



The Air Bubble

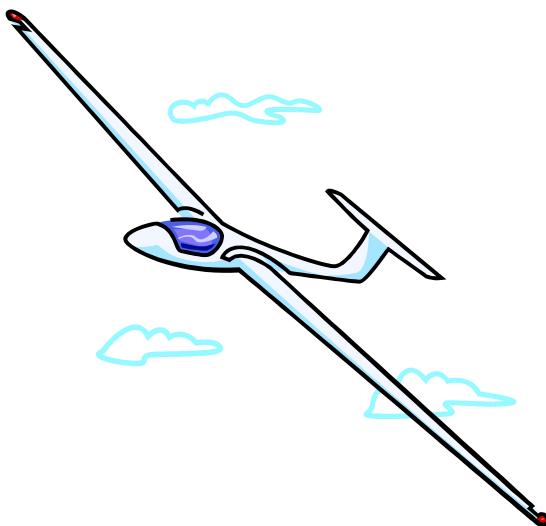
**The Newsletter of the
Chicagoland Glider Council
Est. January 17th, 1937**

- March 2016 -

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<http://chicagolandglidercouncil.com>



**Next CLGC Meeting
“Carbon Fiber Instrument Panels”
Speaker: John DeRosa
Don’t Miss It!!**

Tuesday, March 9, 7:30PM
Herrick Junior High School



Synopsis: Making your existing fiberglass or aluminum instrument panel into a carbon fiber look and feel panel is easy – and it looks sharp too! John DeRosa will show the two ways that this can be accomplished with the tools and procedures needed.

**2016 CLGC Youth Grant
Application Deadline
March 31, 2016!**

This may be your last chance to get your application in for the 2015 CLGC Youth Grant. The deadline of March 31st is fast approaching. Apply for the CLGC Grant now! The application is attached to this newsletter. What are you waiting for? Form attached below. Full details at; <http://chicagolandglidercouncil.com/grant>

Region 7 Contest

Albert Lea, MN

May 15-21, 2016

If you have never been to an SSA sanctioned contest, or are a long time contest go-er, then this is your chance to attend one that is close by and in our own region. For first timers this is a great way to "get your feet wet" in a low stress nearby event that has identical terrain to here in the Chicagoland area.

Contests, and like events, are always a tremendous amount of fun. You get to meet glider pilots from other states, be "challenged" to fly a specific task rather than just going from here-to-there-and-back-again, see gliders that you might not have seen before and there are always dinners and talks to attend. Think mini-SSA convention!

You should bring to the contest;

- A glider (duh) with FAA required documentation.
- A radio. Sometimes the task for the day is changed while you are in the air!
- SSA Membership.
- A flight recorder of some type (IGC certified is preferred but probably non-certified recorders will be allowed).
- Some semblance of a crew for retrieves and landouts which is usually anyone else you know at the event. Expect a wait for the retrieve.
- Tie down equipment for your glider and trailer.
- The MN turnpoint database for your GPS at http://soaringweb.org/TP/Albert_lea
- Silver badge is a base "requirement" to qualify your experience level for SSA sanctioned contests.
- Proof of glider insurance in which you are the named pilot.
- A Cell phone.
- Optional but nice to have: a FLARM and/or a Transponder.
- Everything else you use when you typically fly.

You should take the time to read the extremely good beginner reference document created by the Sailplane Racing Association (SRA) which can be found at;

<https://www.ssa.org/files/member/SRAGuide.PDF>

The all-important practice day will be Sunday, May 15 with the contest held from May 16-21. The airport at Albert Lea (<http://www.airnav.com/airport/KAEL>) is a mid-size GA airport with an extremely glider friendly manager and atmosphere. You need to sign up for the contest at <http://www.ssa.org/Contests?cid=2344>

2016 CLGC Dues Are Due!

Please send in your ChicagoLand Glider Council dues no later than January 1, 2014. The dues are \$10 for the 2014 calendar year. Reminder that for the following clubs' members, your CLGC dues are included in your membership; Chicago Glider Club, Sky Soaring Glider Club and Windy City Soaring Association.

