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Sept 2002

The NEMES Gazette

The Newsletter of the New England Model Engineering Society

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NEMES web site: **http://www.NewEnglandModelEngineeringSociety.org**

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Next Meeting

Thursday, September 5, 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

I'm sure I'm not the only club member who is constantly looking for interesting items to add to the shop. Sometimes you'll find useful items, sometimes they're more curiosities. Sometimes you find things where you don't really expect to find them. During the month of July, I added a couple things to my collection which I didn't really need, but couldn't bring myself to not buy them. One might be useful sometime, the other I'll be stunned if I ever find a use for!

The first one was found at a "community yard sale" as part of Needham's 4th of July celebration. One gentleman was selling a Lunk gas blowtorch. Nothing terribly exciting about it, but I thought it was in rather good condition at a pretty good price, so I grabbed it. The original decal is still on it and readable, albeit a bit scratched. The pump does need a little work, as it doesn't seem to build up any pressure. I figure someday I'll have to silver solder a copper boiler, and the more heat sources the better.

The second one can only be described as part of my continuing efforts to convince my fiancée that I'm completely nuts. We were at an antique/reproduction furniture dealer in Norwood, and sitting in the corner was an old pattern for a

rather large flywheel. It's about 3 feet in diameter, 6" wide at the face, with 6 straight spokes. It's in somewhat tough shape, but it's still in one piece. Of course, I have no clue what I'm going to do with the thing other than hang it on the shop wall somewhere out of the way, but I have it. Below is a photo of the pattern, leaning against my 10" south bend lathe for scale.

Of course, after writing this I heard about Norm's acquisition of a set of castings at a yard sale…

NEW ADDRESS

As many of you know, I've moved. Here is my new mailing address:

Mike Boucher
10 May's Field Rd
Lunenburg, MA 01462-1263
(978) 345-7741

My email will be changing as well, but that's not set up yet. I've set up a temporary email at mdbouch@hotmail.com.

BTW - The machine shop has been moved, but not set up yet. I do have about twice as much space as I had before, and a ground level entry!

c'ya
Mike

President's Corner

Norm Jones

September Meeting

Our speaker for Sept 5th will be Mike Garbenis. His talk will be about his experiences with EDM machining. I passed around an example of Mike's work at the last meeting. I am looking forward to learning how he was able to achieve such fine detail on that eagle.

Bar Folder Plans

Dave Bono is making available to the organization, the plans for his bar folder that he talked about at last month's meeting. See Mike Boucher at the coming meeting if you would like to purchase a set of plans. The cost will be $10.00, all of which goes into the club treasury. Thanks Dave!

Cabin Fever Expo

Its not too early to start thinking about the 7th annual Cabin Fever Expo. I talked with Gary Schoenly at Kinzer, PA, a couple of weeks ago. He is going all out this time! For starters it will be held at a new larger facility. He's planning on having a boat pond for radio-controlled models, among other improvements. Check out their website: http://www.cabinfeverexpo.com There will be more details available at the meeting.

Closer to Home

Don't forget our display at the North Shore Car Club's show at the Topsfield Fairgrounds on Sunday Sept 8th.

Security

Thanks to all of you who have volunteered to spend a few minutes at the front door of the museum between 6:00 and 7:00.

Show and Tell Signup List

There will be a signup list up front prior to the meeting for those of you who would like to share a "show and tell" item with the group.

See you on Sept 5th!

Norm

The Meeting

Max ben-Aaron

The meeting was opened by our new President, Norm Jones. Our President Emeritus was conspicuous by his absence.

The first order of business was to thank the volunteers who manned the front door. This function is vital to the security of our host, the Museum, and, therefore, to us too. If we blow it, we will probably lose our meeting-place.

Several new members in attendance for the first time were warmly welcomed.

There was a sign-up sheet for show and tell on the table in front. Members are urged to sign up if they would like to have some time.

Topsfield Show

Norm reminded the members of our booth at the annual North Shore Antique Car Club Show at the Topsfield Fair showgrounds on September 8th, the Sunday after Labor Day. Ed Rogers organizes a space for us, with electric power. Those of us who go know that it is a whole lot of fun and a chance to spend most of a day socializing with some of the most interesting members of the club, as well as showing off in front of an adoring audience.

As luck would have it, it coincides with the show up Route 101 in Dublin NH, which is a two-day affair, so one can go to Dublin on Saturday and strut your stuff at Topsfield on Sunday.

Since the disappearance of the manifold that John Wasser made for our shows, providing compressed air for running our models has been a constant problem. We will make a definite effort to solve the problem by next show. As a back-up, we do have an offer from the Central Mass. Gas and Engine Club, (which provided a set-up for NEMES at their last meeting) for the loan of their manifold.

