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THE ROGUE EAGLE



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Stalling: How to Ruin a Perfectly Good Day!

by Michael Heer

(Portions of this article have been modified by Technical Editor Ed McCollough)

This article is for the novice flier because I have been seeing a rash of “beginner mistakes” involving stalls that result in crashed airplanes. This is with club members and with the powered fliers in Lodi as well. The problem is that too many are learning about stalls by destroying or damaging airplanes. They don’t see the stall coming and don’t react until it is too late to correct. So you experts can skip to something else, as this article will be so basic it may even seem insulting to the novice, but we need to think about these things in advance of our flights to spot and avoid the stalls that kill close to the ground.

A stall is caused when your airplane loses forward airspeed to the point where it is no longer enjoying the benefit of lift. This is the point at which the wing stops flying. This most often occurs when the critical angle of attack for that airplane is reached and the lift stops and the wing stalls.

Fortunately many of our gliders have rather mild stall characteristics. If we slowly stall, the nose of the airplane drops and the glider picks up speed and lift returns with little loss of altitude. If it continues to stall, drop and correct, stall, drop and correct, we call that “porpoising” because it resembles a porpoise jumping out of the water repeatedly. We learn that when the glider starts the climb we can hit with a little burst of down-elevator and avoid the stall and return to level flight.

With a more radical angle of attack the stall is worse and the drop is greater. When the stall occurs with the airplane or glider pointing straight up or close to that, the airplane falls backward and we have no control initially. Then the airplane drops until it flips over to obtain a nose first position, we get air flowing over the wing and the control surfaces, and we once again obtain control of our airplane. That is, if we had enough height for all that to take place. If we were too low, our airplane has crashed and is destroyed or in need of repair.

Most of the problems I have witnessed of late have been with powered airplanes (gas and electric) with novice pilots treating the elevator control as the source of lift and giving lots of up signal while the airplane is still slow and near the ground—crash! Speed is what is converted to lift with slight use of the elevator. The more speed you have the more elevator you can use, but as the airplane slows you have to ease off the elevator or you will stall. For example, with the Sky Scooter it needs to be flown level after it is tossed to build up speed and then slowly given some up elevator and let it climb a bit and then ease off, build up speed and slowly climb. If I feed in up-elevator right after I toss the airplane, the airplane would climb very briefly, stall and then crash as it would lack any air flowing over the surfaces and it would be uncontrollable and would fall.

To avoid stalls right after a launch you want to 1) launch into the wind, 2) fly level until the airplane picks up speed, 3) climb slowly until you get to cruising speed and altitude and then have fun. Go easy on the elevator and life will be a whole lot better. Those crashes seconds after tossing or lifting off are no fun, I know! I am so used to my Zagi climbing even with a little tail wind that I tried to fly the Sky Scooter launching with the wind rather than taking a short walk ... two seconds later, crash and a \$2.50 prop is gone.

From Thermal Topics
Modesto RC Club
Michael Heer, editor
Modesto, CA



Winter Airplane Storage

Since the snow will be flying very soon (if it hasn't already), many AMA members may not be flying for quite some time. For those who don't intend to fly on skis, the following suggestions may help to preserve your model over the winter months and allow you to get back in operation quickly when the snow disappears next season.

Airplane

Be sure to give the entire airplane a thorough cleaning to remove all traces of exhaust residue. Check the covering to be sure the fuel is not creeping under seams around the firewall and areas around the exhaust outlet, soaking the balsa. If so, make the repairs during the off season while you have some extra time. Check the fuselage and flying surfaces closely for cracks or other damage. Check the servo arms, control horns, clevises, pushrods and/or control cables for excessive wear or damage. The plane can be stored indoors or outdoors in the garage; the constant cold temperatures can be tough on batteries but otherwise don't seem to cause any problems. The only problem that could occur would be if you stored it in, for example, a workshop that is heated occasionally and then allowed to cool down after use. This could result in damage to the engine due to condensation and probably the balsa or covering material due to temperature changes. If you store the plane on a wall, it should not be supported on the nose as this could damage the engine bearings. Support it by the tail structure or similar means. If the wing is removed, do not stand it on end. Support it similar to the way it is normally mounted on the fuselage. Do not leave the weight of the plane resting on the tires if you don't store it vertically.

Engine

The major concern regarding engine storage is to remove all the glow fuel from the inside of the crankcase and cylinder to prevent rust formation on the bearings, crankshaft, etc. The best advice is to remove the engine from the plane, remove the glow plug and back plate, and flush the inside out with a solvent such as kerosene. While the backplate is off, check it over for signs of rust, bearing failure, etc.

After cleaning, generously oil the bearings and cylinder with lubricant such as one of the after-run oils or Marvel Mystery Oil. After it is well oiled, reinstall the backplate and plug and place it in a sealed plastic bag along with the mounting hardware until next season. If you decide not to remove the engine, at least remove the glow plug, pour some oil into the carburetor and spin the engine over clockwise and counterclockwise to distribute the oil through the bearings. Add some oil through the glow plug hole, turn the engine over slowly a few more times and reinstall the glow plug. Remove the prop if it is made of wood. Put a plastic bag over the engine to keep dust and dirt out.

