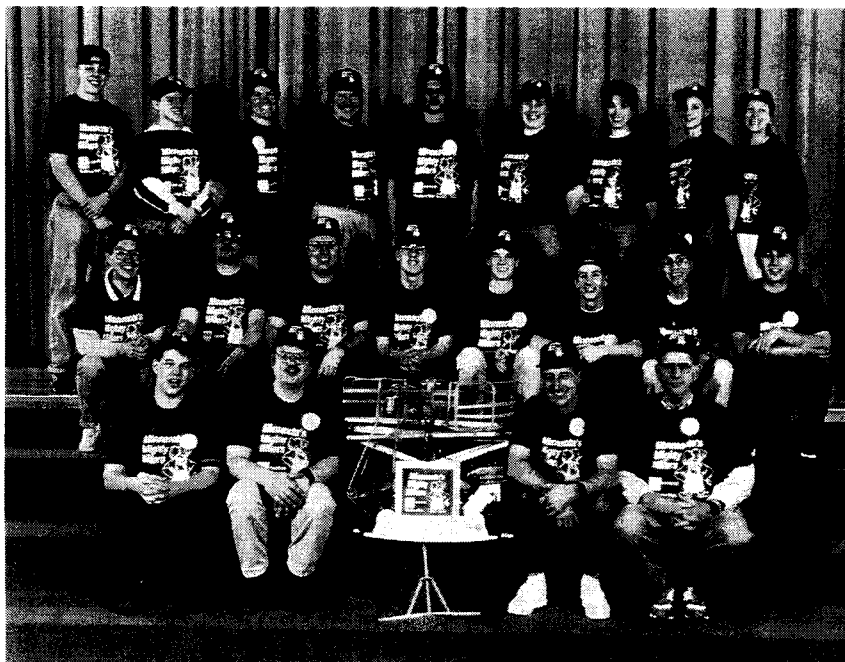
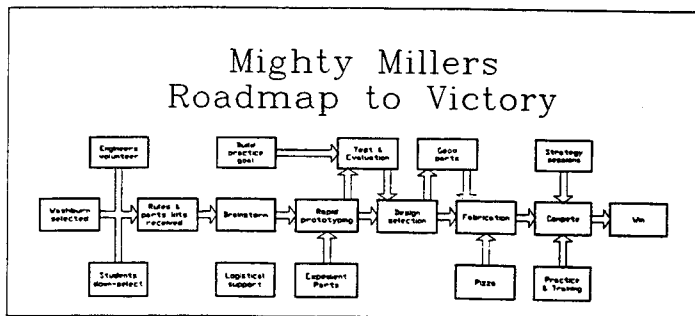
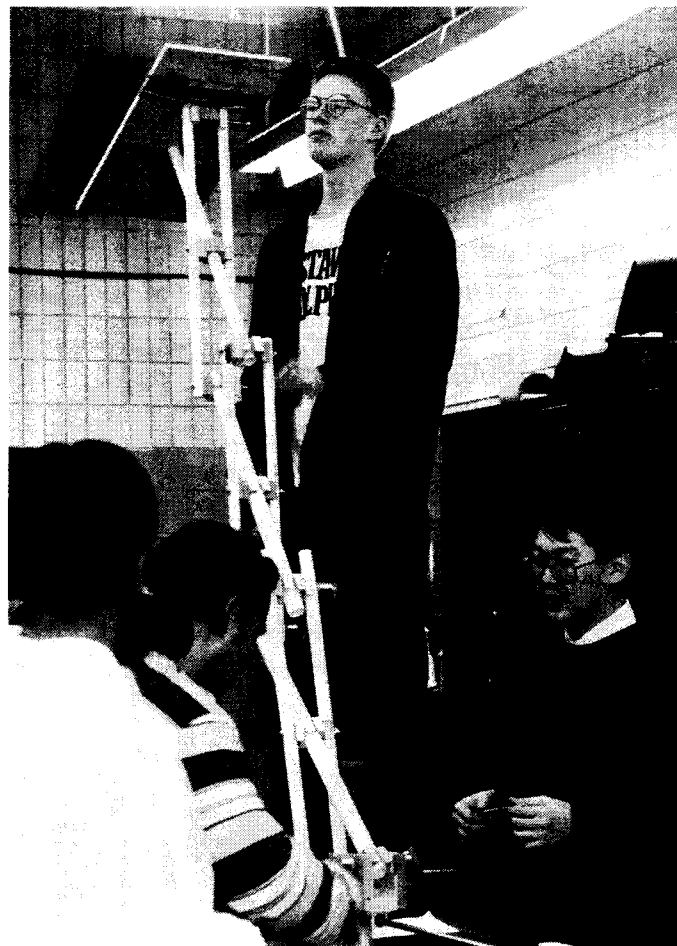


The Mighty Millers engineering team is composed of 12 high school students, two instructors, and nine engineers. The students are a mix of tenth, eleventh and twelfth graders, biased towards the tenth grade. One of the instructors teaches physics, the other teaches shop.

