

The NEMES Gazette

NEW ENGLAND MODEL ENGINEERING SOCIETY INC.

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Editor's Desk

Mike Boucher

Hi folks,

I have some sad news to report. On Monday, November 10, Ed Mann, longtime NEMES member and volunteer at the Charles River Museum of Industry, passed away.

Longtime members will probably remember Ed as the man who would let us into the museum for our Thursday night meetings when we were first starting the club. He would also lock up the place after the meeting. He hasn't been to a meeting in a few years due to his declining health.

His wife Esther has requested donations to the museum be made in lieu of flowers.

As of press time, I do not have an obituary. If anyone has a copy of one, or is willing to write one for the next Gazette, please contact me.

On a lighter note, as we discussed at the November meeting, I've ordered

Continued on Page 2

Next Meeting

Thursday, Dec 2, 2003

7:00 PM. Meetings held at:
 Charles River Museum of Industry
 154 Moody Street
 Waltham, Massachusetts

Membership Info

Annual dues of \$25 for the calendar year.

Please make checks payable to NEMES and send to our treasurer.

Missing a Gazette? Send mail or email to our publisher.

Addresses are in the left column.

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60 NEMES sweat shirts, and restocked the XL tee shirts. I used the same printer as the last time, and the artwork will be the same.

The price per sweatshirt turned out slightly higher than I was quoted, because upon seeing the available sweatshirts, I decided to go with a more expensive, but better quality sweatshirt. Our cost went up \$1 per shirt, but I feel the quality was worth it.

Prices will remain as I quoted at the meeting, \$22 for S-XL, \$24 for XXL, \$25 for XXXL.

Based on our tee shirt experiences, most of the sweatshirts I ordered are large and extra-large, only a few small and XXXL. Hopefully I ordered enough of each size.

See the "NEMES Clothing" section for the ordering details. Be the first on your block to wear the latest in NEMES fashion!

You'll probably get this after the holiday, but I'll send out my Thanksgiving wishes anyway. I hope everyone has a wonderful Thanksgiving. I'm already looking forward to some turkey and my mother's squash casserole. The two days off from work won't upset me either!

C'ya
Mike



President's Corner

Norm Jones

The Meeting

Our speaker for December will be Erik Larson, who is affiliated with the Mad Scientist Club in Springfield Vt. Those of you who attended the APM Model Engineering Show in Windsor, Vt, may have met Erik there, as I did.

Erik is a Mad Scientist. Educated in mechanical design engineering, tool design, material science, visual design and fine art, Erik Larson has worked as an engineer, integrator, and facilitator to art and science of manufacturing for over 20 years. With a long family history in tool making and innovation, Erik has an extensive background in the mechanical arts and manufacturing

technology. He has proven himself a leader, playing key roles in the building of two guitar factories and has participated in the development of two museums of science and industrial history.

Erik will be speaking about his club which is aiming to bring interested young people together with retired engineers, machinists and the like to spur learning and the development of sustainable technologies. Erik's talk should prove to be very interesting.

Cabin Fever Expo Trip

Time flies! Last month we circulated a signup sheet during the meeting for the annual bus trip to York PA for the Cabin Fever Expo. The show dates are January 17th and 18th, so mark your calendars! So far we have twenty people on the list. Please remember that the upcoming December meeting is the last opportunity to sign up "in person".

I received feedback from several individuals concerning the room rate that we have been quoted. Remember that the rate is \$59 per night, before applicable taxes. Sherri Keller is my contact person at the hotel. You should not have to speak with her directly, but if you experience a problem, mention her name. Also, be sure to identify yourself as being part of the NEMES group. The \$59 rate applies regardless of whether you travel with the group on the bus or drive down in your own vehicle. Our reserved rooms will be held through December 16th. You must call and make your own reservation at (717) 845-5671.

We need at least 25 people to be able to have the hotel provide us with a buffet for us upon arrival on Friday evening. So far there has been a positive response. However we have not met the requirement as yet. We need to resolve this issue at the meeting. Call Rob McDougall at (781) 647-0689 or E-mail him at rcmcdougall@comcast.net to get your name on the bus list. Please send him a check for \$62 to cover the bus.

Please plan on arriving at the Riverside T Station off Route 128 at 8:30AM on Friday, January 16th, we plan on making a 9:00AM departure. We can schedule the two usual pickup stops, the first at the Charlton rest area on the Mass Turnpike, and the second the one just South of Hartford, Ct, if desired. Arrangements must be made in advance. We will be making a stop at the rest

area on the Garden State Parkway. There are a number of choices for lunch available at the rest area. A last minute reminder will be sent out to those of you who will be going on the bus.

No Meeting on January 1.

Please keep in mind that there is no meeting on January 1 (New Years Day) A great activity that is scheduled for that day is the annual get together at the Waushakum Live Steamers. Dress warmly, it's an *outdoor* event! See you there!

Have a good holiday

Norm



The Meeting

Max ben-Aaron

The November meeting was opened by NEMES President, The Venerable Norm Jones in the Jackson Room of the Charles River Museum of Science and Industry by welcoming new members.

We all know that Bill Schoppe has been having cardiac problems, culminating in a multiple bypass operation a short while ago. We are happy to report that Bill has recovered enough to attend this meeting. Bill was treated to a round of cordial applause.

