



Eagle Screams



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Monthly Publication of the Screamin' Eagles

July 2003

The Screamin' Eagles Giant Scale Model Airplane Club meets on the 2nd Thursday of the month. If you have any questions about club activities or meeting location please contact one of the following members.

- President: Rob Goebel (920) 623-5053
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July Meeting:

The July Screamin' Eagles meeting will be held at the Lodi Quarry Field on Thursday July 10, 2003. Come early and fly but if the weather is inclement we will meet at the City Limits. Regardless of where we hold our business meeting, I am sure we will end up at the City Limits afterwards so plan on grabbing a bite to eat there to show our appreciation for using their place as a bad weather meeting place. It's fun to get together there anyways.

June Minutes – By Roy Seals

There were no official minutes taken at the June meeting held at the Lodi Quarry field. The meeting was dedicated to finalizing plans for the June 14 Fly In to be held at the Kettle Aeromodeling Center in Madison, WI. Regular minutes will again be taken at the July 2003 meeting and will be published in the August issue of Eagle Screams.

I would like to thank all of our club members who pitched in so graciously to make our fly-in a success.

See you at Lodi on July 10.

Roy



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Member Web Pages

Leroy Brandt - <http://my.execpc.com/~lebrandt/>
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Prez Sez – By Rob Goebel

Grrrrreat! This word sums up our event for this year. Great weather, great pilot turnout, great spectator crowd, great food, great raffle, great help all around!

Thank you to Midwest Products, Schultz's Sport and Hobby, and to all you Screamin' Eagle members for helping put together a top notch event. I can't wait to chat about it at the July meeting. Come on out and join the celebration.

Rob.



Never fail to recognize the supreme sacrifice our troops made to protect our country's freedom!

Some shots I took at our 9th Annual Screamin' Eagles Fly In held at the Kettle Aeromodeling Center, June 14, 2003. We thank MARCS for use of their field.



Carl Bachhuber with two of his magnificent models. His Lancaster and his redone Henikel in a new and most unusual version of the airplane. Carl is one of our newest members and is a great addition to the Screamin' Eagles and is always puts on a spectacular show of scale model flying.



Eagle Vice President Tom Lazar with his magnificent ME-109. This model is produced by his company, Classic Glass of Sun Prairie, WI.



President Rob Goebel, his lovely daughter and member Mike Pirkl, Eagle Screams Research Editor. Mike did a great job helping me with registration and did a great job handling the raffle.



Flutter!!*&4##!?

Sooner or later, this word and its effects become the topic of the day so let's talk about flutter BEFORE it destroys your airplane.

Flutter is the oscillation of the control surface (normally the ailerons). The aileron starts oscillating up and down as the air traveling over its surface moves it back and forth. It may start as a dull buzz and can easily end up with the aileron flying off the wing within a few seconds. So what creates the opportunity for flutter to occur? Here are the possible choices:

1. Your airplane is **overpowered** and the construction of the wing and tail are insufficient to keep the aileron centered due to the very high speed flow of air over and under the surfaces.
2. The **servo** attached to the surface is not strong enough to hold the aileron at neutral.
3. The **control rod** coming out of the servo output arm is too far from the center of the servo thereby reducing any leverage.
4. The **control rod** is too thin and flexible.
5. The **control rod** is installed too close to the surface of the aileron, again eliminating the leverage that should exist.
6. The **hinging** is loose and weak with too much gap from the TE of the wing.
7. The **hinge gap** is not sealed.
8. The **aileron** is not balanced.
9. The **servo output arm** and or **control horn** are too flimsy for your application.
10. Etc, I am sure there are more.

Now, what can be done to eliminate the potential for flutter. Just look at the list and do the opposite! Here is what I believe are the main culprits.

1. **Position your control rod in the closest hole to the center of the servo control arm as possible.** This provides greatest leverage and servo strength.
2. **Position your control rod in the furthest hole in the control arm from the surface as possible.** Again, this provides the greatest amount of leverage.
3. **Keep the control rod as short and rigid as possible.** Never use all threaded rods as they are weak. Never place excessive bends in the control rod as this adds weak spots in the rod.
4. **Make sure all pieces in the linkage are heavy duty** for your needs. I believe 4/40 should be a minimum on all aircrafts.
5. **Choose a high quality servo that can hold the control service in the desired position.**
6. **Keep the hinge gap as slight as possible and use a sufficient number of quality hinges.**
7. **Using your covering material or a tape designed for this purpose, completely seal all gaps on the control surfaces.**
8. **There are many articles available regarding the static balancing of control surfaces.** Refer to these and balance the control surfaces



Trez/Ed Sez – By Le Roy Stuczynski

Well I'd say we pulled off the 9th Annual Giant Scale Fly In in fine fashion. We cleared nearly \$700 from the event and we have some hamburgers, soda, and buns left that MARCS will probably buy for their upcoming events which will increase our profit. Regardless, I'd say this was the most profitable event we have ever held. All of you Eagles should pat yourselves on the back for the success because you all were where you were needed when you were needed.