The engineers include two mechanical engineers, three electrical engineers, one electronics technician, one computer scientist and one nuclear physicist. In addition, several Alliant Techsystems employees and a team member's parent are providing logistical and administrative support.



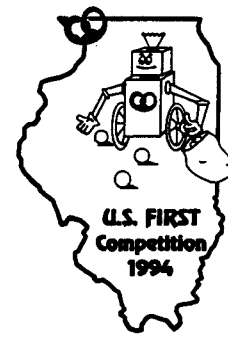
Our engineering approach is to build rapid prototypes to prove out concepts and trade off competing concepts. Each concept is demonstrated by a quick prototype using available materials such as PVC pipe and duct tape. If the concept shows promise, a better version is built to test against competing ideas.



The Pretzelator

MICRO SWITCH, A Honeywell Division
Freeport Senior High School Freeport, Illinois

Switch On The Power!

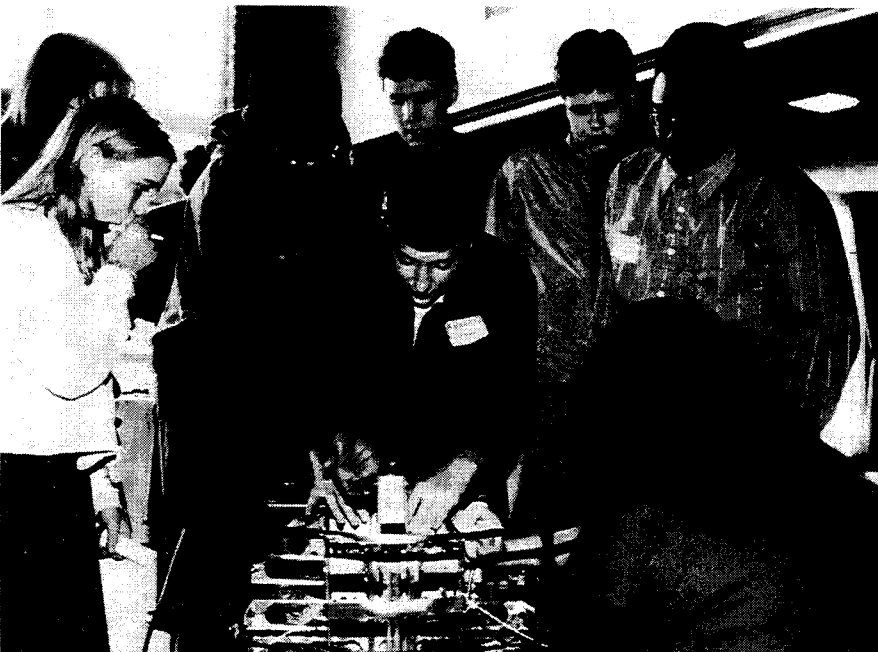


Chairman's Award Finalists



Student Quotes from Chairman's Award submission:

"I am now on the build team. It is so neat to see our drawings of this idea really coming to life as a working machine. It is funny that the guys in U.S. FIRST all laughed when I said I knew how to use a jigsaw!"