Club dues

At the October meeting, the question of Club dues was raised. Treasurer Rob McDougall had suggested that perhaps the dues ought to be reduced to \$20 because a surplus was building up and the Club was not in the business of accumulating money. The question came up again this month, after members had some time to think about it

In a spirited debate, Steve Lovely observed that the \$5 annual reduction in dues amounted to ten

cents a week, hardly worth the bother. Mike Boucher pointed out that the cost of printing and mailing a copy of the Gazette costs the club about \$1 per member. With 12 Gazettes published each year, a member gets \$12 of his dues back.

The consensus seemed to be that, while it was true that we are not just accumulating money for its own sake, it was nice to have some money to dole out to worthy causes. The donation of \$1000 to the Museum was a case in point.

A motion to maintain the dues at the current rate was moved, seconded and passed unanimously.

While on the subject of dues, it would be helpful to Rob if you could give him your check for \$25 at the December meeting because there will not be a January meeting. If you absolutely have to pay your dues in cash (discouraged), please make sure that the money is in an envelope with your name on it.

Sweat shirts

While on the subject of money, Mike Boucher asked members about the possibility, necessity, and/or desirability of ordering sweatshirts with the NEMES logo on them. If all of the sweatshirts ordered are sold, the club would make a small amount from the sale.

It was suggested that they ought to be sold at cost. Mike pointed out that, while the main purpose was not to make money, there had to be a small mark-up to make sure that the Club did not lose if all the merchandise was not sold.

Mike had suggested that we sell them for \$22, with the XXL and XXXL to be slightly more, as they cost more. The price is dependent on the actual cost of the sweatshirts, as we only have an estimate right now.

The club voted to order the sweatshirts. Mike will take care of this, and should have them by the December meeting.

Donation to Museum

Venerable President Norm Jones presented a check for \$1000 to Museum Director Dan Yeager, on behalf of the membership of NEMES, in appreciation of the hospitality the Museum generously extends to us month after month.

In graciously accepting the donation for the Museum, Dan said that the relationship between NEMES and the Museum was a 2-way street;

both parties benefited from the association. The Museum enjoys hosting NEMES' annual Model Show in February.

In particular, Dan said, the Thursday volunteers, the infamous "oilcan gang", under the able leadership of NEMES member Fred Widmer, have been a great asset to the Museum. They have installed lineshafting, set up machines and have recently been working like beavers to prepare the new Model Exhibition Gallery for its formal opening on Founder's Day, November 25th. In addition, NEMES members have stepped forward with models to be displayed in the Gallery, to supplement models in the Museum's holdings. The Gallery will be opened to the public on 'Preview Day', December 3rd and will run till the middle of next year.

February Show

A large number of flyers for the Show have been printed and are available to members for distribution. Each member is urged to see that a flyer is displayed in his town library and other appropriate places (store notice-boards).

It is not too soon to be preparing your exhibit! Hint Hint Hint...

Show & Tell

Ed Borgeson reported that he recently saw a demonstration, at his workplace, of 'friction stir welding' by Remmele Engineering Inc. The parts are welded together by rotating a cylindrical tool along the seam to be joined. The tool is shouldered with a profiled pin that projects into the parts being joined. Heat is generated via rotational friction. The heat softens the metal, without them reaching their melting point and allows the pin to traverse along the joint. As the tool moves, the material in front of the pin is plasticized by the frictional heat and displaced to the back of the pin where it cools back to the solid state, giving a uniform full-penetration weld.

The process is effective on part thickness ranging from .050" to 4" (when welded from both sides). Currently the process is applicable to aluminum, but research is in process to extend the range to magnesium, copper, steel (ferritic and stainless), titanium and nickel alloys.

The process was initially developed by The Welding Institute and Remmele is a licensee.

Ed was very impressed by the quality and uniformity of the demonstrated welds.

Punkin Chunkin

Jeff del Papa and Dave Shepard reported that they competed in the latest annual Punkin Chunkin contest and their siege engine "Mista Ballista" had managed to get three shots off, the longest reaching a distance of close to 300 feet, to give them a third place finish.

They passed around a broken link of chain (which, surprisingly, did not break at the weld) and a couple of clevis hooks, one which failed by opening out under stress (and one 'original' to compare it with). The chain and hook failed while under a tension of 9000 ft-lbs.

More detail can be found at their web-site <http://www.siege-engine.com>

The Speaker

NEMES member Al Goldberg gave a slide show on the water pumping engines at the Chestnut Hill pumping station in Brookline, MA.

The High Service Building (HSB), which faces the Chestnut Hill Reservoir, was a prominent node in the Metropolitan Water System. It was built late in the 19th Century and the engines were shut down in 1974. After lying idle for many years, there are now plans to develop the site. The HSB is slated to become a museum. The fate of the existing engines is indeterminate.

Three of the original steam engines remain on site. In addition, there is a gas-turbine-driven pump in the basement, which is supposed to be still operational.

The largest engine is a monster: an Allis triple-expansion steam engine, 30 feet high from the floor to the top of the cylinders, not including the water pumps below the floor level. Commenced in 1895 and completed in 1898, it was chosen because Allis, in the 1880's, had surveyed engines all around the country and, through analysis and improvement, had taken the lead in the design and construction of steam-driven pumping engines. The goal was to build a very conservative engine, very efficient at slow speed. Triple expansion engines were a new technology at the time, and the success of the state-of-the-art Allis led to similar designs appearing through the rest of the industry well into the 20th century.

