



Carb Heat

NEWSLETTER

Hot Air and Flying Rumours

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MARCH 1989

NEXT MEETING NRC Building 100 Sussex Dr
7:30 PM 17 March

TOPIC Emanuel Camilleri an experienced AME, Flight Engineer, and an Instructor at the Ottawa Flying Club, will discuss the care and feeding of the Aero Engine.

April Topic Behind the scenes at the National Aviation Museum. See the restoration shop and the storage area (the really interesting bits)

DODS/RUSSELL —Deric and Deb are pleased to announce the impetuous birth of their daughter, Lindsay Aceaids, on February 25, 1989 around 1 a.m. Proud grands are Joy and Jack Dods of Manotick and Winn and Laurie Russell of London. Many thanks to the 911 Team, Riceau Township Fire Station No. 2 First Aid Squad, The Ambulance Crew and especially Mary at the Riverside Birthing Centre for her calm voice on the phone for dad.

President-Doug Richardson	592-5080	Aircraft Ops-Dick Moore	836-5556
Vice President Lars Eif	837-6680	Special Events-Gord Standing	224-2870
Secretary -Andy Douma	591-3801	Membership-Rodney Stead	836-1810
-Roger Fowler	225-6070	Publisher-Dick Moore	836-5556
Treasurer Deric Dods	692-6121	Editor-Ted Chambers	49-0209
Hangars Dave Murray	592-8102		

CHAPTER MINUTES FEB. 19, 1989

President Doug Richardson called the meeting to order at 8:10 and welcomed our guests.

It was then Doug's sad duty to report the tragic death of John Van Tuyl in the crash of his Cessna 170 on the Rideau River on Jan. 22. John was our Operations Manager and one of the stalwarts in the hangar project. He will be remembered for his cheery disposition, quiet humour, and deep love of flying. Doug announced that the chapter had made a substantial donation to the John Van Tuyl memorial Fund at the Civic Hospital and the members stood for a minute's silence in John's memory.

On a more pleasant note, Doug called on Lars Eif who announced that the April 21 meeting will consist of a tour of the National Aeronautical Museum. Gather in the **main lobby by 7:30 p.m.** We will tackle the restoration area, loaners etc., and dead storage, respectively--if time permits. (Bring \$3.50 just in case we have to pay for the tour.)

The West Carleton Airshow is the only one in the area this summer and plans are to have a Lancaster present. A volunteer is needed as liaison between the airshow planning and the chapter.

Our new Operations Manager is Dick Moore.

MODE C: Don't forget to submit your letter before March 15.

GUEST SPEAKERS--Wolfgang Weichert, Gord Standing, and Lars Eif

Wolfgang Weichert went first and calmly related his hair-raising encounter with flutter while test-flying Alex Fulton's *Star/ite* at 150 m.p.h. It should be emphasized that Wolfgang was wearing a parachute, had plenty of height, and was following approved test procedures. After the short-lived but violent bout of flutter, he felt no difference in the controls but decided to head back to Carp where he made a tighter than usual circuit. Some 60' above the ground and a few hundred feet short of the runway on final, the plane suddenly pitched down uncontrollably, yawed, and crashed. Wolfgang suffered a fractured lumbar vertebra as well as considerable mental and physical anguish. He noted, however that he had been flying recently and was looking forward to the approaching glider season.

CSB from Toronto investigated the accident and even flew Mark Brown, the designer of the plane, from Texas. Brown praised the workmanship in the plane

and found no play in the control linkages. It is suspected that the right stabilizer fatigued during the flutter and then failed just prior to landing. A 2-3" glue area may have produced an unfavourable weight distribution in the stabilizer, thus leading to flutter. Brown now advocates mass balancing.