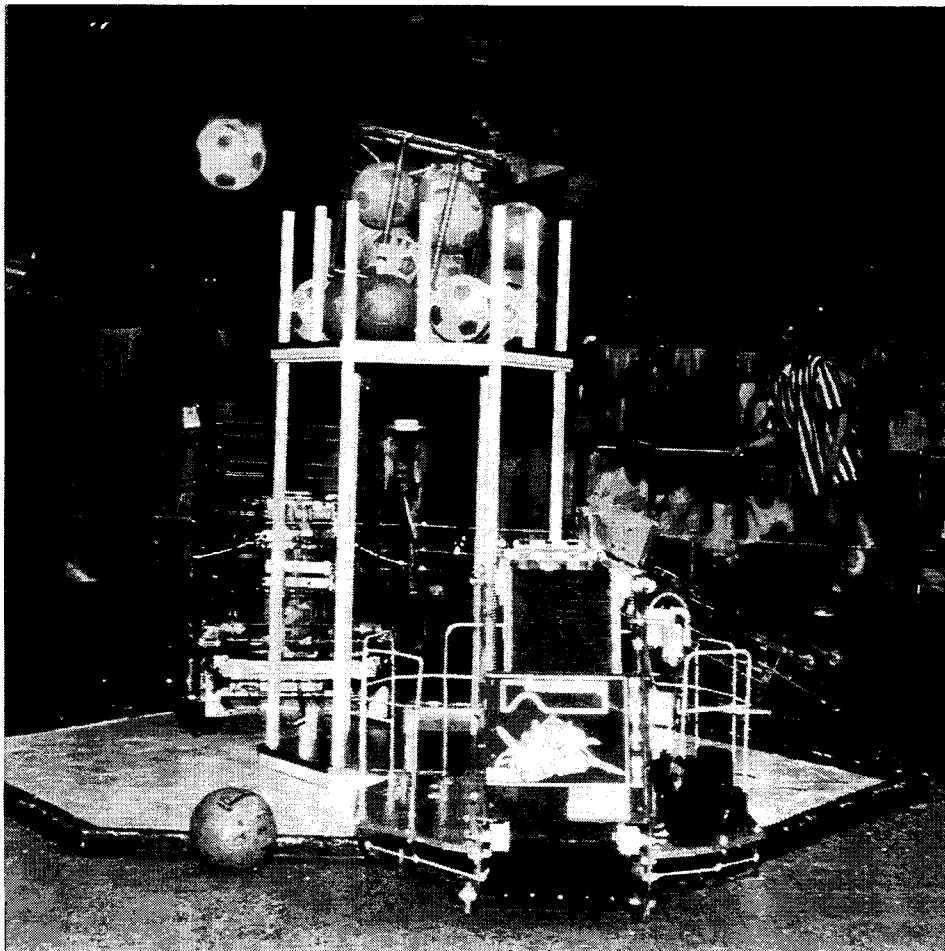
"The Freeport High School-Microswitch team has worked hard and we've done things that no one really believed possible. ...We've had an experience that will change all our lives. Everyone has learned and grown as a person. We've made new friends and learned to appreciate people who may have different interests or abilities than our own."

Now, where is Nashua, N.H. again?
“I would get along well with my other team-
mates, knowing that the more at ease we are
with each other, the better we can perform
and the more we will get accomplished in a
lesser amount of time.”

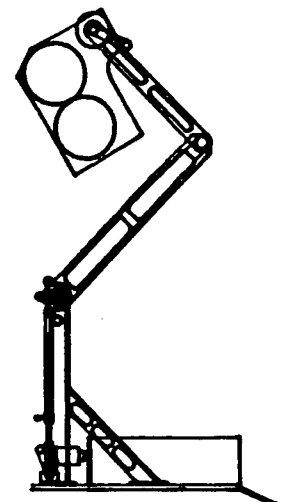
“I think I could be a good ‘team builder’
because I know and can communicate well
with many of the kids involved. I think I
could keep all arguing under control and
keep an open mind to others’ opinions...”



Pretzelator vs. Robocolt vs. Freudenberg



“I love the teamwork - not
only between students but
also between students and
adults. I am learning more
from all of the hands-on
work than I could ever learn
in a classroom. It is just so
exciting.”



High-tech team racing for first place

By Carl Noga
Journal-Standard Reporter

FREPORT — Freeport High School students began preparing to play "a real, live video game" Wednesday night.

Four months, some of them will be in N.H., piloting a radio-controlled carpeted field covered with

... U.S. First ... to go, there's

community effort toward a goal will be used more and more in the future.

"There's a little bit of a missionary gleam in everybody's eye," he said. "We really believe this is the way people are going to have to work together."

strategy.

"It gets teachers and kids and people in industry together," Micro Switch Engineering Manager Bob Nickels said.

