

# The NEMES Gazette

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*The Newsletter of the New England Model Engineering Society*

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## Next Meeting

**Thursday, March 6, 2002**

The Charles River Museum of Industry  
154 Moody Street  
Waltham, Massachusetts

Annual dues of \$25 covers from Jan to Jan.  
Please make checks payable to NEMES and  
send to our treasurer. (Address in masthead).

Missing a Gazette? Send mail or email to our  
publisher. (Address in masthead).



## The Editor's Desk

Mike Boucher

It's been a couple days since our annual show at the Museum, and from my viewpoint, it was a great success. I know my feet and throat were sore, and I was tired on Saturday night.

There was a good crowd for most of the day. I haven't seen the numbers, but I'm sure the museum did well for admissions.

From a club viewpoint, we sold a lot of food (I got the last 2 hotdogs at 12:45 PM), quite a few of the NEMES tee shirts, and several copies of Dave Bono's Bar Bender plans. That should help with the treasury. I'm sure Rob will report on that soon enough.

Speaking of the club tee shirts, we are now completely sold out of XL shirts. If I remember correctly, this was also the size we ordered the most of, but I'll have to check my records there. The sales at the show have definitely put us "in the black" on the shirt sales.

There were quite a few requests for club sweatshirts. Maybe it was due to the bitter cold outside. Maybe most people have a basement shop where it is always cool. For whatever reason, it seems like sweatshirts would sell.

The question is, do we want to get sweatshirts? Last time I asked, we had about 10 responses, which isn't enough to justify an order. Right now is not the time to order them, as it will soon be spring (at least that's what my calendar says, the 20 new inches of snow in my driveway make me think otherwise). Maybe in the fall we should get some sweatshirts?

Another thing that we should look into is some name badges. I know there were some paper ones printed "way back when", but I don't see too many people with them anymore. I'm really bad with names. There are people in the club that I "know" but have no clue what their name is. I try to learn a new name each month, but don't always pull it off. Name badges would certainly help.

Waushakum had some engraved plastic badges made with an Indian-head pin on them and they were under \$5 each. I wonder if we can get our governor logo put on a name badge? Anyone have any contacts in that business?

On a slightly different note, this month we have a couple of articles from Bob Beecroft, of Fallbrook, CA. Bob isn't a member of NEMES due to distance, but he does read (and print out) all the Gazettes off the internet. Bob suggests a new form of membership: "Internet subscribers", with a lower membership rate. These members would get the gazette delivered via the net, therefore saving postage costs, and justifying the lower rate. Might be something to consider...

C'ya  
Mike



## *President's Corner*

Norm Jones

### *The Meeting*

With vast experience in the art of restoration of original timepieces, Rick Balzer, banker turned clockmaker, our speaker for March, is able to combine the very best of the old technology with some new engineering and material improvements, and incorporate them into his designs. His personal and professional goal is to produce high-quality, weight-driven, pendulum-regulated mechanical timepieces. Such timepieces, with gravity as the power source, have long since passed the test for reliability, durability and longevity. Some of them have been operating for over 600 years.

Since all Balzer clocks are manufactured to order, the owner can choose the inscription, town, corporate or personal name to be permanently cast into the iron plates.

By their very nature and purpose, the imposing Balzer clocks draw attention to the building in which they are located and without exception, become a landmark in the area. Display the clockworks where their operation can be observed and enjoyed serves to turn the clock into a functional work of art.

As standard manufactured components, all of Balzer's large timepieces have the double three legged gravity escapement with Brazilian agate pallets, temperature compensated Invar pendulums, stainless steel shafts and pinions, and brass wheels contained within a free standing framework of class-40 cast iron and steel. Rick will discuss many facets of the art and skill of tower-clock making and restoration.

## ***Model Engineering Show Follow-up***

I would like to express my thanks to everyone who helped to make our show such a huge success. Special thanks to:

- Gail Martha, Cindy Schoppe, Leslie Jones, Sue Brackett, and Patti Lapoulos for providing us with refreshments throughout the day.
- Steve Cushman for soliciting the many terrific exhibitor door prizes that were awarded during the show.
- Maria Cushman for tending to exhibitor registration.
- The many very generous businesses and individuals who donated door prizes, including Brothers Machinery, New England Brass and Tool, Wholesale Tool, the Tool Shed (Worcester), The Tool Shed (Waltham), Richard Sabol, Harvey Noel, Todd Cahill, Leon Schiff, and Jeff Del Papa.
- Bill Lopoulos for providing the air compressor and manifold to power steam engine models.

We were privileged to be able to enjoy the efforts of 46 exhibitors. The diversity of subject matter was once again very enlightening. Stimulating conversation, public education, and general enthusiasm, providing inspiration for others to join us was once again in evidence.

