

EAA 245

OTTAWA, ONTARIO

NEWSLETTER

REPLY TO: EAA CHAPTER 245, TERMINAL BOX 8412
OTTAWA, ONTARIO
K1G 3H8



CARB HEAT - Hot Air and Flying Rumours

Meetings - 3rd Friday at the National Research Council Building Auditorium
100 Sussex Drive, Ottawa, 8 pm

Sept. '85

NARRATIVE OF CHAPTER 245's FLY-IN BREAKFAST 1985

The day as you know, if your day started as mine did at 4 a.m., dawned with the sun shining brightly as volunteers gathered to put on the finishing touches such as spreading table cloths on the tables and counters arranged by the Saturday work crew, sorting the food stuffs to their proper areas, lighting up the stoves and arranging the cooking utensils and with that sat back to await the first arrivals.

Then guess what - you're right it started to rain, the visibility dropped and so did our hopes of a successful breakfast.

Since we had time before the 8 a.m. deadline, the volunteers had their breakfast and finished their coffee they stood around in small groups discussing the weather or whatever.

It was a little after eight when the first hardy soul ventured in and had breakfast, about half an hour later Terry Peters and two passengers arrived in a Stinson from Rockcliffe. They were the first to arrive by air.

Throughout the morning as the rain would stop and restart groups of two, three and four continued to show up at the hangar, have breakfast, look at the airplanes and depart.

When the small hand pointed to eleven and hand to six and it was quite obvious no one else was coming, the volunteers again took over and started the clean up. Surprising as it may be about forty-five minutes later the trucks were loaded, counters and tables put away, the hangar floor swept and airplanes were gradually returning to their positions in the hangar.

Later that evening, after a short afternoon snooze that crept into the early evening I had a look at the final figures and found it encouraging, we had actually served ninety breakfasts and had eight visiting aircraft, a surprising number in light of the weather.

Although we fell far short of the numbers of breakfasts served and visiting aircraft we chalked up last year, nevertheless, we are looking forward to next year and better yet, a sunny bright Fathers day.

THE LARGE

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Vice-President: Roger Fowler 225-6070
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A big thank you is due to the crew that showed up Saturday to move aircraft, sweep the hangar floor and assemble the counters and tables. They were Ken Cavers, Eric Taada, Deric and Jacks Dods, Gord Standing, Parr Tate, Garry Fancy and Derwin Hunt.

Finally, a special thank you to the large group of volunteers who showed up for the preparation and serving of the meal. Although everyone was not used due to the small breakfast response nearly everyone performed in one way or another.

Ken Cavers and his group consisting of Bob Owens and Jim Butler looked after the parking of aircraft.

Bruce Hamer sold tickets, looked after the register and guarded the cash.

Grace Cavers and Roger Fowler did a terrific job over the hot fry pans manufacturing fried eggs, bacon and sausages.

Eric and Sandy Taada ably whipped up tasty flap jacks and it was with great awe that those present watched as Eric flipped the cakes without missing the pan. Many complementary comments were made as to the tastiness of the end result.

A great effort was made by Helen and Tom Standing in keeping the toast, coffee and juice division percolating. They were relieved at half time by Shirley and Scott Trowbridge who did an equally great job until the end of the breakfast period.

Henry Beaudoin was elected official photographer and carried out that function by taking many pictures that will show the pictorial progress of the breakfast.

Garry Fancy kept our tempermental generator operating with the much needed gas and oil and tender touch.

Peter Plaunt, Dick Moore and Jack Dods showed up and although their talents were not utilized their presence was greatly appreciated.

A big thank you to Joyce Gowanlock who kept the ash trays empty and the tables clean.

Finally, when your truly burned the first batch of toast he attempted he stood back assessed the situation, withdrew and let a well organized group carry on.

Gord Standing

MR. ERIC RAFT

EAA Chapter 245 is indeed fortunate to have as its newest member, one of the oldest members of the aviation fraternity. For those of you who do not recognize the name, Mr. Eric Raft has been involved with aviation virtually since its beginnings. He was involved with such aviation pioneers as Sir T. O. M. Sopwith who by the way at last reports was also still alive.

Mr. Eric Raft has been associated, both in a technical/design capacity and as a pilot, with virtually all phases of aviation, including military, civilian and research. Although much of his noteworthy activity focussed on the period from the beginnings of flight until after the Second World War, he still maintains an active interest in all facets of aviation. However, after all these years, as he puts it himself, he has had his ups and downs and when he is down he is not good for much.

