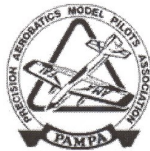


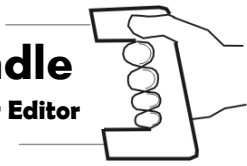
Circulator
Howard Olson, Editor
W14441 State Hwy 29
Bowler, WI 54416



Newsletter of the Circle Masters Flying Club
Milwaukee Wisconsin
Academy of Model Aeronautics Chartered Club # 662
February 2018 Volume 15 issue 2

At The Handle

Ramblings from your Editor



If you would like to contribute material, please submit to the address on the cover or contact me at (715) 697-8458 I may be reached via e-mail at clmodman@wctc.net

Hello Circle Masters and anyone else who reads this. The *Circulator* is back with all of the U-control news that's fit to print and probably some that isn't. Remember last month when I mentioned that this is year fifteen of Big How 's tenure as newsletter editor? Looking back through the archives, it has come to my attention that that a handful of our brethren have not contributed one iota of material to the newsletter and I don't mean the new folks. Most of you guys have sent something, so you're off the hook for now. Others have contributed in other ways like mailing it out etc. You know who you are. Don't make me have to start laying down names here. Remember when our former editor used to assign us a month and then put in a blank page with the offender's name on it if they didn't come through? Who was that guy anyway? What a bully. I think his first name started with a D and he had the kind of Mediterranean sounding last name that drives the ladies wild. Anyway, everyone can do something or knows a technique that others don't. It doesn't even have to be a full page. Make up a pack of dirty lies, send in a plan even if its lousy, plagiarize for crying out loud, everyone can do that. If it is even marginally control line related, it will be included here!

Moving along. The VP and I attended the annual R/C association swap meet, held for the first time at the Washington County fairgrounds. For a small outfit, we were well represented and a few of our guys volunteered. The venue is much nicer and newer than the old expo center. We had a good time visiting with model airplane personalities from around the region. There were even three guys from Wisconsin Rapids who I have known since I was twelve or so. The types of items offered for sale sure has changed over the years. Of course there were tons of electric ARFs to choose from. Gone are the guys with a lifetime of engines and parts that used to be a fixture at every swap meet. There was precious little C/L stuff and most of that consisted of some sorry looking old planes. Randy got a couple of Enya .15s on the cheap but a lot of people with engines want ebay prices for them, as though they are made of gold. I would hate to see this event go away. As of now the R/C Association is in danger of collapsing due to lack of people willing to step up and assume leadership roles. Stay tuned.

Have you been working on your models for the building contests? I just finished designing my second entry and the parts are all ready to go under the laser. Of course my first entry is only about half complete. I ordered some wood from Sig a couple weeks ago for ship number two. What a drag. I needed some six inch wide sheets for my project and the wood I received is some miserable crap. It is edge glued, fairly common for wide sheets, but the conjoined pieces are horribly mismatched! One half is light colored A grain combined with darker B grain stuff that's hard as a rock. Both of my wide sheets showed up like this. Not what I have come to expect from Sig. I hope this is not indicative of the kind of wood they will be shipping in the future. Adding insult to injury, they only had about half of the balsa I ordered available. They asked if they should backorder it but I said forget it and ordered the rest from National Balsa, including replacements for the virtually unusable six inchers. The new balsa hasn't arrived yet. We shall see. As a side note, National also has spruce pieces which are gone from the Sig catalog. I hope we get some good entries for the contests and you guys get a hold of better materials than I did. I recently did some laser cutting for one of our peeps, so I'm pretty sure he's building. Now get in that shop and go. Spring will be here in no time and you don't want to feel like a loser, heaped with ridicule by your friends when your plane isn't done.