## ***Volunteer Opportunities***

Fellow member Fred Widmer is very much involved with museum liaison work. Volunteers typically get together on Thursday mornings at the museum to work on a multitude of projects. Give him a call at 781-899-4206 or email [fredwidmer@yahoo.com](mailto:fredwidmer@yahoo.com) to learn about opportunities to join in on an existing project or possibly head up a new one.

## ***Thank You Ron***

The snowy weather on Dec 4th forced us to make the decision to cancel a meeting for the first time ever. We had big plans for that evening, which included a talk by Andy Demeter on the history of the Chelsea Clock Co. The highlight of the evening was to be a presentation to Ron Ginger of a Chelsea clock to commemorate his years of service to the organization. It was somewhat difficult to make sure that Ron would be there

without actually telling him of our plans, since he now spends a great deal of time in Maine. Fortunately, we were able to make the presentation at the February meeting. I am still planning to reschedule Andy's talk, hopefully in better weather. Thanks again Ron for all you have done. Our organization has prospered greatly due to your efforts and leadership.

See you on March 6<sup>th</sup>!

*Norm*



## ***The Meeting***

Max ben-Aaron

The February meeting was opened by the Venerable Norm Jones in the usual hall in the Museum with the remark that we were lucky; we missed a big snowstorm by one day.

Karen LeBlanc relinquished the directorship of the Museum after 14 years and Norm welcomed the new interim Director, Dan Yaeger, who has considerable experience in fund raising. The Board of Directors hopes that he will be successful in getting grants for the Museum.

Our library is growing and may soon outgrow its present cabinet. We need an 'organization' that grows with it and provides more control than the present informal procedures provide. Also, if our holdings were to be catalogued, we may have more resources than we think. What this points to is that we need a volunteer to be Club librarian. Volunteers are encouraged to step forward!

Norm proposes a vote of thanks to Rob McDougall for organizing the Cabin Fever trip. It appears that there will be another Cabin Fever in August. The chances are that we will not be organizing a trip to that show.

Front door security still seems to be a problem. For the February meeting, each member, as he came in through the front door took 'control' until the next member arrived.

It was suggested that the present lock cannot be set to lock automatically on closing. Perhaps we might finance a new lock that did that. Then members could leave through the front door. More study of the whole problem is needed.

Based on the article in last month's *Gazette*, there seems to be a groundswell of interest in powder coating techniques. Would it be a good idea to try to have a speaker on the subject?

### ***Dan Yaeger***

Dan was invited to speak to the club, and told us a bit about his background as a consultant and what he expected to start doing for the museum. He looks to NEMES as an asset. He is looking forward to working with us and hopes that we will provide some very necessary volunteer help. The Museum library, like ours, is in dire need of reorganization and needed a volunteer. Also, if volunteers were forthcoming, it would be possible to staff demonstrations over the weekends to help bring in more visitors. The extensive watch and clock exhibits could also use people power.

Dan also mentioned the possibility of setting up some display space so that members of NEMES could have some of their work on display, perhaps on a rotating basis. Dan introduced Fred Widmer (who as a NEMES member, really needed no introduction).

### ***Fred Widmer***

Fred is the volunteer liaison between NEMES and the museum and is trying to organize the museum workshop. Some time ago, member Bob Neidorff drew up a plan for the workshop, and Fred was looking for NEMES help in implementing that plan. To start with, Fred wants to install some line shafting. He has the hardware and the belting and could use some people to do the installation. There are also some machines that need restoration, in particular, a Shore Hardness tester. Machines such as this could also be used by the membership at certain times.

Fred said that Thursday mornings are designated "volunteer mornings" at the museum. Fred hoped that the processes in the Museum workshop would change from "static" to "dynamic".

### ***Ron Ginger***

Most Venerable President Emeritus Ron Ginger said a few words about John Lelievre, a member who died last October. John was very active in the Museum. Ron suggested that we erect a plaque to commemorate John's work at the Museum. A moment of silence paid tribute to John, who is sadly missed by yours truly and many others who knew him. [Editor's note: see the obituary in this *Gazette*]

Venerable President Norm also presented Venerable President Emeritus Ron with a Chelsea clock, in appreciation of his founding of the club, and many years service as President. Ron was surprised, and quite pleased with the gift.



Norm presenting Ron with his clock

E. Groff Photo

### ***Show and Tell***

Dave Piper, who has been regaling us with the story of his boat-building endeavors, announced that the boat is flipped over and is on the trailer. In the interim, two new little Pipers have been added to the crew: twins William David and Ava Grace, born Christmas day, 2002. The boat is to be named "Rushforth" which is both Dave's mother's maiden name and his motto.

Max ben-Aaron told about the pedestal for his South Bend lathe that he won on eBay for \$9.99.

He had to drive down to Wappinger's Falls (NY) to pick it up. His daughter said that it sounded like a new MasterCard ad: Buying a lathe pedestal on eBay: \$9.99. Driving to New York to collect it: \$199.99. Being a Home Shop Machinist: Priceless.