Batteries

Ideally you should cycle the transmitter and receiver batteries and record their capacity for reference next season. If they are doubtful, cut the connector off and throw them away and buy new next season. It is best to leave them on a trickle charger to maintain a charge during the off season. If this is not practical, try to charge them at least every one to two months. When ready to fly again next spring, cycle the batteries first to be sure they have adequate capacity.

Transmitter/Receiver/Servos

Don't forget to check over the servo wiring and connectors. If there is any sign of corrosion on the connectors, get them replaced. Also, check the output shaft for looseness. Check the receiver antenna for damage. If there are any doubts, get it fixed or replaced. Extend the transmitter antenna and clean it with alcohol. Collapse the antenna and repeat the cleaning several times. (There are contact fingers inside each antenna section that may become coated with oil, preventing proper contact between sections, greatly reducing the transmitting range.)

Field Box Supplies

Fuel - If you have fuel left, be sure it is capped tightly and store it in a cool place out of the sunlight. Some recommend against storing fuel in very cold temperatures, but I have not had any problems doing this in the past.

Starter Battery - If you have an electric starter hookup, remove the 12 volt lead acid battery, clean the terminals and check the electrolyte level. Add water if necessary. This battery **MUST BE CHARGED** if stored outdoors during the winter. A monthly charging will keep the battery from freezing and also extend its life.

Miscellaneous - If you have a handful of used rubber bands as I do, throw them out and plan to buy a new box next season. This would be a good time to check your supply of spare glow plugs, props, etc. and make up a parts list to replace those used during the summer. If, during your inspection, you run into problems or there is something you are not sure about, call another club member for some advice or suggestions. Make the repairs during the winter and save the warm weather for flying!

From Itasca R/C Club News,
Bob Blase, Editor
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Safety

Casa de Aero R/C Club of Arizona sports its own safety code in addition to the mandatory AMA Safety Code. While the AMA strongly recommends "flying with a buddy," One of the Casa de Aero rules, Rule 2.4 of the Flying Field Regulations states: "Solitary model aircraft flying is not permitted. At least two persons must be at the flying field when model aircraft are flown. There must be at least one responsible person, in addition to the model aircraft pilot, to act as a spotter for manned aircraft flying in the vicinity and to provide assistance in case of an accident or emergency." The rationale for this rule is SAFETY. Picture a model aircraft with a 10" diameter bench saw blade on the front instead of a propeller. A propeller running at 12,000 RPM can do just as much damage as a saw blade to a finger, a hand, an arm or any other human appendage which happens to get in its way! If you are the only one at the field and the propeller tries to eat one of your appendages, just stop and consider the difficulties you would encounter while you are getting yourself to the Emergency Room. First, you have to stem the gush of blood pulsating from the deep laceration(s), probably with a handkerchief. Then you have to figure out how to drive your car and hold the handkerchief in place at the same time. Then you start to fret about having to leave your model, support equipment and radio at the field with the gate unlocked. It probably hasn't started hurting yet because you are still in shock, but soon the throbbing will begin. You will start to become faint, either from shock or the loss of blood. Do you pull over or do you forge ahead, hoping that you get to the hospital before you pass out completely and hit something or someone? Think how much easier things would have been if you had a buddy

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with you to help out. It is obvious from the above hypothetical situation that the second person at the field should be a responsible adult, one who is capable of driving who can assist you with first aid. Any person younger than driving age would not be considered a "responsible person" even if he is that grandson whom you think is the smartest kid in the world.

From Flight Lines,
Co-Editors, Don Tabor and Jerry Gill
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Field Improvements

Saturday, January 26, 2002, we had a very productive workday at our flying site. Thirteen of us under the able direction of Joe DeAscentis, constructed a partial enclosure on the south side of the covered area to provide a shelter from wind and cold for fliers who don't like to take a break from flying during the winter months. This area is going to be very popular during cold weather for pilots between flights.

Those helping were Jerry Sivin, Bill Olson, Clark Wolf, Bill Grove, Sam Arrigo, Tim Bedingfield, Bill Inman, Danny Watson, Fred Sargent, Dan Stanton, Bill Zagar, Mike Buteau and Werner Bruckner. We had a great time, in spite of the cold weather; and I'm sure every participant feels we did an outstanding job on the shelter. A huge thanks goes to everyone who helped. Great job, folks!

Editor

Raffle

Check out the great Hangar 9 CAP-232 120 on the back page. It's blue and white, and I believe it's an ARF. It will be raffled off in a few months. Raffle tickets are \$1 apiece or six tickets for \$5. This plane is brand new and the club got an excellent buy on it. When twice the plane's purchase price (or about \$400) in raffle tickets has been sold, the model will be raffled off. With the money collected the club will pay for this plane plus purchase another one to be raffled.

Rogue Eagles R/C Club,
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Stamp

To:

NEXT MEETING is February 12 at the Lions Sight and Hearing Center, 228 N Holly, Medford, OR. Also, membership renewals will continue; bring your \$25 membership fee and 2002 AMA card. Also bring your show and tell projects.

Notice

Folks, if you renew your membership by mail, we've got to have some proof that your AMA membership is current. Please send a copy of your 2002 AMA card along with your \$25 renewal fee. Of course, we'd like you to attend the monthly meetings and update your membership at the same time.

Editor

CAP-232 Raffle Plane