Dave Robie says that he found a scrapped nebulizer that provides enough compressed air to run his models. Find one if you can.

A handyman's blade with an eagle emblem 'engraved' on it was passed around. It was made using 3-axis CNC EDM machine and a graphite electrode, made by Dick Cushing. He has volunteered to give a talk about the process, if there is a demand for it. A voice-vote indicated that he should be invited.

In case some members did not yet know about it, Norm described our library and some of the magazines, books and tapes that are available for our use.

Show and Tell

Errol Groff showed a pair of CardPro 'reels' (which he bought at Oskosh) for storing electric cords, small @ 3/$10 and large @ $20. The large one will hold a 100' cable. It is designed with a division between two sides so that half of the cord can be wound one way on one side and the other half the other way on the other side. Then one end can be plugged in and the cord will spool out cleanly as you pull the other end, if you want. Or you can wind the cord so that it doesn't peel off.

Errol also warmly recommended the 'Invisible Glass Cleaner' he bought at Pep Boys.

While passing through Illinois he took a tour through the Winnebago Ductile Iron Foundry.

Bill Brackett showed a pattern he made for a guard for a cup-wheel, the casting that Steve Lovely made for him, and a finished guard.

Dick Boucher remembered a query by Bob Neidorff asking how thin pieces could be held in a chuck, so he brought some aluminum 'spiders' and passed around a chuck fitted with a spider to show it would be used. The ones he showed were not castings, but a set of spiders would make an excellent first casting project.

Lathe "Spider"

Norm is planning to do some aluminum soldering and asked for tips on its use. He noted that our library is coming along well and that we have some books, magazines and video-tapes that members are free to borrow.

Bending Sheet Metal

The speaker at the August meeting was our own David Bono, on "The technique of bending of sheet metal".

[Note: David Bono handed out a beautifully done document laying out (no pun intended) his excellent method for folding sheet metal. Unfortunately we have not been able to reproduce it here, as I would have liked, but we hope that, sometime in the future, we will be able to include most of it in a future Gazette.]

About 20 years ago David was put in charge of a CNC punch press, making electronic chassis and copier parts and things like that. He had to dig into books to learn rather quickly how to fold metal within tolerances with some reliability. Folding sheet metal is usually about the least precise method of working metal that you can have.

In most cases, he drew the parts larger than life size and then used the technique that is the topic for this talk.

The challenge is to do a full-size lay-out ('development') on the piece of sheet metal that you want to bend, with all holes and punchings laid out, drill or punch them, then bend it and have the holes come out in the right places.

Suppose you put a right-angle bend in a piece of sheet metal while making a box. The metal in the outer surface will stretch and the metal on the inside will compress when it is bent. In the middle, there is a 'neutral axis', a layer that is not deformed. The trick is to 'find' this neutral axis and mark the piercings out on it. Then, after bending, the holes will come out in the right places.

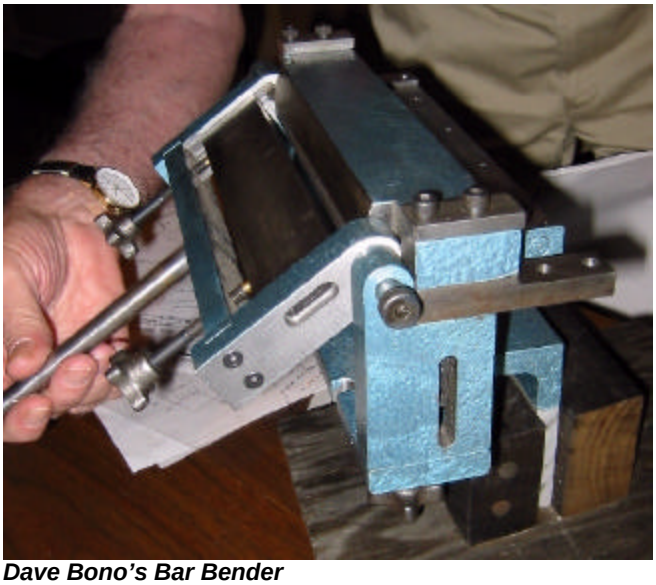
Typically, the radii of the bends have to satisfy esthetic as well as functional requirements. Good drafting practice dictates that the inside radius is the one that is specified. If given the outside radius, the inside radius is easy to obtain - simply subtract the material thickness from it.

