WOODLAND/DAVIS AEROMODELERS

April Newsletter 2019

Prez Sez:

I have been in Florida for the last three weeks, taking care of my mother, she is doing better but I don't know when I will be back in California. I used to think the traffic was bad in our area, but the traffic here is like I80 on Sunday afternoon every day of the week. I did get to go over to Lakeland for as few hours to watch Florida jets, it was a really big show, 100 plus pilots and lots of really good flyers. Big sport jets seem to be the big rage, with only a few scale jets, mostly ARF F16's and F18's, and no electrics. The Havoc and Mephisto seem to be the sport jet to have, they all were powered by big turbines (P200 to P310 size) with vectored thrust, I have to say they really fly great, but my cheapness shows when they fill up the two-gallon tank to fly for 8 minutes. The guys tell me the field is drying out and is looking good for the upcoming Jet fly, I wish I was going to be there and hope Jeff gets all the clubs support putting on the event.

Kerry

NEXT WDA CLUB MEETING

Woodland Library, Leake Room

Monday Apr. 8th @ 7pm

Board meeting @ 6pm

March 11, 2019 Board Meeting Minutes

Board Members/Officers present: Vice President: Doug Vice, Treasurer: John Eaton, Secretary: Mike Frint. Board Members: Doug Barton, Sheldon Berkowitz, Chris Dellinger, Mike O'Kane, Danny Winters. **Absent:** President: Kerry Roberson, Safety Officer: John Lett.

The meeting, held at the Woodland Public Library, was called to order by Doug Vice at 1805 hours. The meeting started with eight members present and ended with a total of thirteen. No guests or new members.

A motion was made by Chris Dellinger to approve last month's Board meeting minutes. The motion was seconded by Danny Winters and adopted with one Noe vote.

Officer Reports:

President: Absent

Vice President: deferred until "business" was discussed

Treasurer/Membership: John gave a short treasury report. He has issued 83 membership cards and no student cards yet.

Secretary: nothing to report

Field Status: North end of pits still flooded. Stay on the gravel road. Discussion about drainage ensued.

Old Business: **Water supply/pumps/electrical-**John reported that not much is going on. P.G. and E. will give us a credit if we do our own engineering. It is unsure if we can get two transformers on our one parcel. We will probably go back to the gasoline powered pump for now. Wiring was discussed too. **Other buildings**-nothing new. Still in the research stage. **College program assistance**-The folks at UCD would rather one of our experienced club members test fly their (Aerobrick) experimental aircraft design. Along the same lines, the folks at Sacramento State would like our club president to test fly their experimental airplane. It is a Sig Kadet with an "elastic" wing. **SMUD use of field**-discussion continues about Sacramento Municipal Utility District use of our field for "drone" training. After much discussion, a motion was made by Chris that "we continue to talk with SMUD and clarify exactly what they want, how much field use they plan and any insurance issues." The motion was seconded by John. The motion was adopted with a six to one vote. **Shade Structure**-nothing new except we woud like to copy the design used at Woodland Christian School. If we go with rigid frame structures we will need permits and engineering too. **Runway centerline marker barrels**-some feel these may need to be moved closer to the runway. **Memorial plaque** for Milt DeGroot-not yet mounted at the field. **Windsock**-where to install it? It may be put to the membership for a vote on it's location. Art W. reports that he has a small one in case we want it.

New Business: **Work Party**-scheduled for March 30 to clean up before the Jet Event. **Club Charter Paperwork**-John states he is working on this item.

Upcoming events: Jet event-April 5-7, Float fly-May 3-5. Helicopter Scalemasters May 9-11, Pylon races May 18-19.

Meeting adjourned at 1853 hours.

March 11, 2019 General Meeting Minutes

Board Members/Officers present: Vice President: Doug Vice, Treasurer: John Eaton, Secretary: Mike Frint. Board Members: Doug Barton, Sheldon Berkowitz, Mike O'Kane, Danny Winters. Safety Officer: John Lett. **Absent:** President: Kerry Roberson. Board Member: Chris Dellinger.

The meeting, held at the Woodland Public Library, was called to order by Doug Vice at 1904 hours. Twenty-one members were present. Two guests (student members?) were present. Anna Gard and Emad Kalalipour from the UC Davis Center for Spatial Sciences. They are working with Keith Young to learn to fly. (I hope I got their names correct.)

A motion was made by Art Williams to approve last month's minutes. The motion was seconded by Sheldon and adopted with two Noes.

Officer reports:

President: Kerry was absent.

Vice President: Doug reported that the field was open then had more to say later.

Treasurer: John reported that money came in for dues and the auction plane. Money went out for liability insurance, post office box rental and electricity.

Secretary: Mentioned he renewed his FAA card, that there was no money charged and got an extension to De-

cember 2020. John stated that everyone got the same expiration date now.

Membership: Currently 83 members are paid up.

Safety: see below.

Chair reports:

Field: Field is open. Standing water on the north side of the pits. The ground is soft. Stay on the gravel road. A work party was planned for March 30.

Newsletter: Rich was absent.

Website: Kerry was absent.

Points: Stein was absent.

Safety Presentation: John Lett gave a talk about the duties of the Safety Officer and the guidelines/duties that the AMA has published under club Officer Duties. (available online.) AMA actually uses the title Safety Coordinator. He wants members to share their concerns with him. As an AMA large aircraft inspector (55 pounds or larger) he regularly is in contact with AMA. He said he is required to report incidents at the field but it is not his job to be the club "police." John wants to work on the operational plans for any incidents at the field. If you see an incident notify one of the Board members. He thinks we have the fire part covered but we need to look around for any potential lawsuit issues. We also need to work on the first aid aspects. (Pete Cunha added that during control line events they have a safety briefing and checklist and even have a "designated ambulance driver" in case someone needs to go to a hospital.) We need to be careful to make sure that participants have their proper credentials (large aircraft signoffs and turbine waivers) before they are allowed to fly. This should be clearly stated on event advertising flyers. John stated that the Board's primary job is to ensure safety and gave our current Board a grade of D plus. Look for potential safety issues. Remember to "Mitigate, mitigate, mitagate" and that "a safe outcome should never be in doubt."

Old Business: **Water/power/electrical supplies/ buildings**-the discussions from the Board meeting were summarized. Art thnks that the pump in the ditch needs bearings. John said he put in sealed bearings and maybe the pump just needs to be cleaned out. **Runway Centerline Indicators**-Forrest thinks they should be higher off the ground. Some folks want them closer to the runway ends.

New Business: Member Credentials/Identification Display: Ken Hook mentioned that people are not displaying their credentials at the field like they should. John stated that we need to work on updating our by-laws.

Upcoming events: Jet Fly April 4-7. Float Fly is May 3-5. Helicopter Scalemasters is May 9-11. Pylon race is May 18-19.

