



The Rogue Eagle

Rogue Eagles R/C Club

AMA Chapter 534

January 2009



Happy New Year!

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2009

Contest and Events

- Agate lake Float-Fly—17, 18, 19 April
- IMAC—01&02 May
- BBQ Fun-Fly with Keno Club (our field)--30 May
- Warbirds—06 & 07 June
- Fun-Fly at Keno—27 June
- IMAA—17, 18 & 19 July
- Kids' Day (?)
- Wal-Mart Day—15 August
- Air Show—22 & 23 August
- Swap Meet—26 September.



Presidents Corner

Happy New Year everyone! Hope that Christmas was very good for you and your families.

Here we are with a new year and a new group of officers to look forward to. I hope to have a very good first year and we will get too as many club requirements and member requests as we can.

I want every member to know that we want you to come to the board meetings and bring up any concerns that you may have. You may also bring up concerns to one of the board members at anytime at the field or by phone or e-mail. We would prefer that you come to the board meeting to hear the discussion on your proposal and personally voice your concerns.

The building season is just about over and we are going to need members to help at planned events for this year.

If you want to put on an event or have an idea for an event, get it to us at the first meeting on January 13th or at the board meeting on the 27th.

Starting this year we want to have the next years events to be scheduled by the November board meeting so that we can get information out to everyone and notify sponsors of the sponsorship opportunity.

Last but not least thanks to everyone for voting for me and giving me this opportunity.

Floyd Grove

Annual Awards Presented

Another great Christmas Party with good food and a great turnout. Our Annual Award winners for 2008 were:

Modeler of the Year: *Martin Sherman*

Most Improved Pilot: *Corey Myers*

Member of the Year: *A TIE!*
Larry Myers and Debbie Stark

Broken Prop Award: *John Gaines*

P51B Raffle Winner: *Phil Baehne*

Congratulations everyone! Looking forward to a great 2009 Season!

P.S.

If anyone has pictures of the Christmas party, send them to the newsletter editor for inclusion in the next issue!



Passing It On...



Eric Geiske has been extremely generous is donating radio gear to be used in the club trainers. He asks nothing in return except perhaps for club members to “pass it on” by en-

couraging new flyers, kids, and even visitors to the field to try their hand at flying.

Each club member in good standing with the AMA and the Rogue Eagles can legally “take a newbie up” for one session of RC flying AND be insured by the AMA. If you don’t feel comfortable letting a newbie fly your 1/3 scale EDGE 150 cc fire breather to see if he likes it, you can hand off to one of three qualified club instructors who will be happy to accommodate flying sessions on buddy boxes.

Now, thanks to Eric Geiske (radio gear), Gary Croucher (airplanes) and Larry Myers (engines) anyone can try it for FREE!

Encouragement is sometimes the best PR that money cannot buy!

Club Instructors:

Rick Lindsey	776-5832
Bill Grove	660-6581
Richard Schwegerl	773-5479

January Name that Plane



Rogue Eagles R/C Club

Tips and Tricks

Cooling Your Engine

If your engine is running hotter than you would like, how can you cool it down? Most people make the mistake of thinking more is better when it comes to the air inlet at the front of the cowl. This is a common error and, while it seems logical, the reverse is actually true. To properly cool your engine, you need more outlet, not more inlet. You want at least 2:1—preferably 3:1—air out to air in ratio. Otherwise, it makes a dam and the air cannot come into the cowl because it has nowhere to go out of the cowl. If your engine is not cooling properly, try blocking off the other air inlet or opening the belly of the cowl further.

After-run oil

Use after-run oil between sessions and when you store your engines. This is another must-do because of the nature of the fuel we use. When nitromethane or any nitroparaffins burn they leave acid and water behind in your engine along with the water carried in partly by the alcohol. When these things get together they eat your bearings and other parts.

Good quality after-run oil is easy to get. If you can’t find a good after-run at your local hobby shop, try air tool oil. Marvel makes an excellent air tool oil called Marvel Air Tool oil. Air tool oils can be used as an after-run oil because they are designed to fight corrosion in metal air tools and this is exactly what we are looking for. Look for them in home-supply stores where they carry air compressor and paint guns.

Smooth Operator

Razor saws are handy for cutting various materials, but their teeth sometimes “snag” the material, especially during long cuts on hardwood. Here’s an old woodworkers’ trick that works equally well for modeling. Rub a slightly damp bar of soap on both sides of the saw blade. The soap acts as a lubricant and helps the razor saw cut smoothly without catching its teeth on the cut edges.

Choosing the right Glow Plug

From O.S. Engines

Several factors influence the use of the correct glow plug for your engine. Here are some guidelines:

ENGINE TYPE

Standard engines (engines with a 1-piece head) are most common. Standard plugs are easily available, inexpensive and fit almost all standard engines. Standard plugs are installed with a washer, which creates a compression seal with the head.