Gord Standing provided happier news in noting the few details that now stand between him and his final inspection (12 nicopress sleeves, 16 turnbuckles, labels, 10 plate, and Hallelujah!) Having heard that the main difference between his 20 cents/foot Canadian Tire cable and an aircraft supplier's at 70 cents/foot was linseed treatment, Gord furnished his own inhibiting treatment on the kitchen stove. Caiming the smoke detectors wasn't too hard, but getting rid of the stench of boiled linseed oil and convincing the Missus that you get used to the odour after a while took a lot more doing. Gord next tested the breaking strength of both cables and found that his gave up at 2135 lbs whereas the real McCoy let go at 2360. The experiment wasn't rigidly scientific but it did point out that there isn't enough variation in strength to warrant the cost difference. (If you're strong enough to break these cables, you'll be too big to get into a homebuilt, so there still isn't a problem!)

Lars Eif brought in a sample of his gorgeous workmanship in the form of a wing panel for his Steen Skybolt. With this eye-catching background, he noted that he began his project in 1985 and that he was a novice in woodworking before starting his plane. The 48 ribs (truss design) required 10 months' work and another 2 1/2 months to finish assembling on the spars. The spars came from Western Aircraft Spruce and while they had the precise bevel on the top edge, they were 1/32" under sized elsewhere. The quality of the wood was very good, however. For glue, Lars chose TA 88 epoxy. It has a pot life of 25 minutes, is sandable in 24 hours, and reaches full strength in 48. The plans --which, in fairness, are only called prints--leave much to the imagination. Lars has generally followed them but opted for the Pitts landing wire method. He figures he saved about 4 lbs. and some drag as well. He threaded his own drag and anti-drag wires and doesn't feel there ought to be a problem. Rolled-threaded rods, he noted, are prohibitively expensive. He has used the Stitts method throughout and is satisfied with the results. If doing things again, he would use plywood ribs with lightening holes and would probably buy the fuselage already welded. The cost difference between purchasing the latter and building it from

scratch is not significant, but the savings in time is. Lars wisely abstained from speculating on a completion date but he's at least now counting down in terms of months rather than years.

Roger Fowler.

SPECIAL EVENT

At the March 89 meeting a special "Buck-a-Ticket" Raffle will be held. Win a complete set of plans plus a construction manual for a JODEL F11! All proceeds go to the Chapter.

(For the as yet uncommitted builder, What a great way to get some reading material about an oldie but a goodie)

Storage of Tires

Part of a course given by the Michelin company recently dealt with the storage of car tires. The same principles apply to aircraft tires which may be stored for several years before being installed. Proper storage conditions are cool, dry, dark and away from chemical vapours such as the ozones given off by electric motors.

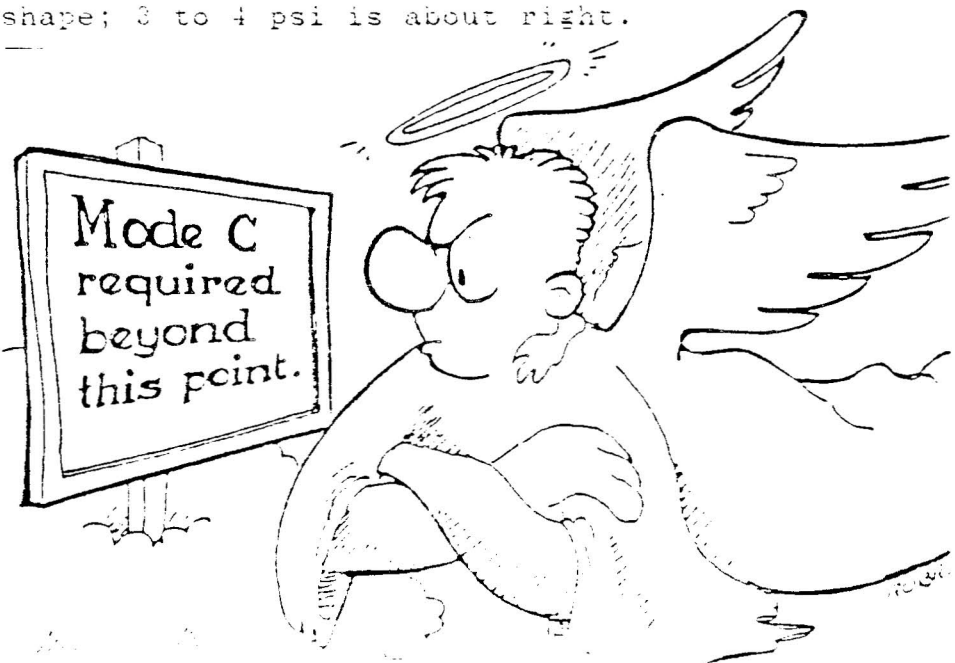
The instructor gave an example of how not to store tires. One summer, he stored two new snow tires in the roof of his garden shed. Temperatures in the shed often reached 120 degrees F. In the fall, he installed the tires and was horrified to see the rubber cracked after only a few miles of driving. The subsequent analysis revealed that his tires were fully cured; ie, the rubber was now bakelite. A tire is like a cake; it's best when only cooked about 80%.

