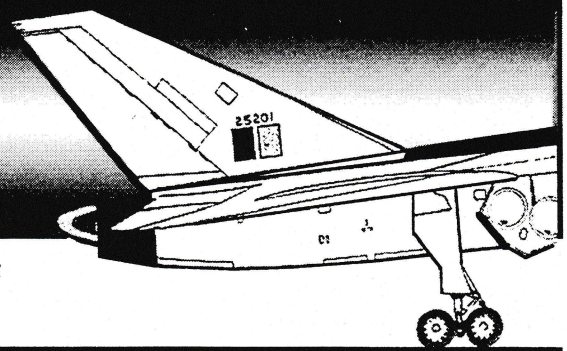


# Pre-Flight

*A Publication of the Aerospace Heritage Foundation of Canada  
P.O. Box 246, Etobicoke "D", Etobicoke ON M9A 4X2*



Vol. 17, No. 3

May - June 2006

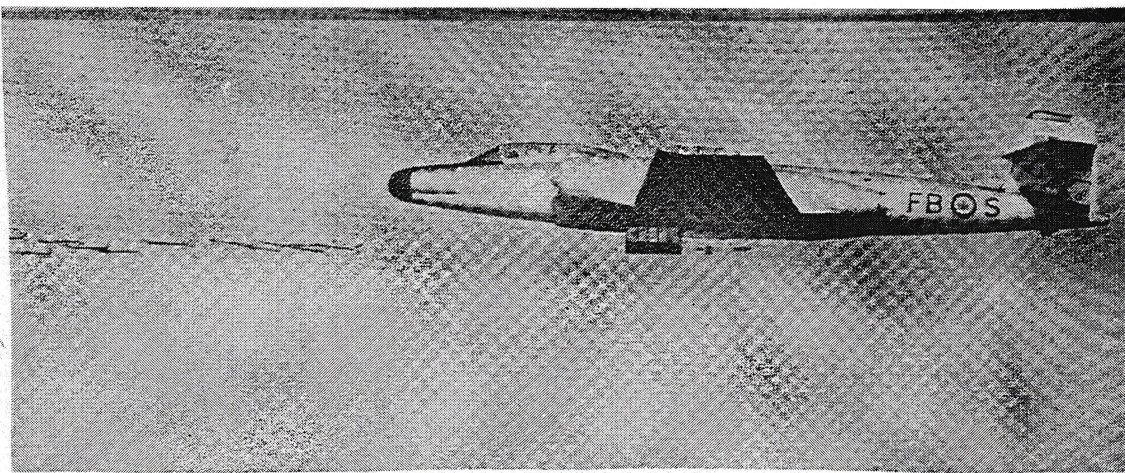
## SUPERSONIC SENTINAL *The Arrow and the Motion Picture*

by

Lou Wise

Several years before the Arrow first flew, the Photography Department at Avro Aircraft had established a separate section responsible for all motion picture work that would be covered in close detail in the documentary format as well as all forms of technical film coverage for motion analysis and engineering recording. One of the unique areas of coverage was in the air-to-air shooting by our staff cameramen. In the early 50's, the CF100 flight test program required a great deal of film work, particularly in the technical areas of armament development and ejection seat tests.

Whenever there was test flying to be done, one of my staff could be found in the back seat of a CF100 chase plane armed with one or more 16mm film cameras used to record the events for later analysis by the engineering staff. One of the best of the cameramen was Hugh MacKechnie.



He flew a lot of hours in the CF100 back seat and became one of the best air-to-air photographers to be found anywhere. Between 1951 and the start of the Arrow Project, the motion picture section had grown to a staff of six highly skilled specialists.