This Allis had reheat between the cylinders and the engine's pistons rods were directly coupled to the pumps. The engine used Corliss-style rotary valves on the inlets and had poppet valves for the exhaust. The engine cylinders were double-acting, with two flywheels, one on each end of the common crankshaft. The pumps were single-acting. The pump inlets were on the bottom and the outlets at the top. The governor regulated the steam cut-off for the high-pressure cylinder, with the remaining cylinders adjusted by hand. Acceptance trials in 1900 measured 22% efficiency.

Allis made very clever use of water valves, using a proprietary hexagonal block design with check valves in holes in the block to provide 10-20% more open area.

The second engine is a Leavitt, built in 1894. It is a double-acting steam engine with slide valves and reheat between cylinders. A bent crank and "rocker arm" connects the engine to the pumps, with a flywheel for inertia. The water flows from the bottom into the pumps and huge surge tanks are above the pumps. The engine was designed for use in mines. The engine is big, though not as large as the Allis, having only 2/3 of the Allis' capacity. It is 25' from the floor to the top of the cylinders; the height from the bottom of the pumps to the floor is 20'. Even though it was fitted with a central lubrication system, lubrication was a major problem with this engine and it was notorious for its leaking water valves. In operation, it turned out to be less efficient than the Allis.

The third engine is a compound Worthington horizontal pumping engine with double-acting pumps, built in 1921. It is really two separate engines, mounted side-by-side with a common crankshaft and flywheel. It was alleged to be a Unaflo engine, but the inlet valves are Corliss. There is some dispute about whether or not these two types of engines are compatible. Although it is only about a third of the size of the big Allis, it had half the Allis' pumping capacity.

These three engines are entered in the national register and consequently are protected from destruction.

In the basement, there is a centrifugal pump that is driven by a Solar gas turbine, using natural gas as a fuel. The engine is rated at 850 HP and the pump, which appears as little more than a bump

on the pipe, has a capacity of 35 million gallons/day. The flow is continuous and, not having any intake or outlet valves to contend with, there is no surge and, consequently, no need for surge tanks. The fate of this engine is indeterminate.

The state authority (MRWA) wants to divest itself of the property and has negotiated a deal with a developer. A 6-story building is to be erected on the property

The developer promises to preserve the 3 steam engines and this promise is enshrined in the deed. How this is to be done, or what is, or can, be done is not clear. Presumably, the HSE will become a museum. The first task would be to clean up the engines. They have been badly neglected and are rusting.

It is hoped that a group, such as NEMES would take an interest and provide manpower to start rehabilitating these magnificent survivors of the last years of the age of steam.

Max



Shop Hints

Compiled by
Mike Boucher

Bridgeport Mill - One Shot Lube

Kay R. Fisher

My Bridgeport milling machine was manufactured in 1947 – the same year I was born. I have been refurbishing it for quite some time now. After spending many hours hand scraping 56 years of wear out of the base, knee, saddle, and table I would hate to wear them down prematurely. I always wanted a one shot lube system but after I purchased the manual lubricator and started looking into all the additional parts I would need - I started getting cold feet.

Then I moved from Massachusetts to Arizona and the one shot lube project went on hold for over a year. When I finished my work on the saddle I couldn't bring myself to assemble it without a one shot lube system.

Here is how I did it...



Bijur Lubricator Installed

Photo by Kay Fisher

Buying the Parts

I started by calling Bijur and found out that the Bridgeport 9 point kit (No. K-1099) cost \$469. After a little sticker shock I asked the price of just the manual lubricator - \$212. I also tried:

High Quality Tools, Inc.
34940 Lakeland Boulevard
Eastlake, Ohio 44095
(877) 372-9227

They have an excellent catalog that has a small diagram of the lube system available from Lube USA. You have to order from "High Quality Tools" through a distributor. I have ordered through:

Rice Machinery
(401) 781-3010
<http://www.ricemachinery.com>

In the past, experts at Rice Machinery answered my technical questions. But even Rice Machinery wanted \$233.75 for the Bijur manual lubricator. So I purchased my Bijur Manual Lubricator from ENCO for \$76. It is model number 203-1500. They also have an ENCO brand for \$39 - model number 203-1505.

ENCO
400 Nevada Pacific Hwy.
Fernley, NV 89408
(800) 873-3626
<http://www.useenco.com>

After watching the web and trying local hardware stores, I finally determined it was possible to save some money but it was not going to be a nickel and dime deal.

One cost that stayed high was the meter units. Bijur wanted \$9.88 to \$17.63 for the meter units specified in their kit No. K-1099. Another vendor (Trico) is listed in the MSC catalog but their meter units were approximately \$10.00 each.

Trico Mfg. Corp.
1235 Hickory Street
Pewaukee, Wi 53072-3999
(262) 691-9471
<http://www.tricomfg.com>

Lube USA had the most economical meter units for \$7.29 to \$13.09, so I ordered all my plumbing and meters from them:

Lube USA
780 Congaree Road
Greenville, SC 29607
(800) 326-3765
<http://www.lubeusa.com>

They were very professional yet didn't seem to mind a small order from an individual. They also have an excellent catalog. If you ask, they will send you a one page "Bridgeport Milling Machine 9 Pt. Lubrication System" diagram that lists most of the part numbers you need to retrofit an existing Bridgeport mill.

