

EAA CHAPTER 1410

High River *Newsletter*

This Month

Chapter Meeting

- Feb 7 at 1900 h, snacks at 1830
- CEN4, Dueck Hangar
- Guest Speakers Val & Jim, "Two Weeks to Taxi"

We're Havin' a Party

- Potluck on Saturday, Feb 16, CEN4
- **Featured Speaker will be John Thorpe, RAF test pilot (retired).**
- **See Paul's note Page 3**

You don't want to miss this!!

This Issue

- President's Comments
- Tech' Desk: Longitudinal Stability, Continued

Let's Get 'Focused'

President Ralph Inkster started his year with some great plans; all contributed by members at the January meeting.

After getting organized into discussion groups, we were challenged with offering ideas for new directions and possibilities for our chapter; both short and long term. After the ideas came the voting and there were some very popular choices, many centering around a major event such as an airshow or a special celebration for homebuilding.

The old standby's, fly outs, tech' presentations and young eagles are still 'up there' and will continue to be enjoyed by our chapter.

The results will be valuable discussion and planning mate-

rial and with a little help from you, our new team will lead us into a very exciting year. Hopefully Allan had a chance to 'count the dots' and note some tallies for the minutes. The whiteboard appears to be



still intact if you need to see the evidence yourself! It may not survive the party, however, so do get to the meeting on February 7. You may be surprised (and pleased) at the great variety of ideas for the months ahead.

President's Comments

As 2008 starts, we've seen what busy lives we all live. While Ralph is away basking in some warm Caribbean sun, there are others preparing for their family vacations. We're all active and we all get to enjoy the efforts of the team. I think this is an opportunity for us to consider all the work that goes into a successful chapter. There have been some amazing things accomplished to date with a lot of hard work done by some dedicated people.

As I lay out the wire runs in my airplane, I think that this is where our chapter is. The airframe has been built, but now it's the "last 10%" that we need to work on. All the events of the chapter are tied together, like the systems of an airplane. Any airplane needs its systems to work together to fly properly, or even at all. The chapter needs each and every member to work together to succeed. I ask that each of you consider what you want from the chapter and just as importantly, what you can share with the chapter. Don't sit on your hands, get involved. Whether it's picking up tables for the

potluck or organizing a "Fly Out". Please, get involved. We got a lot of great ideas at the last meeting and we'll need your involvement to make them happen. In other words, we **need you**, to deliver what **you want**.

Looking ahead, we have a great speaker lined up for the potluck. John Thorpe will be sharing some of his experiences as a test pilot in the RAF. The title of his talk is "I flew about learning from that". This is a play on words from the title of a regular article which used to appear in the RAF Flight Safety Magazine called "I learnt about flying from that". Before your spouse declines thinking it will be a boring technical talk, let them know that it will be based on humorous events that happened to John and others, during his time in the RAF. I really enjoyed the half hour talk I had with John and I'm sure everyone will enjoy the event.



Thanks to everyone for your support.

Jeff Seaborn, Chapter Vice-President

Today's RAF



Tornado

Typhoon



Sentinel



EAA Potluck Dinner Invitation



You and a Guest Are Invited to the 3rd Annual Pot Luck Dinner!

Featured Speaker: Group Captain John Thorpe, RAF (retd)! John was a test pilot for the RAF and he was involved with primarily "heavy metal" flight testing and towards the end of his RAF career, he was the Chief Test Pilot at the UK MoD Aircraft Test and Evaluation Centre (ATEC). During his time in the Service he was fortunate enough to fly a variety of aircraft from gliders to trainers, to combat aircraft, light twins, commuters and heavy transports. He mentions that he has never tested a home-built... yet!!! John will be relating some of his many fun and "not-so fun" stories to the chapter. **Don't miss it!**

Please bring an item for the dinner. We are suggesting that those who like or fly high-wing aircraft please consider bringing an appetizer or salad. Low wing lovers please consider bringing a hot item (casserole or entree) or dessert. Those who own a CF-18 with mid-wings can chose either ;-). Please tell us what you are thinking of bringing when you [RSVP Jeff](#). Please tell us if you are coming or even if you are not coming!



Potluck Details

- When:** Saturday, February 16, 2008
- Time:** 1900HRS
- Where:** Dueck Hanger (see map [here](#))
- How:** Please RSVP by [emailing us](#)
- Tickets:** Tickets are free (and not necessary!) Just [email Jeff](#) with your name, the number of your guests, and what you plan to bring to the dinner

Please RSVP now and [email us](#). If you have questions, please call Paul at 403-271-5330.

Tech Desk

Lateral Directional & Spiral Stability

At this stage of the Flight Test Program, stability tests approach an academic status, nevertheless, to continue to learn more about the aircraft and its tendencies in reacting to flight disturbances, (either by pilot input or by dynamic airflow disturbances), we will still explore directional stability as well as spiral stability tendencies for this RV-9A.

Static Directional Stability: is the tendency for the aircraft to return to its flight path after yaw forces have been applied by rudder.

We set up for this test with a forward C of G, an altitude of 5000 ft. AGL, a target airspeed of 120 mph, and trimmed the aircraft for straight and level flight. Once achieved, we applied left rudder, holding altitude with elevator and maintaining wings level with ailerons. When the rudder was released, the aircraft quickly returned to straight flight.

