

EAA 245

OTTAWA , ONTARIO

# NEWSLETTER

REPLY TO: EAA CHAPER 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

- photos  
- show et al  
- parking  
- hand printing

APRIL '86

NEXT MEETING

April 18, 1986

TOPIC

Dave Murray will talk about his Star-Lite (see inside for further details)

also

VIDEO or MOVIE

of a Technical or Informative Nature

MAR HINESAAR

MEETING AFTER NEXT

MAY 16, 1986

TOPIC - to be announced

REDOX

PHP  
IN  
CANADA

Paul was in Canada recently to visit with a number of administrative personnel from Canada's Ministry of Transport and to meet with members of EAA Ottawa Chapter 245. In his talks with the Ministry of Transport, Paul spent a good deal of time covering the subjects of the Primary Aircraft category, ultralights and the Canadian/US boarder crossing of amateur-built aircraft. During his stay in Ottawa, Paul was also awarded the "Silver Cup" award from the Ottawa Flying Club. By the way, we understand that the Ottawa Flying Club is the largest such club in Canada.

Pres: Eric Taada	749-4264	Vice-Pres.: Roger Fowler	225-6070	Program Director:
Sec: Terry Peters	745-7466	Newsletter: Dick Moore	836-5554	Peter Plaunt
Aircraft Op.: Garry Fancy	225-0454	Treasurer: Gord Standing	224-2879	839-2283

NOTES ON FILM OF  
STRANRAER and MOSQUITO

and comments by

Tom Chase-Casgrain

Thanks to the efforts of Peter Plaunt, who went to some considerable trouble to find it, a film of the Stranraer biplane flying boat and the WWII Mosquito fighter/bomber was shown. Also thanks to Peter, the meeting was entertained by guest Tom Chase-Casgrain who was a pilot on the Stranraer on the West Coast, and who also flew the Mosquito. In fact he flew the first ferry flight of a Mosquito from Canada to England during the war.

The Stranraer film was produced some years ago by the Klahanni group for the Western Museum of Aviation and Transportation, just before the last remaining Stranraer was flown to a museum in England. It appears that there were/are no hangars in Canada large enough to accommodate the aircraft.

Tom spoke very highly of the Stranraer - it had an outstanding hull and could take a heavy pounding in seas that other flying boats would have difficulty with. It was used for patrolling the west coast of Vancouver Island during the war. (Tom noted that Point Estevan south of Ucluelet was shelled by the Japanese - a fact not well publicized apparently!).

The old biplane flying boat with its maize of wires and struts, and twin single-row radial engines with fixed pitch props must have been quite a sight - American radar in Northern Washington used to pick it up and the USAF would send up its planes to investigate. Apparently no one on the American base ever believed their pilot's description of what the Canadian's were flying! The Canadian took to greeting the interceptors by opening the cockpit hatch and standing up with a big sign that said BOO. When turned over the sign had two words suggesting that the Americans go away.

We would like to thank the Canadian Museum of Flight and Transportation for the use of the video of the Stranraer and Mosquito.

If anyone is interested, their address is

13527 Crescent Road  
Surrey, B. C.  
V4A 2W1  
604-531-2465

Len Forsythes cancer proved fatal this month. He was a longtime EAA member active and enthusiastic. His cheerfulness and sunny disposition were also visible in the colour schemes of his Aeronca and Aerocoupe, EAA blue & gold.

The Sport Aircraft Expo in Toronto is now history. We had hangar work to do at Carp. So all I know about it is that they had a good publicity campaign that included radio advertising during the previous weekend.

The chapter has purchased the 25us\$ obligatory participation in the EAA 1M\$ PLPD insurance policy.

Both Edmonton's Chapter 30 Propwash and Windsor's Chapter 185 Logsheet speak of rotating executives more often than every 2 years to maintain vigour. I'm all for it!

We now get Waterloo Wellington's Chapter 164 newsletter. They mention the apparent demise of the Oktoberfest airshow. The lateness in the year makes for undependable wx and despite recent past succes's they have not been able to put money away for that "rainy day".

Deryck Brown's Hamilton airshow has profited from the Globe and Mail's premature obituary published in Jan. Ford of Canada responded by offering all the wheeled vehicles needed. The Hamilton city council offered to guarantee startup and wx cancellation costs. It appears that City Hall can also fight FOR you.

Chapter 379 is alive and well and meets almost anywhere along the seaway valley. Power failures or not. Come to think of it power failures don't stop 245 either. It is probably learned behaviour from our tired generator at Carp.

Bill Argue has offered the use of his 40' by 40' shop with gas and electric welding cutoff and grinding tools to build the hangar door. The catch is that, this is a limited time offer that expires on or about April 19. After that his fields need tending and he needs the shop for his machines.