**Founded 1989**

**AHFC**

**Aerospace Heritage Foundation of Canada**



Patron William Coyle  
President Frank Harvey  
Secretary Keith McLaren  
Treasurer Al Sablatnig  
Membership Nicholas Doran  
Director Web Michael Bringham  
Director Bill Daniels  
Len Dlutek  
James Harvey  
John Hughes  
Tim Patten  
Dave Sotzek

  
CAPA

Legal Consultant Jerry Faivish  
Editorial Consultant John Thompson  
Air Force Liaison Don Pearsons

PRE-FLIGHT Nicholas Doran  
Ted Harasymchuk

**President's mailing address:**

1951 Rathburn Rd., E.  
Unit 199  
Mississauga ON L4W 2N9  
905-624-4909

The Aerospace Foundation of Canada (AHFC) is a federally chartered non-for-profit organization. The current emphasis of AHFC is on Avro and Orenda. The Foundation is actively trying to locate former employees of these companies. No part of this newsletter may be reproduced without prior written permission. Opinions expressed in *Pre-Flight* do not necessarily reflect those of AHFC. Cash donations over \$25.00 and "gifts-in-kind" will be acknowledged by a receipt for income tax purposes. For more information on AHFC and how to support its activities, please write to:

**Aerospace Heritage  
Foundation of Canada  
P.O. Box 246, Etobicoke D  
Etobicoke ON M9A4X2  
(416) 410-3350  
www.ahfc.org**

## From the President

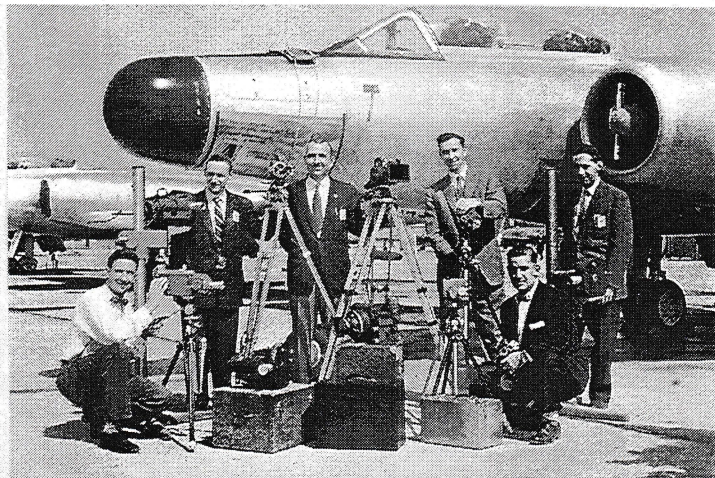
In this issue of *Pre-Flight*, I want to remind you of our upcoming Annual General Meeting in June. You will find the details on the last page (6). Please try to attend.

It is always a pleasure to present a detailed record of our Foundation's annual activities. It also give members the opportunity to give input, to ask questions and to hear clarifications.

You are invited to stay and meet the new Board.

*Frank*

## Supersonic Sentinal, cont'd

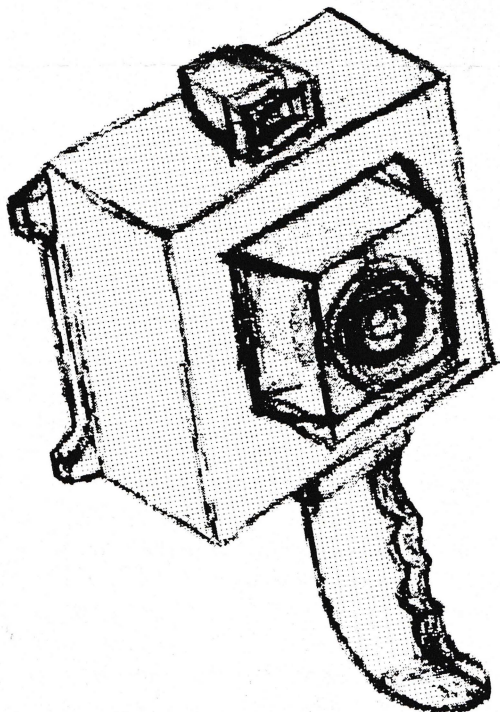


The staff of the Motion Picture Section standing in front of a Mk4 CF100 in 1958. From the left: Ron Northcott, Cy Beard, Fred Hopkinson, Ray Burney, Bill McDowell (Section Leader) and George Laidlaw crouching down in front at the right. they have a selection of Standard and Specialized Technical Motion Picture Cameras with them.