Show and Tell: **Ed Morgan**-brought in his SR Batteries X250 plane. He had previously brought it as show and tell about three years ago. Now he adapted it with Hyperion floats, which wasn't so easy as it was never designed for floats. The plane is from an about 1999 era kit sold by the SR Batteries company. It is about the size of a half-A model and was originally designed for about ten cell nicad batteries. Ed put a modern outrunner motor on it and uses a two cell lipo battery. He tried a three cell but the plane flew "like a rocket." Ed then gave several tips on float flying setups and water rudders.

Pete Cunha-brought in a classic control line stunt plane from about 1964 called the Skylark by Ed Southwick. It features a leading edge of wood molded over foam, ST .46 ABC with custom muffler and a custom Australian made cylinder head. The inboard wing is one inch longer and it will fly on about 63-64 foot lines with about 70 feet to the pilot's handle. It should come out about 50 ounces when done. It is covered with carbon fiber veil, Polyspan and butyrate dope and Pete is using some Banner wheels that are about forty years old!

Other: **Robert Holik** reported that he set a new speed record at Whittier Narrows in pylon racing while competing against engine guru Dub Jett (http://www.dubjett.com/). Unfortunately, he then got into a mid-air collision and finished in fourth place. Robert reports that for some reason, the conditions at Whittier Narrows result in really fast flying.

Keith Young-reported that his grandson built a profile F-22 model and was featured in Model Aviation magazine. **Glen Barton**-came in with some old kits and engines given to him. Somebody walked out with a new O.S. 40FP and new K and B .40 engine for only twenty-five bucks each.

The meeting was adjourned at 2045 hours.

Ed Morgan's SR Batteries XR250 electric sport plane fitted with Hyperion floats. The plane is about the size of a half-A model and was originally designed for a ten cell ni-cad pack. Ed installed a modern out-runner motor and 2S lipo battery. Ed gave several tips on float flying setups and water rudders.

Pete Cunha with a classic control line stunt plane from 1964 called the Skylark. ST .46 ABC with custom muffler and a custom Australian cylinder head. It is covered with carbon fiber veil, Polyspan and butyrate dope and Pete is using Banner wheels that are about forty years old!

MONTY WELCH'S
F4-D SKYRAY

SKYRAY Build Part 2

#1 Pic. The main landing gear is a 90 degree rotating gear, ie as in the P-40 Hellcat etc. The gear came from Century Jet. It had a design flaw that would allow the main gear to go off track by well over an inch when extended. The device that made the gear rotate 90 degrees and hold the main gear to track straight, was mounted on a thin piece of metal which bent very easily. This allowed the main gear to off track by a significant amount. To solve this problem I cut a new thicker piece of metal, and used the original metal piece as a template for the new piece. This resolved the problem. When viewing the pic #1, you can see a slightly looking gold part (new). On top of that gold part is a vertical pin. This pin is connected to the gear by using ball joints. This mechanism rotated the gear and held it in place when gear was in the down position. The original thin metal piece would just bend when this happened.

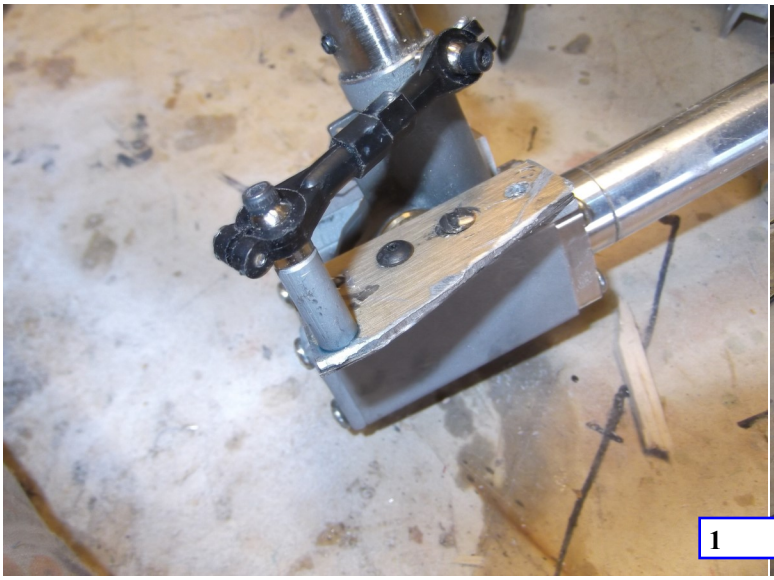
#2 Pic. The wings and vert stab are sheeted with 1/16 balsa. To make up the sheeting it required gluing 2 4" X 36" balsa sheets edgeways to make 8" wide sheeting. Over the years I have tried different methods of doing this and found the most efficient and less time consuming is to lay down a 4' long parchment paper on the work bench. This is to prevent the glue from sticking to the work surface. Then I take the 2 sheets, lay them against each other lengthwise, if the fit looks pretty close I lightly sand the areas to be joined. Then I use thin CA for about 4" of the length, and immediately wipe the excess glue off with a paper towel (This has to be done very quickly). Then continue with the same procedure to the end. The reason for sanding the edges before gluing was to fill the small gaps between the sheets with balsa dust. This procedure has worked very well for me over the years.

#3 Pic. This is the finished sheeting after gluing and sanding.

#4 Pic. This is test fitting the foam core on the right wing. This is to ensure the metal spar in the foam was correctly lined with the fuselage receptacle. I used 30 min glue to make sure that I had plenty of time to make sure the alignment was correct.

#5 Pic. This shows the channel cut into the foam for the elevon servo lead. Also shows the servo position in the wing.

#6 Pic. This shows the foam core with the foam chucks in place assuring proper alignment.