## *Hexapods*

NEMES member Carl Mikkelsen gave a spectacular talk on Stewart platforms. I found it, to coin a phrase, to be ~mind-blowing~.

If the usual X-Y-Z slides of a machine tool are considered to be "analog", like a LP record, then the hexapod concept may be considered the equivalent of replacing analog by "digital", just as the digital "pits" on a CD disk replace the mechanical "wave" on the vinyl. In this light, the ramifications of Carl's achievement in realizing the hexapod concept for the amateur workshop are staggering.

In Stewart platforms, henceforth to be referred to as "hexapods", there are six actuators, giving the tool six degrees of freedom, X, Y, Z, pitch, roll and yaw. Stewart platforms are currently used in the amusement park industry, to give a sensation of movement while the rider is actually relatively stationary. An example of such a ride is "Body Wars" at Disney World in Orlando.

The hexapod consists of:

- A Stewart platform positioning system
- A machining head
- Computer controls
- Work clamps and
- A supporting structure.

Carl cited a company, HEXEL, in New Hampshire, which is marketing a machine designed for production. It is a retrofit for non-CNC Bridgeport mills. The table is left in place, but the ram is reversed, such that the milling head is actually at the rear of the machine. A Stewart Platform, resting on the floor, moves the work under the head.

Most of the research work on hexapods is being done by large organizations including Ingersol, Hexel, and MIT. Cincinnati Milacron was

interested at one time, but their enthusiasm seems to have cooled.

The hexapod technology could not have been possible in the past (before the computer revolution, say) because of the considerable computing power required for CAD tool-path determination and the large numbers of trig functions and matrix operations to be computed. You would also need 6 hands to move each control arm simultaneously in order to make a linear cut. These days, the availability of powerful desk-top PCs and laptops have allowed this technology to become feasible, even for amateurs.

Carl wanted to build a computer-controlled machine tool, but proclaimed that, although his father had been a machinist, he himself he did not have either the skill or resources to build a traditional CNC with machine slides. He decided that there was an alternative: to exploit the skills he had in electronics and programming, and the current availability of cheap computing power. This led him to consider Stewart platforms. His self-confessed "weakness" (lack of capability to make precise large machine slides) was turned into strength, by using his ability to make a computer jump through hoops. Successfully turning a weakness into a strength is a rare and admirable trait.

Carl wanted a machine that was flexible, computer-controlled, needed no precision parts, and was dependent on electronics and software rather than a machinist's skill.

It is fortunate for us, as a tool-making and tool-using species, that mechanical bootstrapping is possible. Without it we would not have any precision tools. Spheres and flats can be generated from scratch (no pun intended). A very primitive lead-screw can be used to make a more precise one. Similarly with dividing circles.

Carl used "primitive" tools to make a more sophisticated "abstract-software-driven" hexapod, which he then used to make a better one, a new and innovative form of bootstrapping. As an ex-programmer, for me it is an article of faith that that the concept of bootstrapping is of fundamental importance; I believe that all great ideas have to have this property.



Carl's initial goals were to build a basic platform consisting of:

- 6 legs, controlled by stepper motors
- Base, with gimbal mounts to the motors
- Top, with gimbal mounts to the tops of the legs
- Stepper motor driver electronics
- Computer interface to drive electronics
- A Linux kernel driver for driving motions linear in leg space
- User level software to control motions linear in X-Y-Z-Roll-Pitch-Yaw space
- A frame for the above to hold it suspended above a working surface.

The first generation version was designed to use a Dremel hobby rotary tool as its head. The legs turned out to be too flexible, the motors were too wimpy, it was too slow, and the Dremel tool was inadequate. These flaws were apparent very soon and this version was never completed.

Version II, "Bluemonster", was intended as an EDM test fixture, and to begin process of EDM machining. It used a Porter Cable laminate trimmer as the tool. The trimmer holds a 1/4" shafted tool, and spins up to 30K RPM. Since it is a universal motor, it should be easily speed controlled, although he had no mechanism to servo the speed.

It had:

- A pen holder tool to let this serve as a plotter
- A router holder to allow routing of wood, and, maybe, aluminum

The first cuts, made in wood, were very satisfying, but pointed out some problems. Carl believes that "what went wrong" is more interesting than "what went right". The "bugs" are where the learning is.

Over the next couple of days, Carl found that there was an accumulating error in Y-axis positioning, which was causing the tool to drop lower and lower, eventually cutting into the work surface. He tracked this down to "off-by-one" errors in the lowest-level motor driver, coupled with the fact that the actual position was not used to run the motor driver. He changed the way the motor driver worked so that the absolute position in steps was used to determine the motor phases.

Since then, he has not been able to reproduce the Y-axis cumulative error.

He also modified the way the motor phases were determined to add a calibration factor that tells which phase of the motor corresponds to the physical stop. If the stepping motors had been 200 step-per-revolution motors, the error might not have been as great. With 72 step-per-inch motors, it could have meant an error of .005-.006 inches.