Turbo. Many new O.S. engines are *turbo* engines, which feature a special 2-piece turbo head. The biggest benefit of turbo plugs is superior performance. Unlike standard plugs, turbo plugs (identified by a "P" in the description) feature a tapered "seat" that matches perfectly with the head. That creates a superior compression seal and with it, maximum efficiency and power. Turbo plugs are the choice for racers who want - and need - top performance.

A word of caution: you should *never* install a turbo plug in a standard engine or vice versa. Doing so risks doing serious (and expensive!) damage

DISPLACEMENT

Small displacement engines need a hotter plug than larger displacement because larger engines have more mass and retain heat better.

NITRO CONTENT

Use of higher nitro fuels will require a COLDER plug than lower nitro fuels.

TEMPERATURE

The hotter the day the COLDER the plug needs to be.

ADDITIONAL THINGS TO KNOW

#1 *Hot* plugs promote better idling and acceleration. If your engine runs rough or accelerates sluggishly, a hotter plug will help.

#2 Cold plugs produce more power and may improve performance if your engine runs hot. The downside is rougher idling and more difficulty in tuning.

#3 *Fuel-air mix* not only affects how your engine performs; it can also have an impact on how long your plug lasts. If you run *rich*, it means that you're using more fuel than necessary for top performance. Modelers are often advised to run rich during engine break-in, because it helps cool the engine. However, running too rich can also cause an engine to "bog down" or quit entirely.

In addition, it also means that the glow element is being exposed to more contaminants than necessary, which

shortens plug life. Running *lean* means that you're using less fuel. "Leaning down" an engine has a positive effect on performance. However, care is needed here, because *over-*leaning an engine can harm it, by raising operating temperatures, and "burn up" a plug before its time. **DO NOT OVER LEAN!**

FINAL THOUGHTS

Choosing the right glow plug not only improves performance, but can also extend the life of your engine and the glow plug itself. With the guidelines above and the tips below, you're well on your way to achieving both.

- Buy *quality* plugs. You're protecting your investment.
- Store plugs where it's dry. Moisture can ruin them.
- Use the *right* glow plug. Follow the guidelines above.
- Follow proper break-in procedures.
- Tune your engine *carefully*. Running too lean will make your engine "blow" plugs more often. Proper tuning helps extend plug life.
- *Never* touch the filament of a glow plug. Doing so can break the filament and ruin a plug.
- Don't *overtighten* your plug. **Tighten it until it's just snug.**
- Be sure to *shim* your engine correctly. **A plug that's too close to the piston can cause pre-detonation, which will quickly damage a glow plug.**
- Use *only* a glow starter or 1.5V battery to heat your plug. Otherwise, your plug may burn out ahead of its time. *Don't* be afraid to ask for help. Experienced modelers have already "been there, done that." Their experience can save you time and money - and most are glad to help.
- Glow plugs get very hot, enough to glow the filament red or white hot, and removing a glow plug while power is applied can cause burning if appropriate care is not taken. Special caution must be taken while near fuel sources.
- Some connectors for glow plugs can short circuit and damage batteries, or cause them to explode. Batteries may get hot during the use of a glow plug. This especially applies to home-made or nonstandard connectors.



* **Idle Bar**—used in older engines with baffled pistons (loop scavenged) or exhaust throttle. The idle bar is there to stop any un-vaporized fuel from dousing the platinum coil by diverting the fuel away from it, providing a more reliable idle.

The Lost Bugatti

In the late 1930s, automotive genius Ettore Bugatti built a radical race plane to capture the world speed record from the Germans. Decades later, it was found in a barn in France and is now being restored in Connecticut.

The Model 100 is a remarkable airplane. It was hidden from the Germans when they invaded France in June 1940 and wasn't to be discovered again until 1973. Even after 30 years, it astounded the aeronautical world.

The airplane is an engineering tour de force, a showcase of innovation and ingenuity. U.S. and foreign patents were taken out for almost every significant part of the structure. Bugatti built almost every part of the airplane in his shop except the main landing-gear legs. The instruments were remarkably similar to those found in Bugatti automobiles.

The power train is perhaps the airplane's most unorthodox feature. The front engine was canted to the right, joined to its drive shaft by a universal joint at the firewall behind the pilot. The drive shaft passed by the pilot's right elbow. The rear engine was canted to the left, driving its drive shaft through a universal joint along the pilot's left elbow. The two drive shafts entered a reduction gearbox at the pilot's feet. The two-input gearbox allowed the propellers to be contra-rotating, a major advance for such a small, high-powered aircraft. The engines and power train were built in Bugatti's Molsheim auto factory, tested in a mock-up, and then shipped to the Paris furniture factory where the airframe was constructed. A patent still protects this revolutionary power system.

