A SWARM OF ENGINEERS

Thor Stephenson Elected CAI President at Annual Meeting in Montreal

WINNER OF the McCurdy Award for 1955 was John H. Parkin, who is both director of the NRC's Division of Mechanical Engineering, and of the National Aeronautical Establishment. Announcement and presentation of the award were made May 3 at the annual dinner of the Canadian Aeronautical Institute, which each year similarly honors some Canadian for his technical contributions to the aeronautical art in Canada. The formal presentation was made by the Hon. J. A. D. McCurdy, whose name the award carries.

This year's CAI annual general meeting was held in Montreal at the Sheraton-Mount Royal Hotel, and featured some 13 papers, mostly technical, on a wide range of aviation subjects. A 14th paper, "Some Performance Problems Associated with a Mach 2 Fighter", scheduled to be given by J. Morris, Avro Aircraft asst. chief aerodynamicist, was washed out by security restrictions. The papers were given in five separate sessions which extended over two days, beginning May 3.

At the opening business session, it was announced that Thor E. Stephenson, director of the DDP's Aircraft Branch, had been elected president of the CAI for the 1956-57 term. Mr. Stephenson succeeds R. D. Richmond, Canadair's chief development engineer. E. B. Schaefer, asst. chief engineer of Canadair, was named vice president.

Councillors for 1956-57 are as follows: from Toronto — J. C. Floyd, Avro Aircraft vice president, engineering; R. B. McIntyre, Dowty Equipment of Canada asst. general manager; S. L. Britton, Orenda Engines chief projects engineer; W. D. Hunter, de Havilland Canada engineering director. From Montreal — R. J. Conrath, Railway & Power Engineering aviation manager. From Ottawa— Group Captain H. R. Foottit, RCAF director of aircraft engineering. From Vancouver — T. W. Siers, CPA asst. to director of maintenance & engineering; A. T. Gilmour, TCA regional superintendent of maintenance. From Winnipeg — D. A. Newey, Bristol Aircraft (Western) contracts administrator; H. W. Grant, Standard Aero Engine plant engineer. From Edmonton — C. C. Young, Northwest Industries chief engineer; G. L. Best, Northwest Industries manager.

Only one honorary fellowship was awarded this year, this going to Air Marshal W. A. Curtis, vice chairman of the board of A. V. Roe Canada Ltd., and onetime RCAF chief of the air staff.

more to come

GUEST speaker at the annual dinner was A/V/M M. M. Hendrick, RCAF Air Member

Guest speaker at the annual dinner was Air Vice Marshal M. M. Hendrick, RCAF Air Member for Technical Services. A/V/M Hendrick outlined the growth in the past few years and the present status of the RCAF, emphasizing particularly the technical complexities with which the service had to contend. He also made a number of speculations about the future of certain phases of Air Force activity, including one that was a near-flat contradiction of the recent prediction by former DRB Chairman Dr. O. M. Solandt that the CF-105 would probably be Canada's last manned fighter.

Said A/V/M Hendrick: "There are those who say that the next generation of fighters, such as the CF-105, will be the last fighters to carry men. We are reserving our views on this subject because this will depend upon the ability of the guided missile to demonstrate that it will be able in fact to do all the things that are promised of it. We are certain that the guided missile will complement a manned fighter in the defence system because certain conditions can be foreseen wherein the one is to be preferred to the other. Guided missiles are not simple devices by any means and there will be long periods of development, trial and evolution before we will know precisely with how much of the burden of our air defence they can be trusted."

The papers given at the technical sessions were as follows:

Propulsion: Chaired by Dr. D. L. Mordell, chairman, McGill University Dept. of Mechanical Engineering. "The Development of Rolls-Royce Propeller Turbine Engines", by D. P. Huddie, Rolls-Royce chief development engineer, civil engines; "Choice of Design for an Advanced Turbojet", F. H. Keast, Orenda Engines deputy chief engineer.

Manufacturing: Chaired by R. B. McIntyre, Dowty Equipment of Canada asst. general manager. "The Machining & Welding of Titanium", by L. B. Gray, Orenda Engines experimental shop manager; "Transition from Small to Large Aircraft Manufacturing", by H. L. McKeown, Canadair Manufacturing div. director of operations; "Machining Approach to Aircraft Production", by Harold Young, Avro Aircraft chief production engineer.