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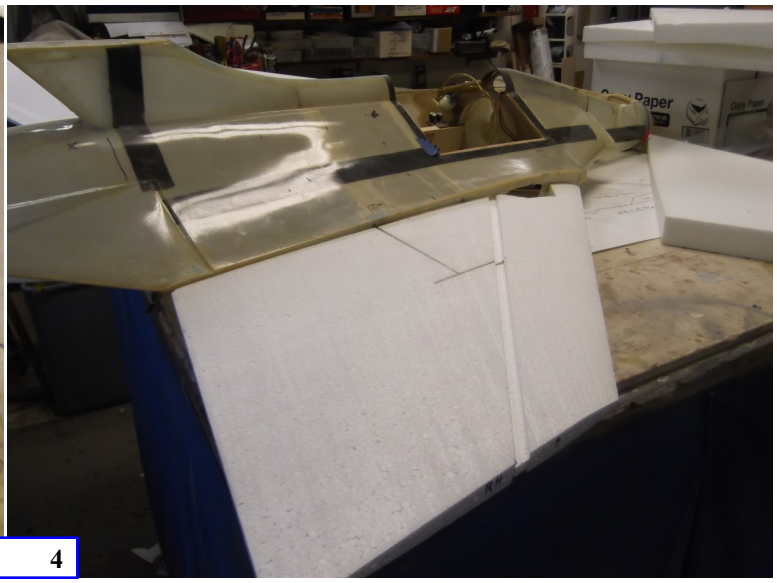
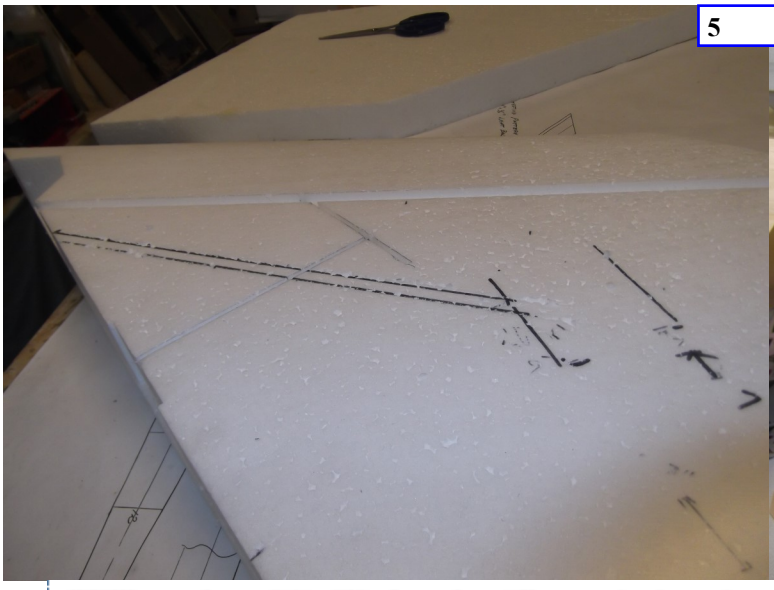


3 4

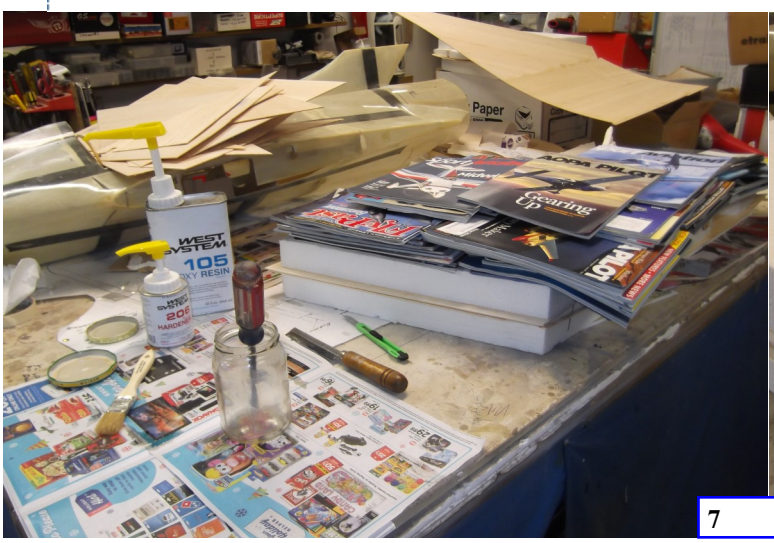
ROLE: FIGHTER AIRCRAFT **MANUFACTURER: DOUGLAS AIRCRAFT COMPANY** **# BUILT: 422**
FIRST FLIGHT: 23 JANUARY 1951 **INTRODUCTION: 1956** **RETIRED: 1964**

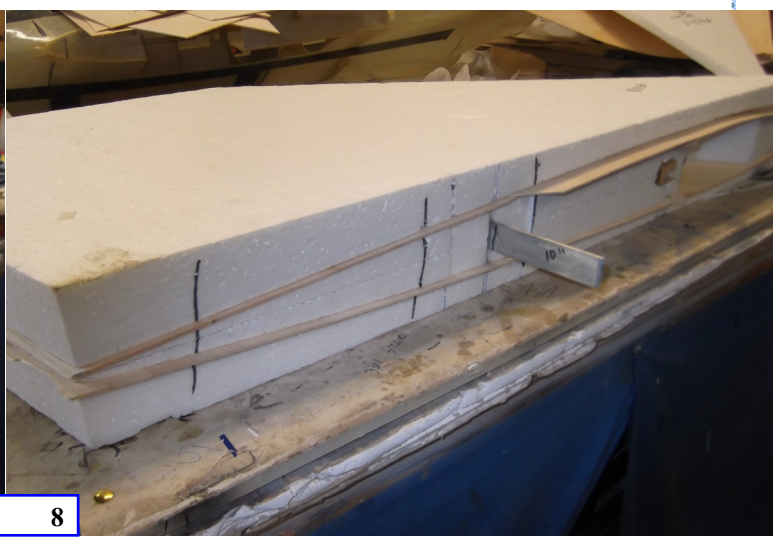


5 6

#7 Pic. I used the West system (Epoxy glue) to glue the sheeting to the core. The pic also shows a stack of magazines stacked on top of the wing. This is to ensure enough pressure on the chucks to make sure the sheeting is properly glued to the core.

#8 Pic. This is the completed gluing process.





7 8

9 10

#9 Pic. Using a razor plane to begin rough shaping on the leading edge

#10 Pic. This is a very handy device for shaping the leading edges. This unit consists of hard card spacers which can be adjusted by loosening the wing nuts on the wood blocks and adjust the curvature as needed. Then by using sandpaper held between the 2 wing nuts as shown, becomes a very effective way of shaping the leading edges or any place you might need some kind of rounding.

General characteristics

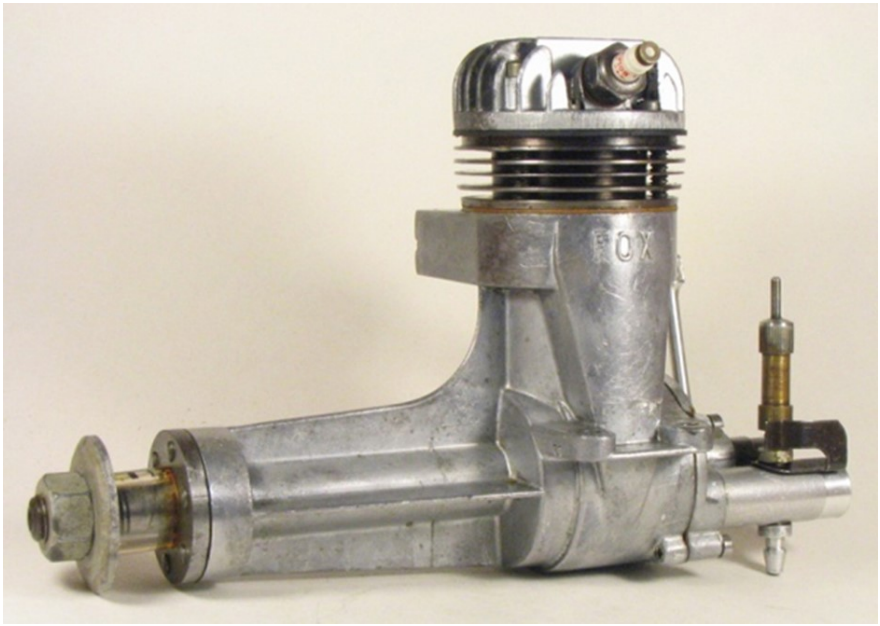
- ⇒ Crew: one
- ⇒ Length: 45 ft 3 in (13.8 m)
- ⇒ Wingspan: 33 ft 6 in (10.21 m)
- ⇒ Height: 13 ft 0 in (3.96 m)
- ⇒ Empty weight: 16,024 lb (7,268 kg)
- ⇒ Loaded weight: 22,648 lb (10,273 kg)
- ⇒ Max. takeoff weight: 27,116 lb (12,300 kg)
- ⇒ Powerplant: 1 × Pratt & Whitney J57-P-8, −8A or −8B turbojet
- ⇒ Dry thrust: 10,200 lbf (45 kN)
- ⇒ Thrust with afterburner: 16,000 lbf (64.5 kN)