Before I forget to mention it, there's a web site you fellas may be interested in that covers the history of model engines like nothing I have seen before. Google Adriansmodelaeroengines and you should find it. There is info here that will keep you reading for hours including stories about how the Rossis from Italy stole the 1960 world speed championships from Bill Wisniewski of K & B fame and Adrian really digs into the account. Sounds like ancient history but this episode eventually led to the development of Schnurle porting as we see in most model engines today. Fascinating stuff and Adrian is a real gentleman scholar of model engines. I have included an excerpt from his web site for you to enjoy.

All for now, BigHow

CIRCLE MASTERS FLYING CLUB
MEETING MINUTES FOR: JANUARY 2018

The monthly meeting for January was held on Saturday January 6th. The meeting was held at the World Headquarters of Geartek, Inc. once again and once again pizza was served for lunch, courtesy of Don Adriano. If you were not there you not only missed the meeting but some excellent pizza also, too bad.

The meeting was opened by Pres. Chris at 1:15 PM. He began by checking that all members present (11) had received the December Newsletter and had read the minutes of the previous meeting. All confirmed the receipt of the newsletter and found no discrepancies with the minutes, so the minutes stood as published.

The treasurers report was given by Wayne where he outlined all the last months receipts and payments. This report was approved by the members. Also, prior to the meeting the club collected \$178 from the sale of items donated by former club member Chuck Zellermeier. Those of you who are reading this and have not paid their club dues are reminded to do so not later than the March meeting.

Secretary's note: There was a complete failure of the recording of these minutes due to some unknown fault. So, the rest of these minutes are from the vague memory of this Secretary.

REPORTS & ANNOUNCEMENTS: Don reported on a request from the Lisbon/Sussex annual kids Easter candy handout and asked if the club was interested in participating this year. This event will be held March 24th. (not sure if club will participate)

Chris reported about a contact from the website; a former control line flyer had an electric Shoe-string he would like to sell for \$20.00. It was voted to purchase this fine- looking plane. Mike said that he will equip it with whatever components it might need. It was discussed to perhaps use it for a trainer.

OLD BUSINESS: Pete asked where we were in our quest to have the flying field weeds sprayed this spring. Jason was checking that out, but he was not at the meeting to ask.

NEW BUSINESS: A discussion began regarding new club shirts. After several good ideas were kicked around it was decided to table this subject until the next meeting (I think)

WEB BUSINESS: Dave reported a lot of contacts on the club Facebook page. He also discussed the club Building Contest. (I do not remember the details of that)

There being no further business to discuss Chris asked for the meeting to be adjourned. This was voted and seconded to adjourn at 1:55 PM. 01/26/18

Submitted by: Wayne Schmidt, Secretary 01/26/18

Upcoming Events

GO TO THE MEETING YOUR CLUB NEEDS YOUR PARTICIPATION

February Meeting: Saturday February 3rd at the Pauline Haas Library in Sussex. .Social hour begins at noon with meeting to follow.

March Meeting: Saturday March 3rd at the Pauline Haas Library in Sussex. .Social hour begins at noon with meeting to follow.

April Meeting: Saturday April 7th at the Pauline Haas Library in Sussex. .Social hour begins at noon with meeting to follow.

Model Engine Collector's Association Collecto: Saturday April 14th 8 AM until noon at the American Legion Post on Grange Avenue. See the flyer in this issue.

NAME
THAT PLANE



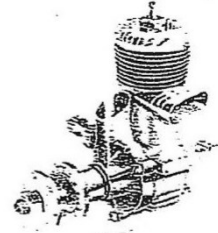
No Entries for last month. Maybe I was a little rough on you guys. Here is another beauty to feast your eyes on. Bring your best attempts to the meeting. If nobody gets this one I will go easy on you next month.