Also, if you store your tires in the basement, protect them from the flourescent lights as the high content of ultra-violet light will also deteriorate them.

If the tires are mounted, keep only enough pressure in them to let them keep their shape; 3 to 4 psi is about right.

LIGHT WEIGHT ENGINE STARTER

It seems the Datsun SX300 starter is a hot item for homebuilt aircraft. The starter is very high torque, about 1/2 the weight of the starter issued by Lycoming for their engines, and easy to install. I know of three starters installed on three Lycoming engines, each having a different size ring gear. The SX300 starter will even work on most Lycoming ring gears. The average strain is considerably less than the Lycoming item.



Flight Lines

by Olav Peterson. March, 1989.

EAA 33135

That's how we first met John...

The mailman left it in the door slot one day - - an envelope which contained a solitary cheque for \$17, with no explanations, and signed by John Van Tuyl.

The name at the time was unfamiliar and the amount was puzzling.

The mystery was solved some time later at the EAA Chapter 245 monthly meeting when appreciation was expressed by a new member for our room reservation for the forthcoming Oshkosh convention. Unable to go ourselves due to more urgent commitments we had donated it to the chapter and John had picked it up.

That summer a red and white Cessna 170 was ferried into the EAA tiedown at Carp and settled in just across from our Cessna 172. This was John's recent acquisition and he was mighty proud of it. Since our planes came from the same litter, there was reason for frequent chit-chats for comparing and discussing the similarities and evolution of the design.

John was a keen pilot and his plane never accumulated cobwebs; he was also no slouch when a call went out for volunteer help for club projects.

It was incredibly sad news when the picture of John's mangled Cessna 170 was displayed on the front page of the Ottawa Citizen in which John had lost his life.

This summer his tiedown will be empty and his absence will be missed.

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Seems to me that Ottawa EAA Chapter 245 is really pushing the leading edge of ornithopter flight and has a substantial jump on other researchers of notable stature.

The Toronto Globe & Mail, Thursday, January 12, 1989, p. A8, describes the efforts of professor James DeLaurier and US research engineer Jeremy Harris in developing an ornithopter over a span of some 15 years and having finally reached a point where a test flight is being planned for this spring. But theirs is only a 9 foot wing-span, motor driven model, whereas EAA's own Ed Atraggi has created a full-size, 40 foot craft; and as if this were not enough, his is entirely biceps-powered.

To the uninitiated, a layman like myself, it is extremely difficult to grasp the merits of the concept - how a wing, which over more than 50% of the flapping cycle is not developing lift, can even approach the efficiency of the gliding wing. Maybe it's another version of the bumblebee enigma.

The important thing is that the spirit of curiosity, experimentation, the urge to unravel the untried, little-understood technology, still lives and is doing well at EAA.

When Ed starts testing this spring you can be proud that our chapter has attracted a man of such courage and adventure.

What is getting more expensive than flying an airplane?

Parking an airplane, of course! That is if you will find a tie-down space.