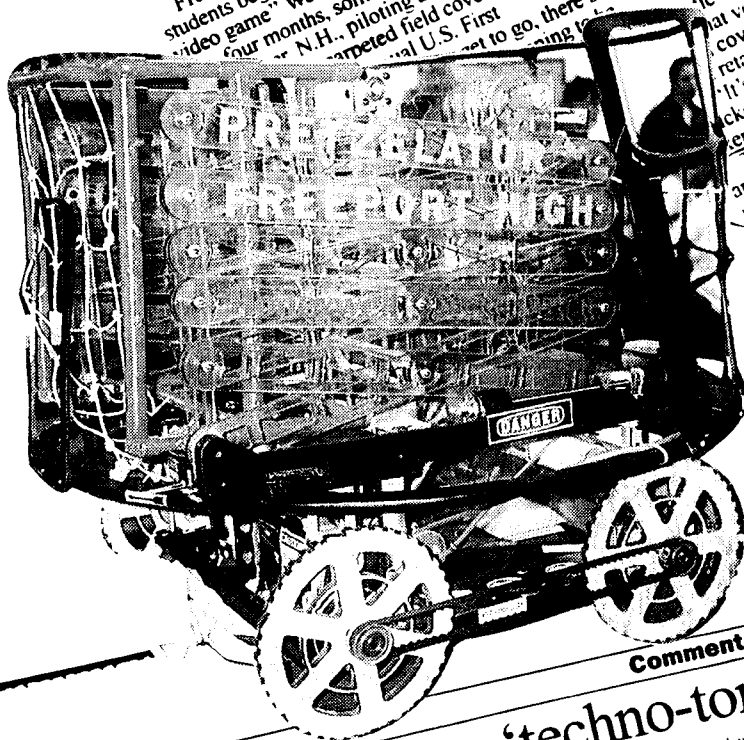
About 50 teams from across the country are already signed up to compete in the 1994 U.S. First competition, set for late February. None of the teams will know the exact competition rules or robot specifications, until U.S. First releases them Jan. 7.

However, there are a few general guidelines. Teams must construct a radio-controlled vehicle that fits into a 3-foot cube.

Teams compete on a carpeted playing field covered with balls by trying to retrieve 'em.

"It's kind of like a real, live video game," Nickels said. "The whole thing is really an exercise in creativity."

The Freeport School District originally approached Micro Switch with the U.S. First idea. Nickels believes this type of collaborative



THE JOURNAL-STANDARD, Freeport, Ill., Wednesday, February 2, 1994 Page 13

FHS students carry 'techno-torch' in U.S. First efforts

By Kevin Moore
Guest Columnist

A lot of people from the community have voiced their questions about U.S. First. Well, here is a summary of what we have done, what we are doing, and what we hope to do before the competition.

U.S. First is a process designed by Dean Kamen to get students interested in science and technology. The teams, composed of students, teachers and engineers, are supposed to design a robot that brings soccer balls into a goal in the center of the field.

Last year's competition was the subject of a "20/20" special on ABC Television. This program was shown over our classroom channel. When we saw it, we were hooked. This branch of Kamen looked to be what we were waiting for, a chance to build a

robot. What could be better? I, for one, expected to arrive at the first meeting and start putting parts together into the perfect ball-scoring, point-racking robot. Yeah, right! Hang on to that dream, pal.

When we arrived, there were no robot parts, no rules booklets, no design plans, none of the things we expected to find. Just a group of excited engineers from Micro Switch, and a bunch of students with looks on their faces that telegraphed "Where's the robot?"

Came to think of it, it looked to be a complete waste of time on our part to wait around until January to start designing and building. As we listened to our coordinators we began to see a distant light at the end of our robotic tunnel.

We listened as they explained the get-ready process. The factors of good teamwork, the importance of marketing, and the steps involved in any design process.

Some of our group took up the techno-torch and ran with it looking at it as a challenge, some decided they'd rather not do this, some dropped out along the way.

However, there is still a goodly sum of us here near the finish.

This is not to say that we just coasted until January, there was much work to be done and not much time to do it. We had to come up with a time line, schedule, estimated trip costs, fund-raising plans, a logo, T-shirt design, team divisions, fund-raising plans, methods of design, and a host of other things (Did I mention fund-raising?)

Through the course of this planning stage we all learned something about modern business.

Before the fun, hands-on of any design and construction job, there comes long hours of planning, preparation, frustration, and a few altercations. These long hours, as I'm sure

many of you know, are not fun (at least not by the standards of teenagers with short attention spans, like myself).

Now, where was I? Oh, yeah. With three of our five months gone, we were starting to get a bit worried. Keep in mind we didn't know when we were building this robot, what we were building this robot to do or what we were building this robot with.

Finally the unthinkable happened: The rules came. We immediately re-divided our groups and set out with a fury that makes mid-terms look easy. We came up with thousands of ideas for our robot, every thing from assault weapons to zeta particles.

You name it, we thought of it. After what seems like several thousand hours of revision and review, we finally settled on one design concept. This concept of which I can tell you nothing (for security reasons) except that it will win, entered the

detail design and construction phase on Monday.

Now you are probably thinking to yourself, "Self, what does this have to do with me?" Well, I'll tell you. Cleverly hidden in my summary of U.S. First is a shameless plug: As much as I want you to be informed about what the youth of our community are doing, I also want you to attend the U.S. First Open House.

It will be held from 6:30 to 8:30 p.m. Thursday at the Freeport High School Library.

It is conveniently scheduled right before the winter play at the Jeanette Lloyd Theatre. So come on down. See our progress, then see the show.