Here is the part list of the items that I bought from Lube USA.

Qty	Part #	Item Description	Price Each
1	185052	HTG-0 Flow Adapter	\$13.09
1	185002	HAS-0 Flow Unit	\$7.29
1	186101	Elbow Connector	\$2.94
11	106271	Tubing Insert 4mm	\$0.41
13	106254	Compression Sleeve 4mm	\$0.31
7	186252	Compression Bushing	\$0.70
6	186251	Compression Nut	\$0.70
4	106901	Tube Ends Elbow, Drive 3mm	\$3.77
10ft	106801	4mm Nylon Tubing, Natural	\$0.50
1	185009	HJB-0 Flow Unit	\$7.29
4	185010	HJB-1 Flow Unit	\$7.29
1	186404	PJ-7S Junction	\$13.09
1	106707	12" Flexible Hose 300mm	\$13.99
1	186420	PJ-3 Junction	\$4.14
2	186255	Closure Plug	\$0.69
		UPS shipping	\$8.58
		Total	\$138.67

The part numbers that start with 106 are metric. The part numbers that start with 185 and 186 are English. The output from the Bijur lubricator is 1/8" NPT as are the Bridgeport Zerk oilers.

The list above is correct to the best of my knowledge. Originally I was a couple of items short and had to pay additional shipping cost for a couple of small parts. I advise anyone ordering to order extra compression sleeves, tubing, and drive barbs to allow for mistakes.

Measuring and Layout

The new Bridgeports have 12 inches of Y travel where mine has 9 inches of travel. I measured a new Bridgeport mill and the lubricator was approximately 10.25" down from the top of the knee to the top of the lubricator and 4.5" from the back of the knee to the back of the lubricator.

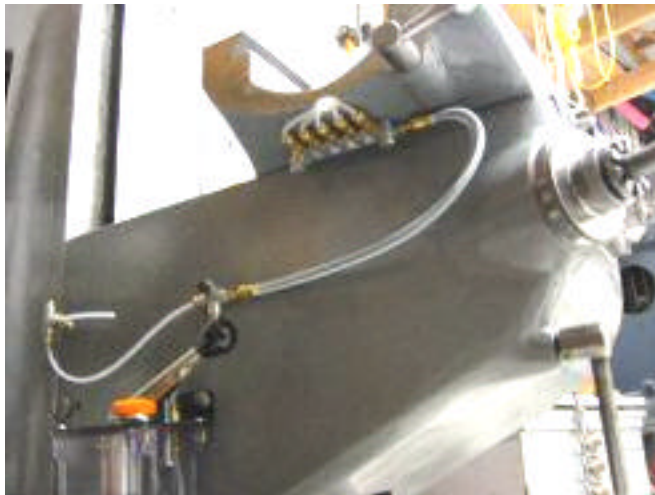
Because my knee is smaller I placed my lubricator 7.25" down from the top of the knee and 4.25" from the back. I mounted all my hardware on the mill by drilling and tapping 1/4x20 holes.



5 Port Junction on Saddle

Photo by Kay Fisher

The junction should be located as close to the knee ways as possible because the tubing must make a sharp bend through the new drilled and reamed 3/4" hole into the top of the saddle. I wish I had positioned mine about 1/4" closer to the saddle.



Lube System and junction

Photo by Kay Fisher

I also measured and stared at the flexible hose for quite a long time before I decided that I did not need the 14" flexible hose and instead ordered a 12" hose.

I also got a good diagram for a 9 point lubrication system from:

Bijur Lubricating Corporation
50 Kocher Drive
Bennington VT 05201-1935
(800) 631-0168
<http://www.bijur.com>



Saddle with Holes Drilled

Photo by Kay Fisher

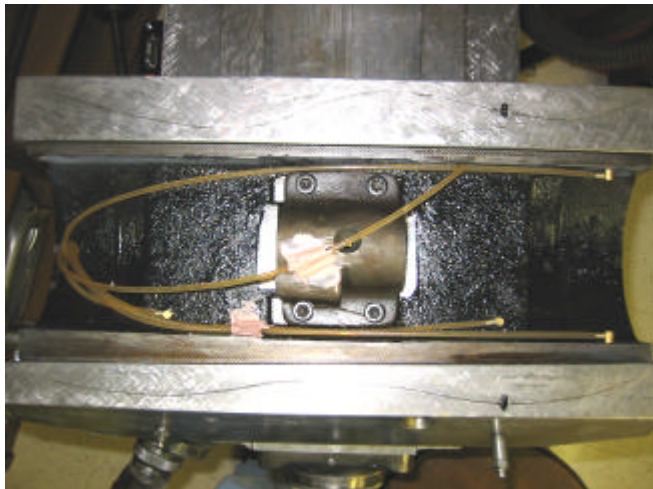
Instead of running the lines to the old Zerk holes, I cross-drilled into the existing oil paths and installed (hammered in) drive barbs (elbow connectors) based on a suggestion from Bridgeport restorer Michael Morgan. To make sure I didn't miss the existing oil passageways, I inserted brass rods through the old Zerk holes and made sure that my measurements agreed with my line of site observations.