World surface population is increasing in leaps and bounds; cities are bulging and suburbs are sprawling. Toronto is expected to exceed 6 million by the year 2000; greater Ottawa is edging close to 3/4 million now. Yes, it does feel exhilarating to take off and soar above all this congestion below - but eventually you must return and face the problem of finding space into which to squeeze the plane. The choices for tie-downs are diminishing in larger centers and it's reflected by what we are being charged:

- * Toronto's Island Airport: north side, 125/mo--> \$1500 annually
: south side, \$95/mo---> \$1140 annually
- * Buttonville: \$120/mo-->\$1440 annually
- * Ottawa F/C: \$91/mo ----> \$1092 annually
- * Gatineau, Que.: \$50/mo--> \$600 annually
- * St. Hubert, Montreal: \$50/mo ----> \$600 annually
- * Carp(EAA Chapter 245): \$~~20~~/mo ---> \$240 annually

A sizable batch of back-issues of chapter newsletters from across the country which I received at the end of January were all published pre '89 and many, but not a majority, reported arrangements being made or invitations extended to their Christmas banquets.

What a superb chapter activity!

Aside from providing yet another chance for celebrating Xmas holidays it affords an opportunity for the passive half of each member to meet the other chapter members and their spouses.

The EAA chapters were not intended to be intimate organizations, like the Greek letter fraternities, for instance, but it does provide for a friendlier climate, both at home and at the airport, if at least a faint acquaintance has been established.

There were also reports from many chapters on the decision that their membership had taken to abandon the ranks of EAA and join up with the fledgling RAA.

I cannot see merits in this switch - surely it's not for patriotic reasons; we are not a politically oriented organization and secondly, aviation in Canada, being so dependent on American and International laws, would be told what's what regardless of our affiliation. But it is breaking up our group by pitting, if only psychologically, the EAA pilot against an RAA pilot, and now I read that even the chapter newsletters may not be exchanged, as suggested by "Chapter 41" Newsletter, Nov'88, under "V.P.'s Ramblings".

Some long-time members are so guilt-ridden to be associated with EAA that joining an RAA unit, located far from their home territory, is not considered excessive.

In the era of mergers, common market, multinationals, free trade and borderless communication, it appears out-of-place and ill-conceived to introduce this devisive structure within our already thinning troops.

.....

The older one gets the more one tends to become disillusioned by society's ability to organize, anticipate, plan and regulate its destiny.

It's probably because one has seen so many of these crisis.

There is either too much or too little; for instance, as it is presently with nurses: from an over-supply only a few years ago, to a critical shortage; actually to the point where national health care is suffering.

And now it also appears to be the AMEs' turn. (Aviation Trade, Feb.'89, pp. 17-18)

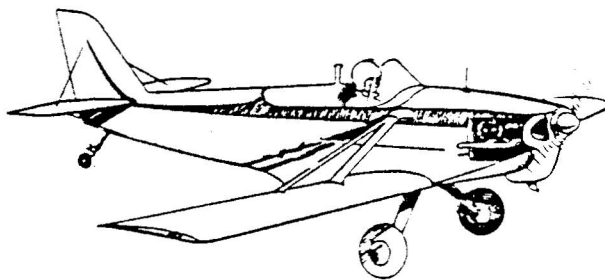
In little more than overnight, North American general aviation industry has shrivelled from the heights of a world leader to an insignificant trifle. When the production of light planes stopped, it also created a large number of un-necessary, aviation-oriented services. With bleak prospects for prosperity they will in time, one-by-one slide into oblivion leaving you and I scurrying around for a diminishing supply of parts and expert services.

If you own a factory-built plane which requires the annual CCI to be signed off by and AME, there may be problems ahead. The new crop of AMEs will be trained to maintain the high-tech corporate fleet of business jets, the air-line behemoths, or the military supersonic hardware and the driver of an extinct Cessna or Piper will be hard-pressed to find someone willing to perform an annual.

