Bay Area Engine Modelers Club, Branch 57 of EDGE&TA

The Crank Calls

September 2011

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NEXT MEETING
September 17, 2011 at
Chabot College, building 1500
25555 Hesperian Blvd, Hayward 94545
Doors open at 9:00 AM
Meeting starts at 10:00 AM

Upcoming Events

BAEM meetings:
October 15, 2011
November 19, 2011
December 10, 2011

MEETING NOTES

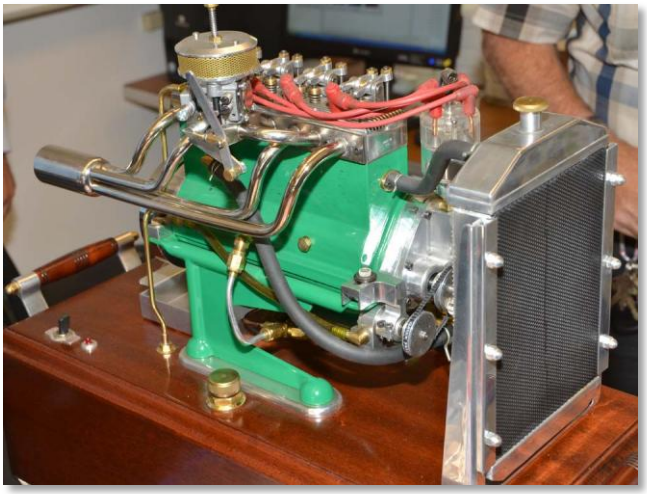
August 20, 2011
Bob Kradjian, Secretary

President Don Jones called the meeting to order at 10:00 a.m.

Visitors: Forrest Davie is a friend of Chapman Thompson and takes machining classes with him at De Anza College. Forrest joined us at the Pleasanton Show.

Treasurer's Report: Ken Hurst was away this meeting but reports that we remain solvent and all bills are paid.

First Pops: Dwight Giles brought his Four Cylinder Black Widow and gave us a fine running demonstration. Despite the name, this engine is bright green but can claim to be a spin-off from the Black Widow V-8. It's actually just half of a Black Widow. The result is a great looking and fine running overhead valve, pushrod four.



Dwight described initial starting problems that were traced back to a hardened diaphragm in the Walbro carburetor. Installing a repair kit solved that problem, and it then started promptly. The bore and stroke is one inch. However, he chose a one and a sixteenth inch bore for this particular engine. The "front end" is patterned loosely after the venerable Wall Four. Dwight decided to keep as much of the

lifter, pushrod, and rocker arm mechanisms in full view with full knowledge that our show viewers love visible motion. The crankcase pan casting is the same as used on the Black Widow V-8.

Outfitted with Dwight's new plug and distributor molded ends, the high-tension leads look scale and have no leaks. The distributor cap is acrylic. The crankshaft is the familiar flat (180 degree) design, two up and two down. The motor mount is a welded up chrome-moly fabrication that allows full access for oil changes and is very rigid. The radiator was made from George Gravatt's old leaky Toyota core, using Dwight's epoxy method. The coolant is water plus the "pink stuff". The green is tough on aluminum.

Note the undercase details. The 12-volt booster fuel pump and stainless steel fuel tank is clearly seen. Carl Wilson adds the following details about the lifters: Dwight talked about the problem of oil leaking from the valve lifter bores. The lifters and their bushings may be seen in the center of the following photo. The push rod fits into the top of the lifter that extends above the bronze bushing. To control the oil Dwight installs 1/16" T x 3/16"ID x 5/16"OD O-rings into grooves in the bushing. Dwight makes a boring bar by turning the groove dimensions on the end of a piece of tool steel - that creates a disc - and then

machines away half of the disc to make a cutting edge on the diameter. The backside of the disc is removed so that the bar can go into the bore of the bushing. The clearance beneath the cutting edge may be ground either before or after hardening. That's not too difficult, but cutting the groove needs a bit of care to get the dimensions correct and avoid breaking the delicate boring bar. Installing the small o-ring is a bit tricky: Dwight first pushes a piece of stock into the bushing *below* the o-ring groove so that when the ring is pushed into the bore it doesn't just keep on going down. The stock forces the ring to slip into its groove.

We reported last issue on the start of the Black Widow V-8. Today, Dwight gave us more history on the development of this engine. A short word on the need for this engine: the design is an advance on the old "Challenger." That 1969 engine had only three main bearings and a spindly crankshaft. Amazingly it was based on combining two Wall Fours, from the early 1930's. When the added stress of an overhead valve arrangement and---heaven help us---a supercharger was piled onto the lower end, it simply couldn't take the stress. Ken and Dwight wanted a more modern and robust design, hence the rationale for the "Black Widow V-8".

The original castings were from the late John Vlavianos and were provided to Dwight and Ken with no plans. Giles started making parts and sketches as he progressed. Several years of progress

have resulted not only in a finished prototype, but also plans and casting sets for a commercial venture. Two of these sets were sold in August. The very complete and well-done plans were the result of many hours of labor from club president, Don Jones. So far, Dwight and Ken have received three sets of castings for the Black Widow V-8. He describes them as beautiful and with no porosity. The material used is A-356 aluminum and is heat-treated. The long development of the Roots-type blower has resulted in a 7 to 8 pound boost. At present the upper rev limit is 8,000. Videos of the first run of the Black Widow were listed in last month's newsletter. The engine was run extensively at the August GoodGuy's/WEME show, and was a resounding success. Toward the end of the show, a lubrication glitch for the lower end of the distributor shaft was evident and corrections will be made. This engine is destined to be the standard for shop-built V-8's for years to come.

