

FROM THE PRESIDENT

Wings of Victory was a fun event again this year, I think Monty Welch will have a report on it in this newsletter, so here are some photos of the planes that won awards. There are also photos in the Photo section of the club website.

Michael Radu's Fokker D. VII, Pilot's Choice Award



Ed Becker's Me-109, got the Technical Achievement Award, somehow I failed to get a good photo of this airplane, it has a spiral spinner behind the F6F in this photo of the pit area.



Larry Sutherland's D3A Val won the award for People's Choice:

And for Best Flight, Gonzalo Martinez, with his Huey Cobra:



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This Month

Mike O'Kane
nard Geertson
John Lett

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GENERAL MEETING MINUTES JULY 13TH, 2015

Members present: X Ed Morgan, X John Eaton, X Jin MacDonald, X Mike O'Kane,
X Jeff Lovitt, X Rich Geertson X Doug Barton _ X _ Randy Sizemore Chris Dellinger

Meeting called to order by John Eaton.

Last month's minutes reviewed, motion for approval, 2nd, and passed unanimously.

Recognition of guests and new members. None present

Officer reports:

President:

Vice President: Ed Morgan recapped the Board Minutes listed in the Board meeting minutes.

Treasurer: Jim MacDonald reported on Club account, details on file with Treasurer

Secretary: No comments

Chair Reports:

Membership: Monte Pate reports no change in Membership we have about 112 members currently.

Safety: John Lett is present and provided his report of the recent incursion of a Jet above and onto the Property Road 103 and 28H. John's reports contained the details of the event, members present, detail analysis of the cause and recommendations to mitigate the issue from happening again.

The Board acted on the recommendations after evaluating John's report and passed an interim rule that requires a high performance aircraft pilot to have a spotter as an added level of safety to aid in maintaining the model aircraft within the Club Boundary South of the gravel road 29. Members present asked about flying when they are the only person present? Whenever possible fly with a friend, as the person in command of the model aircraft you are always responsible for the control of the model. The intent of the rule is to add a level of safety to fast flying/high powered aircraft that typically use more space. There ae no restrictions in the interim rule that prohibit a RC pilot from flying alone though this is a lower level of safety than is intended by the new "fly with a spotter rule".

Note: We ae exempted from the majority flying rules thanks to the hard work of our AMA association. They ensured we would not be part of the fast moving change that is allowing small multi-rotor models to be operated commercially. We are included in the FAA Modernization and Reform act of

2012 (FMRM) section 336, this section allows us to stand on our Field and fly models but it requires us to Fly "based on a community set of Safety Rules". These community rules are recognized as the AMA safety code and the Club rules which we are mandated by the Federal Law to operate according to Community based Safety Rules or rules equivalent to the AMA.

Field Chair: General comments regarding mower maintenance, Art and Bill present.

News Letter: Glen as always looking for articles, please send him your articles.

Points Chair: All postings current as of July 1st.

WEB PAGE: Page is up and running, contact the WEB master with any concerns

Events Reports:

Wings of victory: July 18 and 19. Randy not available to CD the event. Jeff Lovitt and John Eaton offered to assist. . Doug Barton offered to assist with Registration. Ben Panzo is covering the Snack Shack

AMA Pattern contest: June 27, Lawrence Tougas' CD.
Pattern Event was well attended and the weather was
nice. Great sky for photos. All but one of the entrants
flew electric, and the airplanes are rather specialized.
15 entrants, 14 were electric.

Old Business:

Fun Fly Events

Work Parties: August 29th and September 19th.

Shade Structure Roof:

Tin Shed for Tools: project approved but not yet started. South Flyingpad/runway construction: Runway is staked out comments are invited via the forum or e-mail.

Rules for Multi-rotor Flying

New Business:

Safety See safety chair comments above

Break:

Guest Speaker: None

WDA 2015 Events Calendar



BOARD MEETING MINUTES JULY 13TH, 2015

Members present: X Ed Morgan, X John Eaton, X Jim MacDonald, X Mike O'Kane,

X Jeff Lovitt, X_Rich Geertson, X Randy Sizemore X Doug Barton, Chris Dellinger

Meeting called to order by Ed Morgan

Meeting agenda as posted on the Club forum with any following additions.

