

Turn & Bank



OFFICIAL NEWSLETTER OF RAAC CHAPTER 85

September 2002

Get The Picture

Mark Munzel on
Aviation Photography

Canopy Fitting Tips

Beat Meyer's
Seafire





On The Cover:
Delta's big Cessnas.
Above: Terry's (?) Moth. Mark Munzel Photos

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The TURN AND BANK is the monthly publication of RAAC Chapter 85 and is intended to keep members informed as to the club's activities, and to promote safety and technical excellence in the field of sport aviation. No responsibility or liability is assumed, expressed or implied as to the content of articles contained in the Turn and Bank: the intention is to provide a forum for discussion and exchange of ideas.

Newsletter contributions should be mailed to George Gregory, 19470-88th Avenue, Surrey, B.C. V4N 3G5 no later than the 12th of each month. Business Fax is (604)-469-3495. Please remember to indicate "attention George Gregory" on your fax. Contributions can be e-mailed to George at:

gregdesign@telus.net

Enquiries to the Membership Chairman should be mailed to Rob Prior, 3032 Carina Place, Burnaby, BC, V3J 1B5

For inspections of Amateur Built Aircraft Projects contact the MDRA Inspection Services, ph. 1-877-419-2111 fax 1-519-457-0980 email: mdrainsp@on.aibn.com Regular Meetings are held on the first Tues. of each month at 20:00 in the clubhouse:

Delta Airpark, 4103-104th Street Delta, B.C. Clubhouse
 phone: 596-3644

Mailing Address: Chapter 85, RAAC
 c/o Delta Heritage Airpark, 4103-104th St.,
 RR#3, Delta, B.C. V4K-3N3

Executive meetings are on the third Tues. of each month at 19:30 in the clubhouse.

Chapter aircraft pilots, mail cheques
 (Payable to RAAC Chapter 85) to: Tedd McHenry

RAAC National Homepage:

<http://www.inforamp.net/~raac>

RAA Chapter 85 Homepage:

http://www.b4.ca/raa_85

Delta Heritage Air Park Homepage:

<http://home.istar.ca~bb4>

Source for CARS and Chapter 549 Airworthiness Manual:

<http://www.aerotraining.com>

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Technical Guy

tips from the Recreational Flyer

CANOPY FITTING TIPS

There are just a few general principles that must be understood to successfully drill acrylic:

DO NOT use a standard wood or metal cutting drill bit. You will risk cracking and chipping the material. These bits will pull into the material and will bind as they exit, cracking and chipping. Successful holes have been drilled with a standard bit, but the risk is extremely high. LP Aero Plastics Acrylic Drill Bits have been reground to have a 0 degree rake on the cutting edges. They scrape a hole instead of cutting, and will not bind or pull upon exiting the material. If for any reason you elect to use other drill bits, be sure to modify the bit so that the cutting edges have a 0 degree rake angle. DO use very light pressure when drilling with acrylic drill bits. It is possible to crack or chip the material by forcing the bit with too much pressure. For instance, when drilling a vertical hole, the weight of the drill is all the pressure that is needed. Be patient and give the bit time to do its work. You should see just fuzz coming from the bit - if the bit is pulling spirals from the material; you are using too much pressure. Use higher drill speeds on small hole sizes, and slower speeds as the hole size is increased. DO drill oversize holes. Acrylic will expand and contract at different rates than the airframe, so oversize fastener holes are required to allow for movement. The general rule is drill a hole at least one and one-third the diameter of the fastener. DO drill larger holes by step-drilling starting with a smaller size bit. About the largest size hole you can drill easily in one step is 1/4 inch.

DO use a countersink to chamfer the shoulders of all holes. Any sharp edge tends to be a stress riser, so break all sharp edges. This also applies for all window edges. You can use a sanding block and a fine sandpaper (150 grit or finer) to finish the window edges.

DO practice on the old window or a

scrap piece of acrylic material.