View of Saddle for drilling

Photo by Kay Fisher

I asked on the phone what size hole to drill for the drive barbs. The Lube USA fellow said 1/8". To get an accurate 1/8" hole, I drilled a couple of sizes smaller and then worked my way out to 1/8".



View of Saddle Plumbing

Photo by Kay Fisher

To drill in the sides of the saddle I had to use a 90 degree drill adapter and screw machine (stubby) drill bits. I just barely had room. If you don't have a screw machine drill bit you can easily just grind off the end of a cheap bit and make one.

One of my critical holes ended up just a bit too large. I could have ordered the next size larger barb but instead I put a layer of solder on the old barb and then it fit tightly.

The photo below shows the 5/32" tubing with a compression nut, 4mm tubing insert and 4mm compression sleeve.



5/32 Tubing and Fittings

Photo by Kay Fisher

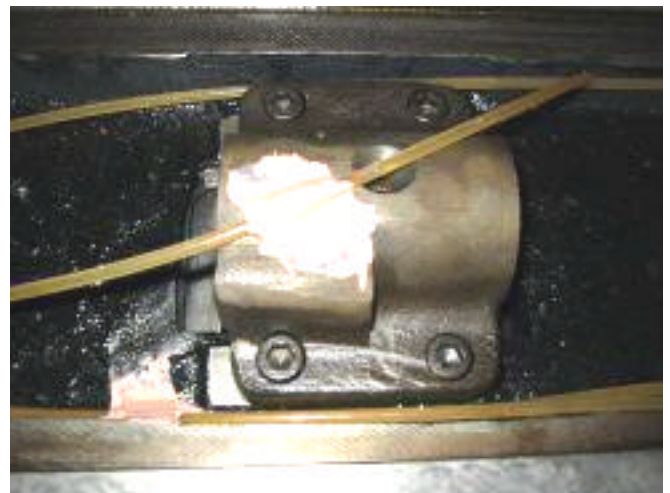
Meters

I ended up using three #0 meters and #1 meters for the rest. A #1 meter puts out twice as much oil as a #0. The vertical ways create the biggest mess so I am glad I took Michael Morgan's advice and put the small #0 meters on them. Since they are not under pressure from the weight of the table and because the knee moves less frequently, I believe that they require less oil.

I also used #0 meters on the cross feed acme screw. Now the cross feed screw gets approximately 7 drops of oil per cycle.

Feed Nut Lubrication

To get oil into the feed screws there is a hole on top of the feed nut bracket. Normally you center the table (with a mark on the saddle), remove a set-screw in the middle of the table and drip some oil through the hole.



Feed Nut Bracket with Bondo

Photo by Kay Fisher

I used Bondo to fasten the 5/32" nylon tubing to the top of the feed nut bracket. Bondo was my second method of fastening. My first was not successful.



Measuring for Feed Nut Oil

Photo by Kay Fisher

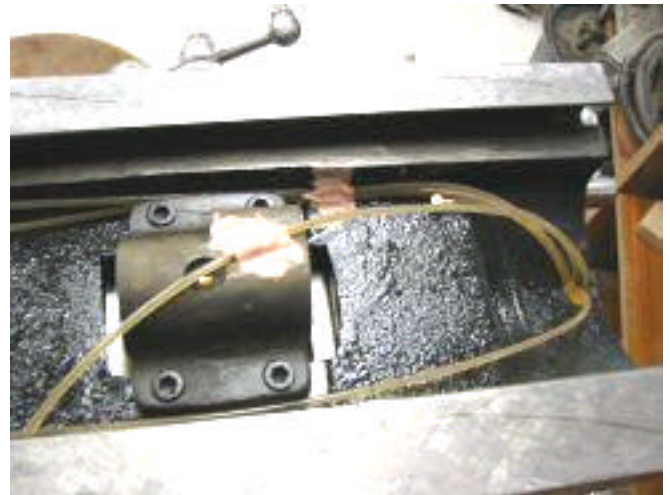
After I fastened the tubing to the bracket I got to thinking it might not clear the bottom of the table. In the photo above I set up some 1-2-3 blocks and measured the depth across the entire bottom of the table. It was just a hair more than 5/32". In hind sight, I should have ground a groove in the feed nut bracket with a Dremel tool and laid the tubing in it to have more free space.

Modifications

I elected to modify the original parts list from Lube USA's "9 point lubrication system" diagram for three reasons.

1. I had an older mill with only 4 oil Zerk fittings on the saddle.
2. I wanted to keep it clean so that adding a power X drive and limit switches wouldn't have me cursing the plumbing job, so I eliminated the outside plumbing on the saddle.
3. I had the saddle completely apart and it would never be easier.

Instead of the 6-port junction mounted under the saddle I used a 5-port junction. Even though it is called a 5-port junction there are actually 6 outlets. Five to the side and one out the end – where I installed a plug.