The 1" square tube for the hangar door was ordered from Campbell Steel on Thurs April 3 for delivery to Bill's on Thurs the 10th.

A good start on the truss to support the door was achieved on Sat April 5 with Ted Slack, Henry Beaudoin, Gord Standing, Roger Fowler, Irving Slone, Bill Argue, Peter Plaunt and Eric Taada.

On the following wet Sunday the 6th Henry, Gord, Eric, Bill and Par Tate rewelded the tapered section of the truss and eventually figured out how to remove the heavy hinges from the old door with a combination of gas cutting and grinding.

Our March meeting guests included Kevin Caldwell a graduate aeronautical engineer from U of T. Bill Devine of DOT who is looking for an Aircoupe share. Bruce Bolton the Longeze builder and pilot presently based at Rockcliffe. Eric Eif 12yr old son of Lars. Our featured guest was Tom Chase-Casgrain a Straneraer pilot who very much enjoyed our Mosquito film since he himself pioneered the South Atlantic ferry route for them in WWII.

Rumors, Spelling and Typing by ET.  
Printing by Imagen Laser.

## CHAPTER PROJECT REVIEW: Dave Murray's Star-Lite

Sport Aviation ran a feature article on Mark Brown's sleek little Star-Lite back in Feb. '85 and Dave Murray instantly developed an <sup>(almost)</sup> incurable case of homebuilder's fever. A trip to Oshkosh that summer and lengthy talks with the designer did nothing to alleviate the symptoms. Finally, Dave did the only sensible thing under the circumstances: he ordered the only known remedy for his ailment, the kit for the Star-Lite. After a 3-month wait (lots of others had contracted the same disease), the package was delivered to his Almonte address, and in short order, he was well on his way to a full recovery.

What caused this temporary fever in Dave was a snappy, composite, efficient, and attractive new design whose prototype was an award-winner at Oshkosh '83. This very successful proof of concept then underwent radical changes in methods of construction so that it could enter the homebuilt market as a straightforward and easily-constructed kit. The success of the scheme is evident in the steady rate of production of one kit per week and the equally consistent back-order time of 3 months. Star-Lite Aircraft, Inc. could tool-up for larger production, but Mark Brown would then lose the personal follow-up services he can now offer his builders. Dave Murray was quick to point out how willing and helpful the designer has been on a variety of matters, from adding a metal fire-wall to altering the size of rudder cables.

For those of you who may not be familiar with the Star-Lite, it is a single-place, low-wing, composite construction design which is sold in a very complete kit (everything but the radio, paint, and seat cushions). All the parts are pre-molded and are of extremely high quality. The fuselage comes in two halves which are epoxy glued together in a straightforward manner. The joint-line is strongly reinforced so that when both halves



of the fuselage are assembled, there is, in effect, a top and bottom triangular longeron. This eliminates the need for bulkheads and speeds up construction. The info-pack suggests about 400 hours, but Dave is proceeding cautiously on his first project and anticipates around 700 hours. He also points out, however, that he could reduce this considerably if repeating the assembly.

The wings are equally simple, light, and sturdy. They feature a plywood skin and conventional sitka spruce main spar. The spars overlap in the fuselage and are secured, in the manner of many gliders, with easily removable pins. The ribs are pre-molded foam and the rear spar is pre-molded composite, so even the wings turn out to be somewhat unusual, except in terms of what they do for this classy little bird. The original flew on about 20 h.p., but with the new gear-reduced, Rotax 447 (also supplied, along with spinner and prop), rated at 40 h.p., the kit-version cruises happily along at 120 m.p.h. and climbs in excess of 1200 f.p.m. Part of this performance is due to the configuration of the wings which feature ailerons actuated by torque tubes, so that drag is minimized. The performance is so good, in fact, that Dave confided in me that he is tempted to try for 3 records in the plane's weight class.

To date, Dave has about 325 hours invested, reckons on roughly that much again, and has his sights set on flying the project this summer. He averages 2 hours per night, 10 hours per week end, for about 100 hours per month. He requires no special tools, but strongly recommends a Dremel Tool and deburring drums for dressing off joints. Mostly, Safe-T-Epoxy is used, but some structural adhesive is also employed, particularly where mating surfaces do not fit snugly. Dave plans to test-fly the plane himself since most of his time has been in tail-draggers.

Dave will be our feature speaker at this month's meeting, so come and find out more about this interesting machine.

SPAN: 21.5 ft	G LIMITS (tested): +6, -4	TC/LANDING: 300 f
LENGTH: 16.4 ft	FUEL: 8 gals U.S.	RANGE: 400 miles
WING AREA: 57 ft <sup>2</sup>	ENGINE: Rotax 447, gear reduced	
NET: 240 lbs	CRUISE: 120 m.p.h.	
GROSS: 490 lbs	CLIMB: 1200 f.p.m.	Roger Fowler

P.S. See Sport Aviation, Apr. '86, pp. 18-22.