TRIMMING

As in drilling and fastening, there are a few rules to follow when trimming:

DO NOT use any type of reciprocating saw, including hand saws or saber saws, to trim acrylic windows. The only safe saw is a band saw with a fine-toothed blade (1/4" or 3/8" wide raker blade with 14 or more teeth per inch). A band saw blade travels in one direction only and runs cool. A reciprocating blade, even a hand saw, will build up heat and bind, quickly cracking the acrylic. DO use a sander to trim windshields and windows. A 4 1/2" angle grinder with an 80 grit sanding disk works well. This tool is easy to control with one hand and will remove material quickly. A belt sander is also a good choice. A small rotary tool is very versatile and may be fitted with a small cutoff blade for trimming or it may be fitted with a drum sander for cutting notches and working in small areas. Care should be taken, however, to keep the tool from binding when using a cutoff blade. DO support the part when trimming or sanding. A padded table or work bench will work well for a work surface. DO mark for trim with a china marker grease pencil or felt tip marker. These marks can be readily removed with aircraft window polish or 100% mineral spirits. DO radius and finish all edges after final trim is established. Sharp edges and heavy sanding marks tend to be stress risers in the material. A sanding block and 150 grit The fine sandpaper will easily smooth acrylic edges.

FASTENING

As in drilling and trimming, there are a

few general principals that must be understood:

DO NOT use rivets to attach the windows if fasteners are required through holes drilled in the window or windshield. With rivets, the clamp-up forces can not be controlled and will overstress the material, causing future cracks. Use screws, washers, and self-locking nuts.

DO carefully control the torque of the fastener. Watch the reflection of a strong light in the surface of the acrylic around the screw head. Tighten the screw and nut just until you see a distortion in the surface around the screw head and then back off just until the surface is distortion free. At this point the screw and nut assembly may be able to be turned with a screw driver but probably not by hand. Since acrylic expands and contracts at different rates than the airframe, this method will allow the window slight movement.

DO use upholstery-type or tinnerman-type countersunk finishing washers under flat-head countersunk screws. Flat-head screws will hold the acrylic much too rigidly without washers. If you use the tinnerman-type washers, keep in mind you will have to drill the hole much larger to accommodate the countersunk portion of the washer. Again, the general rule is to drill the hole at least one and one-third the diameter of the fastener, which in this case would be one and one-third as large as the countersunk portion of the washer.

DO watch for anything that could cause localized stress in the material. Mounting over a rivet head, for instance, will cause a

Continued

AIR Frame



Aircraft Portraits

Rob Prior
www.b4.ca/airframe
rv7@b4.ca

3032 Carina Place, Burnaby, BC, V3J 1B5

604/422.8446

Bulletin Board

Last I heard, Norm Helmer is looking for someone to help with his Paradyne project. The Paradyne is a cutting edge new concept in STOL aircraft that shows promise. If you're interested give him a call at 943-7887.

Dan Lawler would like you to send your email addresses to him at:

dan.lawler@kvaerner.com

He will create a database so he can send announcements about meeting programs, etc. Currently he has a list of about 20 e-mail addresses, and would like to expand it and keep it up to date.

Want to learn more about aircraft construction? Want to contribute to the community good? Get involved in the J-5 project! Also, we are looking for help from someone knowledgeable in fabric work. Talk to a member of the executive and they'll put

you in contact with the right people.

Don't forget the Annual Bash on April 27. Contact Any executive member for tickets. See the ad on back for details.

The chapter is looking for someone to head up a chapter fly-in this summer. July 6 is the weekend picked. If you're interested, speak up! Contact any member of the executive to sign up.

Don't forget that George is looking for pictures you may have of aircraft for his Stock picture collection. These will be used in future issues of the Turn and Bank as needed as well as use in the Recreational Flyer when a nice picture is needed for articles and fillers.

SEPT 27, 28, 29 RAAC ANNUAL GENERAL MEETING Mark your calendars September 27th, 28th and 29th, and book your flights to friendly Manitoba to attend the

most exciting RAA - Annual General Meeting ever, since last year! In addition to meeting old friends, greeting new members, and discussing RAA business, Winnipeg offers an action packed weekend for RAA members and our partners.

