

Pre-Flight



A Publication of the Aerospace Heritage Foundation of Canada,
P.O. Box 246, Etobicoke "D", Etobicoke ON M9A 4X4

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June - July 1996

Flashback!

THE FIVE MILLION DOLLAR FIRE



Firemen are shown playing hose on burning wreck

—Star Photo by Jack Marshall

by Herb Young, Retired

On the cold windy early evening of March 22, 1955, we were loading a Mark IV CF100 to take back to Hangar D3, when our foreman Pete Waite roared up to us in the radio van and hollered, "Drop that and come on! We need you!", pointing across the airfield toward 5 Hangar. A tower of orange-red flame was shooting skyward from the north-west corner. Radio permission was quickly given by the Malton Tower, allowing us to cross the live runway. Five Hangar was one of four old wooden RCAF hangars, all nested between Runways 28 and 32. We arrived in two minutes, but by now, the building was completely

involved. Like a blow-torch, the flames and smoke were roaring horizontally to the far side of the wide tarmac. Every hangar has a semi fire-proof room at one corner for the storage of paints, oils, etc. Just as we got there, a forty-five gallon drum of something was propelled, flaming, onto the roof of 4 Hangar behind. In a flash, one of our mechanics, Matt Deane bolted out and scaled that hangar's ladder, two rungs at a time, and kicked the offending barrel to the ground before it could do any harm!

On fire was the flight-test operations of Orenda Engines Limited. The Orenda boys had only managed to pull CF100 No. 18279 to safety behind the south-side doors of 6 Hangar, occupied by the old Toronto Flying Club. We could now only stand by and gawk with our mouths open as the silhouette of the mighty Orenda-Lanc No. FM209 melted and collapsed into a pile of white rubble. F86 Sabre No. 23024 had gone before and CF100s No. 18111 and No. 18348 quickly followed. Several of the "boys'" automobiles, which were

(cont'd on p. 2)

"If it seems to be impossible, do it anyway, because the nearly impossible task is usually the one most worthwhile."

- James C. Floyd

RL 896-1955

AHFC

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The Aerospace Heritage Foundation of Canada (AHFC) is a federally-chartered not-for-profit organization. The current emphasis is on Avro and Orenda and the Foundation is actively trying to locate former employees of these companies.

✓ Western Canada - please contact:

Michael L. Bullis, 164 Berkshire Close NW,
Calgary AB T3K 1Z4. Phone (403) 274-7497.
Cash donations over \$25.00 and "gifts-in-kind" will be acknowledged by a receipt for income tax purposes. For more information on the AHFC and how to support its activities, please write to:

**The Aerospace Heritage Foundation
of Canada,**

**P.O. Box 246, Etobicoke "D",
Etobicoke ON M9A 4X2**

24-HOUR

Information/Answering Machine

416-213-8044

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Internet e-mail:

sysop@aerohost.org

FROM THE PRESIDENT

As a result of elections at the AGM and the follow-up Board meeting, your Executive remains the same for this year.

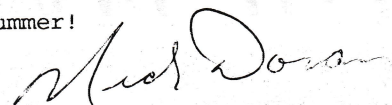
I wish to thank outgoing Board member Michael McAllister for his dedicated work for the Foundation.

I welcome three new Board members: Bill Daniels, Michael Deschamps and Christine Mason. I trust they will enjoy their work in the Foundation.

Board members will be gathering during the third week in September to examine AHFC's mission statement, its aims and its objectives - and to set short and long-term goals.

Any interested member wishing to give input to this important conference, is asked to contact AHFC Secretary John Robertson at AHFC mailing address as soon as possible.

Have a safe, happy and healthy summer!



Nick Doran, President AHFC

The Five Million Dollar Fire, continued:

parked across the apron by 6 Hangar, quickly followed suit. The Fire Department was trying to wet down this hangar, but the temperature inside was rising and a slight shift of wind direction would ensure its demise also.