Carl wrote C code to cut circles and spirals. The next step was to find a good way to turn font and string information into control programs. He added X-10 control over two systems, using a lamp module to supply power to the spindle, and an appliance module to switch the AC to the motor power supply.

He was using the Linux program "heyu", which is open source available for download. It provided a command-line interface to control X-10 compatible devices. There may be a C-language API and library, but for the number of calls he is making, he is quite content to "system" out to the command line version.

It did not work well at first. It was taking a long time to return from each command and the commands were not taking effect. The FAQ suggested that the interrupts may not be set up right on the serial card. Sure enough, changing the jumpers for the interrupt fixed it, and it has worked great ever since.

Commands were added to the program stream to turn the spindle on and off, "S1" and "S0". Since the lamp module allows slowing of the spindle motor, Carl may change it to take a floating point number to represent the fraction of full speed, thus "S0.5" for half speed.

At some point, he thinks he ought to consider using conventional G codes for this, rather than making up his own CNC language. Still, this gives him control in all six axes, without a lot of superfluous controls. If he can find a CAM application that generates G-codes, he'll make a G-code reader at that point.

The bug-of-the-day was that calibration seemed to be way off. He cut a spiral, but the depth

wasn't deep enough, and it was off my nearly  $\frac{3}{8}$ " in the Y axis. He was concerned about problems with the low-level stepping controls -- and was right about the effect, but wrong about the cause.

It turned out that the power supply was taking a couple of seconds to power on after the lamp module was turned on by heyu. The software wasn't waiting at all, so the first couple of seconds of step commands were being sent to powered-down motors.

Carl has since built version III, an improved successor system. There are too many details to write about here, so the best thing to do is to look at the Stewart platform notes at his web-site at: <http://www.foxkid.net/cmm/platform/project-notebook.html>

There are many new ideas that are minor (or sometimes, major) twiddles of older ideas. Earth-shattering ideas are very, very rare. Carl has serendipitously stumbled (this is intended to be poetic rather than pejorative) on an idea that is a potentially a paradigm-buster of epic proportions.

I expect that he will modestly down-play what I say, but, seriously, he has taken a giant step. He may also modestly deny being the inventor of the ideas behind the hexapod. True. But what he achieved was just as creative: He has, in my opinion, single-handedly integrated the ideas into a practical system for everyman, moving this technology from being mostly an esoteric, expensive research project, into the real world, and dragging it, kicking and screaming, into the realms of possibility and every-day use.

The manifold possibilities inherent in this wonderful technology are mind-boggling. It could be the "open sesame" to possibilities undreamed of. Three thumbs up. Well done, Carl!

*Max*



*Thank you to the  
Club*

Ron Ginger,  
Venerable President Emeritus

I was both surprised and honored, at the February meeting when Norm Jones presented me with the beautiful Chelsea clock from the club. I have always appreciated fine clocks, and this one, with its engraved message from my friends will hold a place right at the center of my desk.

The founding of NEMES has turned out to be one of my most satisfying accomplishments. When I attend a meeting and see all the fellows I've met, and all the relationships the group has created, I am very pleased with the effort it took.

This is a very unique group in my experience, a group of 'can do' people. The club would never have grown as well without this help. Although I did take the first action to get it started, from the very first meeting many others have jumped in to make it succeed. I won't try to include a list of names, because there are too many of them, but recall we have had a newsletter, a treasurer, and lots of other help right from that first meeting. I think our annual show is a fine example of this 'can do' attitude. Everyone pitches in to help, from setting tables to carrying out trash, it all just happens when everyone jumps in.

I expect to continue my association with the club for many years. I will try to schedule my visits to family and friends around the first Thursdays of each month. And I look forward to some sort of Maine Chapter of NEMES.

Thanks again to all my friends.

*Ron*

## Cabin Fever Photos

Here is a collection of photos taken at Cabin Fever 2003. If you didn't make it this year, consider taking the NEMES bus trip next year!

All Photos by Errol Groff and Mike Boucher



↑ Our sign hanging above the tables.



← Jim Cummings and Ed Wlodyka man their displays

Some of the many models on the NEMES tables → with Cindy Schoppe guarding the table!



← Dave Bono proudly displaying his 3½ gauge locomotives.



