Chapter 54 NEWS

Speed Holman Chapter

October 2000

Volume 43, Issue 10

October Gathering

will be held on

Date: 10/09/2000
Time 7:00 pm Social
7:30 pm Program
Location: Christ Lutheran Church
[redacted] 2 Blks So of Twin Points
Lake Elmo
Topic: Unknown

Treasurer's Report:
928/2000

Building Fund	$2,836.99
Operations	$6,618.08
Cash	$ 25.00
Total	$9,480.07

No activity this month

Vice President's Corner

Bill asked if I would insert a few comments for him this month. They will be few and not as eloquent as you have been seeing.

First, a reminder of upcoming meetings. The chapter officers will meet next Wednesday evening in Jim Anderson's Hangar at 7:00 p.m. The monthly chapter meeting is Monday the 9th. Please check the web page for location. I believe that is still up in the air.

A couple reminders as we get ready for Winter. (it's hard to admit it is coming) Jerry Sarracco will be organizing the highway cleanup in a couple weeks. I won't say it's necessarily fun, but, it isn't bad. Sign up, come early, have a donut and many hands get it done in a hurry.

Let's take the next few weeks to get in a some extra "young eagle" rides. What would it take, on each one of our parts, to have a good representation in the EAA magazine listing those that have met the goal. Check with Al K. if you need some names. Also, give Al names if you have suggestions and can not get them.

Pass along ideas you may have for a meeting place - short and long range. Also, I'm sure that many have shared needs and others have offered a hand to those impacted by the storm's destruction. We may want to spend a few minutes, at the next meeting, discussing how those "needs" and "helps" can be matched up. Think about it. Have a good weekend.

Dan Parker Vice Prez EAA Chapter 54

EAA Chapter 54 is located at 3275 Manning Ave. N. Suite #7, Lake Elmo, MN 55042

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Chapter 54 gathers at 7:30pm, on the Second Monday of each month, at Lake Elmo Airport, B Entrance.

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CALENDAR of EVENTS

October

1 FlyIn Breakfast at EAA in EauClaire
(EauClaire means Clear Water
Eclaire means Puts Fat On Hips)

4 7:00 pm Board of Directors meet at Jim Anderson's hangar

9 7:30pm Chapter 54 Gathering, maybe at the Church in Lake Elmo.

From the Editor

The Ascension Flyers lost a hangar and a Citabria. Alex Buga lost a C-150 and found a Beech Skipper. Kelly Anderson bought a Citabria. There are a lot of things going on.

I have spent [redacted] days working on getting my hangar ready for winter. I have worked every day except for a three day vacation to Duluth with my wife and son, and a three day fly-in for antiques with my wife and Fairchild.

I have not been out to even look around. There must have been a thousand intersting things that have occured in the past month, that would be of interest to our members.

If you know of something that would be of interest to more than three members, please let me know. You can reach me through the US Mail, at the Chapter address, or via the phone at 651-430-9178, or via e-mail at rjwaldron@mmmpcc.org.

Thanks

The Concord

This was provided by member Art Edhlund, who got it from his son Paul, who got it from .... It supposedly came from a Concord Pilot.

Concorde's low speed aerodynamics are a bitch. She is on the backside of the drag curve until she's up to a least 250 - 300 knots. Until she reaches a sensible speed she is clawing her way into the sky in a way that requires vast amounts of power. Without the huge power of those wet Olympus engines, she would not be able to get up to the sort of speed that can sustain controlled flight. She would just wallow in a horrible low speed/high drag corner of the envelope. In the event of an engine failure on takeoff, she has an ample reserve of excess power to safely get airborne and accelerate to a good cruise climb speed, but trying to accelerate to a good speed on only two engines with the Dunlops dangling in the breeze would be a bitch. Then factor in the effect of the massive fire gushing from the collector tank and toasting the inboard elevon and you have a fiendish nightmare of a control problem. The problem of being on the wrong side of the drag curve is that at these low speeds the power required INcreases with lower airspeed. In such a flight regime the only way to get the extra airspeed is to lower the nose and try to convert altitude for airspeed. Obviously this in not possible at the 200' of altitude which was as high as AF4590 managed
in her two minute flight. It's a classic gotcha. Not enough power to get enough speed to be able to require less power.

Once flying she may be a babe, but how close to the edge is she on takeoff ?? The wing is optimized for supersonic flight and is really not very efficient at low subsonic speeds. Most normal airliners need less thrust to fly at 250 knots than at 350 knots. Not so with the Concorde. At the very high angles of attack which are involved in the
initial climb out, the wing is extremely close to the stall, much, much more than a conventional wing.

One of the clever tricks which the aeronautical engineers devised for the Concorde was the deliberate introduction of vortex flow over the wing to generate a controlled separation of the airflow from the boundary layer. The S-shaped planform of the leading edge of the wing is not an aesthetic thing. It is a clever trick to generate a "friendly"
vortex which energizes the air over the top of the wing and creates what is called "vortex lift." There are a couple of very unforgiving characteristics inherent in the delta configuration. The wing tends to be speed unstable. A conventional wing/tail configuration has a stable tendency to regain a trimmed speed in the event of a slight disturbance such as turbulence or a wee nudge on the control column. A delta, such as Concorde, Mirage, Vulcan, etc. tends to diverge from a trimmed speed. This makes it much more difficult to maintain an optimum angle of attack, particularly at low speeds.

Another unpleasant characteristic is that she tends to pitch UP at the stall, unlike a normal configuration which is designed to pitch down at the stall. Of course, pitching up makes the stall even worse. There's more bad news at the stall !! To push the nose down in order to gain more speed and get away from the stall, the pilot lowers the elevons. This has the effect of increasing the effective camber of the wing, which in effect increases the angle of attack which is causing the stall in the first place. It's a classic gotcha.

The eyewitness reports of the Concorde rearing up onto it's tail before sliding down into the Hotel is a classic description of a delta wing stalling. The romantic nonsense about the pilot pulling up to fly over the hotel is just journalistic fantasy. The handling pilot was doing his best to keep the aircraft airborne by finessing the pitch angle to wring every gram of lift out of the wing in a desperate attempt to go the extra mile or two and get the aircraft to LeBourget. The ghastly situation which the three-man crew faced on that flight deck is enough to give anyone the heebie-jeebies. They did their best, but were completely overwhelmed by their predicament.

The part of the story which I just do not understand is : Why did the ATC Tower wait so long before telling the crew that their arse was on fire ??