WDA May Board Meeting Agenda 07/13/15 (6:00 PM, in the Leake Room of the Woodland Library, 250 1st St., Woodland)

OLD Business

OLD Business

 Fire Extinguishers need to be purchased for flying site. (Mike O'Kane)

Mike briefed the Board regarding the availability of 5 lb. fire extinguishers at Costco. These were originally thought to be 10lb. Approval for the purchase was previously approved. A total of eight will be bought and placed at: 4 in the RC pit area, 1 under the U-control shade structure, 1 in the Snack Shack, and 2 at the connex mower area.

2. Club swap meet plans.

Plans for the swap meet have been set aside until the 2016 season.

3. Review and/or update rules for High Performance model operations at our field. (Board) Interim rule motion made and 2nd. All High Performance models (aircraft) should fly with a spotter to ensure the aircraft remains in bounds (South of gravel Road 29). Vote is unanimous. See the forum for this posting and take time to comment on this interim safety rule.

NEW Business: No new business at this time, meeting adjourned @ 7:00pm.

FROM THE PRESIDENT

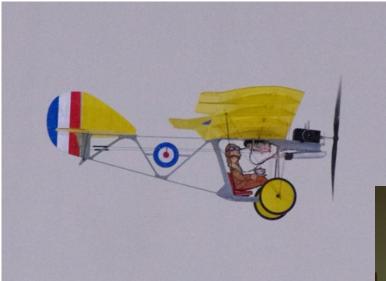
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At the July meetings, board and general, there was a long discussion about proposed rules aimed at controlling incursions into the airspace north of Road 29. I do not feel that a good resolution was arrived at and expect that more discussion will follow at the August meeting. We need some guidelines that work and at the same time are not unduly restrictive. In the meantime, please work hard to make sure that you keep south of the north boundary.

Next up on the event schedule are these events:

Aug 2	WDA U/C ARF Off
Aug 9	Indoor Fun Fly at NorCal Indoor Sports
Aug 15	WDA Old School Vintage R/C & Nat'l Model Aviation Day
Aug 22	WDA Golden Age R/C and Oldtimers
Aug 22-23	WDA U/C Goyet Memorial Stunt Classic.
Aug 29	WDA Work Party/Fun Fly
Sept 12-13	WDA Fred Burgdorf Memorial Pylon Race

We had an extremely meager turnout at the last work party so there was no fun fly. Please make time to support the field and SHOW UP! The fun fly we had earlier went well and any airplane and skill level can compete with a good chance of winning.



Rich Geertson brought an airplane to show and tell last meeting and Mike O'Kane was kind enough to snap a photo. It is a Taurus built from a vintage Top Flight kit. Very pretty in the scheme and colors from the original box art, and sure to be a good flyer.

Once again, 35 mph on the road please, take special care to minimize dust near homes. Take special care to stay away from Christine's horses at the northwest corner of the field, and stay south of Road 29.

See you at the meeting. Woodland Public Library, Leake Room, August 10th. Board Meeting at 6 and General meeting at 7 PM.



Celebrate the GOLDEN AGE OF AVIATION



August 22, 2015 @ Woodland/Davis Aeromodelers

One day ONLY! Saturday August 22nd at the Woodland Davis Aeromodelers flying field in Davis, CA. Pilot's briefing 9am. Lunch break. Awards at 2pm. Field opens up for general aviation at 3pm.

Open to ALL pre-WWII aircraft AND OLD TIMER RC 1903 to 1939 era Pilot's Choice award for -

"BEST Golden Age"

\$10 Landing Fee benefits WDA

CD Richard Geertson (707) 693–9537 Geertson@sbcglobal.net



Do you remember removing T-pins and tape first thing in the morning, hoping the glue was set? Do you miss the smell of methanol and castor? Do you recall the simple joys of



Come, relive the early years of RC at the 2nd annual

OLD SCHOOL RC JAMBOREE!