Mr. Eric Raft has some fascinating tales and anecdotes to relate and has promised to be a regular contributor to this newsletter. He also would like to attend our meetings, but his health may or may not permit this. He has indicated that he would be delighted to be our guest speaker some evening.

Garry Fancy

NIGHT SCHOOL MACHINE SHOP

Night School Courses offered by Ottawa and District Schools commence shortly. In particular Machine Shop (hopefully) will be offered by Ottawa Technical High School and Ridgemont. The machine shop "courses" offered by these two schools are tailored to the do-it-yourselfer. Thus you can do your own thing. This is ideal for the aircraft builder. I have taken courses at these two schools for more consecutive years than I care to remember and highly recommend them particularly the good facilities at Ottawa Tech.

There is no comparison for a heavy duty grinder, drill press, lathe, power band saw, etc. Even a solid table with a large vise is invaluable. These night school courses are invaluable and save bothering your friendly machinist no end.

Garry Fancy

What's All the Flap About

I recently wrote to Chapter 245's emeritus aerodynamicists, Bill Laundry, asking him to explain the relative merits of flaps versus spoilers for use on a Super Crib.

Bill very kindly gave a thorough explanation. I thought this would be worth sharing with others and Bill has given permission to publish his letter. Here it is with a few personal references deleted and thanks again Bill Laundry.

Garry Fancy.

In regard to flaps vs. spoilers, you sort of answered your question in your ps. on the back of the last page. Actually, they each serve a different purpose; flaps to reduce stalling speed and spoilers to reduce lift and increase drag for flight path control.

The landing is composed of two parts, the approach and the ground run. The approach distance varies directly with the aircraft weight (assumed fixed) and the square of the approach speed and inversely with the drag. Therefore, to shorten the approach distance we want low speed, (high lift coefficient; flaps) and high drag (high flaps deflection or spoilers). Remember that spoilers will also reduce the lift coefficient thus increasing the stalling speed for unaccelerated flight. Thus high drag flaps look good, for example, split flaps.

The ground run on landing varies directly with the square of the touch-down speed and inversely with the deceleration force. The touch-down speed is a function of the maximum lift coefficient and is reduced by the use of flaps. The deceleration force is a function of the aircraft drag and the braking capability of the aircraft. A normal practice is to retract flaps after landing to reduce the lift and transfer more weight onto the wheels to improve braking. Here the spoiler would reduce the lift force as well as increase the drag; just like the big guys.

Because of the adverse long term effect of spoilers on the unaccelerated flight, spoilers are used mainly to control the flight path. That's why they are applied for short periods of time. For example, you are on final with aircraft trimmed to approach speed. You notice that you are high, rather than diving, which really doesn't shorten the landing distance, you apply the spoilers for a short period of time. This has two effects: (1) the increase drag steepens the flight path for the same flight speed and (2) the loss of lift causes the aircraft to increase its rate of descent since the weight is now greater than the lift and Isaac Newton helps out. Once the correct flight path is captured, retract the spoilers and you will reestablish your previous flight path. Instant changes in lift and drag; instant is the key word.

You can do something else in order to correct if your too low on the flight path. Here you must assume that you might make this error because it requires an initial set up. Deploy the spoilers a small way to increase the drag and reduce the lift coefficient. Now establish the approach flight path, now you can either decrease the approach angle by retracting the spoilers or increase it by putting out more spoiler.

Thus, you can see that flaps and spoilers are not the same but can be used in combination to shorten the landing distances, in the air and on the ground. Each alone will work but generally a flap is used to reduce the landing distance and a spoiler is used to control the flight path.

I always thought that the short field aircraft and the high performance aircraft should have spoilers. The short field aircraft just for the reasons described, flight path control into short strips with steep approaches. The high performance aircraft for flight path control and to slow it down, like the 'belly board' on the VariEze. I've found in the Cardinal, that it seems to take forever to get it slowed down. Sometimes, you have to dump some flap to get the speed down to the gear down speed. But, if you think ahead far enough, pulling the power to just above the gear horn power setting will result in a speed below the maximum gear down speed but you really have to plan a long way ahead. So spoilers are useful but in conjunction with the normal devices, such as, flaps.

I hope that I haven't confused the subject more than it already is. It's like nearly all other topics, there is no one answer.