David showed a beautifully-made model locomotive, with a Belpaire boiler, that he is in the process of building. The boiler and the firebox, which showed superb craftsmanship, were done using this method, with all the holes for the stays etc. predrilled, which made a good advertisement for the Bono method.

When sheet metal is bent, a radius is formed on the inside contour of the metal at the bend-point. The bending is usually done over a mandrel or forming tool, which could be as simple as just a metal rod.

It is, of course, necessary to be able to control the position and the radius of the bends. Not being able to do his 'government jobs' on the CNC punch press any more, David designed and made an 8" bar folder, which he brought to show.

Drawings of the folder will be available, at some nominal charge for members who want to build one like it. (NOTE: profit from the sale of the drawings will go to NEMES. Thank you to Dave for allowing us to sell the drawings)



Dave Bono's Bar Bender

The sheet metal has to be overbent because it has a tendency to spring back a bit after being deformed. This is controlled by the radius of the mandrel and by knowing how far to overbend. Usually, you do some experiments --you take a scrap bit of metal, bend it and measure it to see how it reacts. David suggested that a draftsman's circle template is a valuable aid in measurements of this sort.

David proposed a seven-step method to follow in bending sheet metal:

1. Define all inside bend radii of the drawn part.
2. Select a rod or mandrel that has the right radius for the bend and do a couple of trial bends on strips of the same metal to determine the actual radius that will be produced. This is the radius to use when establishing the neutral axis.
3. Draw the profiles of the bent parts, using arcs of circles and straight lines only.
4. Draw the neutral axis, defining all the arcs and straight sections, assuming that the neutral axis falls in the center of the thickness of the sheet metal.
5. Using simple geometry, calculate the lengths of the arcs.
6. Determine the "flat length" by adding all the arc lengths and straight lengths.
7. Draw the part outline, adding lines at the tangency points: the places where the straight lengths and arc lengths meet. Add any holes or other features of the part. Bending takes place along the lines at the tangency points, so bends begin and end at the correct places.

CAD programs make the lay-out really easy.

Well done, David!

Max

50 Years of Pioneer Valley Live Steamers

Rich Hubbard

All Live Steamers are cordially invited to attend a special 50th Anniversary Meet at the Pioneer Valley Live Steamers in Southwick, Mass. The meet will be held the weekend of August 30-31, and September 1st, 2002.

We are not advertising this meet to the general public, as it is our hope to attract a large number of fellow Live Steamers to come visit and bring your locomotives and run. The fellowship and sharing of knowledge is one of the best aspects of the hobby. We are hoping that a number of hobby suppliers will attend to keep us all updated on what is available in products. So far, Rogers-Cook has committed to being there. We will post more as we find out.

There will also be a steam table (compressed air) for those who wish to bring stationary steam engine models.

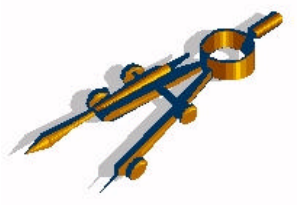
At the present time we are planning to have a pig roast on the club grounds for the Saturday Night Banquet.

Attendees can camp on the club property (limited electrical hookups) and a list of area motels and campgrounds will be added to this page shortly.

If you have any questions, you can call Rich Hubbard at (860) 283-5530 or email <rhubbard02@snet.net>. There is no registration fee for the meet, but it would be helpful if you call or email us just to help get an idea of how many people will be attending.

Thank you, and we hope you will join us for our Anniversary Meet!!!

[Editors Note: I apologize for the late notice. The announcement arrived too late to make it into the last Gazette. Hopefully you already noticed it in the "upcoming events" column.]



CAD for the Home Shop

Bob "Mac" MacIlvaine

Well, you've drawn all the plans for your next project in CAD. But, it will probably be tough to build with no dimensions on the drawings. Worse yet, a year or so from now, when you need to modify or replace a part, if you're like me, you'll never remember those dimensions you tweaked for whatever reason.

In a completely automated shop (they exist right?) the CAD data could be fed directly to the CNC machine…and out pops a part. In the home shop, most of us have to turn the cranks or at least program the CNC code.

Let's look at some of the functions available to help us with dimensioning. First, some general notes.

First and foremost, **always** use snaps to dimension. This is the only way to select points on existing geometry accurately.

When the details of the geometry are dense, zoom in on the detail so you can tell what you're dimensioning.

The DIM command has lots of options that can confuse even the most experienced CAD user. So it's best to use the DIM menus whenever possible.

The basic dimension types are available on the toolbar.

