

Mountaineer R/C Flying Club



April 2002

Club News

Looks like Spring is on it's way finally. We are starting to see some really nice days along with the rainy ones. Daylight savings is in effect, so getting out to the field after work hours will be a little easier. We had a full parking lot on the Saturday before Easter. I can't remember the last time I've seen so many at the field. It is great to see all the faces. Many new planes have been out already this year, so grab a plane and join us.

Forgot to mention in the last newsletter that we added a new member, Francis Quarles from Dunbar. Francis is a new flyer and we hope to see him at the field this Spring.

While on the topic of new members, I've put Learn to Fly fliers in the bottom of the pin box. If you are talking to someone interested in flying, please hand them one. It has contact information, web site address, application and other information.

The March meeting was another marathon meeting which mostly consisted of proposed bylaw and rule changes as well as a increase in dues. See the meeting notes for more details. As I've said before, if you have an opinion, get to the meetings. Changes are getting ready to be made.

Barry

Going Diesel

I'm sure you have all seen the ads in the R/C magazines for "Bolt on Power", a diesel conversion for 2 stroke engines. For months I dismissed the ad thinking "how nuts is that and who in their right mind would run diesel". About a month ago my RCM magazine magically opened the page with the ad on it. I got interested and decided to research the subject. I started searching the Internet trying to locate Davis Diesel's web site. To my amazement, they don't have one. Actually I found very little information or reviews on the subject. The information I did find was mostly from the UK and the reports were favorable.

(...continued on page 3)



My Avistar with a converted OS FP-40 engine. Notice the lack of glow plug and exhaust tube running down the landing gear. Conversions are available for nearly every 2-stroke engine out there.



**Next Meeting - Sunday, April 14th, 2:00PM
at the field.**

Work Party - Saturday, April 13th

Meeting Notes from March 12th...

We had a pretty good turn out for another 2 hour marathon meeting. Twelve members present were: Barry Thaxton, John Clark, Don Weaver, Bob Weaver, John Goad, James "Chunky" Cottle, Ted Goad, Charles Jarvis, Bob Daley, Darren Gullion, Bob Yates and JR Weekley.

The financial report was conveyed over the phone to Bob Yates. Present account balance with all expenses paid up to date was \$1324.00.

The new mower issue was brought up and the members present who weren't at the January meeting were told that we had purchased a Gravely from JR.

The missing roofing on the shelter was discussed and I believe it was generally decided that it would be repaired during the work party on April 13th. All those that can, please try to be there on the 13th to help out.

Next, the discussion was turned to the proposed bylaw revisions. We sort of hopped around in the discussion and it is impossible to write out all the details here. The first major objection was to the wording of allow other RC equipment other than fixed wing airplanes to operate at the field with special permission of the club officers.

A better defined probationary period for new members was discussed including ideas such as having a member vote to allow or deny membership to individuals, club members sponsoring new members and eventually the talk turned to limiting membership.

Changes will be made to the proposed bylaws by Barry and Dave and presented at the next meeting.

The picnic on April 27th was briefly discussed and JR asked for help in getting the food, etc.

It was proposed that the annual membership fee be increased by \$5.00 for full members. This would not affect associate, newsletter or additional family members. It was undecided as to make it effective for 2003 or

effective immediately. It was decided to be voted on at the next meeting.

Bob Yates brought up the last order of business, the Porta-Potty. It was decided that it should be brought back out the first of April. Chunky agreed to make the arrangements. The following are the volunteers to pay for the service:

April	-	Club
May	-	John Clark
June	-	Bob Yates
July	-	JR
Aug.	-	Chunky
Sept.	-	Darren
Oct.	-	John Goad

Barry suggested keeping it through November depending on the weather and agreed to pay for that month.

Chunky moved to adjourn.

Next Meeting Agenda...

Vote on increasing the dues and if voted in, vote on when to should be active.

Changes and approval of the proposed bylaws may be voted on.

Details of the picnic on the 27th.

If you have an opinion, get to the meeting and vote.

If you are interested in seeing the proposed bylaws, contact Barry Thaxton. The proposed bylaws after new changes are made will be available in the Members Only area of the website at <http://www.mountaineer-rc.com>.



MountainCAD

Specializing in Computer Aided
Design Systems and Networking

339 Sixth Avenue, So. Charleston, WV 25303
304-744-7911

(Going Diesel continued from page 1...)

Made a call to Davis Diesel and the guy I spoke to was very knowledgeable (I suspect it was Bob Davis himself). I ordered a conversion for an OS FP-40, a gallon of fuel, fuel line and he talked me into buying one of those turkey baster bulbs to pump fuel (this has been replaced with a Dave Brown Six Shooter fuel pump). Everything arrived a couple of weeks later.

While I was waiting, I disassembled the engine and cleaned it up. Who ever had this engine before me had run it too lean and the piston head was bad shape, but I hoped it would last long enough to test the conversion.