Performance and Armament

- ⇒ Maximum speed: 722 mph (627 kn, 1,162 km/h)
- ⇒ Range: 700 mi (610 nmi, 1,100 km) combat
- ⇒ Service ceiling: 55,000 ft (17,000 m)
- ⇒ Rate of climb: 18,300 ft/min (93.3 m/s)
- ⇒ Thrust/weight: 0.71
- ⇒ Guns: 4 × 20 mm Colt Mk 12 cannon, 2 each just aft of the wing leading edge, mid-wing, underside, with 65 rounds/gun
- ⇒ Rockets:
- ⇒ 6 pods of 7 2.75 in (70 mm) unguided rockets *or*
- ⇒ 4 pods of 19 2.75 in (70 mm) unguided rockets
- ⇒ Missiles: 4 × AIM-9 Sidewinder air-to-air missiles
- ⇒ Bombs: 2 × 2,000 lb (907 kg) bombs

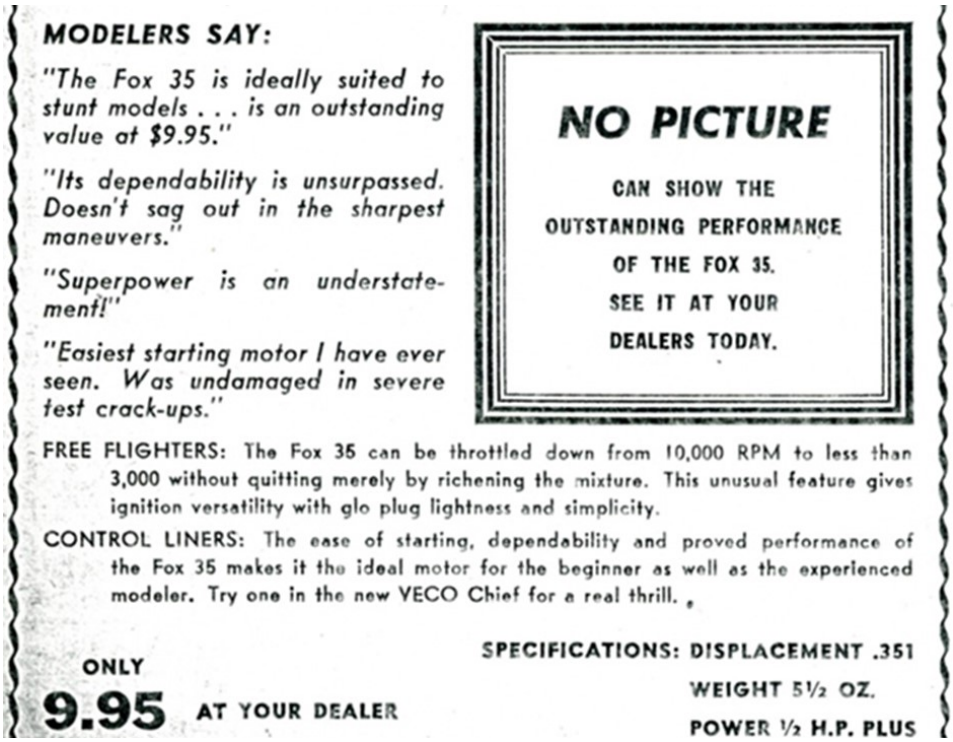
Historical review of the Fox Engines
by Bill Mohrbacher

When writing of departed friends or companies, the late Ron Chernich (Australia, editor of Model Engine News) often titled his articles "Vale…" I finally looked this up and found besides "hill and vale," Vale means "farewell". Its use is uncommon now and indeed, it doesn't seem to be listed in the latest dictionaries. But now you know how I am using it, I bring you this sad report:
From a Stunt Hanger thread dated February 4, 2014, came this letter from Fox Mfg., written earlier in 2014:
"In these tough economic times, Fox has had to retrench and focus our limited number of employees on the outside jobs that provide a profit. With the price of motors driven by the Chinese imports, Fox engine profitability is limited. At this time we don't have the ability to dedicate staff to our Fox engine department. When the economy improves and outside jobs increase, we'll be able to resume engine production.
"Thanks for your support, Fox Mfg."
There had been rumors of Fox leaving the engine business in late 2013, but this really confirmed things. December 4, 2013, I spoke to Sharon at Fox and bought the last Fox 40 Stunt engine in the shop. At that time she said no engines were being produced. Fox had advertised a booth at this year's Toledo RC show, but never came to open it. This was the first time since 1967 when I started going to Toledo that Fox was absent. Then, on September 4, 2014, I thought I would buy one of the newest two NV throttles. Sharon said they were all gone. I asked if there were any engines in the building; she said no engines of any size or type were left.
And so after 67 years, Fox engines disappeared with a whimper, not a bang.
The factory is still open and making contract jobs that fit the capabilities of its equipment. In fact, for years this has been their major business. Model engines were really a minor line, but the company stayed with them. It would be wonderful if Fox made engines once again, but realistically does any market remain? Fox's RC engines haven't been popular, Control Line Combat, Duke's first love, is flown by very few, and Precision Aerobatics (Stunt) fliers shun the old Stunt 35 and use foreign .25s and custom-made .61s. Of course, these situations refer to those still using internal combustion engines, but the use of electric motors grows every day further reducing any potential market for IC engines.
For those new to our great hobby, a brief look at Fox follows. A project to catalog and picture the various Foxes led to identifying 306 engine designs produced from 1947-2006. This project was carried in eight issues of the Engine Collectors Journal, numbers 161, 162, 163, 164, 170, 172, 174, and 175. (Tim Dannels may still have these back issues available www.modelenginecollecting.com.)
Only some of the more significant engines are shown here. As a side note, Duke Fox was very particular about naming some things. His products were "motors", not engines. They could be quieted by using "silencers," not mufflers. And his marine engines were "boat motors."