This is a non-competitive event dedicated to BUILT-UP, GLOW-POWERED, RC AIRCRAFT; the older, the better! NO ARF's, electrics or gas allowed.

ONE DAY ONLY, Woodland/Davis Aeromodelers, Saturday Aug. 15, 2015

CD Richard Geertson geertson@sbcglobal.net \$10 Landing Fee

Award for: BEST Old School RC MODEL







Model Diesels

Rich Geertson

If you've ever felt compelled to punish yourself, or if you just enjoy grief, I heartily recommend a brief fling with compression-ignition engines, most commonly known as Model Diesels.

I'm really only half-kidding, as I am of two minds when it comes to diesels... and they are at opposite ends of the spectrum. While I love the 'idea' of a model diesel and do enjoy fiddling with them on a test bench, actually flying one feels like a giant step backwards to a time when a desperate modeler would settle for anything capable of burning fuel and spinning a propeller.

What's really interesting is how folks immediately take sides when it comes to model diesels, at least those who know or care about this niche powerplant. In the year 2015, anyone who's been in this hobby less than 20 years probably hasn't given two seconds thought to model diesels, let alone struggled through the learning curve of actually flying one in an RC aircraft.

I have discovered that the handful of model diesel 'enthusiasts' who regularly contribute to online blogs, almost exclusively run their engines on test stands, reporting on props, rpms, mufflers, modifications, etc., Very few actually FLY them. They tend to be tinkerer's, not serious flyers. No doubt there are some exceptions.

I am one of those few who not only flew them, but wrote a 'booklet' on the care and operation of model diesel engines. I've owned more than two dozen throttle-equipped (RC) diesels from several different manufacturers, from 0.55cc to 12cc displacements. Like many, I initially jumped into diesels as a naïve follower of DDD (Davis Diesel Development). Indeed, those ads promising "more power, no glow plugs, cooler running, quieter, simpler, cheaper; slices, dices and Simonizes your car" were quite the inducement to try these miraculous conversions! It's not that Davis heads are poorly designed; not at all. They are nicely machined and DO work well on some engines. Carburetion is a HUGE problem on diesels, especially those converted from glow, as glow fuel requires twice as much air as model diesel, thus, a glow carburetor's maximum opening must be limited for full throttle operation. When combined with compression as well as low and high speed needle adjustments, the complexity of finding a diesel conversion's "sweet spot" increases exponentially over its glow counterpart. And heaven help the poor soul who converted his ducted fan engine to diesel in search of that 'Jet A' smell... IF it ran at all, it was the closest most modelers would want to come to a fan-spinning-grenade.

Depending on carburetion, idling a diesel can be a wonderful and hypnotic experience of
'thrum, thrum, thrum' as some diesels will idle away all day - while others simply won't idle at all. But the biggest drawback is throttling back up to full power.

Diesels require HEAT to run. It is their higher compression which generates ignition heat, combined with a good slug of ETHER as an igniter in the fuel. Unlike an automotive diesel, a model diesel requires an "igniter" to light the main fuel component, kerosene. It simply isn't possible to create a pure "diesel" model engine without some form of fuel injection to properly time the introduction of kerosene with the compression stroke (along with substantially higher compression ratios), so a model diesel is a compromise.

As a diesel heats up, its compression increases. This requires that the compression adjustment be backed off to decrease compression and essentially 'retard' its timing. After prolonged idle,

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a model diesel can cool substantially such that throttling back up usually results in coughing and missing until the engine can heat back up to optimal high speed running temperature. Some diesels will recover fairly quickly, but this is the exception and NOT the rule. Some NEV-ER recover and will continue to burp and cough once returned to max throttle, never achieving full power. Higher ether content can remedy some of this, but results in less power output.