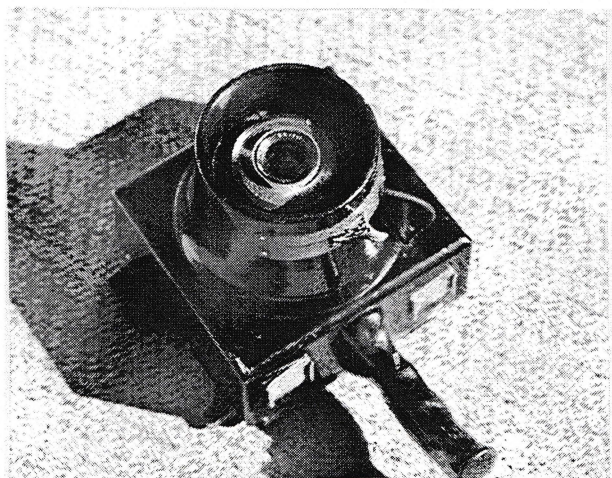
When the initial work began on the CF105 Arrow project, we were called on to shoot documentary film of every aspect of the program. There was literally nothing that went on without one, or two of our cameramen being assigned to cover it. During those early stages of the Arrow program, the flight test development work continued on the CF100 program. And Hugh MacKechnie was called on frequently to shoot both motion picture and still photography as our main air-to-air specialist. But Hugh had a problem with the cramped quarters of the CF100 rear cockpit. I knew what that was like because I did one flight in the back of the CF100 to do some shooting with a 16mm camera. (Our staff were all unionized and since I was management, I was not allowed officially to do photography unless I had assurance there would be no union grievance!) In the close quarters of the CF100 rear cockpit, when you turned sideways to shoot, there was very little room to manoeuvre the camera without bumping into the glass panel on the side of the cockpit canopy. So when Hugh complained about the problem, I knew exactly what he was talking about.

## Supersonic Sentinel, cont'd

During those years, the workhorse camera for still photography was the Speed Graphic, often called the Press Camera. It exposed 4"x5" negatives and it was quite a handful. It had a lens bed that projected out in front of the camera body by about eight inches, and that was the source of the problem. The lens bed kept bumping into the side panel of the canopy. After hearing from Hugh on many occasions that this was a problem on every flight, I decided to do something about it. I started by drawing a sketch of a camera body we would have built for us in one of the shops in the plant.



This was the sketch that Hugh took to the carpentry shop with the request that they make a camera body out of mahogany. We removed the Camera Back (film holder) and the f:4.7 Kodak Ektar lens/shutter from one of our regular cameras so these could be attached to the back and front of the newly built box. The critical dimensions were the size at the back of the box since the film holder had to fit exactly, and the distance from the film plane at the back of the camera to the flat mounting board at the front where the lens had to be mounted. Since all air-to-air shooting was done with the camera focus set at infinity, there was no need to make provision for focusing and the new camera was essentially a fixed focus type. Finally, the camera needed a pistol-grip with a built-in shutter release at the bottom so that the camera could be securely held while in flight.



The new mahogany body was a work of cabinet maker's art! And it served well to prove the idea of a shallow body, fixed focus camera that, would eliminate the problem of shooting still photos in the close quarters of the CF100 back cockpit. But it was only Mark1! In time, Hugh realized it had some shortcomings and Mark 2 soon came along. Made of fiberglass and with a small amount of focusing ability built into the lens/shutter combination, it turned out to be a winner for us. Two were built. And as the CF100 test and development programs continued, Hugh was doing a great deal of flying and shooting with our special camera.

With the arrival of first flight day on March 25, 1959, Hugh was well equipped to shoot both stills and motion picture footage. He flew with "Spud" Potocki who piloted the CF100 chase plane that would fly in close formation with RL201 so that Hugh could get close-up pictures in both formats throughout the flight.