Venerable President Norm Jones (right) chats with Roy Hasbrouck →





A race car built by students from the University of Pittsburgh. Students designed and fabricated most of the car, including molding the body from carbon fiber. They raced against over 100 other schools with similar programs. Engine was limited to 620 cubic centimeters. →



Rob McDougall sits beside his 1/4 scale Ryder Ericsson hot air pumping engine. ↓

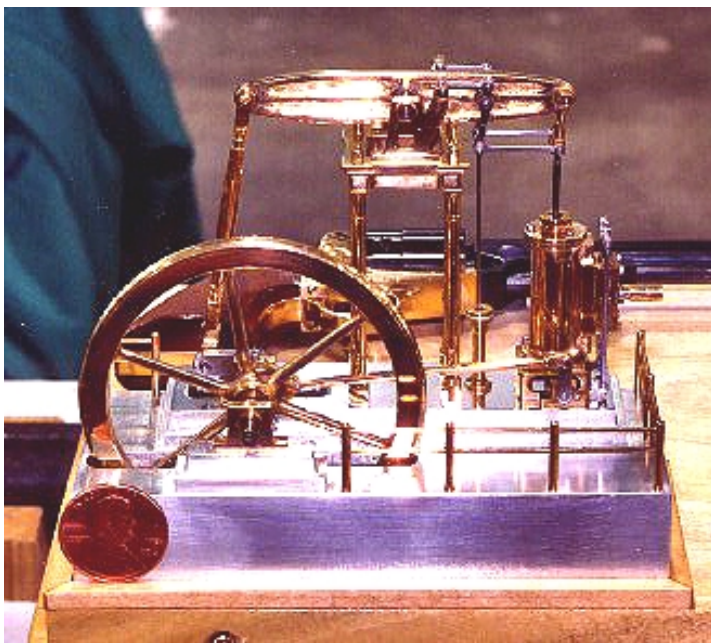


↑ A unique "rolling ball" sculpture made entirely of wood. Marbles were used for the rolling balls.





*What a crew!*



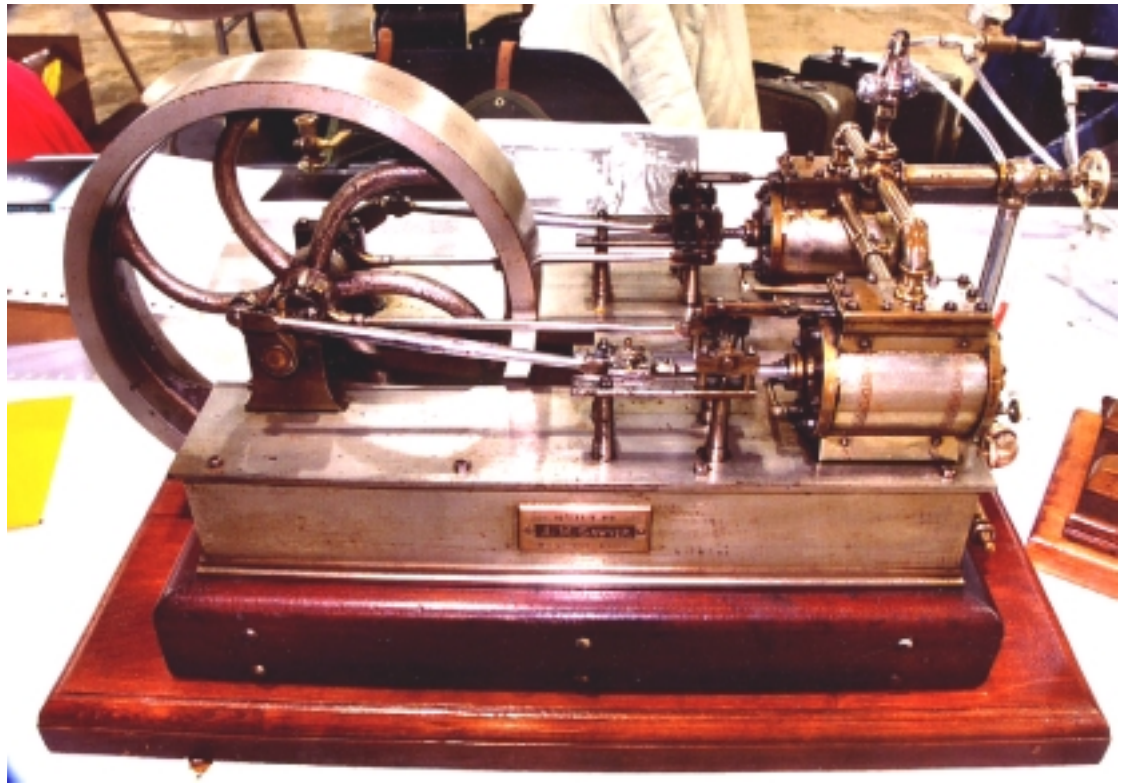
← A miniature "Mary" beam engine, completely from Brass. Try to find the penny in the photo! The builder also had a "full sized" Mary.

Larry Twaits, Venerable President Emeritus Ron Ginger, and Rollie Evans pass time at the show. →

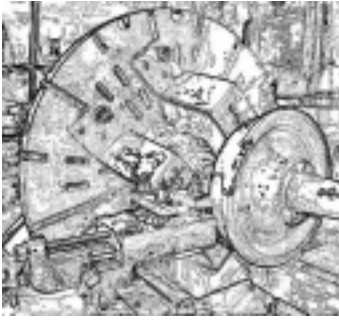




A beautiful twin cylinder steam engine on display on the NEMES tables. Built in the late 1800's by A. M. Sawyer of Milbridge, Maine, who was the owner's grandfather. Built to power a clock/watch repair shop. Still ran quite nicely. →



Steamboats were the theme this year. A "pond" was set up for radio-controlled steamboats. I never got to see this model run, but it looked just great on display. Awesome woodworking on the deck and the interior. Models like this make me wish I had half of this builder's skill.