When running on a test bench, one merely increases compression to smooth out the high speed. But in the air, this isn't possible. And even on the bench, once the engine is running smoothly again at high speed (by intervening with the compression adjustment), it will often continue to heat up and overshoot it's sweet spot, requiring that compression be backed off. Again, on the bench not a big deal, but in the air, NOT possible. This is critical, as failing to back off on compression can result in destroying the engine due to excessive compression heat and detonation. This happened to me early-on with a converted Super Tiger .45. Everything seemed to be in order on the ground, but once in the air, the engine continued to heat up and eventually ate a wrist pin clip, destroying the piston and sleeve.

Bench running a converted Fox .74, using a Fox 2-needle .40 sized carburetor, I thought I had arrived at the holy grail of diesel conversions. However, extensive testing revealed that the engine would sometimes continue to heat up to the point where NO amount of compression reduction would allow it to cool down and return to an under-compressed state...this is characterized by a "miss" at full power. I ultimately had to add head shims to provide the needed range of compression adjustment, but this seemed to alter the combustion chamber shape to the point where the engine no longer performed well. These conclusions were after many HOURS of running both the converted Super Tiger and Fox on the ground (and an O.S. .61 FSR with a Davis head), learning and experimenting and fiddling, and speaking (at length) with Bob Davis and with Charles at Fox Mfg... AT some point, my engine fascination was over-shadowed by the FACT that NONE of these conversions resulted in a practical, reliable RC powerplant which exhibited ANY advantages over glow.

Rather than rattle off all my diesel experiences, I can state that my favorite diesels were the P.A.W. .35 TBR (twin ball race) and a crude little .20 made in India by a company called Sharma. The Sharma looked as though it had been hewn from pot metal using sharp rocks, but it ran remarkably well! Again, FUN to fiddle with on the bench, but <u>easily bested</u> by ANY comparable glow, 2 or 4 stroke.

The absolute WORST diesel I ever ran was the MVVS .61. While it was beautifully machined and finished, it simply would not run reliably as a diesel. Remarkably, the engine included BOTH glow and diesel heads as the manufacturer (like Bob Davis) recommended it be broken in on glow and then converted to diesel. The MVVS came equipped with a smaller carburetor, leading me to believe the designers had done their diesel best to make this engine purr on kerosene, but such was not the case. After many hours of struggling with that engine, and literally spraining my hand from trying to start it, I bolted the glow head back on and it ran like a tiger. Converted to diesel, it was a dog. To varying degrees, THIS HELD TRUE with EVERY glow/diesel/back to glow experiment I conducted.

The "made for diesel" diesels generally ran better than any of my conversions, though not every engine with a diesel pedigree exhibited what I would call excellent or even satisfactory performance. I purchased a Merco .61D that simply would NOT idle at all as shipped. Thankfully,

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Edward Carlson (Carlson Engine Imports) provided me with two other Merco carburetors that allowed me to fit and fiddle until it would idle and throttle. Another MVVS diesel (a .12) exhibited very poor throttling and was difficult to start. The P.A.W.s (Progress Aero Works) tended to be the best handling diesels, although their .40TBR RC was not one of my favorites, while the .35, .49, and diminutive little 0.55cc mills were delightful runners (for diesels).

As far as all that 'quiet and economy' resulting from compression ignition, again, this proved to be more theory than reality. The main component of model diesel fuel is Kerosene... the argument is that kerosene has far more energy potential than Methanol... about 50% greater BTUs. Combined with the higher compression required of diesels, one can conclude (and even calculate) the substantial increase in torque that SHOULD result, allowing larger props to be spun. In actual practice, model diesel fuel isn't the power-packed elixir it's cracked up to be. Along with kerosene, a large oil component is REQUIRED to keep your high compression diesel alive. Most manufacturers recommend a minimum of 22% with the smallest engines requiring 30%. Ether is also a requirement of diesel fuel; again the smaller engines requiring more while larger engines can get away with less. Some guys just dispense with all the calculating and run a mixture of 1/3 kerosene, 1/3 caster, and 1/3 ether. Any diesel, small or large, plain or ball bearing will run on that mix. Regardless, kerosene is generally no more than 50% of any diesel fuel mix... so much for all that BTU potential.

