

The NEMES Gazette

NEW ENGLAND MODEL ENGINEERING SOCIETY INC.

No. 126

October 2006

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Editor's Desk

Victor Kozakevich

In the Sunday paper, I came across an article about the last surviving steam powered cider mill in the U.S. B.F. Clyde's is located in Mystic CT, and has been owned by the same family since 1897. It's been through some changes, but uses the original screw press, capable of producing 500 gallons per hour. Originally it had a steam engine. Then it switched to a gasoline model-T engine.

The founder's grandson took over in 1946 and began a project to switch back to steam. After a long search, he located the parts needed within a few miles of the shop and got them restored and running. A 15HP Ames engine with 100psi steam turns flat belts that drive exposed gears that turn the big press screw. What could be better on a crisp fall day than the sound of a huffing steam engine turning New England apples into fresh sweet cider? The mill presses weekends in October and on a shortened schedule in November and December. Tel. 860/536-3354

Pictures and history can be found at:

www.bucklinsociety.net/GaspeeDays/clyde's_mill.htm

www.steamtraction.com/archive/3530/

Next Meeting

Thursday, Oct. 5, 2006

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

Membership Info

Annual dues of \$25 (via checks made payable to "NEMES" and mailed to our membership secretary) for the calendar year are due by December 31st of the prior year.

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

Addresses are in the left column.

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President's Corner

Dick Boucher

The Meeting

When I went to the Eastern Bank to do the necessary paperwork to be the second signatory to our bank account, the bank representative, Lorene Lamb, was very interested in our society and our work. In the ensuing conversation, she mentioned that she belonged to an informal home-schooling co-op, a group of home-schooling friends who get together once a week for projects and unit studies. They were inspired by their history lessons and Lord of the Rings to build a Trebuchet together. According to Lorene "We found PVC Trebuchet Plans at www.RLT.com, purchased and cut the PVC at a local big box store, and put the trebuchet together in one day! It took a few days of adjustments to get it to throw any distance.

I mentioned that I was looking for guest speakers for our meetings. We decided that students talking about researching, building and debugging their machine would be a great experience for them. I also thought it would be encouraging to us to meet some youngsters interested in building things. Thus we have a group of speakers for the October meeting.

One of the other mothers in the group said, "It's a small world. I met Jeff Del Papa at a Voyagers event--he did a presentation about JunkYard Wars and showed the video of the TV show, which featured his team in competition.

I have also invited another group of young folks who have competed in the Pumpkin Chunkin contest last year. They are in the process of building a catapult for this year's contest. They are looking for people to help them and perhaps even go with them to Delaware for the event.

Between the two groups of constructors and, if time allows, a follow up on Jeff's group's work, we should have an enjoyable evening together.

Miscellaneous Ramblings

This year, I joined past President Norm Jones at the engine show at Dublin. I haven't been there for many years and was quite surprised at how big an event it has become. Norm had his Merry engine and his hot-air pump on operating display and I had my "Tom Thumb" locomotive fired up and making steam and smoke, but amazingly, the most popular item with young mother's and their children in our display was Norm's Hero's fountain. So many more construction diagrams are floating through the New England area today. The other folks in the picture with Norm are Gail and Gene Martha.



Another event of note this past month was the Clark's steam weekend. There were four steam locomotives and a diesel moving through the park both days of the weekend.



The Baldwin locomotive which was used to haul logs out of the woods in the days of logging in the Lincoln

area, celebrated its 100th birthday. An appropriate note was made and a celebration held.

I found it interesting that in my article last month I was taking cuts of 0.015" to 0.025" and in Kay Fisher's column the contributor mentions taking shaper cuts ½ inch deep with 0.025" cross feed. Now I remember why I miss my shaper so much. Ah, for twice the floor space in my shop. My shaper was replaced by the NC Bridgeport, later converted to CNC. My shaper was a small 7-inch AAMCO but a very handy machine that I did a lot of work on.