Performing the actual conversion to an engine is a piece of cake. Just unbolt the old head and remove the gasket, put the gasket on the diesel head and bolt on. That is it. After reading the directions a few times and strapped it on my test stand and fired it up. Following the directions, it took me about a half hour to get it dialed in. At full throttle with a 12X7 prop I was getting 9800 RPM. With a 14X6 it was in the 9400 range. Pretty impressive for an old 40.

I installed the FP-40 in my Avistar. Because silicone doesn't hold up to diesel, I had to replace my fuel lines and stopper in the tank. Diesel runs much cooler than glow I was advised to use some ordinary clear plastic tubing to keep the exhaust off the plane.

In the air, the Avistar flew like it had a 90 4-stroke on it. Unlimited vertical climb. I would like to see someone with better flying skills than myself try it out. During the 4th flight, the piston gave up as I expected it to. I'm extremely pleased with the performance of the product. On a single tank of diesel I got about 45 minutes fly time, about 20 minutes idle on the ground and still had fuel to pump out before heading home. By the way, diesels don't load up at idle like glow or flame out like glow engines. Once you start them, they will run until you cut the fuel off.

Getting started with diesel will cost around \$80. \$55 for a conversion head, \$16 gallon of fuel, \$3 Sullivan diesel stopper kit for tank, \$2 neoprene fuel line, \$3 for turkey baster bulb. The fuel is available directly from Davis and it is also carried by Great Planes, so your local hobby shop can get it as well. On the note of fuel, this diesel is not the stuff you get at the gas station, it is a special blend and contains ether. It also means whatever fueling system you use, the fuel must be sealed or the ether will evaporate causing the fuel to get stale ✂

Engine Stew

Ever wondered how to get all that baked on oil off an engine? If you are like me, you have probably tried everything. Carburetor cleaner sort of works, but if you buy it in a spray can it is fairly expensive. I searched for a better method and tried an idea I heard about. Hot Antifreeze.

WARNING! Antifreeze is extremely toxic. Whatever container is used can never be used for food again. Antifreeze is also like candy to animals, so make sure your dog or cat can't get into it. Use some common sense when disposing of it. Don't pour it in the ditch by the driveway or down the drain.

For my initial experiment, I pulled an old crock pot off the garage shelf and filled it about half full with antifreeze. I used the low tox variety you can get at automotive stores. The first engine I tried was an old 2 stroke. I removed the backplate, muffler, and glow plug and tossed all the parts in. Took the crock pot with the lid on out to the porch, set it on low, plugged it in and went flying. I pulled it out after about 5 hours. To my amazement it looked nearly brand new. I set the parts on paper towels to drain and cool. After it cooled down, I put the parts in a bucket of kerosene and finished the cleanup with an old toothbrush. I drained the parts again then used compressed air to blow out all the parts. Oiled everything and put it back together. It was almost impossible to tell it was ever flown.

I've done a number of engines with great results. Recently I've been completely disassembling the engines before cooking them. After the parts cool off, I finish the cleanup with hot water and Dawn detergent. I thoroughly dry the parts and oil them with Marvel Mystery Oil and reassemble. This is also a great time to replace worn bearings and old gaskets. The engines look brand new inside and out after this. It is amazing how much crud builds up in the crank case, cylinder heads and around the piston rings. ✂

Stan's Scale Stuff - 3D Wing Loading (aka guide to Scale Realism)

Your new 1/8th scale, 60-size P-47 has a wing loading of 25 oz/ sq-ft; while the full-size P-47 has a wing loading of 800 oz/sq-ft (50+ lbs/sq-ft)! **What's going on? Is your 1/8th scale model loaded more or less than the full-size, and how will it fly?**

In 1959 **Ron St. Jean** published in *Model Airplane News* (MAN, Aug. 1959) "Wing Loading in the Third Dimension" for free-flight models. In a 1997 article on 3D Wing Loadings

Larry Renger *Model Airplane News* (MAN Dec. 1997) said "St. Jean's concepts are valid today and if you use 3D loadings you will have a much more useful and accurate estimate of whether your model is the correct weight". Renger then compared several equations for wing volume. He preferred (Wingspan)X(Area)X(a constant, k), but didn't really equate it to wing volume.

Vance Mosher (long-time scale expert) has developed (*Replica*, Vol. 15, Issue 6) a better way to calculate volume: (Wingspan) X (Mean Chord) X (Mean Thickness). *Replica is the newsletter of NASA (National Association of Scale Aeromodelers, a Special Interest Group of AMA).*

Vance brings two unique concepts: **first**, "Mean Thickness", and a simple way to estimate it and **second**, **lbs./cubic-foot loadings** for various types of RC aircraft:

- 15 lbs/cu-ft - sailplanes
- 20 " - light sport flyers and trainers
- 25 " - usual sport models and light scale models
- 30 " - military scale models (*Heavy Metal*)
- 40 " - jet scale models

A few words of definition -

Mean Chord: The average (or Mean Aerodynamic Chord) chord is anywhere for a constant-chord wing, about 1/2 way out for constant tapered wings, and about 1/3 way out on tapered wings with elliptical tips. If you want to calculate this more precisely I have some simple equations we can publish. For biplanes volume is calculated separately for each wing and then added together.