In the August 1947 Model Airplane News, a new engine was advertised by the Claude C. Slate Company, the Fox .59. This was Duke Fox's first design and as he had no factory at the time, Claude Slate built and sold the .59. The engine was very light and very powerful and ran on sparkplug ignition; the glow plug wasn't around when the .59 was designed before World War II. We collectors call this engine the .59 Longshaft and it is highly desired.
Ray Arden commercially introduced the glow plug in November of 1947. Fox designed a light, compact, and powerful glow engine for Control Line fliers in 1948: the

legendary Fox 35. Control Line was becoming more and more popular and Stunt fliers eventually adopted this engine, later called the 35 Stunt. I think this was the first engine on the market designed from the start as a glow plug engine. Duke Fox built the first 35s in his mother's garage or basement and distributed them by word of mouth. At that time he was the Fox Engineering Laboratory. Fox realized he wasn't a machinist and teamed up with Dale Arnold to form the Arnold and Fox Engineering Co., first advertising the Superpower Fox 35 in November of 1949.



The first Fox .35

...60 years later, the last Fox .35

The 35 was continually modified over the years with the 60th anniversary engine marketed in 2008; this was the last Stunt 35. Most internal parts are interchangeable with the original engine!

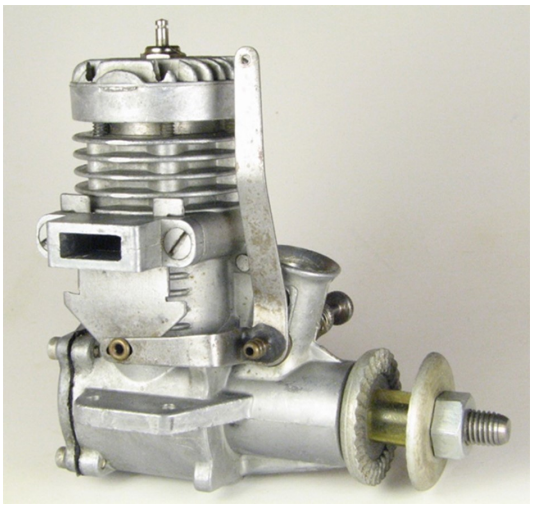
In 1953 Fox marketed the Split Case 19; so called for its two-piece case. The case was very weak, breaking under the exhaust stack in a crash. Fox asked owners to send him their Split Case engines and he installed all the old parts in a new one-piece case—maybe one of the first recalls in the USA in 1954!

Control Line Carrier and RC, both requiring speed control, were becoming popular in 1954 and Fox introduced his 19, 25, 35, and 59 in two-speed versions. They used two needle valve assemblies—one for high and one for low speed. There were many schemes for controlling the fuel flow.

In 1953 Fox and Arnold split up and Duke continued on his own as the Fox Manufacturing Co. In 1955, Fox moved from Varna Avenue in North Hollywood, California, to Fort Smith, Arkansas, where it remains today.

Performance engines always interested Fox and in 1956, he introduced the Bathtub 29R, so called for its huge intake. The first version had a unique, two-plug head.

Duke's other performance loves were Combat engines. His first Combat Special was out in 1957 and his last Mark VII in 1994. But possibly his most innovative engines were the 1960-1962 Series 3 Combat Specials (and 29Xs) with their twin needle-bearing crankshafts, two-piece crankcases, and huge 3/8-inch square intakes for running with pressure fuel systems.

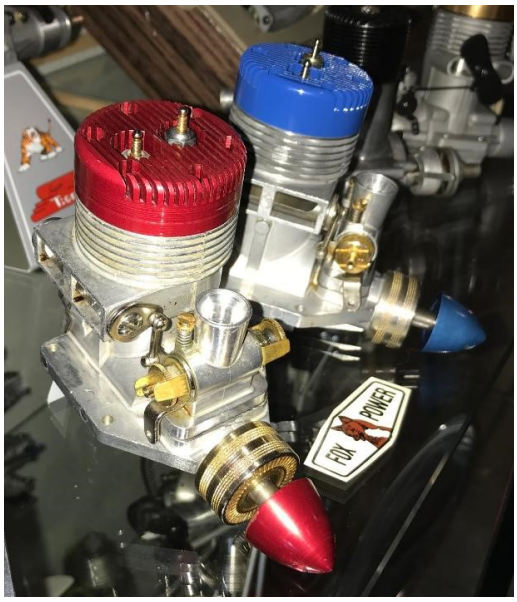


In 1962 when the AMA wrote the Rat Race rules to allow up to a .40 cid displacement, Fox stroked his .35 from .700 to .790 to create the world's first .40 cid engines. To account for the extra stroke, the liner had to be lengthened, thus the heads on the .40s sat noticeably high than those on the .35s. The next year Duke began his throttle experiments in earnest, probably putting a new throttle on the market every year or so! The 1962 .40 RC is one of the most bizarre!

In the mid 1960s, Fox started work on an ultimate RC engine with twin BB crankshaft, needle bearings on both ends of the conrod, hardened cylinder, twin-ring aluminum piston, and a carburetor with three adjustable jets. Finally ready for the market in 1967 in .60 (blue head) and .74 (red head) sizes, AMA made the .74 worthless by mandating a .60 maximum engine size.

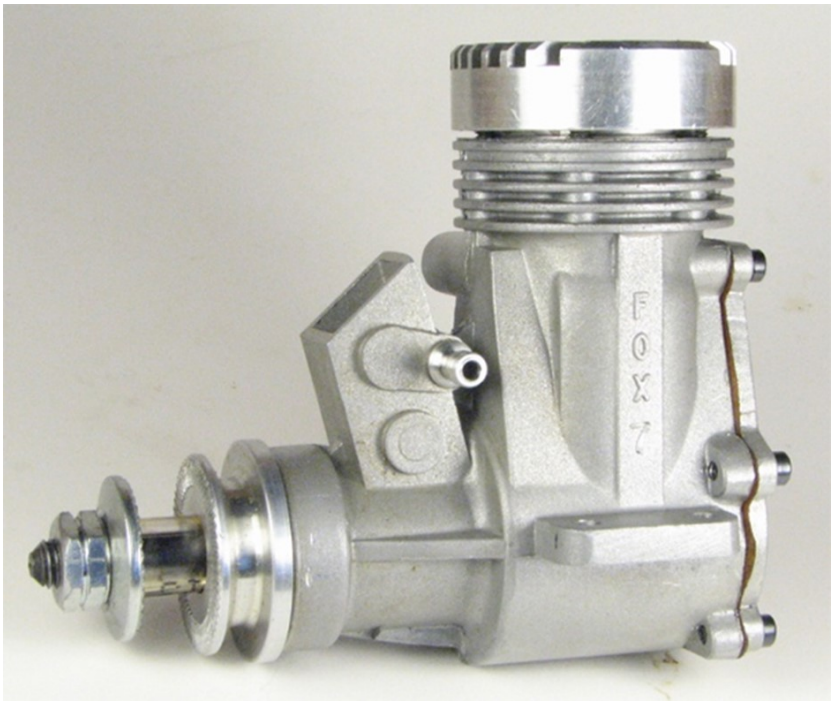
The .60 was a nice engine, but heavy for a .60; the .74 was Fox's real flagship.