The 2014 membership renewal form can be found at the end of this newsletter. Please complete it and send your dues payment via check or money order to;

ChicagoLand Glider Council
5115 Carpenter St.
Downers Grove, IL 60515

Thank you for your support!

Directions to the CLGC Meeting Location

At Herrick Junior High School located at;
4435 Middaugh Rd, Downers Grove, IL.

Detailed directions are available at;
<http://tinyurl.com/CLGCDIRECTIONS>
Complete details at can be found at
<http://chicagolandglidercouncil.com/grant>

Upcoming 2016 Aviation Events

- ❖ CLGC Meeting - Tuesday, February 9th
- ❖ CLGC Meeting - Tuesday, March 8th
- ❖ CLGC Meeting - Tuesday, April 12th
- ❖ Region 7 Contest - May 15-21

For Sale!

Oxygen Bottle - 22 cubic feet. Price \$80.

Dimensions are 18.5" x 5", steel bottle with approximately 500 PSI of oxygen.

I bought it 25 years ago from an aviation supply house so I believe it is a standard cylinder for aviation use.

Contact: Herb Kilian at 312-405-3609



Schweizer 1-34 - N17921 currently located at Sky Soaring.

Contact: Art Silverman at 847-881-2506

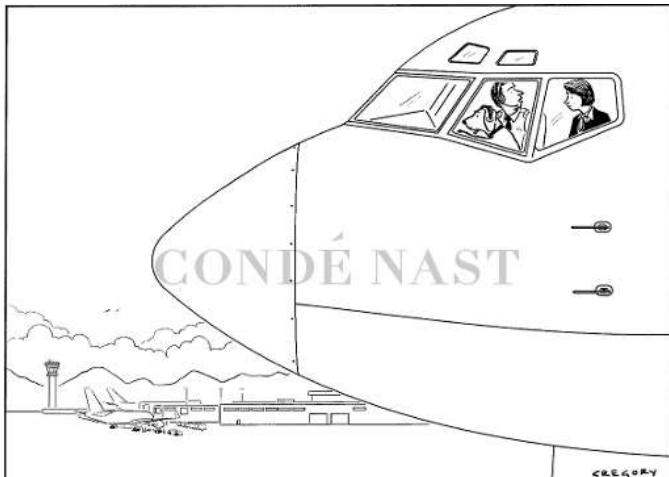
Newsletter Contributions?

Pictures? Accomplishments?

Suggestions? Articles?

Speaker Topics? For Sale Items?

Please let us know! If you have anything that you would like to have included in future newsletters or meetings. PLEASE send them to JOHN@DEROSAWEB.COM or call 847-844-8776.



"Don't worry—he surrounds himself with good people."

Moved? New Email?

Please let us know to keep our database up to date.

Send an email to JOHN@DEROSAWEB.COM
or call 847-844-8776 Thanks!!

CLGC Newsletter Archive Old CLGC Newsletters Needed!!

Did you know that there is an archive of CLGC newsletters dating back to 2001 on the CLGC web site? Take a look.

<http://chicagolandglidercouncil.com/newsletter.htm>

Do you have any old CLGC newsletters? We would love to scan them in for the archives. Contact John DeRosa at john@derosaweb.com.



"Ladies and gentlemen, is there a bankruptcy attorney on board?"

“Canopy Care”

By LPM Staff

October 22, 2015

Reprint from AVWeb.com



Editor’s note: We wish to thank the folks at LP Aero Plastics, www.lpaeroplastics.com, phone (800) 957-2376 for much of the following information and recommendations on how to properly care for your aircraft windows.

They have been around for many years and we suggest if you have any acrylic needs that you check them out. That includes many care products as well as a great number of STCs for a number of different aircraft for those folks wishing a thicker windshield or side windows. Not all aircraft have thicker windshield capability with the current STCs we checked, but doubling the side windows to 1/4 inch is generally available via STC.

