

METRO DETROIT METALWORKING CLUB				NOV '06	
Beginning balance	\$397.96	President	John Osborne		
2006 dues income		V. President	Emil Cafarelli		
Non-dues income		Treasurer	Ken Hunt		
New balance	\$397.96	Editor	John Osborne		
Expenses	-\$0.00	Publisher	John Lee		
<b>Total on deposit</b>	<b>\$397.96</b>	Webmaster	Dan Hittenmark		
DUES: \$10/yr. check to <b>MDMC</b> c/o Ken Hunt,			Macomb Community College 14500 E 12 Mile Rd, Warren, MI Room T-120 (parking off Martin Rd East of Bunert Rd <b>Next meeting: OCT 11, 2006 (2<sup>nd</sup> Wed of every month)</b>		

**PRESIDENT'S MESSAGE** I am pleased and proud that club members are taking the initiative. Carl Gross is bringing in a speaker for the Nov 8<sup>th</sup> meeting. He is Chris Gogola, Adhesive Specialist from Loctite Corporation. He promises a fun presentation and free samples. Thank you, Carl.

**LOCTITE**

Thanks also to James Howard who showed us how to rebuild blowtorches at the last meeting and then wrote up the details in an article he submitted for this newsletter. See page 2.

**MINUTES** There were 16 members and two guests. I started by mentioning the club book was again available. Two guests introduced themselves; **John Gore** and **Bob Fisher**. We would welcome them as members.

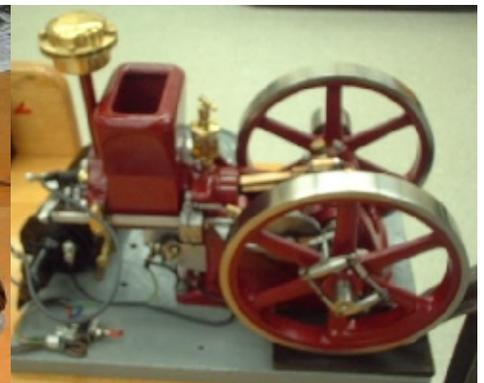
We had a free form discussion about tapping and what you can do when a tap breaks. Alum in water was proposed by **Don Foren** as a way to eat the steel tap but leave the aluminium work piece. Someone else mentioned that a carbide end mill or carbide drill will chew through the tap. We were informed about forming taps and metric threads.

John O. mentioned the value he found in aluminium angle that had 4x4" legs and 1/2" thickness, but complained that it had to be bought 20 feet at a time. A member proposed that the club could buy pieces that long and sold to several members. Good idea – the club can do what individuals can't afford.

We then went to show & tell.



**Bert Campbell** made a big radius cutter for his lathe. He needed to make mandrels for a pipe bending machine he is making. He reports spending all of \$1 and about a day of work to make it. Bert may bring in the pipe bender next meeting.



**Ron Schmidt** made a mill head for a 3D duplicator. He did the design as well as built it. He has about 40-50 hours in it.

**Bob Furman** brought in a beautiful model engine that also runs. He proved it. It's a hit-and-miss type of 1" bore that burns white gas and used WD-40 for lubrication. It was a kit that cost about \$250 and took 6 years to build. (I hope it doesn't take that long for his next Show & Tell). Bob claims it was an interesting project and plans to build a small generator for the engine to drive.

**James Howard** brought in materials for and provided a review of the common problems causing malfunction in the operation of a blowtorch. The problems and solutions, in order of frequency are;

1. Hardening of the spring-loaded leather shutoff gasket located on the bottom of the plunger assembly, due to years of immersion in the fuel, results in failure to maintain fuel tank pressure and frequent leakage of fuel up into and beyond the plunger mechanism, a hazardous condition. The gasket is made of 1/4" thick by 3/16" diameter leather, mounted in the spring-loaded brass fitting with the flesh side upward, i.e. toward the plunger orifice providing the pressurization. This provides the surface necessary for proper sealing against leakage. He recommended that anyone making this repair fill the tank with fuel, pressurize the system and determine for at least 12 hours, with the blowtorch left outside, that there is no leakage of fuel nor loss of pressure.

2. Wear and deterioration of the leather gasket located on the pressurization plunger mechanism results in failure to pressurize the tank. This gasket is made of very thin leather of a nominal 1" diameter and arranged on its metal mandrel with the flesh side out, providing proper sealing function during plunger operation. Insertion of this replaced gasket assembly into the neck of the plunger tube is extremely difficult, even when properly greased and shaped, with serious danger of cutting the leather on the lead edge of the plunger cylinder. James finally hit upon the idea of shaping the flat leather disc to its ultimate skirted shape by pulling the plunger assembly backwards into an outside cut rule die cylinder of 7/8" outside diameter. The bevelled edge provides a perfect lead for the greased leather disc to be pulled into the required shape.

3. Cracking or deterioration of the seal between the plunger assembly and the tank fill orifice results in failure to maintain pressure. This gasket, of thin asbestos material, can be punched with rule die punches, taking care to punch the ID hole first, because the thin wall will be fractured if the OD blank is punched first and then the ID punch applied to the blank. James has all these leather and rule die punches and offered them to anyone needing them.

4. James recommended that members use low volatility fuel, such as Coleman Fluid or Wal-Mart Camp Fuel (at half the price) for use inside of a home or garage. These fuels do not present the vaporous fuel danger that all gasolines have. This danger results from unexpected (and very infrequent) failure of the shutoff gasket of a pressurized tank, allowing gasoline and its heavy vapours to advance across the bench and onto the floor to some household source of ignition. This danger could be relieved if a user released pressure in the tank after every use, not likely for most ordinary users.

