

DUES ARE DUE

\$25.00

CONTACT

LEW THROOP AT

(650) 941-8223

The Crank Calls

APRIL 2006

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NEXT MEETING
APRIL 15, 2006 AT
 Robert Schutz's Shop,
 366 40th St. Oakland, CA
 Doors open at 9AM
 Meeting starts at 10 AM

Events Coordinator Report -Dick Pretel

Here are show dates that are tentative.

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 April 30th Dream machine show in Half Moon Bay, Calif.

MEETING NOTES

3-18-06

Carl Wilson

Bay Area Engine Modelers welcomed these guests at this meeting: Julio E. Trujillo, Kimric Smythe, Shannon O'Hare and Steve Scherschel.

Mike Rehmus discussed the possibility of having an engine show somewhere in the Bay Area. Home Shop Machinist magazine published a letter by Joe Martin suggesting that there should be three model engineering shows in the US and that their dates should be staggered to make it easier for the vendors to travel to the shows. He suggested a west coast show located in the San Francisco-Oakland area in the winter. The requirements for a satisfactory venue are location, space, transportation, parking, accommodations, and cost. This would not be a club project, we would only assist a professional organizer by suggesting possible locations.

George Gravatt reported First Pop from his Atkinson cycle engine: castings and design by our own Joe Tochtrop.

Bob Kradjian brought some of his collection of aero engines. This is the 5 cylinder radial 4-stroke boasting 53cc that are fired by glow plugs.



Saito single cylinder 4 stroke, .56 cubic inches displacement. The complete upper end was used for the 5 cylinder Radial.

Enya VT240: 3.2hp from 40cc's at 10,500 rpm.

Bob bought this cutaway Briggs & Stratton on eBay.



Ken Hurst built this Challenger with castings from Coles' Power Models in 1999/2000. Sitting on top of the manifold is two Walbro carburetors (two one's in the hot rod parlance.) These carbs were designed for use with small two stroke engines that used intake vacuum pulsations to operate the fuel pump. The constant intake vacuum of the 8 cylinder 4 stroke engine will not operate the pump so Ken installed a low volume/low pressure Purolator fuel pump to mimic the operation of a single cylinder

2 stroke. Works a treat. The MJN (Mike Neal) ignition takes this one to 7500 rpm on 114 octane racing fuel. Ignition trigger signal is from a Hall effect sensor mounted on the crankshaft. Inside are cast iron rings by Dwight Giles.

Ken was just wrapping up when the door opened and two guests arrived. Very quickly they were invited up front and thus we met Shannon O'Hare and Kimric Smythe. They told a fascinating story about building an all wood clock tower that was subsequently burned. Someone in the audience tumbled to that suggestion and asked if this was for the Burning Man Project. That it was. The clock was built as a stage prop from impermanent materials and burned as part of the celebration. Shannon and Kimric continued their saga with their plans for this year: a 3 story Victorian house mounted on the crawler base from an excavator. They would like a Jules Verne effect to be created by a steam engine with a walking beam, governors, and all the other external moving apparatus that characterizes a steam engine. This is an artistic exploration of the science fiction thesis "What if the Industrial Revolution had occurred 100 years later and we were living in the Age of Steam." They came to Bay Area Engine Modelers looking for information on steam, engines, and boilers.

John Palmer exhibited an unusual tap (no photo.) It was a four flute tap and each land had different pitch threads made by grinding away the "other" threads. We had fun speculating on the purpose of this but made no conclusion.

The centerpiece of our meeting and I didn't even take notes on it. Maybe you guys need to appoint a new secretary, someone who will pay more attention.

Missing: I brought one of the field coils for the Proteus generator to the meeting but did not arrive home with it. Sure would like to not have to make another. Anyone see it?

Carl Wilson



The 4 photos shown here were taken on Saturday the 25th 2006 at the AG museum. Members showing engines included Pat O'Connor, Tom Armstrong, and John Palmer.





This is the picture of the BAEM booth at the San Francisco Classic Car show on February 18, 1996. Robert Kradjian, Dick Pretel, and Lew Throop were present.

FOR SALE

7" x 10" VARIABLE SPEED LATHE
CALL LEW THROOP AT
650-941-8223

Club members can obtain a badge by contacting Mike Rehmus at micharel.rehmus@byvideo.com 707-643-6396 or at the club meeting.

LATHE WANTED

Mike Rehmus suggested I contact you.
I am looking for a 9-inch or 10-inch Logan or South Bend lathe that is in good condition for my home workshop. Mike thought you might be willing to include a 'Lathe Wanted' listing in the next Bay Area Engine Modelers newsletter even though I am not a BAEM member. I live near Grass Valley, CA, and will travel all over Northern and Central California to inspect and pick up a good lathe.