Why would you want that? Our experience is limited to Bonanzas, but the difference is quite noticeable with thicker windshields. It’s even measurable with a decibel meter with the 3/8-inch thick version of the windshield. You can even go up to 1/2 inch on a Bonanza.

Most other aircraft are limited to 1/4 inch, but we did not do extensive studies on available STCs for thicker acrylic.

Acrylic plastics are known by the trade names of Lucite or Plexiglas and by the British as Perspex and meet the military specifications of MIL-P-5425 for regular

acrylic, MIL-P-8184 for craze-resistant acrylic. There is also a great deal of information in AC 43:13-1b.

There are two important notes with respect to aircraft windows. The first is that there is no reason they cannot be serviceable for 20-25 years or more with reasonable care and a little luck—especially with a hangar. We’ve seen plenty of windows that are older, but are unequivocally dangerous since they are so hazy and discolored. Also, for repairs we are limiting this article to non-pressurized aircraft.

It also matters greatly where you keep your plane if it’s outside. Both the sun and industrial fallout can do great harm and accelerate aging of the windows.



Especially in challenging outdoor environments such as winter weather and blowing dust and sand, the use of window covers can be very helpful if the proper material is used and if they fit snugly. Any looseness will allow dust and dirt to enter, thus acting as trapped sandpaper on the plastic.

The second point is how you care for your windows. If you let line personnel clean them, it’s generally going to scratch them. If you use the wrong cleaning techniques or products, again it will scratch as well as possibly make them hazy. Ironically, placing covers over them can do more harm than good. More below.

And, believe it or not the FAA believes it comes under preventative maintenance for an owner to replace the side windows on their own, but not the windshield. You may want to think twice before changing windows without consulting with an A&P.

Some planes are easier than others, but all need to be done by the book if you don’t want to end up with leaks, making corrosion and mold and noise a very real possibility. The same goes for opting for installing

thicker plastic. Going too thick where thicker windshields are an option makes the process more difficult.

Tales on Wives

Contrary to popular belief most aircraft windows are acrylic plastic not Lexan or polycarbonate. Acrylic plastic is eminently “scratchable” so the first line of defense is to prevent the scratches in the first place.

The second line of defense is to deal with any scratches that do happen in a manner that helps, not worsens the situation. Sometimes doing nothing is the best you can do, although a pro may be able to help. In some cases a new window is the “right” choice.

Per LP Aero, “another consideration, especially on light aircraft, is the feasibility of trying to repair some windows. The windshield on the Cessna 150, for instance, is .125 (or 1/8”) thick, and some Piper Cherokee rear windows are only .080 (or 5/64”) thick. So when you start to remove material, you have to be aware of what you will have left structurally.”

“Keep in mind that most repairable windows, such as those found on pressurized air liners, have published specifications for minimum allowable thickness. Most light aircraft have no such specification. Sometimes, labor spent on a repair attempt would probably be better spent installing a new window.”

Cleaning Up

The fewer things that touch the windows the better. The first step in cleaning is to remove as much dirt or debris as possible by simply flushing the surface with water. LP Aero Plastics recommends adding a little mild Woolite to the water as an emulsifying agent. (Do not use any dishwasher type detergents. or household cleaners like 409).



It's not a good idea to blast windows with a high-pressure washer unless it's been significantly reduced in pressure. The pressure alone against dirt could cause high amounts of micro scratches depending on the quantity and type of dirt and the angles the water strikes to remove it. (High-pressure water and cleaner can also be forced under aircraft skins to cause future corrosion issues.)

If a little rubbing is needed, caress the windows lightly with your bare, clean and unencumbered hand i.e. no jewelry or watchbands to inadvertently scratch. Also, depending on the position of your body in the cleaning process, be sure there are no belt buckles, tools or the like that can come in contact with the windows.

For example, a Bonanza windshield is big enough to require draping part of your body over it to get all the nooks and crannies if approached from the wing walk. A belt buckle or even a metal button or zipper tab can do terrible things.

Dry It Carefully

Continuing with the pampering treatment, use a clean, soft cloth to dry the windows. The new microfiber cloths are good providing you keep them clean. Follow this with any good cleaner/polish that is specifically designed for acrylic windows.