TECHNICAL TIPS

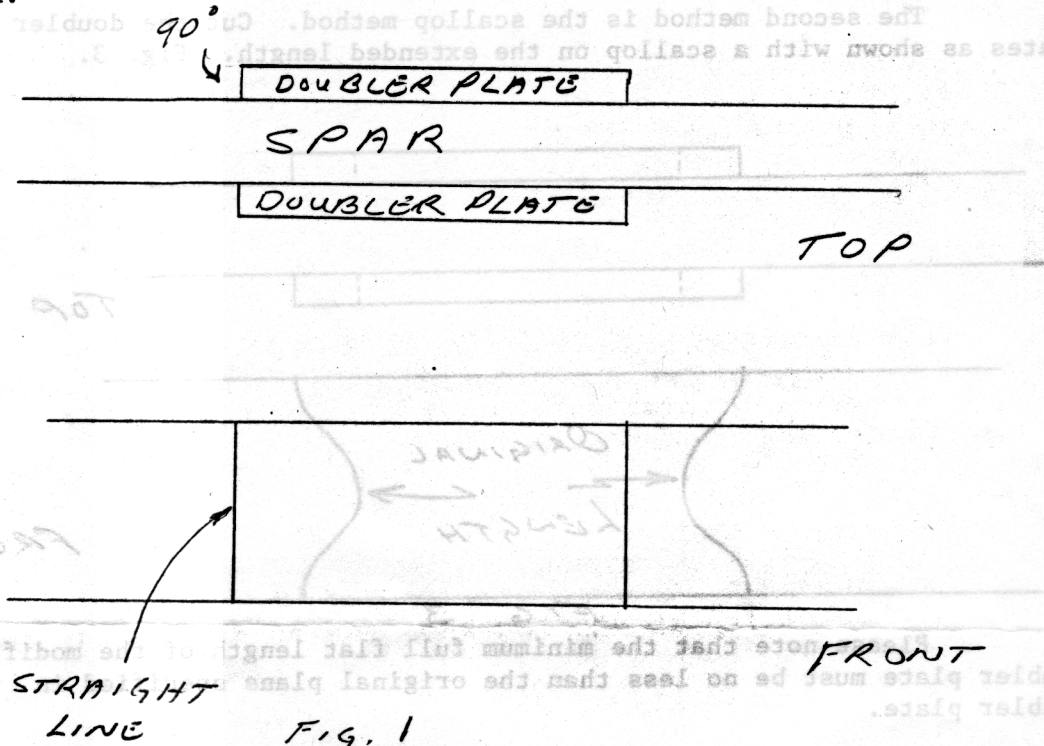
by

Garry Fancy

SCALLOPS AND FEATHERS

Sounds like Surf n' Turf. One might ask what does the above have to do with aircraft, particularly scallops. Read one.

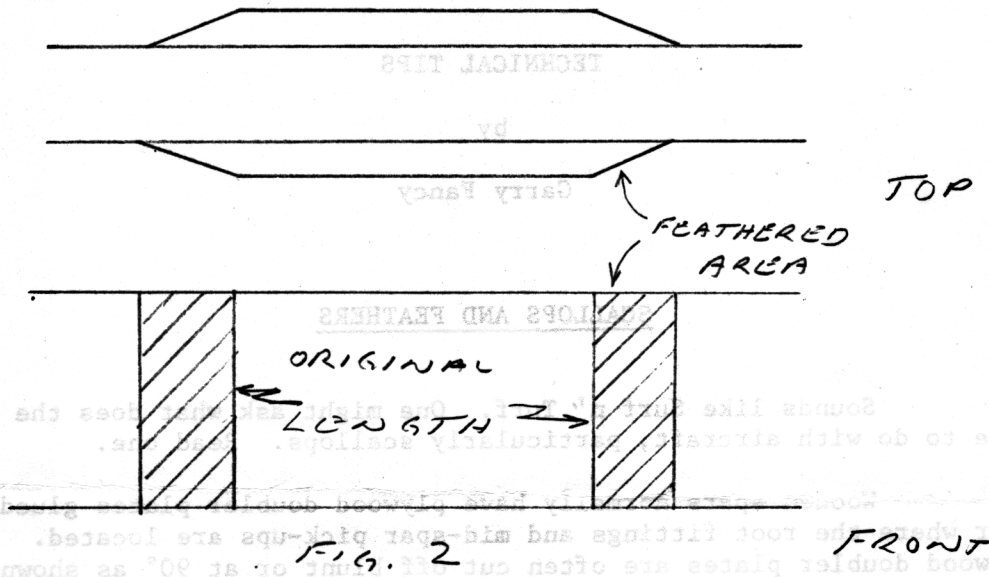
Wooden spars normally have plywood doubler plates glued to the spar where the root fittings and mid-spar pick-ups are located. These plywood doubler plates are often cut off blunt or at 90° as shown in Fig. 1.