Here, Spud shows interest in the Avro-Photo Special Camera Hugh would use for the 4x5 stills he would take on first flight.



The day before, I had gone through a briefing session with the photographers who would be shooting every aspect of Jan Zurakowski's first opportunity to take the Arrow into its proper element. We needed to make sure that all motion picture and still cameras were placed at every key point along the runway. Hugh would be the only one doing air-to-air; the others would be at vantage points along both sides of the runway "Zura" would use for his departure and landing. We borrowed two photographers from the Orenda Photo Department to ensure total coverage. They were Cliff Heckel and Len Goodenough, both of whom had previously worked in the Avro Photo Department until 1955 when Orenda started their own photo operation.

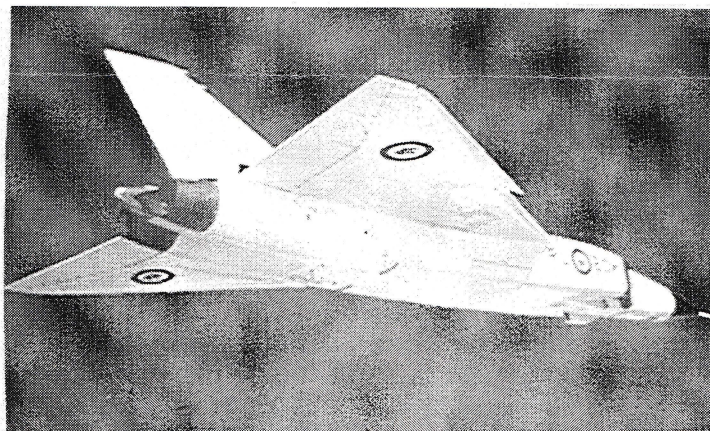
March 25, 1958 was the long awaited day for the Arrow to fly. Most of our cameras were manned and ready for taxi and takeoff. Spud was flying the CF100 chase plane with Hugh in the back seat. This was one of the best of the still photos he shot as Spud flew in formation with the Arrow. Hugh also shot several rolls of 16mm film that would prove to be excellent material for the film that would come to be called "Supersonic Sentinel".

Of course, that was just the beginning of the flying that RL201 would do in the months ahead. RL201 would be joined by other Arrows up to RL205 as the flight test program carried on into early 1959. Hugh was in the back seat of a CF100 for most of the flights, shooting still photos and 16mm motion pictures.

On August 1, RL202 flew for the first time. About the same time, Jim Floyd, Vice President, Engineering told us that he and the Public Relations Department were both hoping to see a completed documentary film at the earliest possible date. We had a great deal of edited film almost ready to go since we had been completing interim, progress report films on a regular

basis for use by the Engineering Division. Over a period of about three years, these films were also used to supplement the C105 Engineering Reports that had to go to the Department of National Defense (DND) on a regular basis. Further editing was given top priority and in short order, we had a fully edited film of 23 minutes running time, along with a script for background narration. Everything was ready for post production. That included cutting the original film material to

match the edited workprint recording the narration; selecting and recording background music; preparing and shooting titles and credits; mixing the sound track and finally, bringing it all together in the form of 16 mm release prints. In those days, there was no Post Production Lab in Toronto where you could have all these tasks done under one roof. But we knew of a lab in Kansas City, Missouri, where everything could be done by one company. It was called Calvin Productions Limited. My contact there was Vice-President Neil McKean, who arranged everything so that we could get the job done quickly and get us on our way back to Toronto with little delay. My immediate boss was Ron Adey, Chief Administrative Engineer. I told him we could come up with the finished film in a very short time if I took all the working material down to Kansas City and returned in about ten days with the final product. He agreed and I set the wheels in motion.