## *Shop Hints*

Compiled by  
Mike Boucher

### *Powder Coating Redux*

I got an email from Bob Beecroft, of Fallbrook, CA, with a couple interesting articles. Bob is a freeflight model airplane builder and flyer who has "gone nuts on tooling and equipment".

First is a response to Dave Audette's article on powder coating.

Dave: Very nice work on the file on Powder Coating you put together and made available to everyone. Thank you!

I, too, have done a little with the set up from Eastwood. I especially liked one of the greens, which is a near perfect match of the color used on one of our model airplane engines, the K&B Greenhead, as they are commonly known.

No doubt, the powder coat is more durable than the original. Head temperatures are near the 400° mark, but it hasn't been an issue. Should the motor temperature run much more than that, paint isn't going to be one's first concern with the motor!

Your hammertone experience is encouraging. I've not tried any, so will have to do so. I have used the Eastwood black, one of the reds, one of the greens - all just great. I have a few other colors, too, but not tried them yet.

A couple of other sources for powder are:

- Tiger Drylac, USA, Inc. (909) 930-9100  
<http://www.tigerdrylac.com>.
- Spraylat Corporation Engineered Industrial Coatings. <http://www.spraylat.com>

These two places were recommended to me by an outfit I used to do a little work for on the side. I've not tried powder from either, and they may not package in smaller quantities.

I picked up a used, and virtually new, convection, counter-top oven at local thrift store for \$15. It is a Faberware 'Turbo-oven' and measures (inside) 18W X 9H X 11D. Not big, but large enough for most of the parts I do.

Now, the stand, doors, drawers, base, and head for the Hardinge turret lathe I'm going through won't fit by a long shot, so will go to the pro shop for that. They'll do a good job with prep via sandblast, too, which I don't care to do at home. The parts are a bit too big and heavy to get in and out of the little sandblasting cabinet I built, and I darned sure don't want to do it on the driveway! Been there, done that, not good! I find the oven useful for other things, too.

Good, old, Rustoleum brush-on paint seems to do just fine in the oven at 200° for about an hour. Let it cool, and you're good to go; no handling problems. Another benefit is that you can go ahead with another coat, should the part need it. I have done this with quite a few things where I didn't want to bother with the powder coat.

I see you are using the spray-can carburetor cleaner. It should work well, as does brake cleaner in the spray cans. Use gloves with any of this, preferably the blue nitrile ones. The other dip carburetor cleaners, like from Dip-It, Tyme and Berryman's 'Chem-Dip' work very well, especially to soak off the 43 layers of paint some of these old machines may have. I have a 5-gallon can of Berryman's. My wife hates it. I have to admit it does have a stench as bad as death. It sure gets the crud off, though.

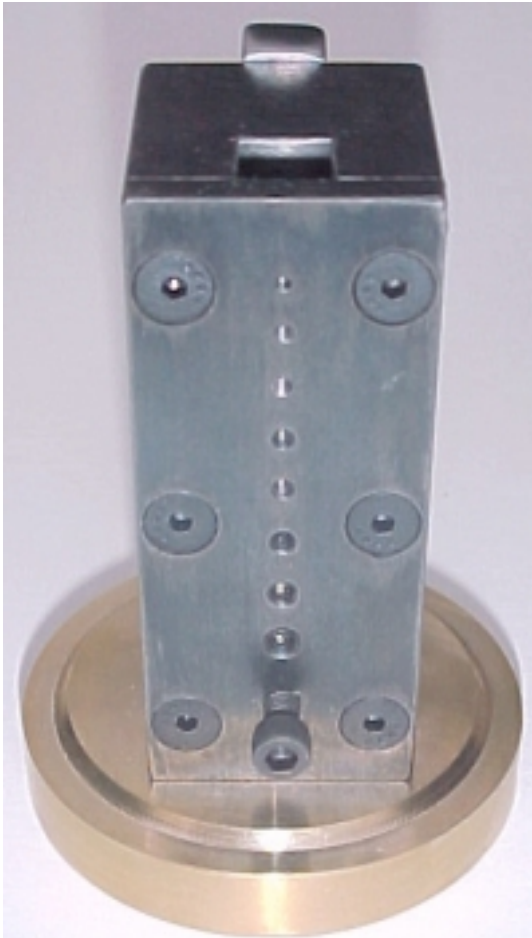
Thanks again.