Design: Chaired by E. C. Garrard, Fairey Aviation Co. of Canada chief designer. "The Design & Procurement of RCAF Ground Handling Equipment", by Flight Lieutenant B. D. Darling of Air Materiel Command; "Lift & Thrust Creating Systems — Their Application to Short & Vertical Takeoff Aircraft", by Karl Irbitis, Canadair preliminary design engineer, and F. C. Phillips, Canadair chief of aerodynamics & preliminary design; "The Comet 4 — Design & Operational Considerations", by R. E. Bishop, de Havilland design director, and John Cunningham,

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customer supplied with clear, accurate technical books. This is the responsibility of Russell A. Stanyar, who, before joining Orenda, had 25 years in the engineering branch of the RCAF. Under Russ Stanyar 18 writers and 14 illustrators are at work turning out detailed, profusely illustrated publications such as the Description & Maintenance Manual; the Repair & Overhaul Manual; the Illustrated Parts List; the Manual for Preservation, Shipping and Storing.

"We have the equipment and staff to handle any printing job," Russ Stanyar avers. "And believe me, we need them to keep our customers up to date."

Right beside Stanyar's department in the Orenda offices is that of Chief Service Engineer John A. Burgess, whose job it is to . . . "keep track of the service performance of the engine and initiate action to improve that performance." Mr. Burgess and his staff of 30 issue special modifications bulletins at the rate of about six per month to users of the engine, as well as to manufacturers of parts and accessories. Using an IBM system, they tabulate, and code for ready reference, all field reports on the performance of Orenda engines. They witness the stripping down of engines for overhaul due to unscheduled removals and prepare reports on "what has gone wrong and how to prevent it".

It can be seen from this that a good part of Orenda service efficiency depends upon the ability of the 20 men in the field and their reports to service people at Orenda's home plant. Working with the engines and observing their performance in the heat, cold, dust and humidity of different parts of the world, they know where the kinks are and how they might be ironed out.

The Reps: Each one of these men (average age 33 to 35 years) is a specialist with a background of extensive training in the Orenda plant. They are chosen for their intelligence, alertness, tact, instruction ability and mechanical "savvy". The reports they regularly send into Orenda from their far-flung stations form the basis for modifications that maintain Orenda's enviable reputation.

"We simply can't find out all about an engine by testing it here in the plant," Arthur Sutton explains. "Although Orenda's testing facilities are of the best and most complete, the long haul under actual service conditions is really the final test."

At the Orenda plant engineers, designers and technicians carefully study the reports of the field representatives and their recommendations. Many of these end up as future "mods" and even basic changes in new engines.

So, through Sales & Service Department, the same expert service and attention provided to customers next door to the Orenda plant is available to those in other parts of the world. Parts are available at all times in any quantities and in perfect condition. Expert mechanics are on hand with the proper tools and facilities to do the job.

"Our objective is to provide the best possible engines for the armed services and maintain them in satisfactory operation at all times," says Vice President Trethewey. "That's the job we're doing."

CAI MEET

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de Havilland chief test pilot.

Aerodynamics: Chaired by Dr. D. C. MacPhail, assistant director of the NRC's Division of Mechanical Engineering. "An Experimental Investigation of the Effect of Surface Roughness on the Drag of a Cone-Cylinder Model at a Mach Number of 2.48", by Dr. J. H. T. Wade, Orenda Engines aerodynamics engineer; "Boundary-Layer-Induced Noise in the Interior of Aircraft", by Dr. H. S. Ribner, research associate at the University of Toronto Institute of Aerophysics.

Maintenance & Operations: Chaired by Group Captain E. R. Johnston, Air Transport Command chief staff officer, RCAF. "The Changing Aspect of Northern Flying", by R. N. Redmayne, AITA general manager; "Airline Engineering Evaluation of Transport Aircraft", by A. E. Ades, TCA assistant director of engineering; "Field Data Analysis—Some Techniques Currently Being Developed in the RCAF", by Squadron Leader J. E. Neelin, Air Materiel Command logistics programming officer, and B. Larmour, Air Materiel Command logistics analysis officer.