Quail Lodge Report: On August 19, BAEM made a successful appearance at Quail Lodge. Members: Pretel, Throop, Meyers, Piazza, and Kradjian ran and displayed miniature engines to an appreciative group of automotive enthusiasts.

WEME/GOODGUYS SHOW REPORT 2011

Our initial combined show is now history. By all standards it was a smashing success! The large Agriculture Hall at the Alameda Contra-Costa Fairgrounds was devoted to miniature engines and related material. The hall was crowded all three days, and Saturday it was "wall-to-wall." John Gilmore and his dedicated crew of volunteers did a fabulous job of setting up the tables, providing the compressed air, and taking care of the many details involved with running an annual show. What we didn't become involved with, was taking admission fees. We thank the Goodguys crew for their wonderful collaboration and help throughout the entire four days (Thursday for set-up). They are a quality organization and could not have been more helpful. Their provision of a flat bed golf cart made it possible to move models to and from the parking lot. Thanks to Gary and Marc Meadors, Harry Daviess, Heather Nething, John Drummond, and Andrea Cervelli.

On the BAEM side, I will not attempt to list all of the club members and their wives who made fine contributions. I would possibly leave someone out. As usual, all worked as a harmonious team and deserve great thanks.

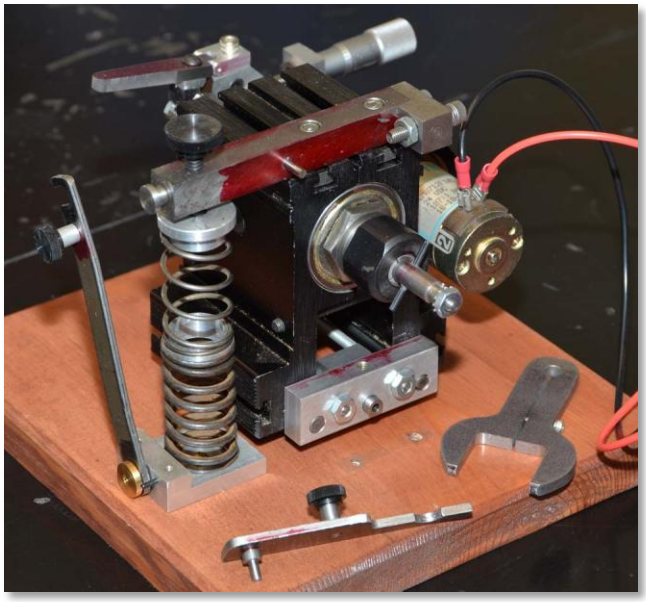
We were privileged to have out of state members, Randall Cox, Paul Knapp, John Vietti, Eugene Corl, Lou Chenot, and even Clen Tomlinson all the way from England. The splendid models and their personal contribution put this show "over the top". (If you missed the show and want to see and hear Ron Bement's Ardun; check out "lilenginebob" on You Tube.) I would challenge anyone to name a show that had more and better top end internal combustion models on display, in any country and at any time.

We also had out of country visitors that came strictly for the model engine show, and enjoyed the fabulous car show as an added benefit. They were from Sweden, France, Germany, and Australia. Other out of state visitors coming for the models were from Alaska, Oregon, Washington, Nevada, and New York. Many others came from scattered counties in California.

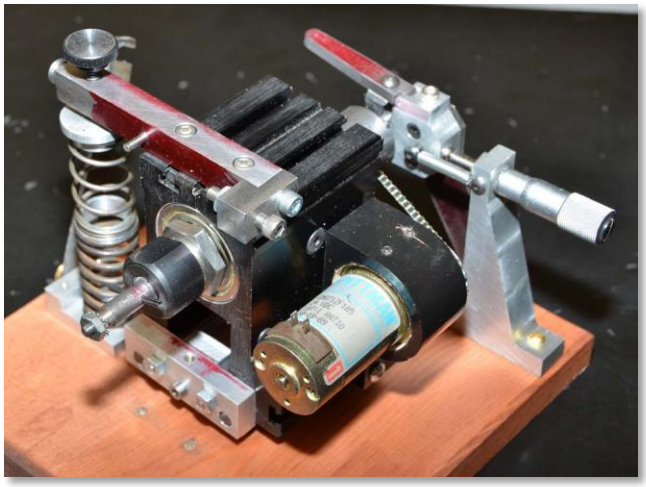
Over the past shows we have made many friends from the Goodguys attendees. They are always our most appreciative and knowledgeable group, as they turn their own wrenches and work on their own cars. They understand what's involved in making tiny engines spin.

We look forward to continuing our long association with the fabulous Goodguys organization. Recall that we made a first tiny showing with them in 1997!

BITS AND PIECES:



Carl Wilson demonstrated the Dover Cam Grinder. It is based on a Taig lathe headstock and will grind individual cam lobes for hit-n-miss engines or to be assembled onto a shaft for more complex valve gears. The Dover copies from a model lobe and is intended to be used with a wheel head supplied by the builder. It will be featured in a forthcoming article in Model Engine Builder.



The drive motor is attached to the back side of the headstock and drives the spindle through a small vee belt. Grinding the cam lobe is controlled by the micrometer head which moves the model lobe follower in or out.

Cam lobes may be assembled onto a shaft to make a camshaft with multiple lobes. This method simplifies the construction of camshafts. In this example the exhaust lobe is in the foreground, the intake lobe in the background, and the camshaft rotates counter-clockwise.