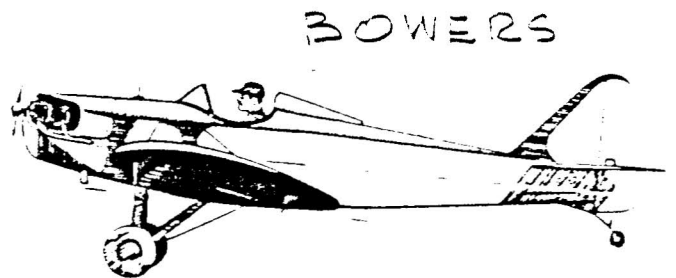
I recall rejoicing when the Flying Farmers, a few years ago, urged our government to relax rules allowing the pilot/owner to legally service his own airplane. Unfortunately, the reaction time of governments is slow which normally puts them out of step with solving todays problems and so you won't catch me holding my breath in the anticipation of seeing a positive response.

Not to worry!

Being already a member of EAA, when finding an AME for CCIs becomes unbearably difficult, simply dispose of the "factory-built" and create your own "home-built" -- and the government will have no interest in how much love and care you will lavish in maintaining it.



STITTS



BOWERS



experimental aircraft association
canadian council

REM WALKER,
2348 GARNET ST.,
REGINA, SASK
S4T 3A2

HINTS FOR PICTURES FOR PUBLICATION

- Take a look at pictures now appearing in SPORT AVIATION in the WHAT OUR MEMBERS ARE BUILDING/RESTORING section near the end of the magazine.
- Picture should have the aircraft centered, from side to side and top to bottom.
- An uncluttered background is preferred.
- Picture should be recent, not faded from age.
- Please include the complete aircraft. Clipping part of the aircraft in the picture is not a good idea as this will result in rejection for publication in SPORT AVIATION.
- However, a picture with part of the aircraft clipped, may be okay for CANADIAN HOMEBUILT AIRCRAFT NEWS (CHAN).
- A good sharp, crisp picture, with good colour, will do justice to your project. It will be worth the effort to get such a picture, not only for yourself but for others to see.
- The colour processing necessary to reproduce a colour picture is very demanding and is hard on a picture that is washed out. That is why a good quality colour photograph is requested from you.
- If you have a picture that may not be suitable for SPORT AVIATION but you would like to see it published in CHAN, please, send it along. CHAN is in black and white and the process is not quite as demanding as colour. Colour pictures can be reproduced in black and white in CHAN.
- In any case, please include details about you and your amateur-built project so that a suitable caption can be included with the picture. The picture will appear in SPORT AVIATION and/or CHAN, depending on the quality. Will return it to you when finished with it.
- SPORT AVIATION is looking for completed aircraft only. CHAN will take projects under construction and completed aircraft.

Thanks for your interest and assistance in letting others know about your involvement in sport flying.

Editor's Note The EAA is trying to give Canadians equal billing with our US cousins. Any contributions? Don't be shy. You Didn't build it to hide it!

V 'HAT'S UP

Spring just has to be around the corner. My reason is the air aloft is more turbulent lately. Next thing I'll have to keep watch for is the annual spring migration of nest builders. Well I hope to fool them by surrounding the Zenith in the corrugated tin of the new hanger.

It's a good feeling right now with 90% (ha-ha) of the structure finished. It also means there will be time to fly this spring instead of building. I'll have time to watch Gord and the Bi-FLY BABY drill holes in the sky. I'll have the time for watching (and or help) Henri reinstall the engine on the Cuby. Time will furthermore be made to witness the return to the sky of Dick Moore in his new kit plane. He calls it a Cessna C150, reg. # C-GGCJ. Dick said that it went together very quickly, in about 2-3 months of part time labour.

Well maybe the sky isn't that rough, think I will start planning my return trip to see Cole Palan's collection of vintage aircraft, at Rhinebeck, N.Y. The show starts in about 2 ½ months, giving me enough time to assemble the current charts and update my waiver. Anybody else interested?

Maybe I'll get to that elusive Nova Scotia this year, or test out the transponder, and radio by visiting friends down in Toronto. Or

Perhaps that is why Feb. was created.