A special thanks goes out to the high profit makers of the day. That being the concession stand and the raffle. Thanks to Mike Kimmerly for coordinating concessions and Bill Disch's grandson for helping with the cooking and Mike Pirkl for doing a great job with the raffle. As a result your Treasurer is very happy! A big thanks to Charlie for his generous donation to the raffle. The Empty Stocking Fund will be a bit fuller this Christmas. As usual we will be able to treat ourselves to a member raffle and a party meeting at the Gallery of Aviation if the club desires. I will give an itemized accounting of our profit at the July meeting. The bottom line is that you all did great! Now on to other things.

I actually went to the MARCS field and flew with the early morning guys. I actually remembered how to fly. I've got to work a bit on my landing technique, but I am confident that practice will bring it together. I'm not interested in hovering, waterfalls, etc rather just "plane" fun flying. It felt really good.

Before I went flying, I cycled all my batteries. I think I was a bit hard on myself when I lost the Carden Extra 300 in Lodi. I immediately blamed myself but I gotta wonder! When cycling my flight pack on the transmitter used on that flight, I was unable to get more than 31 minutes on the transmitter pack. That night I flew one flight and then, with transmitter on for another flight, had a hard time starting my G62. Finally, after many minutes of cranking, it started. After takeoff I became more and more comfortable with the airplane. It just had no bad tendencies. However, when lining up for landing, the Extra began going all over the place and I just kept exacerbating the situation by trying to get it under control. CRASH! I thought it was me but now I've got to wonder! Did I just lose transmitter power? Possibly.

The bottom line guys is, cycle your batteries and throw the bad packs away. Batteries are a lot cheaper than airplanes! 

whenever possible. Some surfaces are dynamically balanced by their very design.

9. **Use motor sizes that are recommended by the manufacturer.** Extra speed places extra stress on your airframes. If you want to go real fast, build a Quickee or a jet.

If you can easily wiggle any control surface of your plane when your radio is turned on, you are on the road leading to flutter and destruction of your plane. I hope these comments have been helpful and you will never experience the devastating and dangerous effects of control surface flutter.

Written by Mark Weiss for GiantScalePlanes.com

SEALING HINGE GAPS

By Clay Ramskill

OK - you've finished up the plane; a pretty covering job, all the radio gear working properly, balanced fore and aft, AND laterally - all ready to go. Maybe not - did you seal the hinge lines?

Why should I, you might ask. We've all seen lots of planes fly OK without any fuss over hinge lines.

How about less drag, quicker rolls, better turns, more precise control?

Note that we're speaking of fairly small improvements here. But with many planes, you can get at least noticeable improvement, over a wide range of performance criteria. All this with little work, expense, or extra weight!

Let's take a simple peek at the principles involved - you'll see better how all this works. For example, we'll look at a typical aileron installation. Our aileron, shown here (Fig. 1) in its trim position, undeflected, acts as part of the wing. The wing depends on reasonably smooth airflow around it to generate higher air pressure on the bottom, lower pressure on top. It is this pressure differential, spread over the area of the wing, that gives us the lift we need. When our aileron is deflected, we get a higher (in the case shown) pressure differential, causing extra lift. On the other wing, raising the aileron would cause less pressure differential or even reverse it (in the aileron area), decreasing lift on that wing.

-And we get a roll.

With our gaps unsealed (Fig. 2), we get the same type of result, but not as efficiently. There are two detrimental effects: 1) Air bleeds through the hinge gap, from high to low pressure, decreasing the pressure differential in that area; 2) The air bleeding through the gap causes some disruption in the airflow over that part of the wing. These two effects will decrease lift and increase drag, by small amounts.

Deflecting our ailerons makes the situation worse. The deflection of air increases the pressure differential, and even more air will pour through the unsealed gap, magnifying the detrimental effects!

