

The Crank Calls

November 2007

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NEXT MEETING

November 17, 2007 at
 Hiller Aviation Museum Doyle Room
 601 Skyway Rd, San Carlos 94070
 Doors open at 9 AM
 Meeting Starts at 10 AM

Upcoming Events

Christmas Potluck Dec 8th
 Hiller Aviation Museum Doyle Room
 601 Skyway Rd, San Carlos 94070
 Doors open at 10 AM
 Meeting at 11 AM – 1 PM

MEETING NOTES

10-20-07 Carl Wilson

WE had three guests at our October meeting: Don Cowles and Jason Chastain found our club through the Internet, and Wayne Lile is Shannon Lile's brother. Welcome to BAEM.

President Pat O'Connor called on our treasurer, Lew Throop, who reported that both the club and the show accounts had a positive balance and current bills had been paid.

Dick Pretel talked with the representatives of the San Mateo County Fairgrounds about using one of their halls for our show next year. He and Pat O'Connor visited the site, which is very suitable except for the restrictions on the use of fuels within the building. The will talk with the fire department about our use of the building.

Shannon and Irene Lile traveled to Paso Robles for Pioneer Days and the Southwest Regional EDGETA show. The Pioneer Days featured a tractor parade that included large Holt and Caterpillar crawler tractors running on city streets: rather unusual.

The November and December meetings of BAEM will be held at the Hiller Aviation Museum at the regular time of 10 AM. Use the rear parking lot and please leave the parking spots next to the building for people who are bringing exhibits. Here is a map of the area,

Use the Holly Street/Redwood Shores exit on 101. Take Holly St to Skyway Rd, ...



Mike and Toni Rehmus left for a long trip right after our club show. They attended shows in LeSeur, MN; Iron Fever, Leesport, PA; Black Hills in Rapid City, South Dakota; and GEARS in Portland, OR.



Dwight Giles showed his Panther Pup: 4 cylinder OHV. He demonstrated that it starts on the first pull and idles nicely. It is equipped with chrome-moly cylinder liners and Dwight noted that the installation of new piston rings cured a smoky exhaust problem. (This engine was designed by Bill Reichart; plans and castings from Little Machine Shop http://www.littlemachineshop.com/products/product_view.php?ProductID=2341)



Many years ago Scotty Hewitt visited BAEM and brought his latest designed hot air engine. He talked about his plans to make a production run and Bob Kradjian brought this one. Note the power source below the displacer cylinder: a Styrofoam cup of hot water.



Bob Kradjian brought his Hoglet, designed and built by Randall Cox and modeled after a Harley-Davidson V-twin. It features Randall's typical open crankcase (the brass crankshaft cheeks are clearly visible.) Note the kick-starter made with a bicycle foot pedal. This engine uses two viton o-rings on the pistons: Bob noted that a new set of rings were recently installed. The neat aluminum gas tank is by our very own Paul Bennet.

Tom Armstrong displayed a set of laser cut gaskets for the Snow engine currently being serialized in Home Shop Machinist. A friend of Tom Hare cut these on his laser machine.



Pat O'Connor passed around his mock-up of a 3-lobe supercharger and pointed out the set-up and machining challenges and opportunities. Cutting the lobes was trickier than expected. He

experimented with a 2-lobe rotor and showed his first pieces. He noted that the 2-lobe design will deliver more air but is noiser.



I did not see this engine and do not have any accurate information. If I were to make an educated guess, it is a Don Catalano and John Vlavianos joint project.

Steve Jasik showed off a new high performance glue, Ultimate by Elmers, check it out.

TECH TOPICS

Dwight Giles gave us valuable techniques for making special lathe turning tools. He starts with a cobalt high speed steel blank and if the shape requires a lot of material removal he uses a 1/32" thick x 8" diameter reinforced cut-off grinding wheel to remove the waste as "chunks," i.e., small pieces.



The tool is then finish ground to shape and honed to a sharp cutting edge. The cut-off wheel is run at 3400 rpm and the cutting-off operation is done dry.

The cut-off pieces are saved and are silver-soldered to mild steel blanks to make special cutters that don't need to be ground from a lathe tool blank. The cobalt HSS silver solders well and retains its heat treatment.



One of his special cutters was used to turn o-ring grooves in the tappet guides for a Wall 4 engine. The guide is brass and the tappet is the steel piece sticking out to the right. There was barely enough room to insert the boring bar into the guide to bore the groove.



The photo above shows two valve seat reamers that Dwight made from carbon tool steel. A bevel of the desired size and angle is turned on the end of the stock. The blank is then transferred to a dividing head or collet block which is tilted to bring the bevel parallel to the table of the milling machine. The flutes are milled in this setup by plunging an end mill down until the face of the mill is at the centerline of the stock: this forms a flute and a cutting edge with one cut. Look at the scallop left by the end mill on the backside of a cutting edge and you can see how the mill is positioned with respect to the cutter blank. The edge of the mill is a little "in front of" the centerline of the blank. The cutting edge is radial and has no rake angle. Relieving the back of the tooth may be done with a file before hardening or a hand stone afterward.

Stuff for Sale

Glenn Crockett and I have a 1/3 scale model of a New Holland gas engine that I am trying to sell for a friend. Rudy Pretti lives up the road from my dad and he told me that one of your members might be interested in it.

I can send pictures if anyone is interested they are asking 1200.00 for the engine and blue prints.

Reply to: hitnmiss@lonax.com