Doug

HOW TO FLATTEN TUBING ENDS

From DATUM LINE. Chapter 104's Newsletter

Here is something for the antique and biplane enthusiasts. Flattening the tube ends for struts and other applications is a very simple process. The tubes get flattened ... but in some cases the results are very poor.

The biggest defects are in the sharp mark-off creases left by the jaws of the vise during the forming operation and cracks due to trying to cold work the tubing.

PROCEDURE

Insert forming jaws in the vise.

Heat the tubing cherry red.

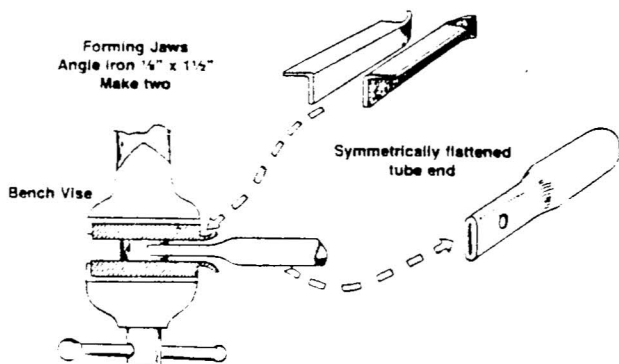
Insert tube end and squeeze in the vise.

Trim and weld end as desired.

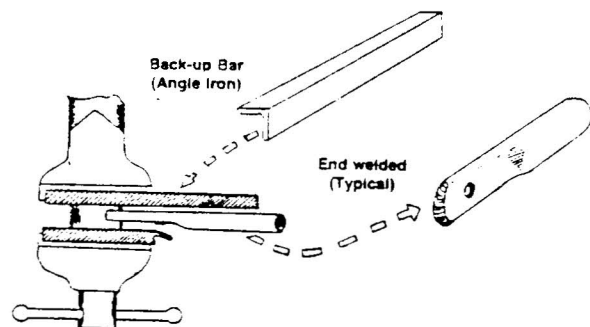
Reheat tubing end to cherry red condition.

Allow tubing to cool in still air.

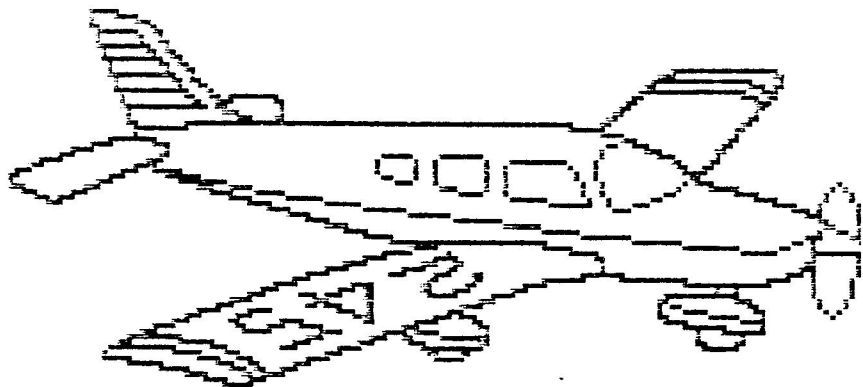
Drill end as needed. Tube is ready for use.



Sometimes it is necessary to flatten the tube end asymmetrically due to structural clearance requirements or design. This is just as simple an operation. In this case it is necessary to replace one of the forming jaws with a longer piece of angle iron which serves as a back-up during the squeezing process. This is illustrated in the following drawing.



Procedure in flattening tubing from one side (asymmetrically) is the same as described for the symmetrical flattening. If you try to do this work without heating the tubing to a cherry red condition ... it will crack along the edges.



Classified Section

Aircraft:

Minicoupe, partially completed. Unable to continue due to discontinued kits. All offers considered. Call Richard Taylor 596-6913 after 7:00 pm.

Bowers Flybaby, bargain. Contact Mike Sacoutis 729-3774.

Plans:

Davis D2A. Call Russ Robinson 831-2485

Engines:

Lyc O-320, 800 hrs, half inch valves. Mike Sacoutis 729-3774.