With that, the Avro supervisor "Duke" Riggs suggested we all lend a hand to the "Club Boys" to help them empty out their hangar, saying, "It sure would be a shame to see them lose their airplanes too!" Boy! Those old doors never opened so fast. (I had worked in these hangars during the war.) Small aircraft move pretty easy and one with no engine easier still. But the high wind caught her and over she went and right onto her back! A pair of small aircraft floats went skittering across the outfield, coming to rest against the fence along Airport Road - about where Terminal 3 stands today.

Nothing more could be done, so we all returned to our regular jobs, only to be recalled within the hour. In a great effort to save No. 18279, they had towed her past the Club's tarmac onto the soft gravel of the service road. In the meantime, that relentless, bitterly cold wind had frozen the "mud" which had squeezed all around the main wheels and up into the brakes. So four of us attacked it, using our screw drivers as chisels and loose stones as hammers. Then with lots of help from two "mules" and their cable winches, we finally freed her. We had just time to return to D2 to punch out at 11:30 pm. The weather office recorded that wind speed gusting up to 75 miles per hour!

Later on, this same aircraft gave its life to the explorations of after-burners for other CF100s. We shook it to pieces! I don't believe she ever flew again and was struck off RCAF strength on April 8, 1958. I don't remember dismantling her.

To me, the saddest loss of the whole conflagration, was the desk of Orenda's Chief Test Pilot Mike Cooper-Slipper (WWII B25 Mitchells, CF100s, F86 Sabres, C102 Jetliner, Boeing B47, Lancaster FM209, to name a few). For in this desk was Mike's log books containing a personal endorsement from the British Prime Minister, later Sir Winston Churchill. For A.V. Roe Canada, the loss meant a severe setback in the programs of the CF100, its Orenda engines and likely the Iroquois also. Today, those of you who travel Derry Road west at Torbram Road, can view two of those old hangars - Nos. 4 and 6. Yes! Car! Millard's "Millardair".



F. H. Keast, Assistant Chief Engineer (Tech.), Gas Turbine Division, A. V. Roe Canada Limited, completed the aerodynamics design of Avro's Chinook and Orenda engines. Graduate (1942) Cambridge University (Senior Scholar, Emmanuel College), he had previous experience with Power Jets Ltd., (Eng.) and the English Electric Company.

He obtained his master's degree from Cambridge in 1946, the year he emigrated to Canada. Societies: A.M.I.Mech.E., A.F.R.Ae.S.

F. H. "HARRY" KEAST, FCASI 1920 - 1996

Frances Henry "Harry" Keast died suddenly on the 2nd day of March 1996 after a short stay in hospital in Brampton. He was one of Canada's and the world's great mechanical and aeronautical engineers and will be missed by his family, many friends and former industry colleagues.

Harry was born on October 14, 1920 at Barrow in Furness, northwest England. His scholarship was to Emmanuel College, Cambridge, from which he graduated with first class honours in 1942. This entitled him to a Master's, Cantab, after four years of related work in industry. The Wartime Technical Selection Board sent him to Power Jets for secret project work on jet engines, under the then Squadron Leader Frank Whittle. Harry designed the fourth and last aft fan for the Whittle W2-700 engine, which met its design thrust.

In the summer of 1946, "FHK" was hired as Chief Aerodynamicist for the neophyte Gas Turbine Division of A.V. Roe, Canada, Limited, later Orenda Engines Limited, in Malton. One major responsibility was the aerodynamic redesign of the axial compressor for the Chinook engine, which first ran March 17, 1948. The success of that compressor and the following Orenda axial compressor, as well as the greatly improved two-stage version of the Orenda turbine, amply demonstrated the design genius of Harry and his cadre of personally selected young Canadian engineers. Over 3,000 Orendas were produced and saw service in the Avro CF100 and the Canadair F86 interceptor/fighter aircraft.

During the '50s, Orenda designed and developed the very advanced 25,000 lb thrust afterburning Iroquois engine for the Mach 2.2 Avro Arrow interceptor aircraft. Harry Keast shared overall responsibility for

that engine with the successive titles of Assistant Chief, Deputy Chief and finally Chief Engineer, reporting to Charles Grinyer. After the Arrow and Iroquois cancellations, Harry became Technical Director, then Research Director, for Hawker Siddley, Canada. From 1967 to 1979, he was at the Ontario Research Foundation and from 1979 through 1988, he was a technical consultant to Pratt & Whitney, Canada's Advanced Design group in Mississauga.