Duke stroked the .74 and created the Fox .78. It became popular with Scale fliers



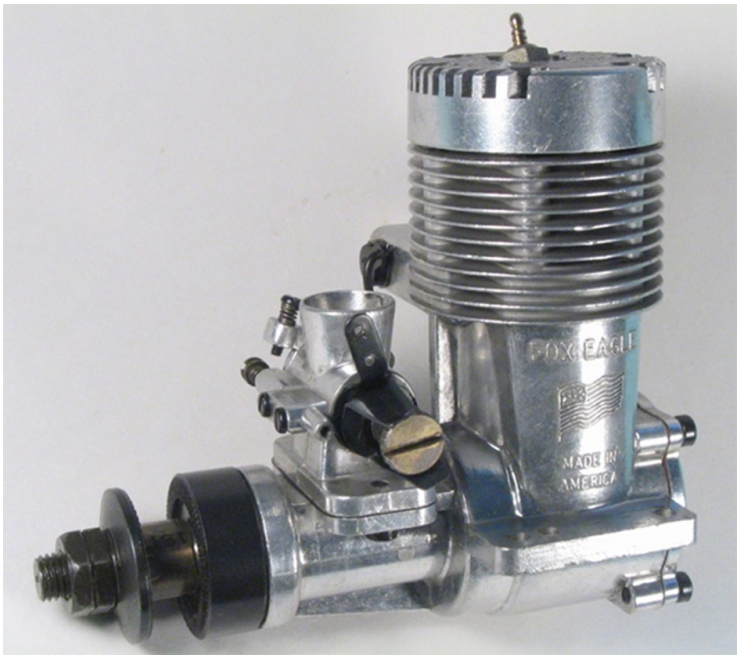
From Editor's own collection: Fox .74 (red) and Fox .60 (blue). Fox Hawk .60 on far left.

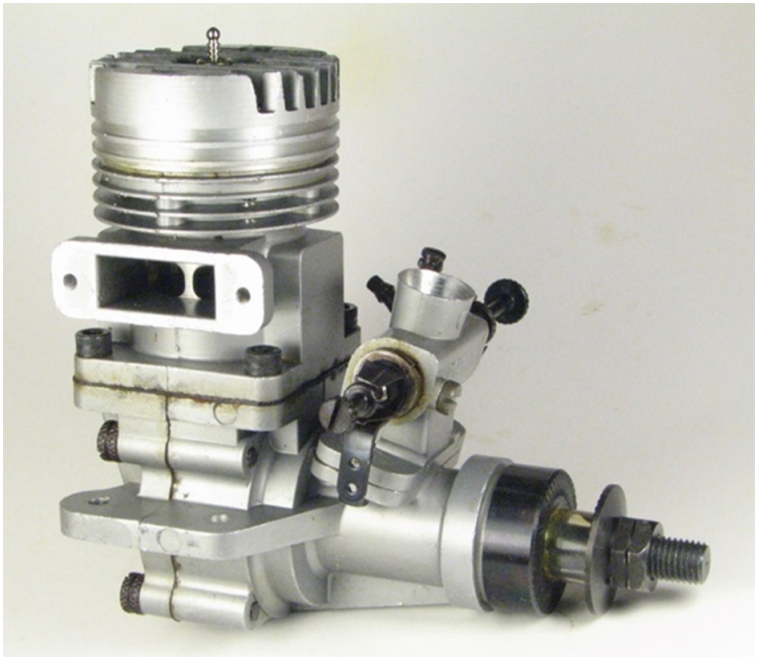
and lasted clear into 1981, but it is doubtful the few sales to Scale modelers recouped the development costs.
Schnuerle porting became popular in the 1970's and in 1975 Fox designed his B (Big) case engines with their unusual Coffin rear cover to allow for casting rather than expensively machining Duke's interpretation of this porting. These engines all had bolt-on carburetors, pressure and suction versions for CL, small and large throat for RC, BB and bushed crankshafts, lapped iron/steel, ringed aluminum steel, and ABC piston cylinders. Some variety, huh! Improved versions of this engine are (were) still sold as the current 45BB RC.



In 1976 a C (Compact) case was developed using a fixed venturi with drop in carb and the 6 bolt "Coffin" rear cover. Over the years it was made in .29, .36, and .40 cid, bushed and BB cranks, CL and RC, lapped iron/steel, ringed aluminum/steel, ABC, and AAC, sport CL, combat, and RC versions, this engine is (was) currently made in only .40 variations, one of Fox's more successful designs.

In 1979, Fox dropped the svelte Eagle .60 (left) and marketed the Eagle II, a brawny thing with a two -piece crankcase, and large shaft with extra-large bearings. By grafting two of these together with a special center section and crankshaft, the 1.2 cid Twin was created. An improved Eagle III followed