Thanks for your consideration,
Mike Ream
(530) 432-0148
mikeream@hotmail.com

Tech Topic March

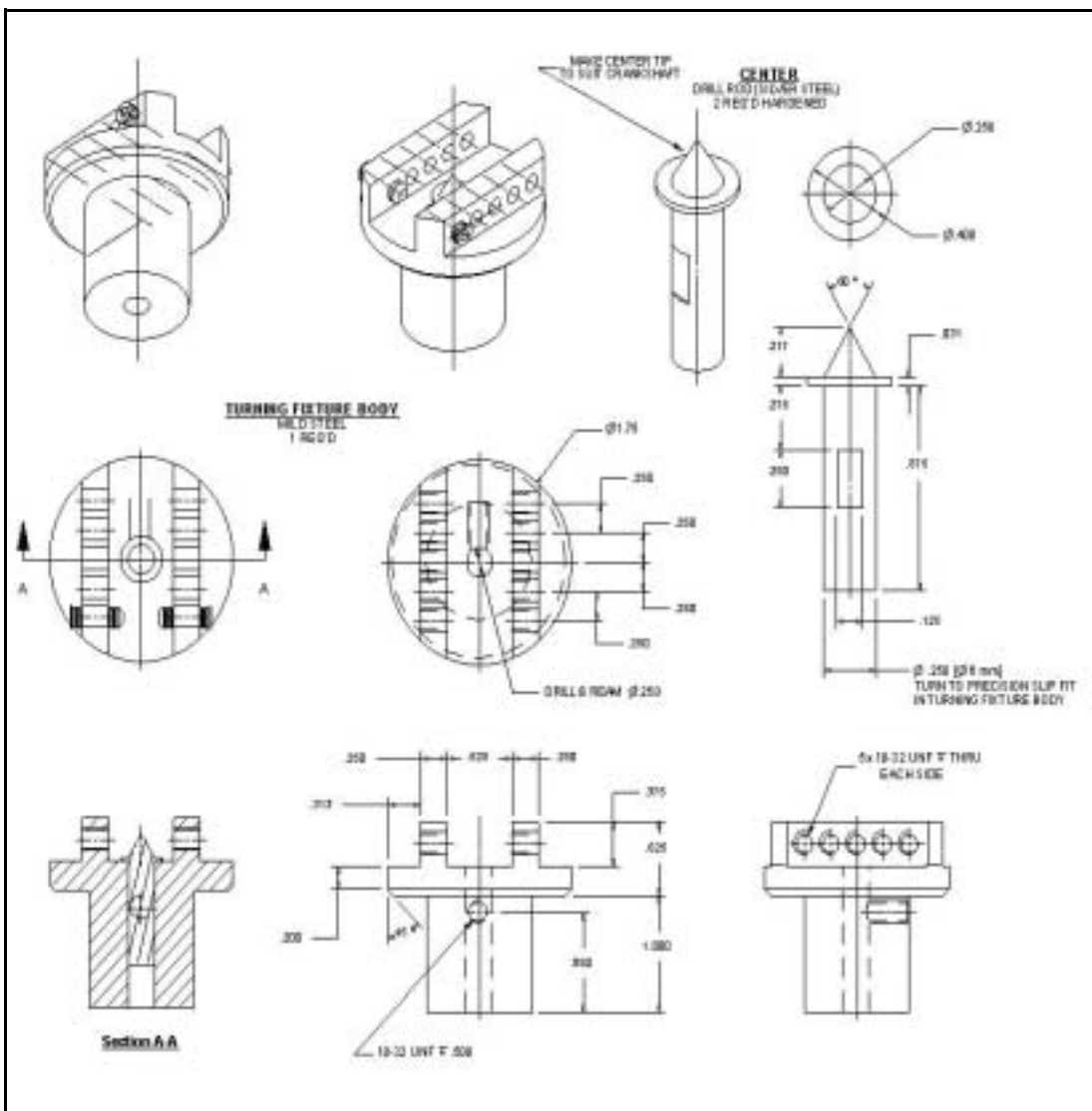
Crankshaft Machining

By Dwight Giles & Ken Hurst

There are only two types of crankshaft we use in model engine building, Flat & Circular. It's sole purpose to generate the stroke of the piston to make power. Crankshafts are the most challenging part in a model engine. Here is a general guild line of manufacturing.

1. First chose the correct materials to make a crankshaft out of, use good steel.
2. Machine the ends of the material being used to the length needed.
3. Establish drilled centers, centers should be drilled the same depth on both ends. Example a 4 Cylinder Crank has 3 centers on each end using flat stock. V-8 indexed crank uses 5 centers.
4. Layout the materials with layout dye to have reference lines.
5. Machining fixtures are need for both crankshafts. Each machinist comes up with his own design. Drawing of one design by D. Giles to hold centers in collets in a lathe.
6. 90% of machining is done on the milling machine this saves your lathe from all the tool hammering from an interrupted cut, machining a flat crank use a vice, machining a circular crank use an indexing head. Picture of fixture.
7. Always rough machine material; using a free cut or corncob end mill reduces stress to material. Use care in final machining. Fixtures are the key to making a true running crankshaft.
8. Drill oil passages before final grinding, this operation always buy a high-grade twist drill.
9. Final machining can be done on a lathe with a tool post grinder or turn the journal with a tool bit. Tool bit to use is $\frac{1}{4}$ "X $\frac{1}{2}$ " that is long enough to clear the stroke, $\frac{1}{4}$ " wide end of bit is ground with the center relieved leaving $\frac{1}{16}$ " cutting edge on each in corner, this reduces tool pressure and chatter.
10. This picture shows the use of steel sleeves and hose clamps to stiffen the crank blank while cutting. The sleeves are slit along their length to allow clamping.





I have the following for sale:

8' x 2.5' worktable with butcher block top (1.25" thick) and 2 drawers

A steal at \$250

2 4' long 2 tube fluorescent shop fixtures @ 4\$ per, never used

a 6" wide woodworking vise - \$40

I may also have Shopsmith for sale

Steve Jasik

Menlo Park CA 94025 650-322-1386 Voice Only