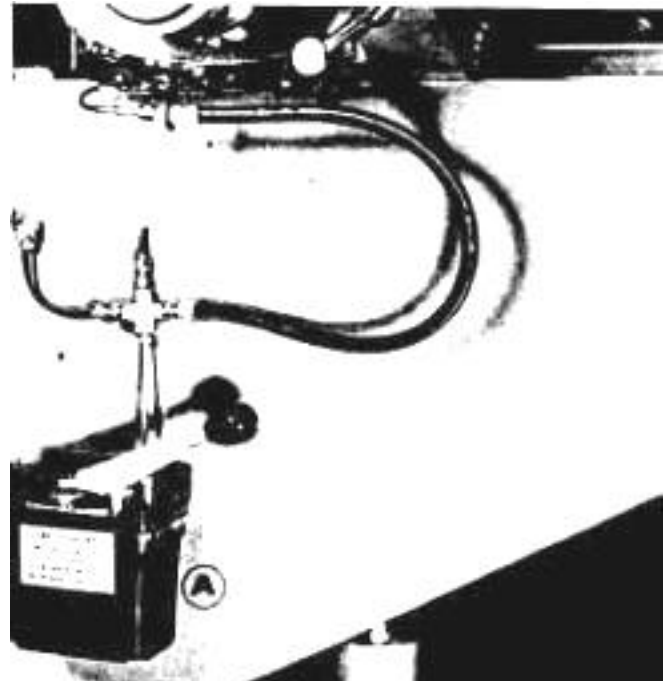
Bondo Two Lube Lines

Photo by Kay Fisher

I also used Bondo to fasten two lube lines that wanted to ride up as shown in the above photo.

Next Time

I would do a few things differently if I had to do it again. I would change the layout on the left side of the knee to more closely match the layout pictured in the old Bridgeport manual that comes in Error Groff's CD "Shaper Work Plus". The meter on the left side of the saddle sticks out further than the elbow and meter on the right side of the saddle. If I laid out the lines as per the Bridgeport picture I could make the left like the right.



Lubricator Layout

photo from Bridgeport Manual



Lube fitting visible on Knee right side Photo by Kay Fisher

I would like to have used brass tubing even though it would have been a bit harder to work with.

Way Oil

There has been much discussion on the internet about the proper oil to use. Some have used 30-weight non-detergent motor oil. Some have used chain saw bar oil. I am using "Tru-Edge" brand special way oil 68. I purchased a gallon of it years ago, long before I ever had a milling machine. However, the consensus today is that the best choice is Mobil Vactra #2 way oil. If I ever run out of my current supply, I plan to switch to Mobil Vactra #2. It is ISO grade 68 (SAE-20) and available for \$13.82 a gallon as part number 60002151 from:

MSC Industrial Supply Co.
 75 Maxess Road
 Melville, NY 11747-9415
 (800) 654-7270
<http://www.mscdirect.com>



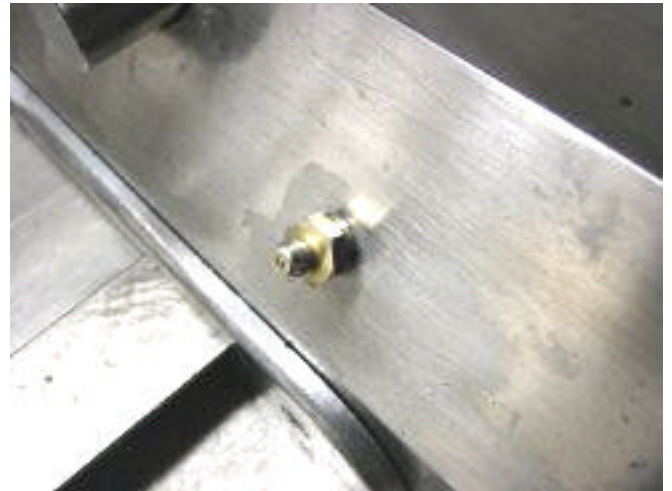
System with Oil in Lines

Photo by Kay Fisher

Even though I would have preferred to use brass, there is an advantage to the nylon tubing. It is very reassuring to see the way lube travel up the clear plastic tubes on all seven of the lines.

Eliminating Zerk Holes

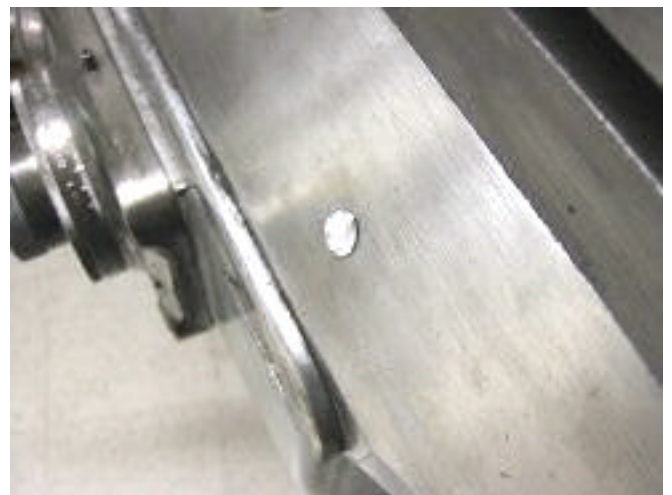
Last but not least – the job isn't done until the Zerk oil holes are plugged. I thought I might want to leave the Zerk fittings in place as an emergency way of supplying lube.



Oil Zerk, soon to be removed!

Photo by Kay Fisher

Then I thought I might want to insert plugs made like set screws for easy removal. Finally I decided I just wanted the front to look as nice as possible with little evidence of the previous oil holes. So I inserted four 1/8 NPT pipe plugs, ground the heads off with a Dremel wheel, and filed the stub down flush with the saddle.