Quiet? Well theoretically, yes. Diesel exhaust is substantially cooler than glow exhaust. This, combined with the slower diesel combustion is supposed to result in a milder exhaust note. In practice, comparing the Super Tiger, Fox and MVVS, Glow to Diesel, I noticed NO appreciable difference in exhaust intensity, nor did my fellow modelers watching and listening to my Dynaflight Corsair being hauled around by the ST .45 with Davis head. A db meter may have detected less noise, but our ears did not.

More economical? Well, sort of... But there is NO FREE LUNCH. Running a smaller carburetor and spinning a larger prop at lower RPM does indeed result in fuel savings, but the sacrifice is THRUST and SPEED. NONE of my diesel conversions spun the same prop at the same RPM as when running on glow fuel. By the same token, I could load down the diesel with a much larger prop and simply back off on compression (i.e. retard the timing) to accommodate the heavy lumber without over-heating, but at MUCH LOWER RPM. For a lazy old timer or draggy bipe, this might work well, but for a typical sport model, the diesel's performance was a compromise.

No glow plugs, an advantage? OK.

Easier, better, more practical? Not in my experience... And then there is the EXHAUST! Some love it, many hate it. I love it, but am a seriously addled gear-head, so you must consider the source. Diesel exhaust gets into EVERYTHING. It is an oily, slimy, MESS with a very distinct odor. Once it's on a rag, a test stand, or your clothes, it is there to stay. It is also VERY HARD on aircraft finishes. In this day and age of limited finishing materials, creating a FUEL PROOF diesel powered aircraft becomes even more of a challenge.

One of the purported advantages of model diesels is their ability to handle additional exhaust back-pressure, thus allowing a long exhaust extension to direct all the goo away from your model. Again, in THEORY this sounds great, but in practice, I found that long exhaust extensions DID in fact negatively impact maximum RPMs - perhaps not as dramatically as a glow -

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but back-pressure is backpressure, glow or diesel. And there is still fuel "fog" coming out of the carburetor and many of my diesels leaked at the head, front bearing, and exhaust junctions, spewing black slime over the nose of the model. So, even with an exhaust extension, there was still plenty of mess to go around.

Interestingly, I would think diesels would really excel in Control Line applications where steady, reliable, unchanging output would be the



goal. Eliminate the need to throttle, and a model diesel really IS a reliable engine running at one speed. But with the advancement of electric motors, batteries and speed controllers and their ubiquitous use in ALL types of model aircraft, the 'advantages' of diesel become even more of an anachronism...

One of the arguments I used to use to tweak the online "diesel-philes" was to point out a glaring fact: IF all those advantages were tangible, wouldn't we see model diesels widely used in competition? Other than Texaco, diesels are virtually non-existent.

I once phoned and spoke with Dave Platt about his vast diesel experiences. Having used diesels in his early modeling days for free flight and control line, Dave was looking for a engine with which to power his scale competition T-28. He needed an engine the size of a Super Tiger 3000, in a tightly-cowled space (where cooling could be a problem), large prop spinning ability, and economy (due to limited tank space). A diesel seemed like the perfect solution so he set about converting a Moki 1.8...After weeks of bench running, he finally gave up on the diesel idea and installed a glow.

OK, so have I managed to thoroughly TRASH the compression ignition engine? That was not my intent... but as Joe Friday used to say, "Just the facts." From many hours of testing and flying RC model diesels, I have arrived at these conclusions.

I still enjoy running a decent handling model diesel on the test bench. It is rather fascinating, knowing there is no glow or spark plug, and oddly enough, I do like the exhaust **bouquet**... Would I ever try flying one again? Perhaps, but it would only be in an Old Timer as I cannot think of any other application that would lend itself to diesel power.

IF you love engines and would like to try something very different, by all means, give diesel a shot. I recommend a "made for diesel, diesel" (not a conversion). Your biggest challenge will be finding model diesel fuel, although you can homebrew your own with kerosene, castor, and starter fluid... there are plenty of recipes online.