The editor would like to know if anyone knows of a good website to get coming events from! This column's a BIT thin!


The Chapter's second aircraft carrier trailer is for sale. It's a gem! \$480 or best reasonable offer. It's at John Keon's place 16301 - 20 Ave., Surrey ph. 536-8589 or call Jim Hunter at 576-2678.

Technical Guy Continued

lot of stress in that area, and will probably crack when adjacent screws are tightened. Watch out for raised weld beads, sharp corners, etc. If necessary, bridge the window over the obstruction using washers as spacers, or remove the obstruction.

Drilling, trimming for fit, and fastening acrylic windshields and windows is not difficult, you just have to understand the material, the tools required, and the proper methods. With a little practice and a little time to get the feel of the processes, you will have a very satisfactory

installation with a long service life. **STORAGE**

DO NOT allow the windshield or window to be exposed to sunlight with the protective cover applied. Even short exposure will make the covering very difficult, if not impossible, to remove. 

Minutes Jim Hunter

Minutes of the General meeting,
6 August, 2002

Call to order: 8:00 by President Tim Nicholas.

Hunter/Meyer: that the minutes of the General Meeting of 2 July, 2002 be adopted as printed in the "Turn and Bank". Discussion Carried.

Take ye notice: the October General meeting is the Annual General meeting for the election of officers. The Honourable Bruce Prior is Nominations/Elections chairman.

Correspondence: letter received from RAA Brampton thanking Chapter for the \$500 donation as sent in lieu of the \$2 per member assessment.

Committee Reports:

Treasury: Don Souter: Verbal report on our finances by Don. He is looking for a better deal on our insurance. The quote from our old insurer is \$1576 odd - up considerably from last year and we understand that the events of September last is the given reason. More later on this.

Membership: Rob Prior: We have 128 total. Renewals for 2003 are acceptable even now. Recollect that new members are automatically assessed RAAC membership. Members of the Chapter previous to the coming into force of this requirement may elect not to be enrolled in RAAC.

Buildings: Dave Bell/Dan Weinkam: hangar roof to be pressure washed in preparation for painting. Tie downs OK with funds coming in as per usual.

Library: Tim Baker: Fine box of anonymous source books received. The Lycoming manuals are returned. See Tim if you need same.

RAAC: Rob Prior: AGM is in Winnipeg at

the end of September. Therefore a motion: Rob Prior/Baker: that the Chapter send a delegate to the RAAC AGM (presumably Rob) for the cost of approximately \$500. Discussion Carried.

DHAPCOM: Terry Wilshire:

- 1) Breakfast Sunday next. Otherwise quiet.
- 2) Fuel system now approved by Provincial Fire Marshal's office (the announcement previously was of same by Delta Fire Department)
- 3) The Wright Flyer contest still very much active.

4) The Agricultural Land Commission has given approval for the construction of some additional hangars at DHAP.

Old Business:

Bruce Prior presented trophies awarded at the Annual Bash to members who were not there.

Baker/Prior II: that we adjourn, and verily, 'twere so.

Jim Hunter, Secretary.



Get the Picture?

A funny thing happened to me during the RAA 85 fly-in. Actually, the same thing happened twice, which makes me think it wasn't a random occurrence. People asked if I took photos of planes in order to sell prints to the owners. When I said no, I was told many owners don't have decent photos of their aircraft, and that selling such pictures could be a way to make money.

By Mark Munzel

Pardon my laughter, but aren't RAAC members supposed to be "do-it-yourselfers?" Aircraft photography doesn't require any special talent - or an entrepreneurial bent. Assuming you or your camera can look after the basic operations like focus and exposure, it's simple to produce an attractive image of a parked aircraft. And rather than start a business doing so, I'm going to reveal some of the trade secrets.