We repeated this test with right rudder and again observed the aircraft crisply returning to straight flight.

With the large rudder and vertical stabilizer on this aircraft, rudder authority is substantive, and the aircraft likes to fly straight without rudder input.

Lateral-Directional Stability:

This test is to determine if the aircraft will lift its lowered wing if the ailerons are released

after being placed into a sideslip. It will also test the rudder's directional control effectiveness.

Since this test can impose high structural loads on the airframe, the tests will be done at or below maneuvering speed.

We started by establishing the flight parameters; forward C of G, 5000 ft. AGL, target airspeed at or below 100 mph, and trimmed for straight and level flight. We placed the aircraft in a sideslip, (left rudder, right aileron), and held our heading with rudder. (It is important to restrain the angle

of bank to 10 degrees or less, or any bank angle that requires full rudder deflection.)

Control forces on the ailerons were light but rudder control forces became heavier with increase in bank angle. Upon release of the aileron control forces, the wing slowly returned to level flight, while directional control with the rudder remained positive throughout the maneuver.

We repeated this maneuver with right rudder and left aileron, and this time the wing did not return completely to its level flight. Again rudder response was positive throughout the maneuver.

We again noticed that the control forces were asymmetrical, with light forces required on ailerons and substantially heavier forces on the rudder.



(Continued on page 5)

Lateral Directional & Spiral Stability, Cont'd

(Continued from page 4)

Spiral Stability Test:

The final test in this series was to determine the aircraft's ability to raise the low wing after controls are released from a banked flight path.

Again, we set up our test with a forward C of G, an altitude of 5000 ft. AGL, and a normal cruise speed of 165 mph. We then placed the aircraft in a bank of 25 to 30 degrees, and once established, released the controls.

Our first bank was to the left, and upon release of the controls the aircraft slowly righted itself, showing a slight positive spiral stability.

When we banked to the right and released the controls however, the bank increased to about 45 degrees and then remained in this increased bank condition. We repeated this test, and again with the bank to the right, with the aircraft displaying a neutral to negative spiral stability.

The RV series of aircraft are very light on ai-

lron control. This gives them a sporty feel. Neutral or negative spiral stability is not necessarily dangerous, but if the rate of divergence is great, added pilot attention is required, and IFR flight becomes more labour intensive. My RV-4 had a definite tendency for the left wing to drop and continue to do so until pilot control input would bring it back up to level flight. With these aircraft, it is not advisable to fall asleep on a long, boring cross-country flight, without a wing-leveler. (Tongue in cheek!)

These final tests complete the stability evaluations for the RV-9A. We have not, nor do we intend to explore spin recovery or flutter investigations, leaving these maneuvers to the test pilots employed by the kit manufacturer. Next month we will investigate altitude loss in a simulated 'dead-engine' 180 degree turn 'back to the field'.

Ref: AC-90-89A

Jack Dueck, EAA HAC, FA, TC



Historic day for aviation as Vulcan bomber returns to the skies after 14 years



© MARK RICHARDS

Up, up and away: The Avro Vulcan XH558 takes to the skies, 14 years after its last flight and following a £6m refit

Speaking immediately after the flight, Squadron Leader McDicken said: "She was an absolute delight, every bit as good as I can remember. It was a tremendous privilege to fly it again. We were suitably aroused.

"What a statement for those people who made that aircraft all those years ago.

"It's 25 years almost to the day that I last flew one. It was just wonderful."

Daily Mail, October 19, 2007

It will cost an estimated £1.6 million a year to keep in the air & burns 40 tons of fuel an hour. Do you think we could handle a "Vulcan Bomber to Oshkosh"? (Ed)

Chadwick's Loveliest Aircraft: the Avro Vulcan Bomber



Following RAF service spanning more than three decades, the plane was retired from active service in 1992, but a flying restoration was completed in October, 2007. (See Daily Mail Column, Page 5, & see videos on Youtube.)

Chapter memberships are a \$40 for singles and \$50 for families with a membership in EAA. See Paul or any chapter volunteer.

Chapter Volunteers	Name	Email	Phone
President	Ralph Inkster	RVinkster@shaw.ca	403-282-8065
Vice President	Jeff Seaborn	Jseaborn@telus.net	403-620-6554
Treasurer	Paul Gregory	Eaahighriver@shaw.ca	403-271-5330
Secretary /Young Eagles	Silvia Kasper	Tony.Kasper@shaw.ca	403-245-8669
	& Allan Logan	AKLogan@nucleus.com	403-288-7164
Community Outreach	Eileen & Rob Griesdale	eileeng@platinum.ca	403-646-2994
		robg@platinum.ca	
Newsletter	Jean & Jack Dueck	cgyrv@yahoo.com; Jean.Dueck@gmail.com	403-652-7333
Webmaster	Paul Gregory	Eaahighriver@shaw.ca	403-271-5330
Membership	Paul Gregory	Eaahighriver@shaw.ca	403-271-5330
Librarian/Historian	Jack Reid	JReid@cbe.ab.ca	403-238-7658