?? Linear 

?? Aligned 

?? Angular 

?? Leader 

?? Rotated 

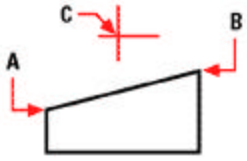
?? Diameter/radius 

?? Baseline 

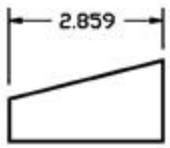
?? Ordinate 

To dimension geometry, the user typically has to specify three points. I say typically because there are some instances where less or additional info is required. We'll look at these in a future article.

For a basic linear dimension, the user needs to select two points on the geometry. These are the origins of the extension lines. A third point defines where the dimension text will be placed.



This results in a linear dimension:



Result.

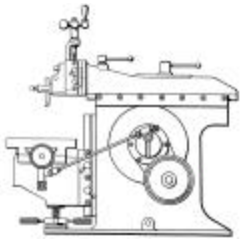
The visual aspects of dimensions are controlled by style definitions. If you want different text fonts, arrows, extension line gaps, etc. you have

to change the current style. We'll leave that for some other time.

The examples shown above are right out of the IntelliCAD help file. That's where you'll find detailed descriptions of all the commands. Next time, we'll take a look at some of the other dimension types in detail.

Questions? Email to: suemac@empire.net
Cheers!

Bob



Shaper Column

Kay Fisher

This is part 5 of the story of the acquisition and reconditioning of an Alba 1A shaper, by Pete Verbree, with his kind permission to publish.

Clock ahead to spring 2002:

In the months following my initial introduction to Alba, much has transpired.

In the time that Alba and I have been getting acquainted, I have been plagued with a clunking noise from the drive mechanism, as I described in my last installment.

One of the first jobs I set Alba to work on was a replacement slide block for the link arm. I took much care and measured twice and ended up with a block that was right on the money this time (.002" clearance).

When I installed this new block and tried again, I was still getting strange noises, particularly under load. I found this very vexing and one evening, in a fit of frustration, (well not quite) I took the link arm out. I measured things to see what was wrong. The slide block was OK, but the fixed end was loose on the pivot pin.

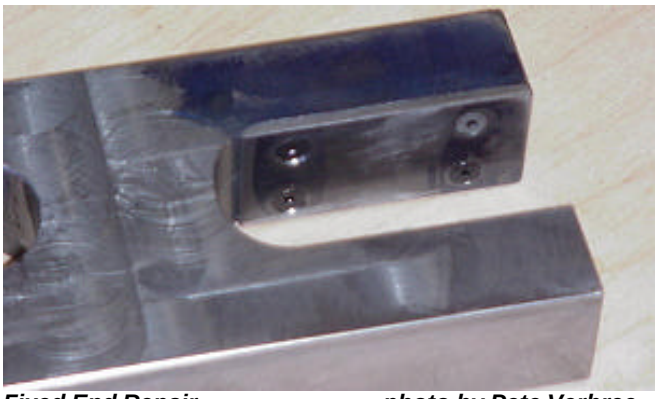
I measured again! Sure enough, the slots in the link arm measured 1.260" instead of the 1.250" that they should be.

I thought that I had been pretty careful about measuring this before, so I was having a hard time understanding what had happened here. I puzzled over this and made more measurements. Then I got the right piece in my hand! The culprit was the insert tooth end mill I had bought to machine the slots.

This particular tool had been made in Europe. When I measured across the edges with my vernier, I discovered that it was .010" over. This explained a lot about the loose slide block, and now the fixed end slot.

The new problem with the fixed end caused me several evenings of thought on how to fix it. Readers may remember that the link arm was made from a machined weldment, and a lump of 1 ¼" thick steel doesn't grow too easily.

I finally came up with a solution, which I thought was actually quite elegant. I machined the thicker of the two sides back .115" and added a .125" CRS plate, attached with 4 each 6/32 counter sunk cap screws. This made up the excess clearance and also provided for adjustment of any future wear by adding a small shim.



Fixed End Repair ***photo by Pete Verbree***

I reinstalled the link arm and set Alba to work again. A large improvement was realized, but that pesky clunk was still there!

Now What? I watched, I measured, I fiddled, I adjusted! No use, It was still there!

I put a large block of steel on the table and started the machine on slow auto-feed. I went around to the side, opened the cover, and with a mirror and flashlight watched again. The bull gear appeared to move back and forth in a side-to-side motion. HUH? That's odd; I put new bushings on that shaft when I first repaired this.

Further disassembly and careful measurement provided the answer. The shaft had been worn slightly oval. Not much, only .005-.006". However, on the inboard end it was on the back, and on the outboard end it was on the front, effectively doubling the bull gear movement.

