

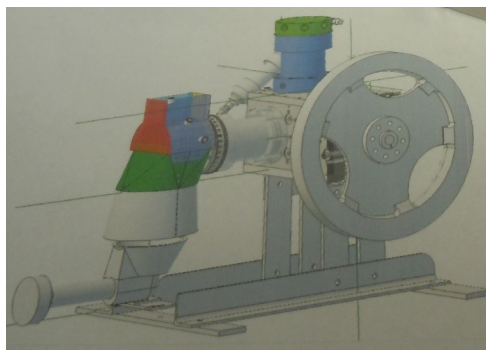
July 12th, 2017

# M<sub>ETRO</sub> D<sub>ETROIT</sub> M<sub>ETAL</sub> W<sub>ORKERS</sub>

## Monthly Newsletter

*The Vice got control of the room, called the meeting to order and kicked things off with an interesting show and tell. On display was the rotary style, lawnmower of all things, engine that he brought in for the group to see and*

*The Wankel engine is a type of internal combustion engine using an eccentric rotary design to convert pressure into rotating motion. In contrast to the more common reciprocating piston designs, the Wankel engine delivers advantages of simplicity, smoothness, compactness, high revolutions per minute, and a high power-to-weight ratio primarily due to the fact that it produces three power pulses per revolution compared to one per revolution in a two-stroke engine and one per two revolutions in a four-stroke engine. The engine is commonly referred to as a rotary engine, although this name also applies to other completely different designs, primarily aircraft engines with their cylinders arranged in a circular fashion around the crankshaft. All parts rotate consistently in one direction, as opposed to the common reciprocating piston engine, which has pistons violently changing direction. The four-stage cycle of intake, compression, ignition, and exhaust occur each revolution at each of the three rotor tips moving inside the oval-like epitrochoid-shaped housing, enabling the three power pulses per revolution. The rotor is similar in shape to a Reuleaux triangle with sides that are somewhat flatter. Thanks Kevin.*



George took us through the details, complete with cad drawing and tooling, of how he designed and built the stainless steel ducting that will be used on the Stirling engine he's currently building. In the photo to the left, the ducting shown on the left concentrates the heat, from the source, onto the heater cap. Below on the right you can see the forming dies that he made up and used to form the fastening holes, increasing the surface area of

metal, to allow for a machine screw thread to be tapped. George was doing this to avoid the use of, the much less refined, sheet metal screw. Photo on the lower left shows the assembly so far, complete with the ceramic paper he had to use as a sealing material where the two pieces of ducting join together. Plan is next to shorten up the machine screws and make it a bit better for airflow and then he'll be looking for approval to use it with some



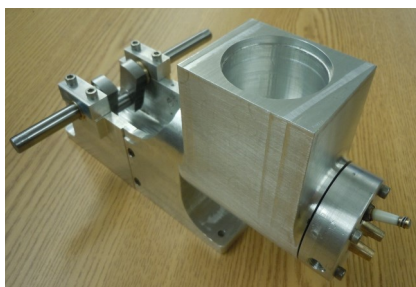
serious heat at the 2018 NAMES. Good Luck George

# The Little Engine That COULD

*Jim shared some stories on the little engine that could, photo to the right, and how it keeps coming back for more... Most recently its been through rod bypass surgery, that's technically a blown rod in the model engine world, and he wowed the group in attendance with it's flawless start / stop technology, sparking some interesting discussions for the group.*