More Parts:

Brakes and wheels, Rosenhan. Suitable for Warri-Eza, Davis, etc. Offers welcome. Eric Taada 749-4284.

Forged VW crank and propeller hub. For details, call Richard Taylor 596-6913 after 7:00 pm.

Kit Shop:

Chapter 245 shirts, with logo. Available in white, light blue, dark blue. Golf shirts \$18.00. Tee shirts \$7.00. See Andy Douma or call him at 335-1353.

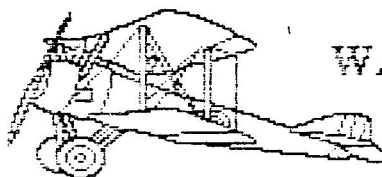
Mike's Parts Bin:

For the following parts, contact Mike Sacoutis at 729-3774.

- Propellers - Zero time constant speed.
- 19170 metal prop, with logbook.
- Wood pusher prop.
- Metal prop for 150 hp
- Zenair wood 58x48"

Hanlon Wilson mufflers
Drumman spinner and backplate
Instruments, NavCom, wheelpants

Mooney Parts: Complete retract gear with 6.00x6 main wheels, 6.00x6 nose wheel. Also seats, fuel tanks, gauges, gyros and control surface pushrods.



WANTED COLUMN

Wanted: One set of Cleveland wheels and brakes 6.00x6, James Cluff, Work 722-3113, Home 596-1949.

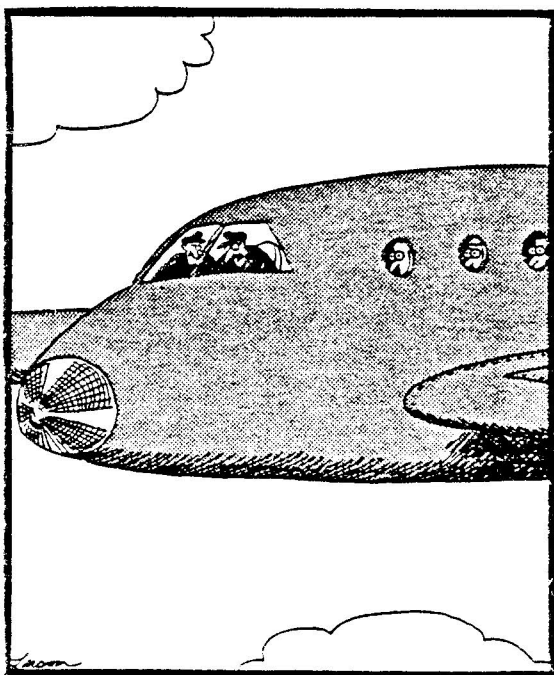
Classified Editor: Lars Elf 837-6620.

REMOVING PAINTS FROM PLEXIGLAS

PLEXIGLAS sheet should always be protected from nearby painting operations by covering it with kraft paper or drop cloths. If paint splatters or over-spray settles on the PLEXIGLAS sheet, it can often be removed by wiping with isopropyl alcohol or soaking the painted part in a 10-20% solution of caustic soda or trisodium phosphate and subsequently rinsing with water. If the part cannot be soaked, the caustic soda or trisodium phosphate solution can be applied as a paste made by adding wallpaper paste to the solution.

CAUTION: Caustic soda or trisodium phosphate attacks the skin very quickly. The operator's hands should be shielded by rubber or other protective gloves. Caustic soda or trisodium phosphate can cause permanent injury to eyes. Splash goggles should be worn during use. If caustic soda is splashed into eyes, wash with copious amounts of water and see a physician.

Certain types of paints, such as those made with an acrylic resin base, cannot be removed from PLEXIGLAS by the above method. For recommendations on how to remove these paints see PL-52, Painting PLEXIGLAS Cast Acrylic Sheet.



"The fuel light's on, Frank! We're all going to die!
... Wait, wait. ... Oh, my mistake—that's the
intercom light."