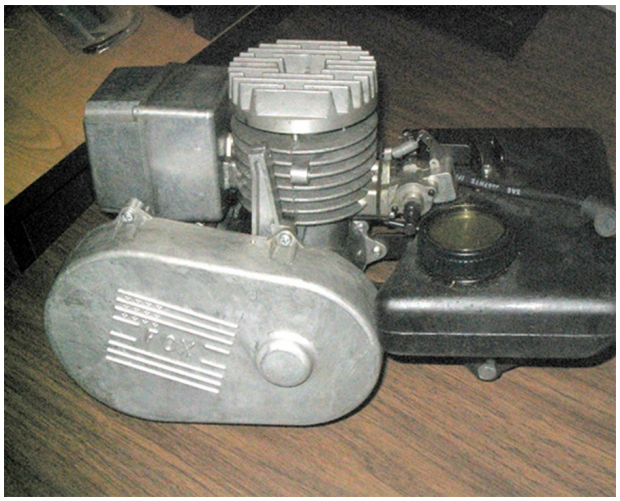


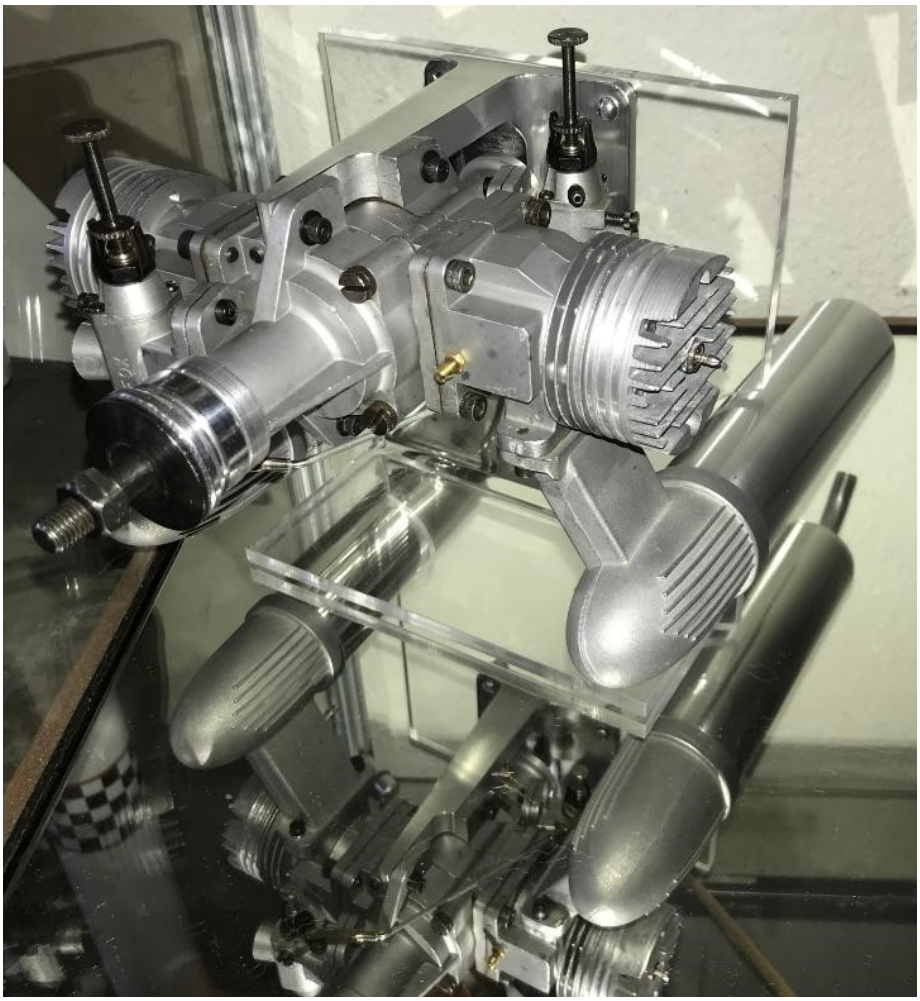


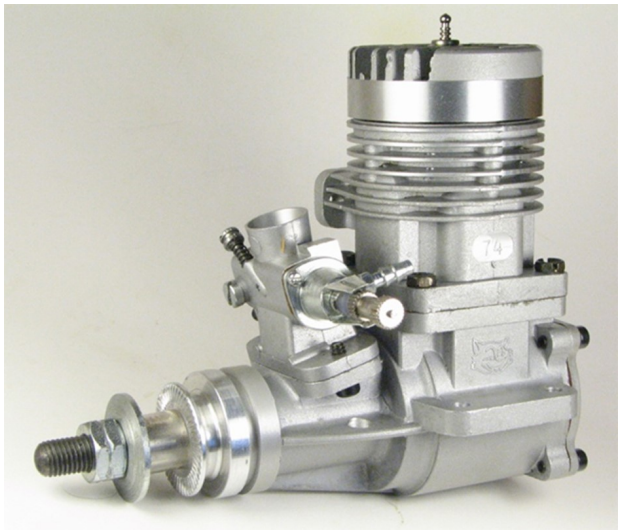
and finally the Eagle 4 with a one piece crankcase was born. Also sold in a .74 size, the Eagle 4 was Fox's last large engine.

In 1983 Fox even offered a bicycle motor of 3 cu. in. displacement (right)

Editor's note: I sure wish I would have had one of those during the 6 years I road my bike delivering newspapers as a kid!







Fox's last big glow engine, the Eagle IV .74 was offered in both ringed and ABC versions.

Left (from Editor's collection): Fox 1.20 twin with Fox long Quiet (tuned) mufflers

I hope you have enjoyed this short history of Fox Engines, the last of the original mass-market American model engine manufacturers.
~Bill Mohrbacher

Editor's note ~ Here are two of my FAVORITE Fox engines… and for entirely different reasons! (as you will read on the next page)

LEFT: In my opinion the Fox Hawk .60 remains one of the most beautiful .60 size engines ever produced. This was Duke Fox's attempt at directly competing with the high performance, high-dollar European Pattern engines of the era.

RIGHT: The Fox .46ABC with EZ carburetor and long Quiet tuned muffler.

The Fox Hawk .60 can best be characterized as **'Beauty and the Beast.'** In an attempt to offer an American-made alternative to European pattern engines, Duke bumped the compression ratio way up to allow the use of FAI fuel (no nitro). This made the engine difficult to start and also very sensitive to needle settings. The high compression also tended to make the engine run hot; it would heat up and die with no warning. But adding head gaskets did not provide much improvement to the handling characteristics as it turned out the combustion chamber shape was equally responsible for the finicky 'over-compressed' operation. It is also quite possible, the bright chrome-like finish contributed to the engine's inability to dissipate heat. The Hawk liked to really spin up and as such, preferred smaller props. The use of larger props created heat and detonation problems on top of those already inherent in the design. And if all that weren't enough, the unconventional Fox carburetor left many modelers scratching their heads. The Hawk's poor performance was NOT the result of Fox doing things 'on the cheap,' not at all. I believe if Duke had spent more time developing the engine - perhaps with the help of a competitive pattern flyer - he may have come up with a winning combination!

The first two lines of Fox's colorful Hawk .60 ad stated: *"The new Fox Hawk 60 is undoubtedly America's finest pattern 60. In matters of power, fuel draw, smoothness, and life, the new Fox Hawk 60 is equal or superior to the glamorous imports selling for $150 or more."*
The high expectations created by Fox's ads at the time, were never achieved by the few who tried to make the Hawk work. Sales tanked.
There were articles on HOW to make the Hawk more user-friendly via reshaping the combustion chamber, but few modelers possessed the skills or desire to perform those mods.

The Fox .46ABC was one of the last Fox glow engines produced and my experience with the engine was excellent. It seems Fox finally got everything right with the .46 and EZ Carburetor. When paired with their long tuned Quiet muffler, the .46 was the equal of, or better than, most any other ABC sport engine of its size. It was also quiet. I had many happy flights with this engine on a Midwest HOTS. It always started and ran GREAT.

Fox offered the long quiet tuned mufflers in both tilt up and tilt down configurations. The curved exhaust stinger could be rotated to exit in any direction.
They had two sizes to fit .36 to .45 size Fox engines and to fit .60 to .74 sized engines.

Fox engines are still plentiful on the USED market.

As was mentioned earlier, Fox ceased model engine production in early 2014. More recently, MECOA has acquired the rights to Fox engines and parts.

Fox Manufacturing

Phone: 479-646-1656 Fax: 626-301-0298 Email: mecoa @ att . net

Fox Manufacturing was acquired by MECOA K&B Mfg in February 2017 and has moved to Irwindale, California.

Fox Manufacturing has been famous for over 60 years as one of the leading American manufacturers of model airplane engines. www.foxmodelmotors.com

Less known is our full service machine shop that supplies precision parts at surprisingly competitive prices.