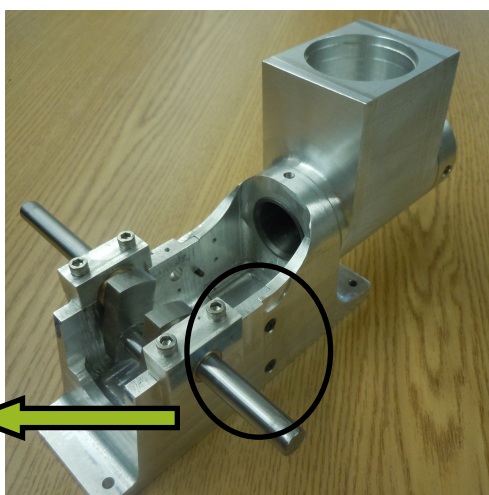
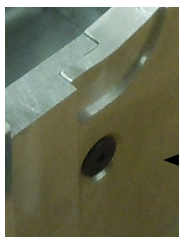
*Speaking of sparks, this is also a famous little engine that once “sparked” a lot of excitement at a NAMES. As Jim pointed out, when you add a small fuel leak to a stray “spark” you nearly get a three alarm fire. In the auto industry it would be softened up a bit, press releases might call it a “thermal event” but that’s a different story. Jim’s advice is “Make sure it’s ready to GO, before you SHOW” when it comes to model engines. Lots of prep work behind that push button start. Jim, Nicely Done!*



***It'll either be a HIT or a MISS***

***Louis brought along his latest work in progress, a farm boy hit and miss engine, that he's been plugging away at. One piece crank, machined and***

***ground, nestled in a couple of bushings. The multi piece crankcase has a very interesting joint that is blown up to show the detail. Louis noted that it still requires a pin down through it to complete the design. Nice Work Louis!!***



**I can see clearly now...**

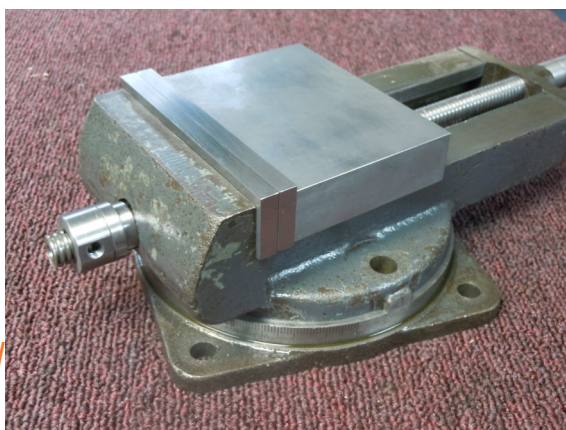
Jerry brought along a product review for those of us, I include myself in this group, with aging eyes. The product is a LED light ring that can be mounted on a mill or other similar equipment, giving a full 360 degrees of light . They come in a variety of sizes with power up to 5000K. Check them out, you can't beat the price!!! [Www.aliexpress.com](http://www.aliexpress.com)

<https://www.aliexpress.com/item/New-5W-12W-15W-18W-23W-LED-Ring-PANEL-Circle-Light-AC85-265V-SMD-5730-LED/32254192648.html?spm=2114.search0104.0.0.j8PG9u>



## The Frankenvise

*What do you get when you cross a cheap Canadian, half an Atlas vise and some free steel..... Frankenvise of course. Much thanks and a big shout out to Dick*



*for being patient while I used one of his vises to make the parts for my Frankenvise ( insert scary music now) which took much longer than I had planned. After several hours spent “learning” it’s finally done and ready to hold the next part / project / piece. You can see I stole design features from a Kurt style vise and created a nice big working surface on top of the vise. Jaws were 4140, hardened and ground, and the 1/2” X 10 Acme LH thread was single pointed. It was a fun, let’s do this once, project now that it’s finished.*

**[WWW.SPEEDYMETALS.COM](http://WWW.SPEEDYMETALS.COM)**

***Don gives these guys two thumbs up for customer satisfaction, I have also had good results in my limited dealings with these guys. If you’re looking for a certain product or size they can help you out and will work with you. Couple of local retail warehouses in the area, more info on the website. Thanks for the tip Don.***



### Rx to go

Apparently, there were some shady deals going on in the parking lot after the meeting this month, video footage even made the highlights on the local news. Video is pretty grainy, and it appears that there was a license plate on the front of the vehicle.... Hmmmm, be careful who you buy from!



**Next Month is the annual Swap Meet to be held on August 9th, in the West parking lot area. Look for the crowd. Lots of food, finds and fun....**

**See you There!**

**Swap Meet**