When I was an apprentice we had a 20-inch Cincinnati crank-arm shaper in the apprentice shop and the actual tool room floor had a 24-inch hydraulic shaper. Both machines would remove copious amounts of tool steel in a pass. Alas, as time passed, both machines were replaced by a 10-HP Cincinnati vertical milling machine that, with a 10-inch carbide insert cutter could keep up or surpass the stock removal rates of the shaper. The Cincinnati mill would be a bit clumsy to do the work being done by the shaper in Shane Carr's illustrations.

See you October 5th.

Dick B.



The Meeting

Max ben-Aaron

The September meeting was brought to order by Venerable President, Dick Boucher. After just two months in office, Dick had his first close call on the possible cancellation of his speaker. President emeritus Norm Jones took the reins while Dick went to the museum main entrance to wait for the featured speaker, Mark Ames.

Membership secretary Ed Borgeson made an announcement concerning the membership roster being printed as hardcopy and how it would only be available to members. Max ben-Aaron was selling videotapes of the 1994 Great New England Steam Expo held at the museum, perhaps to wet our appetites for a fourth expo after a ten year hiatus? Did I hear Howard Gorin offer to knock down the parking garage with his Buffalo Springfield steam roller? The museum is also planning a "Kids Take Apart Stuff" day. After the kids take stuff apart, do museum volunteers put it back together?

Dick Koolish told of a company in Winstead, Connecticut that makes screws for boat fittings. They had a small screw machine producing brass wood screws on display. Bob Ouvre gave a sincere thank you to all who helped his son out with donated tools after the barn on his farm burnt down. Webmaster, Errol Groff had some of his pictures from his trip out west which I'm sure are on the NEMES website.

After a brief delay, Dick Boucher came back from the entrance with the guest speaker, Mark Ames. Mark grew up in England and is the son of a dedicated and devoted model engineer who had built several locomotives and grandfather clocks. Mark and his father had also built a Bugatti replica Kit car or "Special" as the English deem it, which he claims was a great father/son experience. Most likely, this also motivated Mark to conquer the projects he's involved with now.

After moving to The North shore of Massachusetts with his American wife, Mark went into the car business as a salesman. But don't let the fancy suit fool you into thinking he never gets his hands dirty. In his spare time, Mark builds the coup de grace of kit cars: The Factory 5 Cobra, produced right in Wareham, MA. Mark explained the basics of building one (or five, in his case) of these beautiful little roadsters.

What gets delivered from the factory is a round tube chassis with roll bars, deemed a birdcage. This can come powder coated. Many aluminum panels are

Shop Tips



Birdcage chassis with aluminum panels

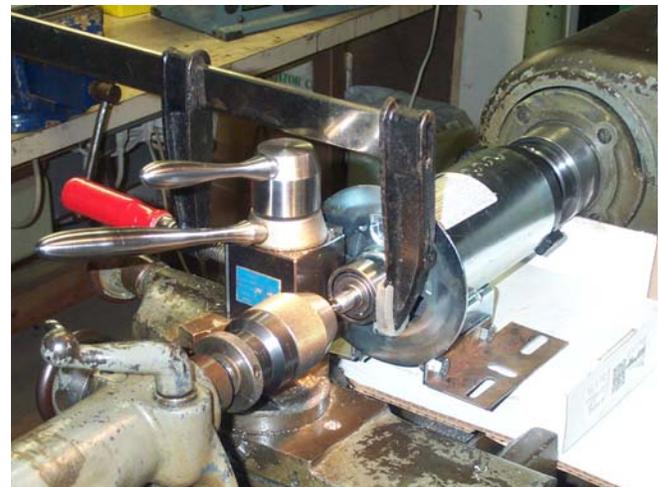
included as well to be pop-riveted together with silicone adhesive over the chassis. Along with many boxes of fasteners is the fiberglass body which needs to be completely sanded before paint can be applied. What isn't included in the kit is a donor car, the most common used is a 1987 and newer Ford Mustang. The engine, drive train, transmission, wiring harness, spindles and brakes are extracted from the donor car and installed in the Cobra body.



Mark Ames 4th completed Cobra Racer

Mark has built four Cobras. The first three were sold to help fund the fourth which he now drives whenever he gets the chance. When asked whether he would do it again, "in a heartbeat" was the reply, which apparently is more than wistful rumination for he's at work on his 5th and 6th car.