Notice that the problems associated with an unsealed gap would also apply to our elevator or rudder, when those surfaces are deflected.

The 'more precise control' effect is a bit harder to explain. But looking at figure 2, you can deduce that the flow lines across the aileron are not as smooth, and there is an area near the aileron surface that has more turbulent air. When you make a small aileron correction, the response will not be as positive.

Your plane WILL fly more precisely and efficiently with hinge gaps sealed. And more often as not, the difference will at least be noticeable! This is a situation where you can 'do something nice' for your plane (and for yourself, the pilot) without much hassle.

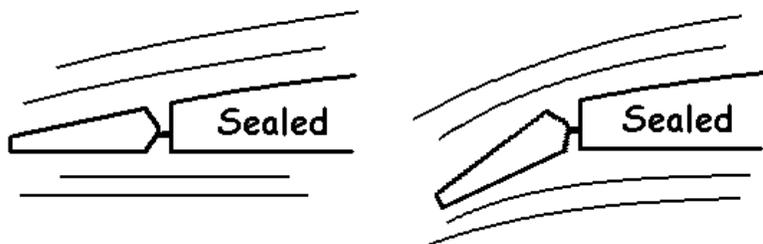


Fig. 1 Smooth Flow

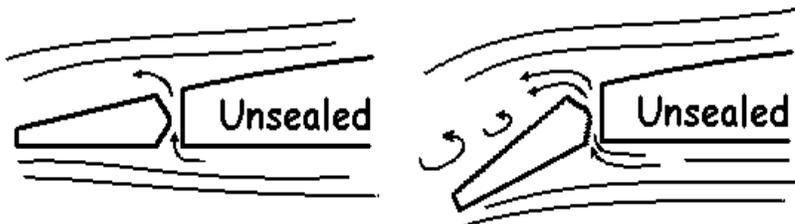


Fig. 2 Less Efficient Flow



Yes... Grandpa promises to get You a new Baseball Glove, Bat and BiKe. If you go out there and get my Airplane!

Questions & Answers

In response to my plea for articles for publication, Harold Blossom gave me an article which appeared in Sport Aviation titled Q&A. This particular Q&A article was devoted to World War II Historical Information. Each month, in this block, I will publish one question and answer, some of which may be completely unknown. Ron Twellman of the EAA Aviation Foundation Boeing Library provided this information. Thanks Harold.

Question: What was unusual about the downing of a Fiesler Storch in April of 1945?

A - It was possibly the last dogfight in Europe, and lest you feel sorry for the surviving Germans, consider that their spotting plane succumbed to the .45 Colt handguns carried by the pilot and observer in a Piper Cub spotting plane.



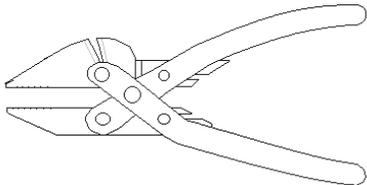
Vice President Tom Lazar has all kinds of scale models in his hanger. Here he readies his WW I airplane for a dogfight with possibly the Baron?

Fishing Pliers

At the flying field, you never seem to have the right size wrench to tighten one of the myriad of little nuts that we have all over our planes and engines. And a pair of pliers is one thing you MUST have - but if you use them on a nut, you stand a good chance of messing it up, because the pliers always have an angle between the jaws.

Try getting some fishing pliers, as shown. These little gems have jaws that stay parallel, and which won't tear up a nut. Plus, because of their geometry, they have a very powerful wire cutter!

Clay Ramskill, 7 Towers RCC, Arlington, Tx.



Upcoming Events

- **July 13, 2003 and September 21, 2003, Winnebago Sport Modelers RC Club Fun Fly(s), Kieselburg Forest Preserve RC Field, Roscoe, IL. (see enclosed brochure)**
- **July 26, 2003, Shawano RC Flying Club 19th Annual Big Bird Fly In, Contact James Vanderwalker, (715) 823-3682.**
- **August 17, 2003, Ken Kindschi Memorial Scale Rally, Kettle Field, Madison, WI. Contact Chris Speirings, (608) 835-8394.**
- **September 7, 2003, LARCC Fun Fly, Quarry Field Lodi, WI. Contact Dan O'Neill, (608) 249-4092.**
- **September 20, 2003 Warbirds Over Dane, (Rain date September 21), Kettle Field, Madison, WI (see enclosed brochure)**