It's probably best to stick with aviation type products, and read the label for the proper procedures before applying anything. Products used on acrylics need to be looked at more closely since there are many folks out there who may think anything intended as a glass cleaner or furniture polish will save a buck and do just

as good a job. It won't and may lead to premature replacement.

For example, glass cleaners often have ammonia as an ingredient, and ammonia is anathema to acrylics. Ammonia tends to cause crazing, which is the formation of shallow microscopic cracks.

While Pledge furniture polish has been on our personal use list for decades as a cheapskate approach, LP Aero Plastics is less sanguine about its use. There is certainly no question that it was never designed for use outside or on aircraft. There is some question about it building up a film that may not be so easy to remove.

We are not fans of Rain-X. Nothing on the label or Web site or any other site we checked says it's safe for acrylic plastic. Again, we believe this is an off-label use and could have a detrimental long-term effect on soft acrylic.



MEK will destroy acrylic windshields.

We shouldn't need to mention the dangers of aromatic solvents, but the level of destructiveness to acrylic is about on a par with their degree of volatility. Things such as methyl ethyl ketone (MEK) are murder. Acetone and lacquer thinner are also bad. Gasoline is not good either, and the key to avoiding harm from gas is to flush it off immediately.

Paint stripper is probably one of the more common things that may come in contact with acrylic, and it, too, is disastrous on acrylic. That's why you see painstaking applications of aluminum tape and foil to protect the acrylics when a plane is in for painting. We don't know the degree of potential harm with the new "safe" strippers, but we suggest that you don't try it to see unless it's on scrap material for educational purposes.

If you have a situation where you have used the incorrect masking tape or left it on too long when doing some painting and you have a sticky residue to deal with, the safest solvents are 100 percent mineral spirits (odorless is the best bet) or kerosene. Some types of alcohol are safe, isopropyl alcohol being one example. WD-40 also works but we don't know exactly what's in it.

Polishing it Off

Probably the best products for polishing is 100 percent cotton flannel, readily available at any yard goods store, or in a well-stocked closet. The second choice for the penny pincher is a clean cotton T-shirt. The new microfiber cloths will also work fine but are expensive.

It is LP Aero Plastics position that they have never seen a paper product that is safe on acrylic, including those advertised as safe for acrylic. We concur. Who to believe but the folks who make the acrylics?

Paper on acrylic causes micro scratches and abrasions that build up over time into a form of haziness. Fly into the sun to see just how bad it can be with crazing and haziness.

LP Aero Plastics categorizes polishing products into three categories:

1. Non-abrasive liquid sprays, in pumps or aerosols that may or may not have scratch filling properties.
2. Non-abrasive creams that have scratch filling properties.
3. Mildly abrasive creams that have scratch removing properties.

Micro-scratches—the type that you cannot feel with a fingernail do accumulate over time. That said, the aircraft owner has a great deal of influence on the rate and degree of scratch accumulation of any type.

The non-abrasive scratch filling creams are fine to be used on a regular basis. Their benefit should be noticed most readily when flying toward the setting sun.

If you still want better vision flying toward the sun, go ahead and use the mildly abrasive creams with scratch filling properties. But be aware this should be used sparingly, and does take elbow grease—not a polishing

wheel on an electric drill, which an amateur simply cannot control without the likelihood of doing far more damage to the finish.

If you read the directions on the abrasive polishes, a follow-up application of the scratch-filling product is also a recommended procedure.

The Fingernail Test

If you can feel a scratch with a fingernail, you have to face the limited likelihood of a totally scratch free outcome. That's because there is no way to remove such a scratch without removing material.

You remove material around the scratch to the depth of the scratch and then polish it back to clarity. It is both tricky and time consuming. The most common problems come with impatience or lack of understanding and removing material with a too coarse grit.

This is a step-by-step process. The most likely route to a successful outcome is to buy a product that comes as an all inclusive, progressive system. Then stick with all the steps outlined in the directions.