Todd



With the tailstock chuck and a standard center drill, I was able to center-drill the end of the motor shaft. When I had a deep enough, funneled hole, I replaced the chuck and drill with a live center and removed the c-clamp and bearing. My dial indicator shows that the motor shaft now wobbles less than 0.001".

I'm not sure that I recommend this method, but it worked for me.

Bob Neidorff



Making Dog Agility Equipment

A year ago, we brought home a Shetland Sheepdog (Sheltie) puppy. His name is Duncan and he wants me to tell you a story about making dog agility equipment. In agility, the dog learns to follow the handler in a prescribed course over hurdles, through tunnels and tires, across a see-saw, and over other obstacles. Here's our backyard agility course:



This photo shows Jane guiding Duncan over a hurdle made from aluminum tubing and light 1" SDR21 PVC pipe. Note her finger: Agility is the fine art of getting the dog to follow your finger.



Another standard agility obstacle is a "tire" or "tube". I made this tire from perforated drain

pipe. Duncan moves so fast that Jane's biggest problem is keeping up with him.



Here's Duncan coming out of a child's play tunnel. The tunnel is fairly light, so we hold it down with nylon straps and jugs of sand.



Weave poles are 12 equally-spaced vertical poles. The dog must always enter from the right and zig-zag through each pole. These poles are $\frac{3}{4}$ " schedule-40 PVC pipe slipped over 3" long, $\frac{3}{4}$ " aluminum rods. The aluminum rods are bolted to 6" wide scrap sheet metal, salvaged from old fluorescent lamp fixtures.

To complete the course, I made a teeter-totter (aka: seesaw). The dog doesn't sit on this the way that a child would, but instead runs up one end, stays on while it slams down on the other side, and runs off after it comes down.

A regulation teeter-totter is 12" wide, 12' long, and 24" high. But because Duncan is still learning, I wanted the height adjustable. I found some old bed frames at the town transfer station (the dump). These are made of cheap steel angle. This stuff is strong, but very hard on bandsaw blades.

Bed frames have riveted straps to hold casters and a folding corner to allow disassembly and packing. For our teeter-totter, the folding corner became the adjustment pivot and the straps hold a horizontal fulcrum rod.



Closeup photo of the pivot on a bed rail

The caster strap is lined with plastic so that a caster can snap in. I removed the plastic lining because it would have forced me to use a smaller, weaker fulcrum rod.

The teeter-totter surface is a 1"x12"x12' plank of common pine. I wrapped the ends with aluminum flashing to protect the plank from insect or water damage. I used contact cement to hold the flashing to the plank, and nailed it on the edges with aluminum roofing nails. I primed the flashing with auto body primer and primed the plank with Zinsser Bulls-Eye 1-2-3, a universal sealer. One year later, the painted wood paint looks as good as new, but paint is peeling off of the aluminum. I should have used an etching primer on the aluminum flashing.

A regulation teeter-totter is yellow on the ends. The yellow section is the "contact". The dog must touch the contact on both ends when he runs the teeter-totter. If he jumps off too soon, he loses points and also risks injury.

A web article advised mixing one pound of Bondex "Skid-Tex" with one gallon of paint to make non-slip paint. Instead, I mixed four fluid ounces of paint with 40 grams of common sandblast sand. This is three times the recommended sand proportion, and it still didn't seem like enough, so after brushing on this mix, I sprinkled more sand onto the wet paint and brushed over it with a bit more paint. The result is a board with a roughness like sandpaper. Duncan won't slip on this plank!

In some of the photos, some parts of the bed rails look grey. I didn't paint the bed frame, but I sprayed all exposed cuts and scratches with "cold galvanize", a zinc-loaded paint that discourages rust.



Underside of the teeter-totter

For stiffness, I screwed an old garage door stiffener (bent sheet-metal channel) under the plank. This photo shows the underside of the plank, one aluminum block holding a bronze bushing and the stiffener. For the pivot, I used precise 1/2" bored bronze bushings with a precise 1/2" shaft. That moved too stiffly, so I turned the shaft down to 0.496". This job didn't need so much precision.