## TECHNICAL TIPS

BY

Garry Fancy

### FIBREGLASS

1. A couple of points come to mind when working with fibreglass (polyester resin). First, the danger to the human eye if even a small amount comes in contact with that part of the human anatomy.
2. Secondly, if you have mixed up too much resin and wish to use it after the piece you are working on hardens, put the excess resin in the freezer of the refrigerator. Meanwhile, take the item you have applied the resin to and carefully warm it in or near an open oven. The heat from the oven will speed up the hardening process while the cold from the freezer delays the hardening of the excess resin.

You can now sand or otherwise work on the item, apply another layer of fibreglass cloth to it, then continue to use your originally mixed resin after taking it from the freezer. Naturally you cannot have the resin in the freeze for any length of time. I have used this method successfully over 10-15 minutes at least; the hardening time both in the freezer and in/near the oven being also a function of the amount of catalyst used.

### SU-26

by

Garry Fancy

1. A new Soviet aerobatic mount recently made its appearance on the international scene. It is designed by the Moscow-based Sukhoi (SUCHOJ) design bureau.
2. The aircraft has the traditional steel-tube truss (possibly stainless steel) fuselage and push-pull elevator controls (see cut away). The power plant is a 360 hp radial engine. Note the instrument panel arrangement. The layout of this panel violates the normal convention but then this is not a conventional purpose aircraft.
3. Normally, steel tube aircraft are covered with fabric but in the case of the SU-26, light aluminum sandwich panels with foam in the middle are used. The wing spars are made of carbon based (fibre) as are the rudder and ailerons. The spring struts of the landing gear are made of titanium alloy.
4. Does this give our North American homebuilders any different ideas?

The original text, translated from the original Czech. text in point form, follows:

## Su-26

- single-seat single-engine monoplane with fixed undercarriage, spring-type, standard tail, closed cabin, intended for aerobatics
  - weight reduced through use of welded steel tubing, laminated and composite parts on wings, tail areas, fuselage panels laminated and composite parts made in ESAG factory in Prenay Lithuanian SSR, famous for glider construction
- Fuselage-main framewelded steel tubing of various diameters (material designation VNS-2)
- frame has suspension points for clamping motor mounts, undercarriage legs, tail skid, wings, tail surfaces, and interior cable gear
  - attached duralumin bands rivetted on to frame to attach skin non-loadbearing surfaces of fuselage made of removable panels of thin duralumin sheet, given the necessary rigidity with laminated on three-ply laminated honeycomb, foam filled
  - tubular frame and skin type made it possible to glaze over large part of cabin floor and side walls behind wings
  - attachments for external compressed air and electricity supply on left side of fuselage at windows
  - minimal instrumentation in cabin
  - plate metal seat tilted at 45° angle, modified for PLP-60 back-pack parachute, simple control pedals and curved tubular --
  - instrument panel reduced in size in M version, windshield smaller and more vertical

Wings-manufactured in a single unit, mounted underneath fuselage

-attached to lower part of tubular airframe structure

-fairing attaches with fasteners after wing is in place

-wing has two compound spars, with the wing tapering in

planform from 18% chord at the base to 12% at the tip, zero

flap (?) adjustment and dihedral, laminated covering and

inner foam filling (laminated sandwich covering?)

-ailerons of laminated construction, aerodynamically balanced

with small triangular tabs on balance arms angled forward

-ailerons hinged on rear wing spars, controlled by tubular

operating rods and have small trim tabs that are adjusted

on the ground

-ailerons have 50mm axis of rotation of leading edge and are

attached by four hinges on each wing

-the tail areas are the same design as the wing, the elevators

are statically and dynamically balanced and are adjusted on

the ground with trim tabs

-the angular balanced rudder of the M version is substantially

smaller than earlier versions

-rudder and both elevators are attached with two hinges each

Engine-nine cylinder air-cooled M14=P, 10.16 litre

-268 kW TO power

-two-bladed (2.36 m) or three-bladed (2.4 m) propeller

-holds 22.6 l of oil

-air intakes consist of slots around duralumin cowling



- two integral fuel tanks holding total of 130 l
- carburetors function flying upside down and under negative load
- M version designed to take half-teardrop tank

Landing gear-fixed undercarriage, titanium spring-steel legs, with 350x135mm Barum Aero wheels

- hydraulic disc brakes
- controllable tail wheel is spring mounted and connected with the rudder

Data (for first two prototypes)

Wingspan	7.8 m
Length	6.82 m
Height	2.78 m
Wing area	10.85 m <sup>2</sup>
Empty weight	720 kg
TO weight	860 kg
Max speed	355 km/h
Cruising speed	260 km/h
Initial climbing speed	16.8 m/s
g limits	+11/-9