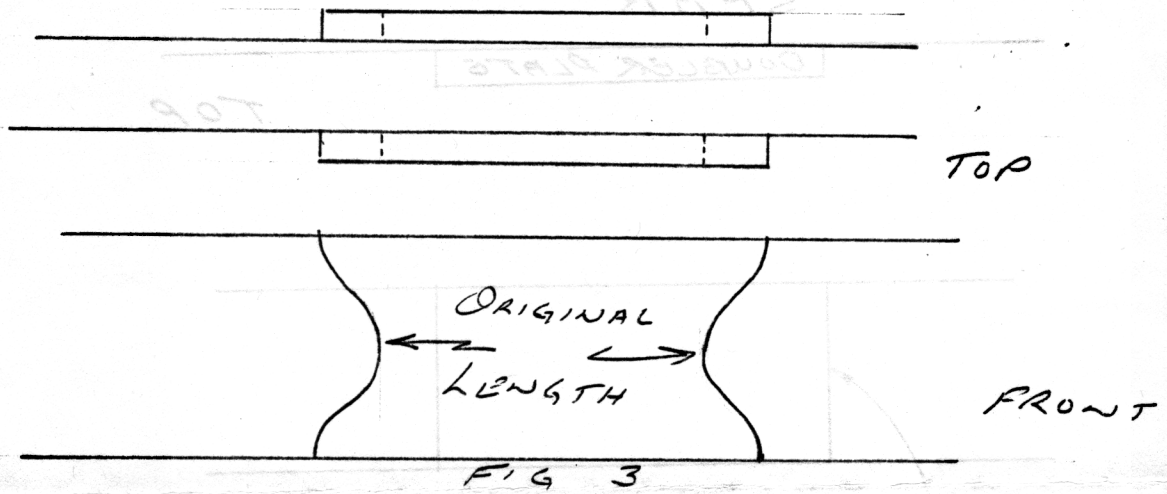
These methods of fabricating doubler plates lead to areas of stress concentration and do not look professional.

Two methods can be used to improve these doubler plates.

The first method I call the feather method. Simply make the doubler plate four inches longer and feather the last two inches of either side. See Fig. 2.



The second method is the scallop method. Cut the doubler plates as shown with a scallop on the extended length. Fig. 3.



Please note that the minimum full flat length of the modified doubler plate must be no less than the original plans specified in doubler plate.

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Stanley Fly In 85

On August 29, Ted Slack, accompanied by Peter Plaunt and Dick Moore took off in a Cessna Cutlass from Ottawa to attend the Stanley Fly-In in Nova Scotia.

After being grounded Friday afternoon we were finally able to leave but not until 1 a.m. Saturday (my bed time). Normally one anticipates a tail wind going East, however weather reports had us prepared for a head wind, 7 to 8 kph but what we found was closer to 30 to 35 kph, some discrepancy!

Due to the strong head winds, Ted thought it best to have full tanks before crossing the U.S. border since a forced landing there would be a lot of hazzle. So we stopped off in Quebec City and waited for the fuel station to open. The wait gave us a chance to catch up on a little needed sleep or should I say a nap, a vinyl couch is no substitute for a real bed. After an early breakfast we were off once again.

Arrival at Stanley was under a 3000 ft ceiling and rain. Needless to say the rain kind of put a damper on things, pun intended. We were invited to the Club House to watch flying movies and actually that sounded quite good since by this time were wet and it was quite cool. Later Ted gave an hour long talk on the rule changes for amateur built aircraft. The fact that Peter and I slept bears no reflection on Ted, we were tired.

With the weather being what it was an invitation to bed down in the Club House was welcome indeed.

After quickly mastering the art of sleeping on a fold-down bed sofa, I only fell out once, we spent a comfortable night.

The next morning while enjoying breakfast, that Ted thoughtfully brought along, we heard a familiar voice and Peter yelled out Bruce Hamer what are you doing here. We were kind of surprized that Bruce made it in his Jodel with the weather the way it was. Ottawa was well represented.

At this point I would have liked to have gone on at length about their air activities but with everything being postponed we were gone before they had a chance to get underway.

However, for Peter and myself the flight there and back was the best part even if Peter sat in the back and noted around the slightest course variation. I was doing my best to navigate and take in the view as well.

All in all it was an enjoyable trip and I thank Ted for allowing us to accompany him.

Dick Moore