Skipping steps to save time is a path to being worse off than before as you will have a larger area that is no longer clear. Sometimes, even if you get back the clarity, you may find that you have introduced an optical distortion.

Moreover, as thin as windshields are (commonly 1/8 inch or less) you have to consider the amount of material, location of the damage and area affected. You don't want to weaken an already thin windshield, so use the guidelines furnished in the abrasive products, and the advice of a trusted mechanic—or two.

There are some conditions that are best left alone or the acrylic replaced. But that's not necessarily bad other than for the wallet. So many times we have seen people respond to new windows, squealing with glee at how much nicer it is to be able to see the world again—notwithstanding the enhanced safety aspect of new acrylic.

Moreover, if you go with a thicker windshield, very noticeable reductions in cabin noise will result. That's because the prop is the single biggest noisemaker by far with the hammering pulses of air on the windshield.

A 1½ inch windshield may be too much in our opinion, and it's only available for the Bonanza as far as we know. It's expensive to buy and installation can be a bear since it's so much thicker than the original aircraft design.

Plastic sheets should be stored with the masking paper in place, in bins that are tilted at a ten-degree angle from the vertical. This will prevent their buckling. If the sheets are stored horizontally, take care to avoid getting dirt and chips between them.

Stacks of sheets must never be over 18 inches high, with the smallest sheets stacked on top of the larger ones so there will be no unsupported overhang. Leave the masking paper on the sheets as long as possible, and take care not to scratch or gouge the sheets by sliding them against each other or across rough or dirty tables.

Formed sections should be stored with ample support so they will not lose their shape. Vertical nesting should be avoided. Protect formed parts from temperatures higher than 120 °F (49 °C), and leave their protective coating in place until they are installed on the aircraft.

Scratch Removal Kits



Micro-mesh window scratch removal kit.

Meguiars, 3M, Micro-Surface (Micro-Mesh, one of the longest aviation popular products), and others supply scratch removal kits. The kits consist of many progressively finer abrasive sheets or creams that are

used in sequence to remove defects and to polish the acrylic back to clarity.

What you supply is lots of elbow grease and an equal amount of patience and intelligence to not skip steps or exceed the recommended maximum area or depth of the damage for which these kits are designed. These kits run about \$20 for the small kit. They are much different than simply ultra fine sandpaper. It takes about $\frac{1}{2}$ hour for a small side window.

LP Aero Plastics recommends the Satinal pad made by Transelco. This onetime-use pad is dipped in water to make a 5-micron slurry that will remove fine scratches and polish back to clarity in one step. For deeper scratches, it can be used in conjunction with 600, 1500, or 2000 grit wet sandpaper. It would be best to practice on scrap material until you feel very confident before the "real deal."

Homebuilt Issues

Some homebuilts use Lexan, a brand name for polycarbonate instead of acrylic. There is no good way to remove scratches on this type of material, because it is so soft. Ironic that it finds applications in ballistic "glass."

Even the hard-coated versions of Lexan do not do well for scratch removal as the scratch removal process only removes the hard coating. About the only option in scratch removal is to use scratch filling polishes, which may help depending on the size, location and depth of the scratch.

Covers, Inside and Out

Occasionally, there are reports of canopy covers and sun shields that do damage in surprising ways. It's

obvious the material that faces the windows with external canopy covers must be soft. But the cover must also be capable of tight attachment and be attached very tightly.

If they can flutter in the wind and allow dust from the blowing winds to get inside, then you have a perfect formula for abrasion. Bottom line; cinch them down and check them frequently for any signs of damage while it can still be fixed.

Sunshields can be made in a variety of ways, some of which may involve sharp edges or frames that can scratch acrylic. They generally are not put in or removed with the greatest of care. This potential scratching issue is particularly true where the product is of the homemade variety.