F. H. "Harry" Keast brought the best of British gas turbine aerodynamics capability to Canada. He showed great understanding of developing experimental and analytical techniques to advance engine design. After the cancellation of the Arrow and Iroquois in February 1959 and of the OT4/AGT600 truck and tank engine in 1967, many Orenda engineers spread throughout North America to work in government and industry, notably to Pratt & Whitney, Canada.

Harry Keast will be remembered by many former colleagues for his inspired leadership, keen sense of humour and prodigious engineering ability. His name stands as one of Canada's great builders in aeronautical engineering and as an inspiration to young Canadians aspiring to work in the fields of gas turbines and jet propulsion.

Paul B. Dilworth and Clare Eatock

NOTAMS



50th ANNIVERSARY

**Saturday, October 5, 1996
Ballroom, Airport Holiday Inn**

**After the ORENDA Open House (flyer enclosed),
the following program will take place:**

**1400 - 1800 h: Hangar flying
Displays
Meet & Greet**

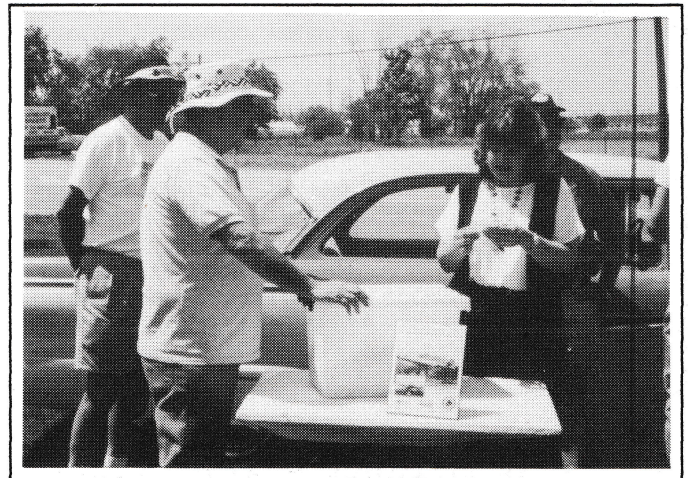
1830 - 2400 h: Dinner & presentations

**More information to follow
in a special mailing!
Watch for it!**

We have a winner!



The car: 1956 Meteor Niagara Two-Door Sport with its antique Heritage designation licence plate.



Councillor Elizabeth Brown drawing the lucky winning ticket.

Aerospace Heritage Foundation
of Canada

NAME Paul Lazzari

ADDRESS 6115 McCracken Dr.
MISSISSAUGA, ONT

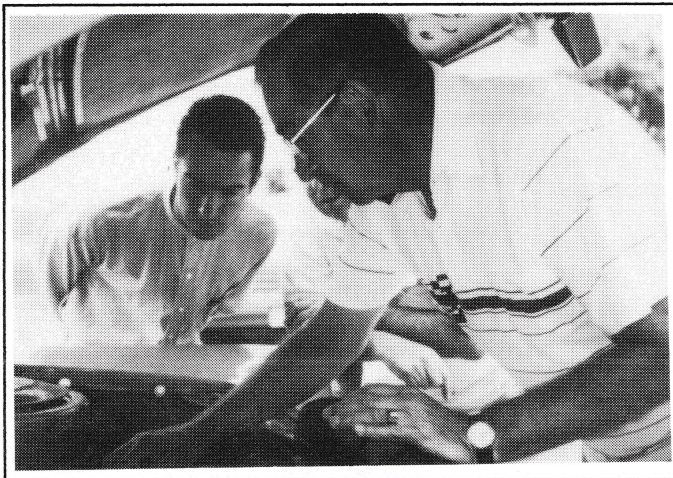
Phone _____

No 0337

And this is it! The winning ticket!



Frank Harvey presenting the keys of the Meteor to the new owner - Paul Lazzari of Mississauga.



Bill Daniels describing unique features of the motor.



Paul Lazzari in the driver's seat!