15th ANNUAL SPRING & FALL IN WISCONSIN MECA Region 5

Collecto and Hobby Swap Meets

Saturday April 14, 2018 8:00 am – 12 Noon

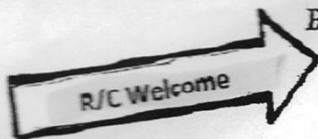
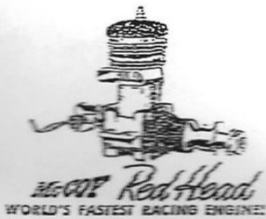


Set up at 7:30 am

American Legion Post # 416
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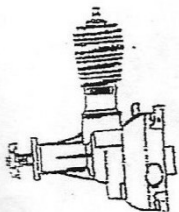
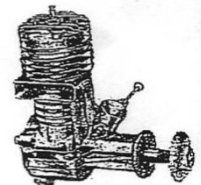
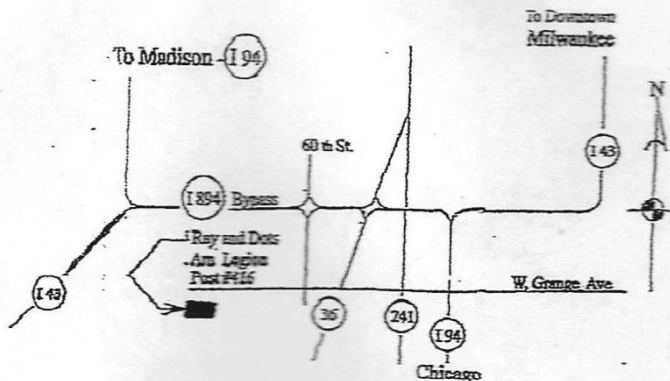
Table: \$10.00 each MECA members (includes one admission)

Table: \$15.00 non-MECA member (includes one admission)

\$5.00 General Admission (under 12 free)

Contact: Don Adriano (262) 677-2835 - e-mail: exairtec@aol.com

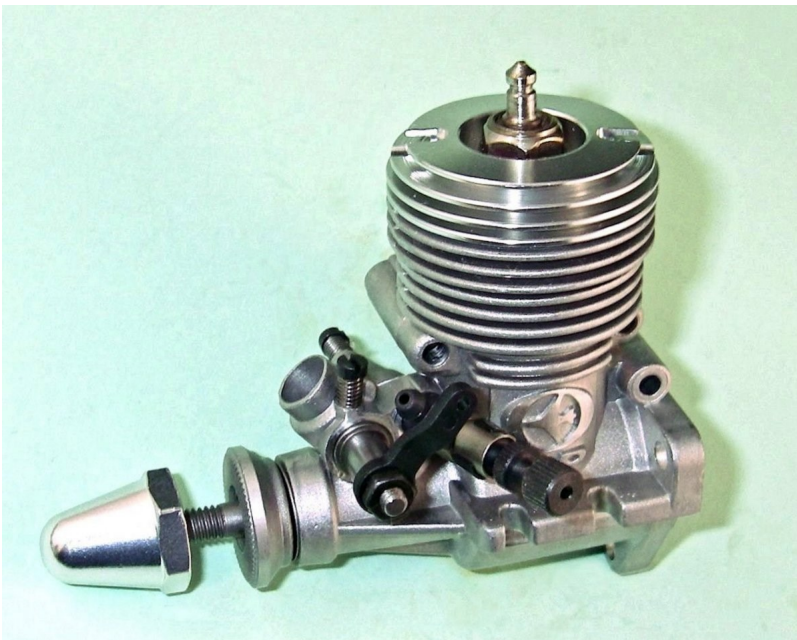
Coffee & Donuts Available



The following piece is a small excerpt from an article entitled "ABC Model Engine Break -In" found on the web site adriansmodelaeroengines.com. If you find it interesting, I highly recommend visiting the site and reading up on some excellent stories, technical articles and editorials. The *Circulator* acknowledges Adrian C. Duncan as the originator of this material.