I sat and pondered this some, and came to the realization that the thrust of the cut put more load on the back of the shaft than on the front.

The reason that this wasn't obvious in the beginning was the new bushings I had installed didn't ride on the shaft in exactly the same spot as the old. This allowed the shaft to run normally until the small shoulder wore away the bushing and the clearance showed up again.

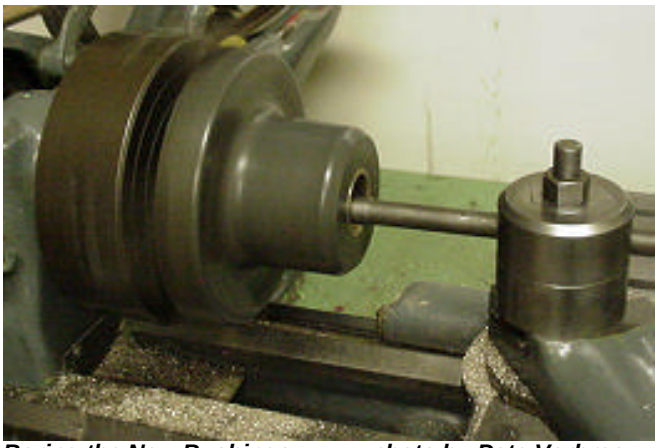
To repair this I placed the shaft between centers in my lathe, and turned it until it was round again, about .015" undersize. The reduction in size of the shaft now demanded custom bushings. I turned them from a piece of bronze and pressed them into place.

Simple enough! Yeah, Right!

We all know that bushings will collapse a little when pressed into place; the trouble with this job was I tried to get them too close, and when I pressed them in they were **too tight**!

I didn't have a reamer that big, and it was an odd size so I elected to set them up in the lathe and bore them to size (very carefully).

When I finally was able to reassemble the machine and test run it again, the difference was remarkable. The only noise was the gears loading and unloading; the clunk was almost completely gone.



Boring the New Bushings photo by Pete Verbree

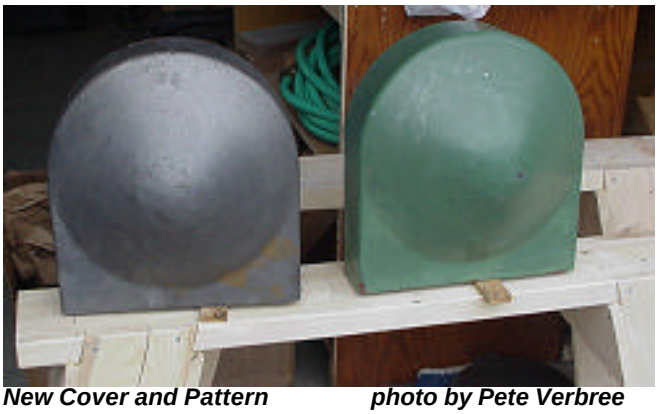
By chance, I found another Alba 1a in the good care of an acquaintance in Sault Ste Marie (about 4 hrs drive away). Merv Punkari runs a small, but busy, aircraft repair shop. I knew that he had several pieces of metalworking machinery to support his business. I visited Merv's facility in April, during the course of my job as a safety inspector. I was looking around in a workshop and low and behold I spied what looked to be a small shaper! With much apprehension, I crept closer. Sure enough a "cherry" Alba 1a complete right down to the tool holder.

Well as you can imagine this was cause for much conversation at coffee time. Merv, being the gentleman that he is, offered to lend me the large pulley cover to use as a pattern for a replacement. Yee Haw!

I brought the cover home and tried it on my machine. It was a perfect fit; I didn't even have to adjust the latch! Now the scheming and plotting started up in earnest again. Where was I going to get a casting made?

Several inquiries later lead me to Well's Foundry in London Ontario. They responded to my inquiry with a quote of $80.00, plus tax and shipping. Boy oh boy, I can't wait for my next allowance!

In due course the cover made its way to and from the foundry and I don't think I could be any happier with the result!



New Cover and Pattern ***photo by Pete Verbree***

During the time that the cover was at the foundry, a small disaster occurred while using the shaper to fabricate a vise. The upper hinge on the ram lever broke while I was tightening the nut. I suspect that this is a result of the abuse that was handed to this machine in the past. Temporary repairs had to be made **again**! Do we see a trend here?

Broken Upper Hinge ***photo by Pete Verbree***

I cobbled the upper hinge back together enough to run the machine, and went "on the scrounge" for a piece of cast iron to machine a replacement out of. While the shaper was out of service, I figured that I could use the time to install the new cover on the shaper (Patience turned off).