Mean Thickness: The maximum height of the Mean Chord times 66%. This percent is an approximation valid for most airfoils.

Vance gives credit to **Kent Walters** (noted scale pilot, author, authority, and **Technical Director for USSMA (United States Scale Masters Association)** who has written several articles on wing volume and scale realism in the last 10 years. (*We will be discussing some of Kent's material, particularly as it relates to realistic flying, with his permission, in future columns.*)

Vance says, "**These loadings are accurate for any scale airplane from "indoor" to 1/4 scale, and they don't change with size.**

I am going to add to that "**Lbs./cu.ft. loadings don't change for any size, up to and including FULL SIZE aircraft**".

Next time we will review full-size wing volumes for a variety of aircraft from 1909 to the present time.

Stan

P.S. How many definitions of the word "scale" can you come up with, either as a noun or a verb?

Around the Field

The weather over the last month hasn't been too favorable at times, but we've got in a few goods days at the field. At least more people are showing up. Lots of new planes have shown up giving us plenty of spills and thrills.

Bob Yates finished his Mr. Mulligan and finally got to fly it. Unfortunately on the 2nd flight during a high speed pass, the pilot in the cockpit must have got nervous and pulled the ejection handle blowing the top of the cabin off. Bob managed to get it back to the field and on the ground with some damage to the landing gear. **Bob Rowe** had his new Hanger 9 Cap 232 "Sharky" out. Sometime during the fourth flight it decided that no self respecting shark should have landing gear and tore them off. Shortly before the flight, Bob was bragging about how great OS 70 4-strokes are. Of course it flamed out at the worst possible time. **Jerry Workman** one of our new members, had his new Hobbico Spectrum out before Easter. Bob Rowe was the test pilot and it flew very well. A nut came off the muffler preventing further flights. **Dave Gaines'** new Shrike had it's debut and demise this month. Dave said it was like flying a hummingbird. I wasn't around for the crash, but Dave said it was total loss. **Denny Bostic** brought his new Blue Max down. Bob Rowe gave it his maiden flight. Looked like a very gentle flyer. The wire spoke wheel really look great on it. **Mark Chapman** had his new Extra out. Bob Yates took it for it's maiden flight. It was a fairly windy day, but it seemed to do great. Haven't heard if Mark has tried it himself yet.



Mark Chapman's new Extra



Bob Yates' new Mr. Mulligan powered by a Zenoah G-62. On the right the plane after the inadvertent pilot ejection.



Dave's new Shrike

RIP

February 2002 - March 2002



Jerry Workman's new Spectrum powered by an OS FX-40

Club Contacts

President JR Weekley 984-2282
 Vice Pres. Bob Yates 722-3634
email - Yatescot42@cs.com
 Sec/Treas. Dave Gaines 727-1549
email - WVRCFlyer@hotmail.com
 Newsletter Barry Thaxton 766-9180
email - barry@mountaineer-rc.com



THE FOUNTAIN HOBBY CENTER

200 W. Washinaton Street
 Charleston, WV 25302



344-1441



Denny's new Global Blue Max
 powered by an OS 70 4-stroke

Schedule of Events

- April 13th - Work party at the field.
 April 14th - Club Meeting @ 2:00PM
 April 23-28th - Top Gun Invitational
Lakeland, FL
 April 27th - Club Picnic
 April 28th - Second Annual Swap Meet
1:00 to 5:00PM
Tri-State Model Flyers
 May 15-18th - Annual Joe Nall Giant Scale Fly-In
Woodruff, SC
 May 19th - Third Annual Bi-Plane, Tri-Plane
 and Combat Day
Tri-State Model Flyers
 June 13-16th - IMAA 2002 Rally of the Giants
AMA Hdqtrs, Muncie IN
 July 7-9th - AMA Scale National Championships
AMA Hdqtrs, Muncie IN
 August 10&11th - Bob Evans 14th Annual Fly-In
 and Scale Contest
Rio Grande, OH
 August 17&18th - Wally's Squadron's 11th
 Annual RC Fly-in
Summersville, WV
 September 28th - Club Picnic

Before...



...After



Bob Rowe's new Hanger 9 shark toothed Cap 232.
 On the bright note, it'll have less drag without the
 landing gear.

Newsletter Info

Any submittals to the newsletter need to be in my hands by the 1st of the month. If anyone has anything they are looking for or want to sell, I'll put a classified section in the next newsletter.

Barry

The airplane in the banner this month is Bob Yates' Balsa USA's Nieuport 28