Indeed, many high-performance ABC engines having high-silicon pistons actually feature an **interference fit** between piston and cylinder at the top of the stroke when in the cold state. An interference piston fit is one in which the piston diameter is actually microscopically **larger** than that of the bore. To bring a piston having such a fit up to top dead centre (TDC) requires that the bore be mechanically stretched and/or the piston squeezed to a microscopically smaller diameter in order to effectively **force** the piston into the TDC position like a wedge. When it stops moving upwards at TDC, it actually becomes mechanically wedged in the bore, hence requiring either combustion gas pressure or a sturdy pull from the con-rod to get it moving back downwards. This wedging effect causes the engine to "squeak" or even seize when turned over by hand when cold, particularly when new and un-run.

It is this that gives rise to the first guiding principle of handing a new ABC engine – **don't** turn such an engine over by hand when new! The piston/bore interference fit near the top of the stroke can readily displace any protective oil film, with the potential consequence that metal-to-metal contact and consequent metal stripping may occur. Moreover, the amount of force required to turn the engine over slowly like this can also place undue strain on the connecting rod, crankpin and wrist pin. **Don't** do it!!



Small-bore ABC unit - Thunder Tiger GP 07

By now it should be obvious that we're dealing here with a system which behaves very differently from the old iron-and-steel assembly! This being the case, we would intuitively anticipate that the required break-in procedure would also be very different. Indeed, this is very much the case, as the following discussion will confirm.

Firstly, the running of such an engine at a slobberingly rich needle setting (such as might legitimately be used for initial runs with a ringed aluminium or lapped cast iron piston) must be **avoided** at all costs with an ABC setup. Operation in this mode can be **very** harmful to an ABC unit, since it will not allow the achievement of the temperatures required to correct the built-in cold state bore taper and bring the piston up to its operating diameter. We want to optimize the piston fit in the hot-state cylindrical bore, **not** the tapered cold one!

If the sleeve is allowed to remain significantly tapered during the break-in, the mega-tight interference fit at the top of the stroke could easily cause scuffing of both the piston and the bore plating, with accelerated piston wear and even potential peeling of the bore's plating layer. ABN and AAN designs require even more care than chrome-based types since they are somewhat more susceptible to plating damage from this and other causes. Indeed, the sole reason for some manufacturers preferring to use nickel plating instead of chrome appears to be the lower cost of processing waste disposal – there's no legitimate argument in favour of nickel plating from an operational standpoint, whatever certain manufacturers may claim.

A further consequence of such operation is the development of undue stress in the engine's moving parts. Every time the piston is pushed into the interference seizure at the top of the bore without ignition occurring (every second revolution in the case of an engine operating in rich four-cycle mode), the piston has to be **pulled** back down out of the seizure by the con-rod since there will be no combustion gas pressure to drive it down from above. When cold or even lukewarm, the force required to do this can be considerable. These repeated compression-tension stress reversal cycles can ultimately cause the con-rod to fail prematurely due to metal fatigue. Even if the con-rod remains in one piece, the reversing loads imposed upon its end bearings by the forces required to move the piston into and out of the tight upper bore could prematurely hog out those bearings.

Even if no immediate failure occurs (and admittedly in most sport engines it will not, given their typically looser initial fits), the repeated forcing of the piston into the interference seizure at the top of the stroke will cause the piston's outer circumference in the crown area to become prematurely worn down, probably to the extent that it would be as a result of many hours of regular use. This will result in a less than optimal fit when the piston becomes thermally stabilized and the bore is thermally expanded to its ideal cylindrical form during normal operation.

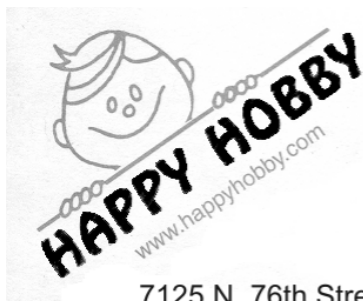
In summary, operation of an ABC or similar engine in rich four-stroke mode could easily leave you with a worn-out or broken engine rather than one which is nicely run-in! Avoid such operation like the plague when breaking in an engine of this type.

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