1/8 NPT Plug inserted and ground off

Photo by Kay Fisher



Plug After Filing Down

Photo by Kay Fisher

My Bridgeport is still a work in progress but I am very happy with the one shot lube system. Now it is easy to oil and much more elegant!

Kay



American Precision Museum News

By Ann Lawless, Executive Director
American Precision Museum

The 4th Annual American Precision Museum Model Engineering Show was small but successful. We owe thanks to so many NEMES members and affiliates who came and helped make it such a positive event for the Museum.

Here's the official thank you, as will appear on our web site:

The American Precision Museum's 4th Annual Model Engineering Show was held November 1-2, 2003 at the Windsor Town Center. We thank the many model engineers and vendors who came from near and far to participate. Although the show was smaller and simpler than it has been in past years, it was a success in bringing new visitors to the Museum.

Our thanks go out to many community organizations, local businesses and volunteers who worked hard to make it well organized and

fun. We especially appreciate the cooperation of our neighbors in Windsor, individuals and organizations who helped coordinate the Model Show with the "Vermont Boy Scouts Salute American Veterans" parade, sponsored by the Windsor Legion Post, held on the same Saturday in Windsor.

Model Engineers

- ?? Richard Sabol and Laurie Olson-Sabol, Dover NH
- ?? Bob and Carolyn Cumings, New England Brass and Tool Inc., Winchester MA
- ?? Rich Puleo, Leominster MA
- ?? Norm Jones, Chelmsford MA
- ?? William F. Schoppe, Berwick ME
- ?? Paul Madigan, Ware MA
- ?? Ronald Levesque, Somersworth NH
- ?? David B. Stickler, Carlisle MA
- ?? David Bono, Westerly RI
- ?? Todd Cahill, S. Grafton MA
- ?? Richard Hubbard, Thomaston CT
- ?? Russ Steeves, Chelmsford MA

[Editor's note: Non-NEMES members and the vendor list, have been removed from this list, in the interest of space...]

Ann Lawless

Executive Director, American Precision Museum

Ann also forwarded this press release. Some paragraphs have been removed for space considerations. For the complete press release, contact the APM.

American Precision Museum receives \$200,000 Building Restoration Grant

Windsor, VT: First Lady Laura Bush will announce Thursday, November 13th, that The American Precision Museum of Windsor VT has been awarded a \$200,000 *Save America's Treasures* grant to assist in the restoration of the 1846 Robbins and Lawrence Armory, the National Historic Landmark that houses the museum. Ms. Bush is the Honorary Chair of The Save America's Treasures (SAT) program which addresses the urgent preservation needs of the nation's most significant historic sites and collections. The program is administered by the National Park Service in partnership the President's Committee on the Arts and the Humanities (PCAH), the National Park Service

(NPS), National Endowment for the Arts (NEA), National Endowment for the Humanities (NEH), and Institute of Museum and Library Services (IMLS).

The American Precision Museum project was selected in a nationally competitive process by a panel of experts representing preservation and conservation disciplines who reviewed the applications and recommended awards totaling \$15 million for approval. By choosing the museum's project the panel indicates that the Robbins and Lawrence Armory is of national significance, demonstrates an urgent preservation need, has an educational or other public benefit, and is likely to receive non-Federal matching funds.

Senator Jim Jeffords stated that "he is very proud to have supported this grant award and looks forward to the improvements that it will pay for. The 1846 Robbins and Lawrence Armory, a National Historic Landmark, is a historical site that truly deserves these funds. The Armory is an important cultural and physical landmark that must be preserved to ensure that future generations have the opportunity to experience the collection of artifacts that the Museum holds. The *Save America's Treasures* program is essential to the continued preservation of landmarks such as the American Precision Museum which is located in the Robbins and Lawrence Armory. It ensures that historians and scholars have the support that they need to provide the public access to preserved artifacts and documents in their proper environment."

"The American Precision Museum is housed in a true American treasure in need of saving," said Senator Patrick Leahy, a senior member of the Senate Appropriations Committee. "This grant will help the museum restore a national landmark that has withstood more than a hundred of Vermont's harsh winters. As more and more machine tool firms pass into history, it is important to preserve this piece of America's history because of its classic mid-Nineteenth Century New England mill architecture and American mechanical ingenuity."

With the announcement of this award the American Precision Museum kicks off a major building preservation effort that has been in the planning stages since 1999. The SAT award will enable the Museum to get started in 2004, says

Executive Director, Ann Lawless. "We are thrilled to have received this award. Our National Historic Landmark building has many critical preservation needs. The roof, masonry and windows all need work. The Museum is in the process of determining the exact scope of this project."

The *Save America's Treasures* grant requires the museum to match the federal funds with cash, other nonfederal grants, and donated professional services and volunteer help. Thus, the total value of the current project will be \$400,000. "A portion of the cash is in hand and the Museum is seeking additional grants and gifts", said Rick Roesch, Museum Vice Chair and co-chair of the Development Committee. "The museum welcomes contributions and donations of services and equipment from the community to help with the implementation of this exciting project. The long term goal is to preserve the contribution precision manufacturing made to the world and increase the flow of educational tourism to the region."