I carefully laid out the location of the hole and scratched my head as to how I would drill it. It is drilled vertically from the bottom. It was too big for the mill/drill and quite an awkward shape to hold on the drill press table.

With my chest puffed out and my ego switched onto full, I decided to set it in the bench vise and drill it by eye (patience still turned off). I lined up as best as I could and charged ahead.

"Not bad thinks I, let's try it on the machine".

Well, it fit on the hinge pin all right, but it leaned a little to the right. "What's wrong?"

I laid the piece on the bench next to the pattern and sized it up It turned out that I had drilled the hole at a slight angle, and no amount of fiddling would make the cover close properly.

Ok, I can fix this. I made a plug of cast iron rod and plug the hole and re-drilled. No sweat!

The next attempt to drill the hole resulted in an equally bad result and I now had a big problem: Two botched, overlapping, miss-aligned ½" holes!

Jig and Botched Holes ***photo by Pete Verbree***

In the picture you can see the botched holes with the first repair plug removed.

When I finally got the patience turned on and the ego turned off, I dreamed up a jig to align the hand drill and guide the bit. I used a freshly sharpened 5/8" bit to clean up the hole and get it into alignment. I then fabricated a long bushing and Loctite-ed it into place. A little metal reinforced epoxy filled the remaining gaps and believe it or not the cover now fits reasonably well.

There is a small gap on the hinge line but the average horse will not notice as it gallops by. Boy, I wish I'd slowed down and thought up the jig in the first place!

Cover Finally Installed ***photo by Pete Verbree***

I made another trip to my favorite machine shop and managed to talk them out of a cutoff piece of cast iron bar, big enough to fabricate a new link arm upper hinge.

I squared up the block in the shaper and then marked it out for further work on the mill/drill.

New Upper Hinge ***photo by Pete Verbree***

This piece was not particularly tough to make but care was taken to make the piece straight and square. I did modify the original design slightly to increase the size of the hub on the top for the lock bolt on the top. Readers will note that it is now oval as opposed to round.

The completion of the upper hinge marked a milestone in this project. I believe that I have repaired all the damage from Alba's former life. Time to make her pretty again.

When Alba arrived in my care she was wearing a coat of medium dark machine tool gray, with red trim. A little "dowdy" in my opinion.

I e-mailed Frank about his machine, and he responded that it was green, although not original in his opinion. Merv Punkari's machine is also green. Hmm!

I read the archives of several of the newsgroups I frequent on the Internet, but was not able to come up with a definitive answer as to the "proper" color for machine tools. There seems to be about 11 opinions for every 10 persons asked!

During my research, I stumbled across a picture of a lathe painted a very attractive grey/green color. I'm not real good at this color stuff, but for a "coming out party" I thought a little effort was in order. So off I trek to the local industrial supply to check out the paint chips.

Parts Being Painted ***photo by Pete Verbree***

I found a color called "Detroit Diesel green" that I liked. This being a special occasion and all, I called in the "expert" (loving wife Leanne, who helps pick out my clothes and generally keeps me from clashing too often) to keep me out of trouble.

Leanne confirmed that the color was quite suitable, so a deal was struck for 1 quart of acrylic enamel and associated "stuff".

A proper paint job would require complete disassembly, strip, prime and re-paint. I had waited too long to spend that much time fussing

on finish, so I elected for a partial disassembly and sand before painting.

Base and Pedestal in Paint ***photo by Pete Verbree***

Time for a little reflection:

I expect that the reasons we play at metalworking as a hobby vary as much as the people who do it. When ever my wife asks, (usually after some big FUBAR on my account) "Why do you torture yourself like that?" My usual answer is that it teaches humility. It teaches me to slow down and smell the cutting oil, and to think about what it is I am about to do. My experience with the large pulley cover really gave me a large dose of humility!

I would like to take a couple of lines to thank those who helped me with this project. It sure wasn't a solo effort.

To My wife Leanne: Thanks for the patience.
To my daughter Erin: Thanks for lunch!
To my sons Nick and Alex: Thanks for the lift!
To Frank Dorion: Many thanks for the information and encouragement

Thanks also to: Brian and Bruce at BSK machine shop, Giles and the folks at City Welding, George Mackee, and Merv Punkari.