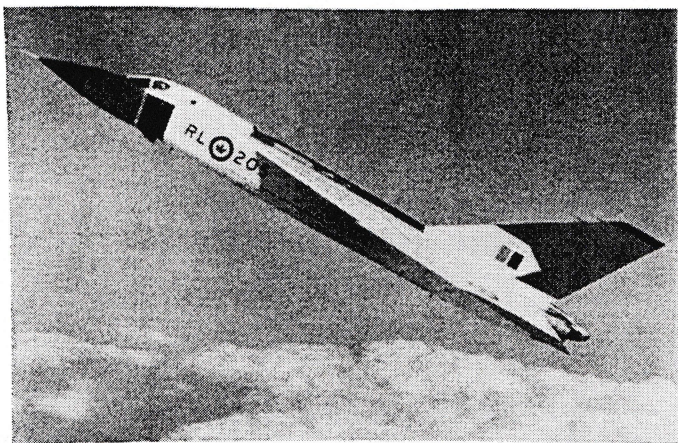
A few days before departure, Ron called me and said, "Why don't you take your wife and son Stephen, (then 4 1/2 years old) and drive down instead of flying? They can have some vacation time while you work on the film!" I agreed and called my wife to start packing and a

## Supersonic Sentinel, cont'd

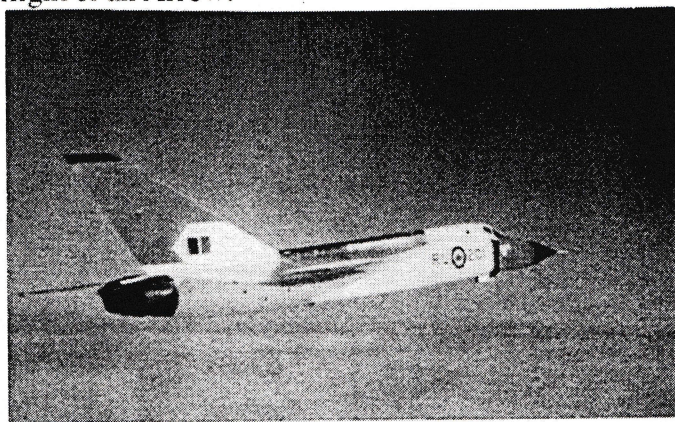
day or two later we set off by car for Kansas City. We found a motel with a pool when we arrived and I then got busy with the people at Calvin Productions.

From the beginning of our film production years before, I had done the narration for all our films. There were two good reasons for this. One, we never had to get a security clearance for someone to come into the plant to record the background narration and two, we didn't have to pay another person to do that task. After all, Avro was already paying me! At Calvin Productions, step one was to record the narration timed to the film. Step two was to work with the music librarian to select background music. They went through all the steps to completion and just over a week after we arrived, we were on our way back with completed 16mm prints ready for screening.

As 1958 wore on, First Flights were made by RL202, RL203 and RL204. First Flight of RL205 was on January 11, 1959, just one flight of 40 minutes. Spud Potocki was at the controls and Hugh MacKechnie was in the back seat of the CF100 chase plane. This was one of the photos that Hugh took with the special camera.



On February 19, 1959 Spud would fly RL203 for 1 hour and 10 minutes. Later that day, he flew RL201, the first Arrow, for 50 minutes. That was to be the last flight of an Arrow.



## Postscript

On March 31, 1997, we had a Re-union Luncheon of all the people we could locate who had worked in the Avro Photo Department during those special days. I also invited several others who had been our "clients" and good friends in their support of what we were doing. These included Jim Floyd, Murray Willer (and his son Brian), Gerry Barbour, Ernie Ball (and his wife Esme), David MacKechnie (standing in for his father Hugh, who had died a year before) and David's wife. We had forty-two people who joined us that day. Most had worked in the department; several were widows of men who had worked there.

After lunch, I asked Jim Floyd if he would speak briefly, which he graciously did. George Laidlaw then asked if he might say a word. He said he and his wife Norma had recently moved out of a house into an apartment and they were short of storage space. So they had to get rid of many things and he thought, I might like to have one item he had kept from earlier days. He then reached into a shopping bag and lifted out a camera. It was one of the Mark 2 Special Cameras we had built for us in the plastics shop in 1958! I had often wondered what had happened to those cameras and assumed they had been lost for all time. But George had kept one and now he was turning it over to me. That's how I was able to take its picture to use in this article.