For more information on *Save America's Treasures*, visit their website at <http://www.saveameericastreasures.org/>



For Sale

Logan Lathe

10" Logan Lathe for sale. Comes with

- ?? 6" - 3 and 4 jaw chucks
- ?? 6" face plate
- ?? collet set
- ?? live center
- ?? Aloris tool holder AXA with 2 holders

Price: \$900

Dave Perreault
30 Bluefish Drive
Fremont NH 03044
(603) 895-0269
daveperr@comcast.net

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



Treasurer's Report

Rob McDougall

Balance as of: 9/30/03	\$6,510.67
2003 Dues Received	32.50
2004 Dues Received	25.00
Interest Income	.54
<u>Less</u>	
Gazette expense	-234.49
Balance as of: 10/31/03	\$6,334.22

Dues for 2004

The members have voted and the Club Dues remain at \$25.00 for 2004.

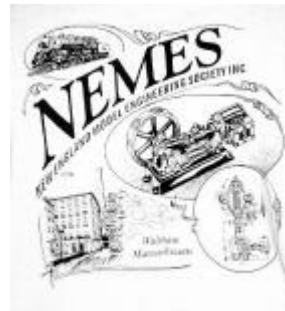
Collection of Dues

I would like to repeat last year's method of putting out a box at the next meeting for members to drop their dues check into. If you wish to pay by cash, **PLEASE PLACE THE CASH IN A SELF ADDRESSED ENVELOPE.** Thank you.

Cabin Fever Trip

I am collecting the bus fare for the Cabin Fever trip, currently estimated at \$62.00. We have 21 signed up as of 11/16/03, so there's still space.

Rob



NEMES clothing

NEMES Sweat Shirts

Due to popular demand, we have ordered 60 sweat shirts. These are long sleeve, crew neck, "Heavyweight" sweat shirts. They're 50-50, and very comfortable. Artwork is the same as the tee shirts.

Prices:

S - XL \$22.00
 XXL \$24.00
 XXXL \$25.00

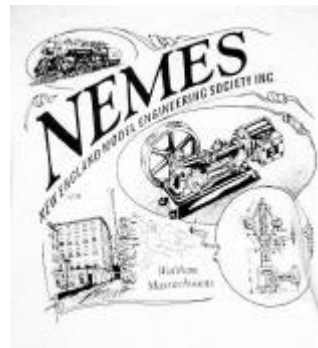
Shipping and handling are still to be determined. If you want to mail-order a sweat shirt, give me a call after the December meeting, and I'll give you a shipping quote.

NEMES Tee Shirts

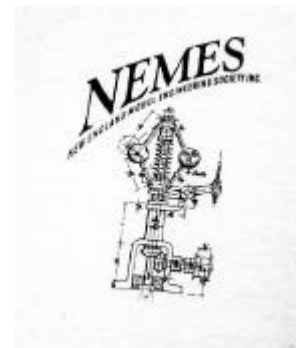
NEMES tee shirts are available in sizes from S to XXXL. These are gray short sleeve shirt, Hanes 50-50. You won't shrink this shirt! Artwork by Richard Sabol, printed on front and back.

Extra-large tee shirts are now **AVAILABLE AGAIN!** We received another 20 shirts with the sweat shirts. We probably won't be ordering any more for a while, so if you need an XL, now is the time to order one!

Artwork:



Rear



Front

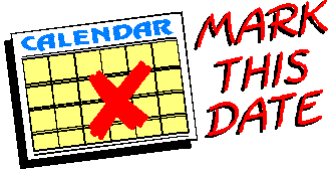
Prices:

S - XL \$12.00
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

All profits go to the club treasury.

Mike Boucher
10 May's Field Rd
Lunenburg, MA 01462-1263
(978) 345-7741
mdbouch@hotmail.com



Upcoming Events

Bill Brackett

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 or (508) 393-6290.

Dec 4 - NEMES Monthly club meeting

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

Jan 1 - Waushakum Live Steamers "New Years Day" run

Waushakum Live Steamers, Holliston, MA
John Mentzer ()
<http://www.steamingpriest.com/wls>

Jan 17-18 - Cabin Fever Expo

York, PA. Gary Schoenly (800) 789-5068
<http://www.cabinfeverexpo.com>

Bill



Web Sites of Interest

Segway Clone

Build your own, save \$5000 and the hassle of dealing with a recall!

<http://www.tlb.org/scooter.html>

Lego "Segway"

While we're on the subject, on the above site, there were several interesting links, including this one. Introducing the "LegWay", a balancing scooter made from Lego! (No, you can't ride this one...)

<http://perso.freelug.org/legway/LegWay.html>

Reaction Research Society

The Society of "Amateur" Rocket Scientists launched a 13' tall rocket to almost 100,000 feet, and boosted their 30 lb payload to 280,000 feet.

http://www.rrs.org/Projects/Launches/Space_Shot/space_shot.html

This site has lots of other interesting things if you go to the top, including both ground (#9) and "Dart" video of the "space shot" (#10). The Dart video is worth the download just to see the curve of the earth when the vehicle reaches the apogee.

<http://www.rrs.org/Videos/videos/html>

Note: Navigation on this web site is not intuitive, the navigation buttons on the right-most pane disappear as you navigate down, and they don't have a home link. You'll find yourself using the back button a lot.

Obviously they're better rocket scientist than web site designers!