I put the fulcrum 1" away from the center of gravity of the plank so that the board would always rest with the same end down. Rather than measuring with a tape, I found the center of gravity by trial and error. I'm glad that I did, because the center of gravity was 1/2" away from the geometric center. Perhaps the board is denser or thicker on one end than the other.



The finished teeter-totter

The grey discs are ¼" PVC plates that prevent the plank from sliding into the metal ends. Across the base is a horizontal angle with many holes in it. It set the frame height.



Duncan, coming down the teeter-totter

This teeter-totter may not be strong enough for a 75 pound golden retriever, but it's fine for 21 pound Duncan. If I were making one for a much larger dog, I'd make the base wider and use two or three stiffeners under the plank. I'd also make the plank from pressure-treated lumber.

Bob Neidorff

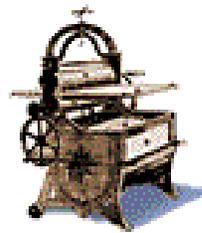


Treasurer's Report

Richard Koolish

Balance as of August 19, 2006	6934.21
September Gazette printing	-164.58
Brass for whistles	-154.00
Speakers fee	-50.00
Memberships	+ 25.00

Balance as of Sept 19, 2006 6590.63



NEMES Gazette Editorial Schedule 2006

Here are the closing dates for Gazette written contributions in the coming months:

<u>Issue</u>	<u>closing date for contributions</u>
November	October 20, 2006
December	November 24, 2006
January	December 22, 2006
February	January 19, 2007



Web Sites of Interest

Sign up for the NEMES mailing list at:

<http://groups.yahoo.com/group/nemes>

Machining projects and tips - Max b-A

<http://www.frets.com/FRETSPages/Machining/index.html>

Antique motorcycle pictures -FredJaggi

<http://www.ctamachinery.com/SteamcycleHomepage2.html>

The University of Maine's scale model of the solar system, 40 miles long -Ron Ginger

<http://www.umpi.maine.edu/info/nmms/solar/>

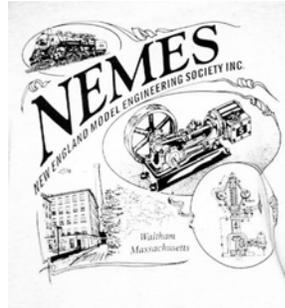


For Sale

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. The CD now has a lot more info on it, and the price has increased accordingly. \$10.00, shipping included.

Errol Groff
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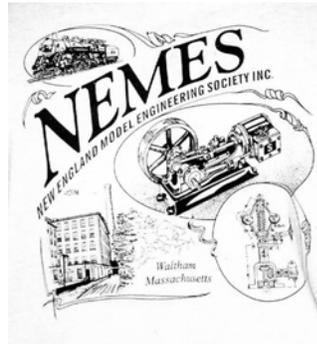


NEMES clothing

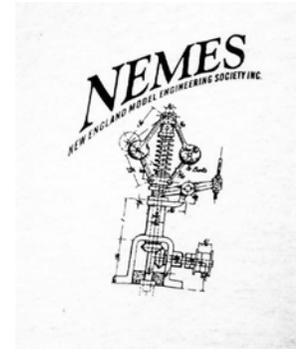
NEMES Tee Shirts

NEMES tee shirts and sweat shirts are available in sizes from S to XXXL. The tee shirts are gray, short sleeve shirt, Hanes 50-50. You won't shrink this shirt! The sweat shirts are the same color, but long sleeve and a crew neck. Also 50-50, but these are by Lee. The sweat shirts are very comfortable!