— Lou T. Wise  
8 Teal Court  
Don Mills ON M3A3C3

## Members Matter

### **Those early renewals**

On my arrival back in Toronto from my extended stay in Florida, I was happy to find a pile of renewals to process for 2006. I extend to those who renewed early my personal thanks. The processing is very time consuming; but when the numbers are large, believe it or not, they can be done much easier.

### **The videos have arrived!**

Another surprise I received was the information on the videos "Too Good to be True". They were ready for pickup! I immediately processed the requests because some of you have been waiting for this video for almost four years. The delay was because of circumstances beyond our control.

Thank you for your patience and understanding.

## Members Matter, cont'd.

### **The London Group**

While I was away, your President, Frank Harvey and Board member Dave Sotzek have been meeting with the London Ontario Group, which is under the direction of Scott McArthur. The meeting discussed the possibility of a joint venture in the recovery of the free-flight models in Lake Ontario. Certainly, it is to the advantage of such an undertaking if both groups could work together to the same purpose. The result of this meeting will be reported in Pre-Flight.

### **Toronto Aerospace Museum**

Lots going on at TAM. The Wings & Wheels Heritage Festival the May weekend of the 26th, 27th and 28th. There will be a Chipmunk Symposium on Friday, then Saturday and Sunday will be a vintage fly-in and a show of classic cars. Now if only the weather cooperates. After hitting a few speed bumps, the roll-out of the CF-105 Avro Arrow is slated for October. The exact date is not yet set. That is one event you should make an effort to attend, if at all possible. For more information, call 416-638-6078 or visit [www.torontoaerospacemuseum.com](http://www.torontoaerospacemuseum.com).

### **A gentle reminder**

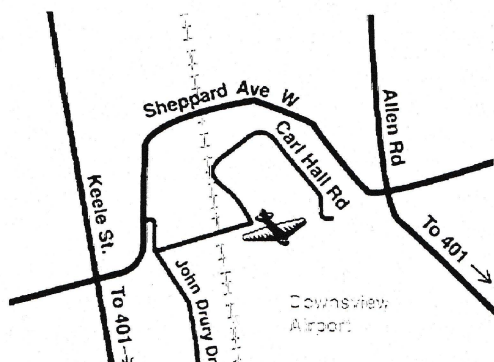
Please glance at the information in the next column and think about it. If you are interested in becoming more involved in the work of our Foundation, this is an chance to do so. Come to the AGM! Get more information about a Board member's duties and obligations.

The Board of Directors has agreed that our presence should be at the Annual Hobby Show (an eye-opener for the first time attendee!) the weekend of November 3 - 6, 2006 at the International Centre.

Board member Jim Harvey has been meeting with Orenda's Heather Billings about the anniversary of the company this year.

If you are in the area of the the Hershey Centre on June 10th, drop in and watch 845 Avro Arrow Squadron's Annual Review and see our young people in action.

Nick Doran, Membership



### **TORONTO AEROSPACE MUSEUM**

65 Carl Hall Road, Toronto, M3K 2B6  
Tel: 416-638-6078; Fax: 416-638-5509

## **The 17th ANNUAL GENERAL MEETING**

**of the  
Aerospace Heritage Foundation  
of  
Canada**

**will take place  
on**

**SATURDAY, JUNE 10, 2006**

**at**

**10:00 am**

**in the  
Blue Room  
of the**

**Toronto Aerospace Museum  
65 Carl Hall Road  
Downsview, Ontario**

**The Agenda will consist**

**of  
The President's Report**

**Treasurer's Report  
Committee Reports  
and  
Other Business  
as necessary  
which may arise**

**and the**

**Election of Officers.**

**All members  
are cordially invited to attend!**