If you're one of the owners I was told about, consider the few

points below before pressing the shutter button. These tips can help to elevate your photos above mere snapshots. They apply to any sort of camera, lens, film, and/or digital thinghickey. You can use them to immortalize your plane - or to start a business yourself.

Lighting

Assuming it's a sunny day, you should photograph the lit side of the plane (i.e., with the sun at your back) whenever possible. Let the light bring out the colour and shine of the aircraft. If you shoot the shaded side, everything will look flat and dull.

Subject

Well obviously, you're shooting a plane. But you should do what you can to make that subject evident. This means you should minimize distracting background and foreground elements. If it's your plane, take off the tie-down ropes, sunshades, and inlet covers. Consider moving it to a spot with an uncluttered background; otherwise, bright orange windsocks, telephone poles, and bits of adjacent aircraft may look like strange (not to mention draggy) appendages. Ideally, the spot you chose should allow the plane to be in the sun as noted above.

If you can't move the plane or lose the clutter - say it's somebody else's plane at a fly-in - you may be able to hide it or make it less prominent through your choice of viewpoint. Speaking of which...

Viewpoint

There are two things to consider here. The first is your position relative to the plane as you walk around it. Just as with people, not all angles are flattering for a plane. A position off to the side but ahead of the wing is often best for showing the plane's appearance and features in a natural way. Unlike in a profile view, you can see the wings; unlike in a front view, you can see the fuselage. Side-on or front-on views look rigid and static; a forward-quarter view does not.

The second consideration is the elevation from which you take a picture. Many people never think about it, and shoot everything from standing height. But this isn't always the best choice. For instance, if you crouch or kneel down, you'll obtain a low angle that makes the plane look larger and more powerful. As a bonus, the fuselage will often hide distracting features in the background. (But beware of things that suddenly become visible under the plane!)

Size

How large the plane appears in the final image is controlled by how far you stand from it and by the focal length (if you're scared by the jargon, call it "zoom") set on your camera. The objective (that's a lens pun, incidentally) is to make the airplane fill the frame of your viewfinder and thus fill the resulting photo. If it's too small, you'll get mostly grass - and you could easily have photographed grass in your backyard. On the other hand, don't frame so tightly that you cut things off, especially the nose or tail.

If you can choose between zooming-in from afar or standing closer, go with the former unless it brings too much clutter into the scene. I could fill another article with an explanation of why. But wouldn't you rather read about recreational flying that field of view, distortion, and near-far relationship?

Here's an important point: Don't worry what part of the plane is dead-center in the viewfinder. So long as the entire aircraft is in the photo, things will work out. Indeed, you may want to tilt

the camera up slightly to include dramatic clouds, or down if you really must shoot that grass!

Take the picture!

In fact, don't be afraid to take two or three of one plane, varying your approach to see which comes out best. Experience really is the best teacher, and film is much cheaper than avgas.

Here are some special situations you may encounter in your photographic endeavours, and some ideas of how to deal with them.

Running aircraft. First, always stay within sight of the pilot and well clear of the prop. If you can control shutter speed, use a slow one so the spinning prop will look to be in motion. If the aircraft is moving, you must "pan" with it to ensure the subject isn't blurred. There are other nuances; really, shooting an active plane goes beyond the scope of this article.

People posing with airplanes. Generally, planes are bigger than people are. If you capture the entire plane as described above, you'll get the people too. And you'll find doing so looks more natural than putting somebody's head dead-center in the image.



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Business Card: \$25 per year

1/4 page: \$10/month \$100/yr

1/2 page \$15/month \$150/yr

1 page: \$25/month \$250/yr

Ads that have been in for more than 6 months are subject to removal if space is required for other stuff. Please contact George the editor if you want it kept in.

FOR SALE: SIROCCO PROJECT

Fuselage, canopy, tail group complete. Air frame control components done except for cable. Main-wheel gear, wheels and brakes done. Tail-spring and wheel included. Panel made, no instruments. Lycoming 0-290 GPU Zero-timed. Will Neubert stainless cross-over exhaust with stainless muffler/shrouds. Bendix PSC5 carb. Bendix mags with non-shielded leads. No starter, starter ring or alternator. Weldtech engine mount. McCauley prop.