Pete

Alba 1A Finished ***photo by Pete Verbree***

"Proud Papa" ***photo by Pete Verbree***

Keep sending letters and email with questions and interesting shaper stories.
My mailing address is:
Kay R. Fisher
80 Fryeville Road
Orange, MA 01364
My email address is:
Fisher@naisp.net

Kay

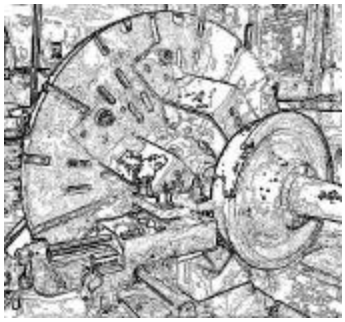
Treasurer's Report

Rob McDougall

As of 7/31/02

Balance as of: 6/30/02	**$5,394.70**
Interest Income	.67
Less	
Gazette expense	-177.68
Balance as of: 7/31/02	**$5,217.69**

Rob



Shop Hints

Compiled by
Mike Boucher

Ed Borgeson sent this comment and question to the mailing list, it's been reprinted here.

I found a good source of plastics that we can put in our list of sources of materials.

Plastics Unlimited
55 Millbrook St
Worcester, Ma.
1-800-252-8085

They carry:
?? ABS
?? PVC
?? Styrene
?? Acrylic
?? Lexan
?? Polycarbonate
?? Polyolefin
?? Delrin
?? Nylon
?? Teflon
?? Phenolic
?? G-10
?? HDPE (High Density Polyethelene ?)
?? and some other stuff which I didn't catch.

They also sell methyl chloride in a small dispenser with a needle applicator which will glue Acrylic and Lexan.

It is off of Goldstar Blvd. but call for directions if you don't know the area. I got a sheet of 1/2" PVC, 24" x 12" for about $ 25 and a bunch of other samples. They were very helpful and let me look around the warehouse. They were just moving into this warehouse and had lots of small pieces, odds and ends etc.

Ed asked:

Is there info somewhere on which adhesives work with which plastics? So far I've had limited success with acetone, methyl chloride, PVC cement (the plumbers stuff), and epoxy

However I'm never sure which plastic is which and what, if any, adhesive works. Some work, some don't and some require welding. It would be nice to be able to fix a complicated housing with a broken piece vs. replacing the whole thing or scrapping it.

Ken Malsky responded:

Acrylic has its own specially-formulated adhesive (like PVC). It's a solvent-type bond, so if you are careful you can make the seam disappear. Both sides should be slightly abraded (~220 sandpaper) to give some extra surface area for the solvent to melt material, and the joint should be clean and a tight dry fit before you start. The

open time is less than Titebond but not as immediate as CA (super glue).

If the plastic dealer in Worcester doesn't have it, Consolidated Plastics in East Cambridge (a.k.a. Mr. Plastic) and AIM plastic in Stoughton (Canton?) both stock it.

The self-lubricating plastics (delrin/acetyl, HDPE, Teflon, etc.) are really hard. Devcon has some specialty products here:

http://www.devcon.com/devconcatsolution.cfm?catid=29

The ones that have a paper or glass core like phenolic usually work pretty well with common hardware store epoxy. If they are very smooth, like melamine, you will probably have to scuff them with sandpaper or steel wool.

Telling different types of plastic apart can be really hard -- partly because there are so many types, but also because they are so commonly blended or modified to get the density, color, texture or molding properties needed for the target application.

Ken

For Sale

Hendy Shaper and P&W Planer

I just brought home a Hendy Shaper [about 8" stroke, guessing] and a Pratt & Whitney Planner [about 24/30" travel]. Upon picking them up, I realized they're much too BIG for my space and time. Would make nice retirement projects, but not there yet. Could not find any model number cast in either machine.

The Hendy had a rivet-ed on I.D. tag with number 22 and 1806 stamped on main body, just under ram.

The Planner just had an I.D. Tag with 4116.

Both are missing pieces, but they are probably in the guy's garage, as he bought the place full and doesn't know what to look for.

Free to good home. I'm in Connecticut, 8 miles south of Hartford. Both items were driven by belt from overhead line shaft, thus no motors and probably early 1900's; but that's just my guess.

Seb Fontana
Tel: (860) 529-2702
Email Speedoo51@yahoo.com

Castings

I'm 70 with Parkinson's disease and I have a batch of model engineering stuff I brought back from the UK in 1973. I need to sell it.

Includes:

- Castings, gear set, boiler kit, drawings, and book for the "Minnie" traction engine
- Stuart #5 w/ reversing gear
- Stuart beam engine castings
- Stuart 10v castings
- Stuart 2 cylinder marine engine castings
- Castings and drawings for a 2x2 horizontal mill engine
- Castings and drawings for a Bonzone horizontal engine (all bronze Beautiful)
- Castings and drawings for a Wall engine
- Castings and drawings for a Steeple engine
- BA & ME taps and dies, tap drills, wrenches and some other tools.