INDOOR FLYING IS BACK!!!

Indoor Fun-Fly

Sunday August 9th at NorCal Indoor Sports

The Woodland-Davis Aeromodelers will be holding an indoor fun fly. We have found a new home at Norcal Indoor Sports in Woodland. The event will be on the main hockey rink which has almost 30' ceilings. So there is plenty of room to fly whatever you want. We will be limiting indoor Heli's to 250 size NO bigger please. Entry fee will be \$10 for the event and AMA insurance is required. Will be flying 8am-11:30am. For those with a GPS the address is below. Otherwise use the directions provided or see their web site at http://www.norcalindoorsports.com/directions. As always spectators are free and welcome. This month

will have introductory flights for kids 8-16 as time permits. There is a full snack bar

on site. We look forward to seeing everyone there.





For information contact Forrest Barton Phone: 530-383-9019 E-mail: CBarton328@aol.com

Date: Aug 9th 2015 Time: 8:00am -11:30am Web Site: www.WDARC.org Address: NorCal Indoor Sports 1460 Tanforan Ave

Woodland, Ca 95776

From Sacramento:
Take I-5 N
Take the Main St exit toward
CA-113/Woodland
Turn left at E Main St
Turn right at Pioneer Ave
Turn left at Tanforan Ave

From Davis or Vacaville:
Take 113N
Exit 113N/ East St. Turn Right
Turn Right on Churchill Downs
Turn Right on Santa Anita



SAFETY FIRST!

FIELD SAFETY ISSUE

In the past few weeks, the WDA Board of Directors and a few of the membership have been engaged in discussions surrounding whether to utilize spotters for flights of high performance aircraft at the WDA field. This discussion arose from a flight over a private residence and subsequent crash of a turbine powered aircraft. The pilot did not have a spotter to assist him during the flight until he found himself in a position of loss situational awareness. The prevailing questions are, would a spotter earlier on been able to assist the pilot mitigate the over fly and crash, what is the definition of a high performance aircraft, what are the duties of a spotter? The conversations surrounding flights over private property and loss of the ability of the pilot's control over the aircraft is ongoing. The discussions thus far have been taking place on the WDA web site forum, board director's meetings, in the regular membership meetings, and among members. Please plan to attend the next scheduled meeting and add your voice outlining your concerns regarding this issue.

As the discussions continue, I have taken the liberty to determine the duties of a spotter. A friend of mine from the Baron RC Club in Spokane, WA forwarded the following. Perhaps you, as a pilot and spotter, can find value in it during your spotter activity.

SPOTTER DUTIES

- 1. Keep your pilot aware of wind direction, so he can make any necessary adjustments in deciding which way to take off and land his plane, or to make wind allowances in his maneuvers.
- 2. Keep constantly aware of what other model pilots and crew members are doing, such as retrieving a plane from the middle of the strip, or crossing the strip, or starting a plane in a nearby pilot station. Alert other pilots and spotters as to your pilot's intentions, e.g. "TAKING OFF TO THE RIGHT" or "LANDING FROM THE LEFT!"
- 3. Watch for any models that seem to be out of control, in ground handling, on take-offs or landings, or in the pattern. Prepare to protect your pilot if the out-of-control plane is approaching, by moving him calmly out of its path.
- 4. Keep track of any area or height violations of your pilot's plane, and let him know immediately of the infractions.
- 5. Assist the pilot in starting his plane, moving it to the flight line, checking all flight control functions (rudder, elevator, ailerons and throttle) before releasing the model for take-off, and retrieving the plane after the landing.
- 6. REMEMBER, you are not there to admire the flight YOU ARE NOT A SPECTATOR you are a crew member with definite and important responsibilities!!!

The value of a spotter can be realized in this video link. Be sure to turn up the volume for maximum effect.

https://www.youtube.com/watch?v=Qao W-CM45o

"A SAFE OUTCOME SHOULD NEVER BE IN DOUBT"

John Lett Safety Officer

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