Now located in Southern California, we are large enough to handle your company's manufacturing needs but small enough to give you the personal attention often missing in today's business world.

Fox Manufacturing has made precision parts for individuals, industries, and the US military. They value the quality of our workmanship, efficiency, and on time performance.

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Irwindale, CA 91702

2019 WDA Events

Date	Site	Event	Name
Apr 5-7/2019	Woodland	Jet Fly	Norcal Afterburner
May 3-5/2019	Lake Minden	Float Fly	WDA Float Fly #1
May 9-11/2019	Woodland	Heli	Helicopter Scale Masters
May 18-19/2019	Woodland	Pylon	Fred Burgdorf Memorial
June 28-30 2019	Woodland	Warbird	Wings of Victory
Aug 3 2019	Woodland	Scale	Golden Age
Aug 24-25/2019	Woodland	U/C Stunt	Goyet Meet
Sept 7-8/2019	Woodland	Pattern	Pattern Spectacular
Sept 21-22/2019	Woodland	U/C Stunt	Meet n' Meat
Sept 28 2019	Woodland	Fun Fly	Old School Jamboree
Oct 4-6/2019	Lake Minden	Float Fly	WDA Float Fly #2

2019 non-WDA Events

Date	Site	Event	Name
Mar 30-31/2019	Gold Country Flyers	U/C Combat	Gold County Combat Dual
Mar 30-31/2019	Travis AFB	Airshow	Travis Air Fair
Apr 13-14/2019	Davis	Glider	2019 SVSS Spring Fling
Apr 26-28/2019	Los Banos	Aero Tow	Los Banos Scale Aero Tow
May 4-5/2019	Oakdale	IMAC	Oakdale IMAC Spring Fling
May 4-5/2019	Watsonville	Slope Soaring	Sunset Beach Camp n' Fly
May 12-19/2019	Camp Far West	Float	Camp Far West Float Fly
May 23-27/2019	Atwater	Giant Scale	Castle 2018 22st/5th Annual
June 1 2019	Hiller Aviation Museum	Demo	Biggest Little Airshow
June 20-23/2019	Livermore Heli Ranch	Heli	Rotorfest 2018
July 20, 2019	Sac- Rats	Warbirds	Warbirds
Aug 17, 2019	Livermore	Warbirds	
Aug 24-25/2019	Sac-Rats	WW1	Waldo Pepper
Sept 11-15/2019	Stead Field	Air Races	Reno Air Races
Sept 20-22/2019	Snelling, CA	Float Fly	28th Lake McSwain Float Fly
Sept 21-22/2019	Lemoore NAS	Airshow	Lemoore Open House

Woodland Davis Aeromodelers

is celebrating the

25th WINGS OF VICTORY

June 28-30 2019

TBF AVENGER
Torpedo Bomber
(Kellogg Kit)

Aircraft must be in appropriate warbird colors

Open flying after Noon Sunday

60 x 600' petro-mat runway with 25 x 600' grass runway alongside

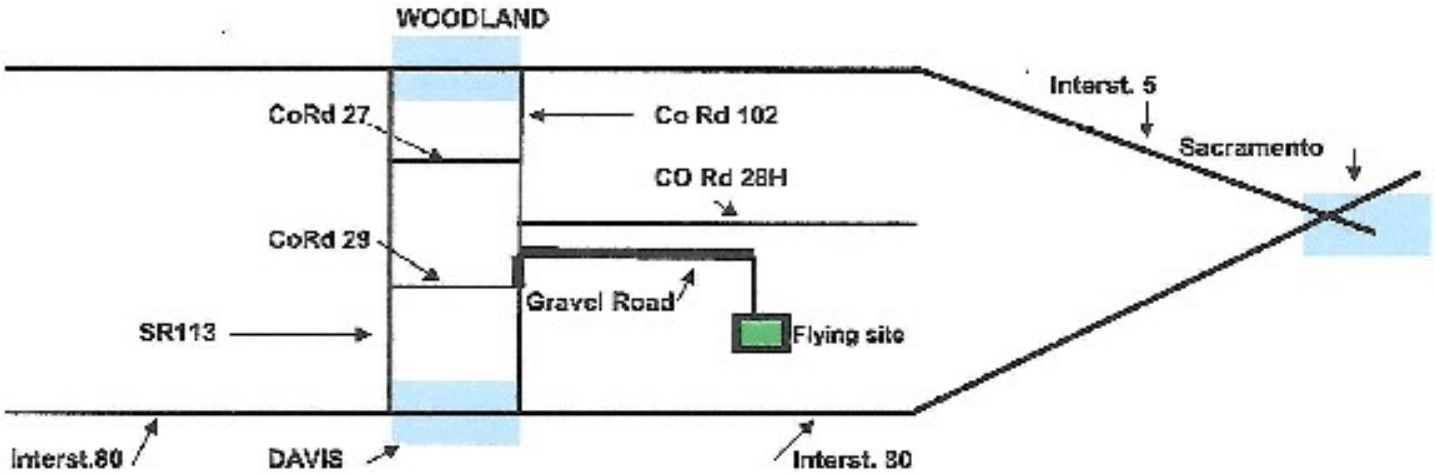
Camping and RVs allowed... No Hook-ups
Restrooms and Snack shack on site

Registration for the 3 day event is $25
includes free Hamburger or Hot Dog

Electric A/C OK

Must be ROG capable

CD for the event: Monty Welch cell phone 707-365-8878	No raffle-No trophies Just come and fly



For more info:
Email Monty Welch at Loon12@aol.com

WDA website: www.wdarc.org

Join us for the

7th Annual Central Coast

Giant Scale Fly-In

July 25th - 28th, 2019

Hosted by the Tri-Valley RC Modelers of Santa Maria, Ca.
AMA Gold Leader Club #170

The facts:

- Landing Fee: Only $25. Includes: Parking, lunch on Saturday, and a raffle ticket;
- Dry camping for $10/night;
- Pre-register @ rcflightdeck.com;
- Only giant scale planes until 5pm; (Mono 80", Biplanes 60");
- Proof of current AMA required;
- Early arrival by pre-arrangement.

The fun stuff:

- World Famous Santa Maria Style BBQ dinner on Saturday night;
- Beautiful Santa Maria weather;
- Food & drinks available daily;
- 500' paved runway, expanded pit area, shade, and electricity;
- Open flying after 5pm;
- Outdoor Movie Saturday Night;
- Pilot's Raffle.

Qs? Call Chuck Barnes (805) 886-7921 or email Cdbarnes10@comcast.net

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⇒ Carlos Reyes (650) 243-8894
carsii@hotmail.com

Jet Turbine Instructors

⇒ **OPEN**

Helicopter Instructor (Only):

⇒ **OPEN**

Next Club Meeting: April 8th at 7pm

Woodland Public Library "Leake" Rm., 250 1st St, Woodland, CA

WOODLAND/DAVIS AEROMODELERS
C/O RICHARD GEERTSON
800 COLLIER DR.
DIXON, CA 95620