Who knows, you might just learn something. I know I did.

Kevin Moore is a freshman at Freeport High School.

Freeport-MICRO SWITCH US First

Fund-Raising Activities

As US First grows, regional and local competitions will be held. But this year, all 50+ teams will have to go to Nashua NH for the National Competition. Thus, the need for fund-raising activities.

The students brainstormed over 70 ideas, and decided to pursue the following:

Sales of T-Shirts, caps, etc. Look for a Very Cool Logo, and graphic design T-shirt that highlights US First, MICRO SWITCH, and the one and only Pretzels! Team members will be selling shirts, caps, and similar items soon - prices to be announced. Students may place orders in the FHS Business Office. This is a great way to help support the team and put Freeport on the map!

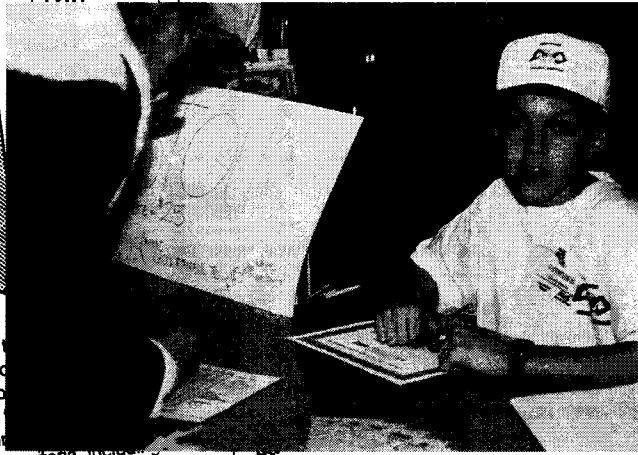
Car Wash: Through the cooperation of Spotless Image Car Wash, team members will be selling tickets with part of the proceeds going to offset travel costs. Whether Freeport streets use salt, sand, or both - it doesn't take a "rocket engineer" to know that this time of year is the worst on your car's finish. Our car wash (dates to be announced soon) is environmentally safe and tickets can be used at your convenience.

Stock Sale: While we can't sell actual "stock", we would like to encourage local businesses and individuals to support the team's efforts. In return for your financial gift ("par value" of a share of "stock" is \$25.00) you will receive a handsome certificate and your name will be recorded on the machine.

Financial Gifts and Donations: Student members of the US First team would like the opportunity to speak to your service club, organization, civic group, etc. Hear the details of this exciting program from the students perspective, and support the Team with your financial contribution. For details, contact Bob at 232-7142.

How much money is needed: Approximately \$475 per student. Our plan is to take 12 students, for a total of \$5700.

Fund-raising needed? Part of the team to sell one's We



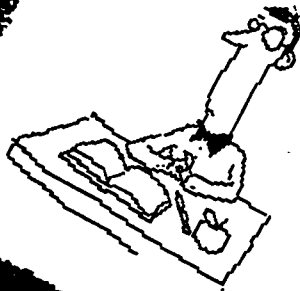
A team, consisting of students and engineers will meet in February for the assignment. At that time, the plan is for the students to make their reports done by adult team members based on objective criteria, including:

- Attendance at team meetings
- Knowledge and skills
- Participation in the design phase
- Desire and Team Spirit
- Must be Academically Eligible
- Must have Parental Consent

All students, regardless of their grade assignment, will have an opportunity to make the trip. The competition will make daily reports based on their ability to keep all team members informed.

What you must do:

- Turn in assignments
- Be a team player
- Take notes
- Communicate



Dear Larry Verrecke

Don't forget that you have volunteered your beautiful face for the U.S. First Pie in the Face. The event will be held Thursday, January 27, 1994 in the cafeteria at 2:00. Please be on time.

Thank you for supporting the U.S. First Team.

Sincerely,
the U.S. First Team

Pie Contest Benefits Future Engineers

"An apple for the teacher" has given way to "an apple pie for the teacher" at one local high school, only, the pie in this case is in the face.

More than a dozen teachers at Fordson High School made themselves available to the entire student body on Jan. 27, as the Dearborn high schoolers paid for

the privilege of smearing their favorite teacher's face with dessert.

The pie-in-the-face event was organized by 34 Fordson students to help finance a trip to New Hampshire in February for a national engineering competition. Fordson is one of 44 high schools from across the nation to be paired with a corporation or uni-

versity in the competition. Fordson's corporate partner is Ford Motor Co.

The seven-week competition requires the students to design, engineer and manufacture a mobile, robot-like machine that will compete against entries of other schools in a three-day, head-to-head, elimination-style tournament.