All in all, I put out roughly £70 ($2.40 - 2.80/ to the pound in 70 – 73, when I was stationed there). I'll take $1000 + shipping. It's about 100-120 pounds for the lot or will price separately.

It's all virtually new. I went back to gunsmithing when I returned home and just never got around to building.

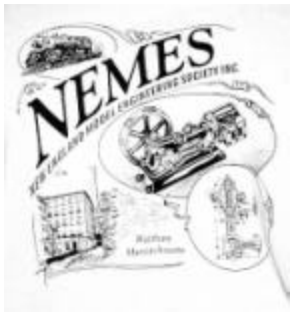
I'm located in San Antonio, TX.

Mike Duffy
regulah@directvinternet.com

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

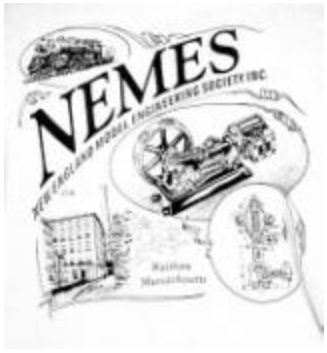


NEMES clothing

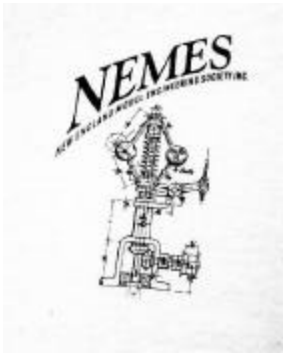
NEMES Tee Shirts

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.

Artwork:



Rear



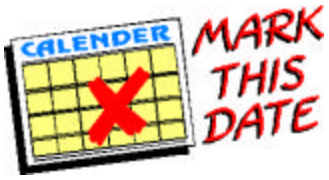
Front

Prices:
S, M, L, 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

Profits go to the club treasury.

Mike Boucher
295 River St
Waltham, MA 02453-6007
bandm3714@attbi.com



Upcoming Events

Bill Brackett

Aug 31-Sept 1 - Pioneer Valley Live Steamers 50th Anniversary Meet

Southwick, MA. See the "50 Years of Pioneer Valley Live Steamers" article in this issue of the Gazette. Rich Hubbard (860) 283-5530
www.pioneervalleylivesteamers.org

September 1 - Antique Motorcycle Festival

Owls Head Transportation Museum

Early Sept - Lee's Mills Steamboat Meet

Lake Winnipesaukee, Moultonboro NH
(603) 476-5617

Sept 5 - NEMES Monthly club meeting

7:00 PM. Charles River Museum of Industry, Waltham, MA (781) 893-5410

Sept 6-8 - Dublin Engine Show

Dublin NH (603) 495-3640

Sept 12-15 - Fitchburg Engine Show

Fitchburg Airport, Fitchburg, MA
Dana Hill (978) 537-1108

Sept 14-15 - Chester, NH Engine Show

121 Derry Rd. RT 102 Jay Wilkie (207) 748-1092

Sept 15 - MIT Flea Market
9AM to 2PM Vassar St Cambridge MA
(617) 253-3776 between 9-5 M-F

Sept 21 & 22 - Pioneer Valley Live Steamers Fall Meet
Southwick, MA
www.pioneervalleylivesteamers.org

Sept 21-22 - Cranberry Flywheelers Engine Show
Edaville RR David Moore (508) 697-5445

September 22 - Tribute to Convertibles
Owls Head Transportation Museum

October 3 - NEMES Monthly club meeting
7PM, Charles River Museum of Industry, Waltham, MA
(781) 893-5410

October 5 - The Original Yankee Steam-up
The New England Wireless and Steam Museum
1300 Frenchtown Road , East Greenwich, RI
(401) 885-0545

October 13 - Foreign Auto Festival
Owls Head Transportation Museum

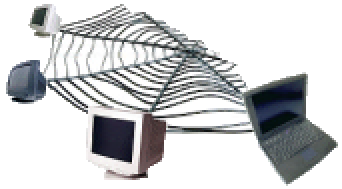
October 20 - MIT Flea Market
9AM to 2PM Vassar St Cambridge MA
(617) 253-3776 between 9-5 M-F

October 26-27 - American Precision Museum Model Show
Windsor, VT (802) 674-5781

October 27 - The Great Fall Auction & Open House
Owls Head Transportation Museum

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.

Bill



Web Sites of Interest

Sand Art

Using CNC to draw “lines in the sand”

http://www.taomc.com/gallery.sand.htm