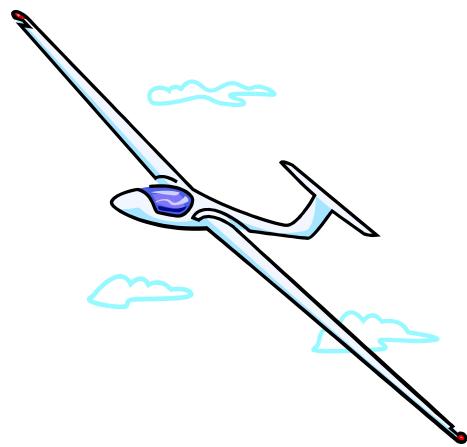
There is also the potential for harm from chemical attack from covers. Namely the plasticizers used in some vinyls, which can attack acrylics.

When you combine the close proximity of the cover to the acrylic and add the blazing heat that the sun can build up, it's a mixture for a problem. The covers can stick to the inside of the windows over time.

With brand-name products expressly designed to be used as an aviation cover it's less likely to be an issue (though it doesn't hurt to read the details carefully). More likely candidates are the homemade covers made from some type of vinyl or similar flexible material with unknown properties.

You certainly do not want to trade cooler avionics for ruined windows.

This article originally appeared in the October 2013 issue of [Light Plane Maintenance](#).





2016 ChicagoLand Glider Council
Membership/Renewal Application & Change of Information Form

Membership Renewal Due Date: January 1, 2016

Please mail this form with a check or money order for \$10
made payable to "ChicagoLand Glider Council" to:

ChicagoLand Glider Council
5115 Carpenter St.
Downers Grove, IL 60515

Your Name _____

Your Address _____

City _____ State _____ Zip _____

Email Address (**please print very clearly**) _____

Phone Number(s) Home _____ Work _____ Cellular _____

Primary Airport and/.or Club where you fly _____

Pilot ratings that you hold (student, private, commercial, instructor, etc) _____

Type of Glider(s) that you own _____

Please check the appropriate box(es) below

- New Member Membership Renewal Change of Street Address Change of E-Mail Address
 Change of Telephone Change of Glider/Airport Information



ChicagoLand Glider Council

2016 Soaring Youth Grant

The ChicagoLand Glider Council Grant program is hosted under the auspices of the membership of the council and is paid by their dues. A primary grant of \$500 is generally awarded each year. Other secondary grant(s) may be awarded based on merit. This grant will be paid directly to the recipient's home glider port and placed "on account" for use by the recipient for their continuing soaring education.

Application Requirements: The applicant must meet all of the following requirements:

- Be a member in good standing of the ChicagoLand Glider Council as of January 1st of the grant year.
- Be between the ages of 14 and 21 (inclusive) as of January 1st of the grant year.
- Home glider port lies within 85 miles of Chicago (city center).
- Have not previously received a primary grant award. However, you might be considered for a secondary grant.
- Obtain a written recommendation from a Certified Flight Instructor Glider (CFIG) who is familiar with the applicant's qualifications.
- Write an original essay of 500-1000 words on "What Soaring Means to Me....". This essay should include your thoughts about soaring, your accomplishments to date, your future plans and your financial need.
- Send all necessary documentation to the email address and/or surface mail address shown below
no later than midnight, March 31st of the grant year.

Applicant Information

Name _____

Current Age: _____ Birth date: _____ / _____ / _____

Address: _____

City/State & Zip: _____ Phone: _____

Email Address _____

Soaring Facility Location: _____

Applicant's Signature: _____

Submit this application and all required documentation shown above to the ChicagoLand Glider Council Grant Committee via the email address listed below (preferred) and/or via the surface mail address below. The application and documentation must be received no later than the deadline date shown above.

The ChicagoLand Glider Council Grant Committee consists of the board of the ChicagoLand Glider Council. Decisions of the committee are final. The Grant Committee is not responsible for lost or incorrect applications. Grantee(s) award announcements are made at the regularly scheduled CLGC meeting in March.

Applications and other information is available at <http://chicagolandglidercouncil.com/grant>. Good luck!

Email to: jhderosa@yahoo.com

Surface Mail to:

ChicagoLand Glider Council Grant Committee
c/o John DeRosa
35W529 Parsons Rd
West Dundee, IL 60118