*Bob Beecroft*  
[AeroSmith101@adelphia.net](mailto:AeroSmith101@adelphia.net)

### *Bolt Cutter*

Bob also sent photos of one of his latest projects, the bolt cutter suggested in [Home Shop Machinist](#) a while back. The face, with threaded holes and countersunk attaching holes, is O-1, hardened and tempered after all the machine work was complete.





**Bolt cutter**

**Bob Beecroft photo**

I added a bronze base and a strap on the backside to hold the cutter when not in use.



**Bolt cutter bottom**

**Bob Beecroft photo**

The cutter has a dimple ground in it to engage a ball detent that's let into the backside under the strap. The strap was cut from aluminum barstock, and some neat little button-head

stainless AH screws hold it all together. The only thing lacking is that I haven't found a really good way to get very neatly done numbers stamped into it (there's white paper on one side now) to mark the sizes. I'll simply have to get a full-on CNC Vertical Machining Center that does engraving!

Actually, my street rod, a '29 Ford Coupe, is up for sale for just that. With it gone, the space will be there, too.

*Bob Beecroft*

[AeroSmith101@adelphia.net](mailto:AeroSmith101@adelphia.net)



**John Lelievre  
1927-2002**

John L. Lelievre, 75, died Tuesday, October 15<sup>th</sup>, 2002, in his Natick home, of liver cancer.

John attended just about all NEMES meetings and every show. He also went on the Cabin Fever bus trip each year. John did a lot to help the club, finding us space in the library to store our equipment and books, and helping with the visitors to our show. Ron Ginger said he was especially helpful when Ron was learning about clocks, inviting him to attend a couple of watch group events.

John was born in Waltham. He served in the Army, and afterward he attended the Waltham School of Watch Making. Classes were on the third floor of the Waltham Watch Factory. "When I was a youngster, almost every family had someone working at the factory," he said in a story published in the Boston Globe in 2002.

John graduated from the 18-month program but didn't make it his career. "He wanted to start his own watch-repair business," his son Bob, of Dorchester, said. "But he didn't have the money and he couldn't find investors."

Instead, John became a sheet metal worker at Bettinger Enamel Corp. in Waltham. He met his future wife, Jean L. Tobler, at a dance at the

Totem Pole Ballroom on the Charles River. They married in 1952.

John became purchasing agent for Wellesley College in 1957. In addition to keeping the institution well supplied, he was responsible for overseeing the grounds during commencement.

A story related to this appeared the Boston Globe obituary. One year a dignitary was among the parents attending graduation. An hour before the commencement, a Secret Service agent parked the dignitary's car in a no-parking zone. "If your car is not moved in five minutes, it will be towed," said John. The agent flashed his badge and started to walk off, but John stopped him. "This car will be towed in five minutes," he said again. The agent moved the car.

John continued to repair time-pieces for family and friends in a workshop in his basement. "Watch and clock repair is a dying art and he was interested in preserving the heritage," said his son. "In his retirement, it became his passion."

Vic Kozakvich told one story about John, which he heard after John's death. A friend of John and his wife was visiting their home. John had given her a tour of the watch/clock repair shop he had in his basement. John had a very impressive collection of lathes, mills, and grinders plus a large array of the very specialized tools of the clock and watch trade. The woman was a bit overwhelmed by the display and asked John, "Why do you need so many tools?" John replied, "To make more tools, of course!"

After his retirement, John volunteered at the Charles River Museum of Industry, helping to restore timepieces and clock-making machinery. John was instrumental in assembling an exhibit on the Waltham Watch Co.

"He enriched our library considerably," said Karen LeBlanc, executive director of the Charles River Museum of Industry. "He was always suggesting new titles, even picking up the books himself if he could. He was one of our most industrious volunteers. He worked every second - or every minute - he was here." The management committee of the museum voted to name the library in his honor.

Besides his wife and son, he leaves another son, Stewart, of St. Paul; and two daughters, Maryanne of Eugene, Ore., and Andrea of Cambridge. John also had five sisters, a brother, and four grandchildren.

[Editors note: The quotes from his son and Karen Leblanc, and the information about John's family and work experiences are from an obituary originally appearing in the Boston Globe on October 19, 2002. Ron Ginger and Vic Kozakvich also contributed.]



## *New Supplier*

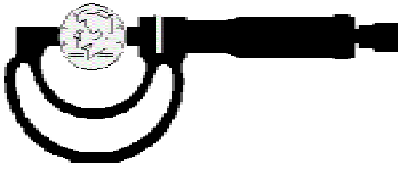
The club has received a copy of a new catalog from Precision Scale Model Engineering. This new supplier is located in Milford, MA, the proprietor is named Lawrence Milo. This catalog is now in the club library. According to Rob McDougall, who got the catalog, it is interesting and there is a lot of good stuff.

Some of the things available from Precision Scale Model Engineering include

- Over 3000 hand, power & precision machinist tools.
- brass, copper, aluminum, stainless steel, steel, and other metals
- Many forms of plastics
- Miniature Lighting supplies, such as miniature incandescent bulbs, neon bulbs, LEDs, and fiber optics
- Precision Drive Components such as DC motors & gear motors, gears, ball/needle/thrust & sleeve bearings
- Over 1500 nuts and bolts from #00-90 to #10-32, as well as threaded rod, sheet-metal screws, and wood screws
- And a lot more.