The aerodynamics of the Model 100 are almost as mind boggling as its power train. The basic problem of aircraft design is a trade-off between high-speed and low-speed efficiency. Bugatti attacked this problem with a unique and complex system of self-adjusting flaps. The Model 100 used split trailing-edge flaps. Both flap surfaces could be moved up and down to suit the speed and power situation.

The flaps would automatically set themselves to any of the six positions for take-off, cruise, high speed, dash, descent, landing, and rollout. The flap control was linked to a com-

plicated system that sensed manifold pressure and air-speed. At low airspeed and low power, not only would the flaps drop into landing position, the landing gear would automatically extend. Not bad for May 1939.

You'd hardly expect such an airplane to have a normal structure, and it doesn't. In contour, the streamlining was remarkable for the day. It presented drag coefficients not attained until the mid-1970s. The fuselage is built up of a wood "sandwich," buttressed by rectangular box sections. On this polyhedral frame, layers of balsa wood, that's right—balsa wood, were glued then carved to obtain the subtle aerodynamic shape.

After shaping, hardwood rails and supports were set into the balsa wood around engine mounts, canopy, and inspection panels. The structure was then covered with thin strips of tulip wood to form the skin. After sanding and filing, it was covered with linen and dope.

The Model 100 was not quite complete by the time of the unfortunate visit by the German Wehrmacht. And by the time it resurfaced decades later, it wasn't the best of shape to take on the rigors of 500 mph flight. However, with a lot of TLC from the restoration team, it will be brought back to its original beauty.



Bugatti Specs

Gross Weight: 3,086 pounds

Wingspan: 27 feet Length: 25 feet 5 inches

Wing Area: 22.7 square feet

Wing Loading: 13.9 pounds per square foot

Power Loading: 3.44 lb/hp

Design Max Speed: 500-550 mph

Engine: Two Bugatti Type 50B, 450 hp at 4500 rpm

January's Name that Plane:



The first model of the Skymaster was the **336**. It had fixed landing gear and first flew in February 1961. It went into production in 1963 and 195 were produced to mid 1964.

Cessna production ended in 1980 but Skymaster production continued with Reims in France with the **FTB337 STOL** and the military **FTMA Milirole**. Reims produced a total of 94 Skymasters.

After a 20-year hiatus the centerline thrust, pod and twin-boom concept has been revived in the Adam A-500.

Performance

Maximum speed: 200 mph (320 km/h)

Range: 764 miles (1,223 km)

Service ceiling: 19,500 ft (5,945 m)

Rate of climb: 1,200 ft/min (6.1 m/s)

Wing loading: lb/ft² (kg/m²)

The Skymaster has different handling characteristics than a conventional twin-engine aircraft. Foremost is that it will not **yaw** into the dead engine if one engine quits. Consequently, it has no tendency to depart the runway if an engine fails on the takeoff roll. The adage, "dead foot, dead engine" -- used to remind a pilot which propeller to **feather** when an engine quits -- is useless with the Skymaster. When a Skymaster loses power, the pilot must use the instruments to determine which engine has failed. The Skymaster is also controllable at lower airspeeds than a comparable conventional twin. There is no minimum controllable speed advisory (Vmc) on the airspeed indicator.

One would think that with the Skymaster's superior single-engine handling it would have a lower accident rate than conventional twins. This turns out not to be true. The rear engine tends to overheat and quit while taxiing on very hot days. When this has happened, many pilots have inexplicably attempted take-off on the nose engine alone even though the single-engine take-off roll exceeded the runway length. The Skymaster also has a higher-than-average rate of accidents due to fuel mismanagement. This is puzzling since the fuel system is unremarkable.

The Skymaster produces a unique unmistakable sound. All rear-engined aircraft produce a characteristic sound as the propeller slices through turbulent air coming off the airframe. Since the Skymaster also has a nose engine, with a propeller that operates in undisturbed air, its sound is different from a pure pusher.

2009 OFFICERS AND BOARD MEMBERS



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(* = Voting Board Members)

Next Club Meeting: January 10, 2009

Our Thanks and Appreciation to the following businesses:

ALCYCLE AND HOBBY
Southern Oregon's Premiere Bicycle and Hobby Source

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Grants Pass, OR 97526

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Glow Plug Adaptors....

For those small bore 1/2A engines that use an expensive "glow head" there is a neat adaptor available from MECOA. It allows the use of a standard glow plug (long or short) in place of the original glow head. (Cox .049/.051/.09/.15 — Norvel AME .049/.061/.074 also McCoy, WenMac engines)



Website: <http://www.mecoa.com/acc/adaptors/index.htm>

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