Artwork by Richard Sabol, printed on front and back:



Rear



Front

Prices:

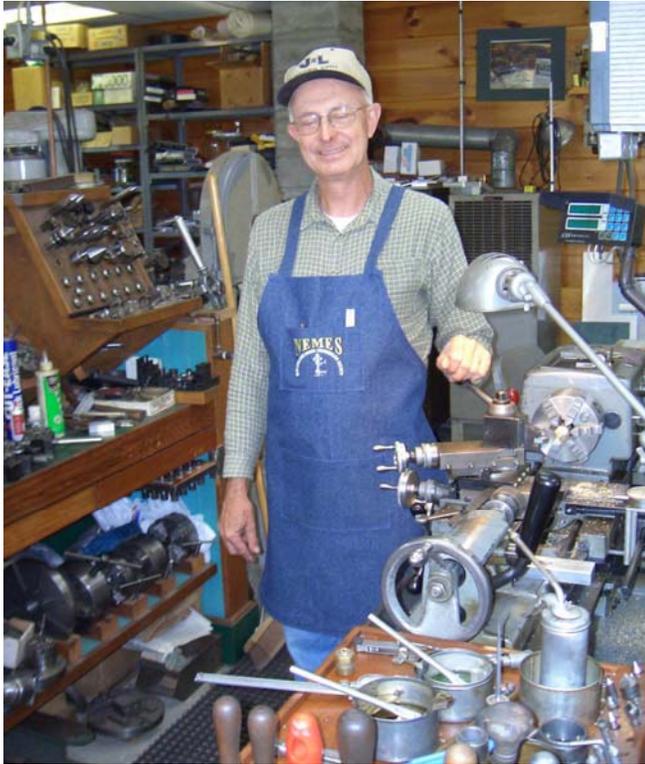
	Tee Shirts	Sweat Shirts
S - L	\$12.00	\$22.00
XXL	\$14.00	\$24.00
XXXL	\$15.00	\$25.00

Add \$5 shipping and handling for the first tee shirt, \$1 for each additional shirt shipped to the same address. Sweat shirts are \$7 for shipping the first, and \$1.50 for each additional sweat shirt.

Profits go to the club treasury.

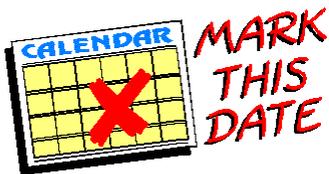
Mike Boucher
10 May's Field Rd
Lunenburg, MA 01462-1263
mdbouch@hotmail.com

NEMES Shop Apron



Look your best in the shop! The NEMES shop apron keeps clothes clean while holding essential measuring tools in the front pockets. The custom strap design keeps weight off your neck and easily ties at the side. The apron is washable blue denim with an embroidered NEMES logo on top pocket.

Contact Rollie Gaucher 508-885-2277



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 thebracketts@verizon.net or (508) 393-6290.

Bill

Oct 1st Sunday 12:00-5:00
Roland Gaucher's shop visit
90 S. Spencer Rd. Spencer MA 508-887-2277

Oct 5th Thursday 7PM
NEMES Monthly club meeting
Charles River Museum of Industry
Waltham, MA 781-893-5410
<http://www.neme-s.org>

Oct 2-3, 10:00-4:00
Water's Farm Fall Festival
Exit 4 (Sutton) from I-395 4 miles to Douglas Rd.
(right) after church then left on Waters Rd.
W. Sutton, MA
Pam Gurney Farnham warefarnham@aol.com
<http://www.watersfarm.com/>

Oct 8th
Foreign Auto Festival & Antique Aeroplane Show
Owls Head Transportation Museum Owls ME
http://www.ohtm.org/*foreign.html

Oct. 13-14 Rough & Tumble
Kinzers PA 717-442-4249
<http://www.roughandtumble.org/>

Oct 15th 9:00am The Flea at MIT
Albany Street Garage at the corner of Albany and
Main Streets in Cambridge
<http://web.mit.edu/w1mx/www/swapfest.html>

Oct 28th 9:00-5:00
7th Annual Model Engineering Show
The American Precision Museum
196 Main Street, Windsor, VT
Phone (802) 674-5781
<http://www.americanprecision.org/>

Oct 29th
The Great Fall Auction & Open House
Owls Head Transportation Museum Owls ME
http://www.ohtm.org/*fallauction.html

Nov 2nd Thursday 7PM
NEMES Monthly club meeting
Charles River Museum of Industry
Waltham, MA 781-893-5410
<http://www.neme-s.org>

Nov 3-5 World Championship Punkin Chunk
<http://www.worldchampionshippunkinchunkin.com/>