Precision Scale Model Engineering has a web site, if you want to check it out before the next meeting and order a catalog for yourself.

<http://www.psmescale.com>



## Treasurer's Report

Rob McDougall

Balance as of: 12/31/02	<b>\$2,802.27</b>
Sale of Video	15.00
Dues Received for 2003	2,525.00
Dues Received for 2004	50.00
Cabin Fever Bus Fare Rec.	1,699.00
Interest Income	.69
Less	
NEMES Show - tables	-197.50
Gazette expense	-230.11
Balance as of: 1/31/03	<b>\$6,664.35</b>

I often hear from members that we have "lots of money in the Treasury – why can't we spend some of it." No reason at all - that is what it is there for. How much is "a lot" is a matter of how and on what we want to spend it. As a guide, the balance as of 12/31/02 of \$2,802 is virtually our "excess cash" on hand. The rest of our funds gets used up during the year on expenses.

The Museum has recently offered us some new opportunities to promote our club objectives at the Museum. Things such as a display of our models in a secure glass type display cabinet, would seem to me a great thing for our club and a good use of club funds if moneys need to be spent constructing/procuring a suitable display cabinet.

All it takes is some member or members to get involved to bring this about. If you would like to organize a display cabinet in the Museum, just contact Norm and let him know.

Rob

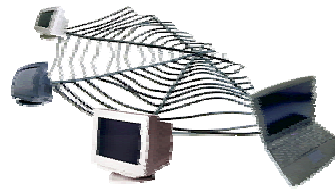


For Sale

### *Shaper Work CD*

Put out in 1944 by the New York State education Department this 326 page manual is chock full of valuable tips and information on using the King of Machine tools...The Shaper. Covered is everything you need to know about the care and feeding of the shaper, use of the shaper, even how to sharpen tools for the shaper. Scanned and saved in Adobe Acrobat format. \$5.00 shipping included.

Errol Groff  
180 Middle Road  
Preston, CT 06365 8206  
[errol.groff@snet.net](mailto:errol.groff@snet.net)



*Web Sites of Interest*

### *Powder Coating Suppliers*

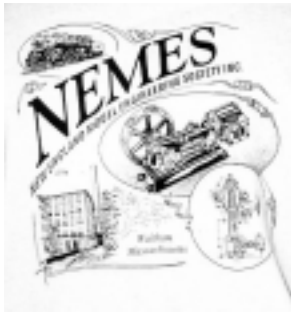
- Tiger Drylac, USA, Inc.  
<http://www.tigerdrylac.com>.
- Spraylat Corporation Engineered Industrial Coatings. <http://www.spraylat.com>

### *Precision Scale Model Engineering*

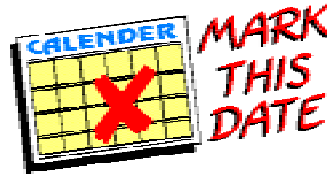
<http://www.psmescale.com>

### *Hexapod details*

<http://www.foxkid.net/cmm/platform/project-notebook.html>



NEMES clothing



Upcoming Events

Bill Brackett

**NEMES Tee Shirts**

NEMES tee shirts are available in sizes from S to XXXL. These are gray short sleeve shirt, Hanes 50-50. You won't shrink this shirt! Artwork by Richard Sabol, printed on front and back.

Xtra-Large tee shirts are now **OUT OF STOCK!** If you're interested, let us know so we can judge if/when to reorder. All other sizes still available.

Artwork:



Rear



Front

Prices:

S - L \$12.00 (XL are **OUT OF STOCK**)

XXL \$14.00

XXXL \$15.00

Add \$5 shipping and handling for the first shirt, \$1 for each additional shirt shipped to the same address

Profits go to the club treasury.

Mike Boucher  
10 May's Field Rd  
Lunenburg, MA 01462-1263  
[bandm3714@hotmail.com](mailto:bandm3714@hotmail.com)

**March 6 - NEMES Monthly club meeting**

7PM Charles River Museum of Industry  
Waltham, MA (781) 893-5410

**April 3 - NEMES Monthly club meeting**

7PM Charles River Museum of Industry  
Waltham, MA (781) 893-5410

**April 12-13 - Trinity College 10<sup>th</sup> Annual Fire-fighting Robot Contest**

Sat 12<sup>th</sup> - Noon -10:00 PM.

Sun 13<sup>th</sup> - 8:00 - 4:00

<http://www.trincoll.edu/events/robot/schedule.htm>

To add an event, please send a brief description, time, place and a contact person to call for further information to Bill Brackett at [wbracket@rcn.com](mailto:wbracket@rcn.com) or 508-393-6290.

Bill