Wings: ribs and minor spars done. Spar diaphragms done. Two spar-grade spruce planks. No other wing parts.

\$15,000 firm, complete and not interested in parting-out

Jim Hunter 576-2678

FOR SALE: 1957 Tripacer Wings unconv-

ered, all reworked. New leading edge. New ash tip. All Zinc Chromate ready to fabric. Included: 2-18 gal. gas tank, 2 - gas tank cover, landing light, aileron and flap, front and rear struts. Asking \$4000 Canadian.

Roger Gauthier (Kelowna) (250)-763-1529
(250) 212-0832 (cel)

Wanted: PA 18 or PA 20/22 Wings. Some damage OK. 946-5881

For Sale: Electronic Tach 2.25" with generator (new) \$125, 6" castoring tailwheel, \$50, Electronic dimmer control, \$25, 2 New 600.6 Goodyear Tires, \$125 for pair, Combo EGT/CHT (needs probes), \$50, Tach Cont.C85-0200, \$35, Temp (OAT) gauge, new, \$35, Windscreen Ant., Van's, new, \$15, 525 battery (new) never had electrolyte, \$75, Fuel Pressure Gauge O/H, \$35, Lycoming Starter 0-290, 0235, 0320, 0360, for \$375.

Bob Cutting 275-1603

Will consider small antique aircraft engine as trade-in.

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Ole #45-3931 198 st. Langley BC 514-1280

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E-mail: sgear@infoserve.net

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FOR SALE: 1- Miller 200 amp ac/dc H.F. Tig/stick welding machine - 220V 1 ph. \$1200. 1- Miller 120 amp MIG (wire) welding machine, 110 volt. Portable sheet metal type, c/w gas kit (almost new) - \$800.

Pat O'Donnell 533-1839

FOR SALE: Zenith 250 plans and parts, wing rib moulds \$360. Christavia Mk IV project, 4130 steel tube, wing ribs, flaps ailerons, gear legs, wheels and brakes, tail stab and rudder, \$3600.

Paul Trudel 532-8570

Headsets -2 David Clark H10-30 \$125 / \$100. Bendix starters for Lycoming - 2 @ \$250 each Terry Elgood 604-279-2062 email: elgood@aebc.com

FOR SALE: Murphy type floats 1500's. \$9600 CDN. New, complete with rudders. Harold Schapansky (604) 826-5068

Discovering your ability to produce a unique, personal impression of a flying machine is a better reward than money.

People obstructing airplanes. Unless you're alone, others will ALWAYS walk in front of the plane and pause to look at it. But they have an equal right to enjoy the aircraft. So wait patiently for the crowd to clear, or ask politely if you can get your shot.

People (and machines) trying to run your photos. Yes, special mention must be made of developing and printing for those who use print film. Don't try to save a buck by taking your film to the local megastore. The results will show where costs were cut. Go to a real photo finisher with skilled staff - people who'll make your

prints look good, or who can explain what to do next time if they can't.

I could go on, but this newsletter's title is Turn & Bank, not Point & Shoot. There are enough ideas here to get you started, both in what I've written and what's left unsaid. Don't worry that following these suggestions will cause you to take photos just like mine. Photography is an individual activity - you and I can walk up to the same plane and consider the same factors, but by making our own decisions how to deal with them we'll produce completely different images. And discovering your ability to produce a unique, personal impression of a flying machine is a better reward than money. So much for the business end...

Now grab your camera, get outside, and photograph some airplanes! Then give copies of your photos to the newsletter editor so he can stop begging!



OOPS

It has been pointed out to your editor that Beat and Marilyn Meyer's beautiful amphibian mentioned in the last issue is a SEAFIRE and not a Teal. Sorry! More pictures of Beat's SEAFIRE:



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